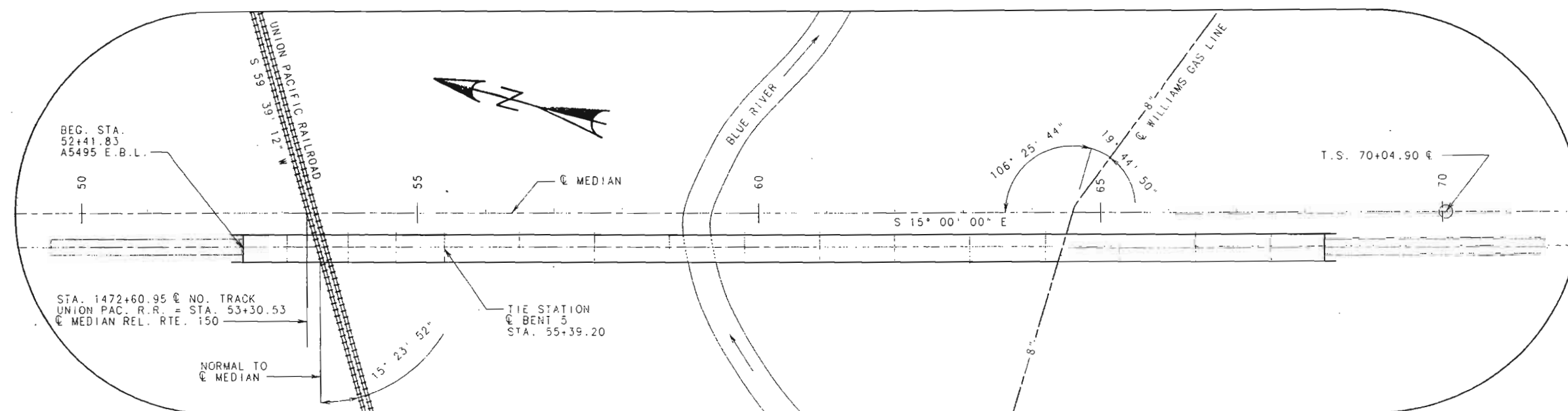


# MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.		7
SEC./SUR. 29/30 TWP. 47 RGE. 33		

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3. PART PLAN AND PART ELEVATION
4. PART PLAN AND PART ELEVATION
5. PART PLAN AND PART ELEVATION
6. PART PLAN AND PART ELEVATION
7. GENERAL NOTES-QUANTITIES-PILE & FOOTING TABLE-HYDROLOGIC DATA TABLE
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53. DETAILS OF GIRDERS - SPAN (5-6)
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55. DETAILS OF GIRDERS - SPAN (10-11)
56. DETAILS OF GIRDERS - SPAN (11-12)
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59. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENTS NO. 2, 4, 6, 10, 12 & 16
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61. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 5
62. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 11
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81. DETAILS OF SPLASH PROTECTION SHIELD
82. APPROACH SLAB AT END BENT NO. 1
83. APPROACH SLAB AT END BENT NO. 17
84. BAR BILL
85. BAR BILL
86. BAR BILL
87. BAR BILL
88. BAR BILL
89. BAR BILL
90. BAR BILL
91. BAR BILL
92. "AS BUILT PILE" DATA
93. "AS BUILT PILE" DATA



**WARNING!**  
**PETROLEUM PRODUCTS PIPELINE!**  
AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION  
CONTACT WILLIAMS PIPE LINE COMPANY AT  
8001 COLLEGE BLVD., SUITE 200  
OVERLAND PARK, KS 66210  
(913) 663-9331

BM#1501 - ELEV. 866.16  
100d SPIKE, N.W. FACE  
R.R. TELEGRAPH POLE,  
200' R/O STA. 53+30±  
@ RELOCATED RTE. 150.

## BRIDGE OVER BLUE RIVER & UNION PACIFIC RAILROAD

STATE ROAD FROM RTE. 71 TO KANSAS STATE LINE  
ABOUT 0.7 MI. S.E. OF KANSAS STATE LINE

PROJECT NO. STA. 55+39.20  
JOB NO. J4U1011C RTE.150 E.B.L.  
JACKSON COUNTY



DESIGNED JULY 1996  
DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

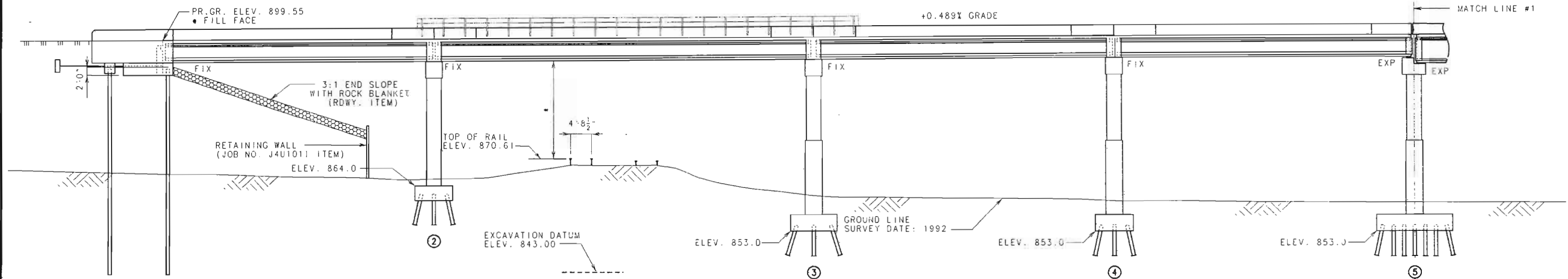
SHEET NO. 1 OF 93.

DATE 5/1/98

STD. 609.00  
STD. 706.35  
A5495

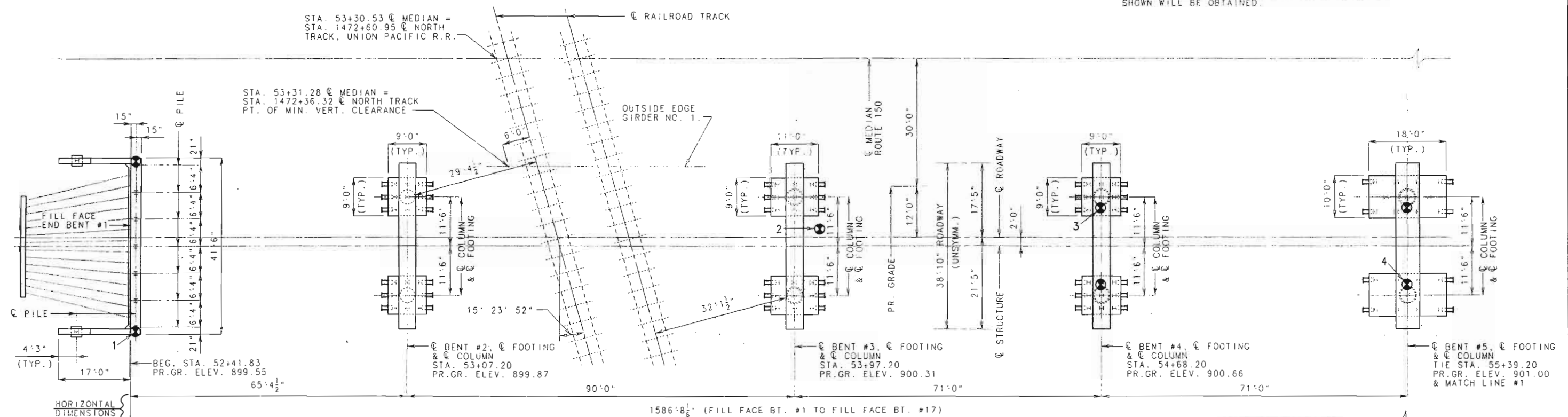
(65'-90'-71'-71') P/S CONC. I-GIRDER  
(6+110')(5+110'-78') P/S BULB-TEE GIRDERS

STATE	PROJ. NO.	SHEET NO.
MO.		8



PART ELEVATION

\* FINAL VERTICAL CLEARANCE FROM TOP OF RAILS TO BOTTOM OF SUPERSTRUCTURE SHALL BE AT LEAST 23'-0". TRACK ELEVATIONS SHOULD BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION TO DETERMINE IF THE FINAL VERTICAL CLEARANCE SHOWN WILL BE OBTAINED.



PART PLAN

NOTICE AND DISCLAIMER REGARDING BORING LOG DATA

THE LOCATIONS OF ALL SUBSURFACE BORING FOR THIS STRUCTURE ARE SHOWN ON THE BRIDGE PLAN SHEETS FOR THIS STRUCTURE. BORING DATA FOR THE NUMBERED LOCATIONS ARE SHOWN ON SHEETS NO. 8 AND NO. 9. THE BORING DATA FOR ALL LOCATIONS INDICATED, AS WELL AS ANY OTHER BORING LOGS OR OTHER FACTUAL RECORDS OF SUBSURFACE DATA AND INVESTIGATIONS PERFORMED BY THE DEPARTMENT FOR THE DESIGN OF THE PROJECT, IS AVAILABLE FROM THE DISTRICT MATERIALS ENGINEER OR PROJECT CONTACT UPON WRITTEN REQUEST AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS. NO GREATER SIGNIFICANCE OR WEIGHT SHOULD BE GIVEN TO THE BORING DATA DEPICTED ON THE PLAN SHEETS THAN TO SUBSURFACE DATA AVAILABLE FROM THE DISTRICT OR ELSEWHERE.

NOTE: "X" INDICATES LOCATION OF BORINGS.

THE COMMISSION DOES NOT REPRESENT OR WARRANT THAT ANY SUCH BORING DATA ACCURATELY DEPICTS THE CONDITIONS TO BE ENCOUNTERED IN CONSTRUCTING THIS PROJECT. A CONTRACTOR ASSUMES ALL RISKS IT MAY ENCOUNTER IN BASING ITS BID PRICES, TIME OR SCHEDULE OF PERFORMANCE ON THE BORING DATA DEPICTED HERE OR THOSE AVAILABLE FROM THE DISTRICT, OR ON ANY OTHER DOCUMENTATION NOT EXPRESSLY WARRANTED, WHICH THE CONTRACTOR MAY OBTAIN FROM THE COMMISSION.

DETAILED JAN. 1998  
CHECKED MAR. 1998

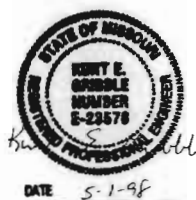
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SHEET NO. 2 OF 93.

JACKSON

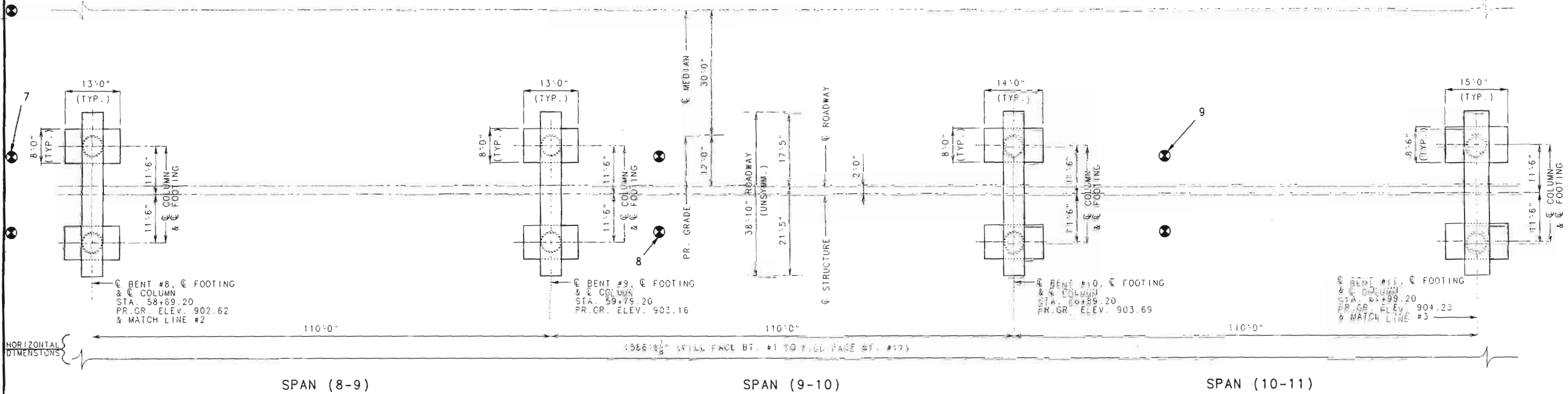
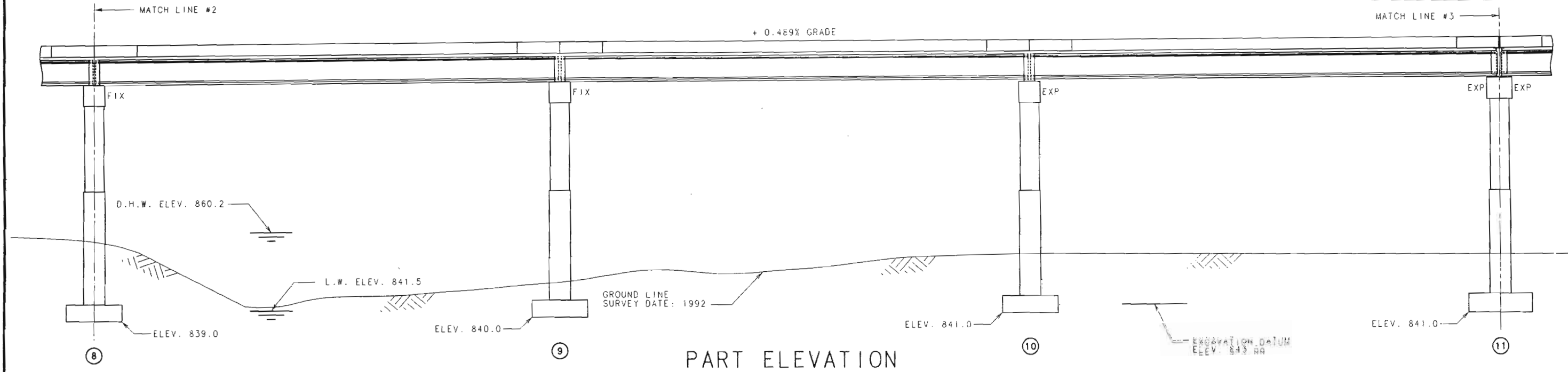
COUNTY

A5495









INDICATES LOCATION OF BORINGS.



DETAILED JAN. 1998  
CHECKED MAR. 1998

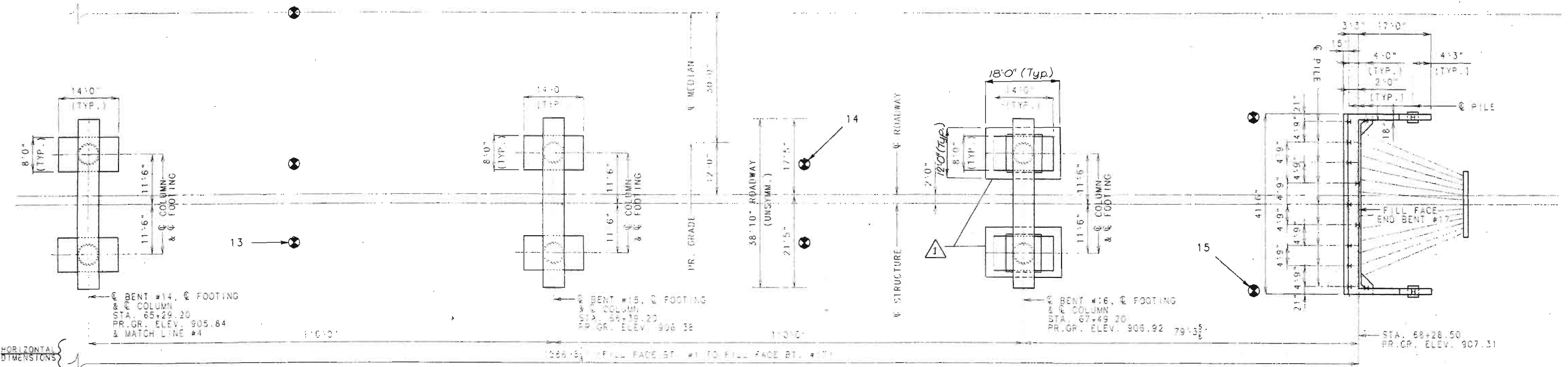
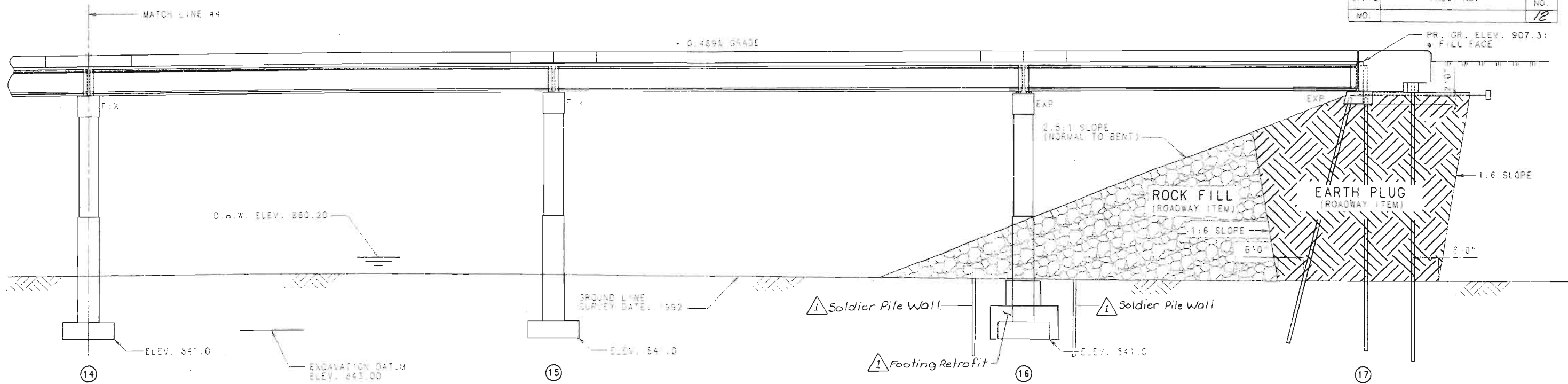
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 4 OF 93.

JACKSON COUNTY A5495







\* INDICATES LOCATION OF BORINGS.



DATE 11-9-99

NOTE: ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE END BENTS BEFORE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.



DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



# GENERAL NOTES:

## DESIGN SPECIFICATIONS:

AASHTO-1996  
LOAD FACTOR DESIGN  
SEISMIC PERFORMANCE CATEGORY A

## DESIGN LOADING:

HS20 MODIFIED  
35#/SQ. FT. FUTURE WEARING SURFACE  
MILITARY 24,000# TANDEM AXLE  
EARTH 120#/CU. FT. EQUIVALENT FLUID PRESSURE Bent No. 1 =  
51.9#/CU. FT. Bent No. 17 = 45#/CU. FT.  
SUPERSTRUCTURE: SIMPLY-SUPPORTED NON-COMPOSITE FOR DEAD LOAD.  
CONTINUOUS COMPOSITE FOR LIVE LOAD.

## DESIGN UNIT STRESSES:

CLASS B CONCRETE (SUBSTRUCTURE) F'C=3,000 PSI.  
CLASS B1 CONCRETE (SAFETY BARRIER CURB) F'C=4,000 PSI.  
CLASS B2 CONCRETE (SUPERSTRUCTURE, EXCEPT PRESTRESSED GIRDERS AND  
SAFETY BARRIER CURB) F'C=4,000 PSI.  
REINFORCING STEEL (GRADE 60) F<sub>y</sub>=60,000 PSI.  
STEEL PILE (ASTM A729 GRADE 36) F<sub>y</sub>=36,000 PSI.

FOR PRESTRESSED GIRDER STRESSES, SEE SHEETS NO. 49 THRU 58.  
FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 70.

## REINFORCING STEEL:

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2". UNLESS  
OTHERWISE SHOWN.  
ALL REINFORCING BARS IN TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL  
BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

## JOINT FILLER:

ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF STD. SPEC. 1057.2.4,  
EXCEPT AS NOTED.

## NEOPRENE BEARINGS:

BEARINGS SHALL BE 60 DUROMETER NEOPRENE PADS.  
THE NEOPRENE PAD SHALL BE BONDED TO THE BEARING SEAT WITH AN EPOXY  
ADHESIVE AS APPROVED BY THE BEARING MANUFACTURER FOR BONDING NEOPRENE  
TO CONCRETE.

## MISCELLANEOUS:

A MINIMUM VERTICAL CLEARANCE OF 21'-6" FROM TOP OF RAILS AND A  
MINIMUM LATERAL CLEARANCE OF 15'-0" FROM THE CENTERLINE OF TRACK  
TO NEAREST TEMPORARY CONSTRUCTION FALSEWORK SHALL BE MAINTAINED  
DURING CONSTRUCTION.

HIGH STRENGTH BOLTS, NUTS AND WASHERS WILL BE SAMPLED FOR QUALITY  
ASSURANCE AS SPECIFIED IN STANDARD SPECIFICATION 106 AND FIELD  
SECTION (FS-712) FROM MATERIALS MANUAL.

## ESTIMATED QUANTITIES

ITEM	SUBSTR.	SUPERSTR.	TOTAL
CLASS 1 EXCAVATION	CU. YD.	2075	2075
CLASS 2 EXCAVATION	CU. YD.	288	288
COFFERDAMS (BENT 8)	LUMP SUM	1	1
COFFERDAMS (BENT 9)	LUMP SUM	1	1
BRIDGE APPROACH SLAB (BRIDGE)	SQ. YD.	219	219
STRUCTURAL STEEL PILES (10")	LIN. FT.	2308	2308
STRUCTURAL STEEL PILES (12")	LIN. FT.	540	540
PRE-BORE FOR PILING	LIN. FT.	770	770
CLASS B CONCRETE (SUBSTR.)	CU. YD.	1800.0	1800.0
DEADMAN ANCHORAGE ASSEMBLY	EACH	2	2
PROTECTIVE COATING-CONCRETE BENTS (DELETERIOUS AGENTS)	LUMP SUM	1	1
SLAB ON CONCRETE I-GIRDER	SQ. YD.	1368	1368
SAFETY BARRIER CURB	LIN. FT.	3240	3240
SLAB ON CONCRETE BULB-TEE GIRDER	SQ. YD.	5931	5931
PLAIN NEOPRENE BEARING PAD	EACH	5	5
LAMINATED NEOPRENE BEARING PADS	EACH	90	90
LAMINATED NEOPRENE BEARING PAD P/S STRUCTURE	EACH	45	45
TYPE IN PTFE BEARINGS	EACH	20	20
PRESTRESSED CONCRETE I-GIRDER (6'-0")	EACH	5	5
PRESTRESSED CONCRETE I-GIRDER (17'-0")	EACH	10	10
PRESTRESSED CONCRETE I-GIRDER (9'-0")	EACH	5	5
PRESTRESSED CONCRETE BULB-TEE GIRDER (15'-0")	EACH	5	5
PRESTRESSED CONCRETE BULB-TEE GIRDER (11'-0")	EACH	55	55
REINFORCING STEEL (BRIDGES)	LB.	252,330	252,330
REINFORCING STEEL (EPOXY COATED)	LB.	24,780	24,780
EXPANSION DEVICE (FINGER PLATE)	LIN. FT.	78	78
EXPANSION DEVICE (FLAT PLATE)	LIN. FT.	39	39
SLAB DRAIN	EACH	244	244
VERTICAL DRAIN AT END BENTS	EACH	2	2
SPLASH PROTECTION SHIELD	LUMP SUM	1	1
Resin Anchor Systems	Each	536	536
Pressure Grouting-Epoxy	Lump Sum	1	1

## ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER

ITEM	TOTAL
REINFORCING STEEL (PLAIN)	LBS. 5090
REINFORCING STEEL (EPOXY COATED)	LBS. 97,510
CONCRETE	CU. YDS. 335.0

## ESTIMATED QUANTITIES FOR SLAB ON CONCRETE BULB-TEE GIRDER

ITEM	TOTAL
REINFORCING STEEL (PLAIN)	LBS. 11,760
REINFORCING STEEL (EPOXY COATED)	LBS. 405,470
CONCRETE	CU. YDS. 1467.2

NOTE: THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE  
I-GIRDER AND SLAB ON BULB-TEE GIRDER REPRESENTS THE QUANTITIES  
USED BY THE STATE IN PREPARING THE COST ESTIMATE FOR CONCRETE SLABS.  
VARIATIONS MAY BE ENCOUNTERED IN THESE ESTIMATED QUANTITIES BUT  
THESE VARIATIONS CANNOT BE USED FOR AN ADJUSTMENT IN THE CONTRACT  
UNIT PRICE PER SQUARE YARD OF SLAB ON CONCRETE I-GIRDER AND SLAB  
ON CONCRETE BULB-TEE GIRDER.

\* BASED ON MINIMUM TOP FLANGE THICKNESS AND MINIMUM JOINT  
FILLER THICKNESS.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE  
OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER OR SLAB ON  
CONCRETE BULB-TEE GIRDER.

## PILE & FOOTING DATA

BENT NO.	1 (WING)	1 (BEAM)	2	3	4	5	6	7	8	9
BEARING PILE	PILE TYPE AND SIZE	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP12x53	HP12x53	-
	NUMBER	2	7	18	18	18	22	8	18	-
	APPROXIMATE LENGTH	FT.	50	50	15	15	15	15	15	-
	DESIGN BEARING	TONS	29	35	50	56	52	87	70	-
	HAMMER ENERGY REQUIRED	FT.-LBS.	7000	12300	11800	3200	3200	13200	15800	-
SPREAD FOOTINGS	FOUNDATION MATERIAL	-	-	-	-	-	-	-	ROCK	ROCK
	DESIGN BEARING	TONS/SQ. FT.	-	-	-	-	-	-	8.0	7.6
BENT NO.	10	11	12	13	14	15	16	17 (BEAM)	17 (WING)	
BEARING PILE	PILE TYPE AND SIZE	-	-	-	-	-	-	HP10x42	HP10x42	
	NUMBER	-	-	-	-	-	-	11	2	
	APPROXIMATE LENGTH	FT.	-	-	-	-	-	60	65	
	DESIGN BEARING	TONS	-	-	-	-	-	52	24	
	HAMMER ENERGY REQUIRED	FT.-LBS.	-	-	-	-	-	13000	8100	
SPREAD FOOTINGS	FOUNDATION MATERIAL	ROCK	ROCK	ROCK	ROCK	ROCK	ROCK	-	-	
	DESIGN BEARING	TONS/SQ. FT.	7.5	8.2	7.5	7.4	7.6	7.5	7.9	

NOTE: MINIMUM ENERGY REQUIREMENT OF HAMMER IS BASED ON PILE LENGTH AND DESIGN BEARING  
VALUE OF PILES.

ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL.

PREBORE FOR PILES AT BENTS 1 AND 17 TO ELEVATION 867.0 AND 869.0 RESPECTIVELY.

NOTE: ALL CONCRETE ABOVE THE CONSTRUCTION JOINT IN END BENT NO. 1 IS INCLUDED IN THE  
ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

ALL REINFORCEMENT IN END BENT NO. 1 IS INCLUDED IN THE ESTIMATED QUANTITIES FOR  
SLAB ON CONCRETE I-GIRDER.

THE COST OF FURNISHING, FABRICATING AND INSTALLING NEOPRENE BEARING PADS, COMPLETE-  
IN-PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PLAIN AND LAMINATED NEOPRENE  
BEARING PADS, PER EACH.

SAFETY BARRIER CURB SHALL BE CAST-IN-PLACE OPTION OR SLIP-FORM OPTION.

CONCRETE ABOVE THE UPPER CONSTRUCTION JOINT IN BACKWALL AT END BENT NO. 17 IS INCLUDED  
WITH CLASS B2 CONCRETE SLAB ON CONCRETE BULB-TEE GIRDER QUANTITIES.

ALL REINFORCEMENT IN THE INTERMEDIATE BENT CONCRETE DIAPHRAGMS EXCEPT REINFORCEMENT  
EMBEDDED IN THE BEAM CAP IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE  
I-GIRDER.

ALL CONCRETE ABOVE THE INTERMEDIATE BENT CAP IS INCLUDED IN THE ESTIMATED QUANTITIES  
FOR SLAB ON CONCRETE I-GIRDER.

## HYDROLOGIC DATA

DRAINAGE AREA =	89 SQUARE MILES
DESIGN HIGH WATER ELEV. =	860.2 (100 YEARS)
DESIGN DISCHARGE =	23,000 c.f.s. (100 YEARS)
ESTIMATED BACKWATER =	0.2 FT.



DATE 11-4-99

SHEET NO. 2 OF 91. 1 Revised 10-28-99

JACKSON

COUNTY

A5495

DETAILED JAN. 1998  
CHECKED MAR. 1998

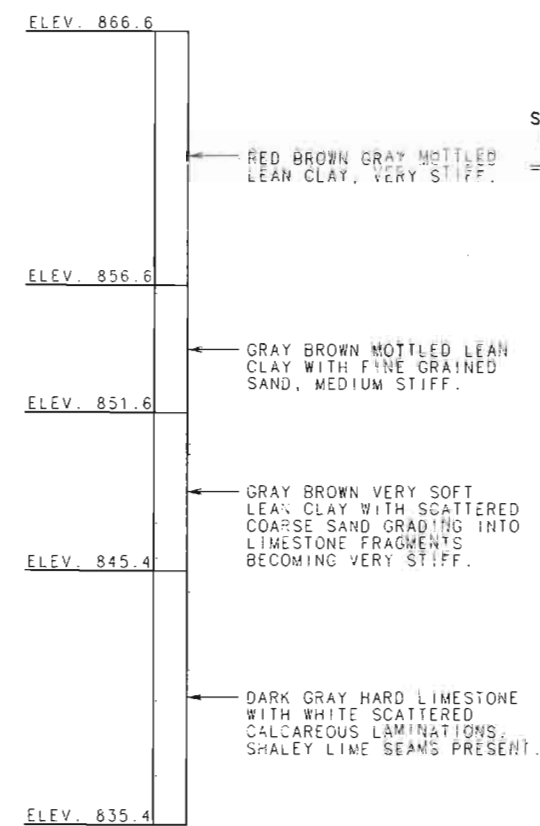
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DATE 5-1-98

STANDARD PENETRATION TEST

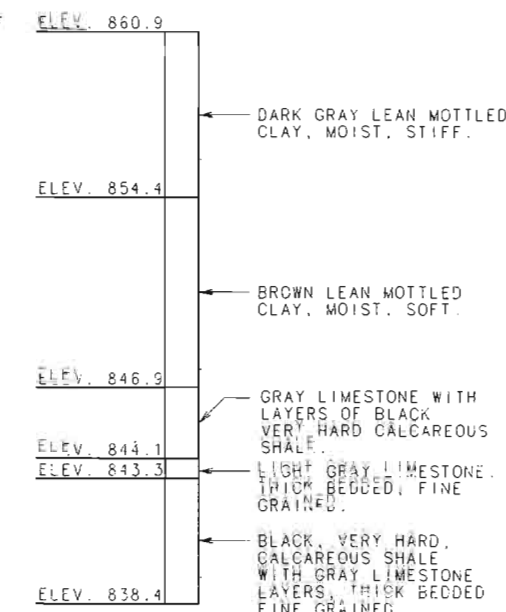
DEPTH (FT.)	BLOWS/6"	POCKET PEN. TSF
5	3-4-5	2.25
10	3-3-5	3.0
15	2-3-3	1.25
20	3-10 IN 1"	0.25



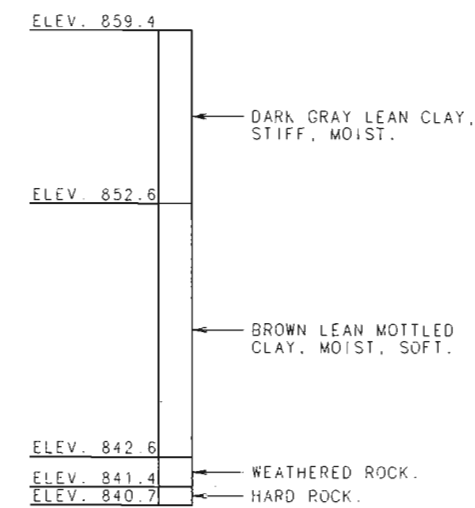
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(CORE)

STANDARD PENETRATION TEST

DEPTH (FT.)	BLOWS/6"	POCKET PEN. TSF
5	3-4-4	1.75
10	1-2-3	.5



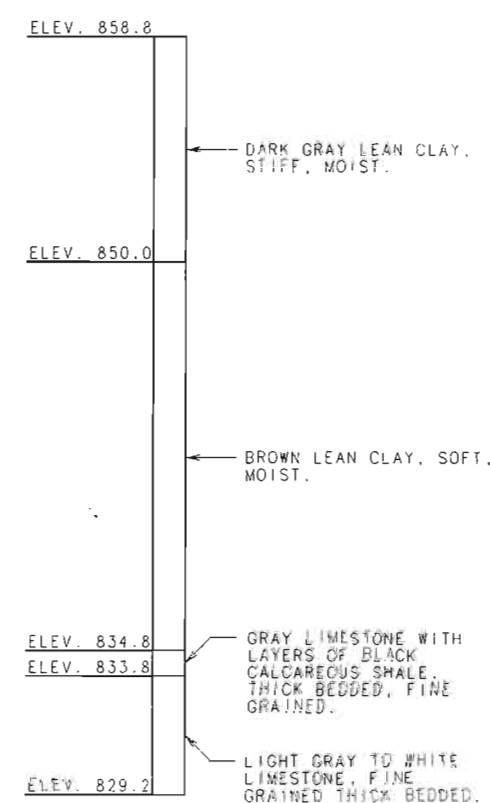
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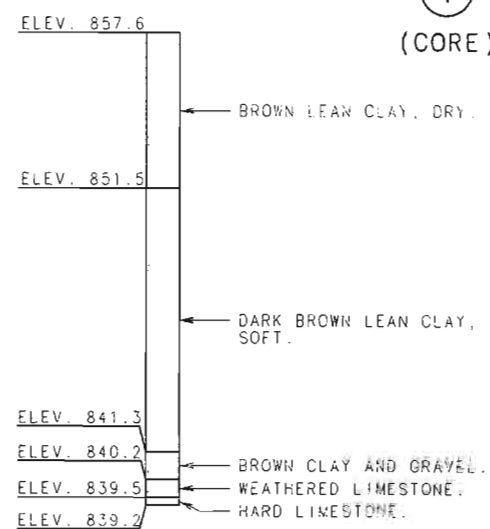
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STANDARD PENETRATION TEST

DEPTH (FT.)	BLOWS/6"	POCKET PEN. TSF
5	2-3-3	2.5
10	1-2-2	1.0
15	1-2-2	.75



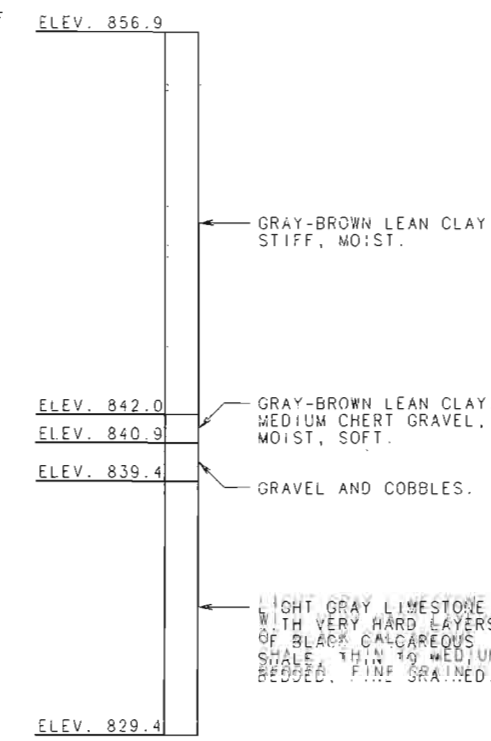
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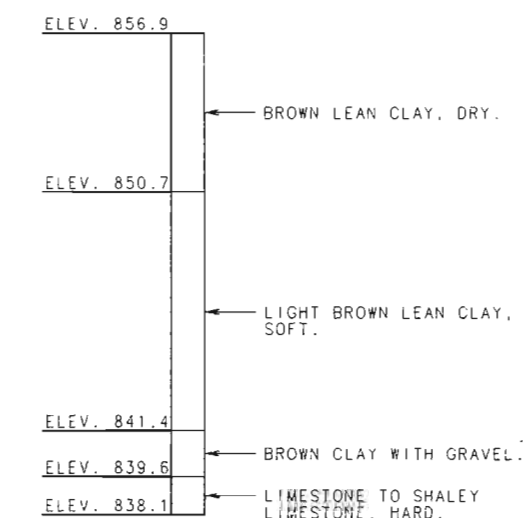
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STANDARD PENETRATION TEST

DEPTH (FT.)	BLOWS/6"	POCKET PEN. TSF
5	5-3-3	2.0
10	1-1-1	0.5
15	3-3-6	



⑥  
(CORE)



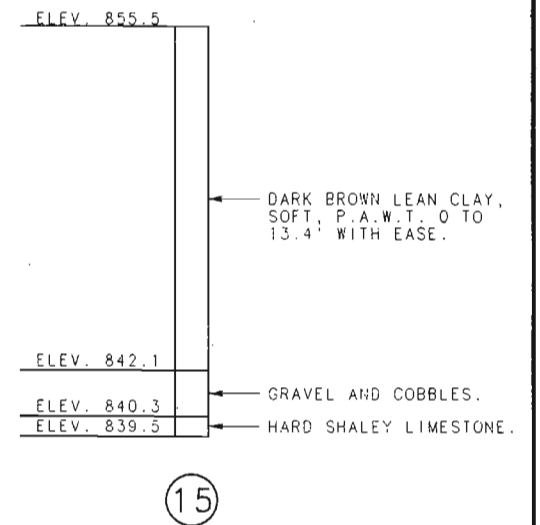
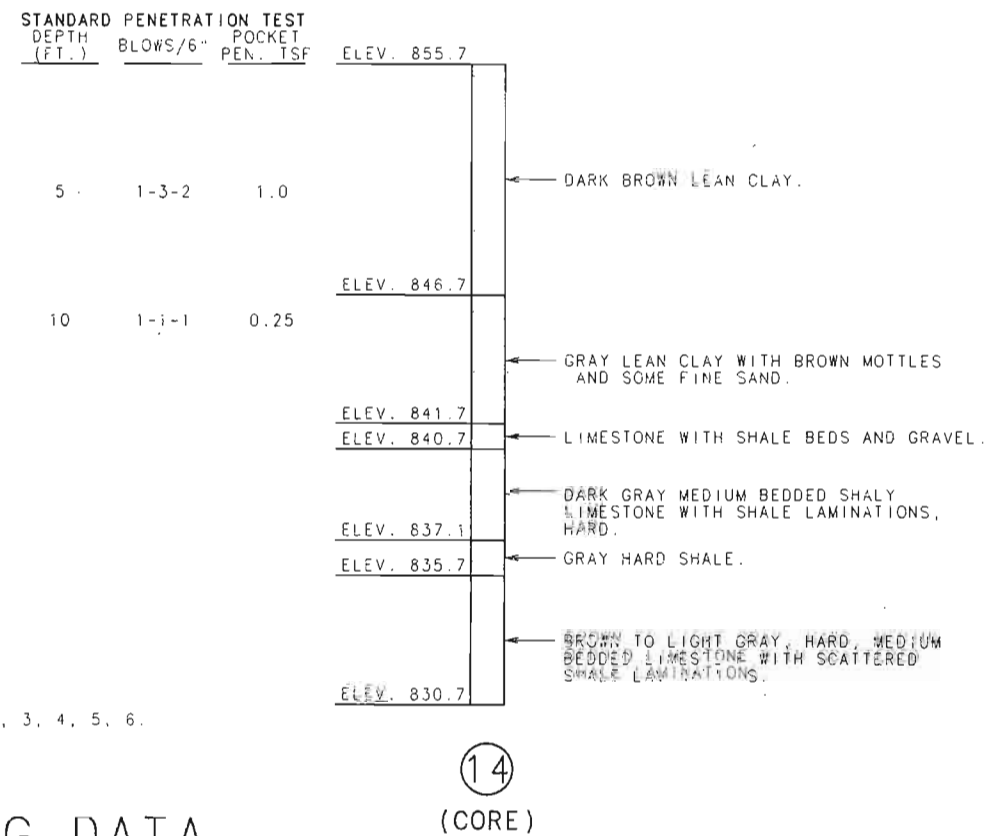
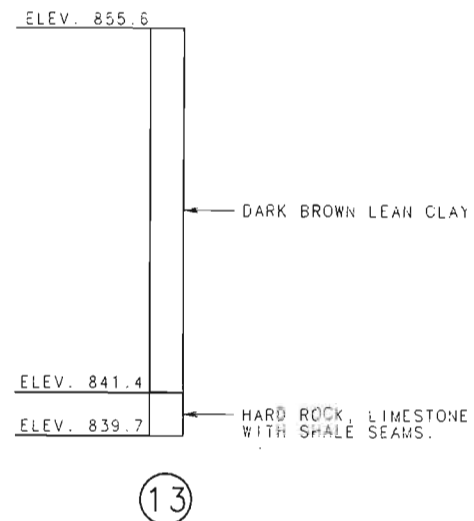
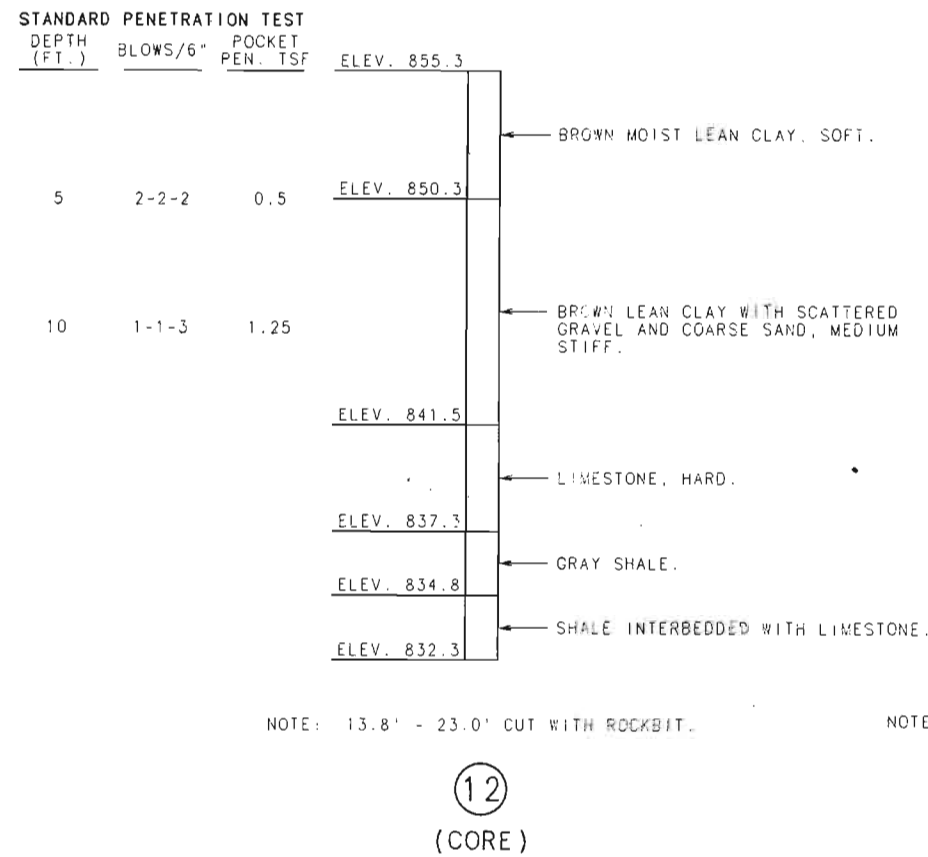
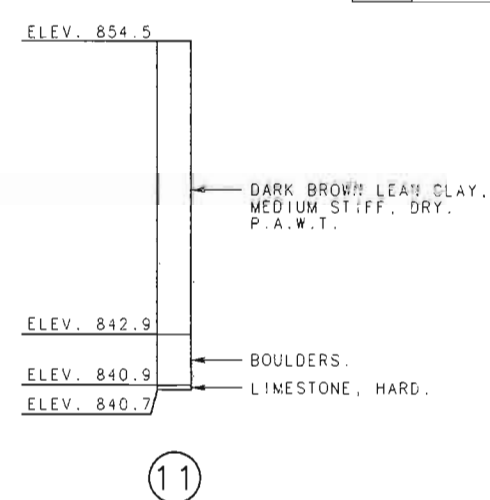
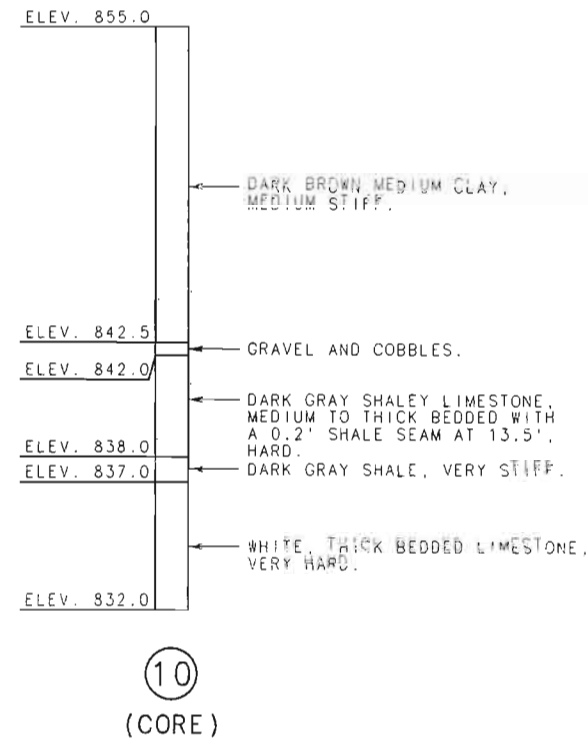
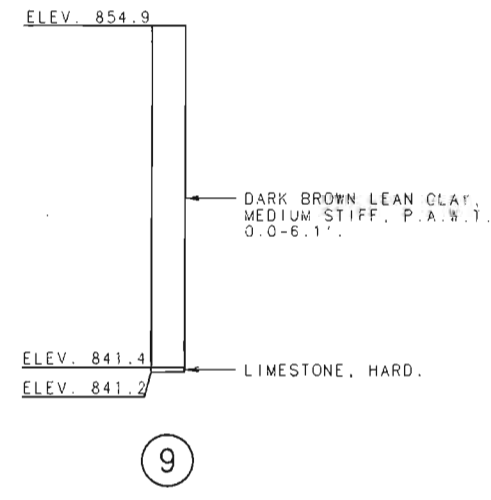
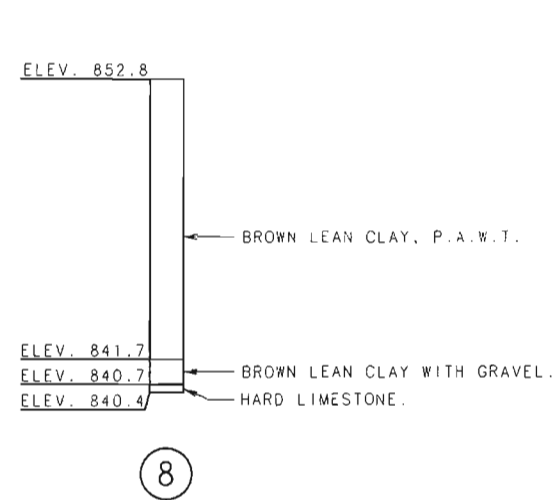
⑦

NOTE: FOR LOCATION OF BORINGS, SEE SHEETS NO. 2, 3, 4, 5, 6.

BORING DATA

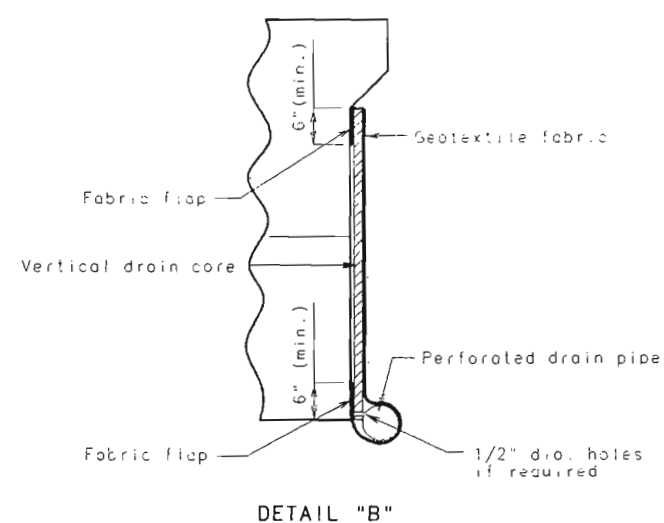
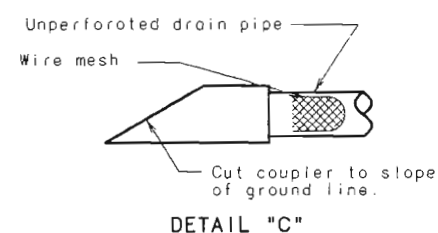
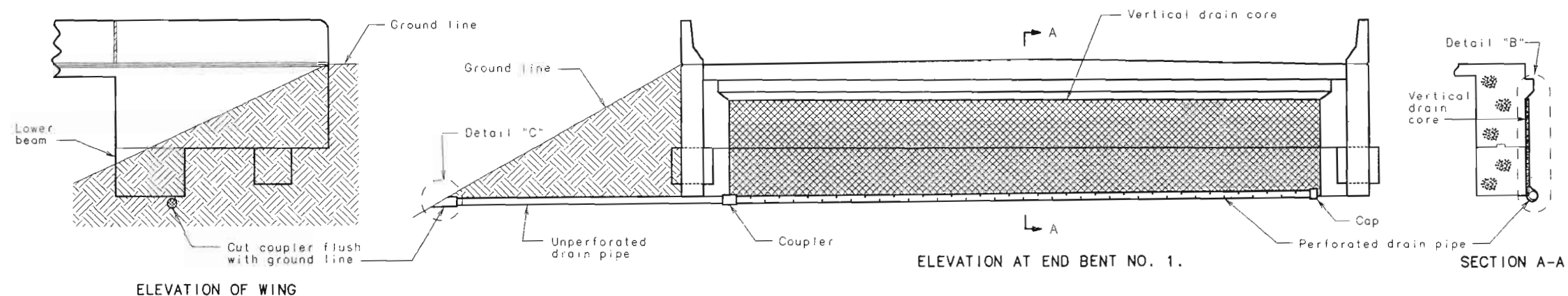






## BORING DATA

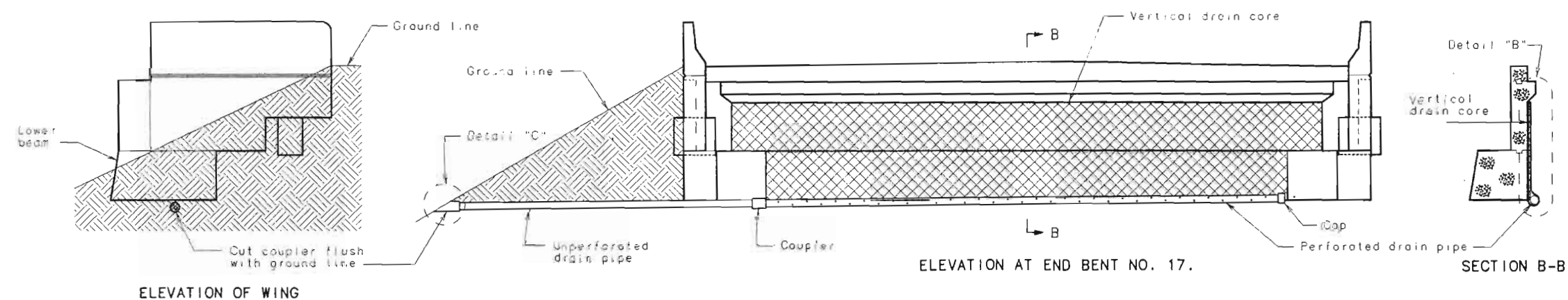
NOTE: FOR LOCATION OF BORINGS, SEE SHEETS NO. 2, 3, 4, 5, 6.  
P.A.W.T. = PUSHED AUGERS WITHOUT TURNING.



Drain pipe may be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1-1/2". (See Elevation At End Bent)

Perforated pipe shall be placed at fill face side at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.



## VERTICAL DRAIN AT END BENTS

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 16 OF 93

JACKSON COUNTY

A5495

DRA 1 - Vert. Drain (Int.)  
Revised: September 1994  
March 1986

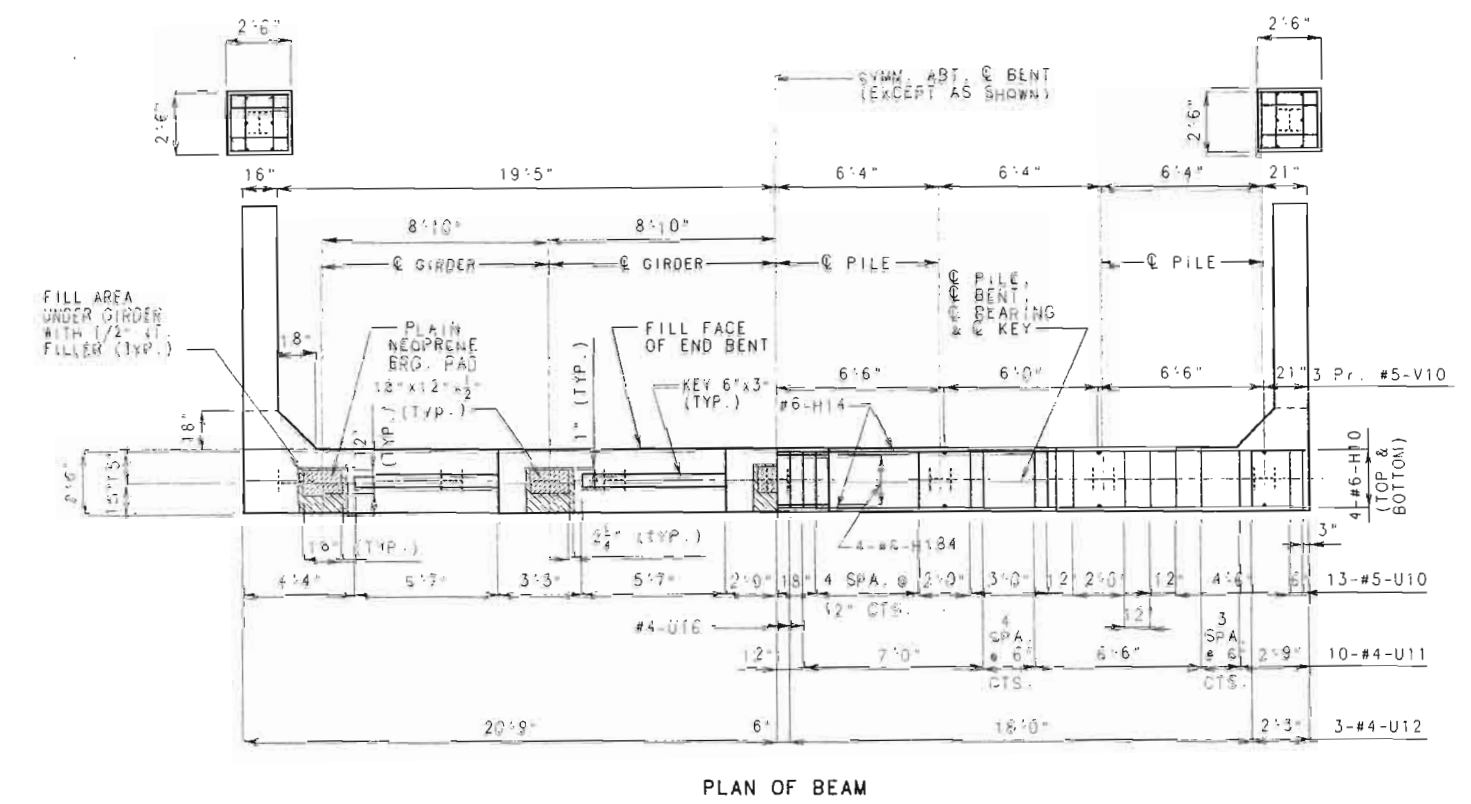
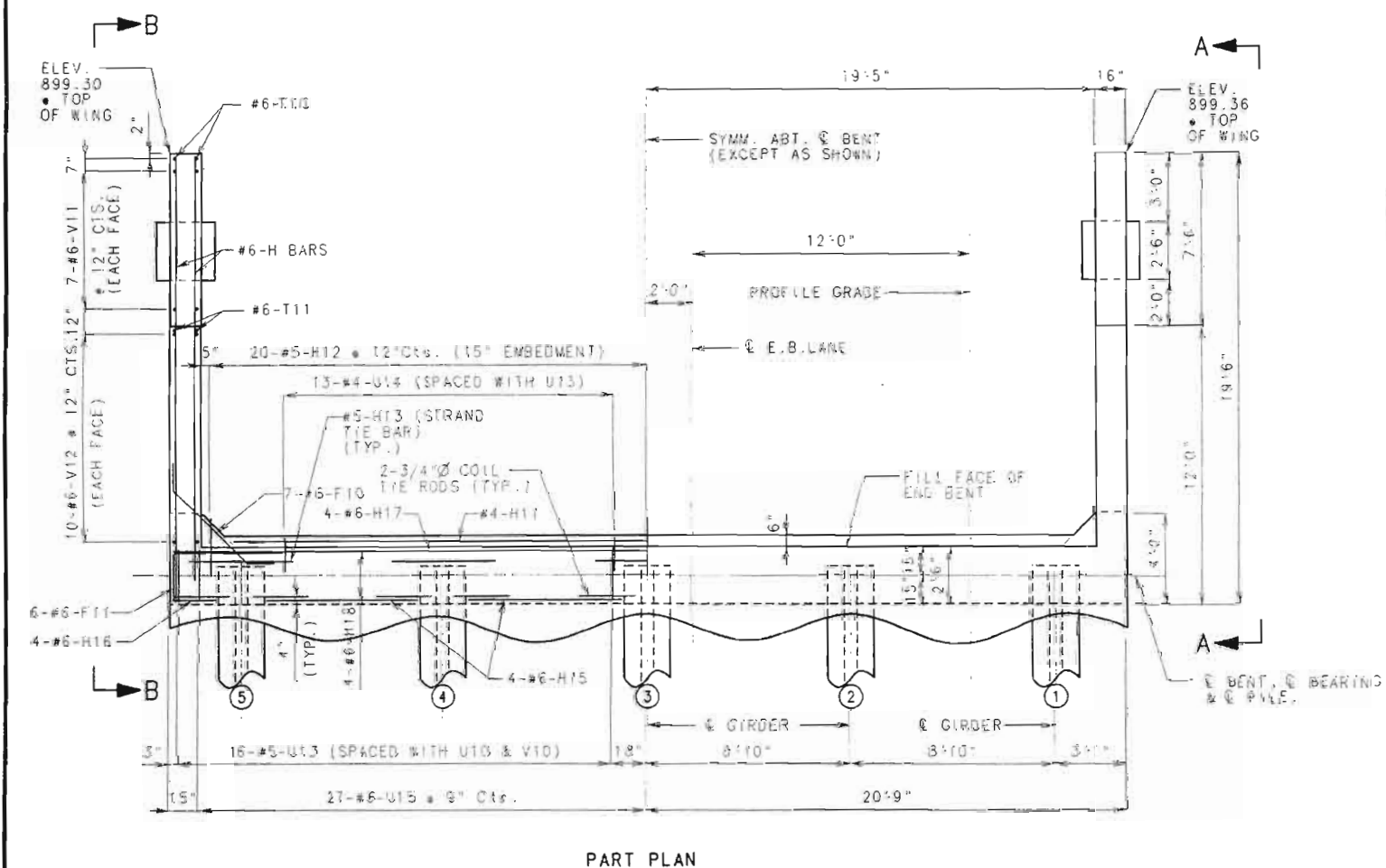
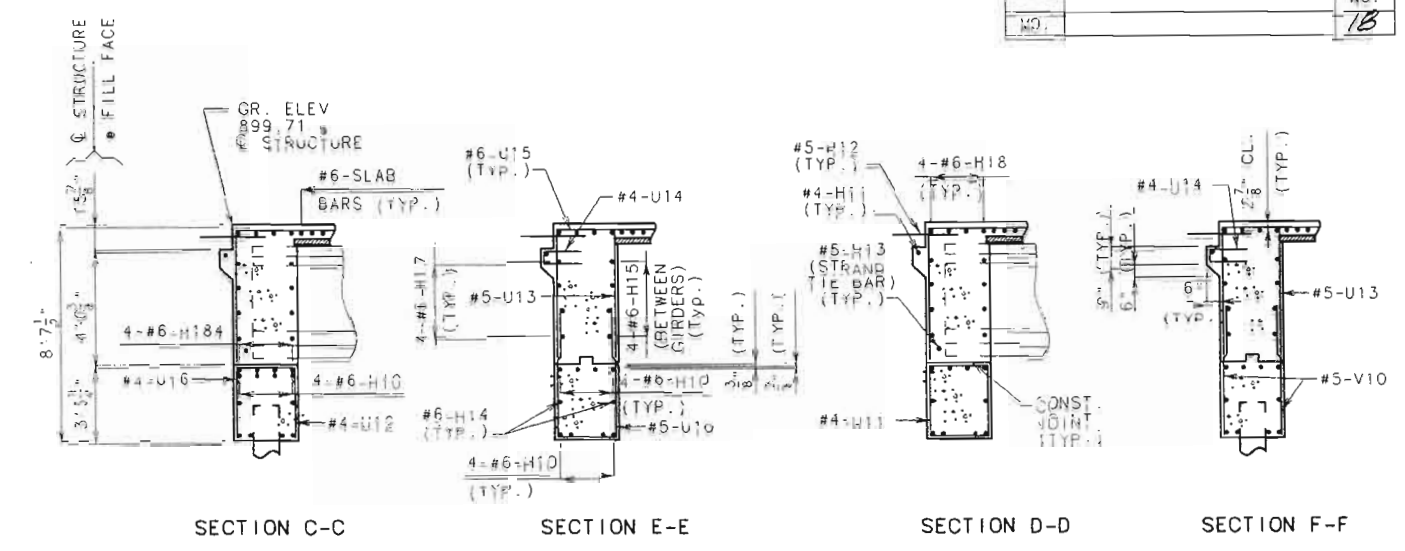
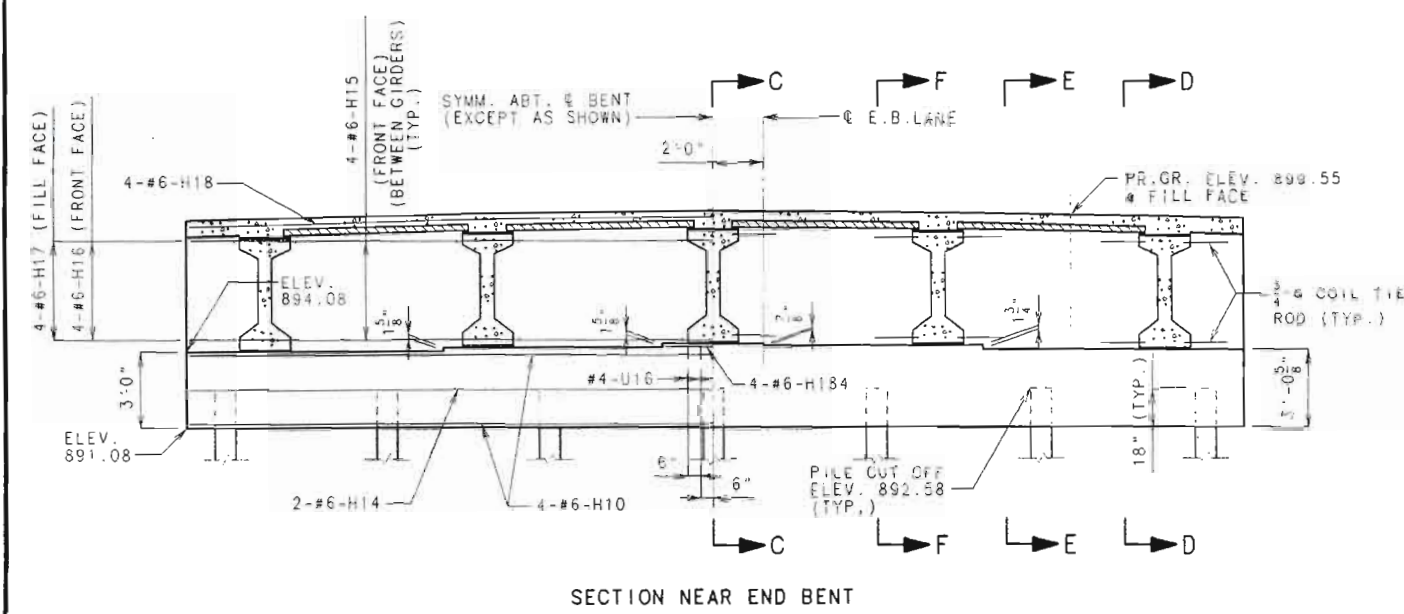
DETAILED JAN. 1998  
CHECKED MAR. 1998



DATE 5-1-98







NOTES:

BEND #6-F10 BARS IN FIELD TO CLEAR GIRDERS.

ALL CONCRETE IN THE END BENT ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B2.

STRANDS AT END OF GIRDER SHALL BE FIELD BENT OR, IF NECESSARY, CUT IN FIELD TO MAINTAIN 1 1/2" MINIMUM CLEARANCE TO FILL FACE OF END BENT.

FOR DETAILS OF BARRIER CURB, SEE SHEETS NO. 78, 79, 80 & 81.

FOR DETAILS OF ELEVATION A-A & B-B, SEE SHEET NO. 13.

STATE OF MISSOURI  
KURT E. GRUBBLE  
REGISTERED PROFESSIONAL ENGINEER  
NUMBER E-23578  
DATE 5-1-98

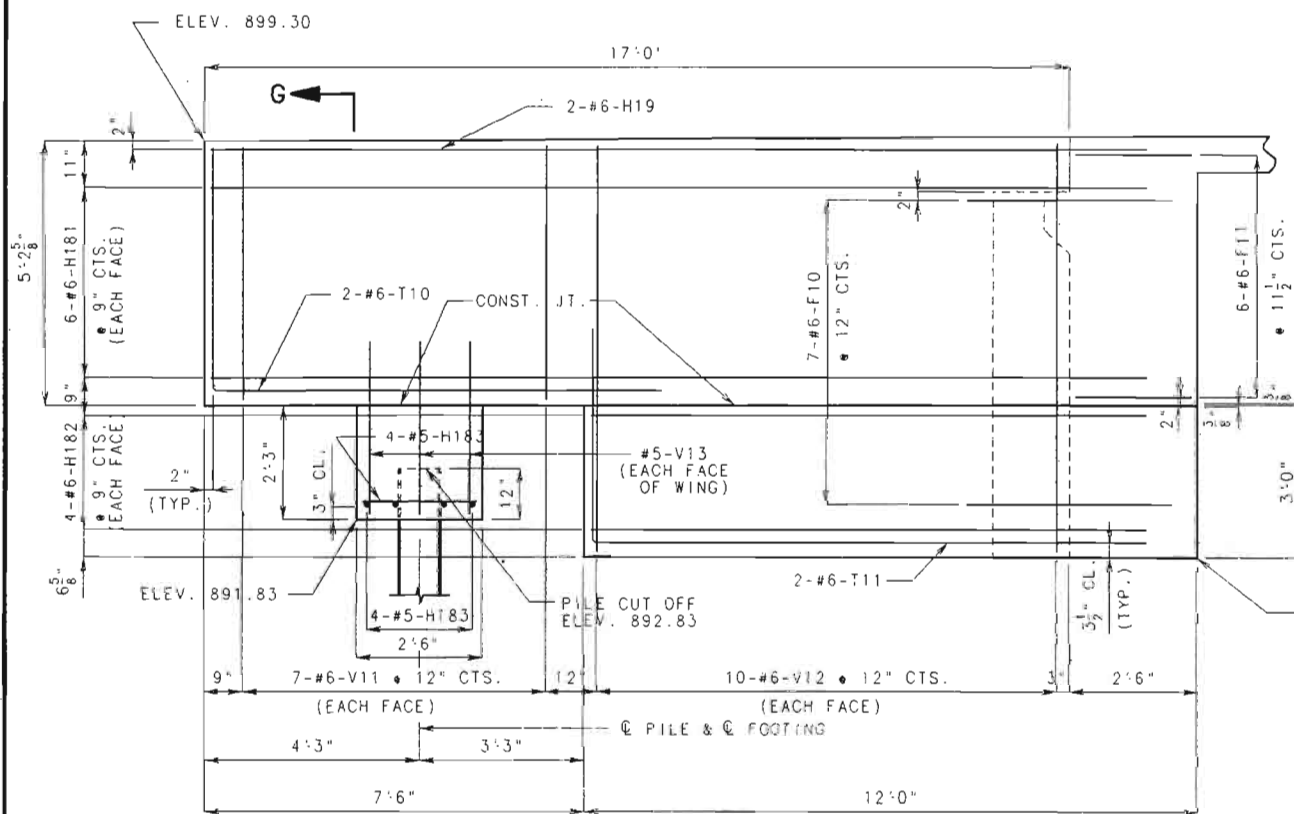
DESIGNED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

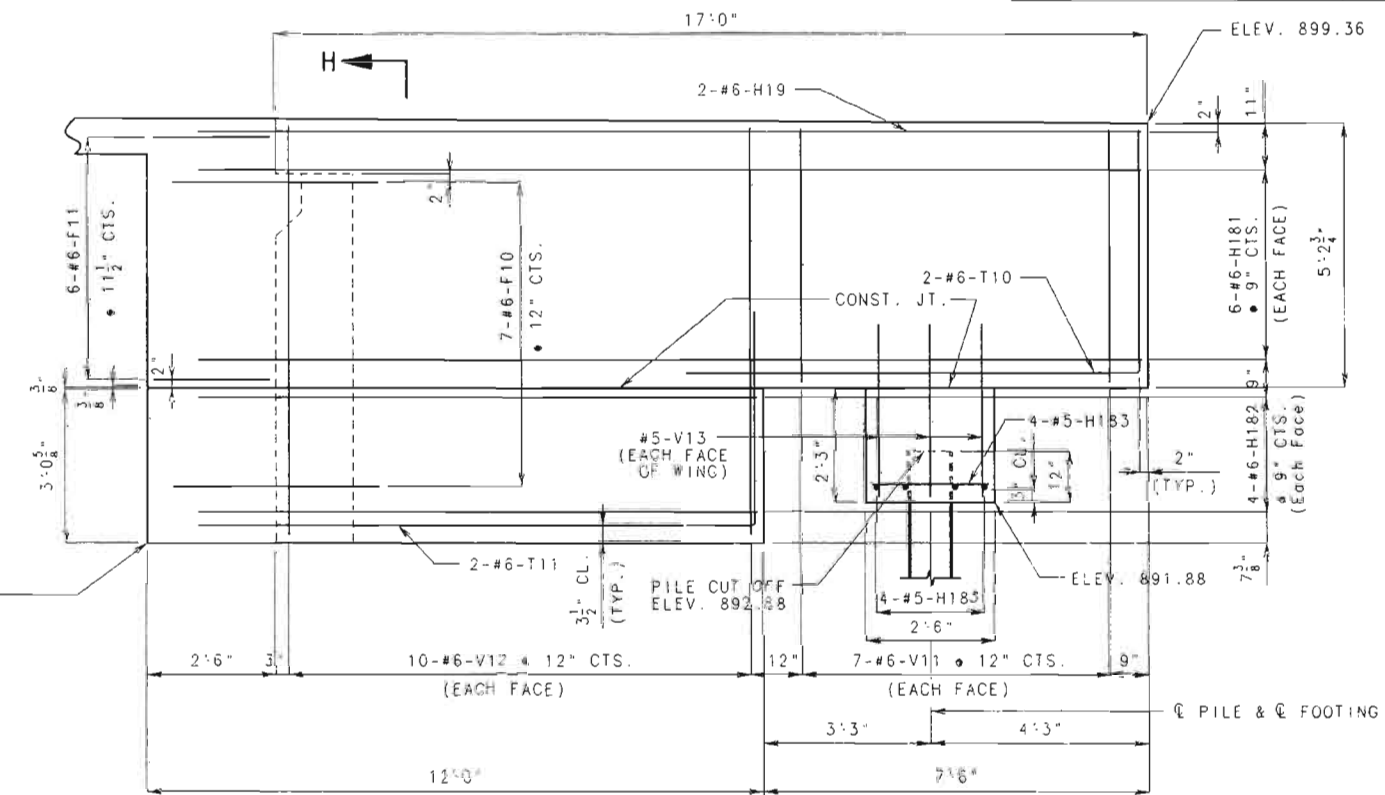
SHEET NO. 12 OF 93.

JACKSON COUNTY A5495

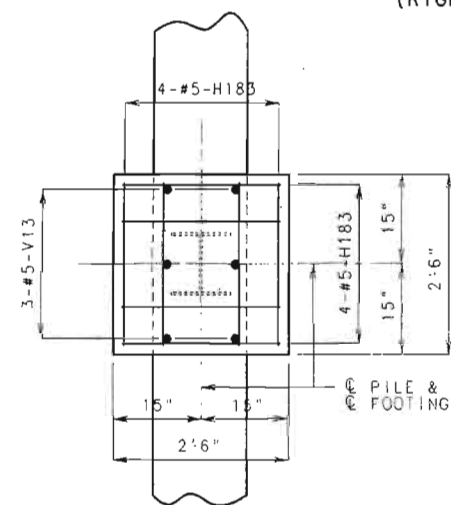
# PART DETAILS OF END BENT NO. 1



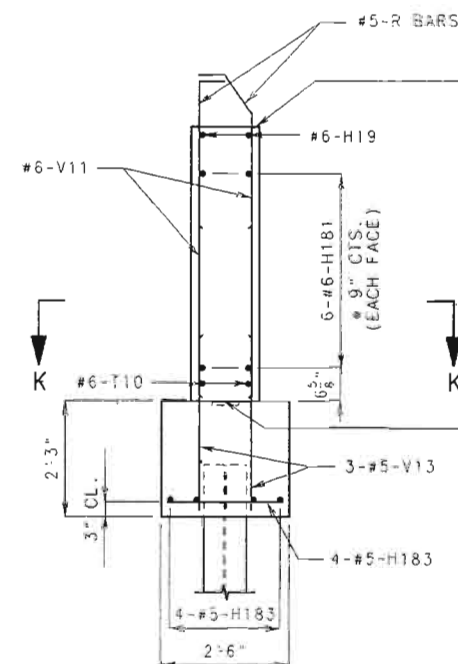
ELEVATION B-B  
(RIGHT WING WALL)



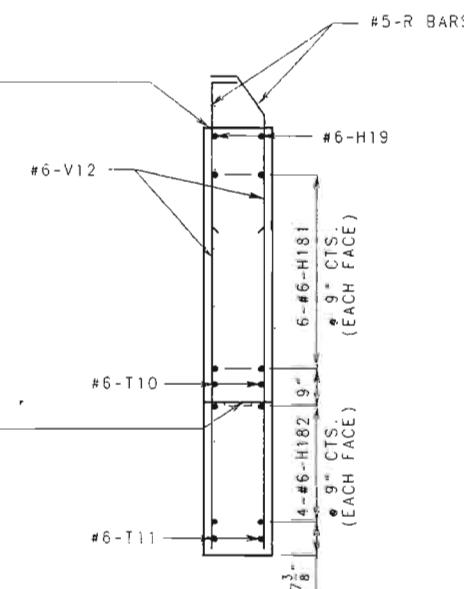
ELEVATION A-A  
(LEFT WING WALL)



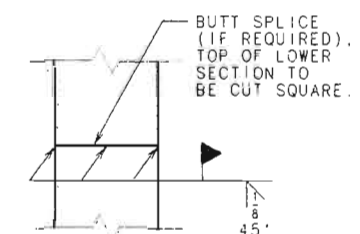
SECTION K-K



SECTION G-G  
(ONE PILE FOOTING)

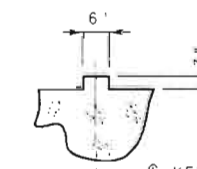


SECTION H-H  
(SECTION THRU WING)



STEEL PILE SPLICE

NOTE: FOR LOCATION OF ELEVATIONS A-A & B-B, SEE SHEET NO. 12.  
FOR REINFORCEMENT OF THE SAFETY BARRIER CURB, SEE SHEETS NO. 78, 79 & 80.



SECTION THRU KEY

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 1		
ITEM		QUANTITY
STRUCTURAL STEEL PILES (10")	LIN. FT.	450
PRE-BORE FOR PILING	LIN. FT.	218
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	16.2
DEADMAN ANCHORAGE ASSEMBLY	EACH	1

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

## PART DETAILS OF END BENT NO. 1

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 13 OF 93.

JACKSON

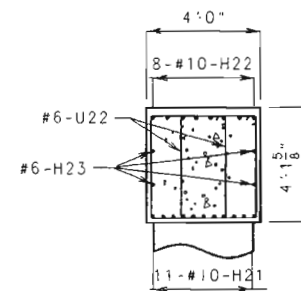
COUNTY

A5495

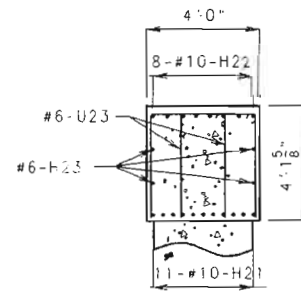




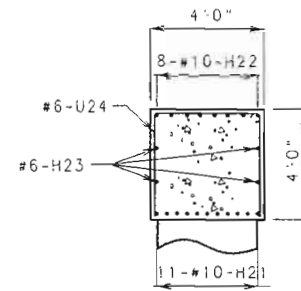




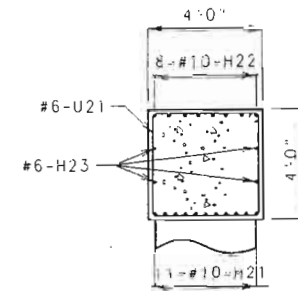
SECTION A-A



SECTION B-B

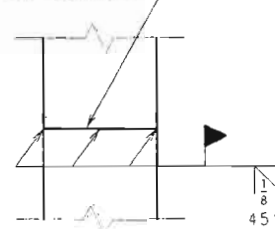


SECTION C-C

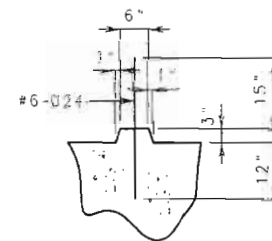


SECTION D-D

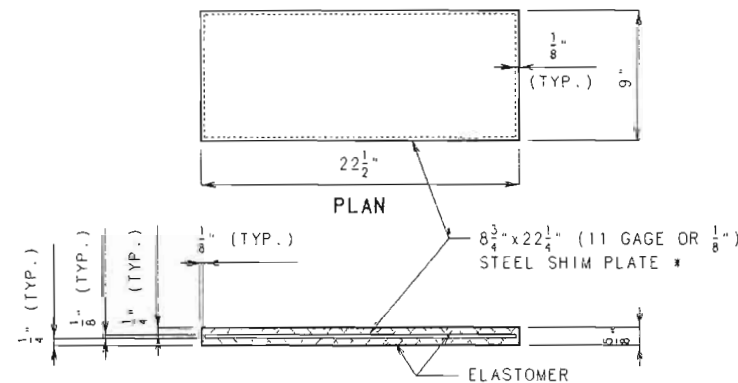
BUTT SPLICE  
(IF REQUIRED),  
TOP OF LOWER  
SECTION TO  
BE CUT SQUARE.



STEEL PILE SPLICE



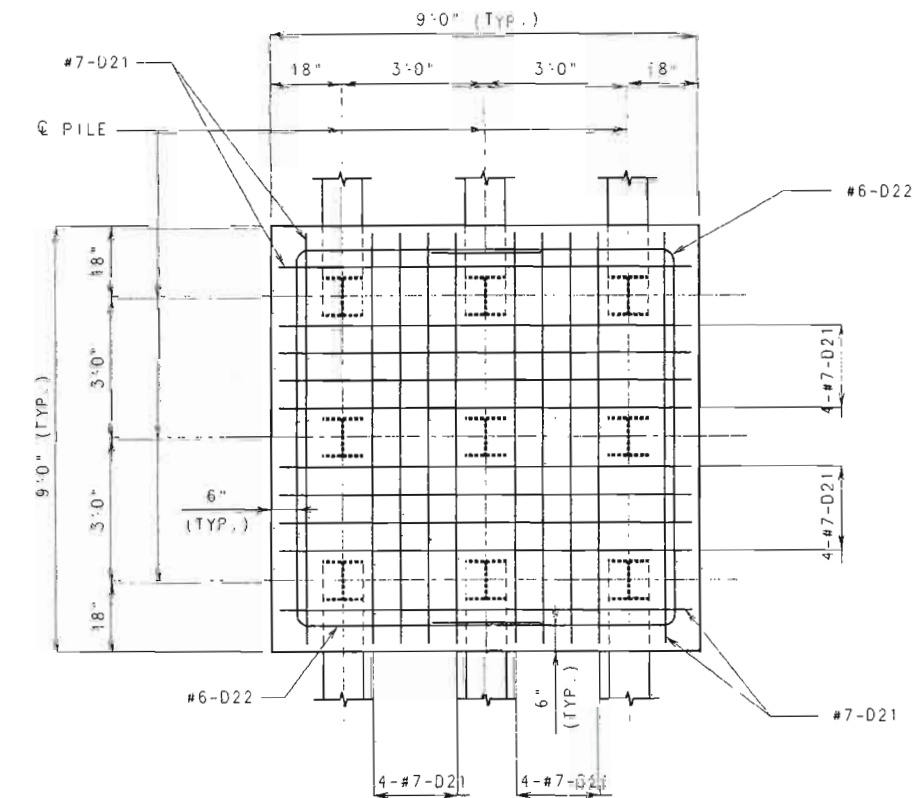
DETAIL OF KEY



DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF  
ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 14.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #2		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	60
STRUCTURAL STEEL PILE (16")	LIN. FT.	270
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	63.7
REINFORCING STEEL (BRIDGES)	LBS.	10,050

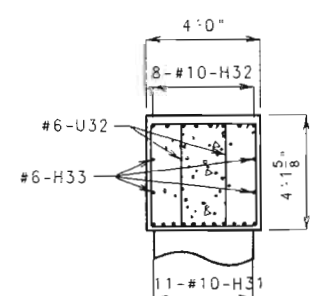
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED  
QUANTITIES TABLE ON SHEET NO. 7.



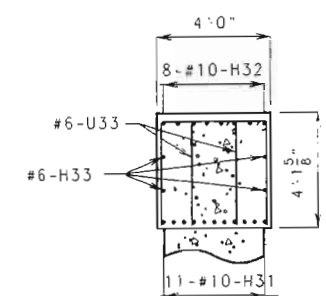
DATE 5-1-98



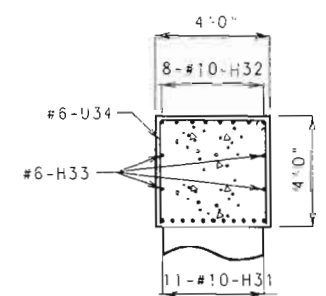




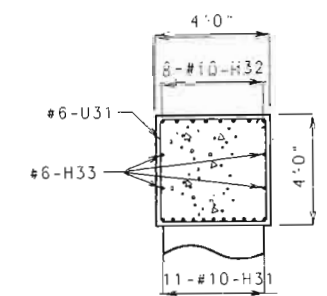
SECTION A-A



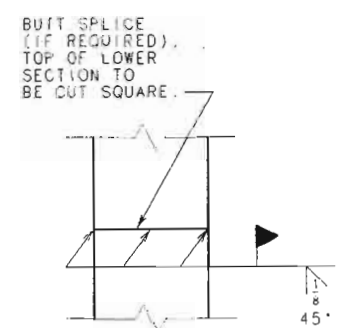
SECTION B-B



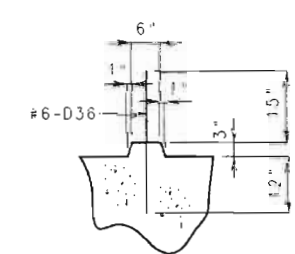
SECTION C-C



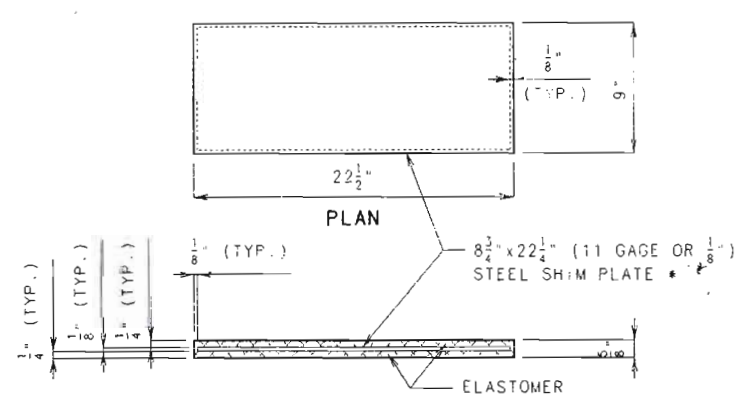
SECTION D-D



STEEL PILE SPLICE



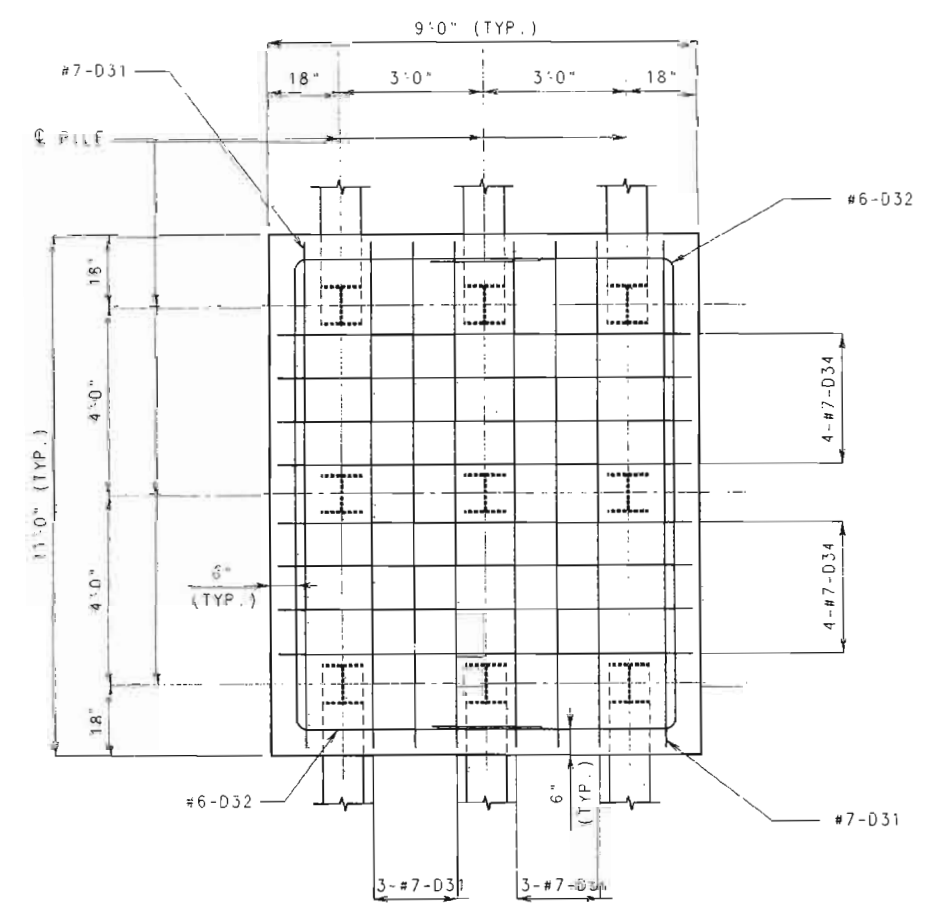
DETAIL OF KEY



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 16.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #3		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	110
STRUCTURAL STEEL PILE (10")	LIN. FT.	198
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	81.2
REINFORCING STEEL (BRIDGES)	LBS.	12,440

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

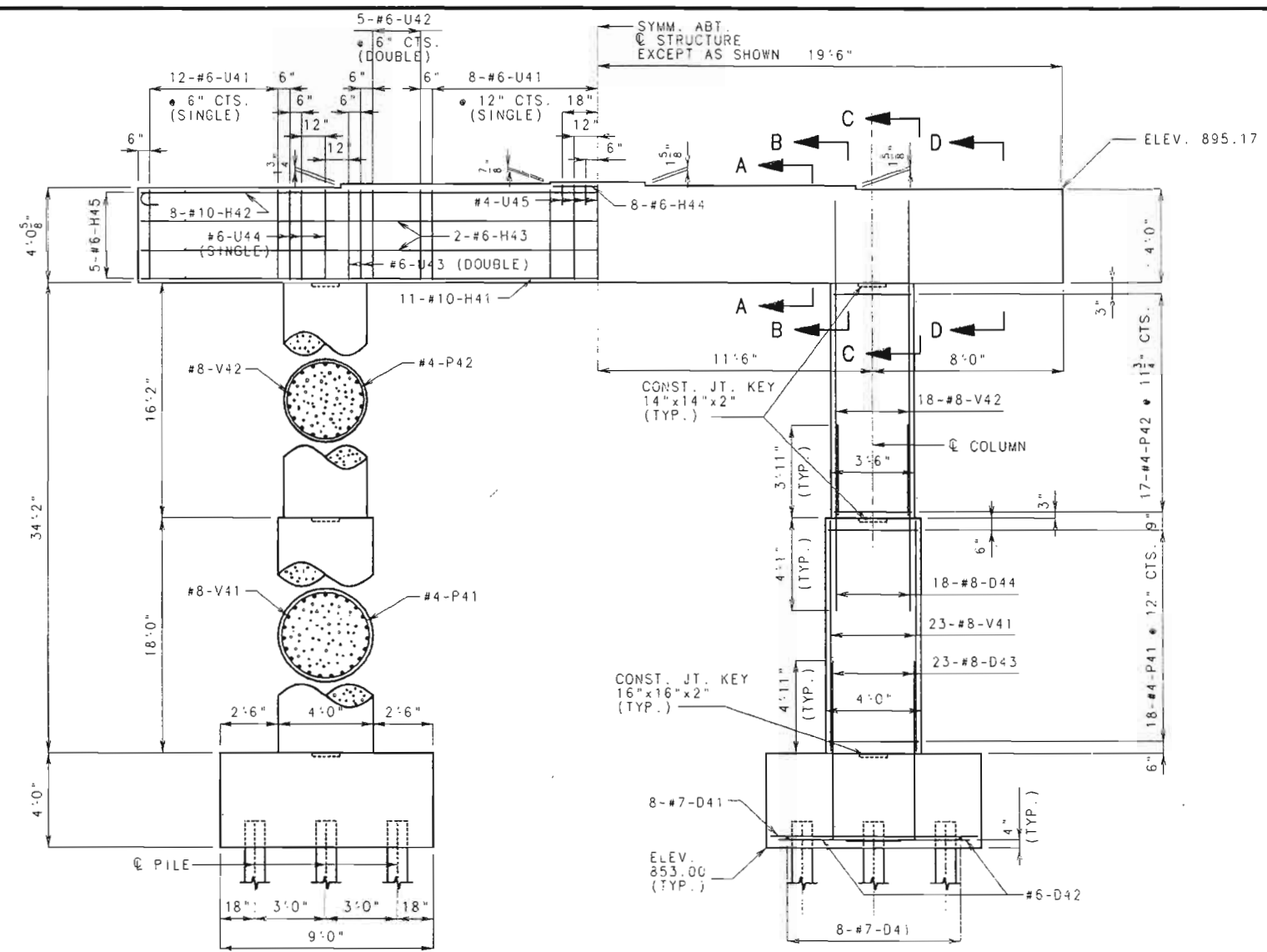
# PART DETAILS OF INTERMEDIATE BENT NO. 3

DESIGNED JAN. 1998  
CHECKED MAR. 1998

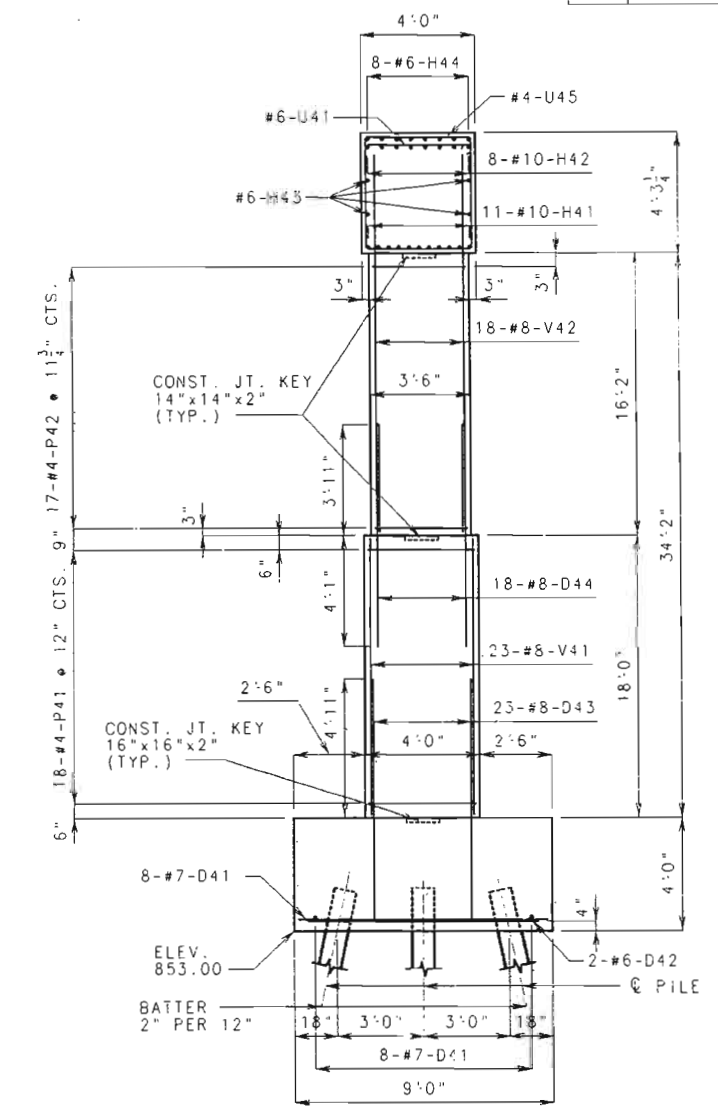
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 17 OF 93.

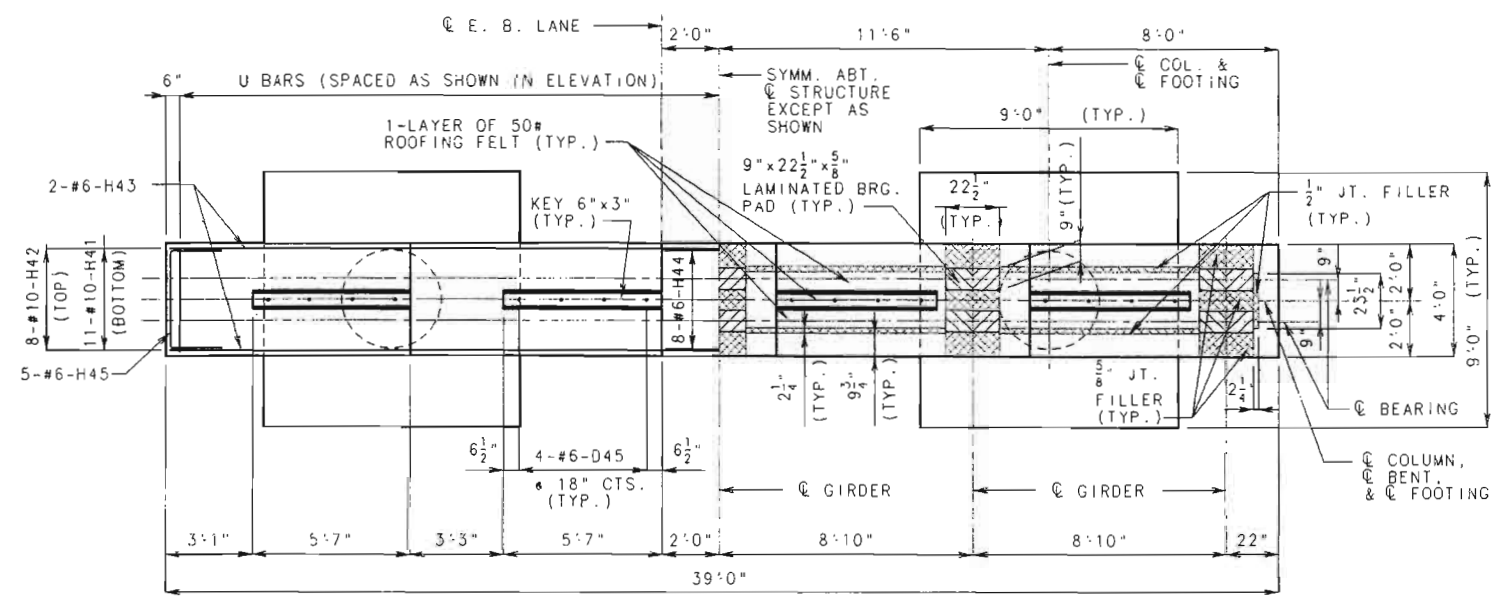
JACKSON COUNTY A5495



ELEVATION



SECTION AT  $\phi$  STRUCTURE



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

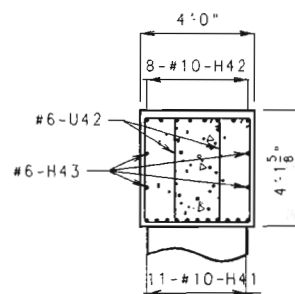
HALF PLAN OF BEAM  
SHOWING BEARINGS

PART DETAILS OF INTERMEDIATE BENT NO. 4

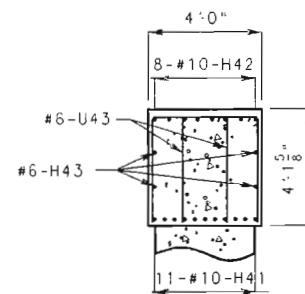
FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 19.  
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 19.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 19.  
FOR DETAIL OF KEY, SEE SHEET NO. 19.



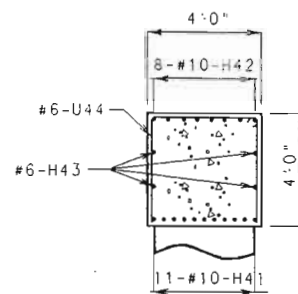




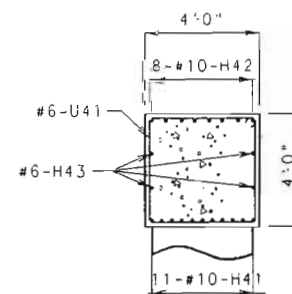
SECTION A-A



SECTION B-B

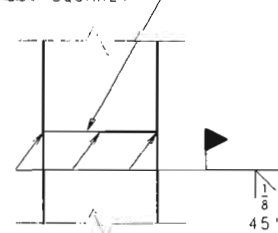


SECTION C-C

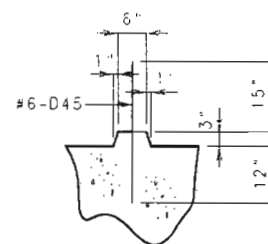


SECTION D-D

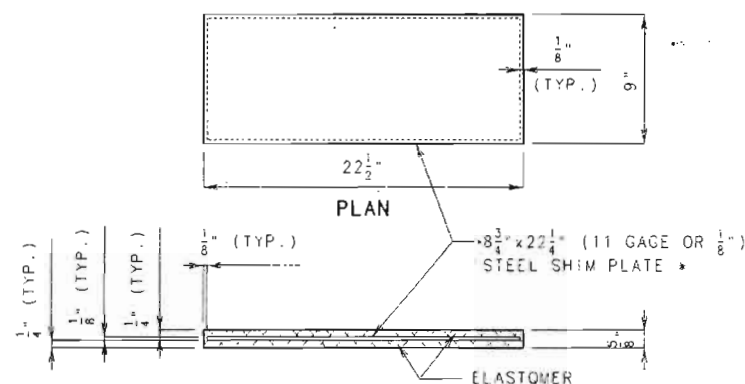
BUTT SPLICE  
(IF REQUIRED),  
TOP OF LOWER  
SECTION TO  
BE CUT SQUARE.



STEEL PILE SPLICE



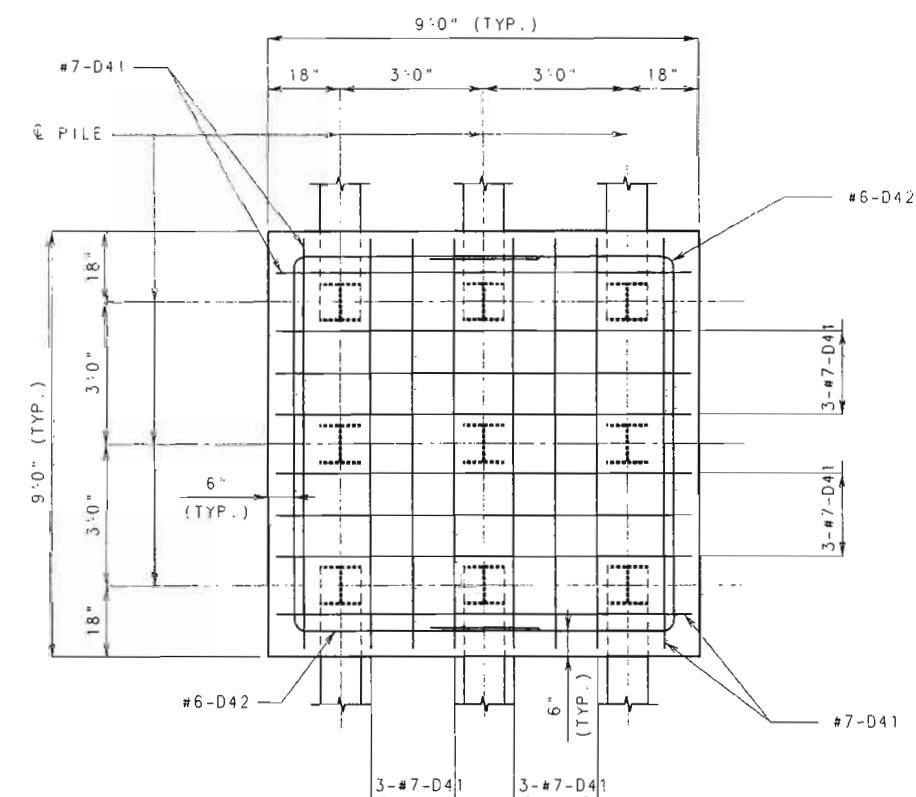
DETAIL OF KEY



DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF  
ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 18.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #4		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	85
STRUCTURAL STEEL PILE (10")	LIN. FT.	270
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	76.2
REINFORCING STEEL (BRIDGES)	LBS.	12,420

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED  
QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

## PART DETAILS OF INTERMEDIATE BENT NO. 4

DETAILED JAN. 1998  
CHECKED MAR. 1998

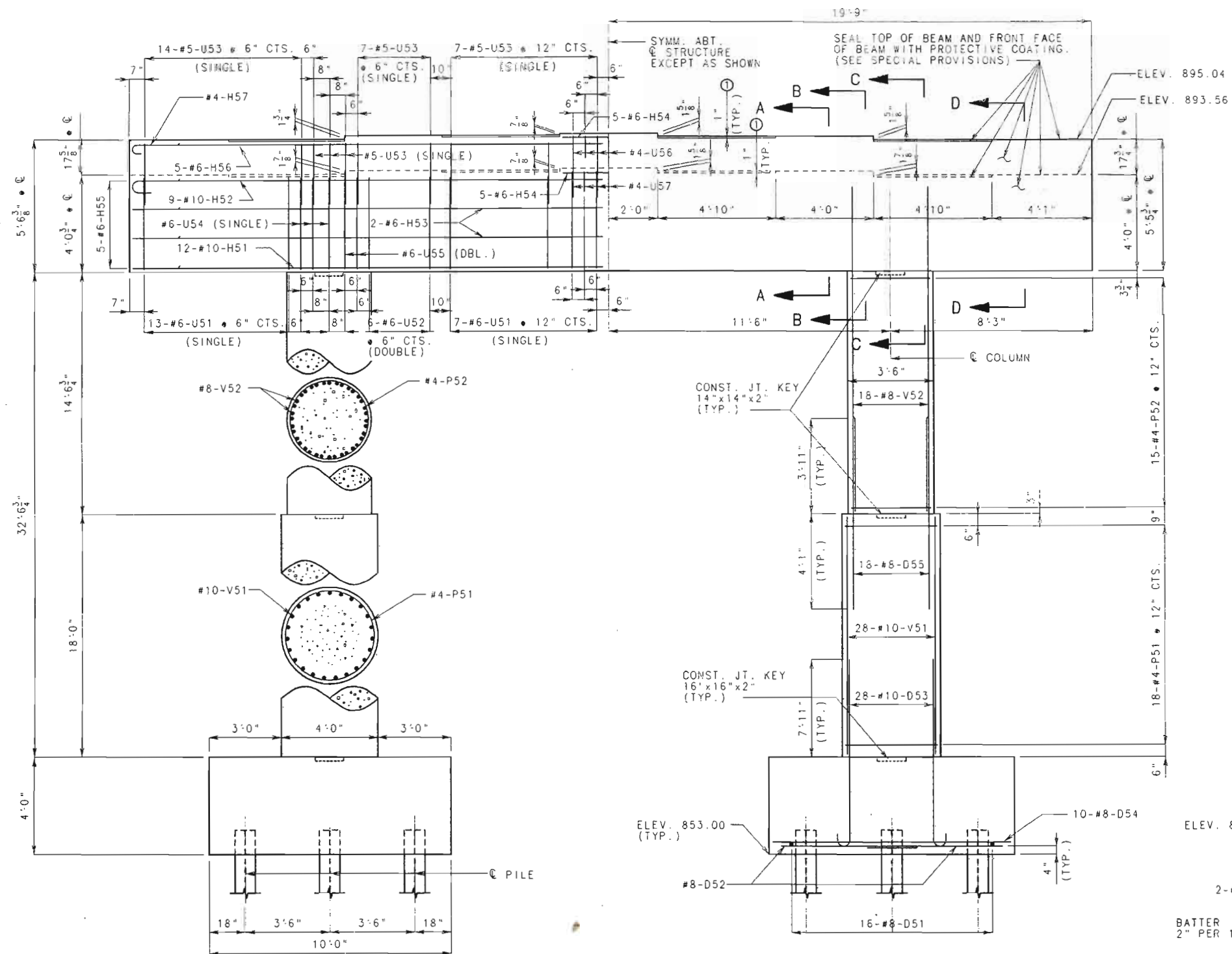
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 19 OF 93.

JACKSON

COUNTY

A5495

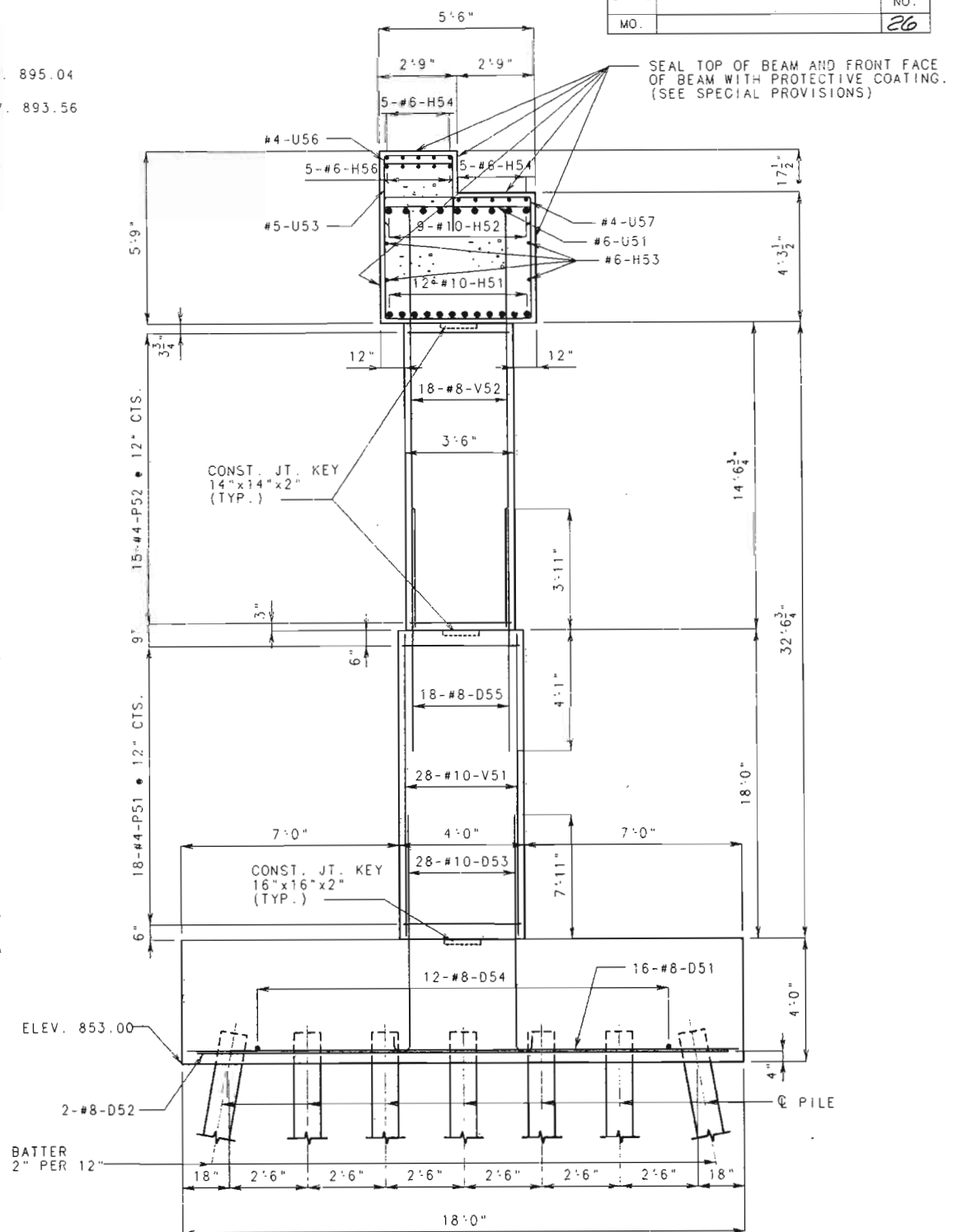


ELEVATION

NOTE: FOR SECTIONS A-A, B-B, C-C & D-D, SEE SHEET NO. 21.

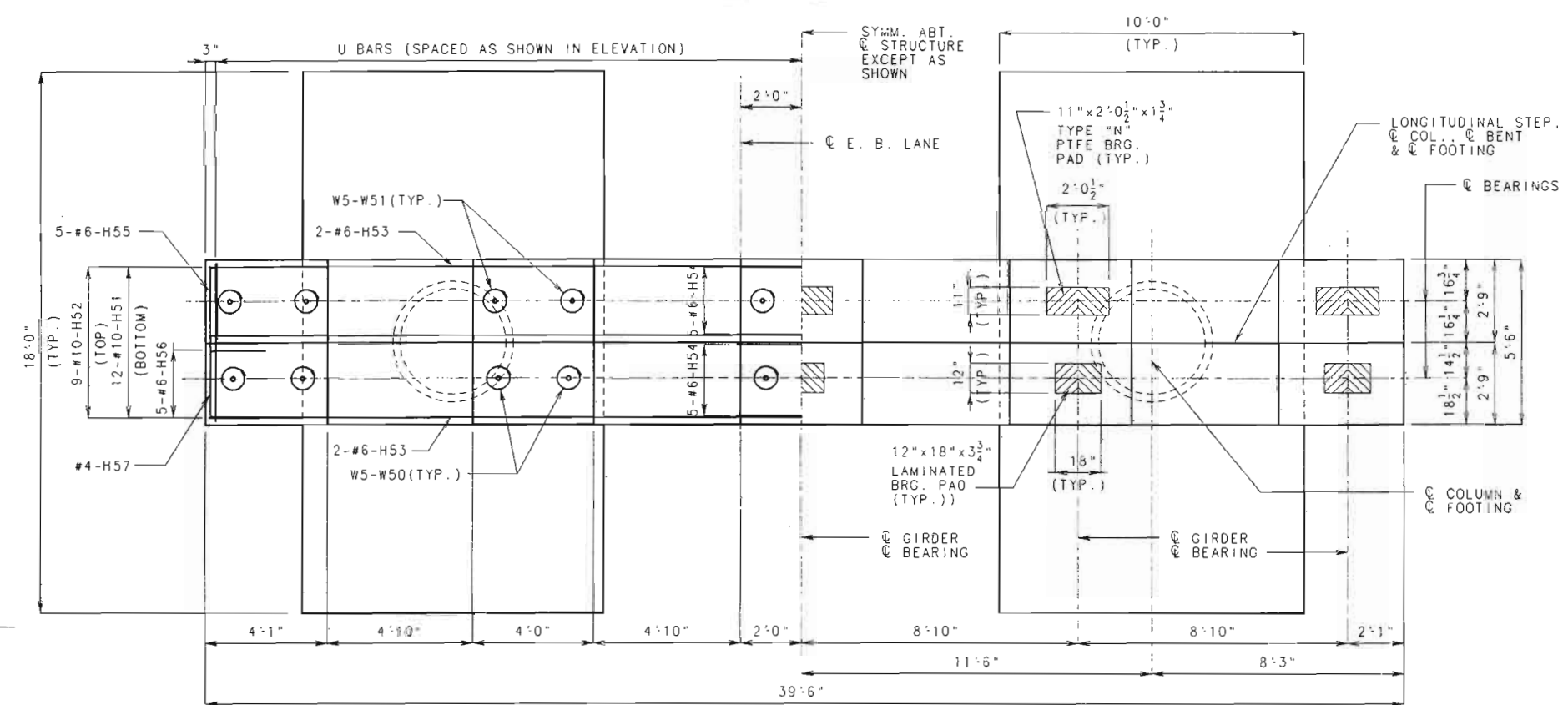
- ① TOP OF BEAM SHALL BE SLOPED 1" TO DRAIN BETWEEN @ OF BEAM AND OUTSIDE FACE OF BEAM.

## PART DETAILS OF INTERMEDIATE BENT NO. 5



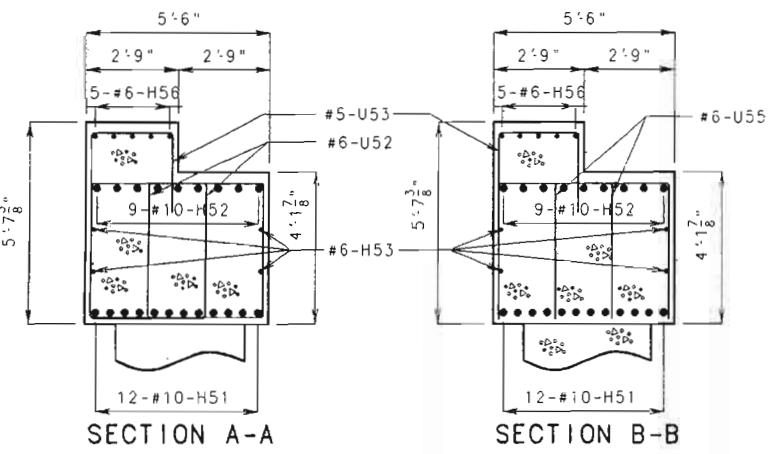
SECTION AT @ STRUCTURE





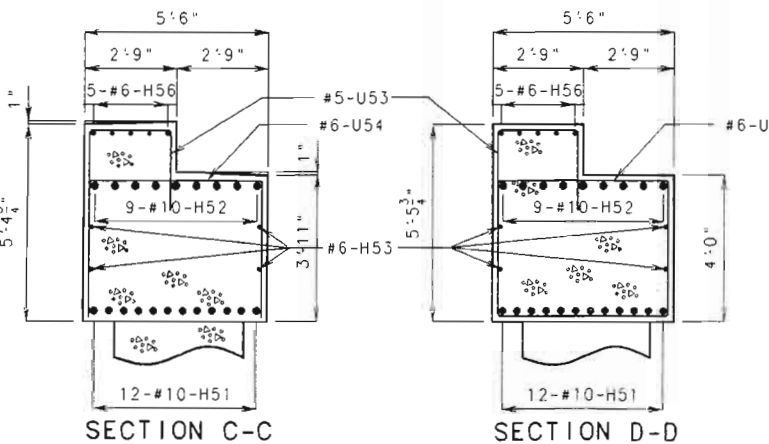
HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS



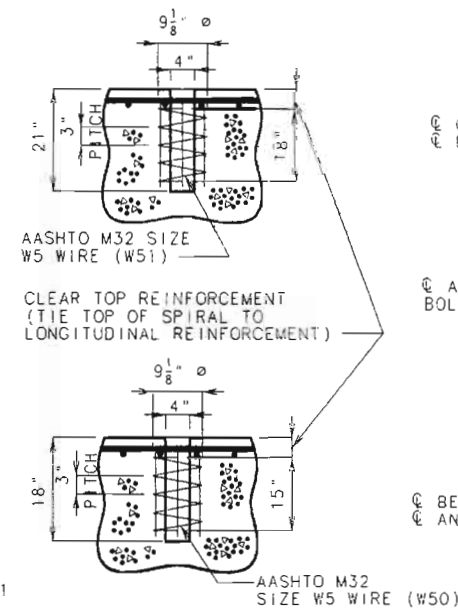
SECTION A-A

SECTION B-B

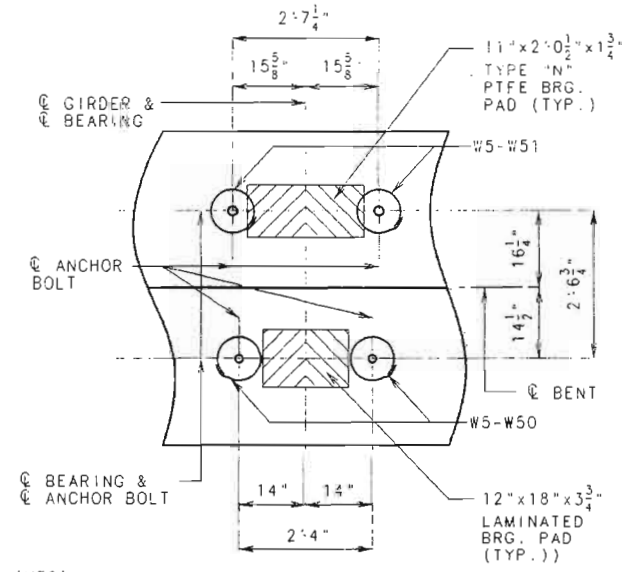


SECTION C-C

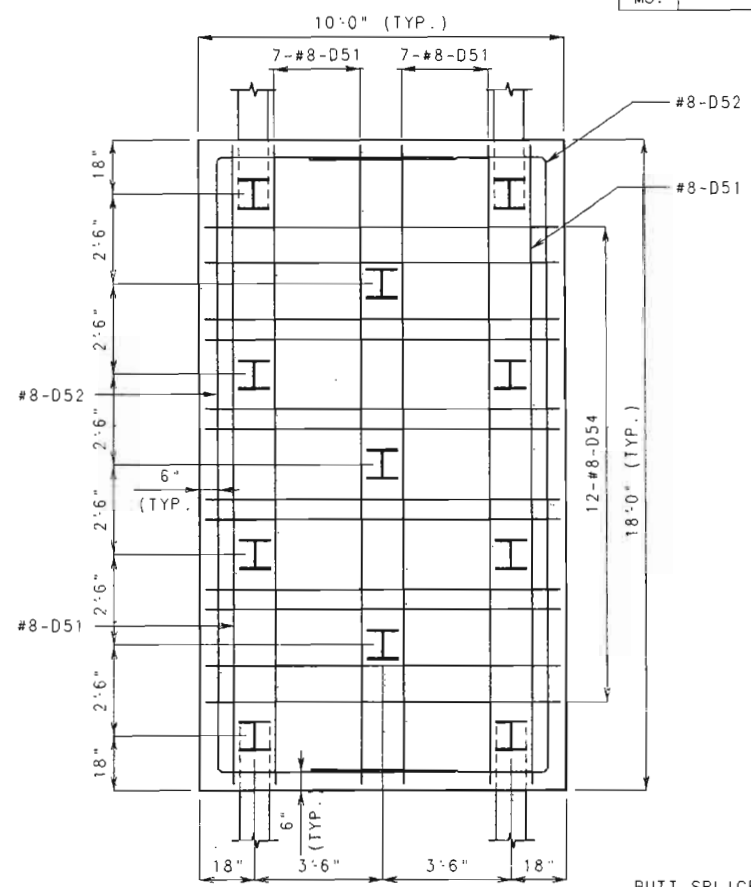
SECTION D-D



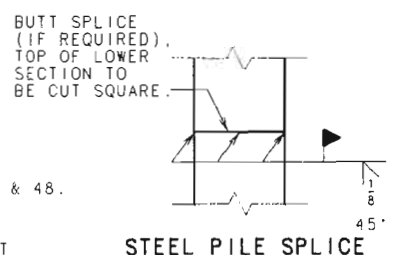
DETAIL OF  
ANCHOR BOLT WELLS



LOCATION OF  
ANCHOR BOLT WELLS



PLAN OF FOOTING



STEEL PILE SPLICE

NOTE: FOR DETAILS OF BEARINGS, SEE SHEETS NO. 47 & 48.

ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

SUBSTRUCTURE QUANTITY TABLE FOR BENT 5		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	140
STRUCTURAL STEEL PILE (10")	LIN. FT	330
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	119.8
REINFORCING STEEL (BRIDGES)	LBS.	11,170
REINFORCING STEEL (EPOXY COATED)	LBS.	8630

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

NOTE: FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 20.

## PART DETAILS OF INTERMEDIATE BENT NO. 5

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 21 OF 93.

JACKSON

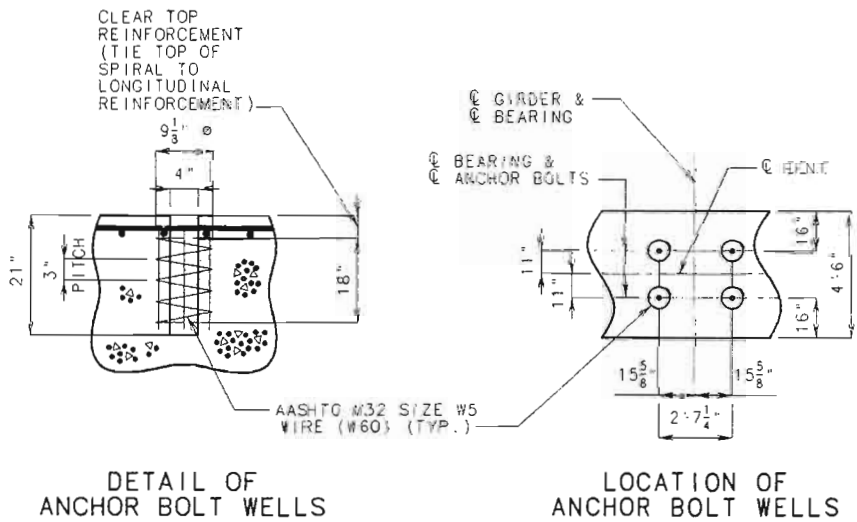
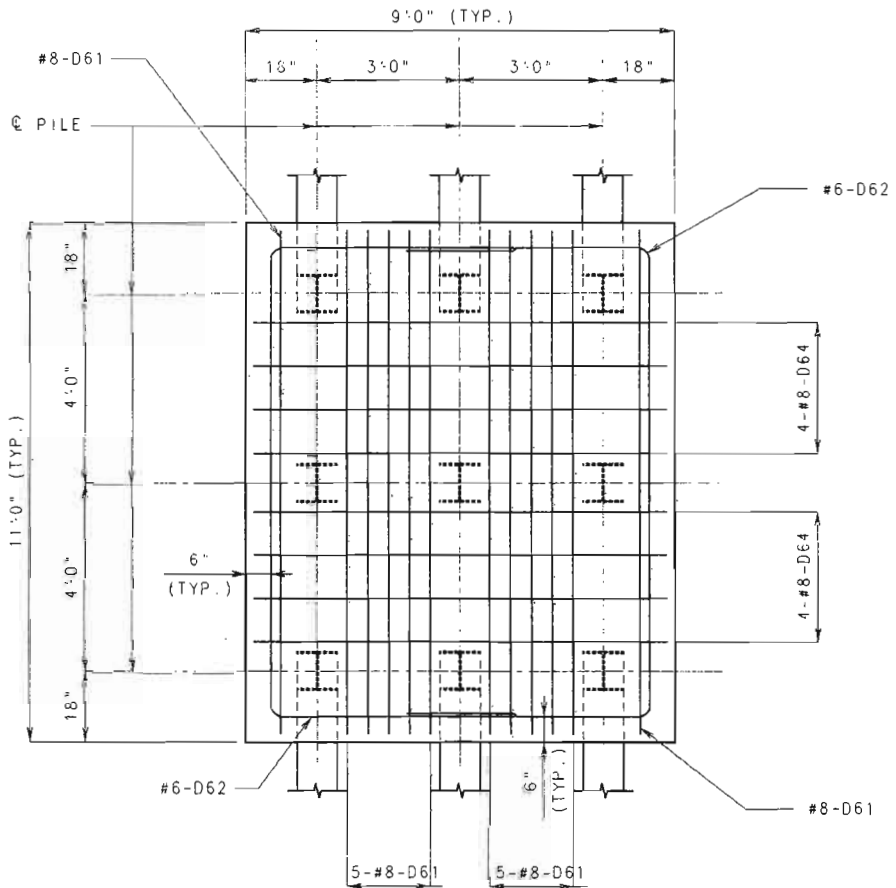
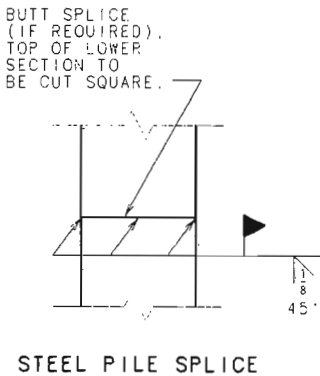
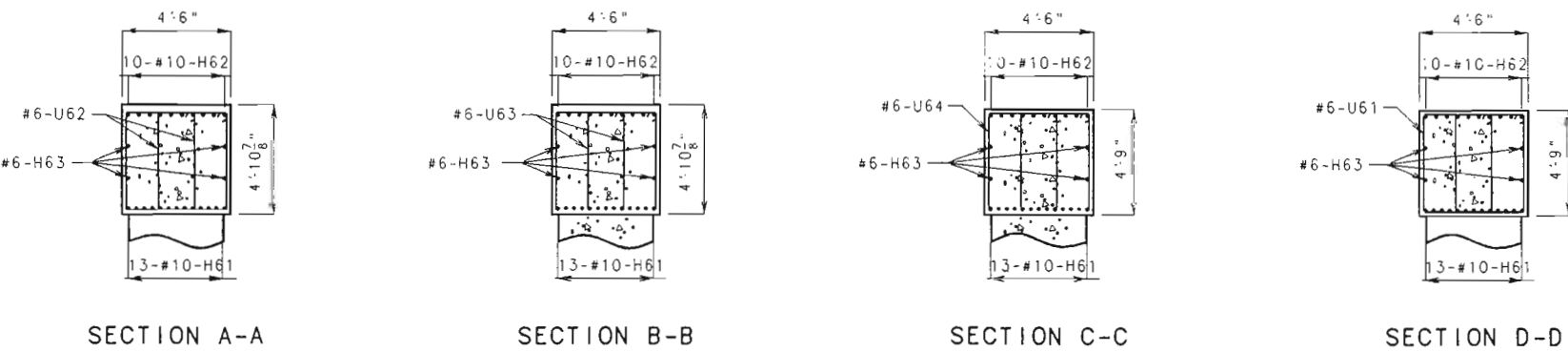
COUNTY

A5495









NOTES:  
 FOR DETAILS OF LAMINATED NEOPRENE BEARINGS, SEE SHEET NO. 47.  
 ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
 FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 22.

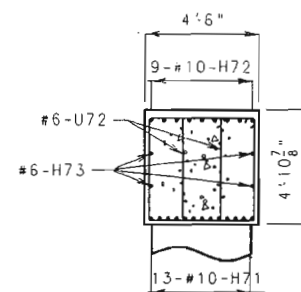
SUBSTRUCTURE QUANTITY TABLE FOR BENT #6		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	95
STRUCTURAL STEEL PILE (12")	LIN. FT.	270
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	91.4
REINFORCING STEEL (BRIDGES)	LBS.	13,590

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

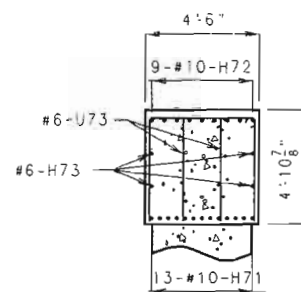




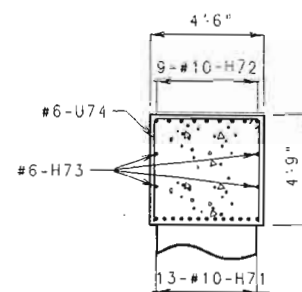




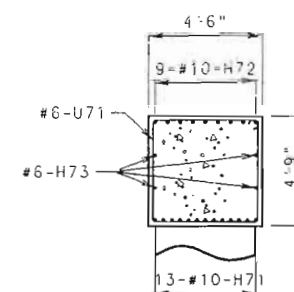
SECTION A-A



SECTION B-B

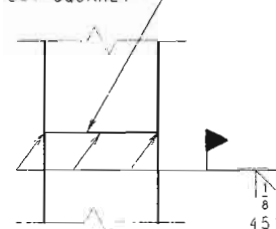


SECTION C-C

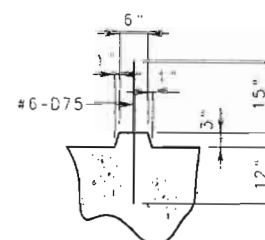


SECTION D-D

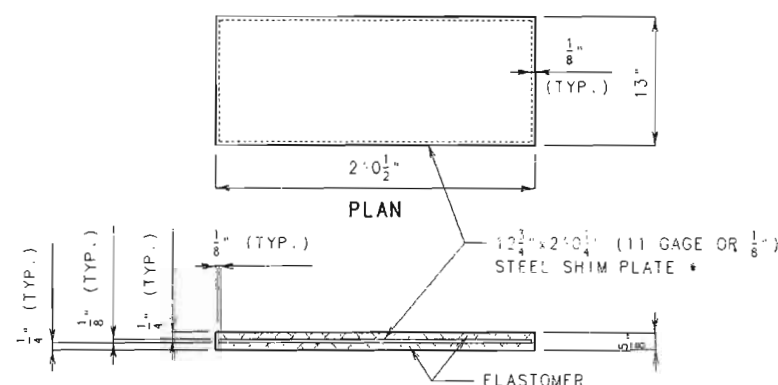
BUTT SPLICE  
(IF REQUIRED),  
TOP OF LOWER  
SECTION TO  
BE CUT SQUARE.



STEEL PILE SPLICE



DETAIL OF KEY

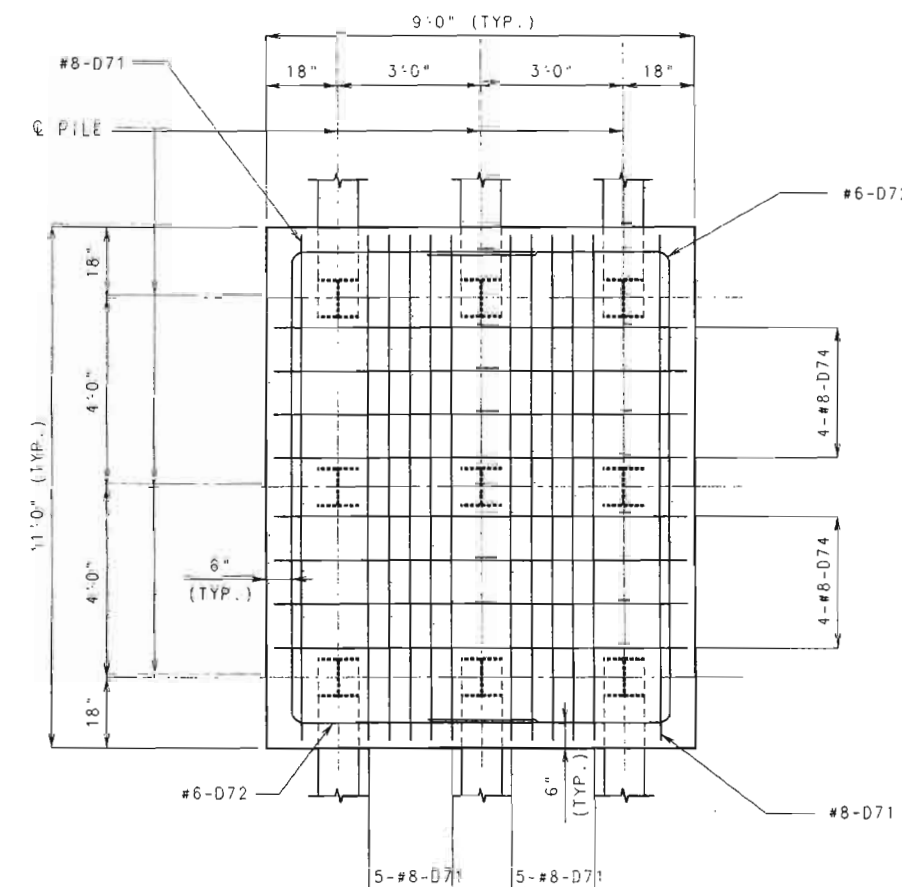


SECTION

DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOULDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 24.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #7		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	80
STRUCTURAL STEEL PILE (12")	LIN. FT.	270
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	92.0
REINFORCING STEEL (BRIDGES)	LBS.	13,480

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 2.



DATE 5-1-98

## PART DETAILS OF INTERMEDIATE BENT NO. 7

DETAILED JAN. 1998  
CHECKED MAR. 1998

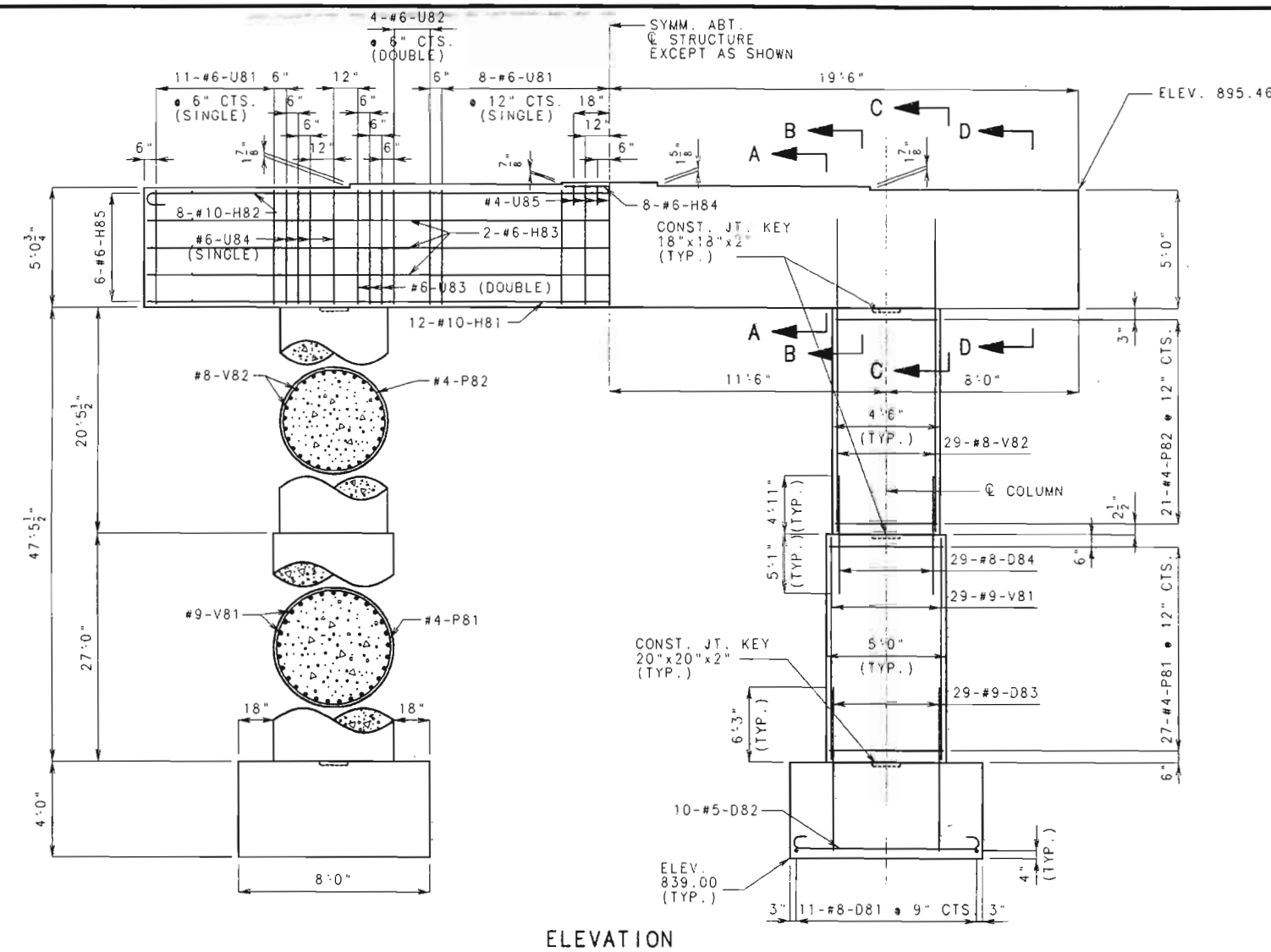
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 25 OF 93.

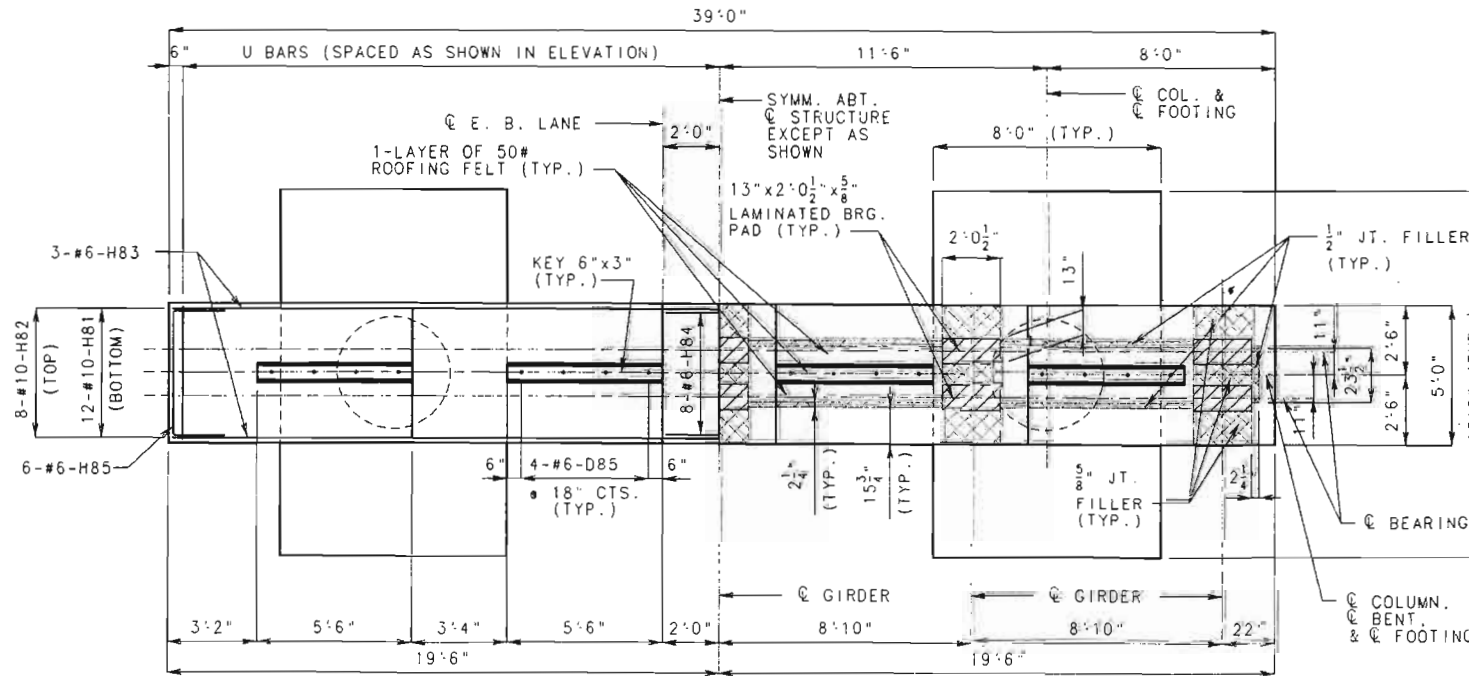
JACKSON

COUNTY

A5495



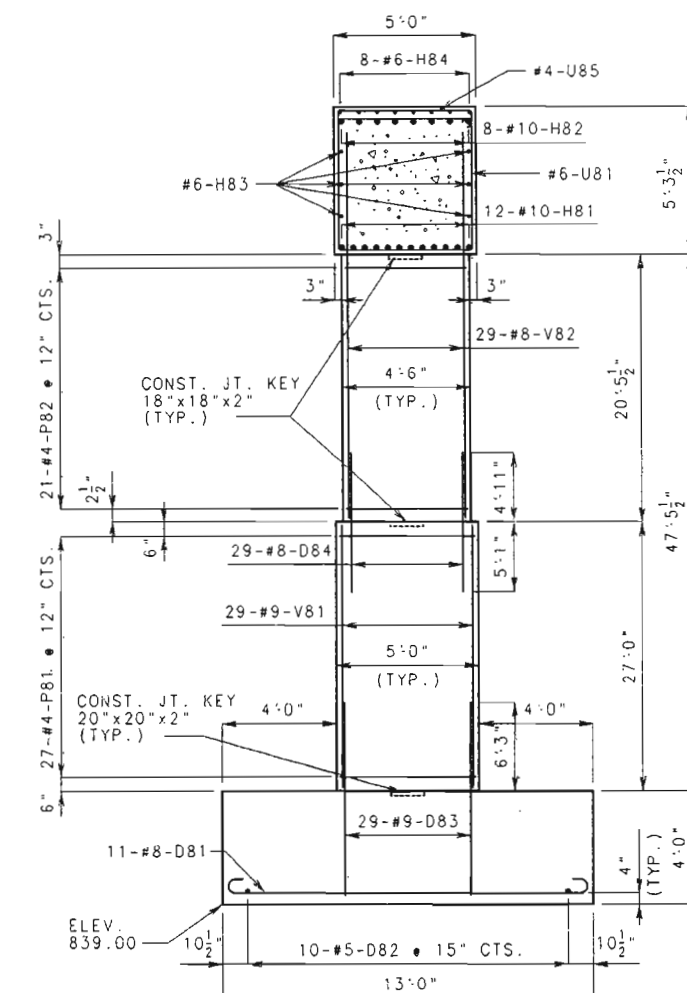
ELEVATION



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS

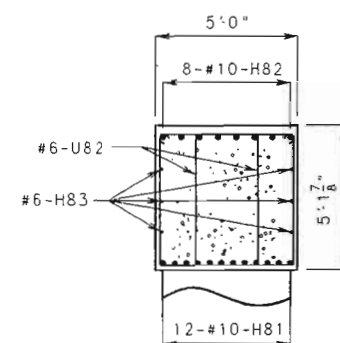
# PART DETAILS OF INTERMEDIATE BENT NO. 8 JACKSON COUNTY



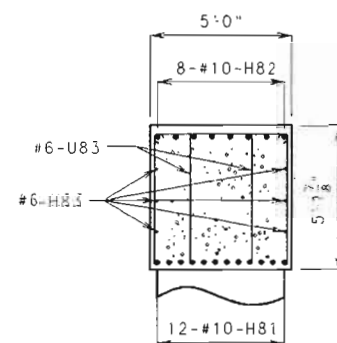
SECTION AT STRUCTURE

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 27.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 27.  
FOR DETAIL OF KEY, SEE SHEET NO. 27.

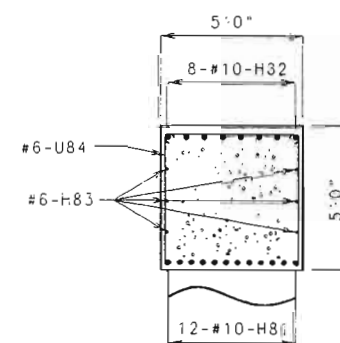




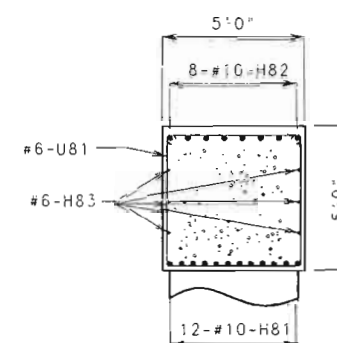
SECTION A-A



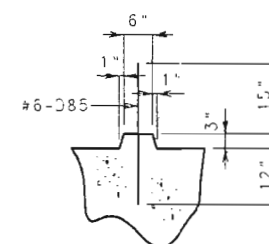
SECTION B-B



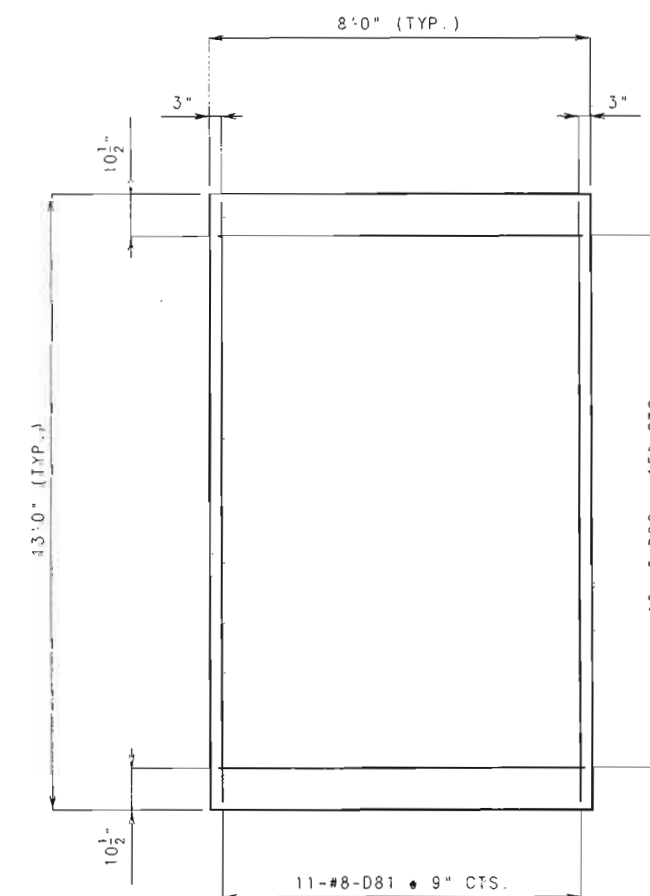
SECTION C-C



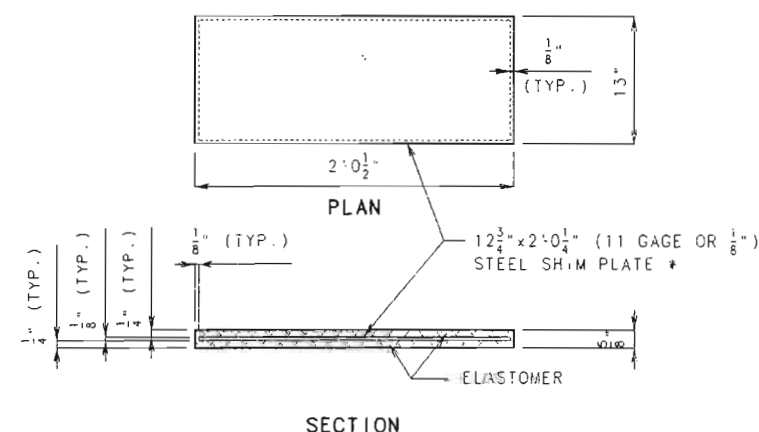
SECTION D-D



DETAIL OF KEY



PLAN OF FOOTING



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 26.

SUBSTRUCTURE QUANTITY TABLE FOR BENT #8		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	195
CLASS 2 EXCAVATION	CU. YDS.	52
COFFERDAMS (BENT 8)	LUMP SUM	1
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	131.3
REINFORCING STEEL (BRIDGES)	LBS.	20,630

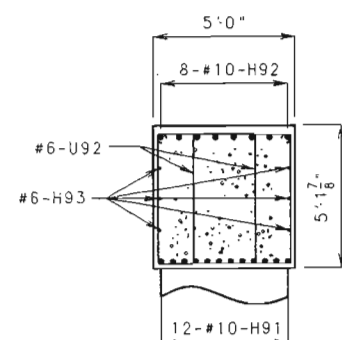
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 27.



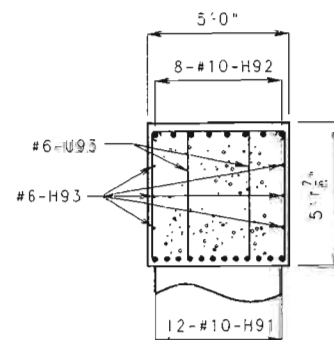
DATE 5-1-98



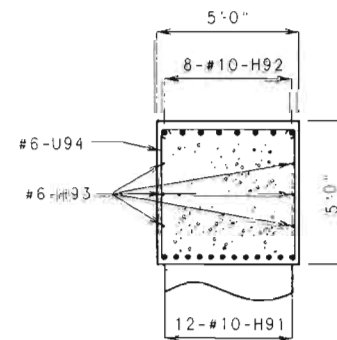




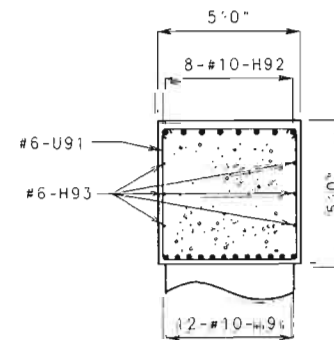
SECTION A-A



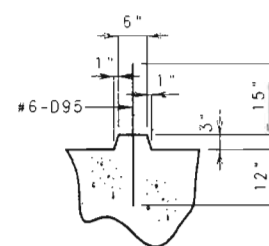
SECTION B-B



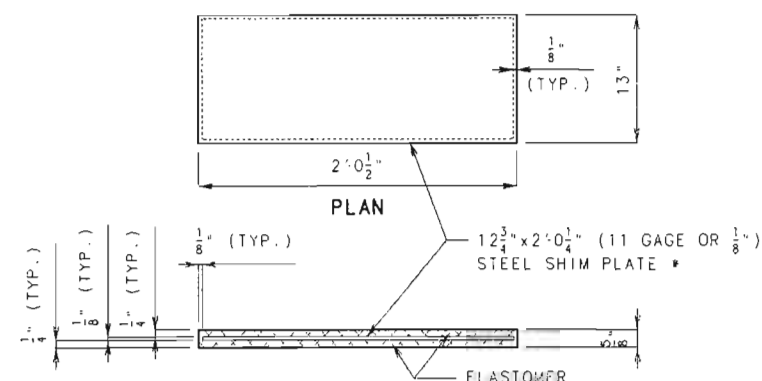
SECTION C-C



SECTION D-D



DETAIL OF KEY

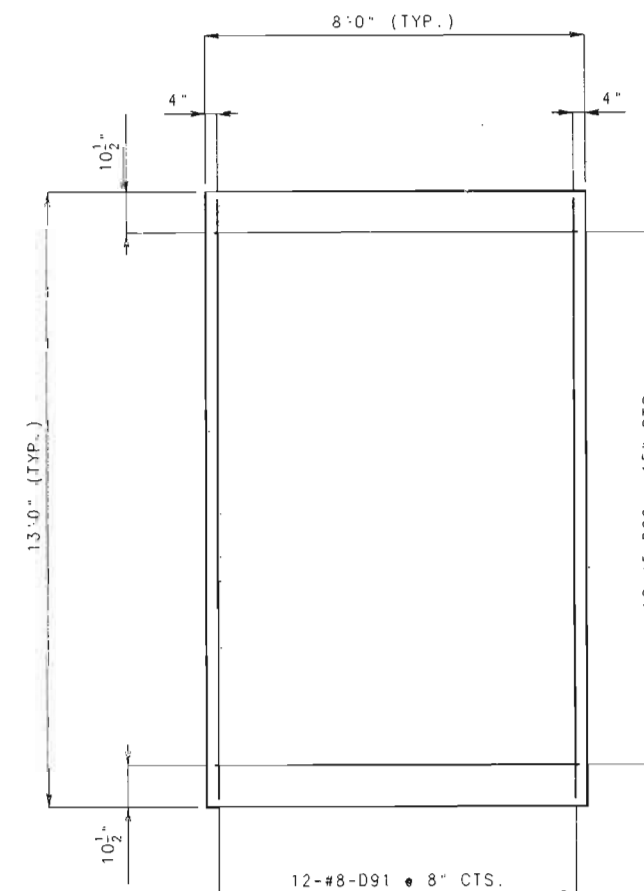


SECTION

DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 28.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #9		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	80
CLASS 2 EXCAVATION	CU. YDS.	39
COFFERDAMS (BENT 9)	LUMP SUM	1
CLASS B (CONCRETE)(SUBSTRUCTURE)	CU. YDS.	130.5
REINFORCING STEEL (BRIDGES)	LBS.	20,580

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



## PART DETAILS OF INTERMEDIATE BENT NO. 9

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

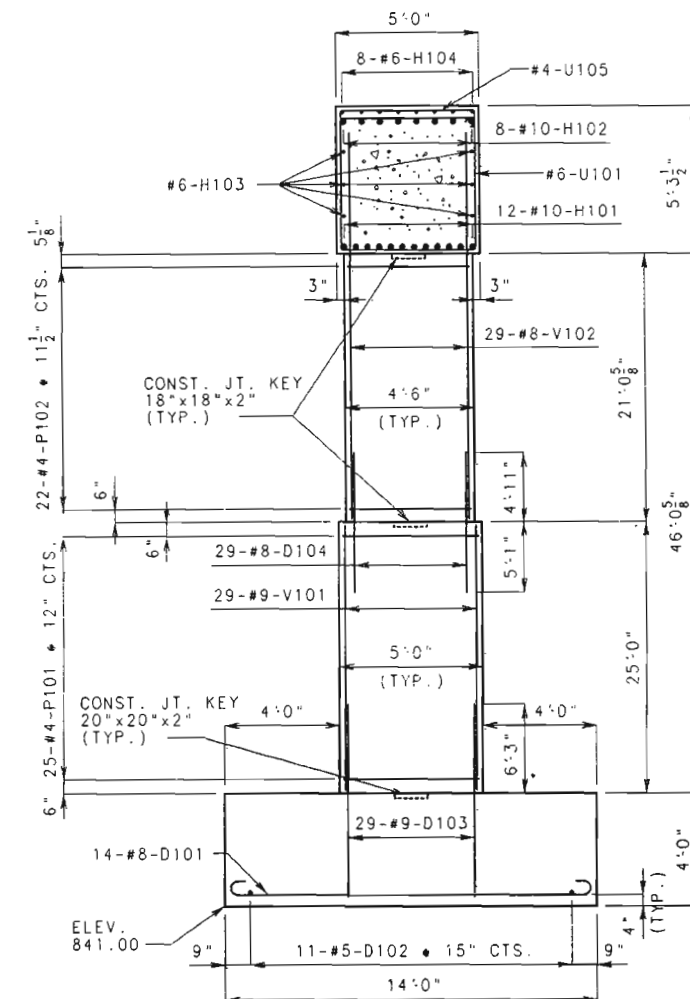
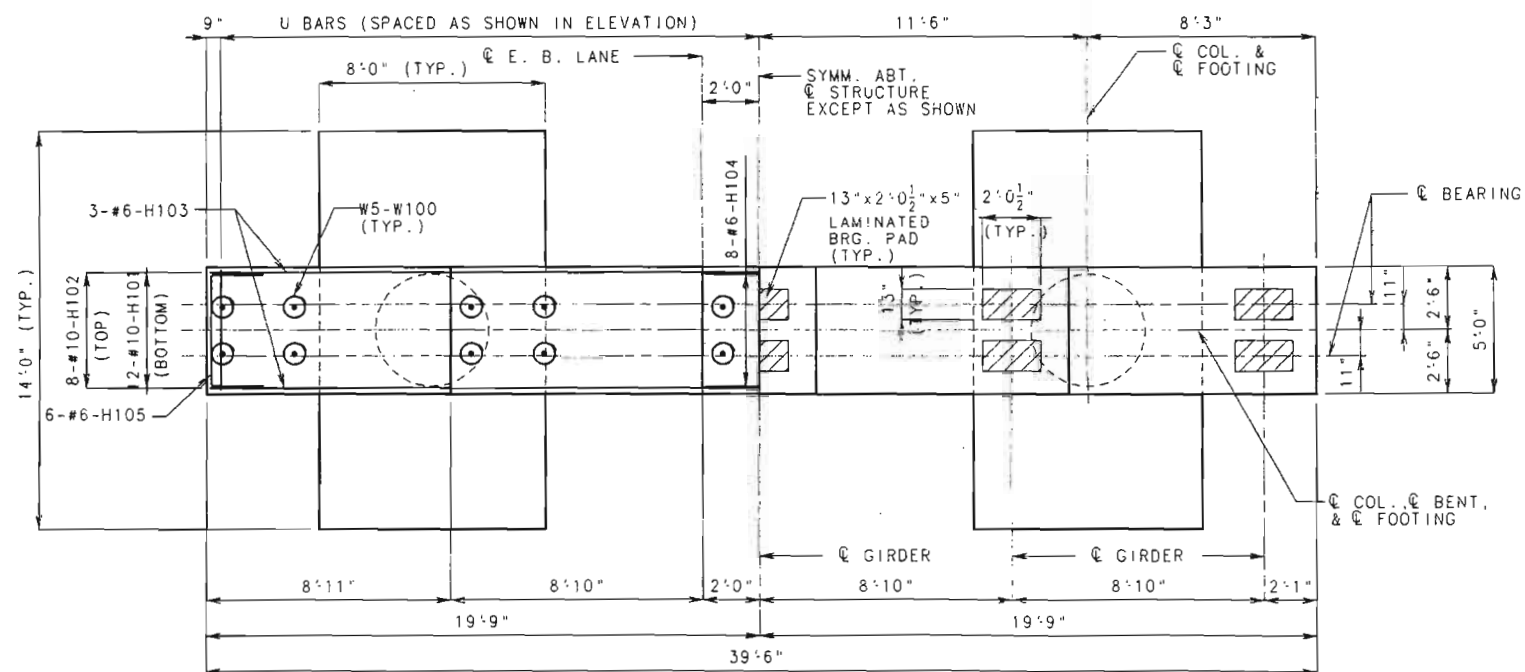
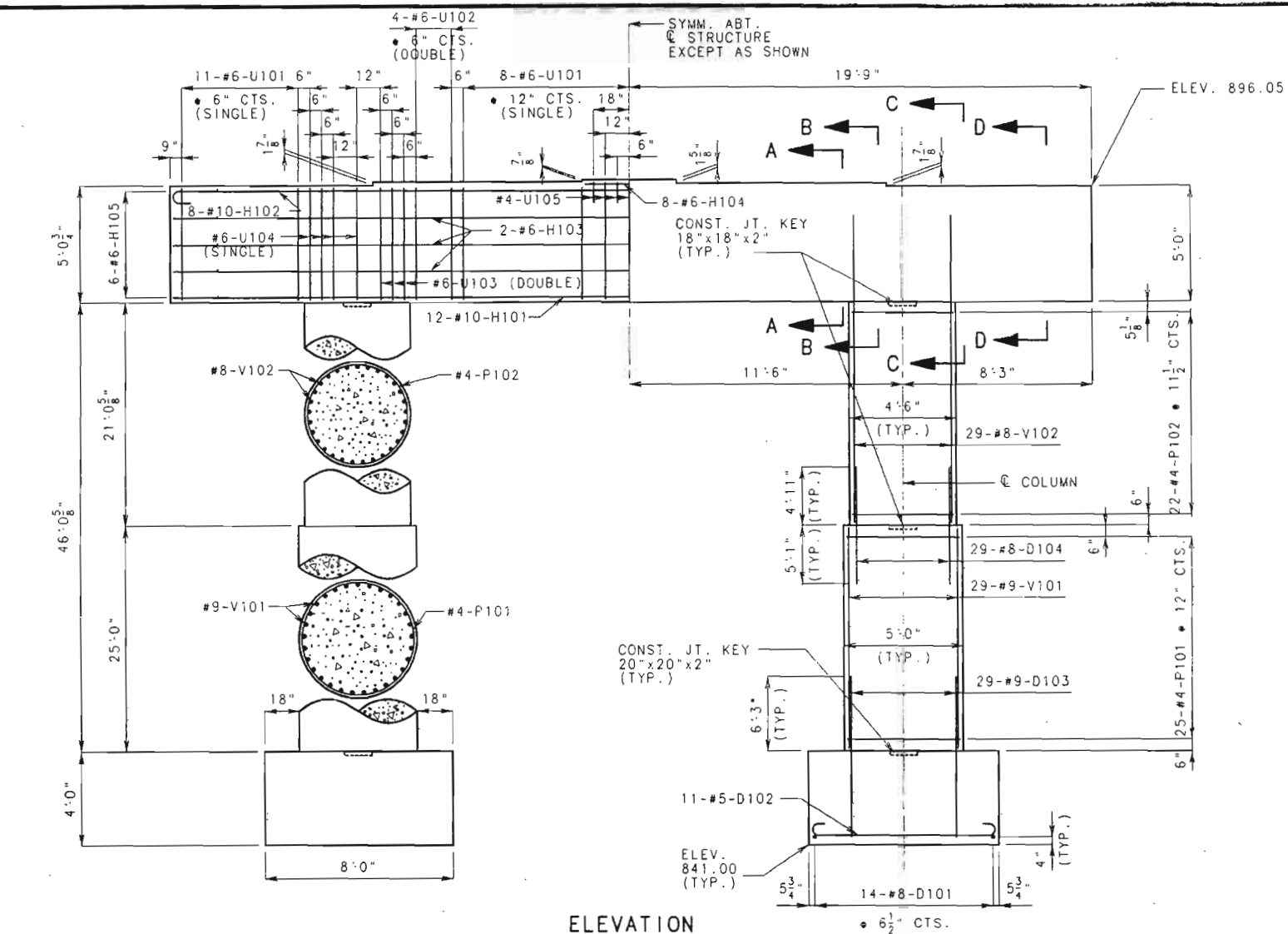
SHEET NO. 29 OF 93.

JACKSON

COUNTY

A5495

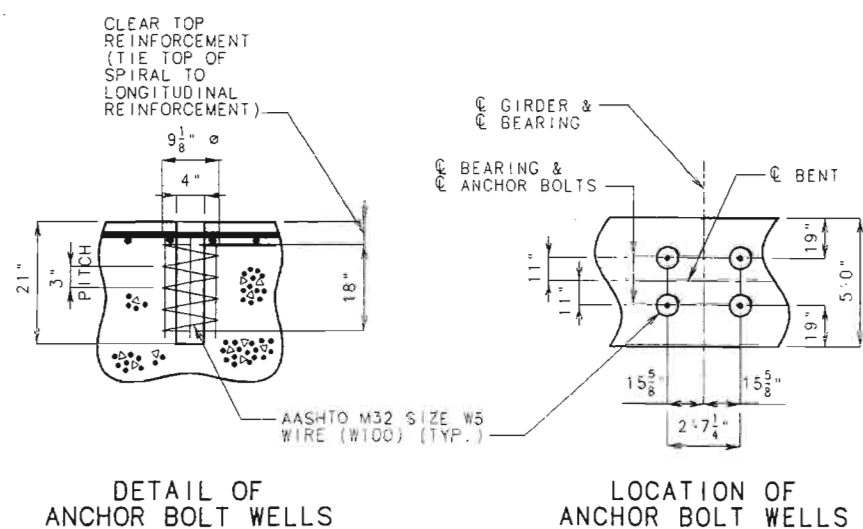
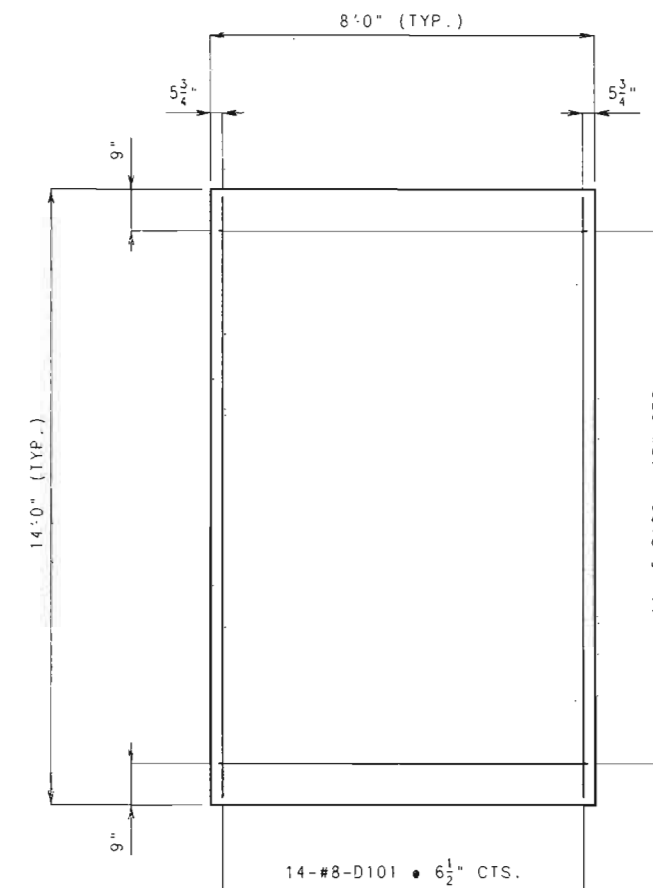
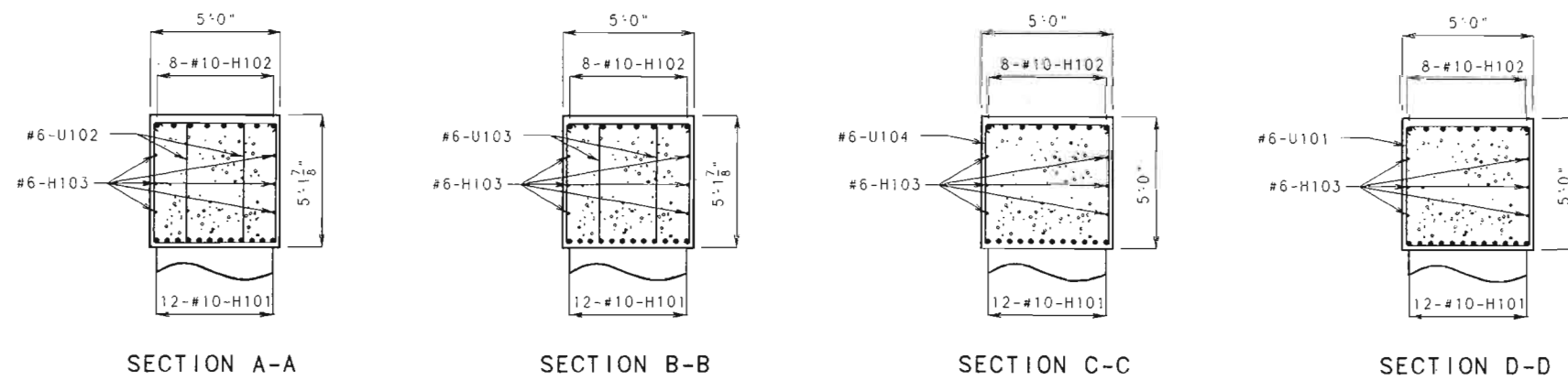
STATE	PROJ. NO.	SHEET NO.
MO.		36

SECTION AT  $\mathbb{Q}$  STRUCTURE

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 31.  
FOR DETAILS OF ANCHOR BOLT WELLS, SEE SHEET NO. 31.







NOTES:  
 FOR DETAILS OF LAMINATED NEOPRENE BEARINGS, SEE SHEET NO. 47.  
 ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
 FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 30.

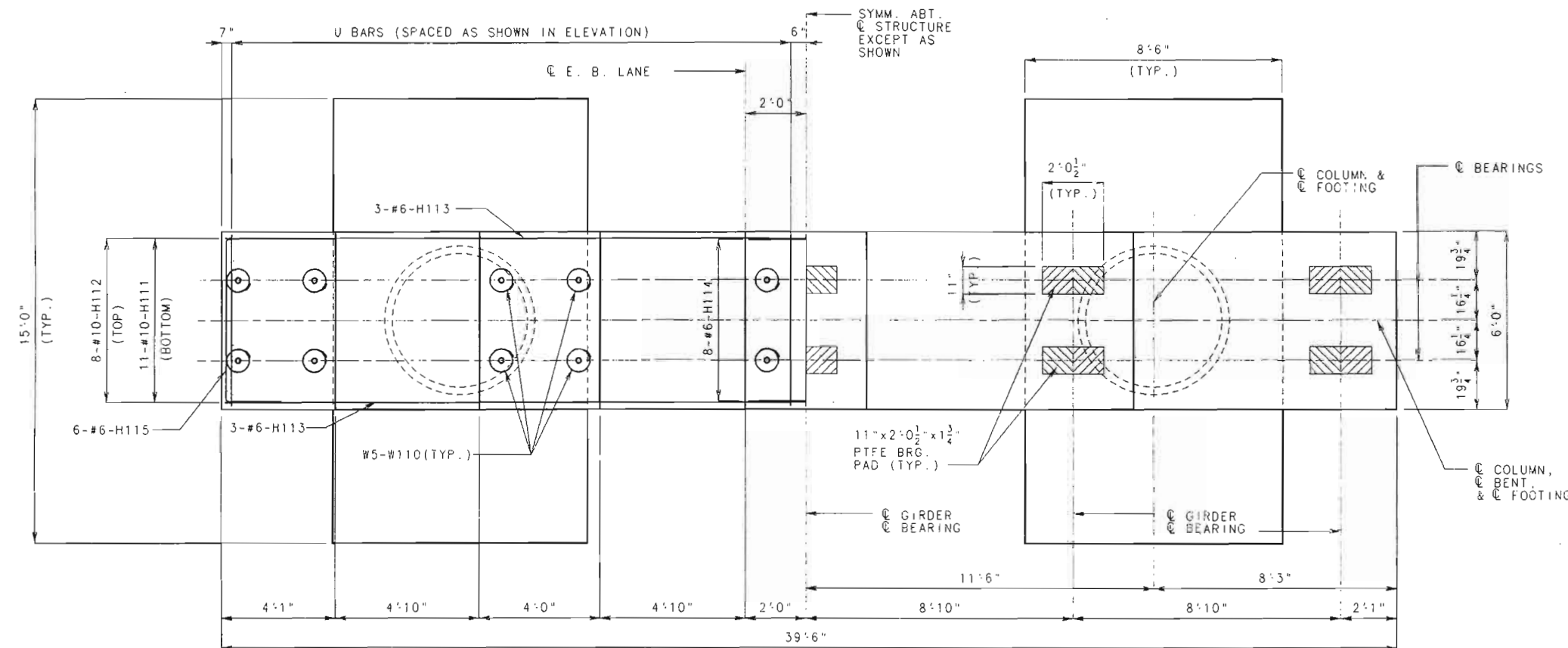
SUBSTRUCTURE QUANTITY TABLE FOR BENT #10		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	165
CLASS 2 EXCAVATION	CU.YDS.	27
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	131.9
REINFORCING STEEL(BRIDGES)	LBS.	20,720

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

STATE OF MISSOURI  
 KURT E. GRIBBLE  
 NUMBER E-23676  
 REGISTERED PROFESSIONAL ENGINEER  
 DATE 5-1-98

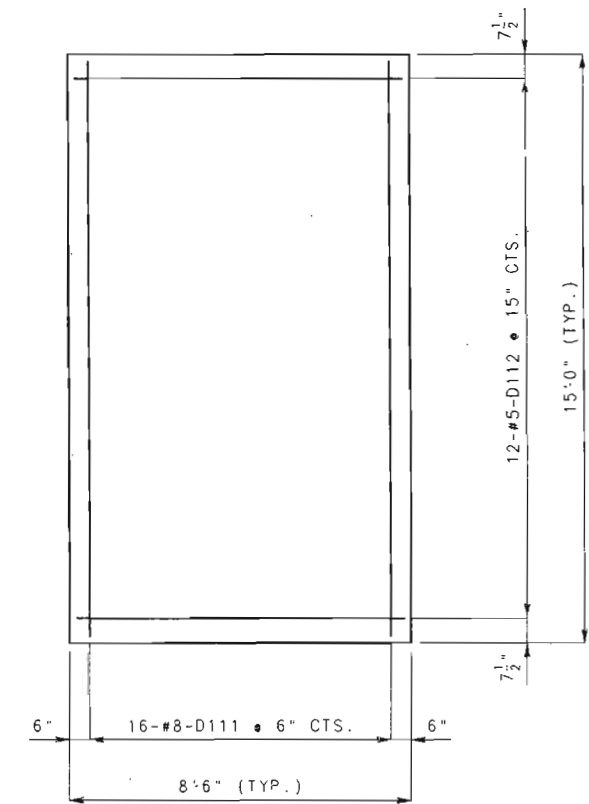
# PART DETAILS OF INTERMEDIATE BENT NO. 10



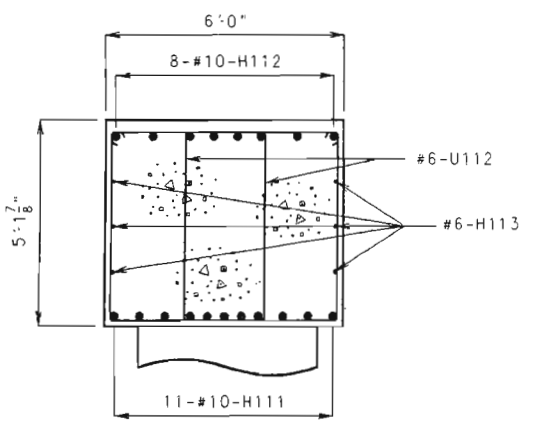


HALF PLAN OF BEAM SHOWING REINFORCEMENT

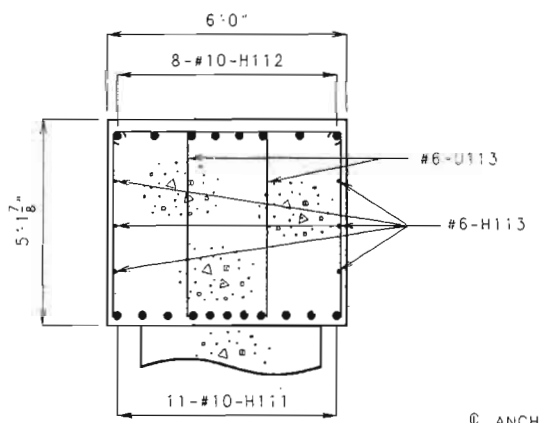
HALF PLAN OF BEAM SHOWING BEARINGS



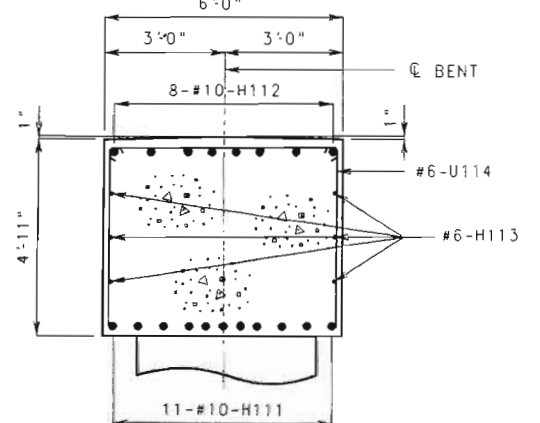
PLAN OF FOOTING



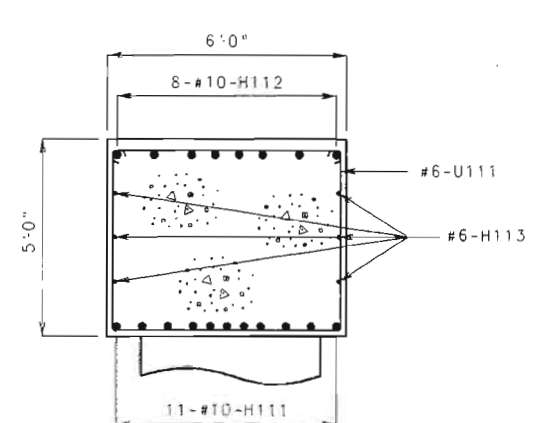
SECTION A-A



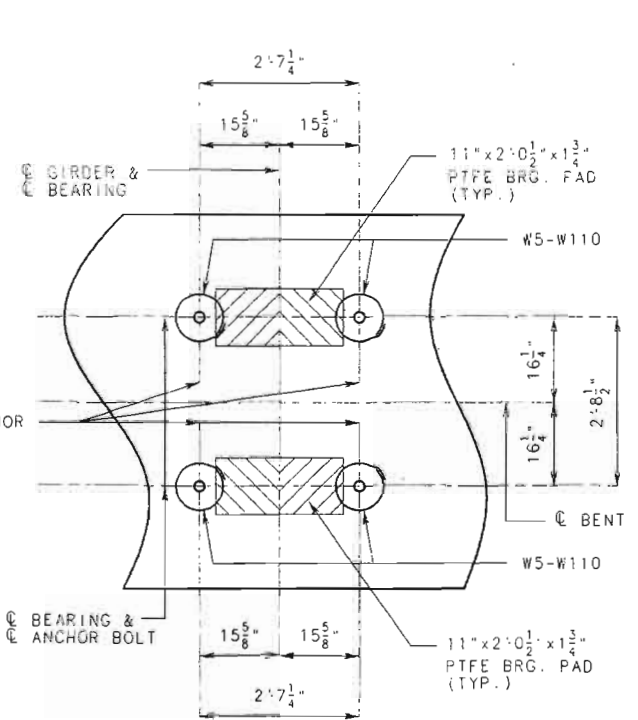
SECTION B-B



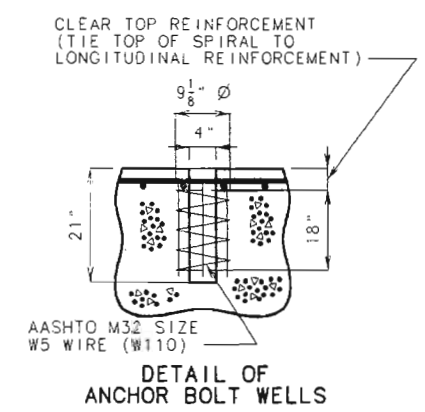
SECTION C-C



SECTION D-D



DETAIL OF ANCHOR BOLT LOCATIONS



DETAIL OF ANCHOR BOLT WELLS

NOTE: FOR DETAILS OF BEARINGS, SEE SHEET NO. 48.  
ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

SUBSTRUCTURE QUANTITY TABLE FOR BENT 11		
ITEM	QUANTITY	
CLASS 1 EXCAVATION	CU. YDS.	185
CLASS 2 EXCAVATION	CU. YDS.	30
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	148.8
REINFORCING STEEL (BRIDGES)	LBS.	12,410
REINFORCING STEEL (EPOXY COATED)	LBS.	10,070

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

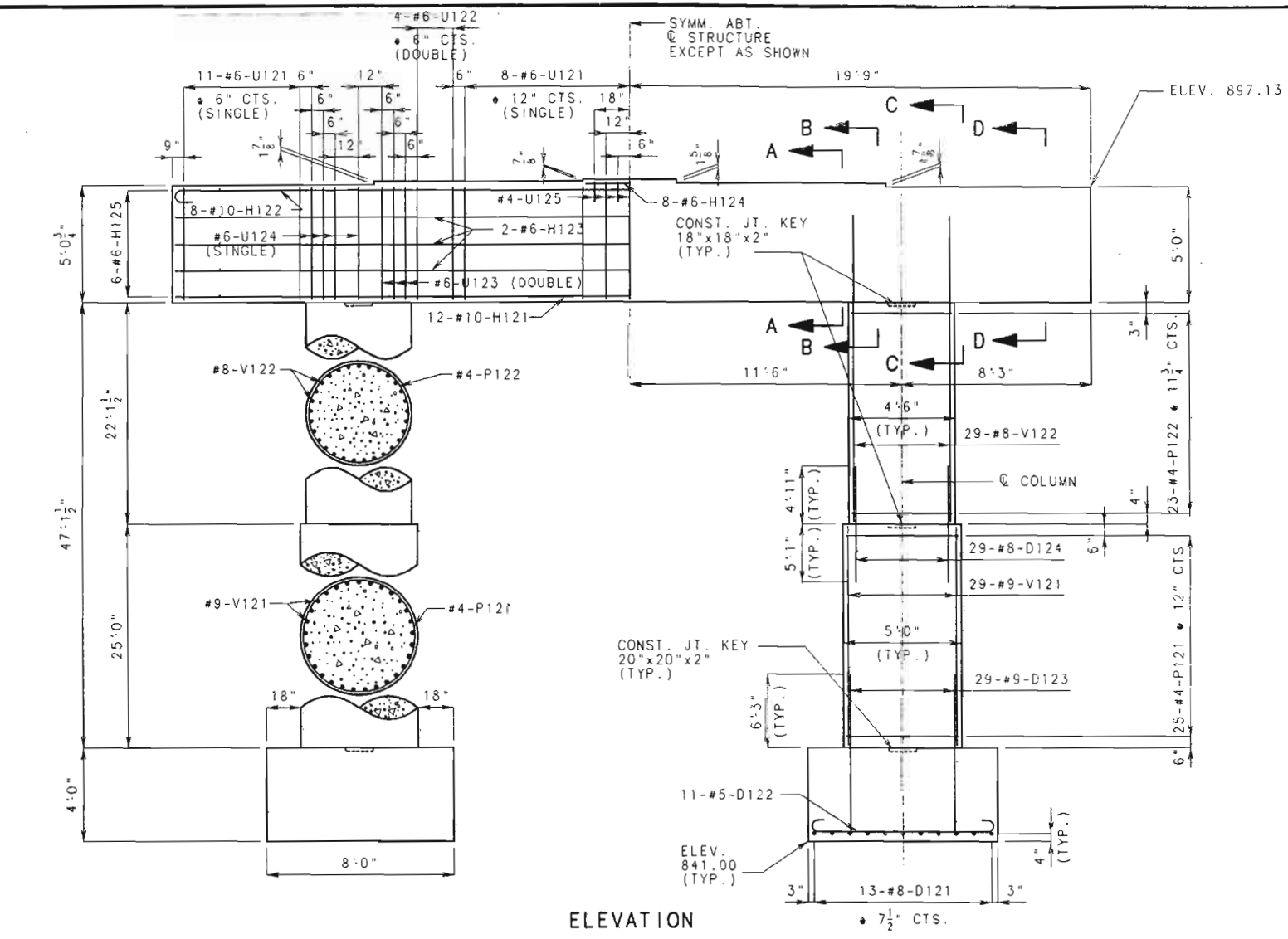
PART DETAILS OF INTERMEDIATE BENT NO. 11

DETAILED JAN. 1998  
CHECKED MAR. 1998

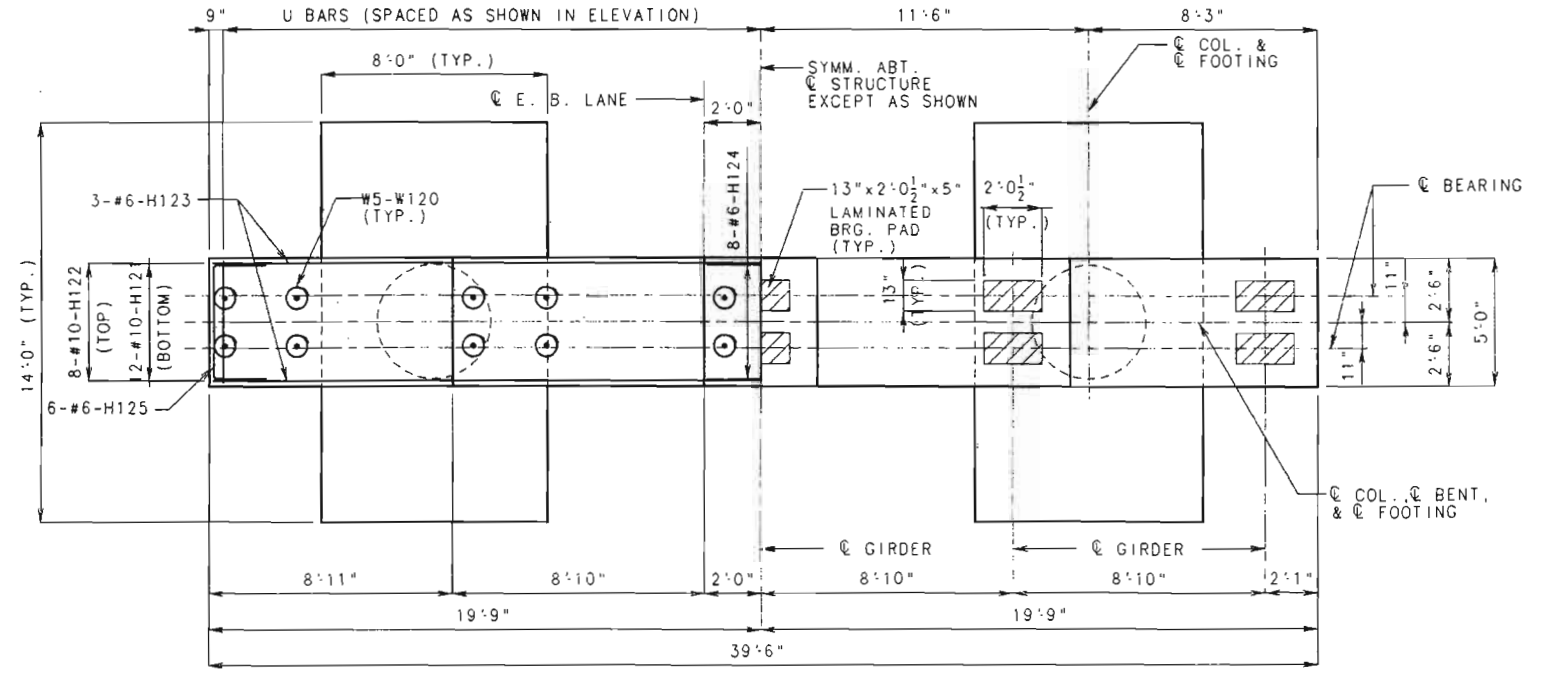
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 33 OF 93.





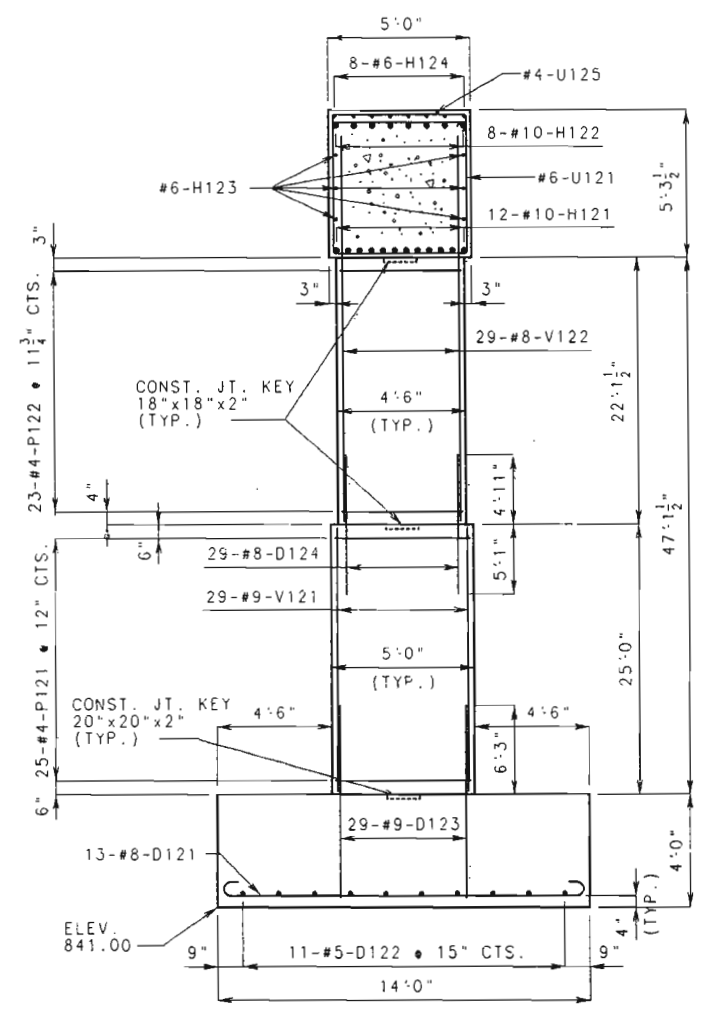
ELEVATION



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



SECTION AT C STRUCTURE

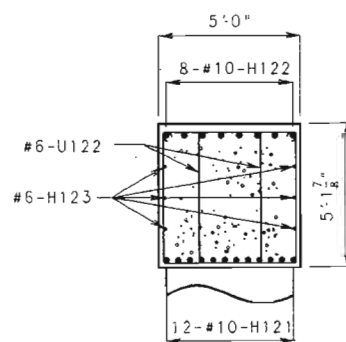
FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 35.  
FOR DETAILS OF ANCHOR BOLT WELLS, SEE SHEET NO. 35.



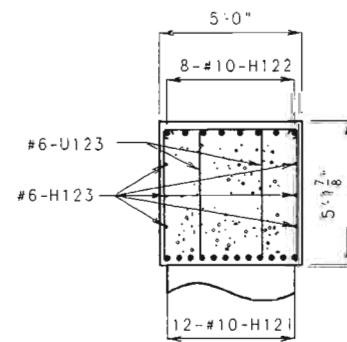
PART DETAILS OF INTERMEDIATE BENT NO. 12

JACKSON COUNTY

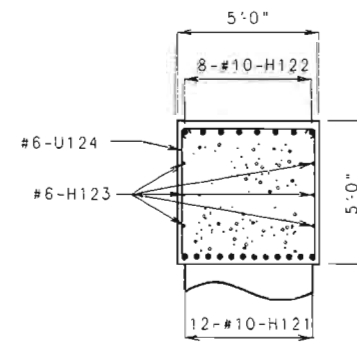
A5495



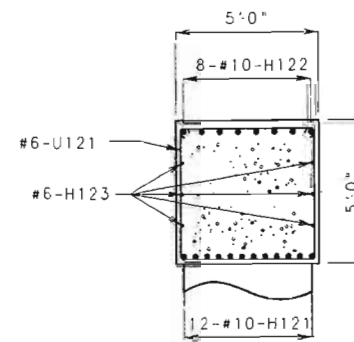
SECTION A-A



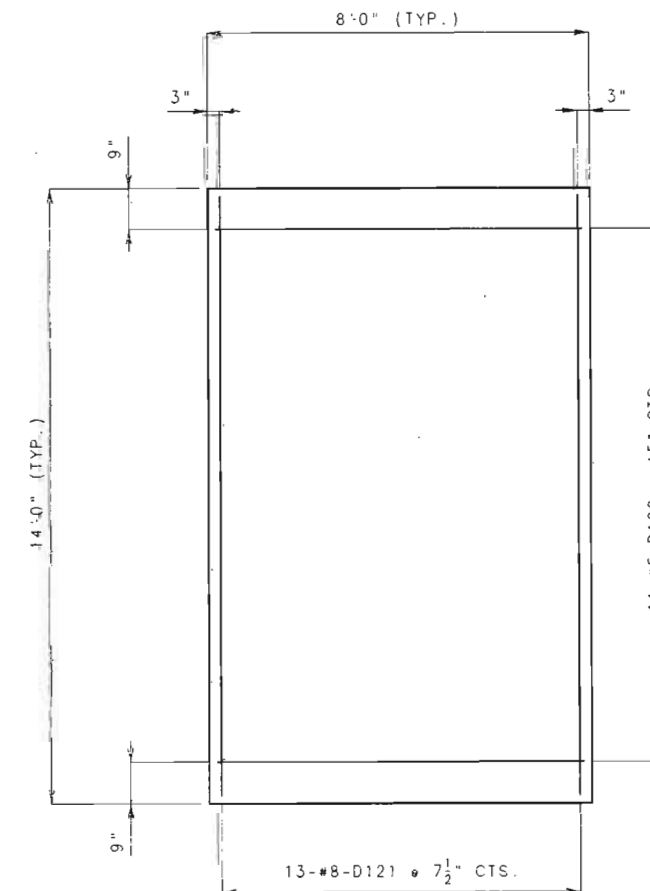
SECTION B-B



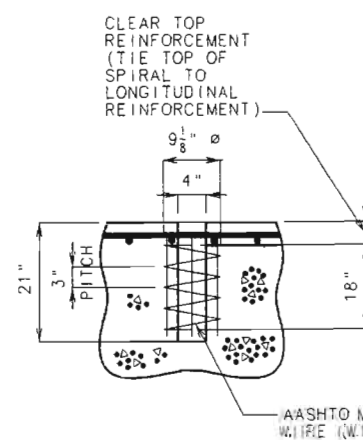
SECTION C-C



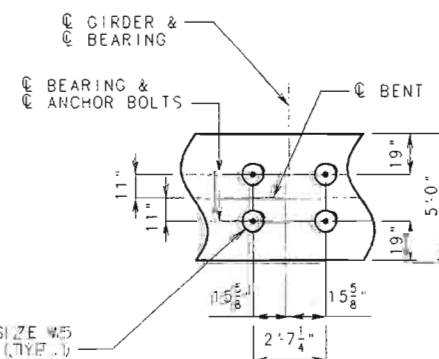
SECTION D-D



PLAN OF FOOTING



DETAIL OF ANCHOR BOLT WELLS



LOCATION OF ANCHOR BOLT WELLS

NOTES:  
FOR DETAILS OF EXPANSION BEARINGS, SEE SHEET NO. 47.  
ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 34.

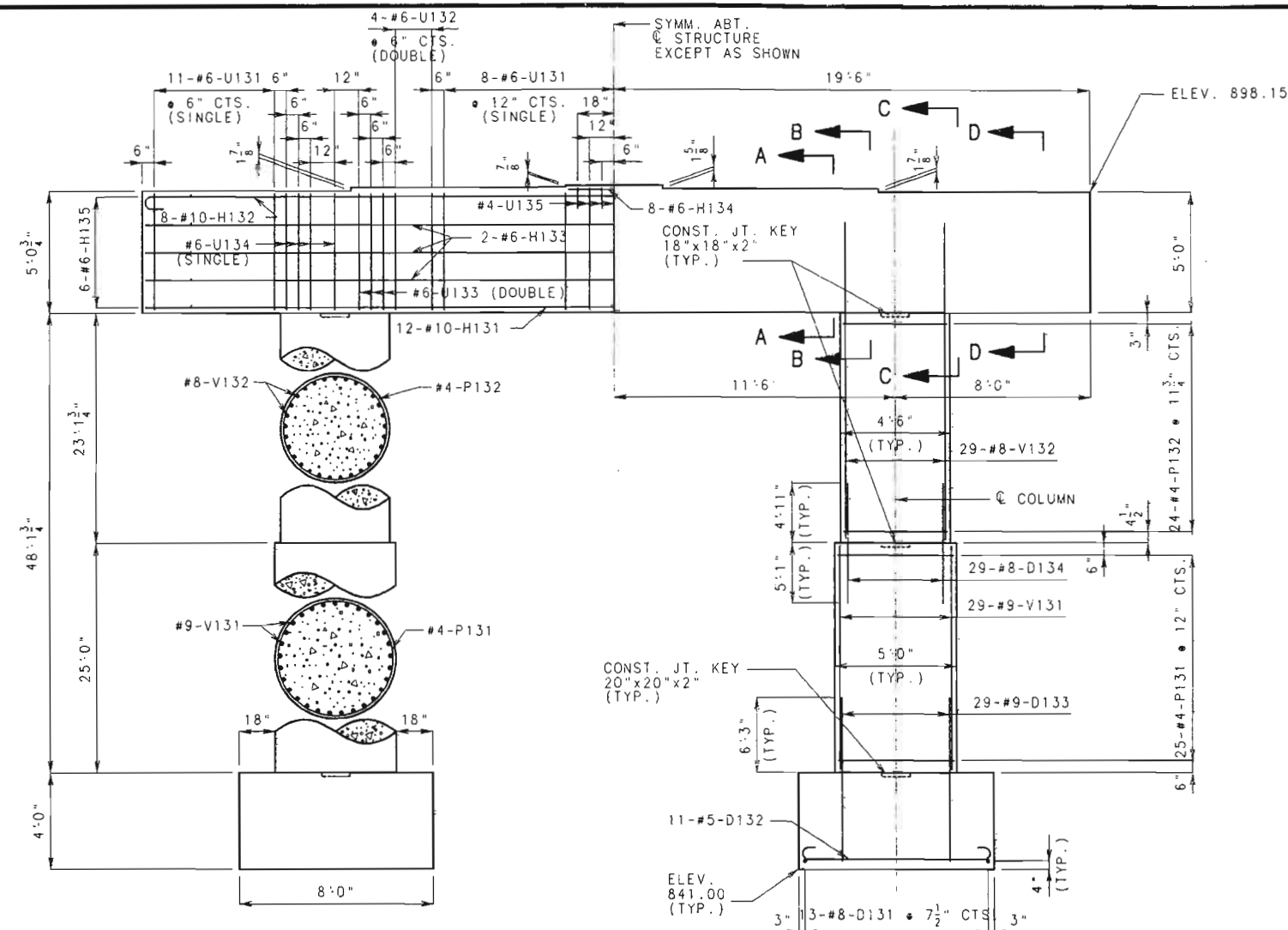
## PART DETAILS OF INTERMEDIATE BENT NO. 12

SUBSTRUCTURE QUANTITY TABLE FOR BENT #12		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	165
CLASS 2 EXCAVATION	CU.YDS.	28
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	133.1
REINFORCING STEEL(BRIDGES)	LBS.	20,820

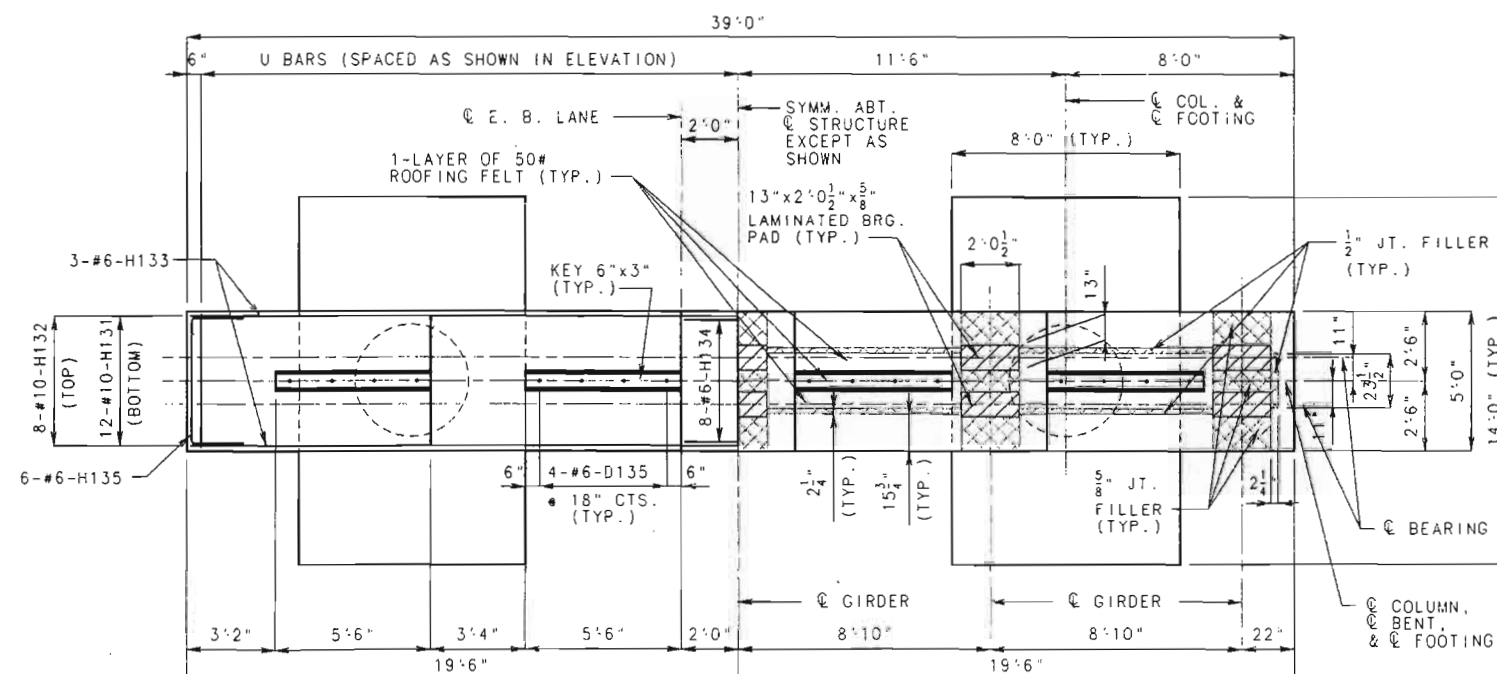
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98



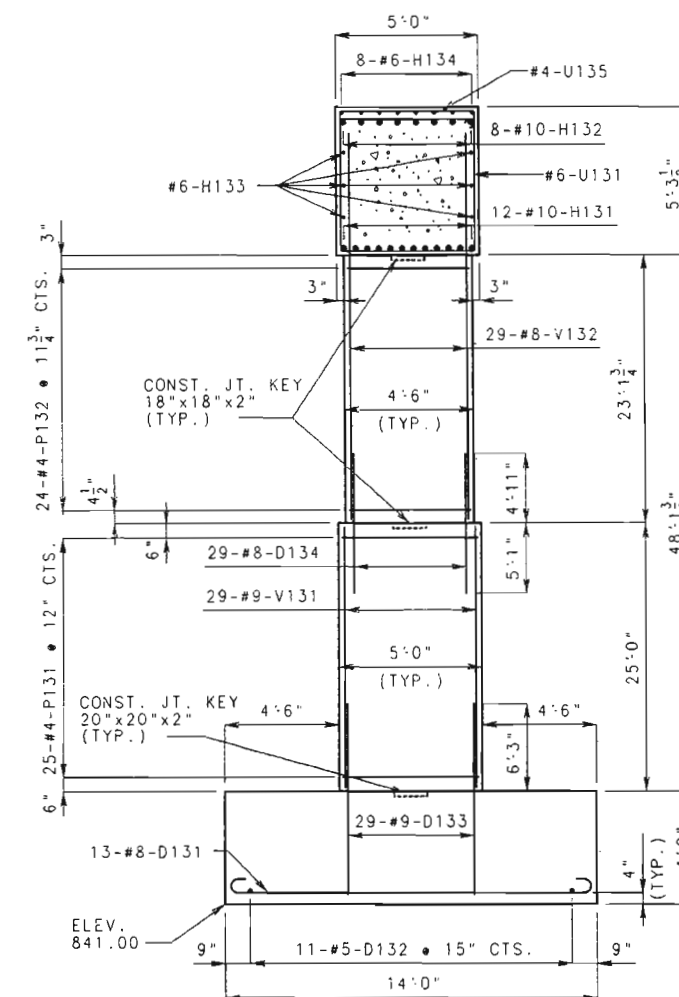
ELEVATION



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

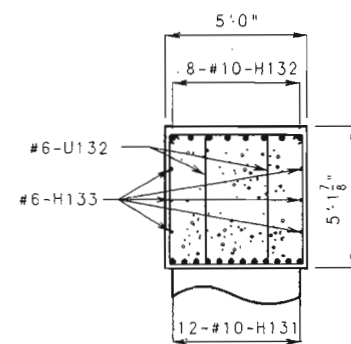


SECTION AT Q STRUCTURE

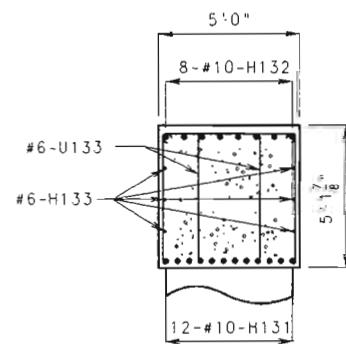
FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 37.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 37.  
FOR DETAIL OF KEY, SEE SHEET NO. 37.



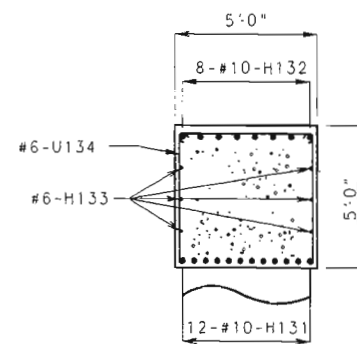




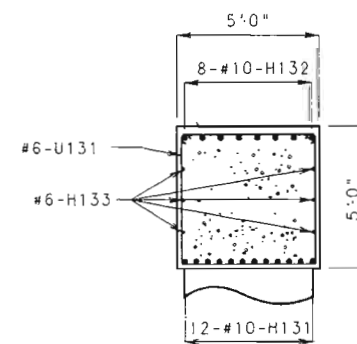
SECTION A-A



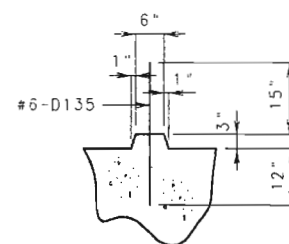
SECTION B-B



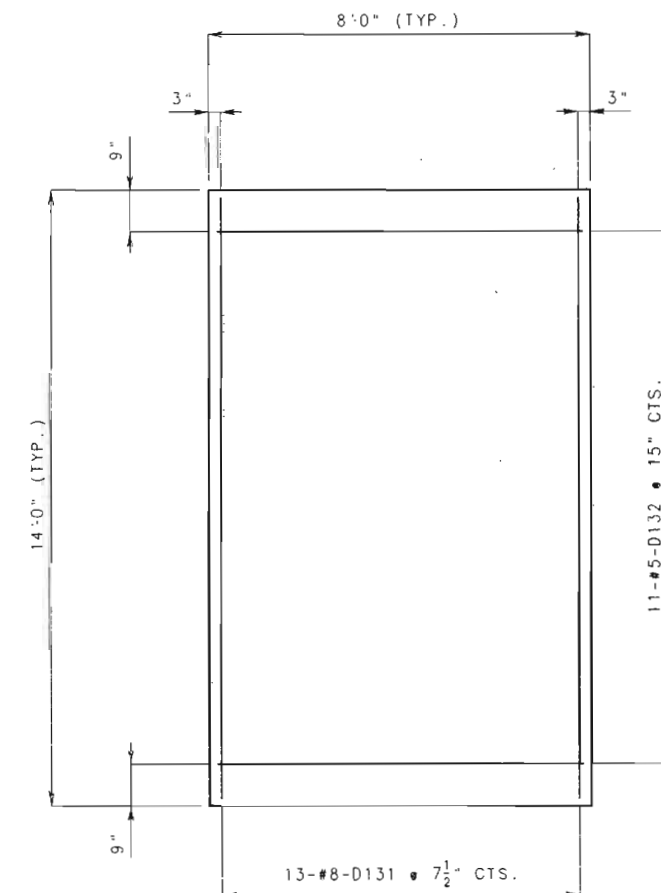
SECTION C-C



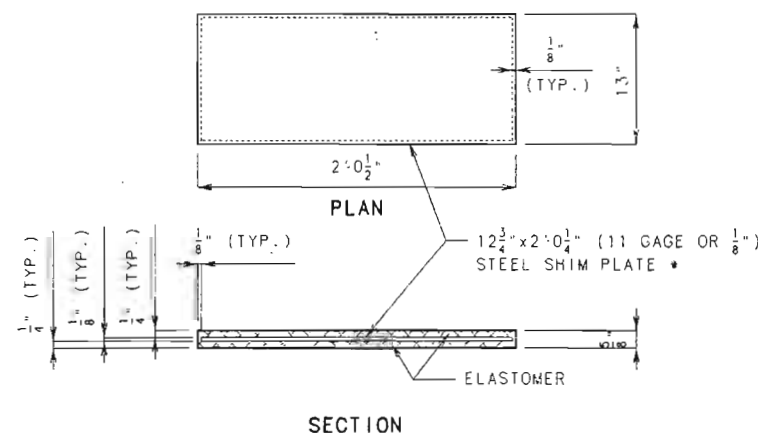
SECTION D-D



DETAIL OF KEY



PLAN OF FOOTING



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 36.

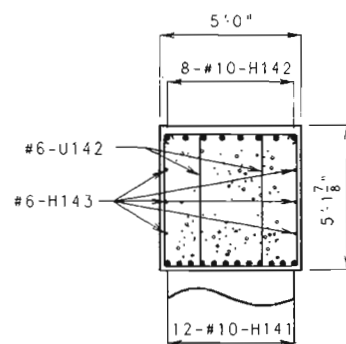
## PART DETAILS OF INTERMEDIATE BENT NO. 13

SUBSTRUCTURE QUANTITY TABLE FOR BENT #13		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	175
CLASS 2 EXCAVATION	CU. YDS.	28
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	133.9
REINFORCING STEEL (BRIDGES)	LBS.	20,910

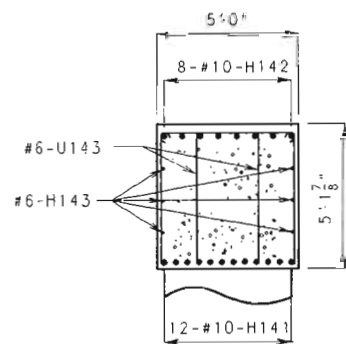
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



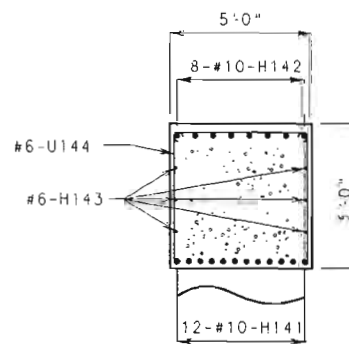




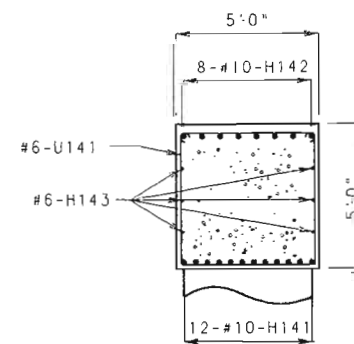
SECTION A-A



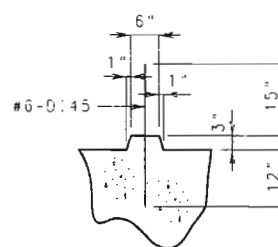
SECTION B-B



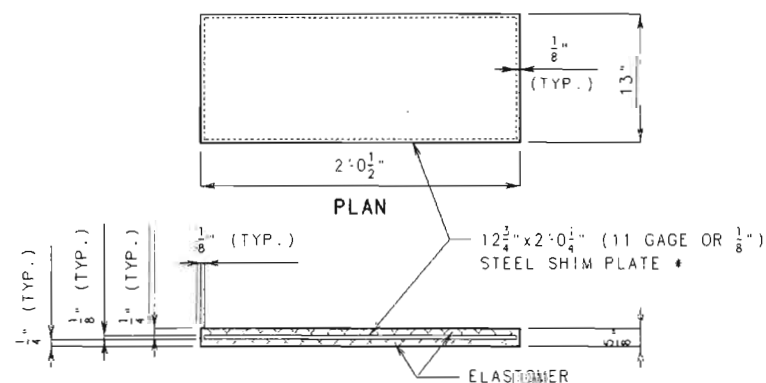
SECTION C-C



SECTION D-D



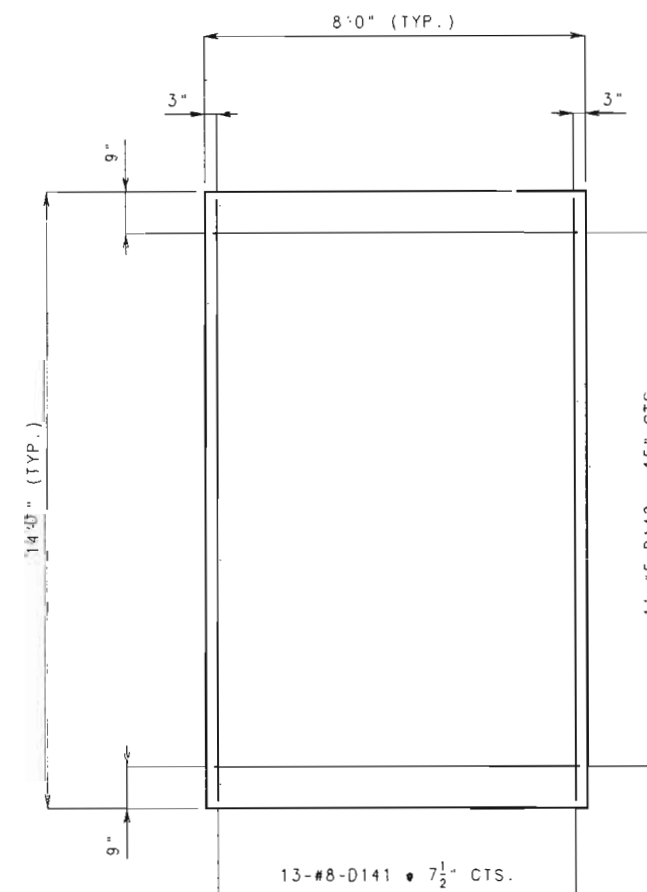
DETAIL OF KEY



SECTION  
DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 38.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #14		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	180
CLASS 2 EXCAVATION	CU.YDS.	28
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	134.6
REINFORCING STEEL(BRIDGES)	LBS.	20,990

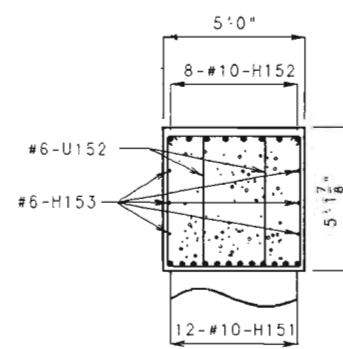
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



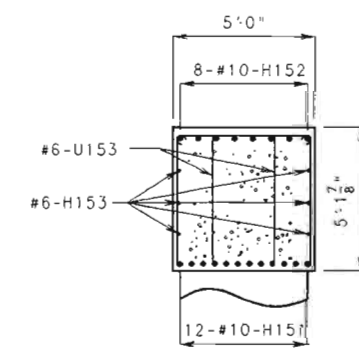
## PART DETAILS OF INTERMEDIATE BENT NO. 14



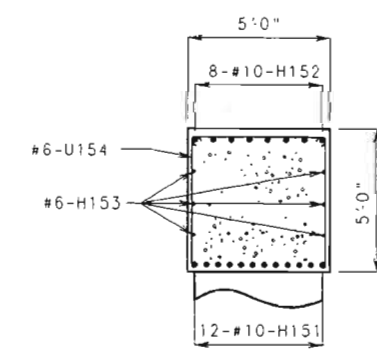




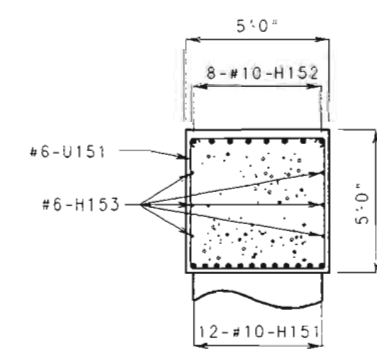
SECTION A-A



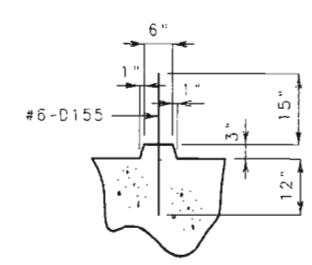
SECTION B-B



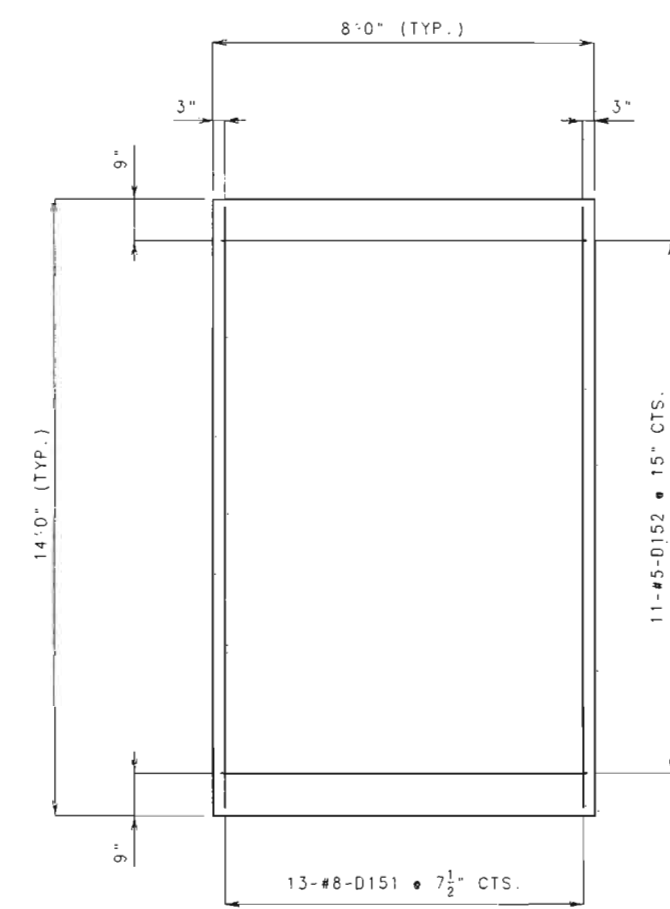
SECTION C-C



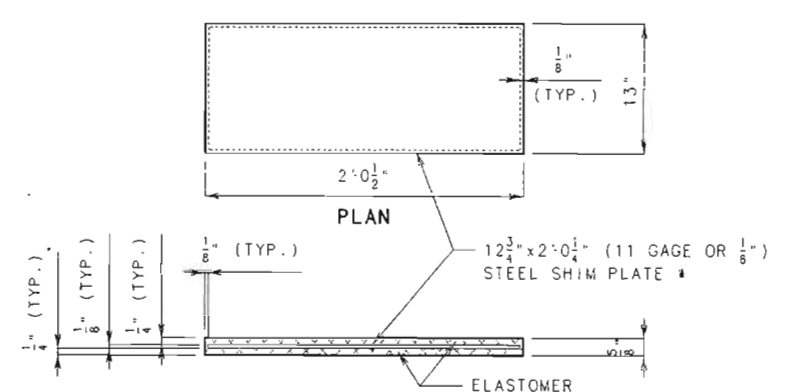
SECTION D-D



DETAIL OF KEY



PLAN OF FOOTING



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 40.

SUBSTRUCTURE QUANTITY TABLE FOR BENT #15		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	180
CLASS 2 EXCAVATION	CU.YDS.	28
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	135.2
REINFORCING STEEL(BRIDGES)	LBS.	21,090

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



# PART DETAILS OF INTERMEDIATE BENT NO. 15

DETAILED JAN. 1998  
CHECKED MAR. 1998

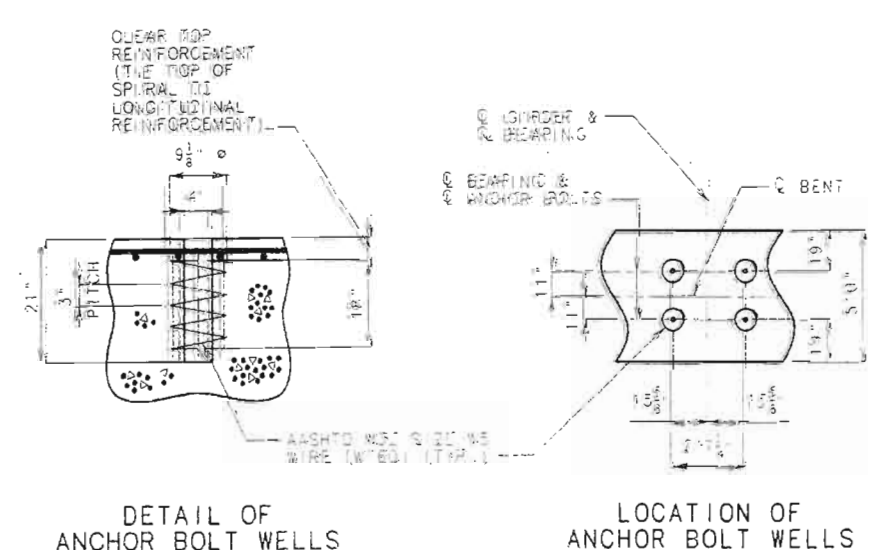
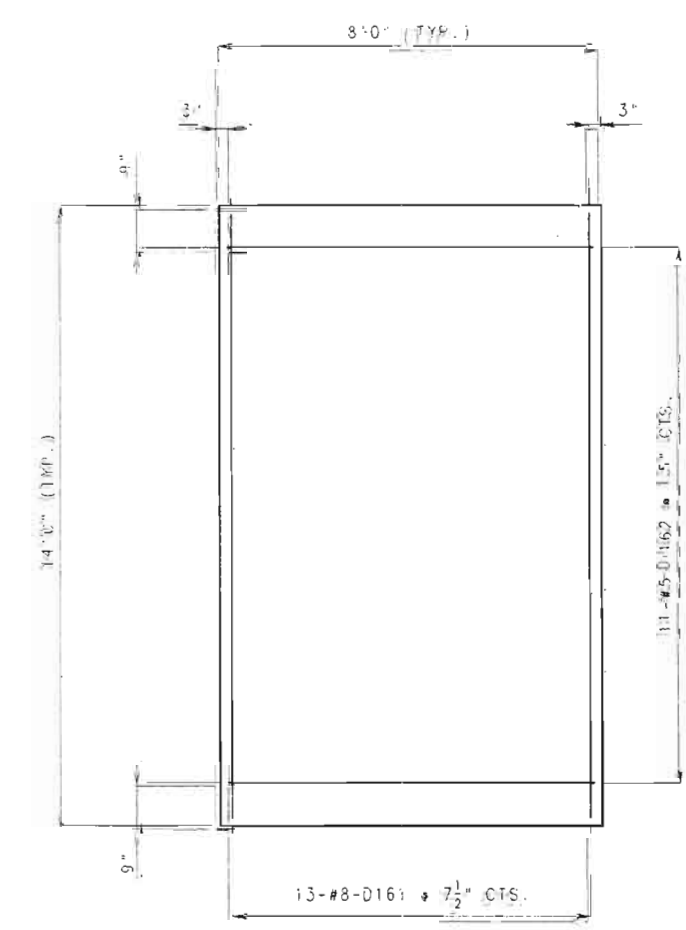
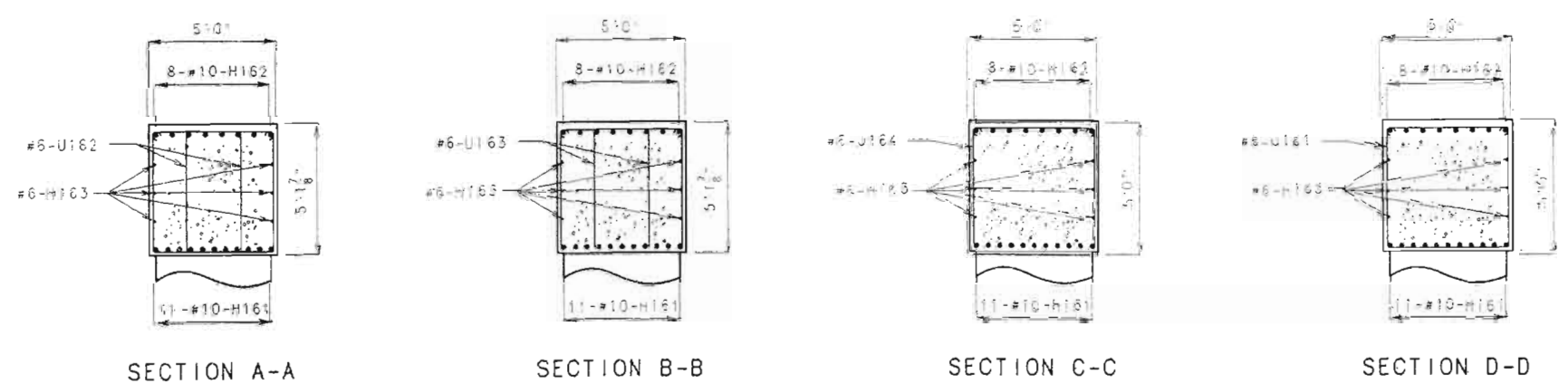
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 41 OF 93.

JACKSON COUNTY A5495







NOTES:  
 FOR DETAILS OF EXPANSION BEARINGS, SEE SHEET NO. 47.  
 ALL REINFORCING BARS IN THE TOP OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
 FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 42.  
 1 For details of footing retrofit, see Sheet No. 43A.

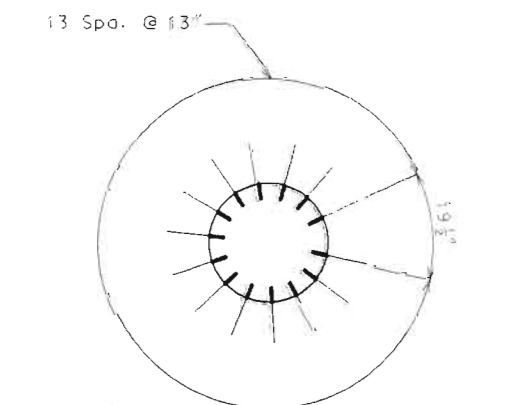
SUBSTRUCTURE QUANTITY TABLE FOR BENT #16		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	186
CLASS 2 EXCAVATION	CU. YDS.	28
CLASS 3 CONCRETE (SUBSTRUCTURE)	CU. YDS.	135.2
REINFORCING STEEL (BRIDGES)	LBS.	21,620
Resin Anchor Systems	Each	536
Pressure Grouting-Epoxy	Lump Sum	1

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 42.

STATE OF MISSOURI  
 KURT E. GRIBBLE  
 REGISTERED PROFESSIONAL ENGINEER  
 DATE 11-4-99

STATE OF MISSOURI  
 KURT E. GRIBBLE  
 REGISTERED PROFESSIONAL ENGINEER  
 DATE 5-7-98

# PART DETAILS OF INTERMEDIATE BENT NO. 16



SECTION THRU COLUMN  
SHOWING RESIN ANCHOR SPACING

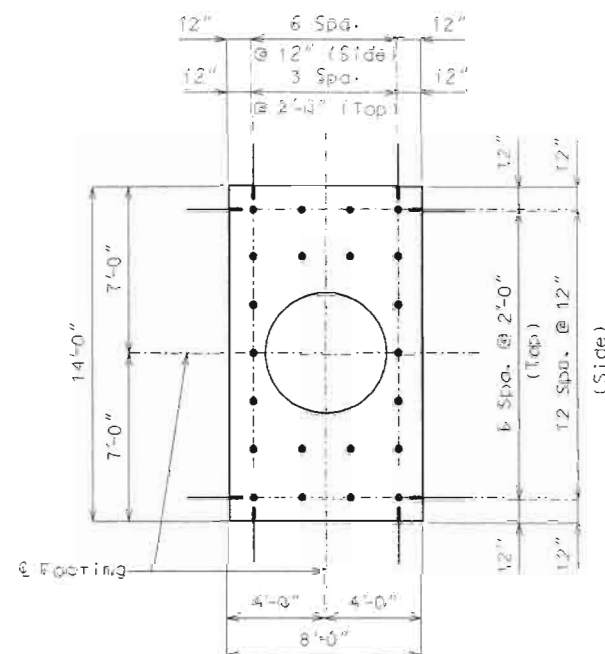
The contractor shall use one of the resin anchor systems listed in the job special provisions. These anchor systems shall be installed according to the manufacturer's specifications, except as modified by the job special provisions. The contractor shall use an epoxy bonding agent.

Cost of furnishing and installing the anchor system complete in place shall be included in the price bid for Resin Anchor Systems per each.

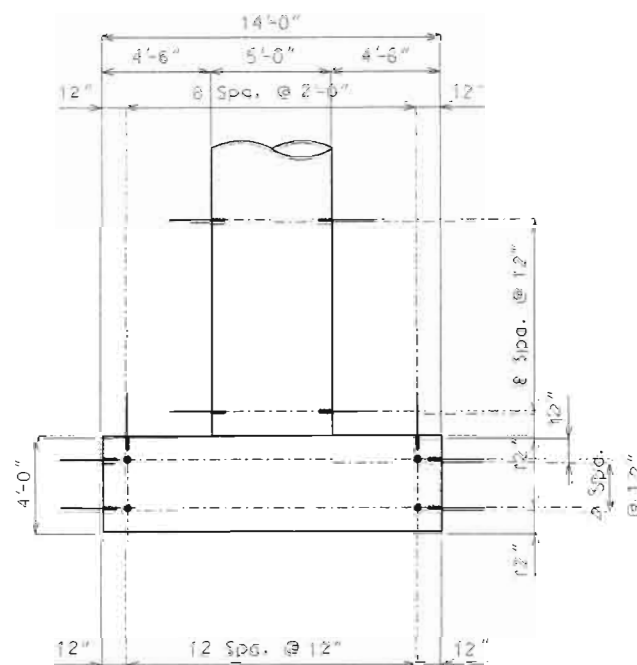
The 1" diameter resin anchor systems shall have a minimum ultimate pullout strength of 33,600 lbs. in concrete with  $f'_c = 4,000$  psi, see special provisions.

Surface cracks in the substructure shall be pressure grouted with epoxy, see special provisions.

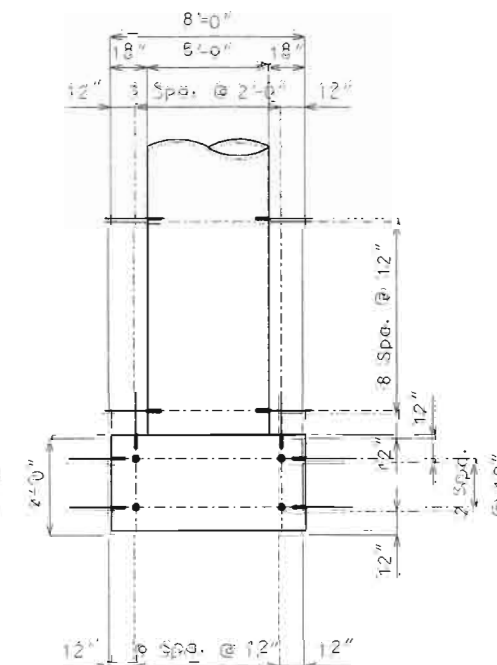
A #8 Grade 60 reinforcing bar may be substituted for the 1" diameter threaded rod studs.



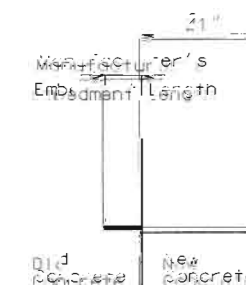
PLAN OF FOOTING  
SHOWING RESIN ANCHOR SPACING



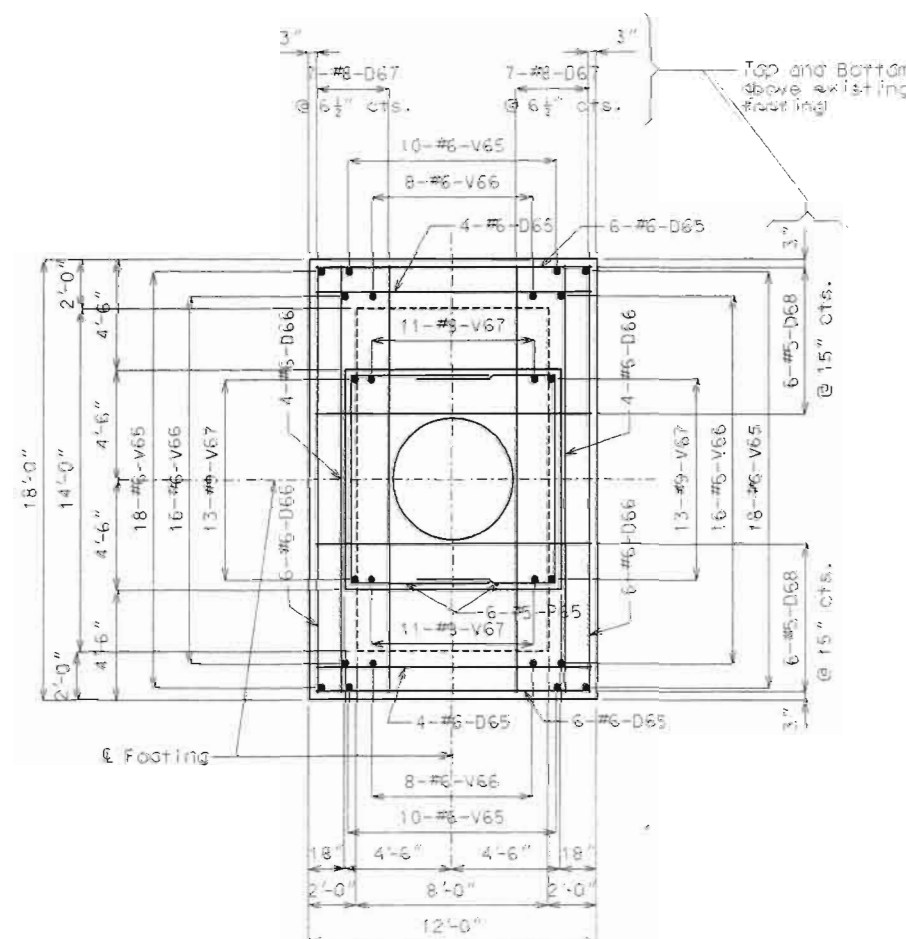
SIDE ELEVATION OF FOOTING  
SHOWING RESIN ANCHOR SPACING



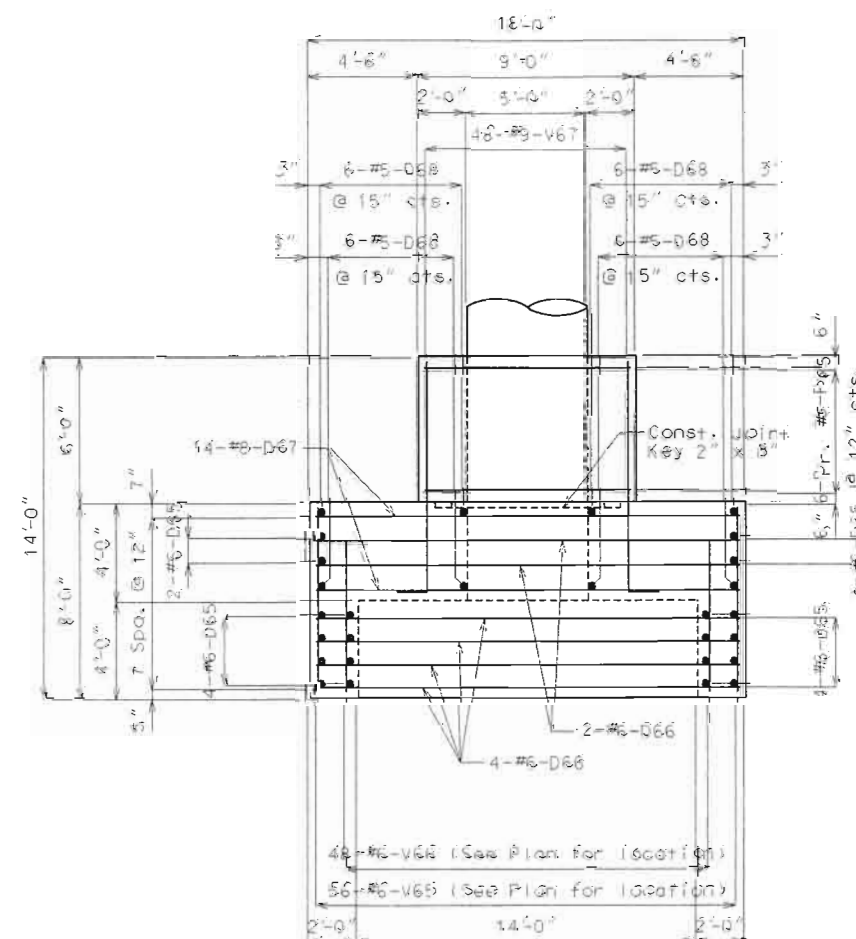
FRONT ELEVATION OF FOOTING  
SHOWING RESIN ANCHOR SPACING



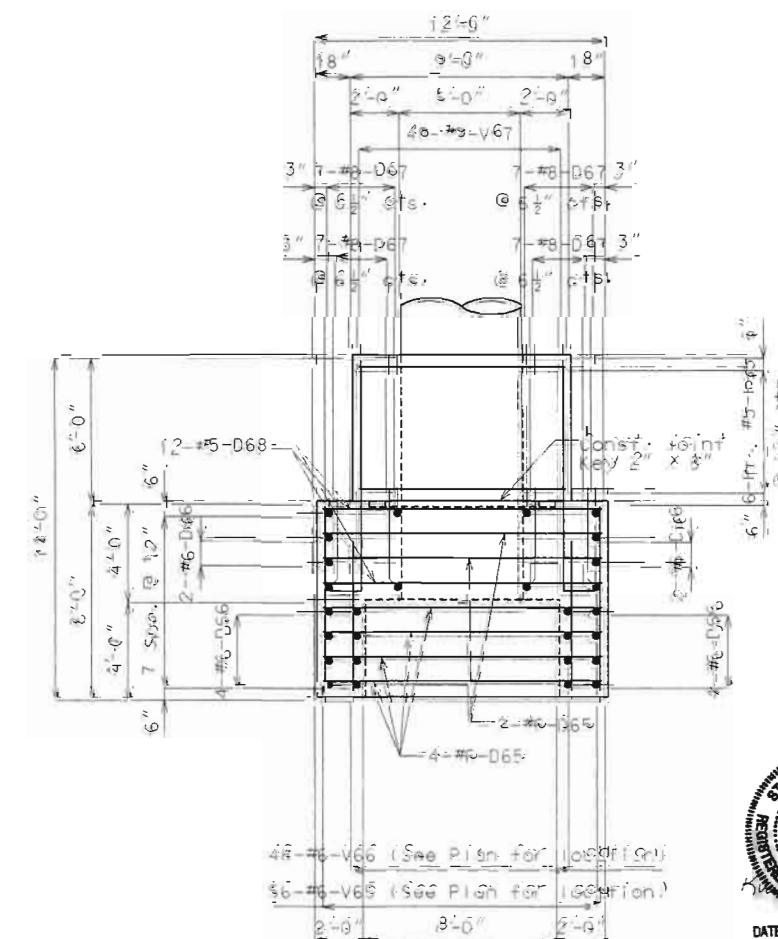
RESIN ANCHOR DETAIL



PLAN OF FOOTING  
SHOWING REINFORCEMENT



SIDE ELEVATION OF FOOTING  
SHOWING REINFORCEMENT



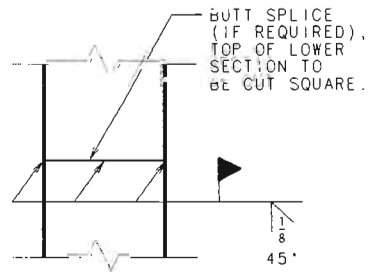
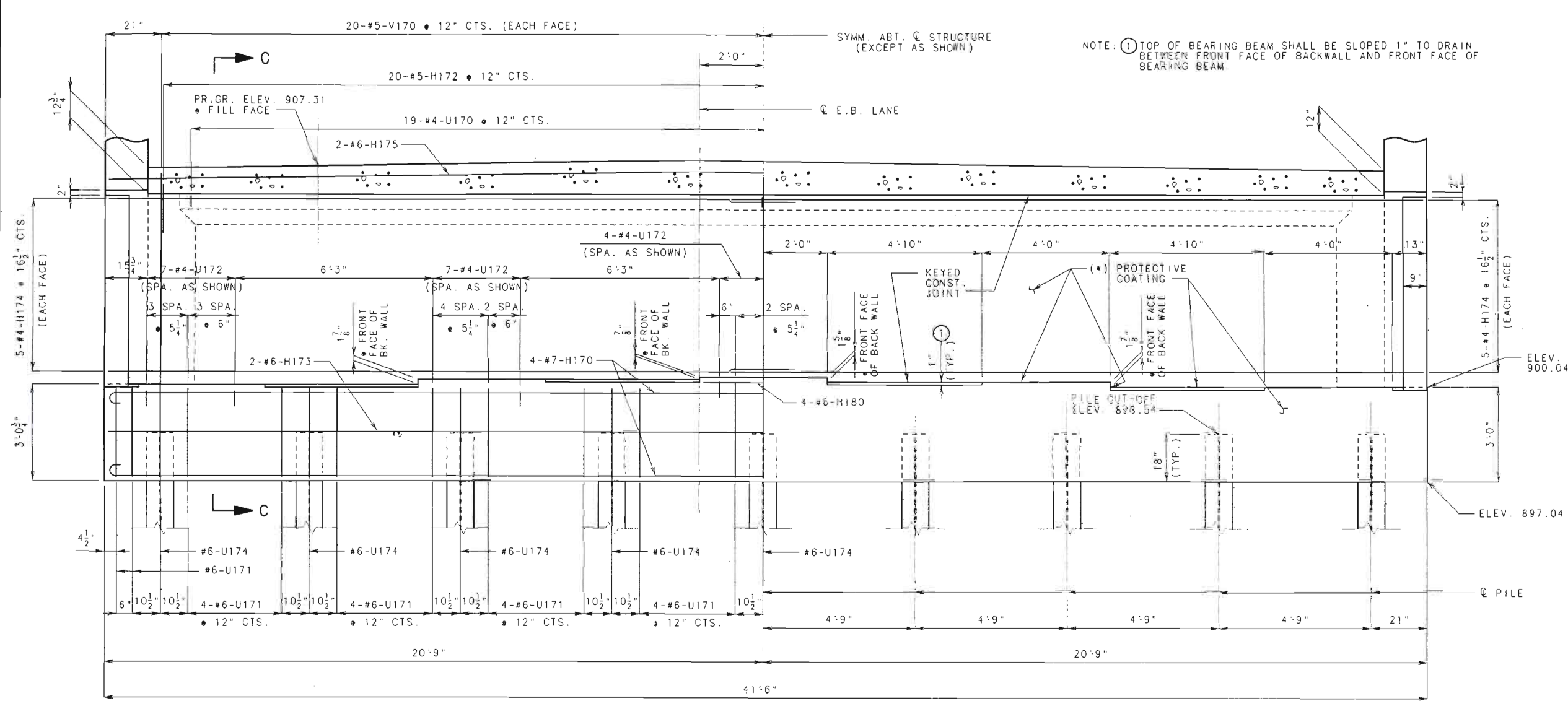
FRONT ELEVATION OF FOOTING  
SHOWING REINFORCEMENT



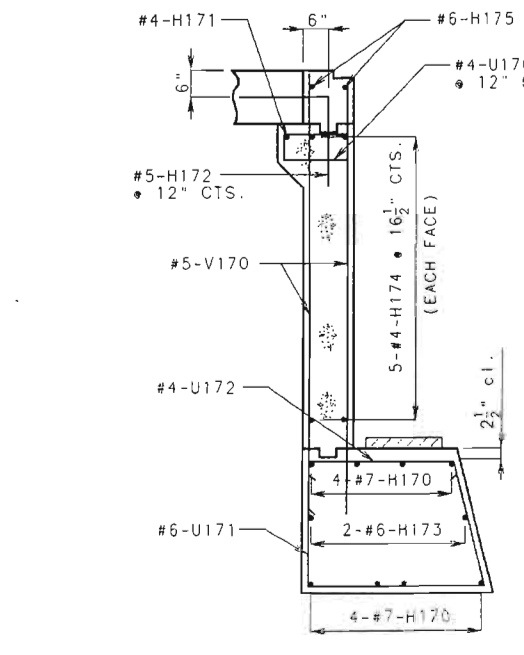
DATE 11-4-99



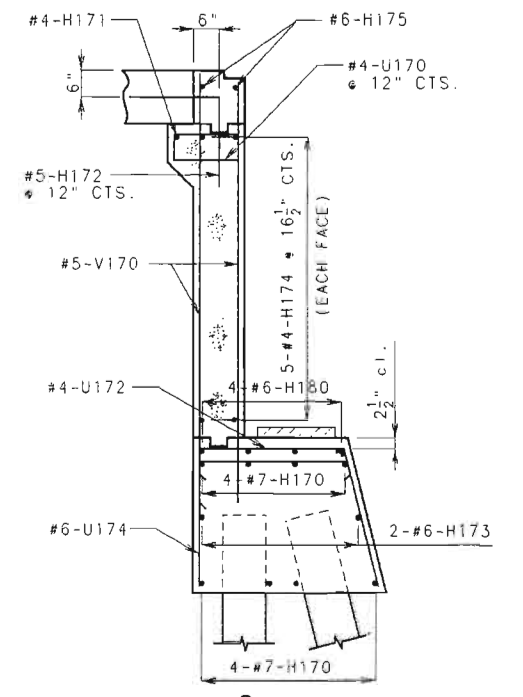




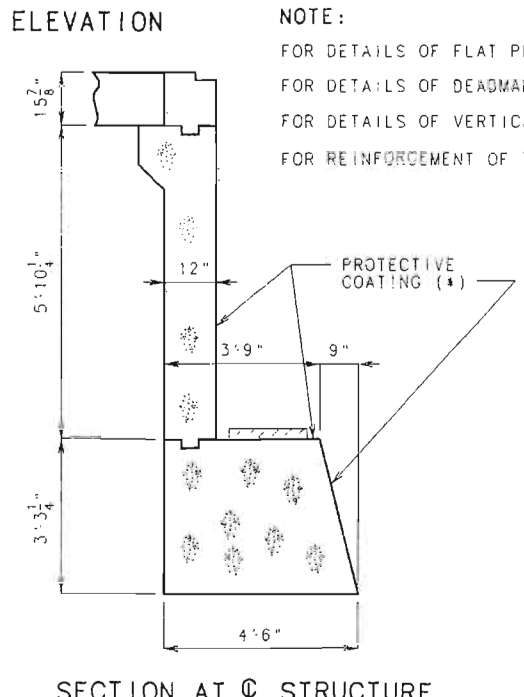
STEEL PILE SPLICE



SECTION C-C



SECTION AT @ STRUCTURE



SECTION AT @ STRUCTURE  
SHOWING DIMENSIONS

NOTE:  
FOR DETAILS OF FLAT PLATE EXPANSION DEVICE, SEE SHEET NO. 66.  
FOR DETAILS OF DEADMAN ANCHORAGE SYSTEM, SEE SHEET NO. 11.  
FOR DETAILS OF VERTICAL DRAIN AT END BENTS, SEE SHEET NO. 10.  
FOR REINFORCEMENT OF THE SAFETY BARRIER CURB, SEE SHEET NO. 80.

ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
(\* ) APPLY PROTECTIVE COATING FOR CONCRETE BENTS (DELETERIOUS AGENTS) TO FRONT FACE OF BACKWALL, TOP OF BEAM AND FRONT FACE OF BEAM. (SEE SPECIAL PROVISIONS.)  
TOP OF BACKWALL AND EXPANSION DEVICE FOR END BENT NO. 17 SHALL CONFORM TO THE CROWN OF ROADWAY SLAB. BACKWALL ABOVE UPPER CONSTRUCTION JOINT SHALL NOT BE POURED UNTIL THE SUPERSTRUCTURE SLAB HAS BEEN POURED IN THE ADJACENT SPAN.

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 17		
ITEM		QUANTITY
STRUCTURAL STEEL PILES (10")	LIN. FT.	790
PRE-BORE FOR PILING	EACH	552
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	44.5
DEADMAN ANCHORAGE ASSEMBLY	EACH	1
REINFORCING STEEL (EPOXY COATED)	LBS.	6080

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

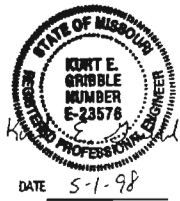
## DETAILS OF END BENT NO. 17

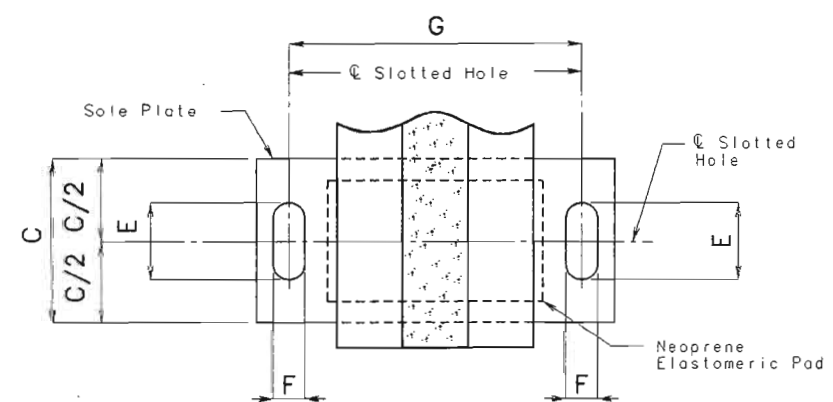
DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

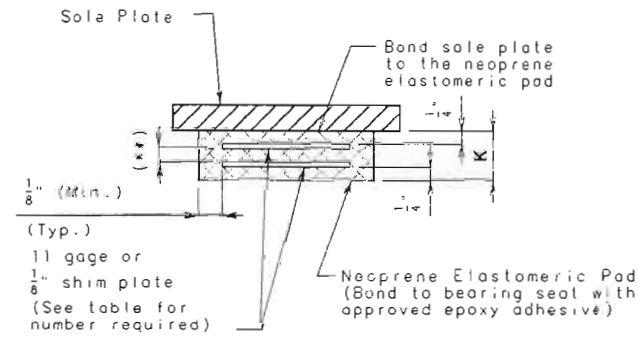
SHEET NO. 45 OF 94.

JACKSON COUNTY A5495





PART PLAN VIEW



NEOPRENE ELASTOMERIC PAD

(\*\*) Layers of  $\frac{1}{2}$ " elastomer alternating with 11 gage or  $\frac{1}{8}$ " steel shim plate.

GENERAL NOTES:

Anchor bolts shall be ① diameter ASTM A709 Grade 50W steel swaged bolts and shall extend ② into the concrete with A194-2, 2H, or A563-C, C3, D, DH, DH3 heavy hexagon nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swaging shall be 1" less than extension into the concrete.

All structural steel for anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A153.

Neoprene Elastomeric Pads shall be 60 Durometer. The neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

The sole plate shall be furnished with the bearing and field welded to the girders.

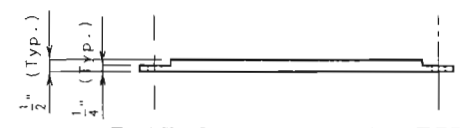
Structural steel for the sole plate shall be ASTM A709 Grade 36 and shall be coated with a minimum of 2 coats of inorganic zinc primer (5 mils minimum).

The accepted quantity of the elastomeric bearing assemblies, complete-in-place, will be paid for at the contract unit price for Laminated Neoprene Bearing Pads, (prestressed structures), each.

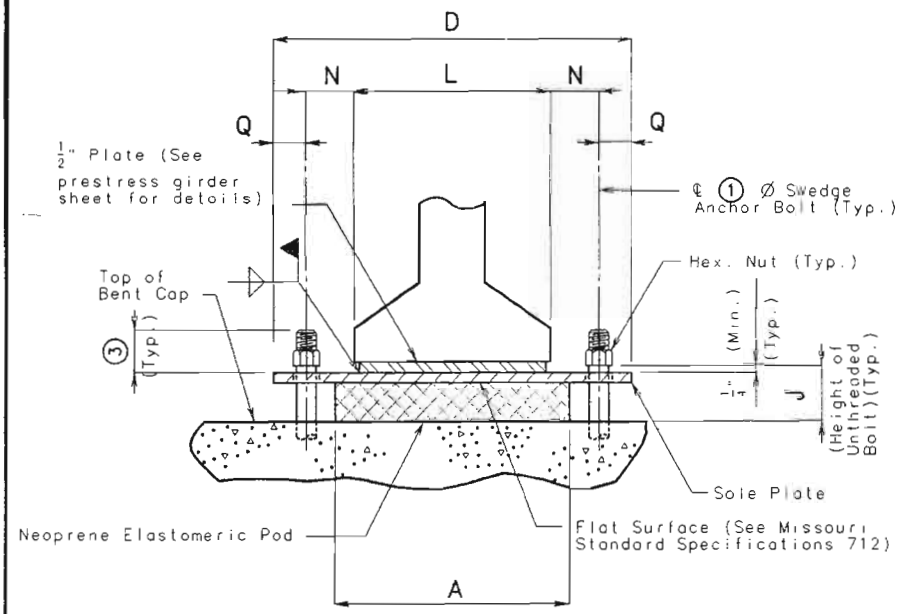
Payment for the sole plate, anchor bolts and heavy hexagon nuts shall be included in the cost of the bearing assembly. See Special Provisions.

Provide a 1/2" stopper plate to prevent the loss of support due to creeping of neoprene bearings from under girders at expansion bearings.

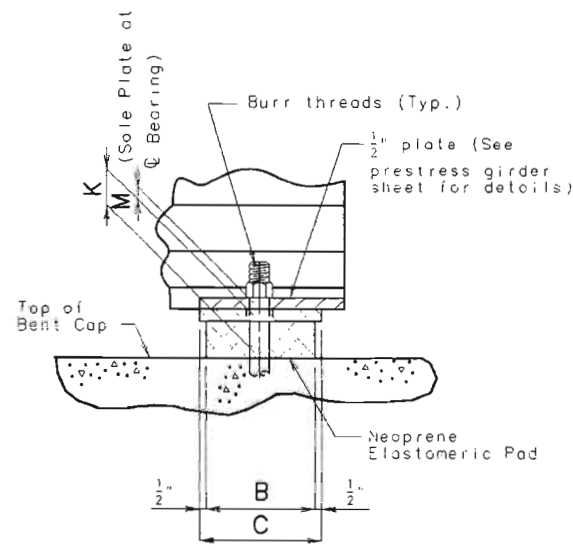
Payment for all galvanized material shall be included in the cost of laminated neoprene bearing pads, (prestressed structures), each.



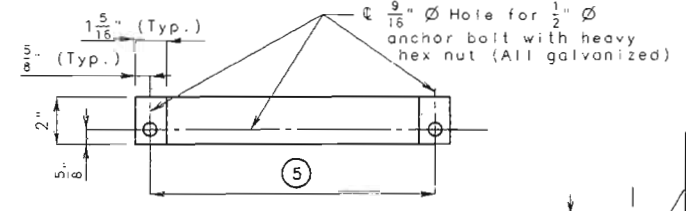
ELEVATION OF GALVANIZED STEEL STOPPER PLATE



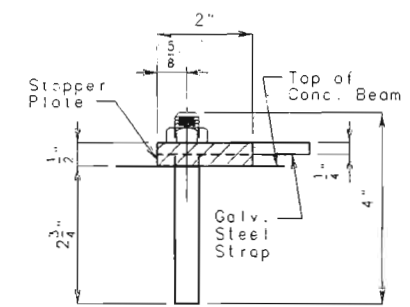
END VIEW



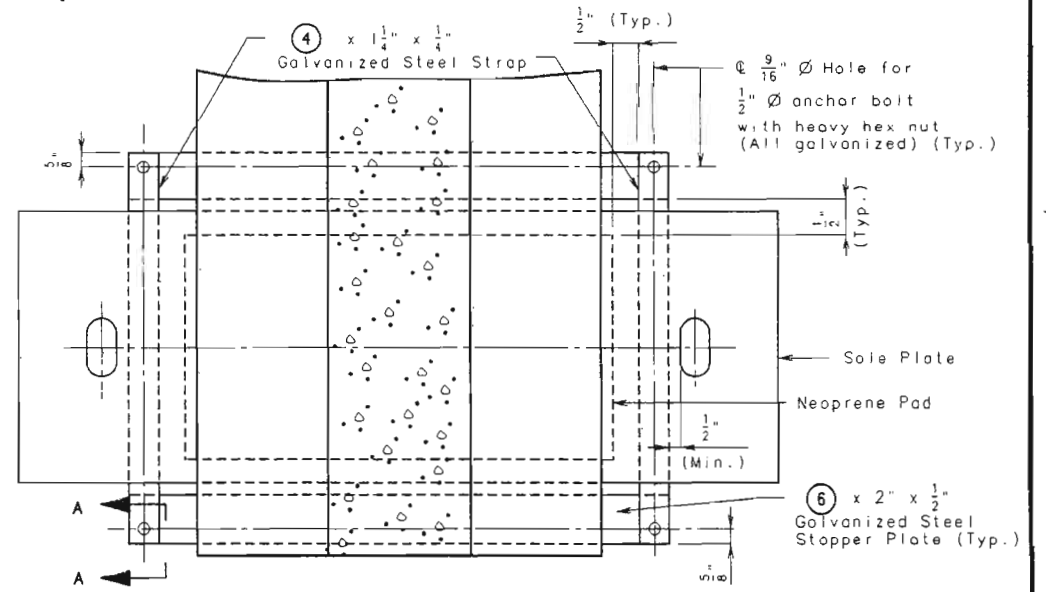
SIDE VIEW



PLAN OF GALVANIZED STEEL STOPPER PLATE



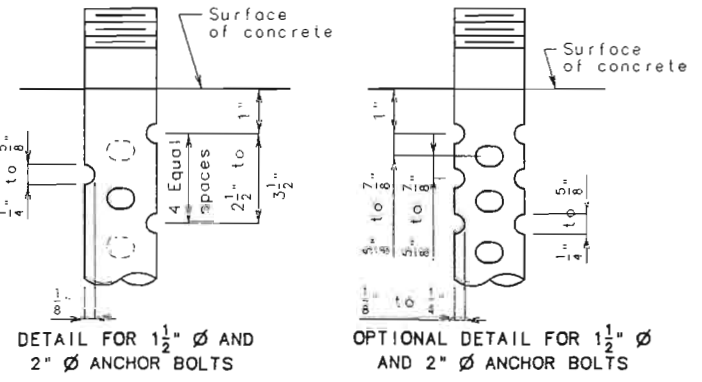
SECTION A-A



PART PLAN SHOWING STOPPER PLATE

EXPANSION BEARINGS														
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	Q	NUMBER OF SHIM PLATES (*)
5 SPAN(4-5)	18"	12"	13"	2'-8 1/2"	4"	1 5/8"	2'-4"	5 1/2"	3 3/4"	2'-0"	1 1/2"	2"	2 1/4"	6
6	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	2 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8
10	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	2 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8
12	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	2 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8
16	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	2 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8
TOTAL BEARINGS														45

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



SWEDGE ANCHOR BOLT DETAILS

- ① 1 1/2" (Bent No. 5 (Span 4-5)), 2" (Bents No. 6, 10, 12, & 16)
- ② 15" (Bent No. 5 (Span 4-5)), 18" (Bents No. 6, 10, 12, & 16)
- ③ 2 1/4" (Bent No. 5 (Span 4-5)), 2 1/2" (Bents No. 6, 10, 12, & 16)
- ④ 17" (Bent No. 5 (Span 4-5))  
18" (Bents No. 6, 10, 12, & 16)
- ⑤ 20 1/4" (Bent No. 5 (Span 4-5))  
2'-2 3/4" (Bents No. 6, 10, 12, & 16)
- ⑥ 21 1/2" (Bent No. 5 (Span 4-5))  
2'-4" (Bents No. 6, 10, 12, & 16)

STATE OF MISSOURI  
KURT E. GRIBBLE  
NUMBER E-23576  
REGISTERED PROFESSIONAL ENGINEER  
DATE 5-1-98

DETAILS OF LAMINATED NEOPRENE BEARINGS  
FOR BENTS NO. 5 (SPAN 4-5), 6, 10, 12 & 16 (PRESTRESSED STRUCTURES)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 47 OF 93.

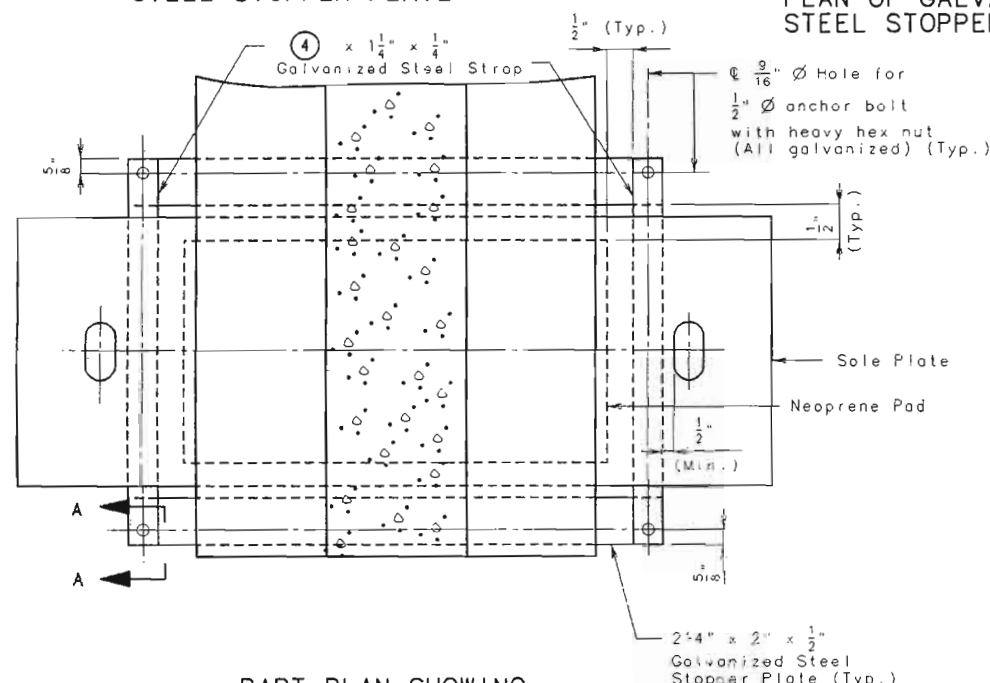
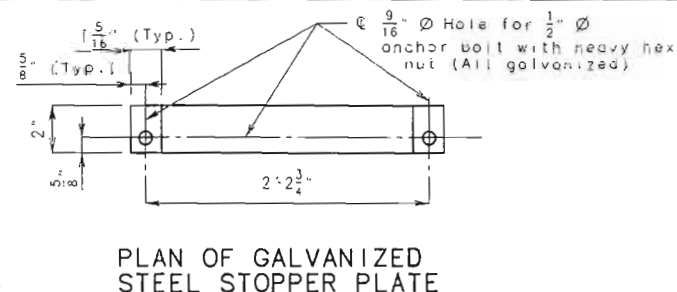
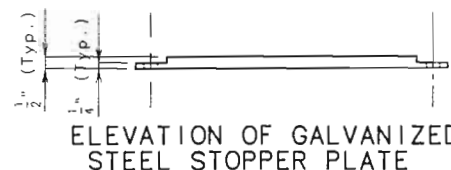
JACKSON

COUNTY

A5495

DETAILED JAN. 1998  
CHECKED MAR. 1998

brg 3.31.p/s,e,a  
LAM. BRG. P/S  
JAN. 1990  
REVISED  
AUG. 1996



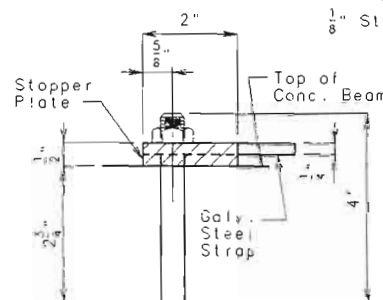
PART PLAN SHOWING STOPPER PLATE

Provide a 1/2" stopper plate to prevent the loss of support due to creeping of PTFE bearings from under girders at expansion bearings.

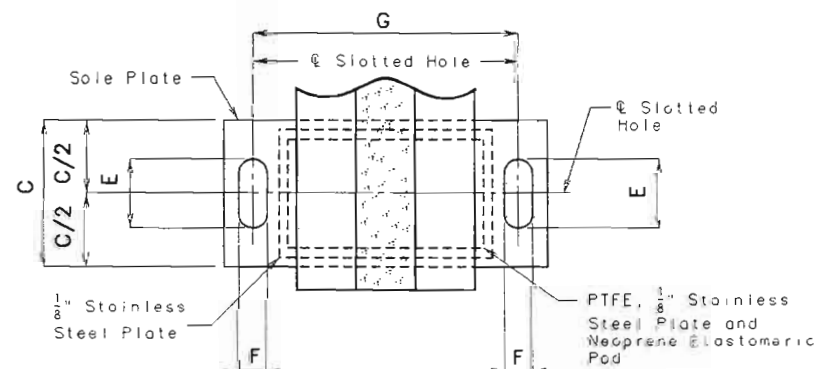
To prevent sliding, the neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

Payment for all galvanized material shall be included in the cost of PTFE Bearings per each.

The bottom face of the 1/8" stainless steel plate that is welded to the sole plate shall be lubricated with a lubricant that is approved by the bearing manufacturer.



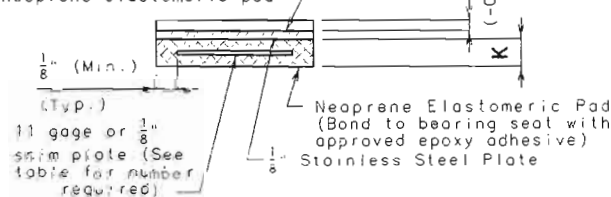
SECTION A-A



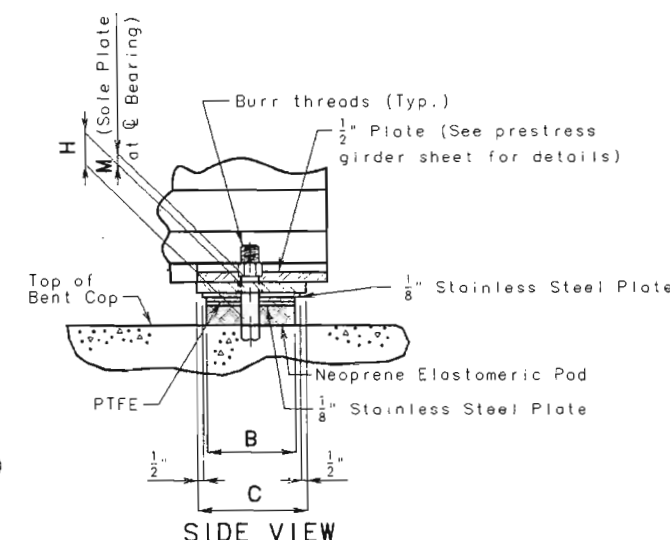
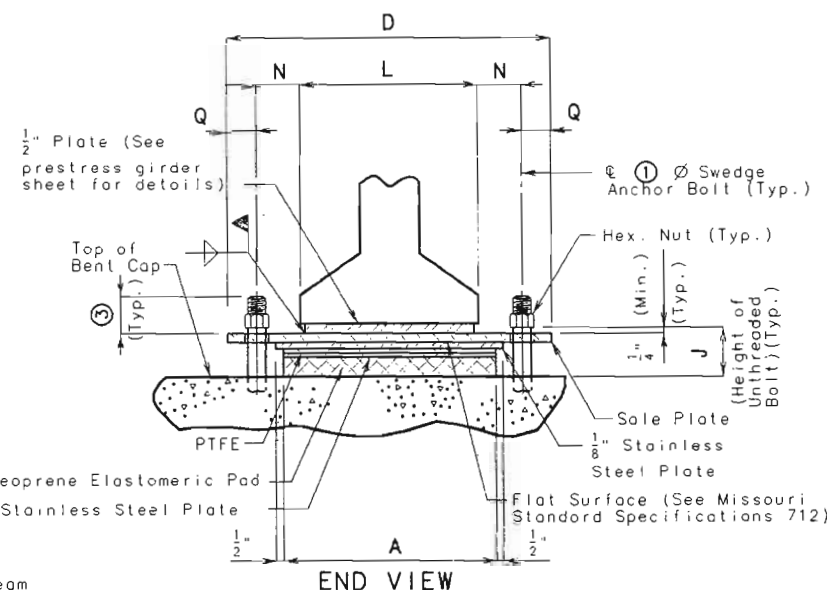
PART PLAN



Bond polytetrafluoroethylene (PTFE) to 1/8" stainless steel plate, then to neoprene elastomeric pad.



NEOPRENE ELASTOMERIC PAD



# GENERAL NOTES:

Anchor bolts shall be ① diameter ASTM A709 Grade 50W steel swaged bolts and shall extend ② into the concrete with A194-2, 2H, or A563-C, C3, D, DH, DH3 heavy hexagon nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than the extension into the concrete.

All structural steel for the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A153.

Neoprene Elastomeric Pads shall be 70 Durometer.

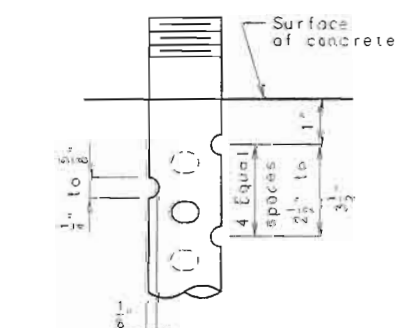
The sole plate shall be furnished with the bearing and field welded to the girders.

Structural steel for the sole plate shall be ASTM A709 Grade 36 and shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

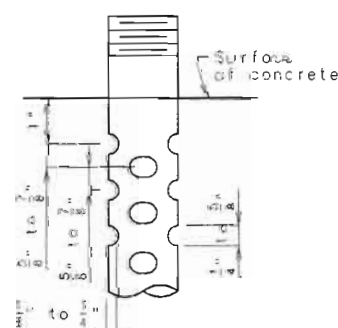
The accepted quantity of the elastomeric bearing assemblies, complete-in-place, will be paid for at the contract unit price for Type 'N' PTFE Bearings, each.

Payment for the sole plate, anchor bolts and heavy hexagon nuts shall be included in the cost of the bearing assembly. See Special Provisions.

- ① 2" (Bents No. 5 (Span 5-6) & 11), 1 1/2" (Bent No. 17)
- ② 18" (Bents No. 5 (Span 5-6) & 11), 15" (Bent No. 17)
- ③ 2 1/2" (Bents No. 5 (Span 5-6) & 11), 2 1/4" (Bent No. 17)
- ④ 16" (Bents No. 5 (Span 5-6) & 11), 14" (Bent No. 17)



DETAIL FOR 1 1/2" Ø AND 2" Ø ANCHOR BOLTS



OPTIONAL DETAIL FOR 1 1/2" Ø AND 2" Ø ANCHOR BOLTS

## SWEDGE ANCHOR BOLT DETAILS

PTFE SLIDING BEARINGS															NUMBER OF SHIM PLATES REQUIRED	NUMBER REQUIRED
BENT NO.	A	B	C	D	E	F	G	H	J	K	L	M	N	Q		
5 SPAN (5-6)	2'-0 1/2"	11"	16 1/2"	3'-1 1/4"	6"	2 1/8"	2'-7 1/2"	1 15/16"	3 23/32"	1 13/16"	2'-2"	1 1/2"	2 5/8"	3"	2	5
11	2'-0 1/2"	11"	16 1/2"	3'-1 1/4"	6"	2 1/8"	2'-7 1/2"	1 15/16"	3 23/32"	1 13/16"	2'-2"	1 1/2"	2 5/8"	3"	2	10
17	2'-0 1/2"	9"	15"	2'-11 1/2"	6 1/4"	1 3/8"	2'-6 3/4"	1 15/16"	3 3/16"	1 1/8"	2'-2"	1 1/2"	2 5/8"	2 1/4"	1	5
TOTAL BEARINGS																20

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

## DETAILS OF TYPE "N" PTFE BEARINGS

FOR BENTS NO. 5 (SPAN 5-6), 11 & 17

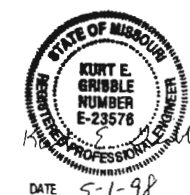
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 48 OF 93.

JACKSON

COUNTY

A5495



DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

brg ,brg3.31,p/s,e,b  
P/S 'N'  
JUNE 1993  
REVISED  
AUG. 1996





Concrete for prestressed girders shall be Class A1 with  $f'c = 5,000$  psi and  $f'ci = 4,000$  psi.

(+) indicates prestressing strand.

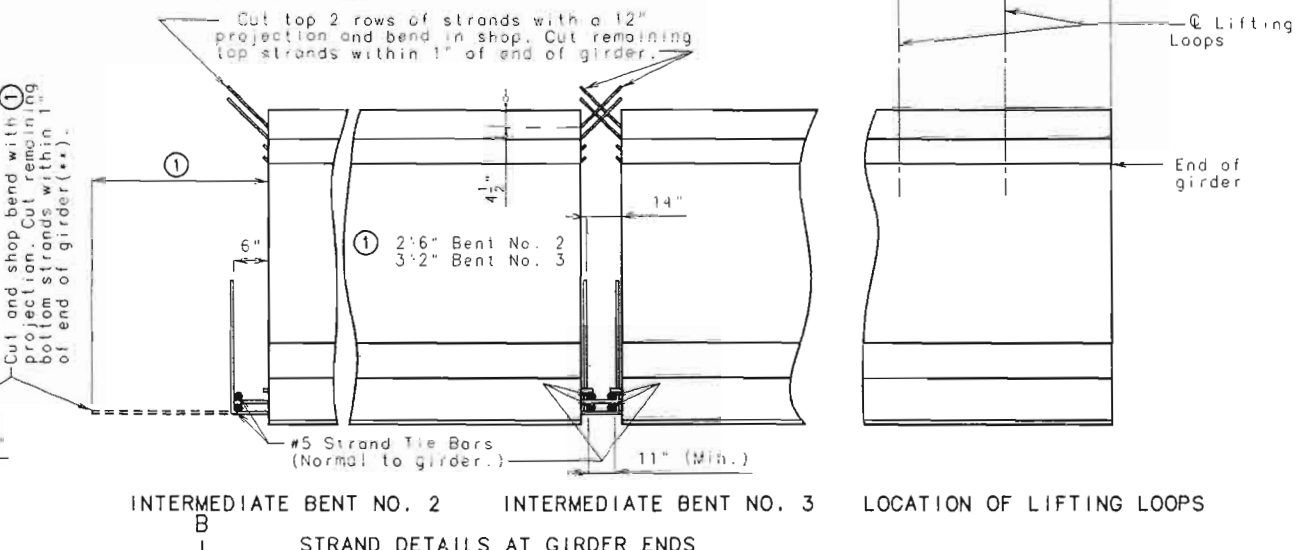
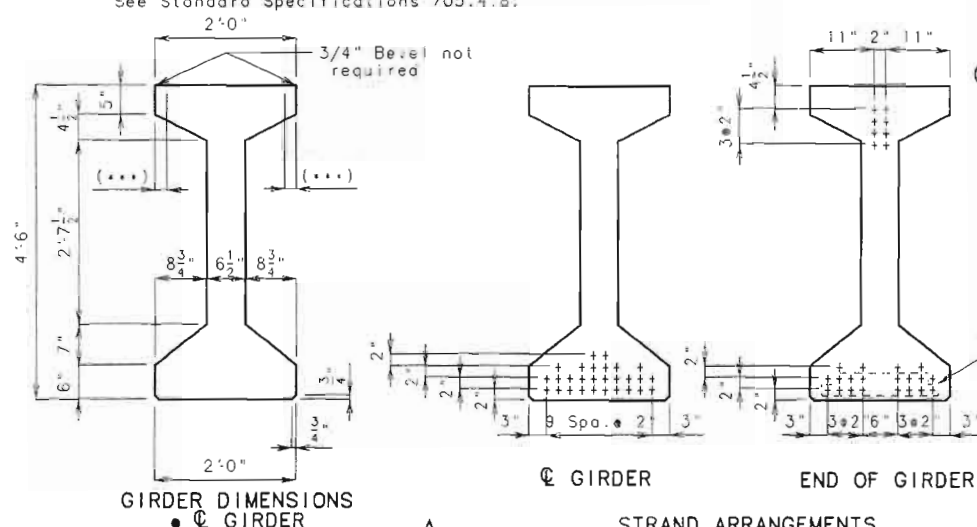
Use 28 strands with an initial prestress force of 868 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	PROJ. NO.	SHEET NO.
MO.		56



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	46'-4"	20	
250	4 B1	5'-11"	11	
16	6 B2	5'-4"	11	
133	4 C1	2'-2"	10	
266	4 D1	3'-0"	9	

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

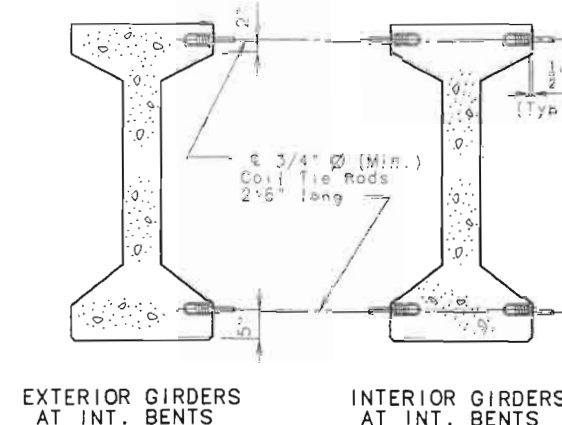
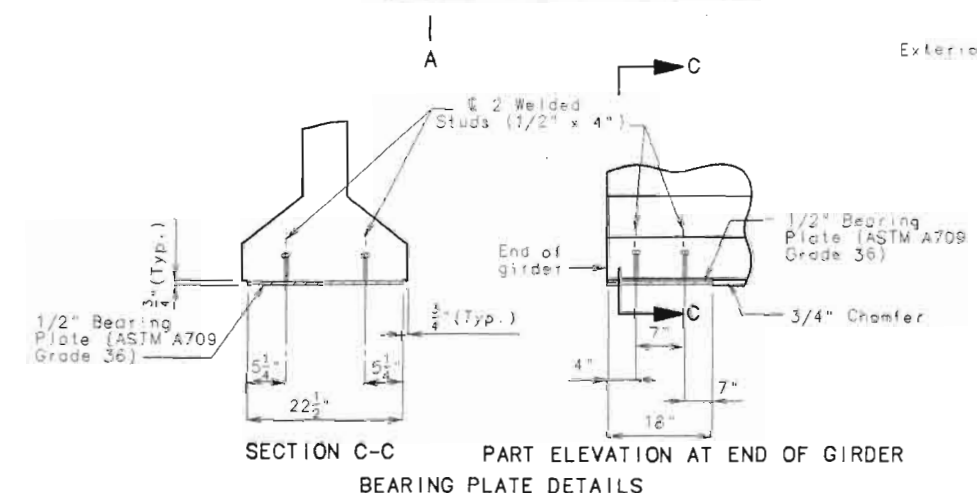
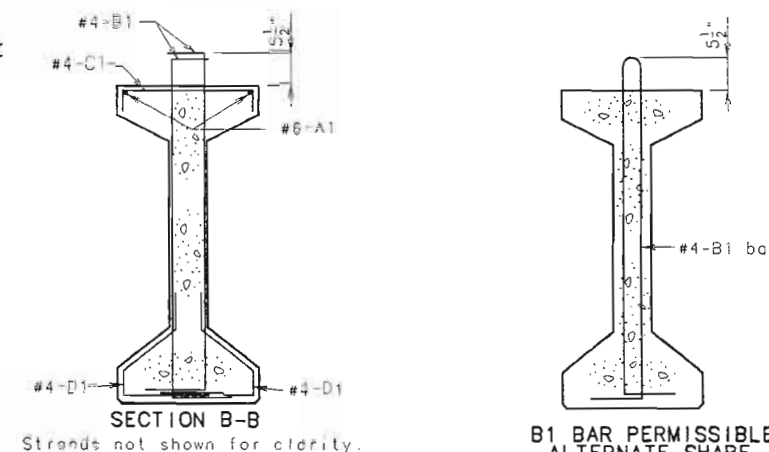
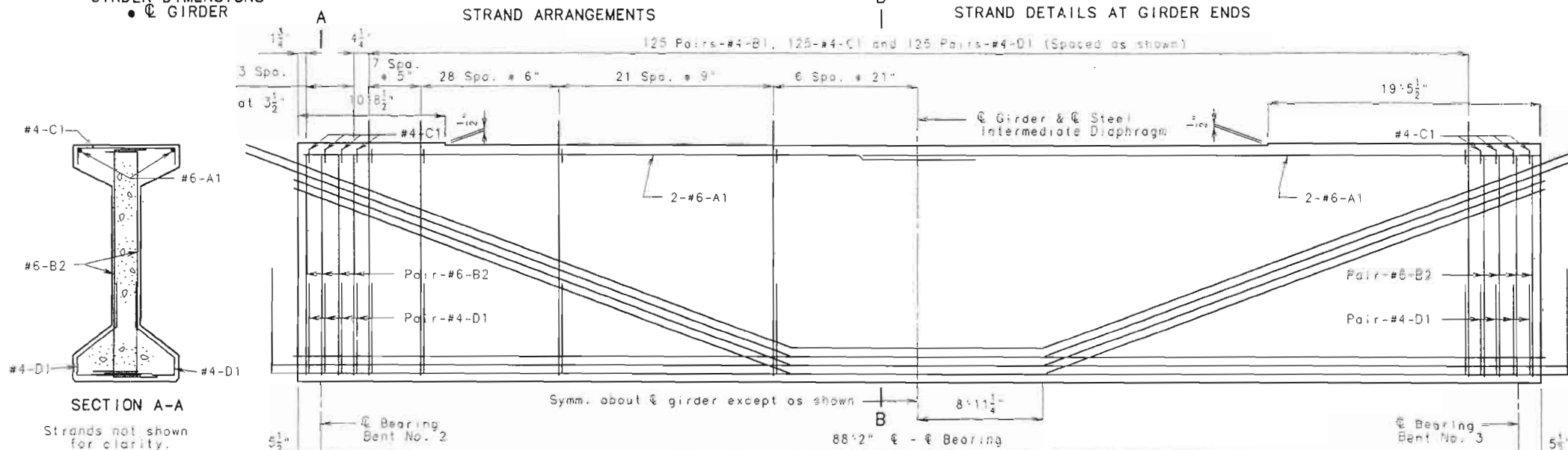
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



Cost of 3/4" coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil tie shall be held in place in the forms by slotted wire-bolting studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The 1-1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of steel intermediate diaphragms, see sheet no. 64.

For Girder Camber Diagram, see sheet no. 71.

For location of coil ties, see sheets no. 59 & 60.



DATE 5-1-98

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.

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

SHEET NO. 50 of 93.

JACKSON COUNTY

A5495

gdr 16.5 web, 4'6", 1.0  
P/S GIRDER 6.5" WEB  
MAY 1991  
REVISED  
August 1996

DETAILED JAN. 1998  
CHECKED MAR. 1998



Concrete for prestressed girders shall be Class A1 with  $f_c = 5,000$  psi and  $f'_{ci} = 4,000$  psi.

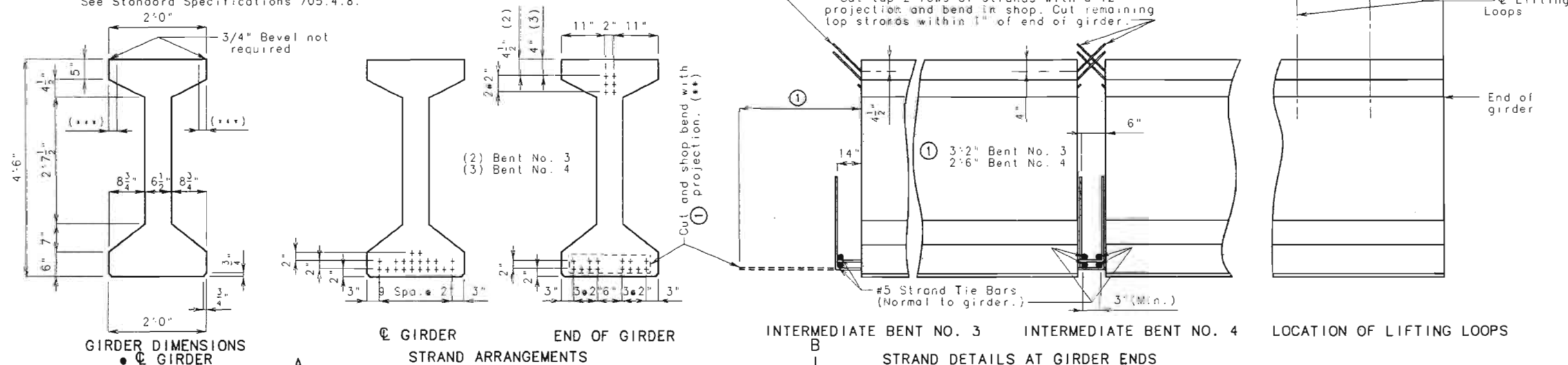
(+) indicates prestressing strand.

Use 20 strands with an initial prestress force of 620 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(...) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	36'-10"	20	
188	4 B1	5'-11"	11	
16	6 B2	5'-4"	11	
102	4 C1	2'-2"	10	
204	4 D1	3'-0"	9	

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

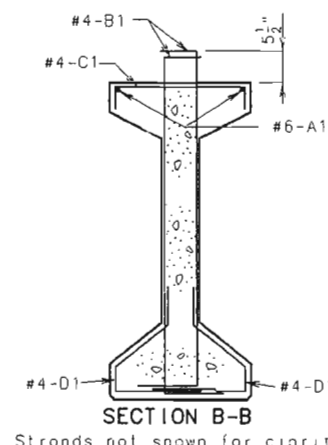
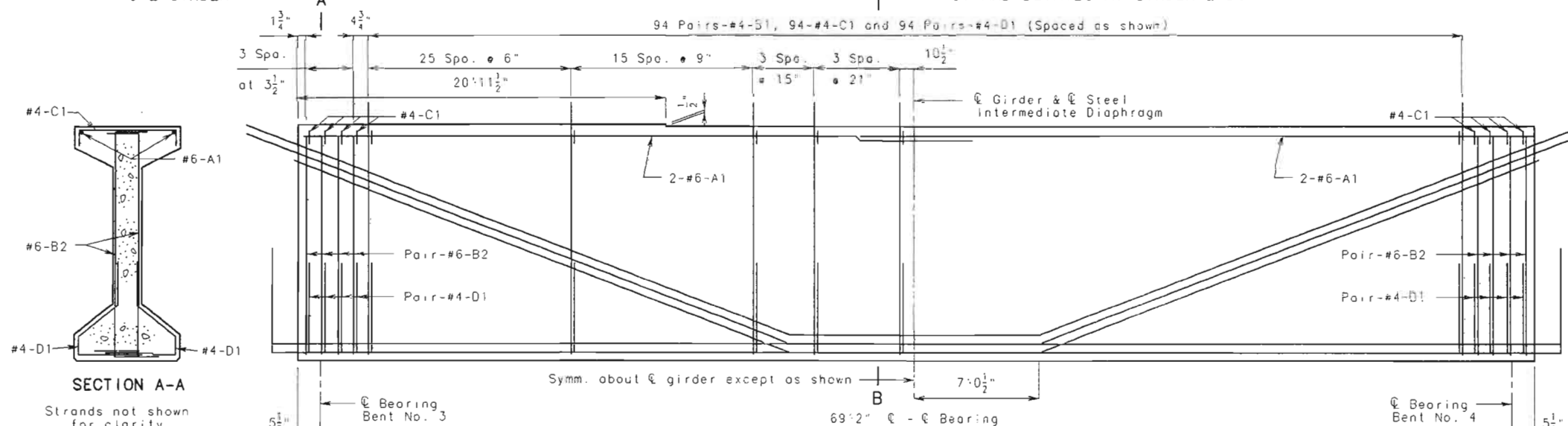
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

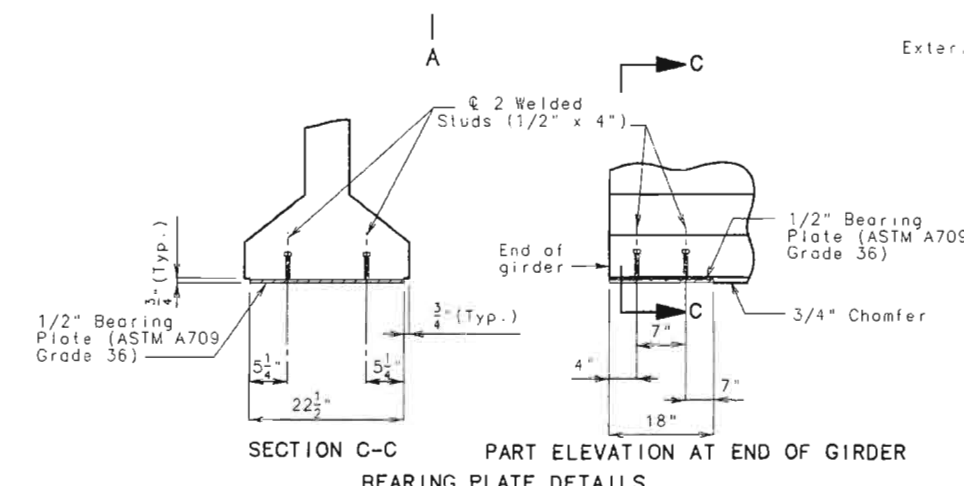
All reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

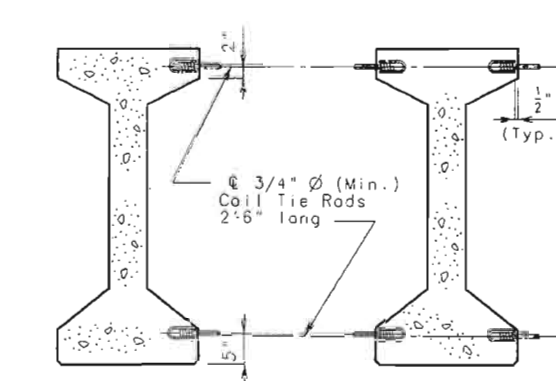
All B1 bars shall be epoxy coated.



B1 BAR PERMISSIBLE ALTERNATE SHAPE



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.



Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 75.

For Girder Camber Diagram, see sheet no. 71.

For location of coil ties, see sheets no. 59 & 60.



DATE 5-1-98

DETAILED JAN. 1998  
 CHECKED MAR. 1998

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

SHEET NO. 51 of 93.

JACKSON

COUNTY

A5495

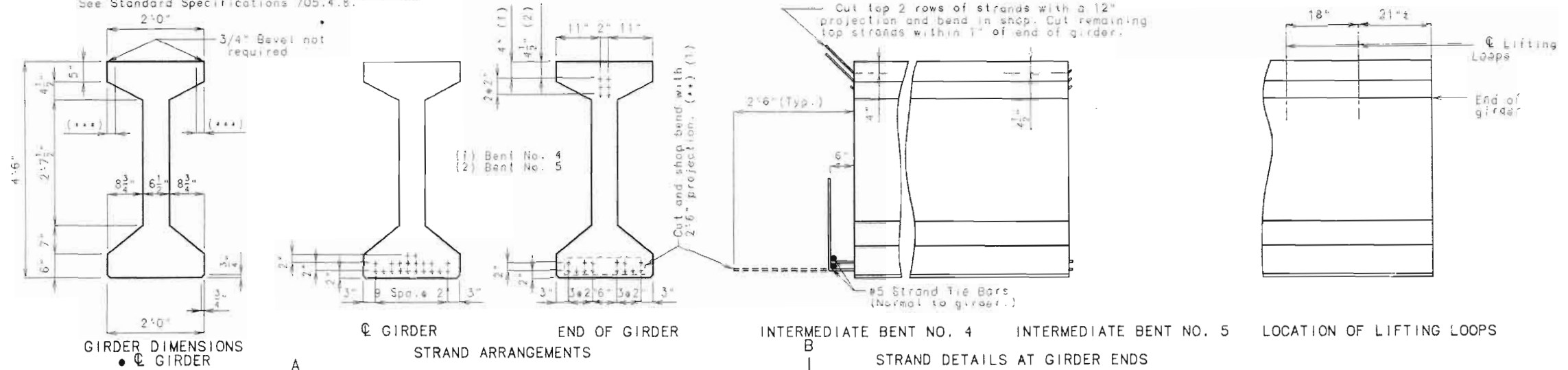
qdr, 6.5 web, 4'-6", 1, a  
 P/S GIRDER 6.5" WEB  
 MAY 1991  
 REVISED  
 August 1996



Concrete for prestressed girders shall be Class A1 with  $f'_c = 5,000$  psi and  $f'_ci = 4,000$  psi.  
(+) indicates prestressing strand.  
Use 20 strands with an initial prestress force of 620 kips.  
Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

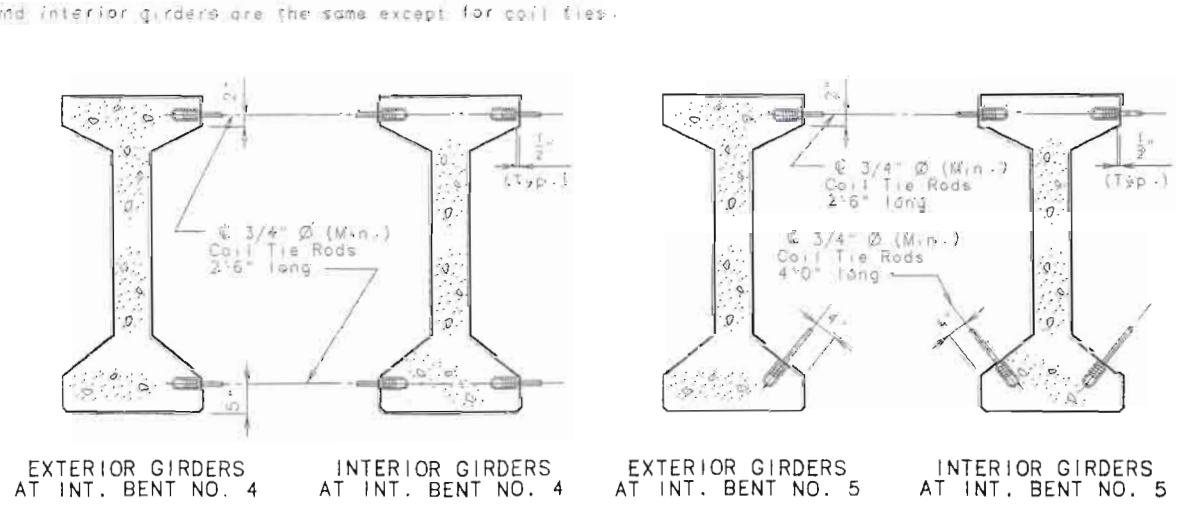
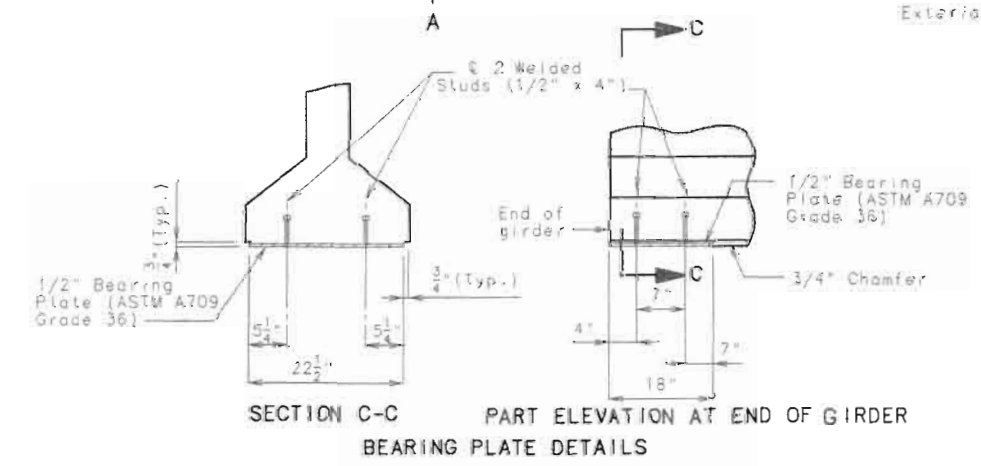
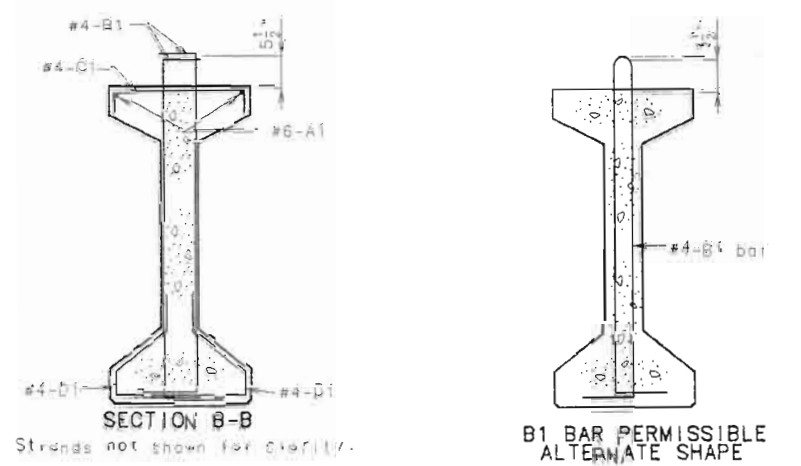
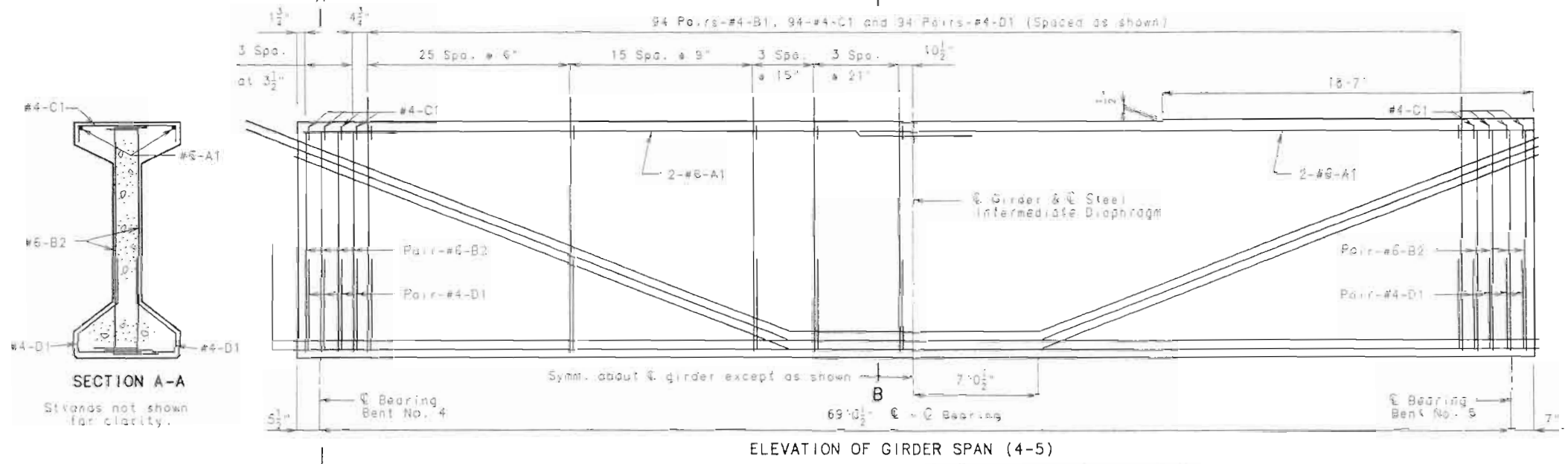
(\*\*) One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.  
(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

Prestressing strands at intermediate Bent No. 5 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased. Exposed ends at girders shall be given 2 coats of asphaltic paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	36'-10"	20	SHAPE 9
10	6 B2	5'-11"	11	SHAPE 10
102	4 C1	2'-2"	10	SHAPE 11
294	4 D1	3'-0"	9	SHAPE 20

All dimensions in bending diagram are out to out.  
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures. Clearup and tie dimensions.  
Actual lengths are measured along centerline of bar to the nearest inch.  
Minimum clearance to reinforcing shall be 1".  
All reinforcement shall be Grade 60.  
The two B1 bars may be furnished as one bar at the fabricator's option.  
All B1 bars shall be easily coated.



Cost of 3/4"  $\bar{C}$  coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.  
Coil ties shall be held in place in the forms by slotted wire-securing-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.  
The 1-1/2"  $\bar{C}$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.  
For detail of steel intermediate diaphragms, see sheet no. 64.  
For location of soil inserts at side drains, see sheet no. 75.  
For Girder Camber Diagram, see sheet no. 71.  
For location of coil ties, see sheets no. 59 & 61.  
For Details of slotted wells in top of girder, see sheet No. 65.



gdr .6.5 web, 4'-6", 1, 9  
P/S GIRDER 6.5" WEB  
MAY 1991  
REVIS  
August 1996

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.  
Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.

DETAILS OF COIL TIES

SHEET NO. 52 of 53.

JACKSON COUNTY

A5495







NOTE: Concrete for prestressed girders shall be class A1 with  $f'_c = 6,000$  psi and  $f'_t = 4500$  psi.

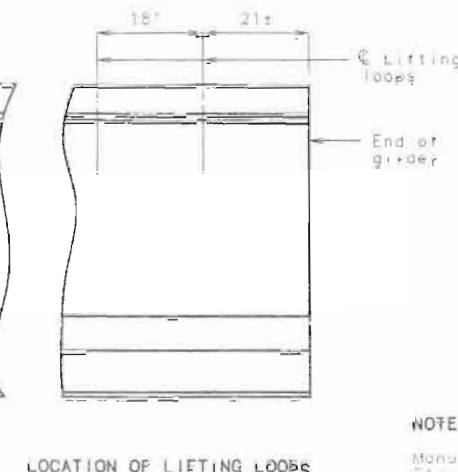
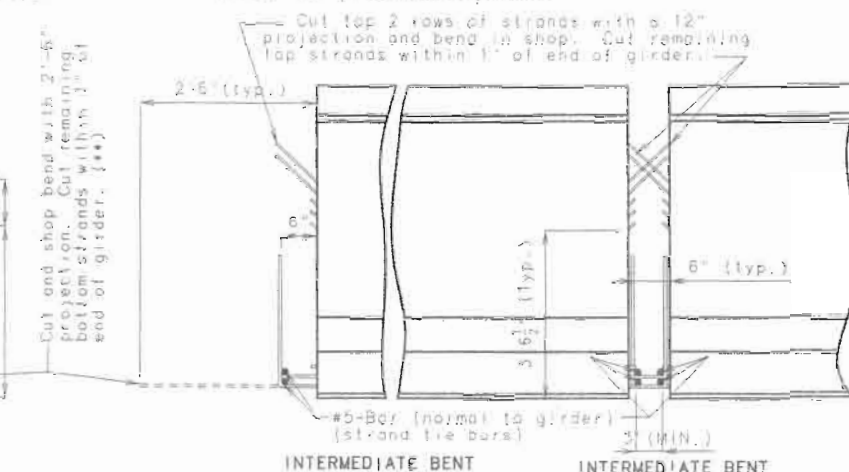
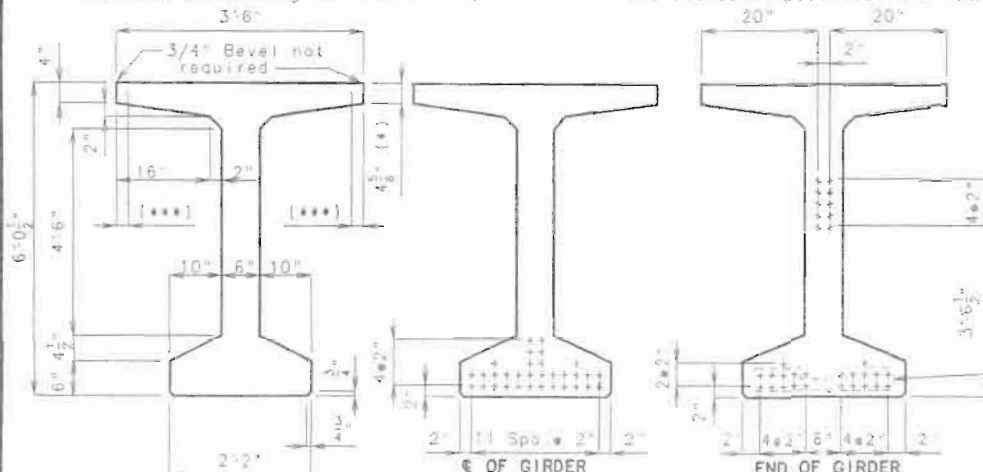
(+) Indicates prestressing strands.

Use 32 strands with an initial prestress force of 992 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

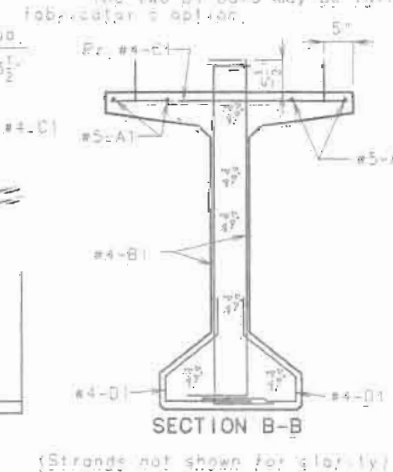
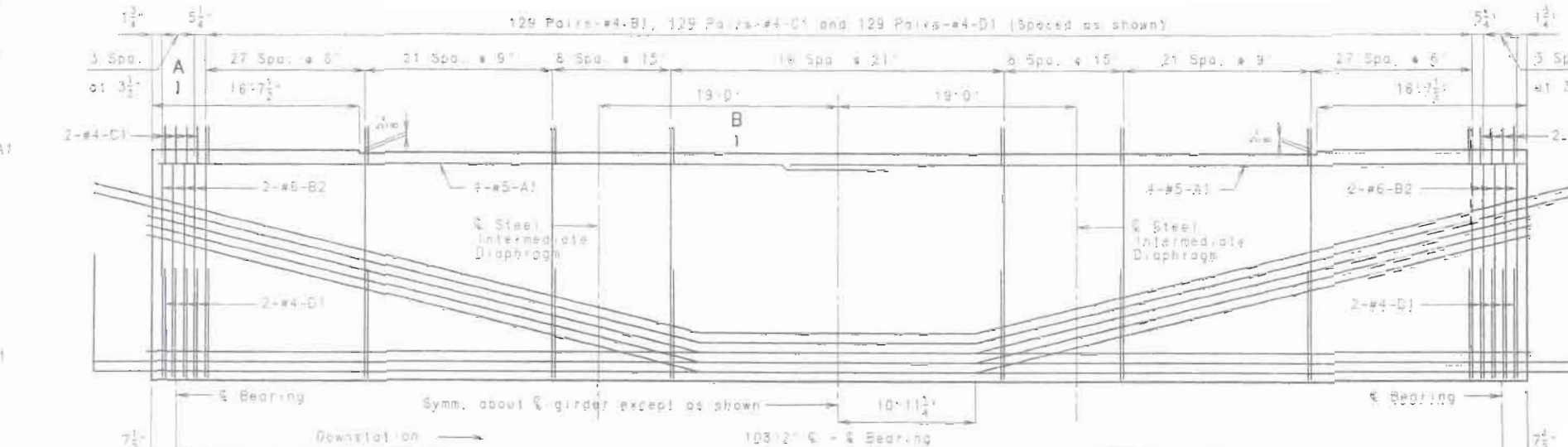
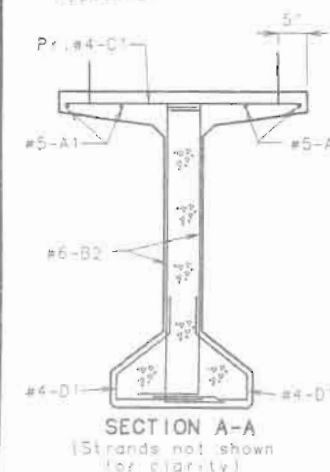


BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-3"	20	
258	4 B1	7'-11"	11	
16	6 B2	7'-4"	11	
274	4 C1	3'-6"	19	
274	4 D1	3'-2"	8	

NOTE: All dimensions in bending diagram are put to cut. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrups and Tie Dimensions.

All B1 bars & C1 bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two B1 bars may be furnished as one bar at the fabricator's option.

(\*) Girders 1 & 2 shown. Girders 3, 4 & 5 sloped opposite.



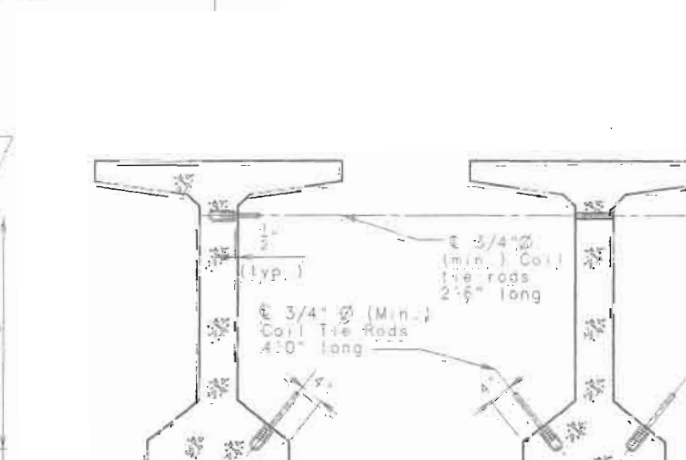
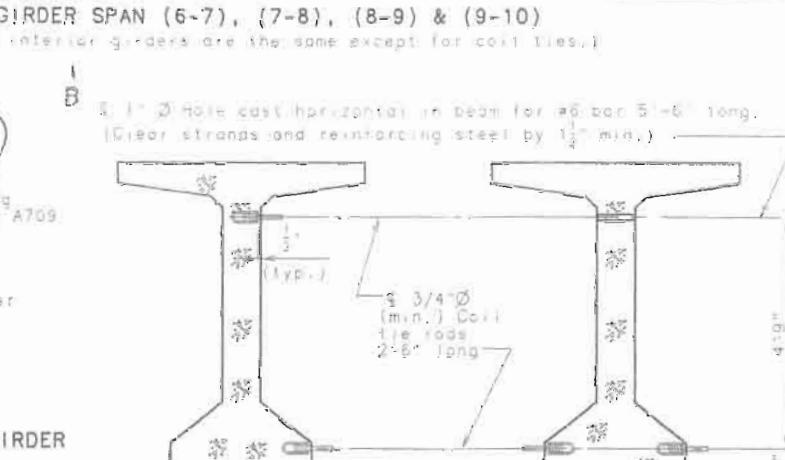
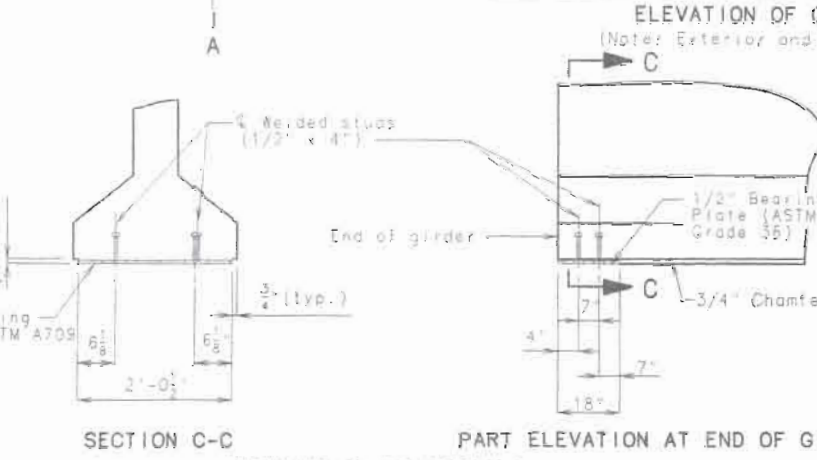
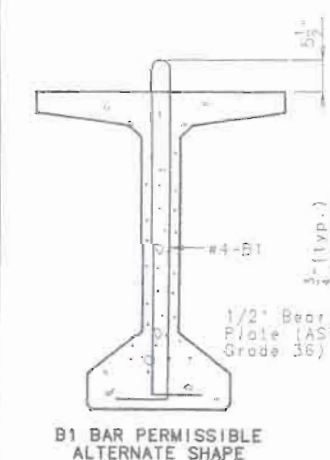
NOTE: Cost of 3/4" x 4" coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 84.

For location of coil inserts at slab drains, see sheet no. 76.

The 1-1/2" x 6" holes shown on cast in the web for steel intermediate diaphragms. Drilling is not allowed.



STATE OF MISSOURI  
KURT E. GRIBBLE  
REGISTERED PROFESSIONAL ENGINEER  
E-23576  
DATE 5-1-88

GDPR BT, P/S3.55, 4'6", 6'A.  
REVISOR  
JAN. 1995  
APRIL 1993  
DETAILED JAN. 1998  
CHECKED MAR. 1998

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

DETAILS OF COIL TIES  
Note: For location of coil ties, and 1" x 6" horizontal hole, see sheets no. 59 & 60.  
SHEET NO. 54 OF 93.

JACKSON COUNTY A5495



(+) Indicates prestressing strands.

Use 34 strands with an initial prestress force of 1054 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*). At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

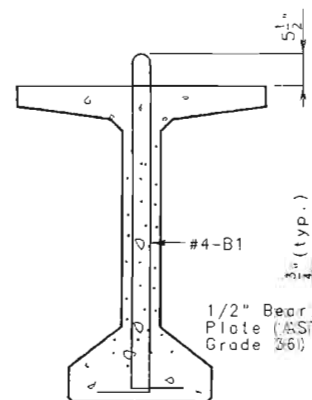
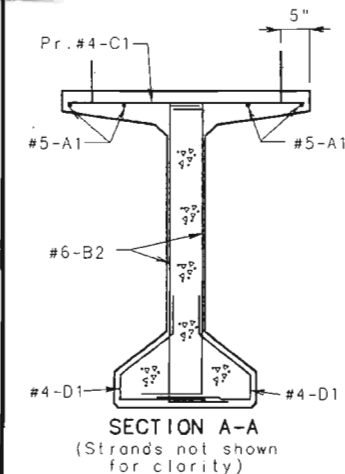
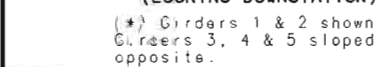
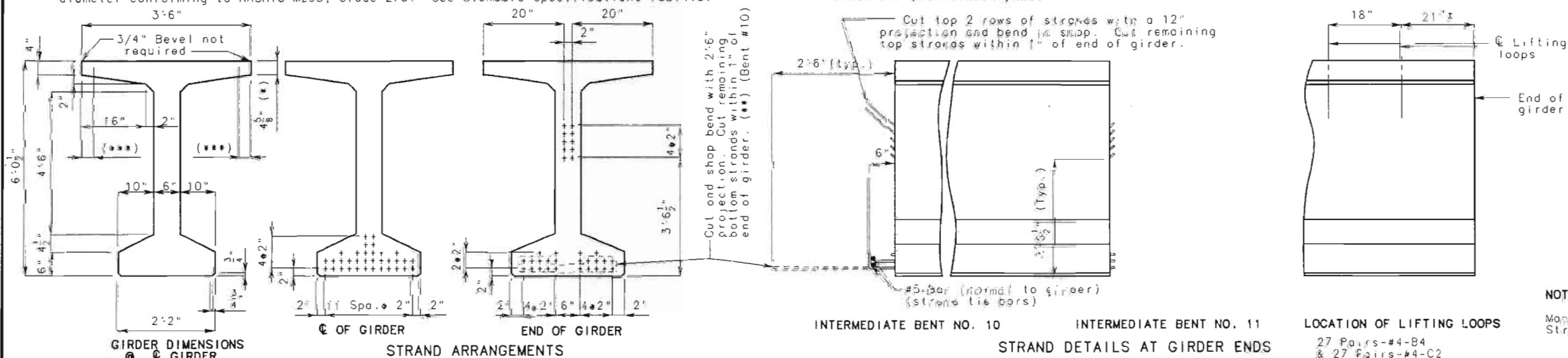
STATE	PROJ. NO.	SHEET NO.
MO		61

# **BILL OF REINFORCING STEEL - EACH GIRDER**

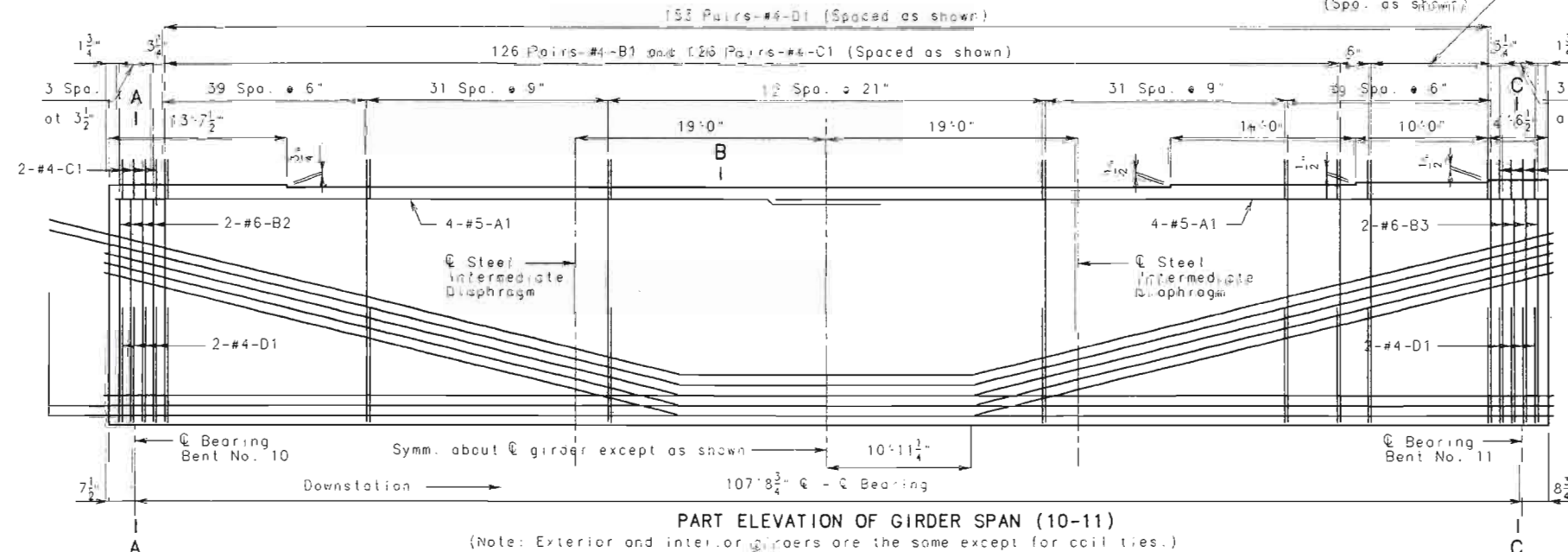
NOTE: All dimensions in bearing diagram are out to out.  
Hooks and bends shall be in accordance with the CRSI  
Manual of Standard Practice for Detailing Reinforced Concrete  
Structures, Clippings and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

The two #1 bars may be furnished as one bar at the fabricator's option.

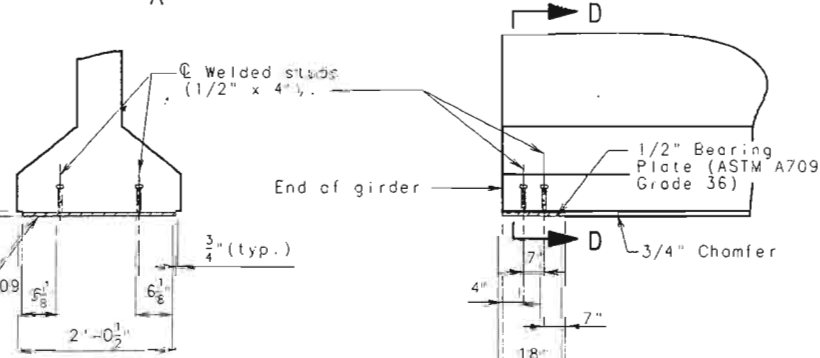


B1 BAR PERMISSIBLE  
ALTERNATE SHAPE



PART ELEVATION OF GIRDER SPAN (10-11)

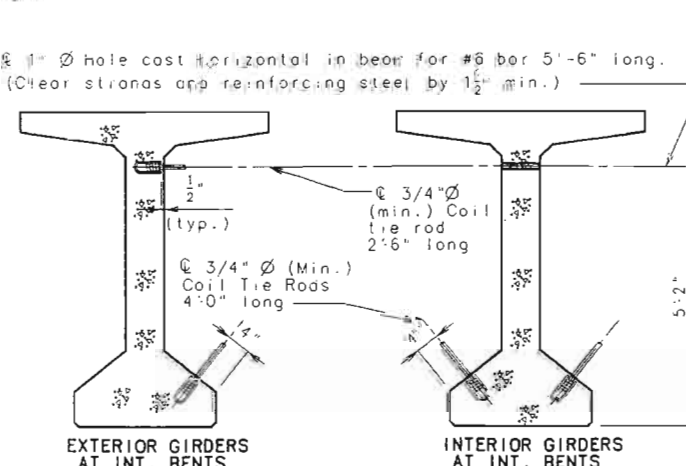
(Note: Exterior and interior doors are the same except for coil ties.)



SECTION D-D                      PART ELEVATION AT END OF GIRDER  
BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.



EXTERIOR GIRDERS  
AT INT. BENTS

INTERIOR GIRDERS  
AT INT. BENTS

### DETAILS OF COIL TIES

Note: For location of coil ties, and 1"  $\phi$  horizontal hole, see sheets no. 59 & 62.

SHEET NO. 55 OF 93.

**NOTE:** Cost of 3/4" Ø coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms,  
see sheet no. 64.

For location of coil inserts at slob drains,  
see sheet no. 76.

The 1-1/2"  $\varnothing$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Details of Slotted Wells in top of Girder,  
see sheet no. 65.



DATE 5-1-88

DETAILED JAN. 1998  
CHECKETI MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

JACKSON

COUNTY

A5495

QDP BT,P/S3.55,4'6",6,A	REVISED
APRIL 1993	JAN. 1995

NOTE: Concrete for prestressed girders shall be class A1 with  $f'c = 6000$  psi and  $f'ci = 4500$  psi.

(+) Indicates prestressing strands.

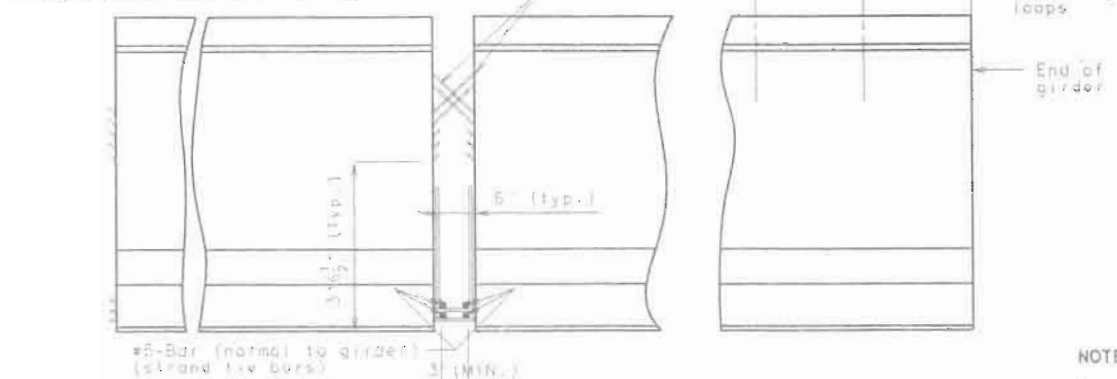
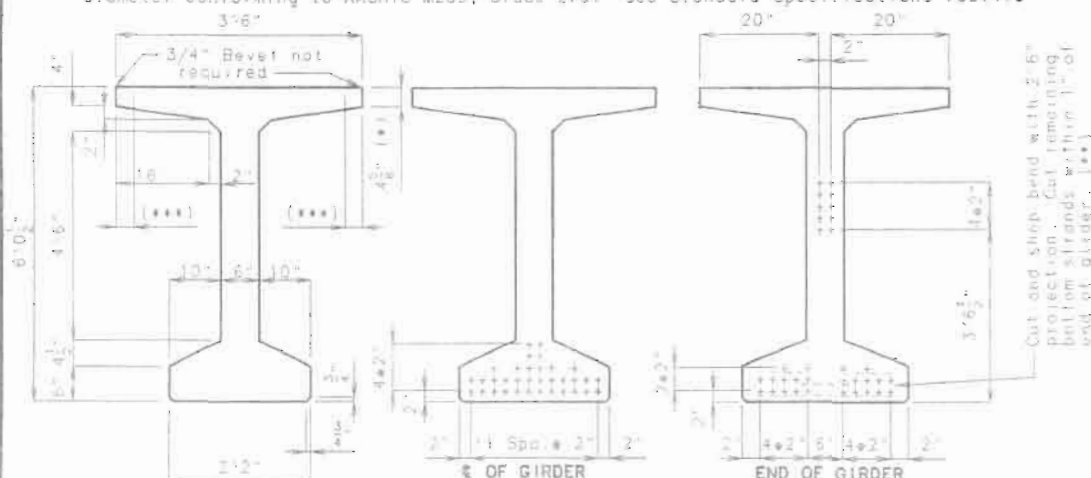
Use 34 strands with an initial prestress force of 1054 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8

(\*\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

Cut top 3 rows of strands with a 12" projection and bend in shop. Cut remaining top strands within 1" of end of girder.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-11"	20	SHAPE 10 SHAPE 11
236	4 B1	7'-11"	11	
8	6 B2	7'-4"	11	
8	6 B3	7'-5"	11	
70	4 B4	8'-0"	11	SHAPE 19 SHAPE 20
244	4 C1	3'-6"	19	
78	4 C2	3'-7"	19	
322	4 D1	3'-2"	9	

NOTE: All dimensions in bending diagram are cut to cut. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrups and Tie Dimensions.

All B1, B4, C1 & C2 Bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.

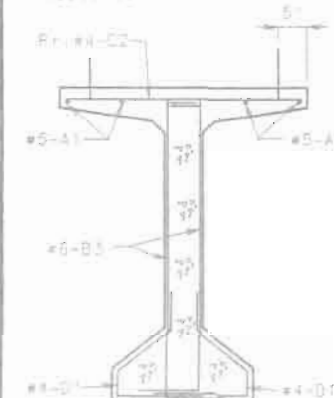
GIRDER DIMENSIONS (LOOKING DOWNSTATION)

STRAND ARRANGEMENTS

INTERMEDIATE BENT NO. 11  
INTERMEDIATE BENT NO. 12  
STRAND DETAILS AT GIRDER ENDS

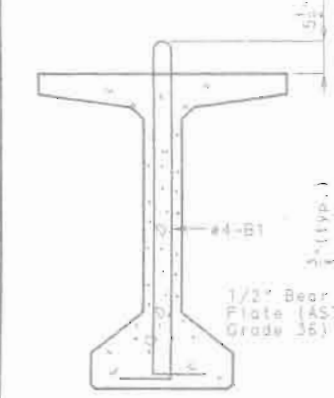
LOCATION OF LIFTING LOOPS

(\*) Girders 1 & 2 shown. Girders 3, 4 & 5 sloped opposite.

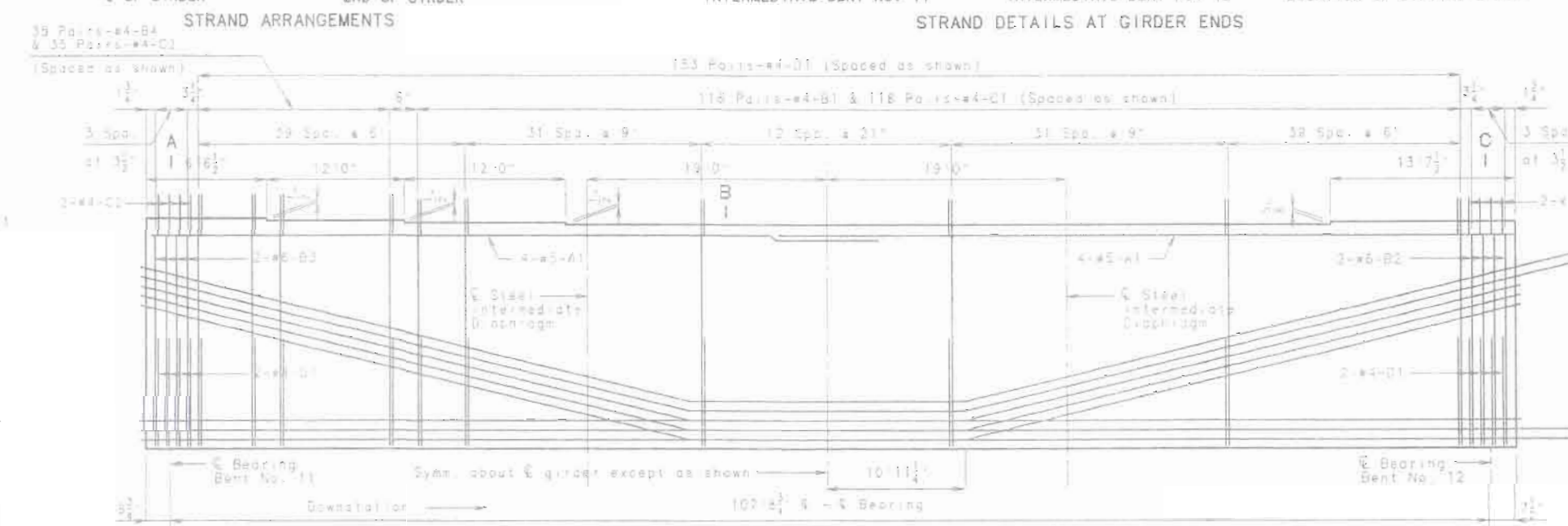


SECTION A-A (Strands not shown for clarity)

(\*) Girders 1 & 2 shown. Girders 3, 4 & 5 sloped opposite.

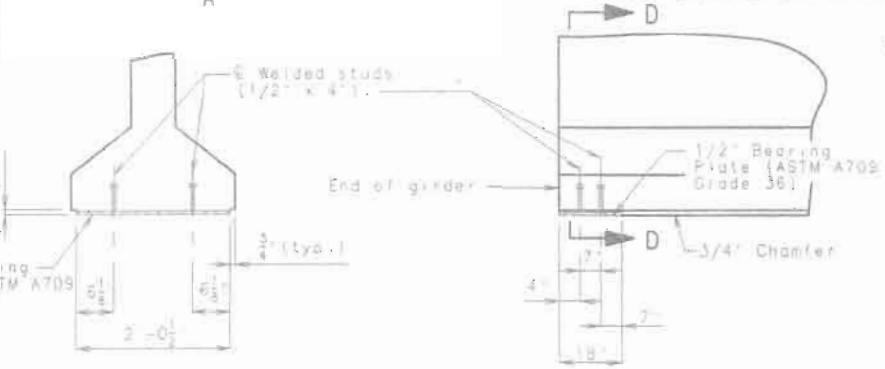


B1 BAR PERMISSIBLE ALTERNATE SHAPE



PART ELEVATION OF GIRDER SPAN (11-12)

(Note: Exterior and interior girders are the same except for coil ties.)

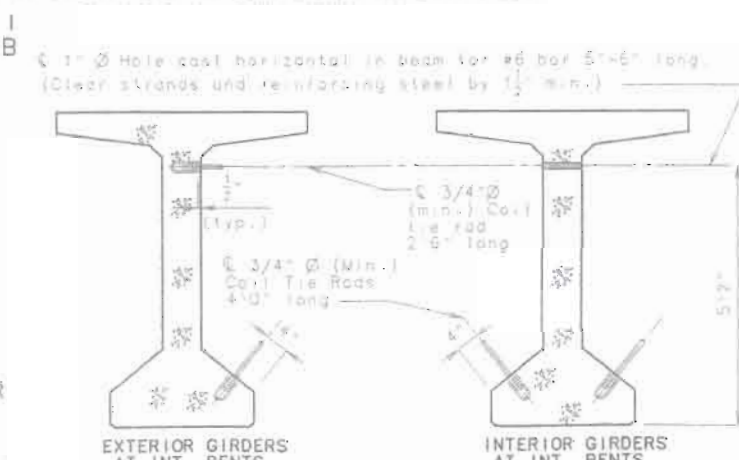


SECTION D-D

BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.



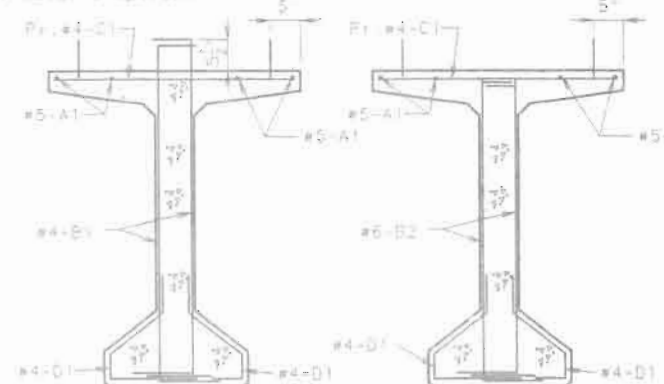
EXTERIOR GIRDERS AT INT. BENTS

INTERIOR GIRDERS AT INT. BENTS

DETAILS OF COIL TIES

Note: For location of coil ties, and 1"  $\phi$  horizontal hole, see sheets no. 59 & 62.

SHEET NO. 56 OF 93.



SECTION B-B

SECTION C-C

(Strands not shown for clarity)

Prestressing strands at intermediate bents up to 11 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if enclosed. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be enclosed in concrete diaphragms shall not be painted.

NOTE: Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 84.

For location of coil inserts at slab drains, see sheet no. 77.

The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Details of Slotted Wall in top of Girder, see sheet No. 85.



DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

JACKSON

COUNTY

A5495



NOTE: Concrete for prestressed girders shall be class A1 with  $f'c = 6000$  psi and  $f'ci = 4500$  psi.

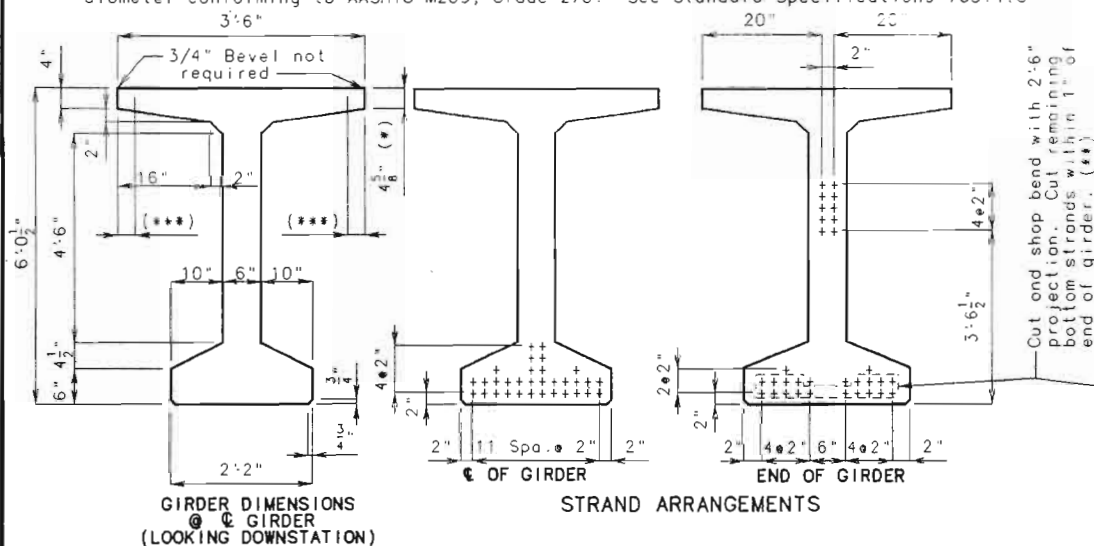
(+) Indicates prestressing strands.

Use 32 strands with an initial prestress force of 992 Kips.

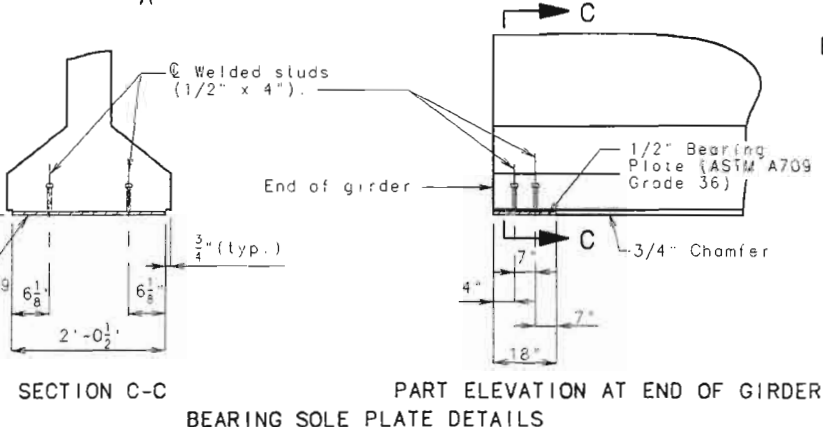
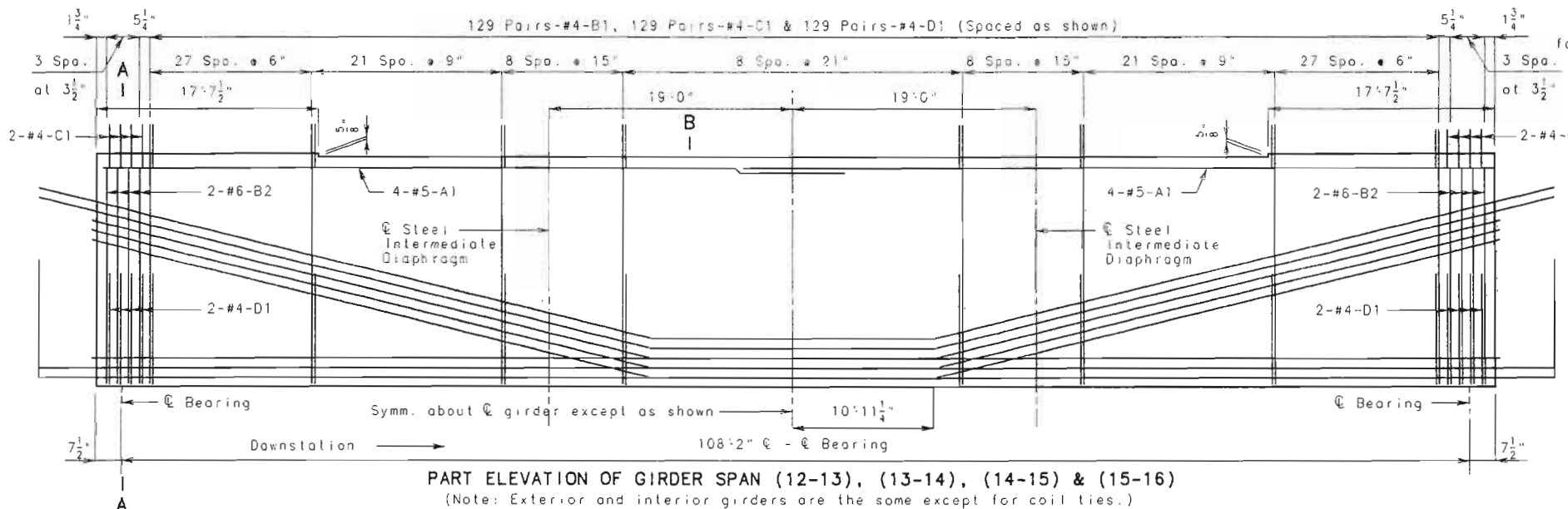
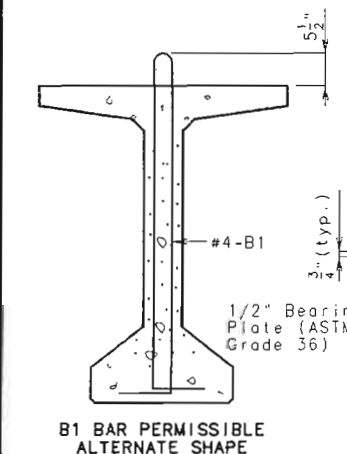
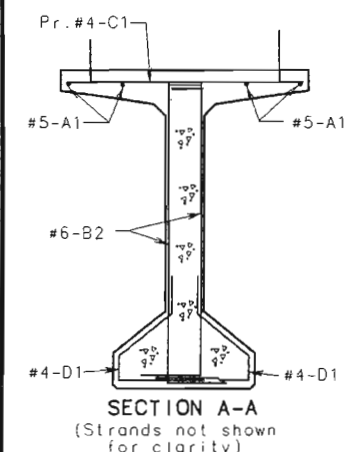
Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.



(\*) Girders 1 & 2 shown. Girders 3, 4 & 5 sloped opposite.



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.

INTERMEDIATE BENT STRAND DETAILS AT GIRDER ENDS LOCATION OF LIFTING LOOPS

Cut top 2 rows of strands with a 12" projection and bend in shop. Cut remaining top strands within 1" of end of girder.

Cut and shop bend with 2-6" projection. Cut remaining bottom strands within 1" of end of girder. (\*\*)

#5-Bar (normal to girder) (strand tie bars) 3" (MIN.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

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3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

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End of girder

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18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

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End of girder

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2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder

© Lifting loops

2-6" (typ.)

6" (typ.)

3-1/2" (Typ.)

18" 21"±

End of girder



NOTE: Concrete for prestressed girders shall be class A1 with  $f_c = 6000$  psi and  $f_{cr} = 4500$  psi.

(\*) indicates prestressing strands.

Use 18 strands within initial prestress force of 355 kips.

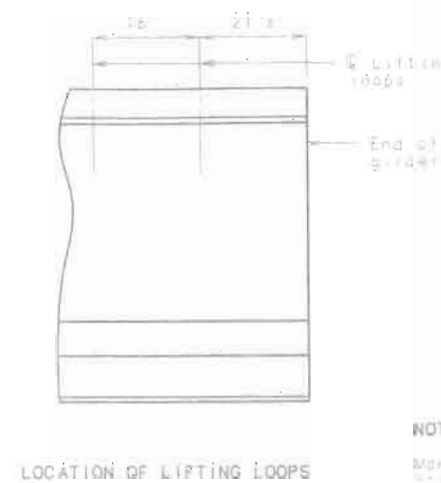
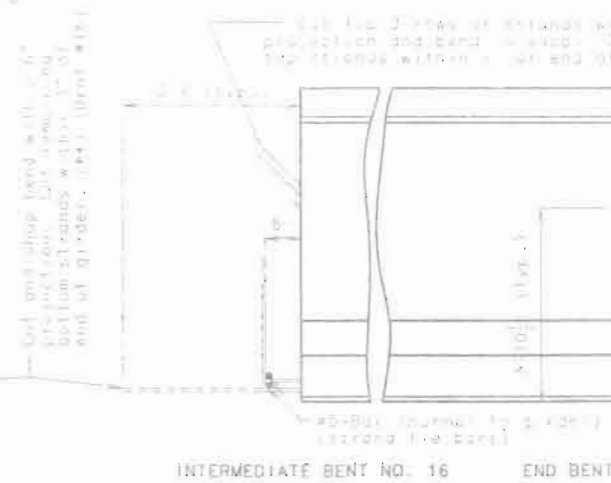
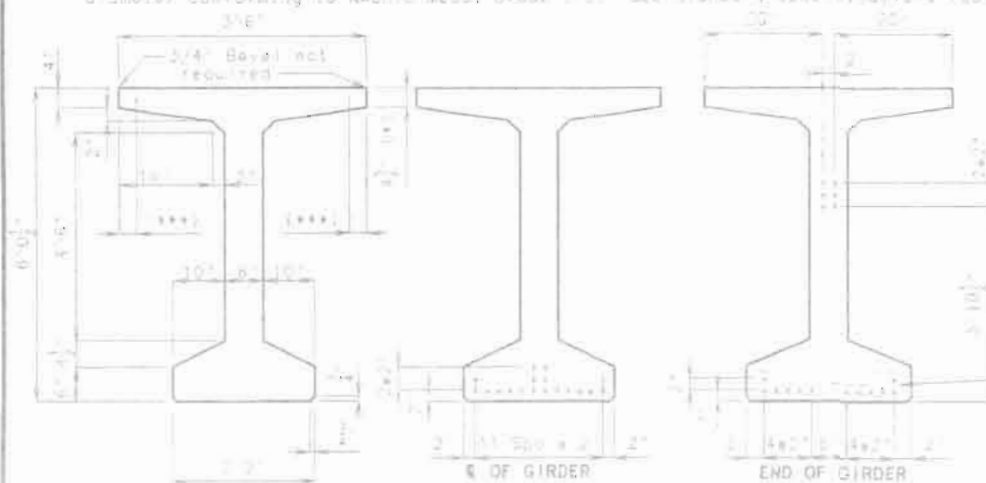
Prestressing tendons shall be uncased, sealant-free, low-relaxation strands, 1/2" diameter conforming to AASHTO M203, Grade 170. See Standard Specifications, 204.235 + 8.

(\*) One strand per bar is required for each bar of reinforcement.

(\*) At the contractor's discretion, 1/2" to 3/4" diameter steel bars may be used to replace the strands within a bar at the ends of the girder.

Prestressing strands at End Bent No. 17 shall be trimmed to a final 1/8" gap of concrete if exposed, or 1 inch of concrete if enclosed. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be enclosed in concrete diaphragms shall not be painted.

STATE: MO. PROJ. NO. SHEET NO. 64



BILL OF REINFORCING STEEL - EACH GIRDER			
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE
101	5-A1	40.5'	20
102	4-B1	7.11'	11
103	8-B2	7.4'	11
178	4-C1	3.6'	19
179	4-D1	3.2'	2

NOTE: All dimensions in bending diagram are cut to cut. Hooks and bends shall be in accordance with the GRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Standard and the General Note.

41-B1 Bars & 41-B2 Bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. All reinforcement shall be grade 60. The two 41-B1 bars may be furnished as one bar of the equivalent diameter.

GIRDER DIMENSIONS (LOOKING DOWNSTREAM)

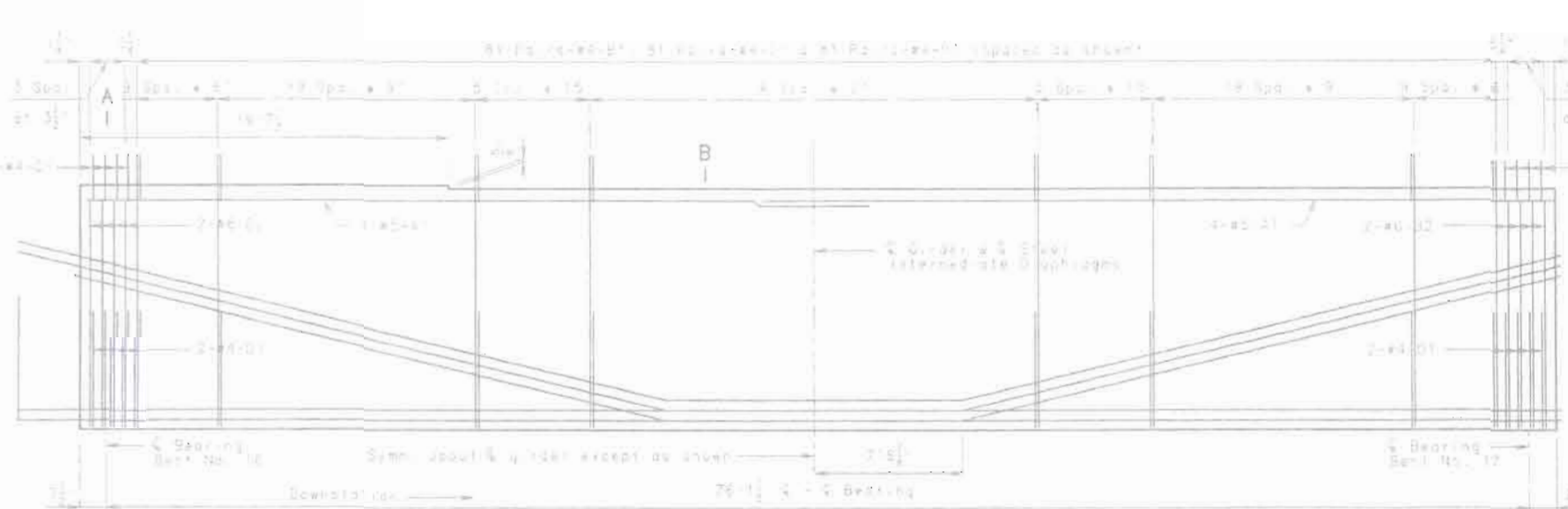
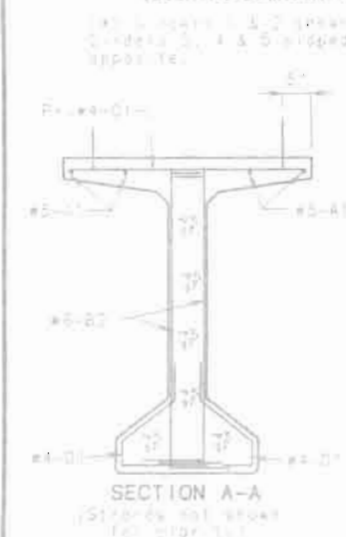
STRAND ARRANGEMENTS

INTERMEDIATE BENT NO. 16

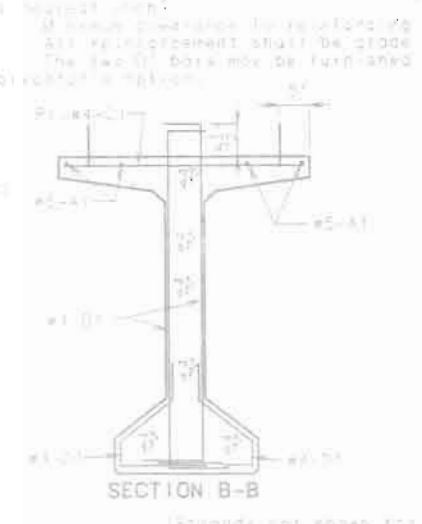
END BENT NO. 17

LOCATION OF LIFTING LOOPS

STRAND DETAILS AT GIRDER ENDS

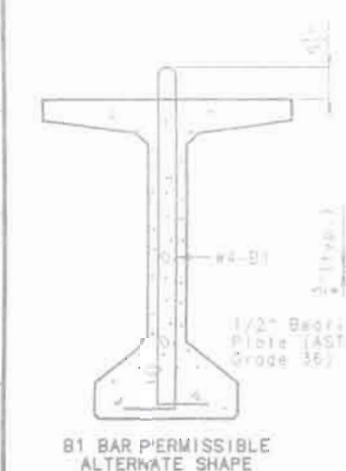


PART ELEVATION OF GIRDER SPAN (16-17)

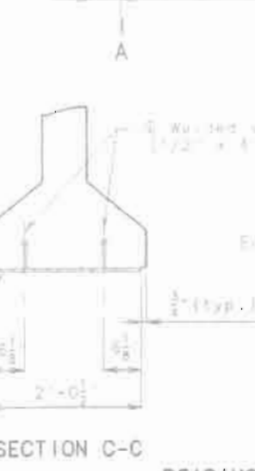


SECTION B-B

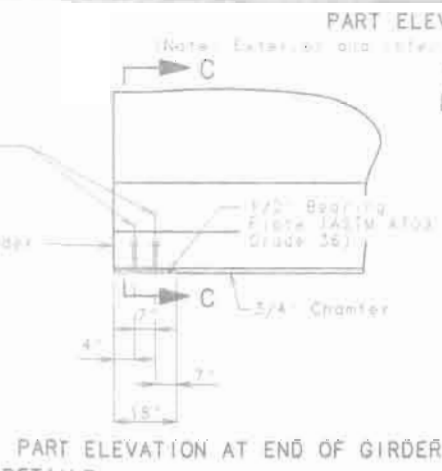
(Strands not shown for clarity)



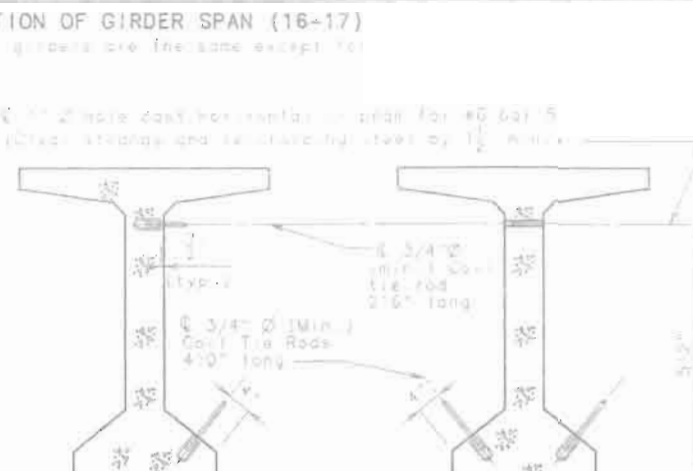
B1 BAR PERMISSIBLE ALTERNATE SHAPE



SECTION C-C



PART ELEVATION AT END OF GIRDER



BEARING PLATE DETAILS

EXTERIOR GIRDERS AT INT. BENTS

EXTERIOR GIRDERS AT END BENTS

INTERIOR GIRDERS AT ALL BENTS

DETAILS OF COIL TIES

Note: For location of coil ties, and 1/2" horizontal hole, see sheets no. 59 & 63.

NOTE: Cost of 3/4" x 1/2" x 1/2" tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-tieing studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected; then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 77.

The 1-1/2" x 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For details of Slotted Wells in top of Girder, see sheet no. 66.



APRIL 1993  
JAN. 1998  
MAR. 1998

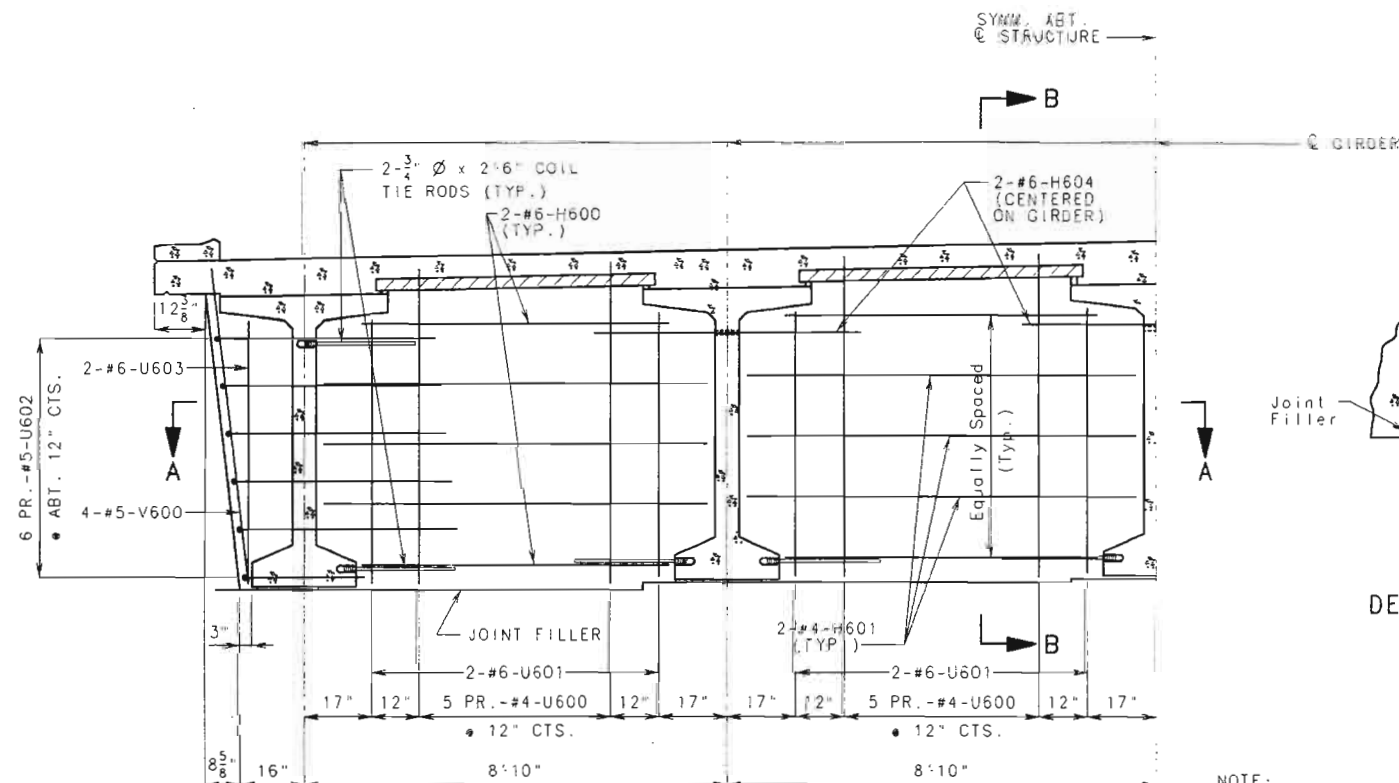
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 58 OF 93.

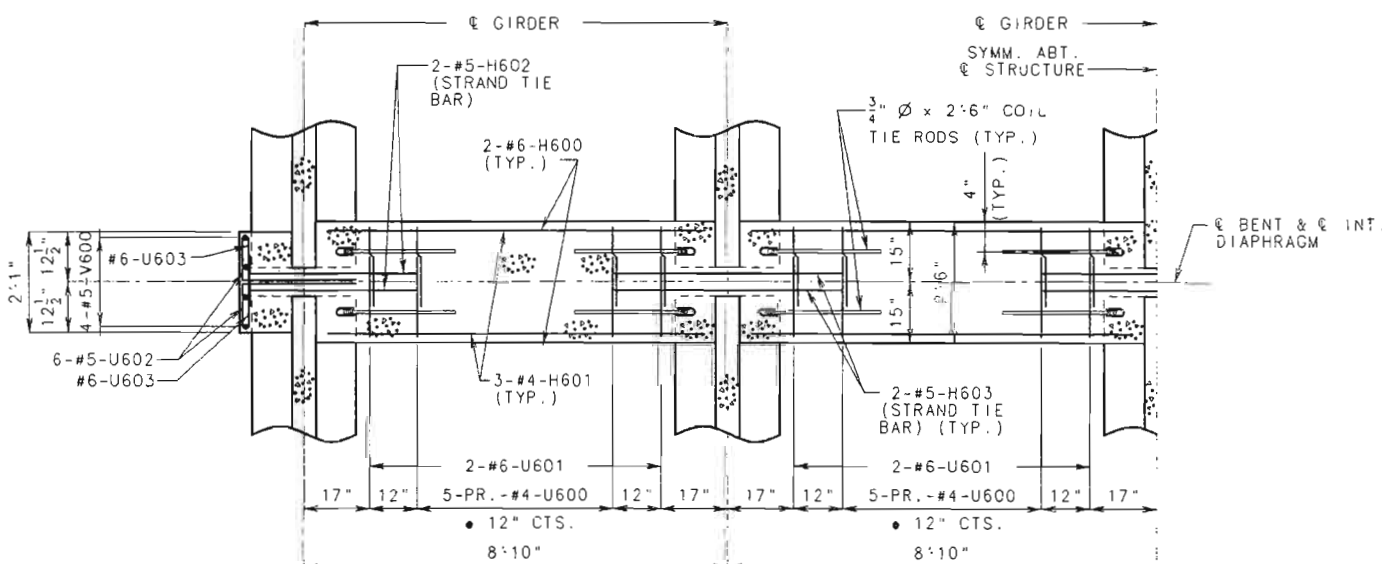
JACKSON COUNTY A5495





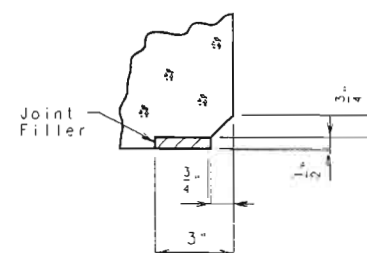


HALF SECTION NEAR INTERMEDIATE BENTS NO. 7, 8, 9, 13, 14, & 15



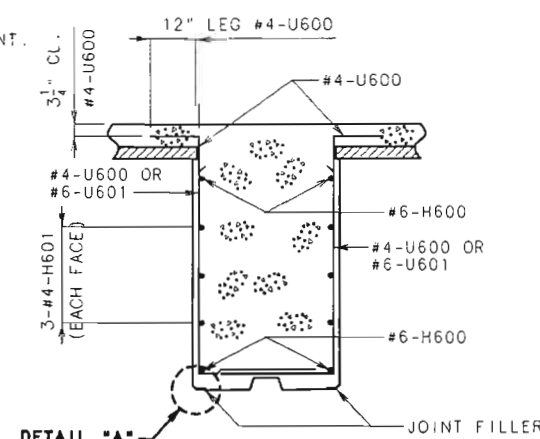
SECTION A-A

NOTE: FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.

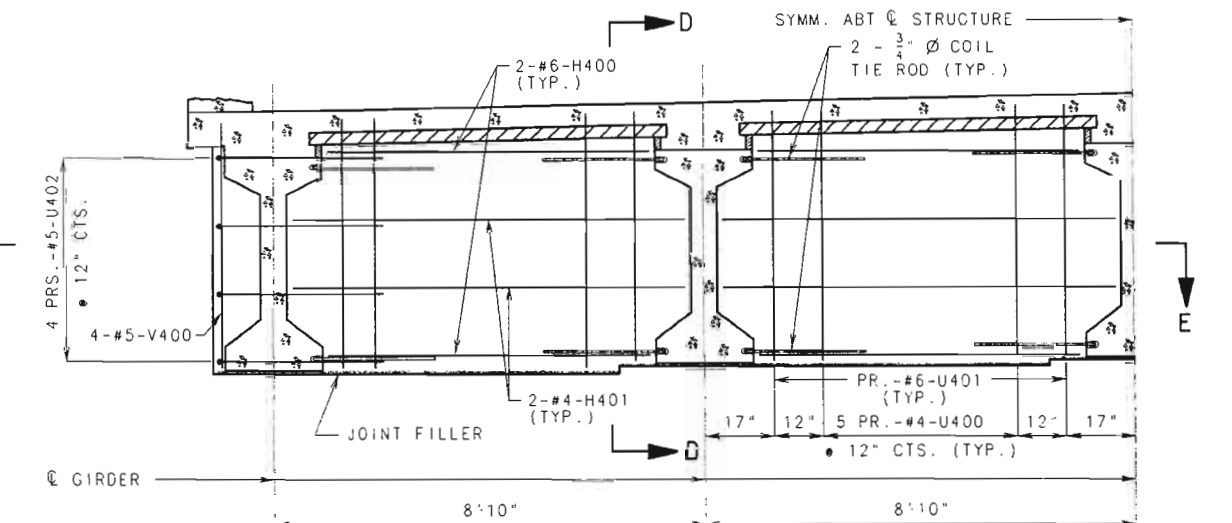


DETAIL "A"

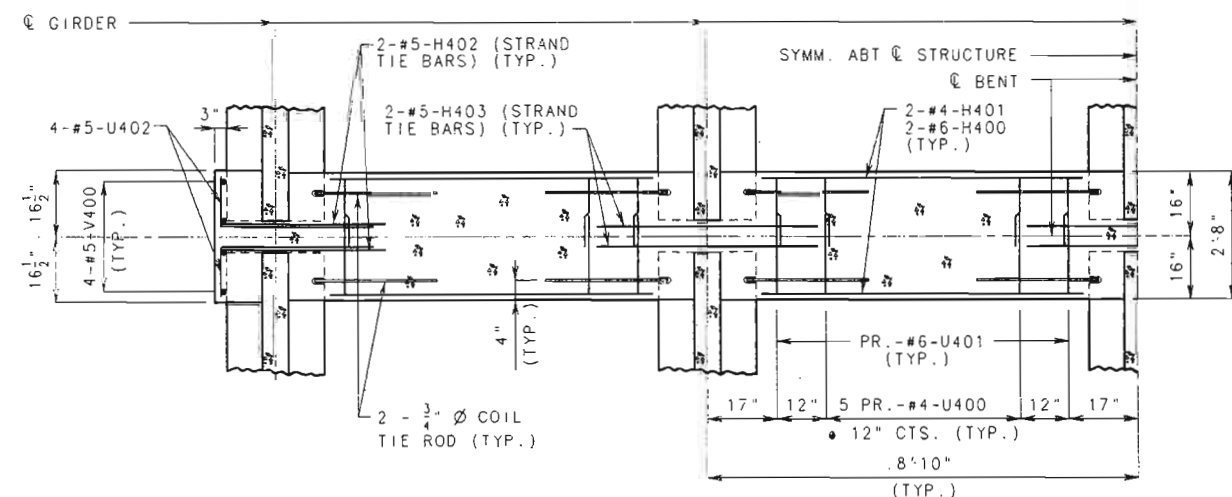
NOTE: PLACE #6-H604 BAR THROUGH 1" Ø HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.



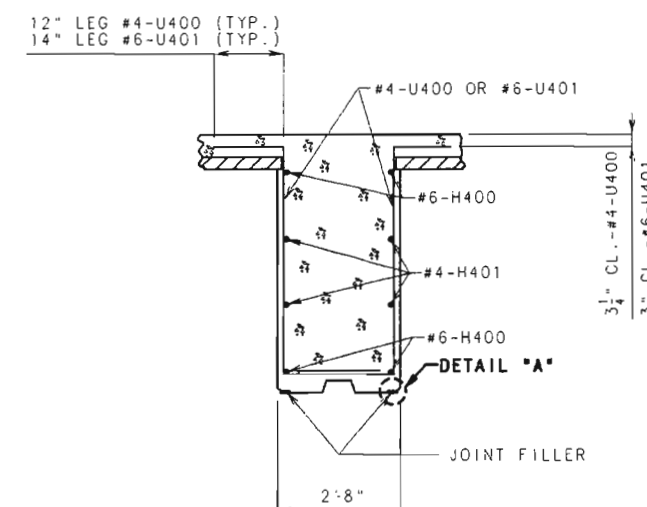
SECTION B-B



HALF SECTION NEAR INTERMEDIATE BENT NO. 3



SECTION E-E



SECTION D-D

# DETAILS OF INTERMEDIATE BENT DIAPHRAGM AT INTERMEDIATE BENTS NO. 3, 7, 8, 9, 13, 14 & 15.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 60 OF 93.

DETAILED: JAN. 1998  
CHECKED: MAR. 1998

JACKSON

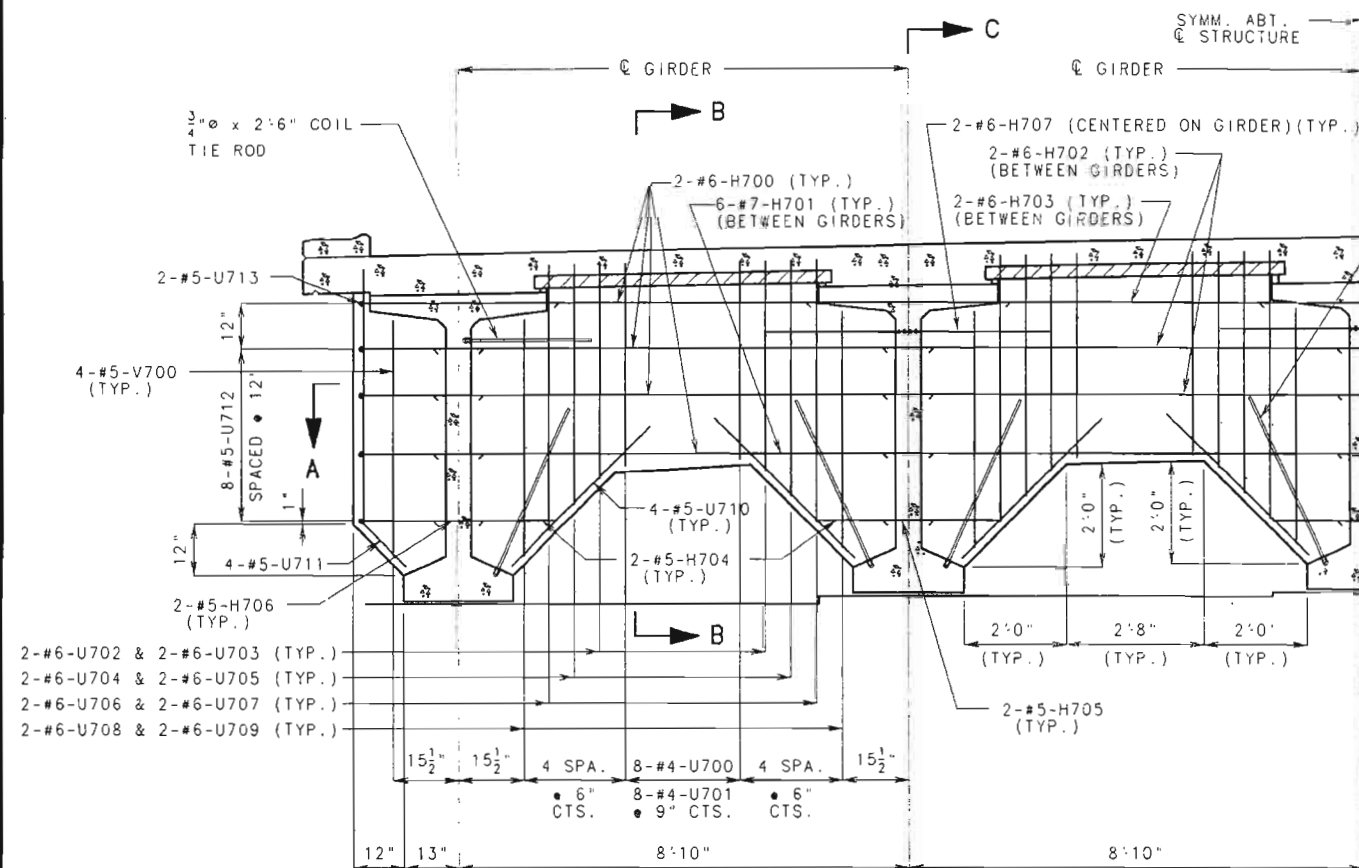
COUNTY

A5495

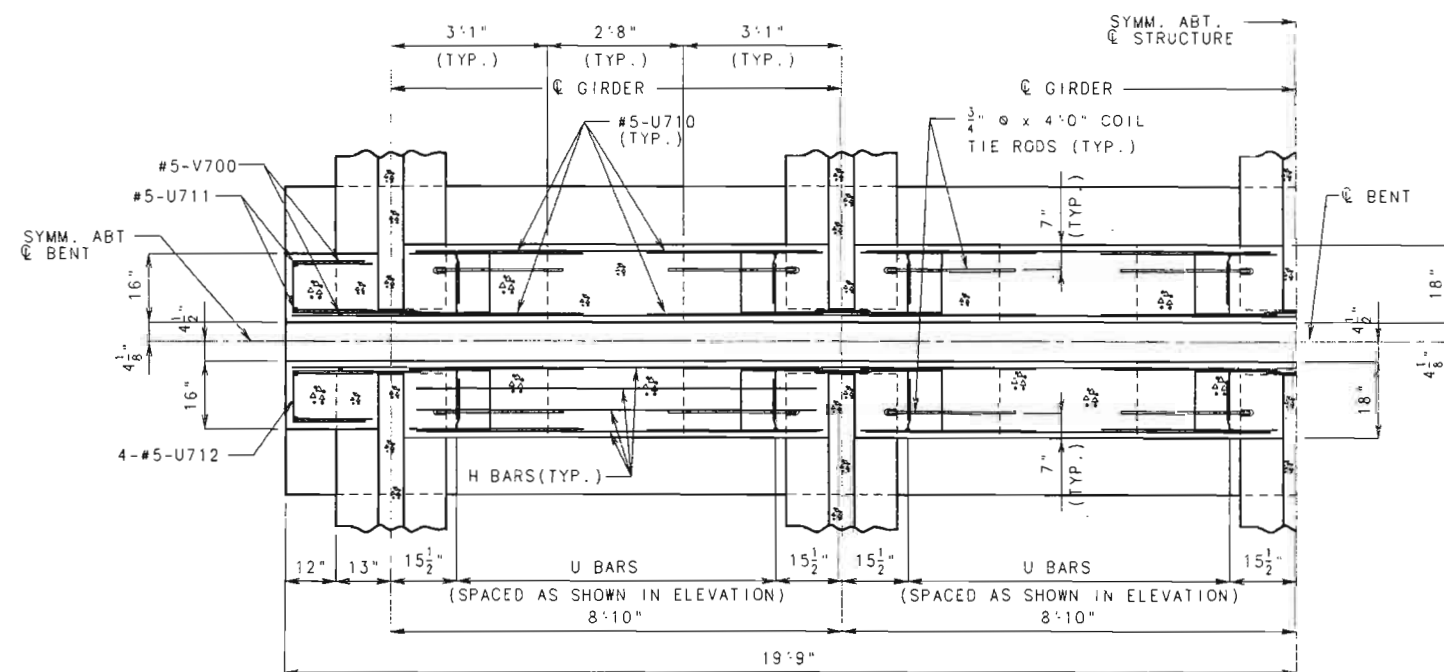




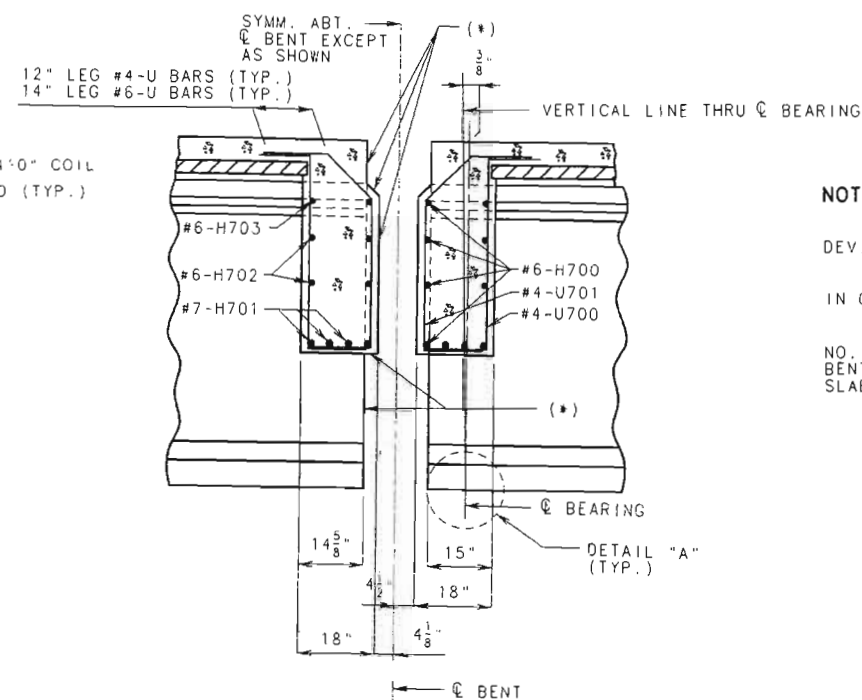




HALF SECTION NEAR INTERMEDIATE BENT NO. 11



SECTION A-A



SECTION B-B

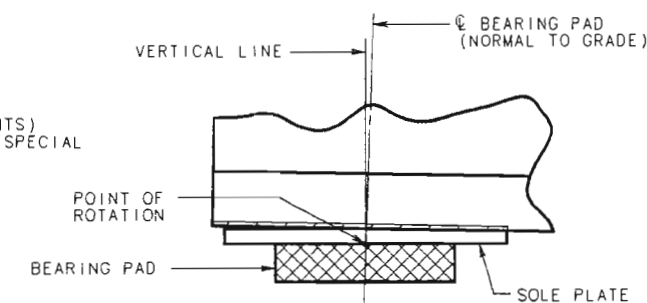
(\*) APPLY PROTECTIVE COATING FOR CONCRETE BENTS (DELETERIOUS AGENTS) TO CONCRETE DIAPHRAGMS BENEATH FINGER PLATES AS SHOWN. (SEE SPECIAL PROVISIONS).

NOTES:

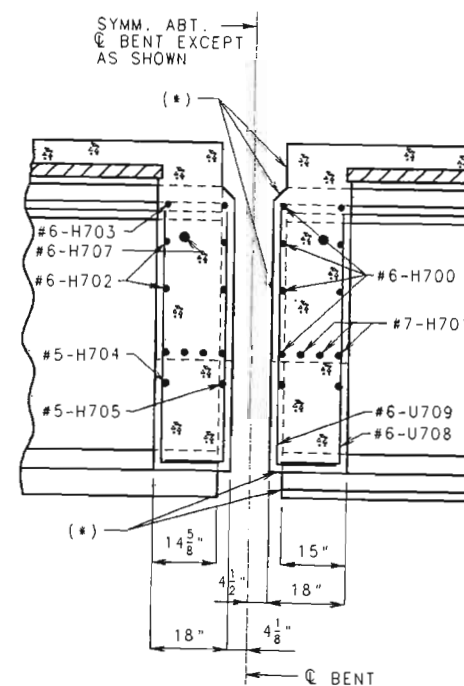
FOR DETAILS OF FINGER PLATE EXPANSION DEVICE, SEE SHEET NO. 65.

PLACE #6-H707 BAR THROUGH 1\"/>

FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.



DETAIL "A"



SECTION C-C

DETAILS OF DIAPHRAGMS AT INTERMEDIATE BENT NO. 11

DETAILED: JAN. 1998  
CHECKED: MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 62 OF 93.

JACKSON

COUNTY

A5495





STATE	PROJ. NO.	SHEET NO.
MO.		69

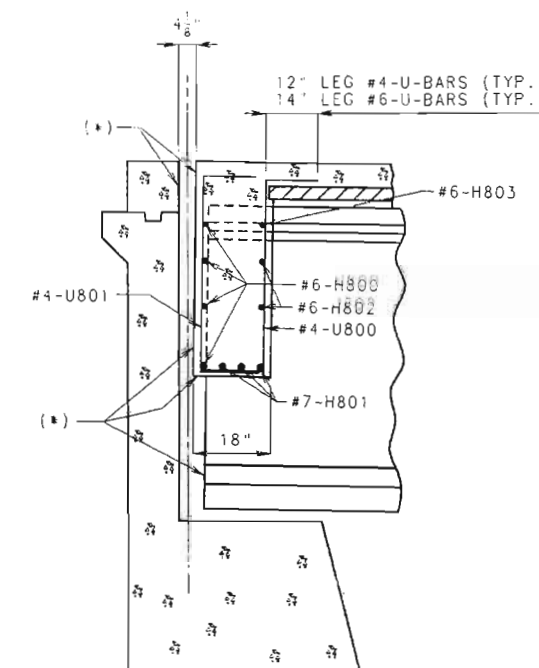
# NOTES:

FOR DETAILS OF FLAT PLATE EXPANSION DEVICE, SEE SHEET NO. 66.

PLACE #6-H807 BAR THROUGH 1"Ø HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.

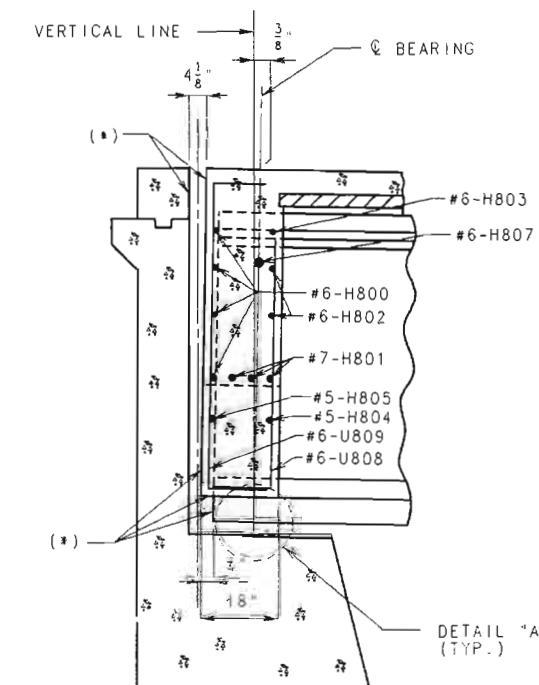
FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.

FOR DETAIL "A", SEE SHEET NO. 62.

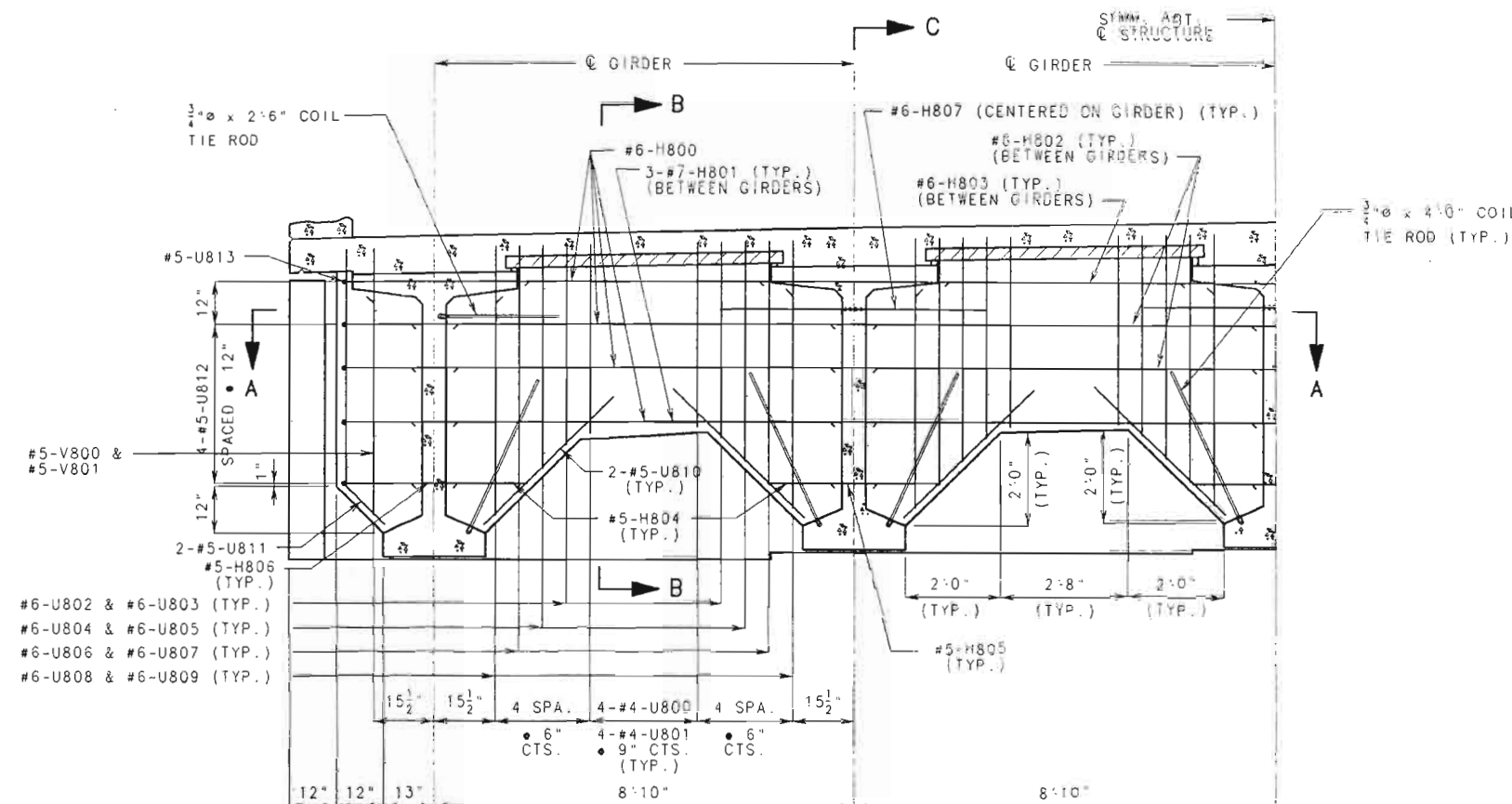


SECTION B-B

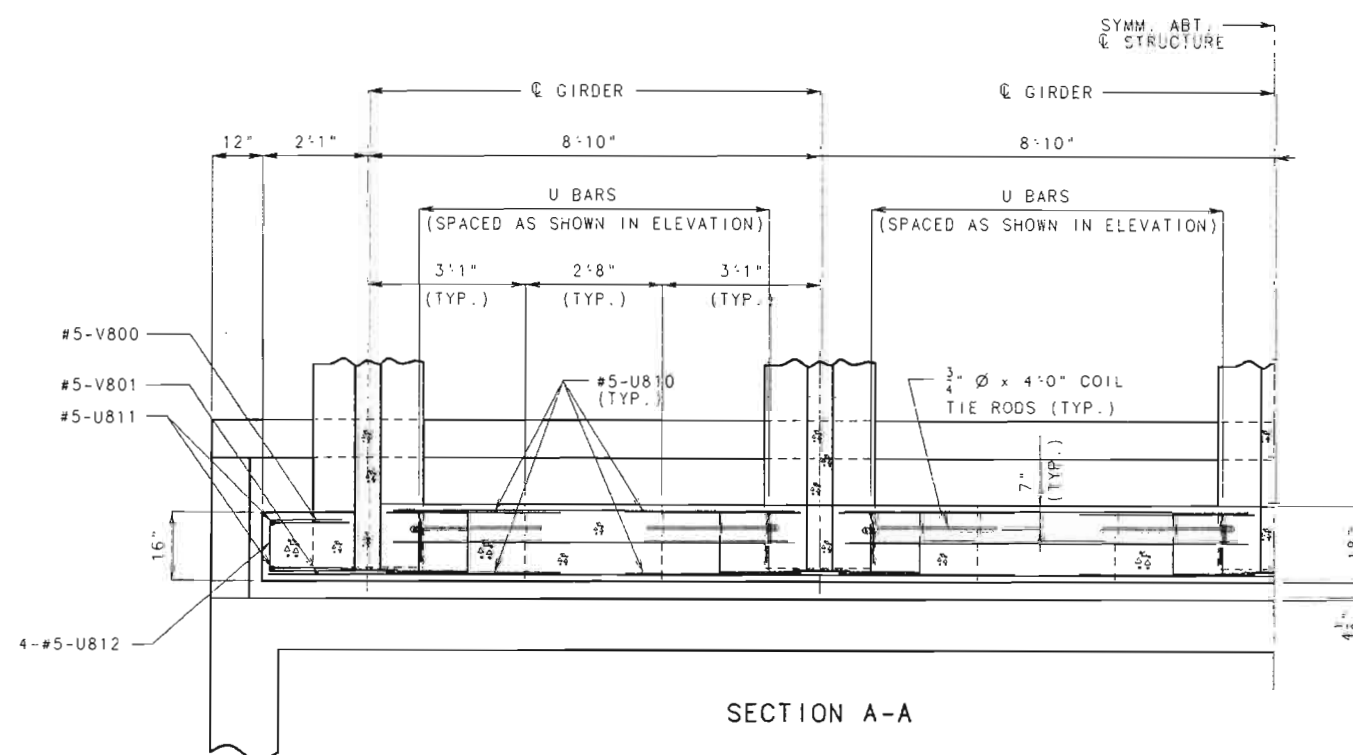
(\*) APPLY PROTECTIVE COATING FOR CONCRETE BENTS (DELETERIOUS AGENTS) TO CONCRETE DIAPHRAGMS BENEATH FLAT PLATE AS SHOWN. (SEE SPECIAL PROVISIONS).



SECTION C-C



HALF SECTION NEAR  
END BENT NO. 17



SECTION A-A

## DETAILS OF DIAPHRAGM AT END BENT NO. 17

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

DETAILED: JAN. 1998  
CHECKED: MAR. 1998

SHEET NO. 63 OF 93.

JACKSON

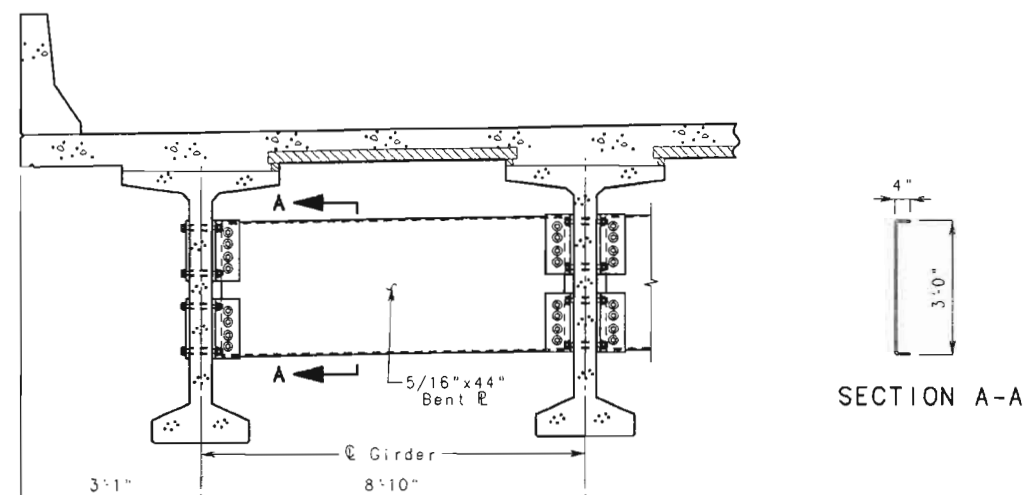
COUNTY

A5495

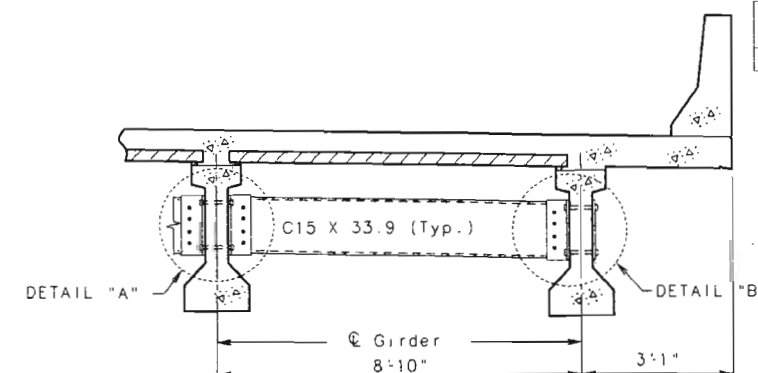




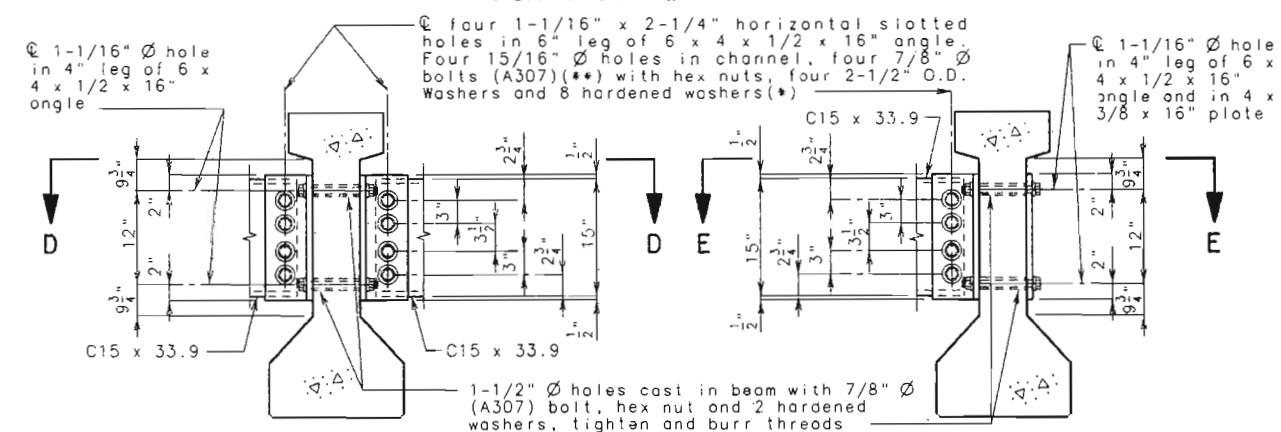
STATE	PROJ. NO.	SHE NO
MO.		70



PART SECTION SHOWING  
INTERMEDIATE DIAPHRAGMS  
FOR BULB-TEE GIRDERS

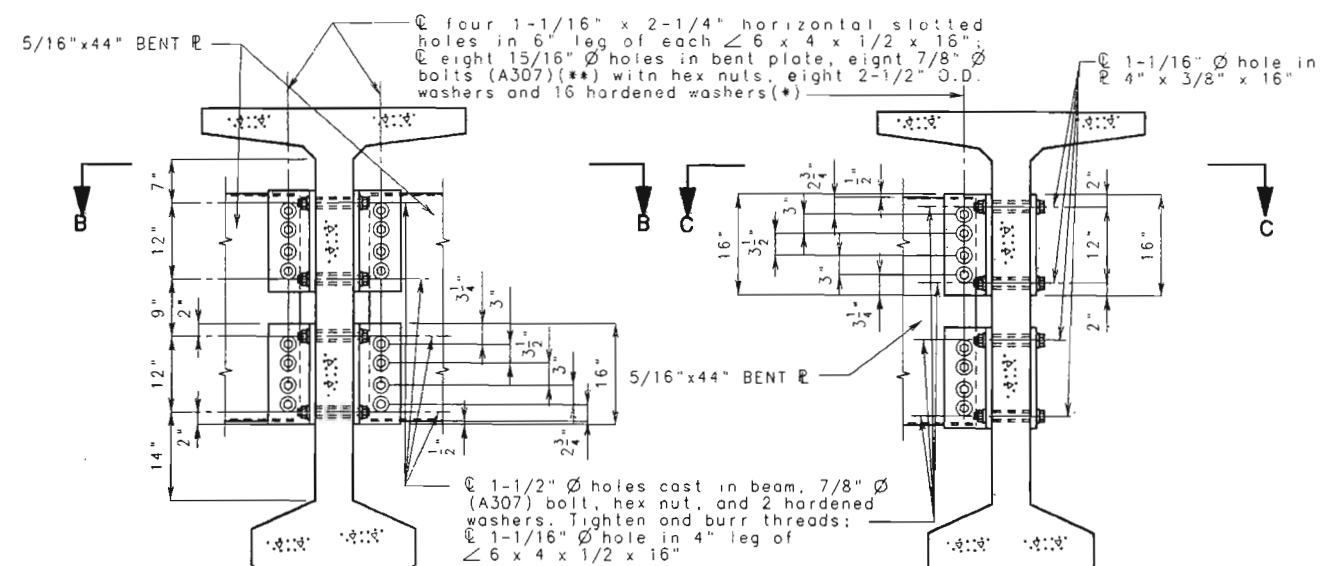


PART SECTION SHOWING  
INTERMEDIATE DIAPHRAGMS  
FOR I-GIRDERS



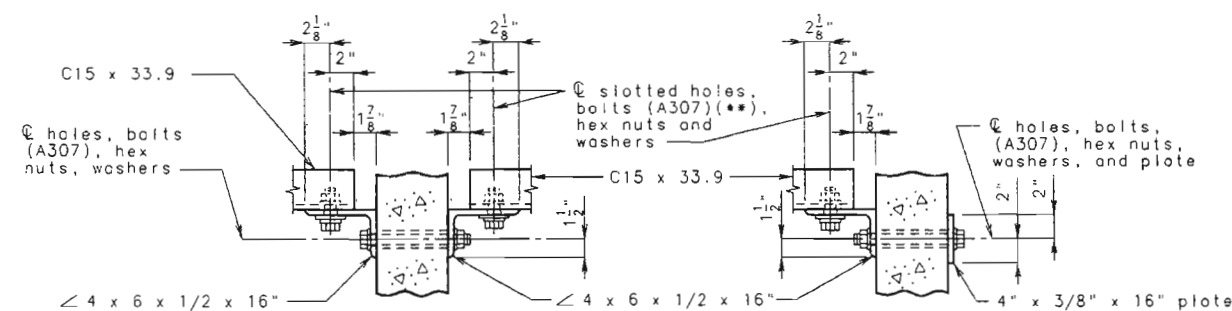
DETAIL "A"

DETAIL "B"



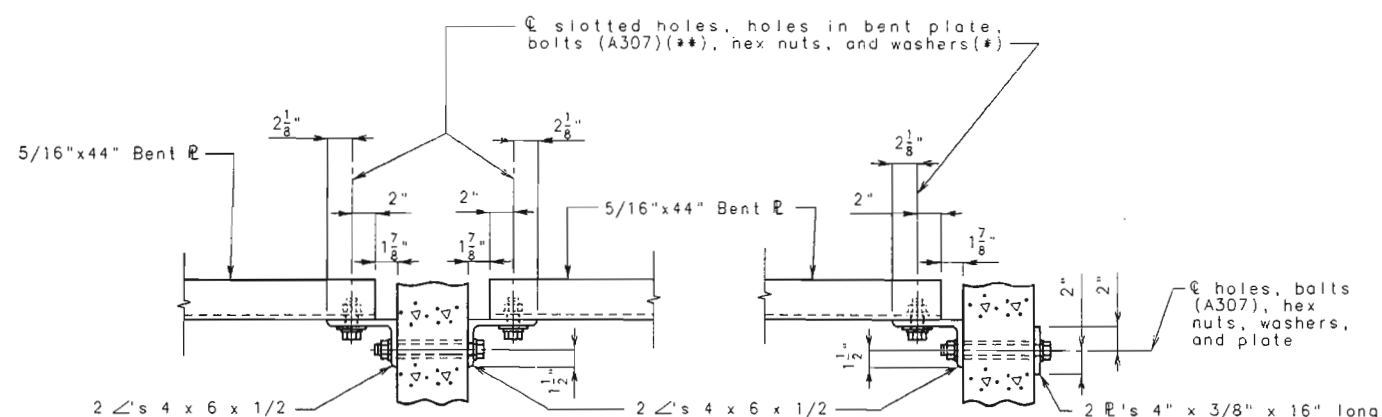
SECTION THRU INT. GIRDER  
AT DIAPHRAGM

SECTION THRU EXT. GIRDER  
AT DIAPHRAGM



SECTION D-D

SECTION E-E



SECTION B-B

SECTION C-C

## STEEL INTERMEDIATE DIAPHRAGM DETAILS

STEEL DIAPHRAGM NOTES:

\* In lieu of 2-1/2" O.D. washers, contractor may substitute a 3/16" (min. thickness) plate with four 15/16"  $\varnothing$  holes and one hardened washer per bolt.

## These bolts shall be tightened to provide a tension of one-half that specified by Section 712.10.2 of the Missouri Standard Specifications. A325 bolts may be substituted for and installed in accordance with the requirements for the specified A307 bolts.

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36, except as noted.

Payment for furnishing and installing steel intermediate diaphragms, shall be included in contract unit price for Prestressed Concrete Bulb Tee Girders and Prestressed Concrete I-Girders.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.

For location of intermediate diaphragms, see girder sheets.



DATE 5-1-9.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 64 OF 93.

JACKSON

COUNTY

A5495

DIA. 1.1, SQ BTEE, STL, A	STEEL DIA. (SQ)	REVISED:
June 1995		AUGUST 1996

DETAILED	JAN. 1998
CHECKED	MAR. 1998





# GENERAL NOTES:

EXPANSION DEVICE SHALL BE FABRICATED IN ONE SECTION, EXCEPT FOR STAGE CONSTRUCTION AND WHEN THE LENGTH IS OVER 50 FEET. SPlicing IS PERMISSIBLE. THE EXPANSION DEVICE SHALL BE BENT TO CONFORM TO CROWN OF ROADWAY.

MATERIAL FOR THE EXPANSION DEVICE SHALL BE ASTM A709 GRADE 36 STRUCTURAL STEEL. ANCHORS FOR THE EXPANSION DEVICE SHALL BE APPROVED STUD-WELDED ANCHORS (C10:U THRU C1020).

STRUCTURAL STEEL FOR THE EXPANSION DEVICE 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.

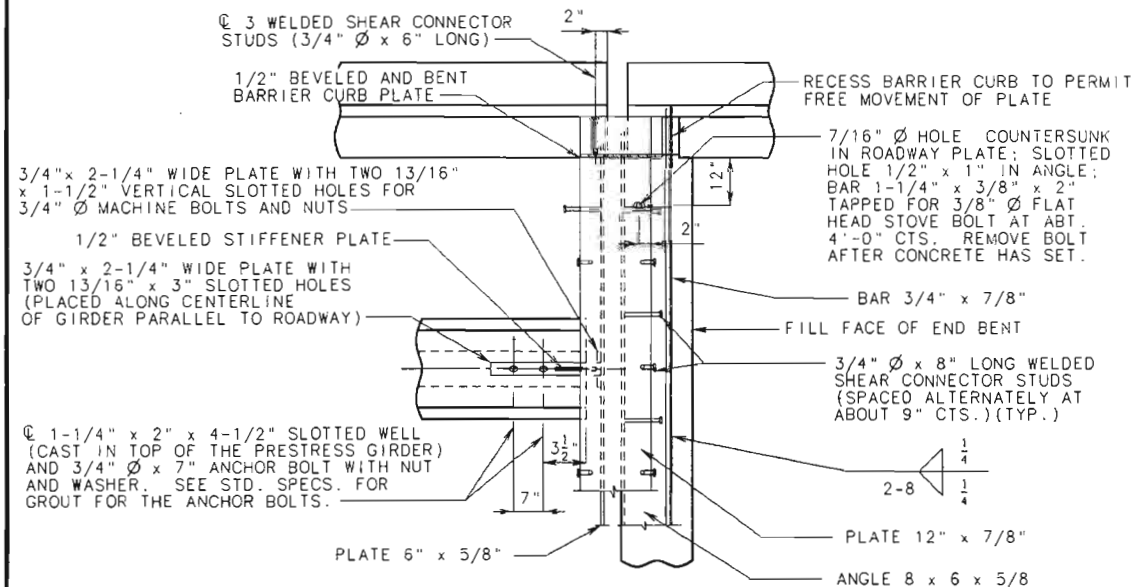
USE 2 LAYERS OF 50# ROOFING FELT BETWEEN THE SLIDING CONTACT SURFACES OF BEVELED BARRIER CURB BENT PLATE AND CONCRETE BARRIER CURB.

PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F. THE EXPANSION GAP AND OTHER DIMENSIONS SHALL BE INCREASED 1/4" FOR EACH 10° FALL AND DECREASED 1/4" FOR EACH 10° RISE IN TEMPERATURE AT INSTALLATION.

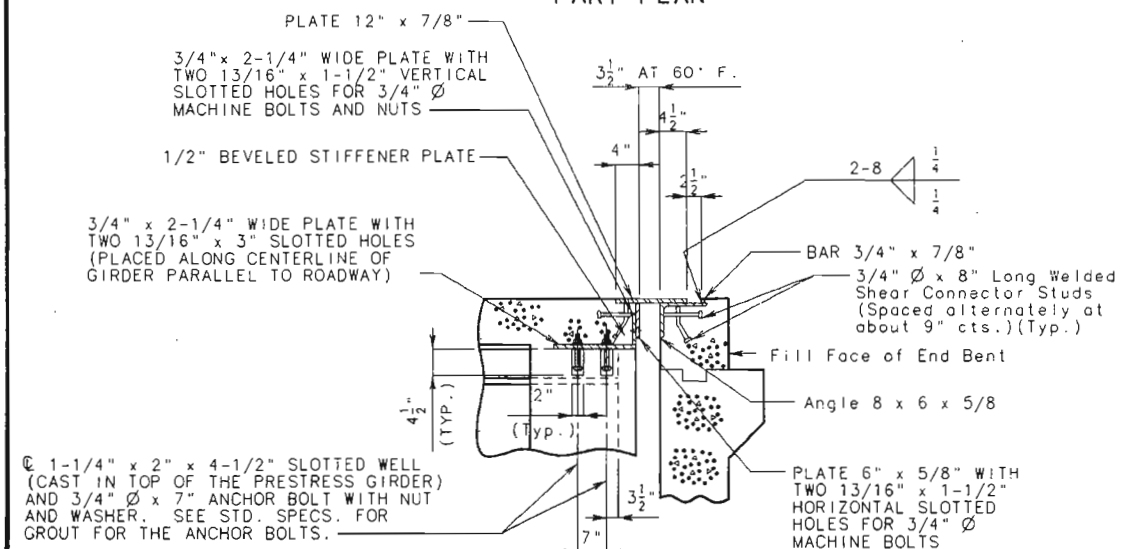
FURNISHING, COATING OR GALVANIZING AND INSTALLING THE EXPANSION DEVICE AND BARRIER CURB PLATES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR FLAT PLATE EXPANSION DEVICE.

CONCRETE SHALL BE FORCED UNDER AND AROUND FLAT PLATE, STUDS AND ANGLES. PROPER CONSOLIDATION OF THE CONCRETE SHALL BE ACHIEVED BY LOCALIZED INTERNAL VIBRATION.

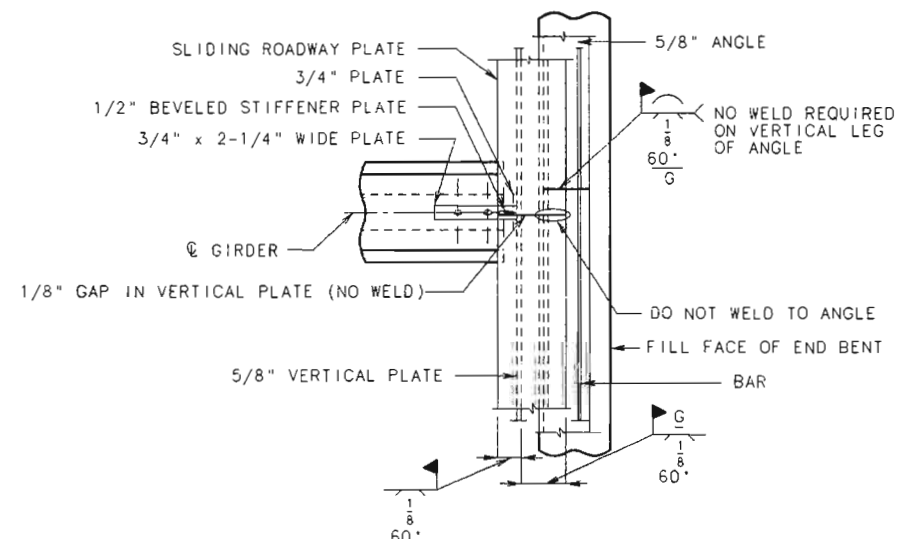
LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS SHALL NOT BE MORE THAN 1" FROM 3/4" VERTICAL PLATE AT EXPANSION DEVICE.



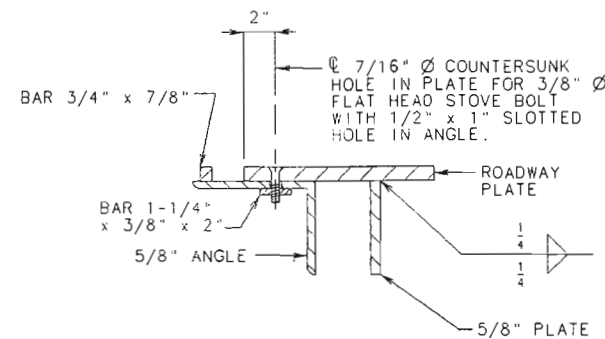
PART PLAN



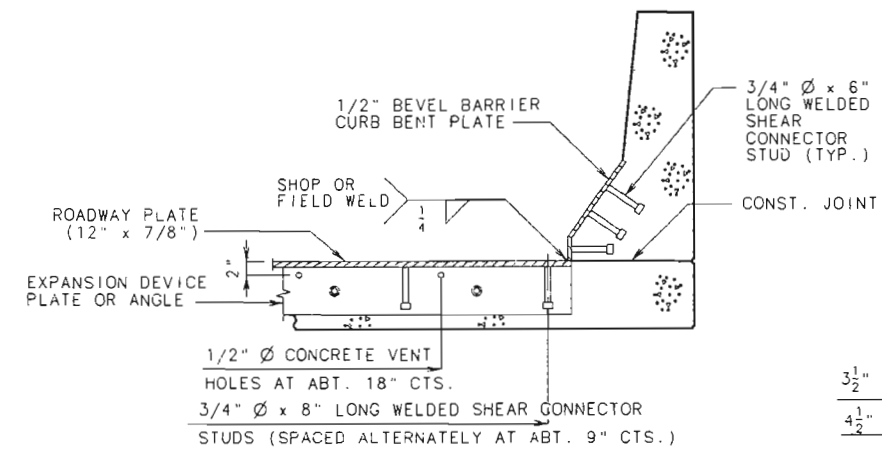
PART SECTION AT END BENT



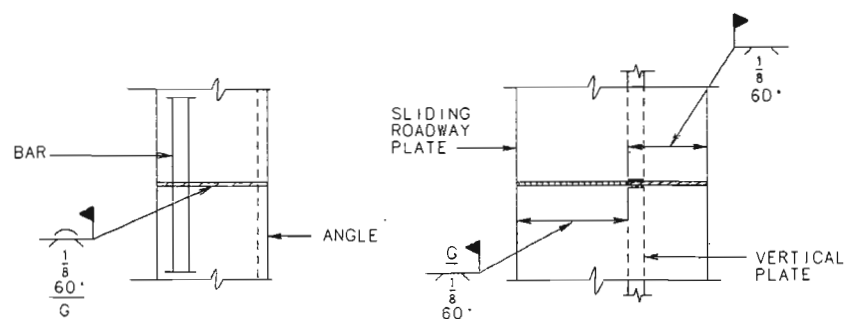
PERMISSIBLE FIELD SPLICE AT END BENT



PART SECTION (TYPICAL)

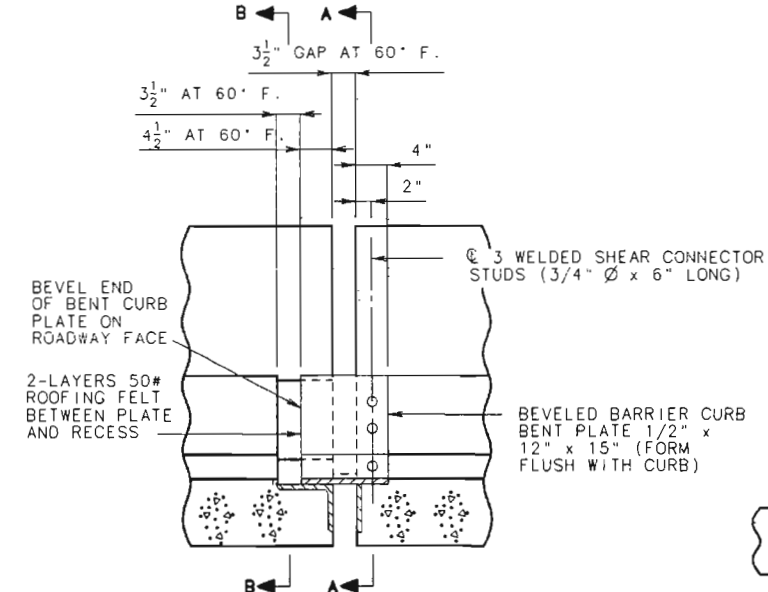


PART SECTION A-A

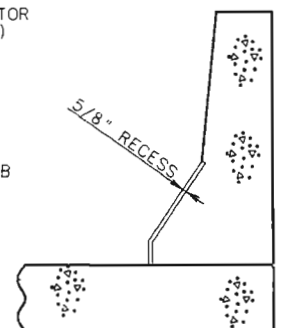


PART PLAN OF ANGLE AND BAR

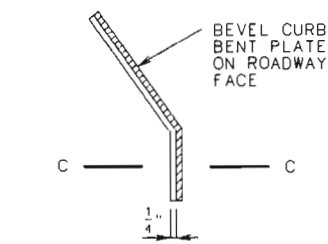
PART PLAN ROADWAY PLATE AND VERTICAL PLATE



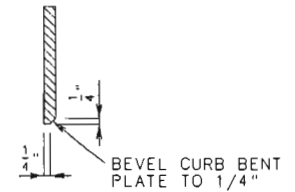
ELEVATION OF BARRIER CURB



PART SECTION B-B



PART ELEVATION AT END OF BEVELED CURB BENT PLATE



SECTION C-C

## DETAILS OF FLAT PLATE EXPANSION DEVICE AT END BENT NO. 17

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 66 OF 93.

JACKSON COUNTY A5495

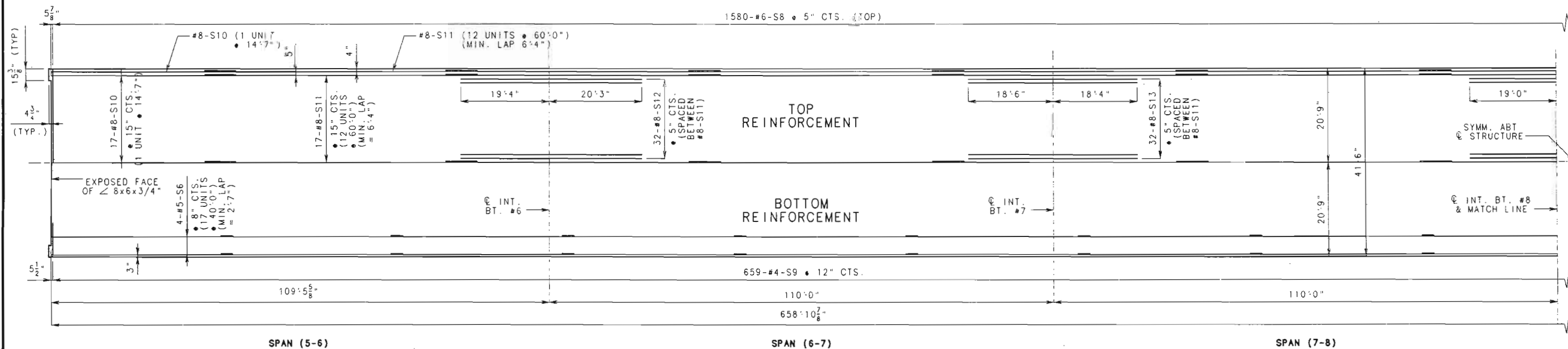
FPE 9, 3.5 SQ.P/S,E,A  
 P/S END BENT (3-1/2")  
 (SQ) FEB. 1970  
 REVISED  
 Aug. 1996

DETAILED JAN. 1998  
 CHECKED MAR. 1998

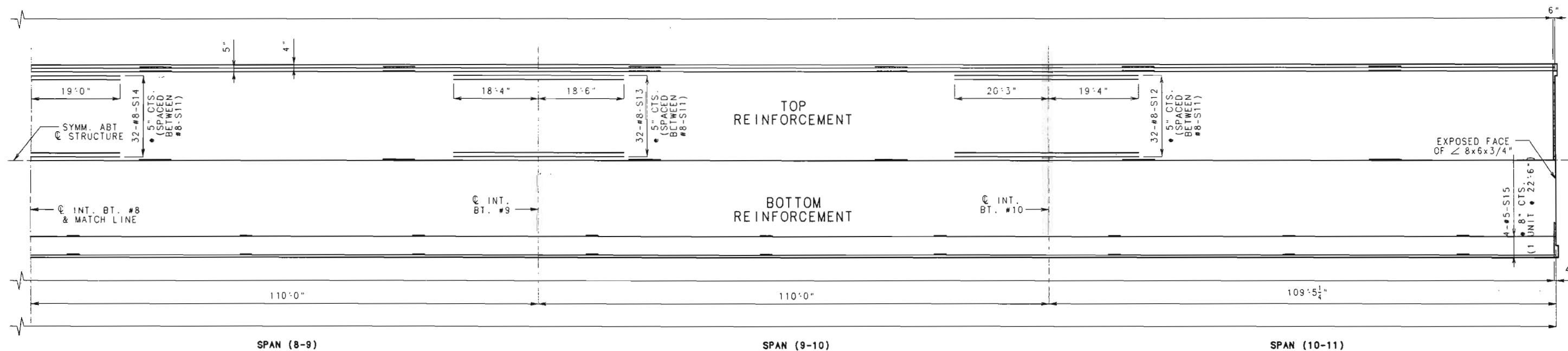








NOTE: LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL



# PART PLAN OF SLAB SHOWING REINFORCEMENT

FOR SECTION VIEW SEE SHEET NO. 67.

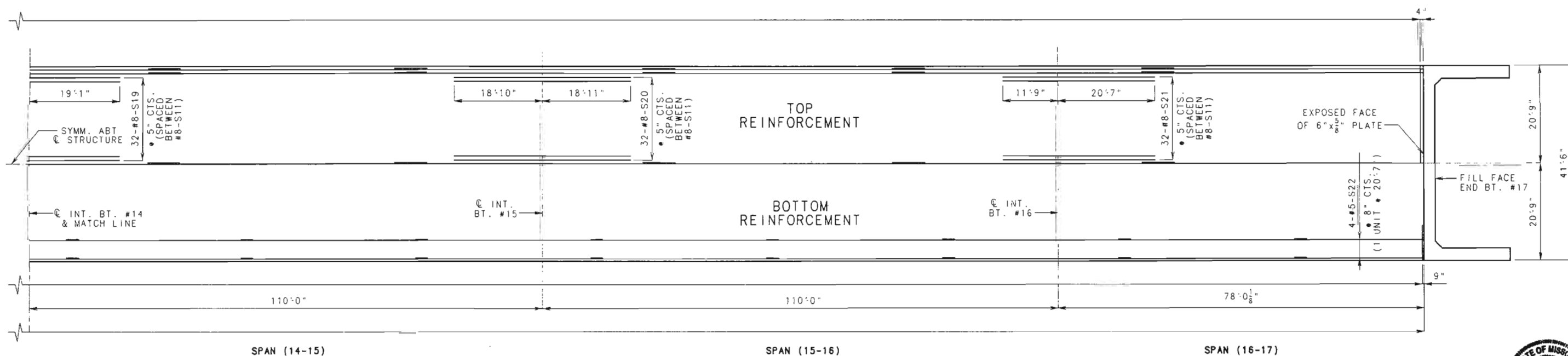
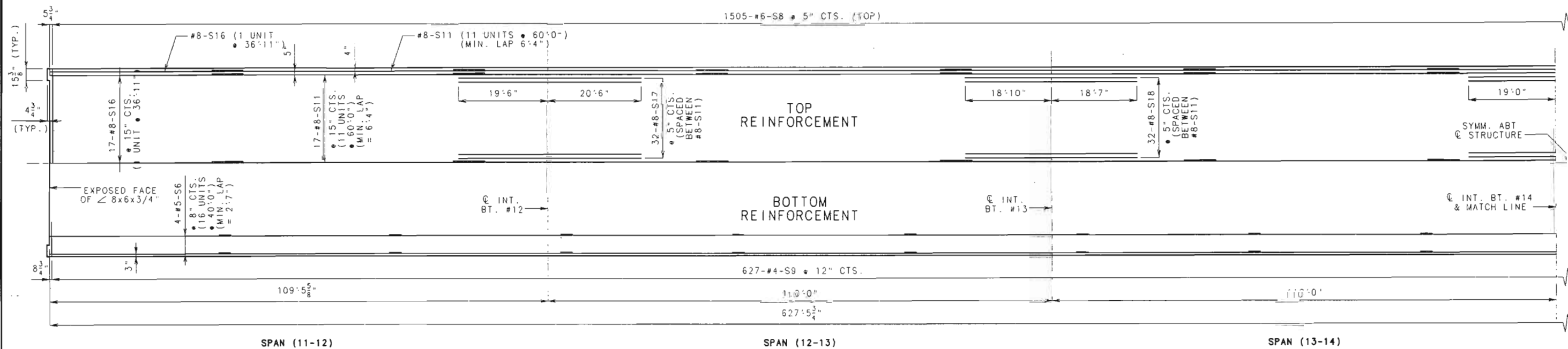


DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 68 OF 93.

JACKSON COUNTY A5495



# PART PLAN OF SLAB SHOWING REINFORCEMENT

FOR SECTION VIEW, SEE SHEET NO. 67.



DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 69 OF 93.

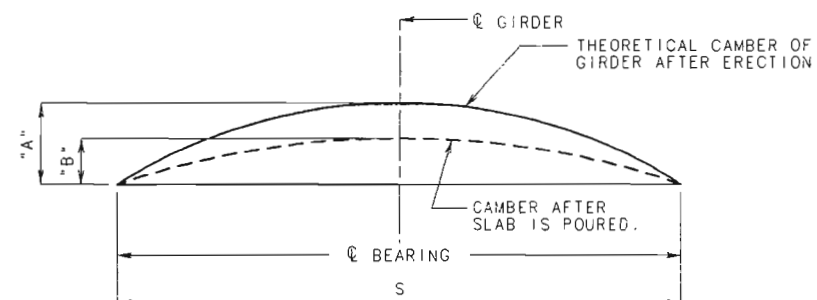
JACKSON COUNTY A5495







GIRDERS	SPAN (1-2)		SPAN (2-3)		SPANS (3-4) & (4-5)		SPAN (5-6)		SPANS (6-7), (7-8), (8-9) & (9-10)		SPANS (10-11), (11-12)		SPANS (12-13), (13-14), (14-15) & (15-16)		SPAN (16-17)	
	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"
Exterior	$\frac{7}{8}$ "	$\frac{5}{8}$ "	$2\frac{1}{4}$ "	$1\frac{3}{16}$ "	$1\frac{1}{8}$ "	$\frac{3}{4}$ "	$2\frac{9}{16}$ "	$1\frac{5}{8}$ "	$2\frac{5}{16}$ "	$1\frac{3}{8}$ "	$2\frac{9}{16}$ "	$1\frac{5}{8}$ "	$2\frac{5}{16}$ "	$1\frac{3}{8}$ "	$\frac{3}{4}$ "	$\frac{1}{2}$ "
Interior	$\frac{7}{8}$ "	$\frac{1}{2}$ "	$2\frac{1}{4}$ "	$\frac{7}{8}$ "	$1\frac{1}{8}$ "	$\frac{5}{8}$ "	$2\frac{3}{16}$ "	$1\frac{7}{16}$ "	$2\frac{5}{16}$ "	$1\frac{3}{8}$ "	$2\frac{9}{16}$ "	**	$2\frac{5}{16}$ "	$1\frac{1}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{16}$ "
Center	$\frac{7}{8}$ "	$\frac{9}{16}$ "	$2\frac{1}{4}$ "	1"	$1\frac{1}{8}$ "	$1\frac{11}{16}$ "	$2\frac{9}{16}$ "	$1\frac{1}{2}$ "	$2\frac{5}{16}$ "	$1\frac{1}{4}$ "	$2\frac{9}{16}$ "	$1\frac{1}{2}$ "	$2\frac{5}{16}$ "	$1\frac{3}{16}$ "	$\frac{3}{4}$ "	$\frac{7}{16}$ "

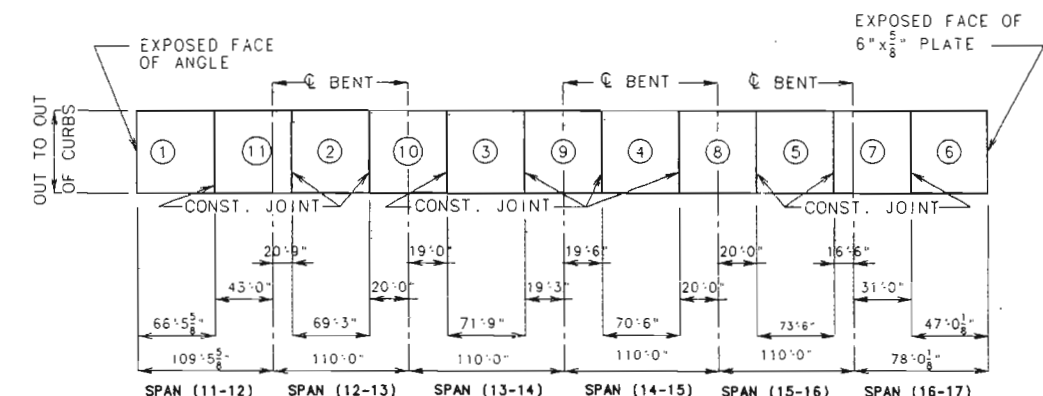
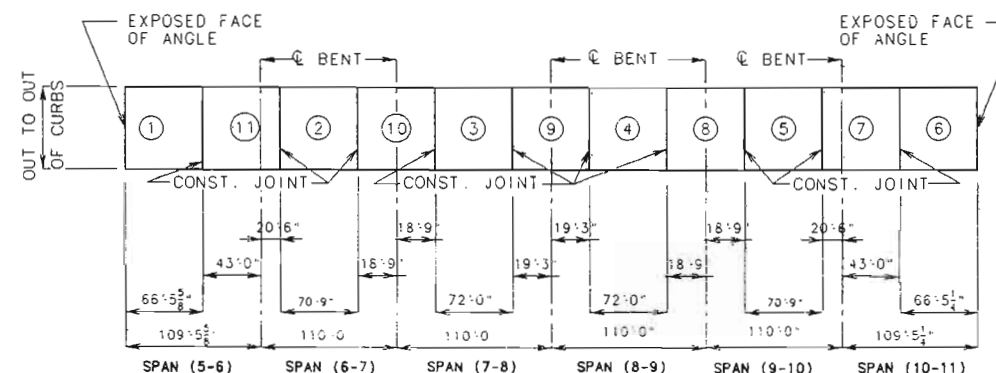
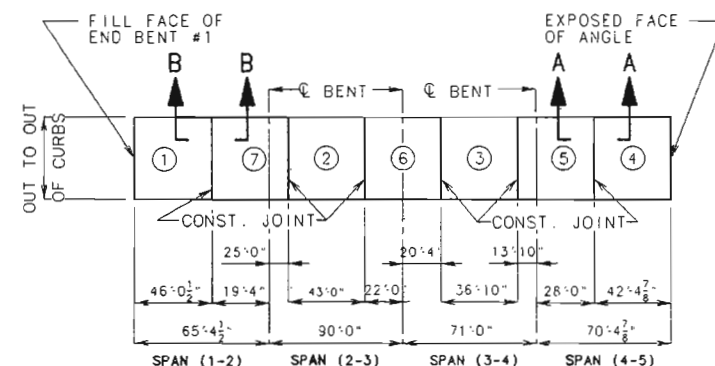


CONVERSION FACTORS FOR GIRDER CAMBER	
FROM @ BEARING	CAMBER
0.1 PT	0.314 x CAMBER AT @ GIRDER
0.2 PT	0.593 x CAMBER AT @ GIRDER
0.25 PT	0.7125 x CAMBER AT @ GIRDER
0.3 PT	0.813 x CAMBER AT @ GIRDER
0.4 PT	0.952 x CAMBER AT @ GIRDER

GIRDER CAMBER DIAGRAM

NOTE: IF GIRDER CAMBER IS DIFFERENT FROM THAT SHOWN IN THE CAMBER DIAGRAM, IT SHALL BE NECESSARY TO ADJUST THE SLAB HAUNCHES, INCREASE THE SLAB THICKNESS OR TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR VARIATION IN HAUNCHING, SLAB THICKNESS OF GRADE ADJUSTMENT. CONCRETE IN THE SLAB HAUNCHES IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDERS OR SLAB ON BULB-TEE GIRDERS.

\*\*  $1\frac{7}{16}$ " SPAN (10-11)  
 $1\frac{3}{8}$ " SPAN (11-12)



BASIC SEQUENCE	SEQUENCE OF POURS							MIN. RATE OF POUR CU. YDS./HR.  WITH RETARDER  25	
	DIRECTION								
	1	2	3	4	5	6	7		
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 END TO 7	7 + 2 1 TO 6	6 + 3 2 TO 5	5 + 4 3 TO END					25
ALTERNATE "B" POURS	1 + 7 + 2 END TO 6	6 + 3 2 TO 5	5 + 4 3 TO END					25	
ALTERNATE "C" POURS	1 + 7 + 2 END TO 6	6 + 3 + 5 + 4 2 TO END					25		
ALTERNATE "D" POURS	1 + 7 + 2 + 6 + 3 + 5 + 4 END TO END					25			

SLAB POURING SEQUENCE  
 SPANS (1-2), (2-3), (3-4) & (4-5)

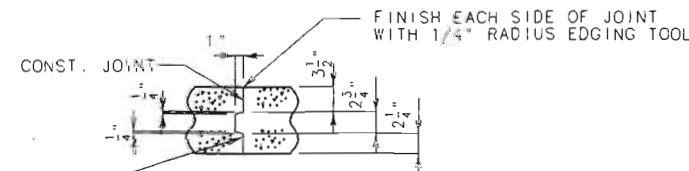
(\*) ADJUST THE PERMISSIBLE CONSTRUCTION JOINT TO A CLEARANCE OF 6 INCHES MINIMUM FROM THE JOINTS OF PANELS.



DETAIL OF CONST. JT.  
 FOR SLAB ON P/S PANEL  
 SECTION A-A

BASIC SEQUENCE	SEQUENCE OF POURS											MIN. RATE OF POUR CU. YDS./HR.  WITH RETARDER  25
	DIRECTION											
	1	2	3	4	5	6	7	8	9	10	11	
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	11 + 2	10 + 3	9 + 4	8 + 5	7 + 6	27					
ALTERNATE "B" POURS	1 + 11 + 2 + 10	3 + 9 + 4	8 + 5 + 7 + 6	27								
ALTERNATE "C" POURS	1 + 11 + 2 + 10 + 3 + 9	4 + 8 + 5 + 7 + 6	27									
ALTERNATE "D" POURS	1 + 11 + 2 + 10 + 3 + 9 + 4 + 8 + 5 + 7 + 6	27										

SLAB POURING SEQUENCE  
 SPANS (5-6), (6-7), (7-8), (8-9), (9-10) & (10-11)



KEY TO EXTEND FULL WIDTH OF SLAB CANTILEVER.  
 DETAIL OF CONST. JT.  
 FOR CAST-IN-PLACE SLAB  
 SECTION B-B

SLAB POURING SEQUENCE

SLAB POURING SEQUENCE  
 SPANS (11-12), (12-13), (13-14), (14-15), (15-16) & (16-17)

NOTE: THE CONTRACTOR SHALL FURNISH AN APPROVED RETARDER TO RETARD THE SET OF THE CONCRETE TO 2.5 HOURS AND SHALL POUR AND SATISFACTORILY FINISH THE SLAB POURS AT THE RATE GIVEN.

THE CONCRETE DIAPHRAGM AT THE INTERMEDIATE BENTS AND INTEGRAL END BENT SHALL BE POURED A MINIMUM OF 30 MINUTES AND A MAXIMUM OF 2 HOURS BEFORE THE SLAB IS POURED.

END DIAPHRAGMS AT EXPANSION DEVICES MAY BE POURED WITH A CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND SLAB, OR MONOLITHIC WITH THE SLAB.



DATE 5-1-98





** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																										
	SPAN (1-2) (63'-4 $\frac{1}{2}$ " C BRG. - C BRG.)					SPAN (2-3) (88'-2" C BRG. - C BRG.)											SPAN (3-4) (69'-2" C BRG. - C BRG.)					SPAN (4-5) (69'-0 $\frac{1}{2}$ " C BRG. - C BRG.)				
	C BRG.	.25	.50	.75	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	.25	.50	.75	C BRG.	C BRG.	.25	.50	.75	C BRG.
GIRDER NO. 1	898.79	898.88	898.97	899.04	899.10	899.11	899.18	899.24	899.31	899.36	899.41	899.45	899.48	899.50	899.52	899.54	899.55	899.66	899.75	899.83	899.89	899.89	900.00	900.10	900.17	900.23
GIRDER NO. 2	898.93	899.03	899.11	899.18	899.24	899.25	899.32	899.40	899.46	899.52	899.57	899.61	899.64	899.66	899.67	899.68	899.69	899.80	899.90	899.97	900.03	900.03	900.15	900.24	900.32	900.37
GIRDER NO. 3	899.00	899.10	899.19	899.26	899.31	899.32	899.40	899.47	899.53	899.59	899.64	899.68	899.71	899.73	899.74	899.75	899.76	899.88	899.97	900.04	900.10	900.11	900.22	900.32	900.39	900.45
GIRDER NO. 4	898.87	898.96	899.05	899.12	899.18	899.18	899.26	899.33	899.40	899.46	899.51	899.55	899.57	899.59	899.61	899.61	899.62	899.74	899.84	899.91	899.96	899.97	900.08	900.18	900.25	900.31
GIRDER NO. 5	898.73	898.82	898.91	898.98	899.04	899.04	899.11	899.18	899.24	899.30	899.35	899.39	899.42	899.44	899.46	899.48	899.49	899.59	899.69	899.76	899.82	899.83	899.94	900.03	900.11	900.17

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (5-6) (107'-8 3/4" C BRG. - C BRG.)										SPAN (6-7) (108'-2" C BRG. - C BRG.)										SPAN (7-8) (108'-2" C BRG. - C BRG.)												
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	900.24	900.32	900.39	900.46	900.53	900.58	900.63	900.67	900.71	900.74	900.77	900.78	900.86	900.93	901.00	901.06	901.12	901.17	901.21	901.25	901.28	901.31	901.32	901.39	901.47	901.54	901.60	901.66	901.71	901.75	901.79	901.82	901.85
GIRDER NO. 2	900.38	900.47	900.54	900.62	900.68	900.74	900.79	900.83	900.86	900.89	900.91	900.92	901.00	901.08	901.15	901.22	901.28	901.33	901.37	901.40	901.42	901.45	901.46	901.54	901.62	901.69	901.76	901.82	901.86	901.90	901.94	901.96	901.99
GIRDER NO. 3	900.46	900.54	900.62	900.69	900.75	900.81	900.86	900.90	900.93	900.96	900.99	900.99	901.08	901.15	901.23	901.29	901.35	901.40	901.44	901.47	901.50	901.52	901.53	901.61	901.69	901.76	901.83	901.89	901.93	901.98	902.01	902.04	902.06
GIRDER NO. 4	900.32	900.40	900.48	900.56	900.62	900.68	900.73	900.77	900.80	900.82	900.85	900.86	900.94	901.02	901.09	901.16	901.22	901.26	901.30	901.34	901.36	901.38	901.39	901.48	901.56	901.63	901.70	901.75	901.80	901.84	901.87	901.90	901.92
GIRDER NO. 5	900.18	900.26	900.33	900.40	900.46	900.52	900.57	900.61	900.65	900.68	900.71	900.72	900.79	900.87	900.94	901.00	901.06	901.11	901.15	901.19	901.22	901.25	901.26	901.33	901.41	901.48	901.54	901.60	901.64	901.69	901.72	901.76	901.78

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (8-9) (108'-2" C BRG. - C BRG.)										SPAN (9-10) (108'-2" C BRG. - C BRG.)										SPAN (10-11) (107'-8 $\frac{3}{4}$ " C BRG. - C BRG.)												
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	901.86	901.93	902.01	902.08	902.14	902.20	902.25	902.29	902.32	902.36	902.39	902.39	902.47	902.54	902.61	902.68	902.73	902.78	902.83	902.86	902.89	902.92	902.93	903.01	903.08	903.15	903.21	903.27	903.32	903.36	903.40	903.43	903.46
GIRDER NO. 2	901.99	902.08	902.16	902.23	902.30	902.35	902.40	902.44	902.47	902.50	902.52	902.53	902.62	902.69	902.77	902.83	902.89	902.94	902.98	903.01	903.04	903.06	903.07	903.15	903.23	903.31	903.37	903.43	903.48	903.52	903.55	903.57	903.60
GIRDER NO. 3	902.07	902.15	902.23	902.30	902.37	902.42	902.47	902.51	902.55	902.57	902.60	902.61	902.69	902.77	902.84	902.90	902.96	903.01	903.05	903.08	903.11	903.14	903.15	903.25	903.33	903.40	903.47	903.53	903.57	903.61	903.65	903.68	903.70
GIRDER NO. 4	901.93	902.01	902.09	902.17	902.23	902.29	902.34	902.38	902.41	902.44	902.46	902.47	902.55	902.63	902.71	902.77	902.83	902.88	902.92	902.95	902.98	903.00	903.01	903.09	903.17	903.24	903.31	903.37	903.41	903.45	903.49	903.51	903.53
GIRDER NO. 5	901.79	901.87	901.94	902.01	902.08	902.13	902.18	902.23	902.26	902.29	902.32	902.33	902.41	902.48	902.55	902.61	902.67	902.72	902.76	902.80	902.83	902.86	902.87	902.95	903.02	903.09	903.15	903.21	903.26	903.30	903.34	903.37	903.40

\*\* Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of Slab (including Precast Panel) and Barrier Curb.

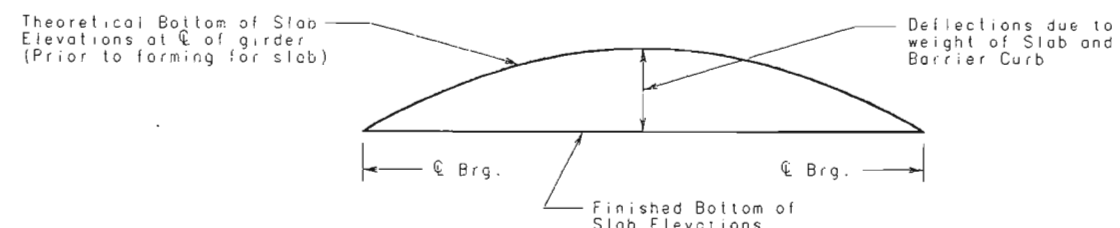
NOTE: FOR TYPICAL SLAB ELEVATION DIAGRAM, SEE SHEET NO. 74.



** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (11-12) (107'-8 3/4" C BRG. - C BRG.)											SPAN (12-13) (108'-2" C BRG. - C BRG.)											SPAN (13-14) (108'-2" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	903.47	903.55	903.62	903.69	903.75	903.81	903.86	903.90	903.94	903.97	904.00	904.01	904.08	904.16	904.23	904.29	904.35	904.40	904.44	904.48	904.51	904.54	904.55	904.62	904.70	904.77	904.83	904.89	904.93	904.98	905.01	905.05	905.07
GIRDER NO. 2	903.61	903.69	903.77	903.85	903.91	903.97	904.02	904.06	904.09	904.11	904.14	904.15	904.23	904.31	904.38	904.45	904.51	904.55	904.59	904.63	904.65	904.67	904.68	904.77	904.85	904.92	904.99	905.04	905.09	905.13	905.16	905.19	905.21
GIRDER NO. 3	903.69	903.77	903.85	903.92	903.98	904.04	904.09	904.13	904.16	904.19	904.21	904.22	904.30	904.38	904.45	904.52	904.58	904.62	904.67	904.70	904.73	904.75	904.76	904.84	904.92	904.99	905.06	905.11	905.16	905.20	905.24	905.26	905.29
GIRDER NO. 4	903.55	903.63	903.71	903.78	903.85	903.91	903.95	903.99	904.03	904.05	904.07	904.08	904.17	904.25	904.32	904.39	904.44	904.49	904.53	904.56	904.59	904.61	904.62	904.70	904.78	904.86	904.92	904.98	905.03	905.07	905.10	905.13	905.15
GIRDER NO. 5	903.41	903.49	903.56	903.63	903.69	903.75	903.80	903.84	903.88	903.91	903.94	903.95	904.02	904.10	904.17	904.23	904.29	904.33	904.38	904.41	904.45	904.47	904.48	904.56	904.63	904.70	904.77	904.82	904.87	904.91	904.95	904.98	905.01

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (14-15) (108'-2" C BRG. - C BRG.)											SPAN (15-16) (108'-2" C BRG. - C BRG.)											SPAN (16-17) (76'-1 1/2" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	905.08	905.16	905.23	905.30	905.37	905.42	905.47	905.52	905.55	905.58	905.61	905.62	905.70	905.77	905.84	905.90	905.96	906.01	906.05	906.09	906.12	906.15	906.16	906.20	906.25	906.29	906.33	906.37	906.40	906.44	906.47	906.50	906.53
GIRDER NO. 2	905.22	905.30	905.38	905.46	905.52	905.58	905.63	905.67	905.70	905.73	905.75	905.76	905.84	905.92	906.00	906.06	906.12	906.17	906.21	906.24	906.27	906.29	906.30	906.34	906.39	906.43	906.47	906.51	906.55	906.58	906.61	906.64	906.67
GIRDER NO. 3	905.30	905.38	905.46	905.53	905.59	905.65	905.70	905.74	905.77	905.80	905.83	905.84	905.92	905.99	906.07	906.13	906.19	906.24	906.28	906.31	906.34	906.36	906.37	906.42	906.46	906.50	906.54	906.58	906.62	906.65	906.68	906.72	906.75
GIRDER NO. 4	905.16	905.24	905.32	905.40	905.46	905.52	905.57	905.61	905.64	905.67	905.69	905.70	905.78	905.86	905.93	906.00	906.06	906.11	906.15	906.18	906.20	906.23	906.23	906.28	906.32	906.37	906.41	906.45	906.48	906.52	906.55	906.58	906.61
GIRDER NO. 5	905.02	905.10	905.17	905.24	905.30	905.36	905.41	905.45	905.49	905.52	905.55	905.56	905.64	905.71	905.78	905.84	905.90	905.95	905.99	906.03	906.06	906.09	906.10	906.14	906.18	906.22	906.26	906.30	906.34	906.37	906.41	906.44	906.47

\*\* Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of Slab (including Precast Panel) and Barrier Curb.



TYPICAL SLAB ELEVATIONS DIAGRAM

STATE OF MISSOURI  
KURT E. GRIBBLE  
REGISTERED PROFESSIONAL ENGINEER  
NUMBER E-23576  
DATE 5-1-98

STATE	PROJ. NO.	SHEET NO.
MO.		81

NOTE:  
Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

Locate drains in slab by dimensions shown in Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

The drains, coil inserts, and bracket assembly shall be galvanized in accordance with ASTM A123.

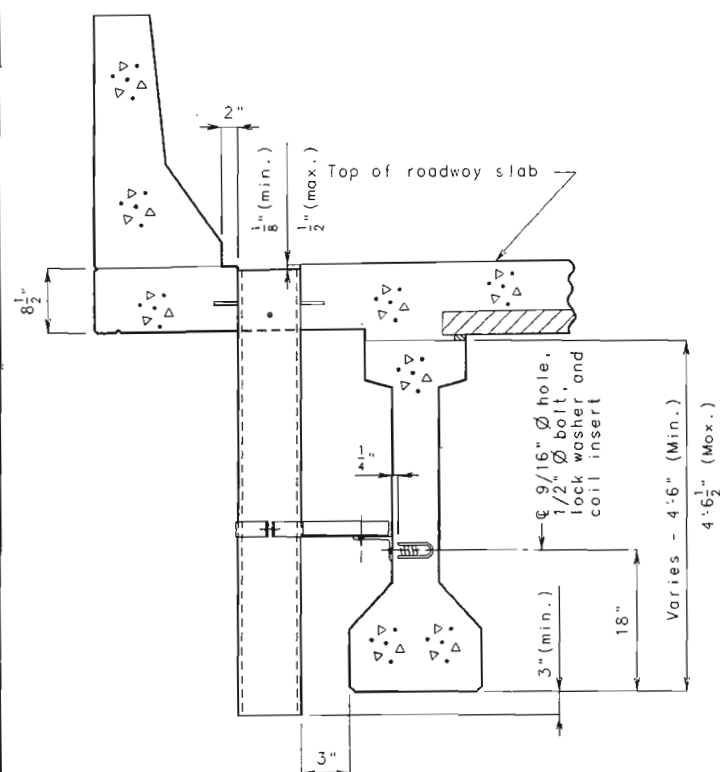
All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for slab drains and the bracket assembly.

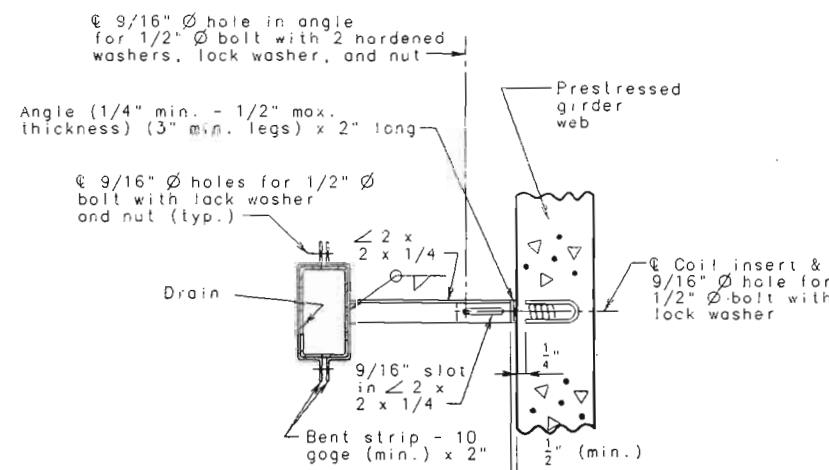
Coil inserts shall have a concrete pull-out strength (Ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.

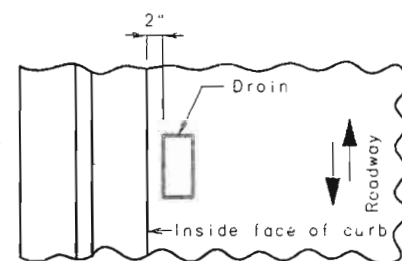
The bolt hole for the bracket assembly attachment shall be located on the Prestressed I Girder shop drawings.



PART SECTION NEAR DRAIN

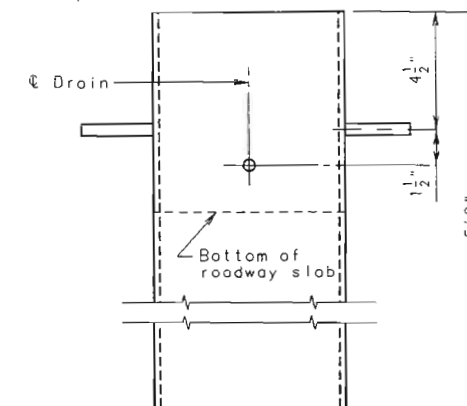


PART SECTION SHOWING BRACKET ASSEMBLY

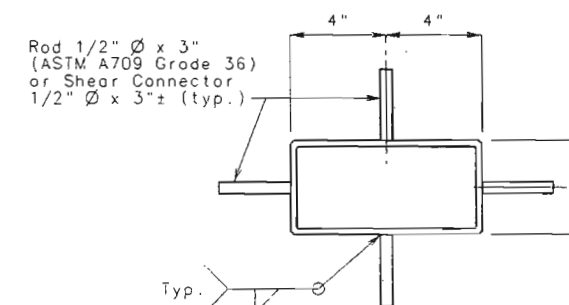


PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS PARALLEL TO ROADWAY

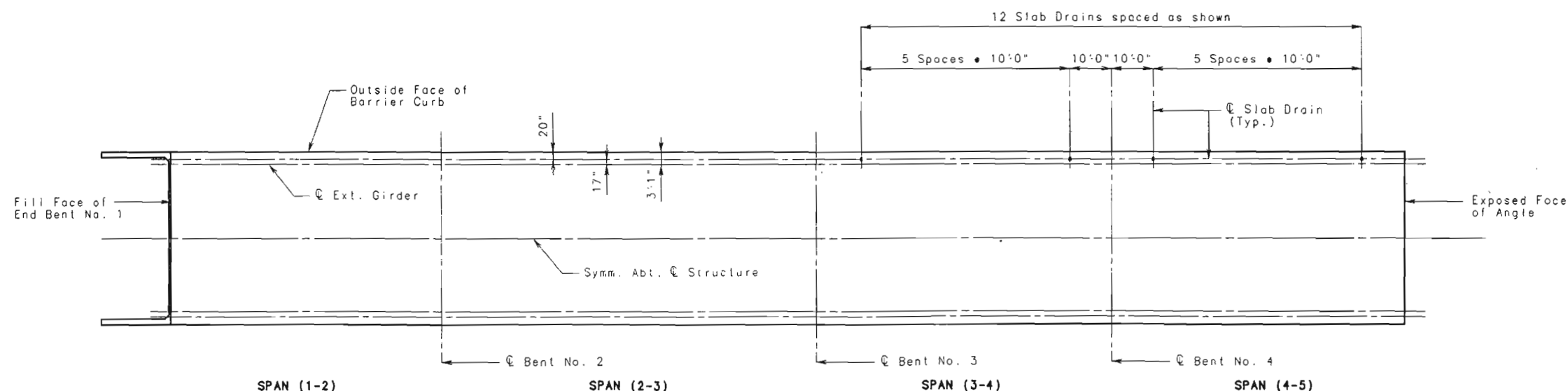


ELEVATION OF DRAIN



PLAN OF DRAIN

## SLAB DRAIN DETAILS FOR PRESTRESSED I-GIRDER



PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: Longitudinal dimensions are horizontal.



DATE 5-1-98

DRA 3 3.30.P/S.I.A  
P/S I-Girder Drain  
Revised  
July 1982  
Aug. 1996

DETAILED JAN. 1998  
CHECKED MAR. 1998

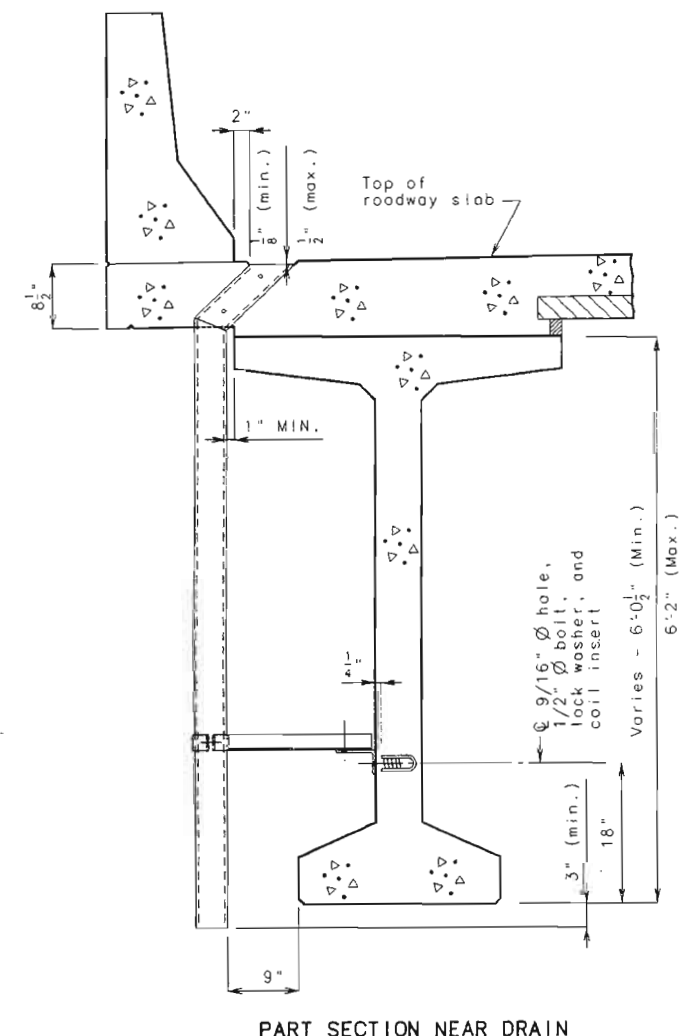
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 75 OF 93.

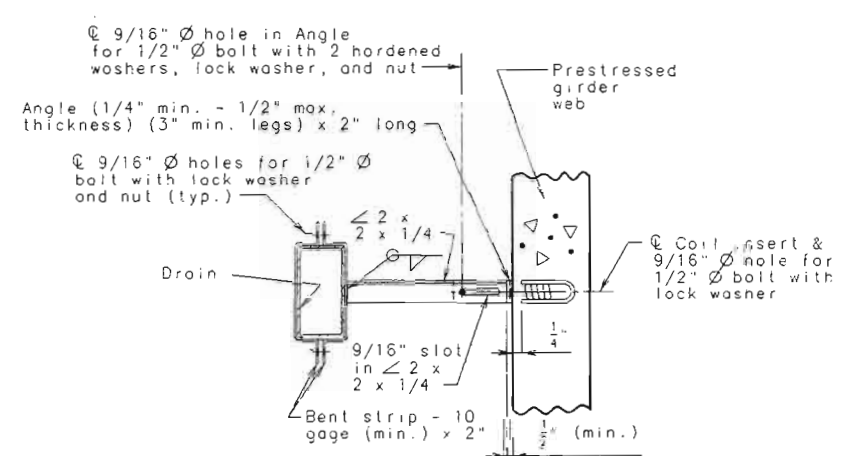
JACKSON COUNTY A5495



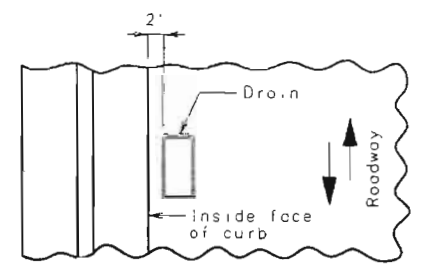
DRA 5 30, P/S, B, B  
 P/S Bulb Tee Angle Drain Revised  
 September 1994 Aug. 1996



PART SECTION NEAR DRAIN

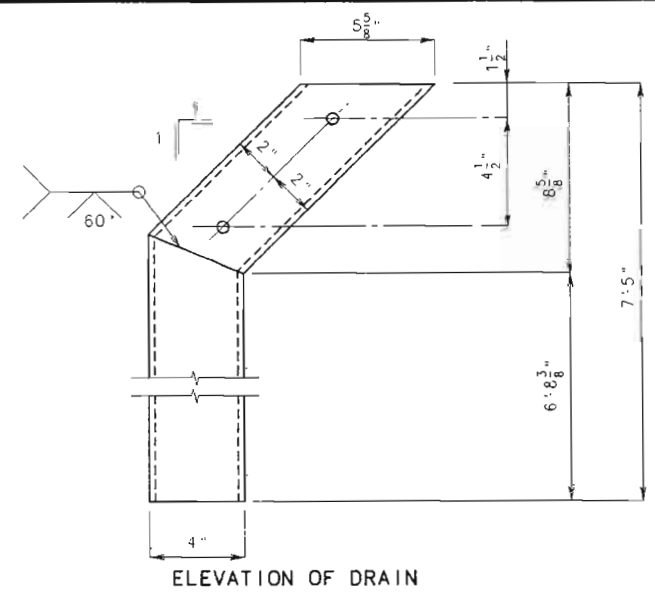


PART SECTION SHOWING BRACKET ASSEMBLY

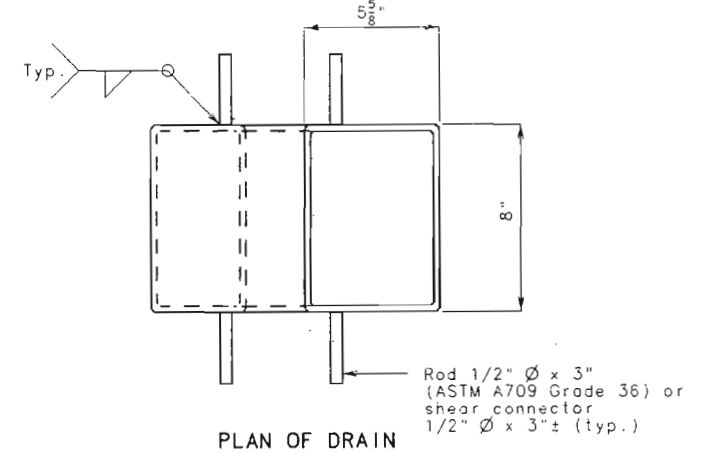


PART PLAN OF SLAB AT DRAIN

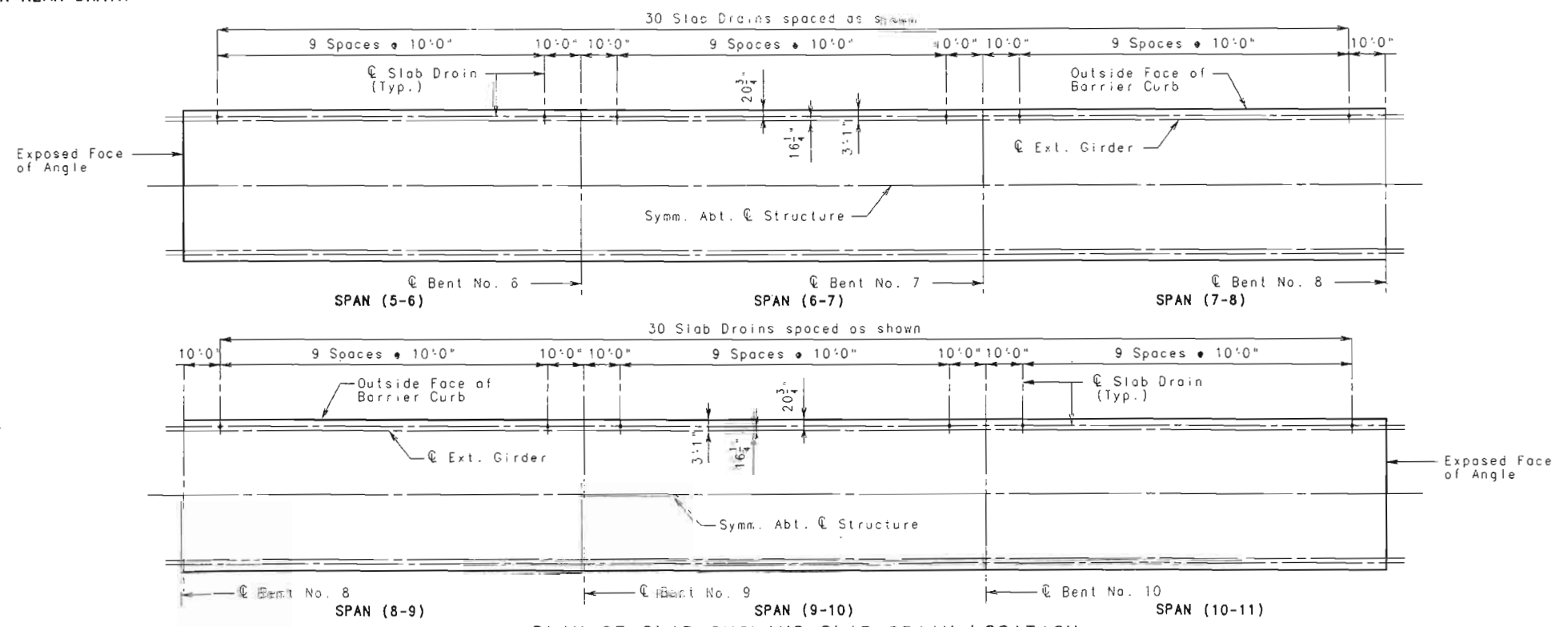
### SLAB DRAIN DETAILS FOR BULB-TEE GIRDER



ELEVATION OF DRAIN



PLAN OF DRAIN



PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: longitudinal dimensions are horizontal.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

STATE	PROJ. NO.	SHEET NO.
MO.		82

NOTE:  
Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.  
Outside dimensions of drains are 8" x 4".

Locate drains in slab by dimensions shown in Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

The drains, coil inserts, and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for slab drains and the bracket assembly.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.

The bolt hole for the bracket assembly attachment shall be located on the Bulb-Tee Girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.



DATE 5-1-98

DETAILED JAN. 1993  
 CHECKED MAR. 1998

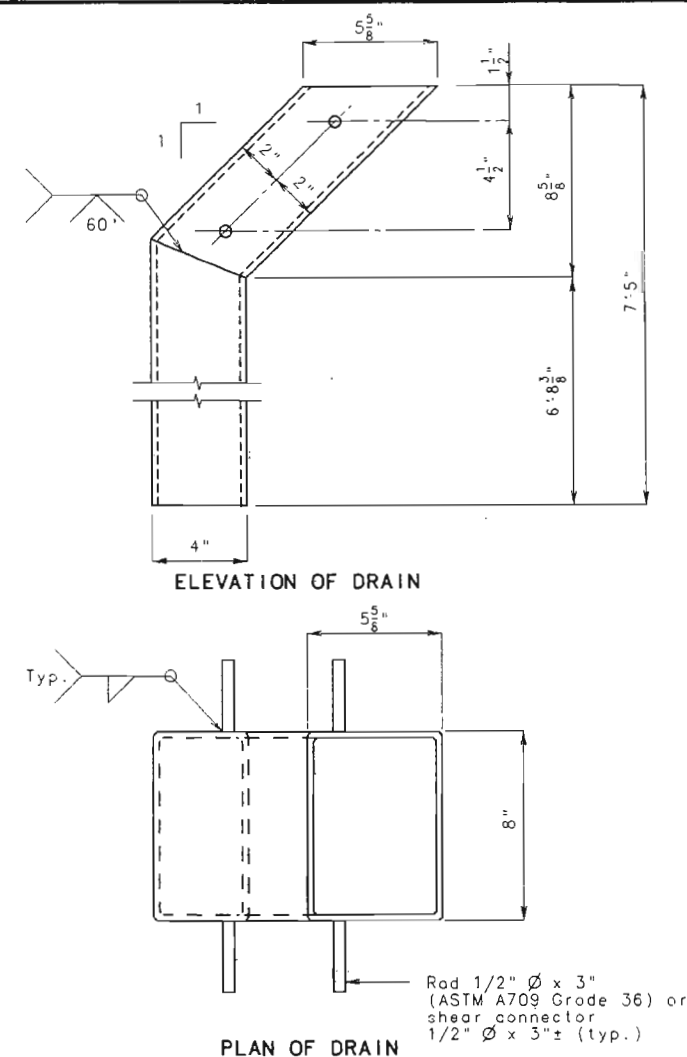
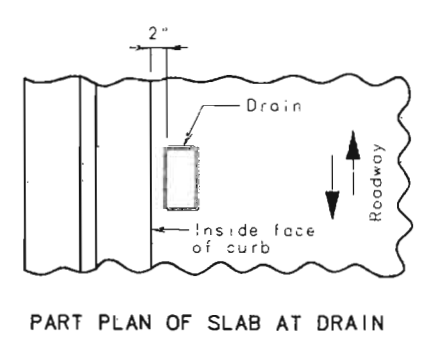
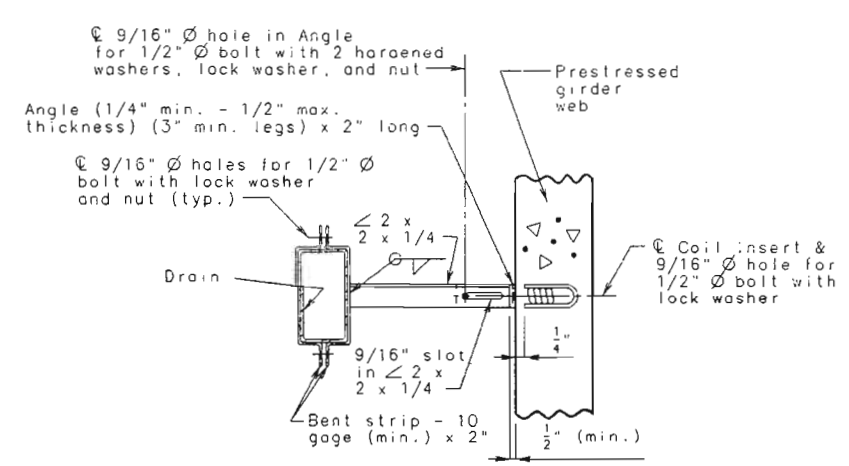
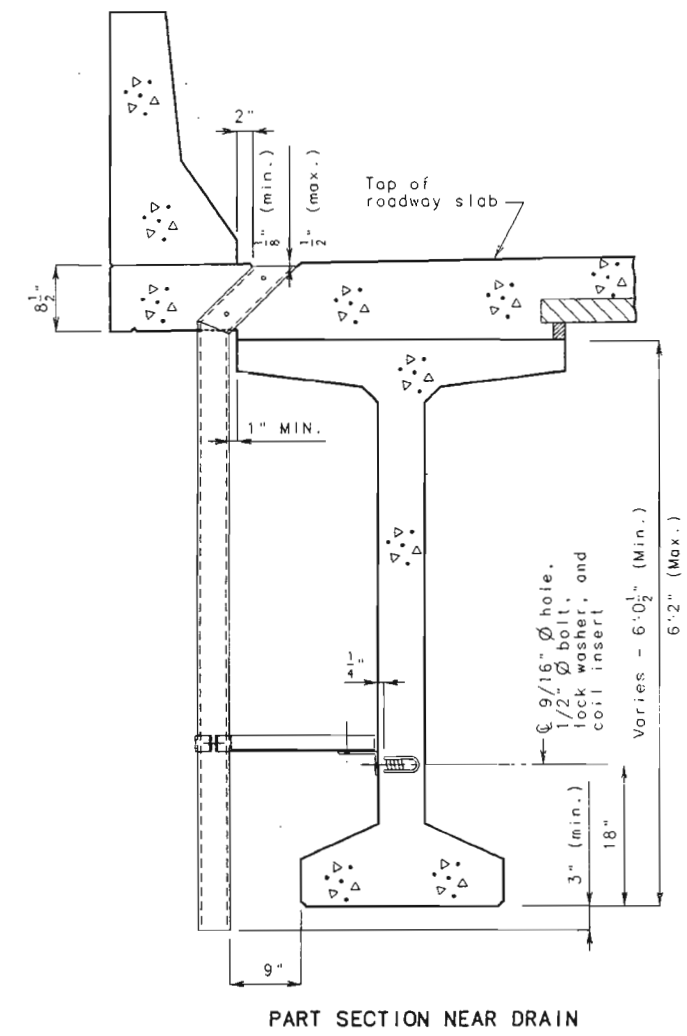
SHEET NO. 76 OF 93.

JACKSON

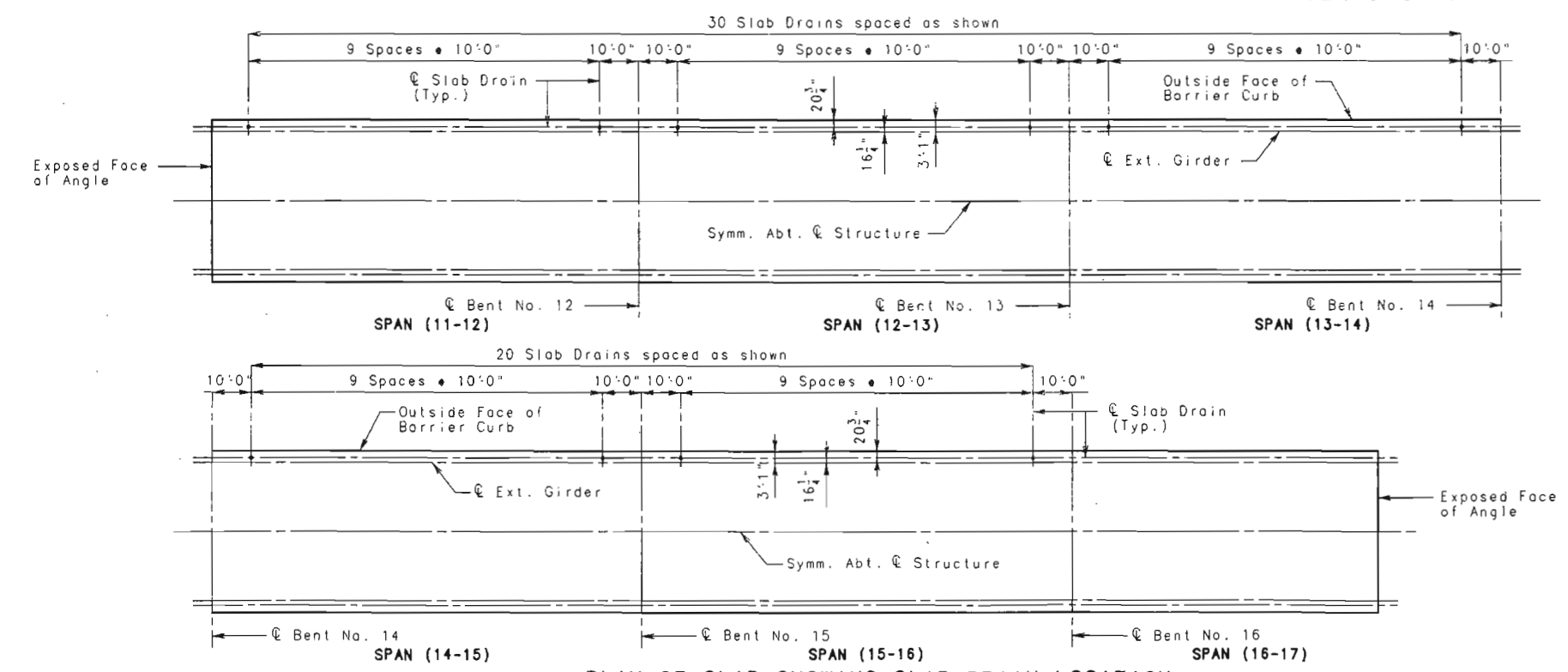
COUNTY

A5495

DRA 5 .30,P/S.B.B  
P/S Bulb Tee Angle Drain  
Revised  
September 1994  
Aug. 1996



# SLAB DRAIN DETAILS FOR BULB-TEE GIRDER



NOTE: Longitudinal dimensions are horizontal.

STATE	PROJ. NO.	SHEET NO.
MO.		83

NOTE:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

Locate drains in slab by dimensions shown in Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

The drains, coil inserts, and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for slab drains and the bracket assembly.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.

The bolt hole for the bracket assembly attachment shall be located on the Bulb-Tee Girder shop drawings.

Coil inserts shall have a concrete pull-out strength (Ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

DETAILED JAN. 1998  
CHECKED MAR. 1998

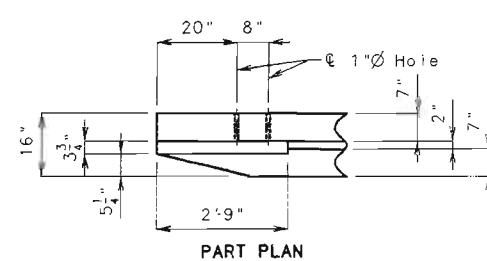
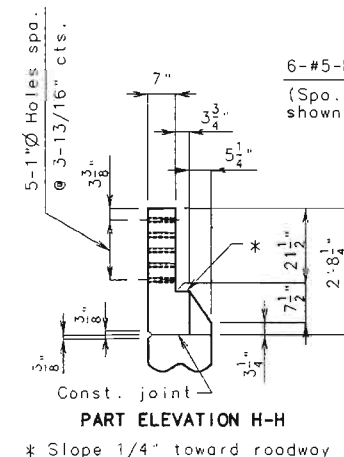
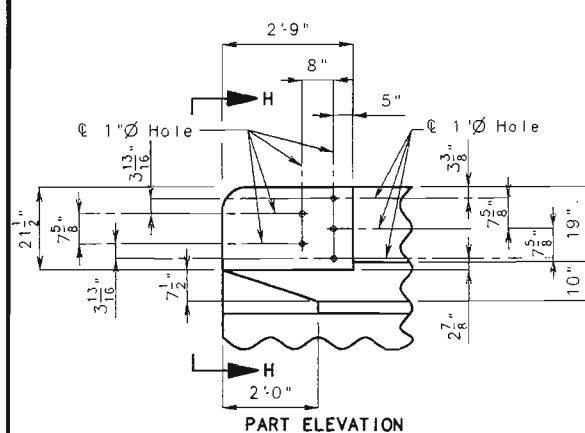
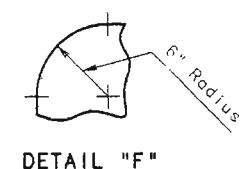
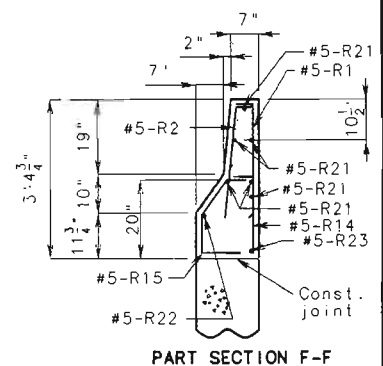
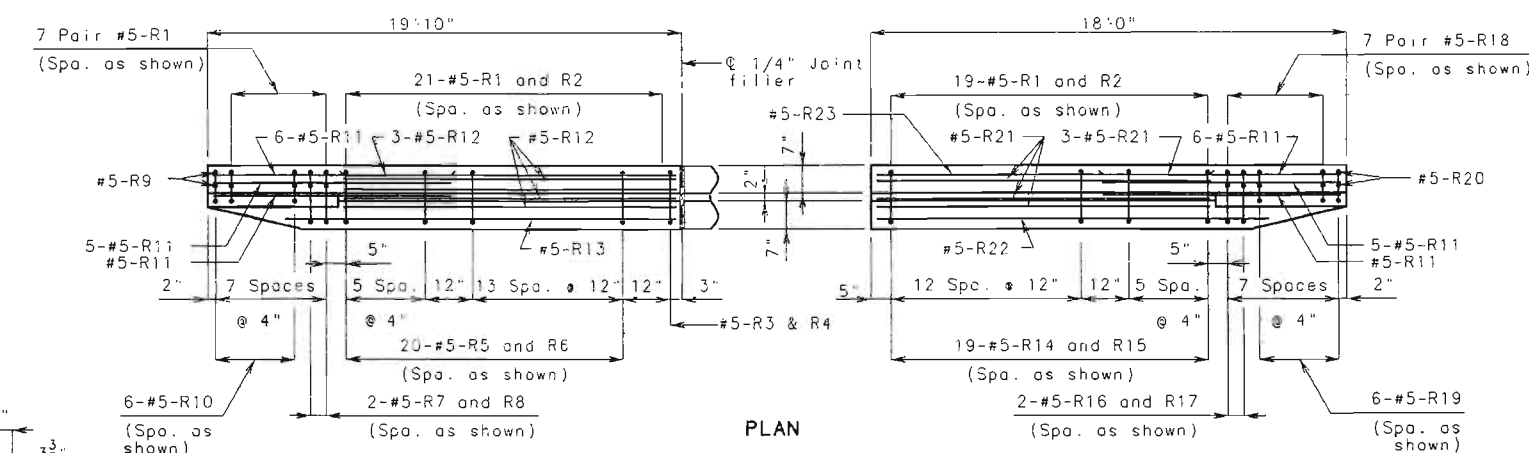
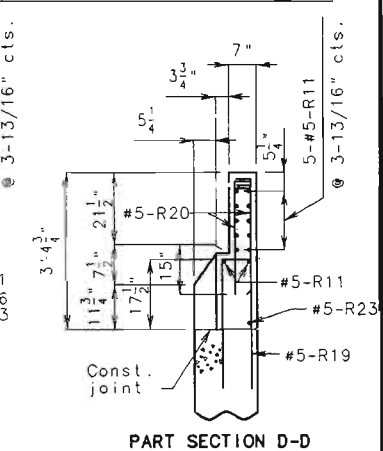
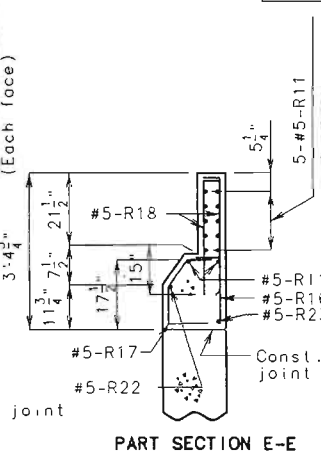
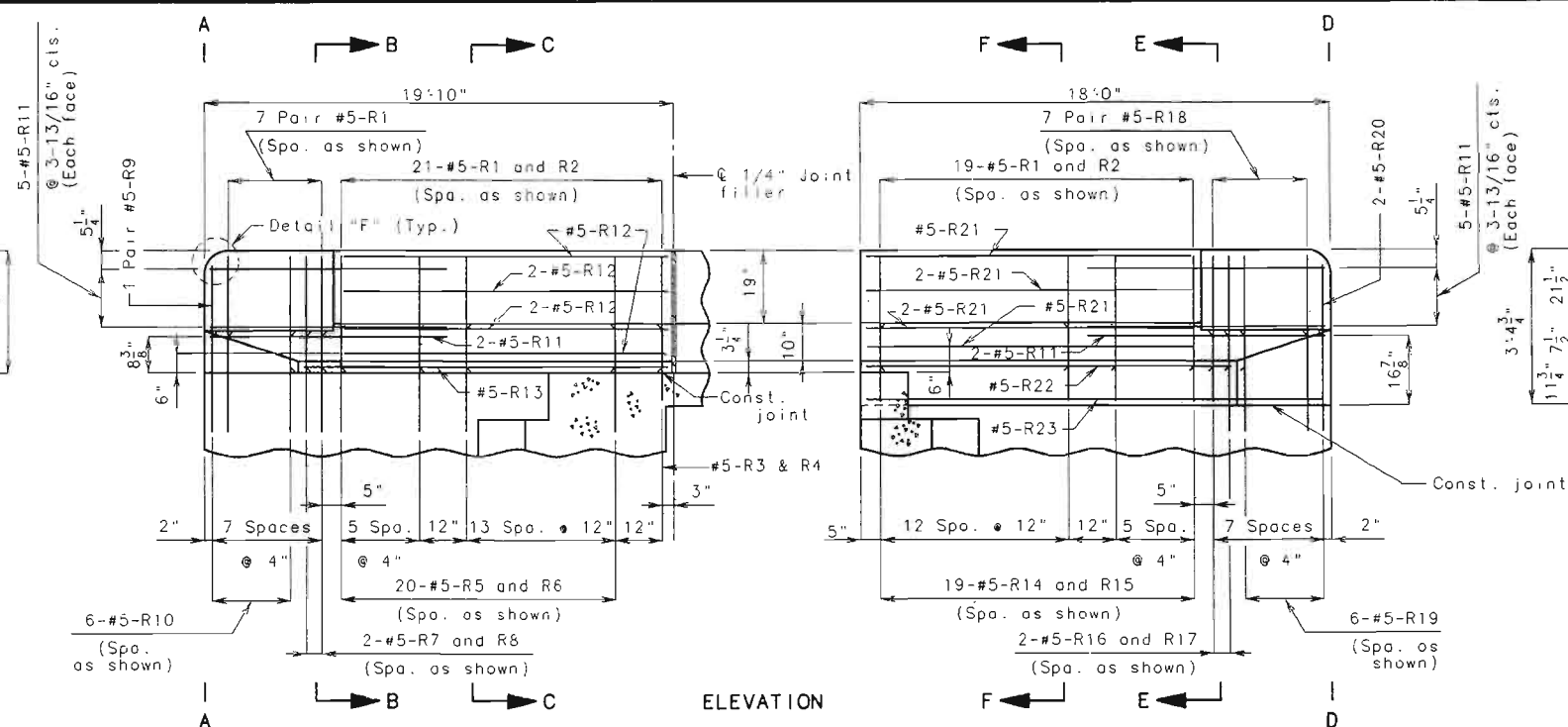
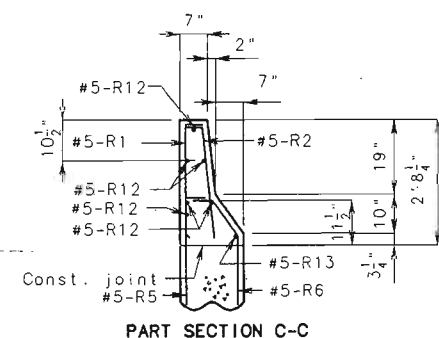
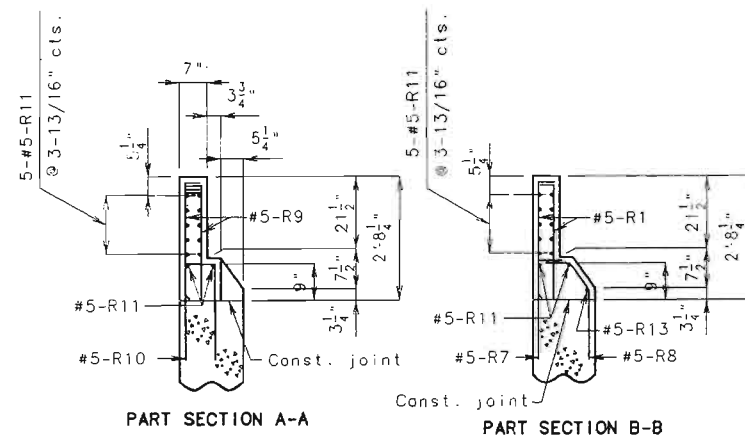
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 77 OF 93.

JACKSON COUNTY A5495



STATE	PROJ. NO.	SHEET NO.
MO.		84



BENT NO. 1  
LEFT BARRIER CURB SHOWN  
(RIGHT BARRIER CURB SIMILAR)

BENT NO. 17  
LEFT BARRIER CURB SHOWN  
(RIGHT BARRIER CURB SIMILAR)

### DETAILS OF GUARD RAIL ATTACHMENT

### DETAILS OF SAFETY BARRIER CURB AT END BENTS

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 78 OF 93

JACKSON COUNTY

A5495

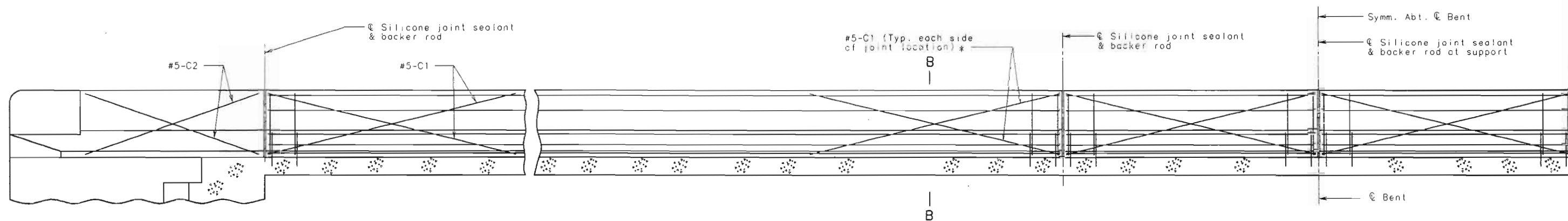
DATE 5-1-98

BAC4ep10	30, i, o
INT-END POS (16")	REVISED:
AUG. 1978	SEPT. 1995

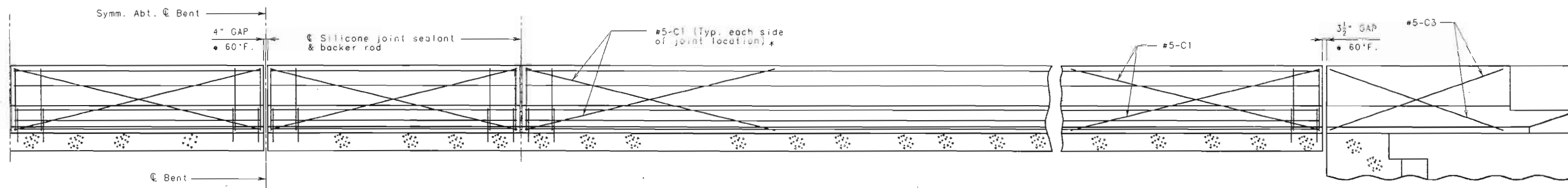
DETAILED JAN. 1998  
CHECKED MAR. 1998



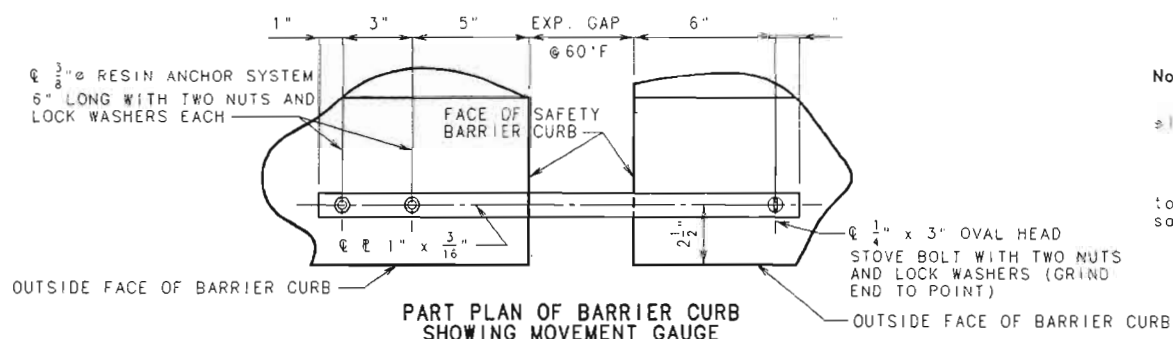




TYPICAL PART SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS (FIXED)  
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

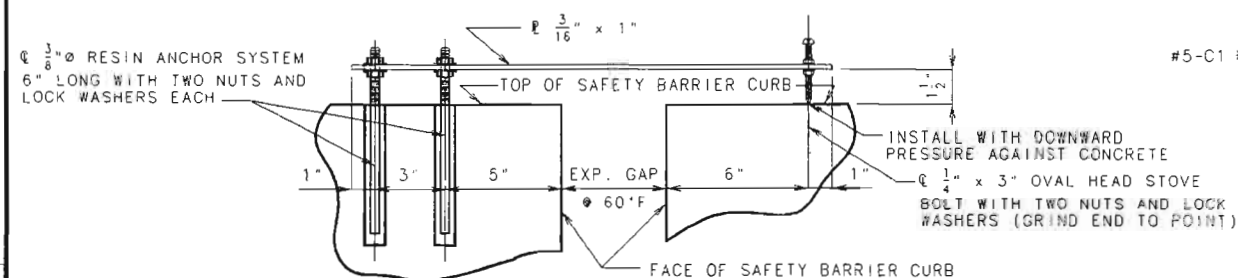


TYPICAL PART SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS WITH EXPANSION GAP  
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)



PART PLAN OF BARRIER CURB  
SHOWING MOVEMENT GAUGE

**Note:**  
Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filter.  
Plastic waterstop shall not be used with slip-form option.  
C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

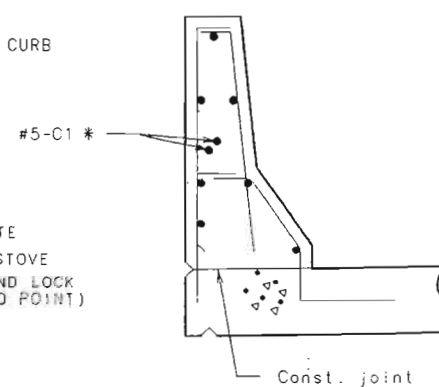


PART ELEVATION OF BARRIER CURB  
SHOWING MOVEMENT GAUGE

**NOTE:** A MOVEMENT GAUGE SHALL BE PROVIDED ON ONE SIDE OF BRIDGE AT ALL SAFETY BARRIER CURB EXPANSION JOINTS.

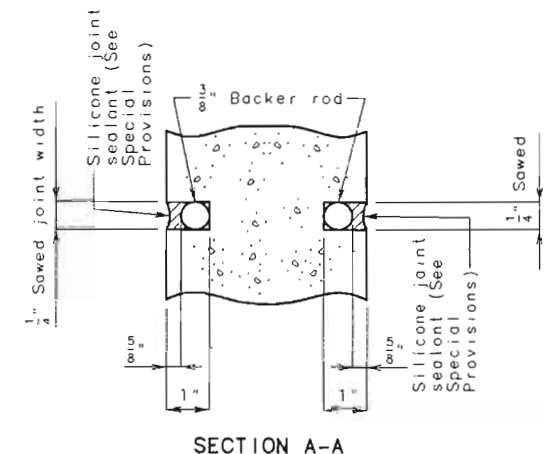
ALL STEEL SHALL BE GALVANIZED.

COST OF MOVEMENT GAUGE COMPLETE IN PLACE SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.



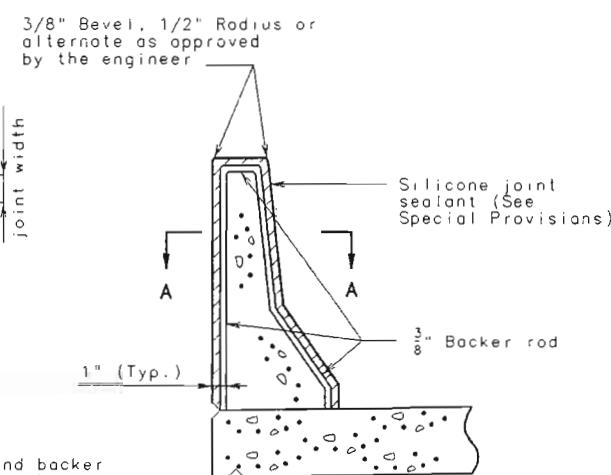
PART SECTION B-B

**Note:** \* Each side of joint location.



SECTION A-A

**Note:** Cost of silicone joint sealant and backer rod complete in place to be included on the contract unit price for safety barrier curb.



SECTION THRU JOINT



DATE 5-1-98

# OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

**NOTE:** THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

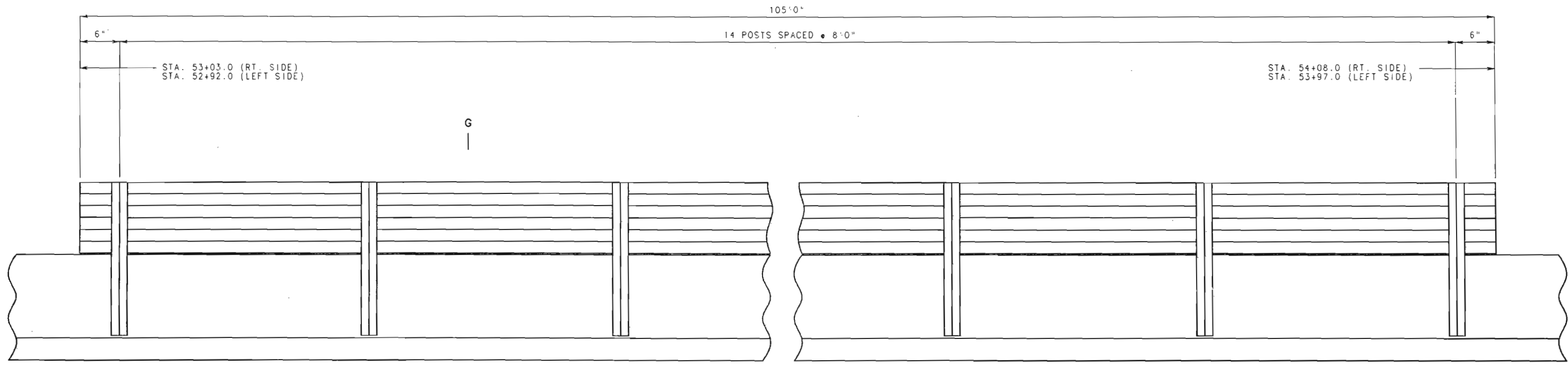
SHEET NO. 80 OF 93.

JACKSON COUNTY

A5495

DETAILED JAN. 1998  
CHECKED MAR. 1998

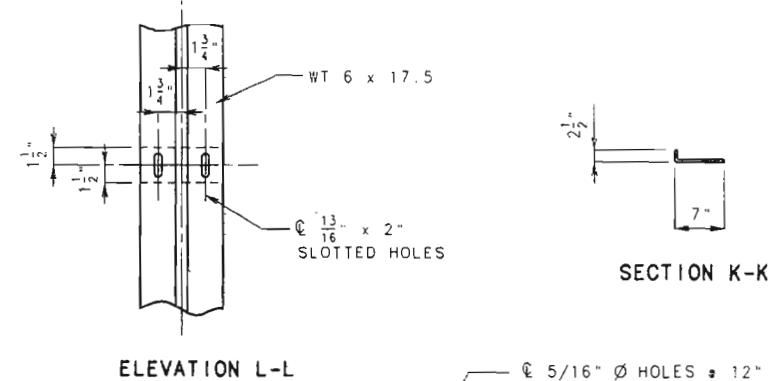
BAC951 3.30.1.0  
BARRIER CURB ELEVATION  
FEB. 1991  
SEPT. 1995



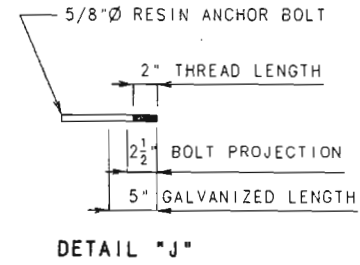
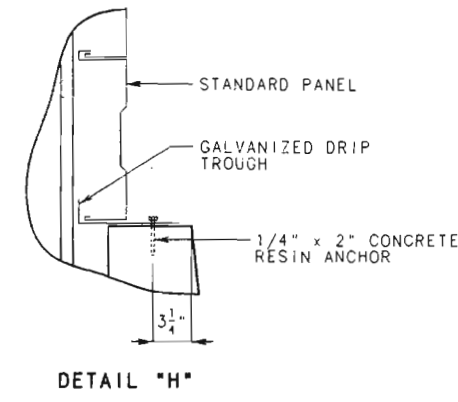
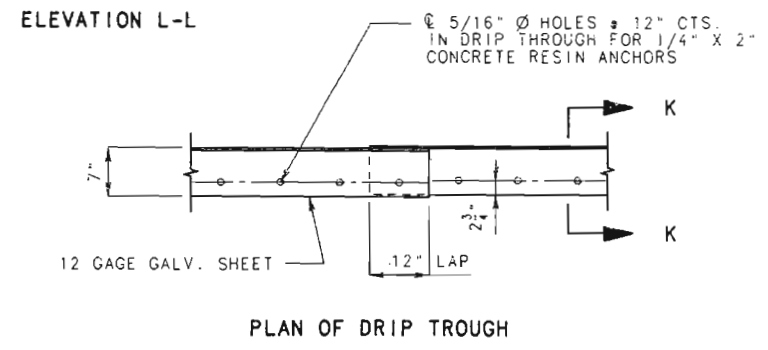
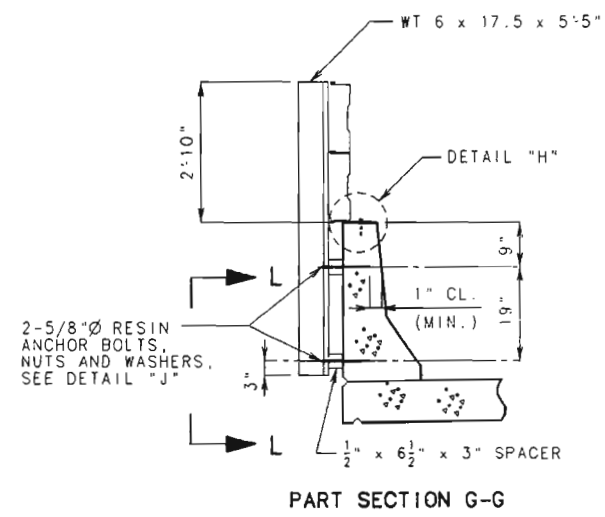
PART ELEVATION OF BARRIER CURB  
SHOWING SPLASH PROTECTION SHIELD

NOTES:

- FABRICATION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 712 OF THE MISSOURI STANDARD SPECIFICATIONS.
- POSTS SHALL BE SET VERTICAL.
- 5/8"Ø RESIN ANCHOR BOLTS SHALL BE PLACED HORIZONTAL.
- ALL SPACERS, RESIN ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
- ALL WT 6 x 17.5 POSTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
- PANELS SHALL HAVE A PROTECTIVE COLOR COATING OF POLYVINYL FLUORIDE FILM WITH A MINIMUM THICKNESS OF 1 1/2 MILS ON BOTH SIDES. COLOR SHALL BE SIMILAR TO COLOR NO. 30045 AS SHOWN IN THE FEDERAL STANDARD COLORS NO. 595B.
- PANELS SHALL HAVE A MINIMUM GAGE OF .24 AND A MINIMUM SECTION MODULUS OF 0.016 IN<sup>3</sup> PER INCH. PANELS SHALL HAVE A MINIMUM COVERING WIDTH OF 16 INCHES.
- THE 5/8"Ø RESIN ANCHOR BOLTS SHALL HAVE A MINIMUM ULTIMATE PULLOUT STRENGTH OF 15,500 LBS. IN CONCRETE WITH F'C = 4000 PSI. SEE SPECIAL PROVISIONS.
- COST OF FURNISHING AND INSTALLING THE SPLASH PROTECTION SHIELD COMPLETE-IN-PLACE SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM SPLASH PROTECTION SHIELD.
- SHOP DRAWINGS WILL NOT BE REQUIRED FOR SPLASH PROTECTION SHIELD ASSEMBLY.



PROVIDE SPLASHBOARDS (5'0" MIN. ABOVE DECK) ON TOP OF SAFETY BARRIER CURB BETWEEN STA. 53+03.0 AND STA. 54+08.0 RT. SIDE, STA. 52+92.0 AND STA. 53+97.0 LT. SIDE.



DETAILS OF SAFETY BARRIER CURB AT SPAN 2-3  
SHOWING SPLASH PROTECTION SHIELD

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 31 OF 93.

BAC4ep1 3.30. i.o  
INT-END POST (16")  
AUG. 1978  
REVISED:  
SEPT. 1995

DETAILED JAN. 1998  
CHECKED MAR. 1998

STATE OF MISSOURI  
KURT E. GRIBBLE  
NUMBER E-23576  
REGISTERED PROFESSIONAL ENGINEER  
DATE 5-1-98





1/4" Joint Filler

End of Wing -

Timber Header

#4 Stirrup Bars at obt. 12" cts.

2 layers of 50# roofing felt (placed between bridge approach slab, roadway concrete approach pavement and sleeper slab)

Bottom of Sleeper Slab

3'-6 Bars (Top and bottom)

3'-0"

18"

18"

Perforated Drain Pipe (Slope to drain)

Aggregate Base

Type 5

2 Layers of Polyethylene Sheeting (Placed between bridge approach slab and construction base) shall comply with the requirements of AASHTO M171.

#8 Bars at 5" cts.

12" (min.) (at bridge gutter line)

#7 Bars at 12" cts.

#6 Bars at 15" cts. (Bott.)

#4 Bars at 18" cts. (Top)

3'-0" x 18" Sleeper Slab

2" Cl.

2" Cl.

6"

#5 Bars at obt. 12" cts. (See end bent no. 1 sheets)

Fill Face of Bridge End Bent

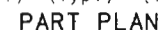
SECTION C-C

BRIDGE APPROACH

RETAILED JAN. 1900

SECTION C-C

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



(Showing typical underseal access hole locations)



### DETAILS OF TIMBER HEADER

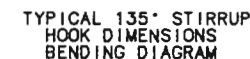
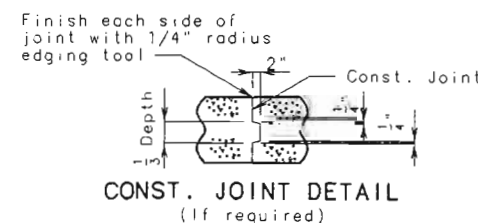


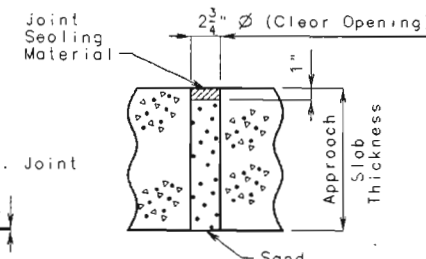
Diagram illustrating the end of a bridge wing joint. The diagram shows a cross-section of the wing and the curb. Labels include:

- End of Bridge Safety Barrier Curb
- Joint Filler
- End of Wing

SECTION E-E  
(Between Curbs)



CONST. JOINT DETAIL  
(If required)



TYPICAL UNDERSEAL  
ACCESS HOLE DETAIL

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.



DATE 5-1-98



**GENERAL NOTES:**  
 All concrete for the bridge approach slab and sleeper slab shall be in accordance with Section 503 (f'c = 4,000 psi) of the Missouri Standard Specifications.

All joint filler shall meet the requirements of Section 1057.2.5 of the Missouri Standard Specifications, except as noted.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with  $F_y = 60,000$  psi.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 27" and 40" respectively.

Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for installation.

Mechanical bar splices shall be epoxy coated in accordance with Section 710 of the Missouri Standard Specifications.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

Payment for furnishing all material, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridge), per sq. yd.

For Concrete Approach Pavement details, see roadway plans.

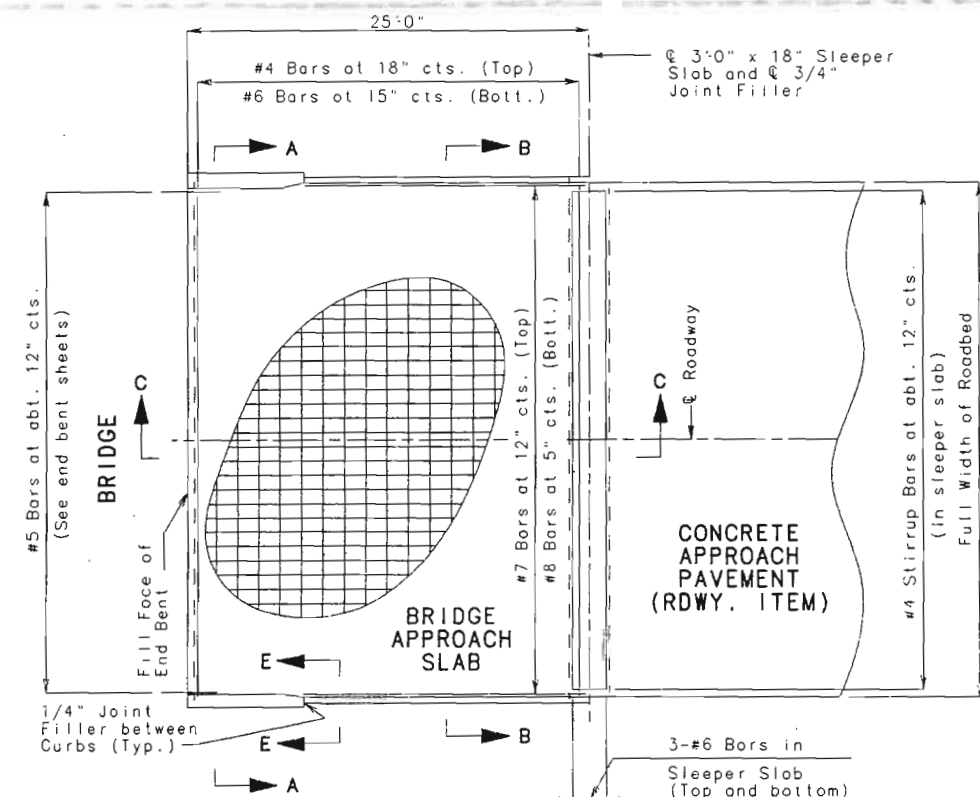
See Missouri Standard Plans Drawing 609.00 for details of Type A Barrier Curb.

When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 40" for transverse approach slab bar splices.

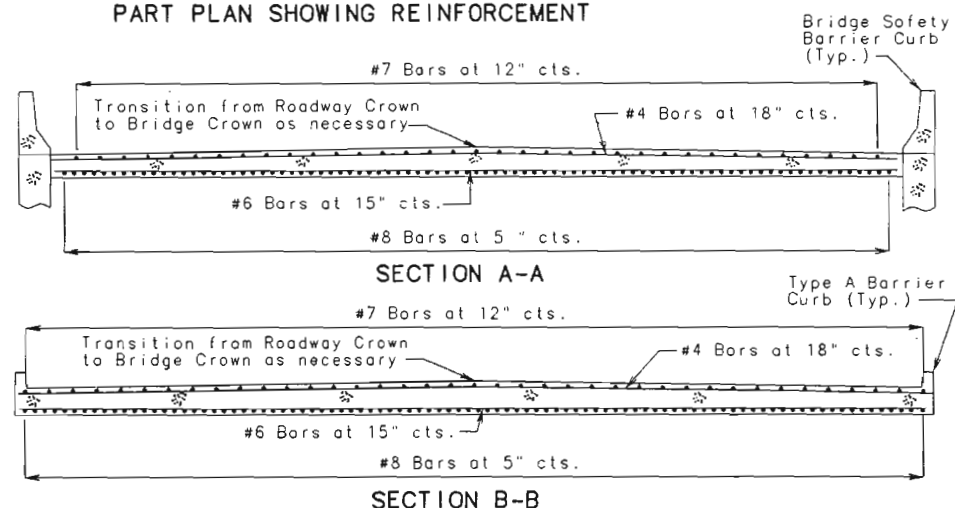
At the contractor's option, Grade 40 reinforcement may be substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 2" minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Section 710.3.3 of the Missouri Standard Specifications.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

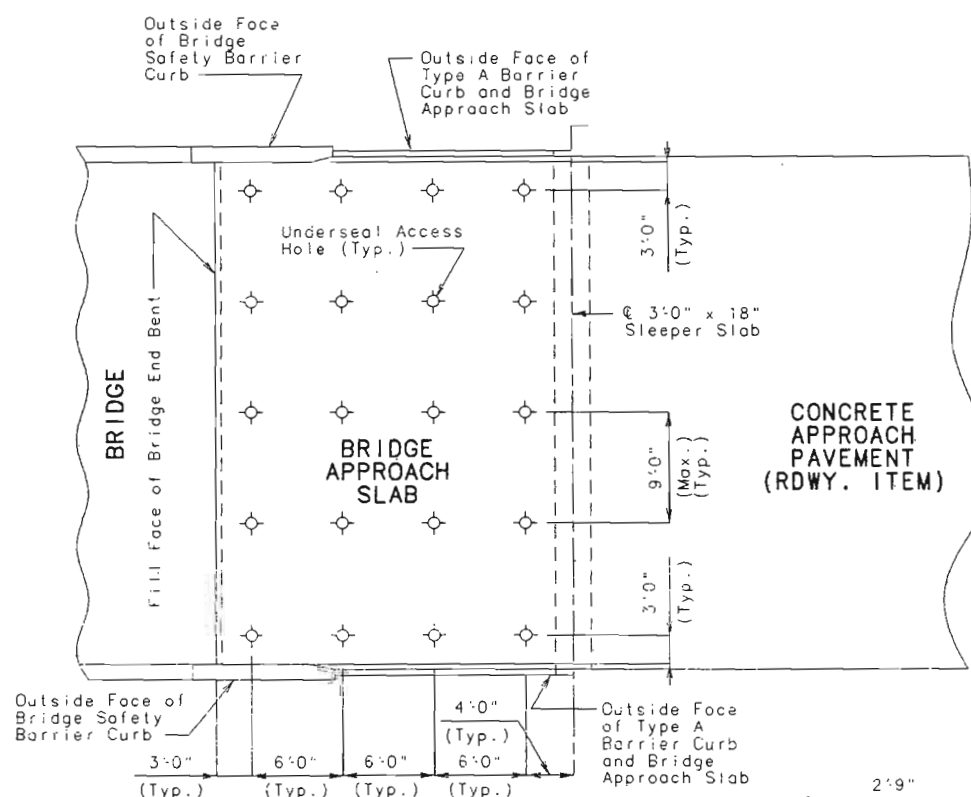


PART PLAN SHOWING REINFORCEMENT

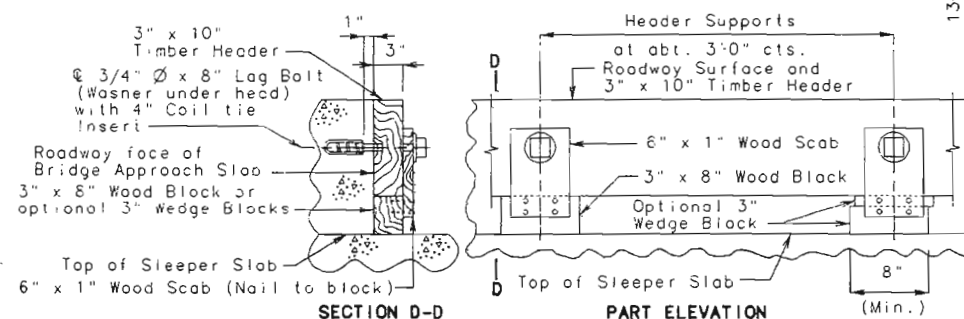


SECTION B-B

Note: With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

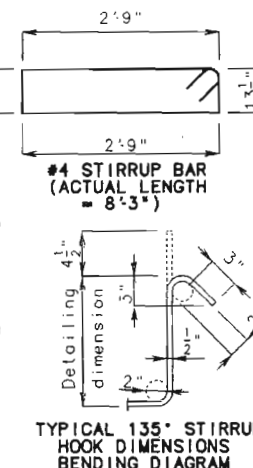


PART PLAN (Showing typical underseal access hole locations)

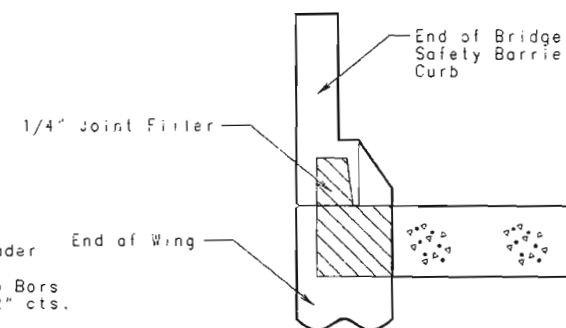


Note: Remove timber header when concrete pavement is placed.

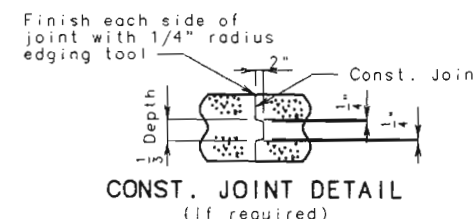
DETAILS OF TIMBER HEADER



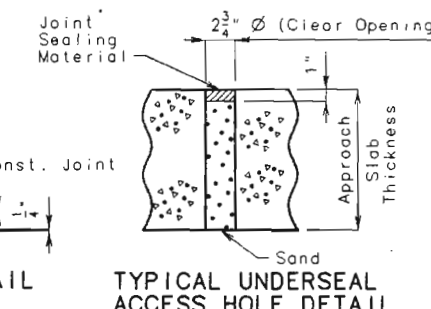
TYPICAL 135° STIRRUP BAR HOOK DIMENSIONS BENDING DIAGRAM



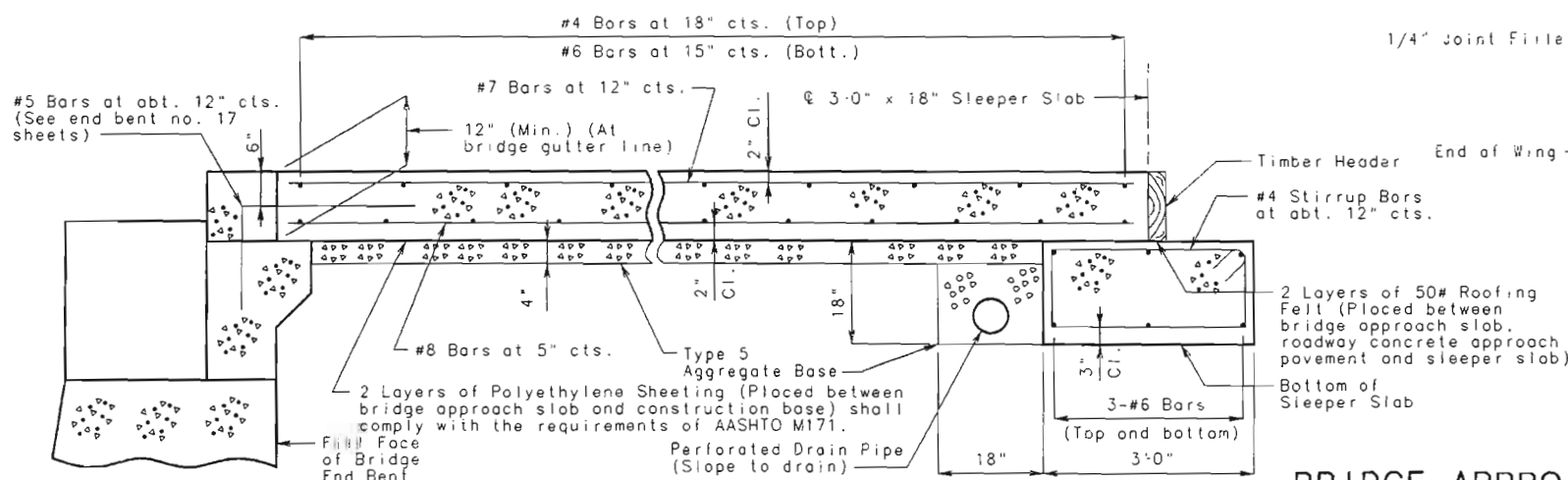
SECTION E-E (Between Curbs)



CONST. JOINT DETAIL (If required)



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



SECTION C-C

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

# BRIDGE APPROACH SLAB AT END BENT NO. 17

SHEET NO. 83 OF 93.

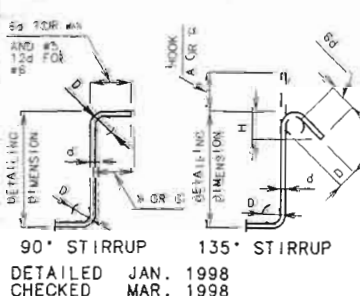
JACKSON COUNTY

A5495

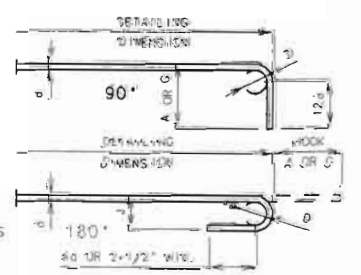


# BILL OF REINFORCING STEEL

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.				FT. IN.
		SUBSTRUCTURE																	
		INTERMEDIATE BENT NO. 2																	
40	7 D21	FOOTING		20	X				8	8.000							8	8	709
4	6 D22	FOOTING		10	X						5	2.000	8	0.000			18	4	108
36	8 D23	FOOTING		20	X				7	1.000							7	1	681
16	6 D24	BEAM KEY		20	X				2	6.000							2	6	60
11	10 H21	BEAM		20	X				38	9.000							38	9	1834
8	10 H22	BEAM		18	X				38	9.000							41	7	1431
4	6 H23	BEAM		20	X				38	9.000							38	9	233
8	6 H24	BEAM		20	X				3	9.000							3	9	45
10	6 H25	BEAM		10	X						22.000	3	9.000				7	5	192
54	4 P21	COLUMN		16	X				3	3.000							11	1	405
39	6 U21	BEAM		13	SX				3	9.000	3	9.000	3	9.000	3	9.000	16	4	927
20	6 U22	BEAM		13	SX				2	8.875	3	9.000	2	8.875	3	9.000	14	4	416
8	6 U23	BEAM		10	SX						3	9.000	2	8.875			10	3	119
6	6 U24	BEAM		10	SX						3	9.000	3	9.000			11	3	98
7	4 U25	BEAM		10	SX						6.000	3	9.000				4	9	21
36	6 V21	COLUMN		20	X				29	9.000							29	9	2809
		INTERMEDIATE BENT NO. 3																	
16	7 D31	FOOTING		20	X				10	8.000							10	8	349
4	6 D32	FOOTING		10	X						5	2.000	10	0.000			20	4	129
46	8 D33	FOOTING		20	X				8	7.000							8	7	1054
16	7 D34	FOOTING		20	X				8	6.000							8	8	253
36	8 D35	COLUMN		20	X				8	0.000							8	0	709
16	6 D36	BEAM KEY		20	X				2	6.000							2	6	60
11	10 H31	BEAM		20	X				38	9.000							38	9	1834
8	10 H32	BEAM		18	X				38	9.000							41	7	1431
4	6 H33	BEAM		20	X				38	9.000							38	9	233
8	6 H34	BEAM		20	X				3	9.000							3	9	45
10	6 H35	BEAM		10	X						22.000	3	9.000				7	5	192
36	4 P31	COLUMN		16	X				3	9.000							12	8	305
32	4 P32	COLUMN		16	X				3	3.000							11	1	237
39	6 U31	BEAM		13	SX				3	9.000	3	9.000	3	9.000	3	9.000	16	4	927
20	6 U32	BEAM		13	SX				2	8.875	3	9.000	2	8.875	3	9.000	14	4	416
8	6 U33	BEAM		10	SX						3	9.000	2	8.875			10	3	119
6	6 U34	BEAM		10	SX						3	9.000	3	9.000			11	3	98
7	4 U35	BEAM		10	SX						6.000	3	9.000				4	9	21



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"

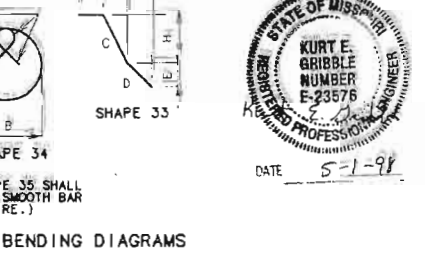
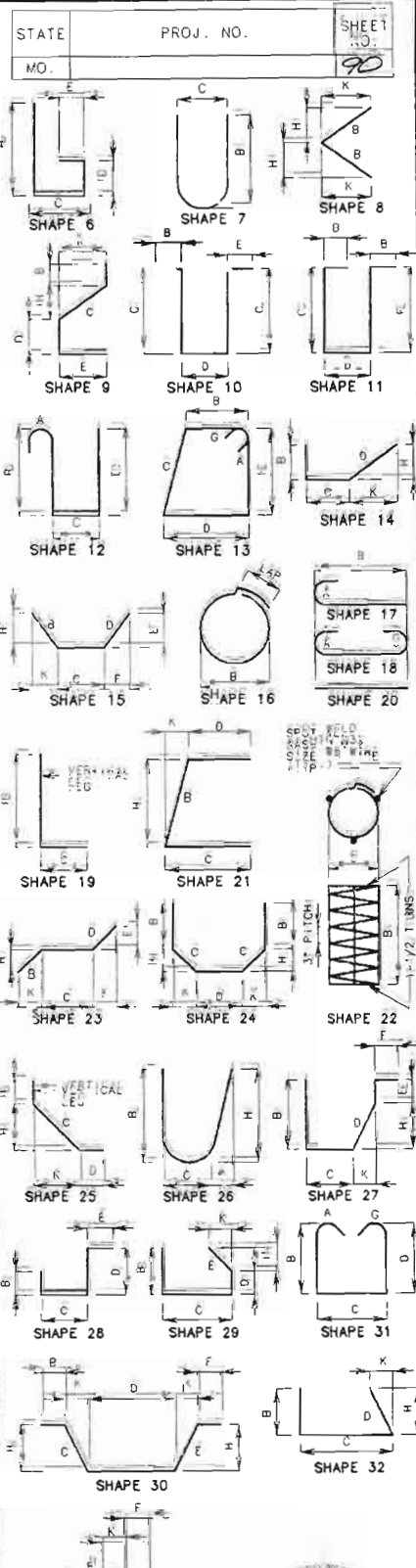


END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS A OR G	90° HOOKS A OR G	
#3	2-1/4"	9"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	24"
#14	18-1/4"	27-3/4"	21-3/4"	27"

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STIRRUPS. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET. E = EPOXY COATED REINFORCEMENT. X = STIRRUP IS INCLUDED IN SUBSTRUCTURE QUANTITIES. V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE. NO. EACH = 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) = FY 60,000 PSI.

# 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.
46	8 V31	COLUMN		20		X				17	10.000							17	10		2190
36	8 V32	COLUMN		20		X				19	2.000							19	2		1842
		INTERMEDIATE																			
		BENT NO. 4																			
32	7 D41	FOOTING		20		X				8	8.000							8	8		567
4	6 D42	FOOTING		10		X					5	2.000	8	0.000				18	4		108
46	8 D43	FOOTING		20		X				8	7.000							8	7		1054
36	8 D44	COLUMN		20		X				8	0.000							8	0		769
16	6 D45	BEAM KEY		20		X				2	6.000							2	6		60
11	10 H41	BEAM		20		X				38	9.000							38	9		1834
8	10 H12	BEAM		18		X				38	9.000							41	7		1431
4	6 H13	BEAM		20		X				38	9.000							38	9		233
8	6 H44	BEAM		20		X				3	9.000							3	9		45
10	6 H45	BEAM		10		X					22.000	3	9.000					7	5		106
36	4 P41	COLUMN		16		X				3	9.000							12	8		305
34	4 P42	COLUMN		16		X				3	3.000							11	1		252
39	6 U41	BEAM		13	S	X				3	9.000	3	9.000	3	9.000	3	9.000	16	4		927
20	6 U42	BEAM		13	S	X				2	8.875	3	9.000	2	8.875	3	9.000	14	4		416
8	6 U43	BEAM		10	S	X					3	9.000	2	8.875				10	3		119
6	6 U44	BEAM		10	S	X					3	9.000	3	9.000				11	3		98
7	4 U45	BEAM		10	S	X					6.000	3	9.000					4	9		21
46	8 V41	COLUMN		20		X				17	10.000							17	10		2190
36	8 V42	COLUMN		20		X				19	2.000							19	2		1842
		INTERMEDIATE																			
		BENT NO. 5																			
32	7 D51	FOOTING		20		X				17	8.000							17	8		1509
4	6 D52	FOOTING		10		X					6	6.000	17	0.000				30	0		216
56	10 D53	FOOTING		17		X				11	7.000							13	0		3133
24	8 D54	FOOTING		20		X				9	8.000							9	8		619
36	8 D55	COLUMN		20		X				8	0.000							8	0		769
12	10 H51	BEAM		20		X				39	3.000							39	3		2027
9	10 H52	BEAM		18		X				39	3.000							42	1		1630
4	6 H53	BEAM		20		X				39	3.000							39	3		236
10	6 H54	BEAM		20		X				3	9.000							3	9		56
10	6 H55	BEAM		10		X					22.000	5	3.000					8	11		129
5	6 H56	BEAM		18		X				39	3.000							40	7		305
2	4 H57	BEAM		10		X					22.000	2	6.000					6	2		8
36	4 P51	COLUMN		16		X				3	9.000							12	8		305



STD 80.8 REVISED MAY 1974 OCT. 1991

DETAILED JAN. 1998  
CHECKED MAR. 1998

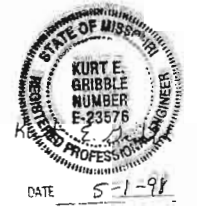
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 84 OF 93.

JACKSON

COUNTY

A5495





# 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
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
30	4 P52	COLUMN		16	X				3	3.000								11	1	222		
40	6 U51	BEAM	E 13	S X					5	3.000	3	8.000	5	3.000	3	8.000		19	2	1121		
24	6 U52	BEAM	E 13	S X					3	6.875	3	8.000	3	6.875	3	8.000		15	10	553		
62	5 U53	BEAM	E 10	S X						2	6.250	2	6.000					7	7	471		
6	6 U54	BEAM	E 10	S X						3	8.000	5	3.000					12	7	110		
8	6 U55	BEAM	E 10	S X						3	8.000	3	6.875					10	11	127		
7	4 U56	BEAM	E 10	S X						6.000	2	6.000						3	6	16		
7	4 U57	BEAM	E 10	S X						6.000	5	3.000						6	3	28		
56	10 V51	COLUMN		20	X				17	10.000								17	10	4297		
36	8 V52	COLUMN	E 20	X					18	0.000								18	0	1730		
10	W5 W50	ANCBOLT WELL	E 22	X					15.000	9.125								23	0	38		
10	W5 W51	ANCBOLT WELL	E 22	X					18.000	9.125								26	1	44		
		INTERMEDIATE BENT NO. 6																				
24	8 D61	FOOTING		20	X				10	8.000								10	8	684		
4	6 D62	FOOTING		10	X					5	2.000	10	0.000					20	4	120		
46	8 D63	FOOTING		20	X				8	7.000								8	7	1054		
16	8 D64	FOOTING		20	X				8	8.000								8	8	370		
13	10 H61	BEAM		20	X				39	3.000								39	3	2196		
10	10 H62	BEAM		18	X				39	3.000								42	1	1811		
4	6 H63	BEAM		20	X				39	3.000								39	3	236		
10	6 H64	BEAM		20	X				3	9.000								3	9	56		
12	6 H65	BEAM		10	X					22.000	4	3.000						7	11	137		
66	4 P61	COLUMN		16	X				3	9.000								12	8	558		
39	6 U61	BEAM		13	S X				4	3.000	4	6.000	4	3.000	4	6.000		18	10	1074		
20	6 U62	BEAM		13	S X				2	10.750	4	6.000	2	10.750	4	6.000		16	2	471		
8	6 U63	BEAM		10	S X				4	6.000	2	10.750						11	11	139		
6	6 U64	BEAM		10	S X				4	6.000	4	3.000						13	3	116		
7	4 U65	BEAM		10	S X				6.000	4	3.000							5	3	24		
46	8 V61	COLUMN		20	X				36	4.000								36	4	4462		
20	W5 W60	ANCBOLT WELL		22	X				18.000	9.125								26	1	87		
		INTERMEDIATE BENT NO. 7																				
24	8 D71	FOOTING		20	X				10	8.000								10	8	684		
4	6 D72	FOOTING		10	X					5	2.000	10	0.000					20	4	120		
46	8 D73	FOOTING		20	X				8	7.000								8	7	1054		

# 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.
16	6 D74	FOOTING		20	X				8	8.000								8	8	8	8	370			
16	6 D75	BEAM KEY		20	X				2	6.000								2	6	2	6	60			
13	10 H71	BEAM		20	X				38	9.000								38	9	38	9	2168			
9	10 H72	BEAM		16	X				38	9.000								41	7	41	7	1610			
4	6 H73	BEAM		20	X				38	9.000								38	9	38	9	233			
9	6 H74	BEAM		20	X				3	9.000								3	9	3	9	51			
12	6 H75	BEAM		10	X						22.000	4	3.000					7	11	7	7	137			
68	4 P71	COLUMN		16	X				3	9.000								12	8	12	8	575			
39	6 U71	BEAM		13	S X				4	3.000	4	6.000	4	3.000	4	6.000		18	10	18	4	1074			
20	6 U72	BEAM		13	S X				2	10.750	4	6.000	2	10.750	4	6.000		16	2	15	8	471			
8	6 U73	BEAM		10	S X				4	6.000	2	10.750						11	11	11	7	139			
6	6 U74	BEAM		10	S X				4	6.000	4	3.000						13	3	12	11	116			
7	4 U75	BEAM		10	S X					6.000	4	3.000						5	3	5	1	24			
46	8 V71	COLUMN		20	X				37	5.000								37	5	37	5	4596			
		INTERMEDIATE BENT NO. 8																							
22	8 D81	FOOTING		18	X				12	8.000								14	6	14	6	852			
20	5 D82	FOOTING		18	X				7	8.000								8	10	8	10	164			
58	9 D83	FOOTING		20	X				9	11.000								9	11	9	11	1956			
58	8 D84	COLUMN		20	X				10	0.000								10	0	10	0	1549			
16	5 D85	BEAM KEY		20	X				2	6.000								2	6	2	6	60			
12	10 H81	BEAM		20	X				38	9.000								38	9	38	9	2001			
8	10 H82	BEAM		18	X				38	9.000								41	7	41	7	1431			
6	6 H83	BEAM		20	X				38	9.000								38	9	38	9	349			
8	6 H84	BEAM		20	X				3	9.000								3	9	3	9	45			
12	6 H85	BEAM		10	X						22.000	4	9.000					8	5	8	1	146			
54	4 P81	COLUMN		16	X				4	9.000								15	9	15	9	568			
42	4 P82	COLUMN		16	X				4	3.000								14	3	14	3	400			
37	6 U81	BEAM		13	S X				4	9.000	4	9.000	4	9.000	4	9.000		20	4	19	10	1102			
16	6 U82	BEAM		13	S X				3	5.500	4	9.000	3	5.500	4	9.000		17	9	17	3	415			
12	6 U83	BEAM		10	S X						4	9.000	3	5.500				13	0	12	8	228			
8	6 U84	BEAM		10	S X				4	9.000	4	9.000	4	9.000				14	3	13	11	167			
7	4 U85	BEAM		10	S X					6.000	4	9.000						5	9	5	7	26			
58	9 V81	COLUMN		20	X				26	10.000								26	10	26	10	5292			
58	8 V82	COLUMN		20	X				24	11.000								24	11	24	11	3859			
		INTERMEDIATE BENT NO. 9																							

STATE

MO.

PROJ. NO.

SHEET NO. 91

SHAPE 6

SHAPE 7

SHAPE 8

SHAPE 9

SHAPE 10

SHAPE 11

SHAPE 12

SHAPE 13

SHAPE 14

SHAPE 15

SHAPE 16

SHAPE 17

SHAPE 18

SHAPE 19

SHAPE 20

SHAPE 21

SHAPE 22

SHAPE 23

SHAPE 24

SHAPE 25

SHAPE 26

SHAPE 27

SHAPE 28

SHAPE 29

SHAPE 30

SHAPE 31

SHAPE 32

SHAPE 33

SHAPE 34

SHAPE 35

SHAPE 36

SPOT WELD AASHTO M32 SIZE W5 WIRE (TYP.)

VERTICAL LEG

3" PITCH

1-1/2 TURNS

6d FOR #4 AND #5, 12d FOR #6

90° STIRRUP

135° STIRRUP

DETAILED

JAN. 1998

CHECKED

MAR. 1998

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

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

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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 SPIRAL. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS. REINFORCING STEEL (GRADE 60) = FY 60,000 PSI.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

NOTE:

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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 SPIRAL. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.

REINFORCING STEEL (GRADE 60) = FY 60,000 PSI.

STATE OF MISSOURI

KURT E. GRIBBLE

REGISTERED PROFESSIONAL ENGINEER

DATE 5-1-98

BENDING DIAGRAMS

COUNTY

A5495

STD 90.5  
REVISED  
MAY 1974  
DOT. 1991

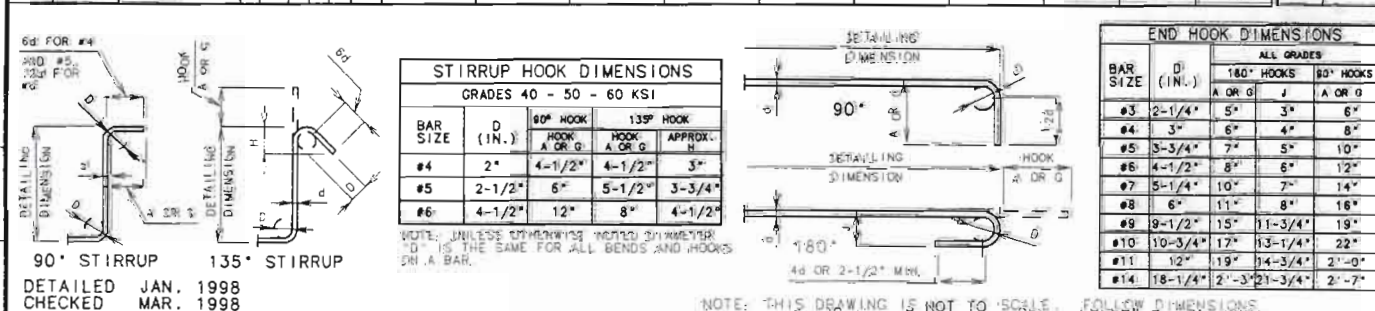
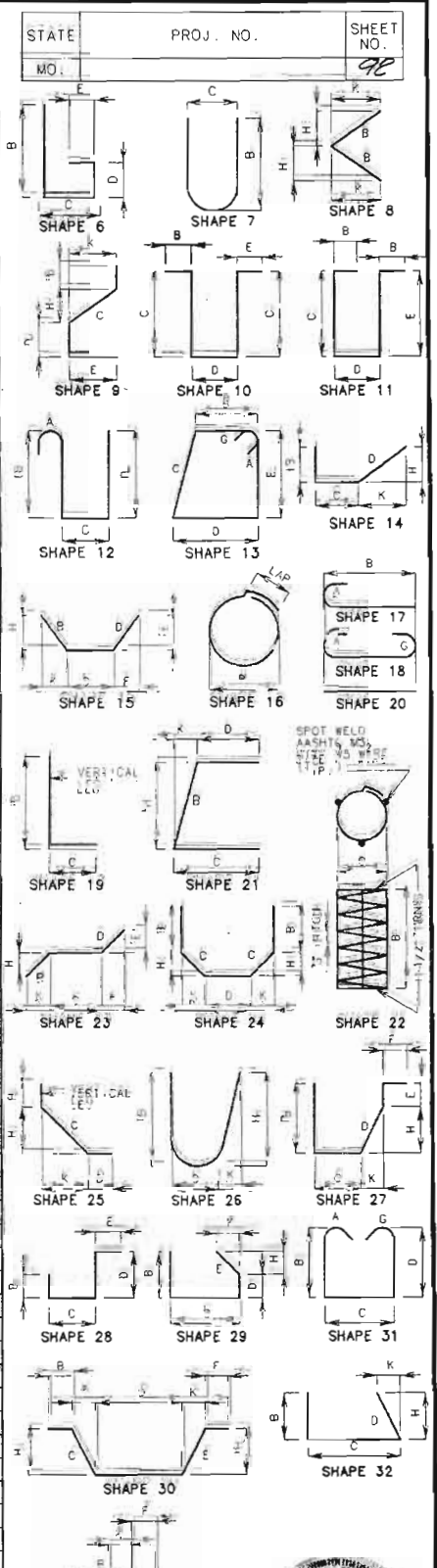


# BILL OF REINFORCING STEEL

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.
24	8 D91	FOOTING		18	X				12	8.000							14	6	929	
20	5 D92	FOOTING		18	X				7	8.000							8	10	184	
58	9 D93	FOOTING		20	X				9	11.000							9	11	1956	
58	8 D94	COLUMN		20	X				10	0.000							10	0	1549	
16	5 D95	BEAM KEY		20	X				2	6.000							2	6	60	
12	10 H91	BEAM		20	X				38	9.000							38	9	2001	
8	10 H92	BEAM		18	X				38	9.000							41	7	1431	
6	6 H93	BEAM		20	X				38	9.000							36	9	349	
8	6 H94	BEAM		20	X				3	9.000							3	9	45	
12	6 H95	BEAM		10	X					22.000	4	9.000					8	5	146	
52	4 P91	COLUMN		16	X				4	9.000							15	9	547	
42	4 P92	COLUMN		16	X				4	3.000							14	3	400	
37	6 U91	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000	20	4	1502	
16	6 U92	BEAM		13	S	X			3	5.500	4	9.000	3	5.500	4	9.000	17	9	427	
12	6 U93	BEAM		10	S	X			4	9.000	3	5.500					13	0	231	
8	6 U94	BEAM		10	S	X			4	9.000	4	9.000					14	3	167	
7	4 U95	BEAM		10	S	X				6.000	4	9.000					5	9	26	
58	9 V91	COLUMN		20	X				25	10.000							25	10	3094	
58	8 V92	COLUMN		20	X				25	6.000							25	6	3949	
		INTERMEDIATE																		
		BENT NO. 10																		
28	8 D101	FOOTING		18	X				13	8.000							15	6	1159	
22	5 D102	FOOTING		18	X				7	8.000								8	10	203
58	9 D103	FOOTING		20	X				9	11.000							9	11	1956	
58	8 D104	COLUMN		20	X				10	0.000							10	0	1549	
12	10 H101	BEAM		20	X				39	3.000							39	3	2027	
8	10 H102	BEAM		18	X				39	3.000							42	1	1449	
6	6 H103	BEAM		20	X				39	3.000							39	3	354	
8	6 H104	BEAM		20	X				3	9.000							3	9	45	
12	6 H105	BEAM		10	X					22.000	4	9.000					8	5	146	
50	4 P101	COLUMN		16	X				4	9.000							15	9	526	
44	4 P102	COLUMN		16	X				4	3.000							14	3	419	
37	6 U101	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000	20	4	1502	
16	6 U102	BEAM		13	S	X			3	8.125	4	9.000	3	8.125	4	9.000	18	2	427	
12	6 U103	BEAM		10	S	X			4	9.000	3	8.125					13	2	231	
8	6 U104	BEAM		10	S	X			4	9.000	4	9.000					14	3	167	
7	4 U105	BEAM		10	S	X				6.000	4	9.000					5	9	26	
58	9 V101	COLUMN		20	X				24	10.000							24	10	3097	
58	8 V102	COLUMN		20	X				25	6.000							25	6	3949	

# 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.
20	W5 W100	ANCHOR WELL		22	X					18.000	9.125					26	1	26	1	87		
			INTERMEDIATE																			
			BENT NO. 11																			
32	8 D111	FOOTING		18	X					14	8.000					16	6	16	6	1410		
24	5 D112	FOOTING		18	X					8	2.000					9	4	9	4	234		
70	9 D113	FOOTING		20	X					10	5.000					10	5	10	5	2479		
58	8 D114	COLUMN		20	X					10	0.000					10	0	10	0	1549		
11	10 H111	BEAM		E 20	X					39	3.000					39	3	39	3	1858		
6	10 H112	BEAM		E 18	X					39	3.000					42	1	42	1	1449		
6	6 H113	BEAM		E 20	X					39	3.000					39	3	39	3	354		
8	6 H114	BEAM		E 20	X					3	9.000					3	9	3	9	45		
12	6 H115	BEAM		E 10	X						22.000	4	9.000			8	5	8	1	164		
50	4 P111	COLUMN		16	X					4	9.000					15	9	15	9	526		
44	4 P112	COLUMN		16	X					4	3.000					14	3	14	3	419		
36	5 U111	BEAM		E 13	S X					5	9.000	4	8.000	5	8.000	4	8.000	23	2	21	8	1172
16	6 U112	BEAM		E 13	S X					4	0.000	4	8.000	4	0.000	4	8.000	18	8	18	2	437
12	6 U113	BEAM		E 10	S X					4	8.000	4	0.000			13	4	13	0	234		
8	6 U114	BEAM		E 10	S X					4	8.000	5	9.000			15	1	14	9	177		
7	4 U115	BEAM		E 10	S X						5.000	5	9.000			6	9	6	7	31		
70	9 V111	COLUMN		20	X					24	4.000					24	4	24	4	5791		
58	8 V112	COLUMN		E 20	X					26	3.000					26	3	26	3	4065		
20	W5 W118	ANCHOR WELL		E 22	X					18.000	9.125					26	1	26	1	87		
			INTERMEDIATE																			
			BENT NO. 12																			
26	8 D121	FOOTING		18	X					13	8.000					15	6	15	6	1076		
22	5 D122	FOOTING		18	X					7	8.000					8	10	8	10	203		
58	9 D123	FOOTING		20	X					9	11.000					9	11	9	11	1956		
58	8 D124	COLUMN		20	X					10	0.000					10	0	10	0	1549		
12	10 H121	BEAM		20	X					39	3.000					39	3	39	3	2027		
8	10 H122	BEAM		18	X					39	3.000					42	1	42	1	1449		
6	6 H123	BEAM		20	X					39	3.000					39	3	39	3	354		
8	6 H124	BEAM		20	X					3	9.000					3	9	3	9	45		
12	6 H125	BEAM		10	X						22.000	4	9.000			8	5	8	1	164		
50	4 P121	COLUMN		16	X					4	9.000					15	9	15	9	526		
44	4 P122	COLUMN		16	X					4	3.000					14	3	14	3	438		



NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180° USED TO BE BENT WITH THE SAME PROCEDURE AS FOR 90° OR 135° HOOKS.  
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.  
F = 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 DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE (NEAREST INCH).  
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.  
PAY WEIGHTS ARE BASED ON ACTUAL LENGTHS.  
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL.



# 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.	FT.
37	6 U121	BEAM		13	S	X			4	9.000	4	9.000	4	9.000				20	4	19	10	1102	
16	6 U122	BEAM		13	S	X			3	8.125	4	9.000	3	8.125	4	9.000			18	2	17	9	427
12	6 U123	BEAM		10	S	X				4	9.000	3	8.125						13	2	12	10	231
8	6 U124	BEAM		10	S	X				4	9.000	4	9.000						14	3	13	11	167
7	4 U125	BEAM		10	S	X				6.000	4	9.000							5	9	5	7	26
58	9 V121	COLUMN		20	X				24	10.000									24	10	24	10	4897
58	8 V122	COLUMN		20	X				26	7.000									26	7	26	7	4117
20	W5 W120	ANCHOR BOLT WELL		22	X				18.000	9.125									26	1	26	1	87
		INTERMEDIATE BENT NO. 13																					
26	8 D131	FOOTING		18	X				13	8.000									13	6	13	6	1076
22	5 D132	FOOTING		18	X				7	8.000									8	10	8	10	203
58	9 D133	FOOTING		20	X				9	11.000									9	11	9	11	1956
58	8 D134	COLUMN		20	X				10	0.900									10	0	10	0	1549
16	6 D135	BEAM KEY		20	X				2	6.000									2	6	2	6	60
12	10 H131	BEAM		20	X				38	9.000									38	9	38	9	2001
8	10 H132	BEAM		18	X				38	9.000									41	7	41	7	1431
5	6 H133	BEAM		20	X				38	9.000									38	9	38	9	349
8	6 H134	BEAM		20	X				3	9.000									3	9	3	9	45
12	6 H135	BEAM		10	X					22.000	4	9.000							6	5	8	1	146
50	4 P131	COLUMN		16	X				4	9.000									15	9	15	9	526
48	4 P132	COLUMN		16	X				4	3.000									14	3	14	3	457
37	6 U131	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000			20	4	19	10	1102
16	6 U132	BEAM		13	S	X			3	5.500	4	9.000	3	5.500	4	9.000			17	9	17	3	415
12	6 U133	BEAM		10	S	X				4	9.000	3	5.500						13	0	12	8	228
8	6 U134	BEAM		10	S	X				4	9.000	4	9.000						14	3	13	11	167
7	4 U135	BEAM		10	S	X				6.000	4	9.000							5	9	5	7	26
58	9 V131	COLUMN		20	X				24	10.000									24	10	24	10	4897
58	8 V132	COLUMN		20	X				27	7.000									27	7	27	7	4272
		INTERMEDIATE BENT NO. 14																					
26	8 D141	FOOTING		18	X				13	8.000									15	6	15	6	1076
22	5 D142	FOOTING		18	X				7	8.000									8	10	8	10	203
58	9 D143	FOOTING		20	X				9	11.000									9	11	9	11	1956
58	8 D144	COLUMN		20	X				10	0.900									10	0	10	0	1549
16	6 D145	BEAM KEY		20	X				2	6.000									2	6	2	6	60
12	10 H141	BEAM		20	X				38	9.000									38	9	38	9	2001

# 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.
8	10	H142	BEAM		18	X				38	9.000								41	7	41	7	1431
6	6	H143	BEAM		20	X				38	9.000								38	9	38	9	349
8	6	H144	BEAM		20	X				3	9.000								3	9	3	9	45
12	6	H145	BEAM		10	X					22.000	4	9.000						8	5	8	1	146
50	4	P141	COLUMN		16	X				4	9.000								15	9	15	9	526
48	4	P142	COLUMN		16	X				4	3.000								14	3	14	3	457
37	6	U141	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000		20	4	19	10	1102
16	6	U142	BEAM		13	S	X			3	5.500	4	9.000	3	5.500	4	9.000		17	9	17	3	415
12	6	U143	BEAM		10	S	X				4	9.000	3	5.500					13	0	12	8	228
8	6	U144	BEAM		10	S	X				4	9.000	4	9.000					14	3	13	11	167
7	4	U145	BEAM		10	S	X				6.000	4	9.000						5	9	5	7	26
58	9	V141	COLUMN		20	X				24	10.000								24	10	24	10	4897
58	8	V142	COLUMN		20	X				28	2.000								28	2	28	2	4362
			INTERMEDIATE																				
			BENT NO. 15																				
26	8	D151	FOOTING		18	X				13	8.000								15	6	15	6	1076
22	5	D152	FOOTING		18	X				7	8.000								8	10	8	10	203
58	9	D153	FOOTING		20	X				9	11.000								9	11	9	11	1956
58	8	D154	COLUMN		20	X				10	0.000								10	0	10	0	1549
16	6	D155	BEAM KEY		20	X				2	6.000								2	6	2	6	60
12	10	H151	BEAM		20	X				38	9.000								38	9	38	9	2001
8	10	H152	BEAM		18	X				38	9.000								41	7	41	7	1431
6	6	H153	BEAM		20	X				38	9.000								38	9	38	9	349
8	6	H154	BEAM		10	X				3	9.000								3	9	3	9	45
12	6	H155	BEAM		10	X					22.000	4	9.000						8	5	8	1	146
50	4	P151	COLUMN		16	X				4	9.000								15	9	15	9	526
50	4	P152	COLUMN		16	X				4	3.000								14	3	14	3	476
37	6	U151	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000		20	4	19	10	1102
16	6	U152	BEAM		13	S	X			3	5.500	4	9.000	3	5.500	4	9.000		17	9	17	3	415
12	6	U153	BEAM		10	S	X				4	9.000	3	5.500					13	0	12	8	228
8	6	U154	BEAM		10	S	X				4	9.000	4	9.000					14	3	13	11	167
7	4	U155	BEAM		10	S	X				6.000	4	9.000						5	9	5	7	26
58	9	V151	COLUMN		20	X				24	10.000								24	10	24	10	4897
58	8	V152	COLUMN		20	X				28	8.000								28	8	28	8	4439
			INTERMEDIATE																				
			BENT NO. 16																				
26	8	D161	FOOTING		18	X				13	8.000								15	6	15	6	1076
22	5	D162	FOOTING		18	X				7	8.000								8	10	8	10	203

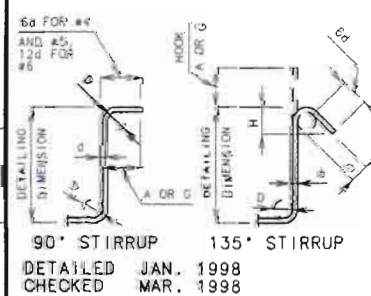
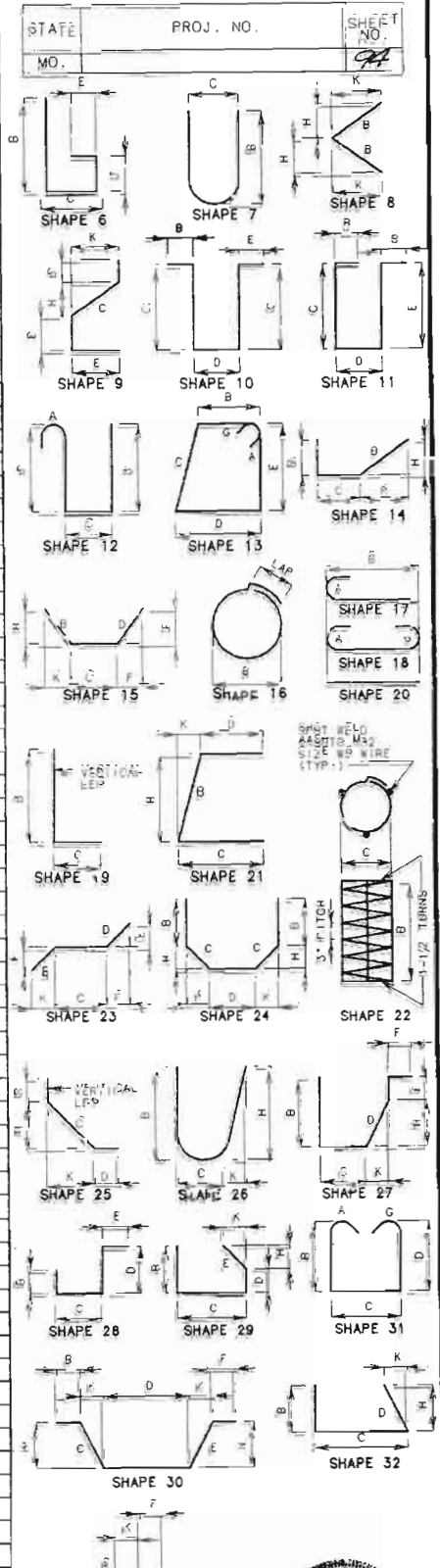


# BILL OF REINFORCING STEEL

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.
58	9 D163	FOOTING		20	X				9	11.000							9	11	1356
58	8 D164	COLUMN		20	X				10	0.000							10	0	1349
11	10 H161	BEAM		20	X				39	3.000							39	3	1858
8	10 H162	BEAM		18	X				39	3.000							42	1	1419
6	6 H163	BEAM		20	X				39	3.000							39	3	354
8	6 H164	BEAM		20	X				3	9.000							3	9	45
12	6 H165	BEAM		10	X						22	0.000	4	9.000			8	5	146
50	4 P161	COLUMN		16	X				4	9.000							15	9	526
50	4 P162	COLUMN		16	X				4	3.000							14	3	476
37	6 U161	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000	20	4	1102
16	6 U162	BEAM		13	S	X			3	8.125	4	9.000	3	8.125	4	9.000	12	2	427
12	6 U163	BEAM		10	S	X			4	9.000	3	8.125					13	2	331
8	6 U164	BEAM		10	S	X			4	9.000	4	9.000					14	3	167
7	4 U165	BEAM		10	S	X				6.000	4	9.000					5	9	26
58	9 V161	COLUMN		20	X				24	10.000							24	10	1897
58	8 V162	COLUMN		20	X				28	9.000							25	9	1452
20	WS W160	ANCHOR WELL		22	X				18	0.000	9	1.25					26	1	87
		END BRKT NO. 17																	
12	6 F170	WING BRACE	E	15	S	X			14	0.000	4	7.500	14	0.000	9	8.75	7	0	123
8	7 H170	BEAM	E	18	X				41	3.000							42	11	702
1	4 H171	APPR. HAUNCH	E	20	X				36	3.000							36	3	24
19	5 H172	BACKWALL	E	19	X				2	0.000	2	0.000					4	0	135
2	6 H173	BEAM	E	20	X				41	3.000							41	3	126
20	4 H174	BACKWALL	E	20	X				21	4.000							21	4	285
2	6 H175	HEADWALL	E	20	X				41	3.000							41	3	124
24	6 H176	WING	E	20	X				17	9.000							17	9	640
14	6 H177	WING	E	20	X				10	3.000							10	3	216
24	4 H178	MUD WALL	E	20	X				3	8.000							3	8	55
16	5 H179	PILE	E	20	X				2	3.000							2	3	38
4	6 H180	BEAM	E	20	X				3	9.000							3	9	23
4	6 T170	WING	E	19	X				4	0.375	9	3.000					13	3	79
4	6 T171	WING	E	19	X				3	8.000	8	8.000					12	4	73
4	6 T172	WING	E	19	X				7	9.000	4	1.000					11	10	31
37	4 U170	APPR. HAUNCH	E	10	S	X				15.000	6.000						3	0	70
36	6 U171	BEAM	E	13	S	X			3	6.500	2	9.000	4	2.500	2	8.000	14	6	157
55	4 U172	BEAM	E	10	S	X				6.000	3	6.000					4	6	4
10	7 U173	BEAM	E	14	X				3	10.500	23	8.75	4	9.125			3	4	215
9	6 U174	BEAM	E	14	S	X			2	8.000	3	8.500	2	9.000			2	8	117

# BILL OF REINFORCING STEEL

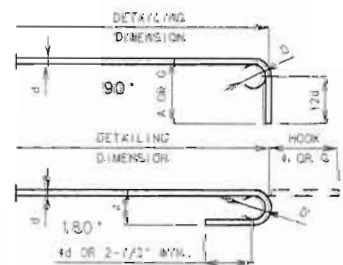
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
										B		C		D		E		F		H				
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
78	5	V170	BACKWALL	E 20		X				8	8.000							8	8	8	8	705		
4	6	V171	WING	E 20		X				4	2.000							4	2	4	2	25		
24	6	V172	WING	E 20		X				5	4.000							5	4	5	4	198		
24	6	V173	WING	E 17		X				5	2.000							5	10	5	10	210		
28	6	V174	WING	E 20		X				7	3.000							7	3	7	3	305		
28	6	V175	WING	E 17		X				7	1.000							7	9	7	9	326		
8	6	V176	WING	E 20		X				9	0.000							9	0	9	0	108		
8	6	V177	WING	E 17		X				8	10.000							9	6	9	6	114		
4	6	V178	MUD WALL	E 20		X				7	6.000							7	6	7	6	30		
4	6	V179	BEAM	E 20		X				2	9.000							2	9	2	9	17		
12	5	V180	PILE	E 20		X				3	5.000							3	5	3	5	43		
18	WS	W170	ANCHOR WELL	E 22		X				15	0.000	9	125					23	0	23	0	38		
			DEADMAN																					
			BENTS 1 & 17																					
8	4	H26	DEADMAN	20						23	4.000							23	4	23	4	125		
8	4	H27	DEADMAN	20						14	8.000							14	8	14	8	78		
47	6	U17	DEADMAN	13	S					9.000	2	6.000	6.000	2	6.000			7	3	7	3	220		
30	4	U18	DEADMAN	13	S					9.000	16.000	6.000	18.000					5	3	5	0	160		
			SUPERSTRUT.																					
			END BENT NO. 1																					
14	6	F10	WING BRACE	15	S					14	0.000	4	8.75	14	0.000	9	875	9	875	6	9	142		
12	6	F11	DIAPHRAGM	19	S					4	9.000	2	3.000					7	0	6	10	123		
8	6	H10	BEAM	20						41	3.000							41	3	41	3	496		
1	4	H11	APPR. HAUNCH	20						36	3.000							36	3	36	3	24		
39	5	H12	APPR. SLAB	E 20						2	6.000							2	6	2	6	108		
5	6	H13	DIAPHRAGM	20						4	6.000							4	6	4	6	43		
2	6	H14	BEAM	20						41	3.000							41	3	41	3	124		
16	6	H15	DIAPHRAGM	20						6	7.000							6	7	6	7	158		
8	6	H16	DIAPHRAGM	20						2	0.000							2	0	2	0	24		
4	6	H17	DIAPHRAGM	20						41	3.000							41	3	41	3	248		
4	6	H18	DIAPHRAGM	E 20						41	3.000							41	3	41	3	248		
4	6	H19	WING	E 20						18	5.000							18	5	18	5	111		
24	6	H181	WING	20						18	5.000							18	5	18	5	664		
16	6	H182	WING	20						10	11.000							10	11	10	11	262		
16	5	H183	PILE	20						2	3.000							2	3	2	3	38		
4	6	H184	BEAM	20						3	9.000							3	9	3	9	23		
4	6	T10	WING	19						4	9.625	9	10.000					14	8	14	6	87		
4	6	T11	WING	19						5	8.000	10	10.000					16	1	16	1	96		



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.

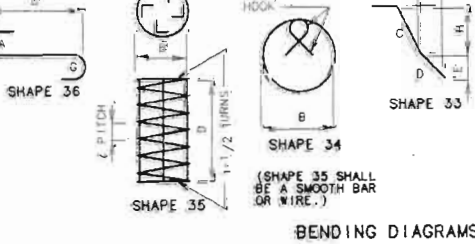


END HOOK DIMENSIONS  
ALL GRADES

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

REINFORCEMENT IN DEADMAN IS NOT INCLUDED IN SUBSTRUCTURE REINFORCEMENT QUANTITIES.

NOTE:  
ALL STANDARD HOOKS AND BENDS OTHER THAN 90 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.  
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURE AS SHOWN ON THIS SHEET.  
C = 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.  
PAYMENTS 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) = 49 LB./1000 YDS.

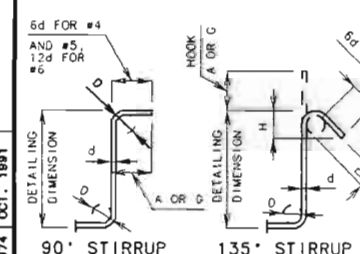
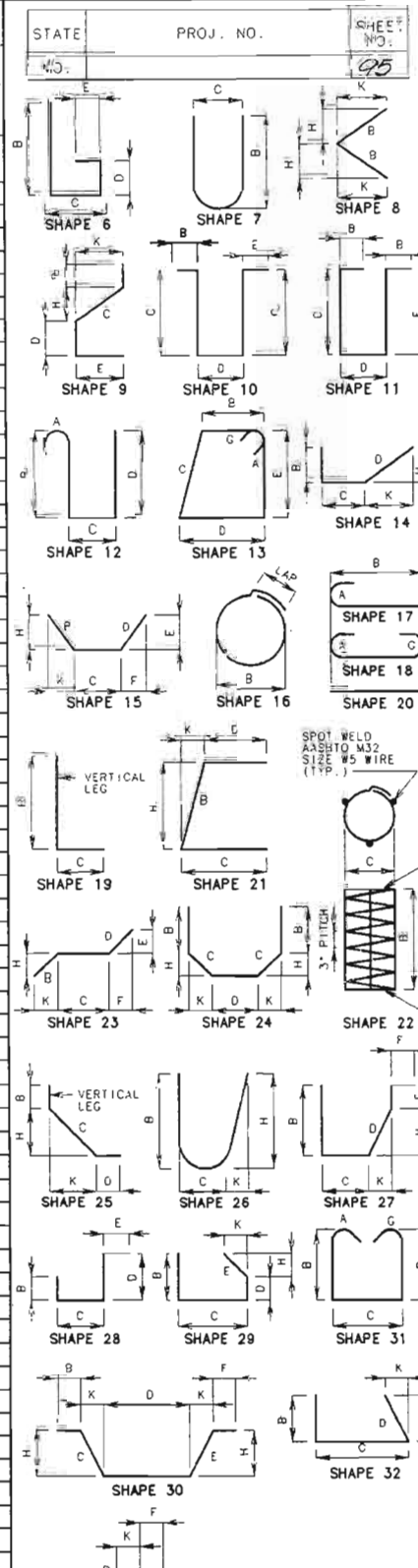


STATE OF MISSOURI  
KURT E. GRIBBLE  
REGISTERED PROFESSIONAL ENGINEER  
NUMBER E-23576  
DATE 5-1-98

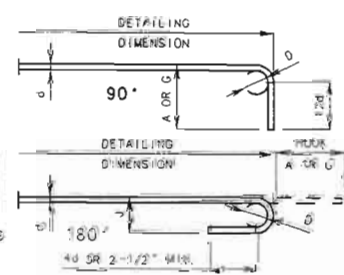


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BILL OF REINFORCING STEEL																											
NO.	REQ'D.	MARK NO.	SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT		
											B		C		D		E		F		H					K	
											FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.
8	6	H502	DIAPHRAGM	E 20							8	0.000									8	0	8	0	96		
4	6	H503	DIAPHRAGM	E 20							5	0.000									5	0	5	0	30		
3	6	H504	DIAPHRAGM	E 20							6	0.000									6	0	6	0	27		
8	5	H505	DIAPHRAGM	E 20							2	0.000									2	0	2	0	18		
3	5	H506	DIAPHRAGM	E 20							4	5.000									4	5	4	5	14		
2	5	H507	DIAPHRAGM	E 20							3	11.000									3	11	3	11	8		
4	6	H508	DIAPHRAGM	E 20							6	7.000									6	7	6	7	40		
1	6	H509	DIAPHRAGM	E 20							37	7.000									37	7	37	7	56		
4	4	H510	DIAPHRAGM	E 20							7	10.000									7	10	7	10	21		
1	4	H511	DIAPHRAGM	E 20							37	7.000									37	7	37	7	25		
14	9	H512	DIAPHRAGM	E 20							7	10.000									7	10	7	10	373		
1	5	H513	DIAPHRAGM	E 20							37	7.000									37	7	37	7	39		
8	4	H514	DIAPHRAGM	E 20							2	0.000									2	0	2	0	11		
3	4	H515	DIAPHRAGM	E 20							4	9.000									4	9	4	9	10		
2	4	H516	DIAPHRAGM	E 20							3	6.000									3	6	3	6	5		
16	4	U500	DIAPHRAGM	E 28 S									15.000	3	11.750	12.000					6	3	6	1	65		
16	4	U501	DIAPHRAGM	E 27 S							15.000		3	1.375	14.625	12.000			10.375	10.375	6	7	6	5	69		
8	6	U502	DIAPHRAGM	E 28 S									15.000	4	3.125	14.000					6	8	6	4	76		
8	6	U503	DIAPHRAGM	E 27 S							15.000		3	4.500	15.000	14.000			10.625	10.625	7	1	6	10	82		
8	6	U504	DIAPHRAGM	E 28 S									15.000	4	9.250	14.000					7	2	6	11	83		
8	6	U505	DIAPHRAGM	E 27 S							15.000		3	10.625	15.000	14.000			10.625	10.625	7	7	7	4	88		
8	6	U506	DIAPHRAGM	E 28 S									15.000	5	3.250	14.000					7	8	7	5	89		
8	6	U507</																									

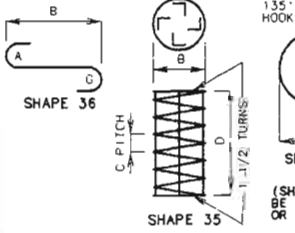


STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"



END HOOK DIMENSIONS						
BAR SIZE	D. (IN.)	ALL GRADES				
		180° HOOKS		90° HOOKS		
		A OR G	J	A OR G	J	
#3	2-1/4"	5"	3"	6"	6"	
#4	3"	6"	4"	8"	8"	
#5	3-3/4"	7"	5"	10"	10"	
#6	4-1/2"	8"	6"	12"	12"	
#7	5-1/4"	10"	7"	14"	14"	
#8	6"	11"	8"	16"	16"	
#9	6-1/2"	15"	11-3/4"	19"	19"	
#10	7-3/4"	17"	13-1/4"	22"	22"	
#11	12"	19"	14-3/4"	21"	21"	
#14	18-1/4"	21-3/4"	21-3/4"	27"	27"	

**NOTE.** STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.  
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.  
E = EPOXY COATED REINFORCEMENT.  
S = STIRRUPS.  
BARS 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.  
DIMENSIONS ARE TO BE MEASURED ON OUT TO OUT.  
ALL DIMENSIONS ARE TO BE IN INCHES UNLESS INDICATED OTHERWISE.  
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE PLAN TO THE NEAREST INCH.  
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.  
FOUR ANGLE OR CHAIR SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL SPACERS ARE TO BE PLACED AT 90 DEGREE ANGLES.  
REINFORCING SPIRAL GRADE 60 OR HIGHER AND COLUMNS SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.



### BENDING DIAGRAMS

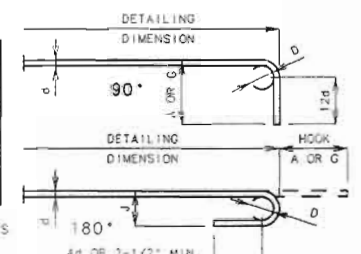
DATE 5-1-98



BILL OF REINFORCING STEEL																							
NO. REQ'D.	MARK NO.	LOCATION	EPOXY	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.								
16	5 H306	DIAPHRAGM		20					3	11.000							3	11	3	11	65		
24	6 H307	DIAPHRAGM		20					6	0.000							6	0	6	0	216		
128	4 U300	DIAPHRAGM	E	28	S						2	2.000	3	11.875	12.000			7	2	7	0	599	
64	6 U301	DIAPHRAGM	E	28	S						2	7.000	5	0.750	14.000			8	10	8	6	817	
80	6 U302	DIAPHRAGM		19	S						4	9.750	2	7.000				7	5	7	3	871	
32	5 U303	DIAPHRAGM	E	15	S						15	250	5	1.000			10.750	10.750	6	4	6	4	211
64	5 U304	DIAPHRAGM		6	S						4	0.500	13.000	18.000				6	8	6	5	428	
16	5 U305	DIAPHRAGM		19	S						4	8.500	13.000					5	10	5	8	95	
64	5 U306	DIAPHRAGM		20							4	1.000						4	1	4	1	273	
80	5 U307	DIAPHRAGM		10	S						2	0.000	23.000					5	11	5	9	480	
		DIAPH. •																					
		INT. BENTS																					
		7, 8, 9, 13																					
		14 & 15																					
96	6 H600	DIAPHRAGM		20							6	5.000						6	5	6	5	925	
144	4 H601	DIAPHRAGM		20							8	0.000						8	0	8	0	770	
48	5 H602	DIAPHRAGM		20							3	7.000						3	7	3	7	179	
72	5 H603	DIAPHRAGM		20							4	8.000						4	8	4	8	350	
36	6 H604	DIAPHRAGM		20							6	0.000						6	0	6	0	324	
240	4 U600	DIAPHRAGM	E	28	S						2	0.000	6	4.000	12.000			9	4	9	2	1470	
96	6																						

The image contains two technical drawings of stirrups. The left drawing is for a 90° stirrup, showing a U-shaped bar with a 90-degree hook. It is labeled '90° STIRRUP' and includes dimensions 'a', 'b', and 'c'. The right drawing is for a 135° stirrup, showing a U-shaped bar with a 135-degree hook. It is labeled '135° STIRRUP' and includes dimensions 'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z'. Both drawings have a vertical dimension line on the left labeled 'DETAILING DIMENSION' and a horizontal dimension line on the top labeled 'HOOK'. The 90° stirrup has a label '6d FOR #4 AND #5, 12d FOR #6' pointing to the hook. The 135° stirrup has a label 'HOOK' pointing to the hook.

STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		HOOK A OR G	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"

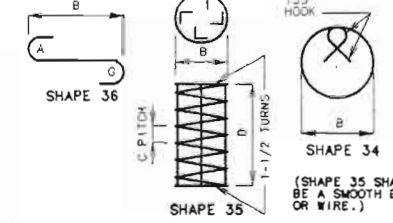


NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

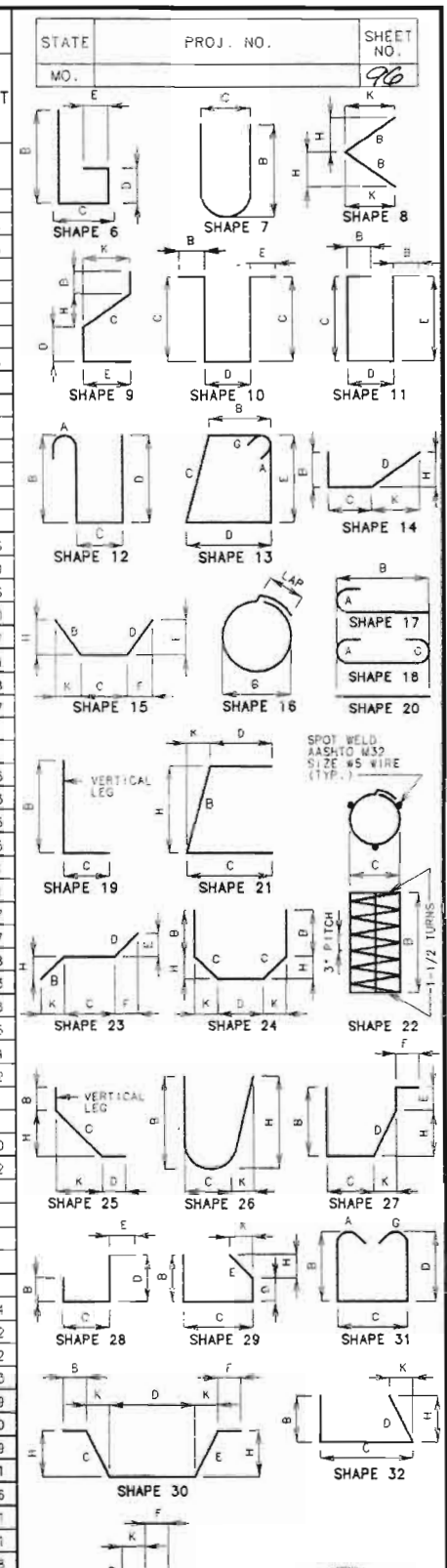
END HOOK DIMENSIONS					
BAR SIZE	Ø (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A OR G	J	A OR G	J
#3	2-1/4"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3-3/4"	7"	5"	10"	
#6	4-1/2"	8"	6"	12"	
#7	5-1/4"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9-1/2"	15"	11-3/4"	19"	
#10	10-3/4"	17"	13-1/4"	22"	
#11	12"	18"	14-3/4"	24"	
#14	18-1/4"	21-3"	21-3/4"	21-0"	

NOTE:  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME  
PROCEDURE AS FOR 90 DEG. STD. 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 HE FOLLOWING LINE.  
NO. EA. = NUMBER OF BARS OF EACH LENGTH.  
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAM AND  
ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)  
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.  
FOUR POINTS OR BASES OF 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) = FY 60,000 PSI.

BILL OF REINFORCING STEEL																										
NO.	REQ'D.	MARK NO.	SIZE	MARK	LOCATION	EPOXY	(E)	SHAPE NO.	STIRUP (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.
16	6	U709	DIAPHRAGM	E 19	S								4	10.500	15.000					6	2	8	0	144		
32	5	U710	DIAPHRAGM	E 20	S								4	1.000						4	1	4	1	136		
8	5	U711	DIAPHRAGM	E 15	S									15.250	5	1.000				10.750	10.750	6	4	6	4	53
16	5	U712	DIAPHRAGM	E 6	S								4	0.500	13.000	18.000						6	8	6	5	107
4	5	U713	DIAPHRAGM	E 19	S								4	8.500	13.000						5	10	5	8	24	
8	5	V700	DIAPHRAGM	E 20	S								4	7.000							4	7	4	7	38	
			DIAPH. &																							
			INT. BENT																							
			17																							
4	8	H800	DIAPHRAGM	E 20	S								39	3.000							39	3	39	3	236	
14	7	H801	DIAPHRAGM	E 20	S								8	0.000							8	0	8	0	229	
8	6	H802	DIAPHRAGM	E 20	S								8	0.000							8	0	8	0	96	
4	6	H803	DIAPHRAGM	E 20	S								5	0.000							5	0	5	0	30	
8	5	H804	DIAPHRAGM	E 20	S								2	0.000							2	0	2	0	17	
3	5	H805	DIAPHRAGM	E 20	S								4	5.000							4	5	4	5	14	
2	5	H806	DIAPHRAGM	E 20	S								3	11.000							3	11	3	11	8	
3	6	H807	DIAPHRAGM	E 20	S								6	0.000							6	0	6	0	27	
16	4	U800	DIAPHRAGM	E 28	S									15.000	3	10.375	12.000				6	1	5	11	63	
16	4	U801	DIAPHRAGM	E 11	S									15.000	3	10.375	12.000				6	1	5	11	63	
8	6	U802	DIAPHRAGM	E 28	S									15.000	4	1.500	14.000				6	7	6	3	75	
8	6	U803	DIAPHRAGM	E 11	S									15.000	4	1.500	14.000				6	7	6	3	75	



### BENDING DIAGRAMS

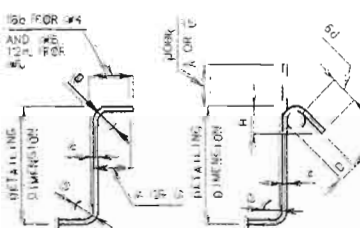
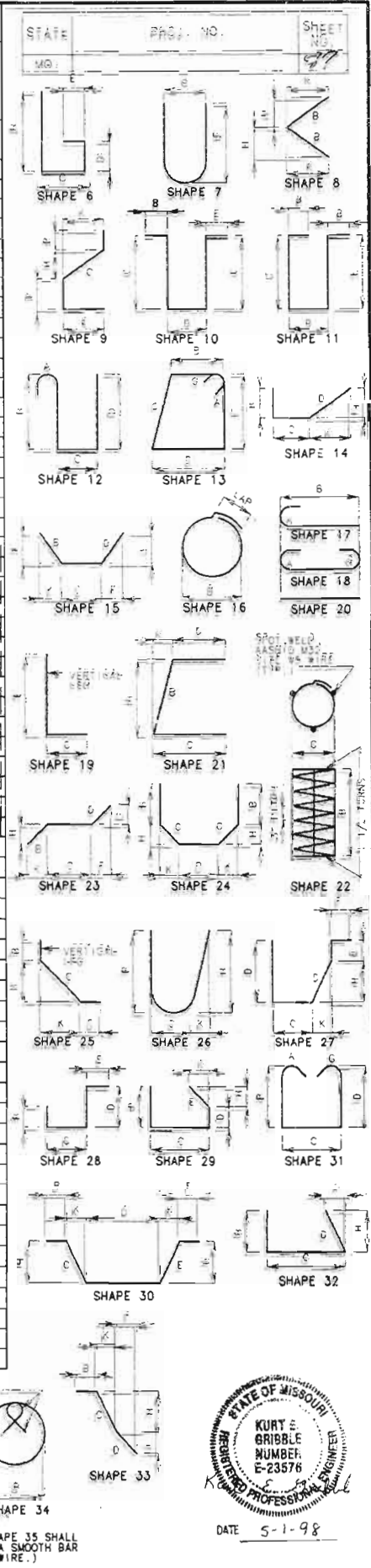


DATE 5-1-98

DATE 5-1-98

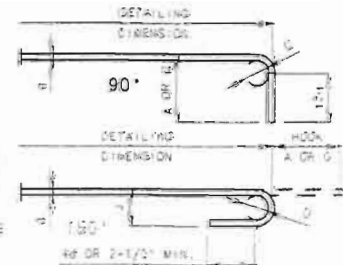


# BILL OF REINFORCING STEEL

[illegible]

STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	ID (IN.)	90° HOOK		APPROX. H
		A OR G	A OR G	
#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 HOOPS  
ON A BAR.



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

**NOTE:**

1. FORWARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE SHOWN WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

2. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

3. E- = EPOXY COATED REINFORCEMENT.

4. S- = STRIKING

5. BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

6. BAR DIMENSIONS VARY IN SMALL AMOUNTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING:

NO. B.R. = NUMBER OF BARS OF EACH LENGTH.

NUMERICAL LENGTHS ARE BASED ON ACT. DIMENSIONS SHOWN IN BENDING DIAGRAMS AND NOT ON THEORETICAL SPACERS.

ACT. LENGTHS ARE MEASURED ON CENTER LINE BAR TO THE NEAREST INCH.

WAVE SPTS ARE BASED ON ACT. 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 SPACERS OR SPACERS.

DATE 11

STATE OF MISSOURI  
KURT E. GRIDDLE  
NUMBER E-23576  
APR 1999  
REGISTERED PROFESSIONAL ENGINEER  
DATE 11-4-99

DATE 11-4-99

1 Revised 10-28-99



DATE 5-1-98

DATE 5-1-98

### BENDING DIAGRAMS

COUNTY

A5495

STD 90.8	REVISED
MAY 1974	OCT. 1981

90° STIRRUP 135

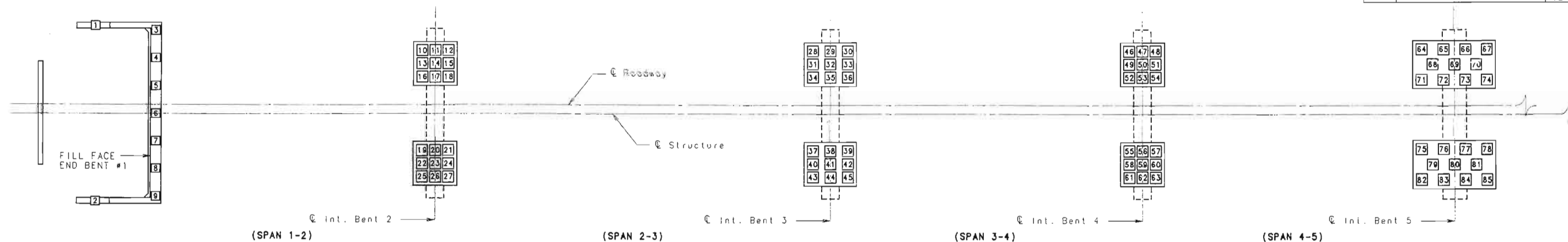
DETAILED JAN. 1998  
CHECKED MAR. 1998

SHEET NO. 91 OF 93.

JACKSON

COUNTY

A5495



PART PLAN SHOWING  
PILE NUMBERING FOR RECORDING  
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
END BENT NO. 1			
1			
2			
3			
4			
5			
6			
7			
8			
9			
INT. BENT NO. 2			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
INT. BENT NO. 3			
28			
29			
30			
31			

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
INT. BENT NO. 4			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62			
63			

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
INT. BENT NO. 5			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			
76			
77			
78			
79			
80			
81			
82			
83			
84			
85			

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.

NOTE: INDICATE IN REMARK COLUMN:  
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.  
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.  
C.) TYPE OF PILING USED.



DATE 5-1-98

MISC. PILES IN .PLA. .A  
PILES IN PLACE  
MAY 1992

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

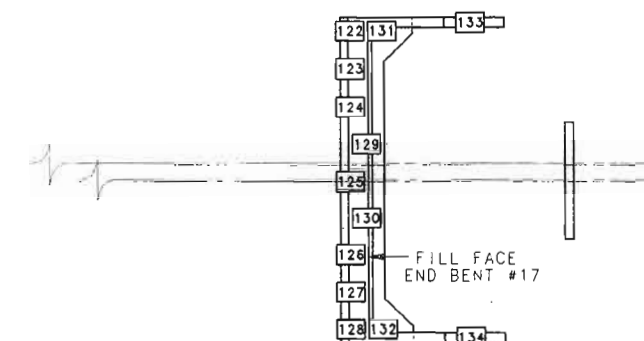
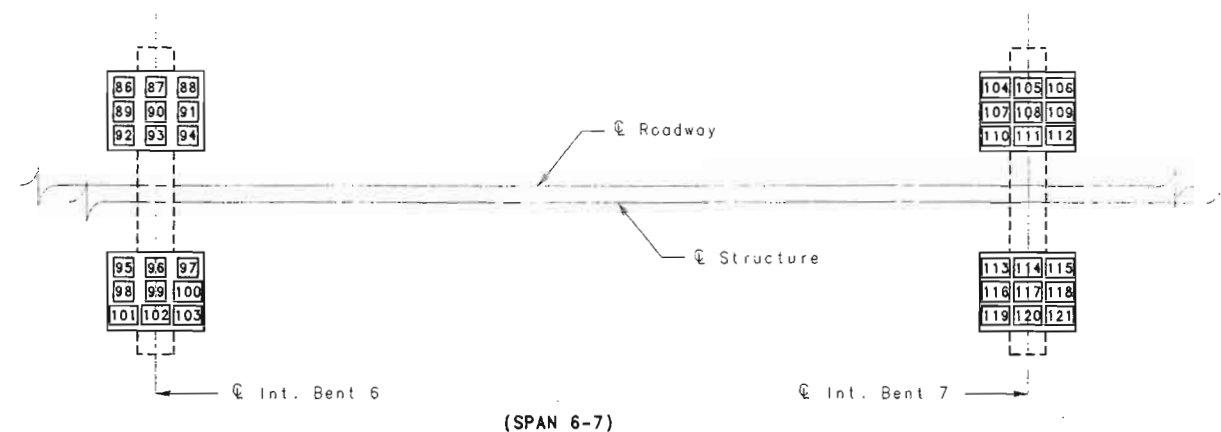
SHEET NO. 92 OF 93.

JACKSON

COUNTY

A5495





PART PLAN SHOWING  
PILE NUMBERING FOR RECORDING  
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
INT. BENT NO. 6			
86			
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			
101			
102			
103			

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
INT. BENT NO. 7			
104			
105			
106			
107			
108			
109			
110			
111			
112			
113			
114			
115			
116			
117			
118			
119			
120			
121			

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
END BENT NO. 17			
122			
123			
124			
125			
126			
127			
128			
129			
130			
131			
132			
133			
134			

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.

MISC. PILES IN 'PLA. A'  
PILES IN PLACE  
MAY 1992

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 93 OF 93.

JACKSON COUNTY

A5495

NOTE: INDICATE IN REMARK COLUMN:  
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.  
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.  
C.) TYPE OF PILING USED.



MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

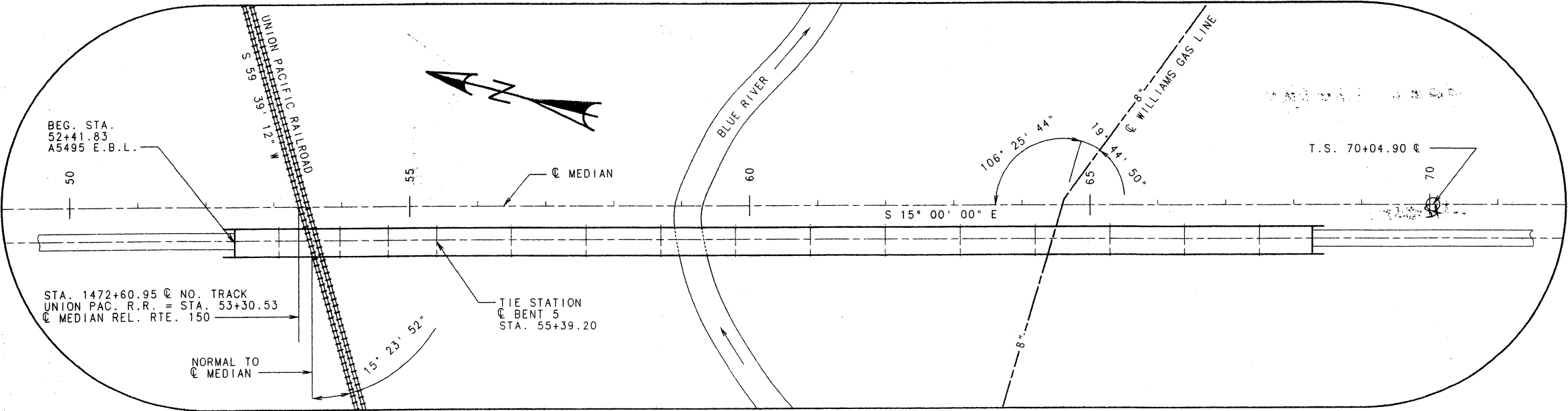
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MO.	PROJ No. E.A.M.-3378 (408)	7
SEC./SUR.	C.T.D.-180724-05-PFM	47 RGE. 33

1. LOCATION SKETCH & INDEX OF DRAWINGS
2. PART PLAN AND PART ELEVATION
3. PART PLAN AND PART ELEVATION
4. PART PLAN AND PART ELEVATION
5. PART PLAN AND PART ELEVATION
6. PART PLAN AND PART ELEVATION
7. GENERAL NOTES-QUANTITIES-PILE & FOOTING TABLE-HYDROLOGIC DATA TABLE
8. BORING DATA
9. BORING DATA
10. VERTICAL DRAINS AT END BENTS
11. DETAILS OF DEADMAN ANCHORAGE SYSTEM
12. DETAILS OF END BENT NO. 1
13. DETAILS OF END BENT NO. 1
14. DETAILS OF INTERMEDIATE BENT NO. 2
15. DETAILS OF INTERMEDIATE BENT NO. 2
16. DETAILS OF INTERMEDIATE BENT NO. 3
17. DETAILS OF INTERMEDIATE BENT NO. 3
18. DETAILS OF INTERMEDIATE BENT NO. 4
19. DETAILS OF INTERMEDIATE BENT NO. 4
20. DETAILS OF INTERMEDIATE BENT NO. 5
21. DETAILS OF INTERMEDIATE BENT NO. 5
22. DETAILS OF INTERMEDIATE BENT NO. 6
23. DETAILS OF INTERMEDIATE BENT NO. 6
24. DETAILS OF INTERMEDIATE BENT NO. 7
25. DETAILS OF INTERMEDIATE BENT NO. 7
26. DETAILS OF INTERMEDIATE BENT NO. 8
27. DETAILS OF INTERMEDIATE BENT NO. 8
28. DETAILS OF INTERMEDIATE BENT NO. 9
29. DETAILS OF INTERMEDIATE BENT NO. 9
30. DETAILS OF INTERMEDIATE BENT NO. 10
31. DETAILS OF INTERMEDIATE BENT NO. 10

32. DETAILS OF INTERMEDIATE BENT NO. 11
33. DETAILS OF INTERMEDIATE BENT NO. 11
34. DETAILS OF INTERMEDIATE BENT NO. 12
35. DETAILS OF INTERMEDIATE BENT NO. 12
36. DETAILS OF INTERMEDIATE BENT NO. 13
37. DETAILS OF INTERMEDIATE BENT NO. 13
38. DETAILS OF INTERMEDIATE BENT NO. 14
39. DETAILS OF INTERMEDIATE BENT NO. 14
40. DETAILS OF INTERMEDIATE BENT NO. 15
41. DETAILS OF INTERMEDIATE BENT NO. 15
42. DETAILS OF INTERMEDIATE BENT NO. 16
43. DETAILS OF INTERMEDIATE BENT NO. 16
44. DETAILS OF END BENT NO. 17
45. DETAILS OF END BENT NO. 17
46. DETAILS OF END BENT NO. 17
47. DETAILS OF LAMINATED NEOPRENE BEARING PAD OF PILE LINE
48. DETAILS OF TYPE "N" PTFE BEARING PAD
49. DETAILS OF GIRDERS - SPAN (1-2)
50. DETAILS OF GIRDERS - SPAN (2-3)
51. DETAILS OF GIRDERS - SPAN (3-4)
52. DETAILS OF GIRDERS - SPAN (4-5)
53. DETAILS OF GIRDERS - SPAN (5-6)
54. DETAILS OF GIRDERS - SPANS (6-7), (7-8), (8-9) & (9-10)
55. DETAILS OF GIRDERS - SPAN (10-11)
56. DETAILS OF GIRDERS - SPAN (11-12)
57. DETAILS OF GIRDERS - SPANS (12-13), (13-14), (14-15) & (15-16)
58. DETAILS OF GIRDERS - SPAN (16-17)
59. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENTS NO. 2, 4, 6, 10, 12 & 16
60. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENTS NO. 3, 7, 8, 9, 13, 14 & 15
61. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 5
62. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 11

63. DETAILS OF DIAPHRAGM AT END BENT NO. 17
64. DETAILS OF STEEL INTERMEDIATE DIAPHRAGMS
65. DETAILS OF FINGER PLATE EXPANSION DEVICE AT BENTS 5 & 11
66. DETAILS OF FLAT PLATE EXPANSION DEVICE AT END BENT NO. 17
67. PLAN OF SLAB REINFORCEMENT
68. PLAN OF SLAB REINFORCEMENT
69. PLAN OF SLAB REINFORCEMENT
70. PRECAST PRESTRESSED PANELS
71. CAMBER DIAGRAM & SLAB POURING SEQUENCE
72. THEORETICAL SLAB HAUNCHING DIAGRAM
73. THEORETICAL BOTTOM OF SLAB ELEVATIONS
74. THEORETICAL BOTTOM OF SLAB ELEVATIONS
75. DETAILS OF SLAB DRAINS
76. DETAILS OF SLAB DRAINS
77. DETAILS OF SLAB DRAINS
78. DETAILS OF SAFETY BARRIER CURB AT END BENT NO. 1 AND END BENT NO. 17.
79. DETAILS OF SAFETY BARRIER CURB - SECTION NEAR LEFT BARRIER CURB
80. OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB
81. DETAILS OF SPLASH PROTECTION SHIELD
82. APPROACH SLAB AT END BENT NO. 1
83. APPROACH SLAB AT END BENT NO. 17
84. BAR BILL
85. BAR BILL
86. BAR BILL
87. BAR BILL
88. BAR BILL
89. BAR BILL
90. BAR BILL
91. BAR BILL
92. "AS BUILT PILE" DATA
93. "AS BUILT PILE" DATA

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the Contractor's actual construction of the project, except as I and my staff may have directed or ordered the project to be constructed.  
M. J. A. S. L. 44-23-01  
Signature Date



LOCATION SKETCH

**WARNING!**  
**PETROLEUM PRODUCTS PIPELINE!**  
AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION  
CONTACT WILLIAMS PIPE LINE COMPANY AT  
8001 COLLEGE BLVD., SUITE 200  
OVERLAND PARK, KS 66210  
(913) 663-9331

BM#1501 - ELEV. 866.16  
100d SPIKE, N.W. FACE  
R.R. TELEGRAPH POLE,  
200' R/O STA. 53+30±  
© RELOCATED RTE. 150.

BRIDGE OVER BLUE RIVER &  
UNION PACIFIC RAILROAD

STATE ROAD FROM RTE. 71 TO KANSAS STATE LINE  
ABOUT 0.7 MI. S.E. OF KANSAS STATE LINE  
PROJECT NO. STA. 55+39.20  
JOB NO. J4U1011C RTE.150 E.B.L.  
JACKSON COUNTY



DESIGNED JULY 1996  
DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 1 OF 93.

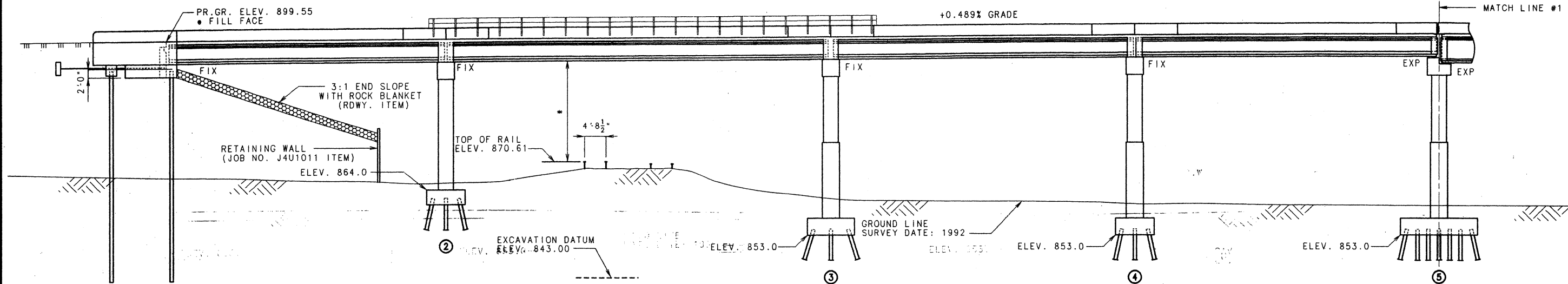
DATE 5/14/98

STD. 609.00  
STD. 706.35  
A5495



(65'-90'-71'-71') P/S CONC. I-GIRDER  
(6+110')(5+110'-78') P/S BULB-TEE GIRDERS

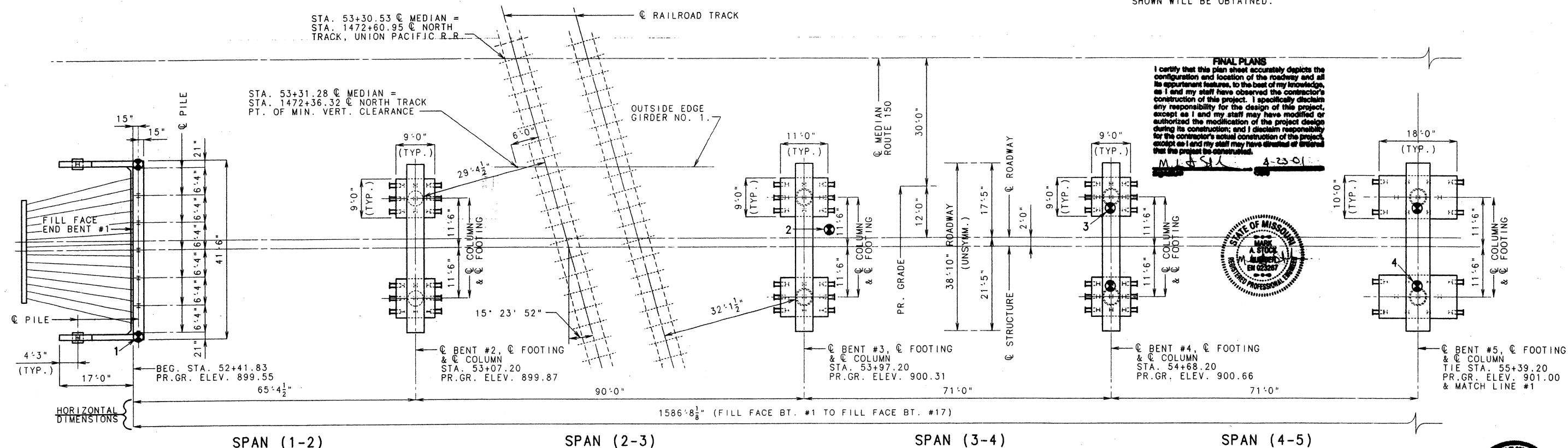
STATE	JOB NO. J4U1011C	SHEET NO.
PROJ. NO. - E.A.M. - 3373 (408)		
MO. C.T.D. - 980724-05-PEM		8



NOTE: ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE END BENTS BEFORE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.

## PART ELEVATION

\* FINAL VERTICAL CLEARANCE FROM TOP OF RAILS TO BOTTOM OF SUPERSTRUCTURE SHALL BE AT LEAST 23'-0". TRACK ELEVATIONS SHOULD BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION TO DETERMINE IF THE FINAL VERTICAL CLEARANCE SHOWN WILL BE OBTAINED.



**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.



### NOTICE AND DISCLAIMER REGARDING BORING LOG DATA

THE LOCATIONS OF ALL SUBSURFACE BORING FOR THIS STRUCTURE ARE SHOWN ON THE BRIDGE PLAN SHEETS FOR THIS STRUCTURE. BORING DATA FOR THE NUMBERED LOCATIONS ARE SHOWN ON SHEETS NO. 8 AND NO. 9. THE BORING DATA FOR ALL LOCATIONS INDICATED, AS WELL AS ANY OTHER BORING LOGS OR OTHER FACTUAL RECORDS OF SUBSURFACE DATA AND INVESTIGATIONS PERFORMED BY THE DEPARTMENT FOR THE DESIGN OF THE PROJECT, IS AVAILABLE FROM THE DISTRICT MATERIALS ENGINEER OR PROJECT CONTACT UPON WRITTEN REQUEST AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS. NO GREATER SIGNIFICANCE OR WEIGHT SHOULD BE GIVEN TO THE BORING DATA DEPICTED ON THE PLAN SHEETS THAN TO SUBSURFACE DATA AVAILABLE FROM THE DISTRICT OR ELSEWHERE.

NOTE: "B" INDICATES LOCATION OF BORINGS.

THE COMMISSION DOES NOT REPRESENT OR WARRANT THAT ANY SUCH BORING DATA ACCURATELY DEPICTS THE CONDITIONS TO BE ENCOUNTERED IN CONSTRUCTING THIS PROJECT. A CONTRACTOR ASSUMES ALL RISKS IT MAY ENCOUNTER IN BASING ITS BID PRICES, TIME OR SCHEDULE OF PERFORMANCE ON THE BORING DATA DEPICTED HERE OR THOSE AVAILABLE FROM THE DISTRICT, OR ON ANY OTHER DOCUMENTATION NOT EXPRESSLY WARRANTED, WHICH THE CONTRACTOR MAY OBTAIN FROM THE COMMISSION.



DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 93.

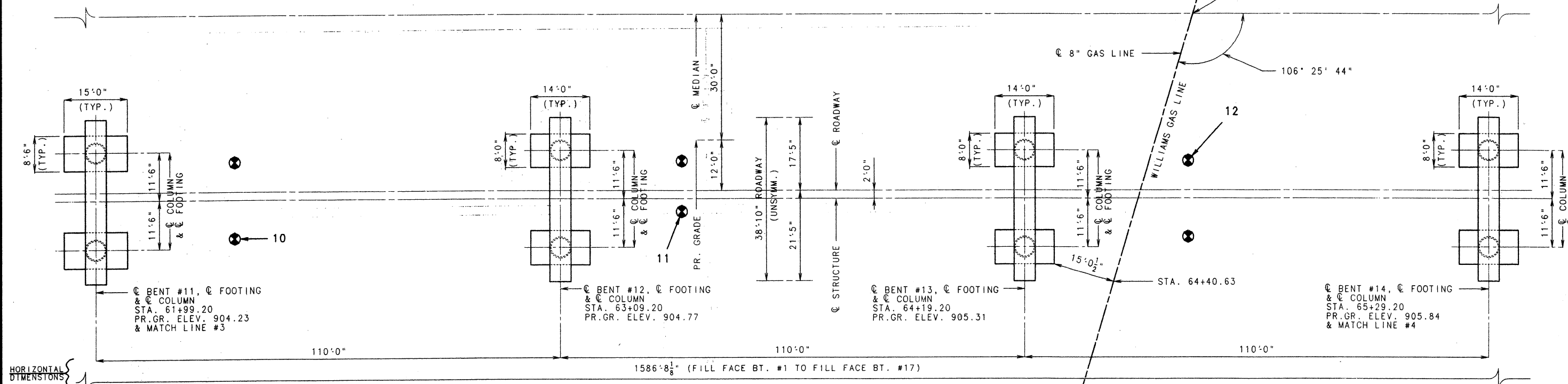
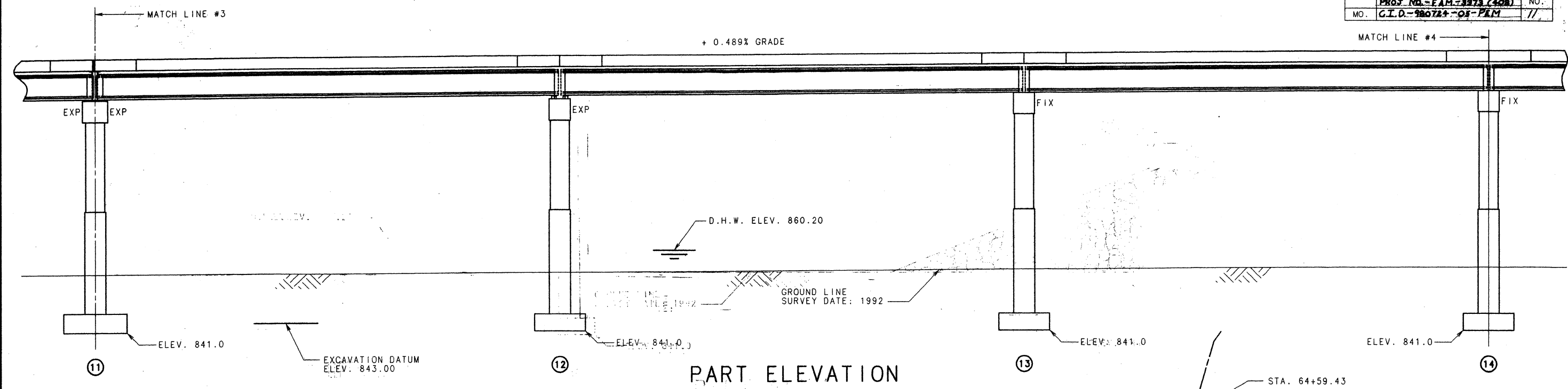
JACKSON COUNTY

A5495









⊗ INDICATES LOCATION OF BORINGS.

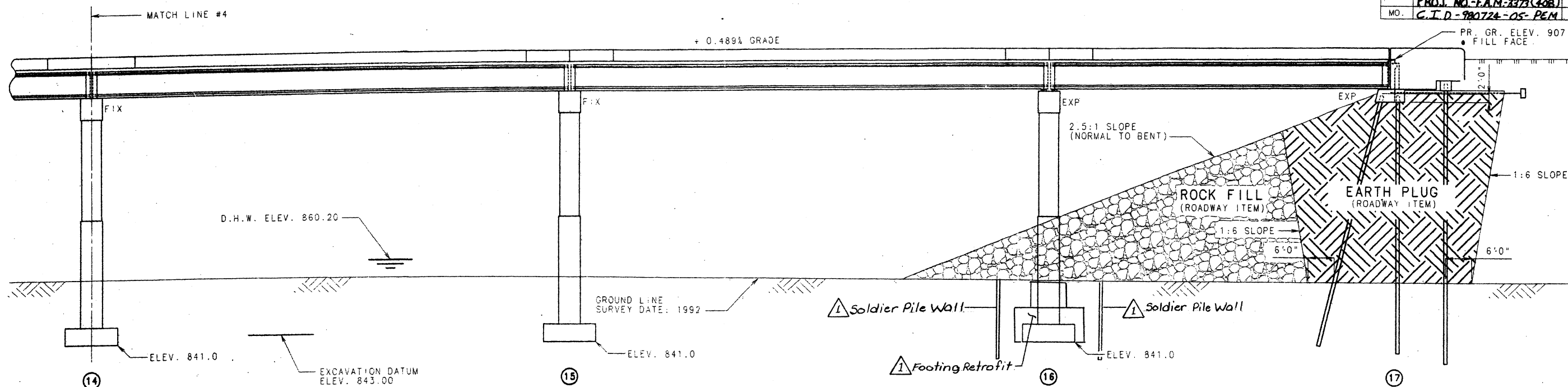
**FINAL PLANS**  
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 M.L. SALL 4-23-01



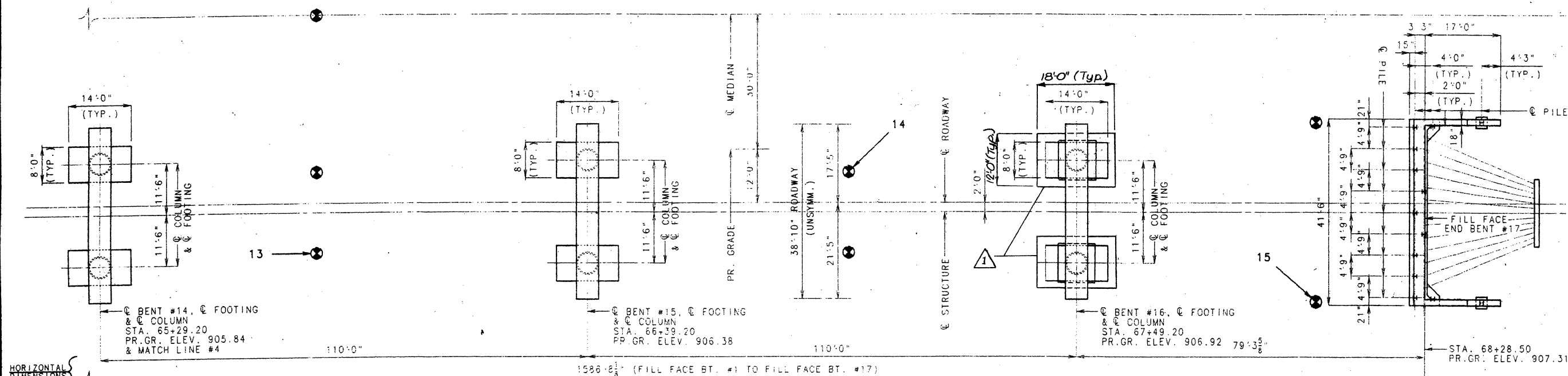
**WARNING!**  
**PETROLEUM PRODUCTS PIPELINE!**  
 AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION  
 CONTACT WILLIAMS PIPE LINE COMPANY AT  
 8001 COLLEGE BLVD., SUITE 200  
 OVERLAND PARK, KS 66210  
 (913) 663-9331







PART ELEVATION



SPAN (14-15)

SPAN (15-16)

SPAN (16-17)

PART PLAN

INDICATES LOCATION OF BORINGS.

**FINAL PLANS**  
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 M.L. & S.L. 4-23-01



NOTE: ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE END BENTS BEFORE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.



DETAILED JAN. 1998  
 CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 6 OF 93.1 Revised 10-28-99

JACKSON

COUNTY

A5495

GENERAL NOTES:

DESIGN SPECIFICATIONS:

AASHTO-1996  
LOAD FACTOR DESIGN  
SEISMIC PERFORMANCE CATEGORY A

DESIGN LOADING:

HS20 MODIFIED  
35#/SQ. FT. FUTURE WEARING SURFACE  
MILITARY 24,000# TANDEM AXLE  
EARTH 120#/CU. FT., EQUIVALENT FLUID PRESSURE Bent No. 1 =  
61.9#/CU. FT. Bent No. 17 = 45#/CU. FT.  
SUPERSTRUCTURE: SIMPLY-SUPPORTED, NON-COMPOSITE FOR DEAD LOAD,  
CONTINUOUS COMPOSITE FOR LIVE LOAD.

DESIGN UNIT STRESSES:

CLASS B CONCRETE (SUBSTRUCTURE) F'C=3,000 PSI.  
CLASS B1 CONCRETE (SAFETY BARRIER CURB) F'C=4,000 PSI.  
CLASS B2 CONCRETE (SUPERSTRUCTURE, EXCEPT PRESTRESSED GIRDERS AND  
SAFETY BARRIER CURB) F'C=4,000 PSI  
REINFORCING STEEL (GRADE 60) F<sub>y</sub>=60,000 PSI  
STEEL PILE (ASTM A709 GRADE 36) F<sub>y</sub> = 90000 PSI  
F<sub>y</sub> = 36000 PSI

FOR PRESTRESSED GIRDER STRESSES, SEE SHEETS NO. 49 THRU 58.  
FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 70.

REINFORCING STEEL:

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2", UNLESS  
OTHERWISE SHOWN.  
ALL REINFORCING BARS IN TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL  
BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

JOINT FILLER:

ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF STD. SPEC. 1057.2.4,  
EXCEPT AS NOTED.

NEOPRENE BEARINGS:

BEARINGS SHALL BE 60 DUROMETER NEOPRENE PADS.  
THE NEOPRENE PAD SHALL BE BONDED TO THE BEARING SEAT WITH AN EPOXY  
ADHESIVE AS APPROVED BY THE BEARING MANUFACTURER FOR BONDING NEOPRENE  
TO CONCRETE.

MISCELLANEOUS:

A MINIMUM VERTICAL CLEARANCE OF 21'-6" FROM TOP OF RAILS AND A  
MINIMUM LATERAL CLEARANCE OF 15'-0" FROM THE CENTERLINE OF TRACK  
TO NEAREST TEMPORARY CONSTRUCTION FALSEWORK SHALL BE MAINTAINED  
DURING CONSTRUCTION.

HIGH STRENGTH BOLTS, NUTS AND WASHERS WILL BE SAMPLED FOR QUALITY  
ASSURANCE AS SPECIFIED IN STANDARD SPECIFICATION 106 AND FIELD  
SECTION (FS-712) FROM MATERIALS MANUAL.

FINAL QUANTITIES

ITEM	SUBSTR.	SUPERSTR.	TOTAL
CLASS 1 EXCAVATION	CU. YD.	2088.5	2088.5
CLASS 2 EXCAVATION	CU. YD.	270.5	270.5
COFFERDAMS (BENT 8)	LUMP SUM	1	1
COFFERDAMS (BENT 9)	LUMP SUM	1	1
BRIDGE APPROACH SLAB (BRIDGE)	SQ. YD.	219	219
STRUCTURAL STEEL PILES (10")	LIN. FT.	2162	2162
STRUCTURAL STEEL PILES (12")	LIN. FT.	499	499
PRE-BORE FOR PILING	LIN. FT.	770	770
CLASS B CONCRETE (SUBSTR.)	CU. YD.	1867.80	1867.80
DEADMAN ANCHORAGE ASSEMBLY	EACH	2	2
PROTECTIVE COATING-CONCRETE BENTS (DELETERIOUS AGENTS)	LUMP SUM	1	1
SLAB ON CONCRETE I-GIRDER	SQ. YD.	1368	1368
SAFETY BARRIER CURB	LIN. FT.	3240	3240
SLAB ON CONCRETE BULB-TEE GIRDER	SQ. YD.	5931	5931
PLAIN NEOPRENE BEARING PAD	EACH	5	5
LAMINATED NEOPRENE BEARING PADS	EACH	90	90
LAMINATED NEOPRENE BEARING PAD (P/S STRUCTURE)	EACH	45	45
TYPE N PTFE BEARINGS	EACH	20	20
PRESTRESSED CONCRETE I-GIRDER (65'-0")	EACH	5	5
PRESTRESSED CONCRETE I-GIRDER (71'-0")	EACH	10	10
PRESTRESSED CONCRETE I-GIRDER (93'-0")	EACH	5	5
PRESTRESSED CONCRETE BULB-TEE GIRDER (78'-0")	EACH	5	5
PRESTRESSED CONCRETE BULB-TEE GIRDER (110'-0")	EACH	55	55
REINFORCING STEEL (BRIDGES)	LB.	252,330	252,330
REINFORCING STEEL (EPOXY COATED)	LB.	24,780	24,780
EXPANSION DEVICE (FINGER PLATE)	LIN. FT.	78	78
EXPANSION DEVICE (FLAT PLATE)	LIN. FT.	39	39
SLAB DRAIN	EACH	244	244
VERTICAL DRAIN AT END BENTS	EACH	2	2
SPLASH PROTECTION SHIELD	LUMP SUM	0	0
LINE	CONTINGENT ITEM	UNIT	
5207	REPAIR FOOTING AT BENT 17 FORGE ACCOUNT	FA	192,247.54
5208	CLASS 2 + 50% EXCAVATION	CU. YD.	47.0
5209	PRE-BORE FOR PILING	L.S.	1
5205	FOUNDATION TEST HOLES	L.F.	144
5206	MISC. STRUCTURAL STEEL	L.S.	1

LINE	CONTINGENT ITEM	UNIT		
5207	REPAIR FOOTING AT BENT 17 FORGE ACCOUNT	FA	192,247.54	192,247.54
5208	CLASS 2 + 50% EXCAVATION	CU. YD.	47.0	47.0
5209	PRE-BORE FOR PILING	L.S.	1	1
5205	FOUNDATION TEST HOLES	L.F.	144	144
5206	MISC. STRUCTURAL STEEL	L.S.	1	1

PILE & FOOTING DATA

BENT NO.	1 (WING)	1 (BEAM)	2	3	4	5	6	7	8	9
BEARING PILE	PILE TYPE AND SIZE	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP12x53	HP12x53	-
	NUMBER	2	7	18	18	18	22	18	18	-
	APPROXIMATE LENGTH FT.	46	46	15	11	12	14	14	-	-
	DESIGN BEARING TONS	29	55	50	56	52	52	70	70	-
	HAMMER ENERGY REQUIRED FT.-LBS.	7000	12300	11800	13200	12200	12200	15800	15800	-
SPREAD FOOTINGS	FOUNDATION MATERIAL	-	-	-	-	-	-	-	ROCK	ROCK
	DESIGN BEARING TONS/SQ. FT.	-	-	-	-	-	-	-	8.0	7.6
BENT NO.	10	11	12	13	14	15	16	17 (BEAM)	17 (WING)	
BEARING PILE	PILE TYPE AND SIZE	-	-	-	-	-	-	HP10x42	HP10x42	
	NUMBER	-	-	-	-	-	-	11	2	
	APPROXIMATE LENGTH FT.	-	-	-	-	-	-	59	59	
	DESIGN BEARING TONS	-	-	-	-	-	-	52	24	
	HAMMER ENERGY REQUIRED FT.-LBS.	-	-	-	-	-	-	13000	8200	
SPREAD FOOTINGS	FOUNDATION MATERIAL	ROCK	ROCK	ROCK	ROCK	ROCK	ROCK	-	-	
	DESIGN BEARING TONS/SQ. FT.	7.5	8.0	7.5	7.4	7.6	7.6	7.9	-	

NOTE: MINIMUM ENERGY REQUIREMENT OF HAMMER IS BASED ON PLAN LENGTH AND DESIGN BEARING  
VALUE OF PILES.

ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL.

PREBORE FOR PILES AT BENTS 1 AND 17 TO ELEVATIONS 867.0 AND 855.0, RESPECT VELY.

CONT. 5204- PREBORE FOR PILES AT BENT 3 TO ELEV. 843.0 PER L.S.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

STATE	PROJ. NO.	SHEET NO.
MO.	FA M-2379 (408)	13
	JOB NO. J401011C	
	CT.D-980724-05-PEM	

FINAL QUANTITIES  
FOR SLAB ON CONCRETE I-GIRDER

ITEM	TOTAL
REINFORCING STEEL (PLAIN)	LBS. 5090
REINFORCING STEEL (EPOXY COATED)	LBS. 97,510
CONCRETE	CU. YDS. 335.0

FINAL QUANTITIES  
FOR SLAB ON CONCRETE BULB-TEE GIRDER

ITEM	TOTAL
REINFORCING STEEL (PLAIN)	LBS. 11,760
REINFORCING STEEL (EPOXY COATED)	LBS. 405,470
CONCRETE	CU. YDS. 1467.2

NOTE: THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE  
I-GIRDER AND SLAB ON BULB-TEE GIRDER REPRESENTS THE QUANTITIES  
USED BY THE STATE IN PREPARING THE COST ESTIMATE FOR CONCRETE SLABS.  
VARIATIONS MAY BE ENCOUNTERED IN THESE ESTIMATED QUANTITIES BUT  
THESE VARIATIONS CANNOT BE USED FOR AN ADJUSTMENT IN THE CONTRACT  
UNIT PRICE PER SQUARE YARD OF SLAB ON CONCRETE I-GIRDER AND SLAB  
ON CONCRETE BULB-TEE GIRDER.

\* BASED ON MINIMUM TOP FLANGE THICKNESS AND MINIMUM JOINT  
FILLER THICKNESS.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE  
OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER OR SLAB ON  
CONCRETE BULB-TEE GIRDER.

NOTE: ALL CONCRETE ABOVE THE CONSTRUCTION JOINT IN END BENT NO. 1 IS INCLUDED IN THE  
ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

ALL REINFORCEMENT IN END BENT NO. 1 IS INCLUDED IN THE ESTIMATED QUANTITIES FOR  
SLAB ON CONCRETE I-GIRDER.

THE COST OF FURNISHING, FABRICATING AND INSTALLING NEOPRENE BEARING PADS, COMPLETE-  
IN-PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PLAIN AND LAMINATED NEOPRENE  
BEARING PADS, PER EACH.

\*\* SAFETY BARRIER CURB SHALL BE CAST-IN-PLACE OPTION OR SLIP-FORM OPTION.

CONCRETE ABOVE THE UPPER CONSTRUCTION JOINT IN BACKWALL AT END BENT NO. 17 IS INCLUDED  
WITH CLASS B2 CONCRETE SLAB ON CONCRETE BULB-TEE GIRDER QUANTITIES.

ALL REINFORCEMENT IN THE INTERMEDIATE BENT CONCRETE DIAPHRAGMS EXCEPT REINFORCEMENT  
EMBEDDED IN THE BEAM CAP IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE  
I-GIRDER.

ALL CONCRETE ABOVE THE INTERMEDIATE BENT CAP IS INCLUDED IN THE ESTIMATED QUANTITIES  
FOR SLAB ON CONCRETE I-GIRDER.

HYDROLOGIC DATA

DRAINAGE AREA =	89 SQUARE MILES
DESIGN HIGH WATER ELEV. =	860.2 (100 YEARS)
DESIGN DISCHARGE =	23,000 c.f.s. (100 YEARS)
ESTIMATED BACKWATER =	0.2 FT.



DATE 5-1-98



DATE 11-4-99

SHEET NO. 7 OF 93. 1 Revised 10-28-99

JACKSON

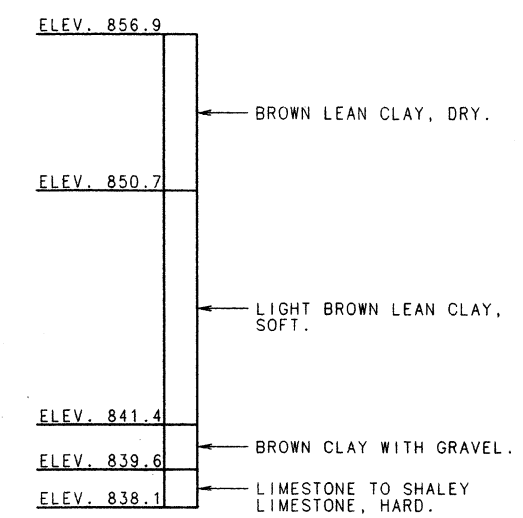
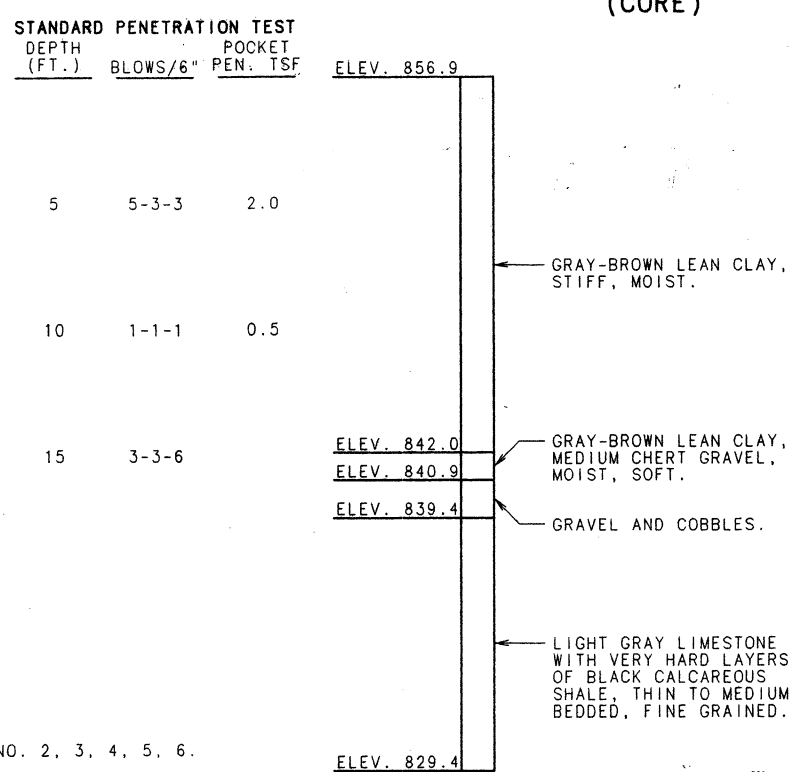
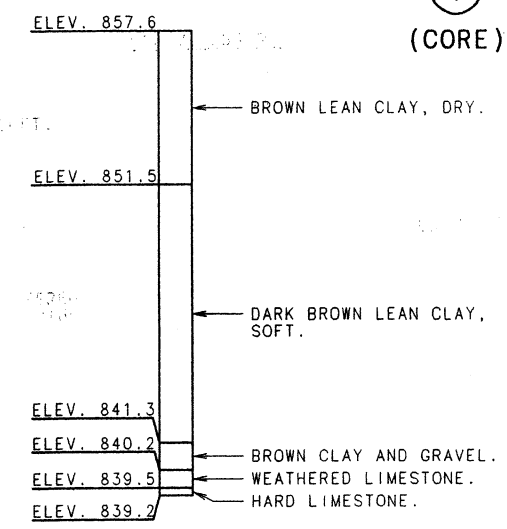
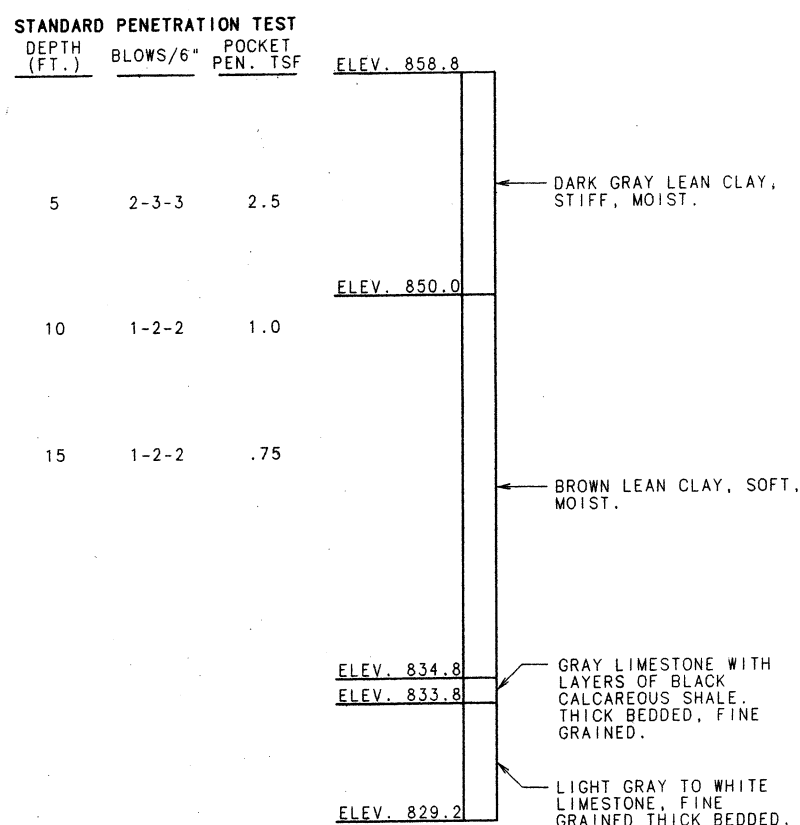
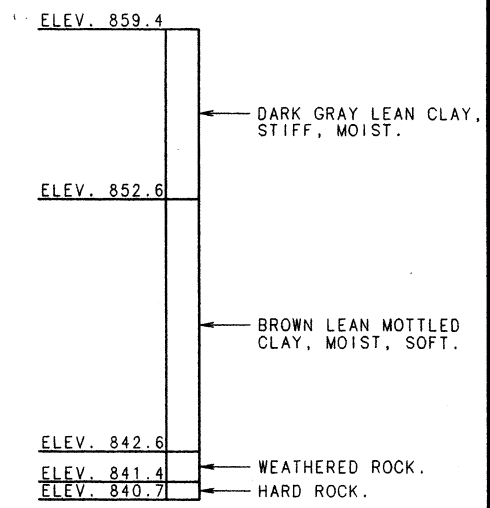
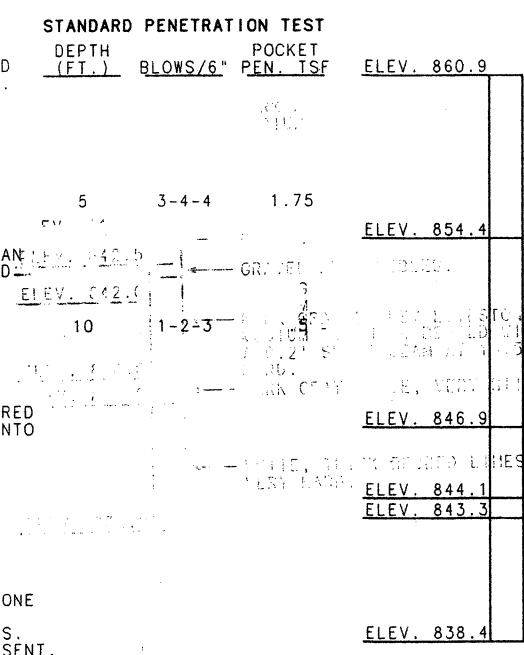
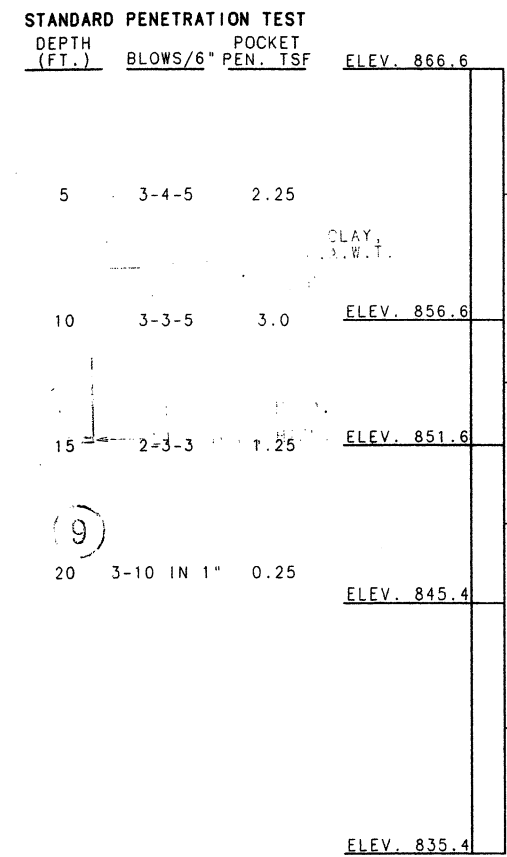
COUNTY

A5495

DETAILED JAN. 1998  
CHECKED MAR. 1998

FINAL PLANS  
this plan sheet accurately depicts the  
location and layout of the roadway and all  
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actor's actual construction of the project,  
and my staff may have directed or ordered  
not be constructed.





NOTE: FOR LOCATION OF BORINGS, SEE SHEETS NO. 2, 3, 4, 5, 6.

# BORING DATA

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DATE 5-1-98

4-23-01



DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

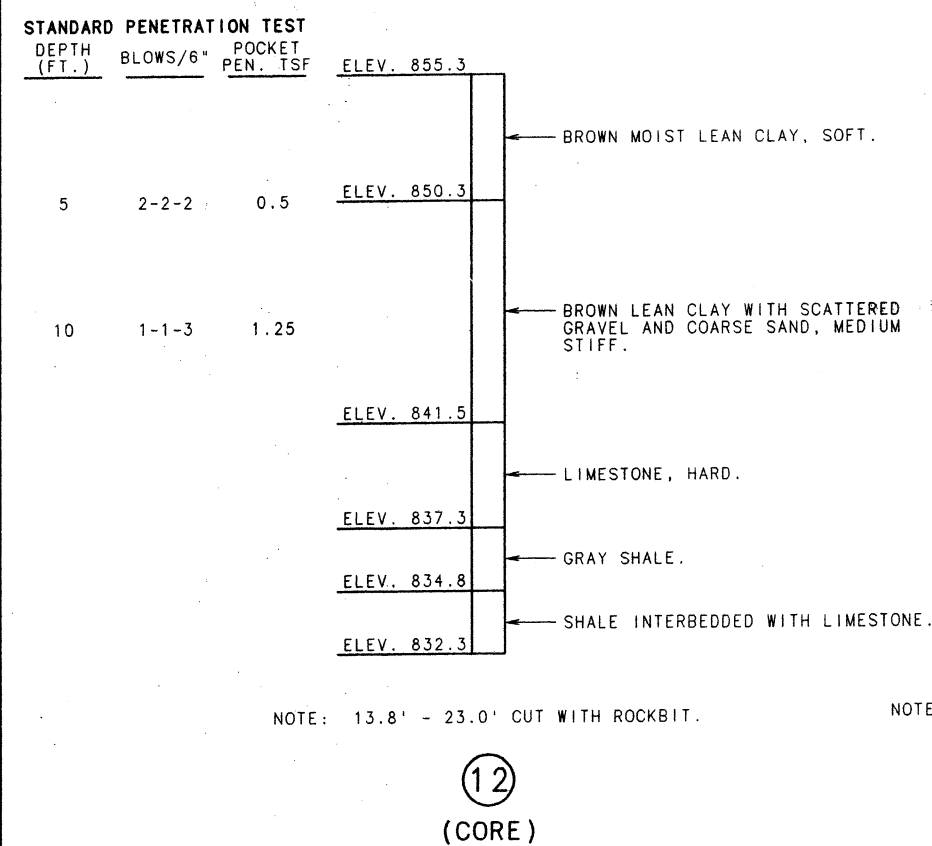
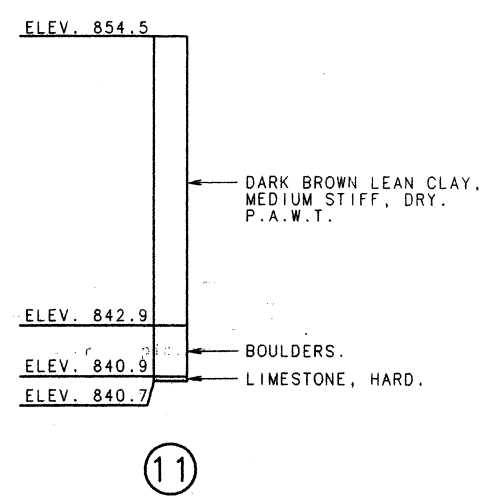
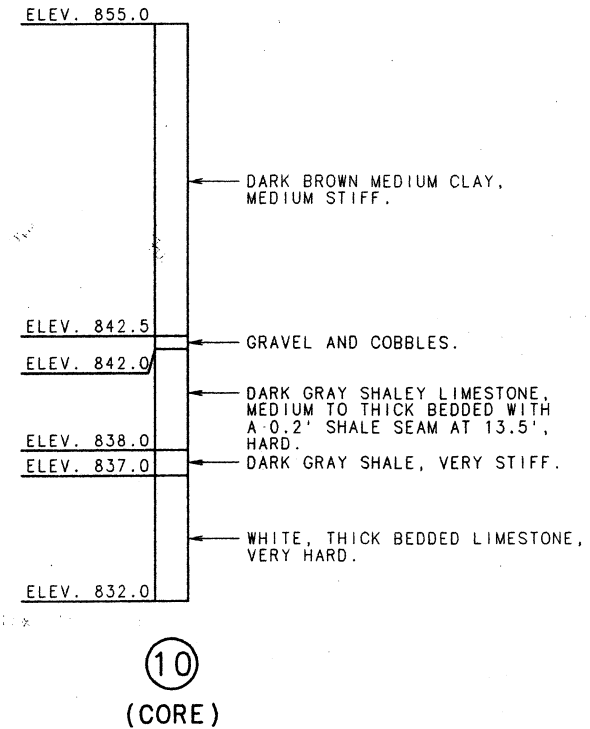
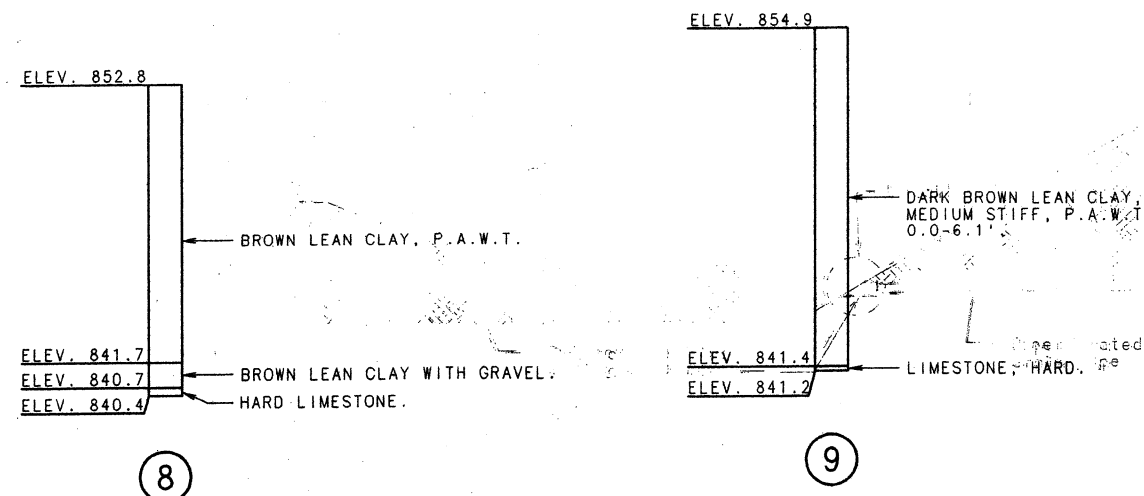
SHEET NO. 8 OF 93.

JACKSON

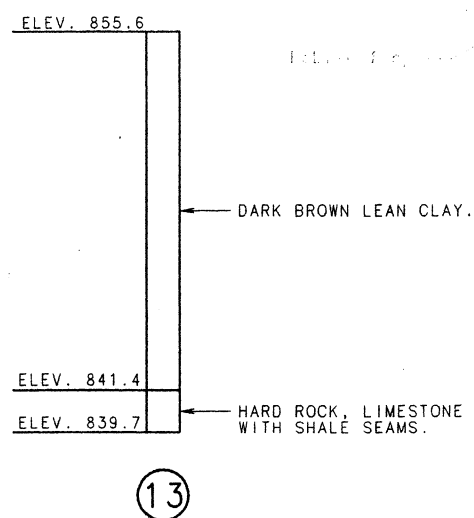
COUNTY

A5495



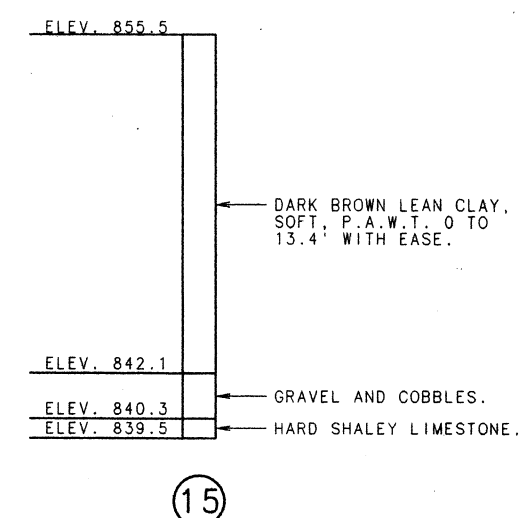
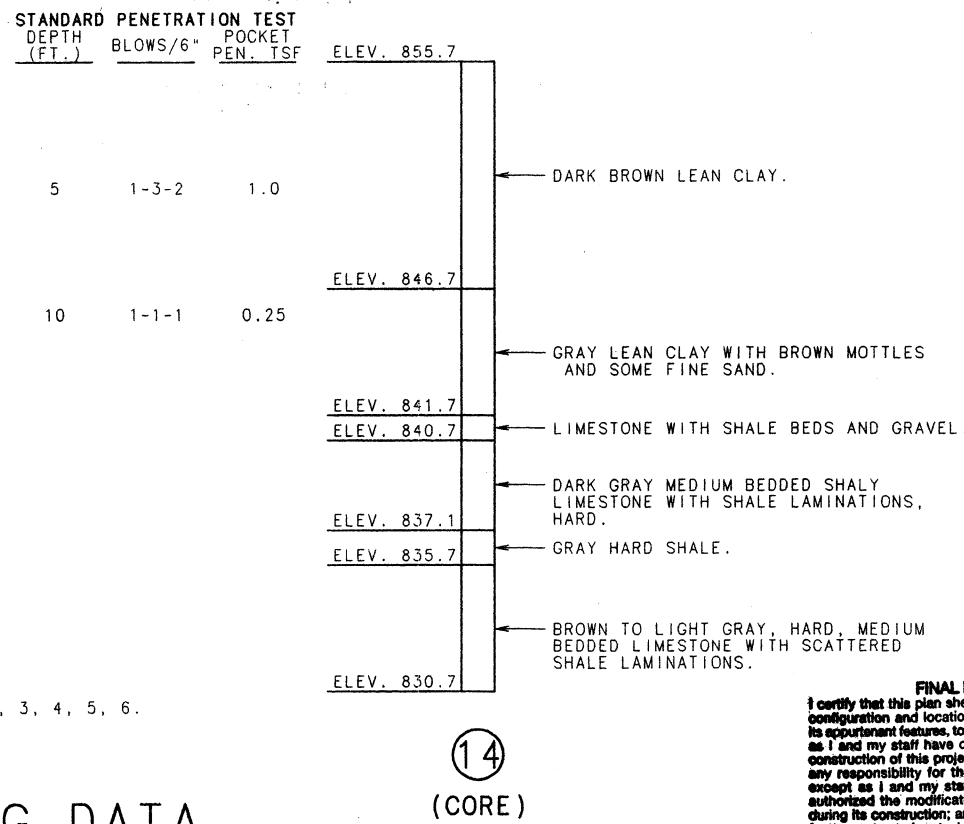


NOTE: 13.8' - 23.0' CUT WITH ROCKBIT.

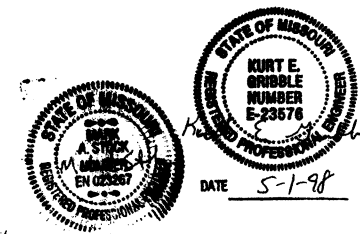


NOTE: FOR LOCATION OF BORINGS, SEE SHEETS NO. 2, 3, 4, 5, 6.  
 P.A.W.T. = PUSHED AUGERS WITHOUT TURNING.

# BORING DATA



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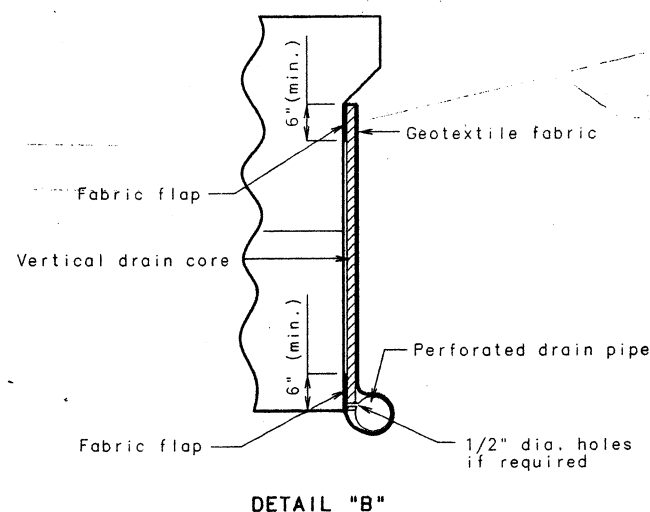
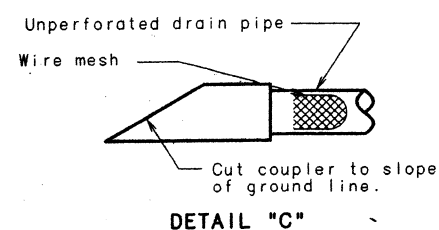
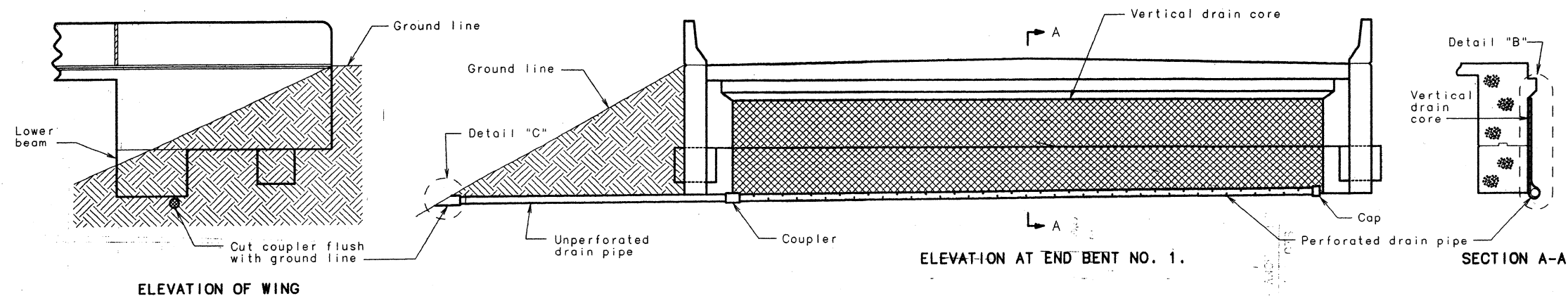


DETAILED JAN. 1998  
 CHECKED MAR. 1998

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SHEET NO. 9 OF 93.

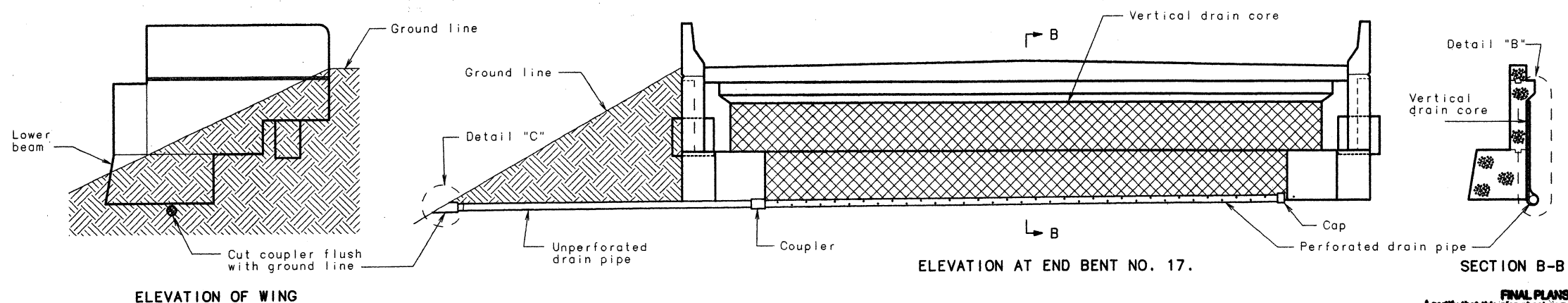
JACKSON COUNTY A5495



Drain pipe may be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1-1/2". (See Elevation At End Bent)

Perforated pipe shall be placed at fill face side at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.



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DATE 5-1-98



## VERTICAL DRAIN AT END BENTS

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SHEET NO. 10 OF 93.

JACKSON

COUNTY

A5495

DRA 1	Vert. Drain (Int.)	Revised:	September 1994
March 1986			

DETAILED JAN. 1998  
CHECKED MAR. 1998

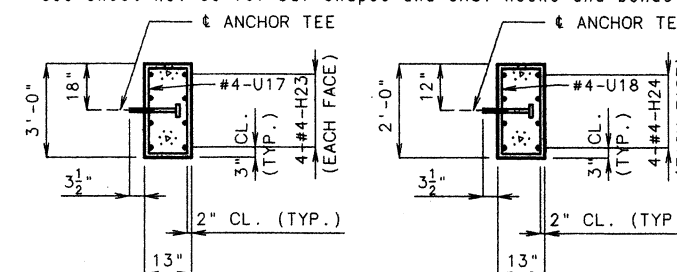
NOTES:

CONSTRUCTION SEQUENCE:

- Construct end bent with anchor tees in place.
- Construct deadman with anchor tees in place.
- Machine compact fill up to elevation of 7/8"Ø rod and turnbuckle.
- Install 7/8"Ø rod, clevis and turnbuckle assembly.
- Tighten turnbuckle until snug.
- Hand compact fill for 12" (min.) over 7/8"Ø rod and turnbuckle.
- Machine compact remaining fill.

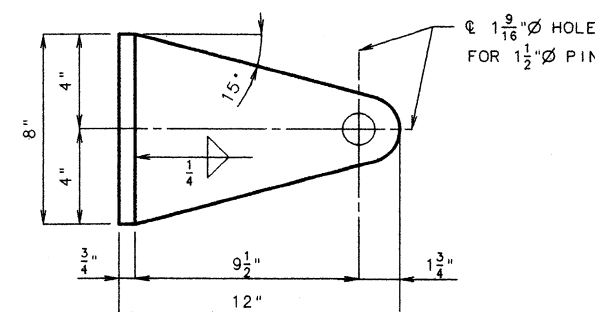
BILL OF REINFORCING STEEL EACH DEADMAN			
BENTS	NUMBER	SIZE & MARK	LENGTH
1	8	#4-H26	23'-4"
	47	#4-U17	
17	8	#4-H27	14'-8"
	30	#4-U18	

See sheet no. 88 for bar shapes and CRSI hooks and bends.

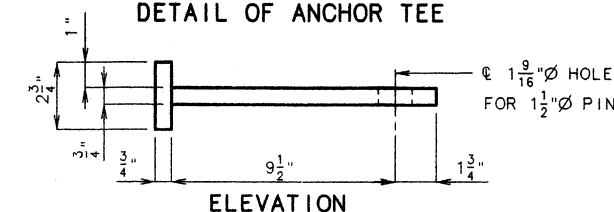


SECTION A-A

SECTION B-B

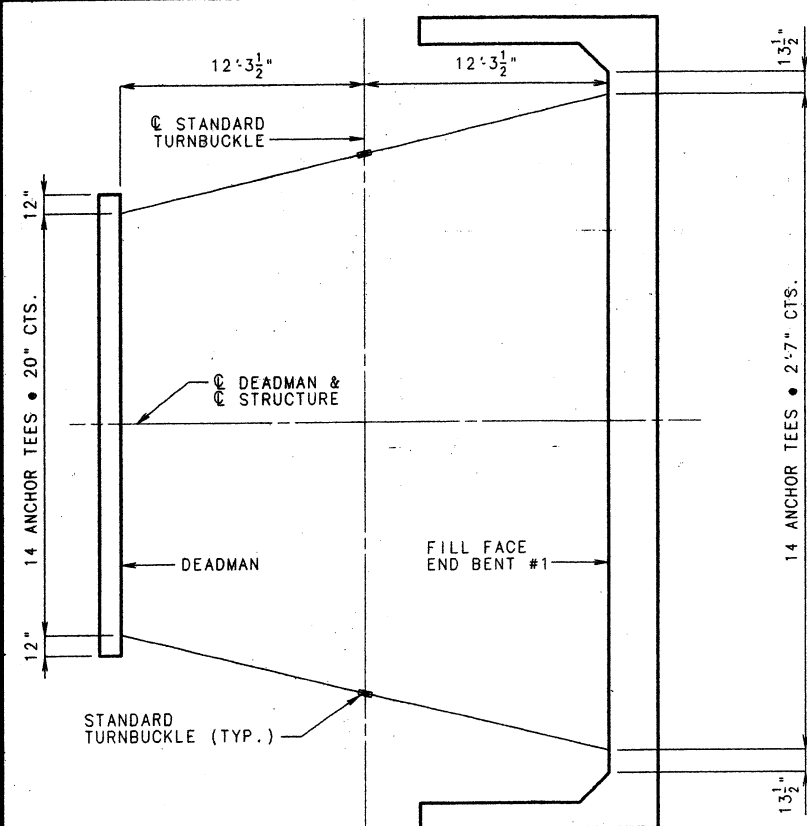
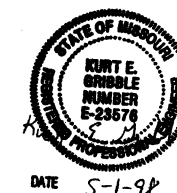


PLAN  
DETAIL OF ANCHOR TEE

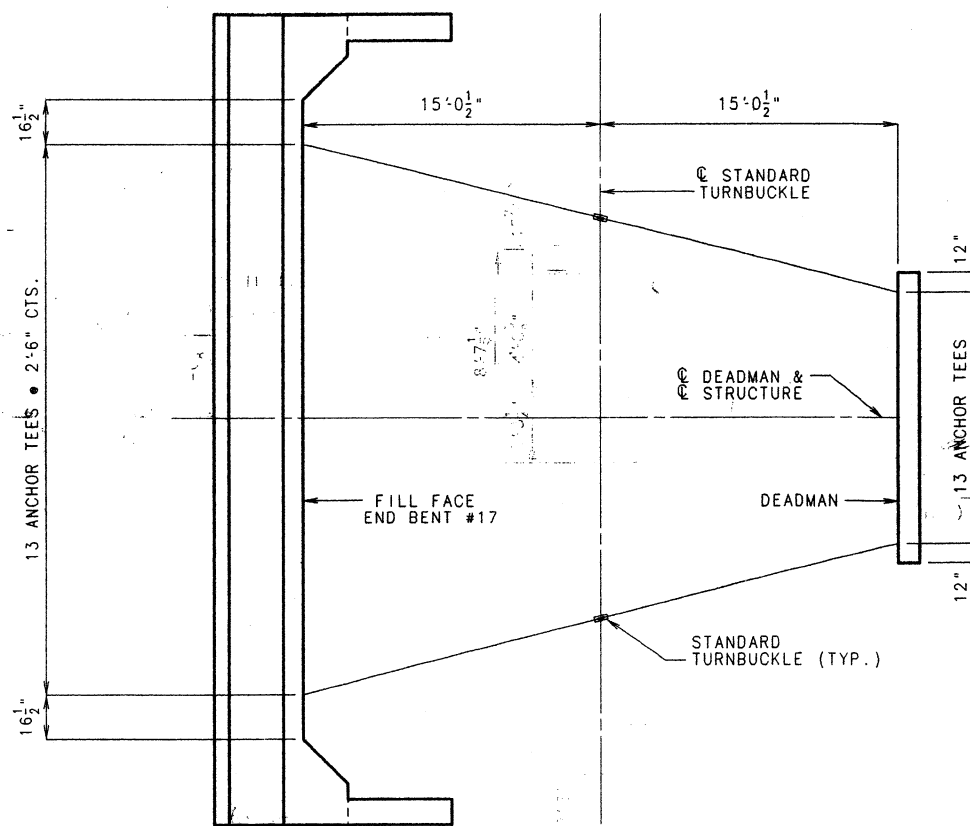


ELEVATION

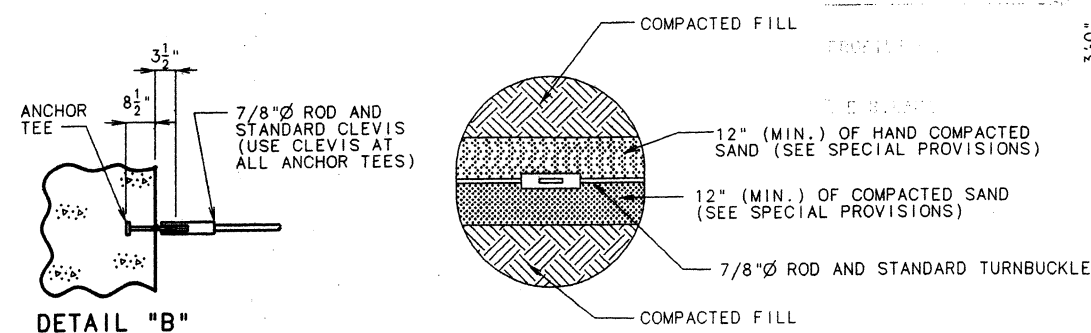
**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.



PLAN OF END BENT NO. 1

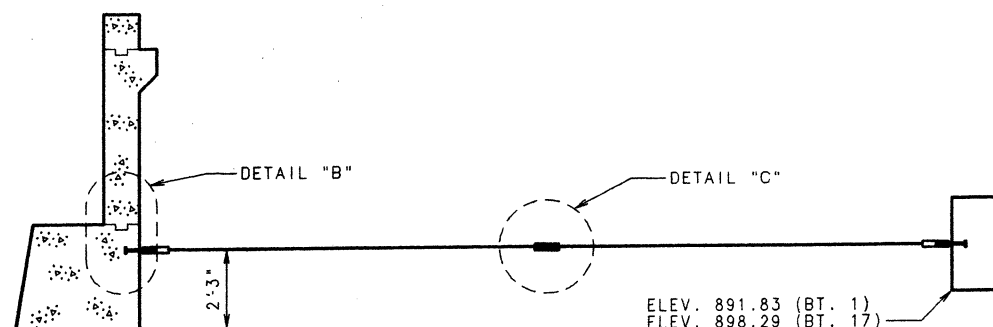


PLAN OF END BENT NO. 17

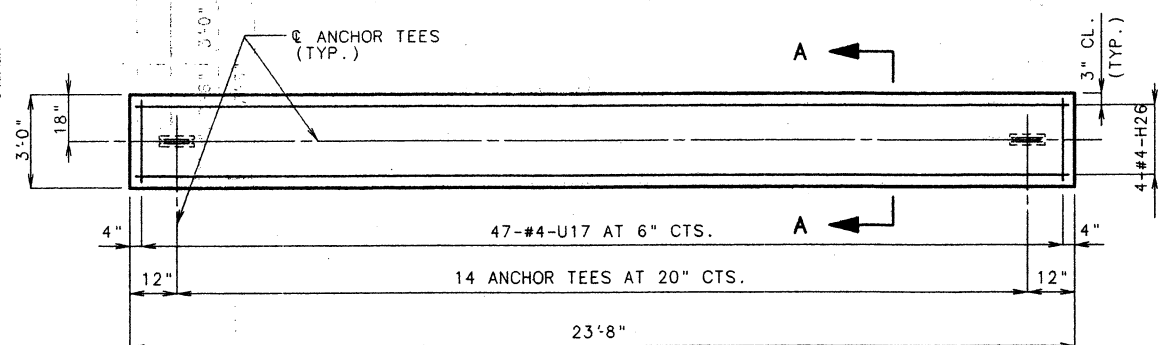


DETAIL "C"

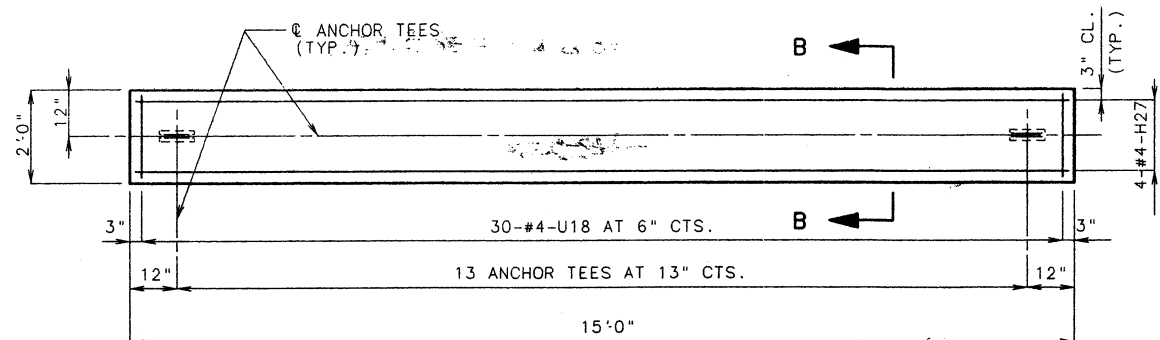
DETAIL "B"



LOCATION OF ANCHOR TEE  
• BT. 17. (BT. 1 SIMILAR)



ELEVATION OF DEADMAN BT. #1.



ELEVATION OF DEADMAN BT. #17.

DETAILS OF DEADMAN ANCHORAGE SYSTEM

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

DETAILED JAN. 1998  
 CHECKED MAR. 1998

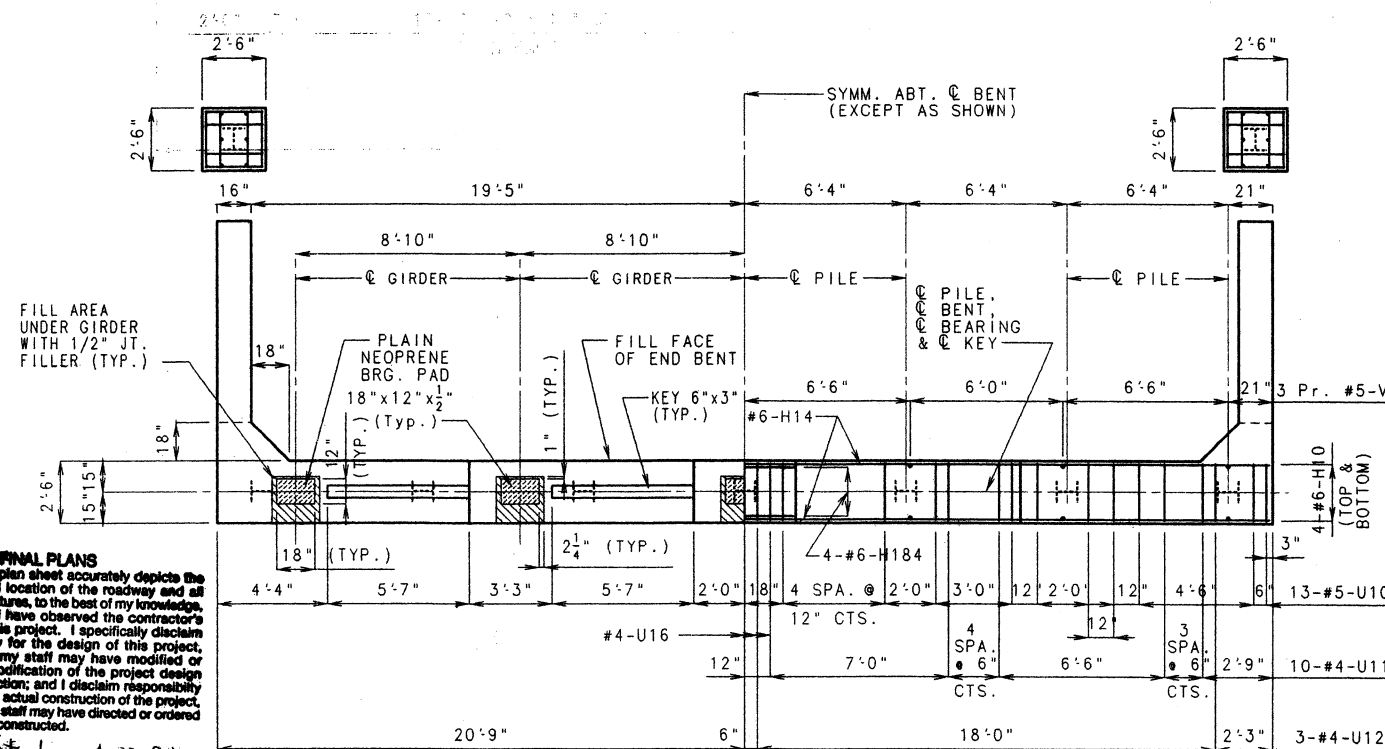
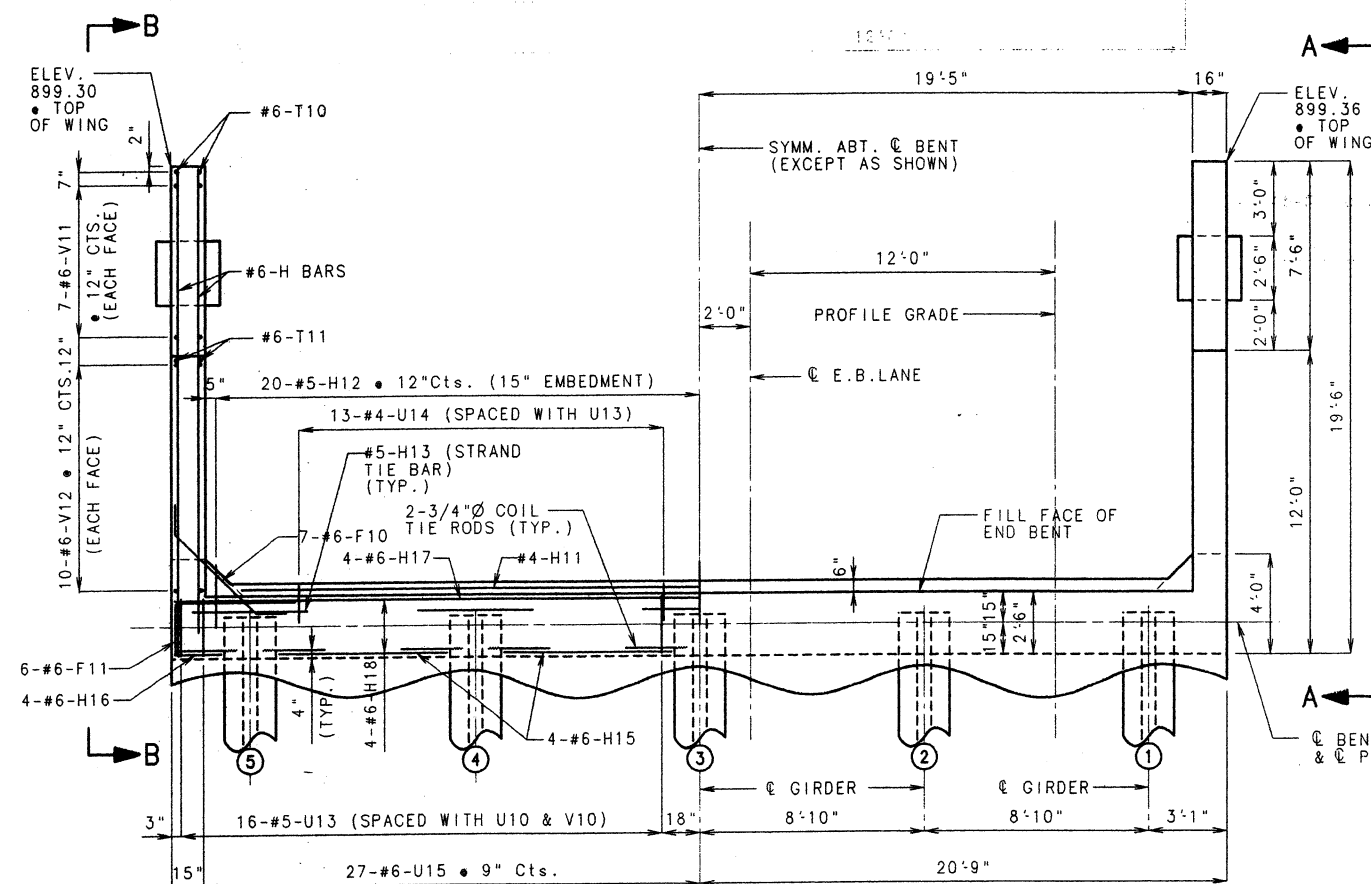
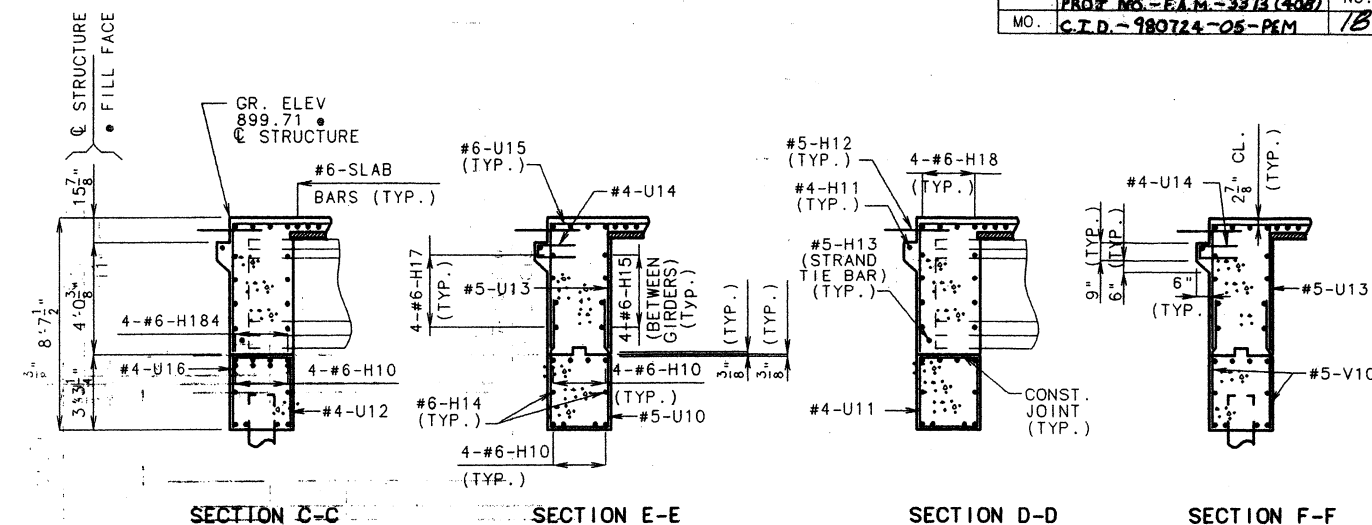
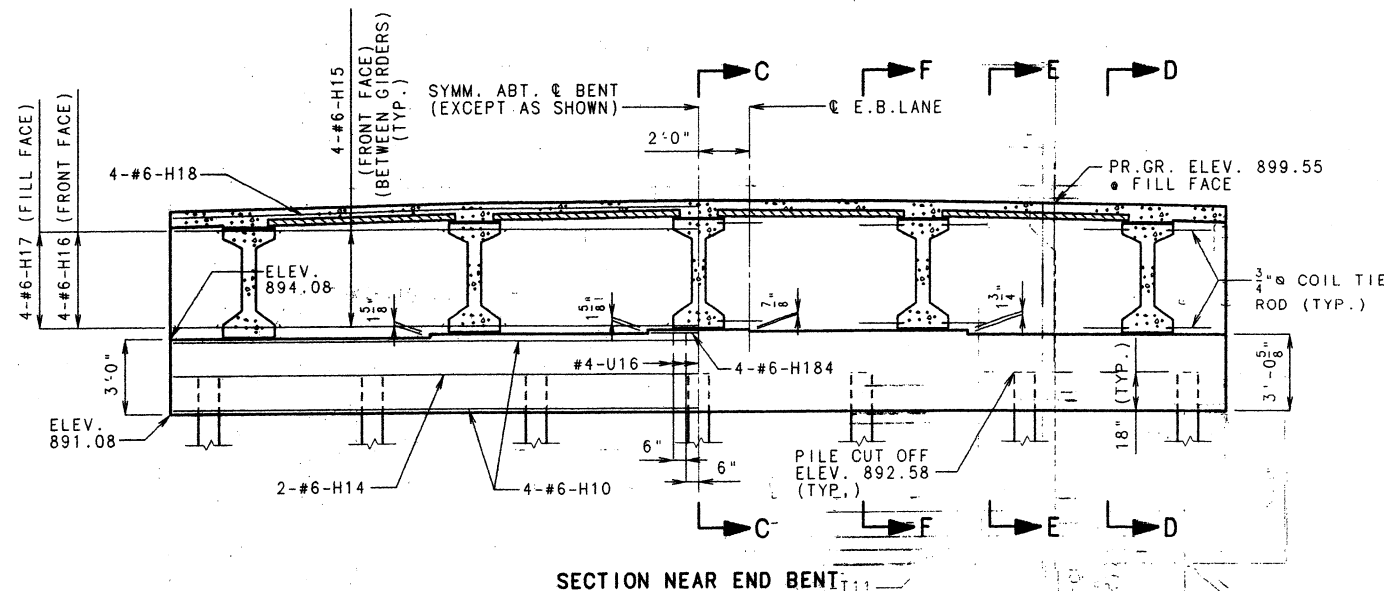
SHEET NO. 11 OF 93.

JACKSON

COUNTY

A5495



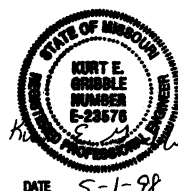


**FINAL PLANS**  
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*M. J. St. J.*  
4-23-01  
Signature



- NOTES:**
- BEND #6-F10 BARS IN FIELD TO CLEAR GIRDERS.
  - ALL CONCRETE IN THE END BENT ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B2.
  - STRANDS AT END OF GIRDER SHALL BE FIELD BENT OR, IF NECESSARY, CUT IN FIELD TO MAINTAIN 1 1/2" MINIMUM CLEARANCE TO FILL FACE OF END BENT.
  - FOR DETAILS OF BARRIER CURB, SEE SHEETS NO. 78, 79, 80 & 81.
  - FOR DETAILS OF ELEVATION A-A & B-B, SEE SHEET NO. 13.

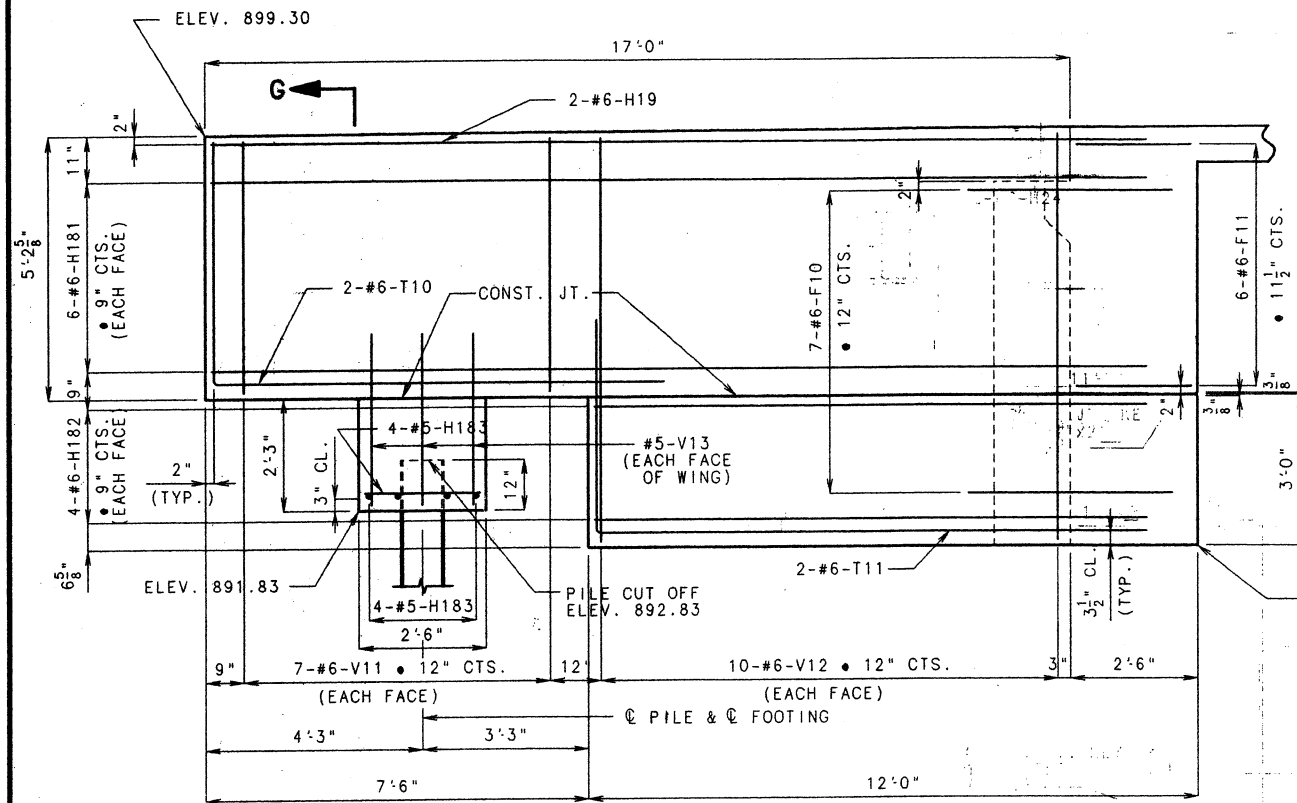


DETAILED JAN. 1998  
CHECKED MAR. 1998

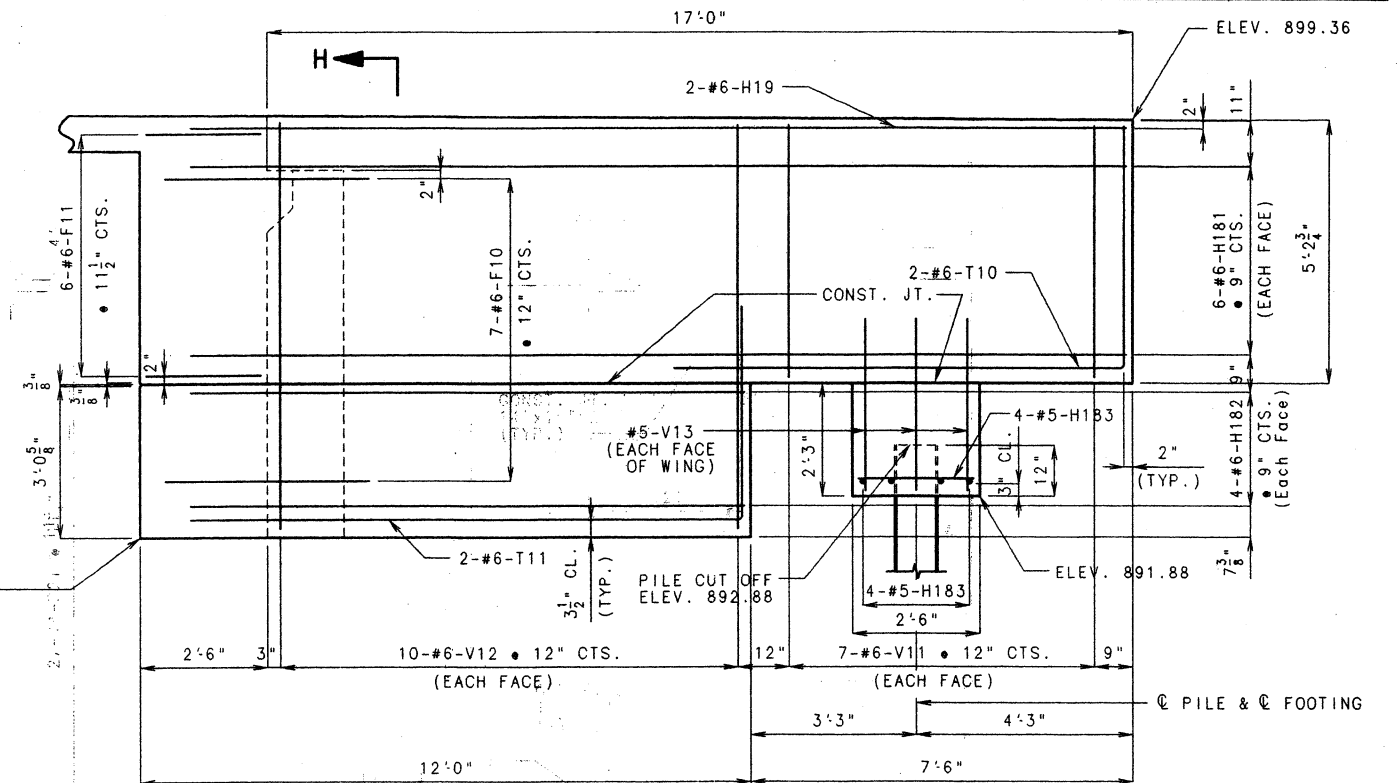
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 12 OF 93.

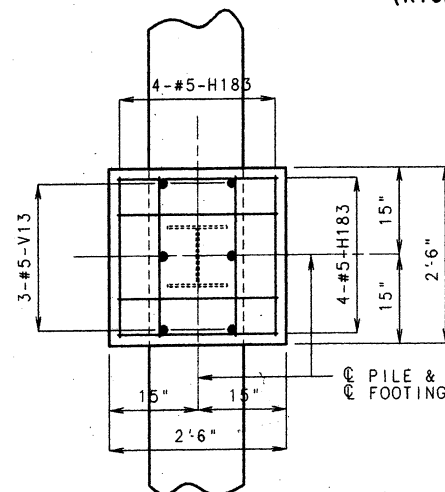
JACKSON COUNTY A5495



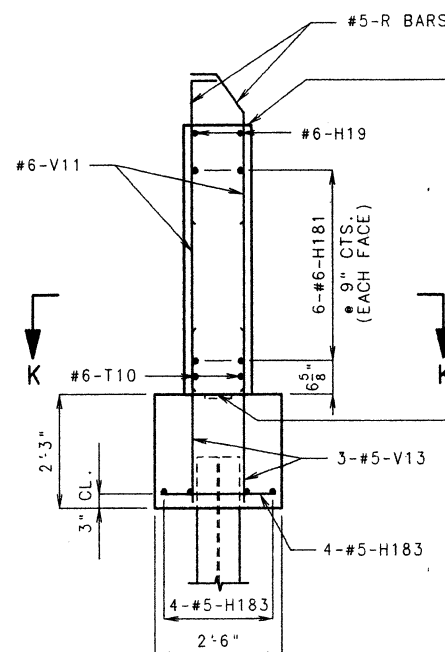
ELEVATION B-B  
 (RIGHT WING WALL)



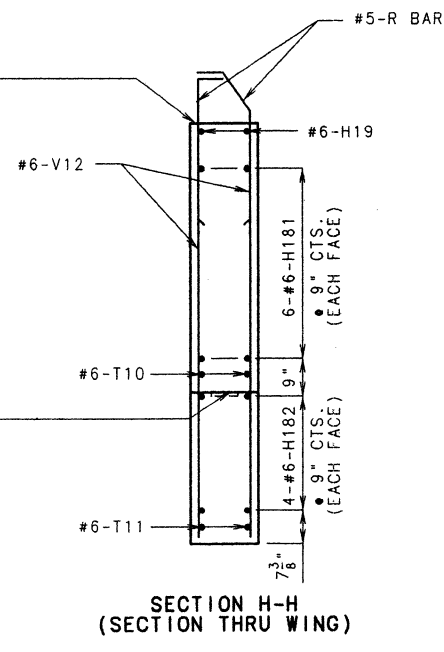
ELEVATION A-A  
 (LEFT WING WALL)



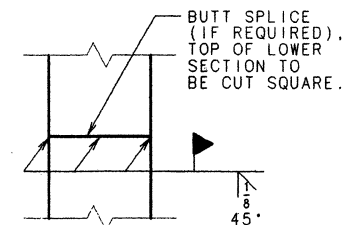
SECTION K-K



SECTION G-G  
 (ONE PILE FOOTING)



SECTION H-H  
 (SECTION THRU WING)



STEEL PILE SPLICE

NOTE: FOR LOCATION OF ELEVATIONS A-A & B-B, SEE SHEET NO. 12.  
 FOR REINFORCEMENT OF THE SAFETY BARRIER CURB, SEE SHEETS NO. 78, 79 & 80.

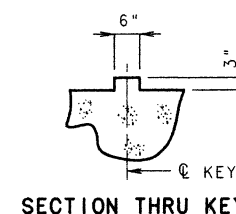
SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 1		
ITEM		QUANTITY
STRUCTURAL STEEL PILES (10")	LIN. FT.	414.01
PRE-BORE FOR PILING	LIN. FT.	218
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	16.2
DEADMAN ANCHORAGE ASSEMBLY	EACH	1

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

## PART DETAILS OF END BENT NO. 1

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 13 OF 93.



SECTION THRU KEY

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge and belief, and that I and my staff have observed the construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.



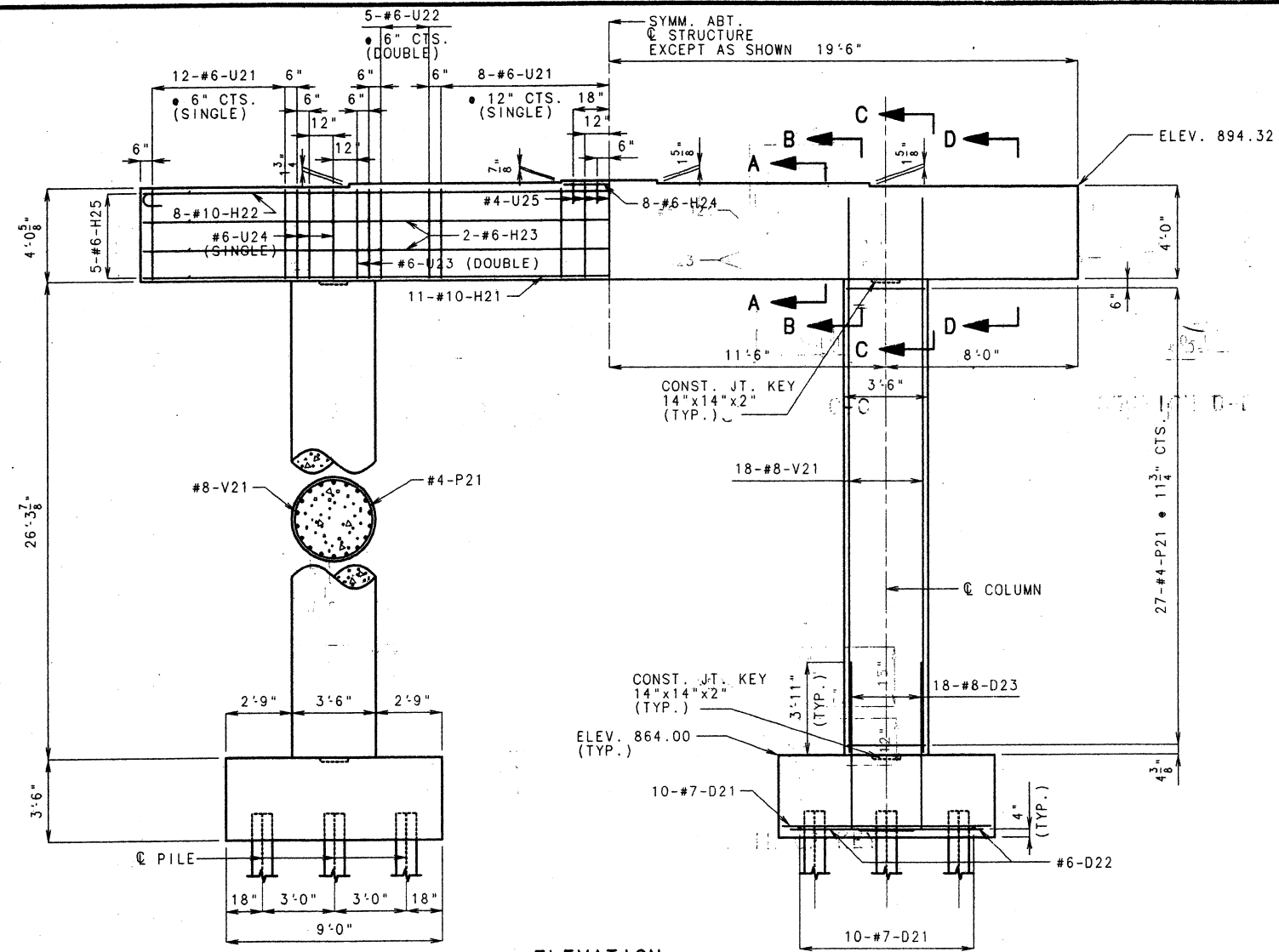
DATE 5-1-98



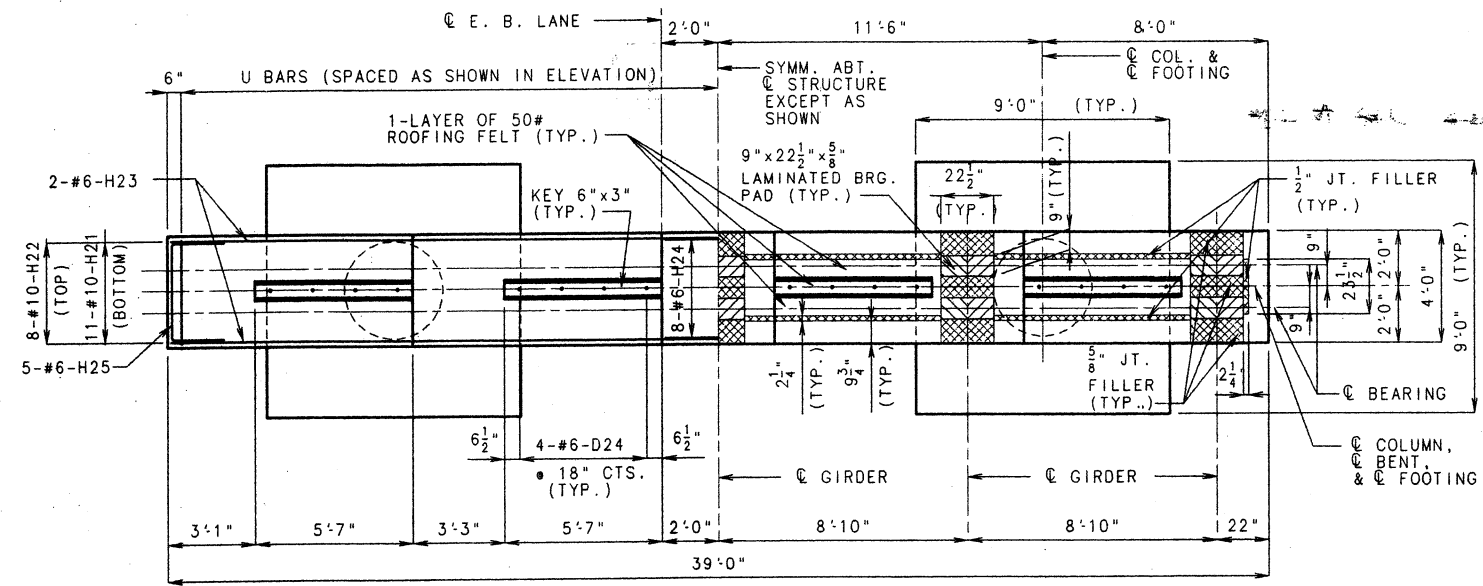
JACKSON

COUNTY

A5495

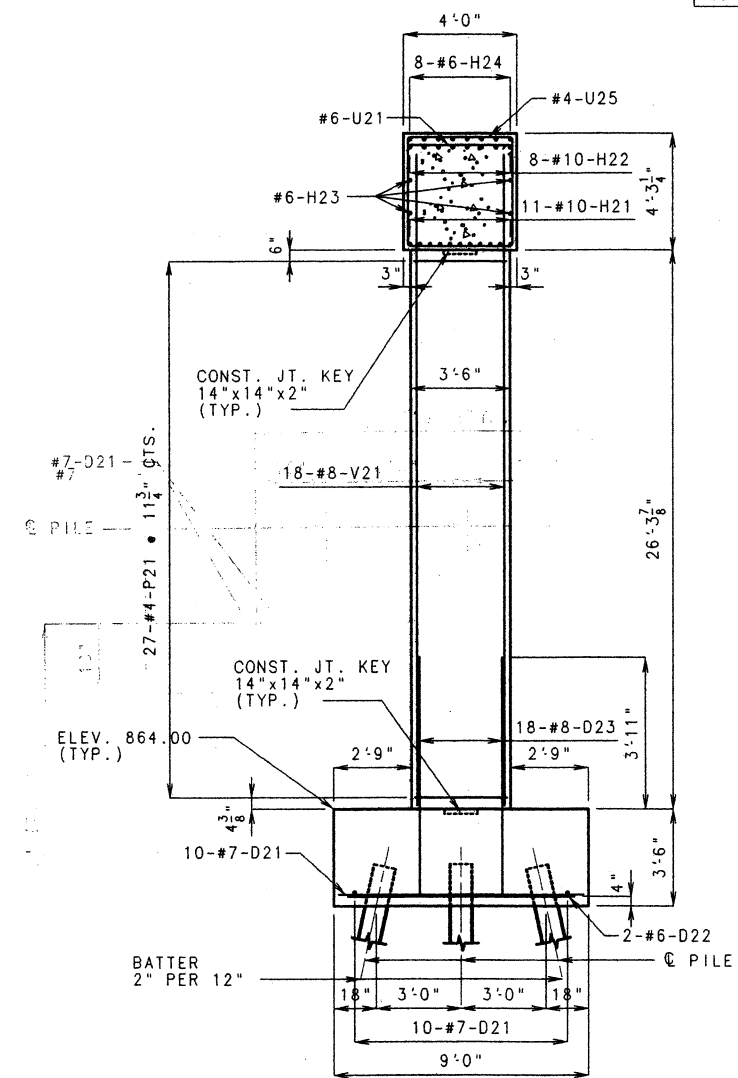


ELEVATION



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS



SECTION AT BENT STRUCTURE



**FINAL PLANS**  
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*M. L. A. Sullivan* 4-23-01  
Signature

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 15.  
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 15.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 15.  
FOR DETAIL OF KEY, SEE SHEET NO. 15.



PART DETAILS OF INTERMEDIATE BENT NO. 2

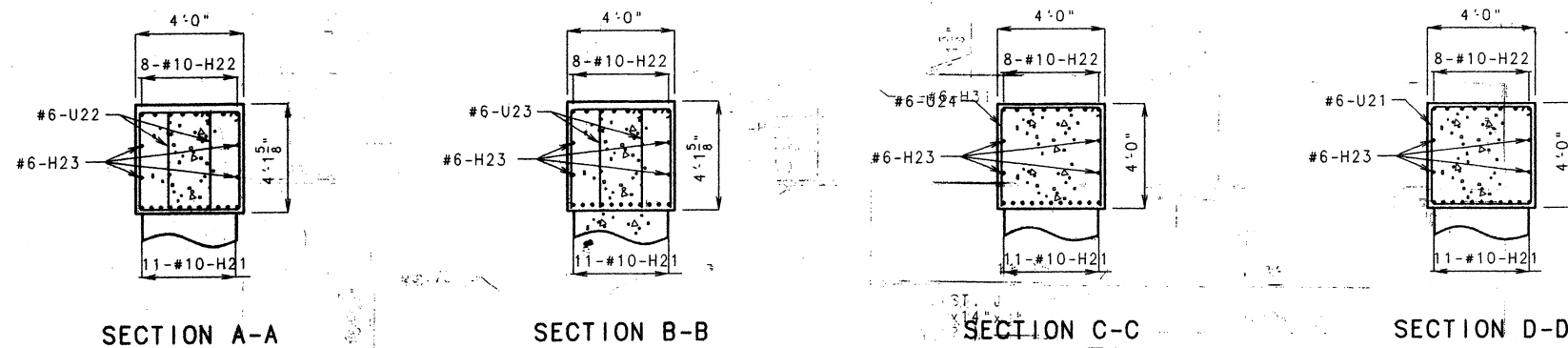
DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

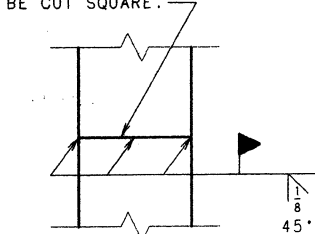
SHEET NO. 14 OF 93.

JACKSON COUNTY **A5495**

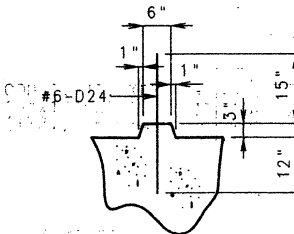




BUTT SPLICE  
(IF REQUIRED),  
TOP OF LOWER  
SECTION TO  
BE CUT SQUARE.

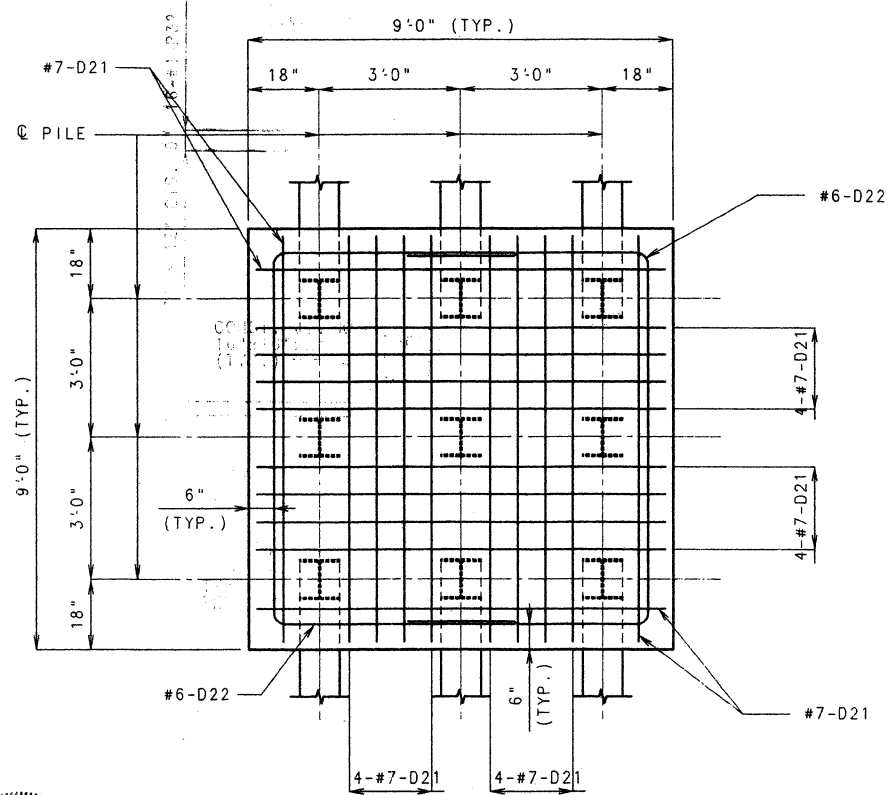


STEEL PILE SPLICE

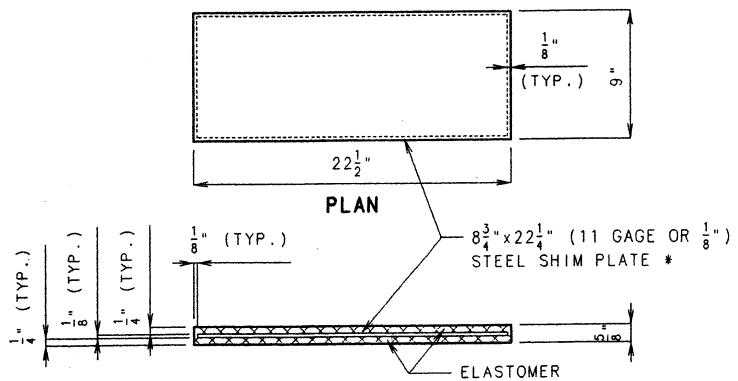


DETAIL OF KEY

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the location and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or advised that the project be constructed.  
\_\_\_\_\_  
Signature Date 2-23-01



PLAN OF FOOTING



DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

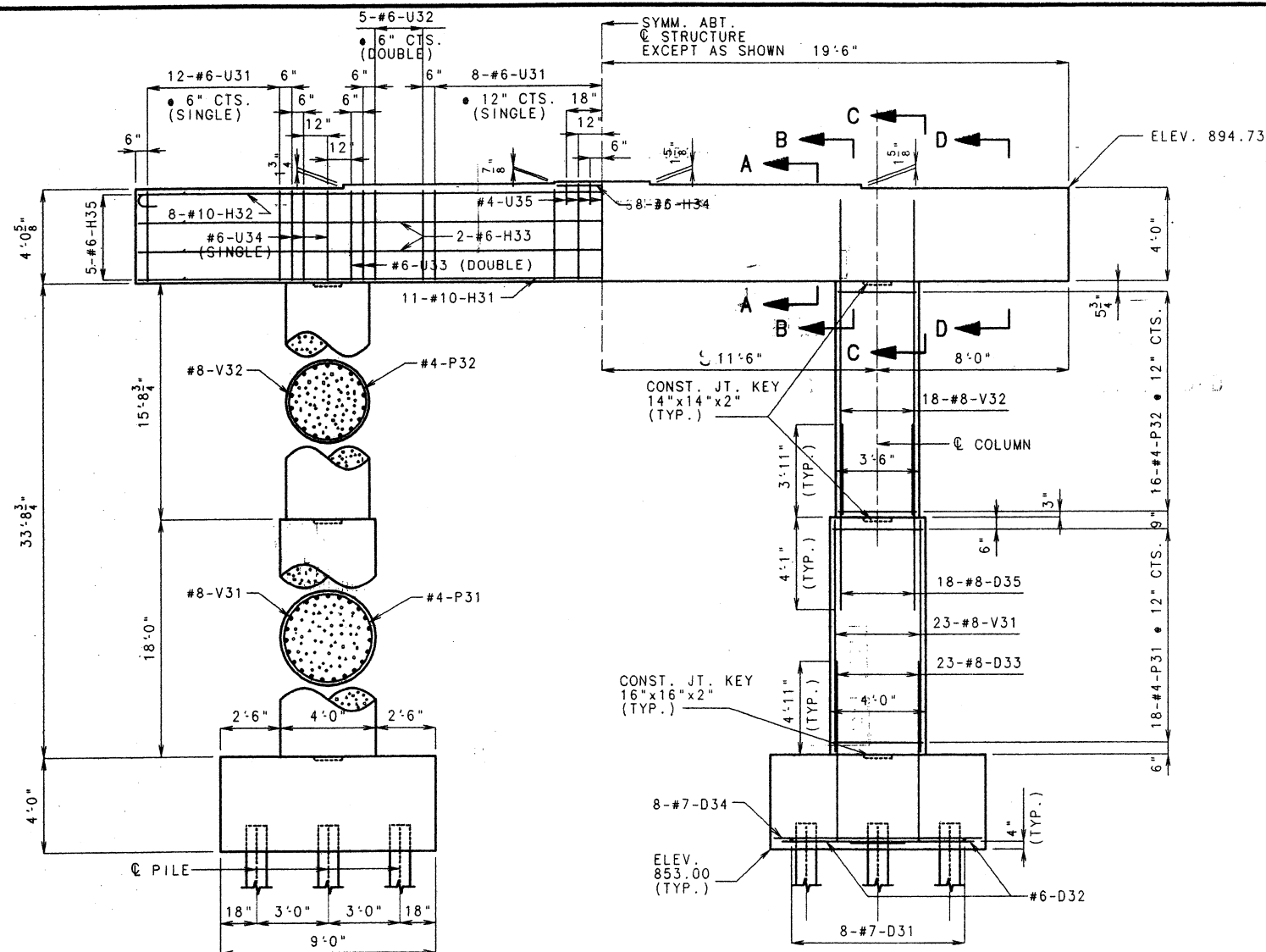
\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 14.

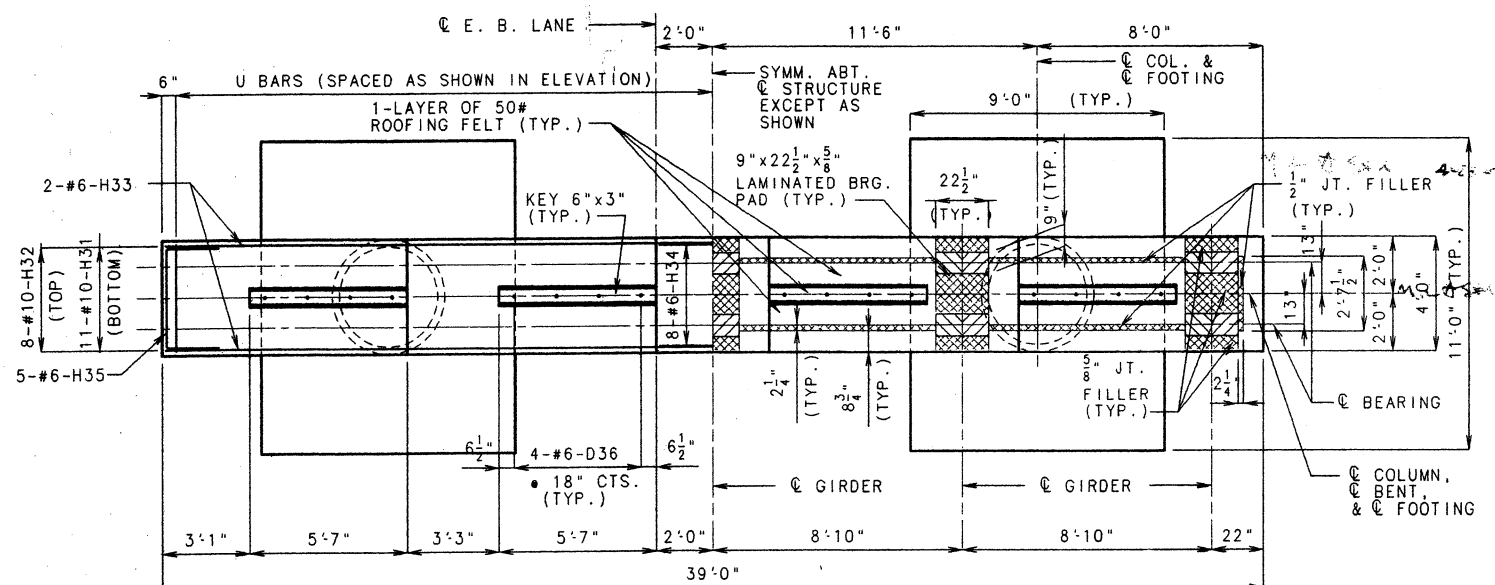
SUBSTRUCTURE QUANTITY TABLE FOR BENT #2		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	60.8
STRUCTURAL STEEL PILE (10")	LIN. FT.	264.8
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	63.7
REINFORCING STEEL(BRIDGES)	LBS.	10,050

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



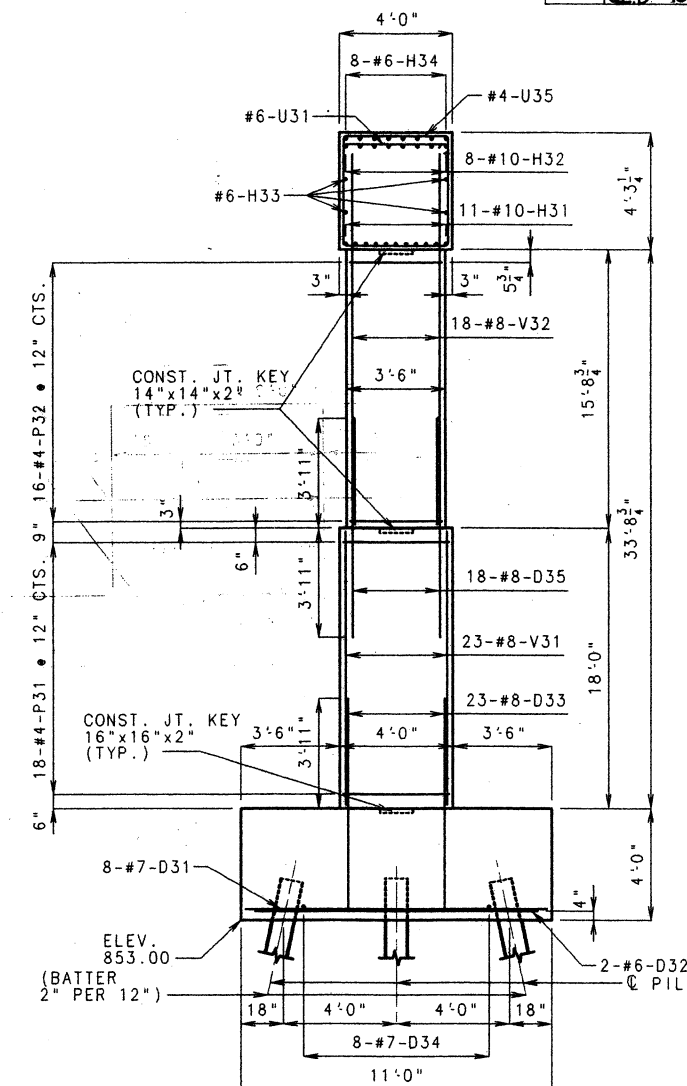


ELEVATION



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

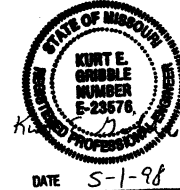
HALF PLAN OF BEAM  
SHOWING BEARINGS



SECTION AT STRUCTURE

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, skill and my staff have observed the construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have verified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or supervised that the project be constructed.

Signature: *M. A. S. S.* Date: 4-23-01

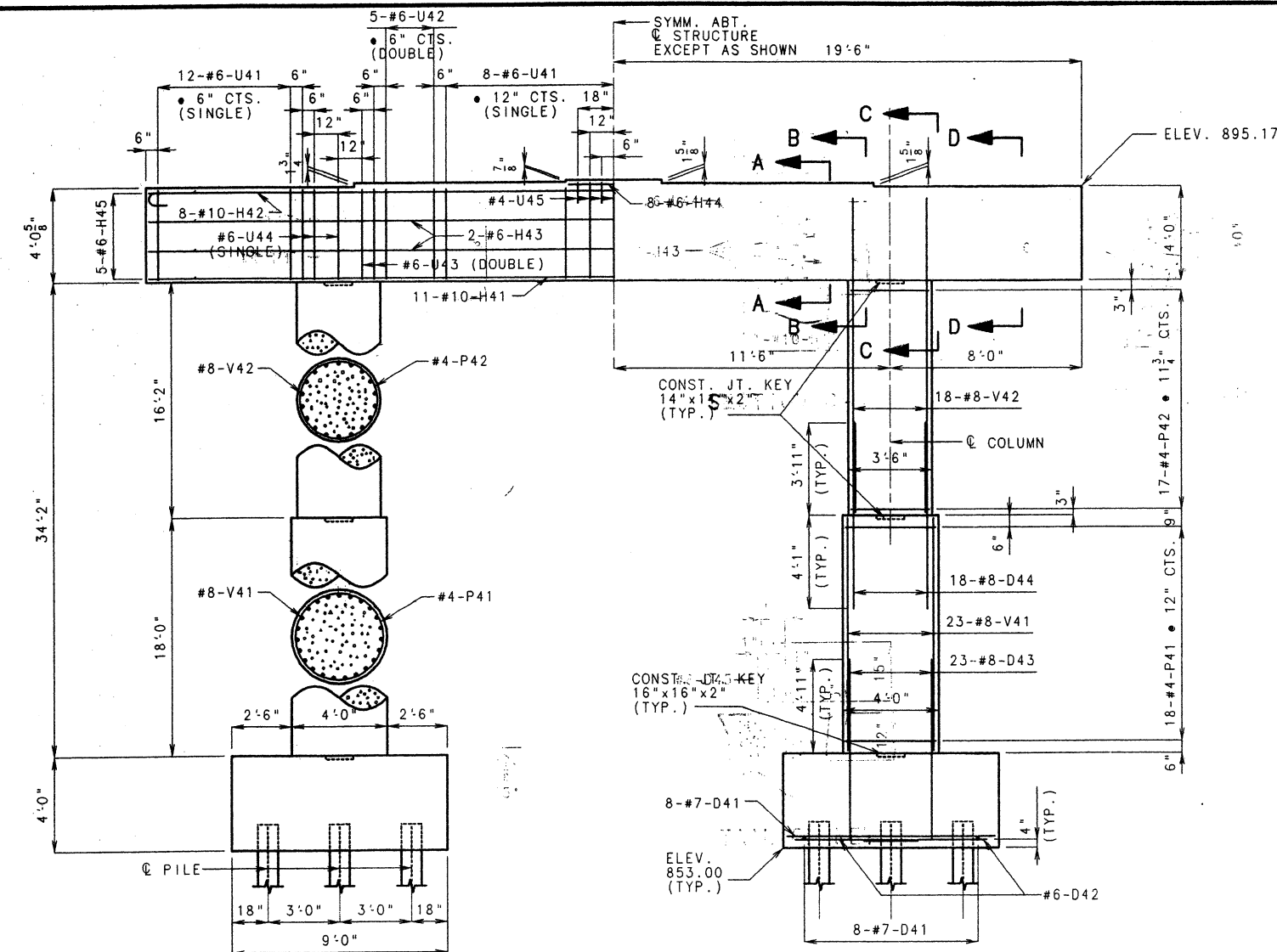


FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 17.  
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 17.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 17.  
FOR DETAIL OF KEY, SEE SHEET NO. 17.

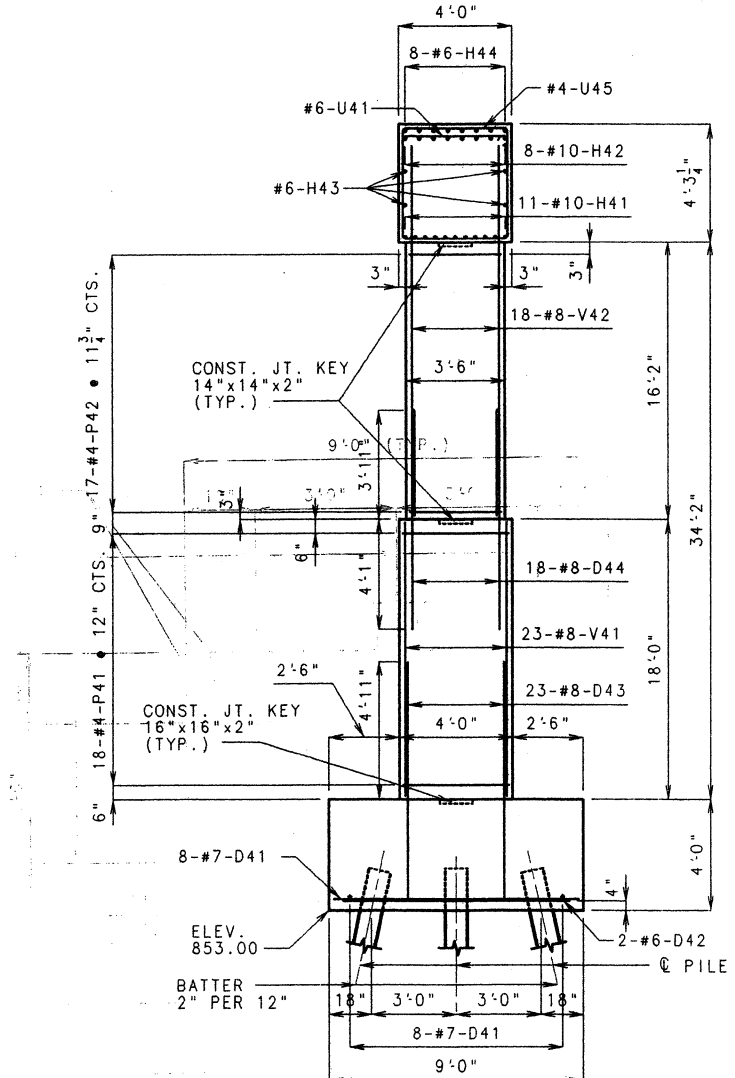
PART DETAILS OF INTERMEDIATE BENT NO. 3



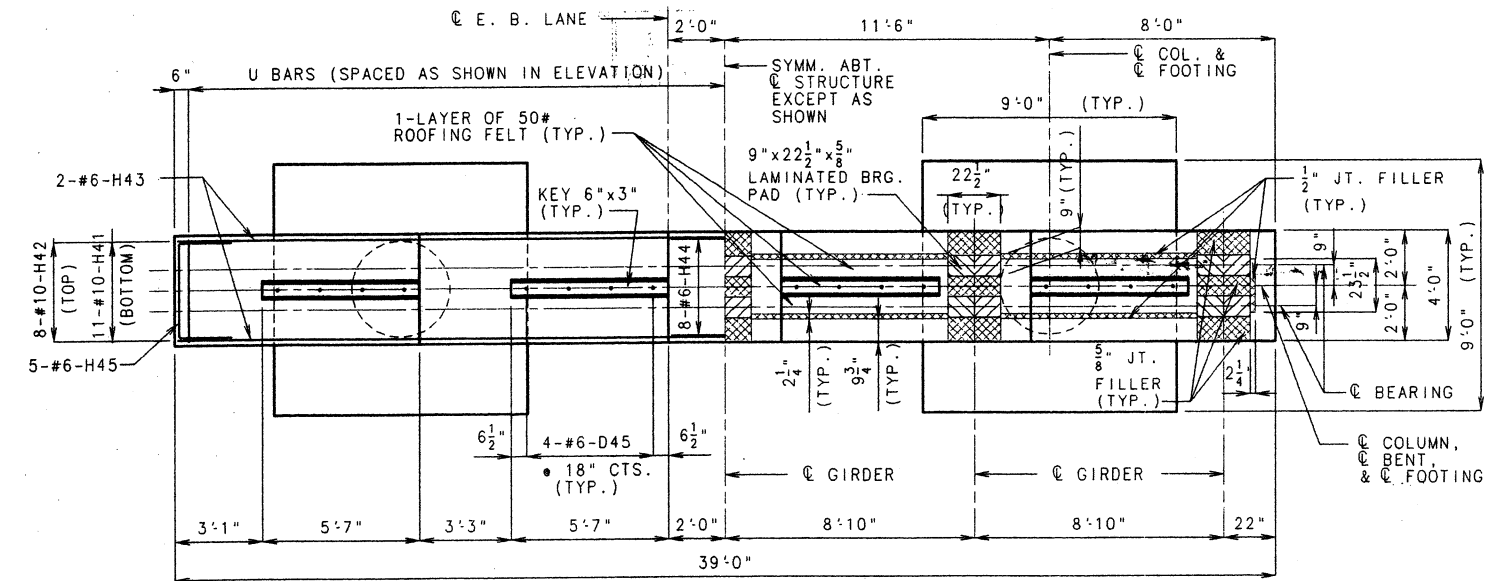




ELEVATION



SECTION AT @ STRUCTURE



HALF PLAN OF BEAM SHOWING REINFORCEMENT

HALF PLAN OF BEAM SHOWING BEARINGS

PART DETAILS OF INTERMEDIATE BENT NO. 4

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. A. Sullivan* 4-23-01



FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 19.  
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 19.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 19.  
FOR DETAIL OF KEY, SEE SHEET NO. 19.



DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

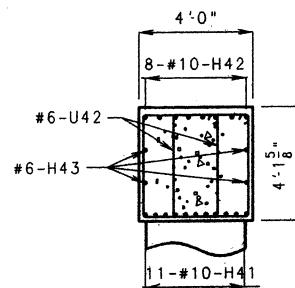
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 18 OF 93.

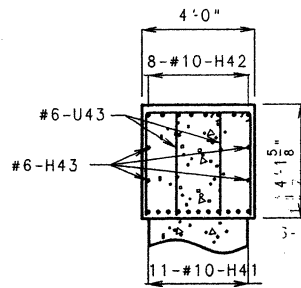
JACKSON

COUNTY

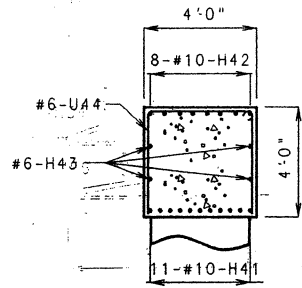
A5495



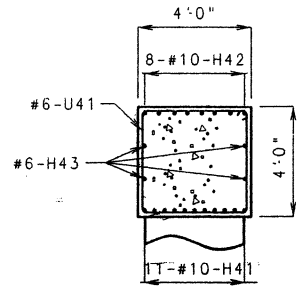
SECTION A-A



SECTION B-B

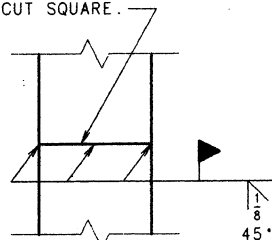


SECTION C-C

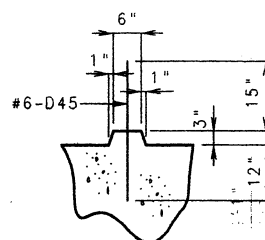


SECTION D-D

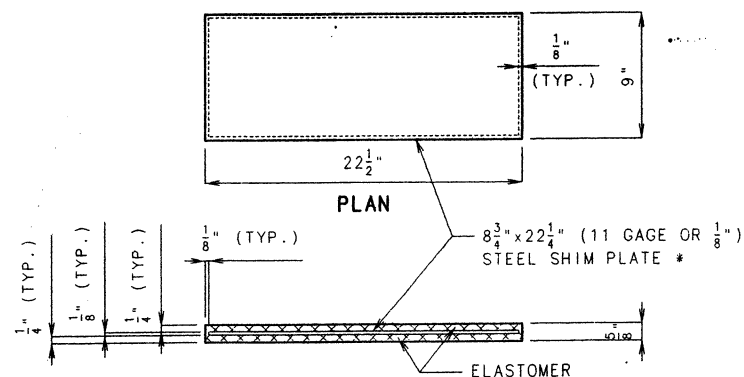
BUTT SPLICE  
(IF REQUIRED),  
TOP OF LOWER  
SECTION TO  
BE CUT SQUARE.



STEEL PILE SPLICE



DETAIL OF KEY



DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

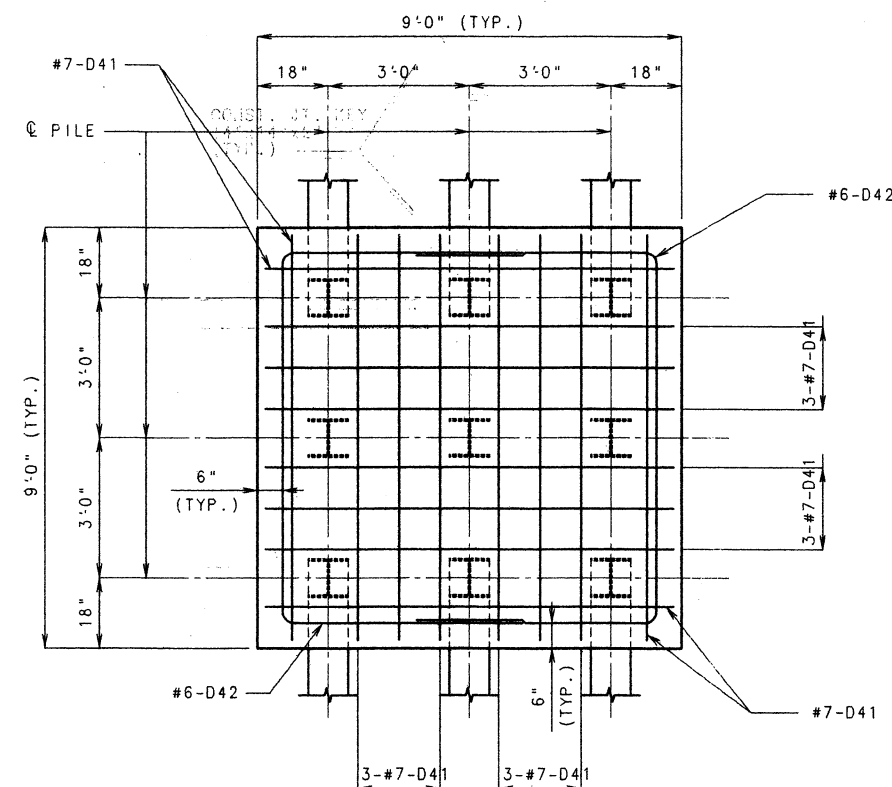
\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. J. St. Germain* Date: 4-28-01



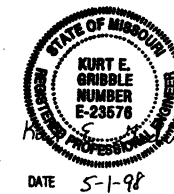
FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 18.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #4		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	100.9
STRUCTURAL STEEL PILE (10")	LIN. FT.	211.2
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	76.2
REINFORCING STEEL (BRIDGES)	LBS.	12,420

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

## PART DETAILS OF INTERMEDIATE BENT NO. 4

DETAILED JAN. 1998  
CHECKED MAR. 1998

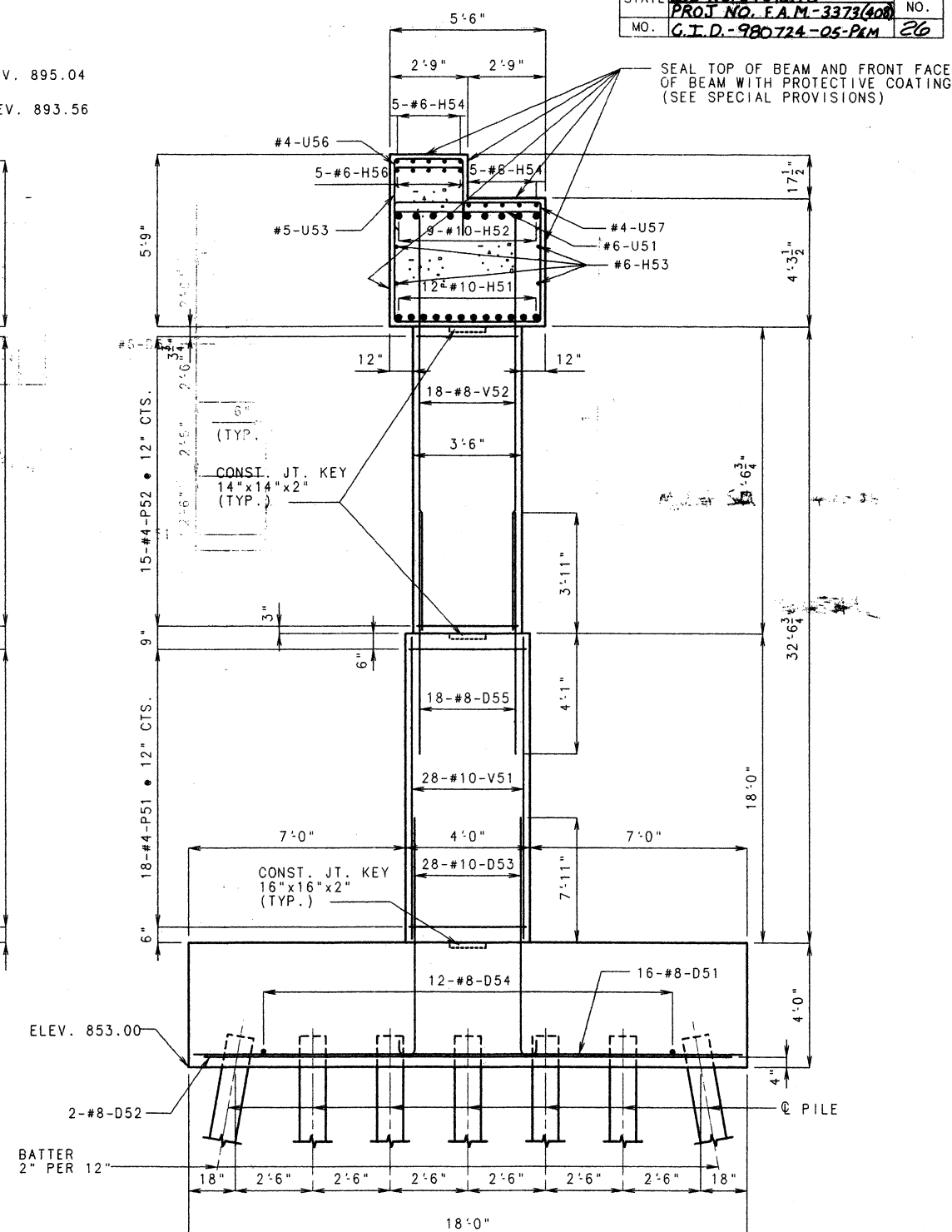
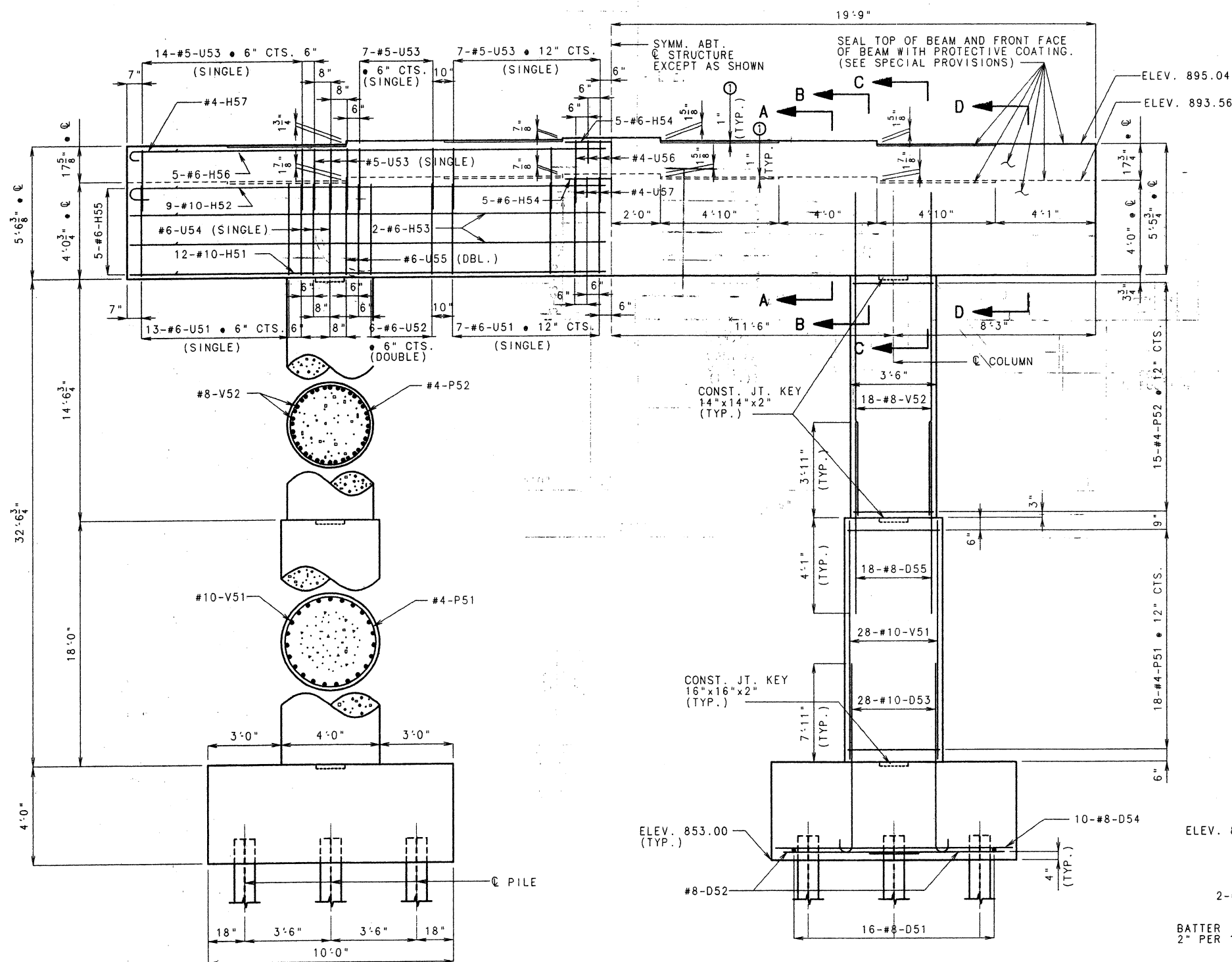
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 19 OF 93.

JACKSON

COUNTY

A5495



**FINAL PLANS**  
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Signature M. L. S. L. Date 4-23-98



**ELEVATION**

NOTE: FOR SECTIONS A-A, B-B, C-C & D-D, SEE SHEET NO. 21.  
 ① TOP OF BEAM SHALL BE SLOPED 1" TO DRAIN BETWEEN @ OF BEAM AND OUTSIDE FACE OF BEAM.

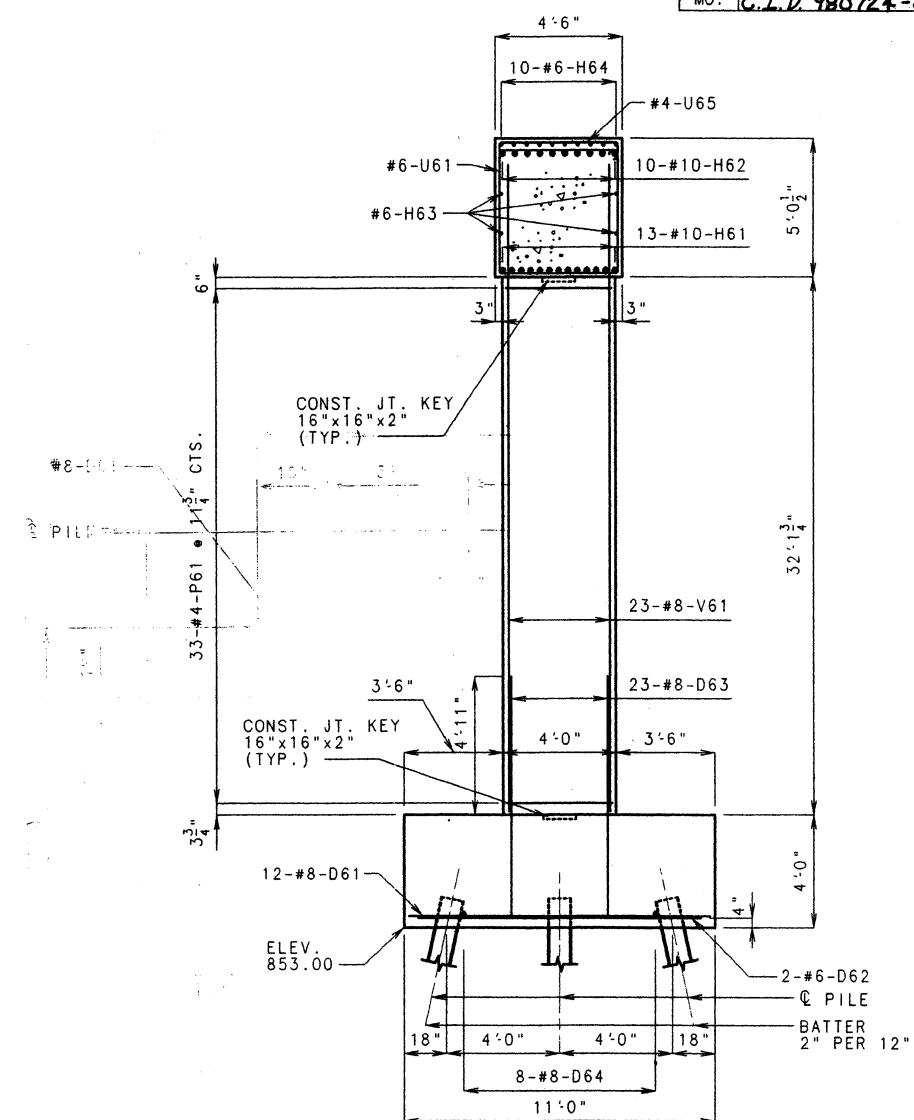
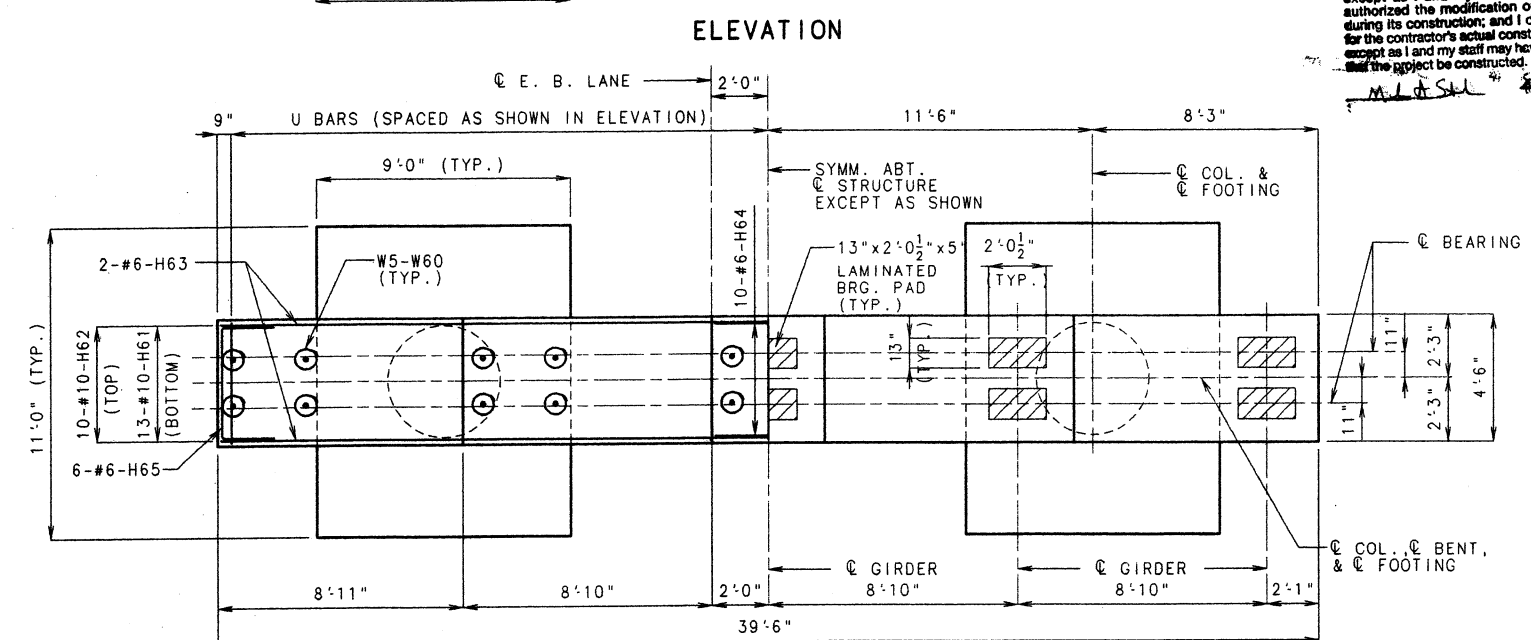
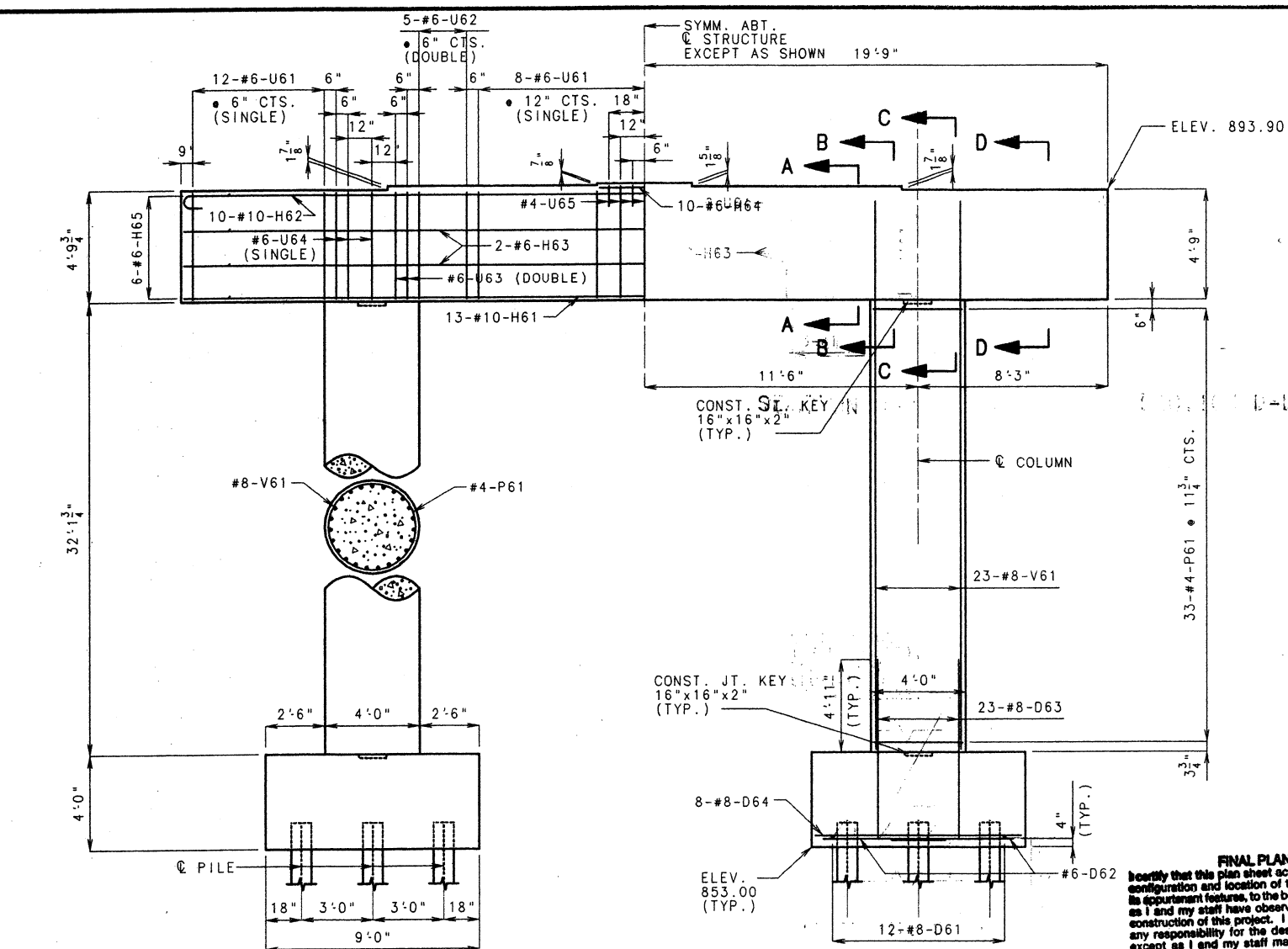
**PART DETAILS OF INTERMEDIATE BENT NO. 5**

**SECTION AT @ STRUCTURE**









**FINAL PLANS**

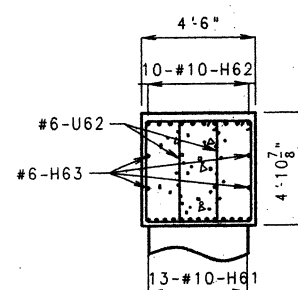
2 hereby that this plan sheet accurately depicts the configuration and location of the roadway and all its important features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered during the project be constructed.

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 23.  
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 23.  
FOR DETAIL OF ANCHOR BOLT WELLS, SEE SHEET NO. 23.

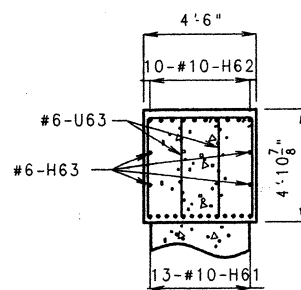
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 23.

FOR DETAIL OF ANCHOR BOLT WELLS, SEE SHEET NO. 23.

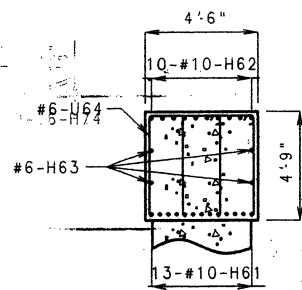
DATE 5-1-98



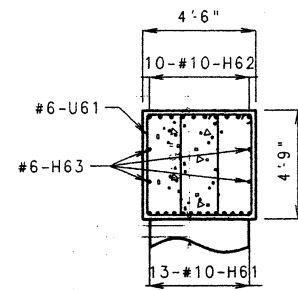
SECTION A-A



SECTION B-B

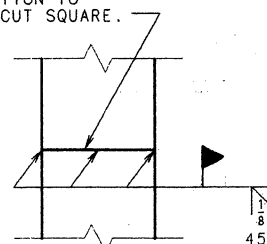


SECTION C-C



SECTION D-D

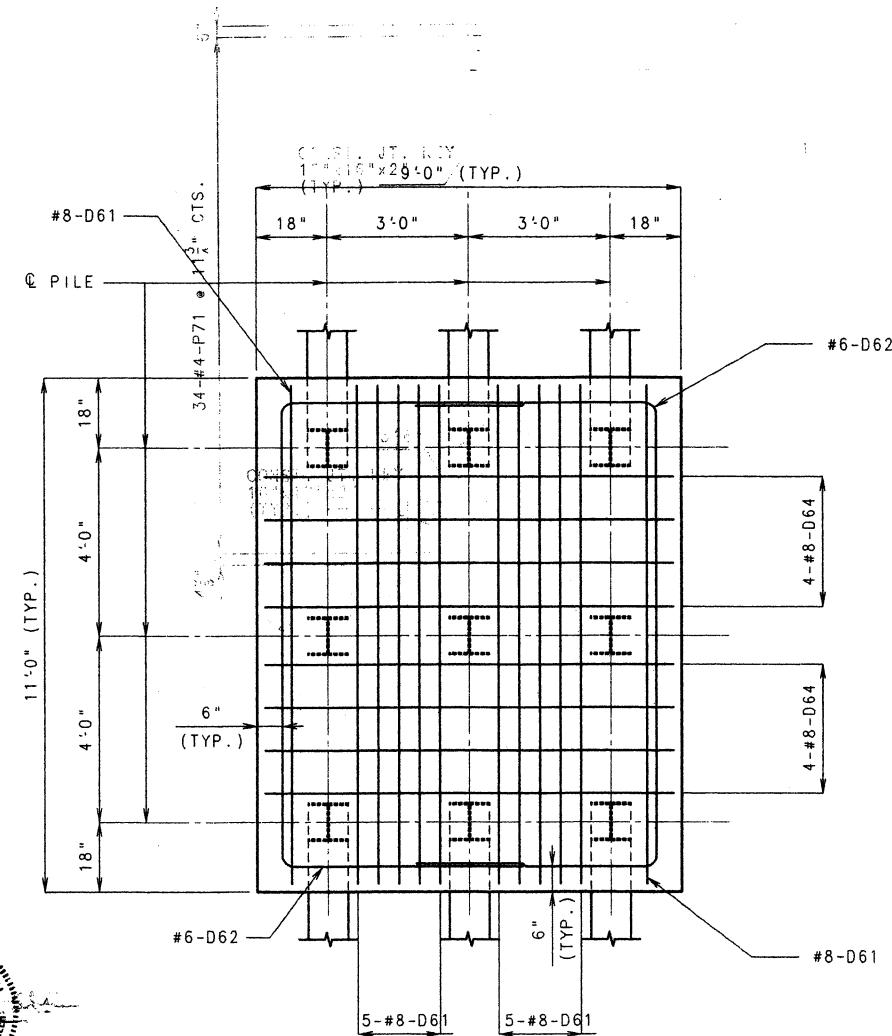
BUTT SPLICE  
(IF REQUIRED),  
TOP OF LOWER  
SECTION TO  
BE CUT SQUARE.



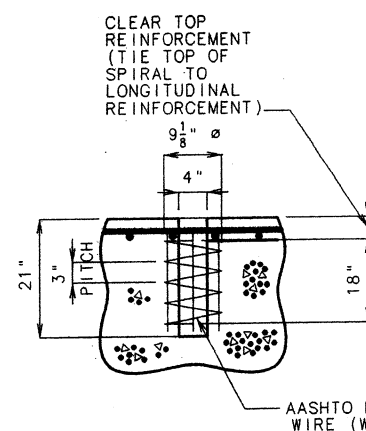
STEEL PILE SPLICE

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

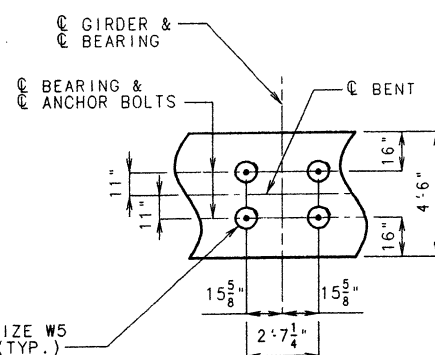
Signature: *M. J. ...* 4-23-01



PLAN OF FOOTING



DETAIL OF  
ANCHOR BOLT WELLS



LOCATION OF  
ANCHOR BOLT WELLS

NOTES:  
FOR DETAILS OF LAMINATED NEOPRENE BEARINGS, SEE SHEET NO. 47.  
ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 22.

SUBSTRUCTURE QUANTITY TABLE FOR BENT #6		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	74.8
STRUCTURAL STEEL PILE (12")	LIN. FT.	247.1
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	91.4
REINFORCING STEEL(BRIDGES)	LBS.	13,590

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

## PART DETAILS OF INTERMEDIATE BENT NO. 6

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

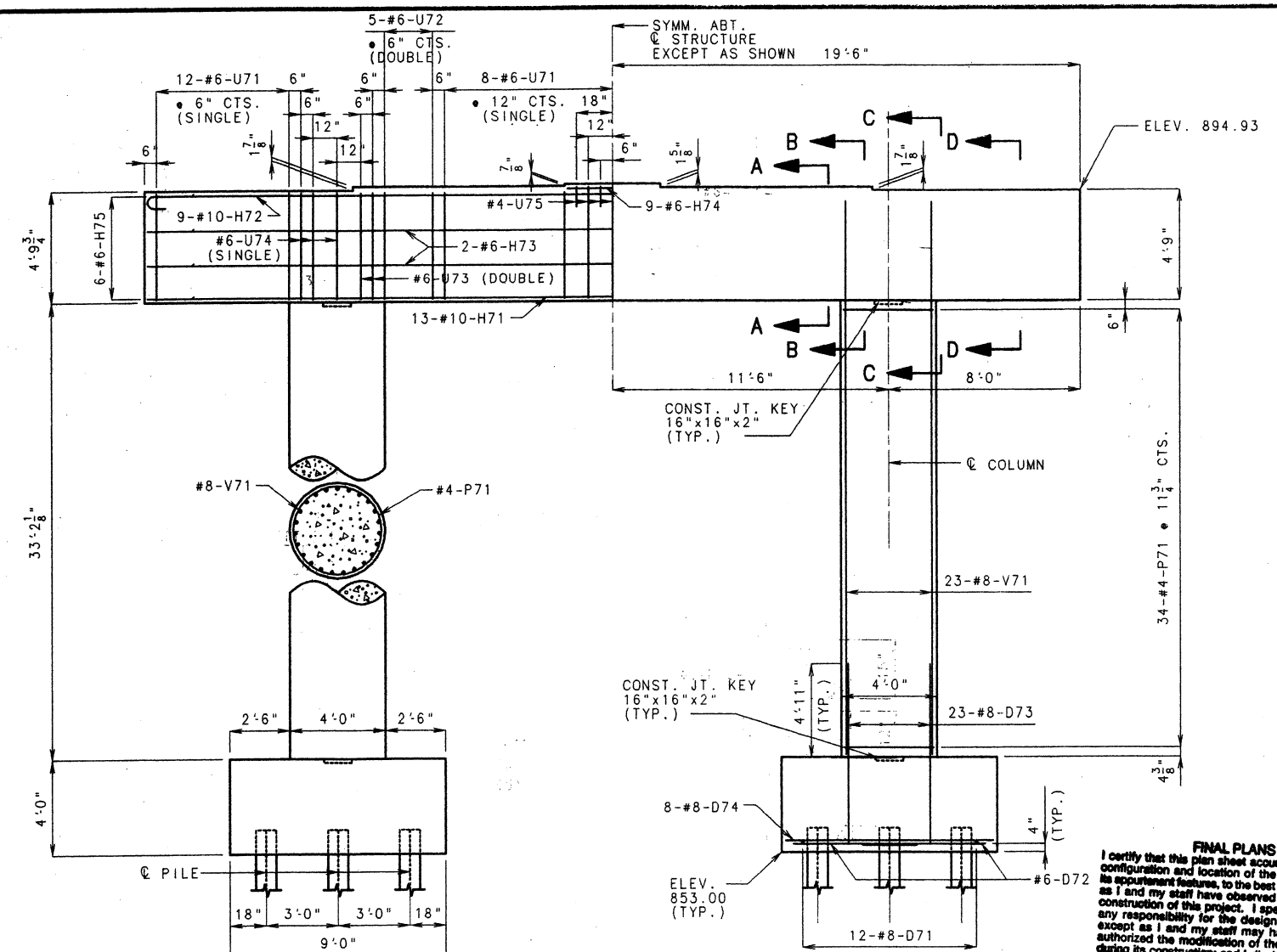
SHEET NO. 23 OF 93.

JACKSON

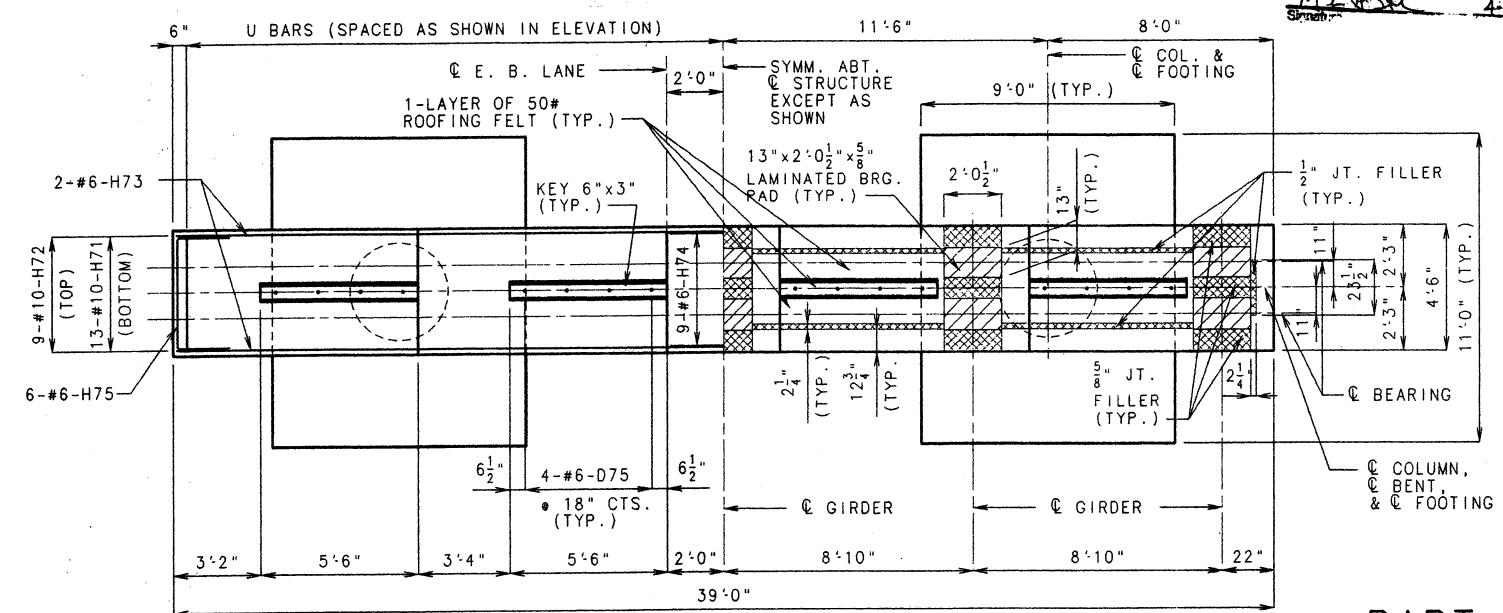
COUNTY

A5495





ELEVATION

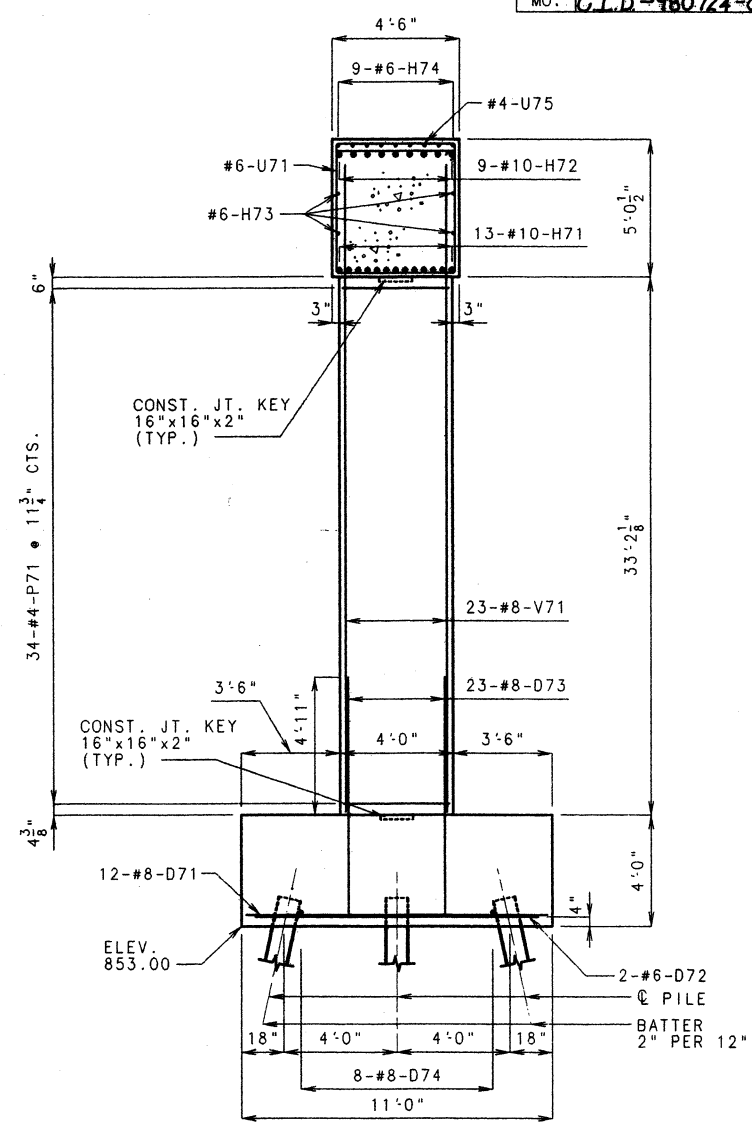


HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS

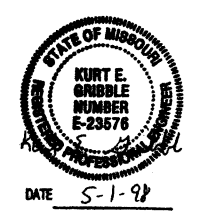
**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*[Signature]* 4-23-91



SECTION AT C STRUCTURE

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 25.  
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 25.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 25.  
FOR DETAIL OF KEY, SEE SHEET NO. 25.



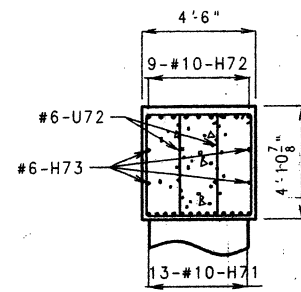
# PART DETAILS OF INTERMEDIATE BENT NO. 7

DETAILED JAN. 1998  
CHECKED MAR. 1998

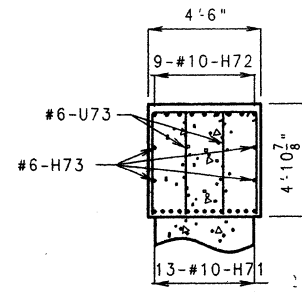
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 24 OF 93.

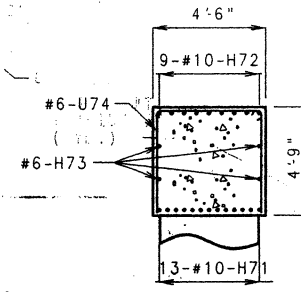
JACKSON COUNTY A5495



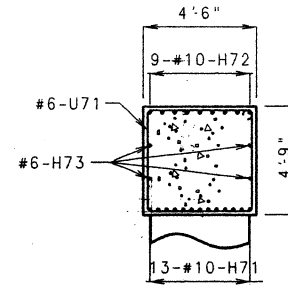
SECTION A-A



SECTION B-B

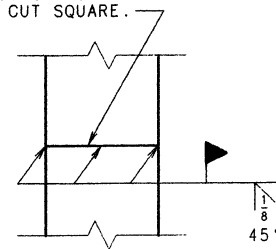


SECTION C-C

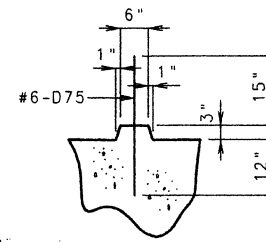


SECTION D-D

BUTT SPLICE  
(IF REQUIRED),  
TOP OF LOWER  
SECTION TO  
BE CUT SQUARE.



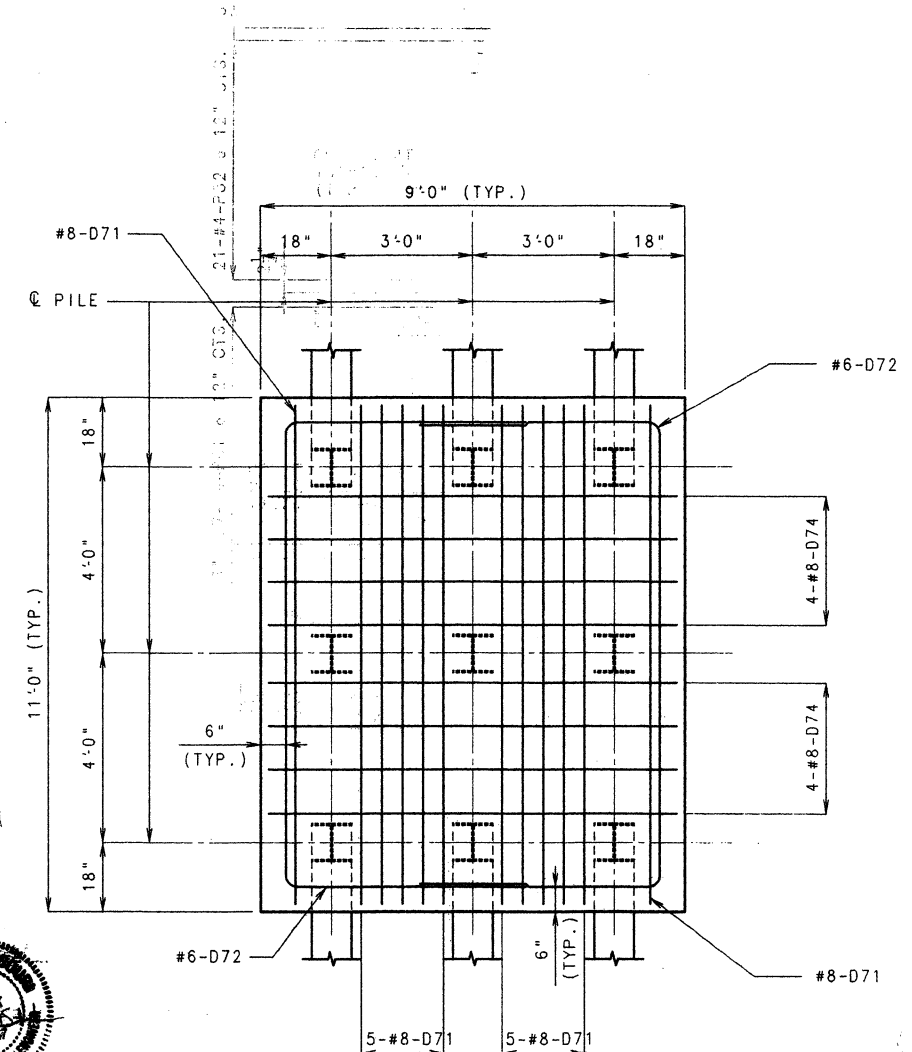
STEEL PILE SPLICE



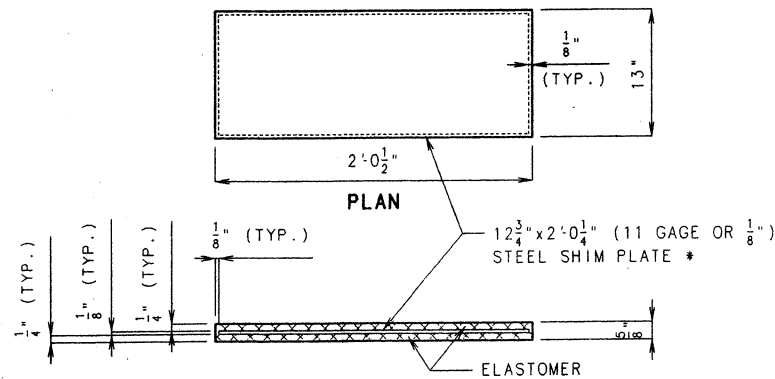
DETAIL OF KEY

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant changes, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I assume responsibility for the contractor's final construction of the project, except as I and my staff may have modified or authorized the modification of the project design during its construction.

ML & SLL 4-23-01  
Signature Date



PLAN OF FOOTING



SECTION

DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 24.

## PART DETAILS OF INTERMEDIATE BENT NO. 7

SUBSTRUCTURE QUANTITY TABLE FOR BENT #7			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU. YDS.	69.5	
STRUCTURAL STEEL PILE (12")	LIN. FT.	247.2	
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	92.0	✓
REINFORCING STEEL (BRIDGES)	LBS.	13,480	✓

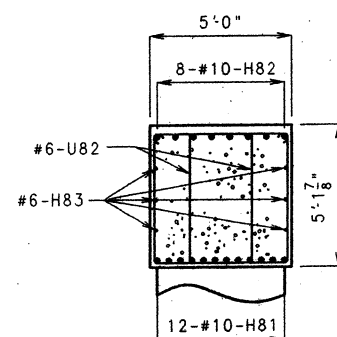
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



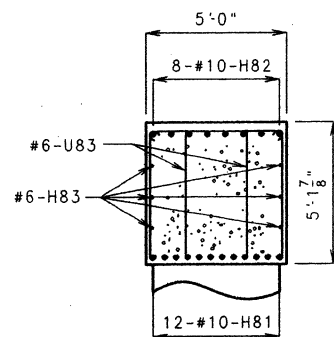
DATE 5-1-98



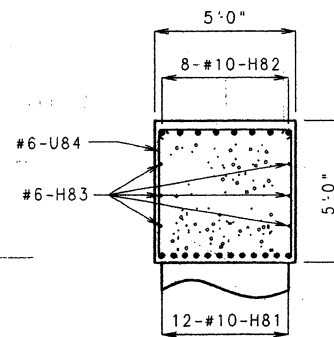




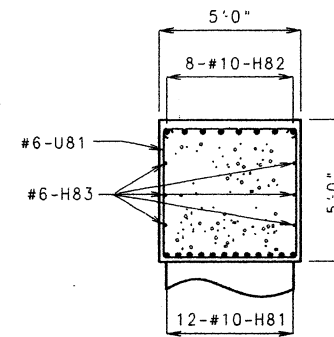
SECTION A-A



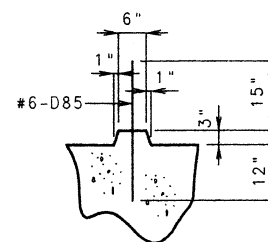
SECTION B-B



SECTION C-C



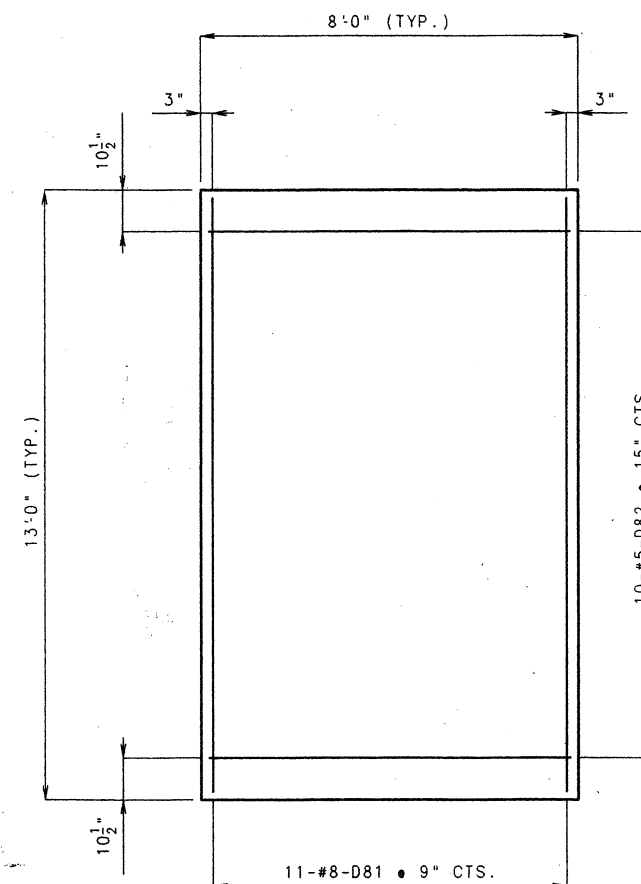
SECTION D-D



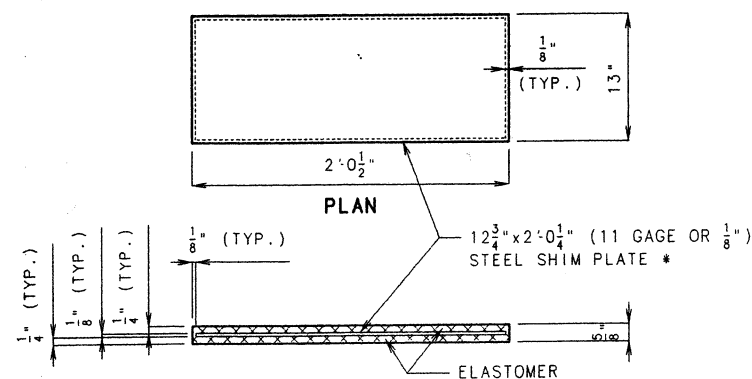
DETAIL OF KEY

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered, that the project be constructed.

Signature: M. A. Sel Date: 4-23-01



PLAN OF FOOTING



DETAILS OF LAMINATED NEOPRENE BEARING PADS

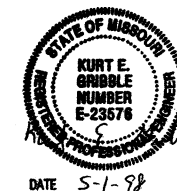
\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 26.

## PART DETAILS OF INTERMEDIATE BENT NO. 8

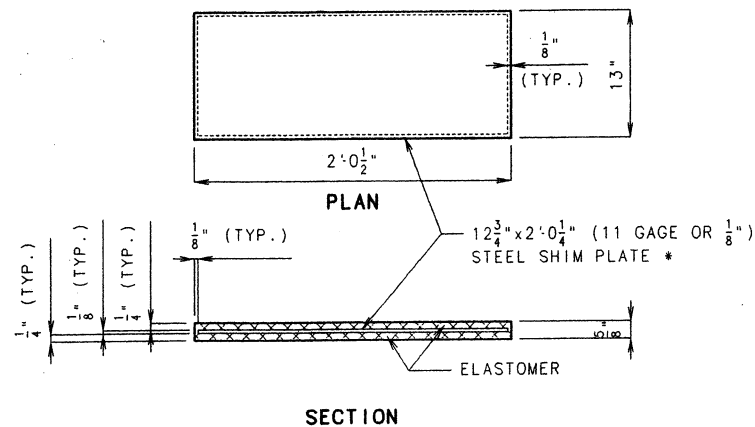
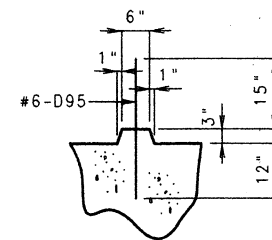
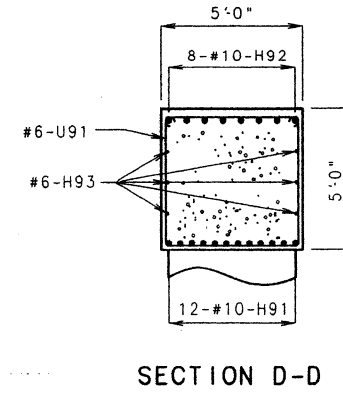
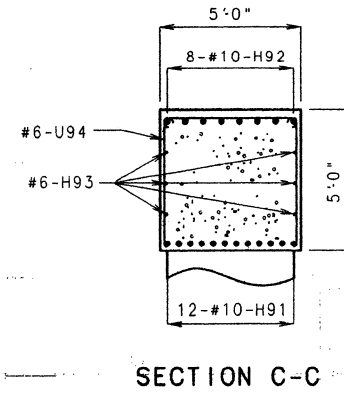
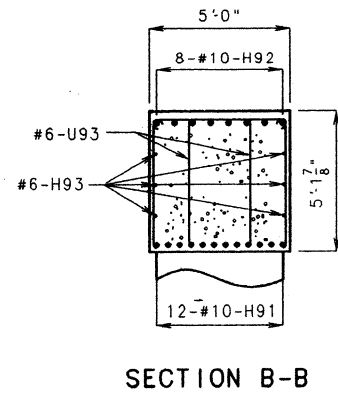
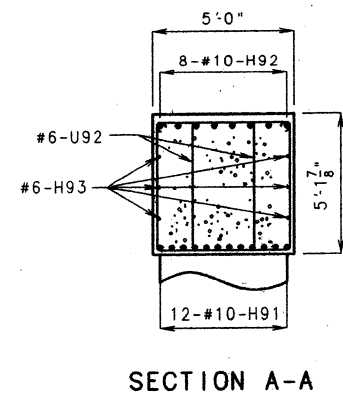
SUBSTRUCTURE QUANTITY TABLE FOR BENT #8		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	90.6
CLASS 2 EXCAVATION	CU.YDS.	47
COFFERDAMS (BENT 8)	LUMP SUM	1
CLASS B CONCRETE (SUBSTRUCTURE)	CU.YDS.	131.3
REINFORCING STEEL (BRIDGES)	LBS.	20,630
CONT. 5205 FOUND TEST HOLES	L.F.	16

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

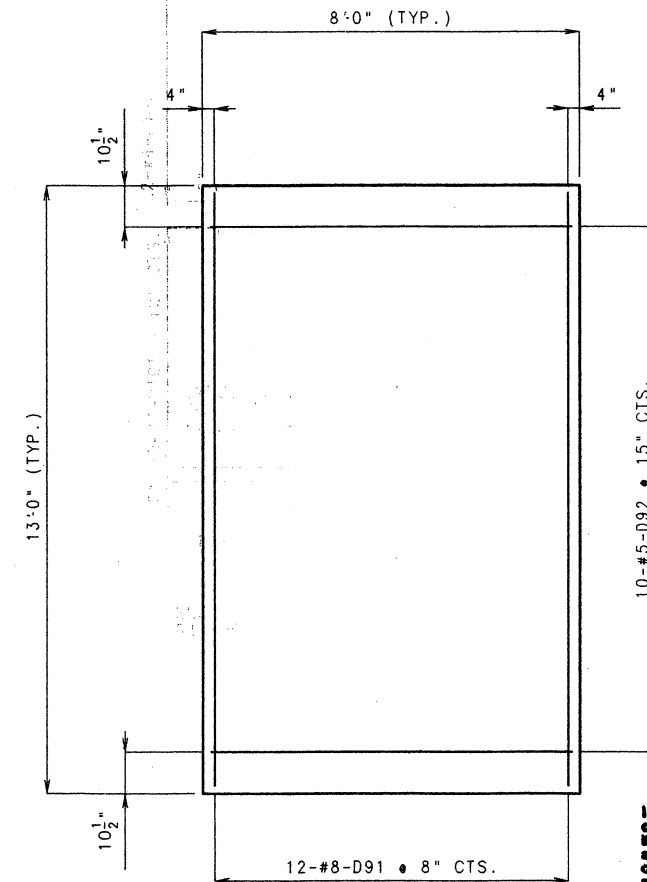




\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

## PART DETAILS OF INTERMEDIATE BENT NO. 9

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 28.



**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

SUBSTRUCTURE QUANTITY TABLE FOR BENT #9			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU. YDS.	1928	
CLASS 2 EXCAVATION	CU. YDS.	34.1	
COFFERDAMS (BENT 9)	LUMP SUM	1	
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	130.57	
REINFORCING STEEL (BRIDGES)	LBS.	20,580	
CONT. 5202 CL 2+50%	C.Y.	0.4	
CONT. 5205 FOUND TEST HOLES	L.F.	16	

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 29 OF 93.

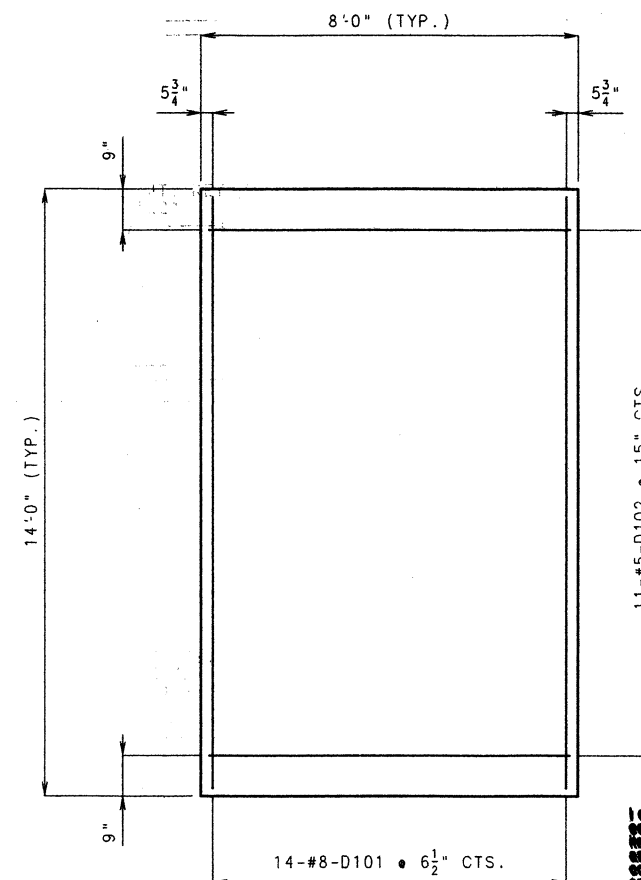
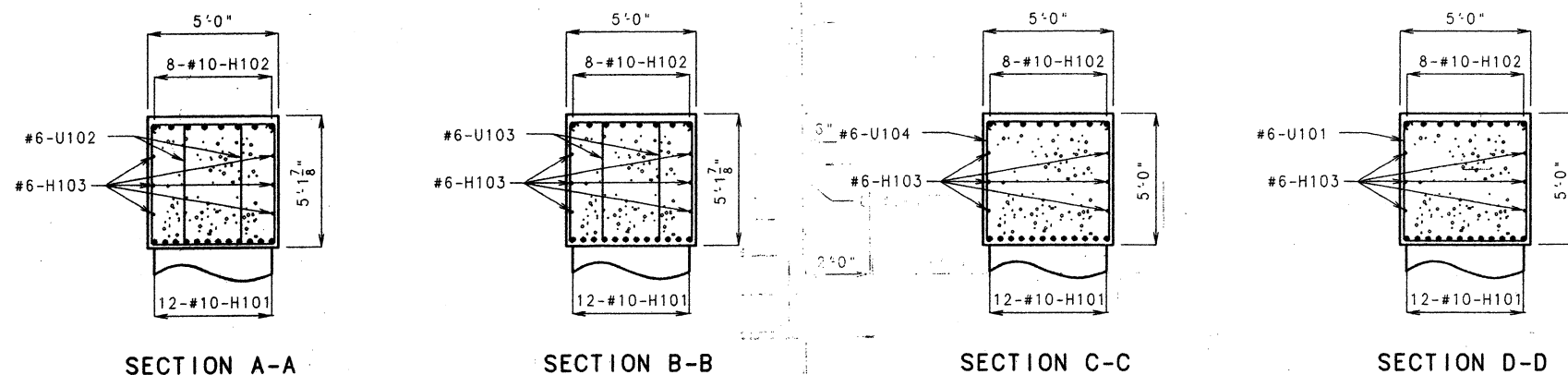
JACKSON

COUNTY

A5495



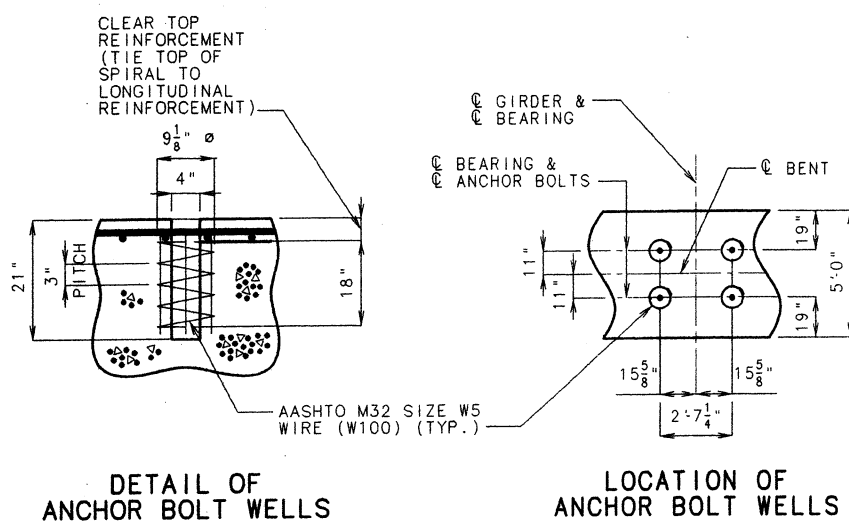




**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its component features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. J. ASH* 4-23-01  
 Signature

PLAN OF FOOTING



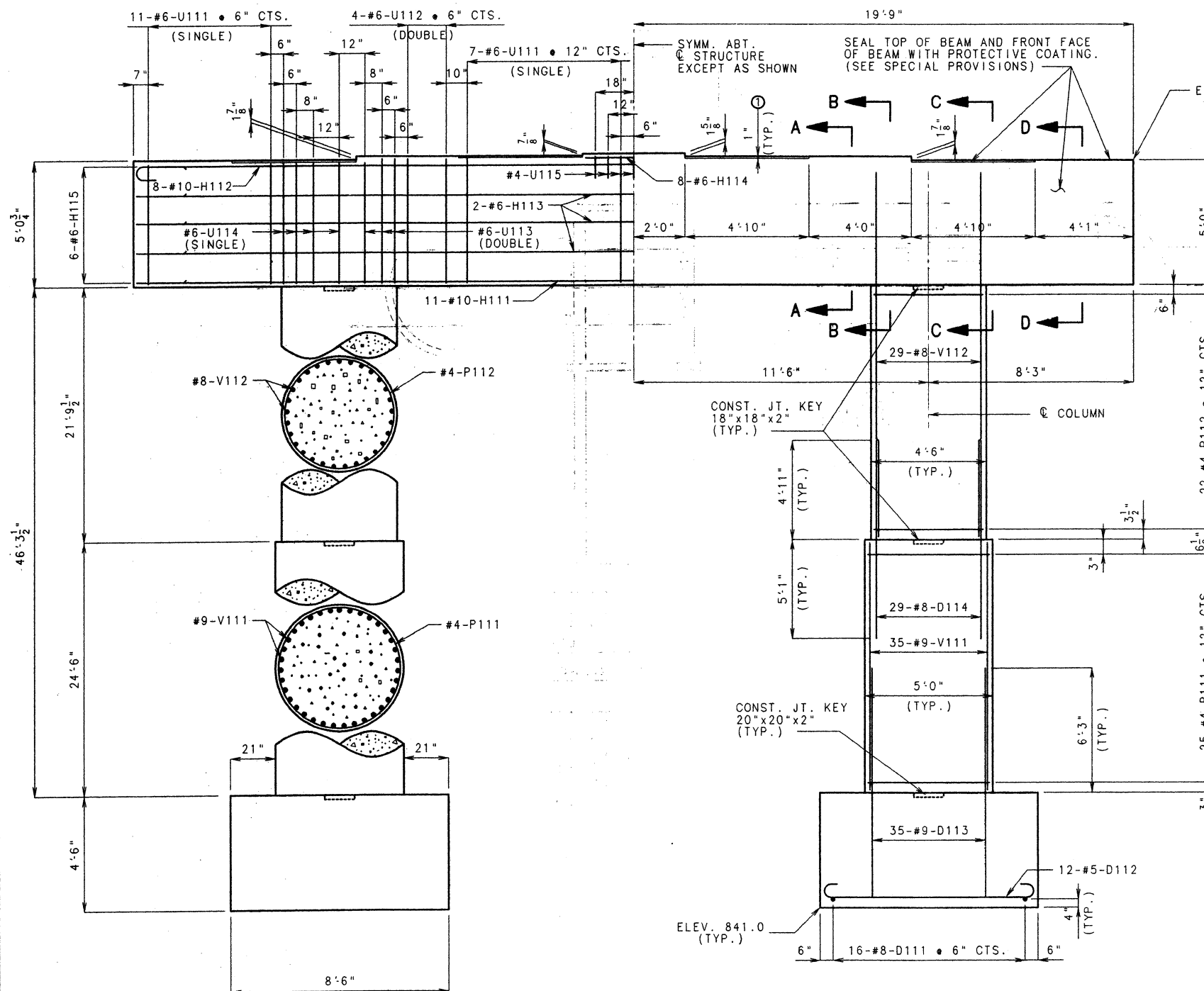
NOTES:  
 FOR DETAILS OF LAMINATED NEOPRENE BEARINGS, SEE SHEET NO. 47.  
 ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
 FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 30.

PART DETAILS OF INTERMEDIATE BENT NO. 10

SUBSTRUCTURE QUANTITY TABLE FOR BENT #10		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	146.1
CLASS 2 EXCAVATION	CU. YDS.	272
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	133.4
REINFORCING STEEL (BRIDGES)	LBS.	20,720
CONT. 5202 CL 2+50%	C.Y.	9.5
CONT. 5205 FOUND TEST HOLES L.F.		16

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.





ELEVATION

NOTE: FOR SECTIONS A-A, B-B, C-C & D-D, SEE SHEET NO. 33.

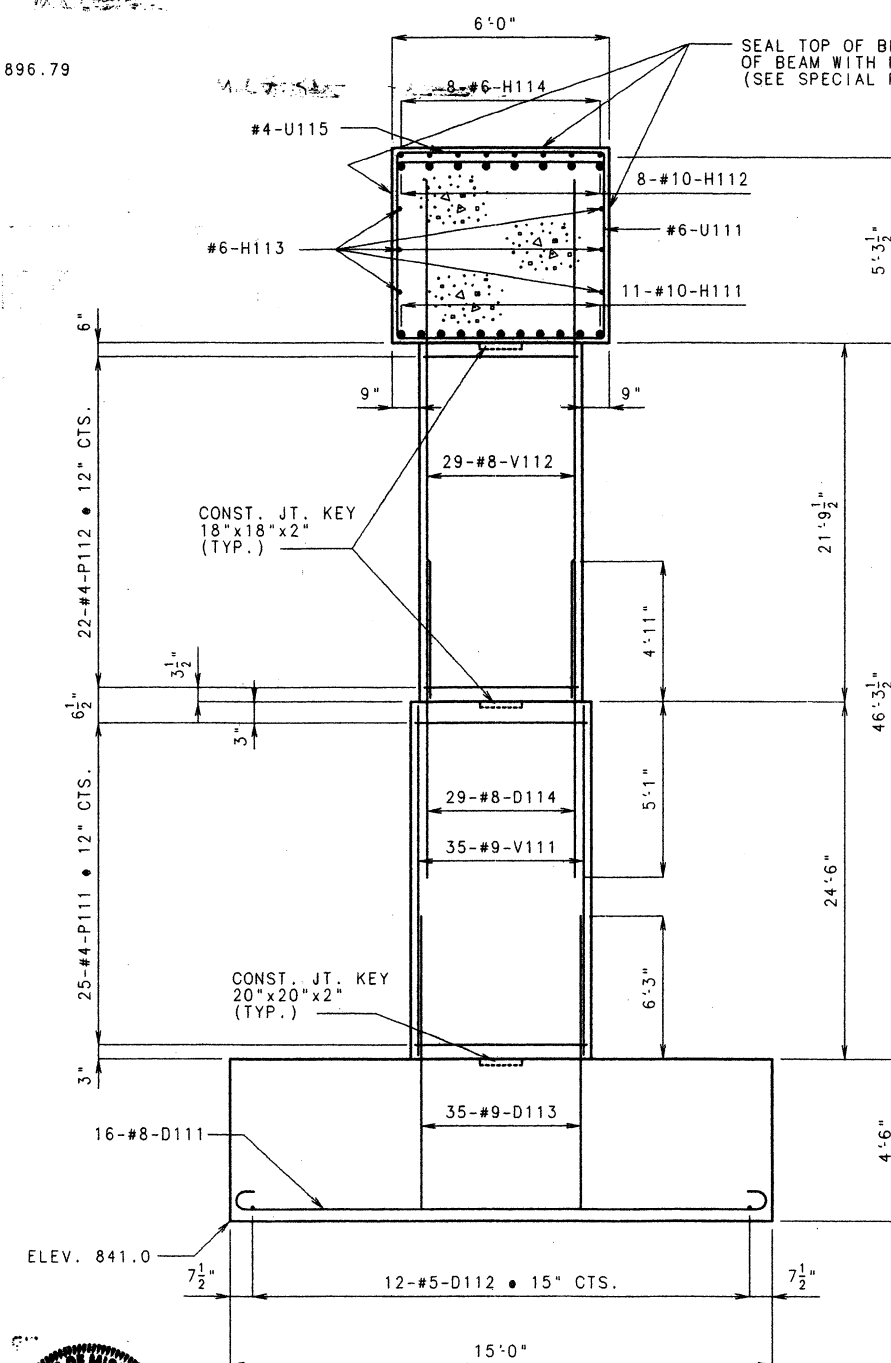
- ① TOP OF BEAM SHALL BE SLOPED 1" TO DRAIN BETWEEN & OF BEAM TO BOTH OUTSIDE FACES OF BEAM.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. J. ASH* 4-23-01  
SE



SECTION AT & STRUCTURE



## PART DETAILS OF INTERMEDIATE BENT NO. 11

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 32 OF 93.

JACKSON

COUNTY

A5495



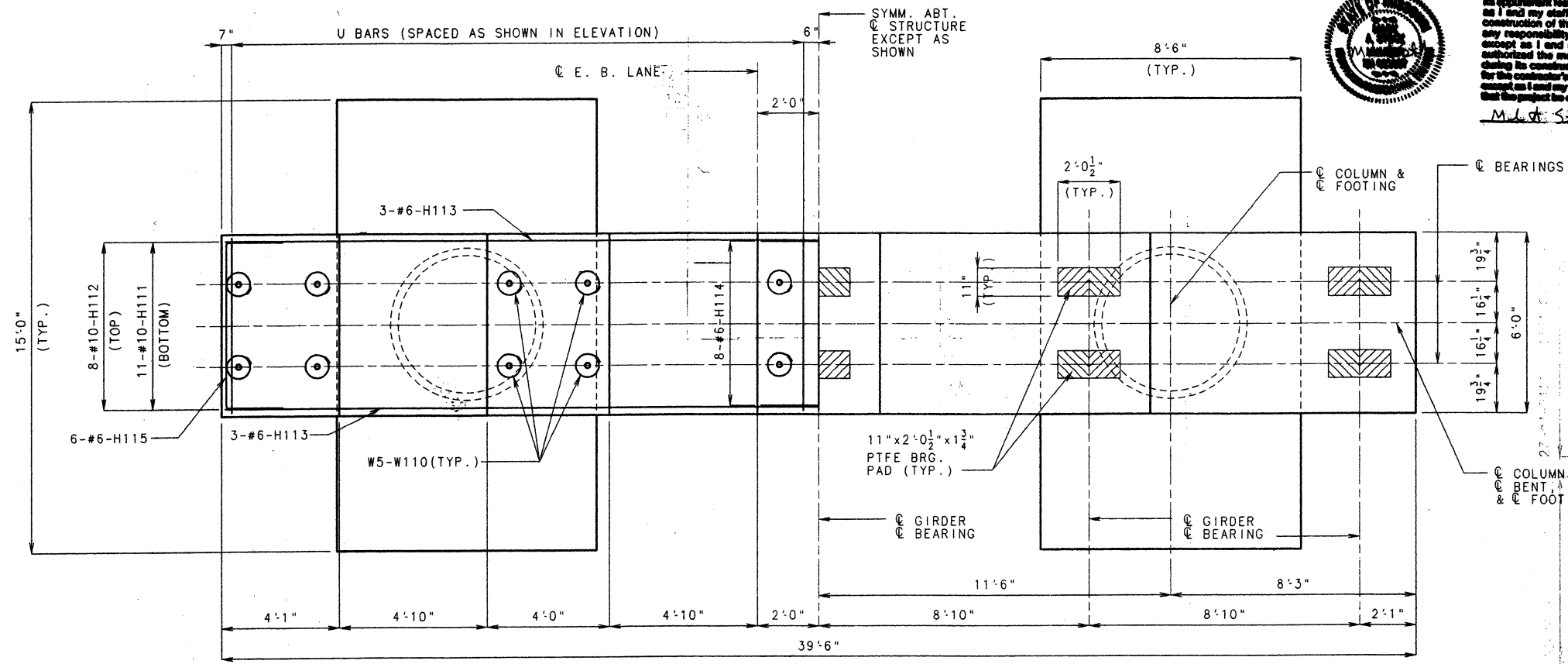
DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998



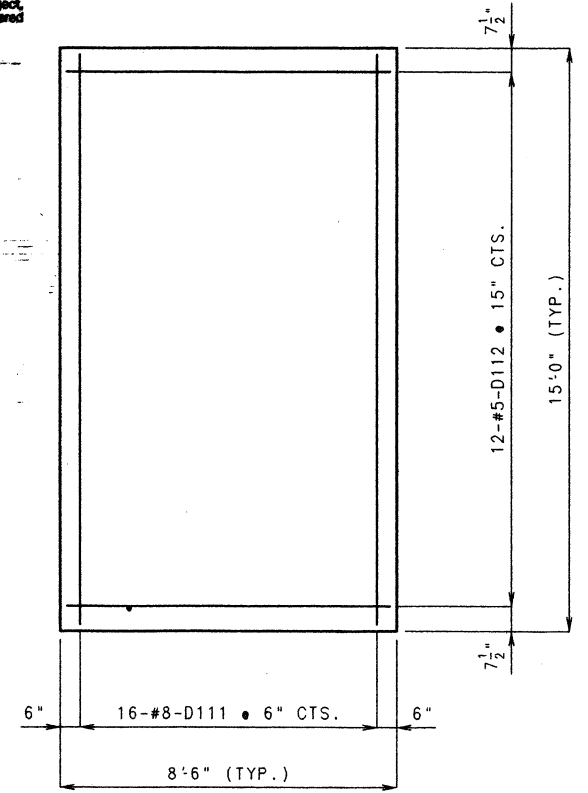
**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the  
 construction and location of the roadway and all  
 its appurtenant features, to the best of my knowledge,  
 as I and my staff have observed the contractor's  
 construction of this project. I specifically disclaim  
 any responsibility for the design of this project,  
 except as I and my staff may have modified or  
 authorized the modification of the project design  
 during its construction, and I disclaim responsibility  
 for the contractor's actual construction of the project,  
 except as I and my staff may have directed or ordered  
 that the project be constructed.  
 M.L.C. S.W. 4-23-01

STATE	JOB NO. TUIO11C	SHEET NO.
MO.	PROJ. NO. - E.A.M.-3273(408)	39
	C.I.D. - 980724-05-PEM	

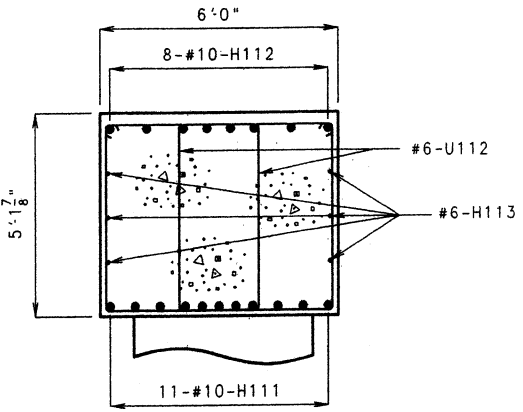


HALF PLAN OF BEAM SHOWING REINFORCEMENT

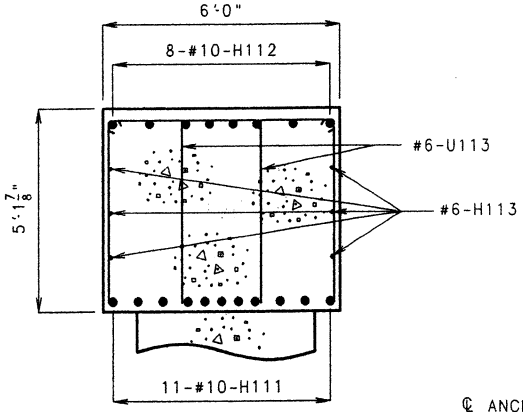
HALF PLAN OF BEAM SHOWING BEARINGS



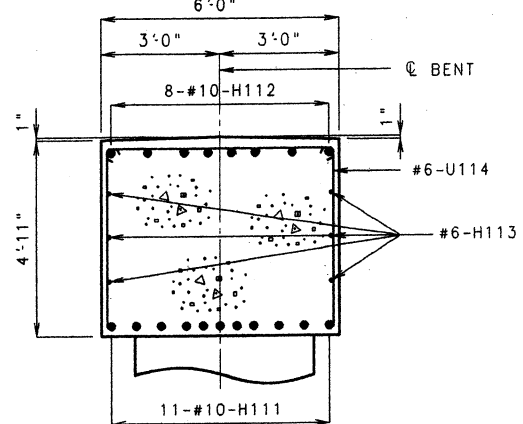
PLAN OF FOOTING



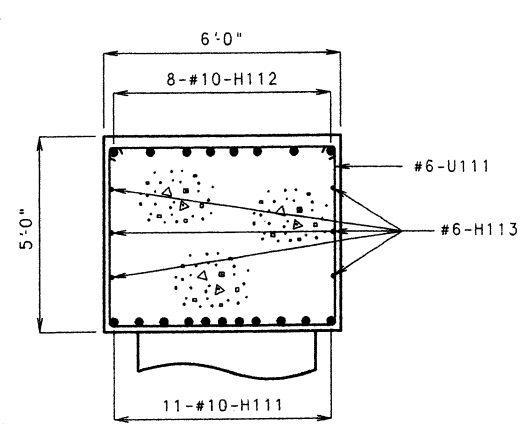
SECTION A-A



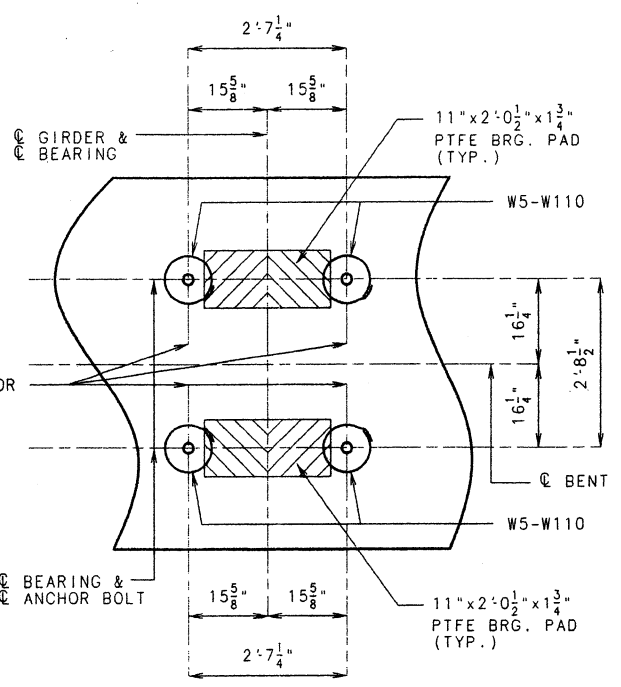
SECTION B-B



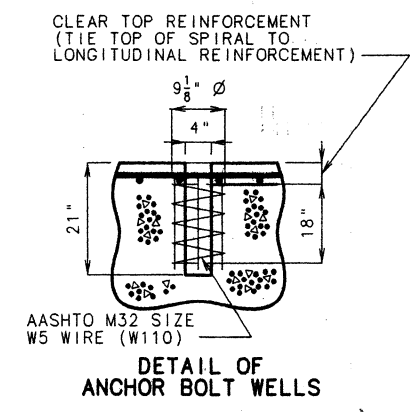
SECTION C-C



SECTION D-D



DETAIL OF ANCHOR BOLT LOCATIONS

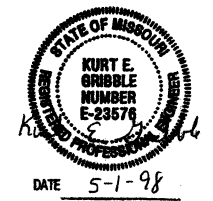


DETAIL OF ANCHOR BOLT WELLS

NOTE: FOR DETAILS OF BEARINGS, SEE SHEET NO. 48.  
 ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

SUBSTRUCTURE QUANTITY TABLE FOR BENT 11		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	234.9
CLASS 2 EXCAVATION	CU.YDS.	30.1
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	148.8
REINFORCING STEEL(BRIDGES)	LBS.	12,410
REINFORCING STEEL(EPOXY COATED)	LBS.	0,070
CONT. 5205 FOUND TEST HOLES	L.F.	16

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

PART DETAILS OF INTERMEDIATE BENT NO. 11

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 33 OF 93.

JACKSON COUNTY A5495

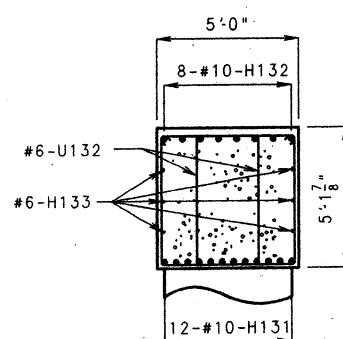
DETAILED JAN. 1998  
 CHECKED MAR. 1998



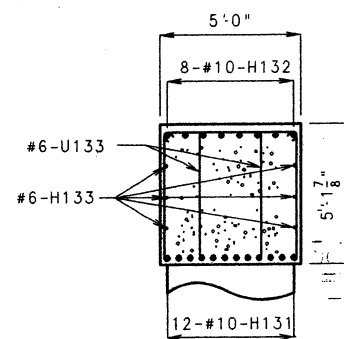




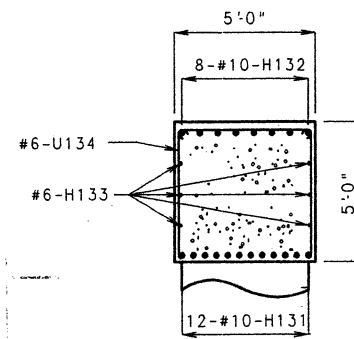




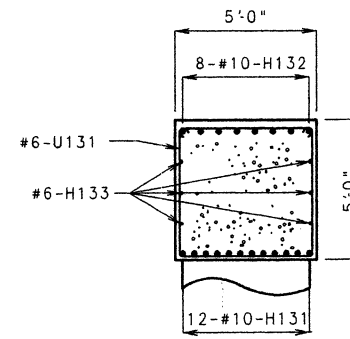
SECTION A-A



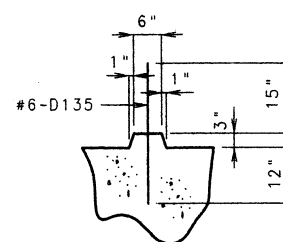
SECTION B-B



SECTION C-C



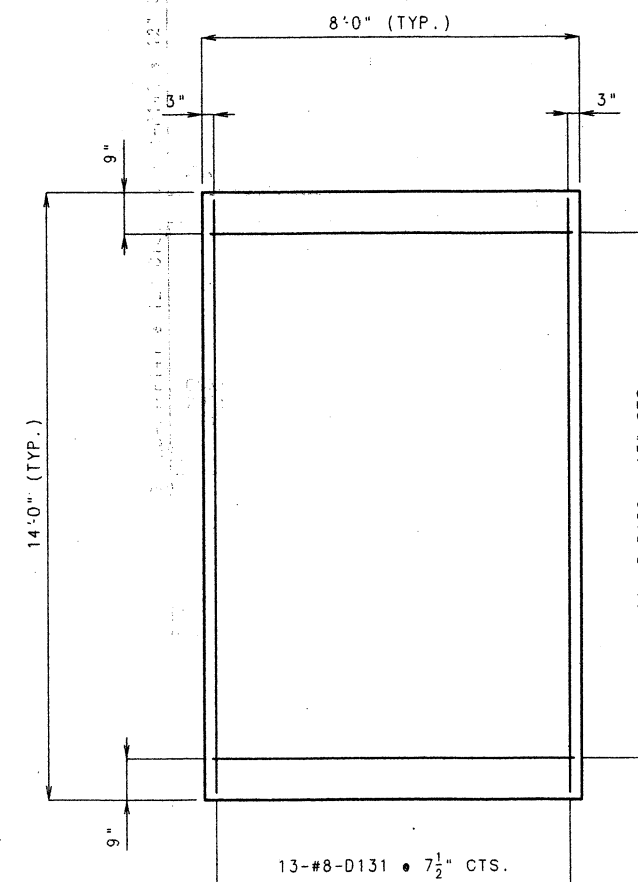
SECTION D-D



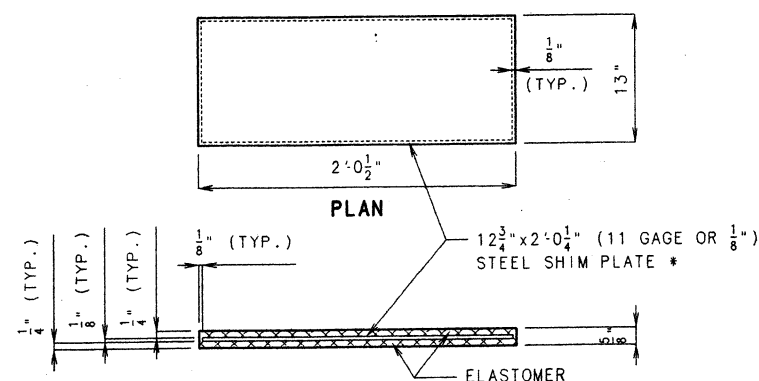
DETAIL OF KEY

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M.L.A. SELL 4-23-01



PLAN OF FOOTING



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 36.

## PART DETAILS OF INTERMEDIATE BENT NO. 13

SUBSTRUCTURE QUANTITY TABLE FOR BENT #13		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	164.1
CLASS 2 EXCAVATION	CU.YDS.	23.5
CLASS B CONCRETE (SUBSTRUCTURE)	CU.YDS.	134.3
REINFORCING STEEL (BRIDGES)	LBS.	20,910
CONT. 5202 CL 2+50%	C.Y.	2.1
CONT. 5205 FOUND TEST HOLES	L.F.	16

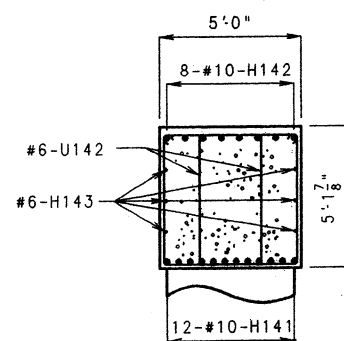
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



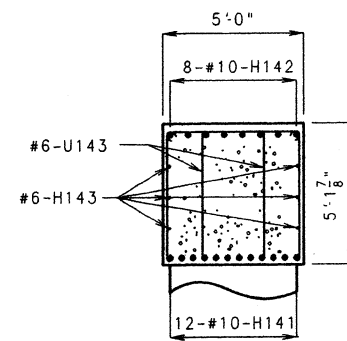
DATE 5-1-98



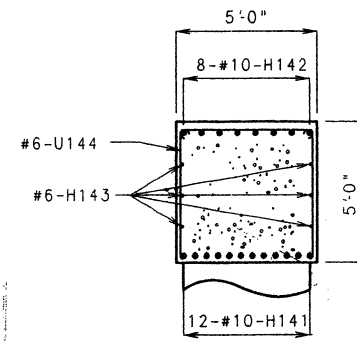




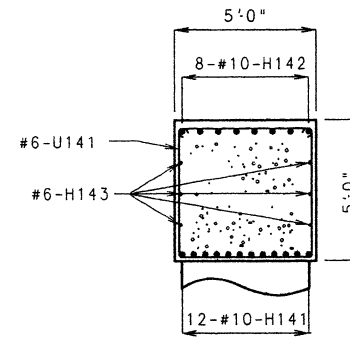
SECTION A-A



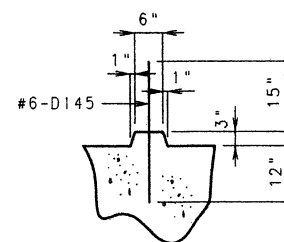
SECTION B-B



SECTION C-C

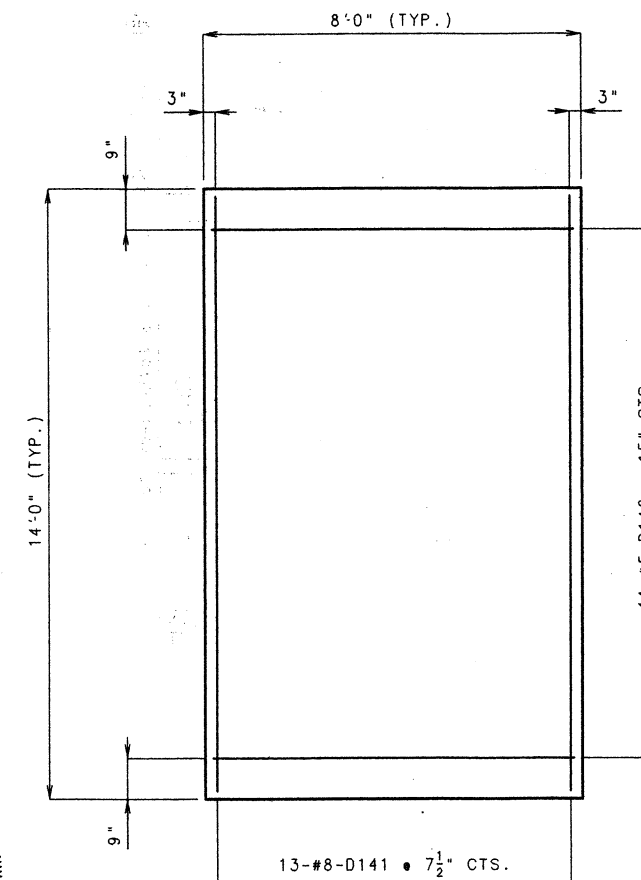


SECTION D-D

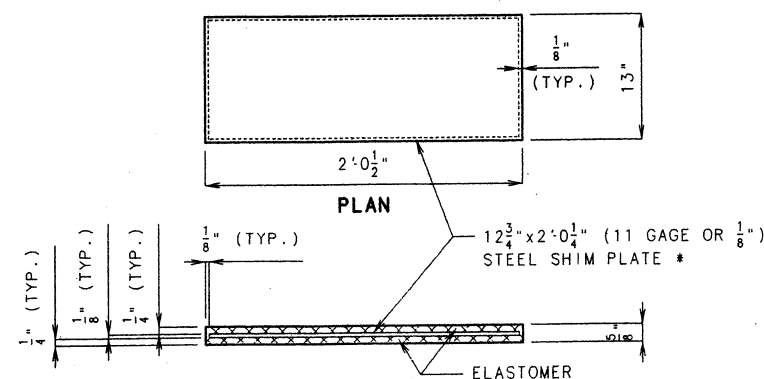


DETAIL OF KEY

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the construction of this project. I specifically accept any responsibility for the design of this project, except as I and my staff may have modified or corrected the construction of the project during its construction, and I disclaim responsibility for the contractor's actual construction, except as I and my staff may have modified or corrected the construction during its construction.



PLAN OF FOOTING



SECTION

DETAILS OF LAMINATED NEOPRENE BEARING PADS

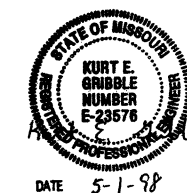
\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 38.

## PART DETAILS OF INTERMEDIATE BENT NO. 14

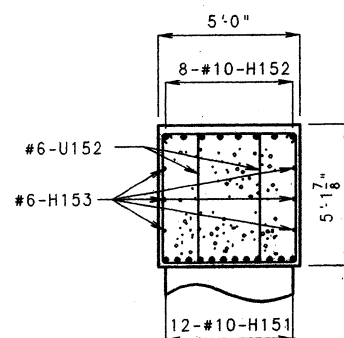
SUBSTRUCTURE QUANTITY TABLE FOR BENT #14		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	170
CLASS 2 EXCAVATION	CU. YDS.	26.9
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	135.9
REINFORCING STEEL (BRIDGES)	LBS.	20,990
CONT. 5202 CL 2+50%	C.Y.	76
CONT. 5205 FOUND TEST HOLES	L.F.	16

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

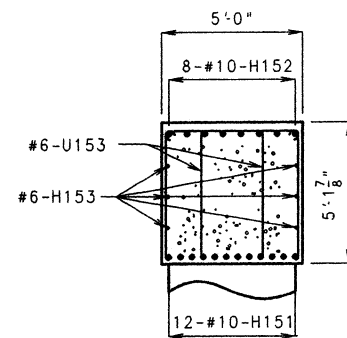


DATE 5-1-98

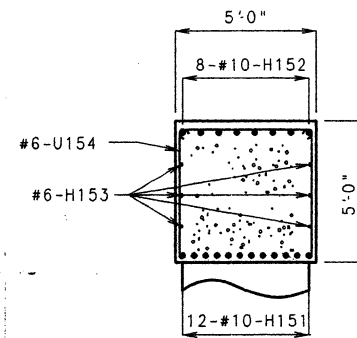




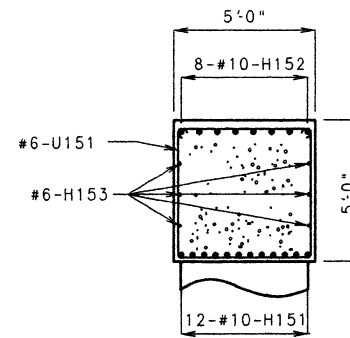
SECTION A-A



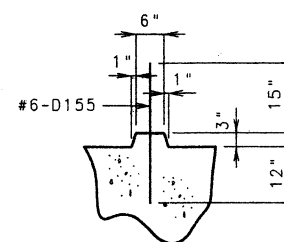
SECTION B-B



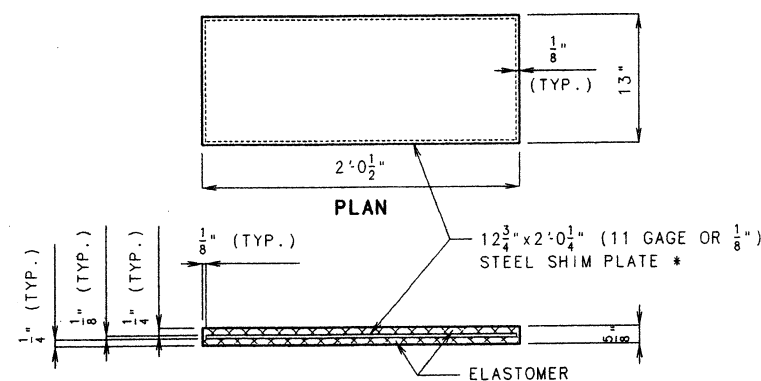
SECTION C-C



SECTION D-D



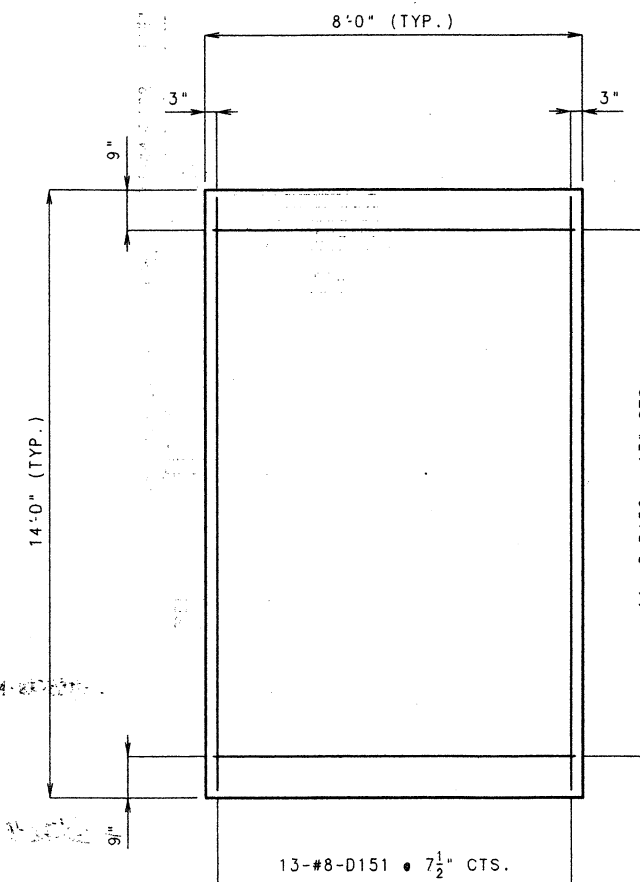
DETAIL OF KEY



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 40.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #15			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU. YDS.	170.6	
CLASS 2 EXCAVATION	CU. YDS.	26	
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	136.38	
REINFORCING STEEL (BRIDGES)	LBS.	21,090	
CONT. 5202 CL 2+50 %	C.Y.	6.5	
CONT. 5205 FOUND TEST HOLES	L.F.	16	

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

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I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have checked or ordered that the project be constructed.

*M.L. Smith* # 23-01  
Signature



## PART DETAILS OF INTERMEDIATE BENT NO. 15

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 41 OF 93.

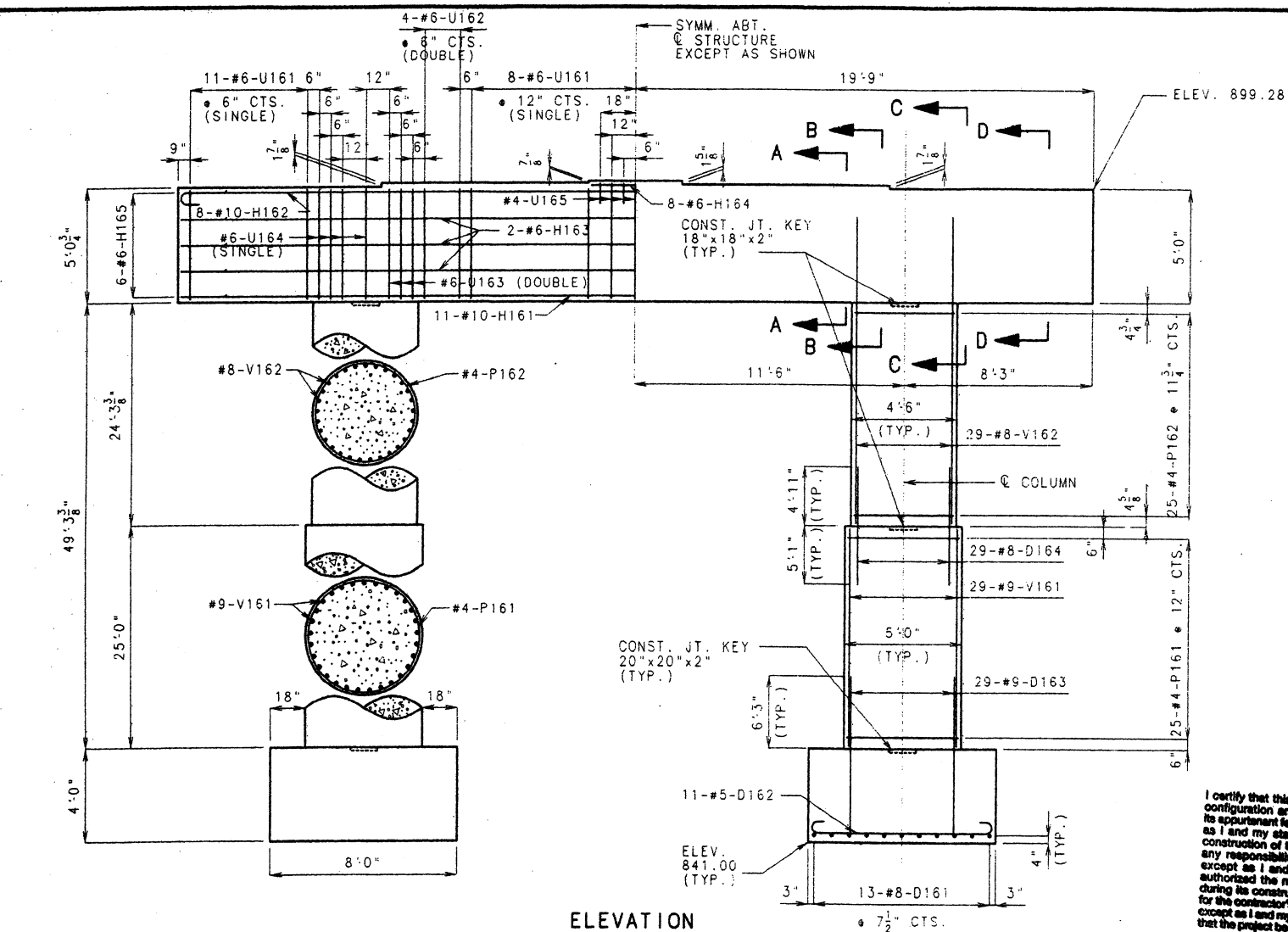
JACKSON

COUNTY

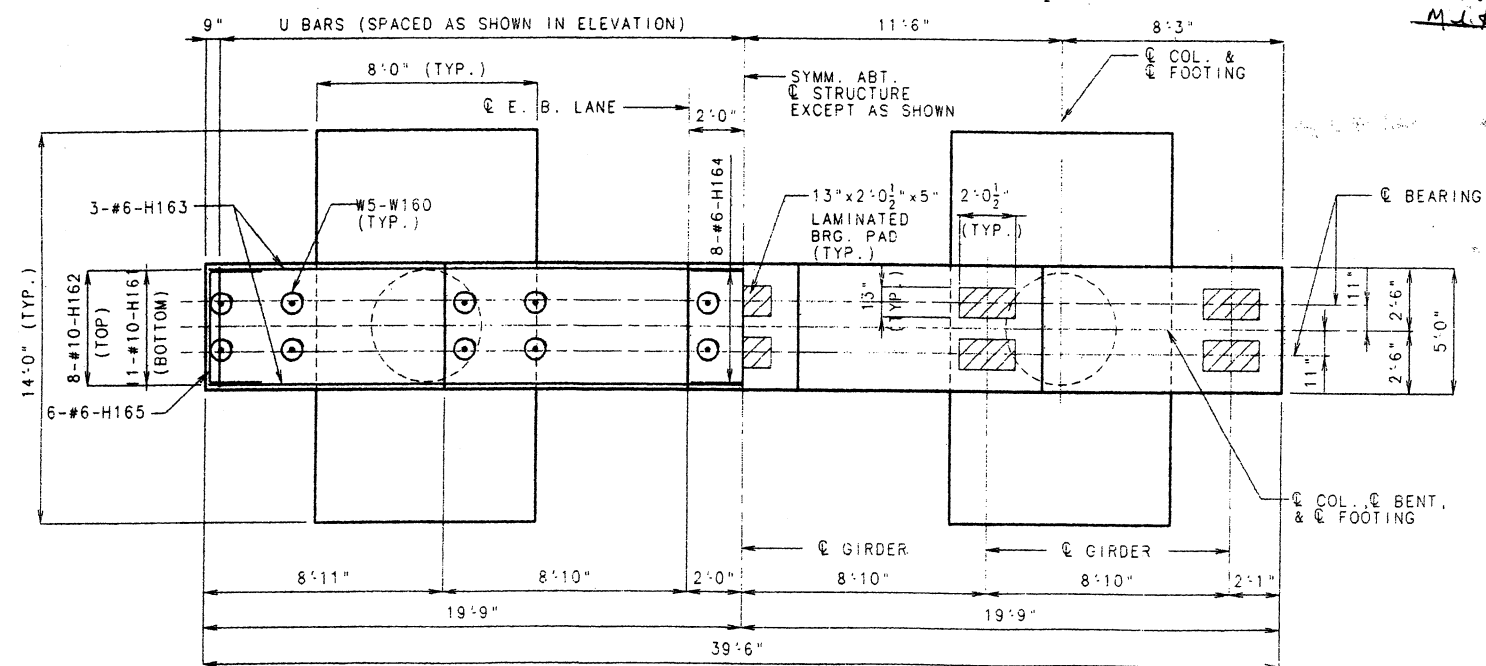
A5495

DETAILED JAN. 1998  
CHECKED MAR. 1998





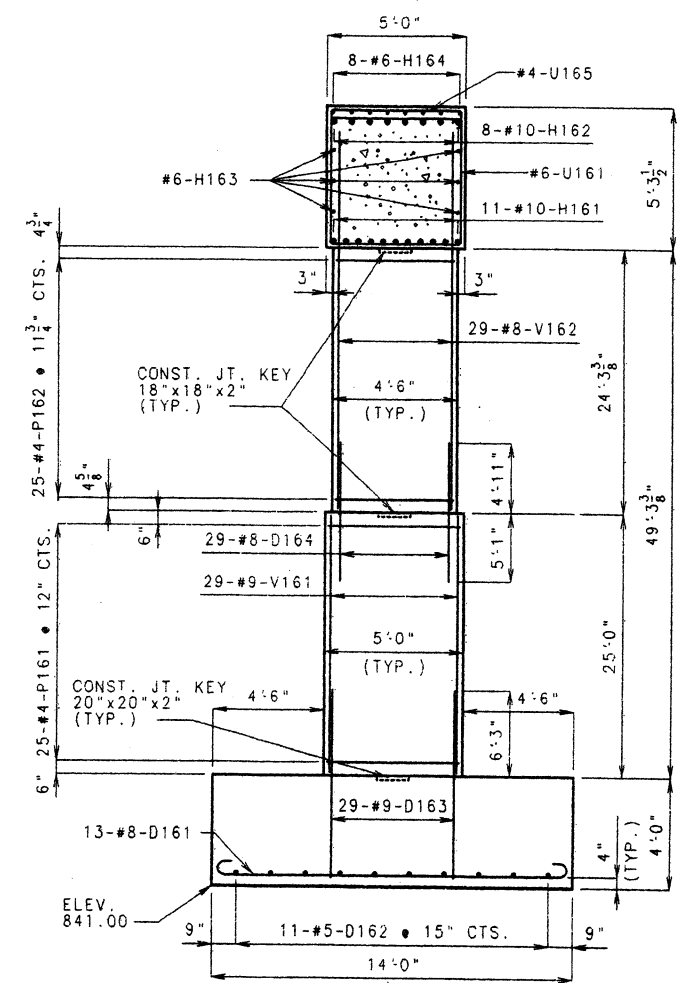
ELEVATION



HALF PLAN OF BEAM SHOWING REINFORCEMENT

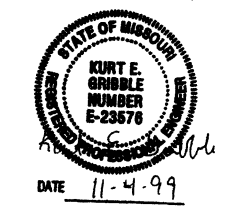
HALF PLAN OF BEAM SHOWING BEARINGS

PART DETAILS OF INTERMEDIATE BENT NO. 16



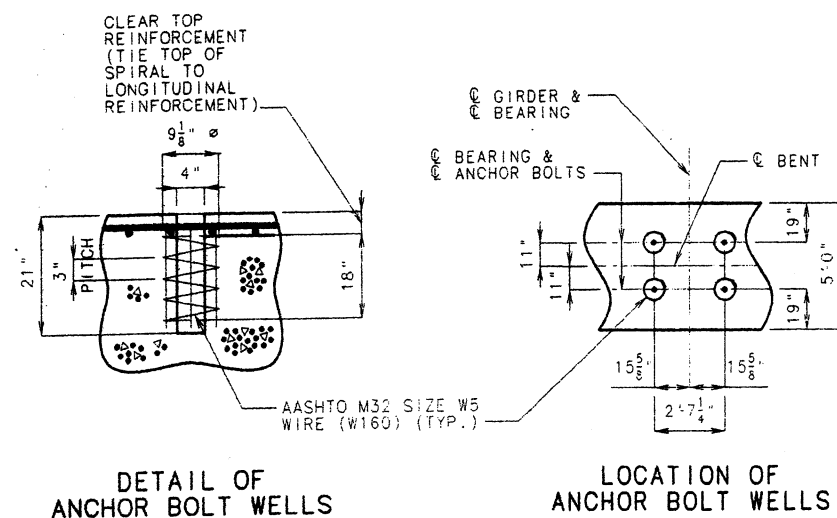
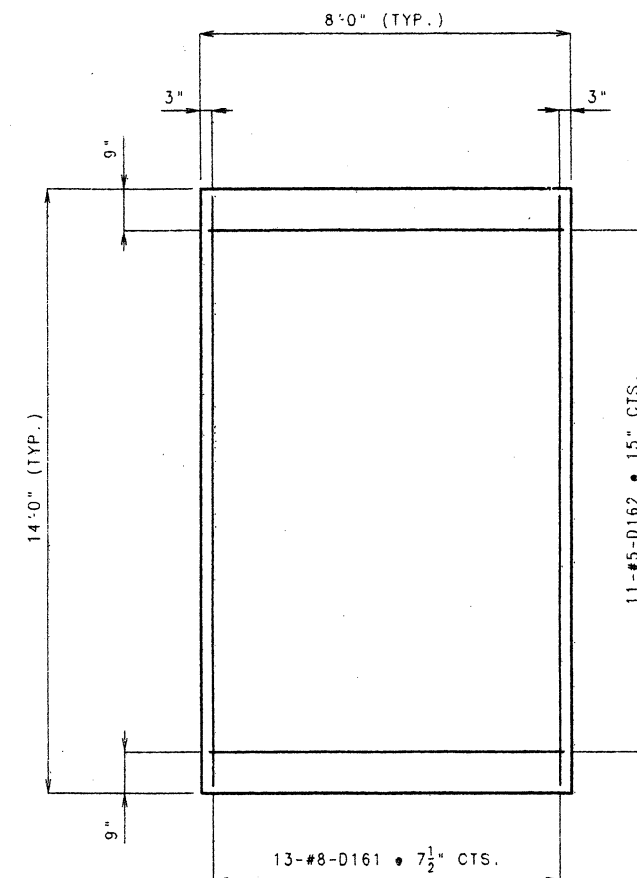
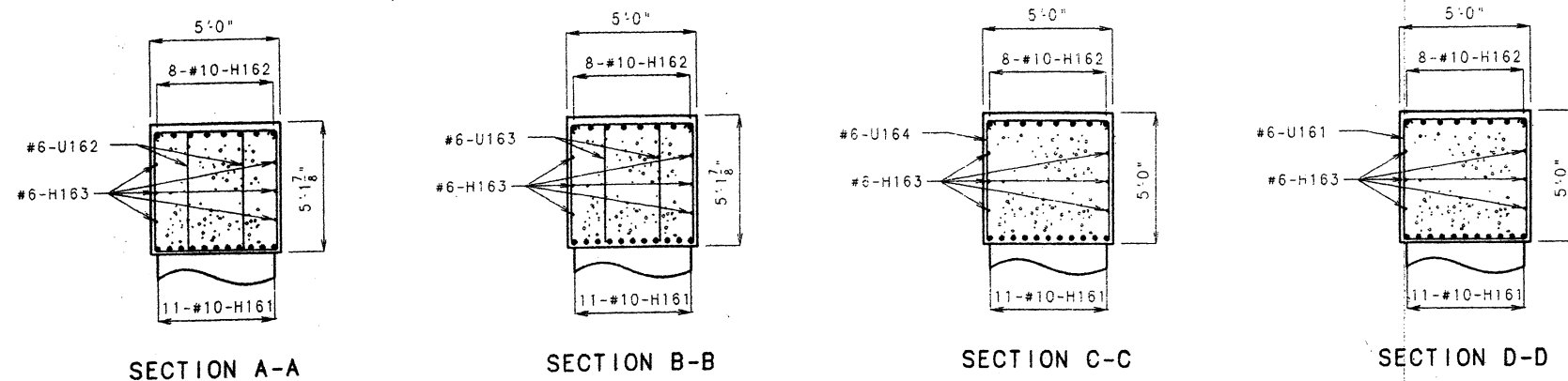
SECTION AT @ STRUCTURE

**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
 M. L. A. S. H. 4-23-01



FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 43.  
 FOR DETAILS OF ANCHOR BOLT WELLS, SEE SHEET NO. 43.  
 1 For details of footing retrofit, see Sheet No. 43A.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



**FINAL PLANS**  
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 M. L. A. S. 4-23-01

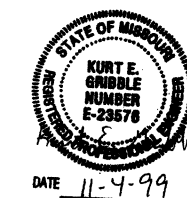


NOTES:  
 FOR DETAILS OF EXPANSION BEARINGS, SEE SHEET NO. 47.  
 ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
 FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 42.  
 1 For details of footing retrofit, see Sheet No. 43A.

PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #16		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	172.7
CLASS 2 EXCAVATION	CU. YDS.	278
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	137.4
REINFORCING STEEL (BRIDGES)	LBS.	21,030
CONT 5202 CL 2+50 %	C.Y.	10.9
CONT 5205 FOUND TEST HOLES	L.F.	16
CONT 5207 REPAIR FTG @ RT 16	F.A.	66,340.80

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



PART DETAILS OF INTERMEDIATE BENT NO. 16

DETAILED JAN. 1998  
 CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 43 OF 93. 1 Revised 10-28-99 JACKSON

COUNTY

A5495





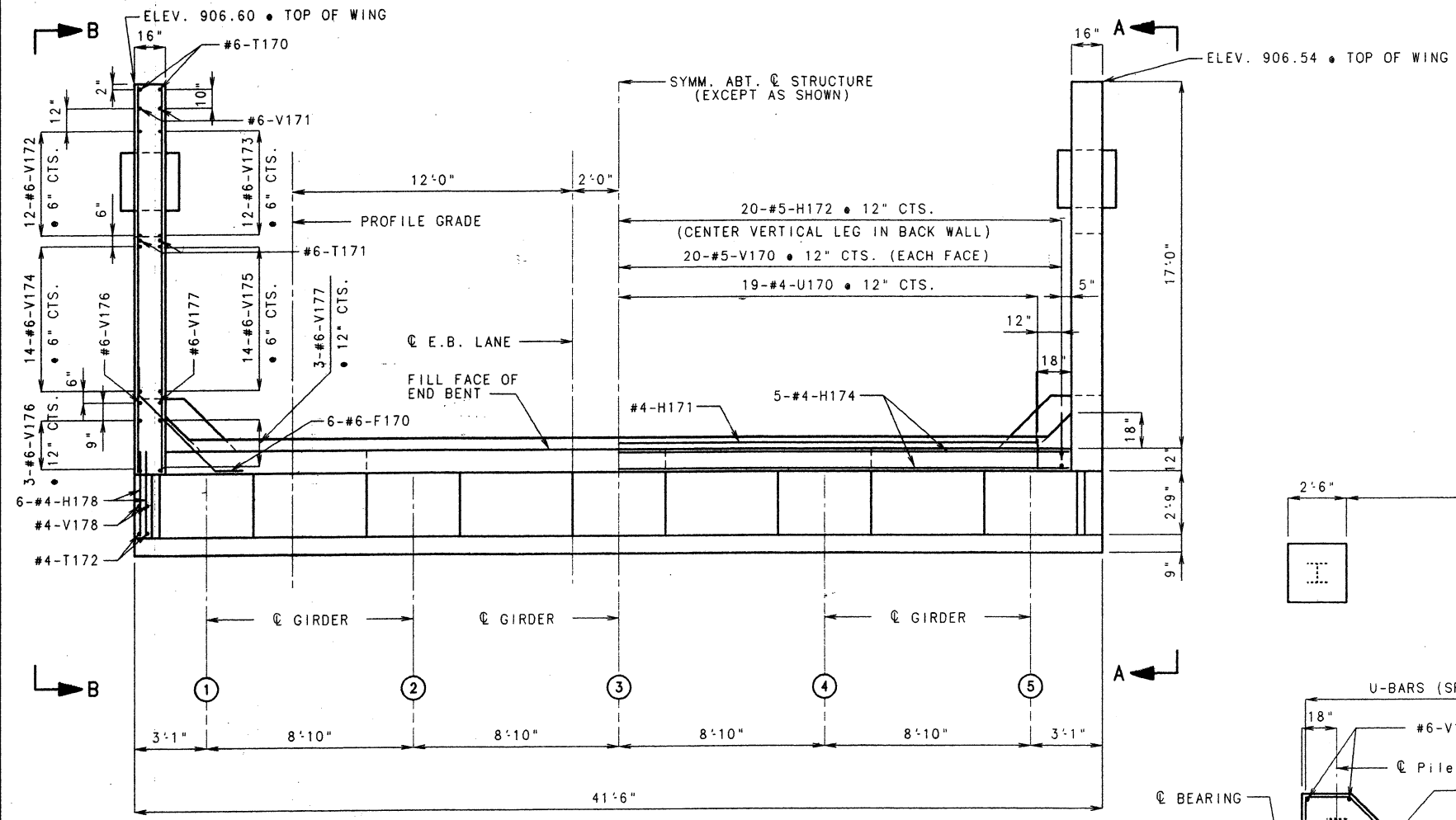


**FINAL PLANS**  
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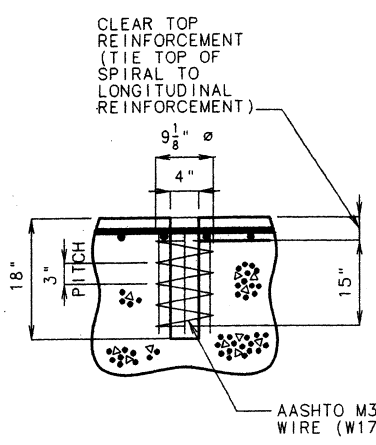
M. L. A. S. L. 4-23-01



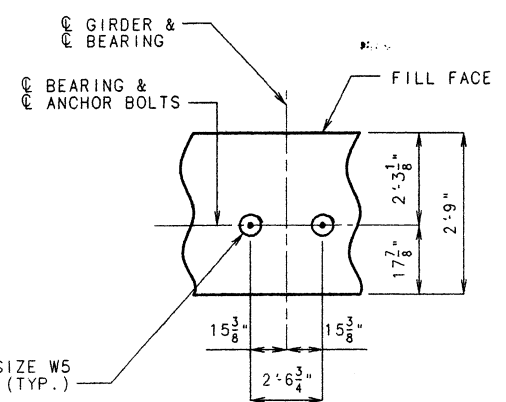
NOTE:  
FOR ELEVATIONS A-A & B-B, SEE SHEET NO. 46.  
FOR DETAILS OF WING PILE FOOTING, SEE SHEET NO. 46.  
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2" UNLESS OTHERWISE SHOWN.



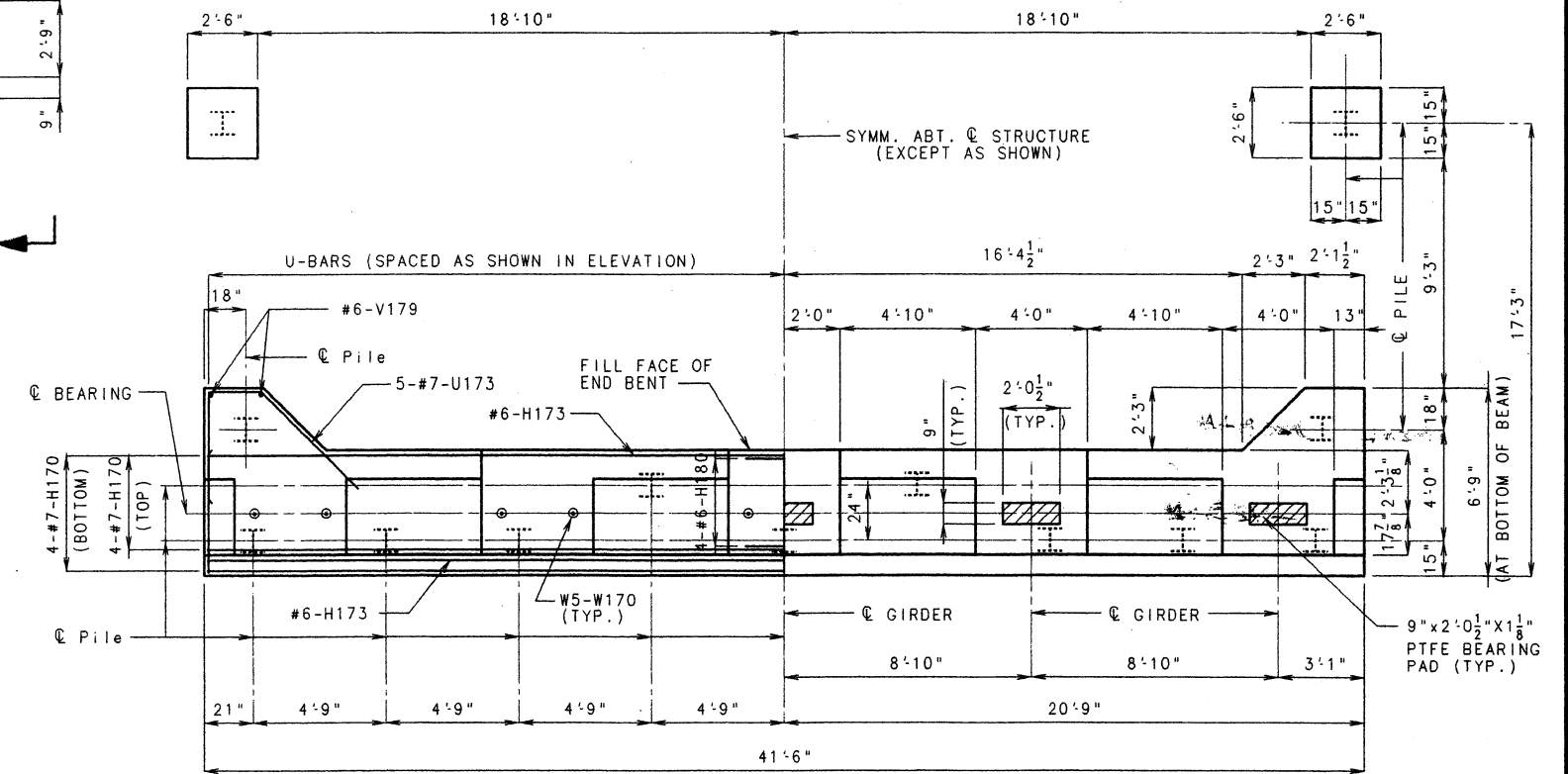
PART PLAN



DETAIL OF ANCHOR BOLT WELLS



LOCATION OF ANCHOR BOLT WELLS



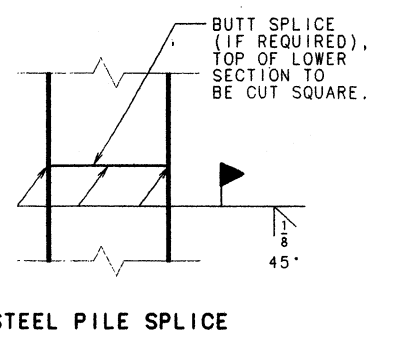
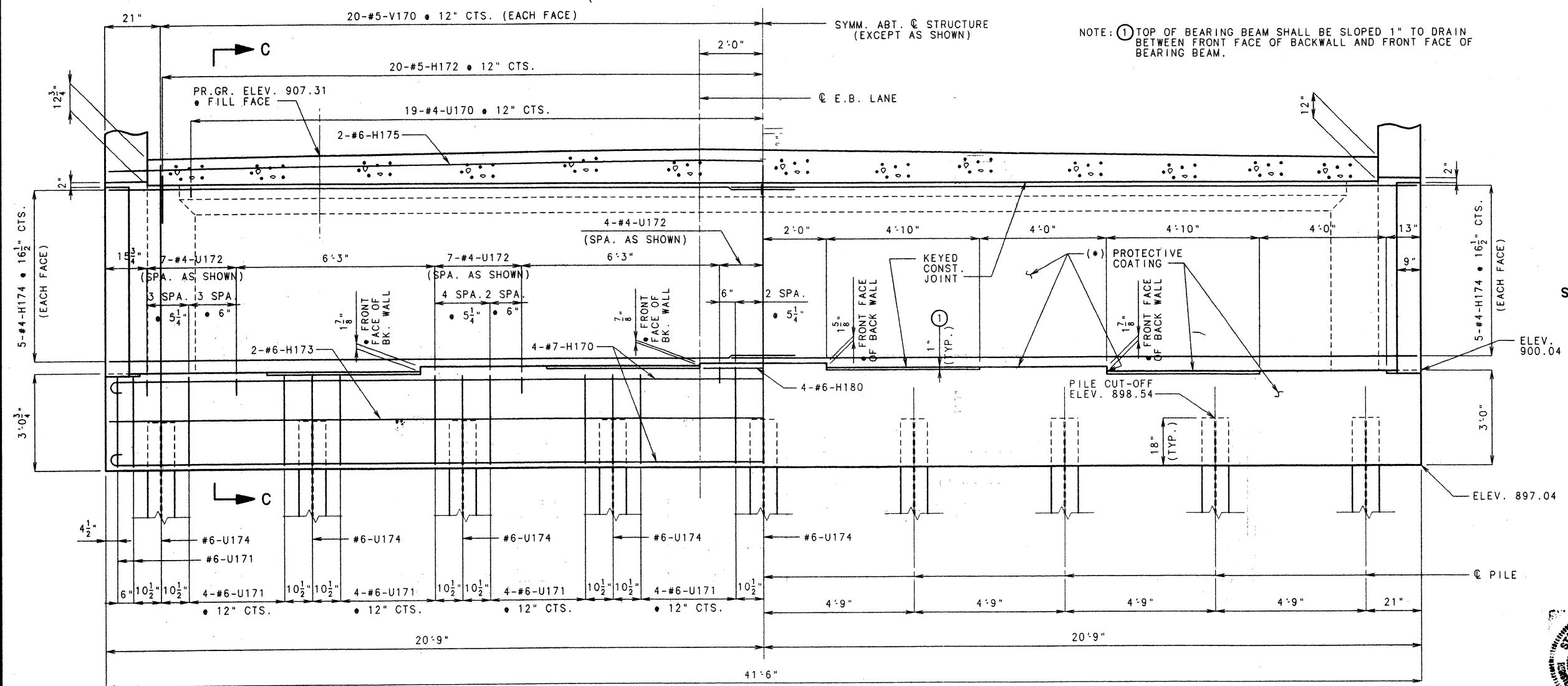
PLAN OF BEAM

FOR DETAILS OF BEARINGS, SEE SHEET NO. 48.

PART DETAILS OF END BENT NO. 17

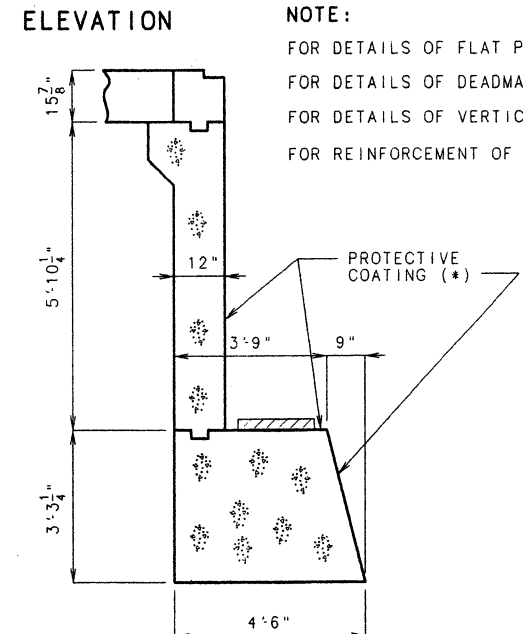
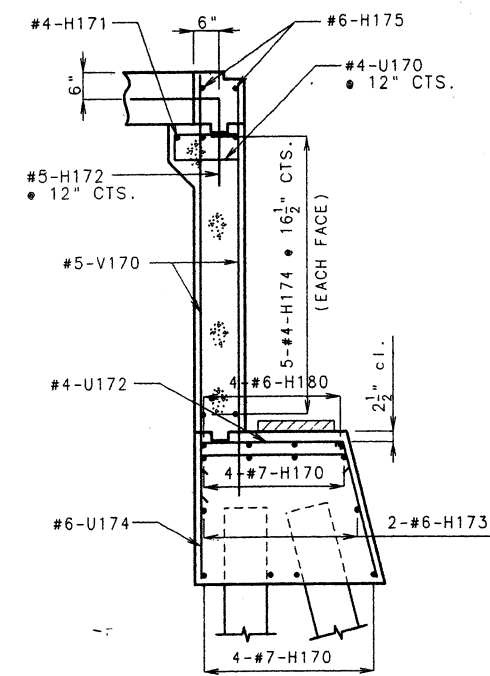
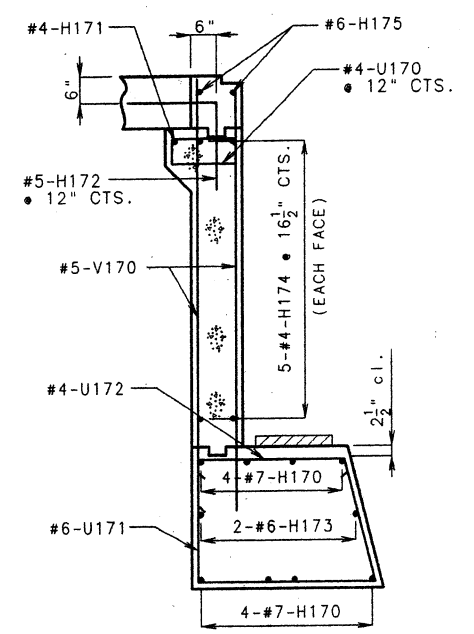


DATE 5-1-98



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M. E. S. 4-23-01



**NOTE:**  
FOR DETAILS OF FLAT PLATE EXPANSION DEVICE, SEE SHEET NO. 66.  
FOR DETAILS OF DEADMAN ANCHORAGE SYSTEM, SEE SHEET NO. 11.  
FOR DETAILS OF VERTICAL DRAIN AT END BENTS, SEE SHEET NO. 10.  
FOR REINFORCEMENT OF THE SAFETY BARRIER CURB, SEE SHEET NO. 80.

ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

(\*) APPLY PROTECTIVE COATING FOR CONCRETE BENTS (DELETERIOUS AGENTS) TO FRONT FACE OF BACKWALL, TOP OF BEAM AND FRONT FACE OF BEAM. (SEE SPECIAL PROVISIONS.)

TOP OF BACKWALL AND EXPANSION DEVICE FOR END BENT NO. 17 SHALL CONFORM TO THE CROWN OF ROADWAY SLAB. BACKWALL ABOVE UPPER CONSTRUCTION JOINT SHALL NOT BE POURED UNTIL THE SUPERSTRUCTURE SLAB HAS BEEN POURED IN THE ADJACENT SPAN.

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 17		
ITEM	QUANTITY	
STRUCTURAL STEEL PILES (10")	LIN. FT.	758.7
PRE-BORE FOR PILING	EACH	552 ✓
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	44.5 ✓
DEADMAN ANCHORAGE ASSEMBLY	EACH	1 ✓
REINFORCING STEEL (EPOXY COATED)		6080 ✓

**NOTE:** THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

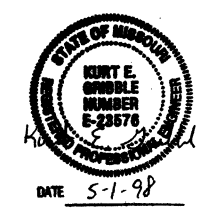
## DETAILS OF END BENT NO. 17

SHEET NO. 45 OF 94.

JACKSON

COUNTY

A5495

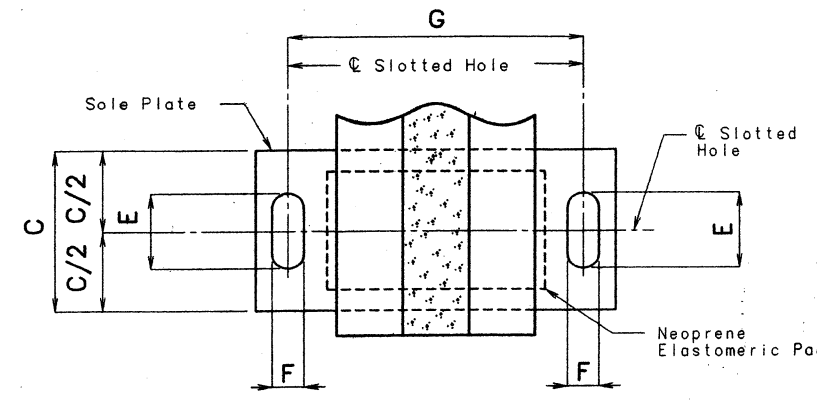


DETAILED JAN. 1998  
CHECKED MAR. 1998

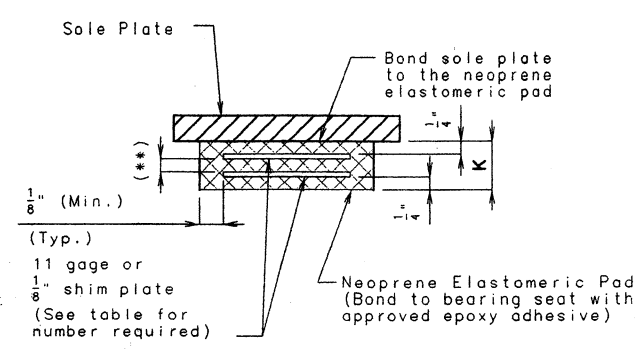
**NOTE:** THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.





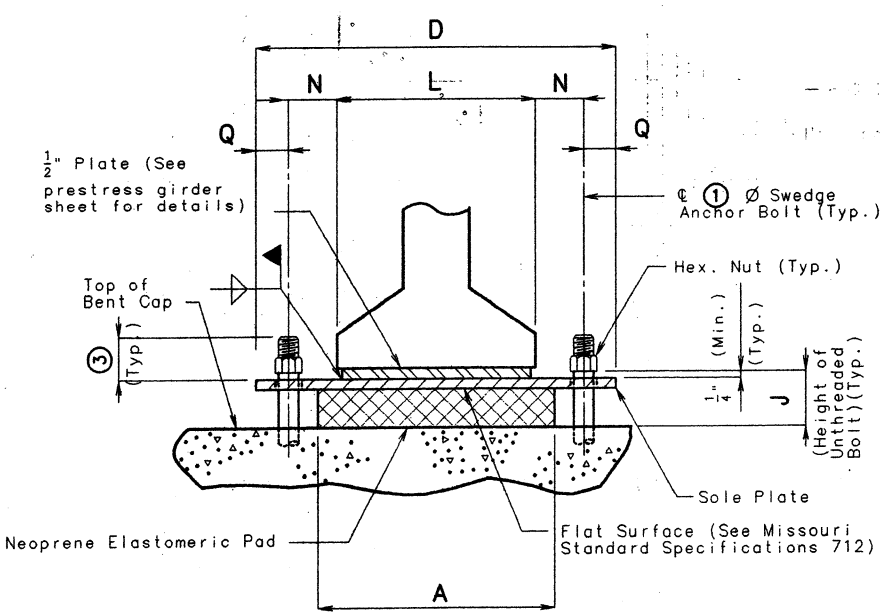


PART PLAN VIEW

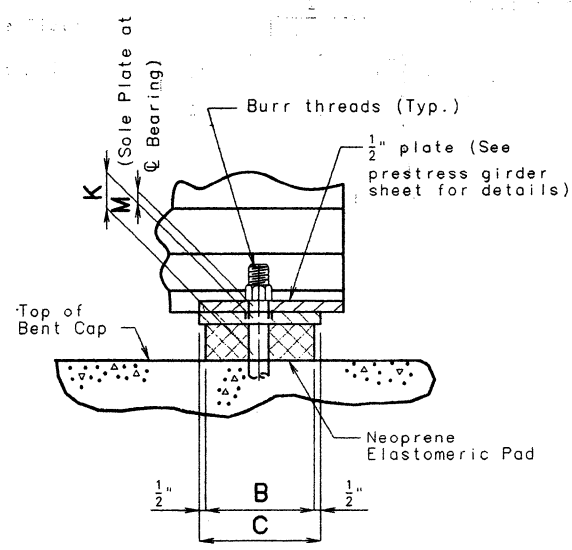


NEOPRENE ELASTOMERIC PAD

(\*\*) Layers of 1/2" elastomer alternating with 11 gage or 1/8" steel shim plate.



END VIEW



SIDE VIEW

GENERAL NOTES:

Anchor bolts shall be 1" diameter ASTM A709 Grade 50W steel swaged bolts and shall extend 2" into the concrete with A194-2, 2H, or A563-C, C3, D, DH, DH3 heavy hexagon nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.

All structural steel for anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A153.

Neoprene Elastomeric Pads shall be 60 Durometer. The neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

The sole plate shall be furnished with the bearing and field welded to the girders.

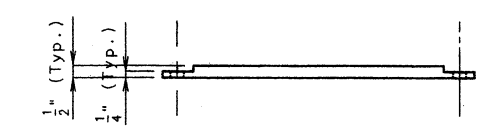
Structural steel for the sole plate shall be ASTM A709 Grade 36 and shall be coated with a minimum of 2 coats of inorganic zinc primer (5 mils minimum).

The accepted quantity of the elastomeric bearing assemblies, complete-in-place, will be paid for at the contract unit price for Laminated Neoprene Bearing Pads, (prestressed structures), each.

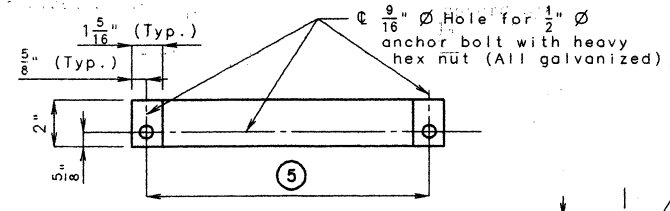
Payment for the sole plate, anchor bolts and heavy hexagon nuts shall be included in the cost of the bearing assembly. See Special Provisions.

Provide a 1/2" stopper plate to prevent the loss of support due to creeping of neoprene bearings from under girders at expansion bearings.

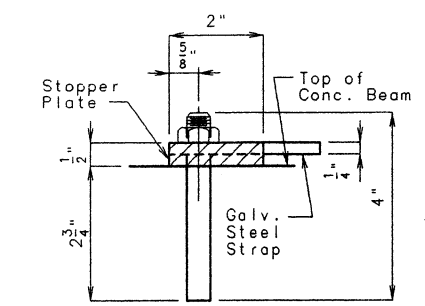
Payment for all galvanized material shall be included in the cost of laminated neoprene bearing pads, (prestressed structures), each.



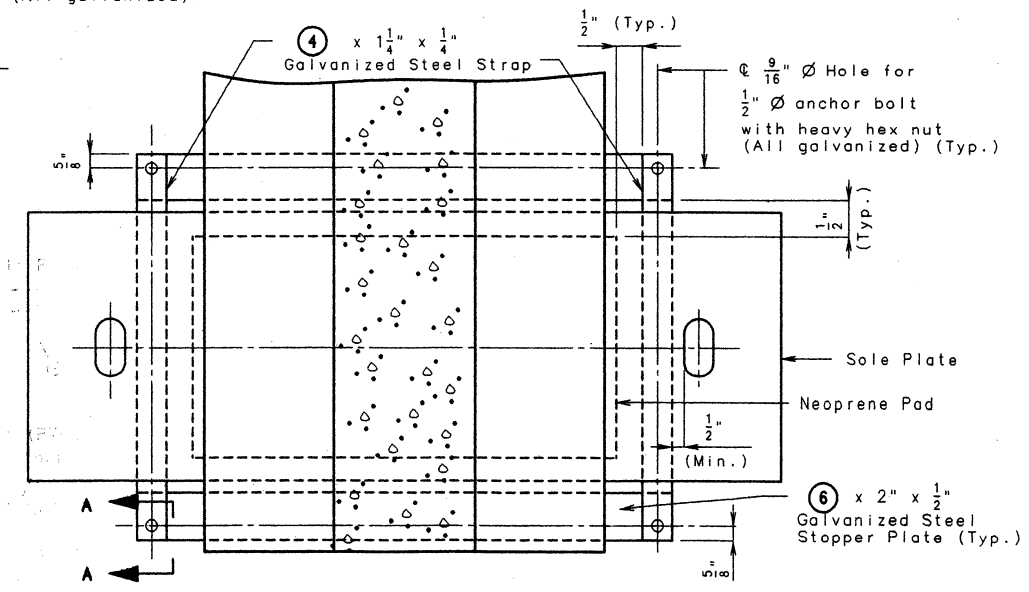
ELEVATION OF GALVANIZED STEEL STOPPER PLATE



PLAN OF GALVANIZED STEEL STOPPER PLATE



SECTION A-A



PART PLAN SHOWING STOPPER PLATE

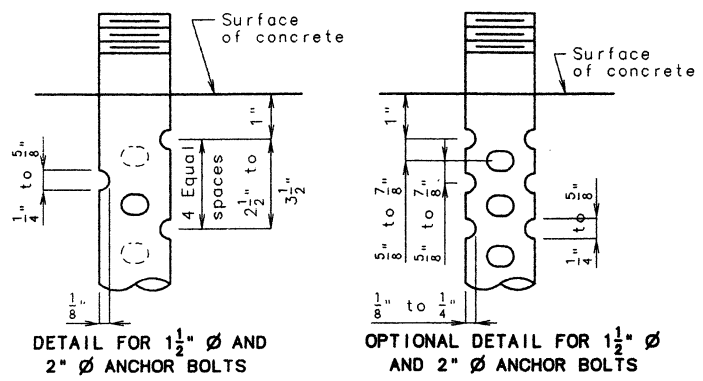
**FINAL PLANS**  
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Signature: *M. J. S. L.* Date: 4-23-01



EXPANSION BEARINGS														
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	Q	NUMBER OF SHIM PLATES(*)
5 SPAN(4-5)	18"	12"	13"	2'-8 1/2"	4"	15 5/8"	2'-4"	5 1/2"	3 3/4"	2'-0"	1 1/2"	2"	2 1/4"	6
6	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	21 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8
10	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	21 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8
12	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	21 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8
16	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	21 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8
TOTAL BEARINGS														45

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



SWEDGE ANCHOR BOLT DETAILS

- ① 1 1/2" ( Bent No. 5 (Span 4-5)), 2" (Bents No. 6, 10, 12, & 16)
- ② 15" ( Bent No. 5 (Span 4-5)), 18" (Bents No. 6, 10, 12, & 16)
- ③ 2 1/4" ( Bent No. 5 (Span 4-5)), 2 1/2" (Bents No. 6, 10, 12, & 16)
- ④ 17" ( Bent No. 5 (Span 4-5))  
18" (Bents No. 6, 10, 12, & 16)
- ⑤ 20 1/2" (Bent No. 5 (Span 4-5))  
2'-2 3/4" (Bents No. 6, 10, 12, & 16)
- ⑥ 21 1/2" (Bent No. 5 (Span 4-5))  
2'-4" (Bents No. 6, 10, 12, & 16)



DETAILS OF LAMINATED NEOPRENE BEARINGS  
FOR BENTS NO. 5 (SPAN 4-5), 6, 10, 12 & 16 (PRESTRESSED STRUCTURES)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 47 OF 93.

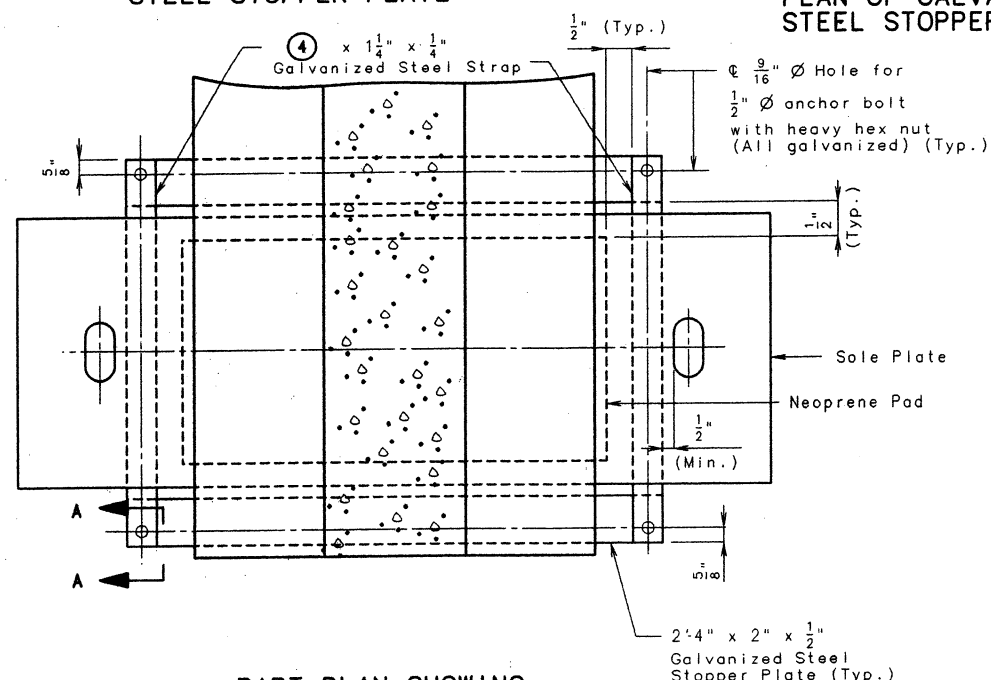
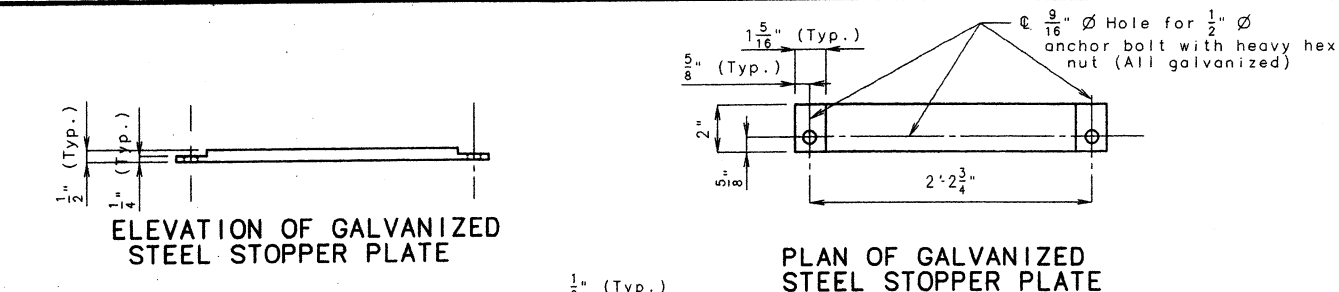
JACKSON

COUNTY

A5495

brg 9 ,brg3.31,p/s,e,a  
LAM. BRG. P/S  
JAN. 1980  
REVISED  
AUG. 1996

DETAILED JAN. 1998  
CHECKED MAR. 1998

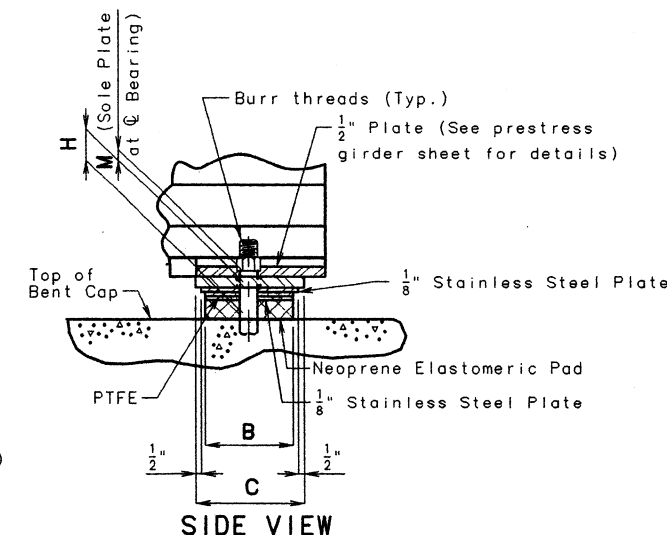
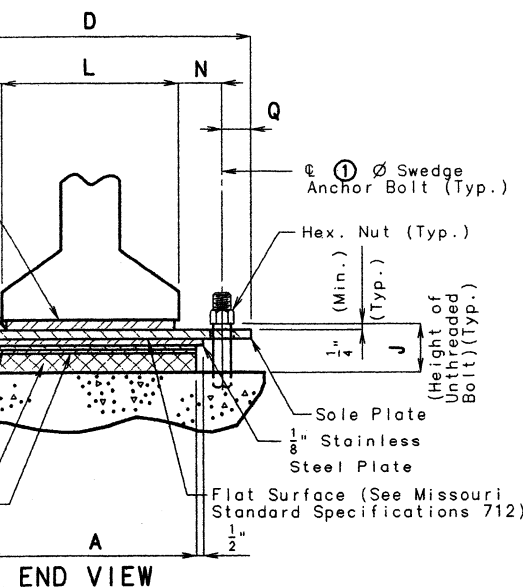
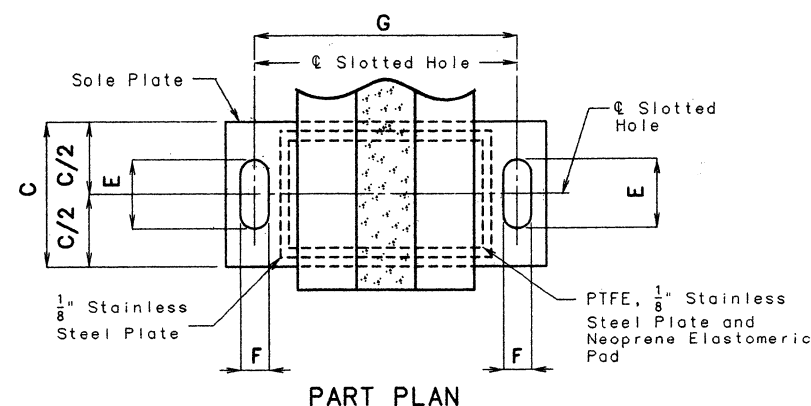
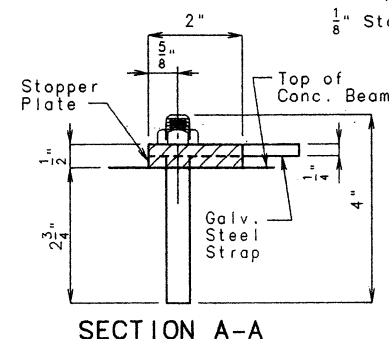


Provide a 1/2" stopper plate to prevent the loss of support due to creeping of PTFE bearings from under girders at expansion bearings.

To prevent sliding, the neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

Payment for all galvanized material shall be included in the cost of PTFE Bearings per each.

The bottom face of the 1/8" stainless steel plate that is welded to the sole plate shall be lubricated with a lubricant that is approved by the bearing manufacturer.



#### GENERAL NOTES:

Anchor bolts shall be ① diameter ASTM A709 Grade 50W steel swaged bolts and shall extend ② into the concrete with A194-2, 2H, or A563-C, C3, D, DH, DH3 heavy hexagon nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than the extension into the concrete.

All structural steel for the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A153.

Neoprene Elastomeric Pads shall be 70 Durometer.

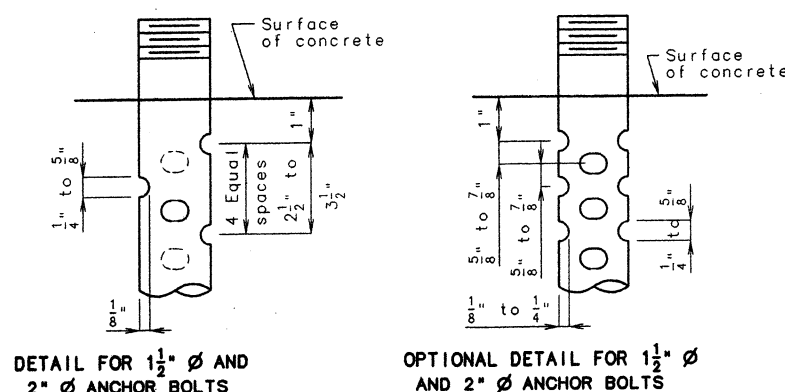
The sole plate shall be furnished with the bearing and field welded to the girders.

Structural steel for the sole plate shall be ASTM A709 Grade 36 and shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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

Payment for the sole plate, anchor bolts and heavy hexagon nuts shall be included in the cost of the bearing assembly. See Special Provisions.

- ① 2" ( Bents No. 5 (Span 5-6) & 11), 1 1/2" (Bent No. 17)
- ② 18" ( Bents No. 5 (Span 5-6) & 11), 15" (Bent No. 17)
- ③ 2 1/2" ( Bents No. 5 (Span 5-6) & 11), 2 1/4" (Bent No. 17)
- ④ 16" ( Bents No. 5 (Span 5-6) & 11), 14" (Bent No. 17)



SWEDGE ANCHOR BOLT DETAILS

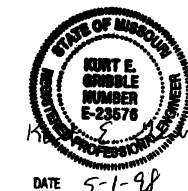
PTFE SLIDING BEARINGS																NUMBER OF SHIM PLATES (*)	NUMBER REQUIRED
BENT NO.	A	B	C	D	E	F	G	H	J	K	L	M	N	Q			
5 SPAN (5-6)	2'-0 1/2"	11"	16 1/2"	3'-1 1/4"	6"	2 1/8"	2'-7 1/4"	1 15/16"	3 13/16"	1 3/4"	2'-2"	1 1/2"	2 5/8"	3"		2	5
11	2'-0 1/2"	11"	16 1/2"	3'-1 1/4"	6"	2 1/8"	2'-7 1/4"	1 15/16"	3 13/16"	1 3/4"	2'-2"	1 1/2"	2 5/8"	3"		2	10
17	2'-0 1/2"	9"	15"	2'-11 1/4"	6 1/4"	2 1/8"	2'-6 3/4"	1 5/8"	3 3/16"	1 1/8"	2'-2"	1 1/2"	2 3/8"	2 1/4"		1	5
																TOTAL BEARINGS	20

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

#### DETAILS OF TYPE "N" PTFE BEARINGS FOR BENTS NO. 5 (SPAN 5-6), 11 & 17



**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
M.E.G. SU 4-23-01  
Signature Date



DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 48 OF 93.

JACKSON COUNTY A5495



Concrete for prestressed girders shall be Class A1 with  $f'_c = 5,000$  psi and  $f'_ci = 4,000$  psi.

(+) indicates prestressing strand.

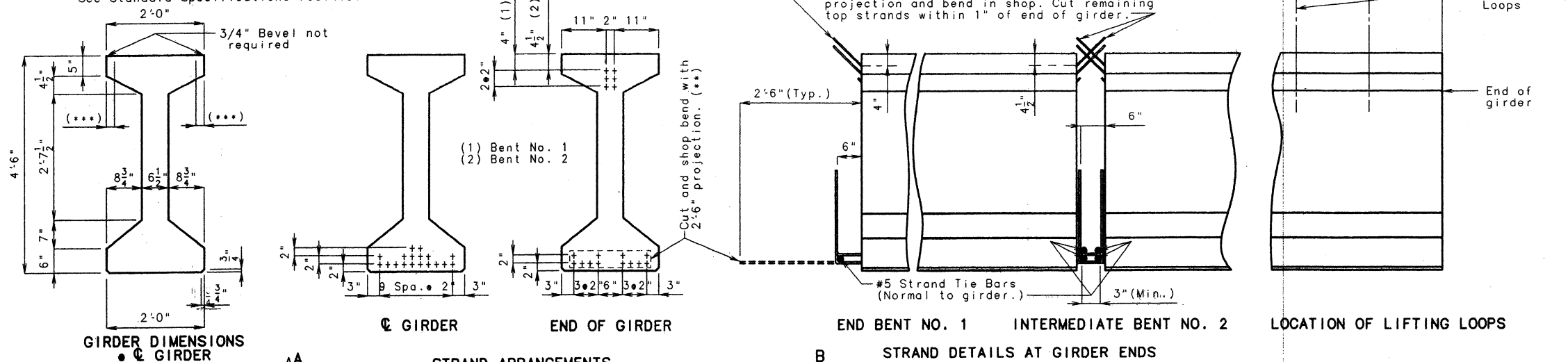
Use 18 strands with an initial prestress force of 558 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	JOB NO. 1411011C	SHEET NO.
PROJ. NO. EAM-3573 (400)		
MO. C.I.D.-980714-05-PEN		55



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	34'-0"	20	
176	4 B1	5'-11"	11	
16	6 B2	5'-4"	11	
96	4 C1	2'-2"	10	
192	4 D1	3'-0"	9	

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

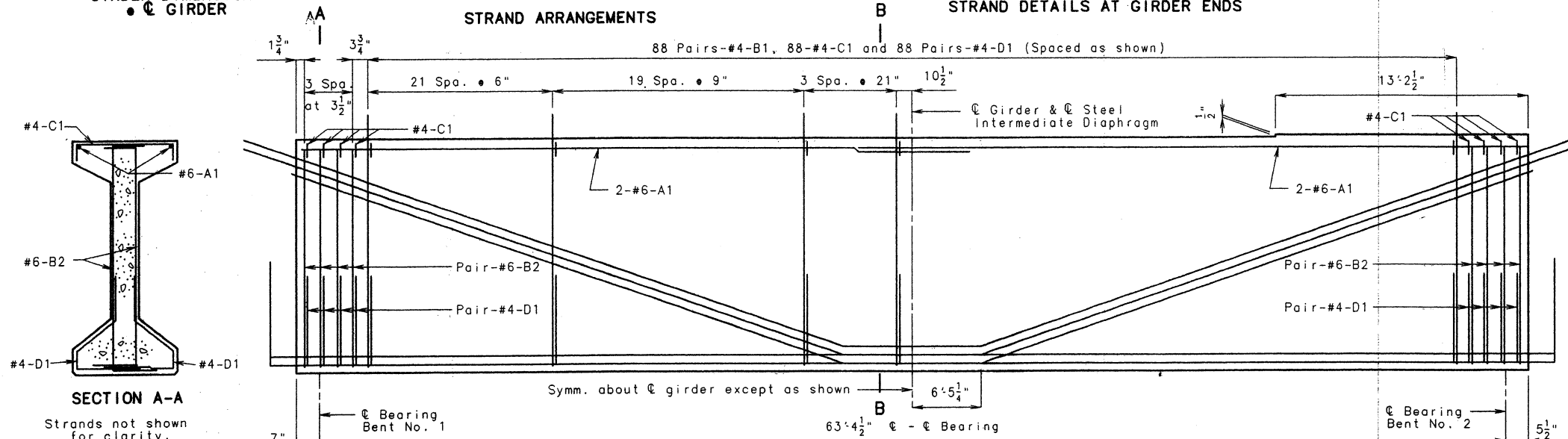
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

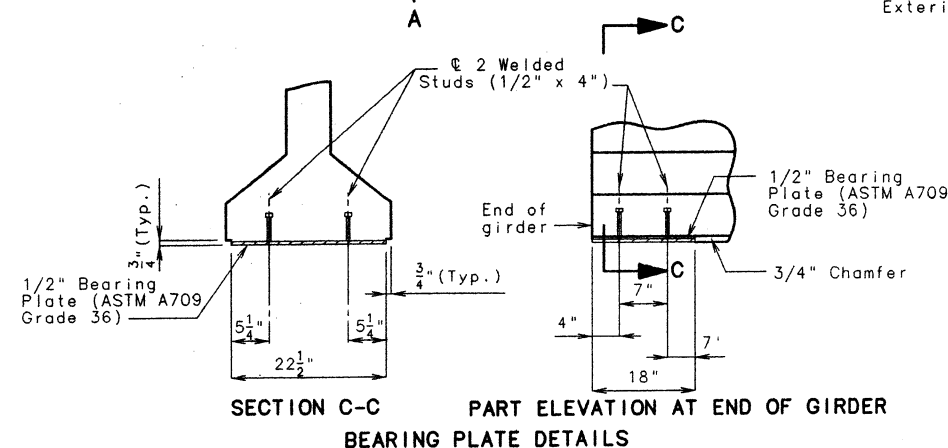
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



#### ELEVATION OF GIRDER SPAN (1-2)

Exterior and interior girders are the same except for coil ties.



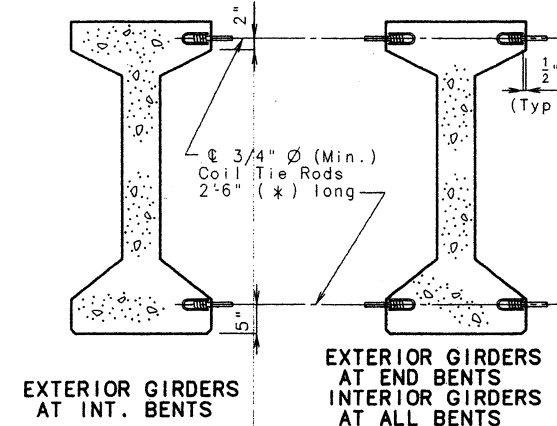
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.



**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered the project to be constructed.

*M. G. S. H.*  
Date: 4-23-91



Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of steel intermediate diaphragms, see sheet no. 64.

For Girder Camber Diagram, see sheet no. 71.

For location of coil ties, see sheets no. 12 & 59.

(\*) Length of coil tie rods at exterior girders at End Bent No. 1 = 2'-1".



DATE 5-1-98

gdr 4, 6.5 web, 4'6", 1, a  
P/S GIRDER 6.5" WEB  
MAY 1991  
REVISED  
August 1996

DETAILED JAN. 1998  
CHECKED MAR. 1998

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

SHEET NO. 49 of 93.

JACKSON COUNTY

A5495

Concrete for prestressed girders shall be Class A1 with  $f'_c = 5,000$  psi and  $f'_{ci} = 4,000$  psi.

(+) indicates prestressing strand.

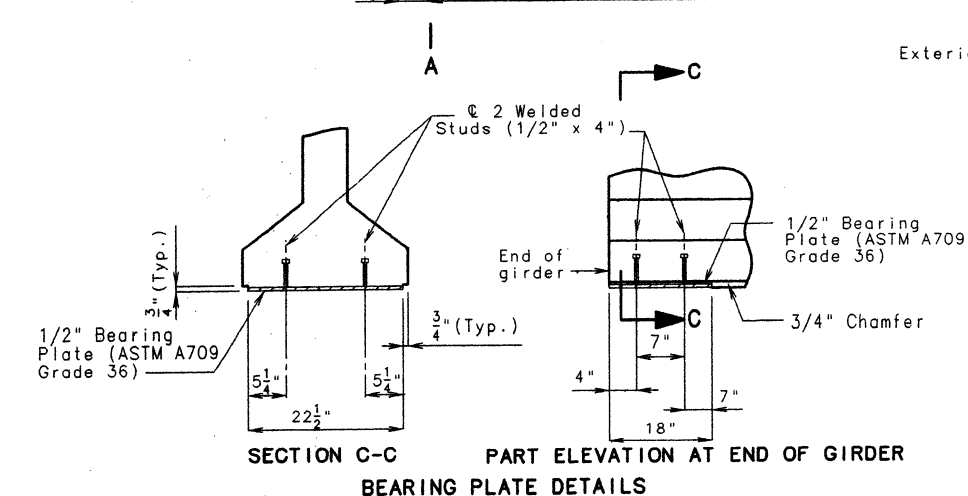
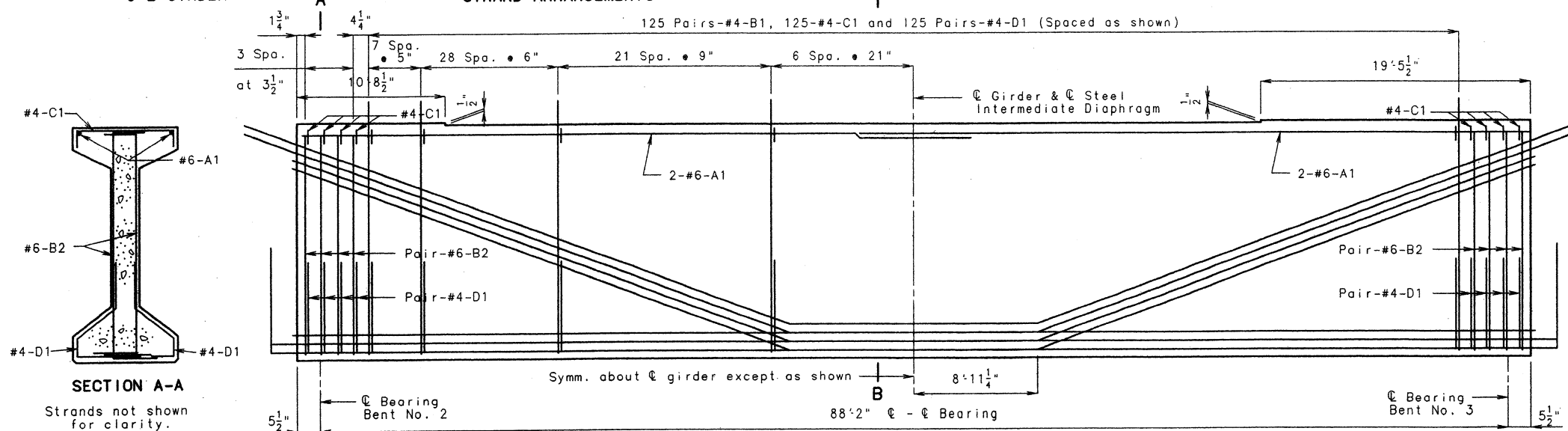
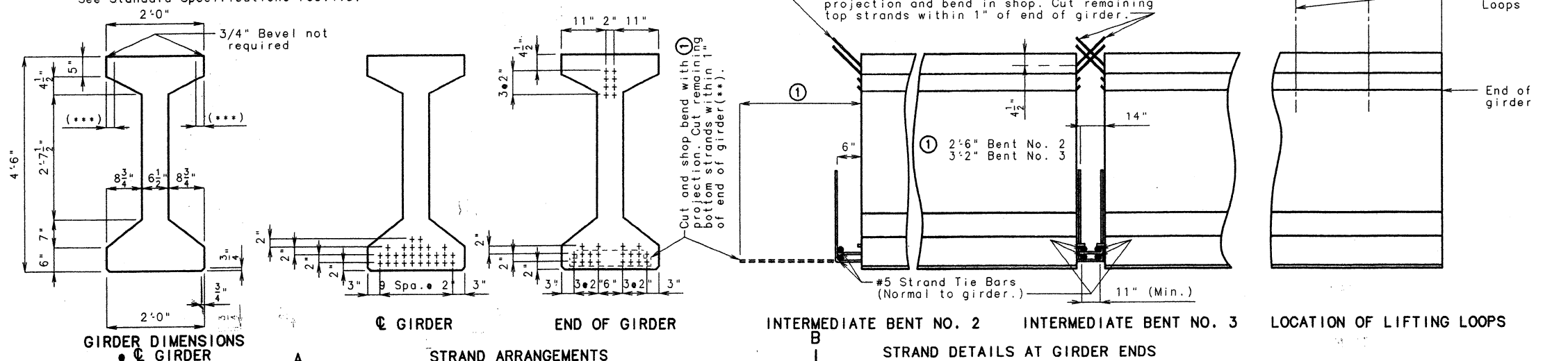
Use 28 strands with an initial prestress force of 868 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

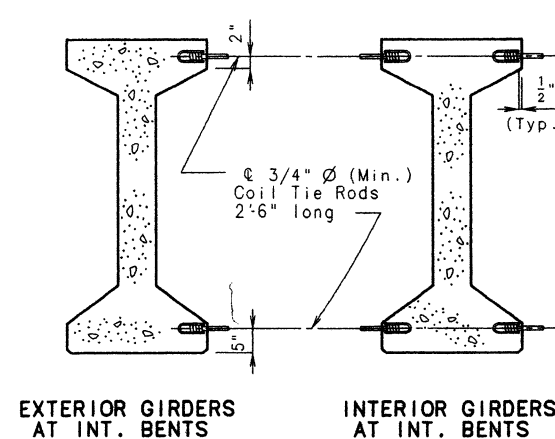
STATE	JOB NO. TAVIDIG	SHEET NO.
MO.	PROJ. NO. 6-AM-388(40)	56
	CT-D-980724-05-PCN	



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.



**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's interpretation or construction of the project as shown on this plan sheet, except as I and my staff may have discussed or indicated that the project be constructed.  
M. L. A. S. H. 4-23-01  
Signature Date



Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of steel intermediate diaphragms, see sheet no. 64.

For Girder Camber Diagram, see sheet no. 71.

For location of coil ties, see sheets no. 59 & 60.

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	46'-4"	20	
250	4 B1	5'-11"	11	
16	6 B2	5'-4"	11	
133	4 C1	2'-2"	10	
266	4 D1	3'-0"	9	

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

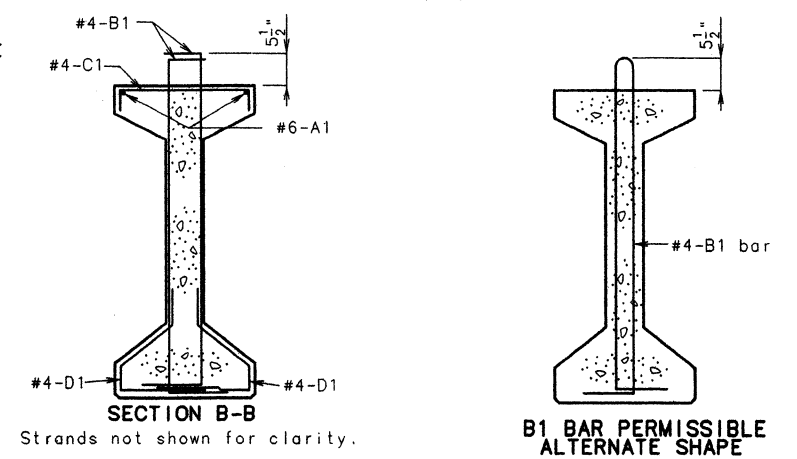
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



DATE 5-1-98

JACKSON COUNTY

A5495

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

SHEET NO. 50 of 93.

gdr 4, 6.5 web, 4'-6", 1.0  
P/S GIRDER 6.5" WEB  
MAY 1991  
REVISED  
August 1996

61



Concrete for prestressed girders shall be Class A1 with  $f'c = 5,000$  psi and  $f'ci = 4,000$  psi.

(+) indicates prestressing strand.

Use 20 strands with an initial prestress force of 620 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

Prestressing strands at Intermediate Bent No. 5 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.

STATE	TOP NO. 5000/12	SHEET NO.
MO.	PROJ. NO. 980724-06-PEM	58

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	36'-10"	20	
188	4 B1	5'-11"	11	
16	6 B2	5'-4"	11	
102	4 C1	2'-2"	10	
204	4 D1	3'-0"	9	

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

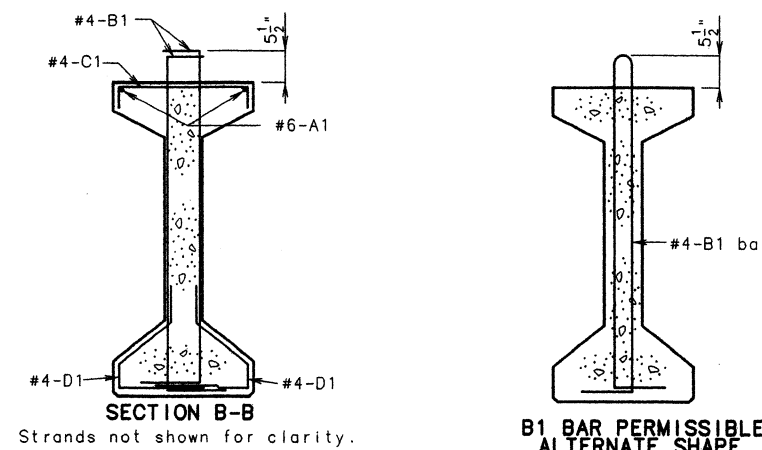
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



Strands not shown for clarity.

Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 75.

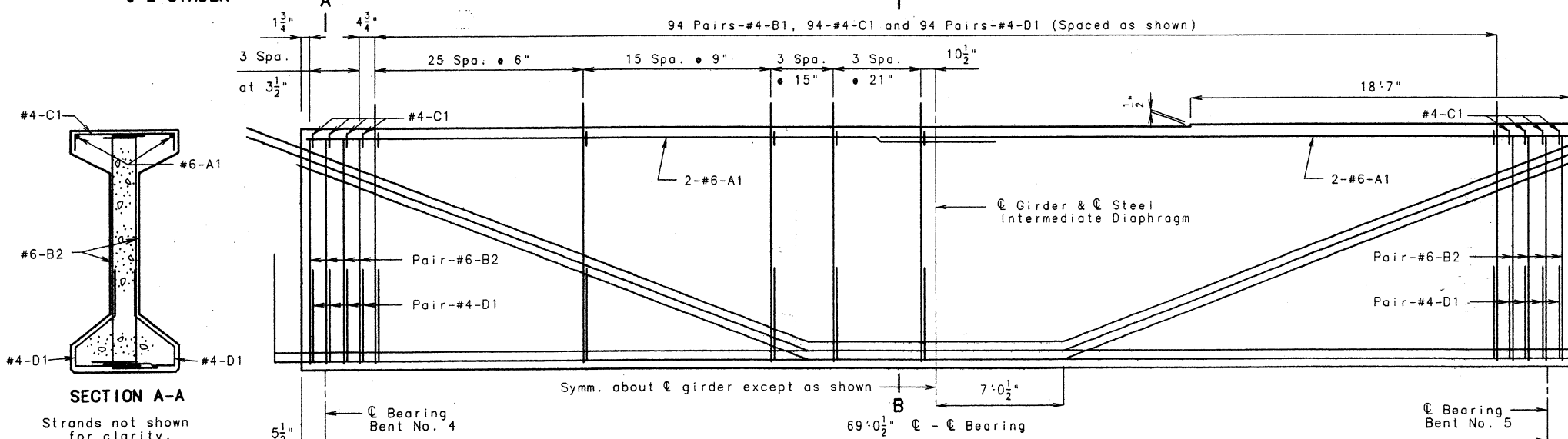
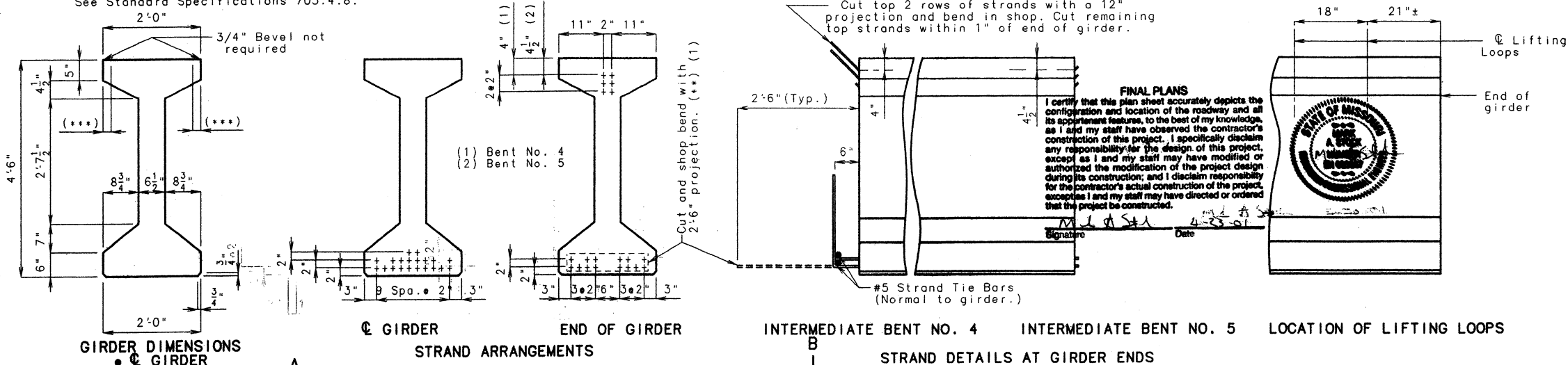
For Girder Camber Diagram, see sheet no. 71.

For location of coil ties, see sheets no. 59 & 61.

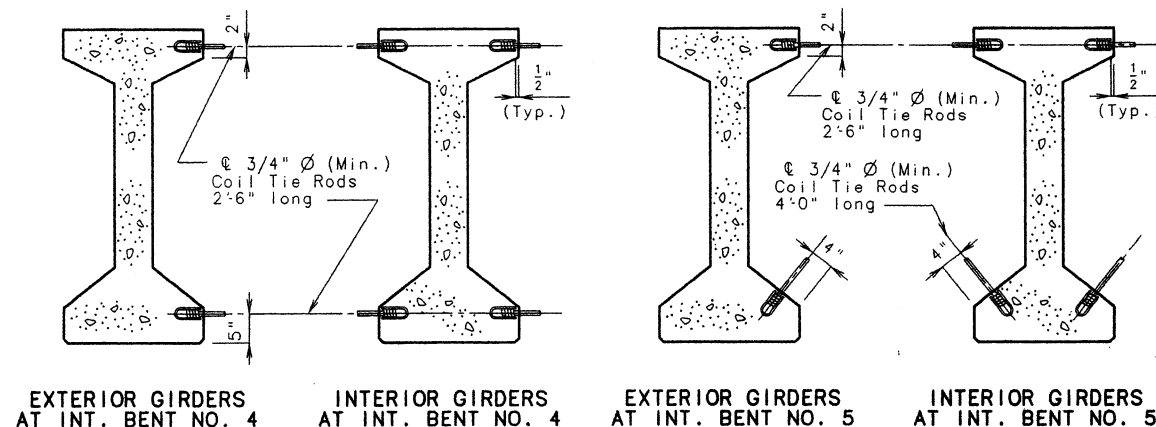
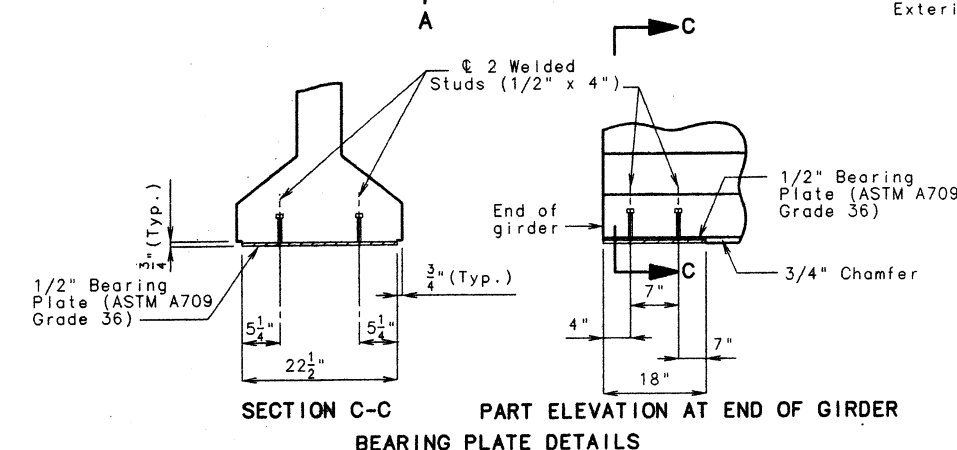
For Details of slotted wells in top of girder, see sheet No. 65.



DATE 5-1-98



Exterior and interior girders are the same except for coil ties.



DETAILS OF COIL TIES

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.

DETAILED JAN. 1998  
CHECKED MAR. 1998

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

SHEET NO. 52 of 93.

JACKSON COUNTY

A5495

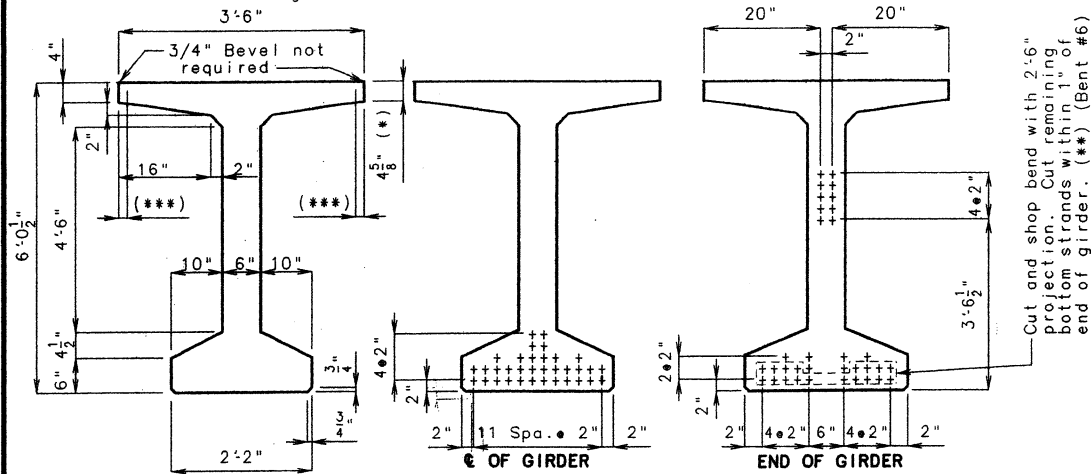
gdr 4, 6.5 web, 4'6", 1, a  
P/S GIRDER 6.5" WEB  
MAY 1991  
REVISED  
August 1996

NOTE: Concrete for prestressed girders shall be class A1 with  $f'c = 6000$  psi and  $f'ci = 4500$  psi.

(+) Indicates prestressing strands.

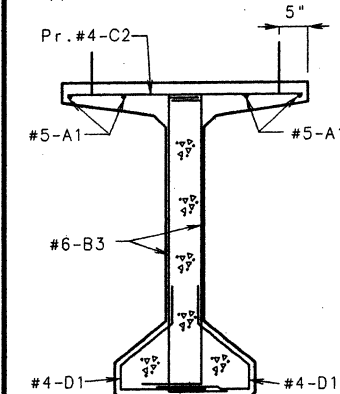
Use 34 strands with an initial prestress force of 1054 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

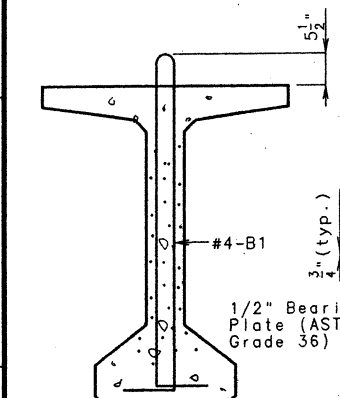


GIRDER DIMENSIONS  
(LOOKING DOWNSTATION)

(\*) Girders 1 & 2 shown,  
Girders 3, 4 & 5 sloped  
opposite.

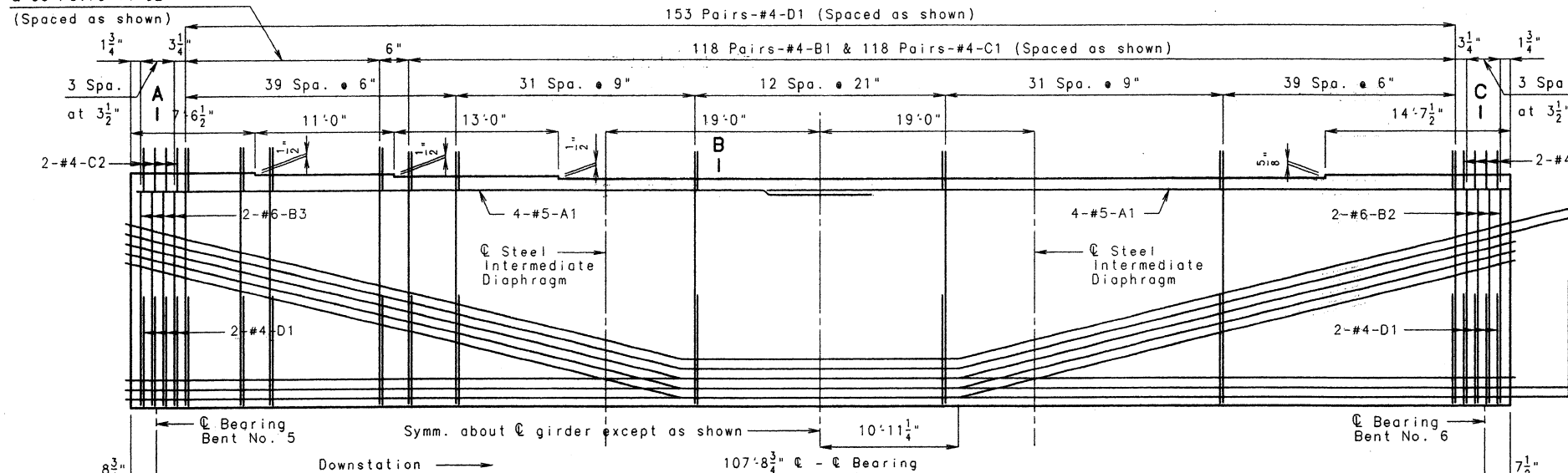


SECTION A-A  
(Strands not shown  
for clarity)



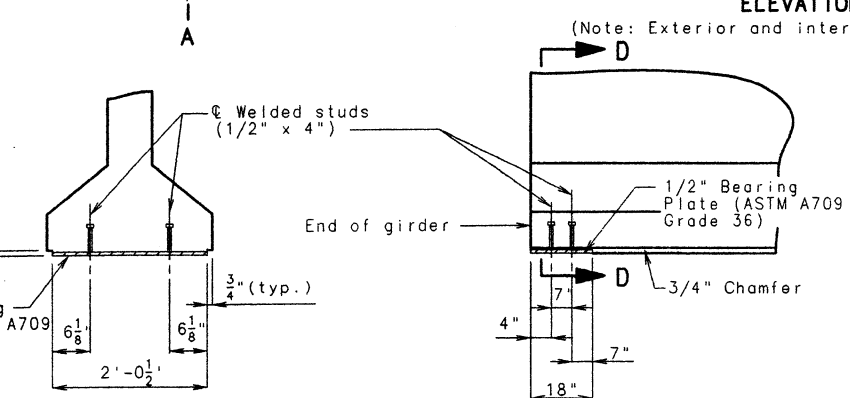
B1 BAR PERMISSIBLE  
ALTERNATE SHAPE

35 Pairs-#4-B4  
& 35 Pairs-#4-C2  
(Spaced as shown)



ELEVATION OF GIRDER SPAN (5-6)

(Note: Exterior and interior girders are the same except for coil ties.)



SECTION D-D

BEARING PLATE DETAILS

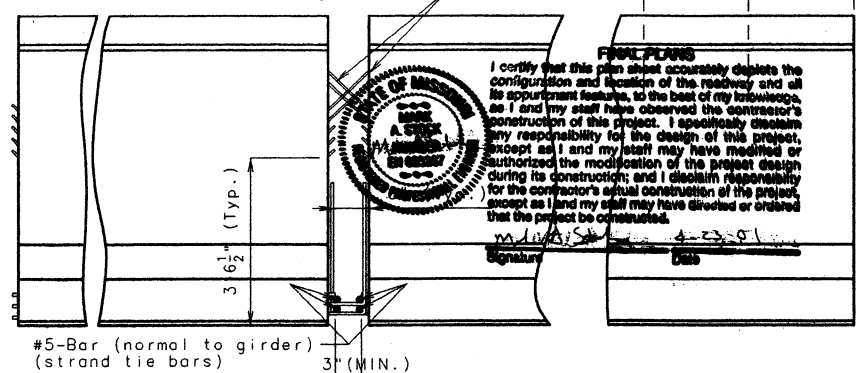
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

Cut top 2 rows of strands with a 12" projection and bend in shop. Cut remaining top strands within 1" of end of girder.

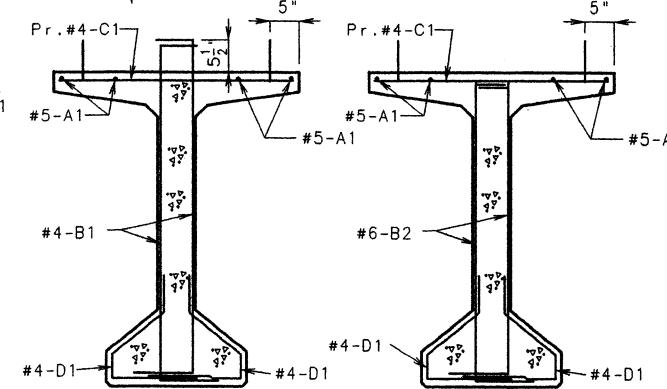


INTERMEDIATE BENT NO. 5 INTERMEDIATE BENT NO. 6 LOCATION OF LIFTING LOOPS  
STRAND DETAILS AT GIRDER ENDS

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-1"	20	SHAPE 19 6'-5 1/2" B1 5'-10" B2 5'-11" B3 6'-6 1/2" B4 TOP LEG 14"
236	4 B1	7'-11"	11	
8	6 B2	7'-4"	11	
8	6 B3	7'-5"	11	
70	4 B4	8'-0"	11	SHAPE 20 SHAPE 11
244	4 C1	3'-6"	19	
78	4 C2	3'-7"	19	
322	4 D1	3'-2"	9	

NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1, B4, C1 & C2 bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.



SECTION B-B

SECTION C-C

(Strands not shown for clarity)

Prestressing strands at Intermediate Bent No. 5 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.

NOTE: Cost of 3/4" Ø coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of Steel Intermediate Diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 76.

The 1-1/2" Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Details of Slotted Wells in top of Girder, see sheet no. 65.

DETAILS OF COIL TIES

Note: For location of coil ties, and 1" Ø horizontal hole, see sheets no. 59 & 61.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 53 OF 93.

JACKSON

COUNTY

A5495



DATE 5-1-98

GDR 6"BT,P/S3.55,4'6",6,A  
REVISED  
JAN. 1995  
APRIL 1993

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: Concrete for prestressed girders shall be class A1 with  $f'c = 6,000$  psi and  $f'ci = 4500$  psi.

(+) Indicates prestressing strands.

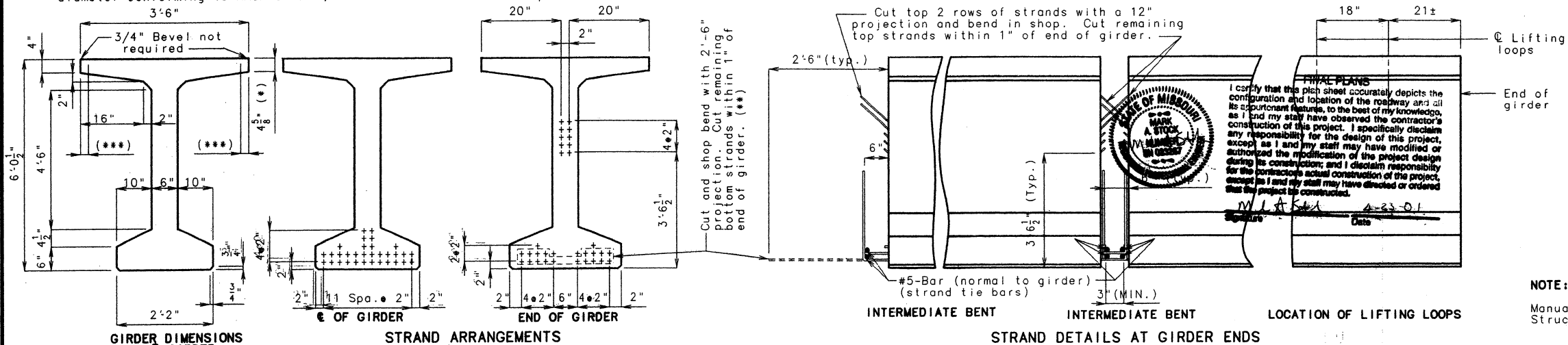
Use 32 strands with an initial prestress force of 992 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

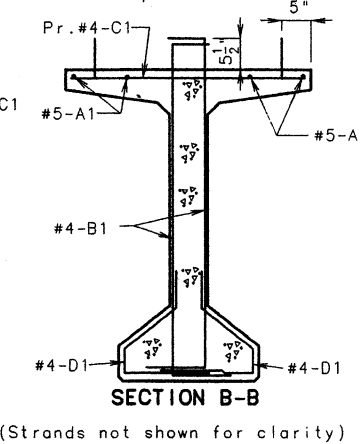
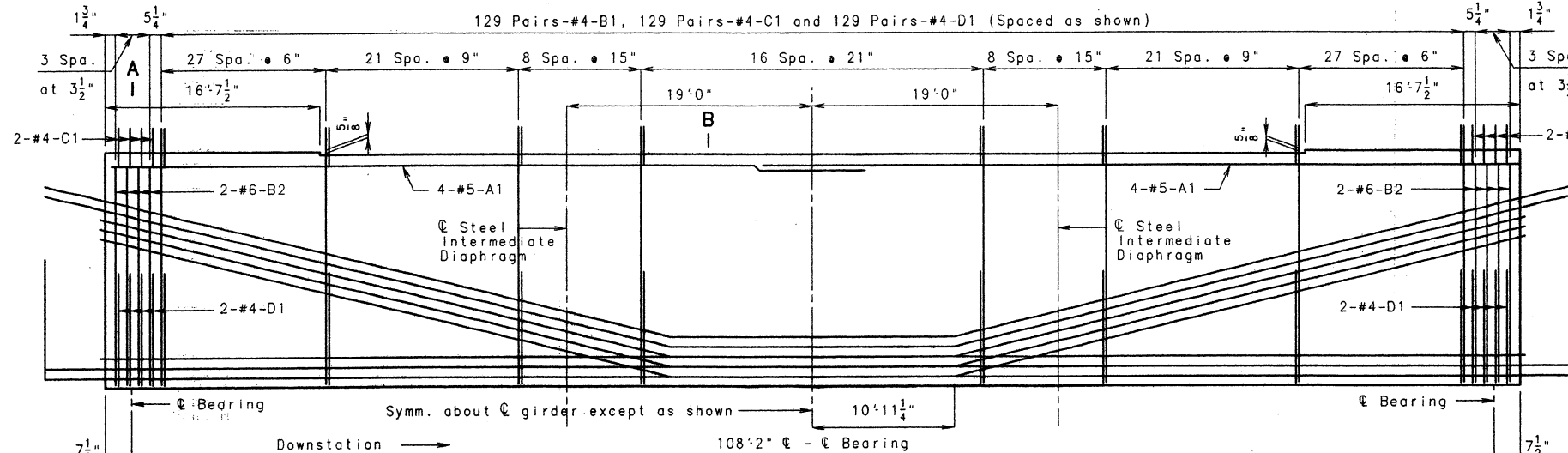
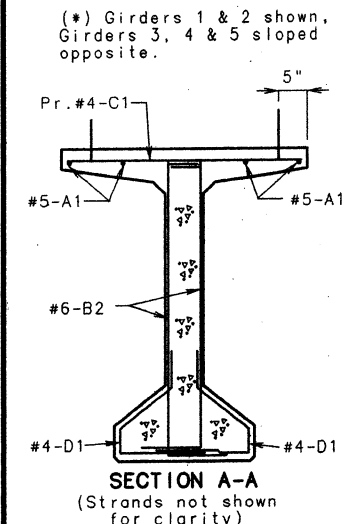
STATE: MO. TOB NO. JAWH011C  
PROJECT NO. EA-M-3373(408)  
C.T.D. 980724-05-REM 60



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-3"	20	
258	4 B1	7'-11"	11	SHAPE 19
16	6 B2	7'-4"	11	
274	4 C1	3'-6"	19	SHAPE 9
274	4 D1	3'-2"	9	SHAPE 11

NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1 bars & C1 bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.



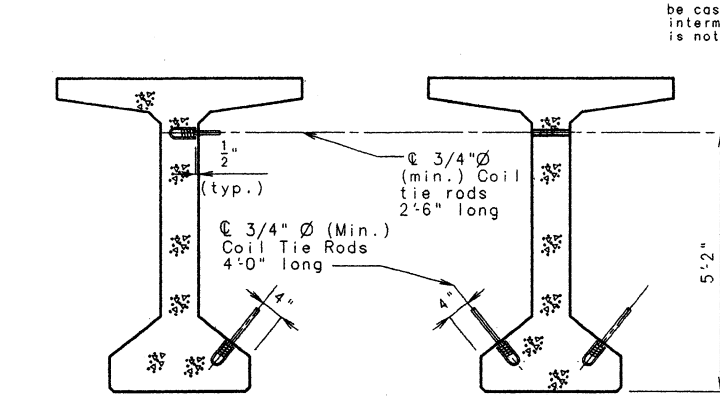
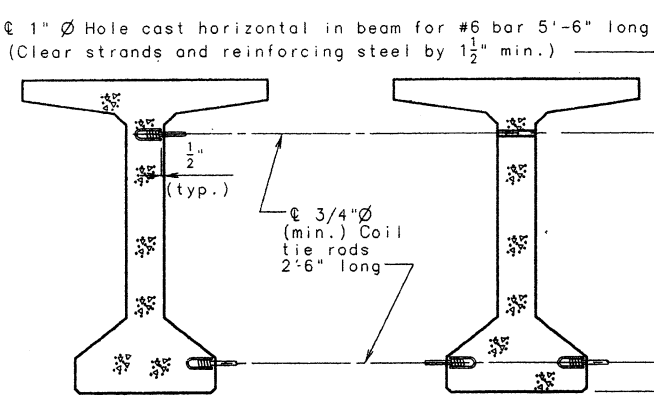
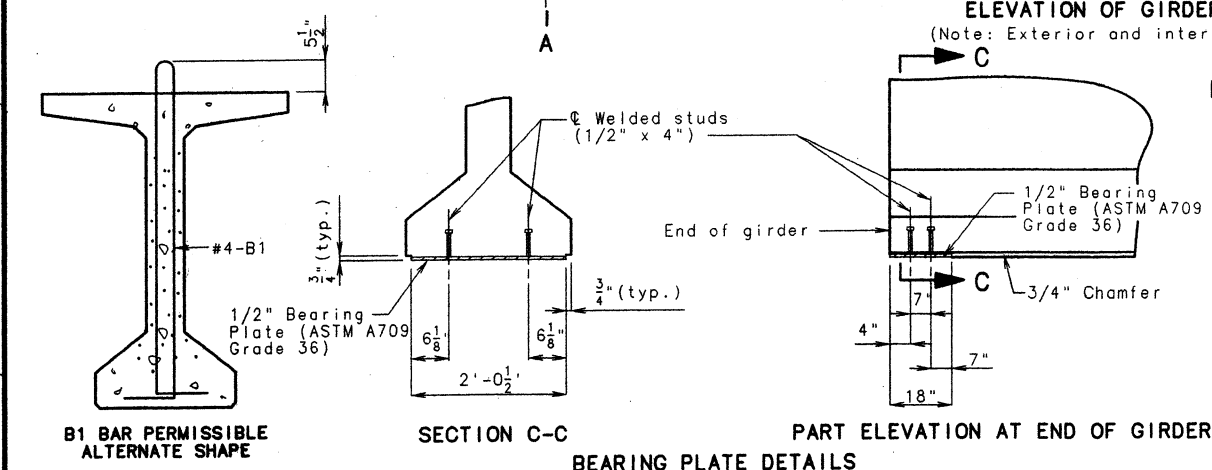
NOTE: Cost of 3/4" coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 64.

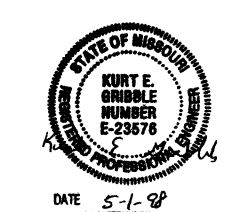
For location of coil inserts at slab drains, see sheet no. 76.

The 1-1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.

DETAILS OF COIL TIES. Note: For location of coil ties, and 1" hole horizontal, see sheets no. 59 & 60.



GDR 6"BT,P/S3.55,4'6",6,A  
REVISED JAN. 1995  
APRIL 1993



NOTE: Concrete for prestressed girders shall be class A1 with  $f'_c = 6000$  psi and  $f'_ci = 4500$  psi.

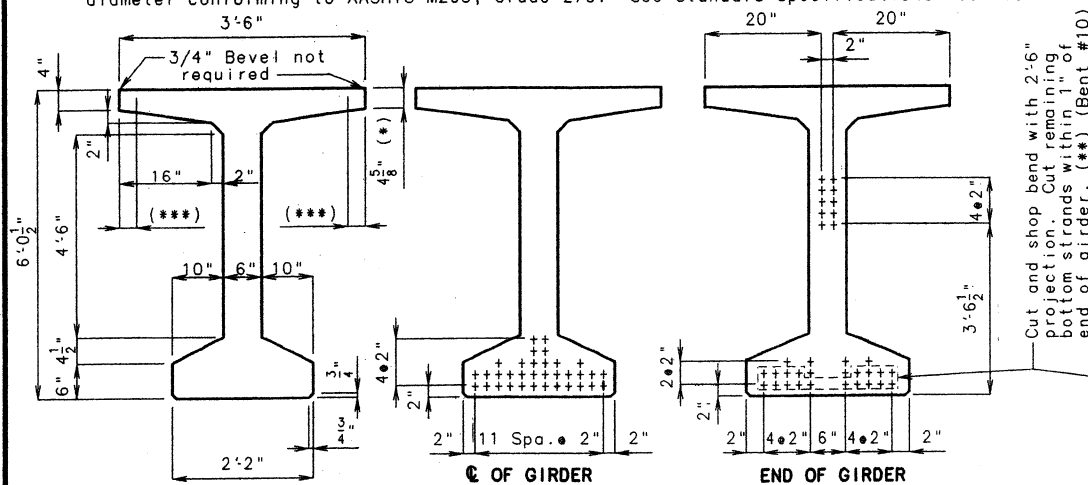
(+) Indicates prestressing strands.

Use 34 strands with an initial prestress force of 1054 Kips.

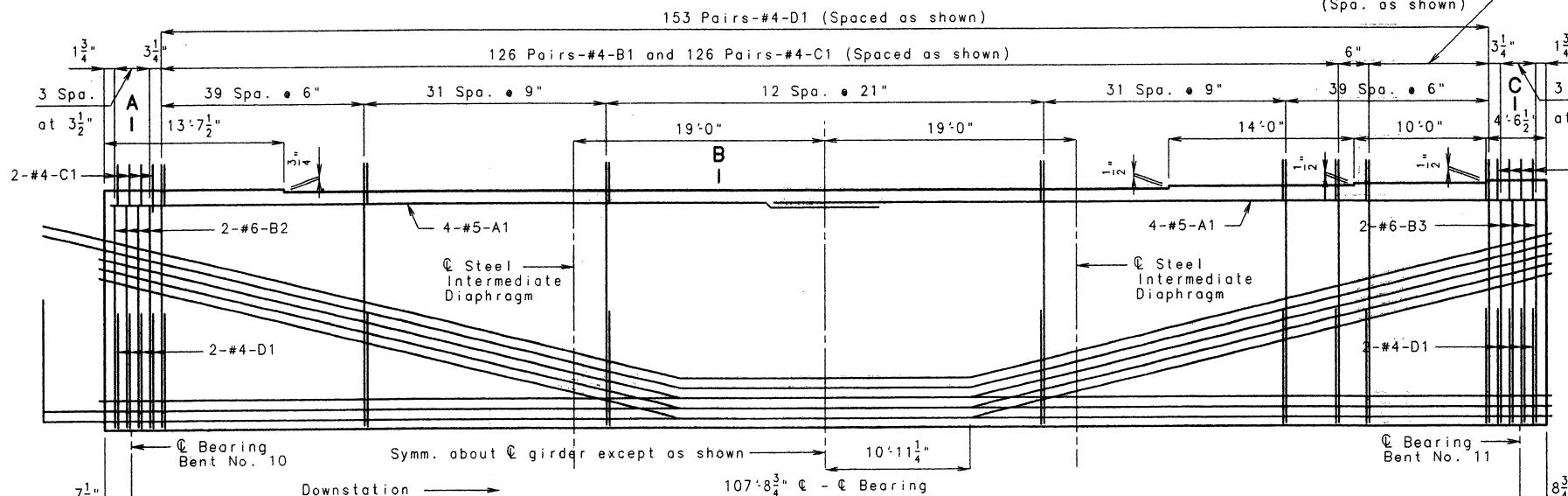
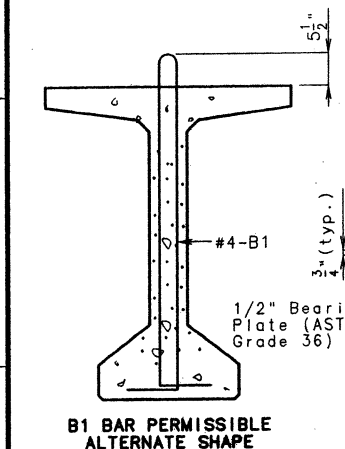
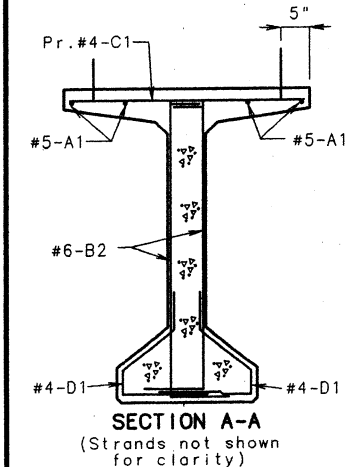
Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

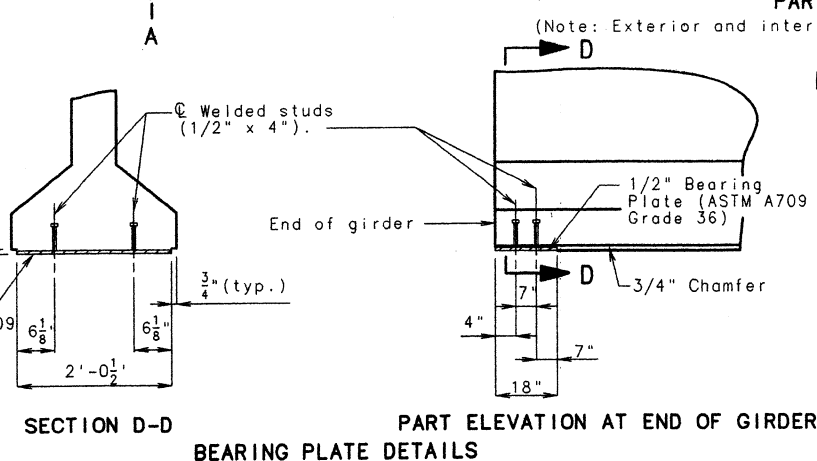
(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.



GIRDER DIMENSIONS (LOOKING DOWNSTATION)  
(\*) Girders 1 & 2 shown, Girders 3, 4 & 5 sloped opposite.

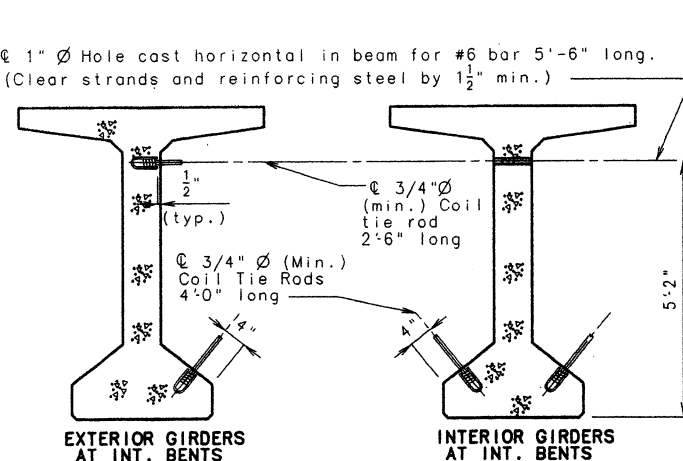


PART ELEVATION OF GIRDER SPAN (10-11)  
(Note: Exterior and interior girders are the same except for coil ties.)



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.



DETAILS OF COIL TIES

Note: For location of coil ties, and 1"  $\phi$  horizontal hole, see sheets no. 59 & 62.

NOTE: Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 76.

The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

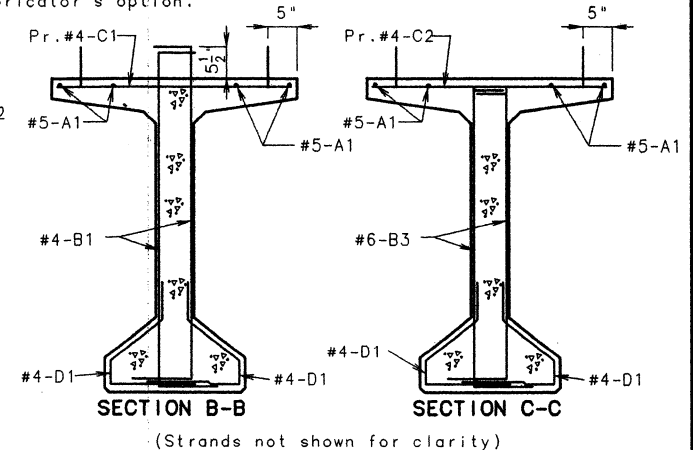
For Details of Slotted Wells in top of Girder, see sheet no. 65.

STATE	Job No. JAW011C	SHEET	NO.
PROJ. NO.	F.A.M.-9973 (400)		
MO.	C.T.D.-980724-05-PEM		61

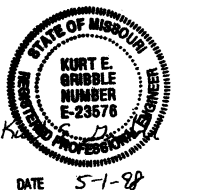
BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-1"	20	
252	4 B1	7'-11"	11	
8	6 B2	7'-4"	11	
8	6 B3	7'-5"	11	
54	4 B4	8'-0"	11	
260	4 C1	3'-6"	19	
62	4 C2	3'-7"	19	
322	4 D1	3'-2"	9	

NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1, B4, C1 & C2 bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.



Prestressing strands at Intermediate Bent No. 11 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.



Detailed JAN. 1998  
Checked MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 55 OF 93.

JACKSON

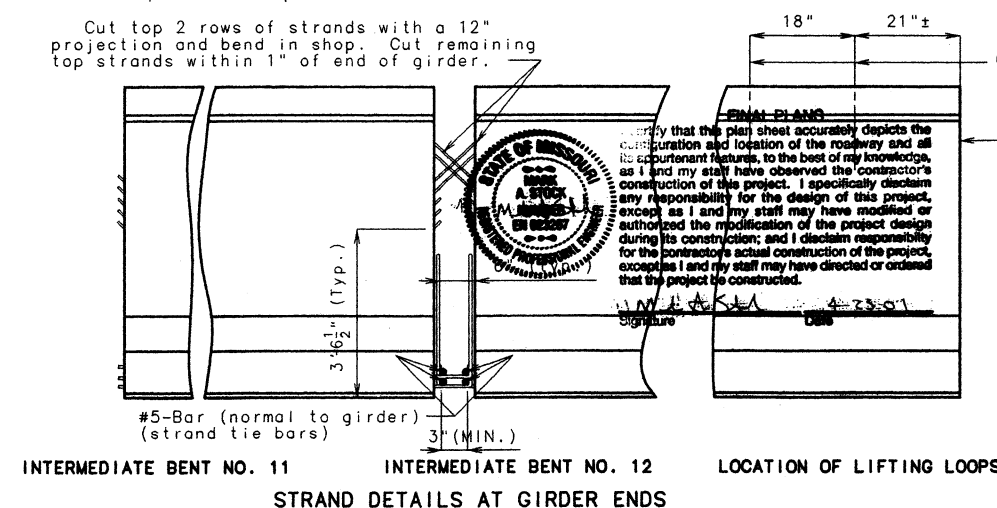
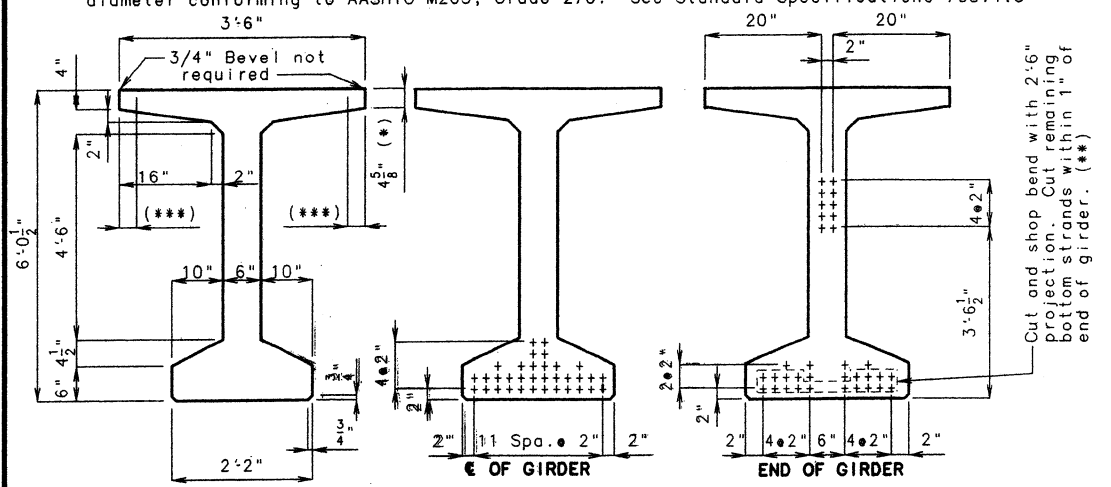
COUNTY

A5495

**NOTE:** Concrete for prestressed girders shall be class A1 with  $f'c = 6000$  psi and  $f'ci = 4500$  psi.  
 (+) Indicates prestressing strands.  
 Use 34 strands with an initial prestress force of 1054 Kips.  
 Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.  
 (\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

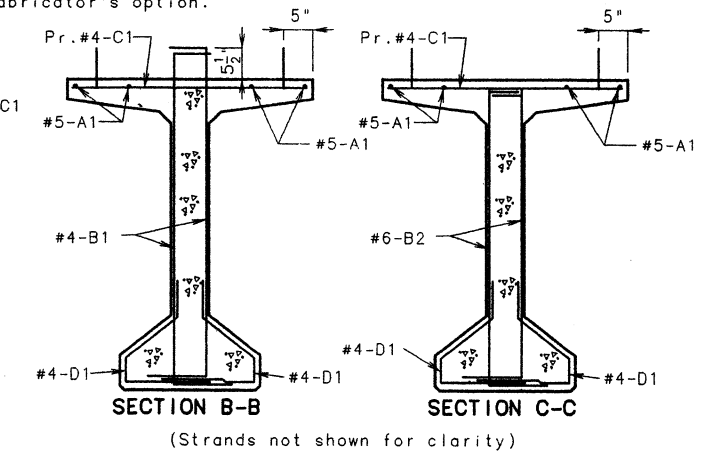
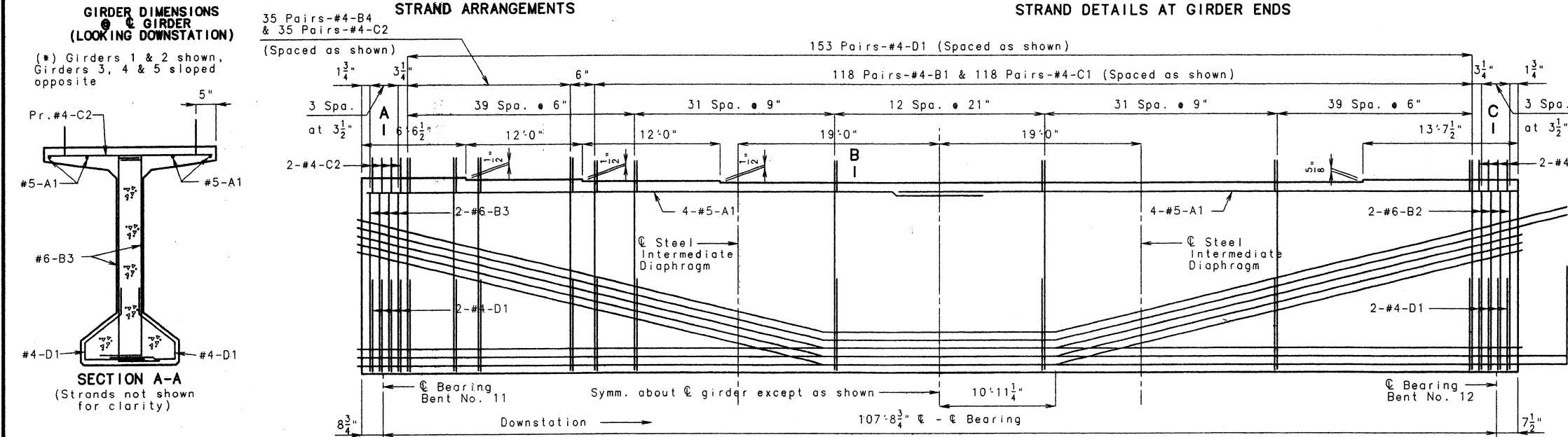
STATE MO. JOB NO. 14101C SHEET NO. 62  
 PROJECT NO. FAIM-3375(40)  
 MO. C.T.D.-980724-05-P.M.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-1"	20	SHAPE 9
236	4 B1	7'-11"	11	
8	6 B2	7'-4"	11	
8	6 B3	7'-5"	11	
70	4 B4	8'-0"	11	SHAPE 19
244	4 C1	3'-6"	19	
78	4 C2	3'-7"	19	
322	4 D1	3'-2"	9	

**NOTE:** All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1, B4, C1 & C2 Bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.



Prestressing strands at Intermediate Bent No. 11 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.

**NOTE:** Cost of 3/4" Ø coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

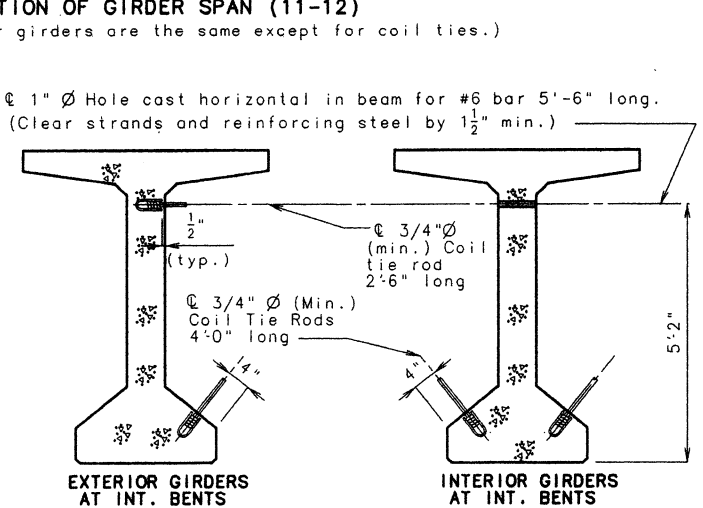
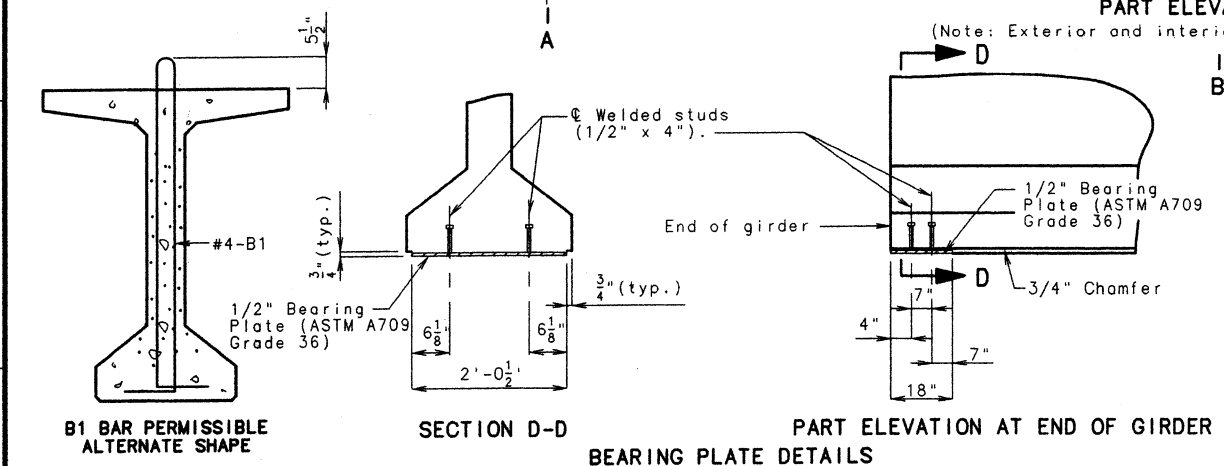
Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 77.

The 1-1/2" Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Details of Slotted Wells in top of Girder, see sheet No. 65.



Note: For location of coil ties, and 1" Ø horizontal hole, see sheets no. 59 & 62.

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.

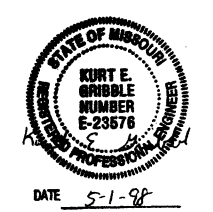
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 56 OF 93.

JACKSON COUNTY A5495

GDR 6"BT,P/S3.55,4'6",6,A  
 REVISED JAN. 1995  
 APRIL 1993

DETAILED JAN. 1998  
 CHECKED MAR. 1998



NOTE: Concrete for prestressed girders shall be class A1 with  $f'c = 6000$  psi and  $f'ci = 4500$  psi.

(+) Indicates prestressing strands.

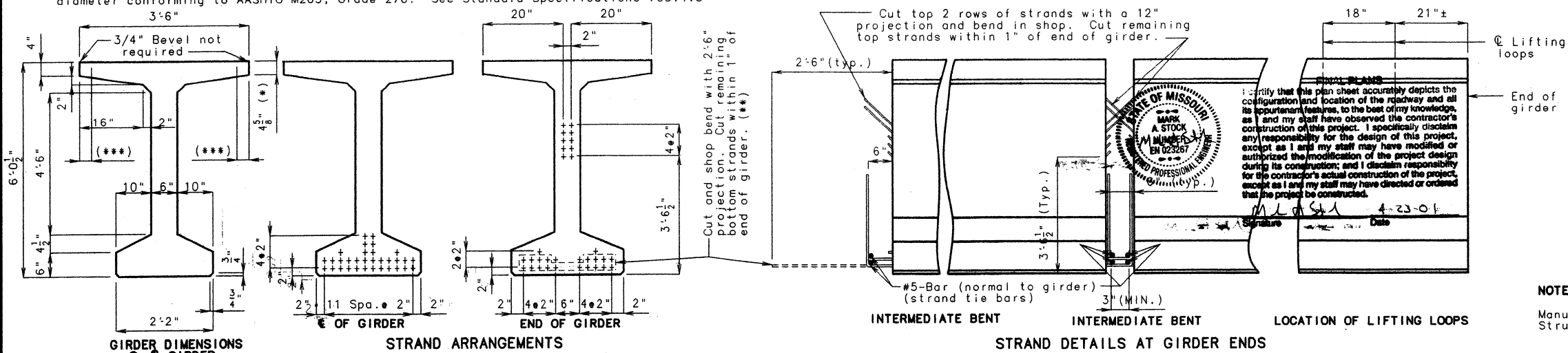
Use 32 strands with an initial prestress force of 992 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	JOB NO. JAU016	SHEET NO.
MO.	PROJ. NO. - F.A.M. - 3373(400)	
	G.T.D. - 980724-05-PEN	63

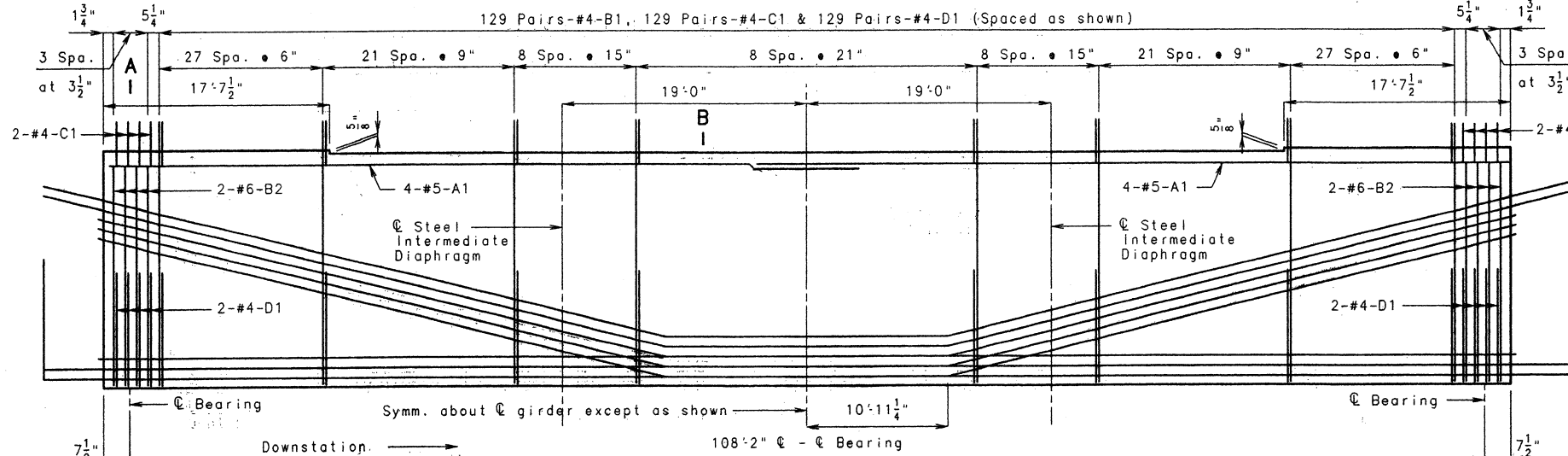
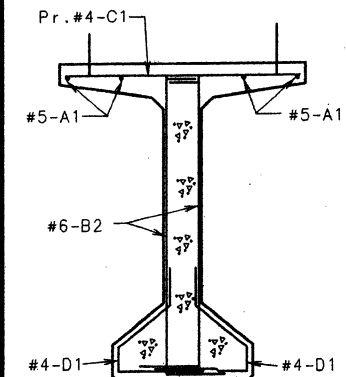


BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-3"	20	SHAPE 10
258	4 B1	7'-11"	11	
16	6 B2	7'-4"	11	SHAPE 9
274	4 C1	3'-6"	19	
274	4 D1	3'-2"	9	SHAPE 11

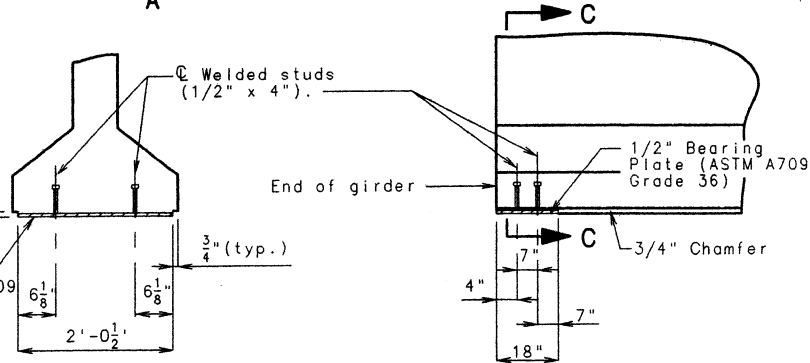
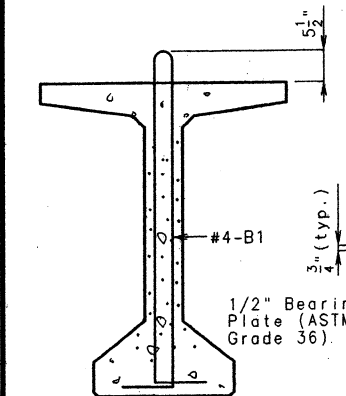
NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrups and Tie Dimensions.

All B1 Bars & C1 Bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing steel be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.

(\*) Girders 1 & 2 shown. Girders 3, 4 & 5 sloped opposite.



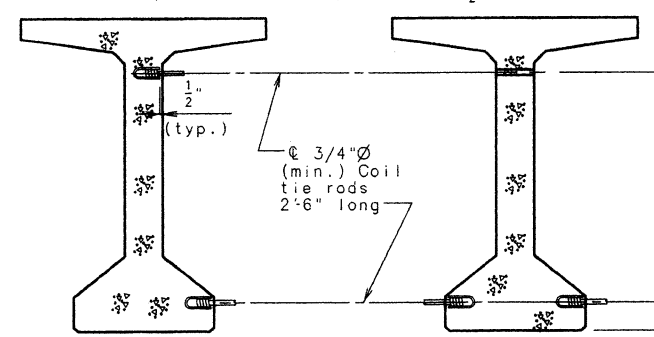
PART ELEVATION OF GIRDER SPAN (12-13), (13-14), (14-15) & (15-16)  
(Note: Exterior and interior girders are the same except for coil ties.)



PART ELEVATION AT END OF GIRDER  
BEARING SOLE PLATE DETAILS

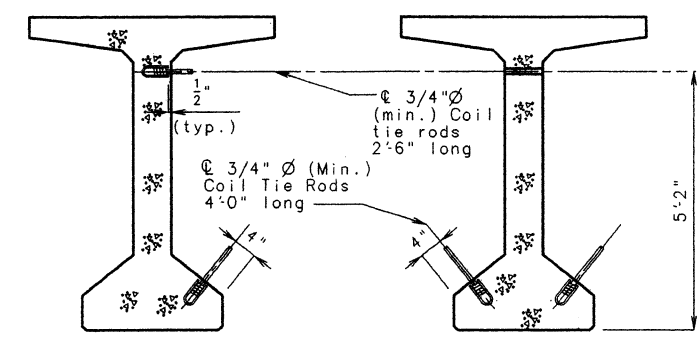
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.

1"  $\varnothing$  Hole cast horizontal in beam for #6 bar 5'-6" long. (Clear strands and reinforcing steel by 1/2" min.)



EXTERIOR GIRDERS  
AT INT. BENTS  
NO. 13, 14 & 15

INTERIOR GIRDERS  
AT INT. BENTS  
NO. 13, 14 & 15



INTERIOR GIRDERS  
AT INT. BENTS  
NO. 12 & 16

INTERIOR GIRDERS  
AT INT. BENTS  
NO. 12 & 16

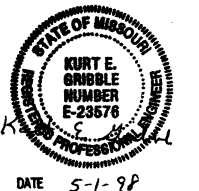
DETAILS OF COIL TIES

Note: For location of coil ties, and 1"  $\varnothing$  horizontal hole, see sheets no. 59 & 60.

SHEET NO. 57 OF 93.

JACKSON COUNTY

A5495



GDR 6"BT,P/S3.55,4'-6",6,A

REVISED

JAN. 1995

APRIL 1993

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



NOTE: Concrete for prestressed girders shall be class A1 with  $f'_c = 6000$  psi and  $f'_{ci} = 4500$  psi.

(+) Indicates prestressing strands.

Use 18 strands with an initial prestress force of 558 Kips.

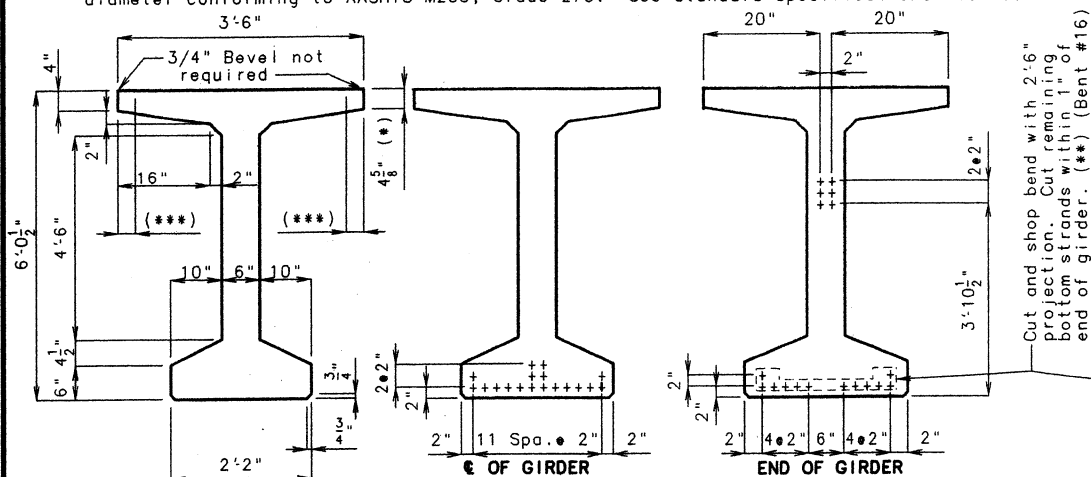
Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8

(\*\*) One strand tie bar is required for each layer of bent-up strands.

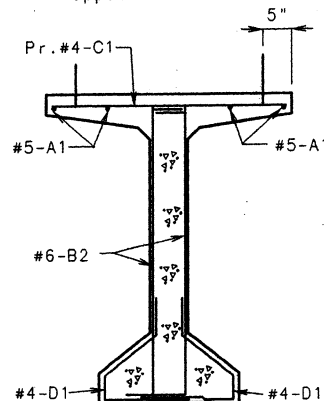
(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

Prestressing strands at End Bent No. 17 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.

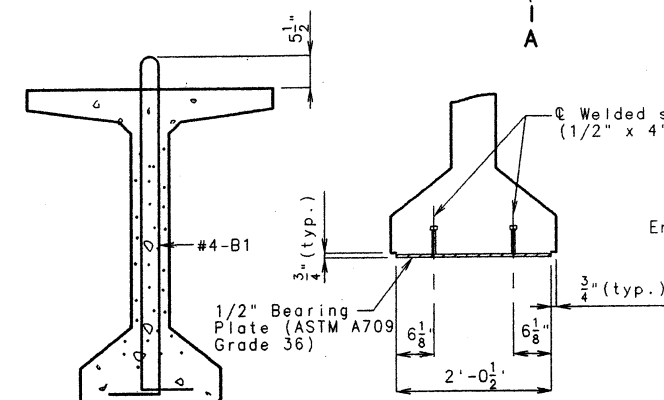
STATE JOB NO. J41011C SHEET NO. 64  
PROJ. NO. FAIR-3375/408  
MO. C.T.D. 900724-05-PEM



(\*) Girders 1 & 2 shown. Girders 3, 4 & 5 sloped opposite.



SECTION A-A  
(Strands not shown for clarity)



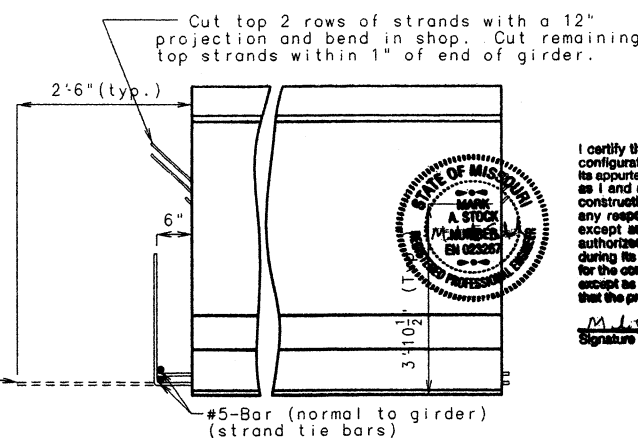
B1 BAR PERMISSIBLE ALTERNATE SHAPE

SECTION C-C

BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.

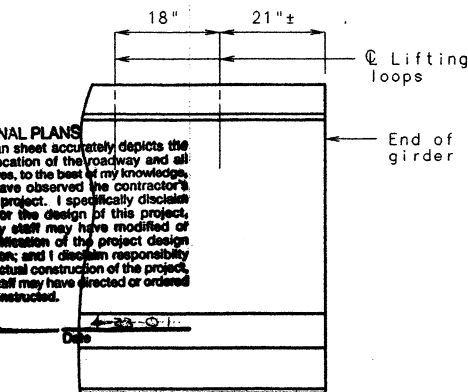


INTERMEDIATE BENT NO. 16 END BENT NO. 17

STRAND DETAILS AT GIRDER ENDS

FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during the construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature Date

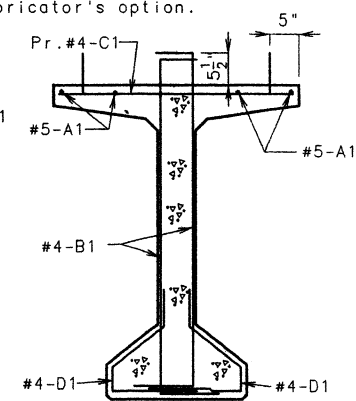


LOCATION OF LIFTING LOOPS

BILL OF REINFORCING STEEL - EACH GIRDER					BENDING DIAGRAMS	
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE			
8	5 A1	40'-3"	20			
162	4 B1	7'-11"	11			
8	6 B2	7'-4"	11			
178	4 C1	3'-6"	19			
178	4 D1	3'-2"	9			

NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1 Bars & C1 Bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.

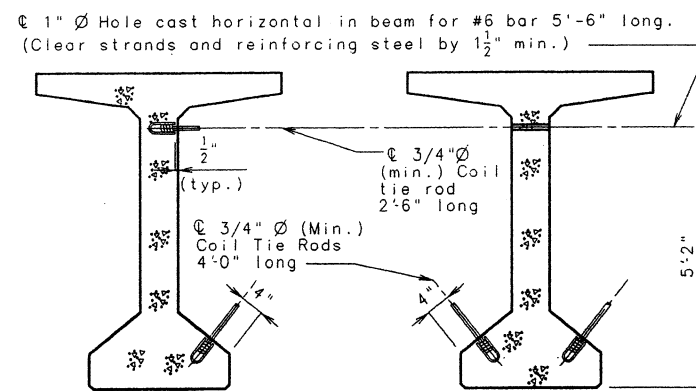


SECTION B-B

(Strands not shown for clarity)

PART ELEVATION OF GIRDER SPAN (16-17)

(Note: Exterior and interior girders are the same except for coil ties.)



EXTERIOR GIRDERS AT INT. BENTS

EXTERIOR GIRDERS AT END BENTS  
INTERIOR GIRDERS AT ALL BENTS

NOTE: Cost of 3/4"  $\varnothing$  coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

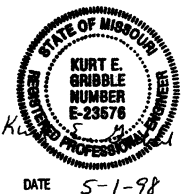
Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 77.

The 1-1/2"  $\varnothing$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Details of Slotted Wells in top of Girder, see sheet no. 66.



Note: For location of coil ties, and 1"  $\varnothing$  horizontal hole, see sheets no. 59 & 63.

SHEET NO. 58 OF 93.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

JACKSON

COUNTY

A5495

GDR 6"BT,P/S3.55,4'-6",6,A

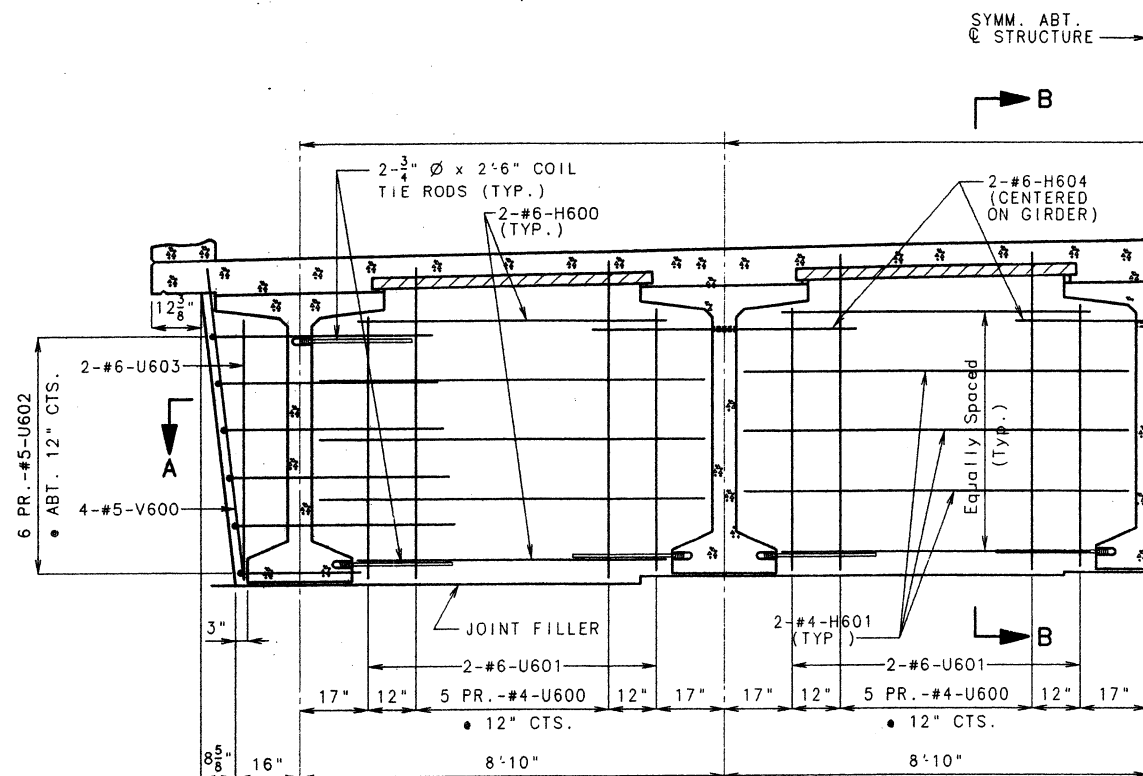
REVISED

JAN. 1995

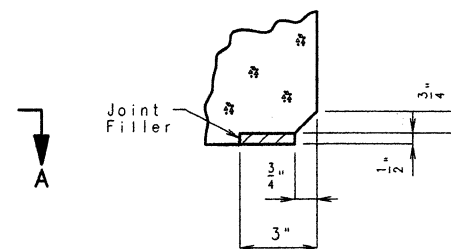
APRIL 1993

DETAILED JAN. 1998  
CHECKED MAR. 1998





HALF SECTION NEAR INTERMEDIATE BENTS NO. 7, 8, 9, 13, 14, & 15

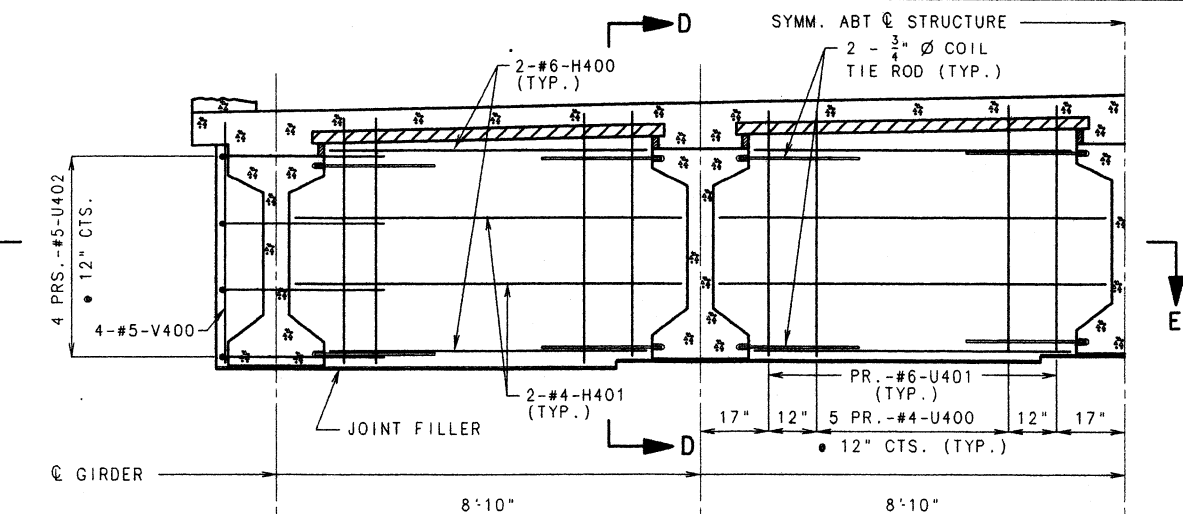


DETAIL "A"

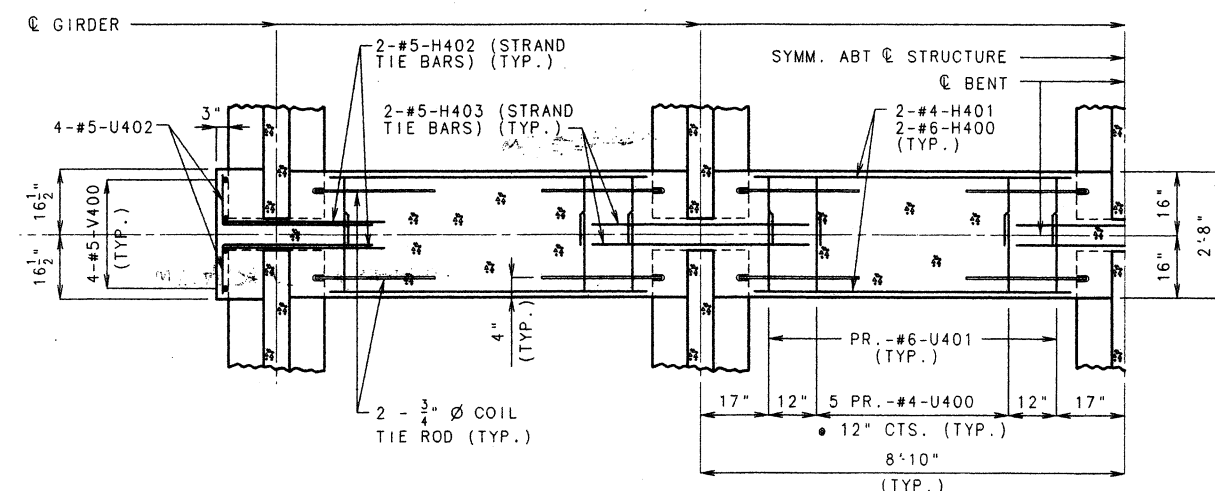
NOTE: PLACE #6-H604 BAR THROUGH 1" Ø HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

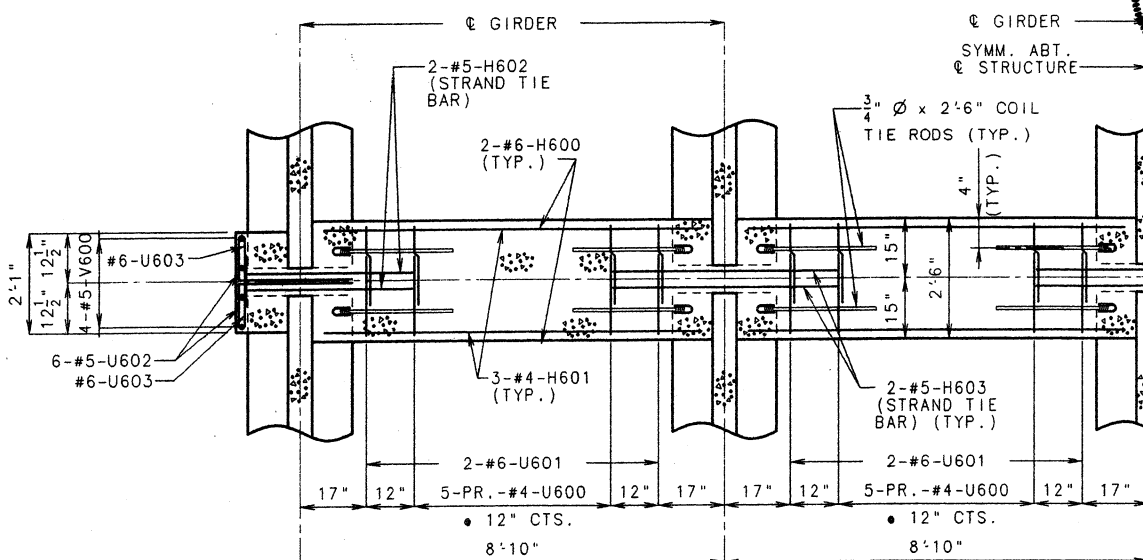
*M. L. S. S. S.* 4-23-01  
Signature Date



HALF SECTION NEAR INTERMEDIATE BENT NO. 3

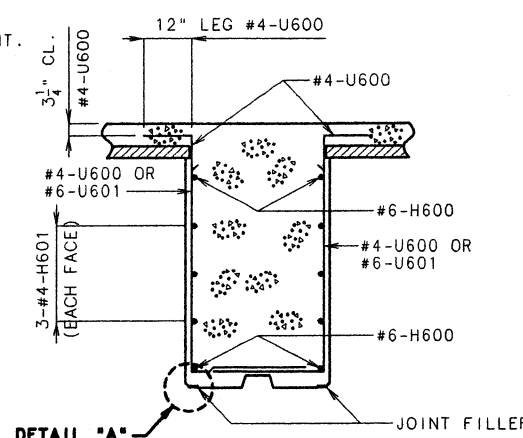


SECTION E-E

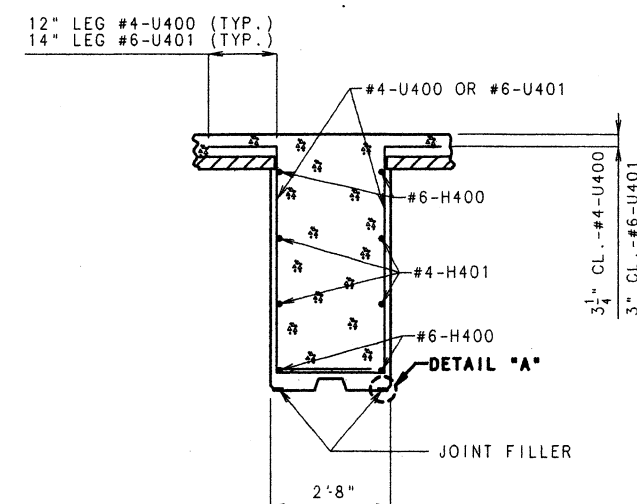


SECTION A-A

NOTE: FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.



SECTION B-B



SECTION D-D



DATE 5-1-98

DETAILS OF INTERMEDIATE BENT DIAPHRAGM  
AT INTERMEDIATE BENTS NO. 3, 7, 8, 9, 13, 14 & 15.

DETAILED: JAN. 1998  
CHECKED: MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

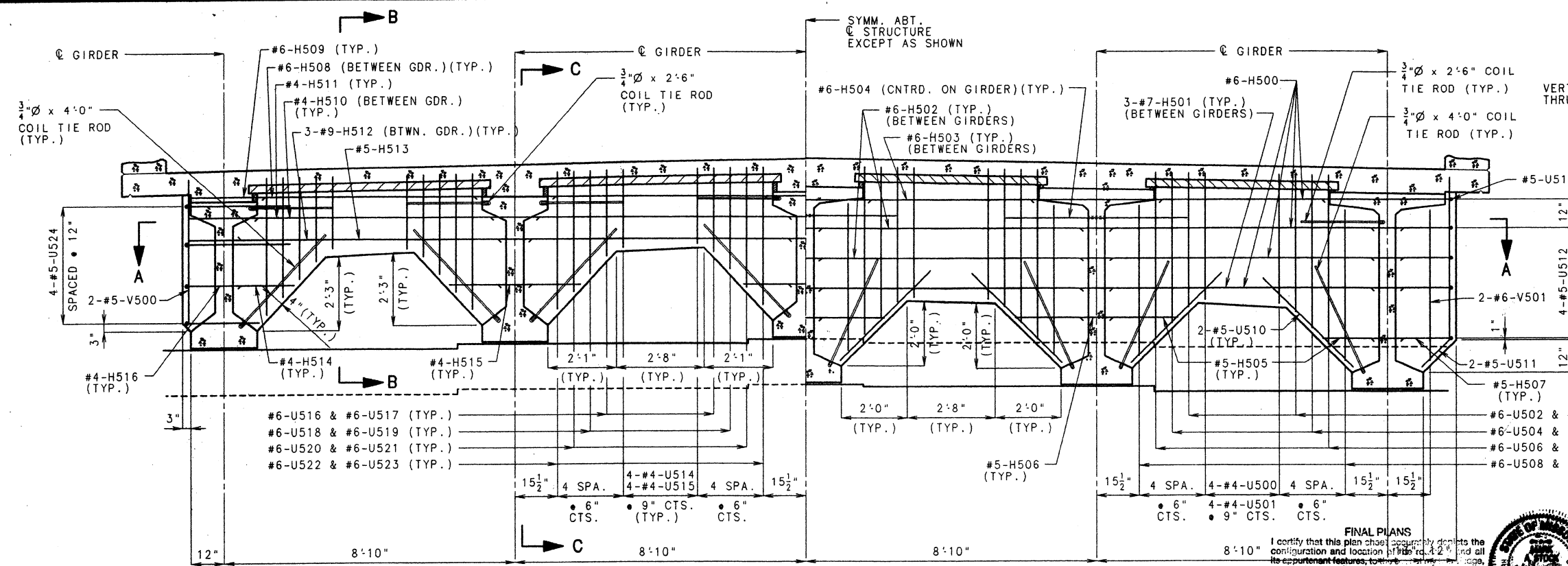
SHEET NO. 60 OF 93.

JACKSON

COUNTY

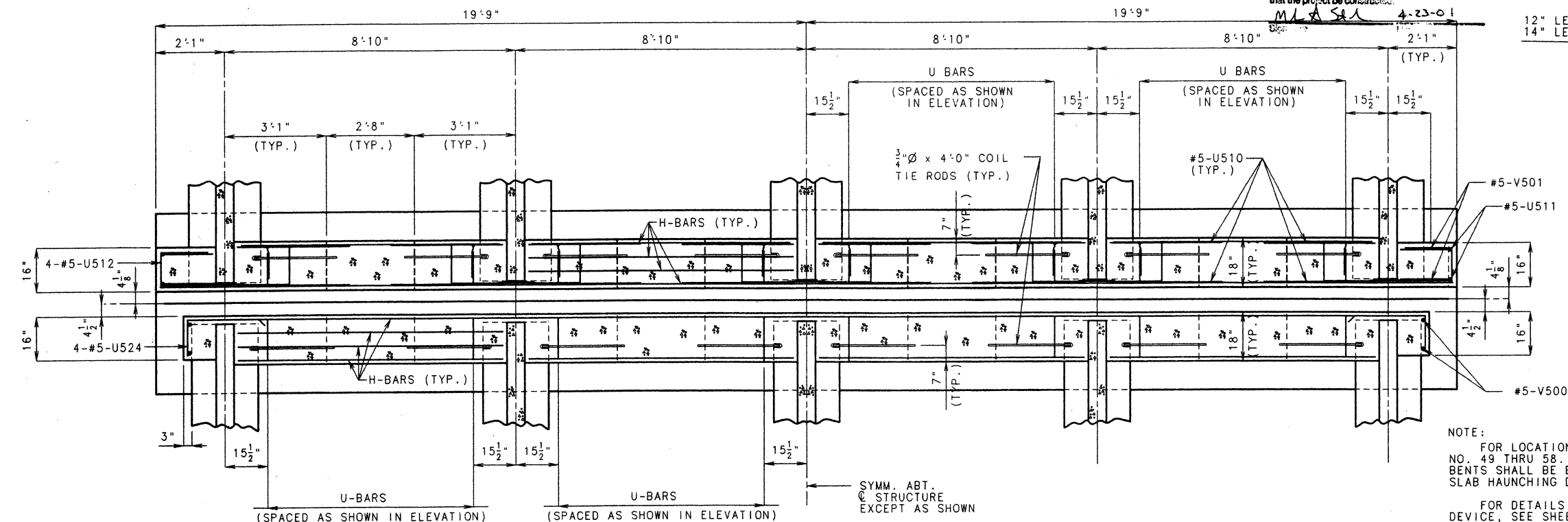
A5495





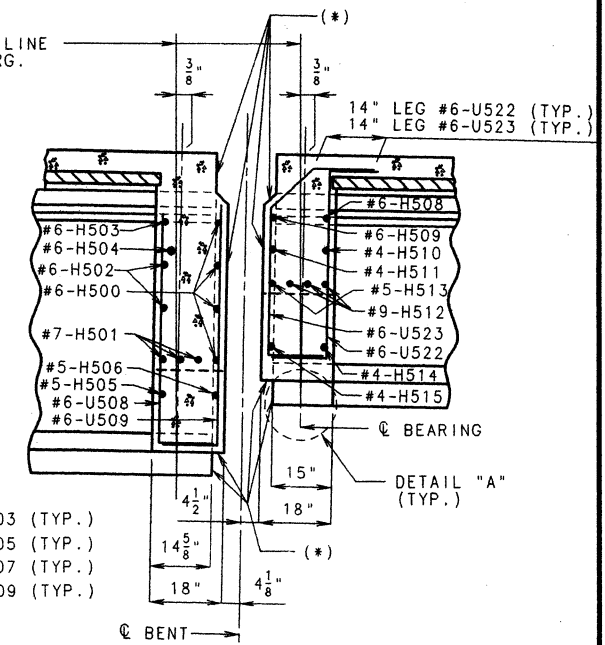
PART ELEVATION LOOKING AHEAD  
 NEAR INTERMEDIATE BENT NO. 5

PART ELEVATION LOOKING BACK  
 NEAR INTERMEDIATE BENT NO. 5

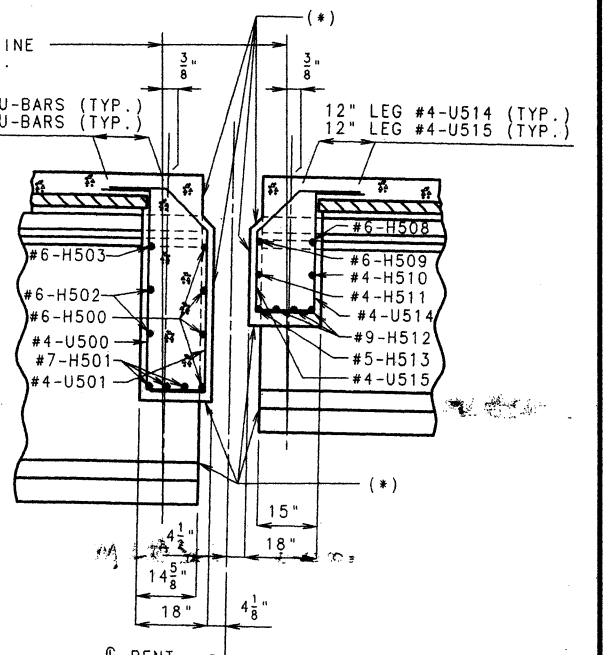


SECTION A-A

DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 5



SECTION C-C



SECTION B-B

NOTE:  
 FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.  
 FOR DETAILS OF FINGER PLATE EXPANSION DEVICE, SEE SHEET NO. 65.  
 PLACE #6-H504 BAR THROUGH 1" HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.  
 FOR DETAIL "A", SEE SHEET NO. 62.





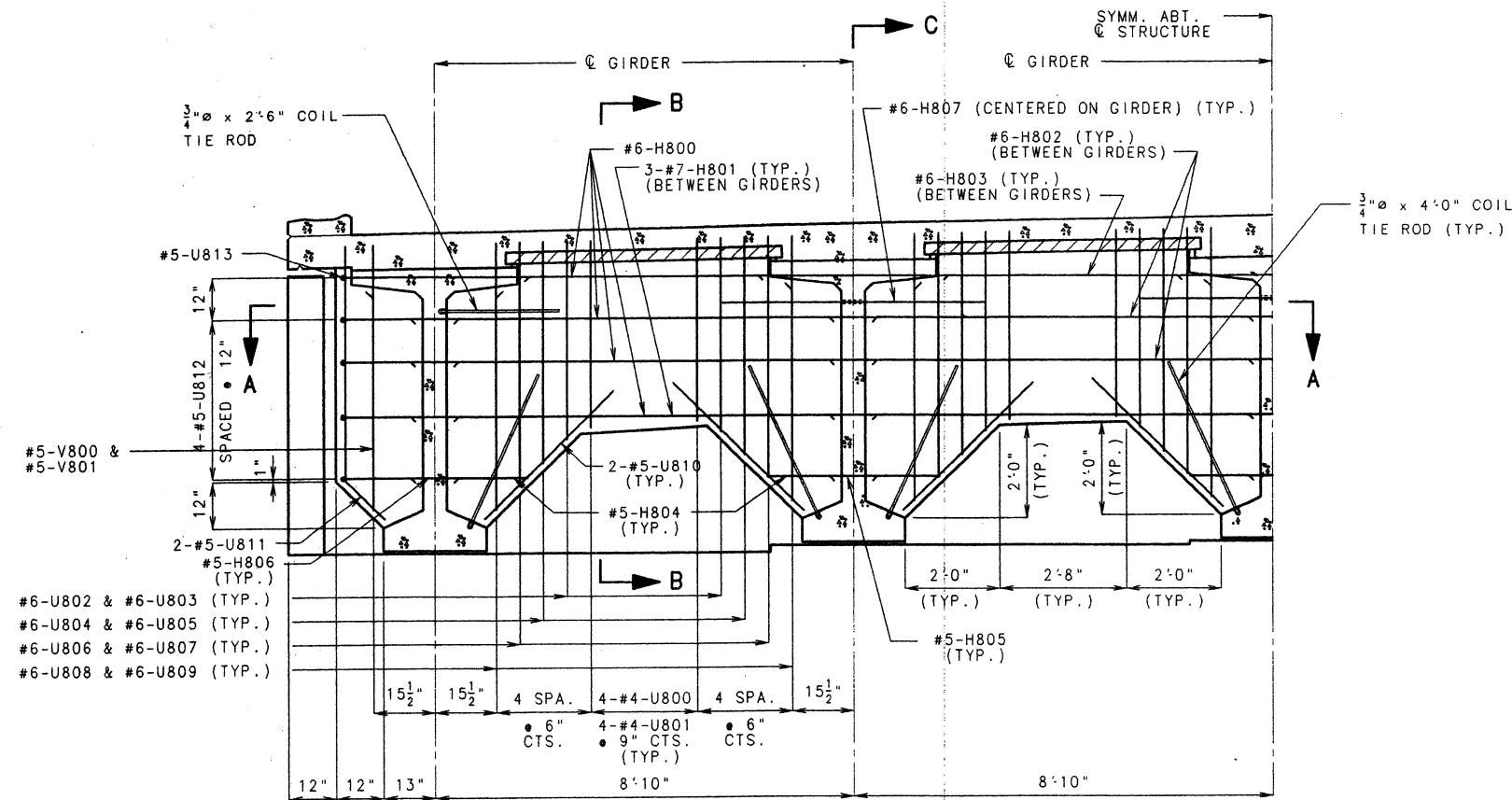
# NOTES:

FOR DETAILS OF FLAT PLATE EXPANSION DEVICE, SEE SHEET NO. 66.

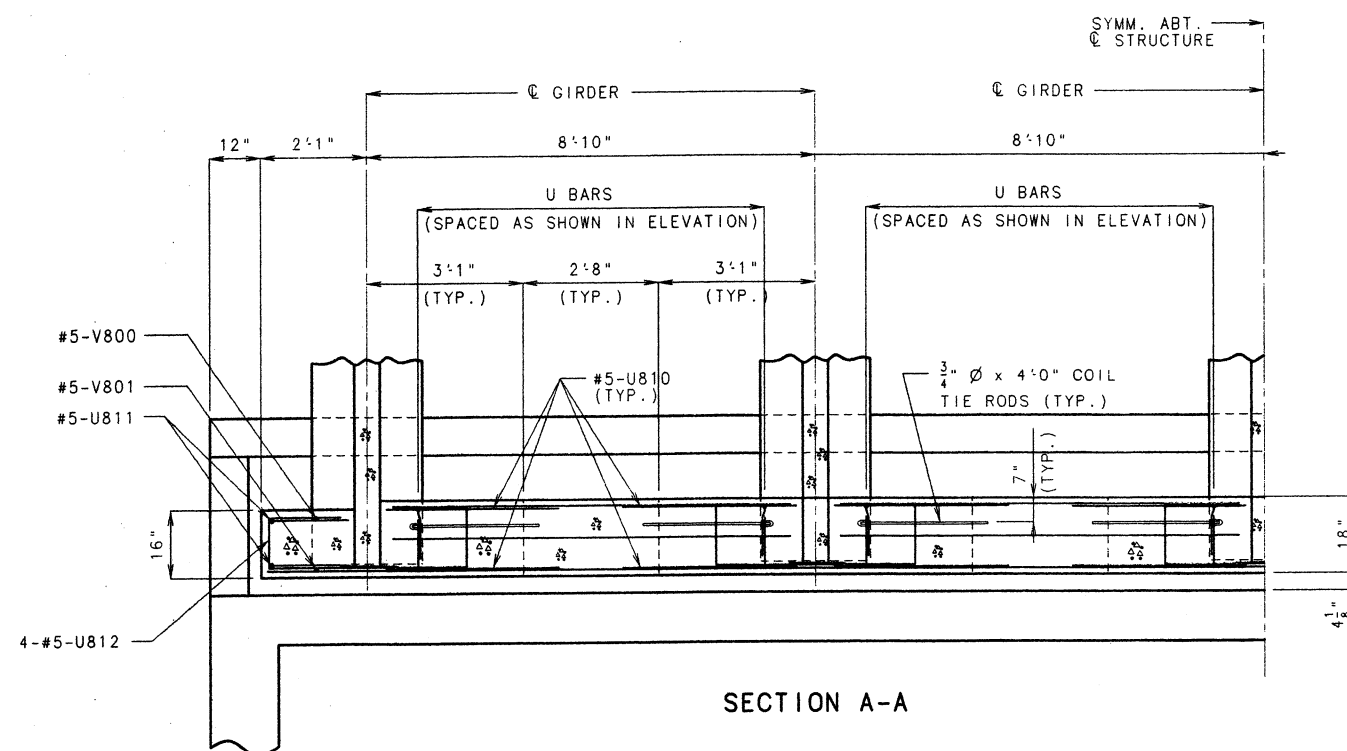
PLACE #6-H807 BAR THROUGH 1"Ø HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.

FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.

FOR DETAIL "A", SEE SHEET NO. 62.

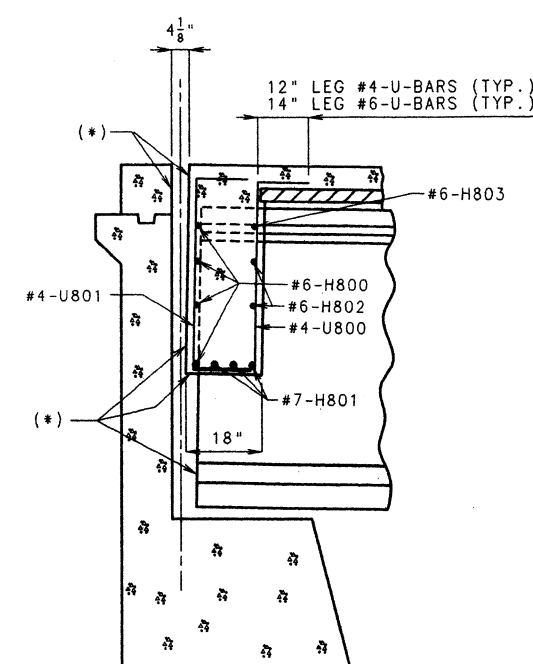


HALF SECTION NEAR  
END BENT NO. 17



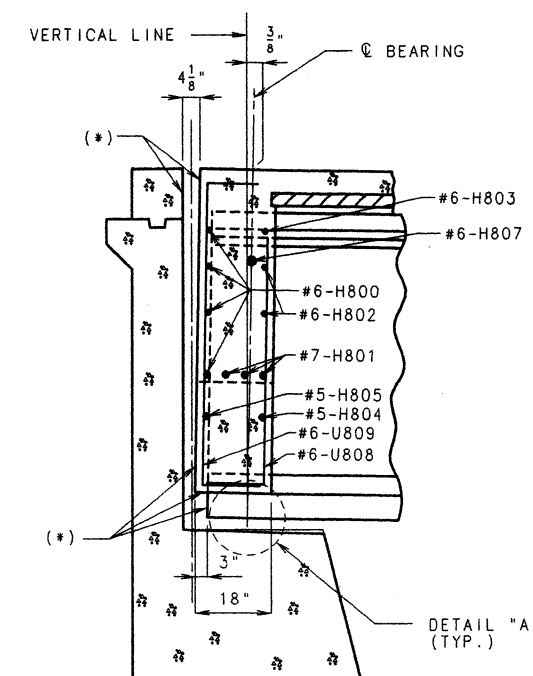
SECTION A-A

## DETAILS OF DIAPHRAGM AT END BENT NO. 17



SECTION B-B

(\*) APPLY PROTECTIVE COATING FOR CONCRETE BENTS (DELETERIOUS AGENTS) TO CONCRETE DIAPHRAGMS BENEATH FLAT PLATE AS SHOWN. (SEE SPECIAL PROVISIONS).



SECTION C-C

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of this project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: M. L. A. Smith Date: 4-23-01



DATE 5-1-98



DIA 11, SQ BTEE, STL, ,A  
STEEL DIA. (SQ)  
June 1995  
AUGUST 1996

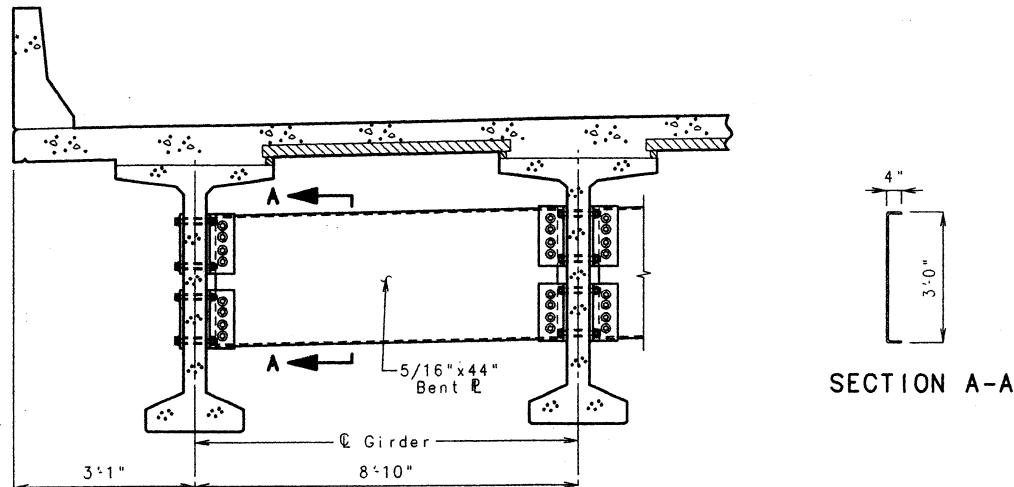
Detailed  
checked  
JAN. 1998  
MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

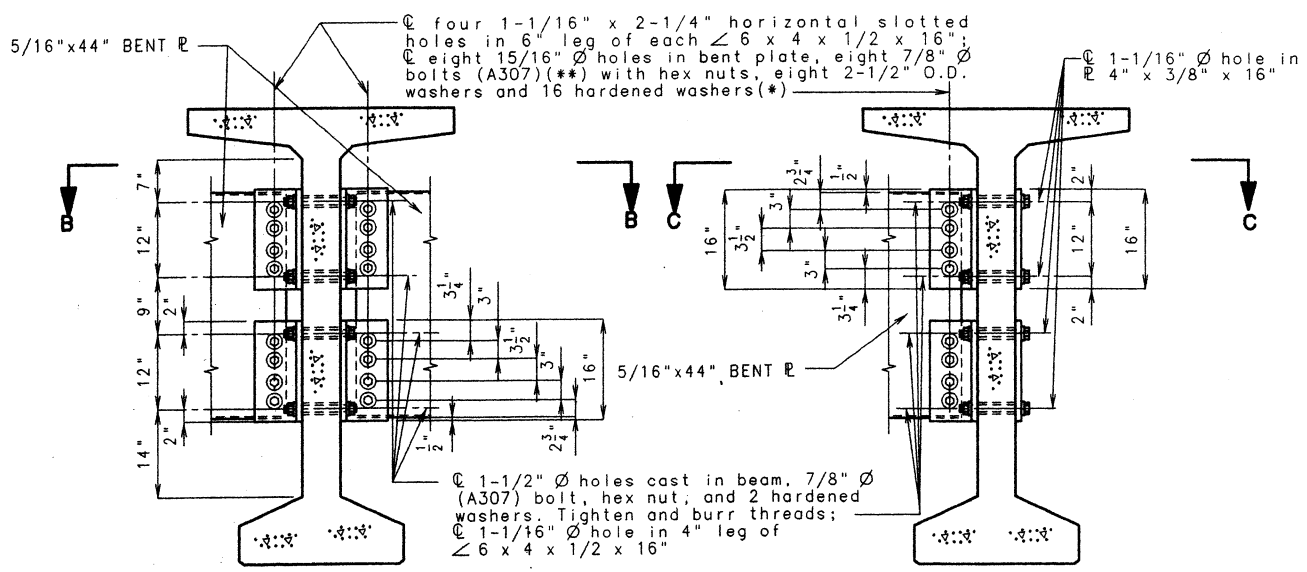
SHEET NO. 64 OF 93.

JACKSON COUNTY

A5495

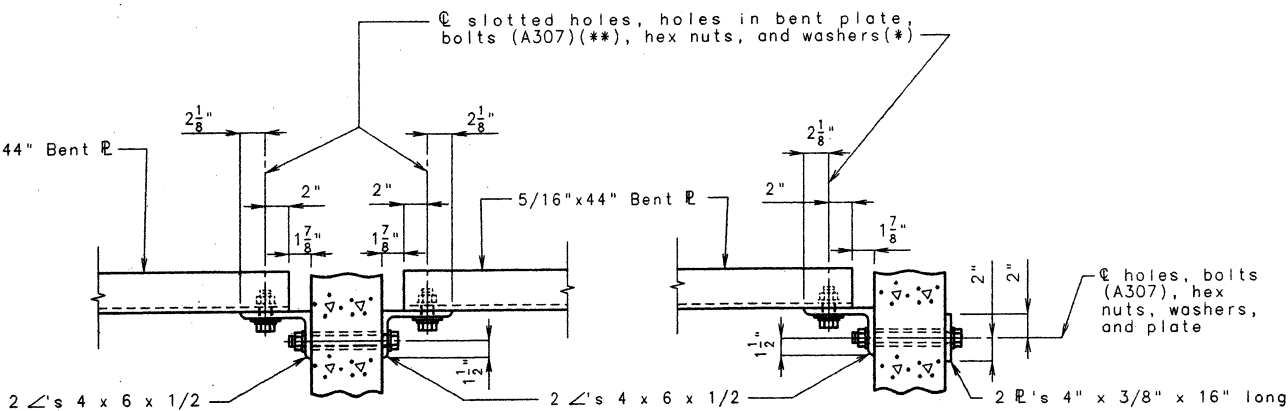


PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS FOR BULB-TEE GIRDERS



SECTION THRU INT. GIRDER AT DIAPHRAGM

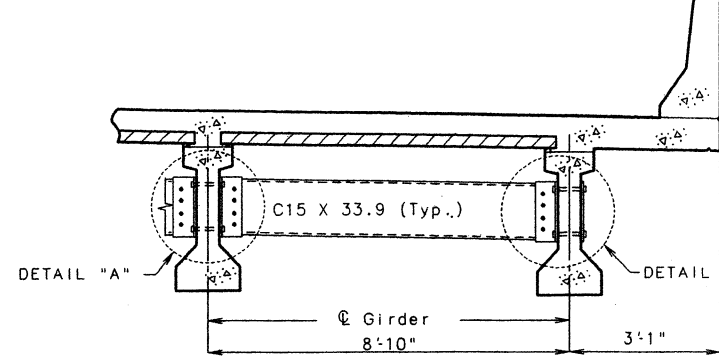
SECTION THRU EXT. GIRDER AT DIAPHRAGM



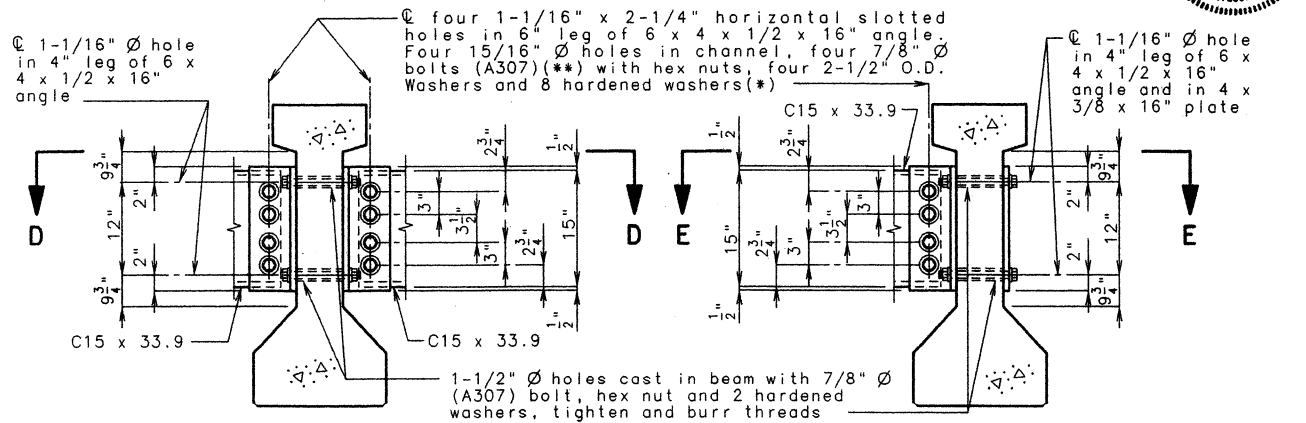
SECTION B-B

SECTION C-C

STEEL INTERMEDIATE DIAPHRAGM DETAILS

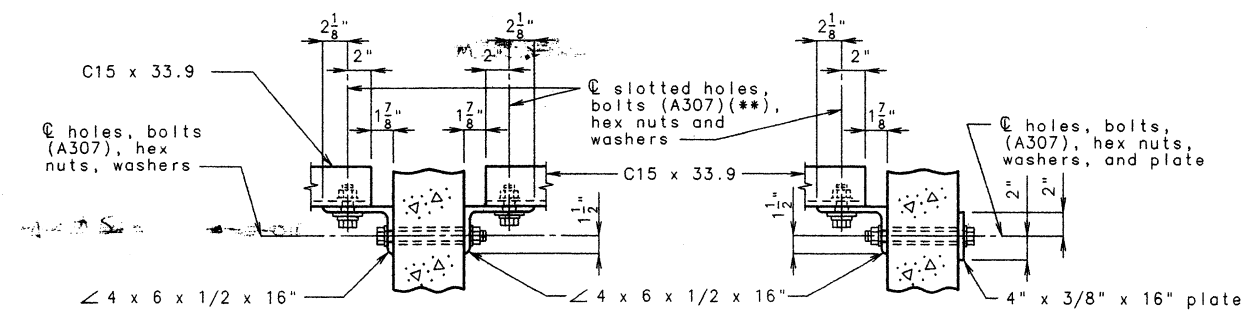


PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS FOR I-GIRDERS



DETAIL "A"

DETAIL "B"



SECTION D-D

SECTION E-E

STEEL DIAPHRAGM NOTES:

- \* In lieu of 2-1/2" O.D. washers, contractor may substitute a 3/16" (min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.
- \*\* These bolts shall be tightened to provide a tension of one-half that specified by Section 712.10.2 of the Missouri Standard Specifications. A325 bolts may be substituted for and installed in accordance with the requirements for the specified A307 bolts.
- All diaphragm materials including bolts, nuts, and washers shall be galvanized.
- Fabricated structural steel shall be ASTM A709 Grade 36, except as noted.
- Payment for furnishing and installing steel intermediate diaphragms, shall be included in contract unit price for Prestressed Concrete Bulb Tee Girders and Prestressed Concrete I-Girders.
- Shop drawings will not be required for steel intermediate diaphragms and angle connections.
- For location of intermediate diaphragms, see girder sheets.

FINAL PLANS  
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Signature: M. J. Smith Date: 4-23-01



DATE 5-1-98

# GENERAL NOTES:

FINGER PLATE SHALL BE CUT WITH A MACHINE GUIDED GAS TORCH FROM ONE PLATE. THE PLATE FROM WHICH FINGERS ARE CUT MAY BE SPLICED BEFORE FINGERS ARE CUT. THE SURFACE OF CUT SHALL BE PERPENDICULAR TO THE SURFACE OF THE PLATE. THE CUT SHALL NOT EXCEED 1/8" IN WIDTH. THE CENTERLINE OF CUT SHALL NOT DEVIATE MORE THAN 1/16" FROM THE POSITION OF CENTERLINE OF CUT SHOWN. NO SPLICING OF FINGER PLATE OR FINGER PLATE ASSEMBLY WILL BE ALLOWED AFTER FINGERS ARE CUT.

PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F. THE EXPANSION GAP AND OTHER DIMENSIONS SHALL BE INCREASED 1/4" FOR EACH 10°F FALL IN TEMPERATURE AND DECREASED 1/4" FOR EACH 10°F RISE IN TEMPERATURE AT INSTALLATION.

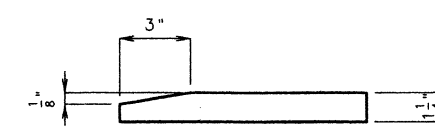
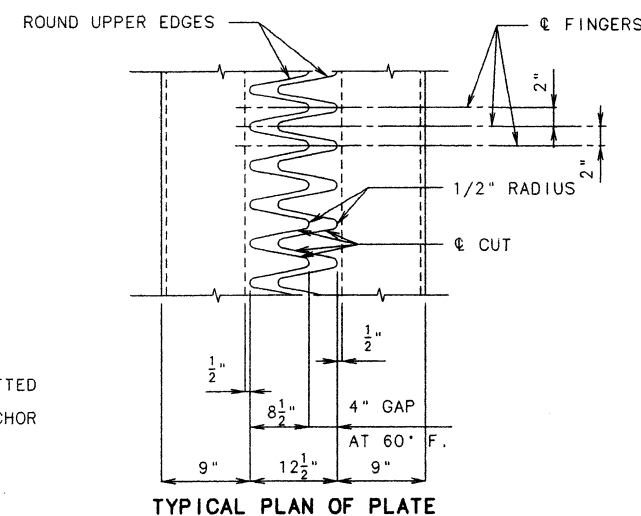
STRUCTURAL STEEL FOR THE EXPANSION DEVICE AND CURB PLATE SHALL BE COATED WITH A MINIMUM OF TWO COATS OF INORGANIC ZINC PRIMER (5 MILS MINIMUM) OR GALVANIZED IN ACCORDANCE WITH ASTM A123. ANCHORS NEED NOT BE PROTECTED FROM OVERSPRAY.

PAYMENT FOR FURNISHING, COATING OR GALVANIZING, AND INSTALLING STRUCTURAL STEEL FOR THE EXPANSION DEVICE WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EXPANSION DEVICE (FINGER PLATE) PER LIN. FT.

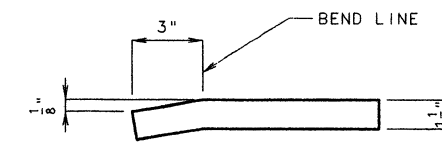
1-1/4" FINGER PLATE AND 4 x 6 x 3/4 SHALL BE BENT TO CONFORM TO CROWN OF ROADWAY.

LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS SHALL NOT BE MORE THAN 1"± FROM 3/4" VERTICAL PLATE AT EXPANSION DEVICE.

MATERIAL FOR THE EXPANSION DEVICE SHALL BE ASTM A709 GRADE 36 STRUCTURAL STEEL. ANCHORS FOR THE EXPANSION DEVICE SHALL BE APPROVED STUD WELDED ANCHORS (C1010 THRU C1020).



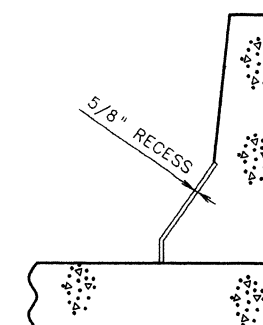
FINGER DETAIL



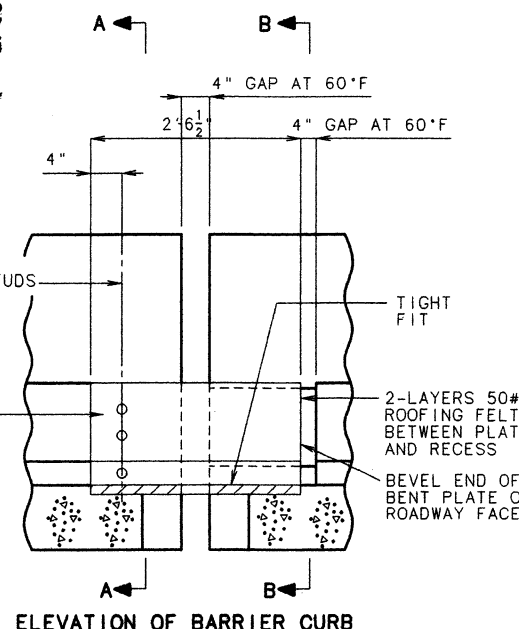
OPTIONAL FINGER DETAIL

**FINAL PLANS**  
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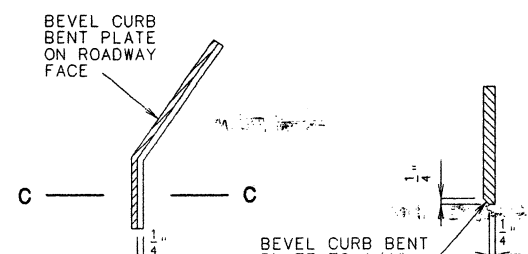
Signature: *[Signature]* Date: 5-1-98



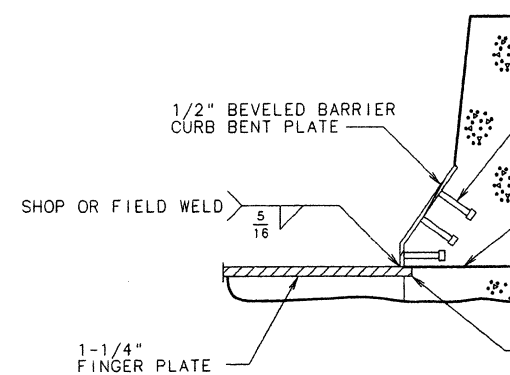
PART SECTION B-B



ELEVATION OF BARRIER CURB



PART ELEVATION AT END OF BEVELED CURB BENT PLATE

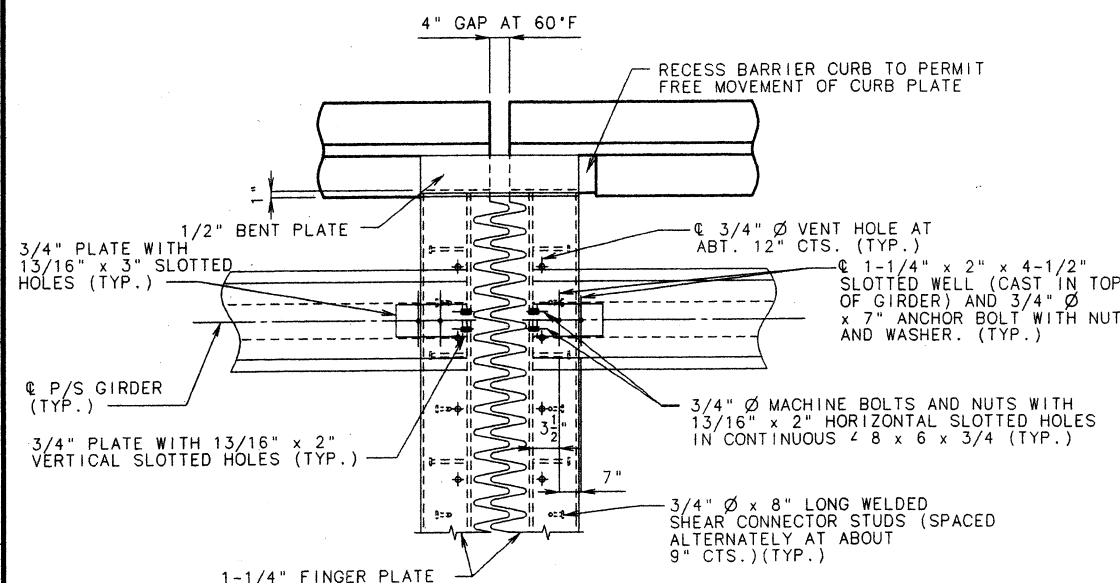


PART SECTION A-A

APPLY PROTECTIVE COATING TO EXPOSED CONCRETE SURFACE. (SEE SPECIAL PROVISIONS)

## PART SECTION THRU EXPANSION DEVICE

NOTE: CONCRETE SHALL BE FORCED UNDER AND AROUND FINGER PLATE SUPPORTING HARDWARE, STUDS, ANGLES AND BARS. PROPER CONSOLIDATION OF THE CONCRETE SHALL BE ACHIEVED BY LOCALIZED INTERNAL VIBRATION.



PART PLAN OF EXPANSION DEVICE

## DETAILS OF FINGER PLATE EXPANSION DEVICE AT INT. BENTS NO. 5 & 11

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

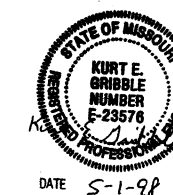
SHEET NO. 65 OF 93.

JACKSON COUNTY

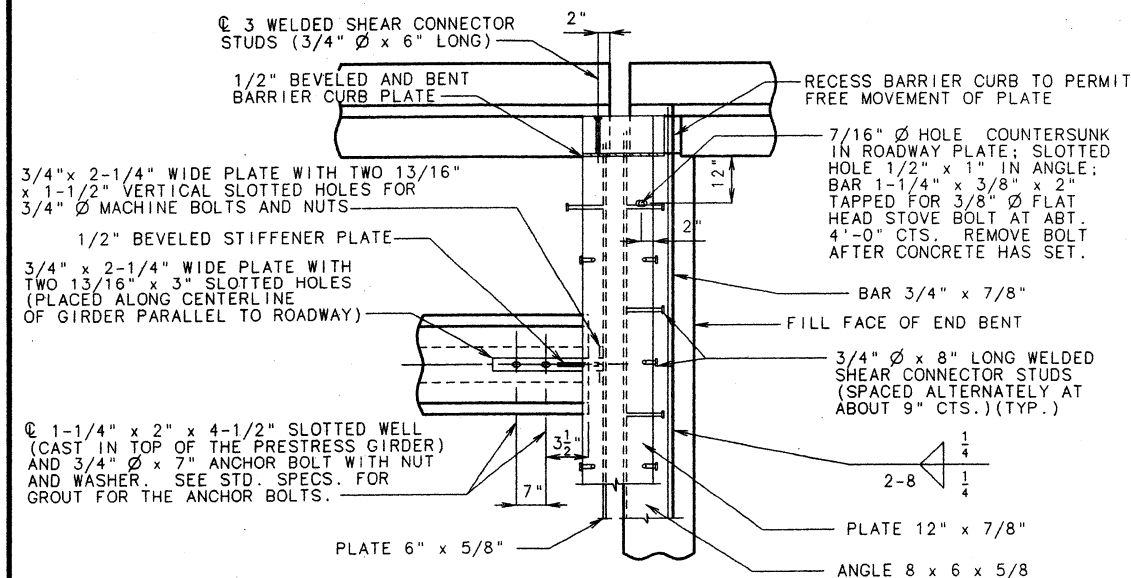
A5495

FIN 27, SQ, P/S, I, D  
P/S INT BENT (SQ) REVISED  
JAN. 1992  
JAN. 1998  
CHECKED  
JAN. 1998  
MAR. 1998

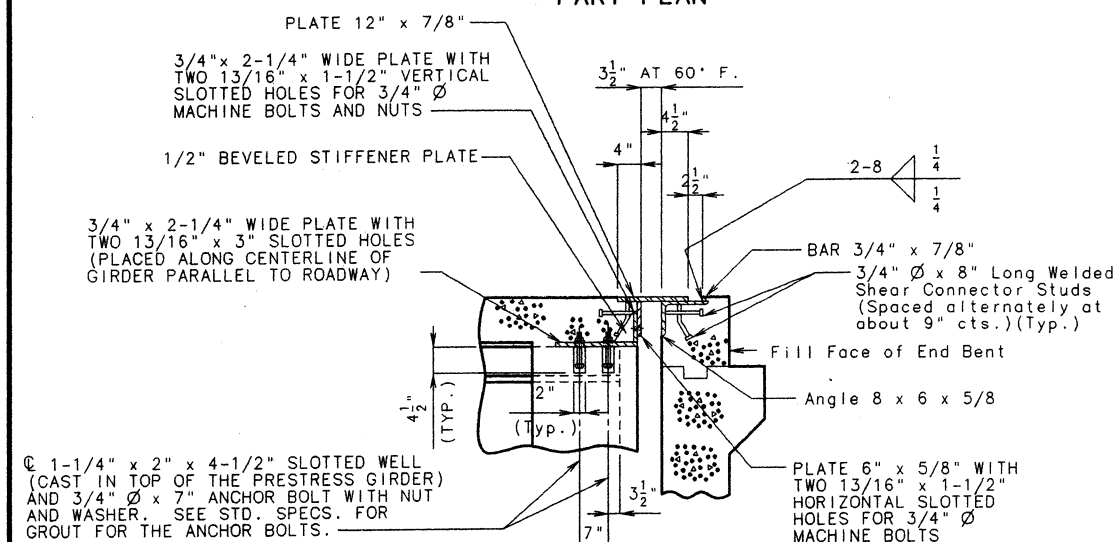
DETAILED JAN. 1998  
CHECKED MAR. 1998



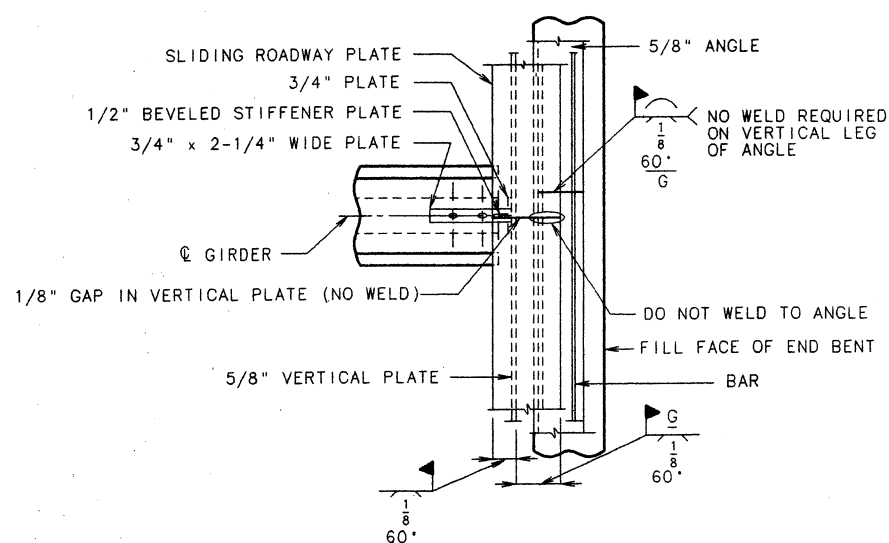
DATE 5-1-98



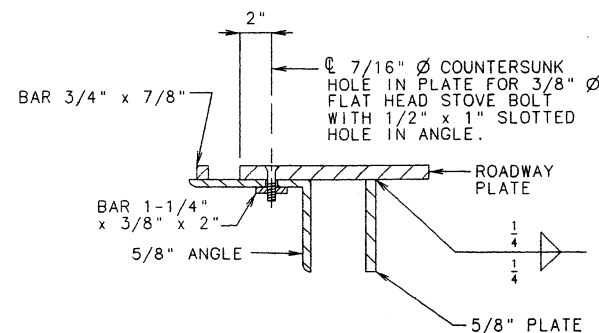
PART PLAN



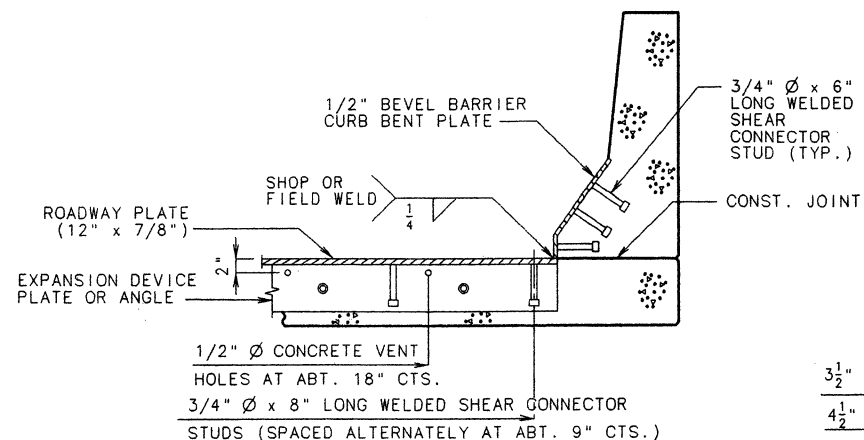
PART SECTION AT END BENT



PERMISSIBLE FIELD SPLICE AT END BENT



PART SECTION (TYPICAL)

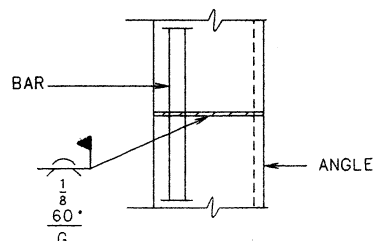


PART SECTION A-A

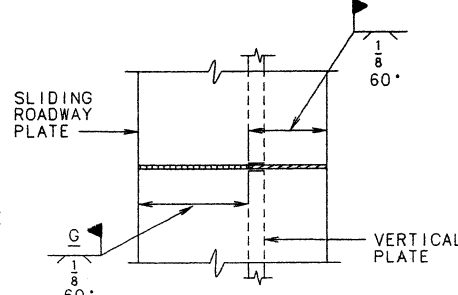


**FINAL PLANS**  
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*M. J. A. S. K.* 4-23-01  
Signature Date

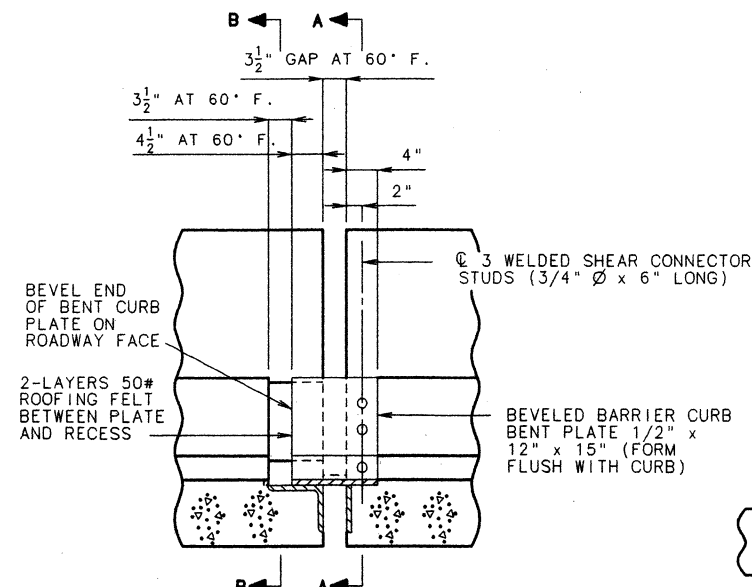


PART PLAN OF ANGLE AND BAR

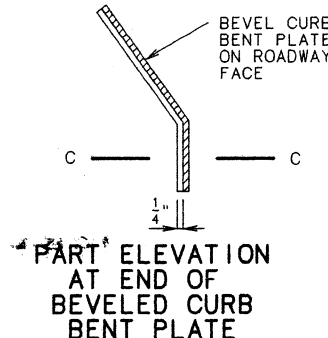


PART PLAN ROADWAY PLATE AND VERTICAL PLATE

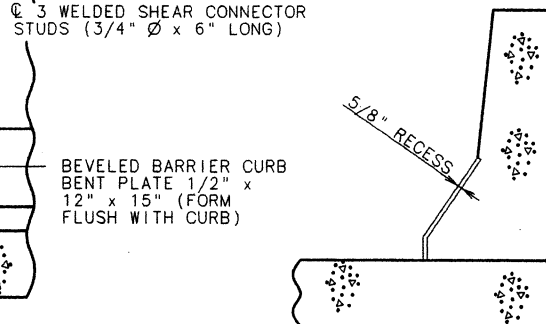
# DETAILS OF FLAT PLATE EXPANSION DEVICE AT END BENT NO. 17



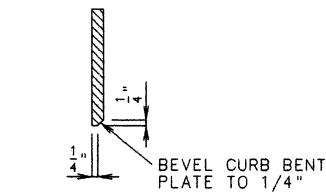
ELEVATION OF BARRIER CURB



PART ELEVATION AT END OF BEVELED CURB BENT PLATE



PART SECTION B-B



SECTION C-C

## GENERAL NOTES:

EXPANSION DEVICE SHALL BE FABRICATED IN ONE SECTION, EXCEPT FOR STAGE CONSTRUCTION AND WHEN THE LENGTH IS OVER 50 FEET, SPlicing IS PERMISSIBLE. THE EXPANSION DEVICE SHALL BE BENT TO CONFORM TO CROWN OF ROADWAY.

MATERIAL FOR THE EXPANSION DEVICE SHALL BE ASTM A709 GRADE 36 STRUCTURAL STEEL. ANCHORS FOR THE EXPANSION DEVICE SHALL BE APPROVED STUD-WELDED ANCHORS (C1010 THRU C1020).

STRUCTURAL STEEL FOR THE EXPANSION DEVICE 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.

USE 2 LAYERS OF 50# ROOFING FELT BETWEEN THE SLIDING CONTACT SURFACES OF BEVELED BARRIER CURB BENT PLATE AND CONCRETE BARRIER CURB.

PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F. THE EXPANSION GAP AND OTHER DIMENSIONS SHALL BE INCREASED 1/4" FOR EACH 10° FALL AND DECREASED 1/4" FOR EACH 10° RISE IN TEMPERATURE AT INSTALLATION.

FURNISHING, COATING OR GALVANIZING AND INSTALLING THE EXPANSION DEVICE AND BARRIER CURB PLATES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR FLAT PLATE EXPANSION DEVICE.

CONCRETE SHALL BE FORCED UNDER AND AROUND FLAT PLATE, STUDS AND ANGLES. PROPER CONSOLIDATION OF THE CONCRETE SHALL BE ACHIEVED BY LOCALIZED INTERNAL VIBRATION.

LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS SHALL NOT BE MORE THAN 1"± FROM 3/4" VERTICAL PLATE AT EXPANSION DEVICE.



DATE 5-1-98

Detailed JAN. 1998  
Checked MAR. 1998

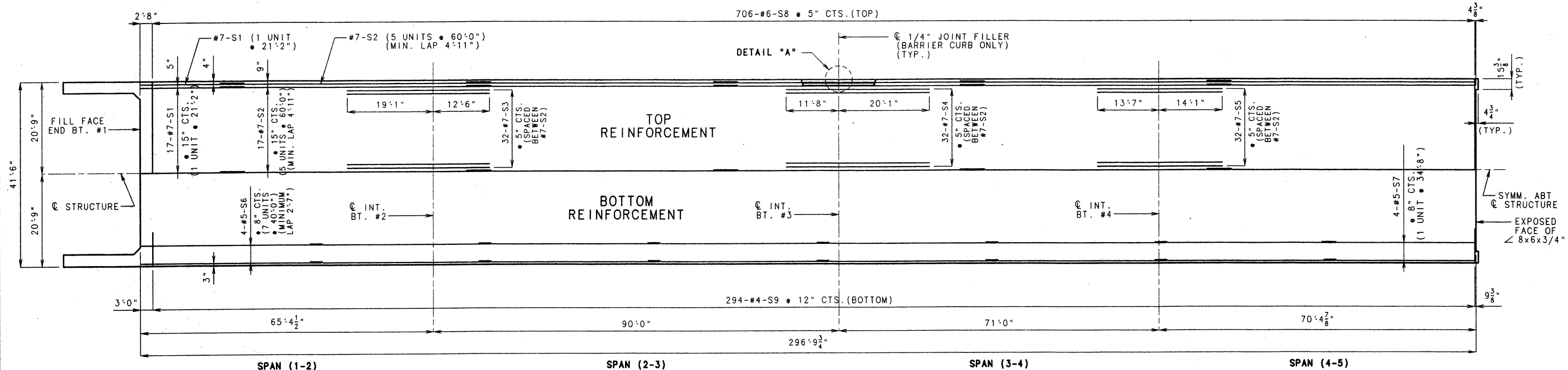
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 66 OF 93.

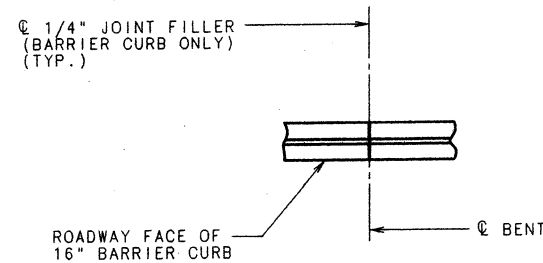
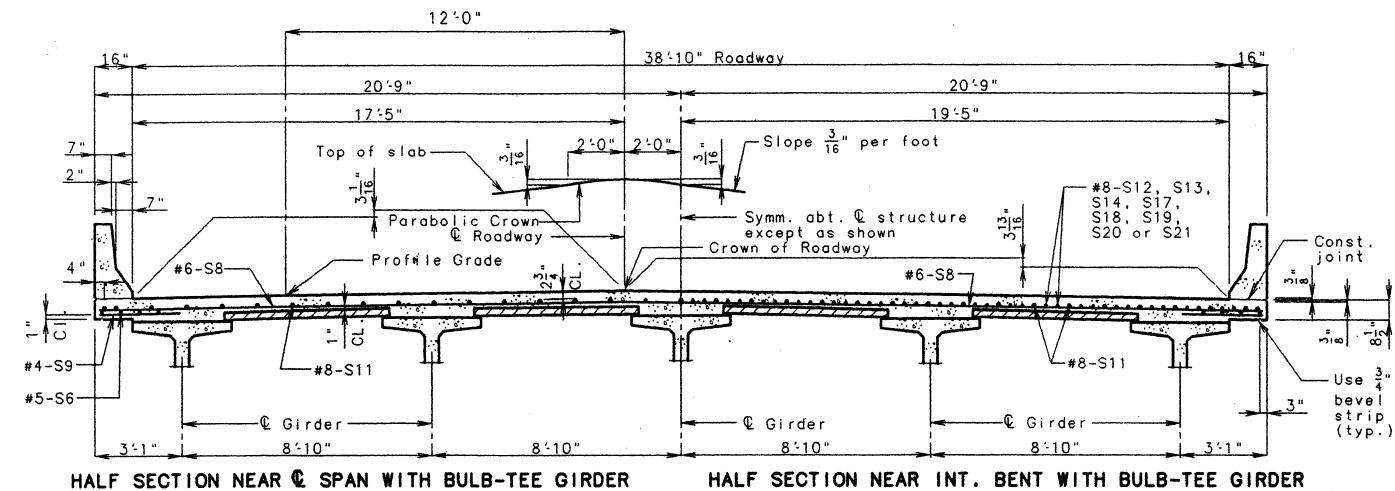
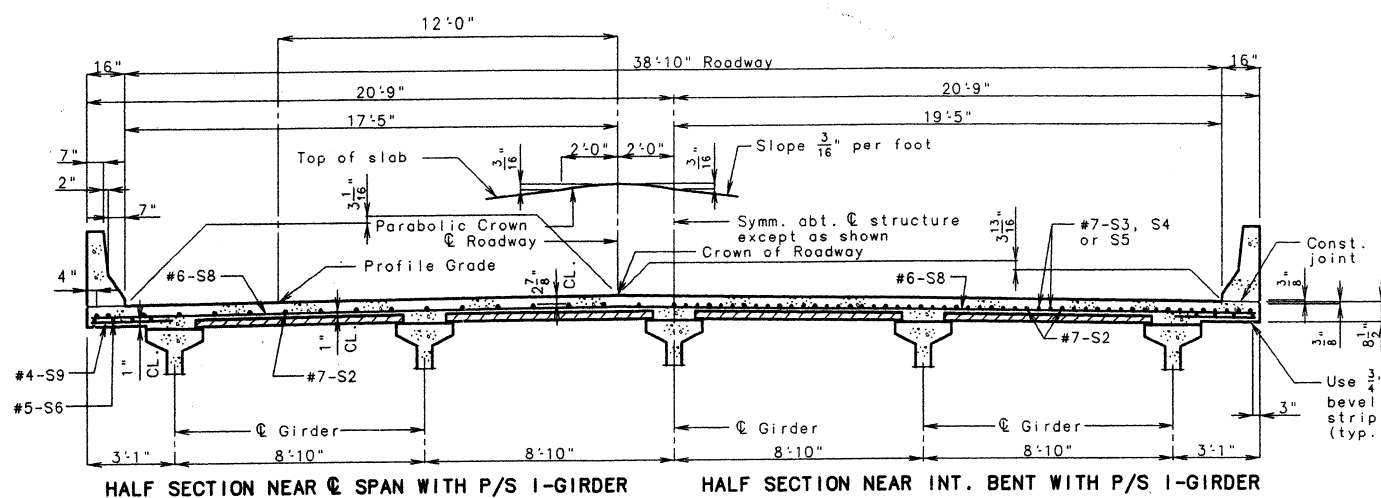
JACKSON COUNTY

A5495





PART PLAN OF SLAB SHOWING REINFORCEMENT



DETAIL "A"

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. J. A. S. A.* Date: 4-23-01



NOTE:  
LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS SHALL NOT BE MORE THAN 1" FROM 3/4" VERTICAL PLATE AT EXPANSION DEVICE.

LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL.

FOR DETAILS OF SLAB DRAINS, SEE SHEET NO. 75.

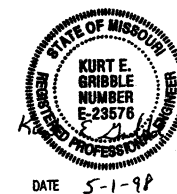
FOR DETAILS AND REINFORCEMENT OF SAFETY BARRIER CURB, SEE SHEETS NO. 78, 79 & 80.

FOR DETAILS OF FINGER PLATE EXPANSION DEVICE, SEE SHEET NO. 65.

FOR SLAB POURING SEQUENCE, SEE SHEET NO. 71.

FOR THEORETICAL SLAB HAUNCHING DIAGRAM, SEE SHEET NO. 72.

FOR DETAILS OF FLAT PLATE EXPANSION DEVICE, SEE SHEET NO. 66.



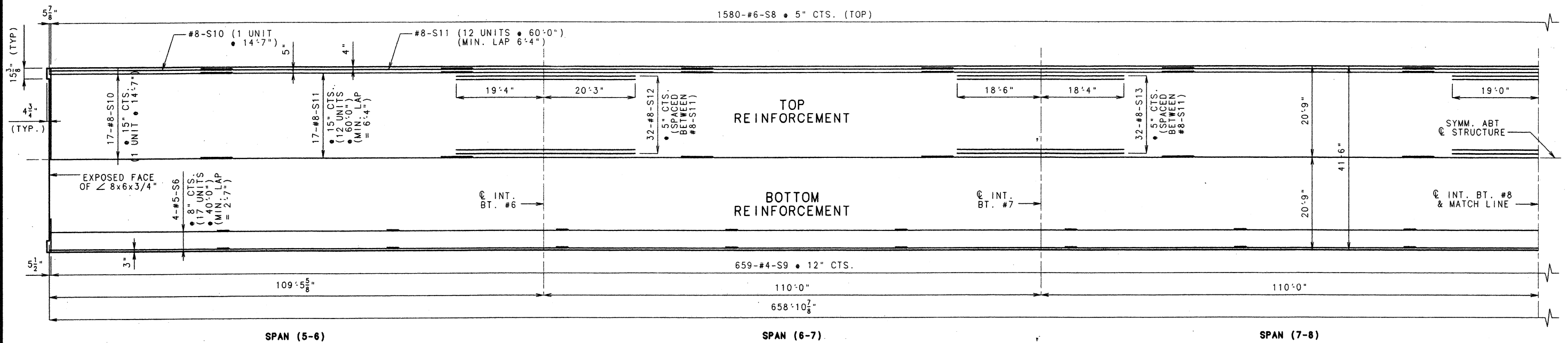
DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

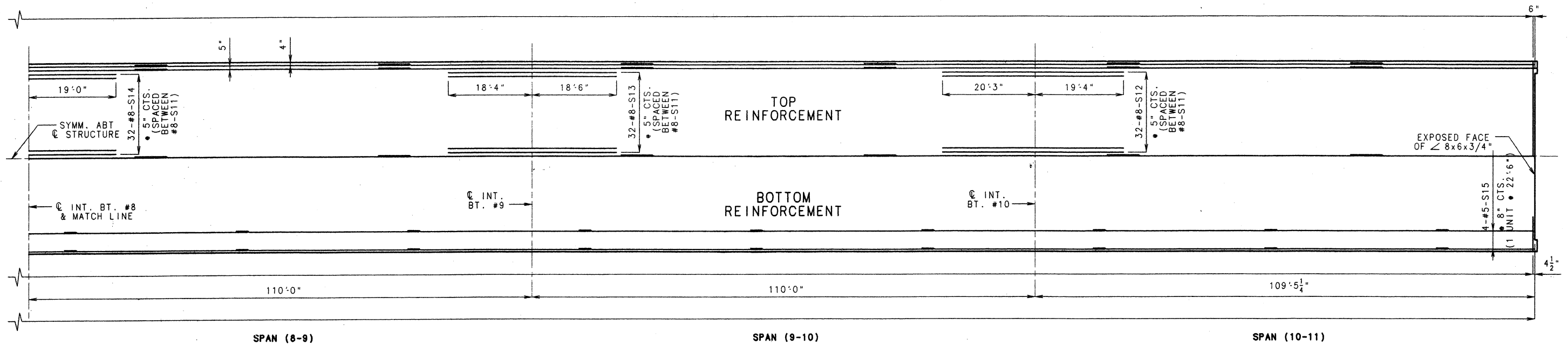
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 67 OF 93.

JACKSON COUNTY A5495



NOTE: LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL



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# PART PLAN OF SLAB SHOWING REINFORCEMENT

FOR SECTION VIEW SEE SHEET NO. 67.

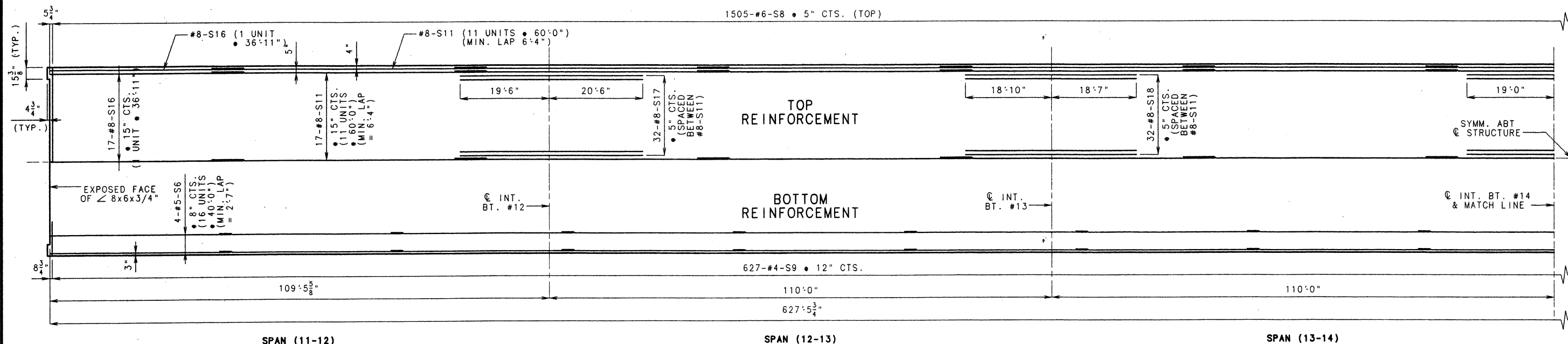


DETAILED JAN. 1998  
 CHECKED MAR. 1998

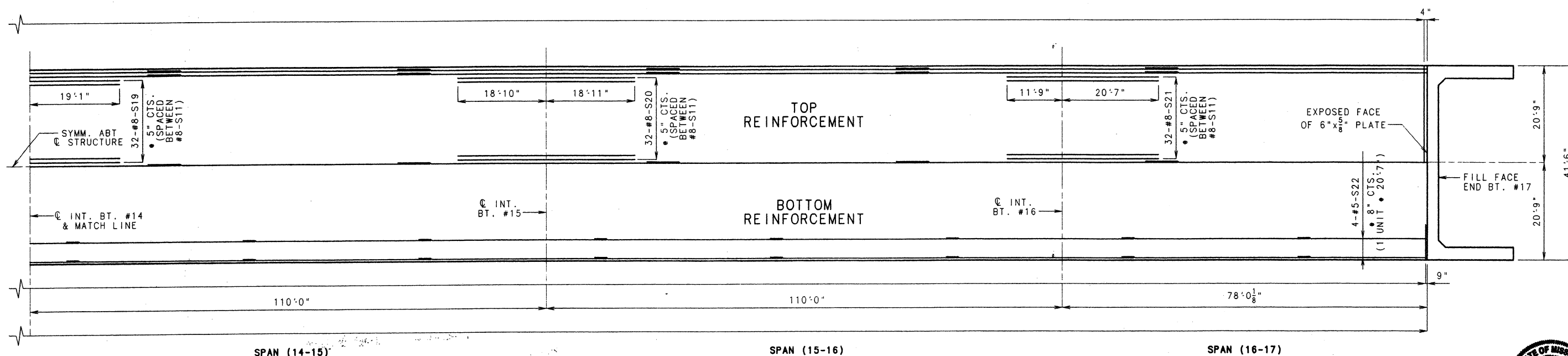
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 68 OF 93.

JACKSON COUNTY A5495



NOTE: LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL



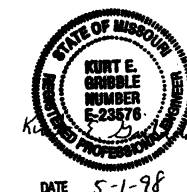
**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. J. A. S. H.*  
Signature Date 4-23-98



# PART PLAN OF SLAB SHOWING REINFORCEMENT

FOR SECTION VIEW, SEE SHEET NO. 67.



DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 69 OF 93.

JACKSON COUNTY A5495



# GENERAL NOTES:

## PRESTRESSED PANELS:

CONCRETE FOR PRESTRESSED PANELS SHALL BE CLASS A1 WITH  $F'c = 5,000$  PSI,  $F'ci = 3,500$  PSI.

THE TOP SURFACE OF ALL PANELS SHALL RECEIVE A SCORED FINISH WITH A DEPTH OF SCORING OF 1/8 INCH PERPENDICULAR TO THE PRESTRESSING STRANDS IN THE PANELS (SEE SPECIAL PROVISIONS).

PRESTRESSING TENDONS SHALL BE HIGH-TENSILE STRENGTH UNCOATED SEVEN WIRE (7), LOW-RELAXATION STRANDS FOR PRESTRESSED CONCRETE CONFORMING TO AASHTO M203, EXCEPT THAT NOMINAL DIAMETER OF STRAND = 3/8 INCH AND NOMINAL AREA = 0.085 SQ. IN. AND MINIMUM ULTIMATE STRENGTH = 21.25 KIPS (250 KSI). LARGER STRANDS MAY BE USED WITH THE SAME SPACING AND INITIAL TENSION.

INITIAL PRESTRESSING FORCE = 14.9 KIPS/STRAND.

THE METHOD AND SEQUENCE OF RELEASING THE STRANDS SHALL BE SHOWN ON THE SHOP DRAWINGS.

SUITABLE ANCHORAGE DEVICES FOR LIFTING PANELS MAY BE CAST IN PANELS, PROVIDED THEY ARE SHOWN ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER. PANEL LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR AND SHOWN ON THE SHOP DRAWINGS.

WHEN SQUARE END PANELS ARE USED AT SKEWED BENTS, IT IS REQUIRED THAT THE SKEWED PORTION BE CAST FULL DEPTH. NO SEPARATE PAYMENT WILL BE MADE FOR THE ADDITIONAL CONCRETE AND REINFORCING REQUIRED.

SUPPORT FROM DIAPHRAGM FORMS IS REQUIRED UNDER THE OPTIONAL SKEWED END UNTIL CAST-IN-PLACE CONCRETE HAS REACHED 3,000 PSI COMPRESSIVE STRENGTH.

MINIMUM JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL THICKNESS SHALL BE 3/4 INCH. THICKER JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL MAY BE USED ON ONE OR BOTH SIDES OF THE GIRDER TO REDUCE CAST-IN-PLACE CONCRETE THICKNESS, WITHIN TOLERANCES. NO MORE THAN 2 INCHES TOTAL THICKNESS OF JOINT FILLER OR POLYSTYRENE BEDDING MATERIAL SHALL BE USED.

THE SAME THICKNESS OF JOINT FILLER MATERIAL SHALL BE USED UNDER ANY ONE EDGE OF ANY PANEL EXCEPT AT LOCATIONS WHERE TOP FLANGE THICKNESS MAY BE STEPPED. THE MAXIMUM CHANGE IN THICKNESS BETWEEN ADJACENT PANELS SHALL BE 1/4 INCH. THE POLYSTYRENE BEDDING MATERIALS MAY BE CUT TO MATCH HAUNCH HEIGHT ABOVE TOP OF FLANGE.

SLAB THICKNESS OVER PRESTRESSED PANELS VARIES DUE TO GIRDER CAMBER.

AT THE CONTRACTOR'S OPTION, THE VARIATION IN SLAB THICKNESS OVER PRESTRESSED PANELS MAY BE ELIMINATED OR REDUCED BY INCREASING AND VARYING THE GIRDER TOP FLANGE THICKNESS. DIMENSIONS SHALL BE SHOWN ON THE SHOP DRAWINGS.

## REINFORCING STEEL:

ALL DIMENSIONS ARE OUT TO OUT.

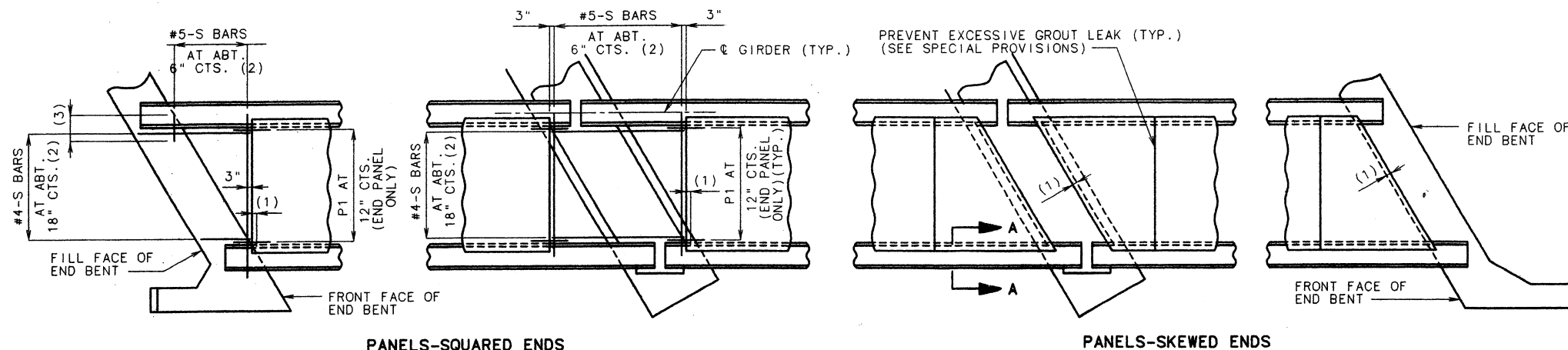
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2 INCH, UNLESS OTHERWISE SHOWN.

HOOKE AND BENDS SHALL BE IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, STIRRUP AND TIE DIMENSIONS.

ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE OF BAR TO THE NEAREST INCH.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER OR SLAB ON BULB-TEE GIRDER.

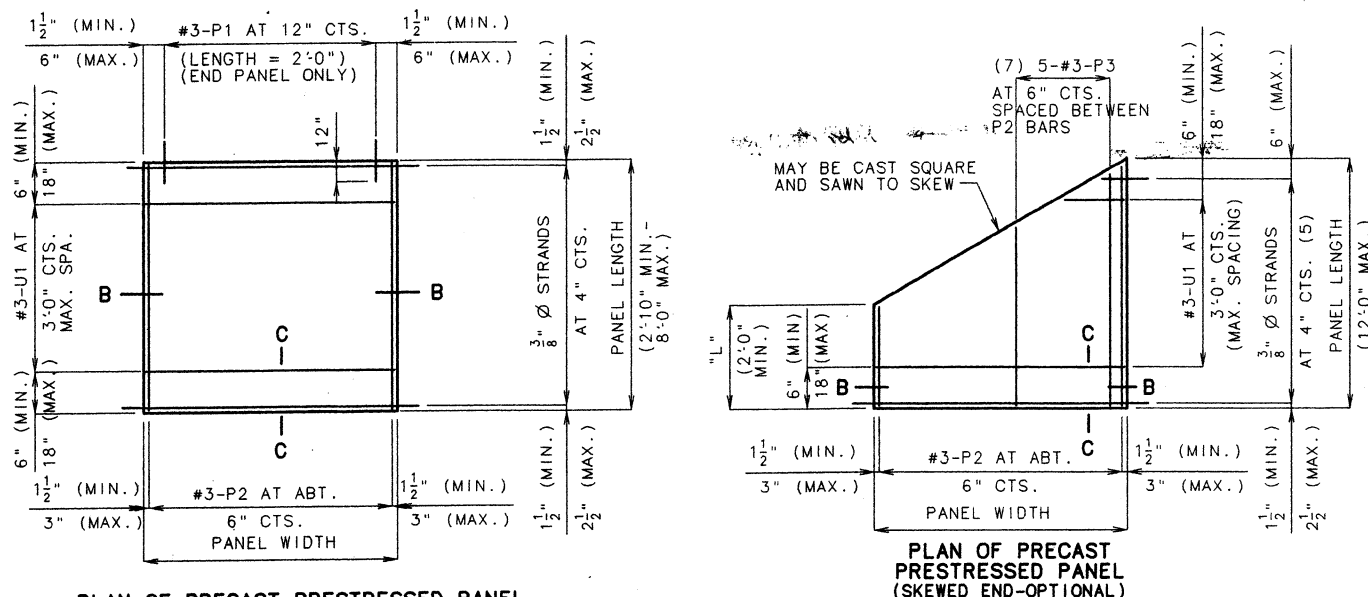
IF U1 BARS INTERFERE WITH PLACEMENT OF SLAB STEEL, U1 LOOPS MAY BE BENT OVER, AS NECESSARY, TO CLEAR SLAB STEEL.



PANELS-SQUARED ENDS

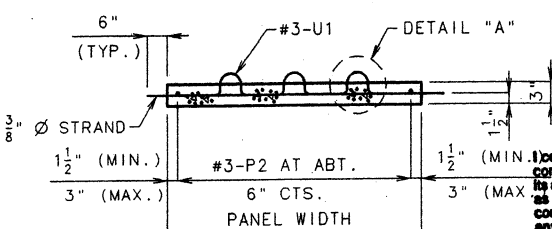
PANELS-SKEWED ENDS

## PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT

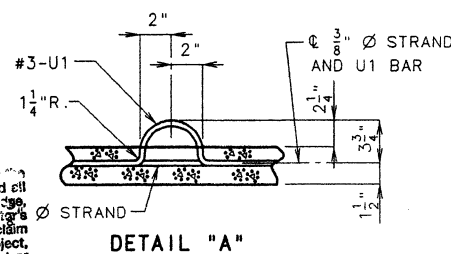


PLAN OF PRECAST PRESTRESSED PANEL

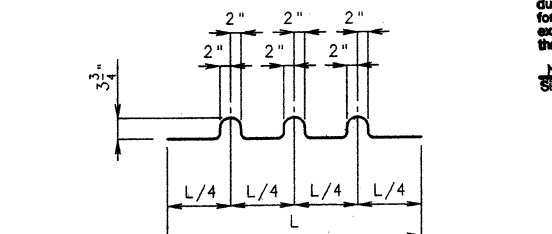
PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)



SECTION B-B



DETAIL "A"



BENDING DIAGRAM FOR U1 BAR

(U1 BARS MAY BE ORIENTED AT RIGHT ANGLES TO LOCATION AND SPACING SHOWN. U1 BARS SHALL BE PLACED BETWEEN P1 BARS)

SECTION C-C

1/2" x 45° CHAMFER ONE OR BOTH SIDES (OPTIONAL)

## NOTES:

WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS PROVIDING A MINIMUM AREA OF REINFORCING PERPENDICULAR TO STRANDS OF 0.22 SQ. IN./FT., WITH SPACING PARALLEL TO STRANDS SUFFICIENT TO INSURE PROPER HANDLING, MAY BE USED IN LIEU OF THE #3-P2 BARS SHOWN. WIRE OR BAR DIAMETER SHALL NOT BE LARGER THAN 0.375 INCHES. THE ABOVE ALTERNATIVE REINFORCEMENT CRITERIA MAY BE USED IN LIEU OF THE #3-P3 BARS, WHEN REQUIRED, AND PLACED OVER A WIDTH NOT LESS THAN 2 FT.

THE REINFORCING STEEL SHALL BE TIED SECURELY TO THE 3/8"Ø STRANDS WITH THE FOLLOWING MAXIMUM SPACING IN EACH DIRECTION: #3-P2 BARS AT 16 INCHES. WELDED WIRE FABRIC OR WELDED DEFORMED BAR MATS AT 24 INCHES.

TIE THE #3-U1 BARS TO THE #3-P2 BARS, TO THE WELDED WIRE FABRIC OR THE WELDED DEFORMED BAR MATS AT ABOUT 36 INCH CENTERS.

ALL REINFORCEMENT OTHER THAN PRESTRESSING STRANDS SHALL BE EPOXY COATED.

PRECAST PANELS MAY BE IN CONTACT WITH STIRRUP REINFORCING IN DIAPHRAGMS.

COST OF S-BARS SHALL BE INCLUDED IN PRICE BID FOR SLAB ON CONCRETE I-GIRDER AND SLAB ON BULB-TEE GIRDER PER SQUARE YARD.

S-BARS ARE NOT LISTED IN BILL OF REINFORCING.

(1) END PANELS SHALL BE DIMENSIONED 1" MIN. TO 1-1/2" MAX. FROM THE INSIDE FACE OF DIAPHRAGM.

(2) S-BARS SHOWN ARE BOTTOM STEEL IN SLAB BETWEEN PANELS AND USED WITH SQUARED END PANELS ONLY.

(3) EXTEND S-BARS 18 INCHES BEYOND THE FRONT FACE OF END BENTS ONLY.

(4) IN ORDER TO MAINTAIN MINIMUM SLAB THICKNESS, IT MAY BE NECESSARY TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR NECESSARY GRADE ADJUSTMENT.

(5) ANY STRAND 2'-0" OR SHORTER SHALL HAVE A #4 REINFORCING BAR ON EACH SIDE OF IT CENTERED BETWEEN STRANDS. STRANDS 2'-0" OR SHORTER MAY THEN BE DEBONDED AT THE FABRICATORS OPTION.

(6) ALL PANEL SUPPORT PADS SHALL BE GLUED TO THE GIRDER. WHEN SUPPORT THICKNESS EXCEEDS 1-1/2", THE PADS SHALL BE GLUED TOP AND BOTTOM. THE GLUE USED SHALL BE THE TYPE RECOMMENDED BY THE PANEL SUPPORT PADS MANUFACTURER.

(7) USE #3-P3 BARS IF PANEL IS SKEWED 45° OR GREATER.

## DETAILS OF PRECAST PRESTRESSED PANELS

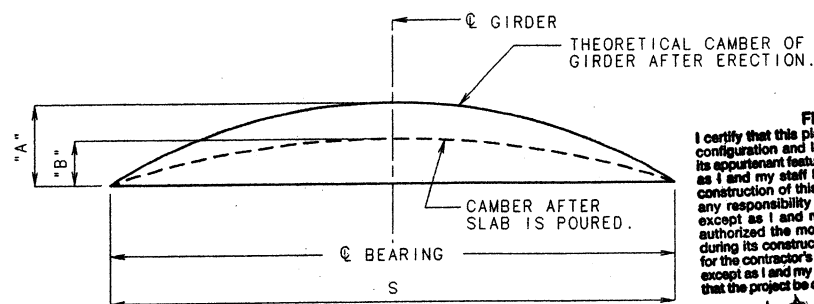
SHEET NO. 70 OF 93.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

JACKSON COUNTY

A5495

GIRDERS	SPAN (1-2)		SPAN (2-3)		SPANS (3-4) & (4-5)		SPAN (5-6)		SPANS (6-7), (7-8), (8-9) & (9-10)		SPANS (10-11), (11-12)		SPANS (12-13), (13-14), (14-15) & (15-16)		SPAN (16-17)	
	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"
Exterior	$\frac{7}{8}$ "	$\frac{5}{8}$ "	$2\frac{1}{4}$ "	$1\frac{3}{16}$ "	$1\frac{1}{8}$ "	$\frac{3}{4}$ "	$2\frac{9}{16}$ "	$1\frac{5}{8}$ "	$2\frac{5}{16}$ "	$1\frac{3}{8}$ "	$2\frac{9}{16}$ "	$1\frac{5}{8}$ "	$2\frac{5}{16}$ "	$1\frac{3}{8}$ "	$\frac{3}{4}$ "	$\frac{1}{2}$ "
Interior	$\frac{7}{8}$ "	$\frac{1}{2}$ "	$2\frac{1}{4}$ "	$\frac{7}{8}$ "	$1\frac{1}{8}$ "	$\frac{5}{8}$ "	$2\frac{9}{16}$ "	$1\frac{7}{16}$ "	$2\frac{5}{16}$ "	$1\frac{1}{8}$ "	$2\frac{9}{16}$ "	**	$2\frac{5}{16}$ "	$1\frac{1}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{16}$ "
Center	$\frac{7}{8}$ "	$\frac{9}{16}$ "	$2\frac{1}{4}$ "	1"	$1\frac{1}{8}$ "	$\frac{11}{16}$ "	$2\frac{9}{16}$ "	$1\frac{1}{2}$ "	$2\frac{5}{16}$ "	$1\frac{1}{4}$ "	$2\frac{9}{16}$ "	$1\frac{1}{2}$ "	$2\frac{5}{16}$ "	$1\frac{3}{16}$ "	$\frac{3}{4}$ "	$\frac{7}{16}$ "



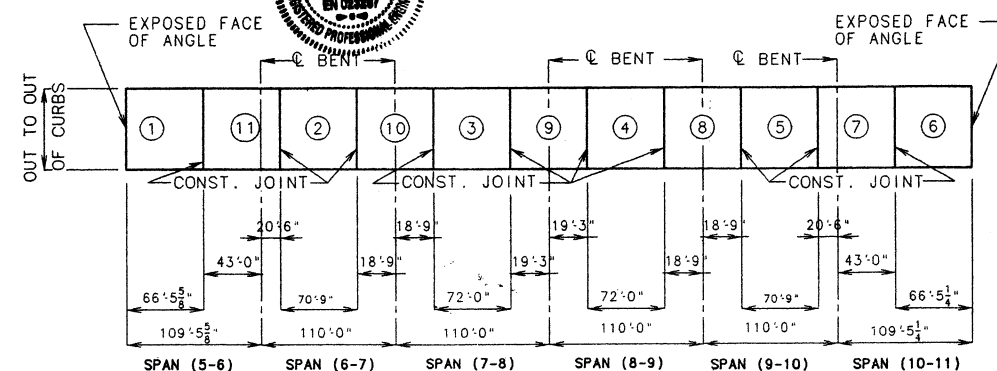
**FINAL PLANS**

I certify that this plan sheet accurately depicts the configuration and location of the roadway and its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor as I and my staff have modified or except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. J. Smith* 4-23-01

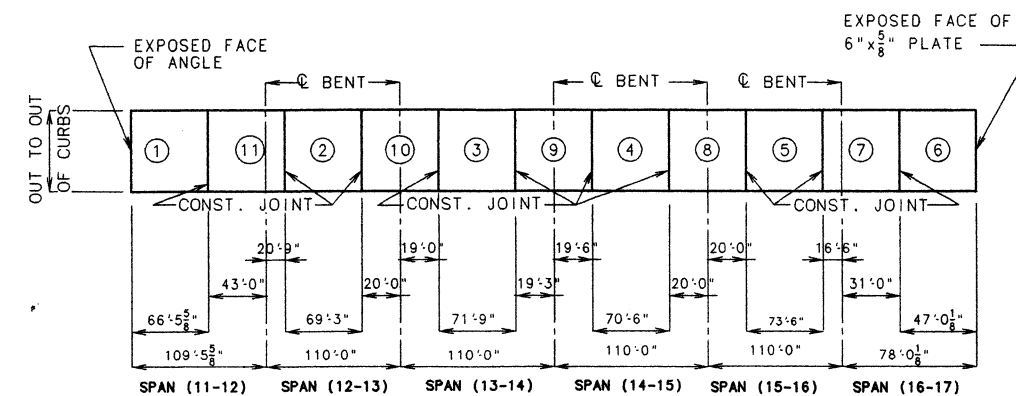
CONVERSION FACTORS FOR GIRDER CAMBER		
FROM © BEARING	CAMBER	
0.1 PT	0.314	x CAMBER AT © GIRDER
0.2 PT	0.593	x CAMBER AT © GIRDER
0.25 PT	0.7125	x CAMBER AT © GIRDER
0.3 PT	0.813	x CAMBER AT © GIRDER
0.4 PT	0.952	x CAMBER AT © GIRDER

### CONVERSION CAMBER DIAGRAM



NOTE: IF GIRDER CAMBER IS DIFFERENT FROM THAT SHOWN IN THE CAMBER DIAGRAM, IT SHALL BE NECESSARY TO ADJUST THE SLAB HAUNCHES, INCREASE THE SLAB THICKNESS OR TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR VARIATION IN HAUNCHING, SLAB THICKNESS OF GRADE ADJUSTMENT. CONCRETE IN THE SLAB HAUNCHES IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDERS OR SLAB ON BULB-TEE GIRDERS.

\*\*  $1\frac{7}{16}$ " SPAN (10-11)  
 $1\frac{3}{8}$ " SPAN (11-12)

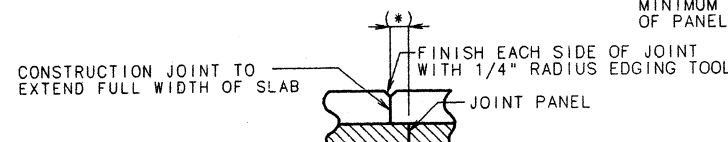


	SEQUENCE OF POURS							MIN. RATE OF POUR CU. YDS./HR.	
	DIRECTION								
BASIC SEQUENCE	1	2	3	4	5	6	7	WITH RETARDER	
	EITHER DIRECTION							25	
ALTERNATE POURS TO THE BASIC SKIP SEQUENCE ARE SUBJECT TO THE APPROVAL OF THE ENGINEER IN ACCORDANCE WITH SECTION 703.3.12.4 OF MISSOURI STANDARD SPECIFICATIONS.									
ALTERNATE "A" POURS	1	7 + 2	6 + 3	5 + 4					25
	END TO 7	1 TO 6	2 TO 5	3 TO END					
ALTERNATE "B" POURS	1 + 7 + 2	6 + 3	5 + 4					25	
	END TO 6	2 TO 5	3 TO END						
ALTERNATE "C" POURS	1 + 7 + 2	6 + 3 + 5 + 4					25		
	END TO 6	2 TO END							
ALTERNATE "D" POURS	1 + 7 + 2 + 6 + 3 + 5 + 4					25			
	END TO END								

### SLAB POURING SEQUENCE

SPANS (1-2), (2-3), (3-4) & (4-5)

(\*) ADJUST THE PERMISSIBLE CONSTRUCTION JOINT TO A CLEARANCE OF 6 INCHES MINIMUM FROM THE JOINTS OF PANELS.

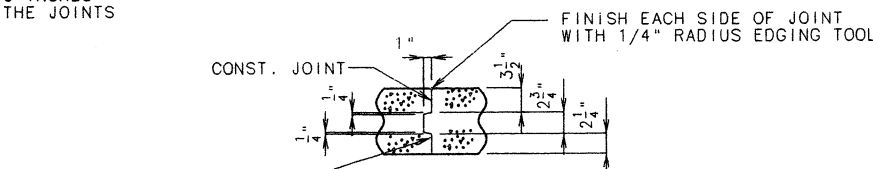


DETAIL OF CONST. JT. FOR SLAB ON P/S PANEL  
SECTION A-A

	SEQUENCE OF POURS											MIN. RATE OF POUR CU. YDS./HR.	
	DIRECTION												
BASIC SEQUENCE	1	2	3	4	5	6	7	8	9	10	11	25	
	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	11 + 2	10 + 3	9 + 4	8 + 5	7 + 6							27
ALTERNATE "B" POURS	END TO 11	1 TO 10	2 TO 9	3 TO 8	4 TO 7	5 TO END							27
ALTERNATE "C" POURS	1 + 11 + 2 + 10	3 + 9 + 4	8 + 5 + 7 + 6										27
ALTERNATE "D" POURS	END TO 3	10 TO 8				4 TO END							
	1 + 11 + 2 + 10 + 3 + 9	4 + 8 + 5 + 7 + 6											
ALTERNATE "E" POURS	END TO 4	9 TO END										27	
	1 + 11 + 2 + 10 + 3 + 9 + 4 + 8 + 5 + 7 + 6											27	
	END TO END												

### SLAB POURING SEQUENCE

SPANS (5-6), (6-7), (7-8), (8-9), (9-10) & (10-11)



KEY TO EXTEND FULL WIDTH OF SLAB CANTILEVER.  
DETAIL OF CONST. JT. FOR CAST-IN-PLACE SLAB  
SECTION B-B

### SLAB POURING SEQUENCE

SPANS (11-12), (12-13), (13-14), (14-15), (15-16) & (16-17)

NOTE: THE CONTRACTOR SHALL FURNISH AN APPROVED RETARDER TO RETARD THE SET OF THE CONCRETE TO 2.5 HOURS AND SHALL POUR AND SATISFACTORILY FINISH THE SLAB POURS AT THE RATE GIVEN.

THE CONCRETE DIAPHRAGM AT THE INTERMEDIATE BENTS AND INTEGRAL END BENT SHALL BE POURED A MINIMUM OF 30 MINUTES AND A MAXIMUM OF 2 HOURS BEFORE THE SLAB IS POURED.

END DIAPHRAGMS AT EXPANSION DEVICES MAY BE POURED WITH A CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND SLAB, OR MONOLITHIC WITH THE SLAB.







** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																											
	SPAN (1-2) (63'-4 $\frac{1}{2}$ " C BRG. - C BRG.)					SPAN (2-3) (88'-2" C BRG. - C BRG.)												SPAN (3-4) (69'-2" C BRG. - C BRG.)					SPAN (4-5) (69'-0 $\frac{1}{2}$ " C BRG. - C BRG.)				
	C BRG.	.25	.50	.75	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	.25	.50	.75	C BRG.	C BRG.	.25	.50	.75	C BRG.	
GIRDER NO. 1	898.79	898.88	898.97	899.04	899.10	899.11	899.18	899.24	899.31	899.36	899.41	899.45	899.48	899.50	899.52	899.54	899.55	899.66	899.75	899.83	899.89	899.89	900.00	900.10	900.17	900.23	
GIRDER NO. 2	898.93	899.03	899.11	899.18	899.24	899.25	899.32	899.40	899.46	899.52	899.57	899.61	899.64	899.66	899.67	899.68	899.69	899.80	899.90	899.97	900.03	900.03	900.15	900.24	900.32	900.37	
GIRDER NO. 3	899.00	899.10	899.19	899.26	899.31	899.32	899.40	899.47	899.53	899.59	899.64	899.68	899.71	899.73	899.74	899.75	899.76	899.88	899.97	900.04	900.10	900.11	900.22	900.32	900.39	900.45	
GIRDER NO. 4	898.87	898.96	899.05	899.12	899.18	899.18	899.26	899.33	899.40	899.46	899.51	899.55	899.57	899.59	899.61	899.61	899.62	899.74	899.84	899.91	899.96	899.97	900.08	900.18	900.25	900.31	
GIRDER NO. 5	898.73	898.82	898.91	898.98	899.04	899.04	899.11	899.18	899.24	899.30	899.35	899.39	899.42	899.44	899.46	899.48	899.49	899.59	899.69	899.76	899.82	899.83	899.94	900.03	900.11	900.17	

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M.L.A. Stal Date 4-23-01



** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (5-6) (107'8 $\frac{3}{4}$ " C BRG. - C BRG.)											SPAN (6-7) (108'2" C BRG. - C BRG.)											SPAN (7-8) (108'2" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	900.24	900.32	900.39	900.46	900.53	900.58	900.63	900.67	900.71	900.74	900.77	900.78	900.86	900.93	901.00	901.06	901.12	901.17	901.21	901.25	901.28	901.31	901.32	901.39	901.47	901.54	901.60	901.66	901.71	901.75	901.79	901.82	901.85
GIRDER NO. 2	900.38	900.47	900.54	900.62	900.68	900.74	900.79	900.83	900.86	900.89	900.91	900.92	901.00	901.08	901.15	901.22	901.28	901.33	901.37	901.40	901.42	901.45	901.46	901.54	901.62	901.69	901.76	901.82	901.86	901.90	901.94	901.96	901.99
GIRDER NO. 3	900.46	900.54	900.62	900.69	900.75	900.81	900.86	900.90	900.93	900.96	900.99	900.99	901.08	901.15	901.23	901.29	901.35	901.40	901.44	901.47	901.50	901.52	901.53	901.61	901.69	901.76	901.83	901.89	901.93	901.98	902.01	902.04	902.06
GIRDER NO. 4	900.32	900.40	900.48	900.56	900.62	900.68	900.73	900.77	900.80	900.82	900.85	900.86	900.94	901.02	901.09	901.16	901.22	901.26	901.30	901.34	901.36	901.38	901.39	901.48	901.56	901.63	901.70	901.75	901.80	901.84	901.87	901.90	901.92
GIRDER NO. 5	900.18	900.26	900.33	900.40	900.46	900.52	900.57	900.61	900.65	900.68	900.71	900.72	900.79	900.87	900.94	901.00	901.06	901.11	901.15	901.19	901.22	901.25	901.26	901.33	901.41	901.48	901.54	901.60	901.64	901.69	901.72	901.76	901.78

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (8-9) (108'-2" C BRG. - C BRG.)											SPAN (9-10) (108'-2" C BRG. - C BRG.)											SPAN (10-11) (107'-8 <sup>3</sup> / <sub>4</sub> " C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	901.86	901.93	902.01	902.08	902.14	902.20	902.25	902.29	902.32	902.36	902.39	902.39	902.47	902.54	902.61	902.68	902.73	902.78	902.83	902.86	902.89	902.92	902.93	903.01	903.08	903.15	903.21	903.27	903.32	903.36	903.40	903.43	903.46
GIRDER NO. 2	901.99	902.08	902.16	902.23	902.30	902.35	902.40	902.44	902.47	902.50	902.52	902.53	902.62	902.69	902.77	902.83	902.89	902.94	902.98	903.01	903.04	903.06	903.07	903.15	903.23	903.31	903.37	903.43	903.48	903.52	903.55	903.57	903.60
GIRDER NO. 3	902.07	902.15	902.23	902.30	902.37	902.42	902.47	902.51	902.55	902.57	902.60	902.61	902.69	902.77	902.84	902.90	902.96	903.01	903.05	903.08	903.11	903.14	903.15	903.25	903.33	903.40	903.47	903.53	903.57	903.61	903.65	903.68	903.70
GIRDER NO. 4	901.93	902.01	902.09	902.17	902.23	902.29	902.34	902.38	902.41	902.44	902.46	902.47	902.55	902.63	902.71	902.77	902.83	902.88	902.92	902.95	902.98	903.00	903.01	903.09	903.17	903.24	903.31	903.37	903.41	903.45	903.49	903.51	903.53
GIRDER NO. 5	901.79	901.87	901.94	902.01	902.08	902.13	902.18	902.23	902.26	902.29	902.32	902.33	902.41	902.48	902.55	902.61	902.67	902.72	902.76	902.80	902.83	902.86	902.87	902.95	903.02	903.09	903.15	903.21	903.26	903.30	903.34	903.37	903.40

\*\* Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of Slab (including Precast Panel) and Barrier Curb.

NOTE: FOR TYPICAL SLAB ELEVATION DIAGRAM, SEE SHEET NO. 74.

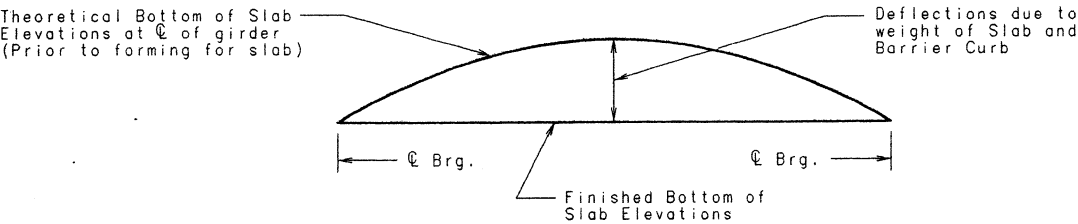


DATE 5-1-98

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (11-12) (107'8 $\frac{3}{4}$ " C BRG. - C BRG.)											SPAN (12-13) (108'2" C BRG. - C BRG.)											SPAN (13-14) (108'2" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	903.47	903.55	903.62	903.69	903.75	903.81	903.86	903.90	903.94	903.97	904.00	904.01	904.08	904.16	904.23	904.29	904.35	904.40	904.44	904.48	904.51	904.54	904.55	904.62	904.70	904.77	904.83	904.89	904.93	904.98	905.01	905.05	905.07
GIRDER NO. 2	903.61	903.69	903.77	903.85	903.91	903.97	904.02	904.06	904.09	904.11	904.14	904.15	904.23	904.31	904.38	904.45	904.51	904.55	904.59	904.63	904.65	904.67	904.68	904.77	904.85	904.92	904.99	905.04	905.09	905.13	905.16	905.19	905.21
GIRDER NO. 3	903.69	903.77	903.85	903.92	903.98	904.04	904.09	904.13	904.16	904.19	904.21	904.22	904.30	904.38	904.45	904.52	904.58	904.62	904.67	904.70	904.73	904.75	904.76	904.84	904.92	904.99	905.06	905.11	905.16	905.20	905.24	905.26	905.29
GIRDER NO. 4	903.55	903.63	903.71	903.78	903.85	903.91	903.95	903.99	904.03	904.05	904.07	904.08	904.17	904.25	904.32	904.39	904.44	904.49	904.53	904.56	904.59	904.61	904.62	904.70	904.78	904.86	904.92	904.98	905.03	905.07	905.10	905.13	905.15
GIRDER NO. 5	903.41	903.49	903.56	903.63	903.69	903.75	903.80	903.84	903.88	903.91	903.94	903.95	904.02	904.10	904.17	904.23	904.29	904.33	904.38	904.41	904.45	904.47	904.48	904.56	904.63	904.70	904.77	904.82	904.87	904.91	904.95	904.98	905.01

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (14-15) (108'-2" C BRG. - C BRG.)											SPAN (15-16) (108'-2" C BRG. - C BRG.)											SPAN (16-17) (76'-1 1/2" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	905.08	905.16	905.23	905.30	905.37	905.42	905.47	905.52	905.55	905.58	905.61	905.62	905.70	905.77	905.84	905.90	905.96	906.01	906.05	906.09	906.12	906.15	906.16	906.20	906.25	906.29	906.33	906.37	906.40	906.44	906.47	906.50	906.53
GIRDER NO. 2	905.22	905.30	905.38	905.46	905.52	905.58	905.63	905.67	905.70	905.73	905.75	905.76	905.84	905.92	906.00	906.06	906.12	906.17	906.21	906.24	906.27	906.29	906.30	906.34	906.39	906.43	906.47	906.51	906.55	906.58	906.61	906.64	906.67
GIRDER NO. 3	905.30	905.38	905.46	905.53	905.59	905.65	905.70	905.74	905.77	905.80	905.83	905.84	905.92	905.99	906.07	906.13	906.19	906.24	906.28	906.31	906.34	906.36	906.37	906.42	906.46	906.50	906.54	906.58	906.62	906.65	906.68	906.72	906.75
GIRDER NO. 4	905.16	905.24	905.32	905.40	905.46	905.52	905.57	905.61	905.64	905.67	905.69	905.70	905.78	905.86	905.93	906.00	906.06	906.11	906.15	906.18	906.20	906.23	906.23	906.28	906.32	906.37	906.41	906.45	906.48	906.52	906.55	906.58	906.61
GIRDER NO. 5	905.02	905.10	905.17	905.24	905.30	905.36	905.41	905.45	905.49	905.52	905.55	905.56	905.64	905.71	905.78	905.84	905.90	905.95	905.99	906.03	906.06	906.09	906.10	906.14	906.18	906.22	906.26	906.30	906.34	906.37	906.41	906.44	906.47

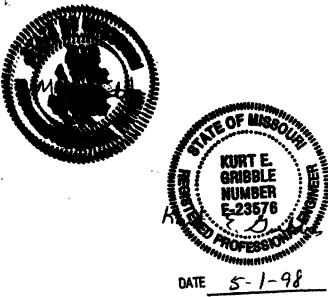
\*\* Elevations are based on a constant slab thickness of 8<sup>1</sup>/<sub>2</sub>" and include allowance for theoretical dead load deflections due to weight of Slab (including Precast Panel) and Barrier Curb.



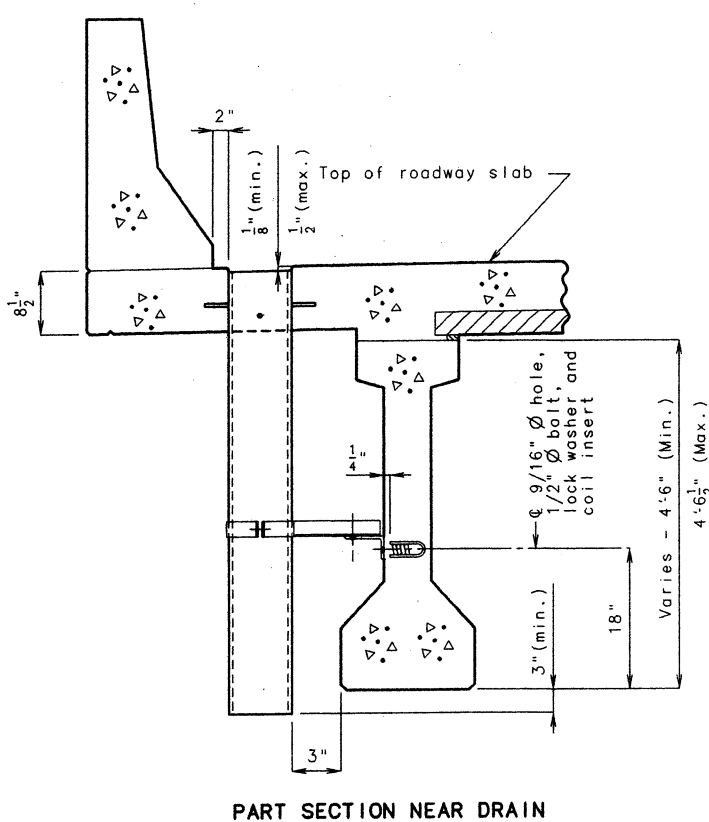
TYPICAL SLAB ELEVATIONS DIAGRAM

FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

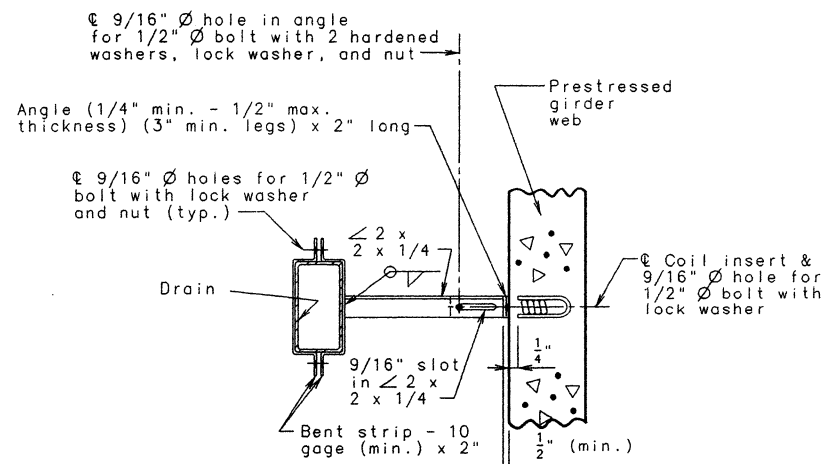
M. J. A. Sullivan  
Signature Date 4-23-01



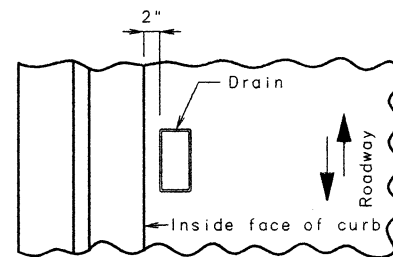
DETAILED JAN. 1998  
CHECKED MAR. 1998



PART SECTION NEAR DRAIN



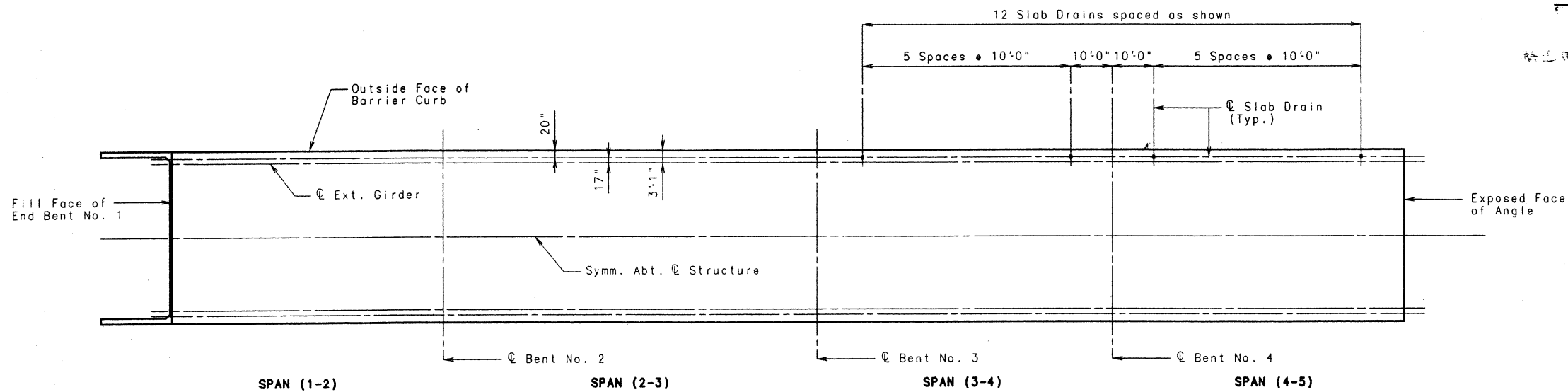
PART SECTION SHOWING BRACKET ASSEMBLY



PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS PARALLEL TO ROADWAY

### SLAB DRAIN DETAILS FOR PRESTRESSED I-GIRDER



PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: Longitudinal dimensions are horizontal.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 75 OF 93.

JACKSON

COUNTY

A5495

STATE	MO.	NO.	JAWHIC	SHEET	NO.
MO.	C.I.D.	980724-05-PEM	81		

NOTE:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

Locate drains in slab by dimensions shown in Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

The drains, coil inserts, and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for slab drains and the bracket assembly.

Coil inserts shall have a concrete pull-out strength (Ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.

The bolt hole for the bracket assembly attachment shall be located on the Prestressed I Girder shop drawings.

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and its appurtenant features, to the best of my knowledge, as I and my staff have observed the construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M. L. A. S. L. 4-23-01

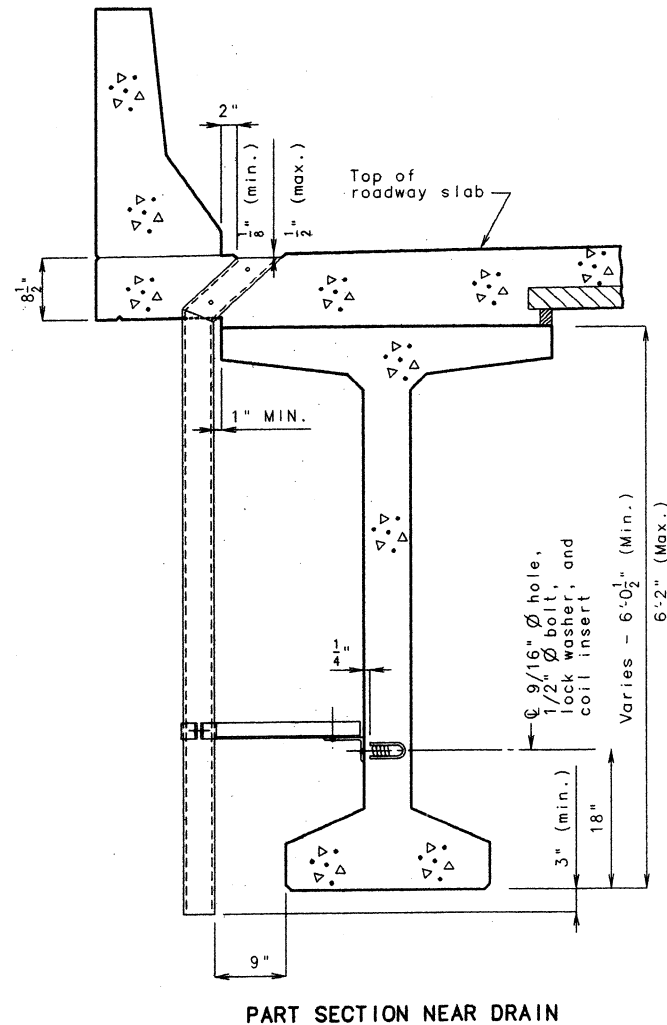


DATE 5-1-98

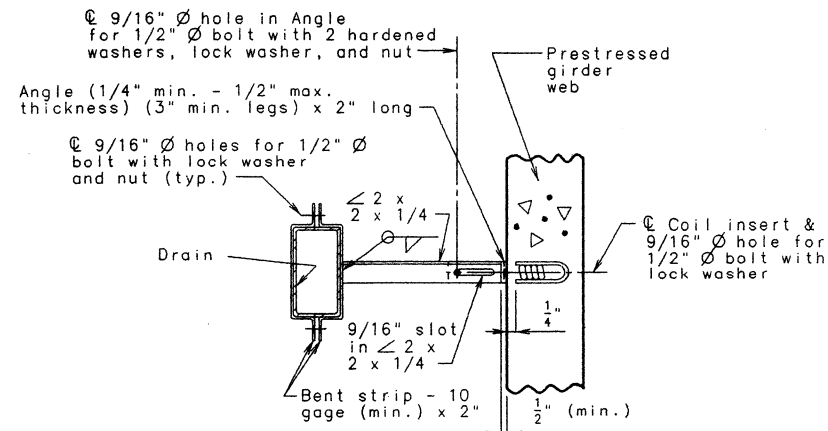


DRA 5	GS 3.30.P/S.B.B	Revised	Aug. 1996
P/S	Bulb T Angle Drain	September 1994	

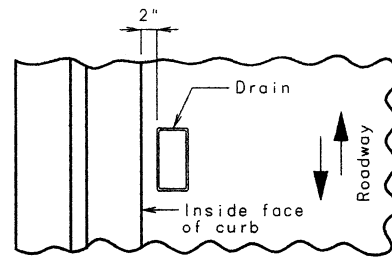
DETAILED JAN. 1998  
CHECKED MAR. 1998



PART SECTION NEAR DRAIN

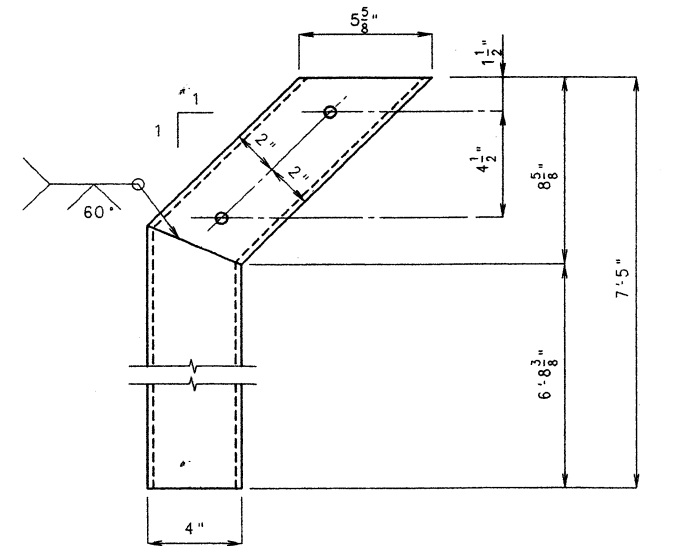


PART SECTION SHOWING BRACKET ASSEMBLY

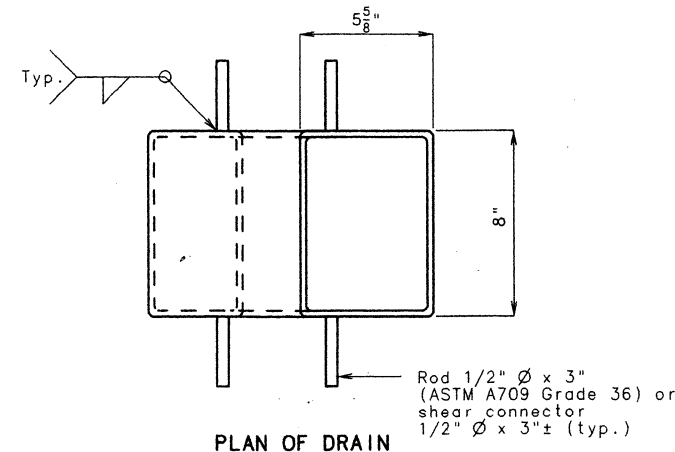


PART PLAN OF SLAB AT DRAIN

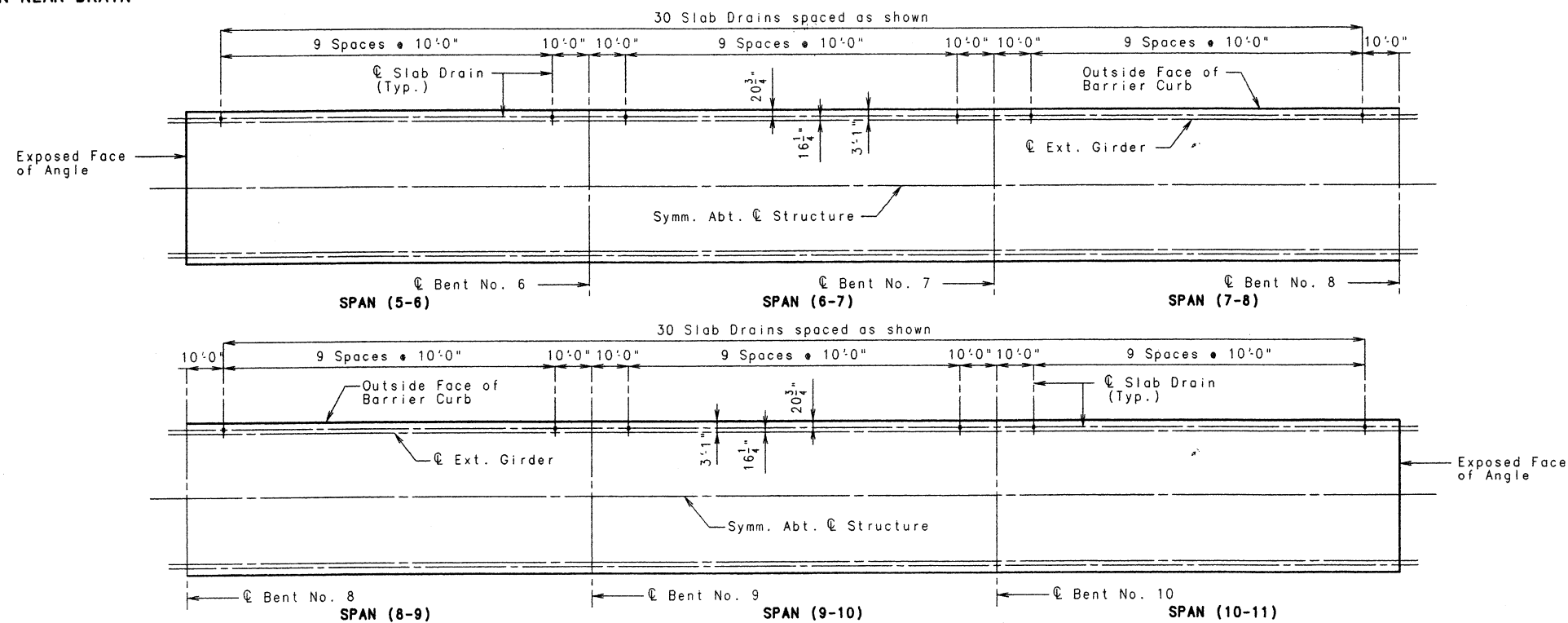
### SLAB DRAIN DETAILS FOR BULB-TEE GIRDER



ELEVATION OF DRAIN



PLAN OF DRAIN



PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: Longitudinal dimensions are horizontal.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

STATE	MO.	PROJECT NO.	SHEET NO.
MO.	CT.D.	980784-05-PEM	82

NOTE:

Slab drains may be fabricated of either 1/4\"

Outside dimensions of drains are 8\"

Locate drains in slab by dimensions shown in Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

The drains, coil inserts, and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

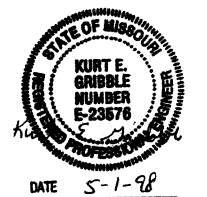
Shop drawings will not be required for slab drains and the bracket assembly.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.

The bolt hole for the bracket assembly attachment shall be located on the Bulb-Tee Girder shop drawings.

Coil inserts shall have a concrete pull-out strength (Ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
Signature: M. J. Smith Date: 4-23-91



DATE 5-1-98

SHEET NO. 76 OF 93.

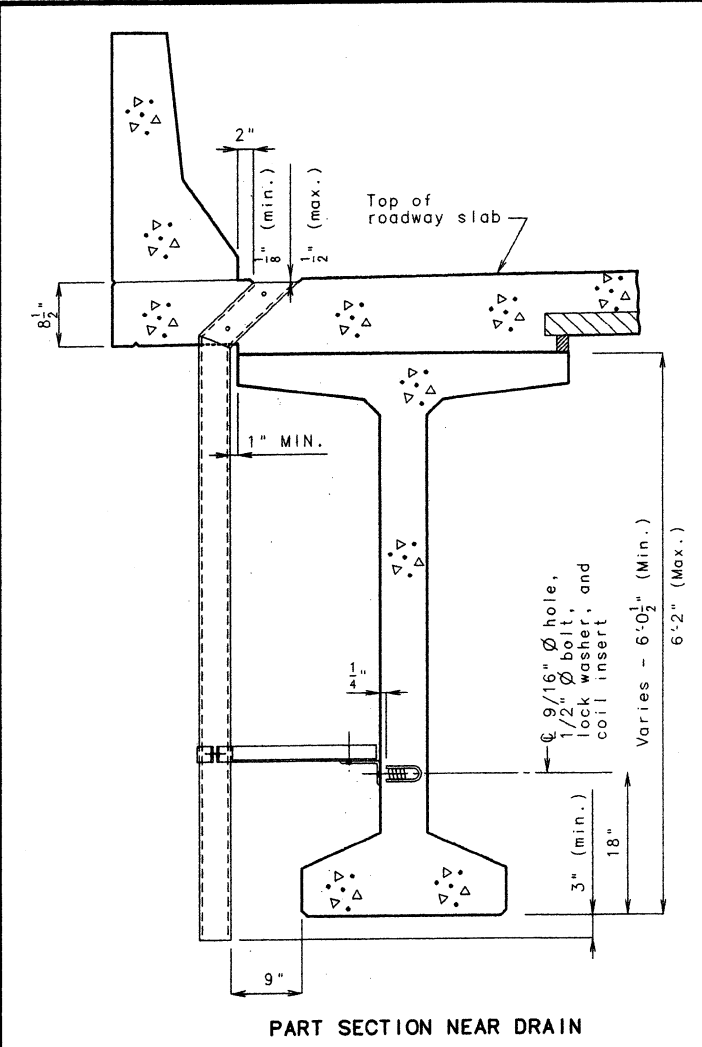
JACKSON

COUNTY

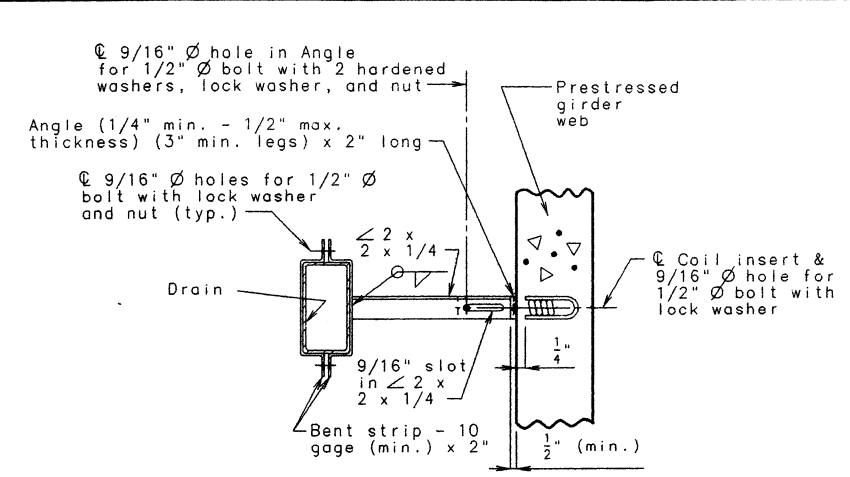
A5495

DRA 5 GS 3.30.P/S.B.B  
P/S Bulb Tee Angle Drain  
September 1994  
Revised  
Aug. 1996

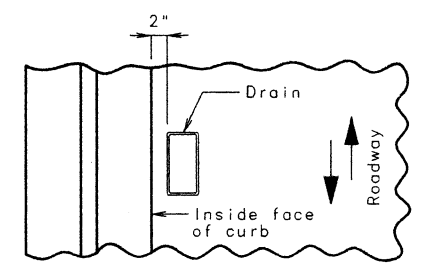
DETAILED JAN. 1998  
CHECKED MAR. 1998



PART SECTION NEAR DRAIN

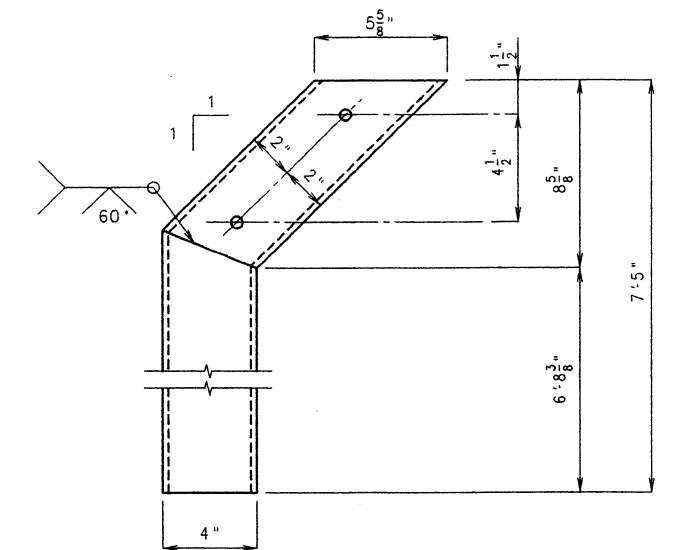


PART SECTION SHOWING BRACKET ASSEMBLY

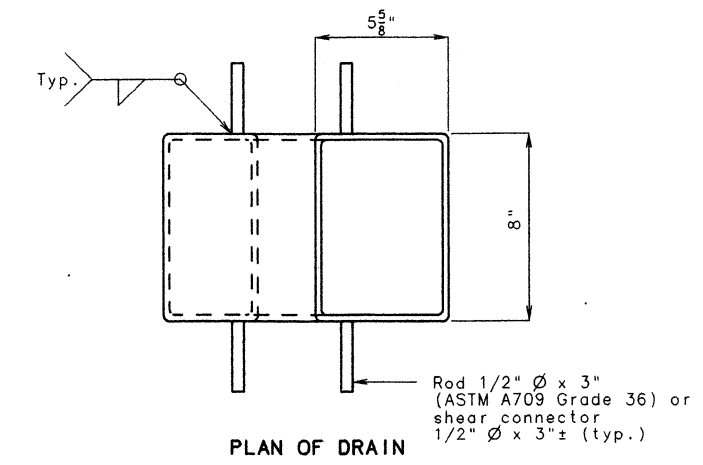


PART PLAN OF SLAB AT DRAIN

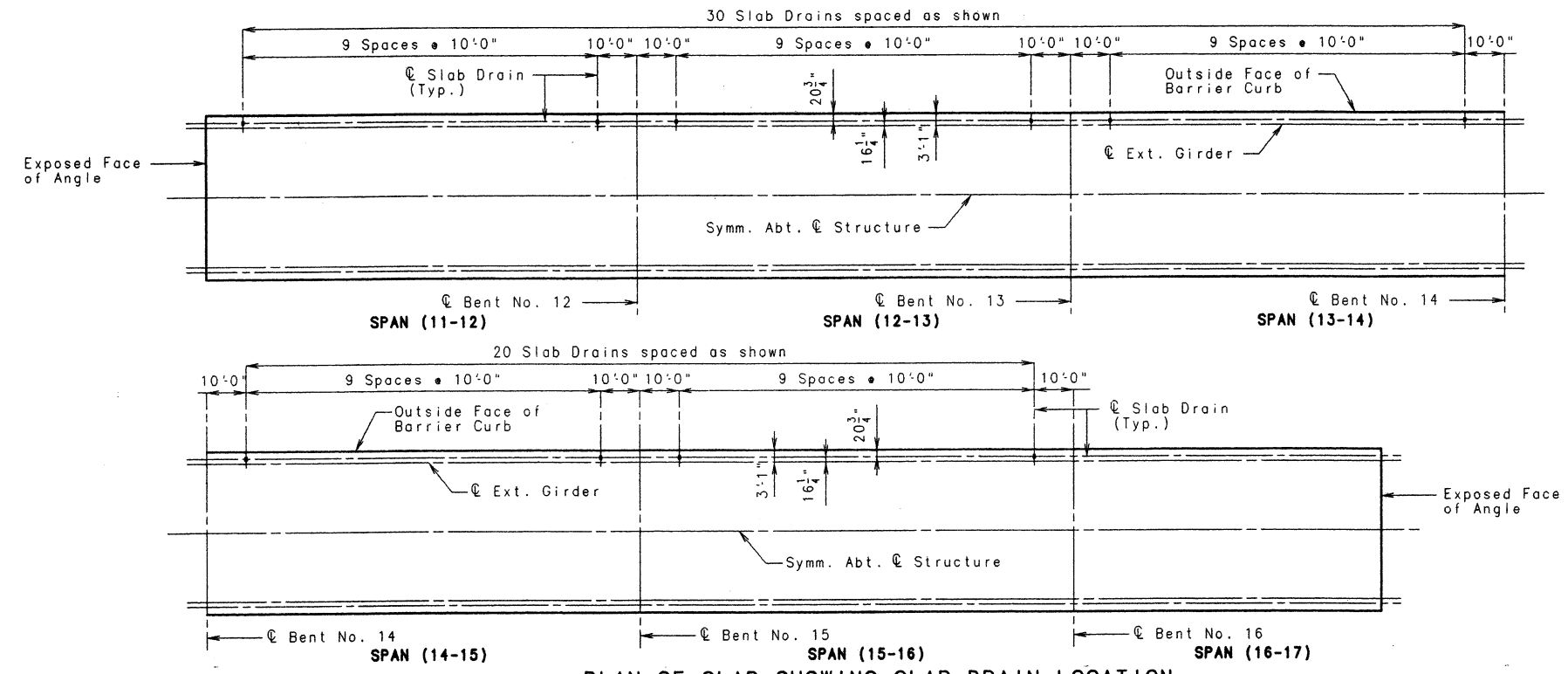
### SLAB DRAIN DETAILS FOR BULB-TEE GIRDER



ELEVATION OF DRAIN



PLAN OF DRAIN



PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: Longitudinal dimensions are horizontal.

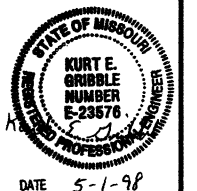
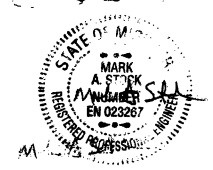
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

STATE	TOP NO. JAWING	SHEET NO.
MO.	CT. 6-980724-05-DEM	83

NOTE:  
Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.  
Outside dimensions of drains are 8" x 4".  
Locate drains in slab by dimensions shown in Part Section Near Drain.  
Shift reinforcing in field where necessary to clear drains.  
The drains, coil inserts, and bracket assembly shall be galvanized in accordance with ASTM A123.  
All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.  
Shop drawings will not be required for slab drains and the bracket assembly.  
The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.  
The bolt hole for the bracket assembly attachment shall be located on the Bulb-Tee Girder shop drawings.  
Coil inserts shall have a concrete pull-out strength (Ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

I certify that this plan, specification, and contract documents are my original work and that I am a duly licensed Professional Engineer in the State of Missouri. I am not aware of any falsification of the information furnished to me by others in connection with this project. I am not aware of any falsification of the information furnished to me by others in connection with this project. I am not aware of any falsification of the information furnished to me by others in connection with this project.

Signature: M. J. S. L. Date: 4-23-01



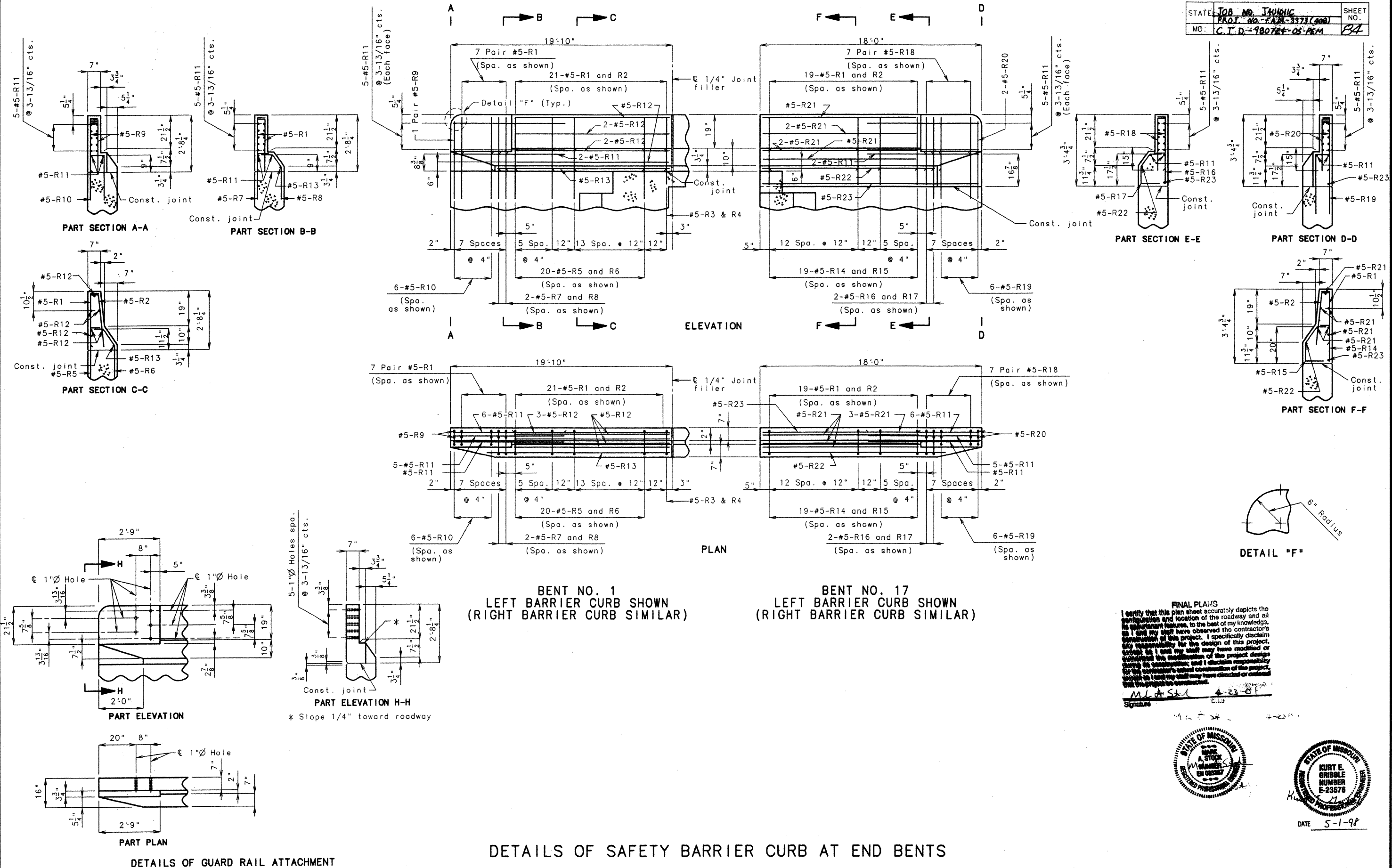
DATE 5-1-98

SHEET NO. 77 OF 93.

JACKSON

COUNTY

A5495



**FINAL PLANS**

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its permanent features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. A. S. L.*  
Signature

4-23-01  
Date



DATE 5-1-98

BAC4ep16.gs 3.30, i.a  
INT-END POST (16")  
AUG. 1978  
SEPT. 1995

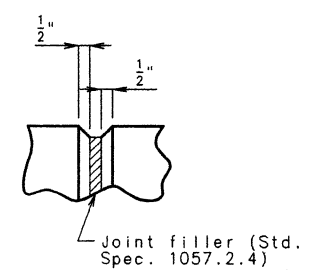
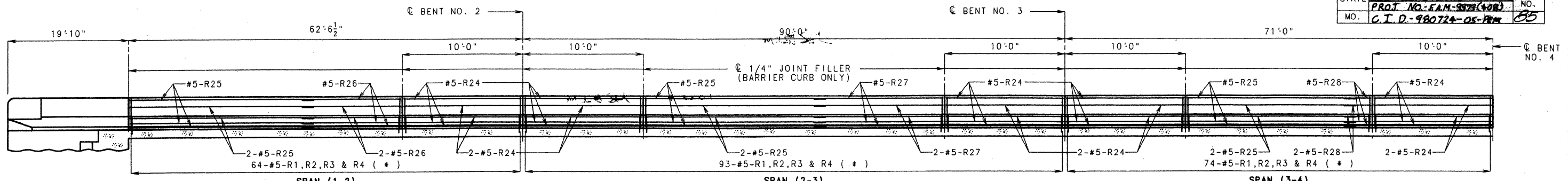
DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

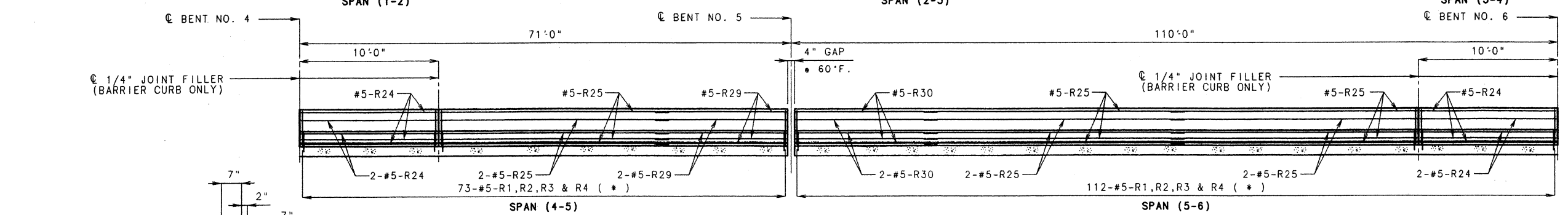
SHEET NO. 78 OF 93.

JACKSON COUNTY A5495





FILLED JOINT DETAIL



**NOTE:**

TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.

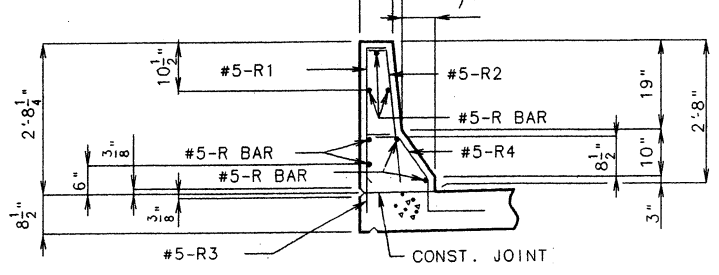
ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 3/8" BEVEL, UNLESS OTHERWISE NOTED.

WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND REINFORCEMENT, COMPLETE-IN-PLACE.

CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B1.

MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT FOR EACH STRUCTURE, MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM END OF WING TO END OF WING.

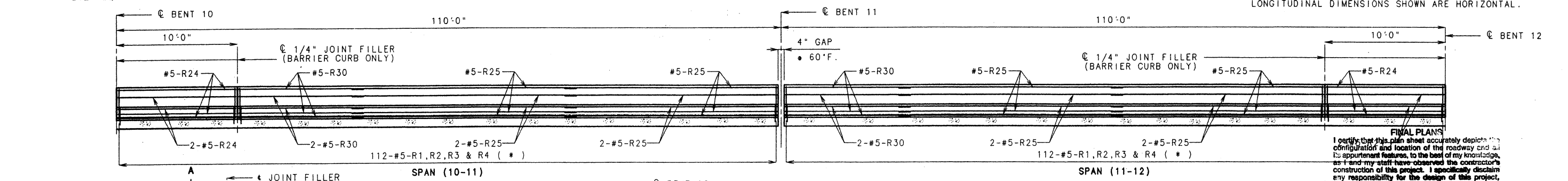
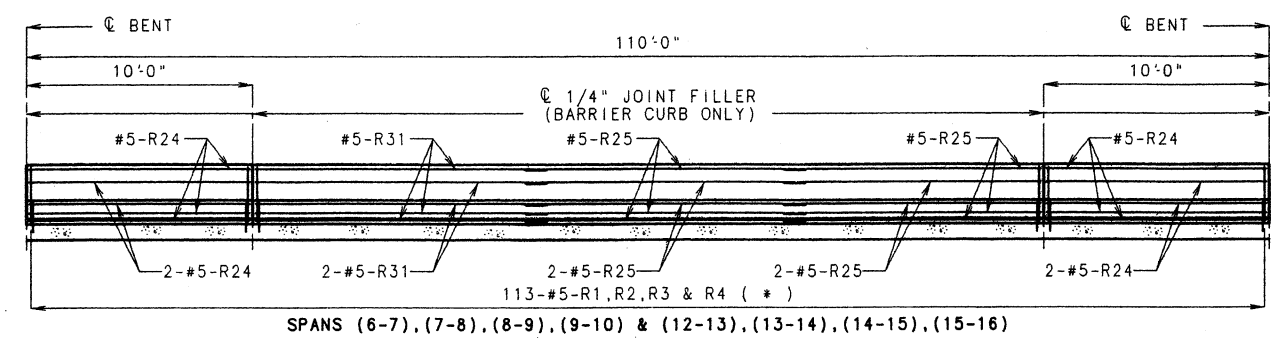
LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL.



**PART SECTION A-A**

NOTE: USE A MINIMUM LAP OF 2'-11" FOR #5 HORIZONTAL SAFETY BARRIER CURB BARS.

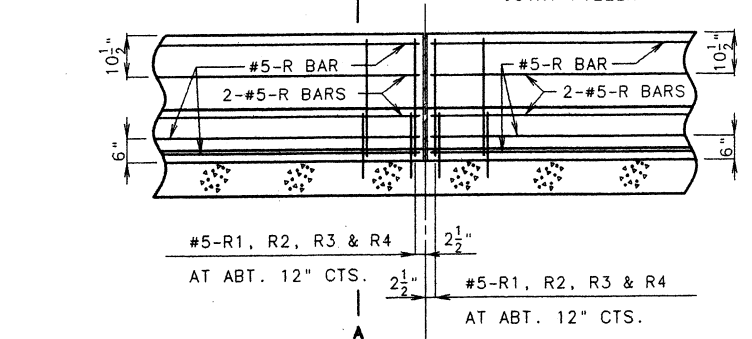
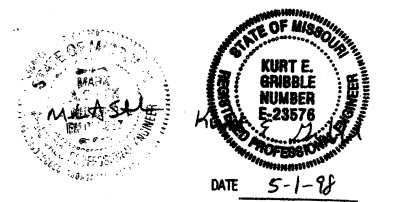
THE CROSS-SECTIONAL AREA ABOVE THE SLAB = 2.27 SQ. FT.



**FINAL PLANS**

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or intended that the project be constructed.

M. L. S. 4-23-01



**PART SECTION NEAR LEFT SAFETY BARRIER CURB (CAST-IN-PLACE CONVENTIONAL FORMING OPTION)**

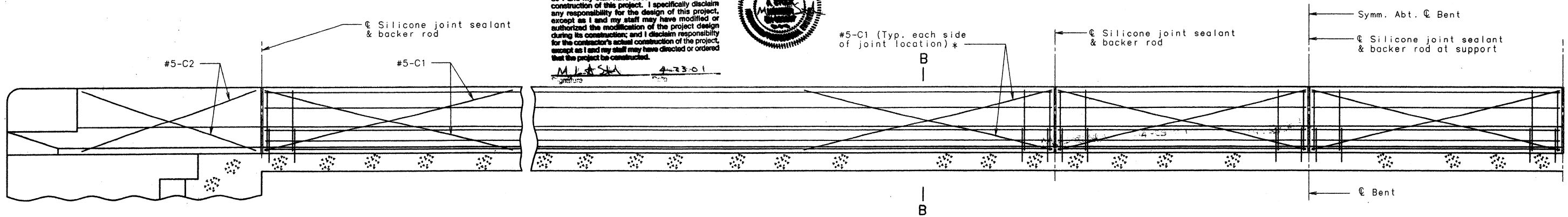
\* SPACED AS SHOWN IN PART SECTION NEAR LEFT SAFETY BARRIER CURB

FOR DETAILS OF MOVEMENT GAUGE, SEE SHEET NO. 81.

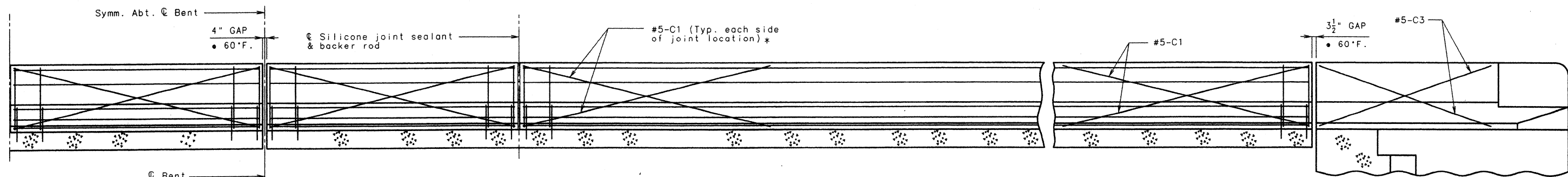
**SECTION NEAR LEFT SAFETY BARRIER CURB (RIGHT SAFETY BARRIER CURB SIMILAR)**

**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. J. Smith* 4-23-01



TYPICAL PART SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS (FIXED)  
 (OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)



TYPICAL PART SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS WITH EXPANSION GAP  
 (OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

**Note:**

Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints (except at end bents) normal to grade.

When the safety barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.

Concrete in the safety barrier curb shall be Class B1.

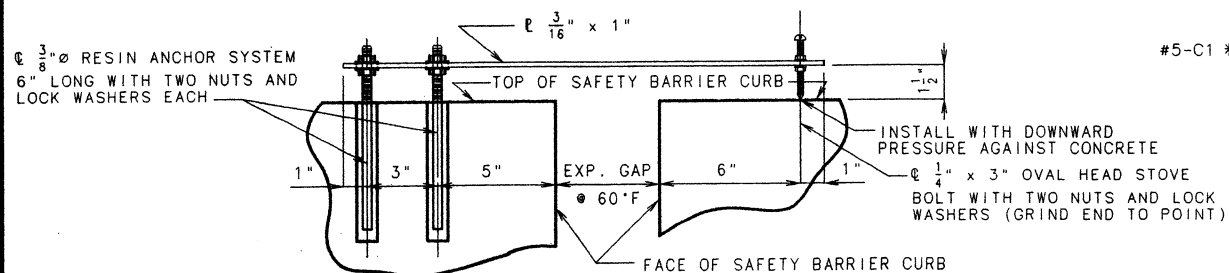
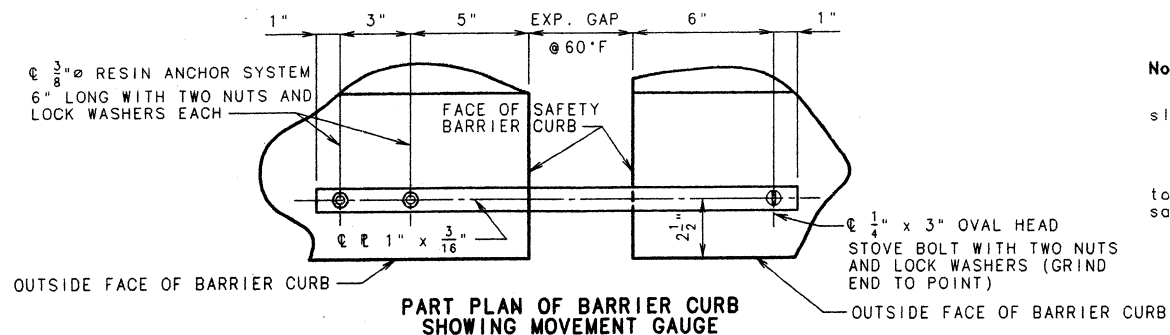
Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

**Note:**

Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filler.

Plastic waterstop shall not be used with slip-form option.

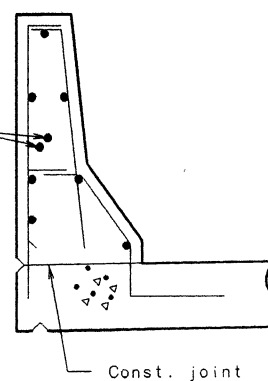
C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.



NOTE: A MOVEMENT GAUGE SHALL BE PROVIDED ON ONE SIDE OF BRIDGE AT ALL SAFETY BARRIER CURB EXPANSION JOINTS.

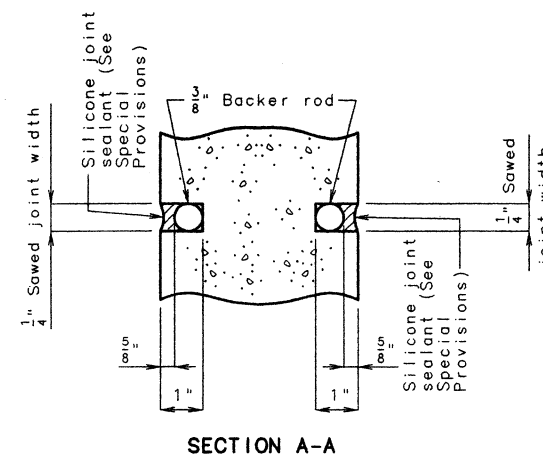
ALL STEEL SHALL BE GALVANIZED.

COST OF MOVEMENT GAUGE COMPLETE IN PLACE SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.



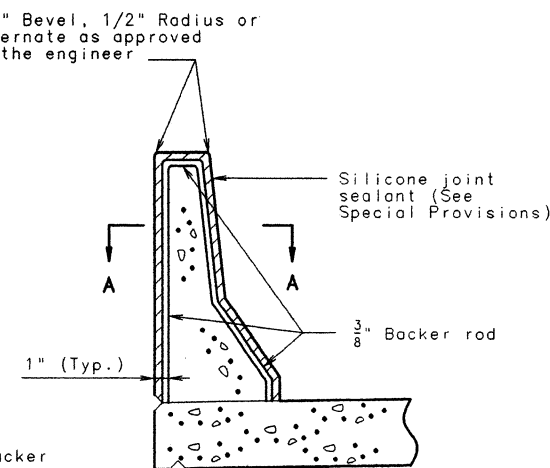
PART SECTION B-B

Note: \* Each side of joint location.



SECTION A-A

Note: Cost of silicone joint sealant and backer rod complete in place to be included on the contract unit price for safety barrier curb.



SECTION THRU JOINT



DATE 5-1-98

**OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB**

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

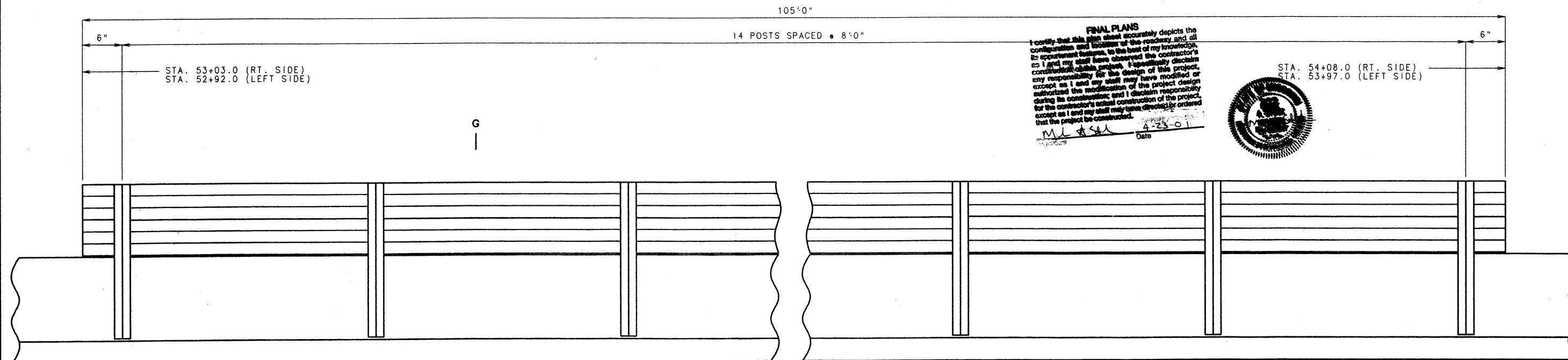
SHEET NO. 80 OF 93.

JACKSON COUNTY

A5495

BAC9s116.gs 3.30.  
 BARRIER CURB ELEVAT. REVISED:  
 FEB. 1991  
 SEPT. 1995

DETAILED JAN. 1998  
 CHECKED MAR. 1998



PART ELEVATION OF BARRIER CURB  
SHOWING SPLASH PROTECTION SHIELD

NOTES:

FABRICATION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 712 OF THE MISSOURI STANDARD SPECIFICATIONS.

POSTS SHALL BE SET VERTICAL.

5/8"Ø RESIN ANCHOR BOLTS SHALL BE PLACED HORIZONTAL.

ALL SPACERS, RESIN ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.

ALL WT 6 x 17.5 POSTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.

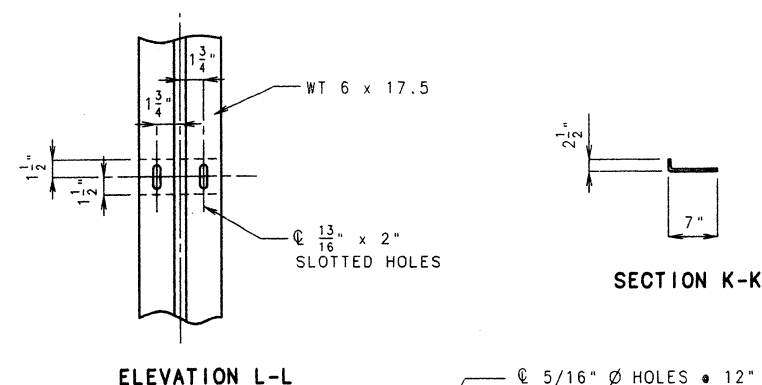
PANELS SHALL HAVE A PROTECTIVE COLOR COATING OF POLYVINYL FLUORIDE FILM WITH A MINIMUM THICKNESS OF 1 1/2 MILS ON BOTH SIDES. COLOR SHALL BE SIMILAR TO COLOR NO. 30045 AS SHOWN IN THE FEDERAL STANDARD COLORS NO. 595B.

PANELS SHALL HAVE A MINIMUM GAGE OF 24 AND A MINIMUM SECTION MODULUS OF 0.016 IN<sup>3</sup> PER INCH. PANELS SHALL HAVE A MINIMUM COVERING WIDTH OF 16 INCHES.

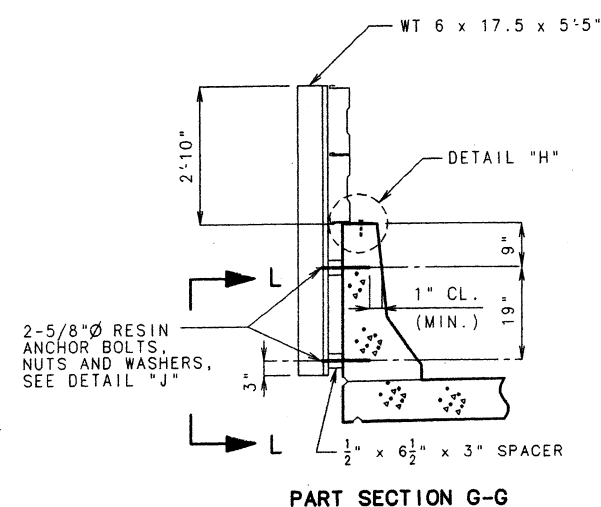
THE 5/8"Ø RESIN ANCHOR BOLTS SHALL HAVE A MINIMUM ULTIMATE PULLOUT STRENGTH OF 15,500 LBS. IN CONCRETE WITH F'C = 4000 PSI. SEE SPECIAL PROVISIONS.

COST OF FURNISHING AND INSTALLING THE SPLASH PROTECTION SHIELD COMPLETE-IN-PLACE SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM SPLASH PROTECTION SHIELD ASSEMBLY.

SHOP DRAWINGS WILL NOT BE REQUIRED FOR SPLASH PROTECTION SHIELD ASSEMBLY.



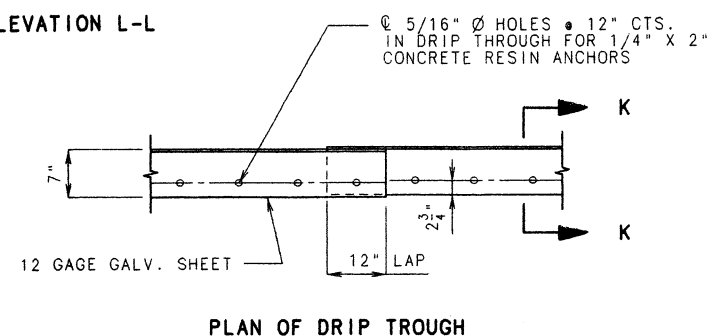
PROVIDE SPLASHBOARDS (5'-0" MIN. ABOVE DECK) ON TOP OF SAFETY BARRIER CURB BETWEEN STA. 53+03.0 AND STA. 54+08.0 RT. SIDE, STA. 52+92.0 AND STA. 53+97.0 LT. SIDE.



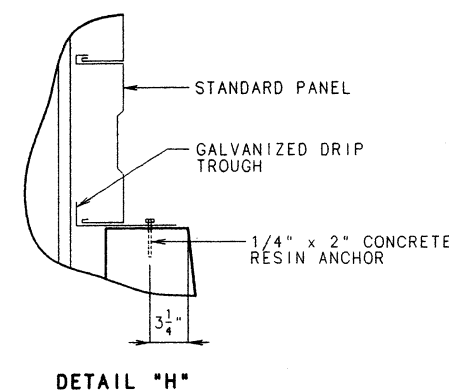
PART SECTION G-G

ELEVATION L-L

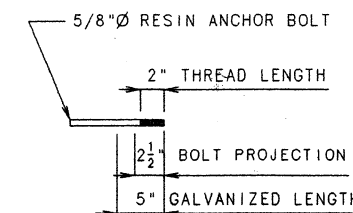
SECTION K-K



PLAN OF DRIP TROUGH



DETAIL "H"



DETAIL "J"

DETAILS OF SAFETY BARRIER CURB AT SPAN 2-3  
SHOWING SPLASH PROTECTION SHIELD

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 81 OF 93.

JACKSON COUNTY

A5495



BAC4ep16.gs 3.30.1.a  
INT-END POST (16")  
AUG. 1978  
REVISED:  
SEPT. 1995

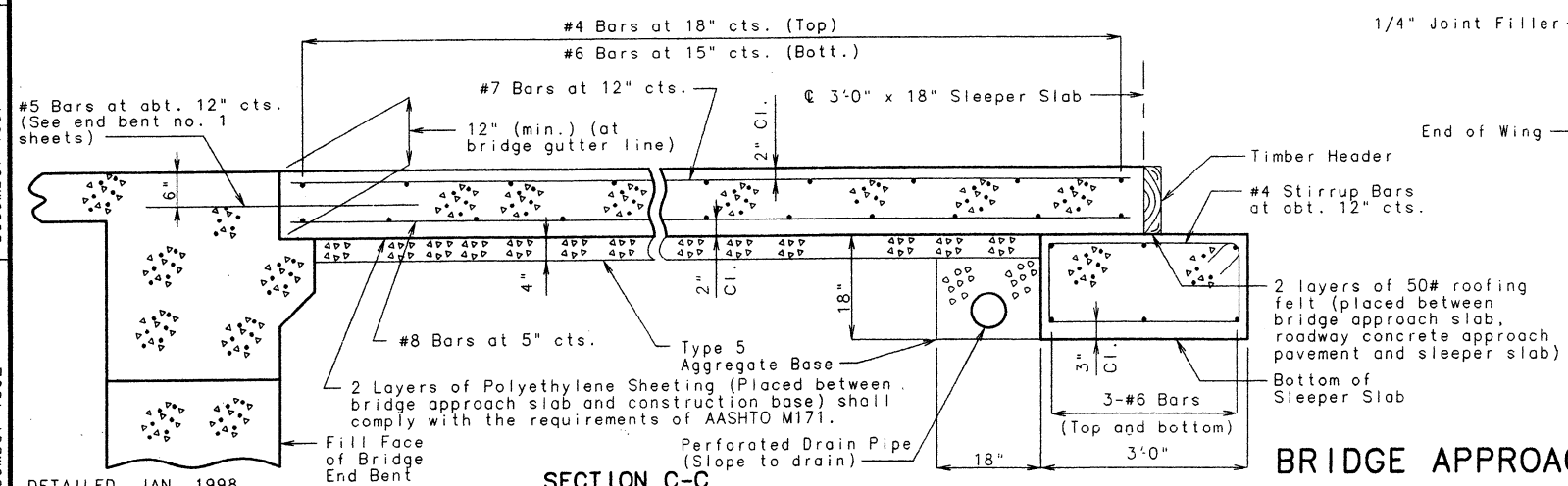
DETAILED JAN. 1998  
CHECKED MAR. 1998



APP SLAB, GS 3.30, SQ, I, G

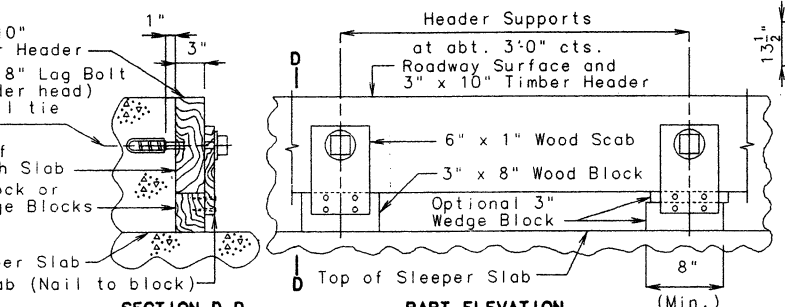
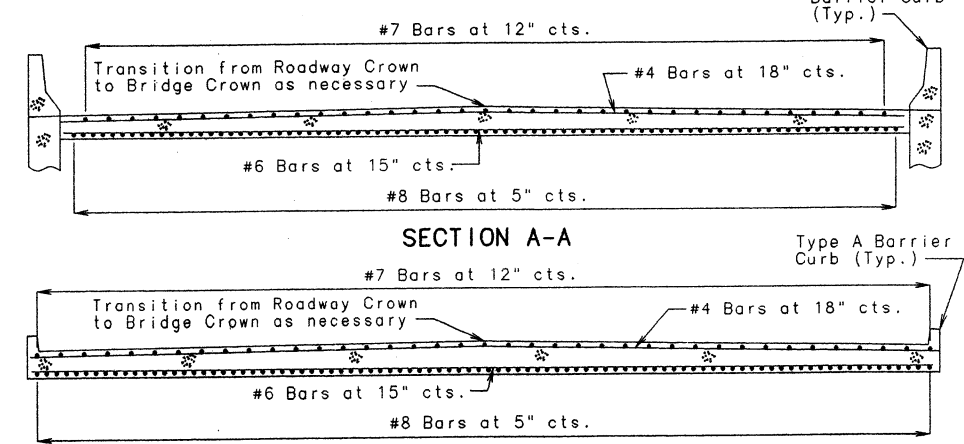
December 1992  
December 1997  
Revised

Note: With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

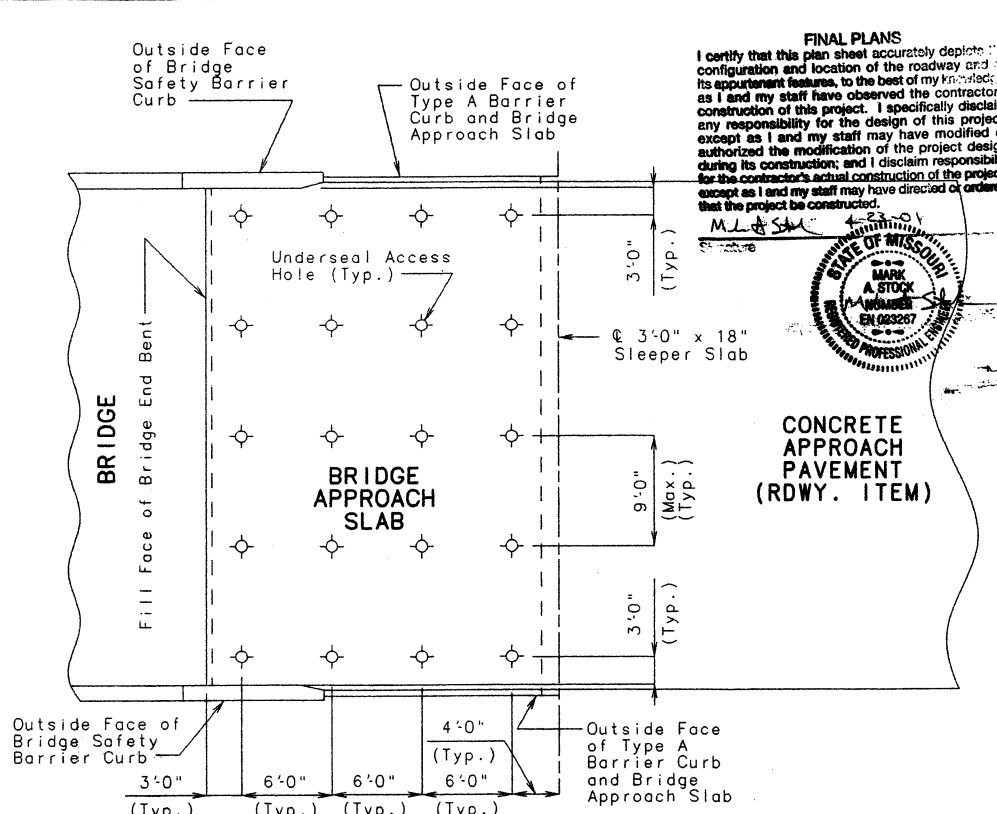


SECTION C-C  
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

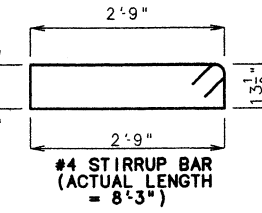
PART PLAN SHOWING REINFORCEMENT



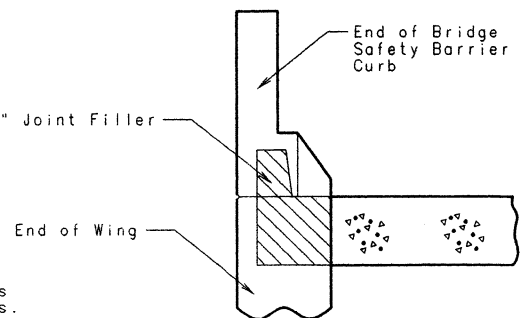
SECTION D-D  
PART ELEVATION  
DETAILS OF TIMBER HEADER  
Note: Remove timber header when concrete pavement is placed.



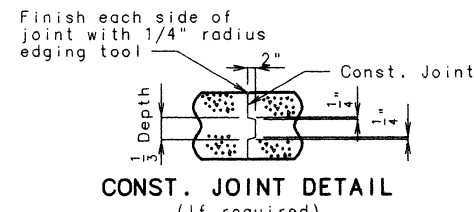
PART PLAN  
(Showing typical underseal access hole locations)



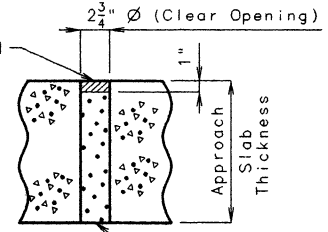
TYPICAL 135° STIRRUP  
HOOK DIMENSIONS  
BENDING DIAGRAM



SECTION E-E  
(Between Curbs)



CONST. JOINT DETAIL  
(If required)



TYPICAL UNDERSEAL  
ACCESS HOLE DETAIL

BRIDGE APPROACH SLAB AT END BENT NO. 1

SHEET NO. 82 OF 93.

JACKSON COUNTY

A5495

STATE	MO.	JOB NO. JAWHIC	SHEET NO.
		PROJ. NO. E.A.M. 3372 (428)	
		C.T.D. - 980724 - OS - PEM	82

**GENERAL NOTES:**  
All concrete for the bridge approach slab and sleeper slab shall be in accordance with Section 503 (f'c = 4,000 psi) of the Missouri Standard Specifications.

All joint filler shall meet the requirements of Section 1057.2.5 of the Missouri Standard Specifications, except as noted.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with Fy = 60,000 psi.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 27" and 40" respectively.

Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for installation.

Mechanical bar splices shall be epoxy coated in accordance with Section 710 of the Missouri Standard Specifications.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

Payment for furnishing all material, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridge), per sq. yd.

For Concrete Approach Pavement details, see roadway plans.

See Missouri Standard Plans Drawing 609.00 for details of Type A Barrier Curb.

When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 40" for transverse approach slab bar splices.

At the contractor's option, Grade 40 reinforcement may be substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 2" minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Section 710.3.3 of the Missouri Standard Specifications.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and its appurtenances, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.



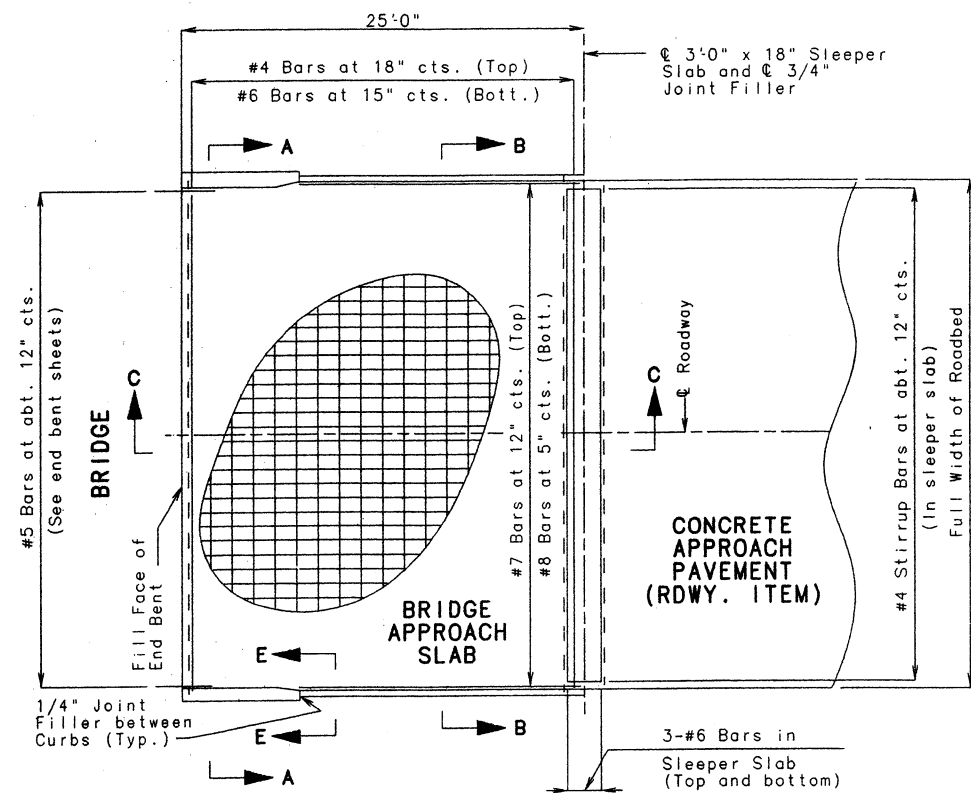
CONCRETE  
APPROACH  
PAVEMENT  
(RDWY. ITEM)



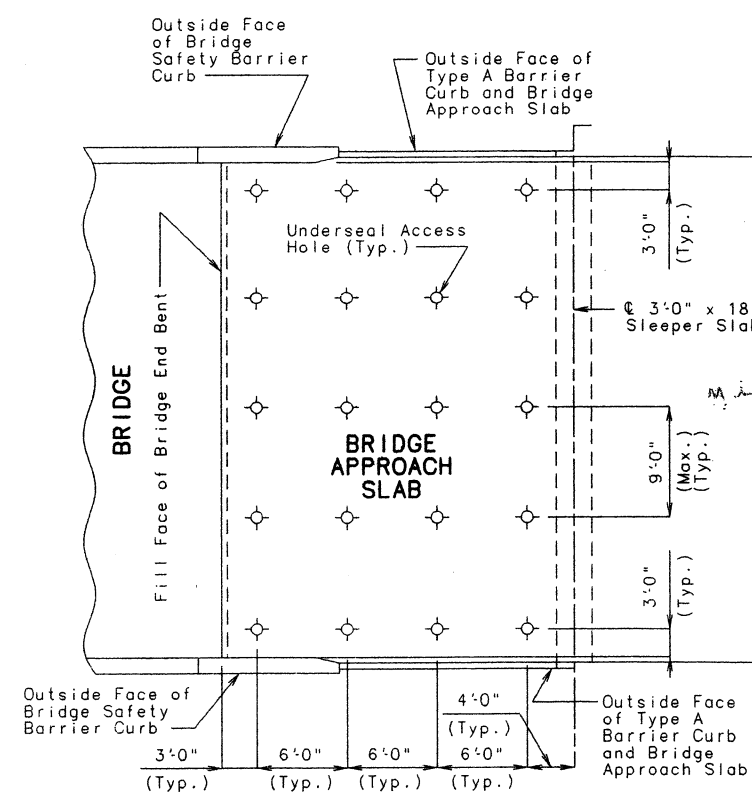
DATE 5-1-98

**GENERAL NOTES:**  
 All concrete for the bridge approach slab and sleeper slab shall be in accordance with Section 503 (f'c = 4,000 psi) of the Missouri Standard Specifications.  
 All joint filler shall meet the requirements of Section 1057.2.5 of the Missouri Standard Specifications, except as noted.  
 The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with  $F_y = 60,000$  psi.  
 Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.  
 The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 27" and 40" respectively.  
 Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for installation.  
 Mechanical bar splices shall be epoxy coated in accordance with Section 710 of the Missouri Standard Specifications.  
 Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.  
 The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.  
 Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.  
 Payment for furnishing all material, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridge), per sq. yd.  
 For Concrete Approach Pavement details, see roadway plans.  
 See Missouri Standard Plans Drawing 609.00 for details of Type A Barrier Curb.  
 When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 40" for transverse approach slab bar splices.  
 At the contractor's option, Grade 40 reinforcement may be substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.  
 When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 2" minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Section 710.3.3 of the Missouri Standard Specifications.  
 Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

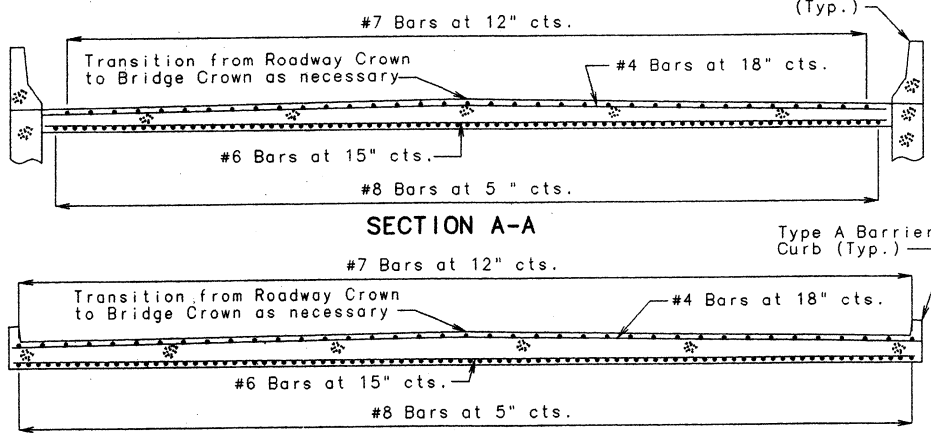
**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and bridge approach features, to the best of my knowledge, skill and experience. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.



**PART PLAN SHOWING REINFORCEMENT**



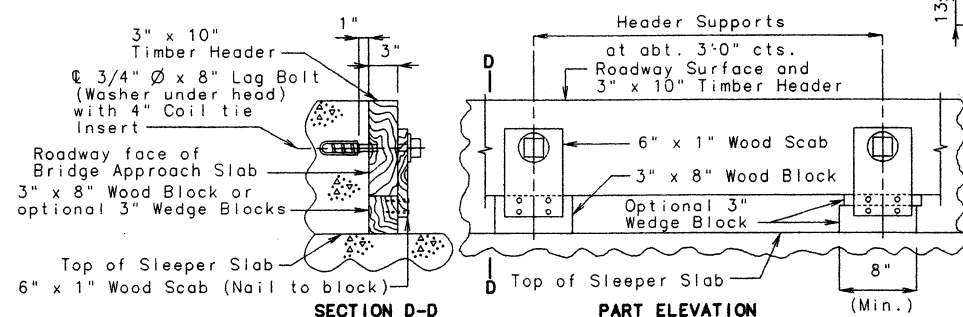
**PART PLAN (Showing typical underseal access hole locations)**



**SECTION A-A**

**SECTION B-B**

Note: With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

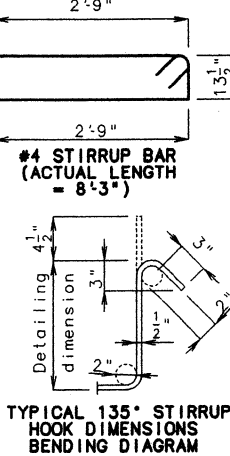


**SECTION D-D**

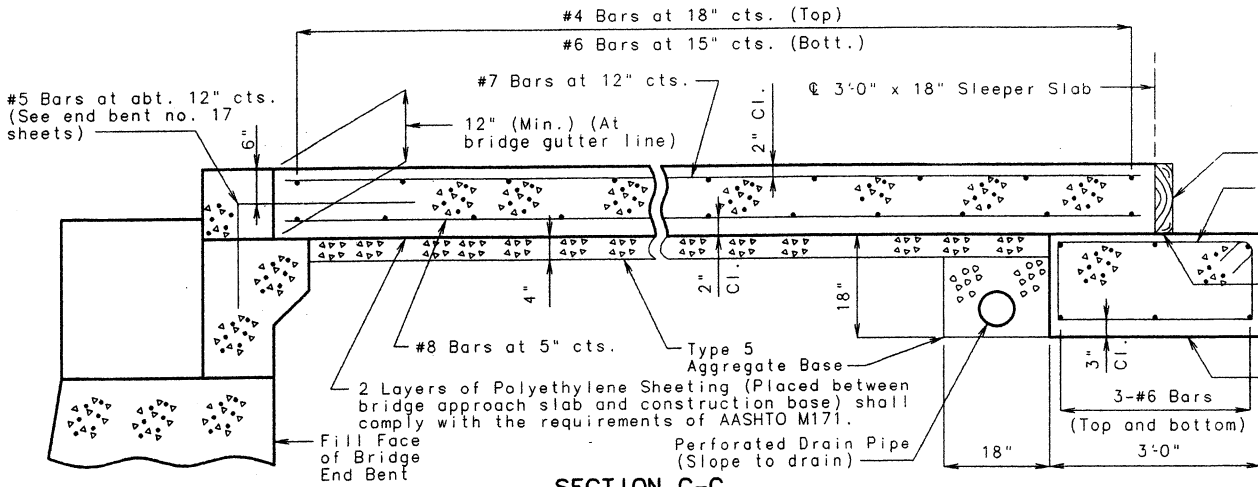
**PART ELEVATION**

Note: Remove timber header when concrete pavement is placed.

**DETAILS OF TIMBER HEADER**

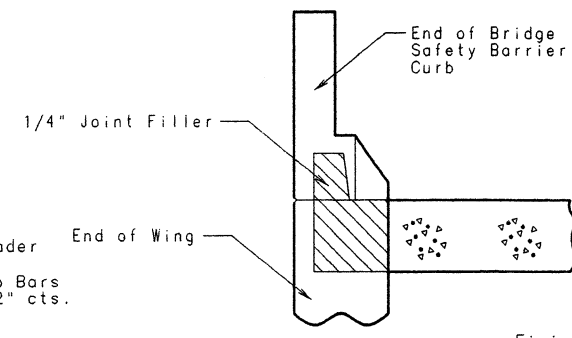


**TYPICAL 135° STIRRUP BAR BENDING DIAGRAM**



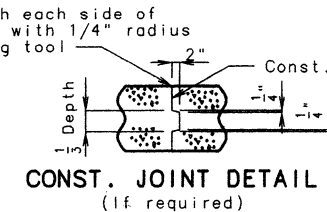
**SECTION C-C**

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

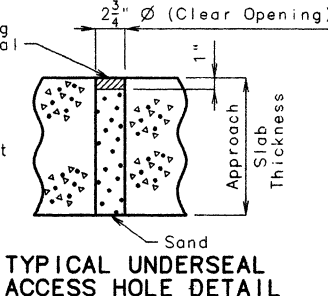


**SECTION E-E (Between Curbs)**

Note: Nominal lengths are based on out to out dimensions shown in bending diagram and are listed for fabricators use. (nearest inch)



**CONST. JOINT DETAIL (If required)**



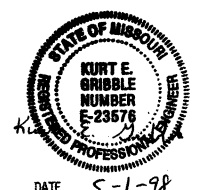
**TYPICAL UNDERSEAL ACCESS HOLE DETAIL**

**BRIDGE APPROACH SLAB AT END BENT NO. 17**

SHEET NO. 83 OF 93.

JACKSON COUNTY

A5495



APP SLAB, CS 3.30, SQ, N, G  
 Revised December 1997  
 December 1992

DETAILED JAN. 1998  
 CHECKED MAR. 1998

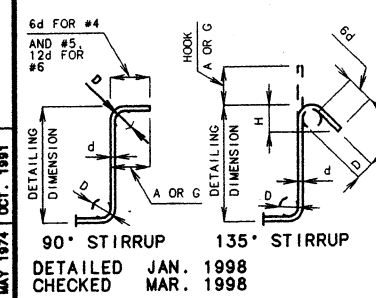
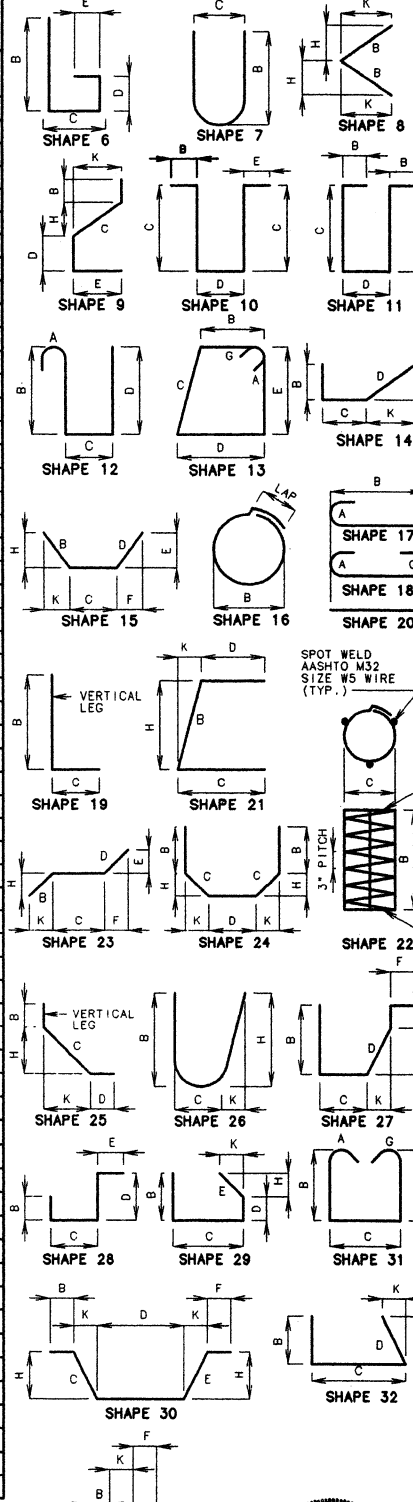
# BILL OF REINFORCING STEEL

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.				
		SUBSTRUCTURE																	
		INTERMEDIATE																	
		BENT NO. 2																	
40	7 D21	FOOTING	20		X				8	8.000						8	8	709	
4	6 D22	FOOTING	10		X					5	2.000	8	0.000			18	4	108	
36	8 D23	FOOTING	20		X				7	1.000						7	1	681	
16	6 D24	BEAM KEY	20		X				2	6.000						2	6	60	
11	10 H21	BEAM	20		X				38	9.000						38	9	1834	
8	10 H22	BEAM	18		X				38	9.000						41	7	1431	
4	6 H23	BEAM	20		X				38	9.000						38	9	233	
8	6 H24	BEAM	20		X				3	9.000						3	9	45	
10	6 H25	BEAM	10		X						22	0.000	3	9.000		7	5	106	
54	4 P21	COLUMN	16		X				3	3.000						11	1	400	
39	6 U21	BEAM	13		S	X			3	9.000	3	9.000	3	9.000		16	4	927	
20	6 U22	BEAM	13		S	X			2	8.875	3	9.000	2	8.875	3	9.000	14	4	416
8	6 U23	BEAM	10		S	X					3	9.000	2	8.875		10	3	119	
6	6 U24	BEAM	10		S	X					3	9.000	3	9.000		11	3	98	
7	4 U25	BEAM	10		S	X					6	0.000	3	9.000		4	9	21	
36	8 V21	COLUMN	20		X				29	9.000						29	9	2860	
		INTERMEDIATE																	
		BENT NO. 3																	
16	7 D31	FOOTING	20		X				10	8.000						10	8	349	
4	6 D32	FOOTING	10		X						5	2.000	10	0.000		20	4	120	
46	8 D33	FOOTING	20		X				8	7.000						8	7	1054	
16	7 D34	FOOTING	20		X				8	8.000						8	8	283	
36	8 D35	COLUMN	20		X				8	0.000						8	0	769	
16	6 D36	BEAM KEY	20		X				2	6.000						2	6	60	
11	10 H31	BEAM	20		X				38	9.000						38	9	1834	
8	10 H32	BEAM	18		X				38	9.000						41	7	1431	
4	6 H33	BEAM	20		X				38	9.000						38	9	233	
8	6 H34	BEAM	20		X				3	9.000						3	9	45	
10	6 H35	BEAM	10		X						22	0.000	3	9.000		7	5	106	
36	4 P31	COLUMN	16		X				3	9.000						12	8	305	
32	4 P32	COLUMN	16		X				3	3.000						11	1	237	
39	6 U31	BEAM	13		S	X			3	9.000	3	9.000	3	9.000		16	4	927	
20	6 U32	BEAM	13		S	X			2	8.875	3	9.000	2	8.875	3	9.000	14	4	416
8	6 U33	BEAM	10		S	X					3	9.000	2	8.875		10	3	119	
6	6 U34	BEAM	10		S	X					3	9.000	3	9.000		11	3	98	
7	4 U35	BEAM	10		S	X					6	0.000	3	9.000		4	9	21	

# BILL OF REINFORCING STEEL

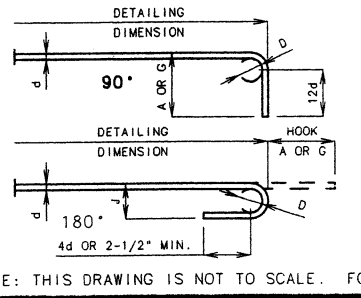
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
46	8 V31	COLUMN		20	X				17	10.000							17	10	2190
36	8 V32	COLUMN		20	X				19	2.000							19	2	1842
		INTERMEDIATE BENT NO. 4																	
32	7 D41	FOOTING		20	X				8	8.000							8	8	567
4	6 D42	FOOTING		10	X						5	2.000	8	0.000			18	4	108
46	8 D43	FOOTING		20	X				8	7.000							8	7	1054
36	8 D44	COLUMN		20	X				8	0.000							8	0	769
16	6 D45	BEAM KEY		20	X				2	6.000							2	6	60
11	10 H41	BEAM		20	X				38	9.000							38	9	1834
8	10 H42	BEAM		18	X				38	9.000							41	7	1431
4	6 H43	BEAM		20	X				38	9.000							38	9	233
8	6 H44	BEAM		20	X				3	9.000							3	9	45
10	6 H45	BEAM		10	X						22.000	3	9.000				7	5	106
36	4 P41	COLUMN		16	X				3	9.000							12	8	305
34	4 P42	COLUMN		16	X				3	3.000							11	1	252
39	6 U41	BEAM		13	S	X			3	9.000	3	9.000	3	9.000	3	9.000	16	4	927
20	6 U42	BEAM		13	S	X			2	8.875	3	9.000	2	8.875	3	9.000	14	4	416
8	6 U43	BEAM		10	S	X					3	9.000	2	8.875			10	3	119
6	6 U44	BEAM		10	S	X					3	9.000	3	9.000			11	3	98
7	4 U45	BEAM		10	S	X					6.000	3	9.000				4	9	21
46	8 V41	COLUMN		20	X				17	10.000							17	10	2190
36	8 V42	COLUMN		20	X				19	7.000							19	7	1882
		INTERMEDIATE BENT NO. 5																	
32	8 D51	FOOTING		20	X				17	8.000							17	8	1509
4	8 D52	FOOTING		10	X						6	6.000	17	0.000			30	0	316
56	10 D53	FOOTING		17	X				11	7.000							13	0	3133
24	8 D54	FOOTING		20	X				9	8.000							9	8	619
36	8 D55	COLUMN		20	X				8	0.000							8	0	769
12	10 H51	BEAM	E	20	X				39	3.000							39	3	2027
9	10 H52	BEAM	E	18	X				39	3.000							42	1	1630
4	6 H53	BEAM	E	20	X				39	3.000							39	3	236
10	6 H54	BEAM	E	20	X				3	9.000							3	9	56
10	6 H55	BEAM	E	10	X						22.000	5	3.000				8	11	129
5	6 H56	BEAM	E	18	X				39	3.000							40	7	305
2	4 H57	BEAM	E	10	X						22.000	2	6.000				6	2	8
36	4 P51	COLUMN		16	X				3	9.000							12	8	305

STATE JOB NO. T4VH01C  
MO. PROJ. NO. F.A.M.-3373 (408)  
C.T.D.-980724-05-PEM SHEET NO. 84



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	A OR G
#3	2-1/4"	5"	3"	8"
#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"	2'-3/4"	2'-7"

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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 WITH 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) = FY 60,000 PSI.



# BILL OF REINFORCING STEEL

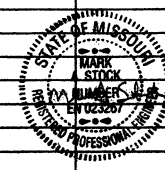
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT					
										B	C	D	E	F	H	K								
										FT.	IN.	FT.	IN.	FT.	IN.	FT.				IN.	FT.	IN.	FT.	IN.
30	4	P52	COLUMN		16		X			3	3.000								11	1	11	1	222	
40	6	U51	BEAM	E	13	S	X			5	3.000	3	8.000	5	3.000	3	8.000			19	2	18	8	1121
24	6	U52	BEAM	E	13	S	X			3	6.875	3	8.000	3	6.875	3	8.000			15	10	15	4	553
62	5	U53	BEAM	E	10	S	X					2	6.250	2	6.000					7	7	7	4	474
6	6	U54	BEAM	E	10	S	X					3	8.000	5	3.000					12	7	12	3	110
8	6	U55	BEAM	E	10	S	X					3	8.000	3	6.875					10	11	10	7	127
7	4	U56	BEAM	E	10	S	X					6.000	2	6.000						3	6	3	4	16
7	4	U57	BEAM	E	10	S	X					6.000	5	3.000						6	3	6	1	28
56	10	V51	COLUMN		20		X			17	10.000									17	10	17	10	4297
36	8	V52	COLUMN	E	20		X			18	0.000									18	0	18	0	1730
10	W5	W50	ANCBOLT WELL	E	22		X			15.000		9.125								23	0	23	0	38
10	W5	W51	ANCBOLT WELL	E	22		X			18.000		9.125								26	1	26	1	44
			INTERMEDIATE																					
			BENT NO. 6																					
24	8	D61	FOOTING		20		X			10	8.000									10	8	10	8	684
4	6	D62	FOOTING		10		X					5	2.000	10	0.000					20	4	20	0	120
46	8	D63	FOOTING		20		X			8	7.000									8	7	8	7	1054
16	8	D64	FOOTING		20		X			8	8.000									8	8	8	8	370
13	10	H61	BEAM		20		X			39	3.000									39	3	39	3	2196
10	10	H62	BEAM		18		X			39	3.000									42	1	42	1	1811
4	6	H63	BEAM		20		X			39	3.000									39	3	39	3	236
10	6	H64	BEAM		20		X			3	9.000									3	9	3	9	56
12	6	H65	BEAM		10		X					22.000	4	3.000						7	11	7	7	137
66	4	P61	COLUMN		16		X			3	9.000									12	8	12	8	558
39	6	U61	BEAM		13	S	X			4	3.000	4	6.000	4	3.000	4	6.000			18	10	18	4	1074
20	6	U62	BEAM		13	S	X			2	10.750	4	6.000	2	10.750	4	6.000			16	2	15	8	471
8	6	U63	BEAM		10	S	X					4	6.000	2	10.750					11	11	11	7	139
6	6	U64	BEAM		10	S	X					4	6.000	4	3.000					13	3	12	11	116
7	4	U65	BEAM		10	S	X					6.000	4	3.000						5	3	5	1	24
46	8	V61	COLUMN		20		X			36	4.000									36	4	36	4	4462
20	W5	W60	ANCBOLT WELL		22		X			18.000		9.125								26	1	26	1	87
			INTERMEDIATE																					
			BENT NO. 7																					
24	8	D71	FOOTING		20		X			10	8.000									10	8	10	8	684
4	6	D72	FOOTING		10		X					5	2.000	10	0.000					20	4	20	0	120
46	8	D73	FOOTING		20		X			8	7.000									8	7	8	7	1054

# BILL OF REINFORCING STEEL

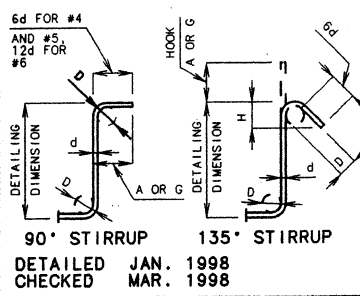
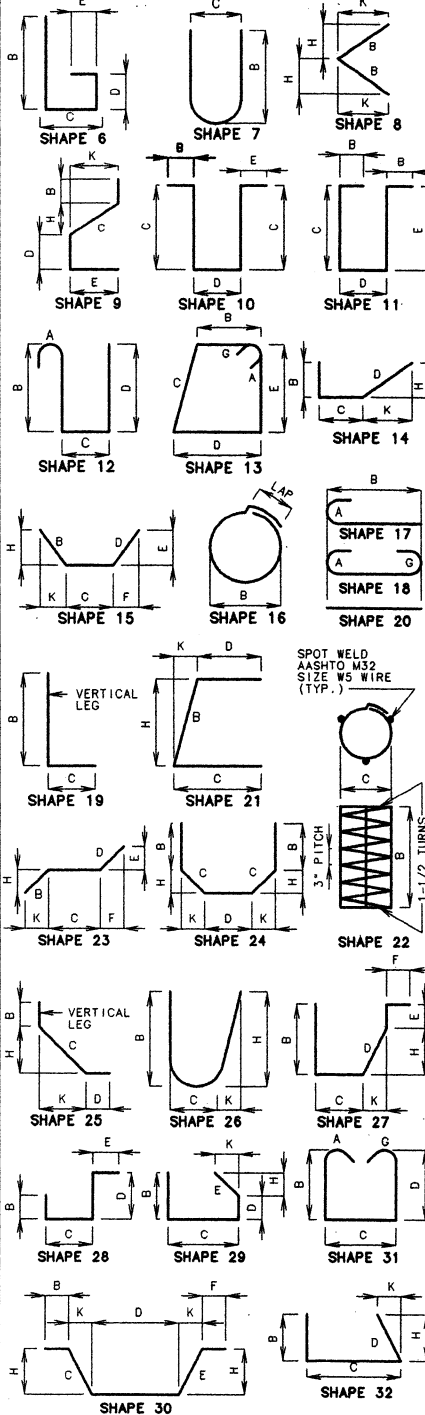
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	
									B	C	D	E	F	H	K				
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
16	8 D74	FOOTING		20	X				8	8.000							8	8	370
16	6 D75	BEAM KEY		20	X				2	6.000							2	6	60
13	10 H71	BEAM		20	X				38	9.000							38	9	2168
9	10 H72	BEAM		18	X				38	9.000							41	7	1610
4	6 H73	BEAM		20	X				38	9.000							38	9	233
9	6 H74	BEAM		20	X				3	9.000							3	9	51
12	6 H75	BEAM		10	X						22.000	4	3.000				7	7	137
68	4 P71	COLUMN		16	X				3	9.000							12	8	575
39	6 U71	BEAM		13	S X				4	3.000	4	6.000	4	3.000	4	6.000	18	10	1074
20	6 U72	BEAM		13	S X				2	10.750	4	6.000	2	10.750	4	6.000	16	2	471
8	6 U73	BEAM		10	S X				4	6.000	2	10.750					11	11	139
6	6 U74	BEAM		10	S X				4	6.000	4	3.000					13	3	116
7	4 U75	BEAM		10	S X				6.000	4	3.000						5	3	24
46	8 V71	COLUMN		20	X				37	5.000							37	5	4596
		INTERMEDIATE BENT NO. 8																	
22	8 D81	FOOTING		18	X				12	8.000							14	6	852
20	5 D82	FOOTING		18	X				7	8.000							8	10	184
58	9 D83	FOOTING		20	X				9	11.000							9	11	1956
58	8 D84	COLUMN		20	X				10	0.000							10	0	1549
16	6 D85	BEAM KEY		20	X				2	6.000							2	6	60
12	10 H81	BEAM		20	X				38	9.000							38	9	2001
8	10 H82	BEAM		18	X				38	9.000							41	7	1431
6	6 H83	BEAM		20	X				38	9.000							38	9	349
8	6 H84	BEAM		20	X				3	9.000							3	9	45
12	6 H85	BEAM		10	X						22.000	4	9.000				8	5	146
54	4 P81	COLUMN		16	X				4	9.000							15	9	568
42	4 P82	COLUMN		16	X				4	3.000							14	3	400
37	6 U81	BEAM		13	S X				4	9.000	4	9.000	4	9.000	4	9.000	20	4	1102
16	6 U82	BEAM		13	S X				3	5.500	4	9.000	3	5.500	4	9.000	17	9	415
12	6 U83	BEAM		10	S X				4	9.000	3	5.500					13	0	228
8	6 U84	BEAM		10	S X				4	9.000	4	9.000					14	3	167
7	4 U85	BEAM		10	S X				6.000	4	9.000						5	9	26
58	9 V81	COLUMN		20	X				26	10.000							26	10	5292
58	8 V82	COLUMN		20	X				24	11.000							24	11	3859
		INTERMEDIATE BENT NO. 9																	

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

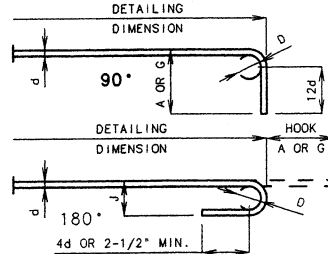
*M. J. S. L.* 4-23-01  
Signature



STATE: **MO.** JOB NO.: **J44011C** SHEET NO.: **91**  
PROJECT: **NO. F.A.M. 3375 (408)**  
MO.: **C.T.D. 980724-05-PCM**

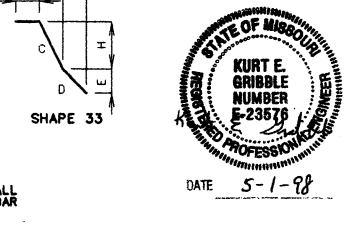
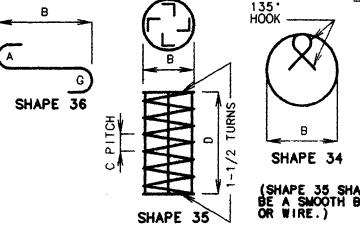


STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"



END HOOK DIMENSIONS			
BAR SIZE	D (IN.)	ALL GRADES	
#3	2-1/4"	5"	3"
#4	3"	6"	4"
#5	3-3/4"	7"	5"
#6	4-1/2"	8"	6"
#7	5-1/4"	10"	7"
#8	6"	11"	8"
#9	9-1/2"	15"	11-3/4"
#10	10-3/4"	17"	13-1/4"
#11	12"	19"	14-3/4"
#14	18-1/4"	21-3/4"	21-7"

**NOTE:**  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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 FABRICATOR'S 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) = FY 60,000 PSI.



BENDING DIAGRAMS



SHEET NO. 85 OF 93.

JACKSON

COUNTY

A5495



# 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.
24	8 D91	FOOTING		18	X				12	8.000							14	6	929
20	5 D92	FOOTING		18	X				7	8.000							8	10	184
58	9 D93	FOOTING		20	X				9	11.000							9	11	1956
58	8 D94	COLUMN		20	X				10	0.000							10	0	1549
16	6 D95	BEAM KEY		20	X				2	6.000							2	6	60
12	10 H91	BEAM		20	X				38	9.000							38	9	2001
8	10 H92	BEAM		18	X				38	9.000							41	7	1431
6	6 H93	BEAM		20	X				38	9.000							38	9	349
8	6 H94	BEAM		20	X				3	9.000							3	9	45
12	6 H95	BEAM		10	X						22.000	4	9.000				8	5	146
52	4 P91	COLUMN		16	X				4	9.000							15	9	547
42	4 P92	COLUMN		16	X				4	3.000							14	3	400
37	6 U91	BEAM		13	S X				4	9.000	4	9.000	4	9.000	4	9.000	20	4	1102
16	6 U92	BEAM		13	S X				3	5.500	4	9.000	3	5.500	4	9.000	17	9	415
12	6 U93	BEAM		10	S X						4	9.000	3	5.500			13	0	228
8	6 U94	BEAM		10	S X						4	9.000	4	9.000			14	3	167
7	4 U95	BEAM		10	S X						6.000	4	9.000				5	9	26
58	9 V91	COLUMN		20	X				25	10.000							25	10	5094
58	8 V92	COLUMN		20	X				25	6.000							25	6	3949
		INTERMEDIATE																	
		BENT NO. 10																	
28	8 D101	FOOTING		18	X				13	8.000							15	6	1159
22	5 D102	FOOTING		18	X				7	8.000							8	10	203
58	9 D103	FOOTING		20	X				9	11.000							9	11	1956
58	8 D104	COLUMN		20	X				10	0.000							10	0	1549
12	10 H101	BEAM		20	X				39	3.000							39	3	2027
8	10 H102	BEAM		18	X				39	3.000							42	1	1449
6	6 H103	BEAM		20	X				39	3.000							39	3	354
8	6 H104	BEAM		20	X				3	9.000							3	9	45
12	6 H105	BEAM		10	X						22.000	4	9.000				8	5	146
50	4 P101	COLUMN		16	X				4	9.000							15	9	526
44	4 P102	COLUMN		16	X				4	3.000							14	3	419
37	6 U101	BEAM		13	S X				4	9.000	4	9.000	4	9.000	4	9.000	20	4	1102
16	6 U102	BEAM		13	S X				3	8.125	4	9.000	3	8.125	4	9.000	18	2	427
12	6 U103	BEAM		10	S X						4	9.000	3	8.125			13	2	231
8	6 U104	BEAM		10	S X						4	9.000	4	9.000			14	3	167
7	4 U105	BEAM		10	S X						6.000	4	9.000				5	9	26
58	9 V101	COLUMN		20	X				24	10.000							24	10	4897
58	8 V102	COLUMN		20	X				25	6.000							25	6	3949

# 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.				FT.	IN.	FT.	IN.	LBS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

# 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	
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
37	6	U121	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000			20	4	19	10	1102
16	6	U122	BEAM		13	S	X			3	8.125	4	9.000	3	8.125	4	9.000			18	2	17	9	427
12	6	U123	BEAM		10	S	X				4	9.000	3	8.125						13	2	12	10	231
8	6	U124	BEAM		10	S	X				4	9.000	4	9.000						14	3	13	11	167
7	4	U125	BEAM		10	S	X				6.000	4	9.000							5	9	5	7	26
58	9	V121	COLUMN		20		X			24	10.000									24	10	24	10	4897
58	8	V122	COLUMN		20		X			26	7.000									26	7	26	7	4117
20	W5	W120	ANCBOLT WELL		22		X			18.000	9.125									26	1	26	1	87
			INTERMEDIATE BENT NO. 13																					
26	8	D131	FOOTING		18		X			13	8.000									15	6	15	6	1076
22	5	D132	FOOTING		18		X			7	8.000									8	10	8	10	203
58	9	D133	FOOTING		20		X			9	11.000									9	11	9	11	1956
58	8	D134	COLUMN		20		X			10	0.000									10	0	10	0	1549
16	6	D135	BEAM KEY		20		X			2	6.000									2	6	2	6	60
12	10	H131	BEAM		20		X			38	9.000									38	9	38	9	2001
8	10	H132	BEAM		18		X			38	9.000									41	7	41	7	1431
6	6	H133	BEAM		20		X			38	9.000									38	9	38	9	349
8	6	H134	BEAM		20		X			3	9.000									3	9	3	9	45
12	6	H135	BEAM		10		X				22.000	4	9.000							8	5	8	1	146
50	4	P131	COLUMN		16		X			4	9.000									15	9	15	9	526
48	4	P132	COLUMN		16		X			4	3.000									14	3	14	3	457
37	6	U131	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000			20	4	19	10	1102
16	6	U132	BEAM		13	S	X			3	5.500	4	9.000	3	5.500	4	9.000			17	9	17	3	415
12	6	U133	BEAM		10	S	X				4	9.000	3	5.500						13	0	12	8	228
8	6	U134	BEAM		10	S	X				4	9.000	4	9.000						14	3	13	11	167
7	4	U135	BEAM		10	S	X				6.000	4	9.000							5	9	5	7	26
58	9	V131	COLUMN		20		X			24	10.000									24	10	24	10	4897
58	8	V132	COLUMN		20		X			27	7.000									27	7	27	7	4272
			INTERMEDIATE BENT NO. 14																					
26	8	D141	FOOTING		18		X			13	8.000									15	6	15	6	1076
22	5	D142	FOOTING		18		X			7	8.000									8	10	8	10	203
58	9	D143	FOOTING		20		X			9	11.000									9	11	9	11	1956
58	8	D144	COLUMN		20		X			10	0.000									10	0	10	0	1549
16	6	D145	BEAM KEY		20		X			2	6.000									2	6	2	6	60
12	10	H141	BEAM		20		X			38	9.000									38	9	38	9	2001

# BILL OF REINFORCING STEEL

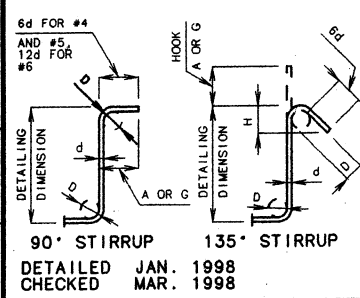
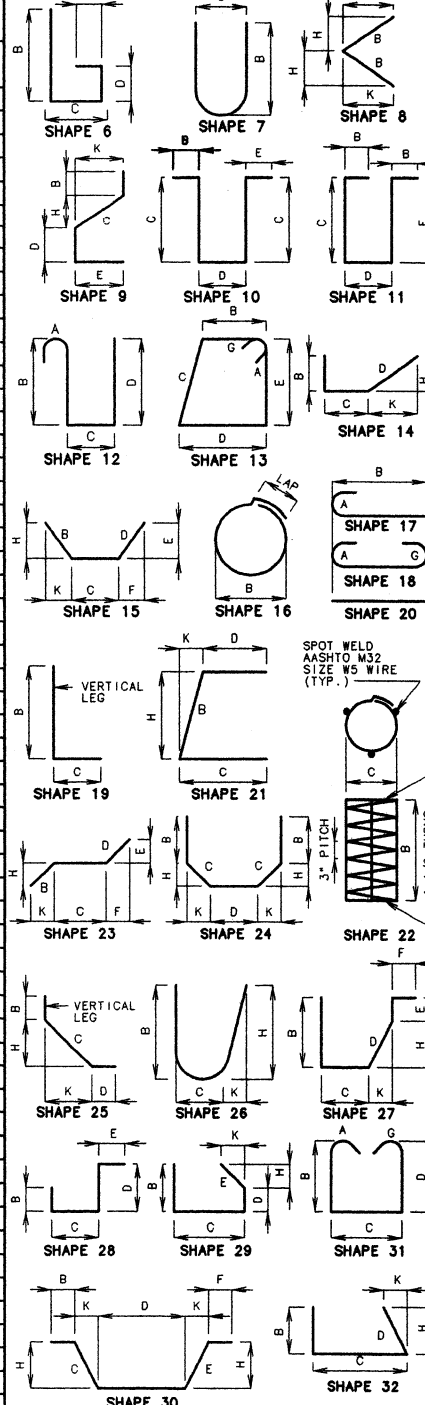
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT			
										B		C		D		E					F		H
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
8	10	H142	BEAM		18		X			38	9.000								41	7	41	7	143
6	6	H143	BEAM		20		X			38	9.000								38	9	38	9	349
8	6	H144	BEAM		20		X			3	9.000								3	9	3	9	45
12	6	H145	BEAM		10		X					22.000	4	9.000					8	5	8	1	146
50	4	P141	COLUMN		16		X			4	9.000								15	9	15	9	526
48	4	P142	COLUMN		16		X			4	3.000								14	3	14	3	457
37	6	U141	BEAM		13		S	X		4	9.000	4	9.000	4	9.000	4	9.000		20	4	19	10	1102
16	6	U142	BEAM		13		S	X		3	5.500	4	9.000	3	5.500	4	9.000		17	9	17	3	415
12	6	U143	BEAM		10		S	X			4	9.000	3	5.500					13	0	12	8	228
8	6	U144	BEAM		10		S	X			4	9.000	4	9.000					14	3	13	11	167
7	4	U145	BEAM		10		S	X			6.000	4	9.000						5	9	5	7	26
58	9	V141	COLUMN		20		X			24	10.000								24	10	24	10	4897
58	8	V142	COLUMN		20		X			28	2.000								28	2	28	2	4362
			INTERMEDIATE																				
			BENT NO. 15																				
26	8	D151	FOOTING		18		X			13	8.000								15	6	15	6	1076
22	5	D152	FOOTING		18		X			7	8.000								8	10	8	10	203
58	9	D153	FOOTING		20		X			9	11.000								9	11	9	11	1956
58	8	D154	COLUMN		20		X			10	0.000								10	0	10	0	1549
16	6	D155	BEAM KEY		20		X			2	6.000								2	6	2	6	60
12	10	H151	BEAM		20		X			38	9.000								38	9	38	9	2001
8	10	H152	BEAM		18		X			38	9.000								41	7	41	7	1431
6	6	H153	BEAM		20		X			38	9.000								38	9	38	9	349
8	6	H154	BEAM		20		X			3	9.000								3	9	3	9	45
12	6	H155	BEAM		10		X					22.000	4	9.000					8	5	8	1	146
50	4	P151	COLUMN		16		X			4	9.000								15	9	15	9	526
50	4	P152	COLUMN		16		X			4	3.000								14	3	14	3	476
37	6	U151	BEAM		13		S	X		4	9.000	4	9.000	4	9.000	4	9.000		20	4	19	10	1102
16	6	U152	BEAM		13		S	X		3	5.500	4	9.000	3	5.500	4	9.000		17	9	17	3	415
12	6	U153	BEAM		10		S	X			4	9.000	3	5.500					13	0	12	8	228
8	6	U154	BEAM		10		S	X			4	9.000	4	9.000					14	3	13	11	167
7	4	U155	BEAM		10		S	X			6.000	4	9.000						5	9	5	7	26
58	9	V151	COLUMN		20		X			24	10.000								24	10	24	10	4897
58	8	V152	COLUMN		20		X			28	8.000								28	8	28	8	4439
			INTERMEDIATE																				
			BENT NO. 16																				
26	8	D161	FOOTING		18		X			13	8.000								15	6	15	6	1076
22	5	D162	FOOTING		18		X			7	8.000								8	10	8	10	203

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design or construction of this project, except as I and my staff may have modified or authorized the modification of the project design during the construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

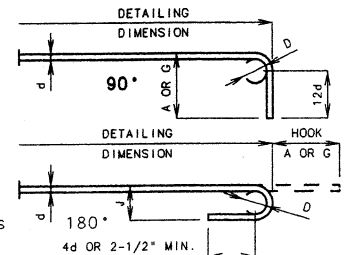
Signature: *M. J. Smith* Date: *4-25-01*



STATE: *MO.* PROJECT NO.: *93-01-000000-05-0000* SHEET NO.: *93*

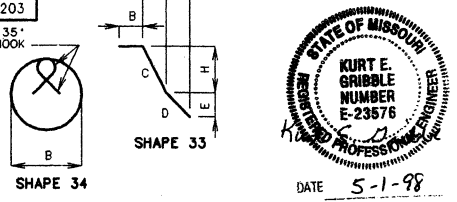
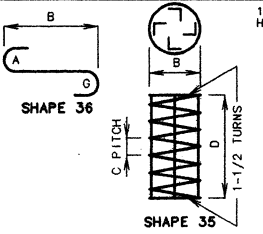


STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"



END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOK	90° HOOK	APPROX. H
#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"	24"
#14	18-1/4"	27-3/4"	21-3/4"	27"

**NOTE:**  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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) = FY 60,000 PSI.



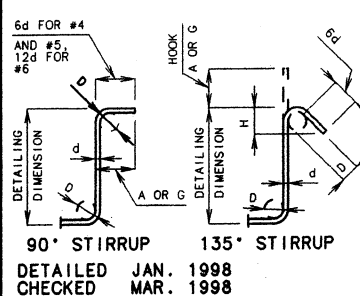
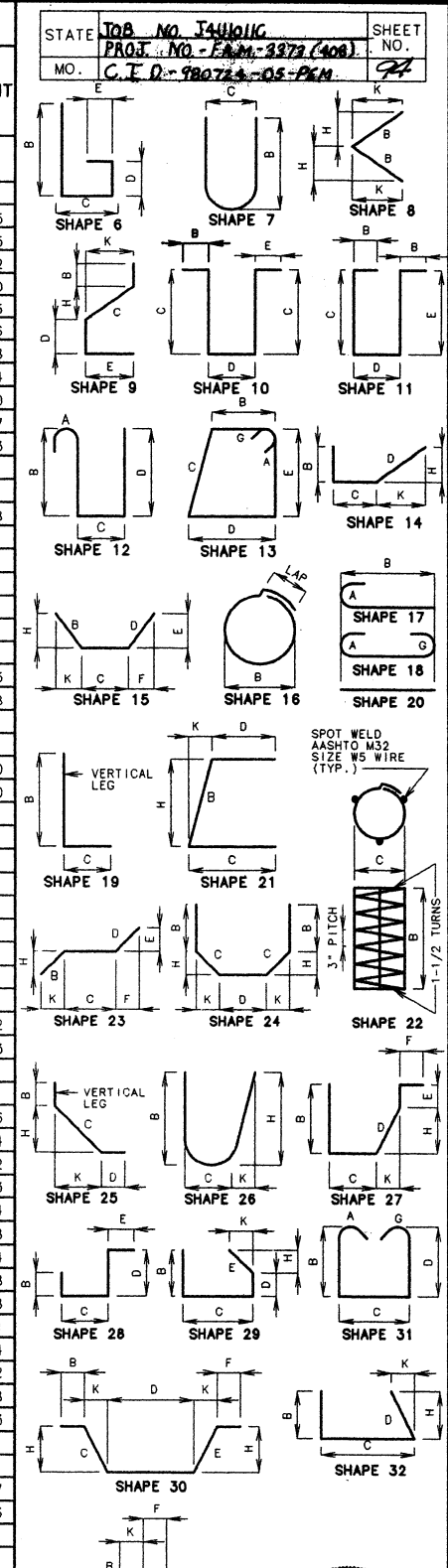
BENDING DIAGRAMS

# BILL OF REINFORCING STEEL

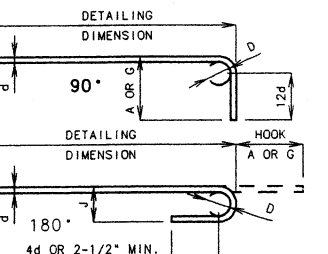
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (Y)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT						
										B	C	D	E	F	H	K									
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
58	9	D163	FOOTING		20		X			9	11.000							9	11	9	11	1956			
58	8	D164	COLUMN		20		X			10	0.000							10	0	10	0	1549			
11	10	H161	BEAM		20		X			39	3.000							39	3	39	3	1858			
8	10	H162	BEAM		18		X			39	3.000							42	1	42	1	1449			
6	6	H163	BEAM		20		X			39	3.000							39	3	39	3	354			
8	6	H164	BEAM		20		X			3	9.000							3	9	3	9	45			
12	6	H165	BEAM		10		X					22.000	4	9.000				8	5	8	1	146			
50	4	P161	COLUMN		16		X			4	9.000							15	9	15	9	526			
50	4	P162	COLUMN		16		X			4	3.000							14	3	14	3	476			
37	6	U161	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000	20	4	19	10	1102			
16	6	U162	BEAM		13	S	X			3	8.125	4	9.000	3	8.125	4	9.000	18	2	17	9	427			
12	6	U163	BEAM		10	S	X					4	9.000	3	8.125			13	2	12	10	231			
8	6	U164	BEAM		10	S	X					4	9.000	4	9.000			14	3	13	11	167			
7	4	U165	BEAM		10	S	X					6.000	4	9.000				5	9	5	7	26			
58	9	V161	COLUMN		20		X			24	10.000							24	10	24	10	4897			
58	8	V162	COLUMN		20		X			28	9.000							28	9	28	9	4452			
20	W5	W160	ANCBOLT WELL		22		X			18.000	9.125							26	1	26	1	87			
			END BENT NO. 17																						
12	6	F170	WING BRACE	E	15	S	X			14.000	4	7.500	14.000	9.875	9.875	9.875	9.875	7	0	6	11	125			
8	7	H170	BEAM	E	18		X			41	3.000							42	11	42	11	702			
1	4	H171	APPR. HAUNCH	E	20		X			36	3.000							36	3	36	3	24			
39	5	H172	BACKWALL	E	19		X			2	0.000	2	0.000					4	0	3	11	159			
2	6	H173	BEAM	E	20		X			41	3.000							41	3	41	3	124			
20	4	H174	BACKWALL	E	20		X			21	4.000							21	4	21	4	285			
2	6	H175	HEADWALL	E	20		X			41	3.000							41	3	41	3	124			
24	6	H176	WING	E	20		X			17	9.000							17	9	17	9	640			
* 14	6	H177	WING	E	20		X			10	3.000							10	3	10	3	216			
24	4	H178	MUD WALL	E	20		X			3	8.000							3	8	3	8	59			
16	5	H179	PILE	E	20		X			2	3.000							2	3	2	3	38			
4	6	H180	BEAM	E	20		X			3	9.000							3	9	3	9	23			
4	6	T170	WING	E	19		X			4	0.375	9	3.000					13	3	13	2	79			
4	6	T171	WING	E	19		X			3	8.000	8	8.000					12	4	12	2	73			
4	4	T172	WING	E	19		X			7	9.000	4	1.000					11	10	11	9	31			
37	4	U170	APPR. HAUNCH	E	10	S	X					15.000	6.000					3	0	2	10	70			
36	6	U171	BEAM	E	13	S	X			3	6.500	2	9.000	4	2.500	2	8.000	14	6	14	0	757			
35	4	U172	BEAM	E	10	S	X					6.000	3	6.000				4	6	4	4	101			
10	7	U173	BEAM	E	14		X			3	10.500	23.875	4	9.125			3	4.375	3	4.375	10	8	213		
9	6	U174	BEAM	E	14	S	X			2	8.000	3	6.500	2	9.000			2	8.000	8.000	9	0	8	8	117

# BILL OF REINFORCING STEEL

NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (Y)	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.
78		5 V170	BACKWALL	E	20	X				8	8.000							8	8		705	
4		6 V171	WING	E	20	X				4	2.000							4	2		25	
24		6 V172	WING	E	20	X				5	4.000							5	4		192	
24		6 V173	WING	E	17	X				5	2.000							5	10		210	
28		6 V174	WING	E	20	X				7	3.000							7	3		305	
28		6 V175	WING	E	17	X				7	1.000							7	9		326	
8		6 V176	WING	E	20	X				9	0.000							9	0		108	
8		6 V177	WING	E	17	X				8	10.000							9	6		114	
*	6	4 V178	MUD WALL	E	20	X				7	6.000							7	6		30	
4		6 V179	BEAM	E	20	X				2	9.000							2	9		17	
12		5 V180	PILE	E	20	X				3	5.000							3	5		43	
10	W5	W170	ANCBOLT WELL	E	22	X				15.000	9.125							23	0	23	0	38
			DEADMAN																			
			BENTS 1 & 17																			
**	8	4 H26	DEADMAN		20					23	4.000							23	4	23	4	125
**	8	4 H27	DEADMAN		20					14	8.000							14	8	14	8	78
**	47	4 U17	DEADMAN		13	S				9.000	2	6.000	9.000	2	6.000			7	3	7	0	220
**	30	4 U18	DEADMAN		13	S				9.000	18.000	9.000	18.000					5	3	5	0	100
			SUPERSTRUCT.																			
			END BENT																			
			NO. 1																			
14		6 F10	WING BRACE		15	S				14.000	4	5.875	14.000	9.875	9.875	9.875	9.875	6	10	6	9	142
12		6 F11	DIAPHRAGM		19	S				4	9.000	2	3.000					7	0	6	10	123
8		6 H10	BEAM		20					41	3.000							41	3	41	3	496
1		4 H11	APPR. HAUNCH		20					36	3.000							36	3	36	3	24
39		5 H12	APPR. SLAB	E	20					2	6.000							2	6	2	6	102
5		5 H13	DIAPHRAGM		20					4	6.000							4	6	4	6	23
2		6 H14	BEAM		20					41	3.000							41	3	41	3	124
16		6 H15	DIAPHRAGM		20					6	7.000							6	7	6	7	158
8		6 H16	DIAPHRAGM		20					2	0.000							2	0	2	0	24
4		6 H17	DIAPHRAGM		20					41	3.000							41	3	41	3	248
4		6 H18	DIAPHRAGM	E	20					41	3.000							41	3	41	3	248
4		6 H19	WING	E	20					18	5.000							18	5	18	5	111
24		6 H181	WING		20					18	5.000							18	5	18	5	664
16		6 H182	WING		20					10	11.000							10	11	10	11	262
16		5 H183	PILE		20					2	3.000							2	3	2	3	38
4		6 H184	BEAM		20					3	9.000							3	9	3	9	23
4		6 T10	WING		19					4	9.625	9	10.000					14	8	14	6	87
4		6 T11	WING		19					5	3.000	10	10.000					16	1	15	11	96



STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	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"



END HOOK DIMENSIONS				
R R Z	D (IN.)	ALL GRADES		
		180° HOOKS		90° HOOKS
		A OR G	J	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"	18"
10	10-3/8"	17"	13-1/4"	22"
11	12"	19"	14-3/4"	2'-0"
12	12-1/4"	21"	16-1/4"	2'-0"



# BILL OF REINFORCING STEEL

NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (Y)	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.	FT.	IN.
26	5	U10	BEAM		10	S					5	5.875	2	3.000					13	3	13	0	353		
20	4	U11	BEAM		13	S					2	3.000	2	9.000	2	3.000	2	9.000			10	9	10	6	140
5	4	U12	BEAM		10	S							2	9.000	2	3.000					7	9	7	7	25
32	5	U13	DIAPHRAGM	E	10	S							4	9.875	2	3.000					11	11	11	8	389
26	4	U14	APPR. HAUNCH		10	S							17	500	6	000					3	5	3	3	56
53	6	U15	DIAPHRAGM	E	19	S					4	9.875	4	5.000							9	3	9	1	723
5	4	U16	BEAM		10	S							6	000	2	3.000					3	3	3	1	10
12	5	V10	BEAM		20						5	6.000									5	6	5	6	69
28	6	V11	WING		20						4	11.000									4	11	4	11	207
40	6	V12	WING		20						8	0.000									8	0	8	0	481
12	5	V13	PILE		20						3	5.000									3	5	3	5	43
			DIAPH. •																						
			INT. BENTS																						
			2 & 4																						
32	6	H200	DIAPHRAGM		20						6	7.000									6	7	6	7	316
32	4	H201	DIAPHRAGM		20						7	10.000									7	10	7	10	167
16	5	H202	DIAPHRAGM		20						3	5.000									3	5	3	5	57
24	5	H203	DIAPHRAGM		20						4	6.000									4	6	4	6	113
80	4	U200	DIAPHRAGM	E	28	S							2	0.000	4	9.125	12.000				7	9	7	7	405
32	6	U201	DIAPHRAGM	E	28	S							2	2.000	4	9.375	14.000				8	1	7	10	377
32	5	U202	DIAPHRAGM		19	S					3	2.000		9.000							3	11	3	10	128
16	5	V200	DIAPHRAGM	E	20						4	11.000									4	11	4	11	82
			DIAPH. •																						
			INT. BENT																						
			3																						
16	6	H400	DIAPHRAGM		20						6	7.000									6	7	6	7	158
16	4	H401	DIAPHRAGM		20						7	10.000									7	10	7	10	84
8	5	H402	DIAPHRAGM		20						3	5.000									3	5	3	5	29
12	5	H403	DIAPHRAGM		20						4	6.000									4	6	4	6	56
40	4	U400	DIAPHRAGM	E	28	S							2	2.000	4	9.125	12.000				7	11	7	9	207
16	6	U401	DIAPHRAGM	E	28	S							2	4.000	4	9.375	14.000				8	3	8	0	192
16	5	U402	DIAPHRAGM		19	S					3	2.000		13.000							4	3	4	2	70
8	5	V400	DIAPHRAGM	E	20						4	11.000									4	11	4	11	41
			DIAPH. •																						
			INT. BENT																						
			5																						
4	6	H500	DIAPHRAGM	E	20						39	3.000									39	3	39	3	236
12	7	H501	DIAPHRAGM	E	20						8	0.000									8	0	8	0	196

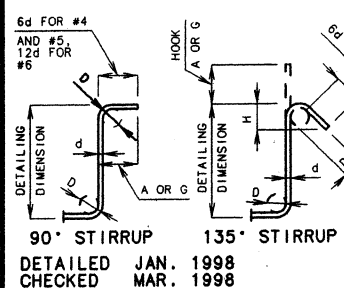
# BILL OF REINFORCING STEEL

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
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
8	6	H502	DIAPHRAGM	E	20					8	0.000								8	0	8	0	96
4	6	H503	DIAPHRAGM	E	20					5	0.000								5	0	5	0	30
3	6	H504	DIAPHRAGM	E	20					6	0.000								6	0	6	0	27
8	5	H505	DIAPHRAGM	E	20					2	0.000								2	0	2	0	17
3	5	H506	DIAPHRAGM	E	20					4	5.000								4	5	4	5	14
2	5	H507	DIAPHRAGM	E	20					3	11.000								3	11	3	11	8
4	6	H508	DIAPHRAGM	E	20					6	7.000								6	7	6	7	40
1	6	H509	DIAPHRAGM	E	20					37	7.000								37	7	37	7	56
4	4	H510	DIAPHRAGM	E	20					7	10.000								7	10	7	10	21
1	4	H511	DIAPHRAGM	E	20					37	7.000								37	7	37	7	25
14	9	H512	DIAPHRAGM	E	20					7	10.000								7	10	7	10	373
1	5	H513	DIAPHRAGM	E	20					37	7.000								37	7	37	7	39
8	4	H514	DIAPHRAGM	E	20					2	0.000								2	0	2	0	11
3	4	H515	DIAPHRAGM	E	20					4	9.000								4	9	4	9	10
2	4	H516	DIAPHRAGM	E	20					3	6.000								3	6	3	6	5
16	4	U500	DIAPHRAGM	E	28	S					15.000	3	11.750	12.000					6	3	6	1	65
16	4	U501	DIAPHRAGM	E	27	S				15.000	3	1.375	14.625	12.000			10.375	10.375	6	7	6	5	69
8	6	U502	DIAPHRAGM	E	28	S					15.000	4	3.125	14.000					6	8	6	4	76
8	6	U503	DIAPHRAGM	E	27	S				15.000	3	4.500	15.000	14.000			10.625	10.625	7	1	6	10	82
8	6	U504	DIAPHRAGM	E	28	S					15.000	4	9.250	14.000					7	2	6	11	83
8	6	U505	DIAPHRAGM	E	27	S				15.000	3	10.625	15.000	14.000			10.625	10.625	7	7	7	4	88
8	6	U506	DIAPHRAGM	E	28	S					15.000	5	3.250	14.000					7	8	7	5	89
8	6	U507	DIAPHRAGM	E	27	S				15.000	4	4.625	15.000	14.000			10.625	10.625	8	1	7	10	94
8	6	U508	DIAPHRAGM	E	19	S				4	7.000	15.000							5	10	5	8	68
8	6	U509	DIAPHRAGM	E	19	S				4	10.500	15.000							6	2	6	0	72
16	5	U510	DIAPHRAGM	E	20					4	1.000								4	1	4	1	68
4	5	U511	DIAPHRAGM	E	15	S				15.250	5	1.000					10.750	10.750	6	4	6	4	26
8	5	U512	DIAPHRAGM	E	6	S				4	0.500	13.000	18.000						6	8	6	5	54
2	5	U513	DIAPHRAGM	E	19	S				4	8.500	13.000							5	10	5	8	12
16	4	U514	DIAPHRAGM	E	28	S					15.000		2	2.250	12.000				4	5	4	3	45
16	4	U515	DIAPHRAGM	E	27	S				15.000	15.500	15.250	12.000			10.750	10.750	4	10	4	8	50	
8	6	U516	DIAPHRAGM	E	28	S					15.000	2	5.500	14.000					4	11	4	7	55
8	6	U517	DIAPHRAGM	E	27	S				15.000	18.500	15.500	14.000			11.000	11.000	5	3	5	0	60	
8	6	U518	DIAPHRAGM	E	28	S					15.000	3	0.000	14.000					5	5	5	1	61
8	6	U519	DIAPHRAGM	E	27	S				15.000	2	1.000	15.500	14.000			11.000	11.000	5	10	5	7	67
8	6	U520	DIAPHRAGM	E	28	S					15.000	3	6.625	14.000					6	0	5	8	68
8	6	U521	DIAPHRAGM	E	27	S				15.000	2	7.625	15.500	14.000			11.000	11.000	6	4	6	1	73
8	6	U522	DIAPHRAGM	E	28	S					15.000	4	1.250	14.000					6	6	6	3	75
8	6	U523	DIAPHRAGM	E	27	S				15.000	3	2.250	15.500	14.000			11.000	11.000	6	11	6	8	80
8	5	U524	DIAPHRAGM	E	19	S				3	2.000	13.000							4	3	4	2	35

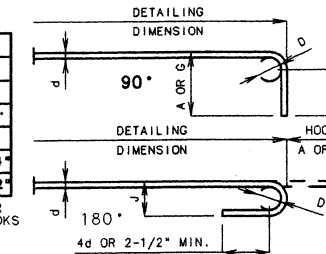


# BILL OF REINFORCING STEEL

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.	FT. IN.	FT. IN.	LBS.
16	5 H306	DIAPHRAGM		20					3 11.000							3 11	3 11	65
24	6 H307	DIAPHRAGM		20					6 0.000							6 0	6 0	216
128	4 U300	DIAPHRAGM	E 28	S						2 2.000	3 11.875	12.000				7 2	7 0	599
64	6 U301	DIAPHRAGM	E 28	S						2 7.000	5 0.750	14.000				8 10	8 6	817
80	6 U302	DIAPHRAGM	E 19	S					4 9.750	2 7.000						7 5	7 3	871
32	5 U303	DIAPHRAGM	E 15	S					15.250	5 1.000				10.750	10.750	6 4	6 4	211
64	5 U304	DIAPHRAGM	E 6	S					4 0.500	13.000	18.000					6 8	6 5	428
16	5 U305	DIAPHRAGM	E 19	S					4 8.500	13.000						5 10	5 8	95
64	5 U306	DIAPHRAGM	E 20	S					4 1.000							4 1	4 1	273
80	5 U307	DIAPHRAGM	E 10	S						2 0.000	23.600					5 11	5 9	480
		DIAPH. •																
		INT. BENTS																
		7, 8, 9, 13																
		14 & 15																
96	6 H600	DIAPHRAGM		20					6 5.000							6 5	6 5	925
144	4 H601	DIAPHRAGM		20					8 0.000							8 0	8 0	770
48	5 H602	DIAPHRAGM		20					3 7.000							3 7	3 7	179
72	5 H603	DIAPHRAGM		20					4 8.000							4 8	4 8	350
36	6 H604	DIAPHRAGM		20					6 0.000							6 0	6 0	324
240	4 U600	DIAPHRAGM	E 28	S						2 0.000	6 4.000	12.000				9 4	9 2	1470
96	6 U601	DIAPHRAGM	E 19	S					5 1.875	2 2.000						7 4	7 2	1033
144	5 U602	DIAPHRAGM	E 19	S					4 7.875	9.000						5 5	5 4	801
24	6 U603	DIAPHRAGM	E 19	S					4 10.875	22.000						6 9	6 7	237
48	5 V600	DIAPHRAGM	E 20						6 6.000							6 6	6 6	325
		DIAPH. •																
		INT. BENT																
		11																
8	6 H700	DIAPHRAGM	E 20						39 3.000							39 3	39 3	472
24	7 H701	DIAPHRAGM	E 20						8 0.000							8 0	8 0	392
16	6 H702	DIAPHRAGM	E 20						8 0.000							8 0	8 0	192
8	6 H703	DIAPHRAGM	E 20						5 0.000							5 0	5 0	60
16	5 H704	DIAPHRAGM	E 20						2 0.000							2 0	2 0	33
6	5 H705	DIAPHRAGM	E 20						4 5.000							4 5	4 5	28
4	5 H706	DIAPHRAGM	E 20						3 11.000							3 11	3 11	16
6	6 H707	DIAPHRAGM	E 20						6 0.000							6 0	6 0	54
32	4 U700	DIAPHRAGM	E 28	S						15.000	4 0.000	12.000				6 3	6 1	130
32	4 U701	DIAPHRAGM	E 27	S					15.000	3 1.625	14.625	12.000		10.375	10.375	6 7	6 6	139
16	6 U702	DIAPHRAGM	E 28	S						15.000	4 3.125	14.000				6 8	6 4	152
16	6 U703	DIAPHRAGM	E 27	S					15.000	3 4.500	15.000	14.000		10.625	10.625	7 1	6 10	164
16	6 U704	DIAPHRAGM	E 28	S						15.000	4 9.250	14.000				7 2	6 11	166
16	6 U705	DIAPHRAGM	E 27	S					15.000	3 10.625	15.000	14.000		10.625	10.625	7 7	7 4	176
16	6 U706	DIAPHRAGM	E 28	S						15.000	5 3.250	14.000				7 8	7 5	178
16	6 U707	DIAPHRAGM	E 27	S					15.000	4 4.625	15.000	14.000		10.625	10.625	8 1	7 10	188
16	6 U708	DIAPHRAGM	E 19	S					4 7.000	15.000						5 10	5 8	136

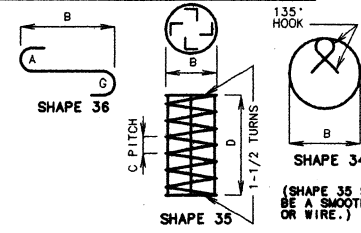


STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"

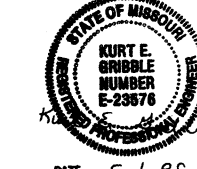


END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	ALL GRADES	180° HOOKS A OR G	90° HOOKS A OR G
#3	2-1/4"	5"	3"	8"
#4	3"	8"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	2'-0"
#14	18-1/4"	2'-3"	21-3/4"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

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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) = FY 60,000 PSI.



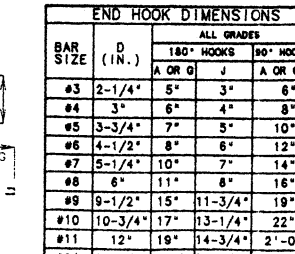
BENDING DIAGRAMS



# 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.	FT. IN.	FT. IN.	LBS.
16	6 U709	DIAPHRAGM	E 19	S					4 10.500	15.000						6 2	6 0	144
32	5 U710	DIAPHRAGM	E 20						4 1.000							4 1	4 1	136
8	5 U711	DIAPHRAGM	E 15	S					15.250	5 1.000				10.750	10.750	6 4	6 4	53
16	5 U712	DIAPHRAGM	E 6	S					4 0.500	13.000	18.000					6 8	6 5	107
4	5 U713	DIAPHRAGM	E 19	S					4 8.500	13.000						5 10	5 8	24
8	5 V700	DIAPHRAGM	E 20						4 7.000							4 7	4 7	38
		DIAPH. •																
		INT. BENT																
		17																
4	6 H800	DIAPHRAGM	E 20						39 3.000							39 3	39 3	236
* 14	7 H801	DIAPHRAGM	E 20						8 0.000							8 0	8 0	229
8	6 H802	DIAPHRAGM	E 20						8 0.000							8 0	8 0	96
4	6 H803	DIAPHRAGM	E 20						5 0.000							5 0	5 0	30
8	5 H804	DIAPHRAGM	E 20						2 0.000							2 0	2 0	17
3	5 H805	DIAPHRAGM	E 20						4 5.000							4 5	4 5	14
2	5 H806	DIAPHRAGM	E 20						3 11.000							3 11	3 11	8
3	6 H807	DIAPHRAGM	E 20						6 0.000							6 0	6 0	27
16	4 U800	DIAPHRAGM	E 28	S						15.000	3 10.375	12.000				6 1	5 11	63
16	4 U801	DIAPHRAGM	E 11	S						15.000	3 10.375	12.000				6 1	5 11	63
8	6 U802	DIAPHRAGM	E 28	S						15.000	4 1.500	14.000				6 7	6 3	75
8	6 U803	DIAPHRAGM	E 11	S						15.000	4 1.500	14.000				6 7	6 3	75
8	6 U804	DIAPHRAGM	E 28	S						15.000	4 7.625	14.000				7 1	6 9	81
8	6 U805	DIAPHRAGM	E 11	S						15.000	4 7.625	14.000				7 1	6 9	81
8	6 U806	DIAPHRAGM	E 28	S						15.000	5 1.625	14.000				7 7	7 3	87
8	6 U807	DIAPHRAGM	E 11	S						15.000	5 1.625	14.000				7 7	7 3	87
8	6 U808	DIAPHRAGM	E 19	S					4 7.000	15.000						5 10	5 8	68
8	6 U809	DIAPHRAGM	E 11	S						15.000	5 7.500	14.000				8 1	7 9	93

BILL OF REINFORCING STEEL

[illegible]

**NOTE:**  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.  
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS STATED ON THIS SHEET.  
E = EPOXY CAST REINFORCEMENT.  
S = STIRRUP.  
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.  
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LIST AND THE FOLLOWING INCHES.  
NO. EX. = NUMBER OF BARS OF EACH LENGTH.  
NOMINAL LENGTHS ARE BASED ON CUT 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.  
PAYOFF LENGTHS ARE BASED ON ACTUAL LENGTHS.  
FOUR WHOLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE PLACED INSIDE OF SPIRAL. END AND ANGLE OF COLUMN SPACERS ARE SHOWN ON DRAWING.

135°  
HOOK

B

SHAPE 34

(SHAPE 35 SHALL BE A SMOOTH BAR)

A circular professional engineer seal for the State of Missouri. The outer ring contains the text "STATE OF MISSOURI" at the top and "REGISTERED PROFESSIONAL ENGINEER" at the bottom. The center of the seal contains the text "KURT E. GRIBBLE", "NUMBER", and "E-23576". There are handwritten initials "K E G" and a date "12-1-12" over the seal.

A

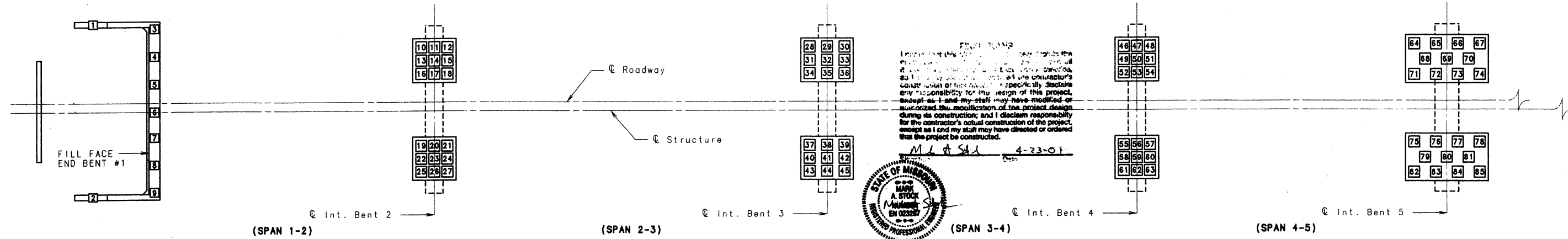
### BENDING DIAGRAMS

SHEET NO. 91 OF 9

LACKSO

COUNTY

1512



PART PLAN SHOWING  
PILE NUMBERING FOR RECORDING  
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	PRE BORE	REMARKS
END BENT NO. 1				
1	45.97	58	24.83	DRIVEN TO PRACTICAL REFUSAL HP 10x42#
2	46.30	59	24.88	
3	46.05	110	24.08	
4	45.90	126	24.08	
5	45.72	110	24.08	
6	46.05	126	24.08	
7	46.05	126	24.08	
8	46.05	126	24.08	
9	46.05	110	24.08	
SUB TOTAL	414		218	
INT. BENT NO. 2				
10-B	14.85	120		DRIVEN TO PRACTICAL REFUSAL HP 10x42#
11	14.50	110		
12-B	14.78	105		
13-B	14.67	105		
14	14.67	110		
15-B	14.59	105		
16-B	14.85	120		
17	14.82	126		
18-B	14.85	105		
19-B	14.92	120		
20	14.25	110		
21-B	14.59	120		
22-B	14.67	120		
23	14.42	126		
24-B	15.0	105		
25-B	15.00	105		
26	14.59	126		
27-B	15.17	120		
SUB TOTAL	265			
INT. BENT NO. 3				
28-B	12.00	120		DRIVEN TO PRACTICAL REFUSAL HP 10x42# 10' Pre-Bore, Paid L.S.
29	11.00	110		
30-B	11.00	120		
31-B	11.67	109		

"AS BUILT PILE" DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS	
32	11.00	114	DRIVEN TO PRACTICAL REFUSAL HP 10x42# 10' Pre-Bore, Paid L.S.	
33-B	12.33	109		
34-B	11.83	109		
35	11.00	126		
36-B	12.18	120		
37-B	11.67	120		
38	11.92	110		
39-B	11.92	120		
40-B	11.50	109		
41	11.83	114		
42-B	11.50	120		
43-B	11.00	109		
44	12.08	126		
45-B	11.67	120		
SUB TOTAL	209			
INT. BENT NO. 4				
46-B	11.59	120	DRIVEN TO PRACTICAL REFUSAL HP 10x42#	
47	12.09	110		
48-B	12.42	120		
49-B	11.67	109		
50	12.34	114		
51-B	12.50	120		
52-B	11.67	109		
53	12.67	126		
54-B	11.42	120		
55-B	11.42	120		
56	11.25	110		
57-B	12.00	120		
58-B	11.34	109		
59	11.34	114		
60-B	11.42	120		
61-B	11.34	109		
62	11.34	126		
63-B	11.34	120		
SUB TOTAL	211			

"AS BUILT PILE" DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS	
			INT. BENT NO. 5	
64-B	13.92 ✓	105 ✓	DRIVEN TO PRACTICAL REFUSAL HP 10X42#	
65	13.92 ✓	110 ✓		
66	13.67 ✓	126 ✓		
67-B	13.67 ✓	120 ✓		
68	13.67 ✓	126 ✓		
69	13.67 ✓	110 ✓		
70	13.75 ✓	110 ✓		
71-B	13.92 ✓	109 ✓		
72	13.67 ✓	114 ✓		
73	13.75 ✓	110 ✓		
74-B	14.00 ✓	105 ✓		
75-B	13.92 ✓	120 ✓		
76	13.67 ✓	126 ✓		
77	13.84 ✓	110 ✓		
78-B	13.84 ✓	105 ✓		
79	13.84 ✓	110 ✓		
80-B	13.92 ✓	120 ✓		
81	13.75 ✓	126 ✓		
82-B	14.00 ✓	105 ✓		
83	14.00 ✓	110 ✓		
84	13.84 ✓	126 ✓		
85-B	13.67 ✓	120 ✓		
SUB TOTAL	304			

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.

NOTE: INDICATE IN REMARK COLUMN:  
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.  
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.  
C.) TYPE OF PILING USED.

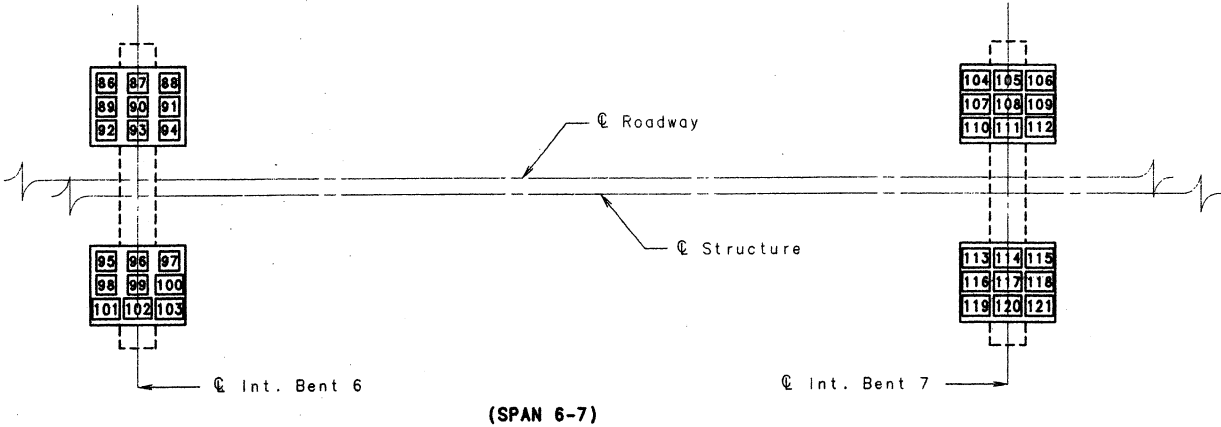
MISC. PILES IN .PLA. .A  
PILES IN PLACE  
MAY 1992

DETAILED JAN. 1998  
CHECKED MAR. 1998

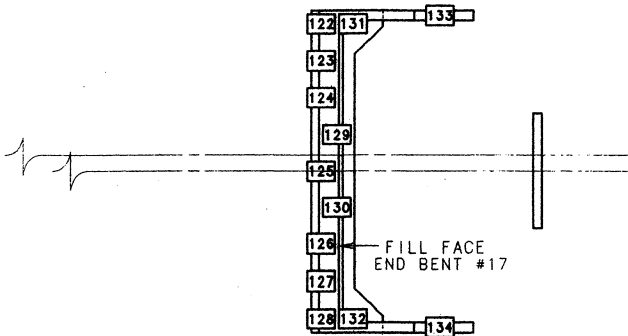
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 92 OF 93.





Int. Bents No. 8-16 have spread footings, no piles are required.



PART PLAN SHOWING  
PILE NUMBERING FOR RECORDING  
"AS BUILT PILE" DATA

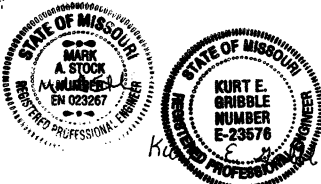
"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
INT. BENT NO. 6			
86-B	13.25	140	DRIVEN TO PRACTICAL REFUSAL HP 12X53**
87	13.50	135	
88-B	13.75	135	
89-B	13.92	136	
90	13.59	147	
91-B	13.67	135	
92-B	13.75	140	
93	13.50	135	
94-B	13.67	135	
95-B	13.84	140	
96	13.75	147	
97-B	13.92	140	
98-B	13.92	135	
99	13.75	135	
100-B	14.00	140	
101-B	13.84	140	
102	13.67	147	
103-B	13.84	135	
SUB TOTAL	247		

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
INT. BENT NO. 7			
104-B	14.67	140	DRIVEN TO PRACTICAL REFUSAL HP 12X53 #
105	13.67	133	
106-B	13.84	140	
107-B	13.67	135	
108	13.59	135	
109-B	13.09	140	
110-B	13.59	140	
111	13.67	147	
112-B	13.84	135	
113-B	13.84	135	
114	13.67	147	
115-B	13.84	140	
116-B	13.75	140	
117	13.59	135	
118-B	13.75	135	
119-B	13.75	140	
120	13.67	147	
121-B	13.75	140	
SUB TOTAL	247		

"AS BUILT PILE" DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	PREBORE	REMARKS
END BENT NO. 17				
122-B	59.00	101	42.04	DRIVEN TO PRACTICAL REFUSAL HP 10X42
123-B	59.20	115	42.04	
124-B	58.80	115	42.04	
125-B	59.10	115	42.04	
126-B	59.10	101	42.04	
127-B	58.70	101	42.04	
128-B	58.90	115	42.04	
129	57.00	126	42.04	
130	57.00	110	42.04	
131	56.80	126	42.04	
132	57.20	110	42.04	
133	58.80	88	44.85	
134	59.10	88	44.79	
SUB TOTAL	759		552	

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.

FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered the project be constructed.



NOTE: INDICATE IN REMARK COLUMN:  
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.  
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.  
C.) TYPE OF PILING USED.

DATE 5-1-98

MISC. PILES IN PLACE  
PILES IN PLACE  
MAY 1992

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 93 OF 93.

JACKSON COUNTY A5495

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

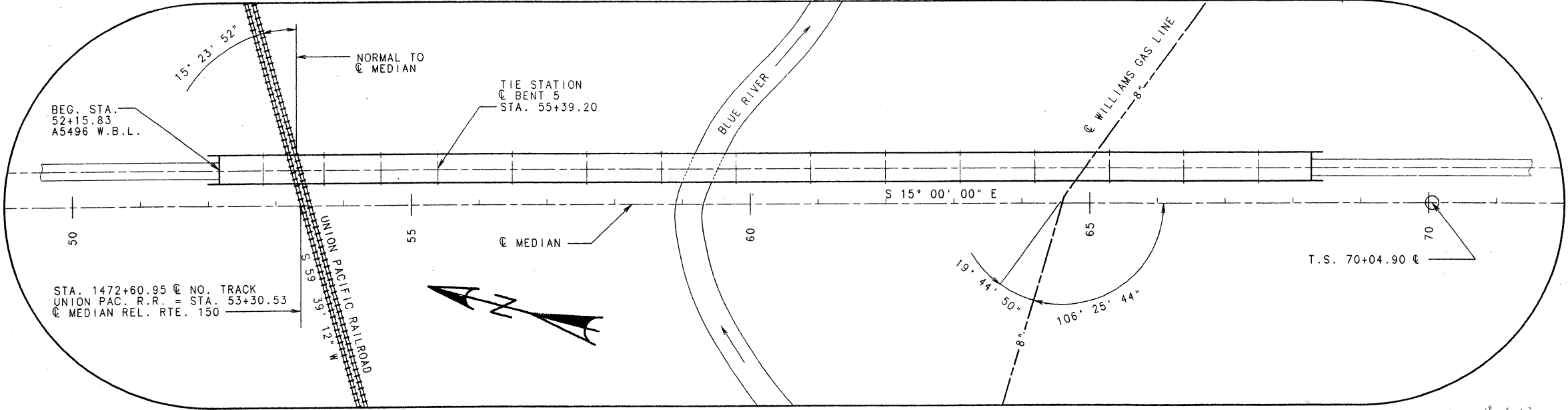
STATE	MO. JAWHIC	SHEET
NO.	PROJ. NO. F.A.M. 4373 (408)	NO.
MO.	C.T.D. - 980724-05-PEM	100
SEC./SUR.	29/30 TWP. 47 RGE. 33	

1. LOCATION SKETCH & INDEX OF DRAWINGS
2. PART PLAN AND PART ELEVATION
3. PART PLAN AND PART ELEVATION
4. PART PLAN AND PART ELEVATION
5. PART PLAN AND PART ELEVATION
6. PART PLAN AND PART ELEVATION
7. GENERAL NOTES-QUANTITIES-PILE & FOOTING TABLE-HYDROLOGIC DATA TABLE
8. BORING DATA
9. BORING DATA
10. VERTICAL DRAINS AT END BENTS
11. DETAILS OF DEADMAN ANCHORAGE SYSTEM
12. DETAILS OF END BENT NO. 1
13. DETAILS OF END BENT NO. 1
14. DETAILS OF INTERMEDIATE BENT NO. 2
15. DETAILS OF INTERMEDIATE BENT NO. 2
16. DETAILS OF INTERMEDIATE BENT NO. 3
17. DETAILS OF INTERMEDIATE BENT NO. 3
18. DETAILS OF INTERMEDIATE BENT NO. 4
19. DETAILS OF INTERMEDIATE BENT NO. 4
20. DETAILS OF INTERMEDIATE BENT NO. 5
21. DETAILS OF INTERMEDIATE BENT NO. 5
22. DETAILS OF INTERMEDIATE BENT NO. 6
23. DETAILS OF INTERMEDIATE BENT NO. 6
24. DETAILS OF INTERMEDIATE BENT NO. 7
25. DETAILS OF INTERMEDIATE BENT NO. 7
26. DETAILS OF INTERMEDIATE BENT NO. 8
27. DETAILS OF INTERMEDIATE BENT NO. 8
28. DETAILS OF INTERMEDIATE BENT NO. 9
29. DETAILS OF INTERMEDIATE BENT NO. 9
30. DETAILS OF INTERMEDIATE BENT NO. 10
31. DETAILS OF INTERMEDIATE BENT NO. 10

32. DETAILS OF INTERMEDIATE BENT NO. 11
33. DETAILS OF INTERMEDIATE BENT NO. 11
34. DETAILS OF INTERMEDIATE BENT NO. 12
35. DETAILS OF INTERMEDIATE BENT NO. 12
36. DETAILS OF INTERMEDIATE BENT NO. 13
37. DETAILS OF INTERMEDIATE BENT NO. 13
38. DETAILS OF INTERMEDIATE BENT NO. 14
39. DETAILS OF INTERMEDIATE BENT NO. 14
40. DETAILS OF INTERMEDIATE BENT NO. 15
41. DETAILS OF INTERMEDIATE BENT NO. 15
42. DETAILS OF INTERMEDIATE BENT NO. 16
43. DETAILS OF INTERMEDIATE BENT NO. 16
44. DETAILS OF END BENT NO. 17
45. DETAILS OF END BENT NO. 17
46. DETAILS OF END BENT NO. 17
47. DETAILS OF LAMINATED NEOPRENE BEARING PAD
48. DETAILS OF TYPE "N" PTFE BEARING PAD
49. DETAILS OF GIRDERS - SPAN (1-2)
50. DETAILS OF GIRDERS - SPAN (2-3)
51. DETAILS OF GIRDERS - SPAN (3-4)
52. DETAILS OF GIRDERS - SPAN (4-5)
53. DETAILS OF GIRDERS - SPAN (5-6)
54. DETAILS OF GIRDERS - SPANS (6-7), (7-8), (8-9) & (9-10)
55. DETAILS OF GIRDERS - SPAN (10-11)
56. DETAILS OF GIRDERS - SPAN (11-12)
57. DETAILS OF GIRDERS - SPANS (12-13), (13-14), (14-15) & (15-16)
58. DETAILS OF GIRDERS - SPAN (16-17)
59. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENTS NO. 2, 4, 6, 10, 12 & 16
60. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENTS NO. 3, 7, 8, 9, 13, 14 & 15
61. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 5
62. DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 11

63. DETAILS OF DIAPHRAGM AT END BENT NO. 17
64. DETAILS OF STEEL INTERMEDIATE DIAPHRAGMS
65. DETAILS OF FINGER PLATE EXPANSION DEVICE AT BENTS 5 & 11
66. DETAILS OF FLAT PLATE EXPANSION DEVICE AT END BENT NO. 17
67. PLAN OF SLAB REINFORCEMENT
68. PLAN OF SLAB REINFORCEMENT
69. PLAN OF SLAB REINFORCEMENT
70. PRECAST PRESTRESSED PANELS
71. CAMBER DIAGRAM & SLAB POURING SEQUENCE
72. THEORETICAL SLAB HAUNCHING DIAGRAM
73. THEORETICAL BOTTOM OF SLAB ELEVATIONS
74. THEORETICAL BOTTOM OF SLAB ELEVATIONS
75. DETAILS OF SLAB DRAINS
76. DETAILS OF SLAB DRAINS
77. DETAILS OF SLAB DRAINS
78. DETAILS OF SAFETY BARRIER CURB AT END BENT NO. 1 AND END BENT NO. 17.
79. DETAILS OF SAFETY BARRIER CURB - SECTION NEAR LEFT BARRIER CURB
80. OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB
81. DETAILS OF SPLASH PROTECTION SHIELD
82. APPROACH SLAB AT END BENT NO. 1
83. APPROACH SLAB AT END BENT NO. 17
84. BAR BILL
85. BAR BILL
86. BAR BILL
87. BAR BILL
88. BAR BILL
89. BAR BILL
90. BAR BILL
91. BAR BILL
92. "AS BUILT PILE" DATA
93. "AS BUILT PILE" DATA

**FINAL PLANS**  
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M.L.A. S.H. 4-23-98  
Signature Date



LOCATION SKETCH

**WARNING!**  
**PETROLEUM PRODUCTS PIPELINE!**  
AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION  
CONTACT WILLIAMS PIPE LINE COMPANY AT  
8001 COLLEGE BLVD., SUITE 200  
OVERLAND PARK, KS 66210  
(913) 663-9331

BM#1501 - ELEV. 866.16  
100d SPIKE, N.W. FACE  
R.R. TELEGRAPH POLE,  
200' R/O STA. 53+30±  
© RELOCATED RTE. 150.

**BRIDGE OVER BLUE RIVER &  
UNION PACIFIC RAILROAD**  
**STATE ROAD FROM RTE. 71 TO KANSAS STATE LINE**  
**ABOUT 0.7 MI. S.E. OF KANSAS STATE LINE**  
**PROJECT NO. STA. 55+39.20**  
**JOB NO. J4U1011C RTE.150 W.B.L.**  
**JACKSON COUNTY**



DESIGNED JULY 1998  
DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

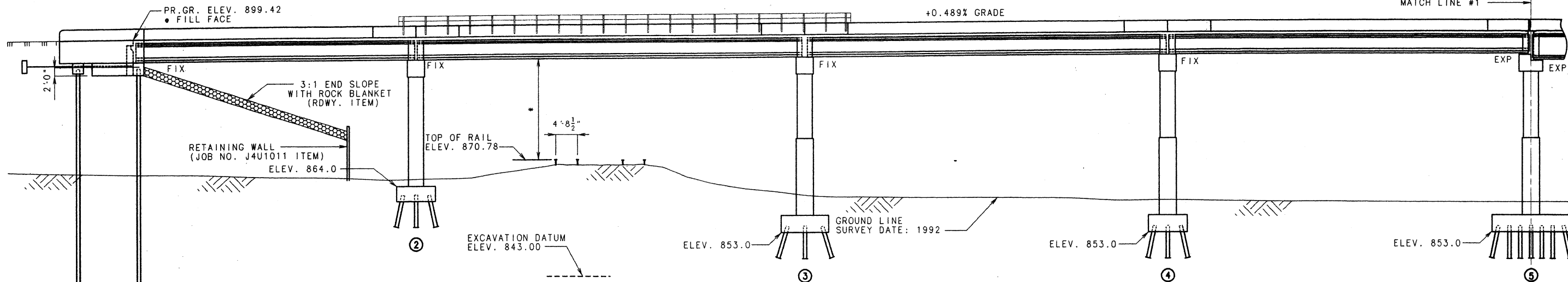
SHEET NO. 1 OF 93.

DATE 5/14/98

STD. 609.00
STD. 706.35
A5496

(65'-90'-84'-84') P/S CONC. I-GIRDER  
(6+110')(5+110'-78') P/S BULB-TEE GIRDERS

STATE MO. JOB NO. J4U1011C SHEET NO. 101  
PROJ. NO. FAM-3371400  
MO. C.T.D.-980724-05-PEM



## PART ELEVATION

\* FINAL VERTICAL CLEARANCE FROM TOP OF RAILS TO BOTTOM OF SUPERSTRUCTURE SHALL BE AT LEAST 23'-0". TRACK ELEVATIONS SHOULD BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION TO DETERMINE IF THE FINAL VERTICAL CLEARANCE SHOWN WILL BE OBTAINED.

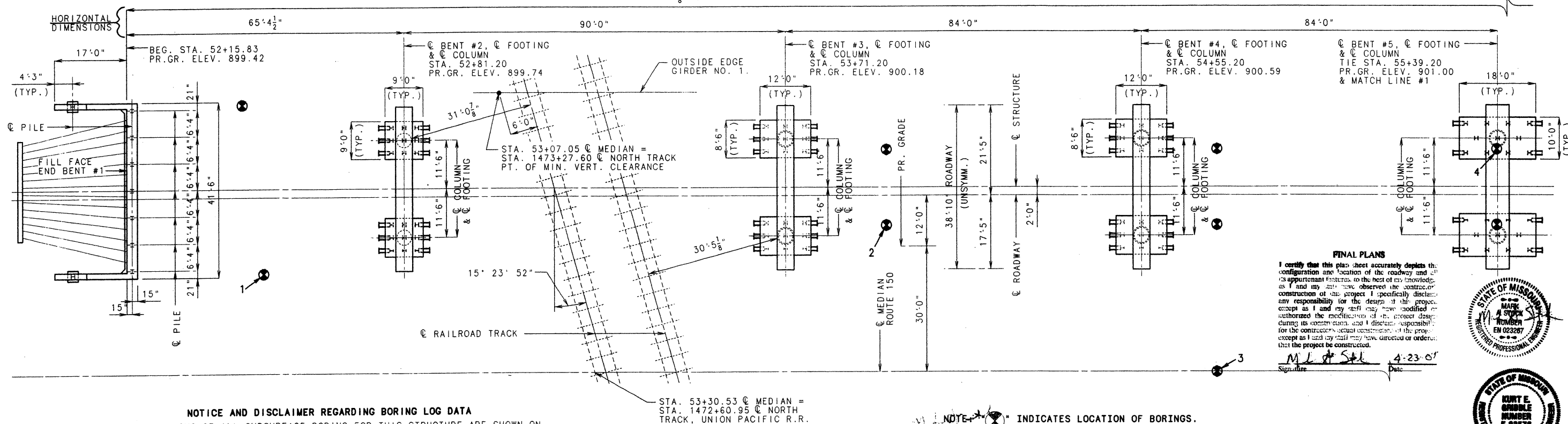
SPAN (1-2)

SPAN (2-3)

SPAN (3-4)

SPAN (4-5)

1612'-8 1/8" (FILL FACE BT. #1 TO FILL FACE BT. #17)



## PART PLAN

### NOTICE AND DISCLAIMER REGARDING BORING LOG DATA

THE LOCATIONS OF ALL SUBSURFACE BORING FOR THIS STRUCTURE ARE SHOWN ON THE BRIDGE PLAN SHEETS FOR THIS STRUCTURE. BORING DATA FOR THE NUMBERED LOCATIONS ARE SHOWN ON SHEETS NO. 8 AND NO. 9. THE BORING DATA FOR ALL LOCATIONS INDICATED, AS WELL AS ANY OTHER BORING LOGS OR OTHER FACTUAL RECORDS OF SUBSURFACE DATA AND INVESTIGATIONS PERFORMED BY THE DEPARTMENT FOR THE DESIGN OF THE PROJECT, IS AVAILABLE FROM THE DISTRICT MATERIALS ENGINEER OR PROJECT CONTACT UPON WRITTEN REQUEST AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS. NO GREATER SIGNIFICANCE OR WEIGHT SHOULD BE GIVEN TO THE BORING DATA DEPICTED ON THE PLAN SHEETS THAN TO SUBSURFACE DATA AVAILABLE FROM THE DISTRICT OR ELSEWHERE.

NOTE: \* INDICATES LOCATION OF BORINGS.

THE COMMISSION DOES NOT REPRESENT OR WARRANT THAT ANY SUCH BORING DATA ACCURATELY DEPICTS THE CONDITIONS TO BE ENCOUNTERED IN CONSTRUCTING THIS PROJECT. A CONTRACTOR ASSUMES ALL RISK OF ENCOUNTERING IN BASING ITS BID PRICES, TIME OR SCHEDULE OF PERFORMANCE ON THE BORING DATA DEPICTED HERE OR THOSE AVAILABLE FROM THE DISTRICT, OR ON ANY OTHER DOCUMENTATION NOT EXPRESSLY WARRANTED, WHICH THE CONTRACTOR MAY OBTAIN FROM THE COMMISSION.

**FINAL PLANS**  
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Signature: M. L. St. John Date: 4-23-97



DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 93.

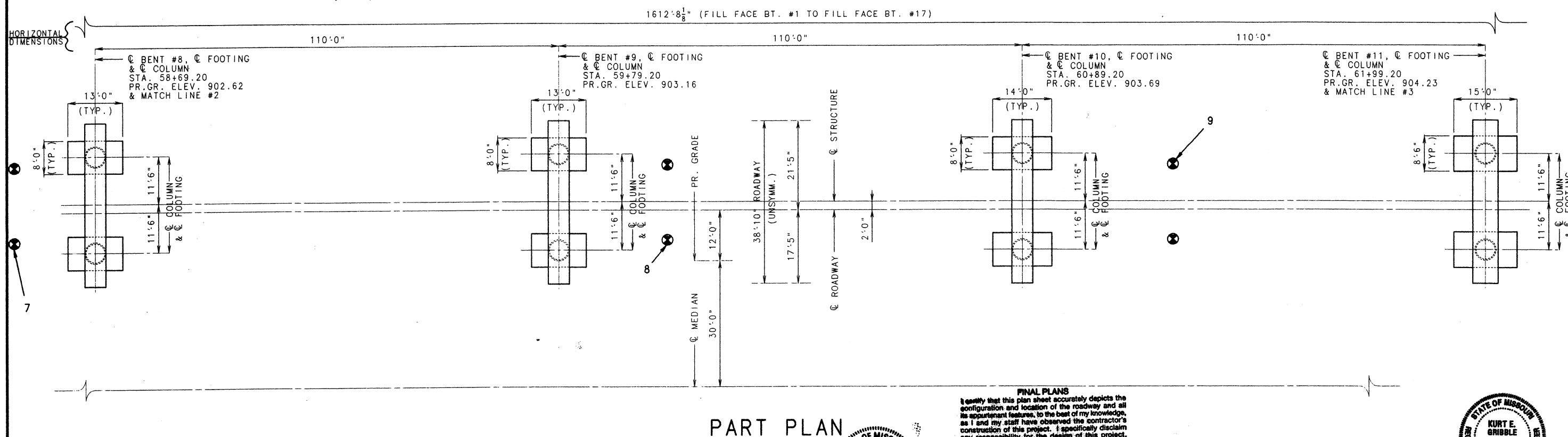
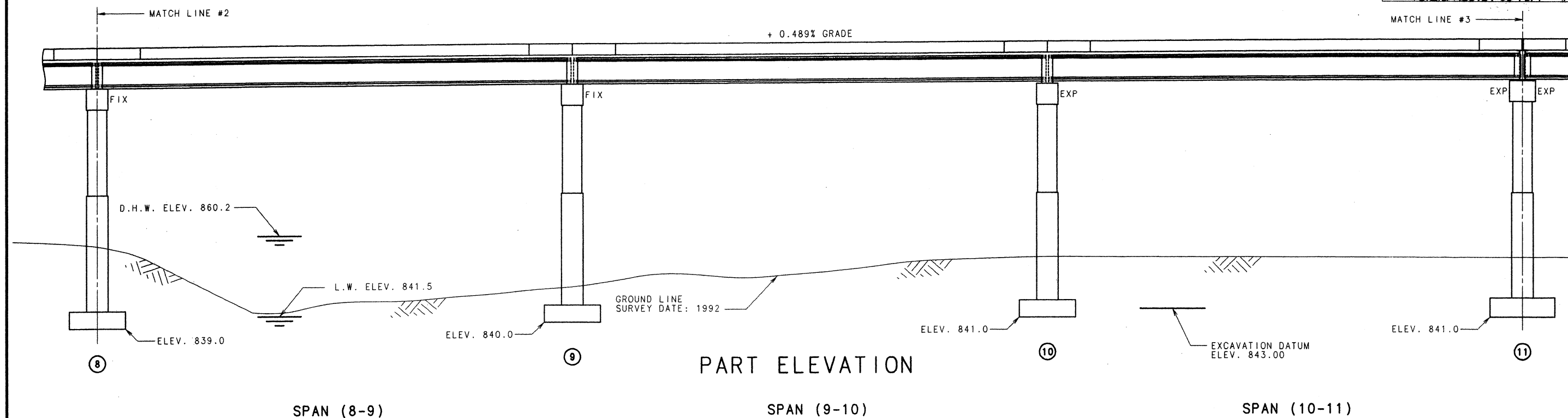
JACKSON

COUNTY

A5496







⊗ INDICATES LOCATION OF BORINGS.



**FINAL PLANS**

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Signature: *M. J. A. S. L.* Date: 4-23-01



DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 4 OF 93.

JACKSON

COUNTY

A5496







GENERAL NOTES:

DESIGN SPECIFICATIONS:

AASHTO-1998  
LOAD FACTOR DESIGN  
SEISMIC PERFORMANCE CATEGORY A

DESIGN LOADING:

HS20 MODIFIED  
35#/SQ. FT. FUTURE WEARING SURFACE  
MILITARY 24,000# TANDEM AXLE  
EARTH 120#/CU. FT., EQUIVALENT FLUID PRESSURE Bent No. 1 =  
61.9#/CU. FT. Bent No. 17 = 45#/CU. FT.  
SUPERSTRUCTURE: SIMPLY-SUPPORTED, NON-COMPOSITE FOR DEAD LOAD.  
CONTINUOUS COMPOSITE FOR LIVE LOAD.

DESIGN UNIT STRESSES:

CLASS B CONCRETE (SUBSTRUCTURE) F'C=3,000 PSI.  
CLASS B1 CONCRETE (SAFETY BARRIER CURB) F'C=4,000 PSI.  
CLASS B2 CONCRETE (SUPERSTRUCTURE, EXCEPT PRESTRESSED GIRDERS AND  
SAFETY BARRIER CURB) F'C=4,000 PSI  
REINFORCING STEEL (GRADE 60) F<sub>y</sub>=60,000 PSI  
STEEL PILE (ASTM A709 GRADE 36) F<sub>y</sub> = 9000 PSI  
F<sub>y</sub> = 36000 PSI

FOR PRESTRESSED GIRDER STRESSES, SEE SHEETS NO. 49 THRU 58.  
FOR PRECAST PRESTRESSED PANEL STRESSES, SEE SHEET NO. 70.

REINFORCING STEEL:

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2", UNLESS  
OTHERWISE SHOWN.  
ALL REINFORCING BARS IN TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL  
BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

JOINT FILLER:

ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF STD. SPEC. 1057.2.4,  
EXCEPT AS NOTED.

NEOPRENE BEARINGS:

BEARINGS SHALL BE 60 DUROMETER NEOPRENE PADS.  
THE NEOPRENE PAD SHALL BE BONDED TO THE BEARING SEAT WITH AN EPOXY  
ADHESIVE AS APPROVED BY THE BEARING MANUFACTURER FOR BONDING NEOPRENE TO  
CONCRETE.

MISCELLANEOUS:

A MINIMUM VERTICAL CLEARANCE OF 21'-6" FROM TOP OF RAILS AND A  
MINIMUM LATERAL CLEARANCE OF 15'-0" FROM THE CENTERLINE OF TRACK  
TO NEAREST TEMPORARY CONSTRUCTION FALSEWORK SHALL BE MAINTAINED  
DURING CONSTRUCTION.

HIGH STRENGTH BOLTS, NUTS AND WASHERS WILL BE SAMPLED FOR QUALITY  
ASSURANCE AS SPECIFIED IN STANDARD SPECIFICATION 106 AND FIELD  
SECTION (FS-712) FROM MATERIALS MANUAL.

FINAL QUANTITIES

ITEM	SUBSTR.	SUPERSTR.	TOTAL
CLASS 1 EXCAVATION	CU. YD.	1174.8	1174.8
CLASS 2 EXCAVATION	CU. YD.	281.0	281.0
COFFERDAMS (BENT 8)	LUMP SUM	1	1
COFFERDAMS (BENT 9)	LUMP SUM	1	1
BRIDGE APPROACH SLAB (BRIDGE)	SQ. YD.	219	219
STRUCTURAL STEEL PILES (10")	LIN. FT.	2261	2261
STRUCTURAL STEEL PILES (12")	LIN. FT.	486	486
PRE-BORE FOR PILING	LIN. FT.	769	769
CLASS B CONCRETE (SUBSTR.)	CU. YD.	1814.4	1814.4
DEADMAN ANCHORAGE ASSEMBLY	EACH	2	2
PROTECTIVE COATING-CONCRETE BENTS (DELETERIOUS AGENTS)	LUMP SUM	1	1
SLAB ON CONCRETE I-GIRDER	SQ. YD.	1488	1488
SAFETY BARRIER CURB	LIN. FT.	3292	3292
SLAB ON CONCRETE BULB-TEE GIRDER	SQ. YD.	5931	5931
PLAIN NEOPRENE BEARING PAD	EACH	5	5
LAMINATED NEOPRENE BEARING PADS	EACH	90	90
LAMINATED NEOPRENE BEARING PAD (P/S STRUCTURE)	EACH	45	45
TYPE N PTFE BEARINGS	EACH	20	20
PRESTRESSED CONCRETE I-GIRDER (65'-0")	EACH	5	5
PRESTRESSED CONCRETE I-GIRDER (84'-0")	EACH	10	10
PRESTRESSED CONCRETE I-GIRDER (90'-0")	EACH	5	5
PRESTRESSED CONCRETE BULB-TEE GIRDER (78'-0")	EACH	5	5
PRESTRESSED CONCRETE BULB-TEE GIRDER (110'-0")	EACH	55	55
REINFORCING STEEL (BRIDGES)	LB.	253,820	253,820
REINFORCING STEEL (EPOXY COATED)	LB.	24,950	24,950
EXPANSION DEVICE (FINGER PLATE)	LIN. FT.	78	78
EXPANSION DEVICE (FLAT PLATE)	LIN. FT.	39	39
SLAB DRAIN	EACH	252	252
VERTICAL DRAIN AT END BENTS	EACH	2	2
SPLASH PROTECTION SHIELD	LUMP SUM	0	0
Line	Contingent Item	Unit	
5305	REPAIR FOOTING AT BENT #16 FORCE ACCOUNT	F.A.	19224753
5302	CLASS-2+50% EXCAVATION	CU. YD.	78.5
5304	Pre-Bore for Piling	L.S.	1
5301	Foundation Test Holes	L.F.	148
5303	Misc. Structural Steel	L.S.	1
5306	BEAR BAR REINFORCING	L.S.	1

PILE & FOOTING DATA

BENT NO.	1 (WING)	1 (BEAM)	2	3	4	5	6	7	8	9
BEARING PILE	PILE TYPE AND SIZE	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42	HP12x53	HP12x53	-
	NUMBER	2	7	18	20	20	22	18	18	-
	APPROXIMATE LENGTH FT.	46	46	14	11	13	14	13	14	-
	DESIGN BEARING TONS	29	55	51	52	51	54	70	70	-
	HAMMER ENERGY REQUIRED FT.-LBS.	7000	12400	12100	12200	12100	12800	15800	15800	-
SPREAD FOOTINGS	FOUNDATION MATERIAL	-	-	-	-	-	-	-	ROCK	ROCK
	DESIGN BEARING TONS/SQ. FT.	-	-	-	-	-	-	-	8.0	7.6
BENT NO.	10	11	12	13	14	15	16	17 (BEAM)	17 (WING)	
BEARING PILE	PILE TYPE AND SIZE	-	-	-	-	-	-	HP10x42	HP10x42	
	NUMBER	-	-	-	-	-	-	11	2	
	APPROXIMATE LENGTH FT.	-	-	-	-	-	-	60	60	
	DESIGN BEARING TONS	-	-	-	-	-	-	52	24	
	HAMMER ENERGY REQUIRED FT.-LBS.	-	-	-	-	-	-	13000	8200	
SPREAD FOOTINGS	FOUNDATION MATERIAL	ROCK	ROCK	ROCK	ROCK	ROCK	ROCK	-	-	
	DESIGN BEARING TONS/SQ. FT.	7.5	8.0	7.5	7.4	7.6	7.6	7.9	-	

NOTE: MINIMUM ENERGY REQUIREMENT OF HAMMER IS BASED ON PLAN LENGTH AND DESIGN BEARING  
VALUE OF PILES.

ALL PILES SHALL BE DRIVEN TO PRACTICAL REFUSAL.

PREBORE FOR PILES AT BENTS 1 AND 17 TO ELEVATIONS 867.0 AND 855.0, RESPECTIVELY.

CONT. 5304 - PREBORE FOR PILES AT BENT 3 TO ELEV. 843.0, PER L.S.

FINAL PLANS  
I certify that this plan sheet accurately depicts the  
configuration and location of the roadway and all  
its appurtenant features, to the best of my knowledge,  
as I and my staff have observed the contractor's  
construction of this project. I specifically disclaim  
any responsibility for the design of this project,  
except as I and my staff may have modified or  
authorized the modification of the project design  
during its construction; and I disclaim responsibility  
for the contractor's actual construction of the project,  
except as I and my staff may have directed or ordered  
that the project be constructed.  
Signature: [Signature] Date: [Date]

FINAL QUANTITIES  
FOR SLAB ON CONCRETE I-GIRDER

ITEM	TOTAL
REINFORCING STEEL (PLAIN)	LBS 5090
REINFORCING STEEL (EPOXY COATED)	LBS 109,190
CONCRETE	CU. YDS. 357.4

FINAL QUANTITIES  
FOR SLAB ON CONCRETE BULB-TEE GIRDER

ITEM	TOTAL
REINFORCING STEEL (PLAIN)	LBS 11,760
REINFORCING STEEL (EPOXY COATED)	LBS 405,470
CONCRETE	CU. YDS. 1467.2

NOTE: THE TABLE OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE  
I-GIRDER AND SLAB ON BULB-TEE GIRDER REPRESENTS THE QUANTITIES  
USED BY THE STATE IN PREPARING THE COST ESTIMATE FOR CONCRETE SLABS.  
VARIATIONS MAY BE ENCOUNTERED IN THESE ESTIMATED QUANTITIES BUT  
THESE VARIATIONS CANNOT BE USED FOR AN ADJUSTMENT IN THE CONTRACT  
UNIT PRICE PER SQUARE YARD OF SLAB ON CONCRETE I-GIRDER AND SLAB  
ON CONCRETE BULB-TEE GIRDER.

\* BASED ON MINIMUM TOP FLANGE THICKNESS AND MINIMUM JOINT  
FILLER THICKNESS.

THE PRESTRESSED PANEL QUANTITIES ARE NOT INCLUDED IN THE TABLE  
OF ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDER OR SLAB ON  
CONCRETE BULB-TEE GIRDER.

NOTE: ALL CONCRETE ABOVE

THE CONSTRUCTION JOINT IN END BENT NO. 1 IS INCLUDED IN THE  
QUANTITIES FOR SLAB ON CONCRETE I-GIRDER.

ALL REINFORCEMENT IN END BENT NO. 1 IS INCLUDED IN THE ESTIMATED QUANTITIES FOR  
SLAB ON CONCRETE I-GIRDER.

THE COST OF FURNISHING, FABRICATING AND INSTALLING NEOPRENE BEARING PADS, COMPLETE-  
IN-PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PLAIN AND LAMINATED NEOPRENE  
BEARING PADS, PER EACH.

\*\* SAFETY BARRIER CURB, SHALL BE CAST IN-PLACE OPTION OR SLIP-FORM OPTION.

CONCRETE ABOVE THE UPPER CONSTRUCTION JOINT IN BACKWALL AT END BENT NO. 17 IS INCLUDED  
WITH CLASS B2 CONCRETE SLAB ON CONCRETE BULB-TEE GIRDER QUANTITIES.

ALL REINFORCEMENT IN THE INTERMEDIATE BENT CONCRETE DIAPHRAGMS EXCEPT REINFORCEMENT  
EMBEDDED IN THE BEAM CAP IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE  
I-GIRDER.

ALL CONCRETE ABOVE THE INTERMEDIATE BENT CAP IS INCLUDED IN THE ESTIMATED QUANTITIES  
FOR SLAB ON CONCRETE I-GIRDER.

HYDROLOGIC DATA

DRAINAGE AREA = 89 SQUARE MILES  
DESIGN HIGH WATER ELEV. = 860.2 (100 YEARS)  
DESIGN DISCHARGE = 23,000 c.f.s. (100 YEARS).  
ESTIMATED BACKWATER = 0.2 FT.



DATE 5-1-98



DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

DATE 11-4-99

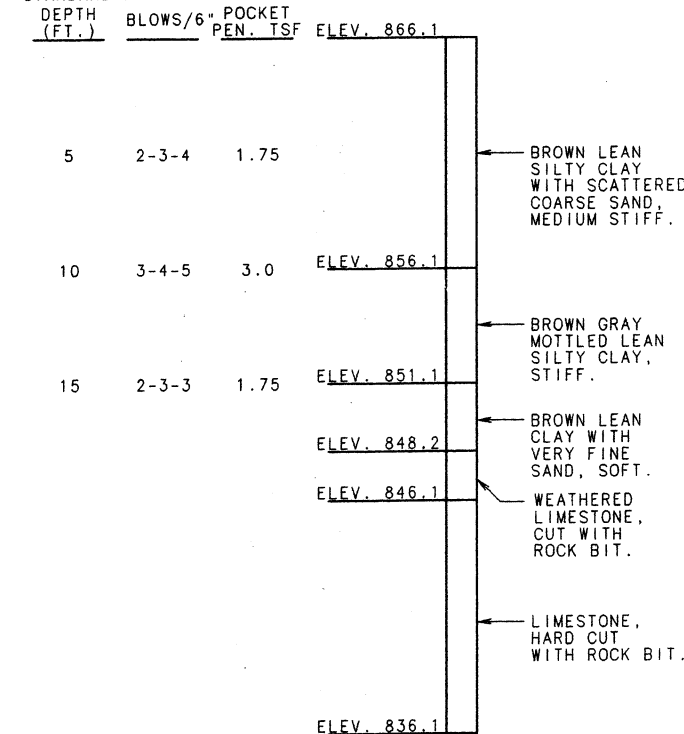
SHEET NO. 7 OF 93. Revised 10-28-99

JACKSON

COUNTY

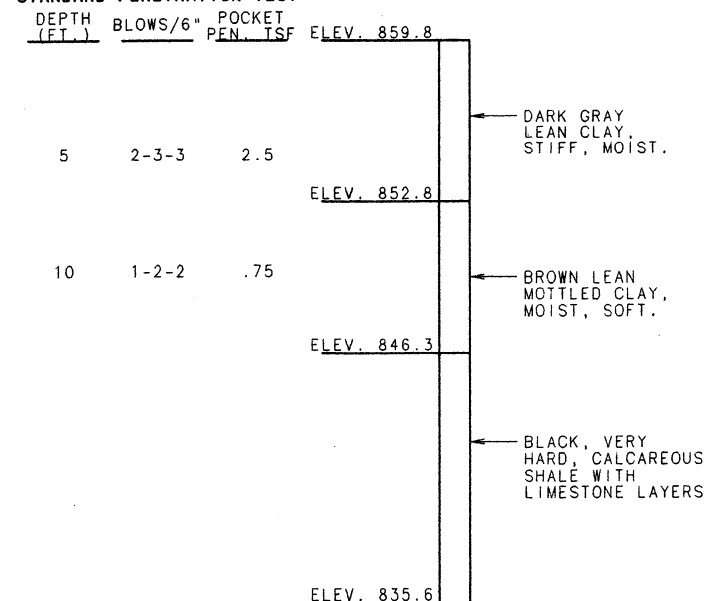
A5496

# STANDARD PENETRATION TEST



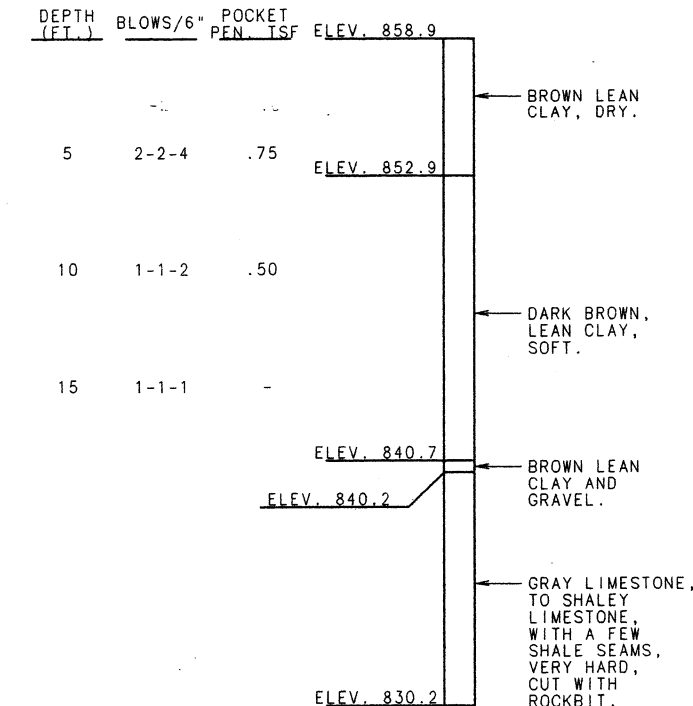
①  
(CORE)

# STANDARD PENETRATION TEST



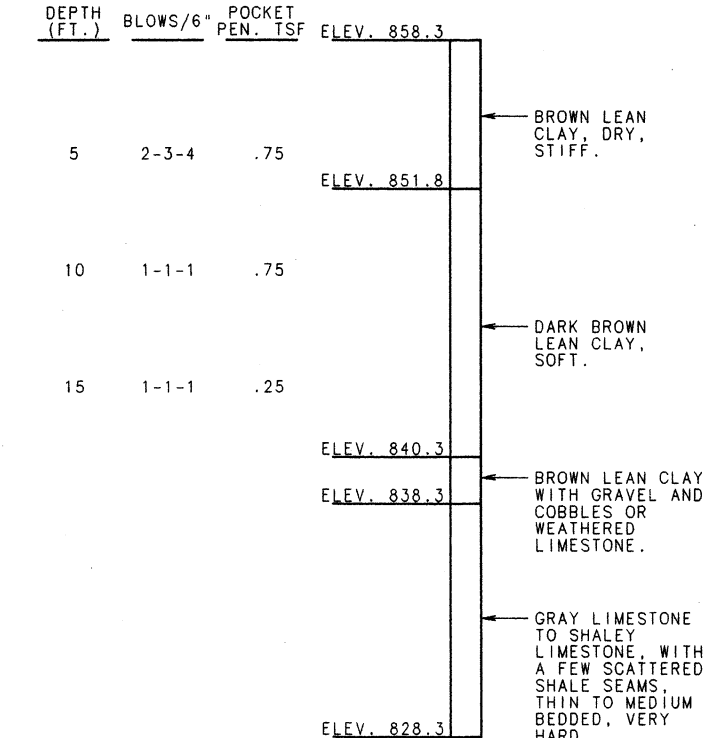
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(CORE)

# STANDARD PENETRATION TEST



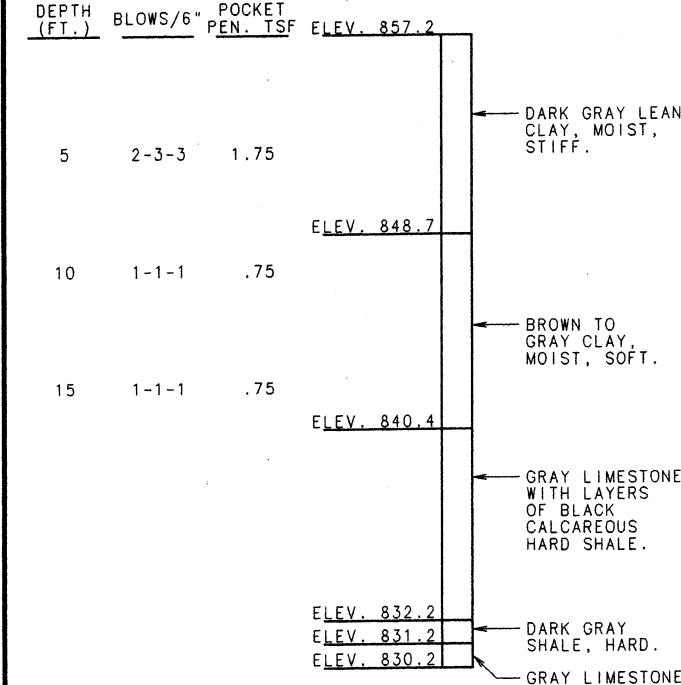
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(CORE)

# STANDARD PENETRATION TEST



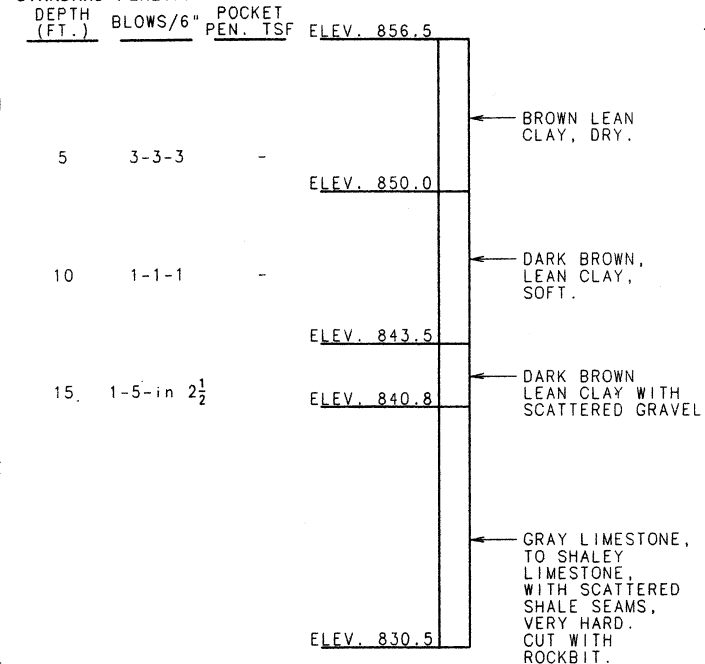
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(CORE)

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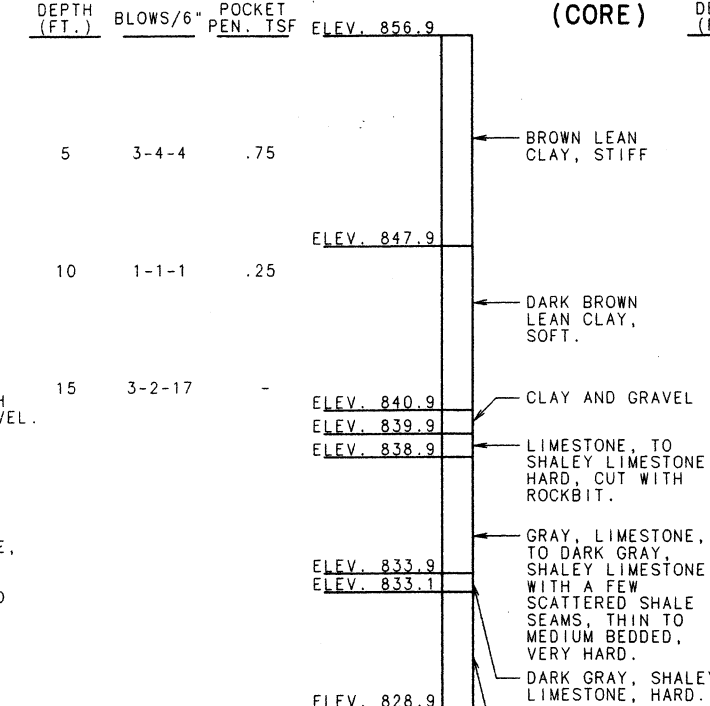
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(CORE)

# STANDARD PENETRATION TEST



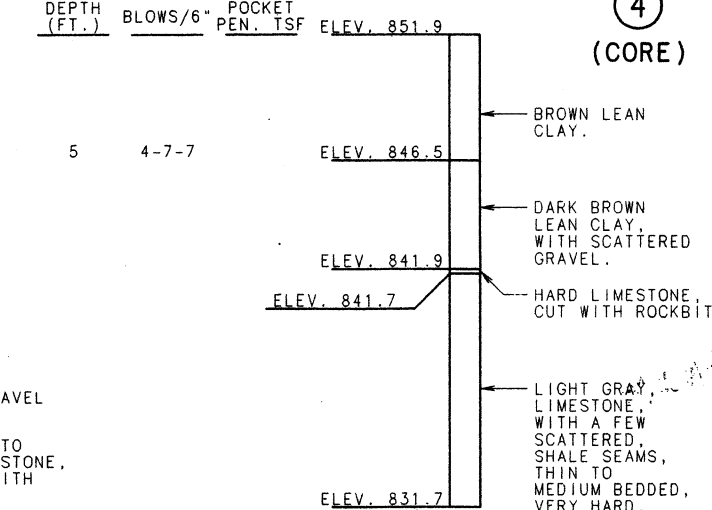
⑥  
(CORE)

# STANDARD PENETRATION TEST



⑦  
(CORE)

# STANDARD PENETRATION TEST



⑧  
(CORE)

**FINAL PLANS**  
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Signature: *[Signature]* Date: 4-23-01



DATE 5-1-98

## BORING DATA

DETAILED JAN. 1998  
CHECKED MAR. 1998

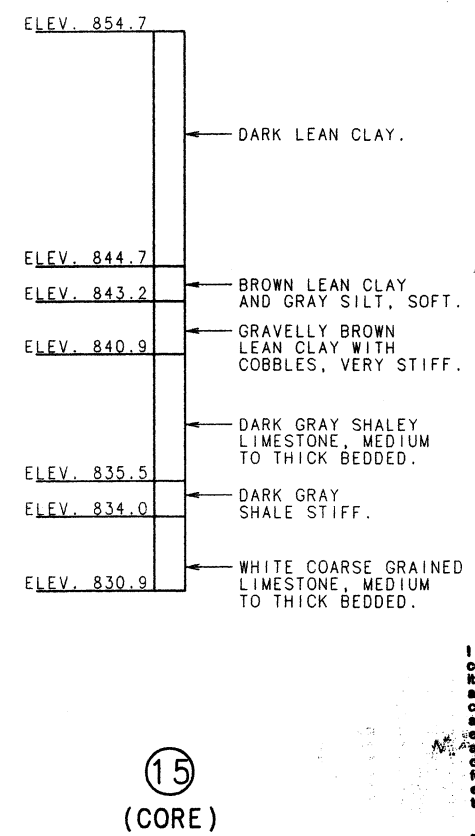
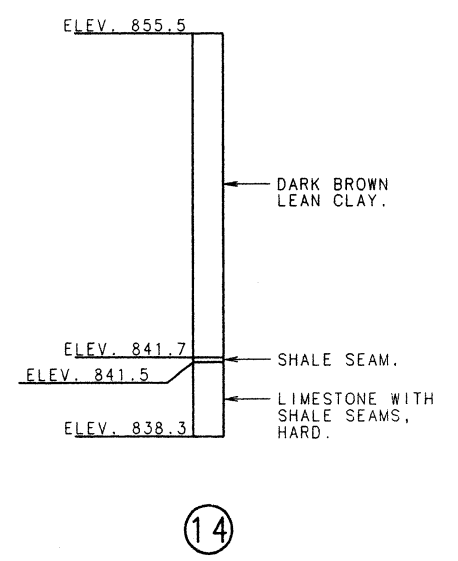
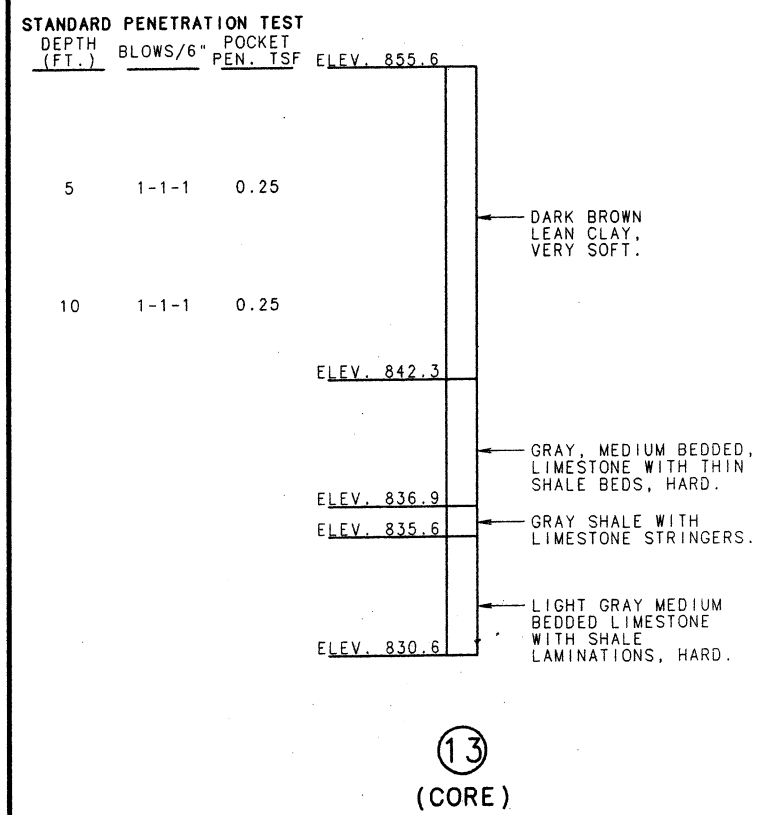
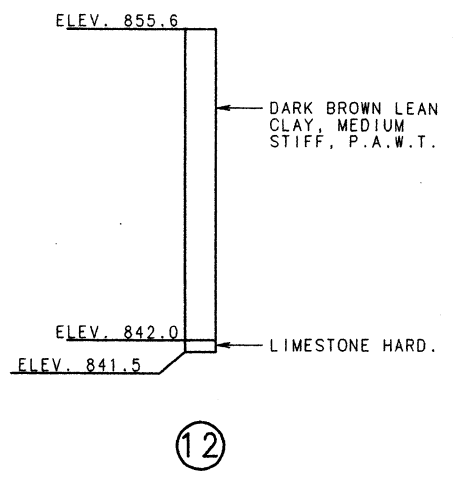
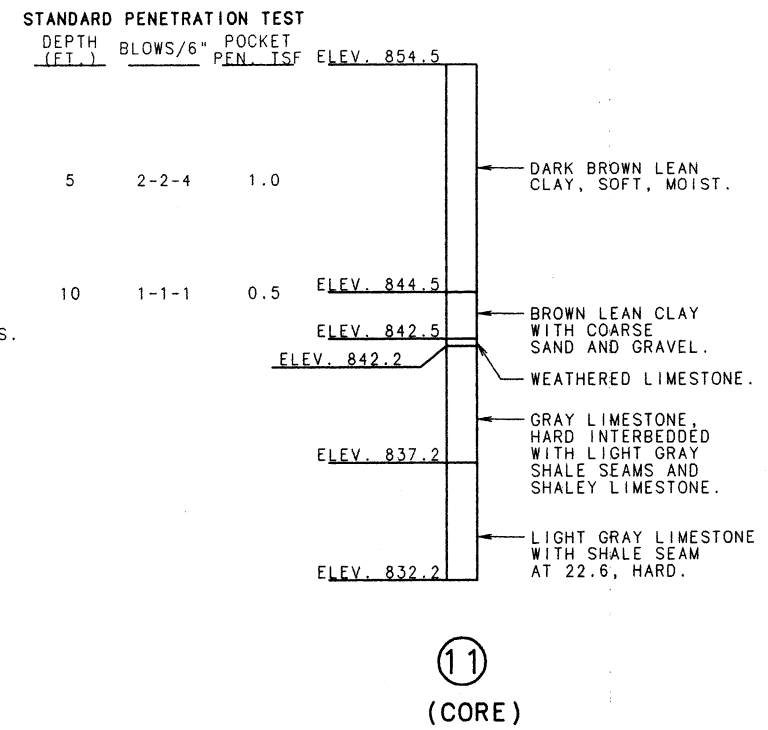
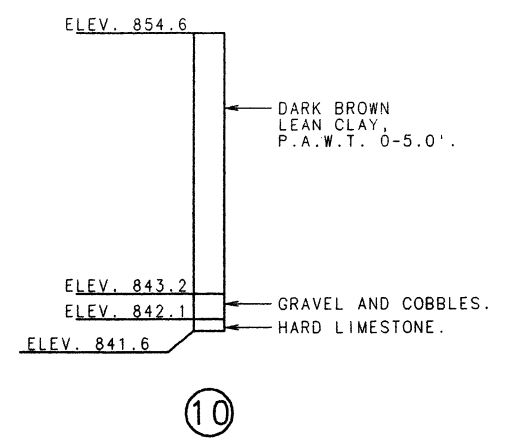
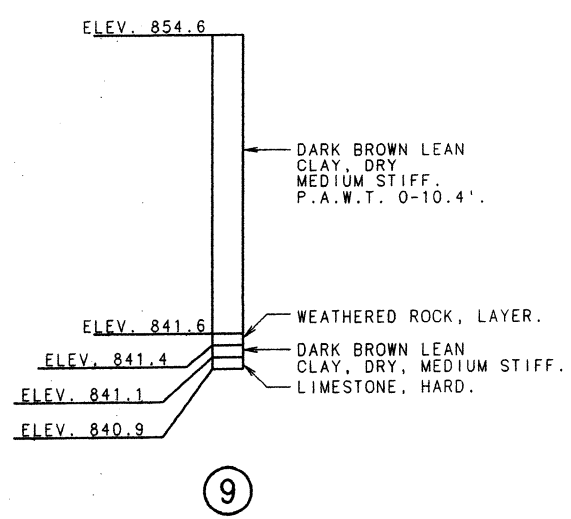
NOTE: FOR LOCATION OF BORINGS, SEE SHEETS NO. 2, 3, 4, 5, 6.  
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 8 OF 93.

JACKSON

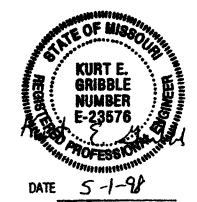
COUNTY

A5496



FINAL PLANS  
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Signature: [Signature] Date: 5-1-98



BORING DATA

DETAILED JAN. 1998  
CHECKED MAR. 1998

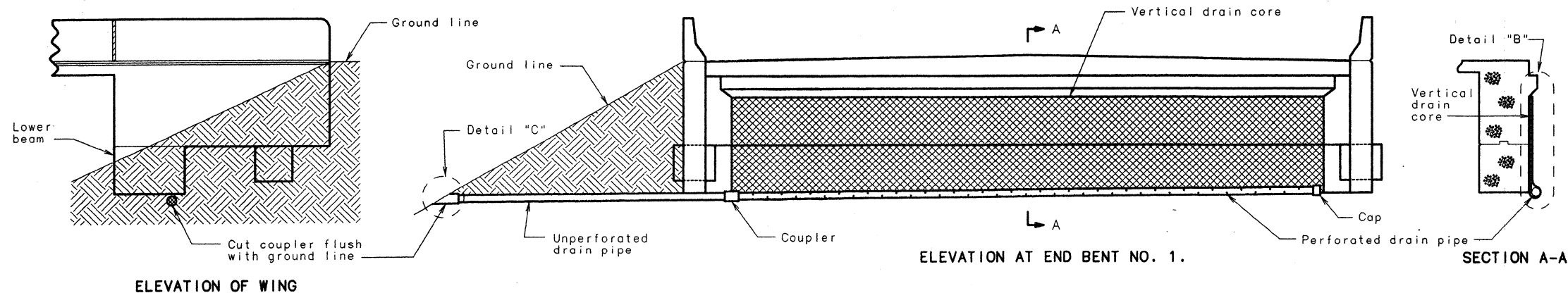
NOTE: FOR LOCATION OF BORINGS, SEE SHEETS NO. 2, 3, 4, 5, 6.  
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 9 OF 93.

JACKSON

COUNTY

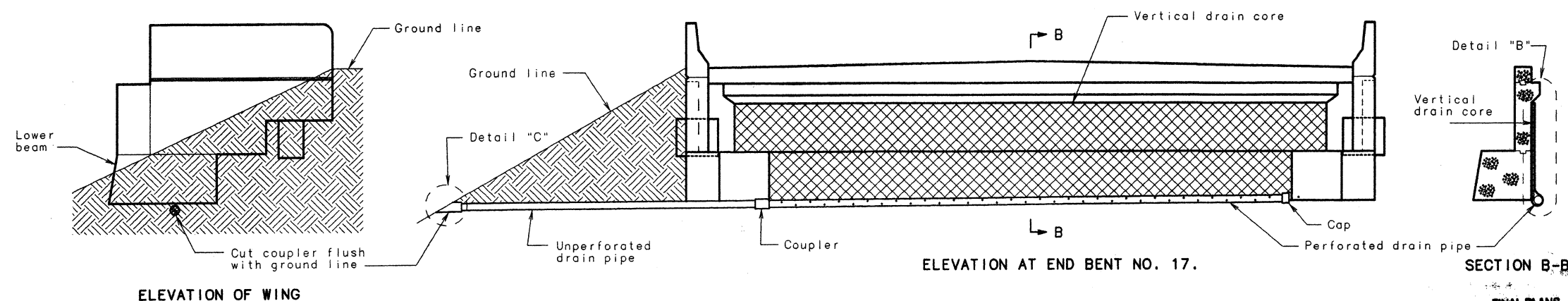
A5496



Drain pipe may be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1-1/2". (See Elevation At End Bent)

Perforated pipe shall be placed at fill face side at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.



## VERTICAL DRAIN AT END BENTS

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 10 OF 93.

JACKSON

COUNTY

A5496



**FINAL PLANS**

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Signature: *M. A. Gribble* Date: *5-1-98*



DATE 5-1-98

DRA 1 - Vert. Drain (Int.)	Revised:	September 1994
March 1986		

DETAILED JAN. 1998  
CHECKED MAR. 1998



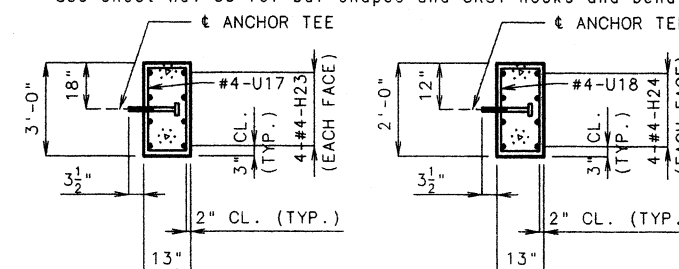
# NOTES:

## CONSTRUCTION SEQUENCE:

- Construct end bent with anchor tees in place.
- Construct deadman with anchor tees in place.
- Machine compact fill up to elevation of 7/8"Ø rod and turnbuckle.
- Install 7/8"Ø rod, clevis and turnbuckle assembly.
- Tighten turnbuckle until snug.
- Hand compact fill for 12" (min.) over 7/8"Ø rod and turnbuckle.
- Machine compact remaining fill.

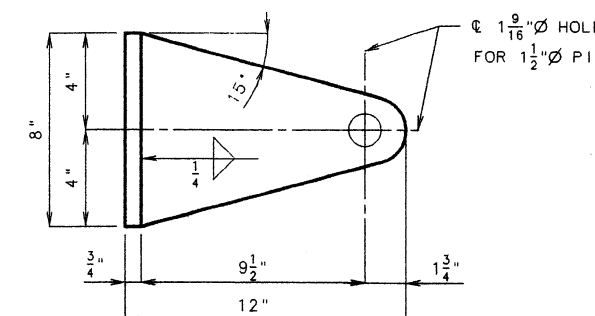
BILL OF REINFORCING STEEL EACH DEADMAN			
BENTS	NUMBER	SIZE & MARK	LENGTH
1	8	#4-H26	23'4"
	47	#4-U17	
17	8	#4-H27	14'8"
	30	#4-U18	

See sheet no. 88 for bar shapes and CRSI hooks and bends.

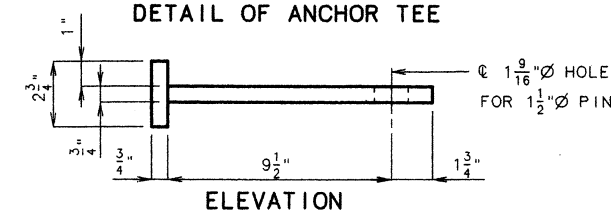


SECTION A-A

SECTION B-B



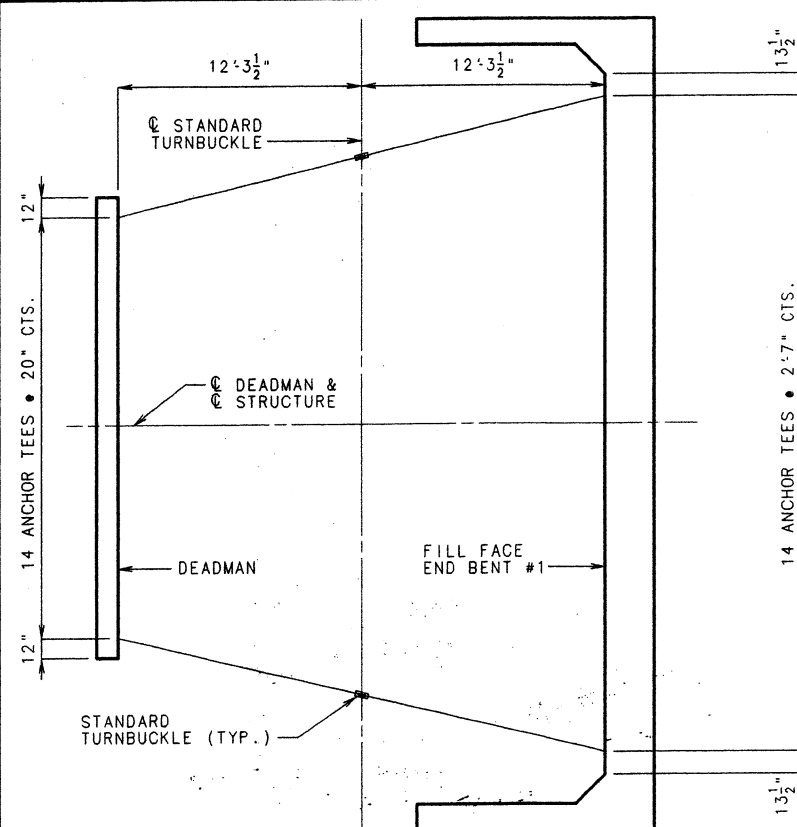
PLAN  
DETAIL OF ANCHOR TEE



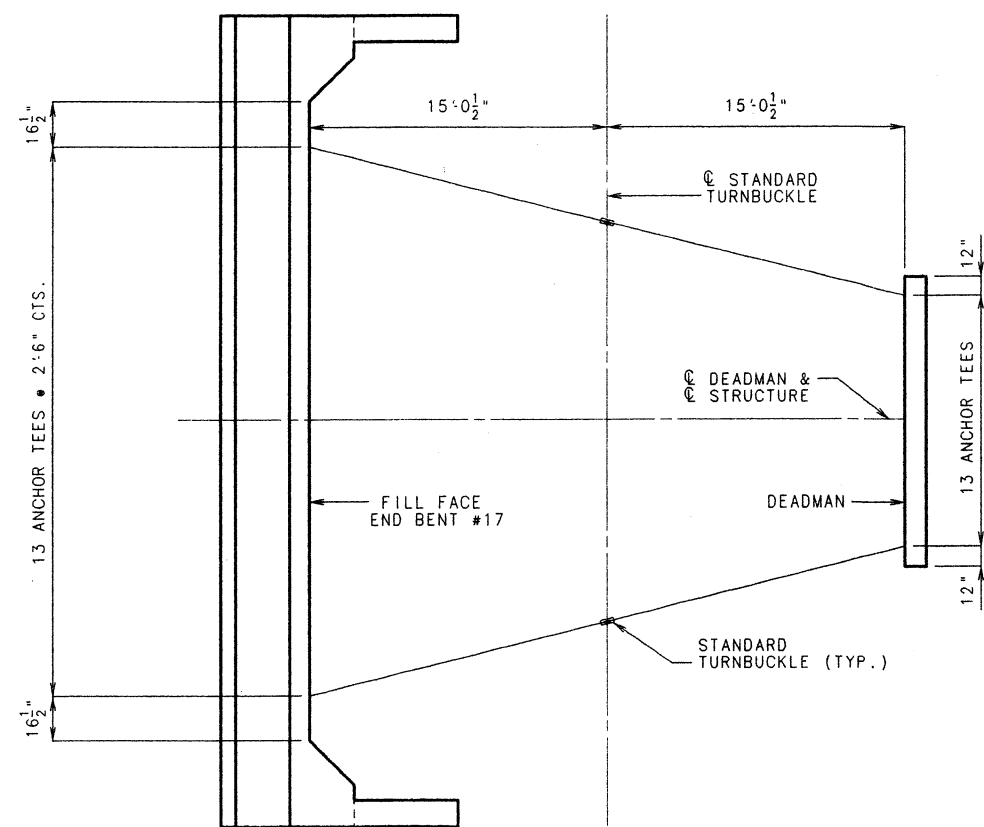
ELEVATION

**FINAL PLANS**  
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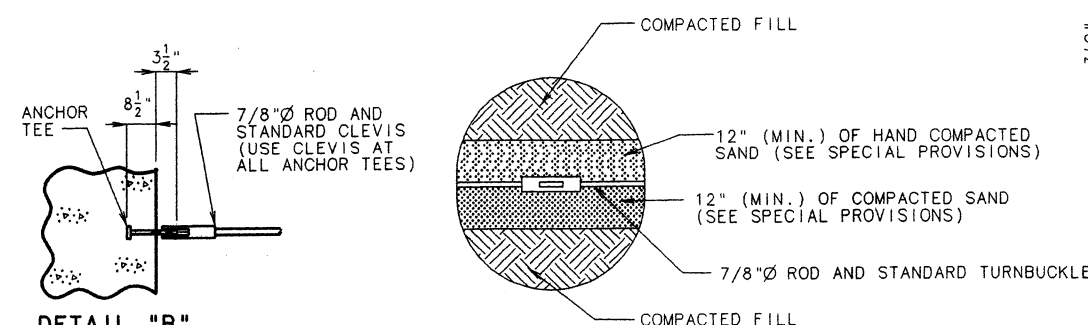
Signature: *M. A. S. K.* Date: *4-23-91*



PLAN OF END BENT NO. 1

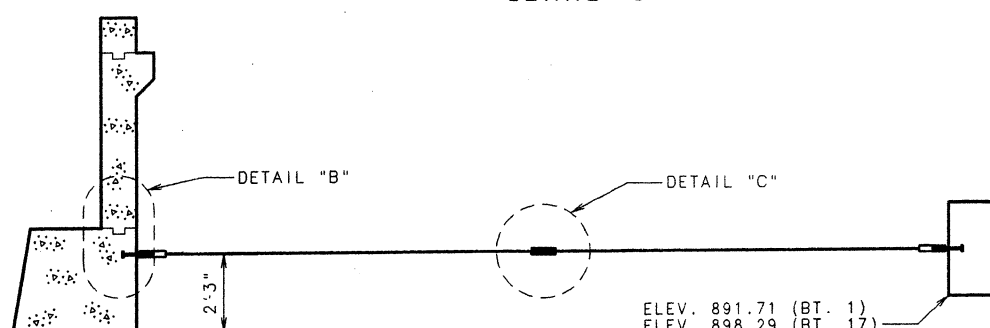


PLAN OF END BENT NO. 17

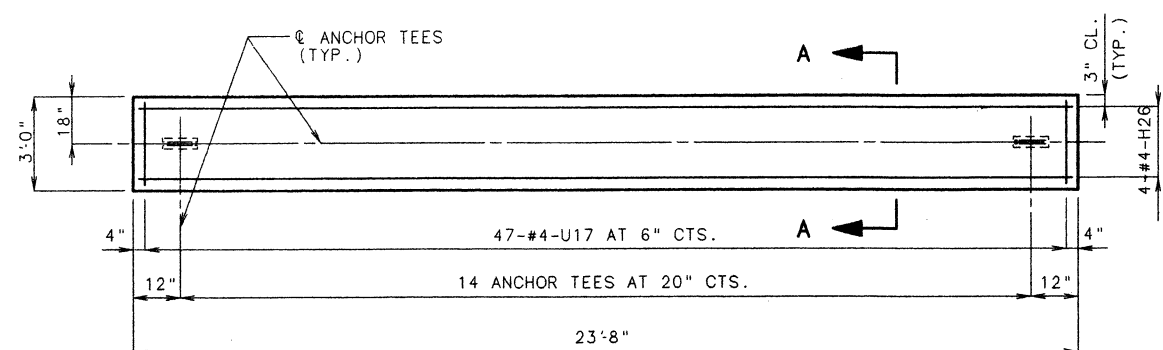


DETAIL "B"

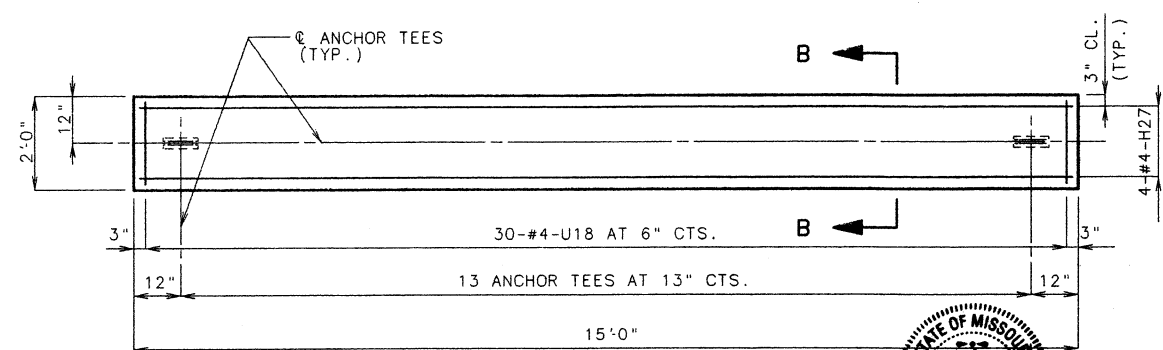
DETAIL "C"



LOCATION OF ANCHOR TEE  
• BT. 17.(BT. 1 SIMILAR)



ELEVATION OF DEADMAN BT. #1.



ELEVATION OF DEADMAN BT. #17.

## DETAILS OF DEADMAN ANCHORAGE SYSTEM

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

DETAILED JAN. 1998  
CHECKED MAR. 1998

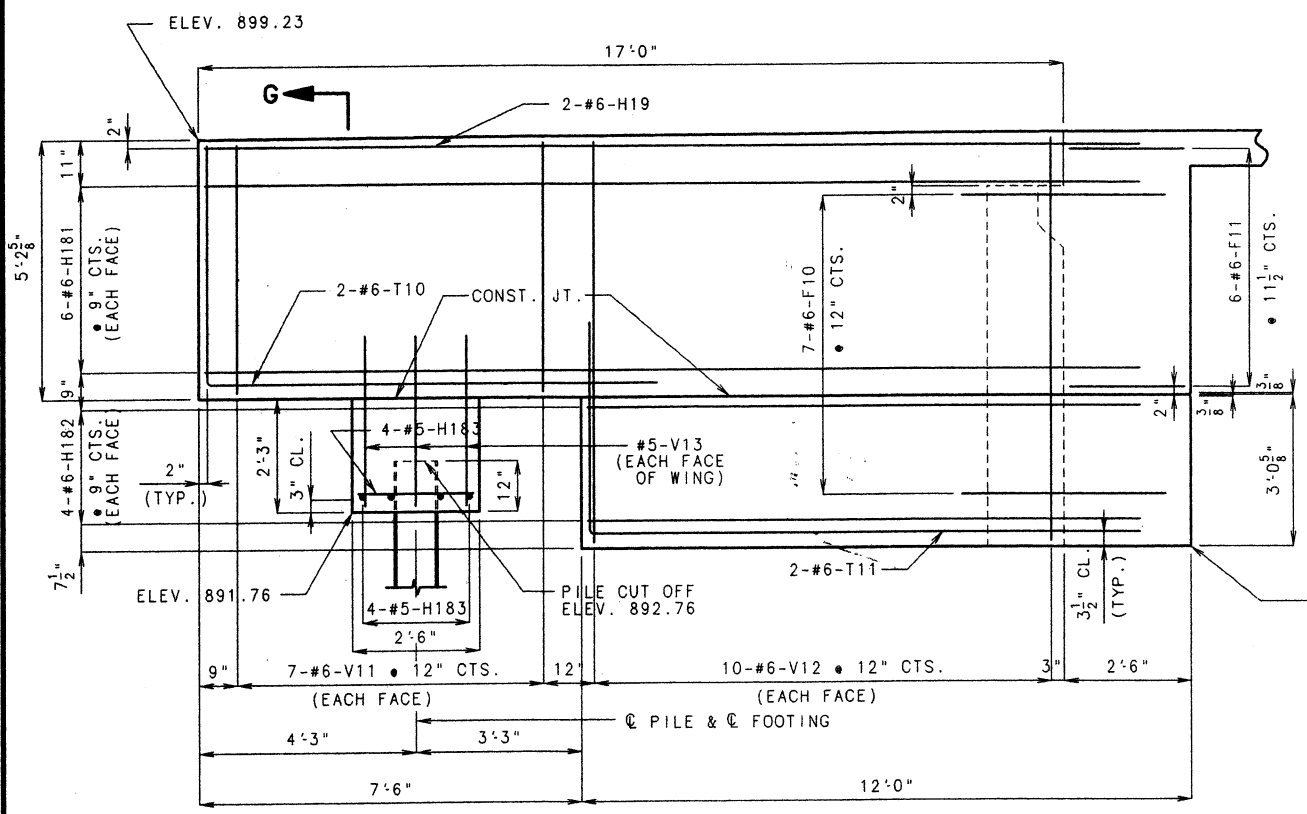
SHEET NO. 11 OF 93.

JACKSON

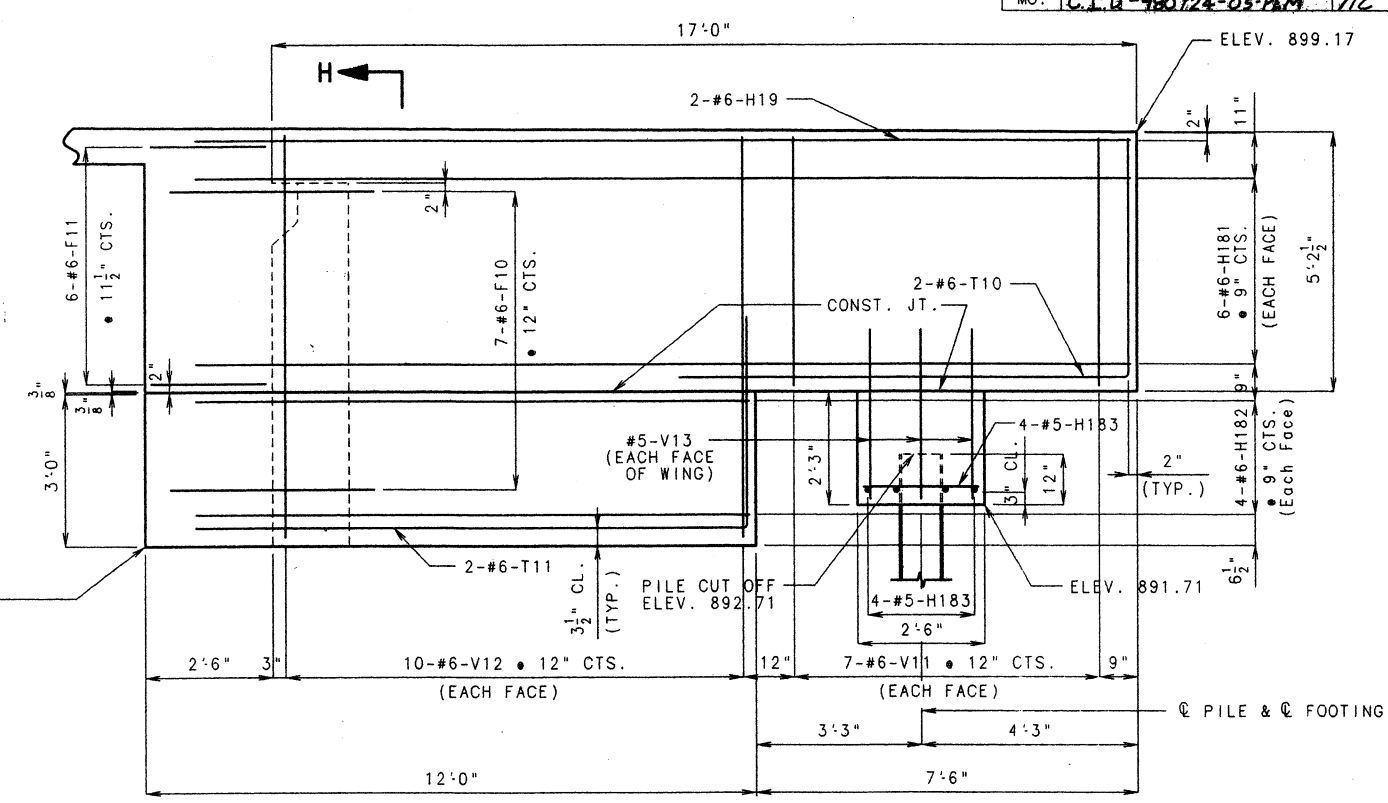
COUNTY

A5496

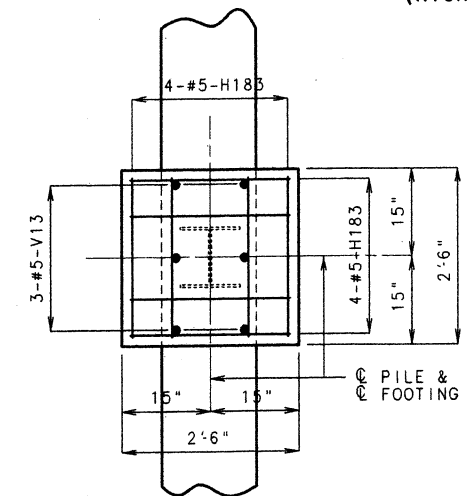




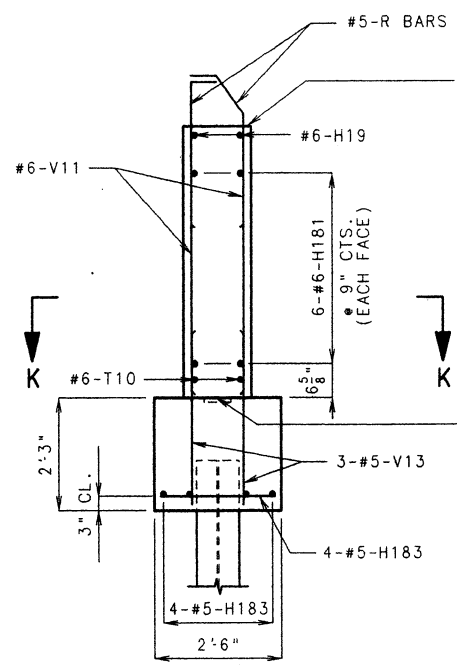
ELEVATION B-B  
(RIGHT WING WALL)



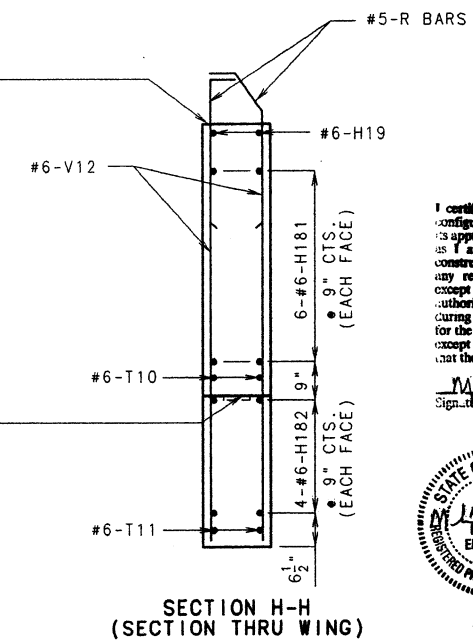
ELEVATION A-A  
(LEFT WING WALL)



SECTION K-K



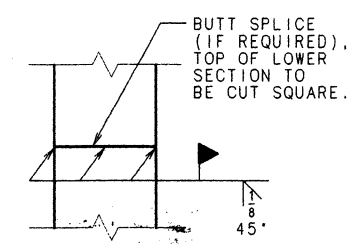
SECTION G-G  
(ONE PILE FOOTING)



SECTION H-H  
(SECTION THRU WING)

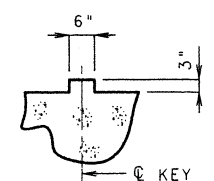
**FINAL PLANS**  
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Signature: *M. A. S. J.* Date: 4-23-01



STEEL PILE SPLICE

NOTE: FOR LOCATION OF ELEVATIONS A-A & B-B, SEE SHEET NO. 12.  
FOR REINFORCEMENT OF THE SAFETY BARRIER CURB, SEE SHEETS NO. 78, 79 & 80.



SECTION THRU KEY

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 1		
ITEM		QUANTITY
STRUCTURAL STEEL PILES (10")	LIN. FT.	413
PRE-BORE FOR PILING	LIN. FT.	217
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	16.2
DEADMAN ANCHORAGE ASSEMBLY	EACH	1

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

## PART DETAILS OF END BENT NO. 1

DETAILED JAN. 1998  
CHECKED MAR. 1998

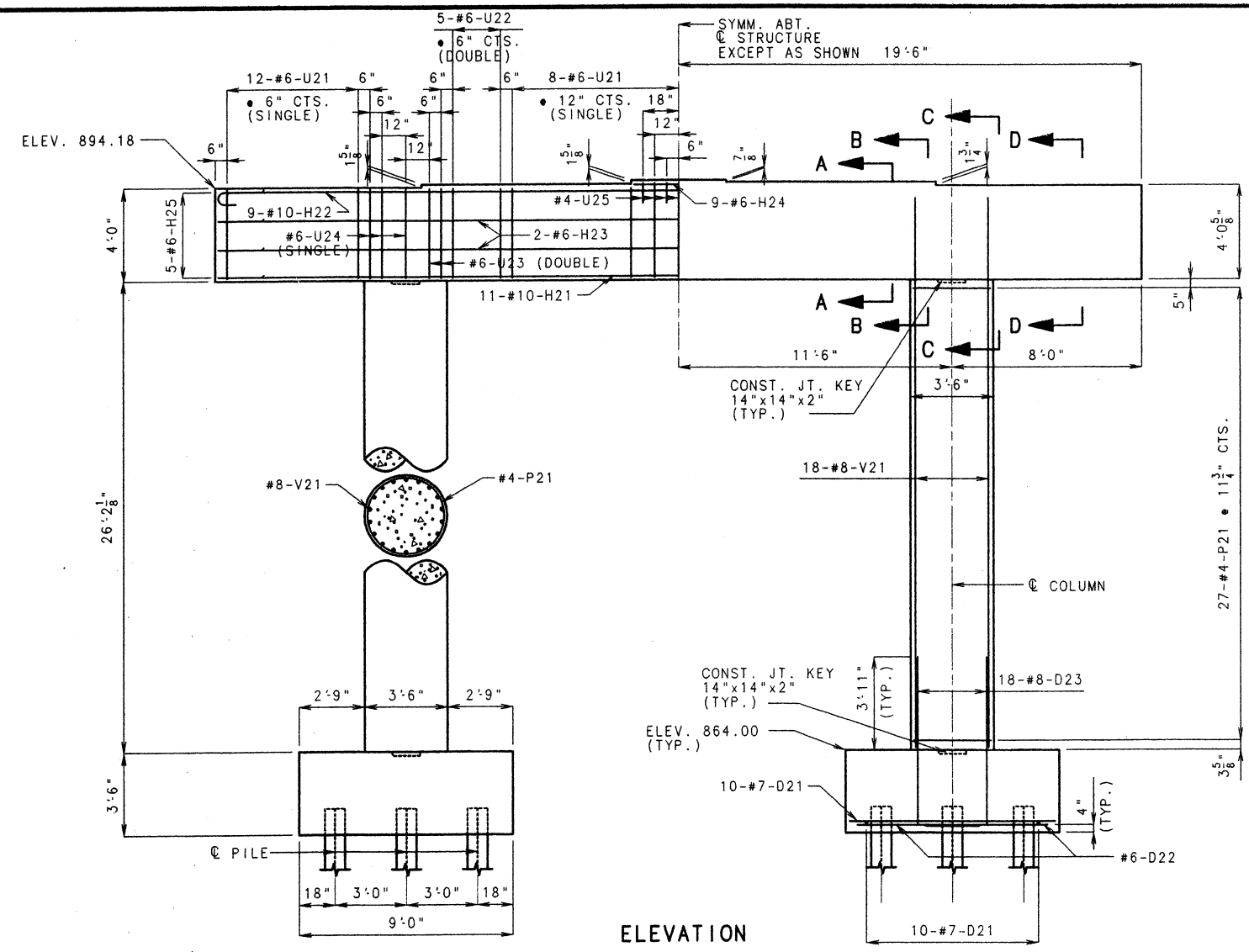
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 13 OF 93.

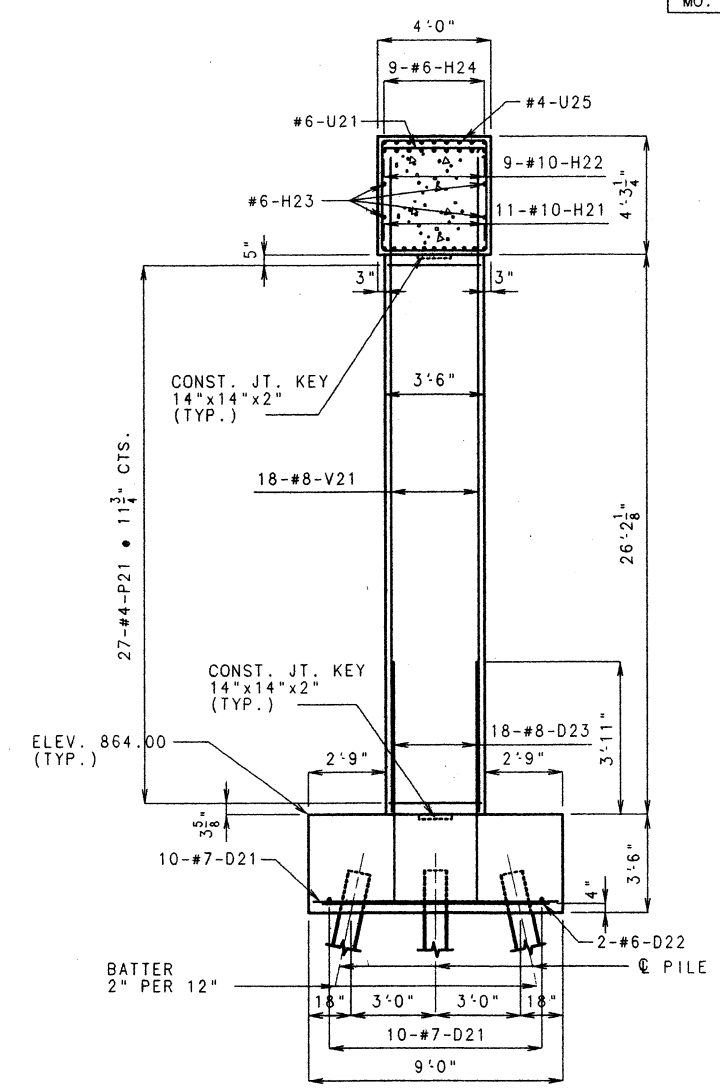
JACKSON

COUNTY

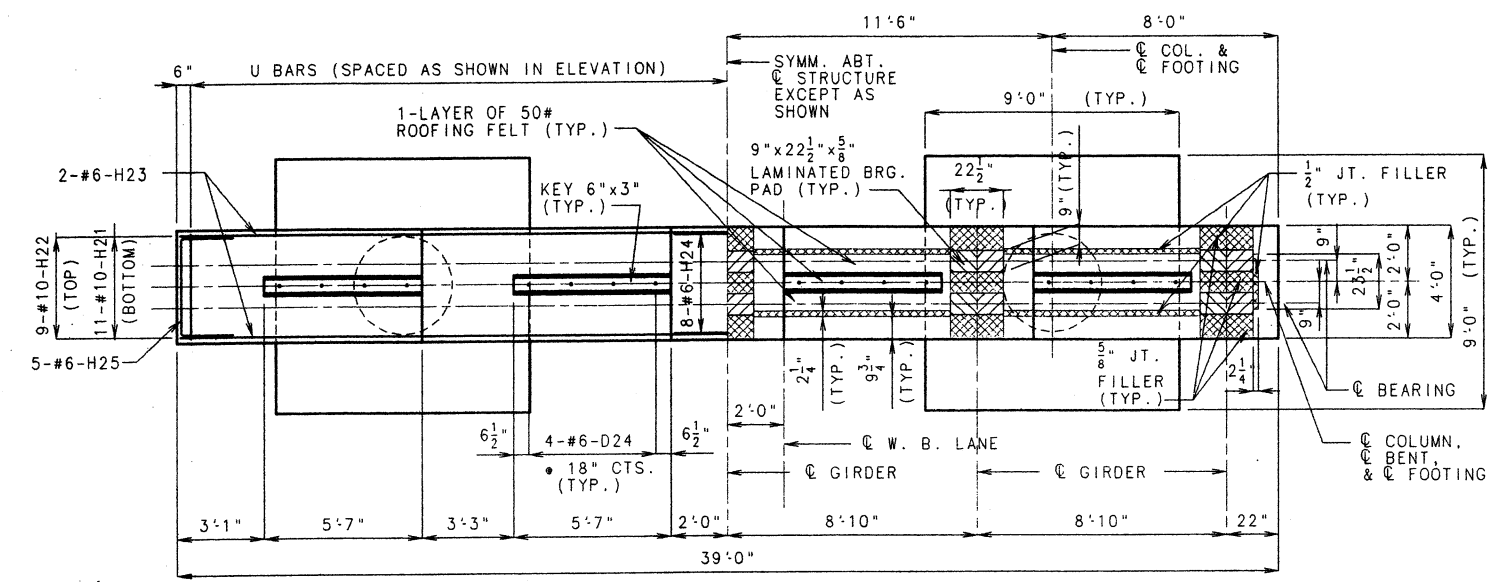
A5496



ELEVATION



SECTION AT  $\phi$  STRUCTURE



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

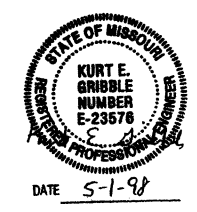
HALF PLAN OF BEAM  
SHOWING BEARINGS



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Signature: Mark A. Stock Date: 4-23-01

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 15.  
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 15.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 15.  
FOR DETAIL OF KEY, SEE SHEET NO. 15.



# PART DETAILS OF INTERMEDIATE BENT NO. 2

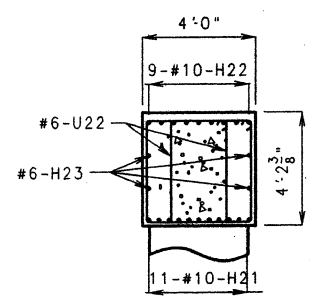
DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

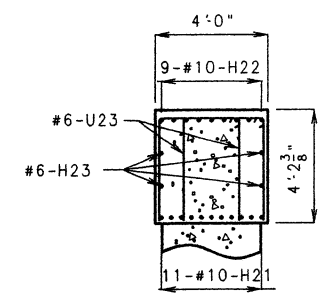
SHEET NO. 14 OF 93.

JACKSON COUNTY A5496

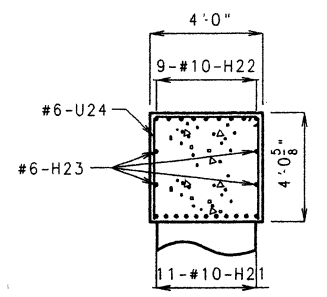




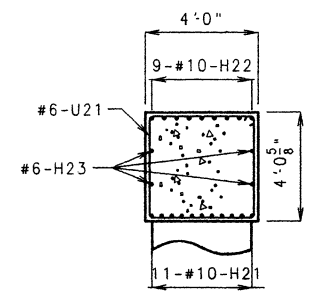
SECTION A-A



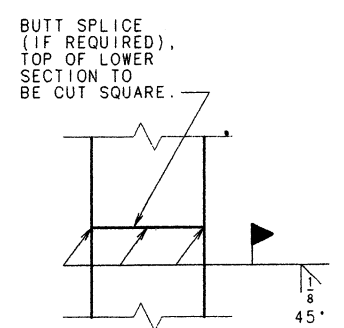
SECTION B-B



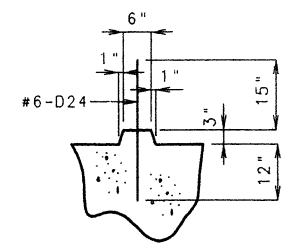
SECTION C-C



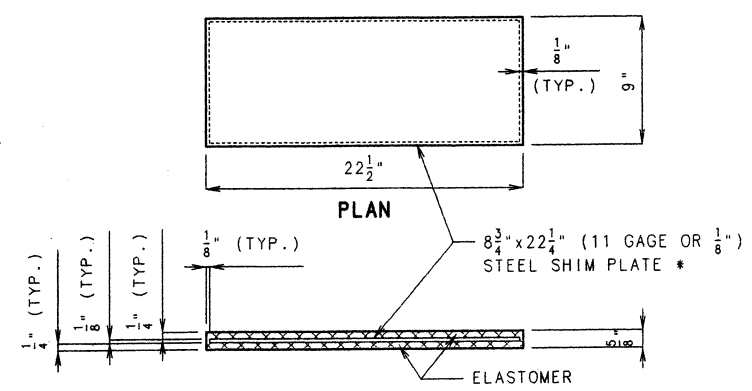
SECTION D-D



STEEL PILE SPLICE

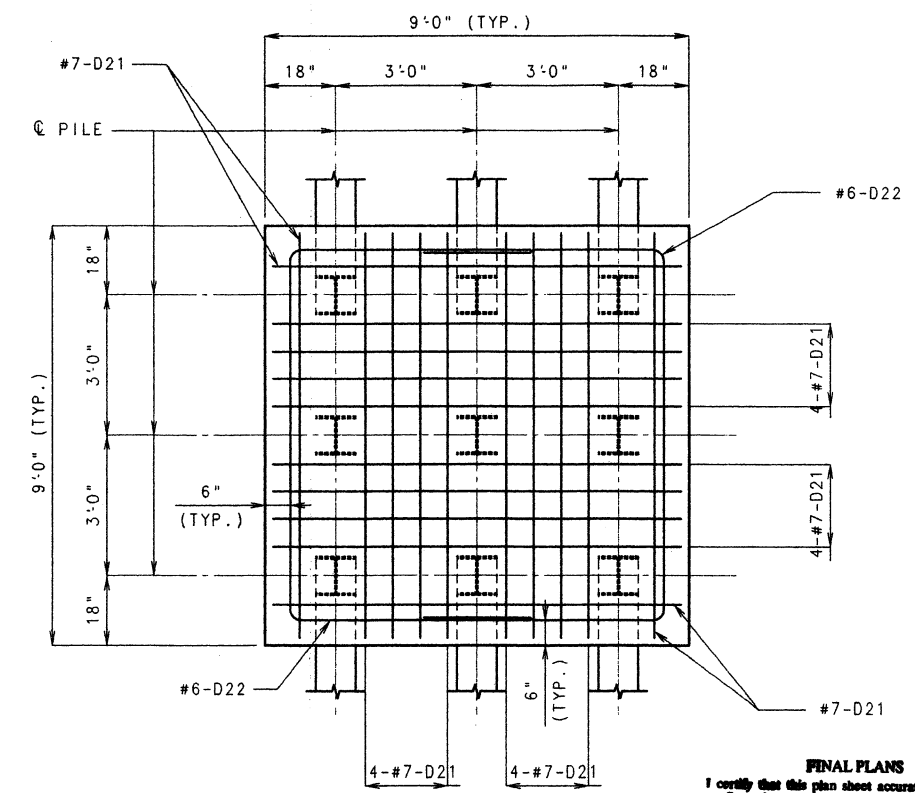


DETAIL OF KEY



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.



PLAN OF FOOTING

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
Signature: M. A. S. A. Date: 4-23-91

SUBSTRUCTURE QUANTITY TABLE FOR BENT #2		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	632
STRUCTURAL STEEL PILE (10")	LIN. FT.	260
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	63.6
REINFORCING STEEL (BRIDGES)	LBS.	10,240

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 14.

## PART DETAILS OF INTERMEDIATE BENT NO. 2

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

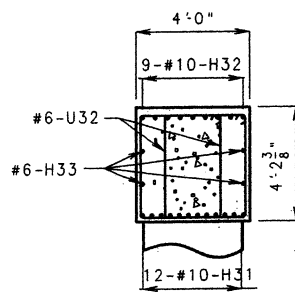
SHEET NO. 15 OF 93.

JACKSON

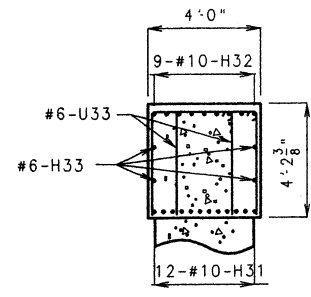
COUNTY

A5496

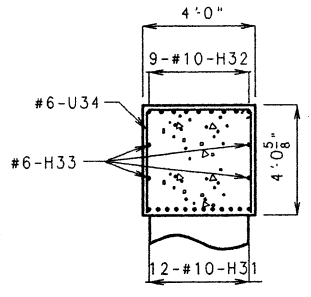




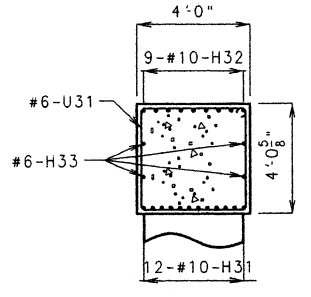
SECTION A-A



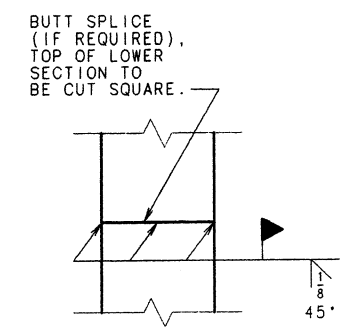
SECTION B-B



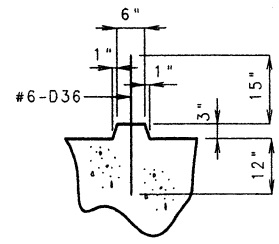
SECTION C-C



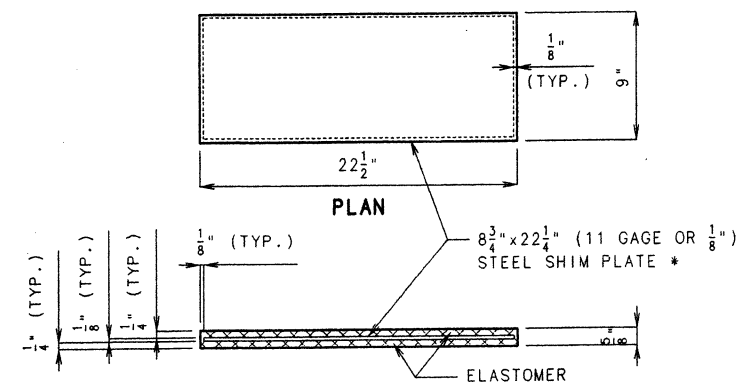
SECTION D-D



STEEL PILE SPLICE



DETAIL OF KEY



DETAILS OF LAMINATED NEOPRENE BEARING PADS

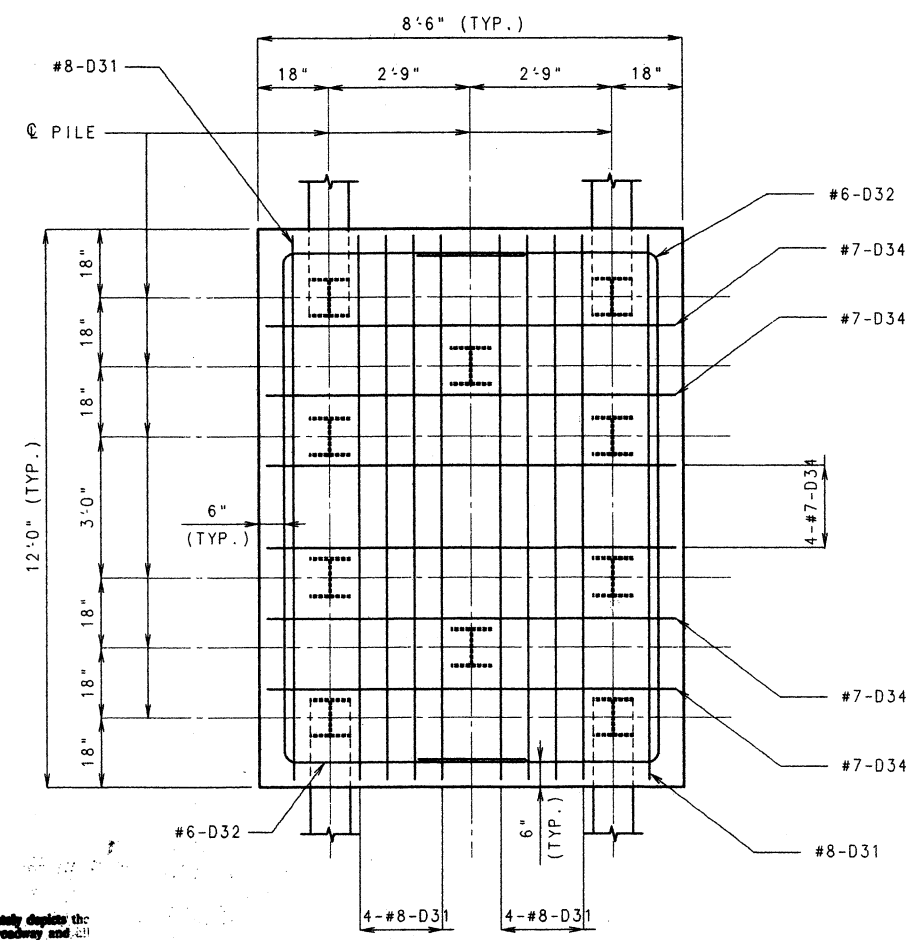
\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.



**FINAL PLANS**  
I certify that this plan shows accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or supervised that the project be constructed.

Sign: M. A. Stock Date: 4-23-91

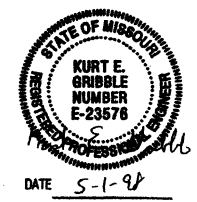
FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 16.



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #3			
ITEM			QUANTITY
CLASS 1 EXCAVATION	CU. YDS.		1152
STRUCTURAL STEEL PILE (10")	LIN. FT.		237
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.		82.0
REINFORCING STEEL (BRIDGES)	LBS.		13,050
Pre Bore for Piling	L.S.		1

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE: 5-1-91

## PART DETAILS OF INTERMEDIATE BENT NO. 3

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 17 OF 93.

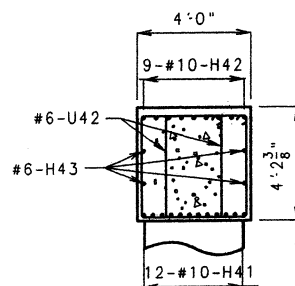
JACKSON

COUNTY

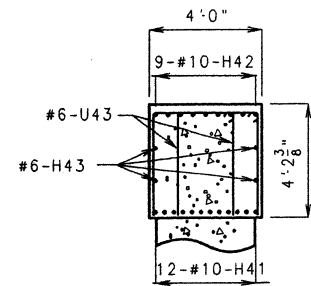
A5496



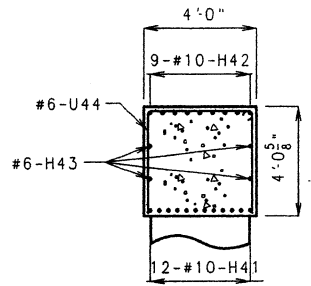




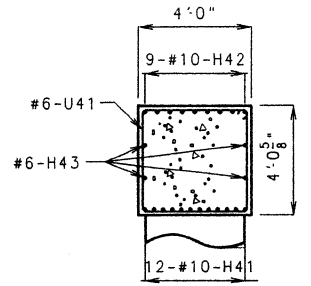
SECTION A-A



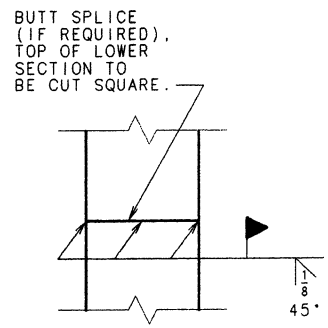
SECTION B-B



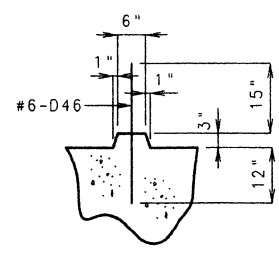
SECTION C-C



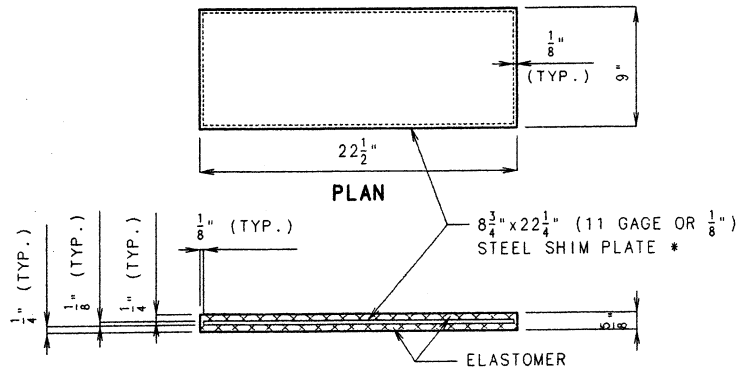
SECTION D-D



STEEL PILE SPLICE



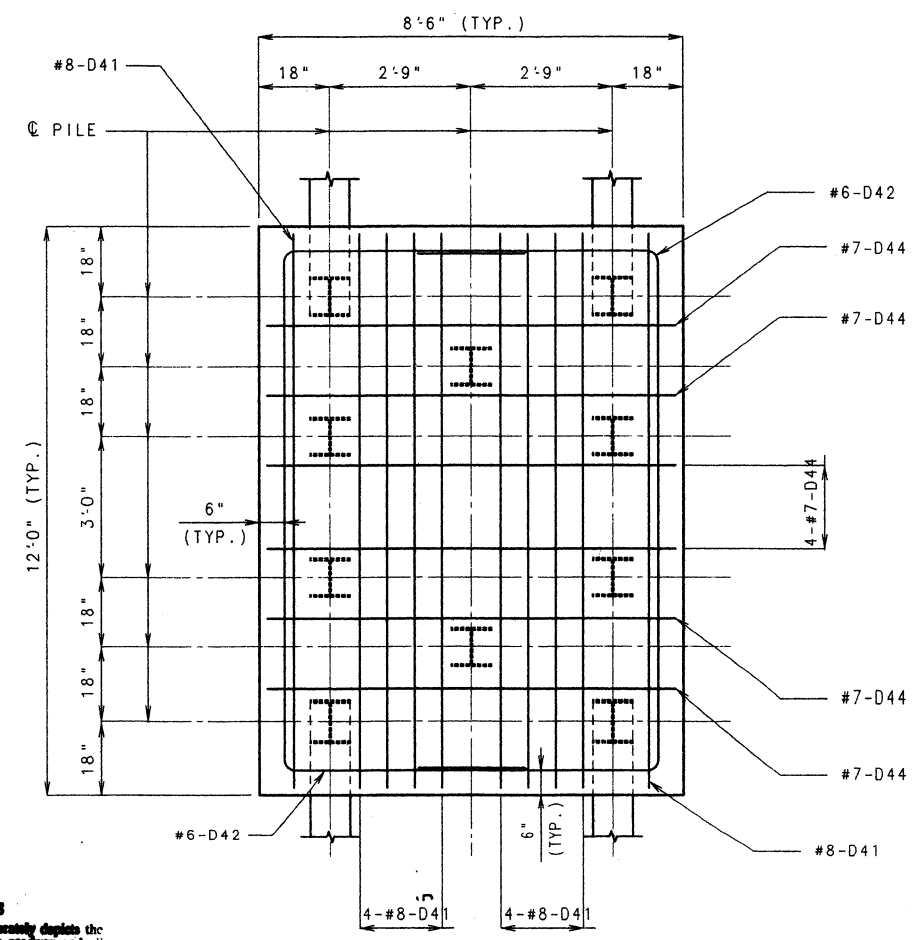
DETAIL OF KEY



SECTION  
DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 18.



PLAN OF FOOTING

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
Signature: M. L. A. S. L. Date: 4-23-04

SUBSTRUCTURE QUANTITY TABLE FOR BENT #4			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU.YDS.	92	
STRUCTURAL STEEL PILE (10")	LIN. FT.	267	
CLASS B CONCRETE (SUBSTRUCTURE)	CU.YDS.	82.3	
REINFORCING STEEL (BRIDGES)	LBS.	13,110	

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



## PART DETAILS OF INTERMEDIATE BENT NO. 4

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

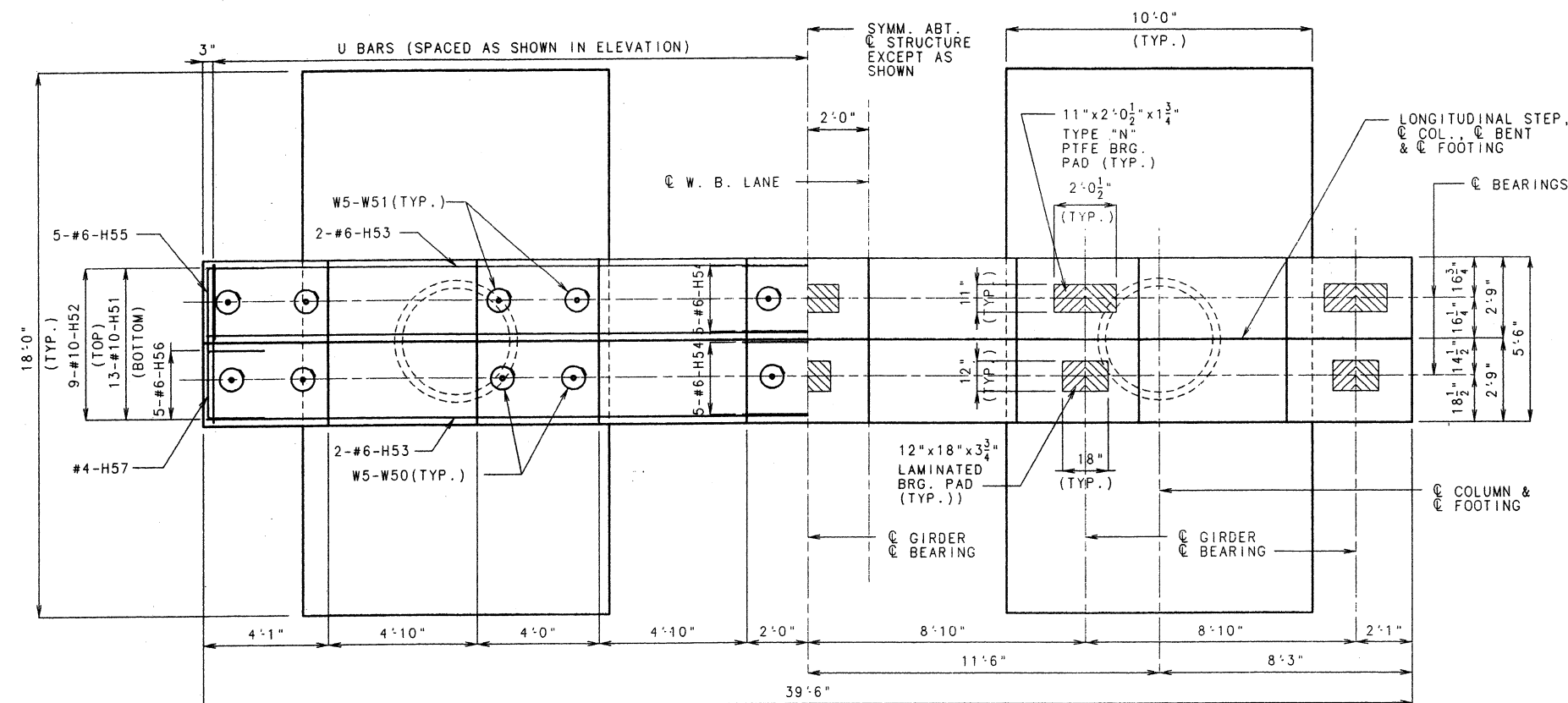
SHEET NO. 19 OF 93.

JACKSON

COUNTY

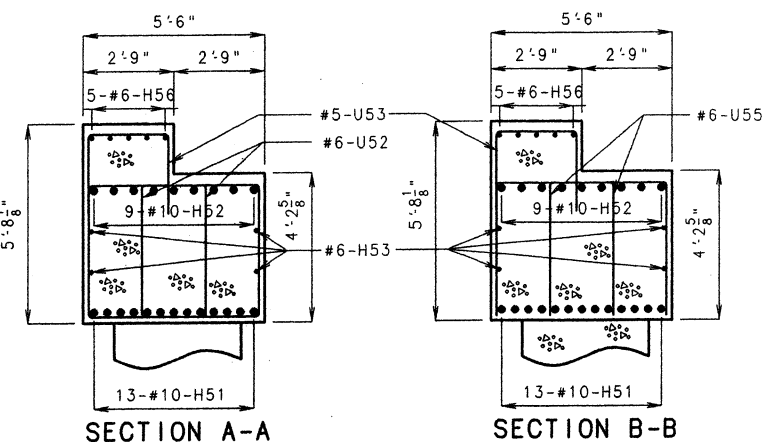
A5496





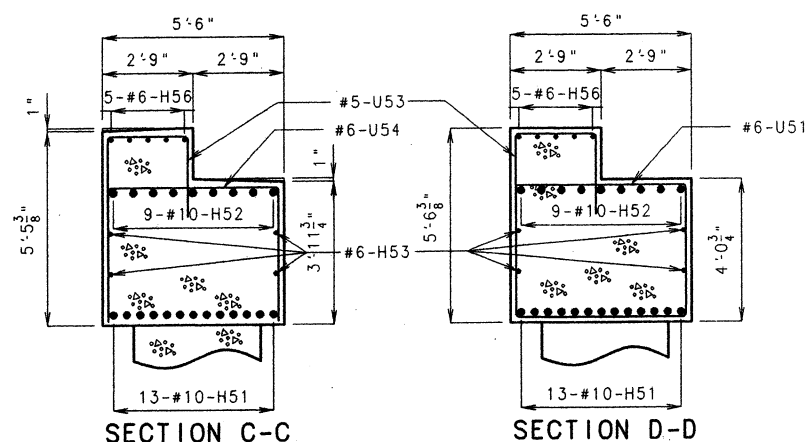
HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS



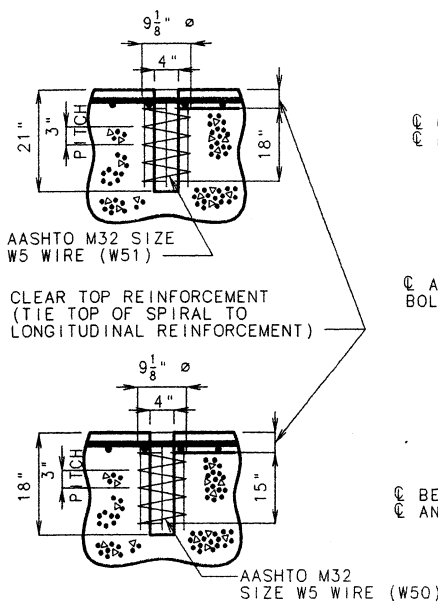
SECTION A-A

SECTION B-B

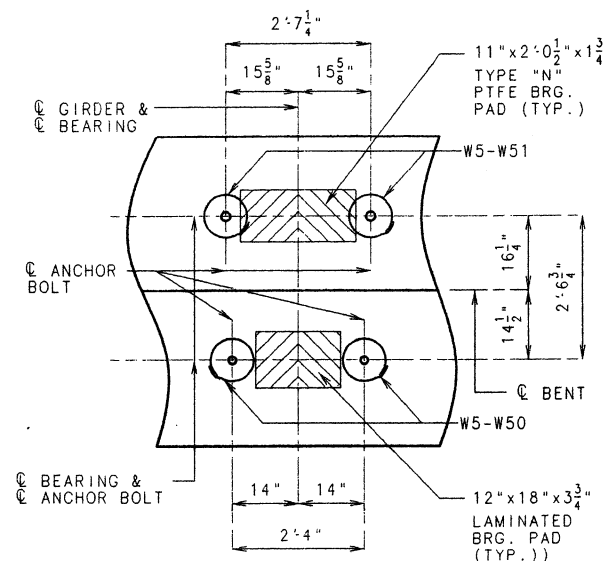


SECTION C-C

SECTION D-D

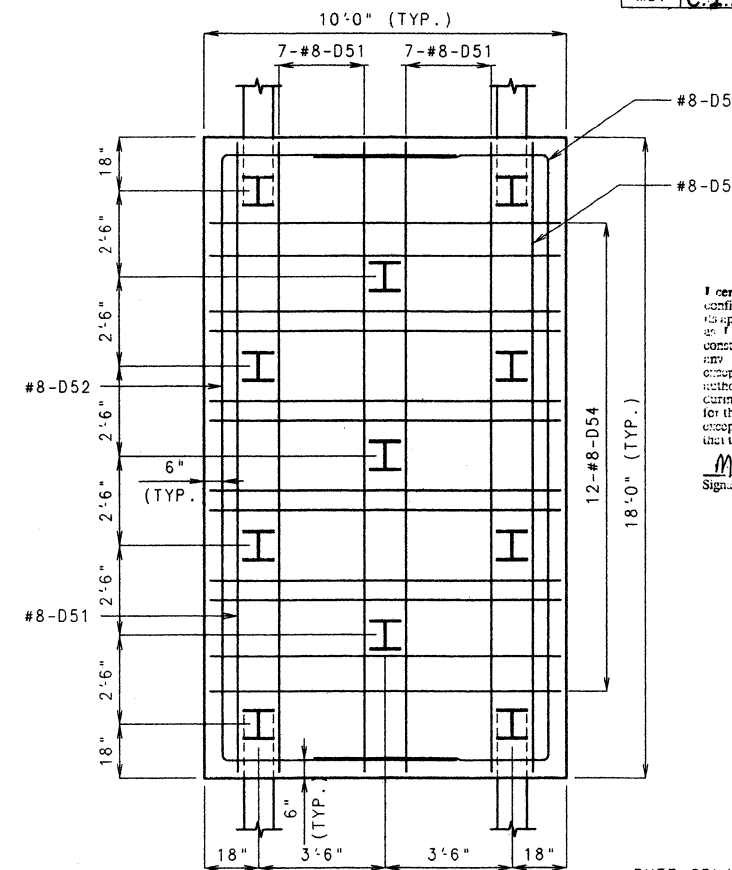


DETAIL OF  
ANCHOR BOLT WELLS

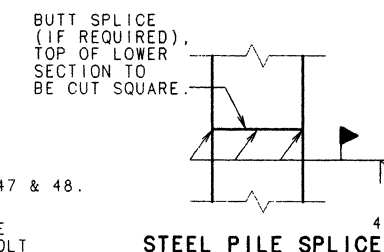


LOCATION OF  
ANCHOR BOLT WELLS

NOTE: FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 20.



PLAN OF FOOTING



STEEL PILE SPLICE

NOTE: FOR DETAILS OF BEARINGS, SEE SHEETS NO. 47 & 48.

ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

SUBSTRUCTURE QUANTITY TABLE FOR BENT 5		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	135.8
STRUCTURAL STEEL PILE (10")	LIN. FT	308
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	119.8
REINFORCING STEEL (BRIDGES)	LBS.	11,170
REINFORCING STEEL (EPOXY COATED)	LBS.	8800

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

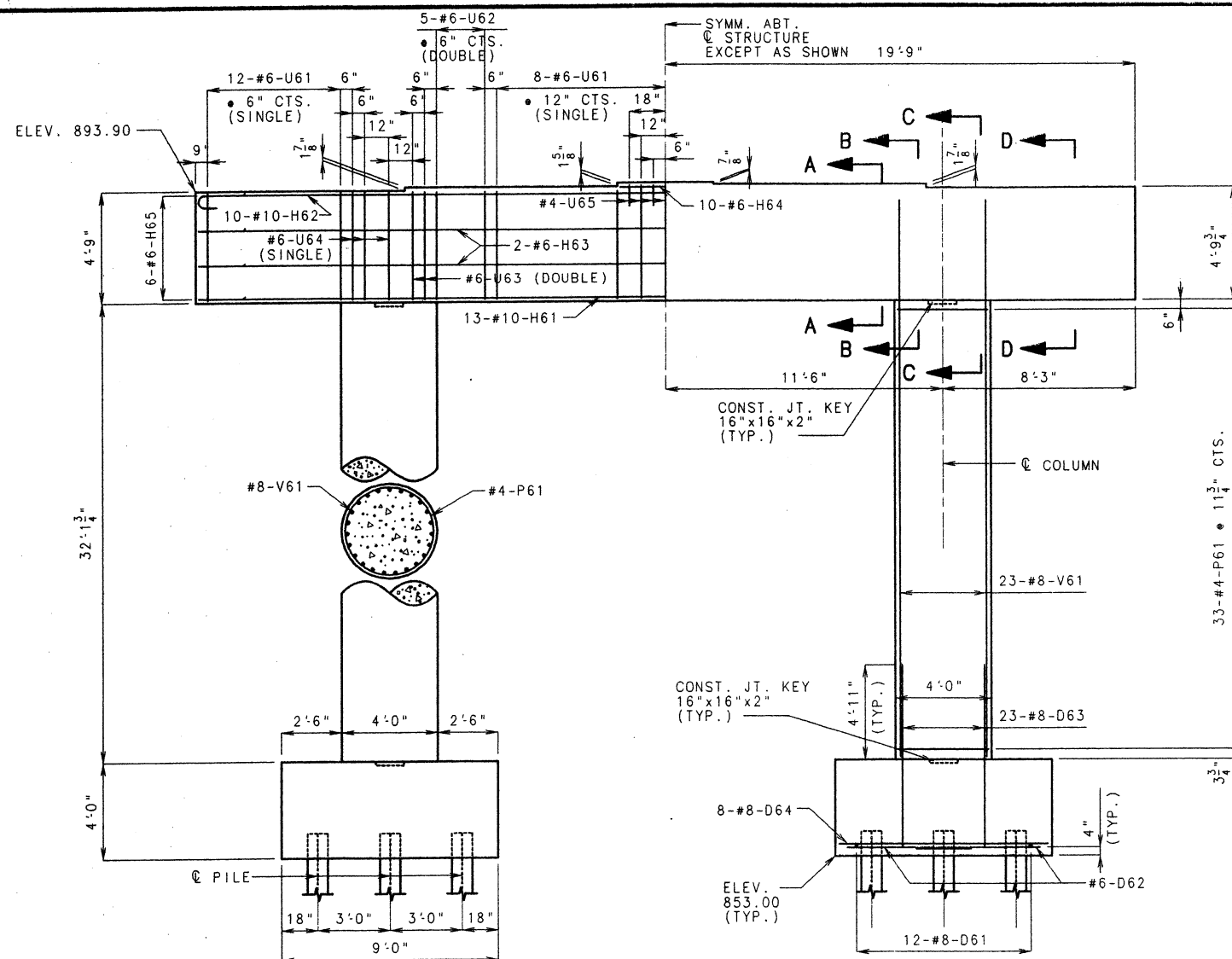
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 21 OF 93.

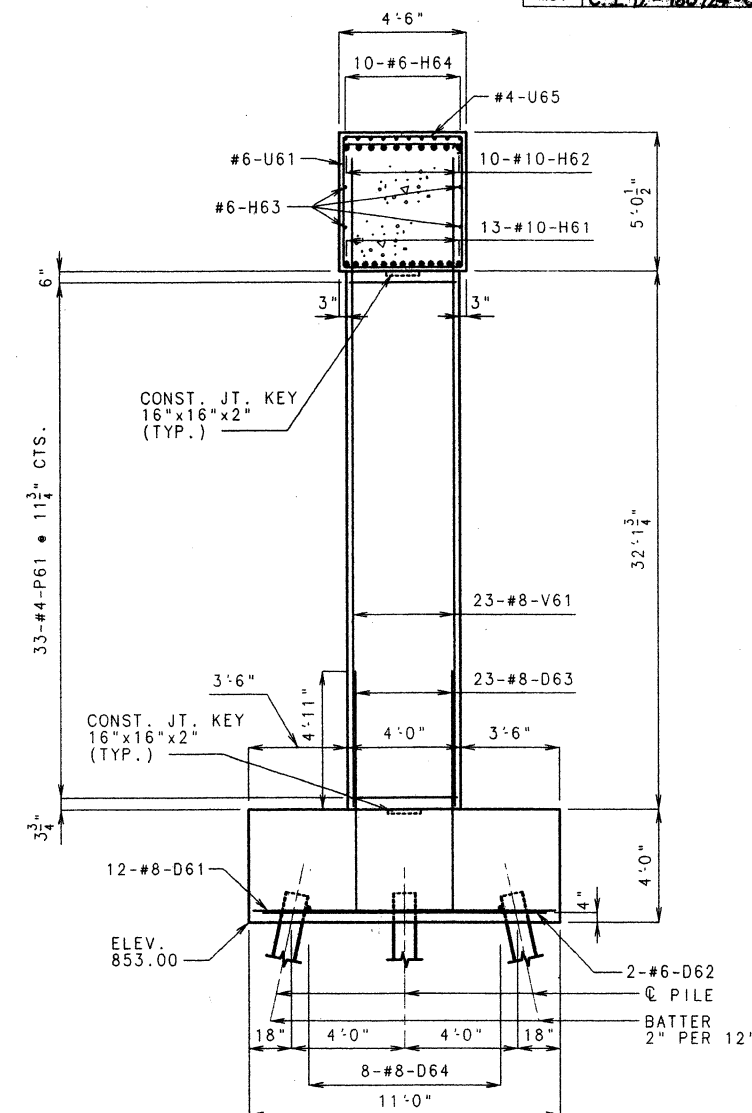
JACKSON

COUNTY

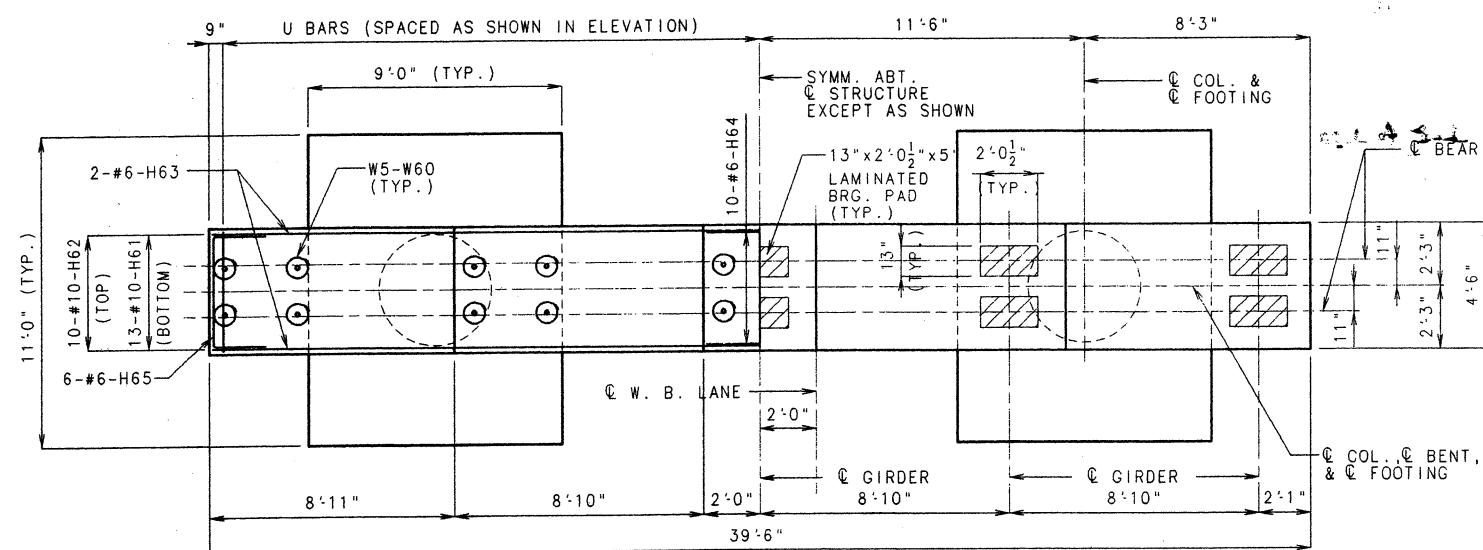
A5496



ELEVATION



SECTION AT C STRUCTURE



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS

# PART DETAILS OF INTERMEDIATE BENT NO. 6

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.



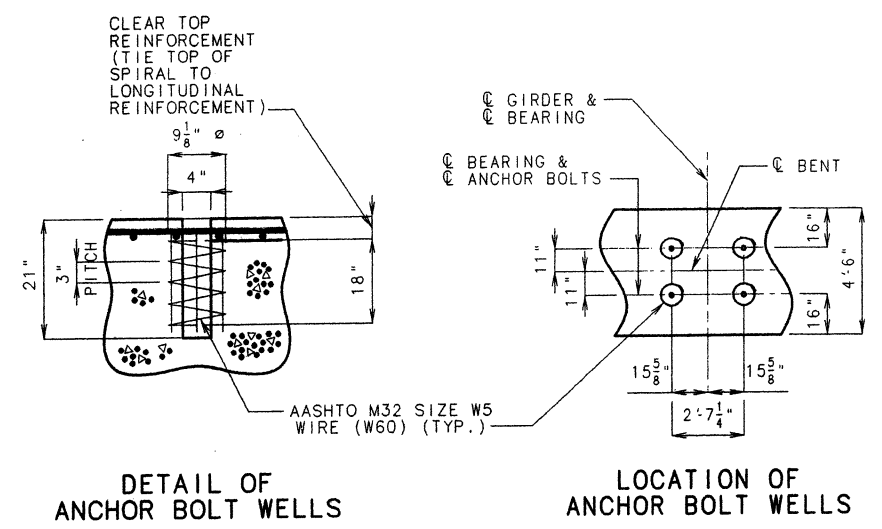
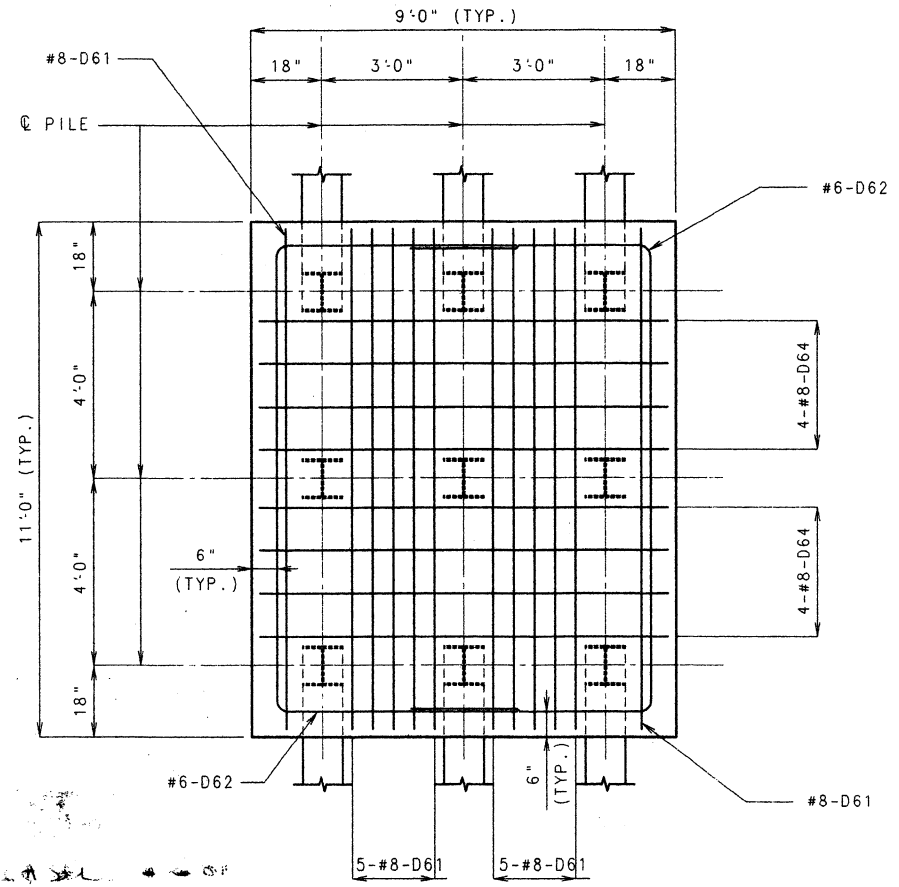
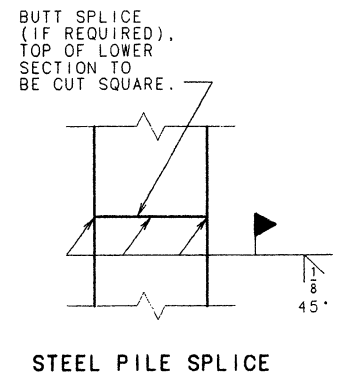
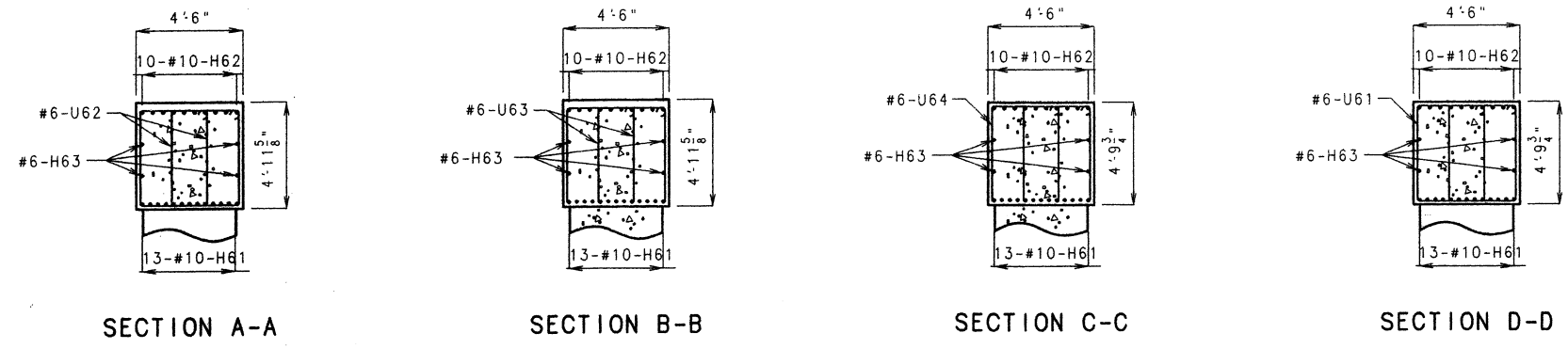
Signature: *Mark A. Stock*  
Date: 4-23-01

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 23.  
FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 23.  
FOR DETAIL OF ANCHOR BOLT WELLS, SEE SHEET NO. 23.



DATE: 5-1-98





**FINAL PLANS**  
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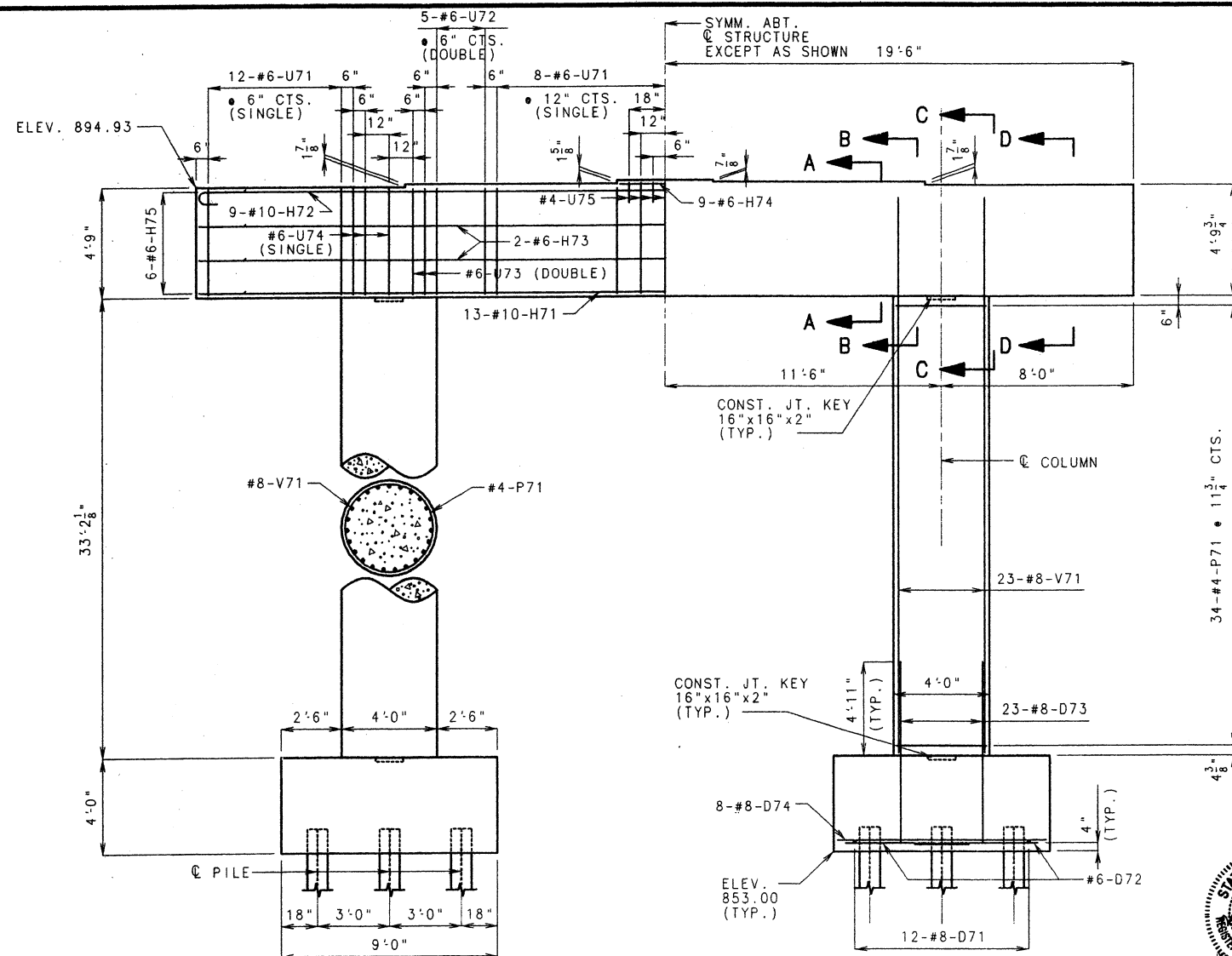
*M. J. A. Sall*  
Signature Date 4-23-01

NOTES:  
FOR DETAILS OF LAMINATED NEOPRENE BEARINGS, SEE SHEET NO. 47.  
ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 22.

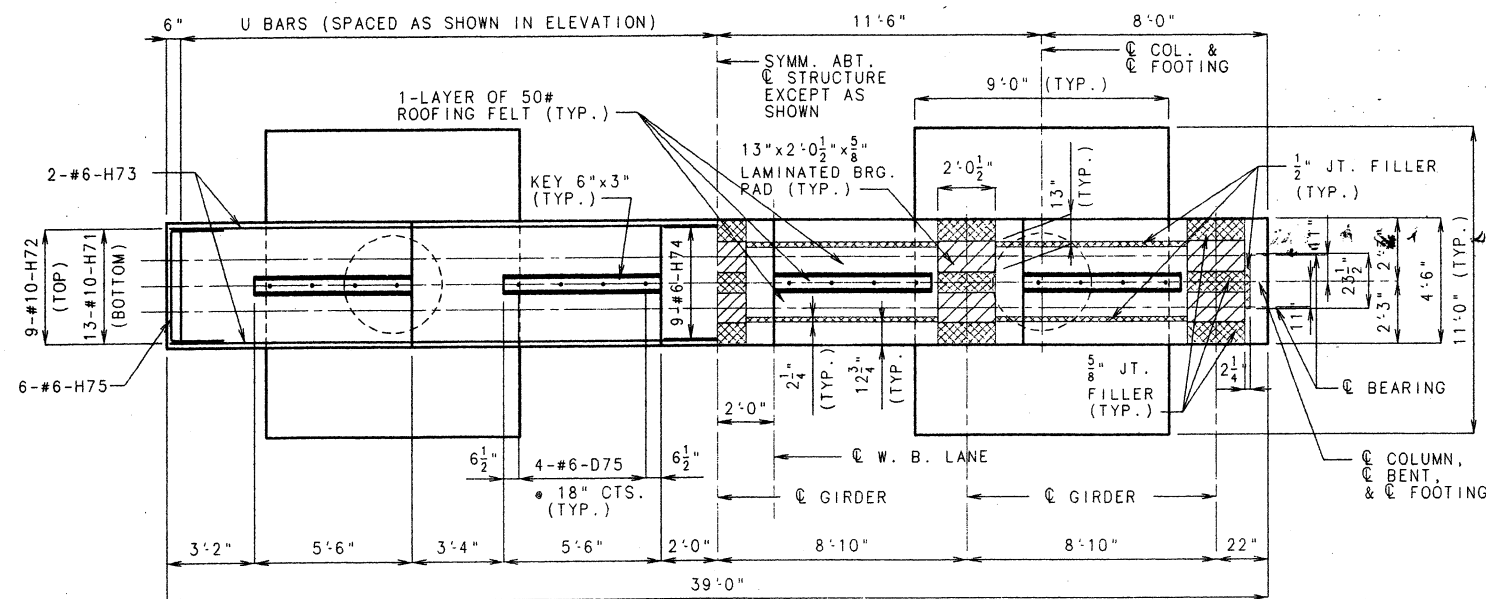
SUBSTRUCTURE QUANTITY TABLE FOR BENT #6		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	67.7
STRUCTURAL STEEL PILE (12")	LIN. FT.	238
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	91.4 ✓
REINFORCING STEEL (BRIDGES)	LBS.	13,590 ✓

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.





ELEVATION



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

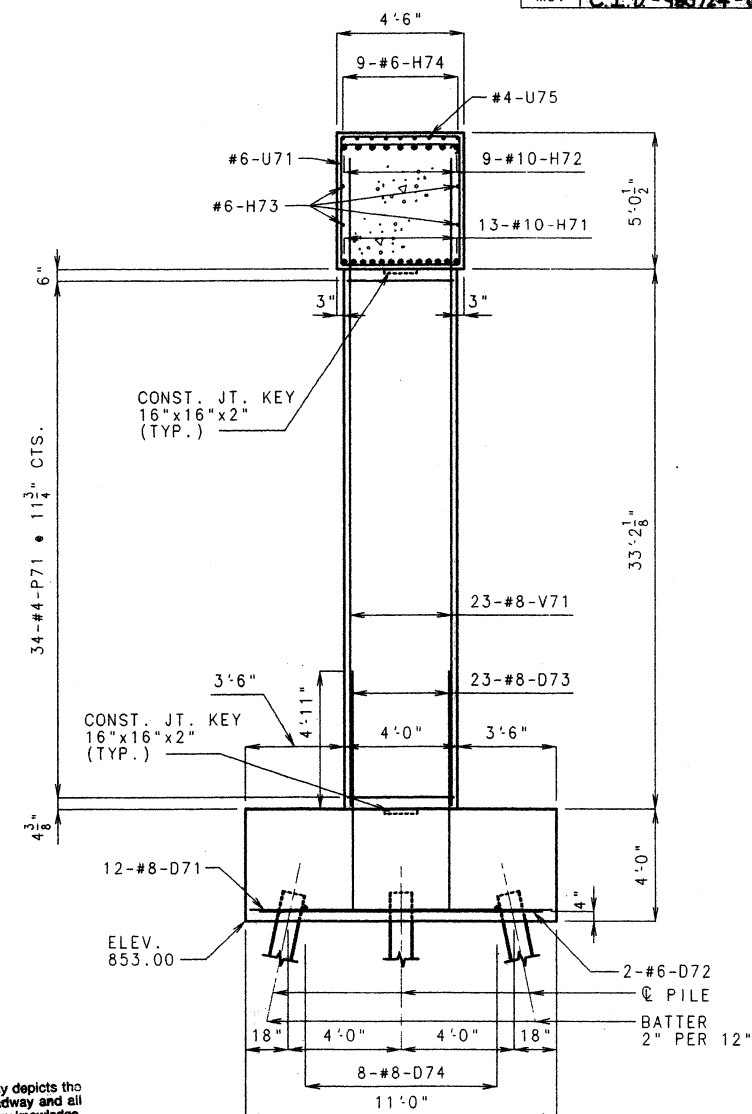
HALF PLAN OF BEAM  
SHOWING BEARINGS

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



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M. A. Stock 4-22-01



SECTION AT @ STRUCTURE

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 25.  
 FOR DETAIL OF STEEL PILE SPLICE, SEE SHEET NO. 25.  
 FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 25.  
 FOR DETAIL OF KEY, SEE SHEET NO. 25.



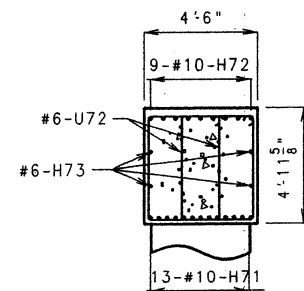
DATE 5-1-98

PART DETAILS OF INTERMEDIATE BENT NO. 7

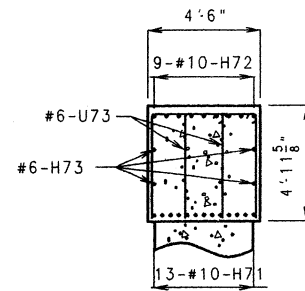
SHEET NO. 24 OF 93.

JACKSON COUNTY

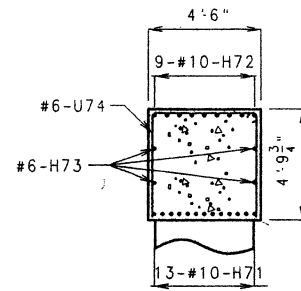
A5496



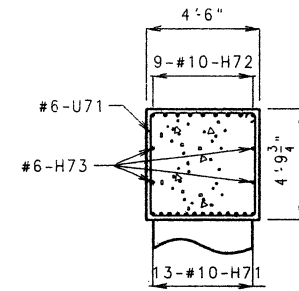
SECTION A-A



SECTION B-B

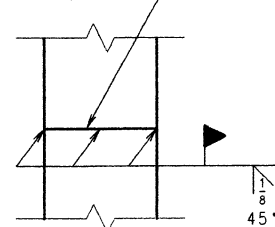


SECTION C-C

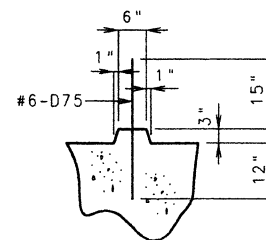


SECTION D-D

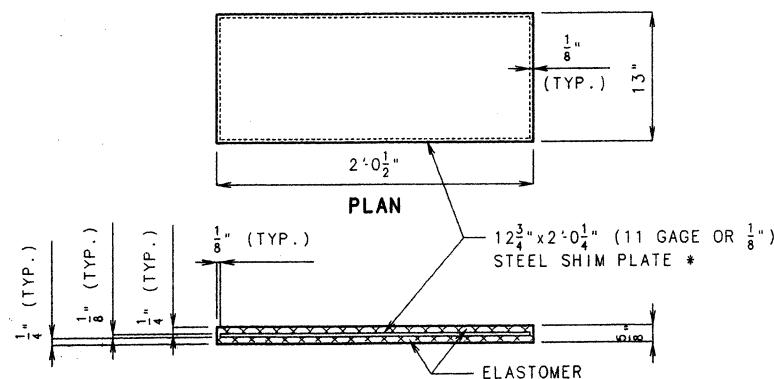
BUTT SPLICE  
(IF REQUIRED),  
TOP OF LOWER  
SECTION TO  
BE CUT SQUARE.



STEEL PILE SPLICE



DETAIL OF KEY



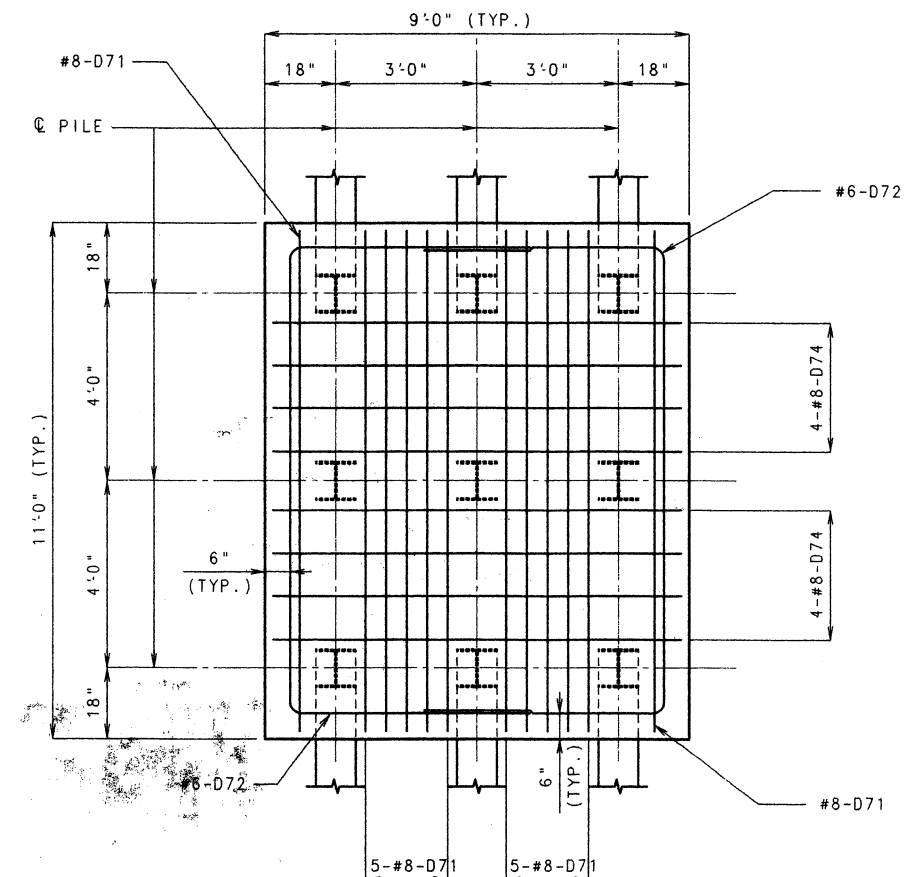
DETAILS OF LAMINATED  
NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 24.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: M. J. A. S. S. S. Date: 4-23-07



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #7			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU. YDS.	56.2	
STRUCTURAL STEEL PILE (12")	LIN. FT.	248	
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	92.0	
REINFORCING STEEL (BRIDGES)	LBS.	13,480	

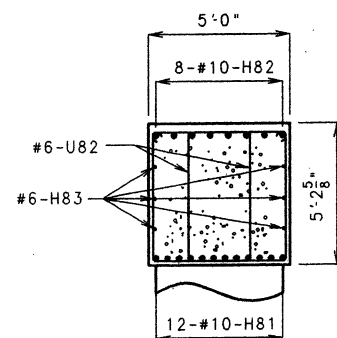
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



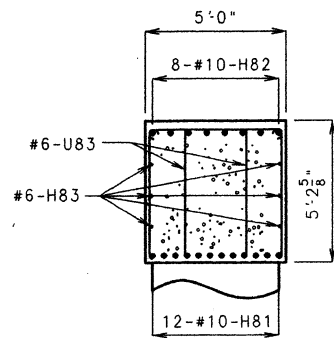
DATE: 5-1-98



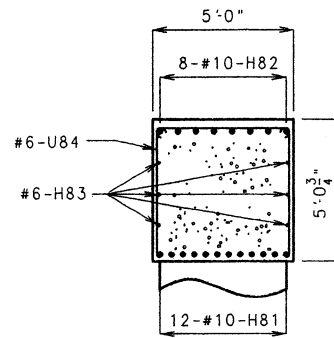




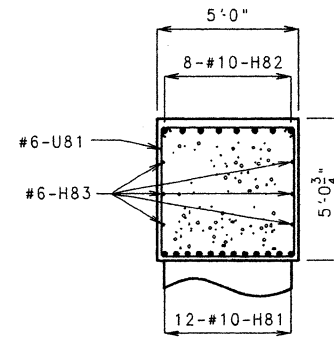
SECTION A-A



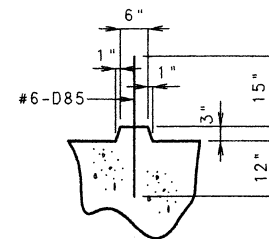
SECTION B-B



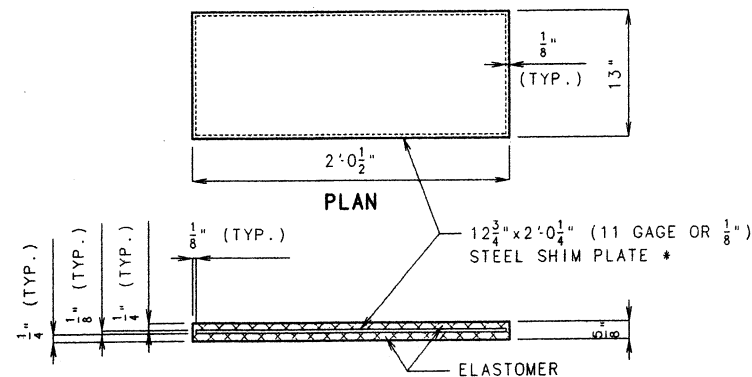
SECTION C-C



SECTION D-D



DETAIL OF KEY

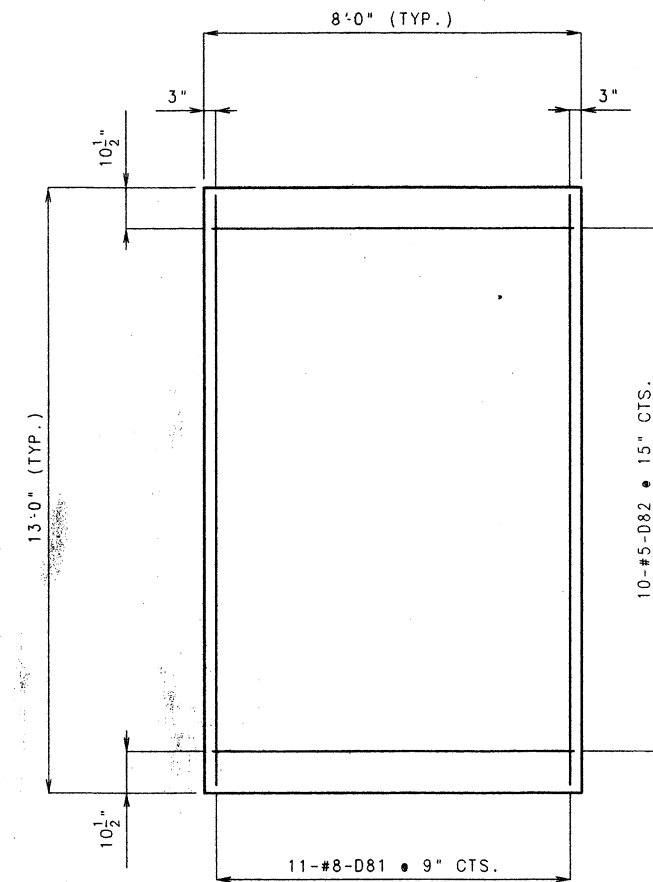


DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 26.

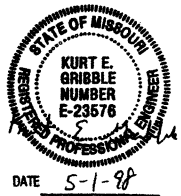
**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
Signature \_\_\_\_\_ Date 5-1-98

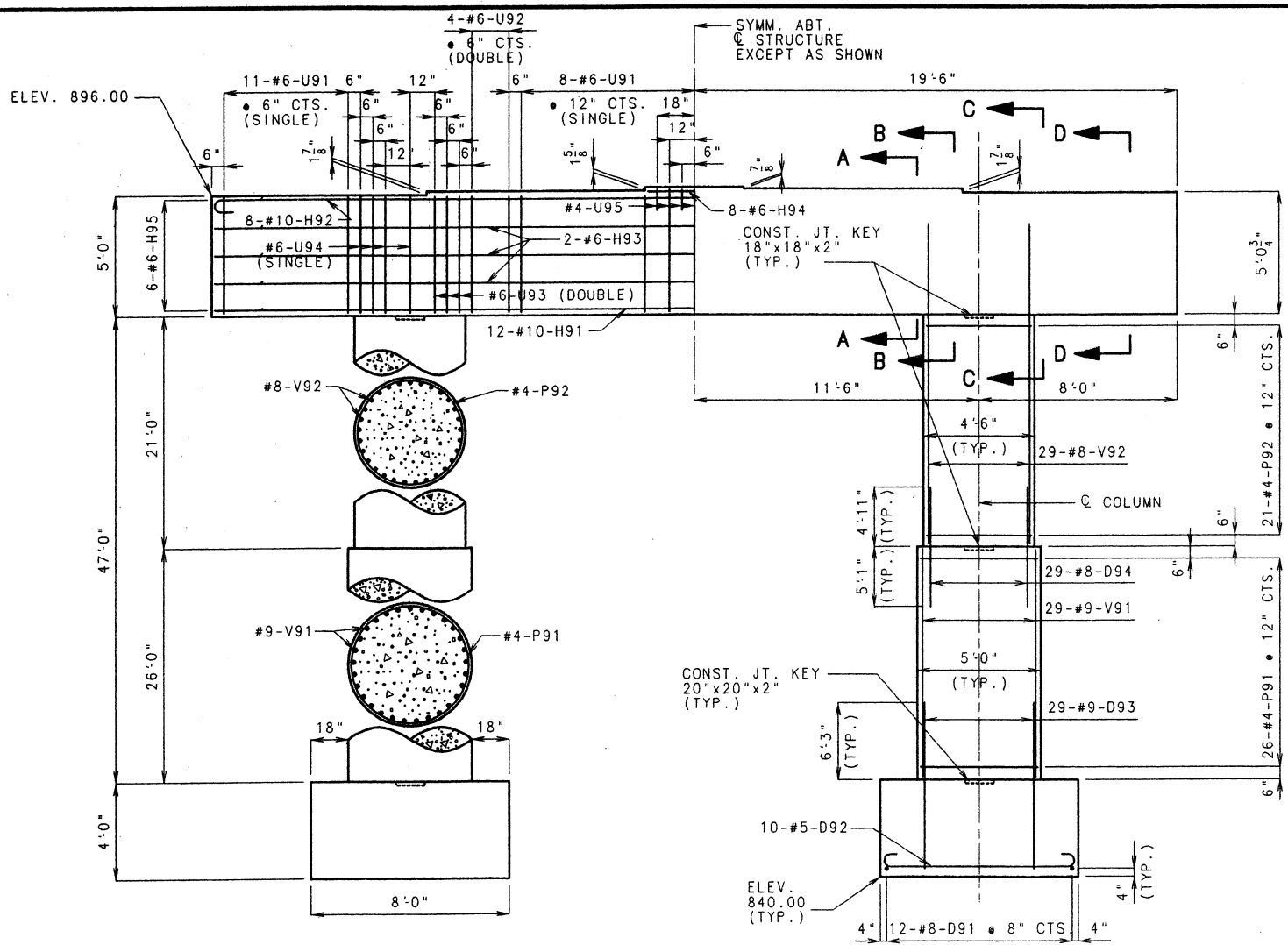


PLAN OF FOOTING

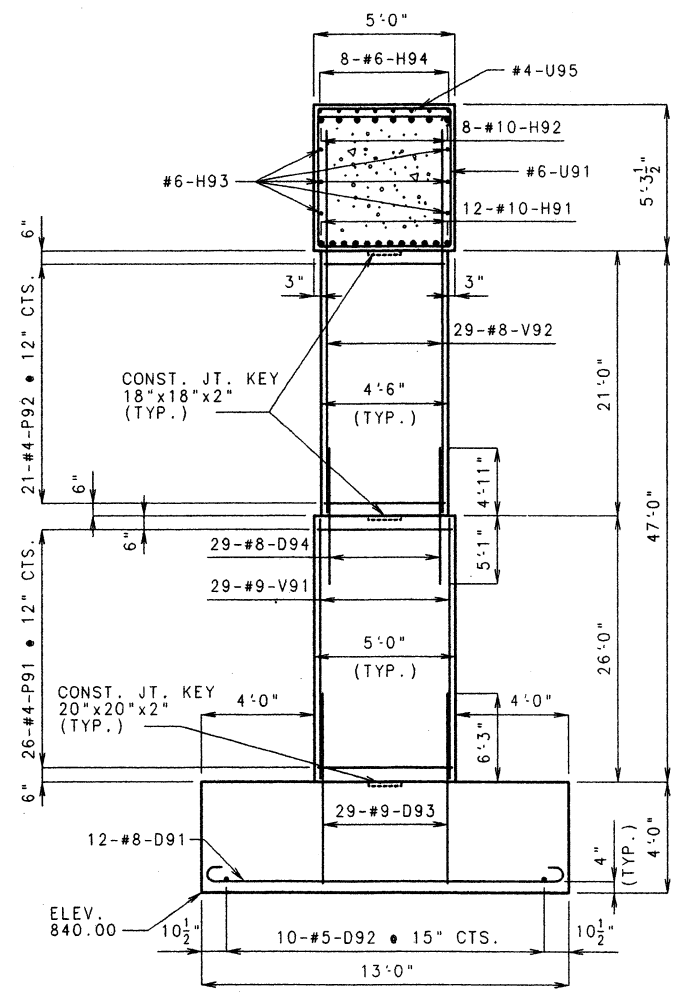
SUBSTRUCTURE QUANTITY TABLE FOR BENT #8			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU. YDS.	196.2	
CLASS 2 EXCAVATION	CU. YDS.	52.2	
COFFERDAMS (BENT 8)	LUMP SUM	1-	
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	131.3	
REINFORCING STEEL (BRIDGES)	LBS.	20,630	
Cont. 5301 Found Test Holes	L.F.	16	

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

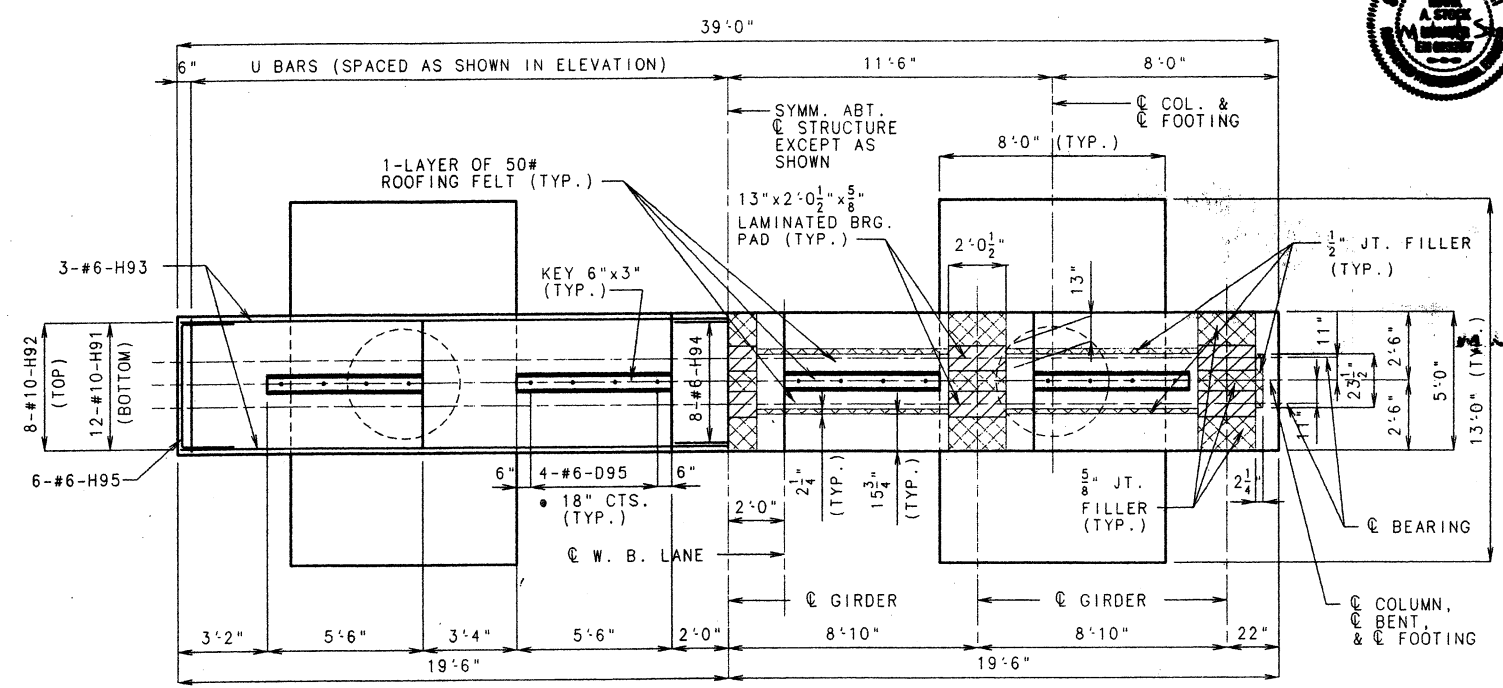




ELEVATION



SECTION AT @ STRUCTURE



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

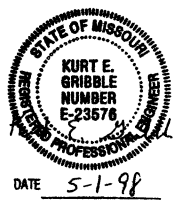
HALF PLAN OF BEAM  
SHOWING BEARINGS

PART DETAILS OF INTERMEDIATE BENT NO. 9

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *[Signature]* Date: 4-23-01

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 29.  
FOR DETAILS OF LAMINATED NEOPRENE BEARING PADS, SEE SHEET NO. 29.  
FOR DETAIL OF KEY, SEE SHEET NO. 29.



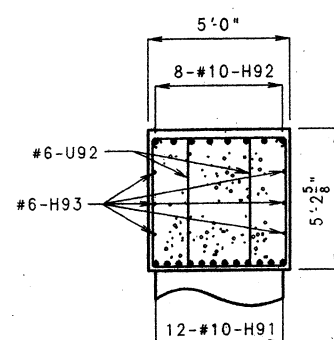
DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

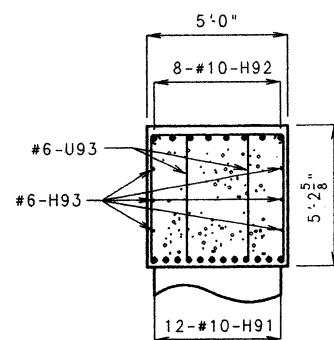
SHEET NO. 28 OF 93.

JACKSON COUNTY

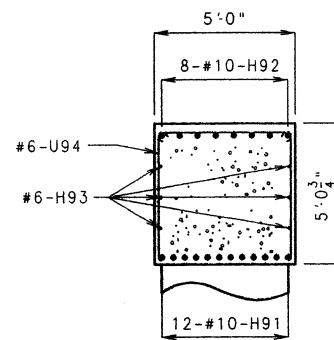
A5496



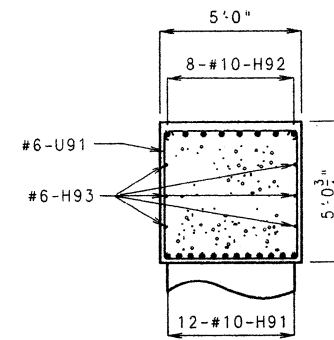
SECTION A-A



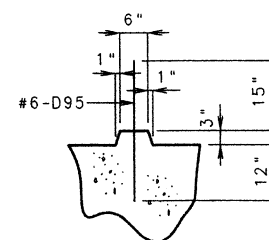
SECTION B-B



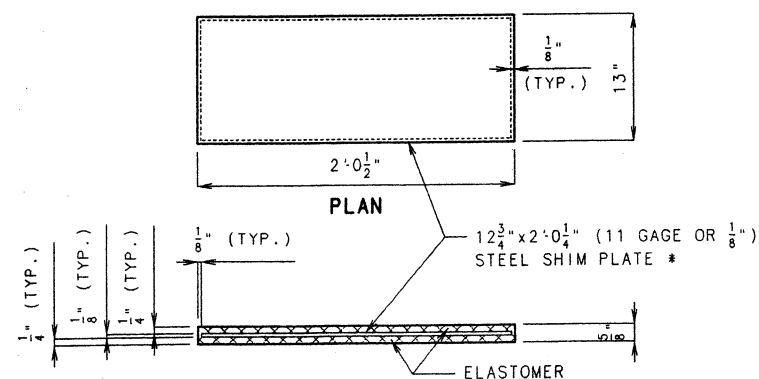
SECTION C-C



SECTION D-D



DETAIL OF KEY



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 28.

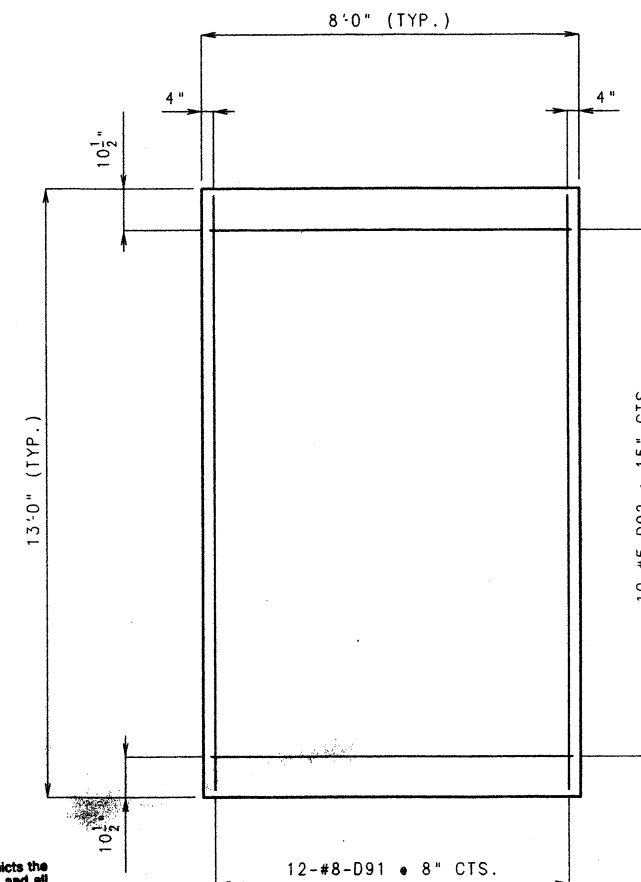
## PART DETAILS OF INTERMEDIATE BENT NO. 9

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *[Signature]* Date: 4-1-98



PLAN OF FOOTING

SUBSTRUCTURE QUANTITY TABLE FOR BENT #9			
ITEM			QUANTITY
CLASS 1 EXCAVATION	CU.YDS.		152
CLASS 2 EXCAVATION	CU.YDS.		362
COFFERDAMS (BENT 9)	LUMP SUM		1
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.		1312
REINFORCING STEEL(BRIDGES)	LBS.		20,580
CONF 5302 CL 2+50%	C.Y.		3.5
CONF 501 Found. Test Holes	L.F.		16

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE: 5-1-98

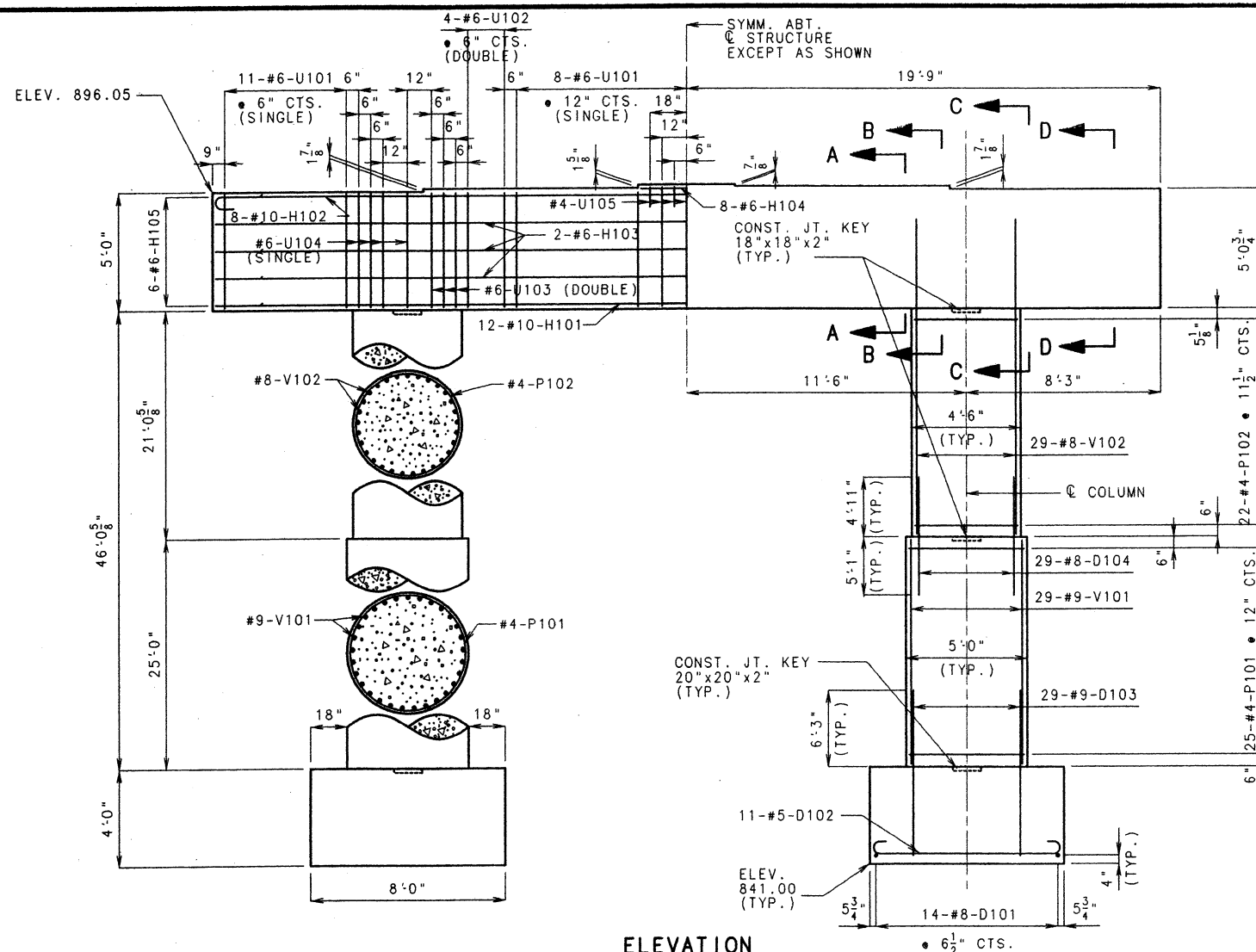
DETAILED JAN. 1998  
CHECKED MAR. 1998

SHEET NO. 29 OF 93.

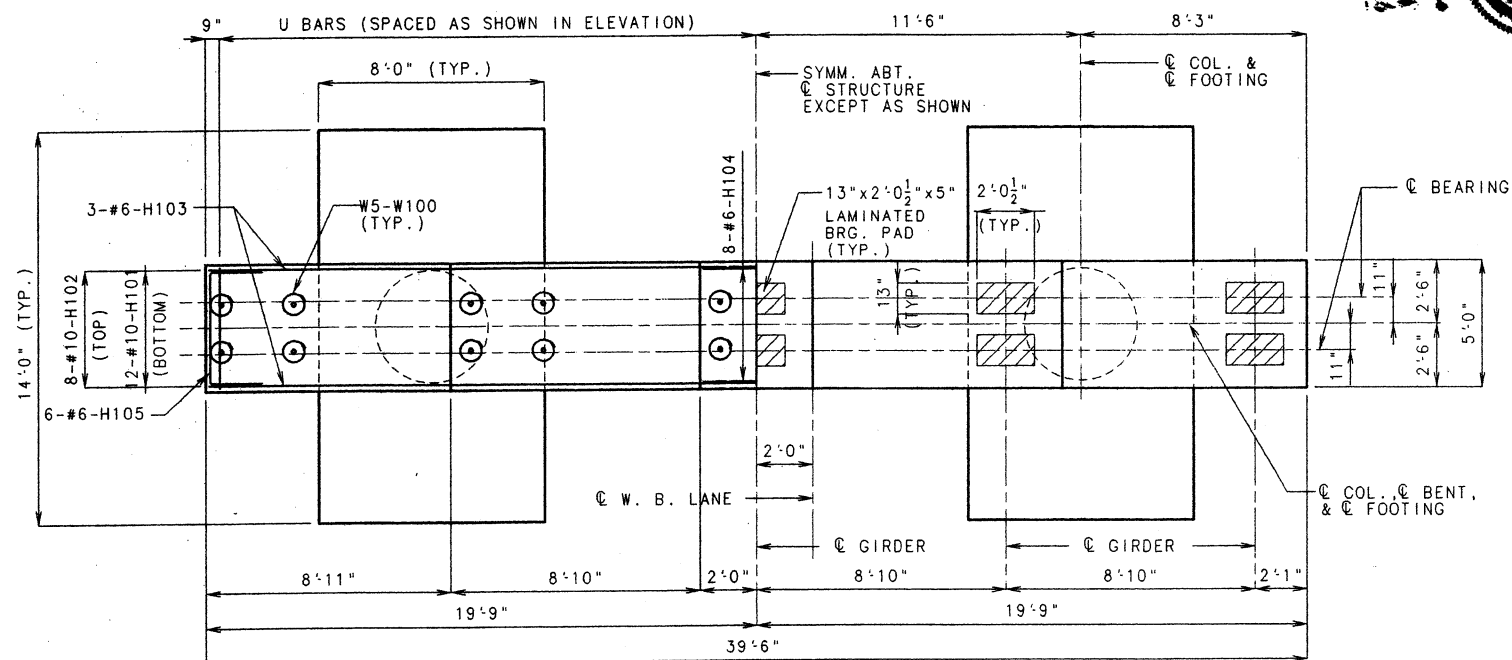
JACKSON

COUNTY

A5496



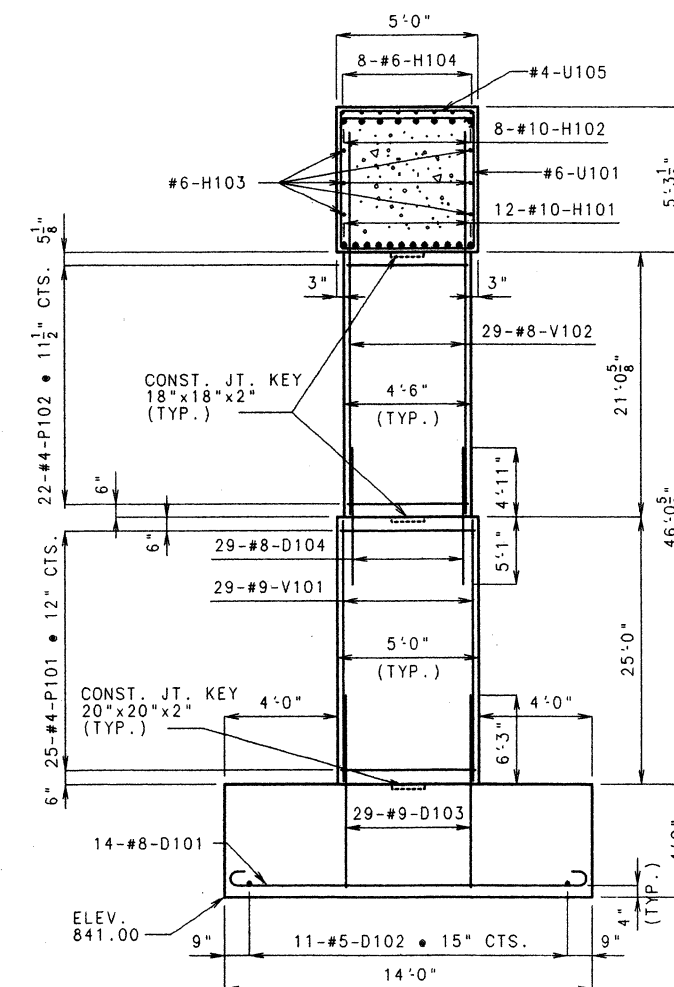
ELEVATION



HALF PLAN OF BEAM  
SHOWING REINFORCEMENT

HALF PLAN OF BEAM  
SHOWING BEARINGS

PART DETAILS OF INTERMEDIATE BENT NO. 10



SECTION AT C STRUCTURE



**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

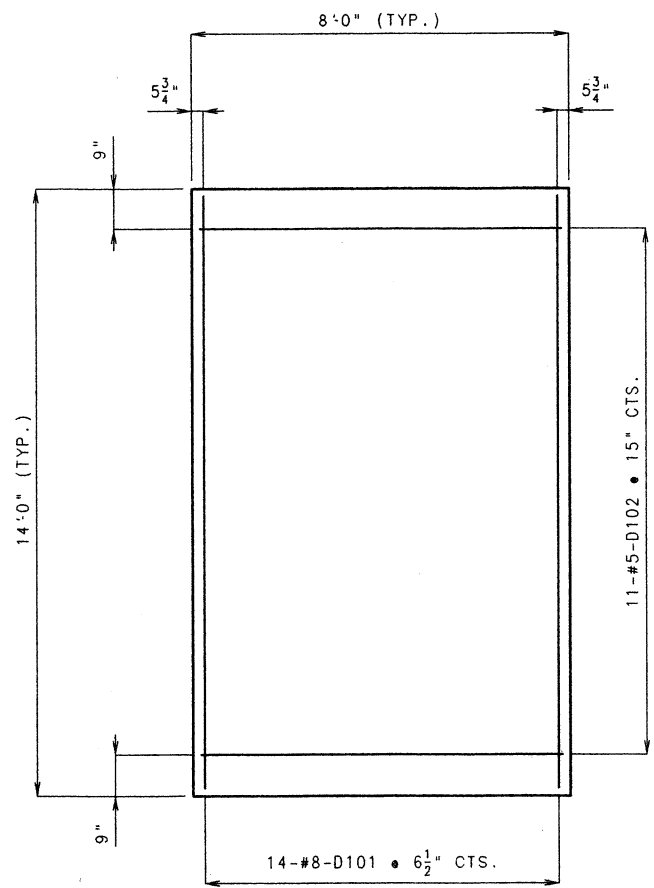
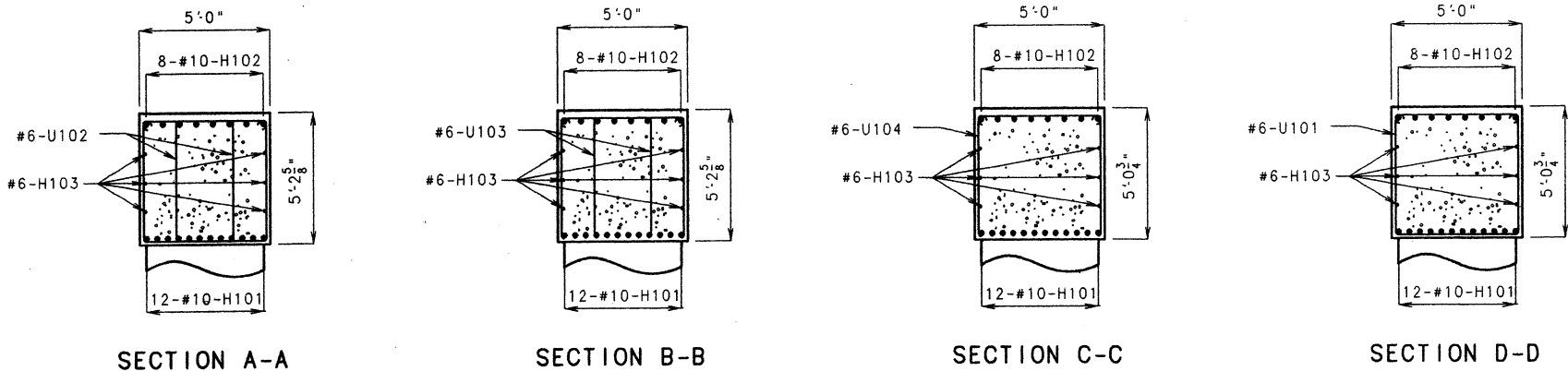
*M. J. A. S. A.* 4-23-01  
Signature Date

FOR DETAILS OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 31.  
FOR DETAILS OF ANCHOR BOLT WELLS, SEE SHEET NO. 31.



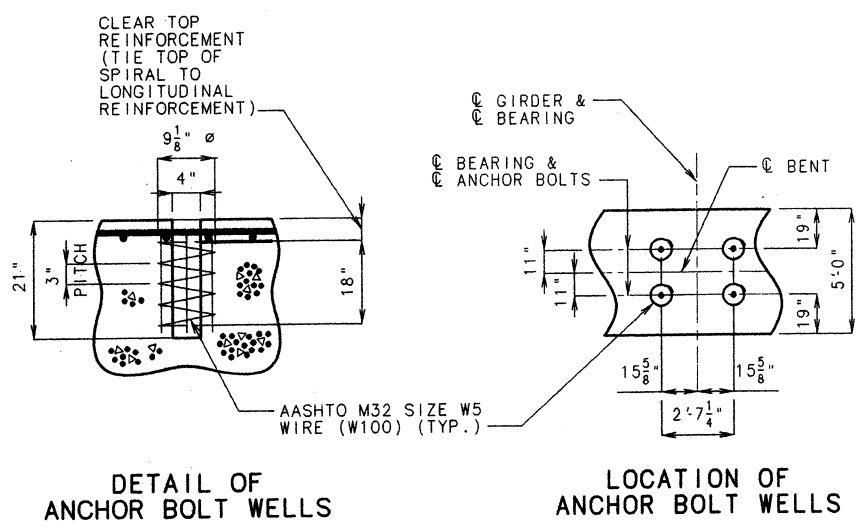
DATE 5-1-98





FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

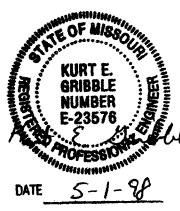
Signature  
Date

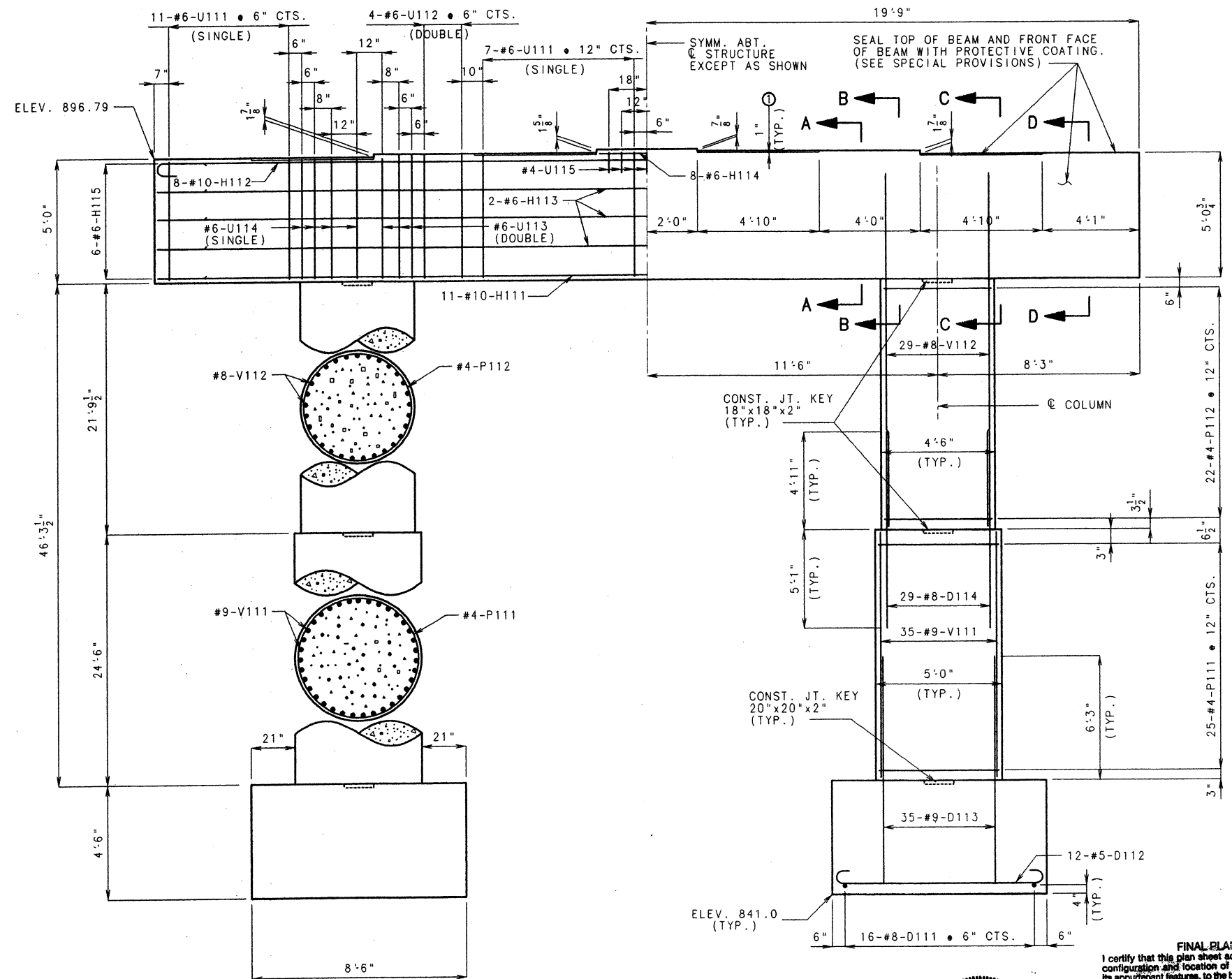


NOTES:  
FOR DETAILS OF LAMINATED NEOPRENE BEARINGS, SEE SHEET NO. 47.  
ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 30.

SUBSTRUCTURE QUANTITY TABLE FOR BENT #10		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	110
CLASS 2 EXCAVATION	CU.YDS.	27.8
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	131.7
REINFORCING STEEL(BRIDGES)	LBS.	20,720 ✓
Cont. 5302 C.I. 2'x50"	C.Y.	11.7 ✓
Cont. 5301 Found. Test Holes	L.F.	16 ✓

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

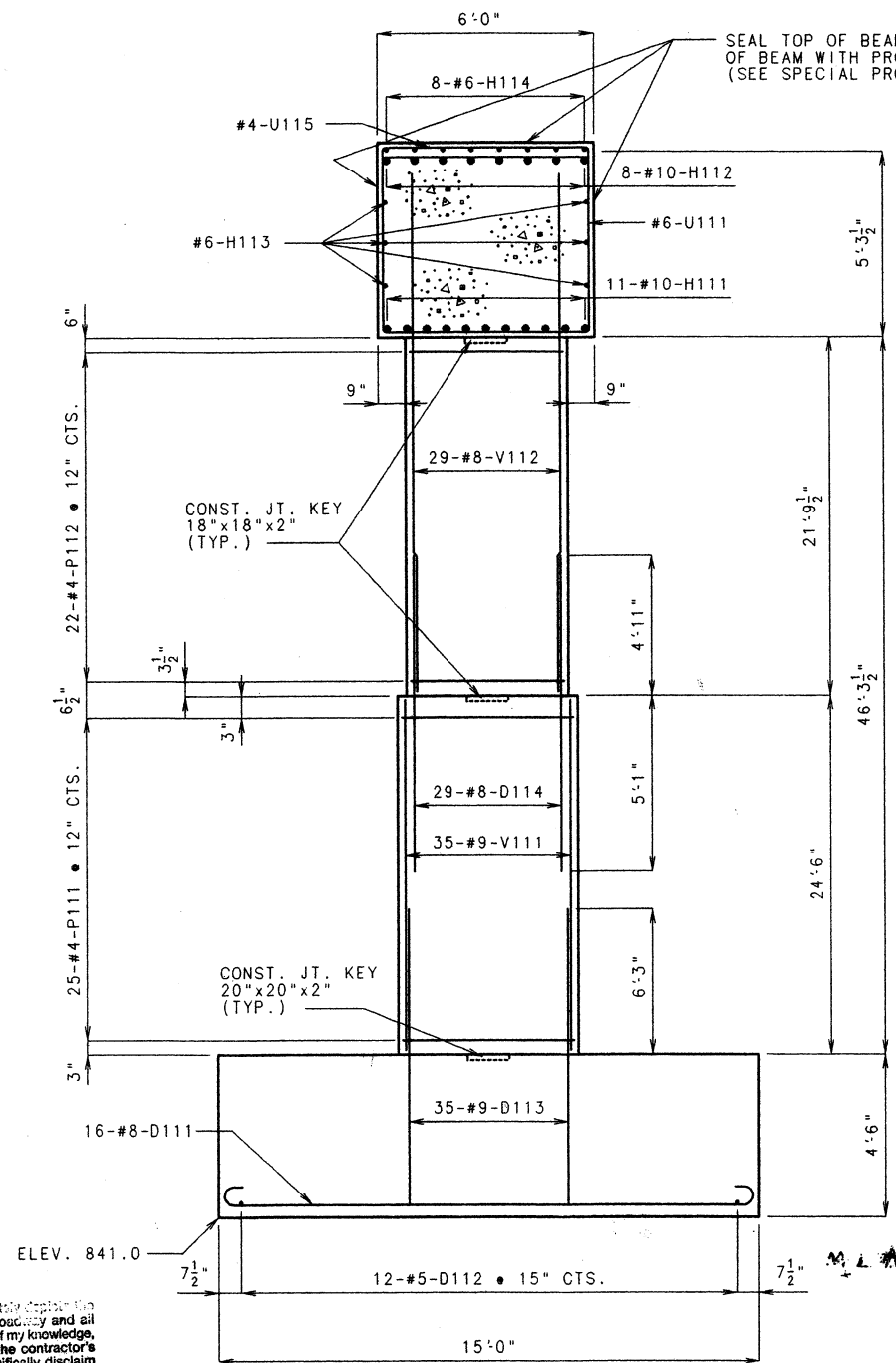




ELEVATION

NOTE: FOR SECTIONS A-A, B-B, C-C & D-D, SEE SHEET NO. 33.  
 ① TOP OF BEAM SHALL BE SLOPED 1" TO DRAIN BETWEEN @ OF BEAM TO BOTH OUTSIDE FACES OF BEAM.

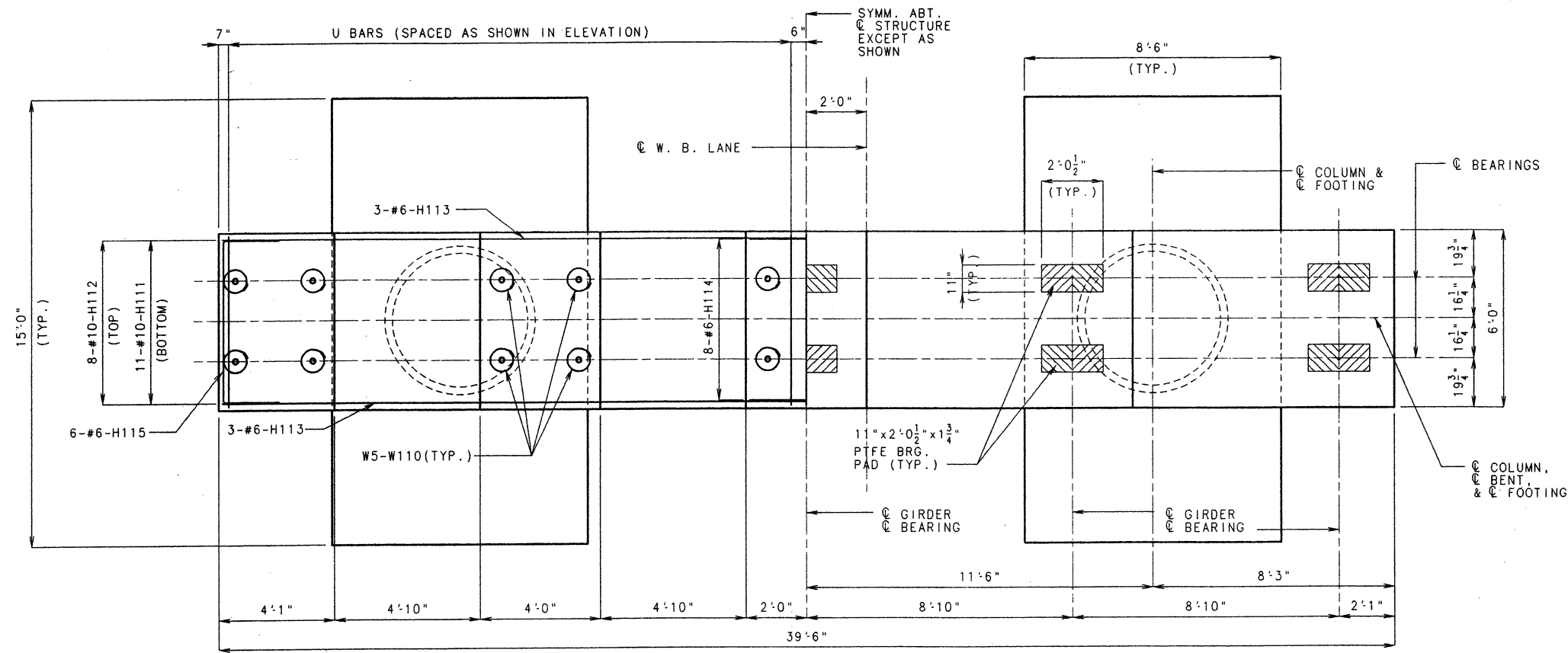
# PART DETAILS OF INTERMEDIATE BENT NO. 11



SECTION AT @ STRUCTURE

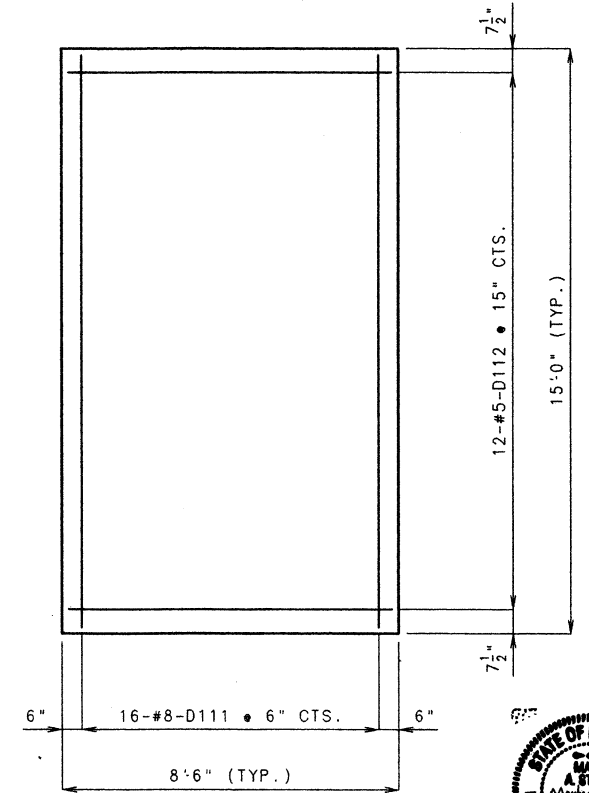
**FINAL PLAN**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
 Signature: M. A. S. J. Date: 4-22-91





HALF PLAN OF BEAM SHOWING REINFORCEMENT

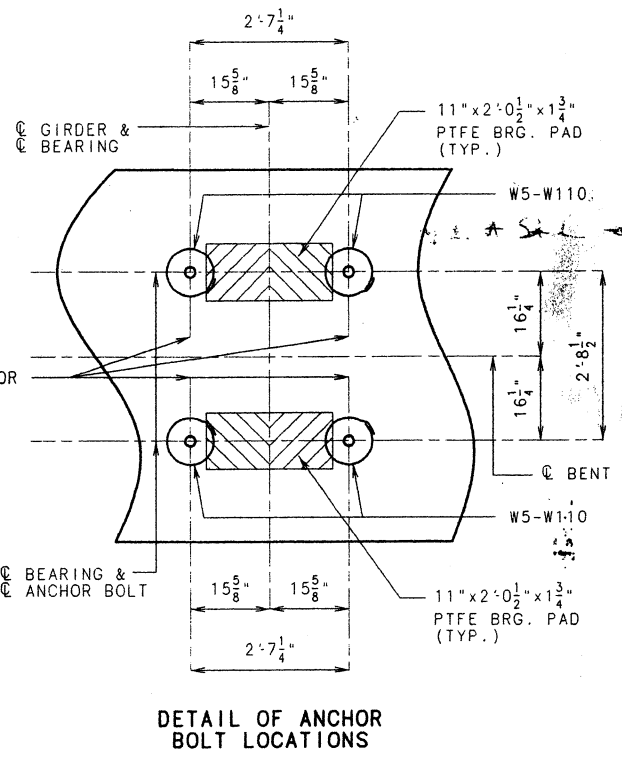
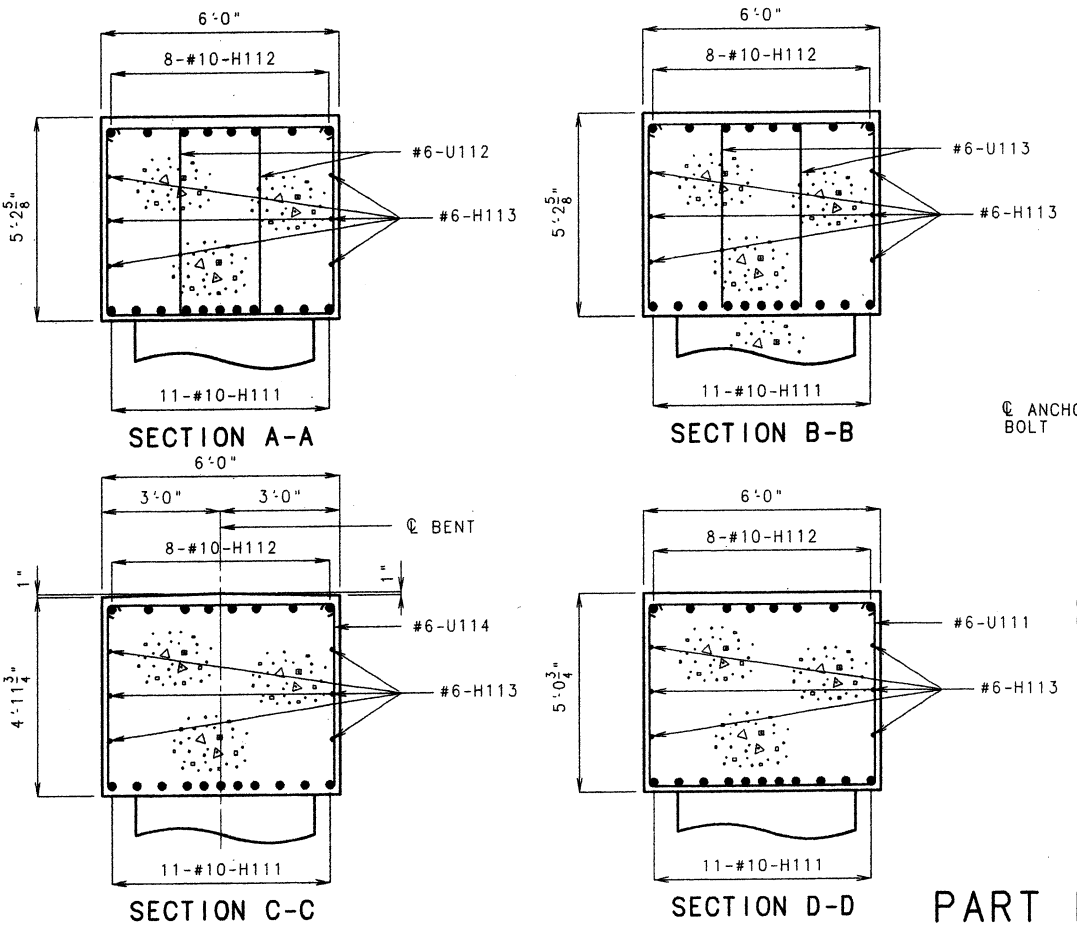
HALF PLAN OF BEAM SHOWING BEARINGS



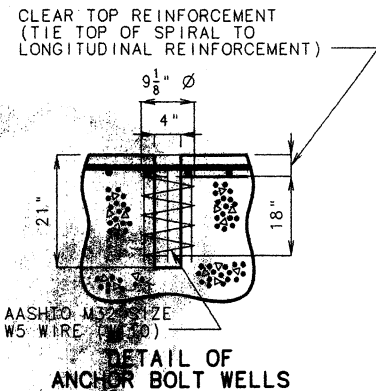
PLAN OF FOOTING

NOTE: FOR DETAILS OF BEARINGS, SEE SHEET NO. 48.

ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".



DETAIL OF ANCHOR BOLT LOCATIONS



DETAIL OF ANCHOR BOLT WELLS

SUBSTRUCTURE QUANTITY TABLE FOR BENT 11			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU.YDS.	177.6	
CLASS 2 EXCAVATION	CU.YDS.	21.7	
CLASS B CONCRETE (SUBSTRUCTURE)	CU.YDS.	148.8	
REINFORCING STEEL (BRIDGES)	LBS.	12,410	
REINFORCING STEEL (EPOXY COATED)	LBS.	10,070	
Cont. 5301 Found. Test Holes	L.F.	16	

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
Signature: M. J. S. L. Date: 12-3-91

STATE OF MISSOURI  
KURT E. GRIBBLE  
NUMBER E-23578  
DATE 5-1-91

PART DETAILS OF INTERMEDIATE BENT NO. 11

DETAILED JAN. 1998  
CHECKED MAR. 1998

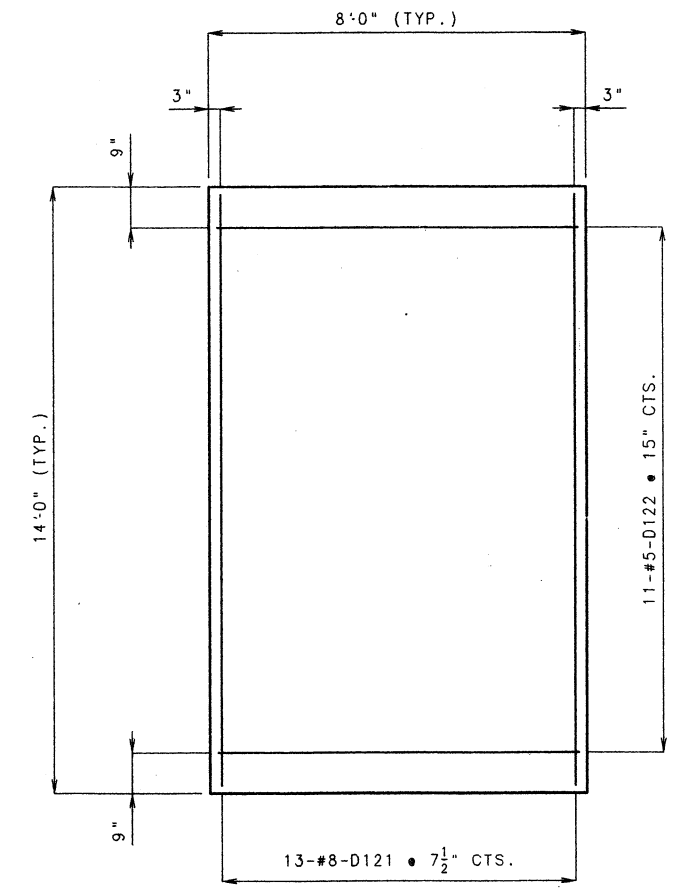
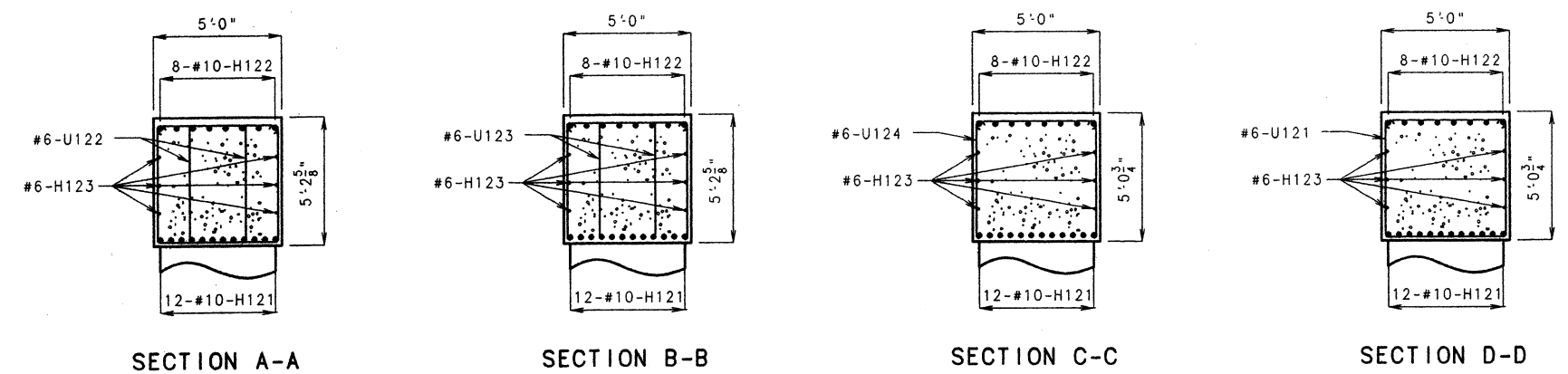
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 33 OF 93.

JACKSON COUNTY A5496

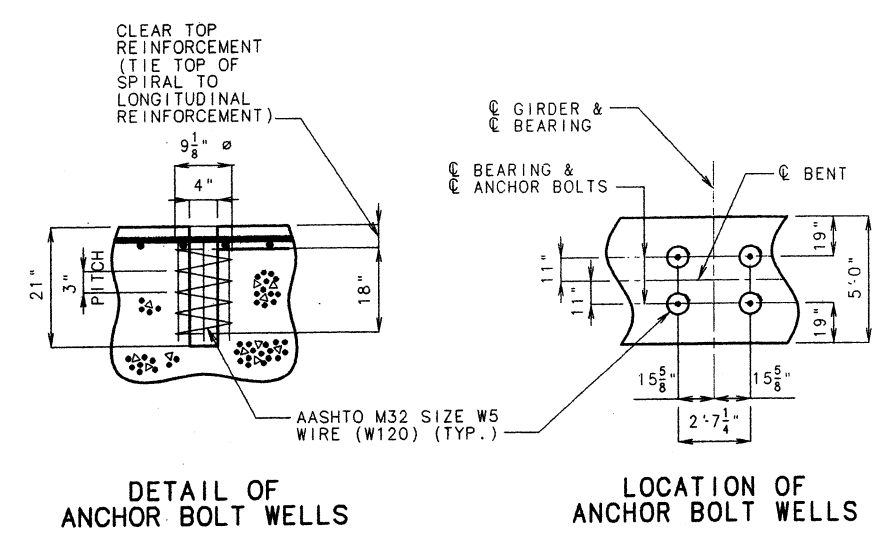






**FINAL PLAN**  
I certify that this plan sheet depicts the configuration and location of the roadway and all its appurtenant features to the best of my knowledge, and that I have prepared the contractor's construction of the project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or approved the modification of the project design during construction; and I disclaim responsibility for the contractor's construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

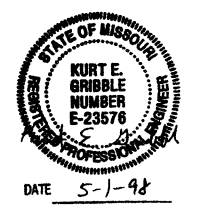
Signature: *[Signature]*  
Date: 5-1-98



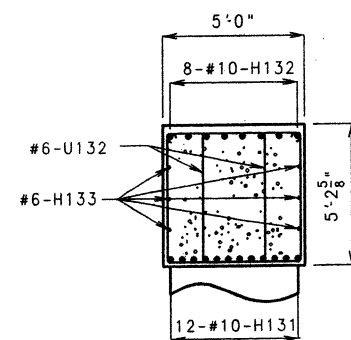
**NOTES:**  
FOR DETAILS OF EXPANSION BEARINGS, SEE SHEET NO. 47.  
ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".  
FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 34.

SUBSTRUCTURE QUANTITY TABLE FOR BENT #12			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU.YDS.	161.6	
CLASS 2 EXCAVATION	CU.YDS.	29	
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	134.35	
REINFORCING STEEL(BRIDGES)	LBS.	20,820	
Cont. 5301 Found. Test Holes	L.F.	16	
Cont. 5302 Cl. 2 + 50 7r	C.Y.	7	

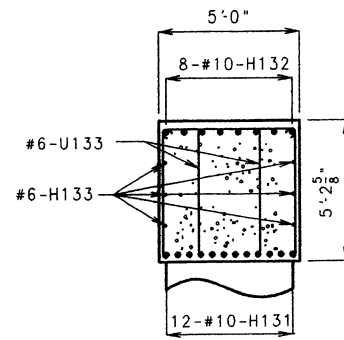
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



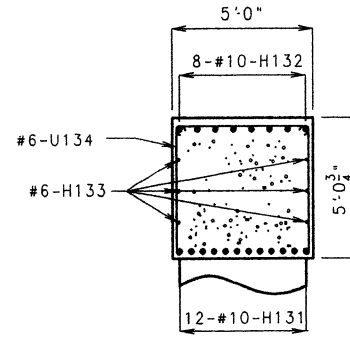




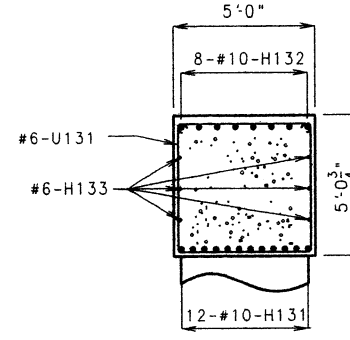
SECTION A-A



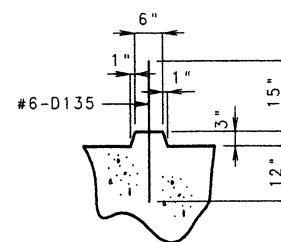
SECTION B-B



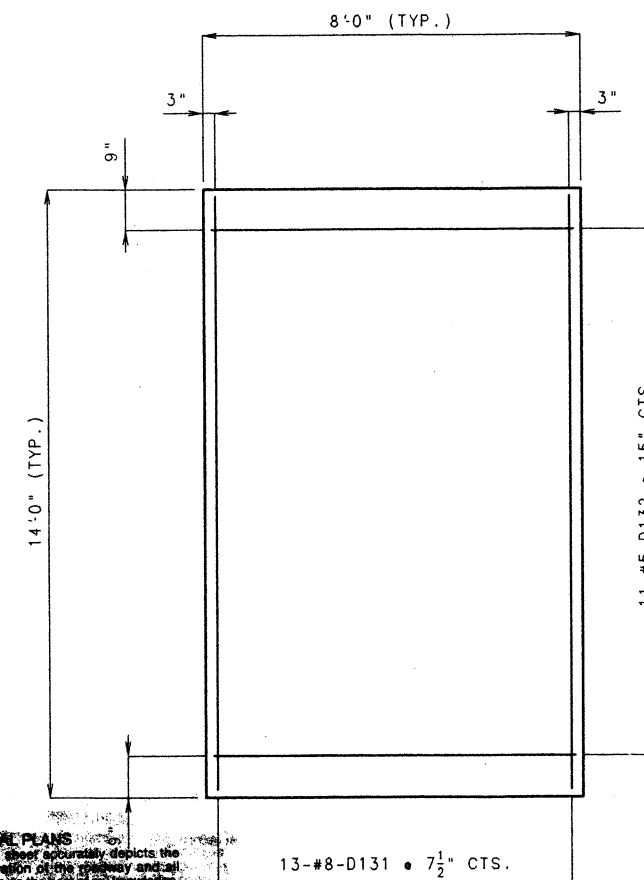
SECTION C-C



SECTION D-D



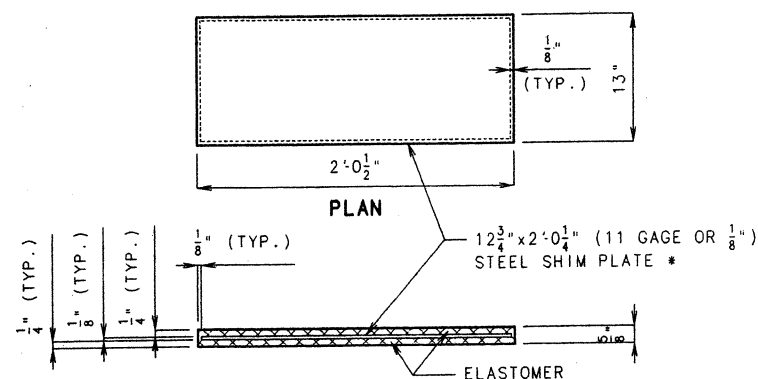
DETAIL OF KEY



PLAN OF FOOTING

I certify that this plan and section accurately depicts the configuration and location of the roadway and all its appurtenances, to the best of my knowledge, as I and my staff have observed the construction of the project. I specifically disclaim any responsibility for the design of this project except as I and my staff may have modified or authorized the modification of the project design during its construction. I shall remain responsible for the construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M. L. S. 4-23-01



SECTION

DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 36.

SUBSTRUCTURE QUANTITY TABLE FOR BENT #13			
ITEM		QUANTITY	
CLASS 1 EXCAVATION	CU.YDS.	161.5	
CLASS 2 EXCAVATION	CU.YDS.	27.8	
CLASS B CONCRETE (SUBSTRUCTURE)	CU.YDS.	135.6	
REINFORCING STEEL (BRIDGES)	LBS.	20,910	
Cont. 5301 Found. Test Holes	L.F.	16	
Cont. 5302 Cl. 2 + 50% <sub>16</sub>	C.Y.	10.6	

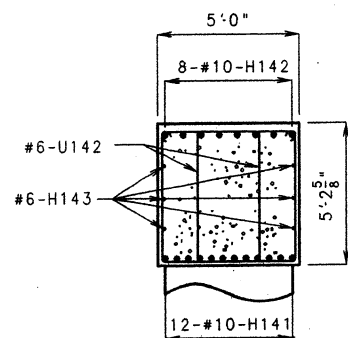
NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



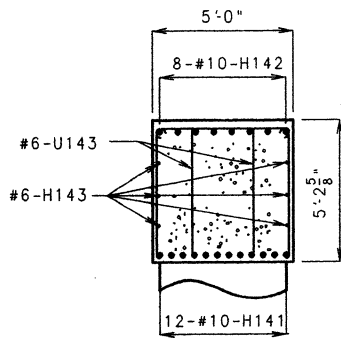
DATE 5-1-98



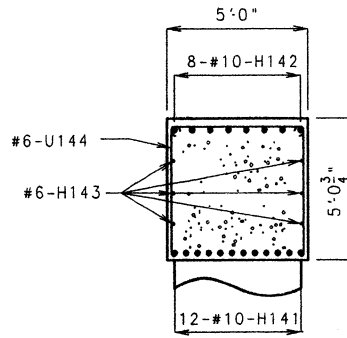




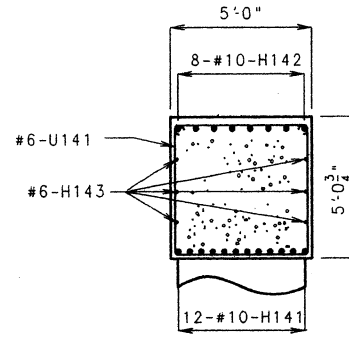
SECTION A-A



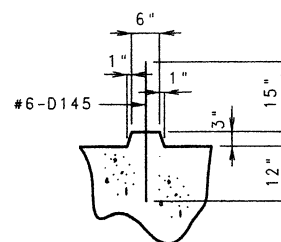
SECTION B-B



SECTION C-C



SECTION D-D



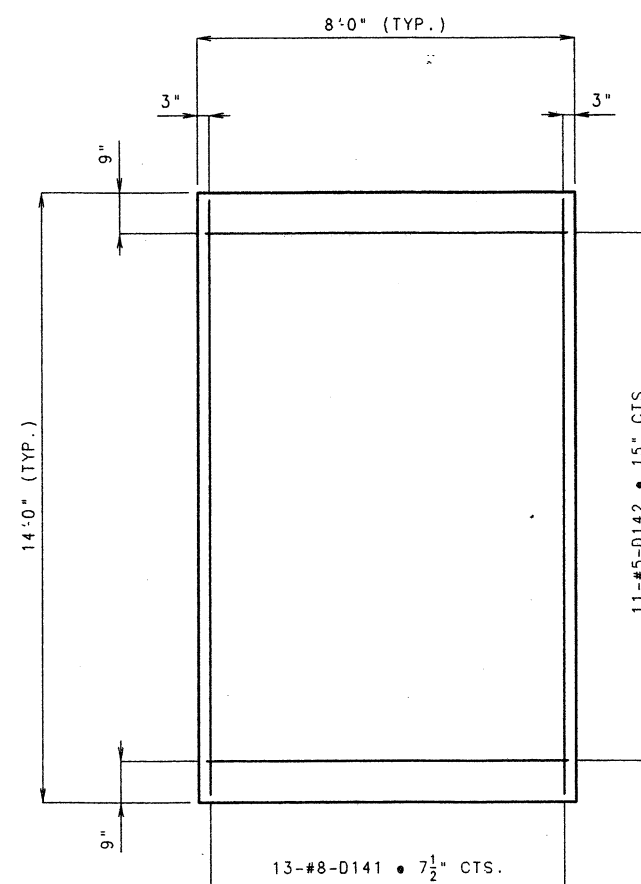
DETAIL OF KEY



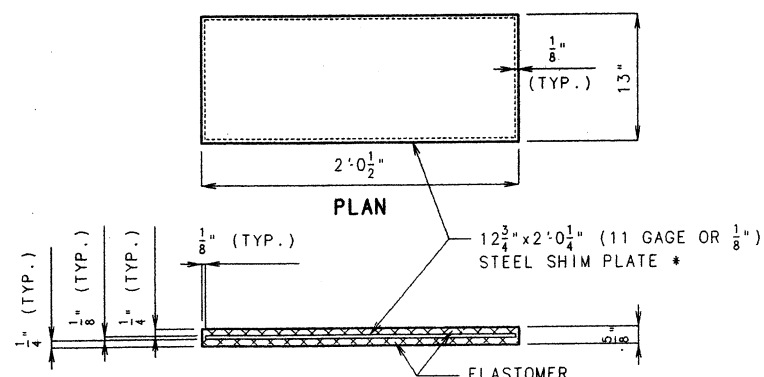
**FINAL PLAN**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: M. J. A. Sel Date: 4-23-01

M. J. A. Sel 4-23-01



PLAN OF FOOTING



SECTION

DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 38.

## PART DETAILS OF INTERMEDIATE BENT NO. 14

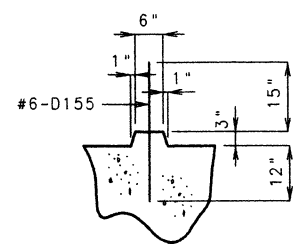
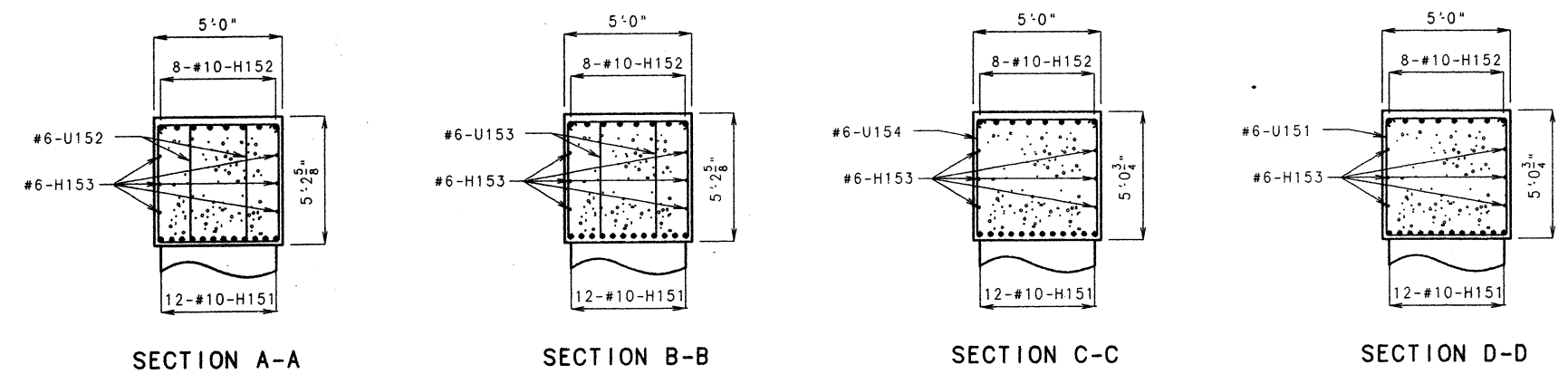
SUBSTRUCTURE QUANTITY TABLE FOR BENT #14		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU.YDS.	160.7
CLASS 2 EXCAVATION	CU.YDS.	27.8
CLASS B CONCRETE(SUBSTRUCTURE)	CU.YDS.	136.5
REINFORCING STEEL(BRIDGES)	LBS.	20,990
Cont. 5301 Found. Test Holes	L.F.	16
Cont. 5302 C.I. 2+50 7/8	C.Y.	13

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98



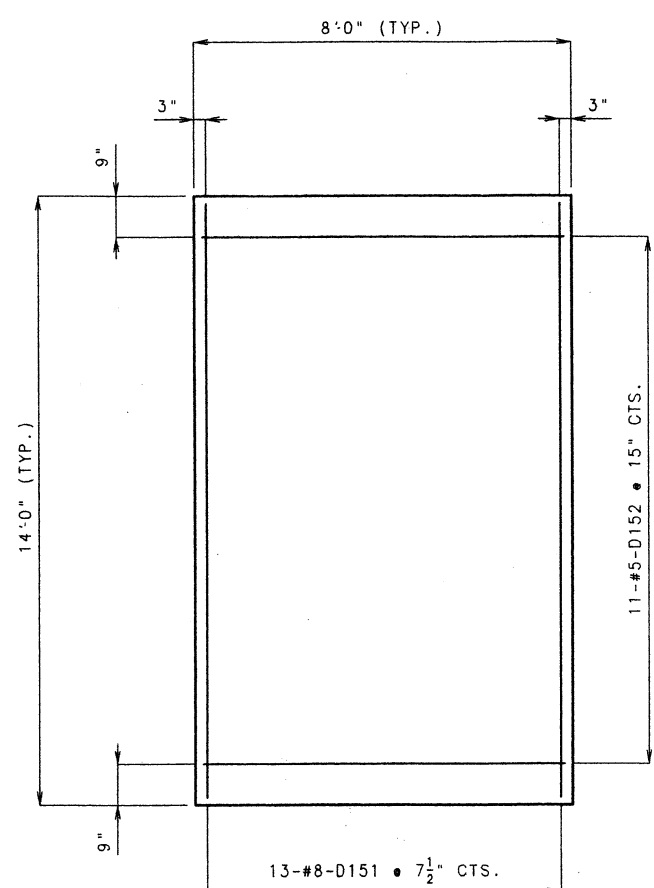


DETAIL OF KEY

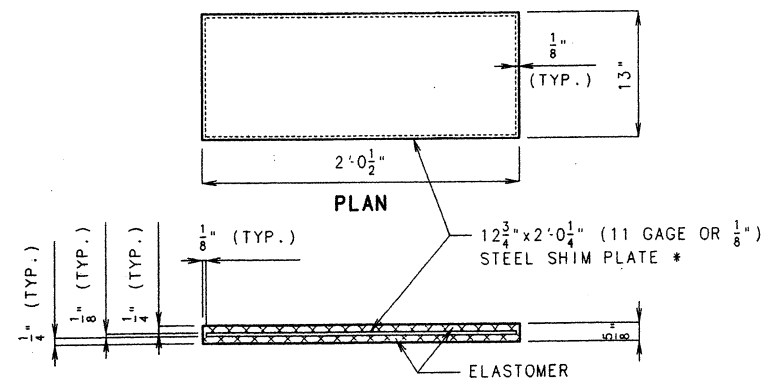


**FINAL PLAN**  
I certify that this plan accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*Kurt E. Gribble* E-23578



PLAN OF FOOTING



DETAILS OF LAMINATED NEOPRENE BEARING PADS

\* THE REQUIRED SHIM PLATE SHALL BE PLACED BETWEEN LAYERS OF ELASTOMER AND MOLDED TOGETHER TO FORM AN INTEGRAL UNIT.

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 40.

SUBSTRUCTURE QUANTITY TABLE FOR BENT #15		
ITEM		QUANTITY
CLASS 1 EXCAVATION	CU. YDS.	168.2
CLASS 2 EXCAVATION	CU. YDS.	27.8
CLASS B CONCRETE (SUBSTRUCTURE)	CU. YDS.	138.2
REINFORCING STEEL (BRIDGES)	LBS.	21,090
Cont. 5301 Found. Test Holes	L.F.	16
Cont. 5302 Cl. 2+50%	C.Y.	17.4

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



## PART DETAILS OF INTERMEDIATE BENT NO. 15

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

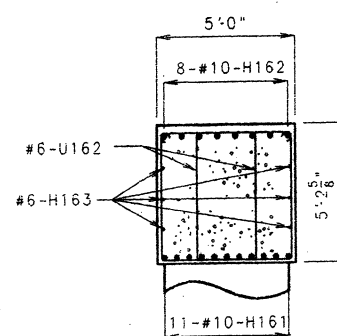
SHEET NO. 41 OF 93.

JACKSON COUNTY

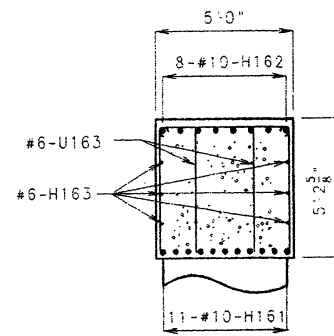
A5496



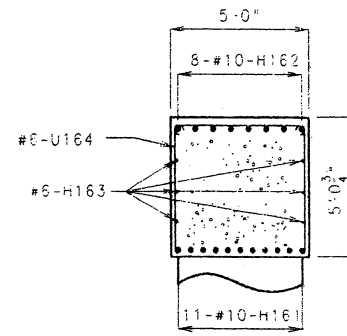




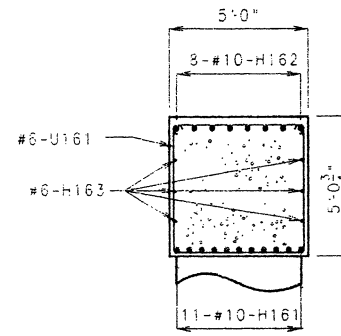
SECTION A-A



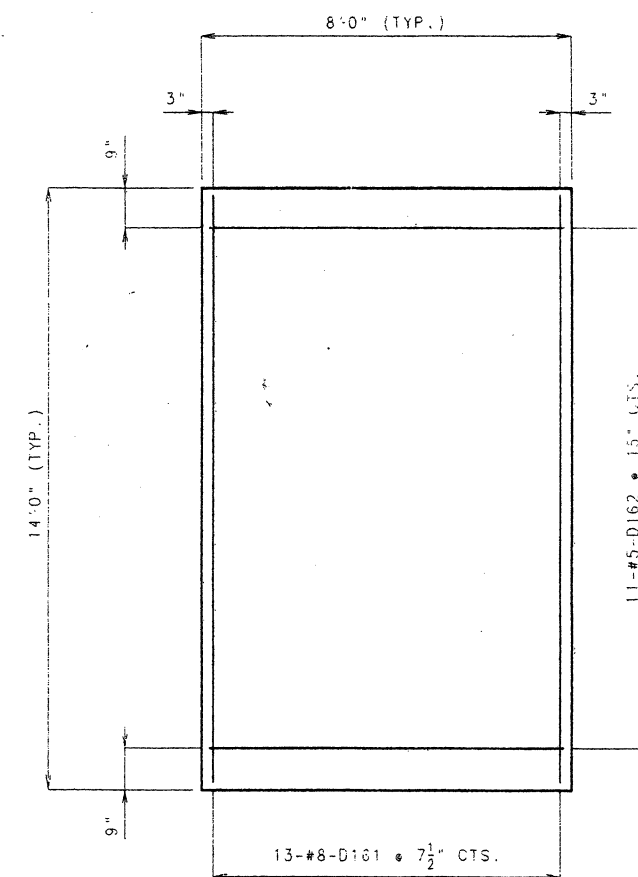
SECTION B-B



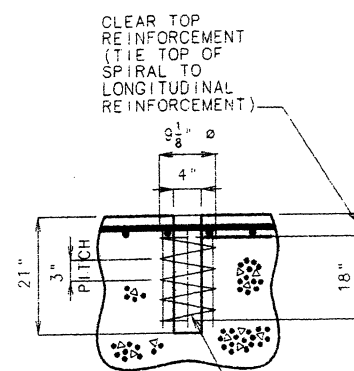
SECTION C-C



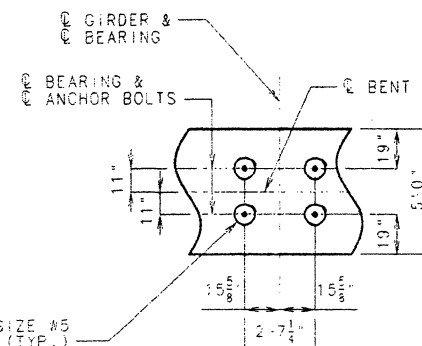
SECTION D-D



PLAN OF FOOTING



DETAIL OF ANCHOR BOLT WELLS



LOCATION OF ANCHOR BOLT WELLS

**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of the project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or caused that the project be constructed.

Signature: Mark A. Stock Date: 4-23-01



DATE 11-4-99

NOTES:  
 FOR DETAILS OF EXPANSION BEARINGS, SEE SHEET NO. 47.  
 ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2".

FOR LOCATION OF SECTION A-A, B-B, C-C & D-D, SEE SHEET NO. 42A.  
 ⚠ For details of footing retrofit, see Sheet No. 43A.

PART DETAILS OF INTERMEDIATE BENT NO. 16

SUBSTRUCTURE QUANTITY TABLE			
FOR BENT #16			
CLASS	ITEM	CU. YDS.	QUANTITY
CLASS	CONCRETE (SUBSTRUCTURE)	CU. YDS.	161.5
CLASS	CONCRETE (SUBSTRUCTURE)	CU. YDS.	27.8
CLASS	REINFORCING STEEL (BRIDGES)	LBS.	137.9
5301	Form Test Holes	L.F.	20
5302	GI 2 1/2" x 6"	C.Y.	15.4
5305	Rein. Pile @ 8' I.C.	F.A.	192,247.83

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ESTIMATED QUANTITIES TABLE ON SHEET NO. 7.



DATE 5-1-98

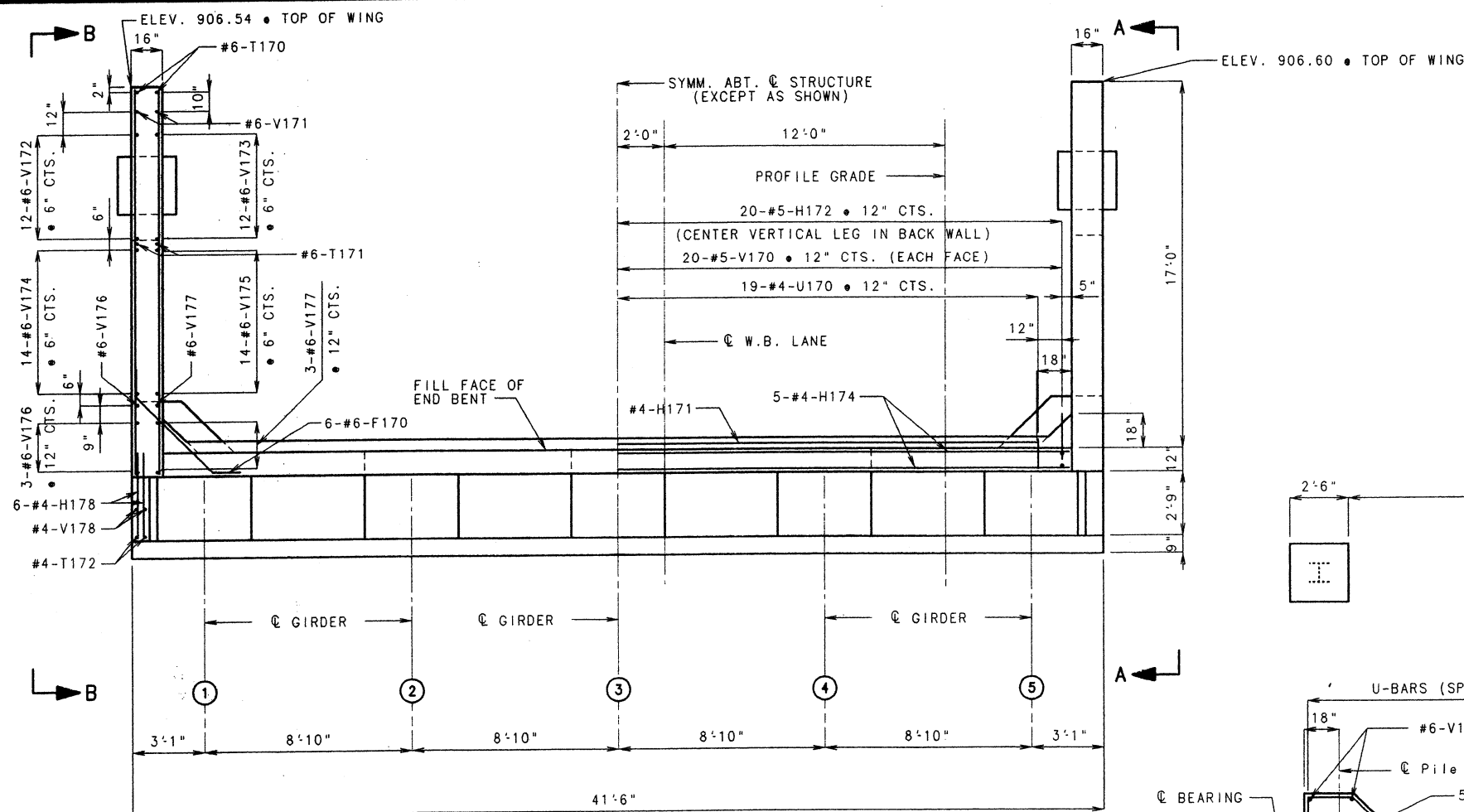
DETAILED JAN. 1998  
 CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

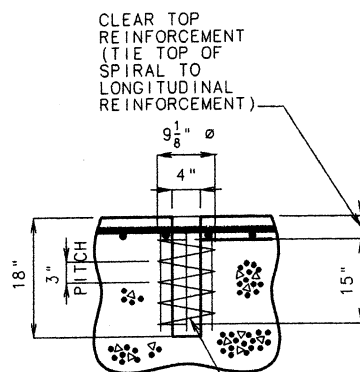
SHEET NO. 43 OF 93, ⚠ Revised 10-28-99 JACKSON

COUNTY

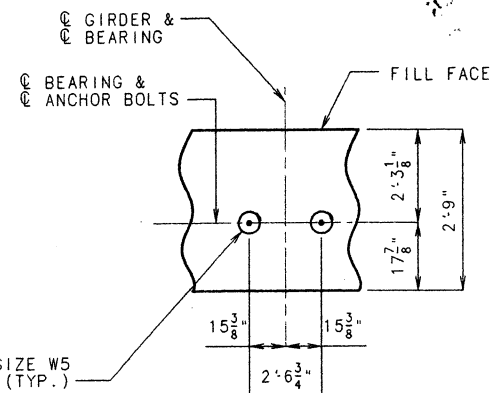
A5496



PART PLAN



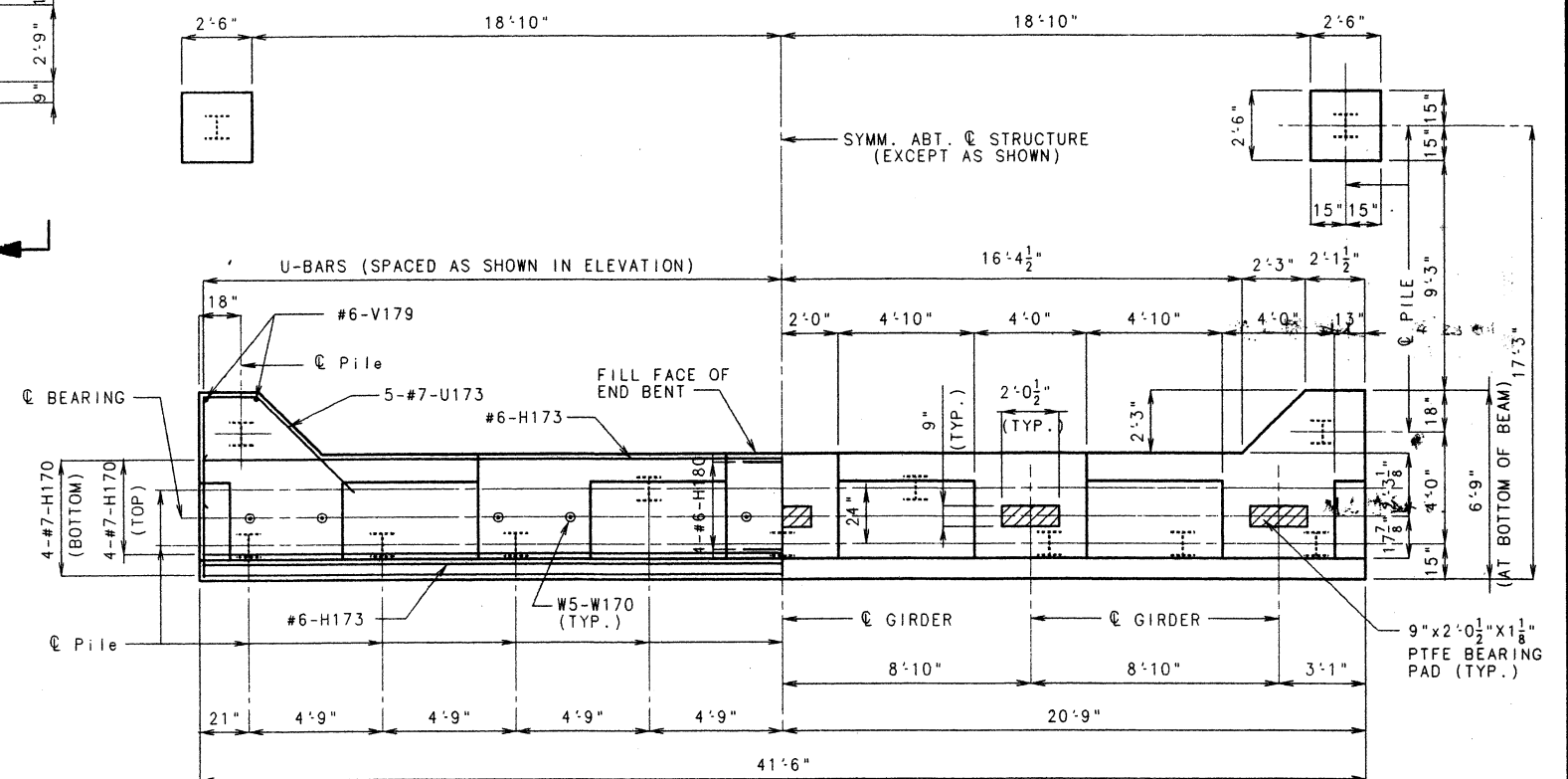
DETAIL OF ANCHOR BOLT WELLS



LOCATION OF ANCHOR BOLT WELLS

## PART DETAILS OF END BENT NO. 17

NOTE:  
FOR ELEVATIONS A-A & B-B, SEE SHEET NO. 46.  
FOR DETAILS OF WING PILE FOOTING, SEE SHEET NO. 46.  
MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 1-1/2" UNLESS OTHERWISE SHOWN.



PLAN OF BEAM

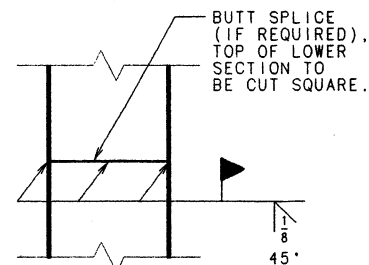
FOR DETAILS OF BEARINGS, SEE SHEET NO. 48.



FINAL PLAN  
I certify that this plan sheet accurately shows the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
M. A. Stock  
Signature  
Date 4-23-01



DATE 5-1-98

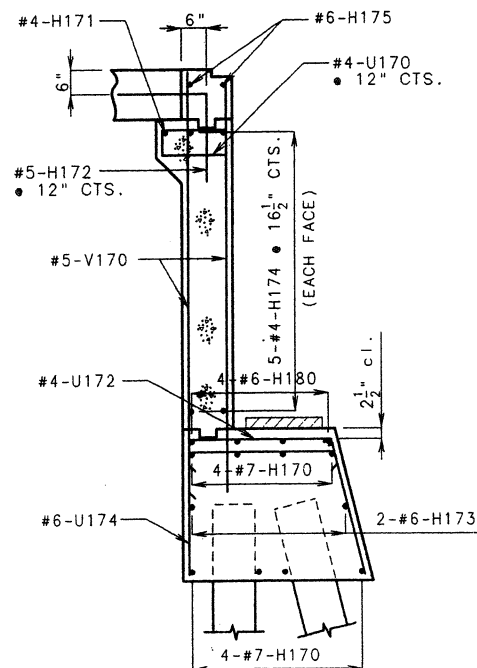


STEEL PILE SPLICE

### FINAL PLANS

I certify that this plan shows accurately depicts the configuration and location of the roadway and all its appurtenant facilities to, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M.L. & S.H. 4-23-01



SECTION C-C

SECTION AT C STRUCTURE

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

ELEVATION

NOTE:

FOR DETAILS OF FLAT PLATE EXPANSION DEVICE, SEE SHEET NO. 66.  
FOR DETAILS OF DEADMAN ANCHORAGE SYSTEM, SEE SHEET NO. 11.  
FOR DETAILS OF VERTICAL DRAIN AT END BENTS, SEE SHEET NO. 10.  
FOR REINFORCEMENT OF THE SAFETY BARRIER CURB, SEE SHEET NO. 80.



SECTION AT C STRUCTURE  
SHOWING DIMENSIONS

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 17

ITEM	QUANTITY
STRUCTURAL STEEL PILES (10")	776
PRE-BORE FOR PILING	552
CLASS B CONCRETE (SUBSTRUCTURE)	44.5
DEADMAN ANCHORAGE ASSEMBLY	1
REINFORCING STEEL (EPOXY COATED)	6080

NOTE: THESE QUANTITIES ARE INCLUDED IN THE ~~ESTIMATED~~  
QUANTITIES TABLE ON SHEET NO. 7.

ALL REINFORCING BARS IN THE TOPS OF SUBSTRUCTURE BEAMS OR CAPS SHALL BE SPACED TO CLEAR ANCHOR BOLT WELLS FOR BEARINGS BY AT LEAST 1/2"

(\*) APPLY PROTECTIVE COATING FOR CONCRETE BENTS (DELETERIOUS AGENTS) TO FRONT FACE OF BACKWALL, TOP OF BEAM AND FRONT FACE OF BEAM. (SEE SPECIAL PROVISIONS.)

TOP OF BACKWALL AND EXPANSION DEVICE FOR END BENT NO. 17 SHALL CONFORM TO THE CROWN OF ROADWAY SLAB. BACKWALL ABOVE UPPER CONSTRUCTION JOINT SHALL NOT BE POURED UNTIL THE SUPERSTRUCTURE SLAB HAS BEEN POURED IN THE ADJACENT SPAN.

### DETAILS OF END BENT NO. 17

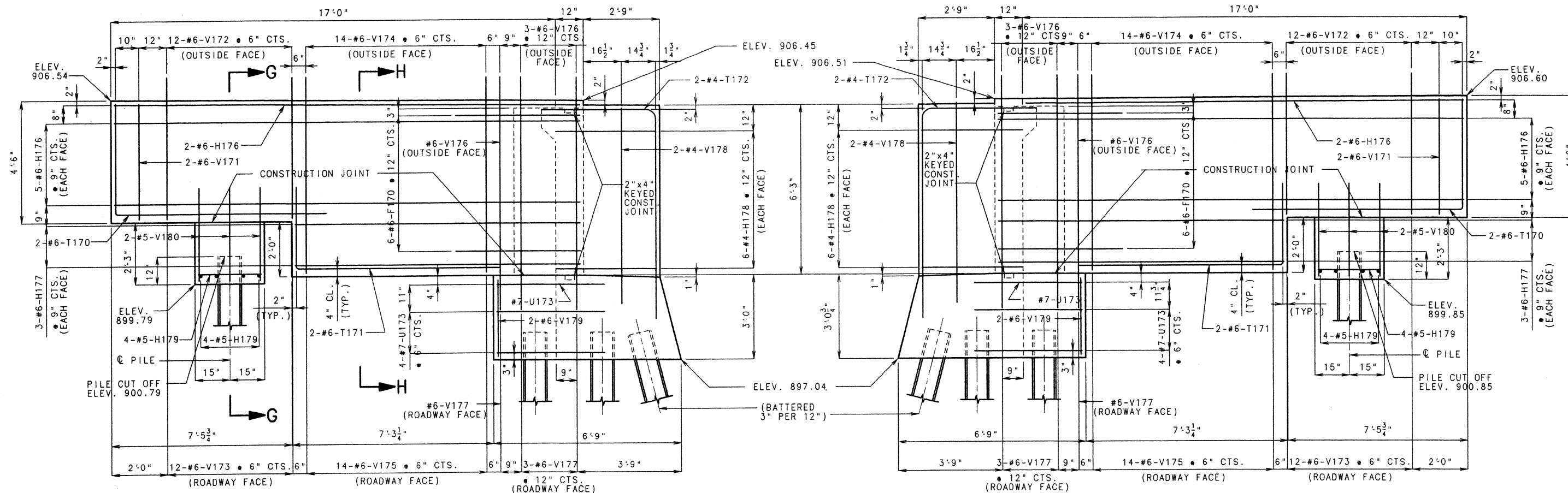
JACKSON

COUNTY

A5496

DETAILED JAN. 1998  
CHECKED MAR. 1998

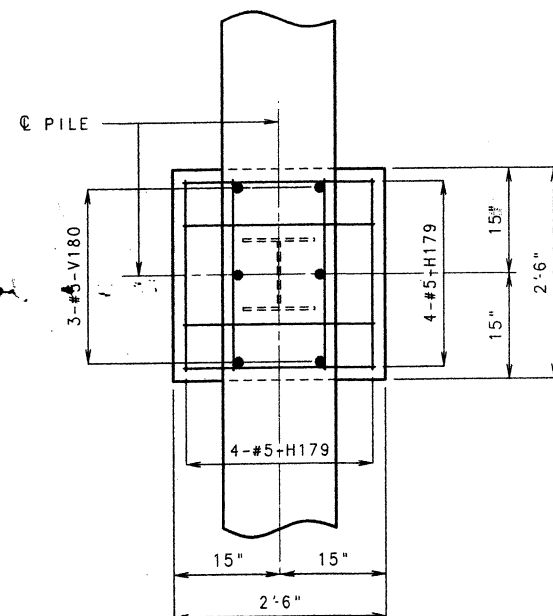
SHEET NO. 45 OF 93.



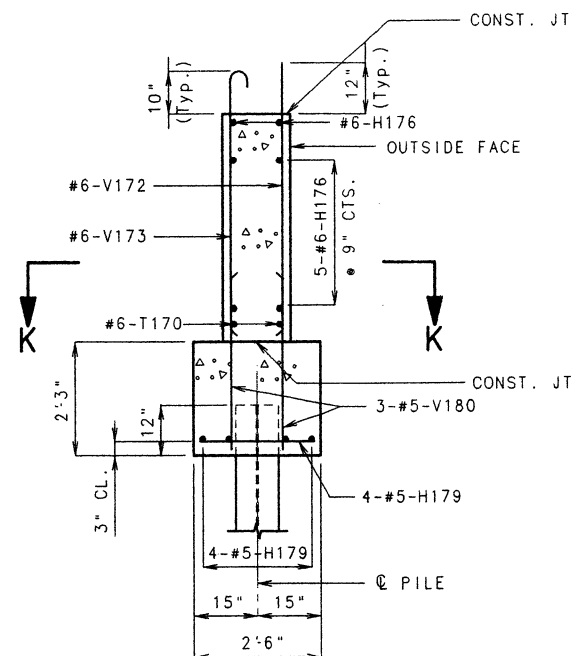
ELEVATION B-B  
(LEFT WING WALL)

ELEVATION A-A  
(RIGHT WING WALL)

FOR LOCATION OF ELEVATIONS A-A & B-B, SEE SHEET NO. 44.



SECTION K-K



SECTION G-G  
(ONE PILE FOOTING)  
(RIGHT WING SIMILAR)

SECTION H-H  
(SECTION THRU WING)  
(RIGHT WING SIMILAR)

# PART DETAILS OF END BENT NO. 17

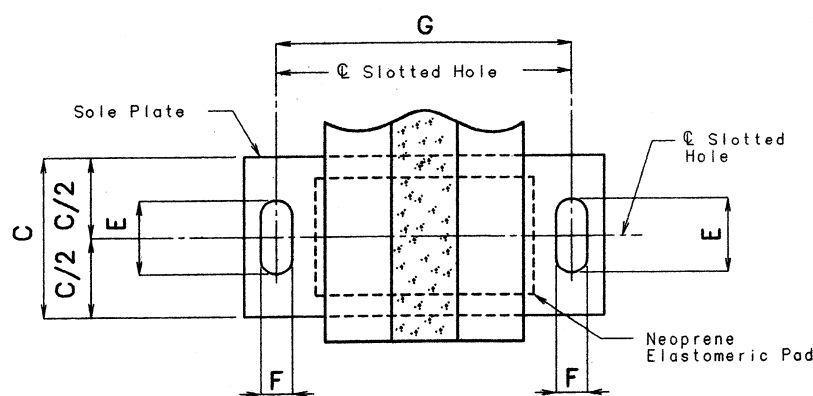
**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: M. E. Gribble Date: 4-23-01

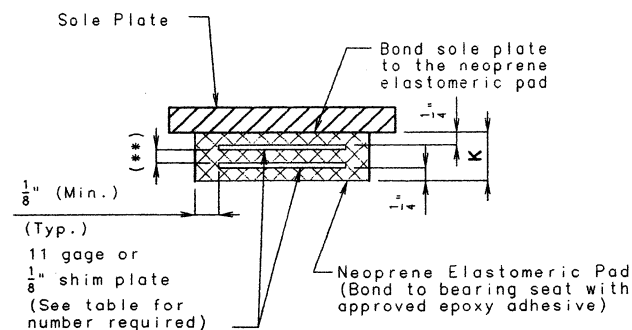


DATE: 5-1-98





PART PLAN VIEW



NEOPRENE ELASTOMERIC PAD

(\*\*) Layers of  $\frac{1}{2}$ " elastomer alternating with 11 gage or  $\frac{1}{8}$ " steel shim plate.

GENERAL NOTES:

Anchor bolts shall be ① diameter ASTM A709 Grade 50W steel swaged bolts and shall extend ② into the concrete with A194-2, 2H, or A563-C, C3, D, DH, DH3 heavy hexagon nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.

All structural steel for anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A153.

Neoprene Elastomeric Pads shall be 60 Durometer. The neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

The sole plate shall be furnished with the bearing and field welded to the girders.

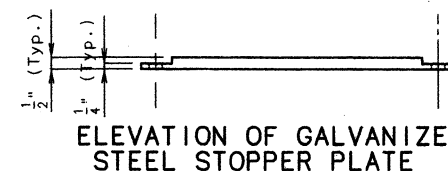
Structural steel for the sole plate shall be ASTM A709 Grade 36 and shall be coated with a minimum of 2 coats of inorganic zinc primer (5 mils minimum).

The accepted quantity of the elastomeric bearing assemblies, complete-in-place, will be paid for at the contract unit price for Laminated Neoprene Bearing Pads, (prestressed structures), each.

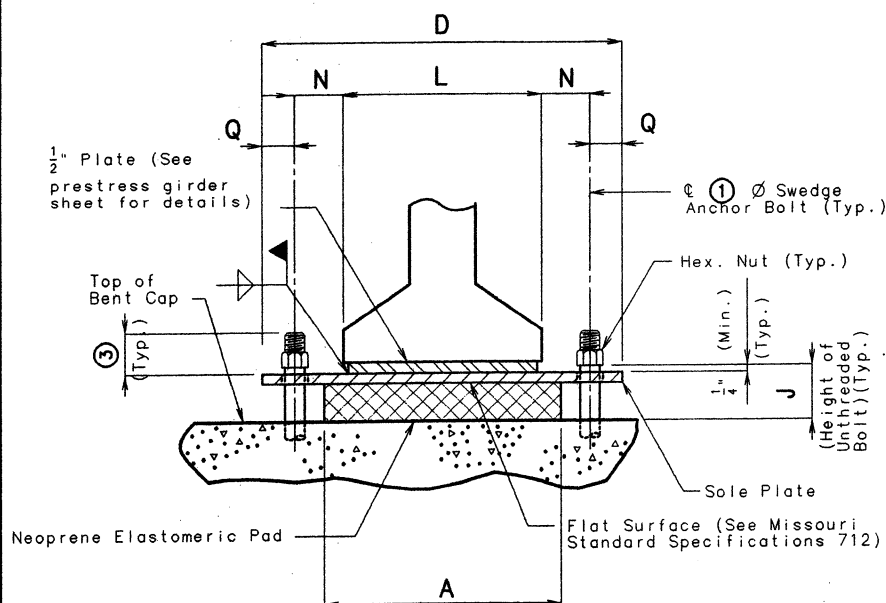
Payment for the sole plate, anchor bolts and heavy hexagon nuts shall be included in the cost of the bearing assembly. See Special Provisions.

Provide a 1/2" stopper plate to prevent the loss of support due to creeping of neoprene bearings from under girders at expansion bearings.

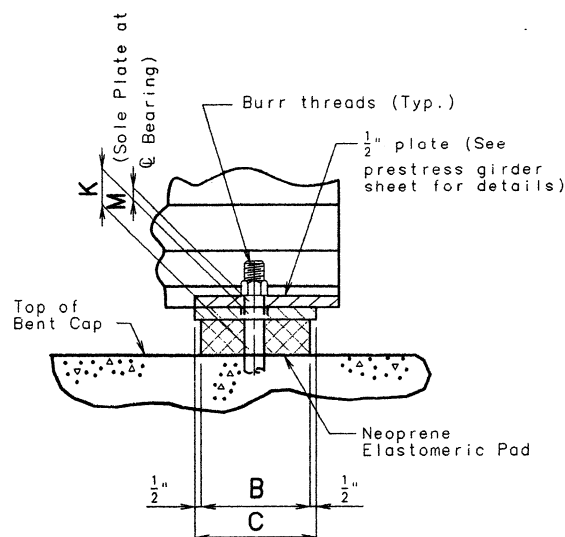
Payment for all galvanized material shall be included in the cost of laminated neoprene bearing pads, (prestressed structures), each.



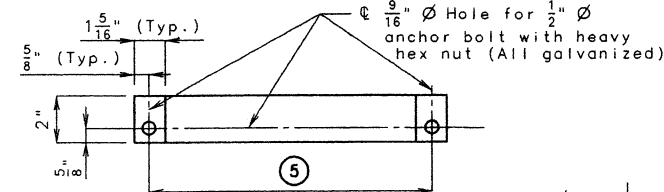
ELEVATION OF GALVANIZED STEEL STOPPER PLATE



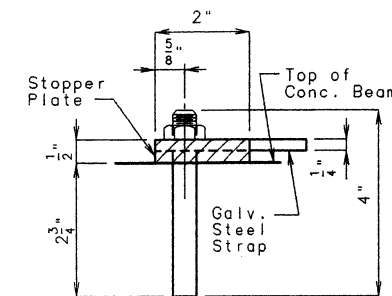
END VIEW



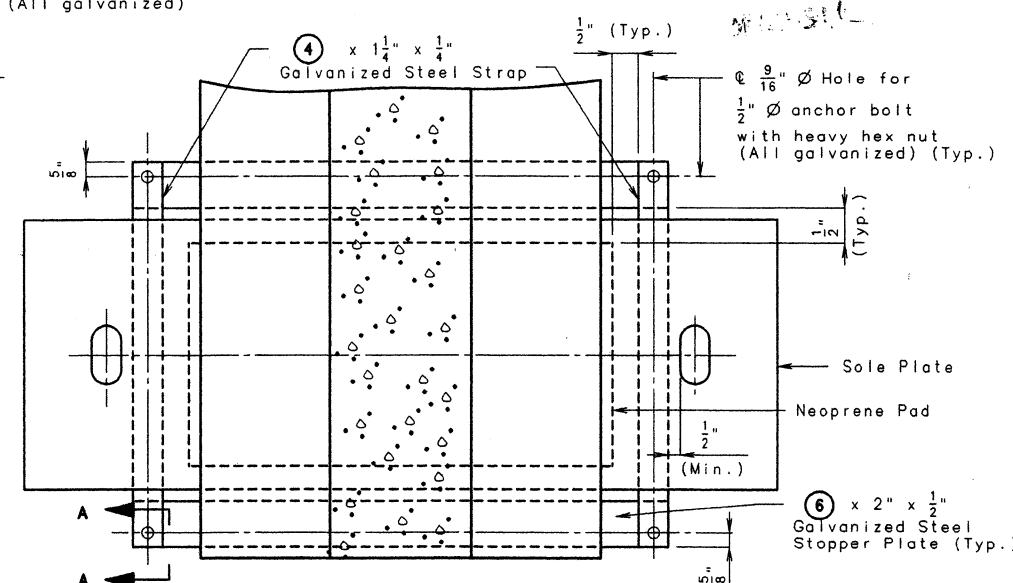
SIDE VIEW



PLAN OF GALVANIZED STEEL STOPPER PLATE



SECTION A-A

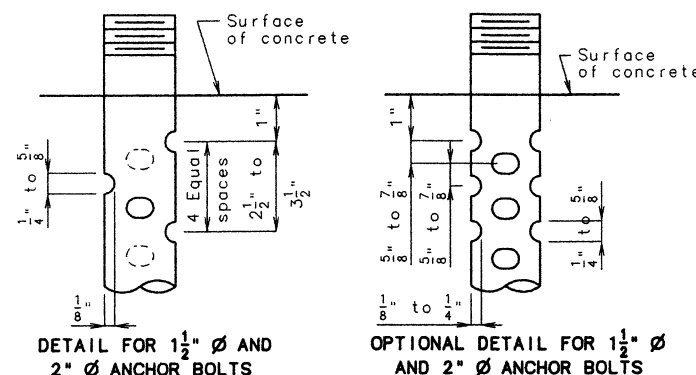


PART PLAN SHOWING STOPPER PLATE

**FINAL PLANS**  
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M. A. Stolt 4-23-01  
 Signature Date

EXPANSION BEARINGS														NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	Q		
5 SPAN (4-5)	18"	12"	13"	2'-8 1/2"	4"	1 5/8"	2'-4"	5 1/2"	3 3/4"	2'-0"	1 1/2"	2"	2 1/4"	6	5
6	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	2 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8	10
10	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	2 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8	10
12	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	2 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8	10
16	2'-0 1/2"	13"	14"	3'-1 1/4"	5 1/4"	2 1/8"	2'-7 1/4"	6 3/4"	5"	2'-2"	1 1/2"	2 5/8"	3"	8	10
TOTAL BEARINGS															45

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



SWEDGE ANCHOR BOLT DETAILS

DETAILS OF LAMINATED NEOPRENE BEARINGS  
 FOR BENTS NO. 5 (SPAN 4-5), 6, 10, 12 & 16 (PRESTRESSED STRUCTURES)

- ① 1 1/2" (Bent No. 5 (Span 4-5)), 2" (Bents No. 6, 10, 12, & 16)
- ② 15" (Bent No. 5 (Span 4-5)), 18" (Bents No. 6, 10, 12, & 16)
- ③ 2 1/4" (Bent No. 5 (Span 4-5)), 2 1/2" (Bents No. 6, 10, 12, & 16)
- ④ 17" (Bent No. 5 (Span 4-5))  
18" (Bents No. 6, 10, 12, & 16)
- ⑤ 20 1/4" (Bent No. 5 (Span 4-5))  
2'-2 3/4" (Bents No. 6, 10, 12, & 16)
- ⑥ 21 1/2" (Bent No. 5 (Span 4-5))  
2'-4" (Bents No. 6, 10, 12, & 16)



DATE 5-1-98

JACKSON

COUNTY

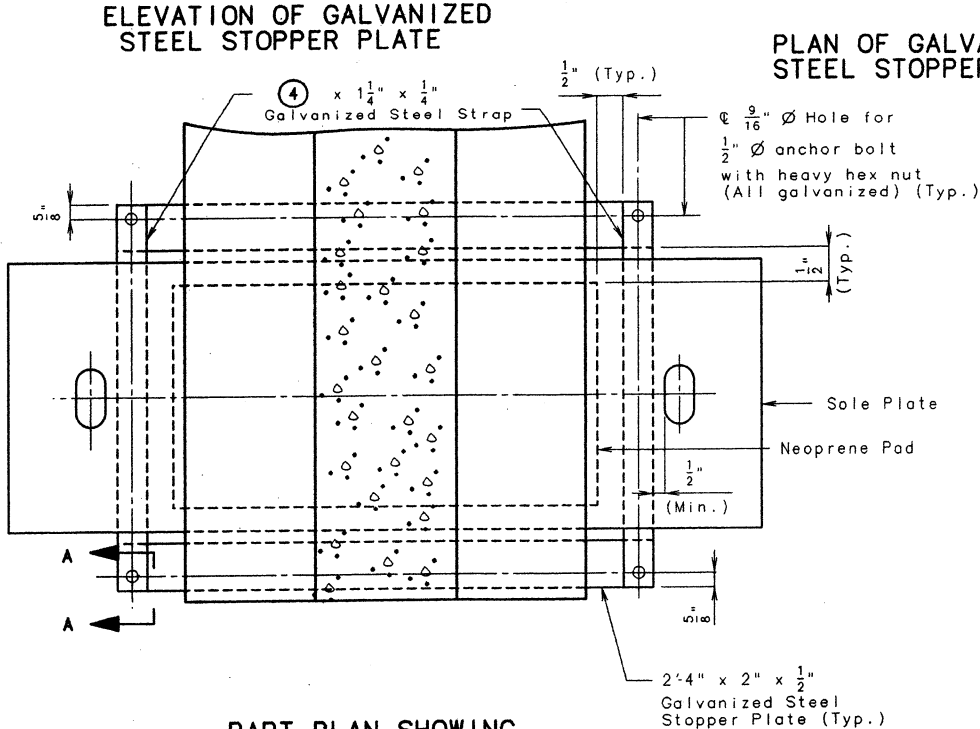
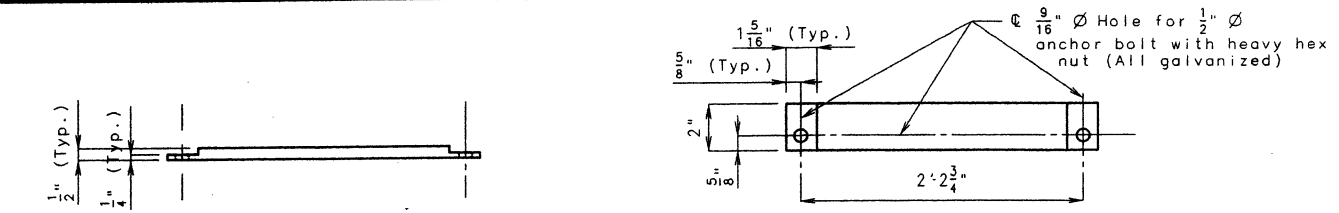
A5496

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 47 OF 93.

DETAILED JAN. 1998  
 CHECKED MAR. 1998

brg 9 , brg3.31,p/s,e,a  
 LAM. BRG. P/S  
 JAN. 1980  
 REVISED  
 AUG. 1996

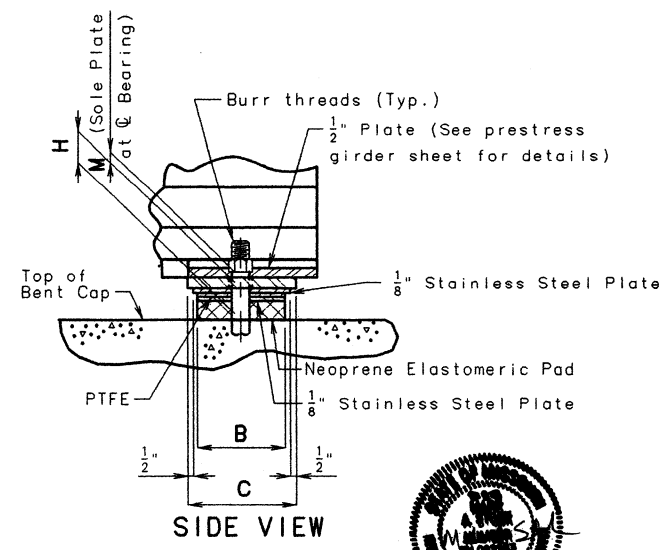
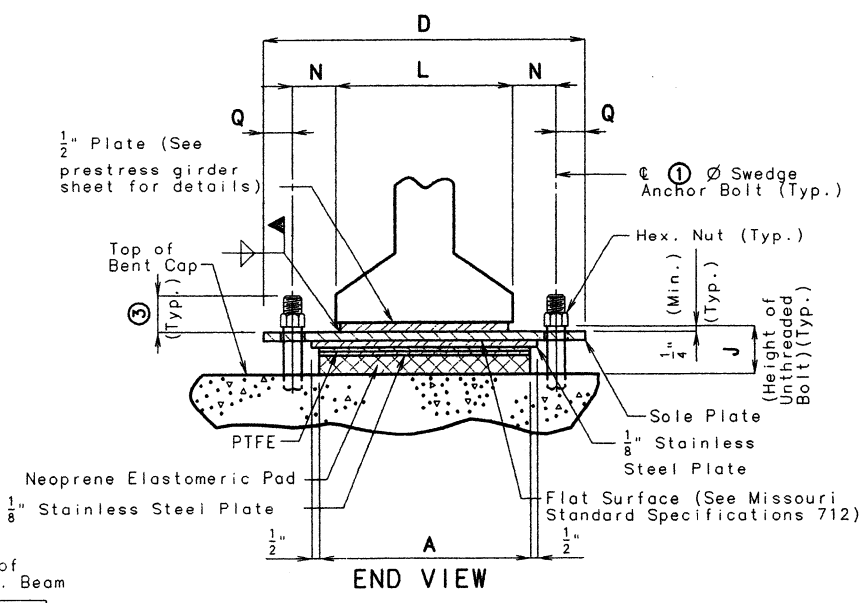
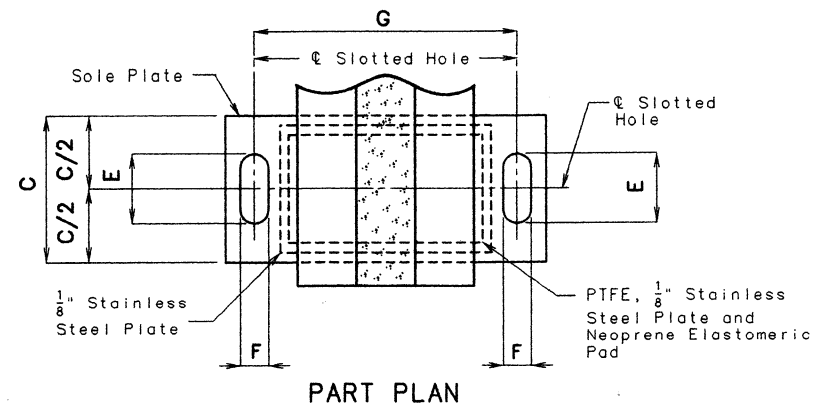
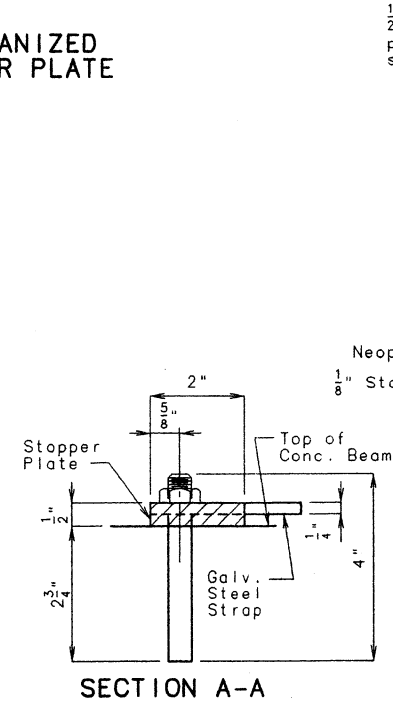


Provide a 1/2" stopper plate to prevent the loss of support due to creeping of PTFE bearings from under girders at expansion bearings.

To prevent sliding, the neoprene pad shall be bonded to the bearing seat with an epoxy adhesive as approved by the bearing manufacturer for bonding neoprene to concrete.

Payment for all galvanized material shall be included in the cost of PTFE Bearings per each.

The bottom face of the 1/8" stainless steel plate that is welded to the sole plate shall be lubricated with a lubricant that is approved by the bearing manufacturer.



**GENERAL NOTES:**

Anchor bolts shall be ① diameter ASTM A709 Grade 50W steel swaged bolts and shall extend ② into the concrete with A194-2, 2H, or A563-C, C3, D, DH, DH3 heavy hexagon nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than the extension into the concrete.

All structural steel for the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A153.

Neoprene Elastomeric Pads shall be 70 Durometer.

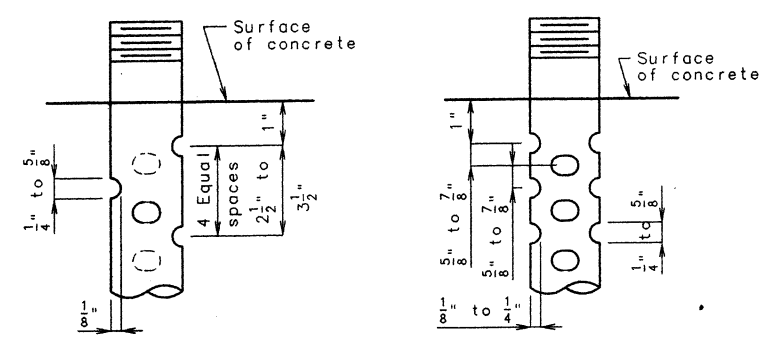
The sole plate shall be furnished with the bearing and field welded to the girders.

Structural steel for the sole plate shall be ASTM A709 Grade 36 and shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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

Payment for the sole plate, anchor bolts and heavy hexagon nuts shall be included in the cost of the bearing assembly. See Special Provisions.

- ① 2" ( Bents No. 5 (Span 5-6) & 11), 1 1/2" ( Bent No. 17)
- ② 18" ( Bents No. 5 (Span 5-6) & 11), 15" ( Bent No. 17)
- ③ 2 1/2" ( Bents No. 5 (Span 5-6) & 11), 2 1/4" ( Bent No. 17)
- ④ 16" ( Bents No. 5 (Span 5-6) & 11), 14" ( Bent No. 17)



**DETAIL FOR 1 1/2" Ø AND 2" Ø ANCHOR BOLTS**

**SWEDGE ANCHOR BOLT DETAILS**

PTFE SLIDING BEARINGS																
BENT NO.	A	B	C	D	E	F	G	H	J	K	L	M	N	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
5 SPAN (5-6)	2'-0 1/2"	11"	16 1/2"	3'-1 1/4"	6"	2 1/8"	2'-7 1/4"	1'-5 1/8"	3'-13 1/8"	1'-3 1/4"	2'-2"	1'-1 1/2"	2'-5 3/8"	3"	2	5
11	2'-0 1/2"	11"	16 1/2"	3'-1 1/4"	6"	2 1/8"	2'-7 1/4"	1'-5 1/8"	3'-13 1/8"	1'-3 1/4"	2'-2"	1'-1 1/2"	2'-5 3/8"	3"	2	10
17	2'-0 1/2"	9"	15"	2'-11 1/4"	6 1/4"	1 3/8"	2'-6 3/4"	1'-5 1/8"	3'-3 1/8"	1'-8"	2'-2"	1'-1 1/2"	2'-3 3/8"	2 1/4"	1	5
TOTAL BEARINGS																20

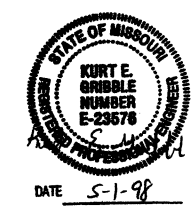
(\*) The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

**DETAILS OF TYPE "N" PTFE BEARINGS FOR BENTS NO. 5 (SPAN 5-6), 11 & 17**

**FINAL PLANS**

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of the project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. J. Griddle* 4-23-01  
 Signature Date



DATE **5-1-98**

brg 5 ,brg3.31,p/s,e,b  
 P/S 'N' BRG.  
 JUNE 1993  
 REVISED  
 AUG. 1996

DETAILED JAN. 1998  
 CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 48 OF 93.

Concrete for prestressed girders shall be Class A1 with  $f'_c = 5,000$  psi and  $f'_{ci} = 4,000$  psi.

(+) indicates prestressing strand.

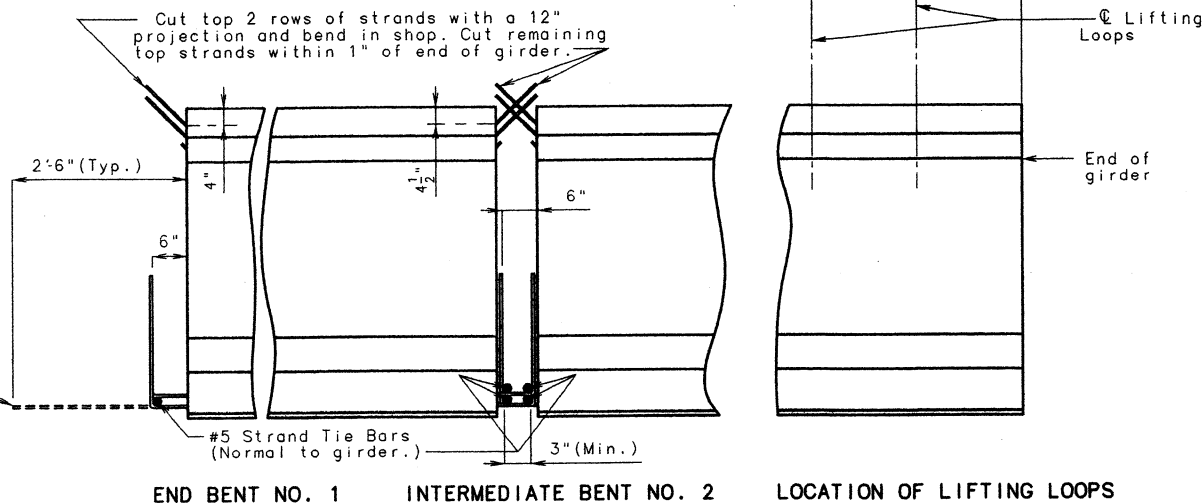
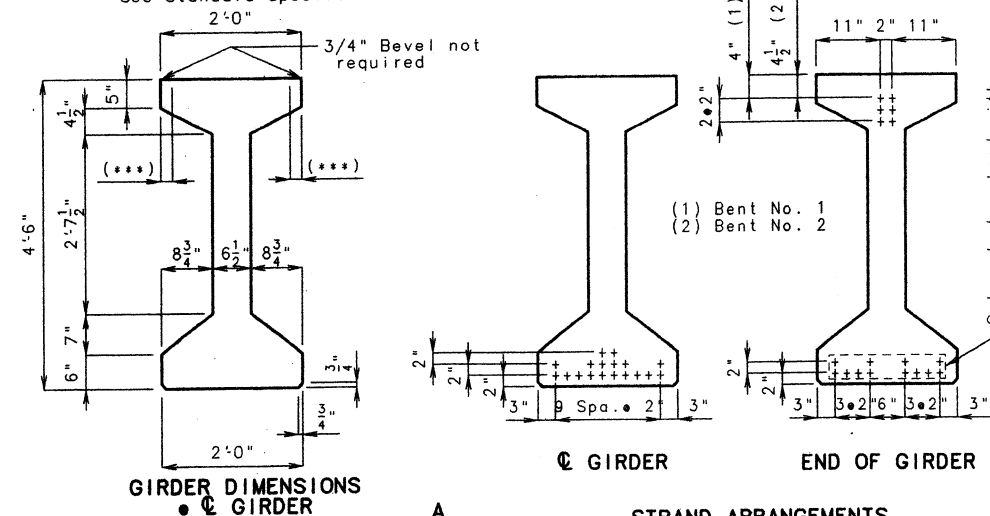
Use 18 strands with an initial prestress force of 558 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE TOP NO. T-11011C SHEET NO. 48  
PROJECT NO. FAM-377-600  
MO. C.T.D. 980724-05-REM



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	34'-0"	20	SHAPE 10
176	4 B1	5'-11"	11	
16	6 B2	5'-4"	11	SHAPE 9
96	4 C1	2'-2"	10	
192	4 D1	3'-0"	9	SHAPE 20
				SHAPE 11

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

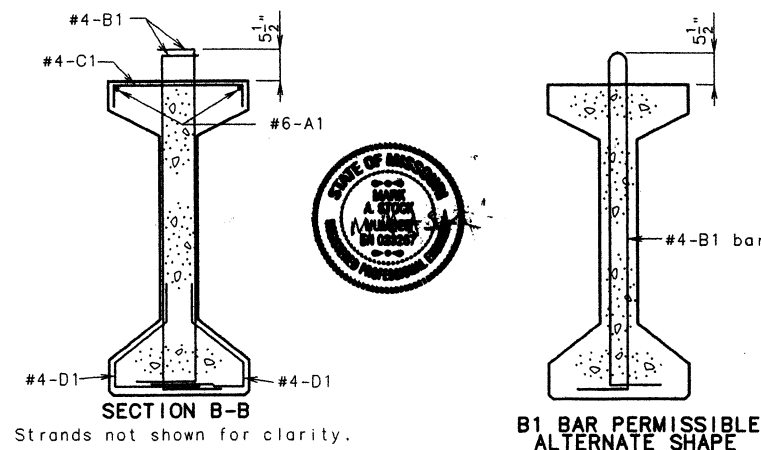
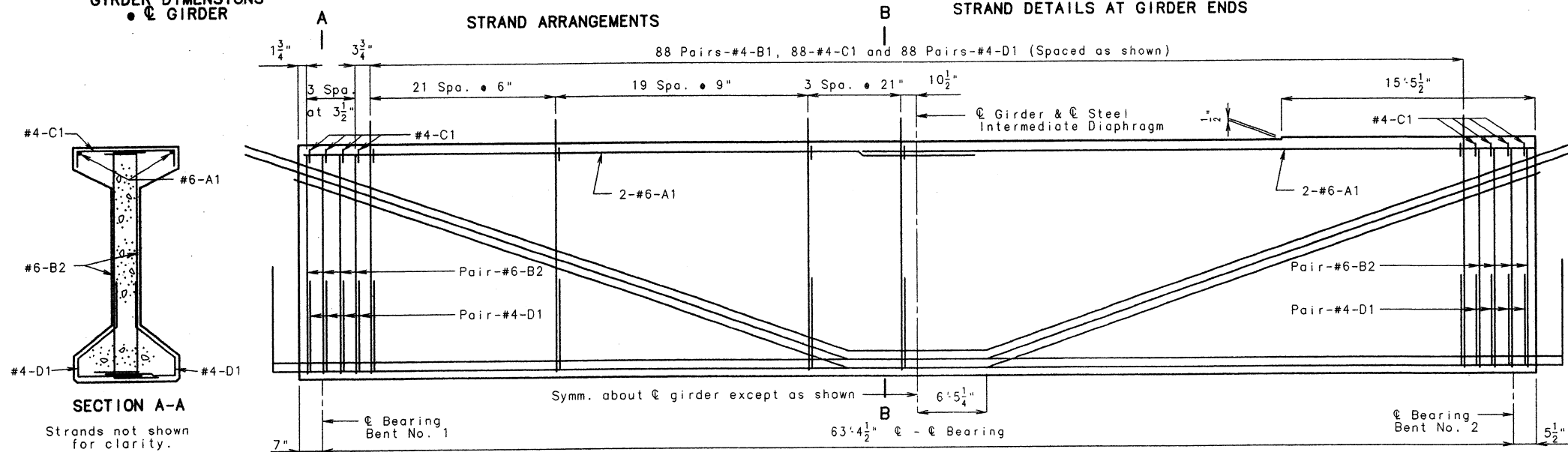
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



B1 BAR PERMISSIBLE ALTERNATE SHAPE

Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

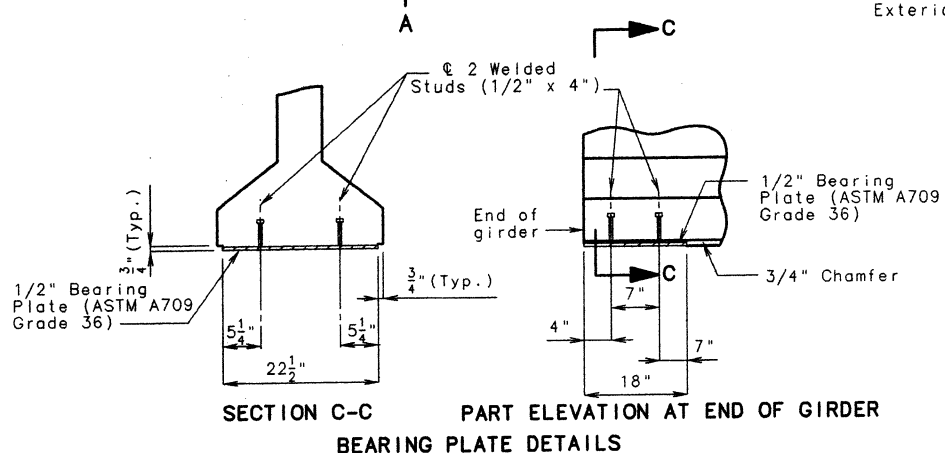
The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of steel intermediate diaphragms, see sheet no. 64.

For Girder Camber Diagram, see sheet no. 71.

For location of coil ties, see sheets no. 12 & 59.

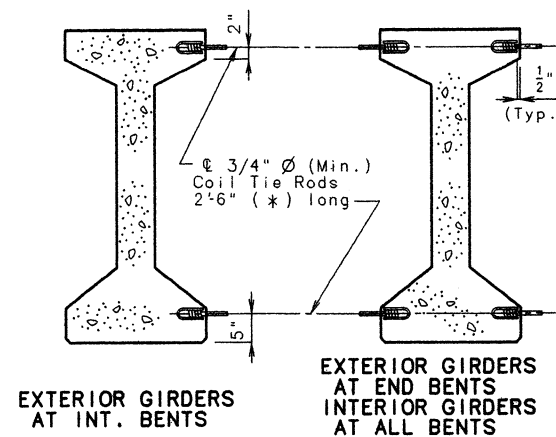
(\*) Length of coil tie rods at exterior girders at End Bent No. 1 = 2'-1".



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.



DETAILS OF COIL TIES



DATE 5-1-98

gdr 4, 6.5 web, 4'-6", 1, a  
P/S GIRDER 6.5" WEB  
MAY 1991  
REVISOR  
August 1996

DETAILED JAN. 1998  
CHECKED MAR. 1998

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

SHEET NO. 49 OF 93.

JACKSON COUNTY

A5496

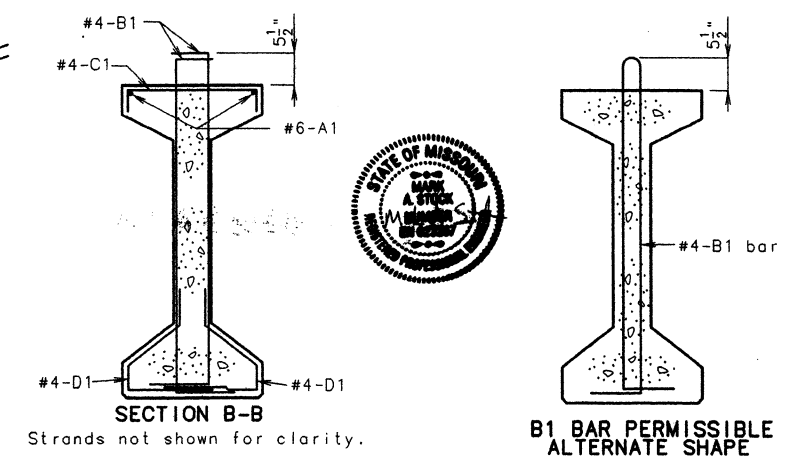
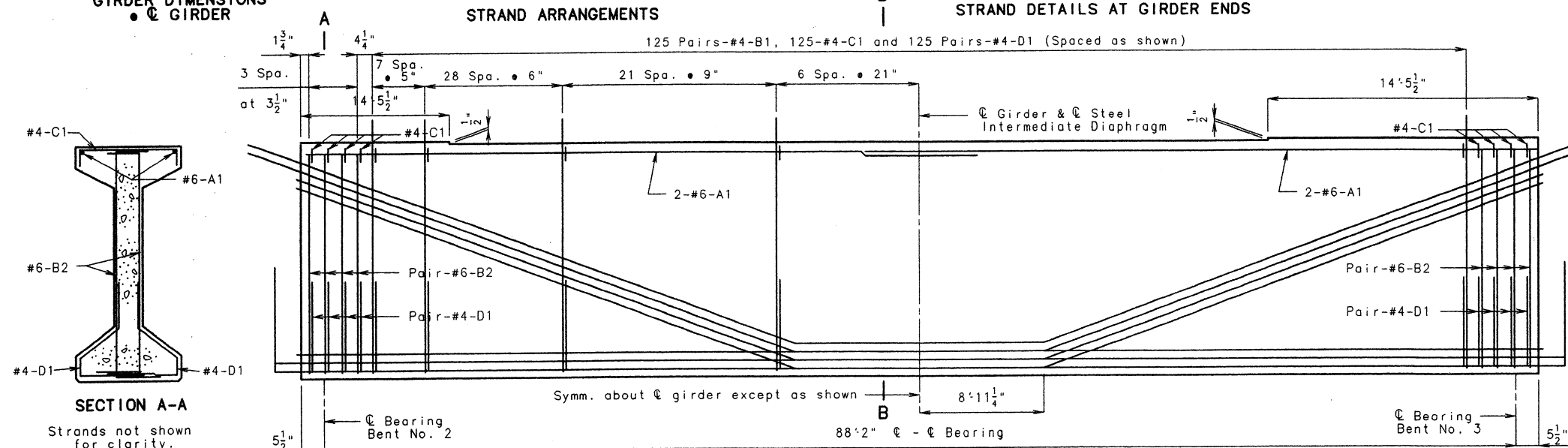
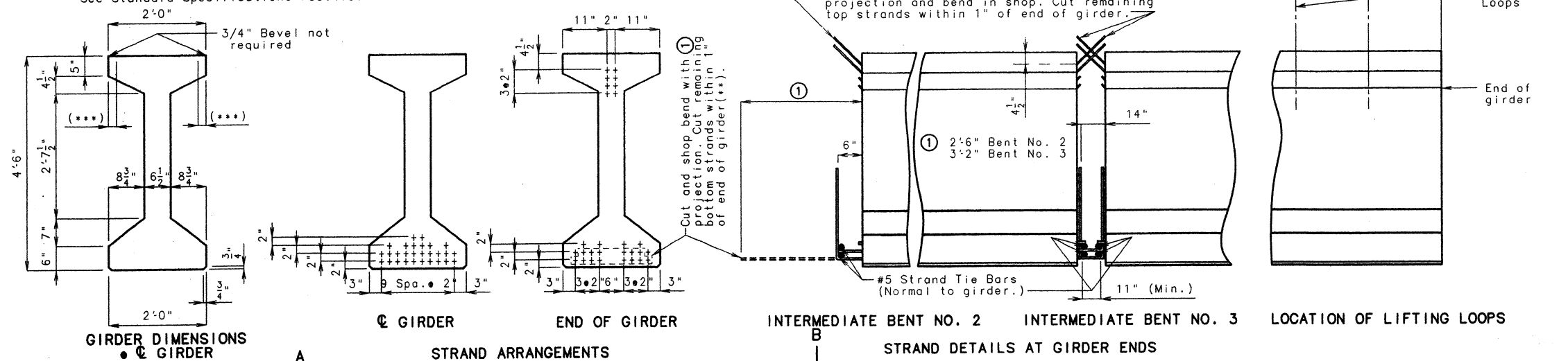
Prestressng tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

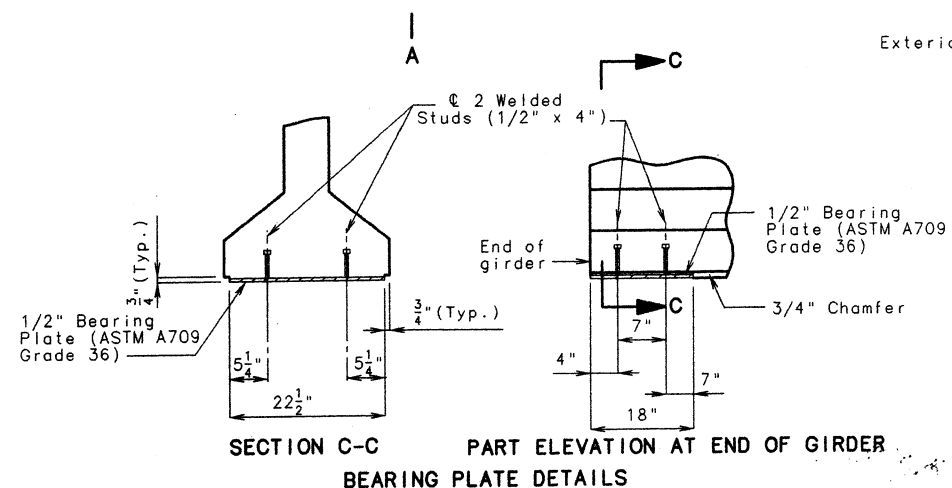
STATE	JOB NO. J4UJQ11C	SHEET NO.
	PROJ. NO. EAM-3973 (40)	
MO.	G.I.D. - 980724-05-REM	149

BILL OF REINFORCING STEEL - EACH GIRDER				BENDING DIAGRAMS	
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE		
4	6 A1	46'4"	20	<p>SHAPE 9</p>	<p>SHAPE 10</p>
250	4 B1	5'11"	11		
16	6 B2	5'4"	11	<p>SHAPE 11</p>	<p>B1</p> <p>B2</p>
133	4 C1	2'2"	10		
266	4 D1	3'0"	9	<p>SHAPE 20</p>	

All B1 bars shall be epoxy coated.



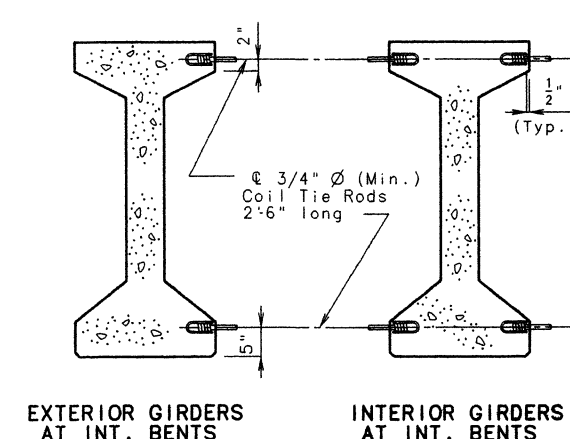
For location of coil ties, see sheets no.  
59 & 60.



Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.

### FINAL PLANS

I certify that this plan sheet accurately depicts the configuration of the project, the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the construction of the project, except as I and my staff may have directed or ordered that the project be constructed.



SHEET NO. 50 OF 93.

A5496

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

gdr	4, 6.5 web, 4'6", 1, a	REVISED
2/S GIRDER 6.5" WEB		
MAY 1991		August 1996



Concrete for prestressed girders shall be Class A1 with  $f'_c = 5,000$  psi and  $f'_{ci} = 4,000$  psi.

(+) indicates prestressing strand.

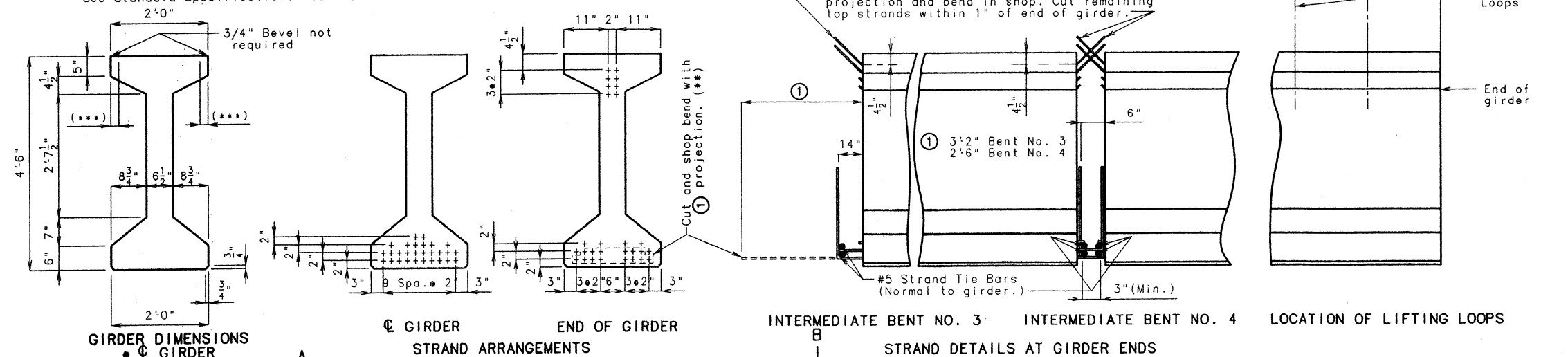
Use 28 strands with an initial prestress force of 868 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	MO.	PROJECT NO.	SHEET NO.
MO.	CD	100-1-100	150



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
4	6 A1	43'-4"	20	
246	4 B1	5'-11"	11	SHAPE 10
16	6 B2	5'-4"	11	SHAPE 9
131	4 C1	2'-2"	10	SHAPE 20
262	4 D1	3'-0"	9	SHAPE 11

All dimensions in bending diagram are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

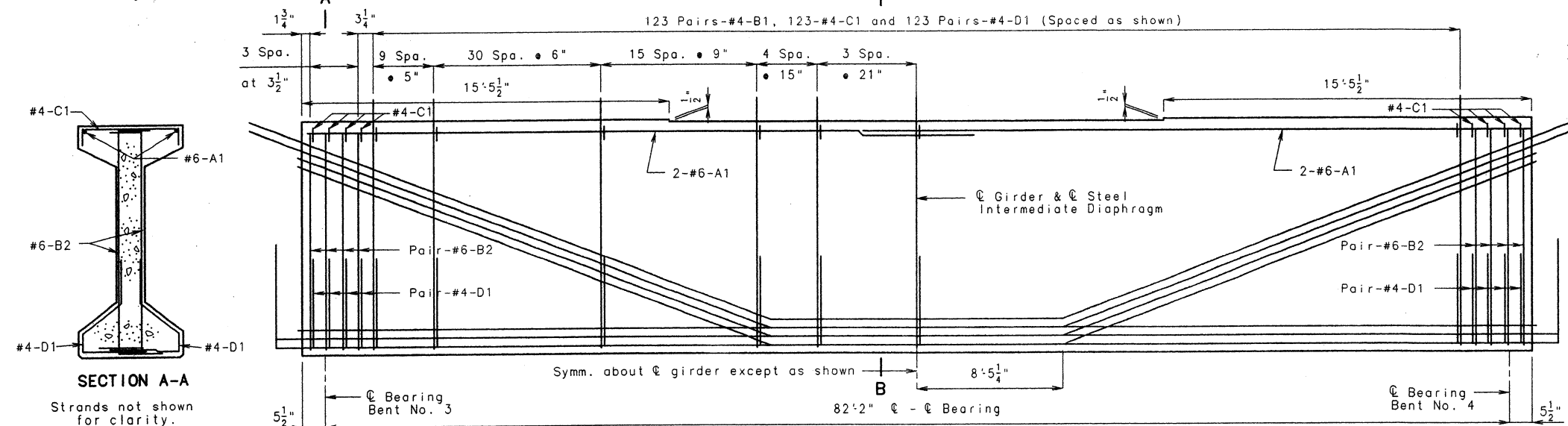
Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All reinforcement shall be Grade 60.

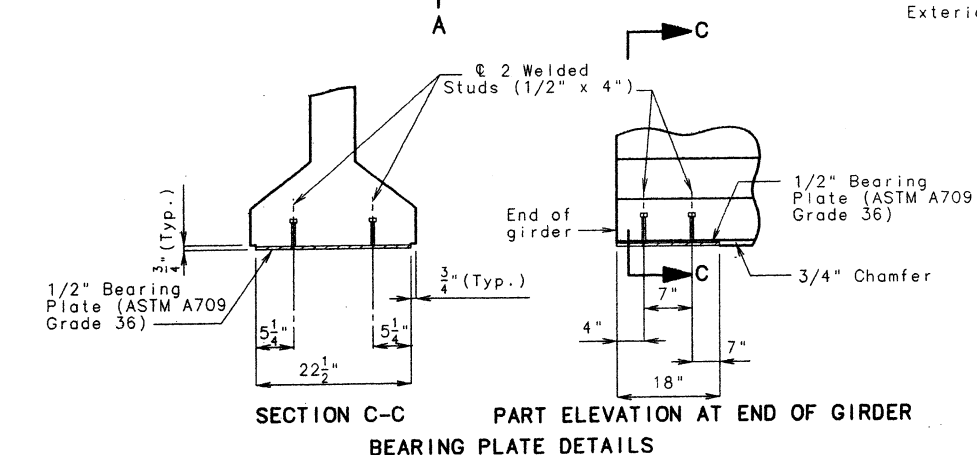
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



ELEVATION OF GIRDER SPAN (3-4)

Exterior and interior girders are the same except for coil ties.

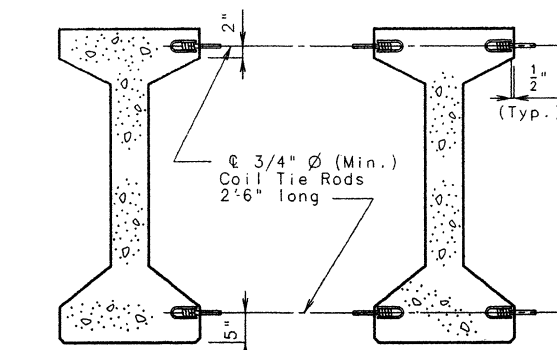


SECTION C-C BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete I-Girder, per each.

**FINAL PLANS**  
I certify that this plan sheet contains the configuration and location of the reinforcement as shown, as I and my staff have observed the construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or observed that the project be constructed.  
M. J. S. L. 4-23-91  
Date



EXTERIOR GIRDERS AT INT. BENTS  
INTERIOR GIRDERS AT INT. BENTS

DETAILS OF COIL TIES

Cost of 3/4" Ø coil tie rods placed in diaphragms is included in contract unit price for Prestressed Concrete I-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The 1-1/2" Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For detail of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 75.

For Girder Camber Diagram, see sheet no. 71.

For location of coil ties, see sheets no. 59 & 60.



DATE 5-1-98

gdr 4, 6.5 web, 4'-6", 1, a  
P/S GIRDER 6.5" WEB  
MAY 1991  
REVIS  
August 1996

DETAILED JAN. 1998  
CHECKED MAR. 1998

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

SHEET NO. 51 OF 93.

JACKSON COUNTY

A5496



NOTE: Concrete for prestressed girders shall be class A1 with  $f'c = 6000$  psi and  $f'ci = 4500$  psi.

(+) Indicates prestressing strands.

Use 34 strands with an initial prestress force of 1054 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

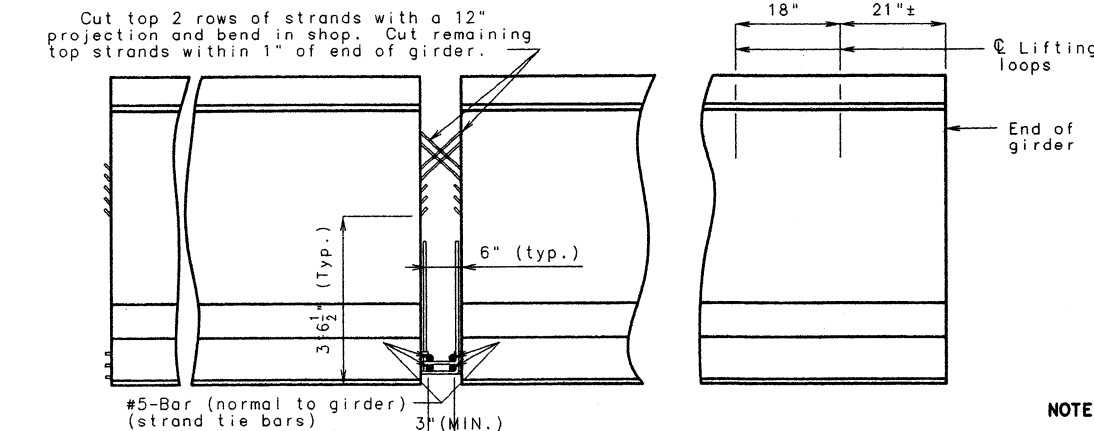
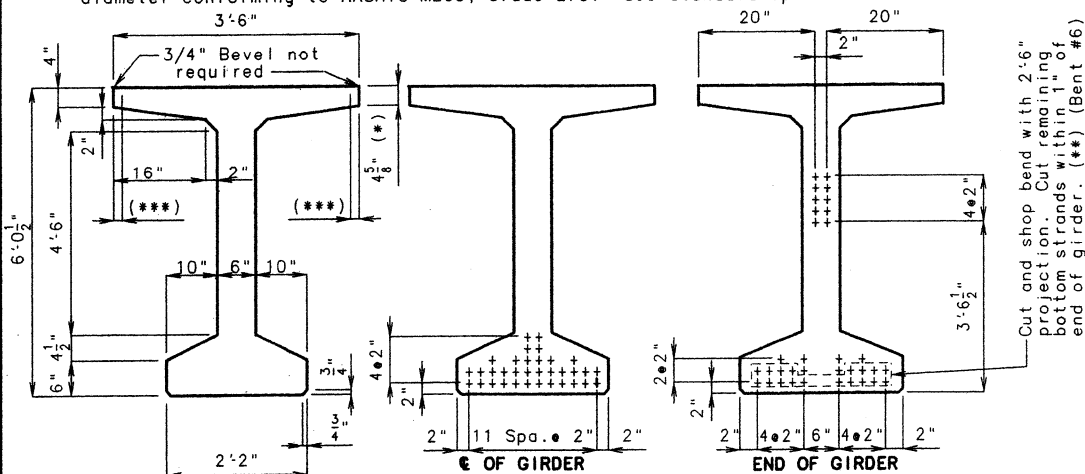
(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE	MO.	PROJ. NO.	SHEET NO.
MO.	CT	980724-05-PEM	152

BILL OF REINFORCING STEEL - EACH GIRDER			
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE
8	5 A1	56'-1"	20
236	4 B1	7'-11"	11
8	6 B2	7'-4"	11
8	6 B3	7'-5"	11
70	4 B4	8'-0"	11
244	4 C1	3'-6"	19
78	4 C2	3'-7"	19
322	4 D1	3'-2"	9

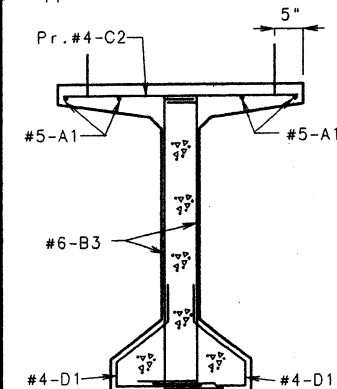
NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1, B4, C1 & C2 bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.

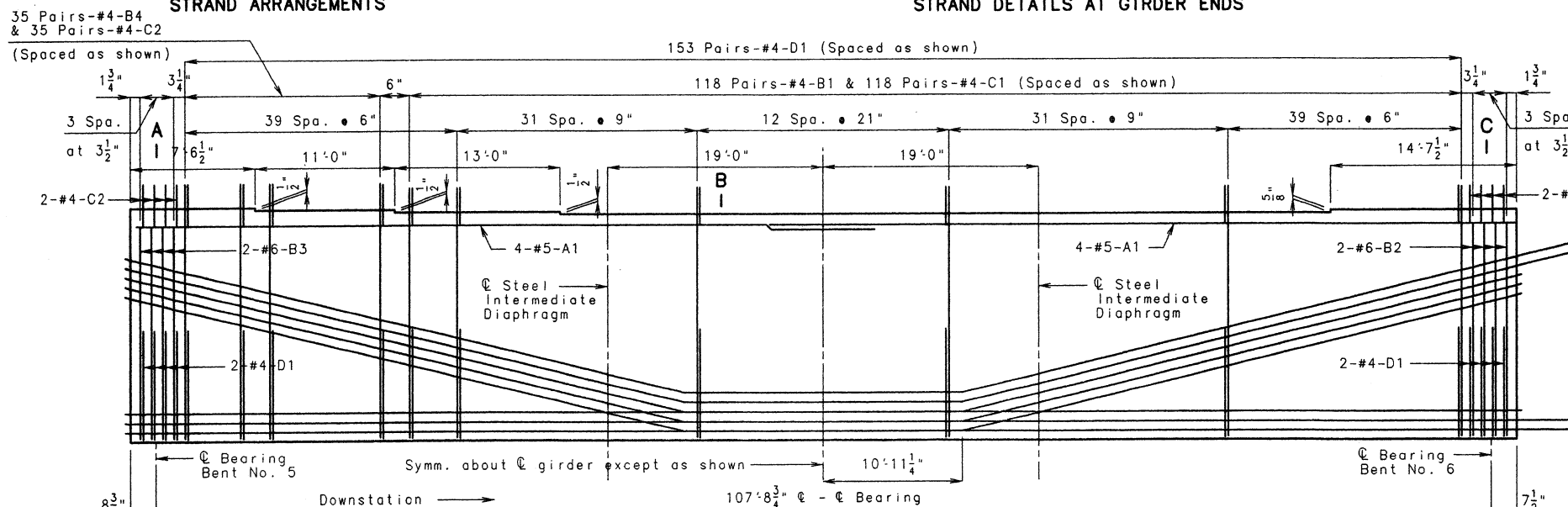


INTERMEDIATE BENT NO. 5 INTERMEDIATE BENT NO. 6 LOCATION OF LIFTING LOOPS STRAND DETAILS AT GIRDER ENDS

(\*) Girders 1, 2 & 3 shown. Girders 4 & 5 sloped opposite.

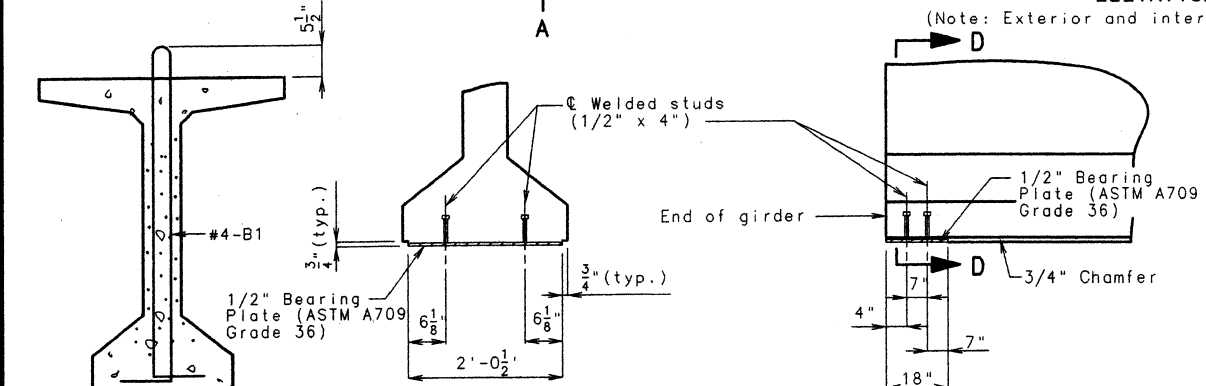


SECTION A-A (Strands not shown for clarity)



ELEVATION OF GIRDER SPAN (5-6)

(Note: Exterior and interior girders are the same except for coil ties.)



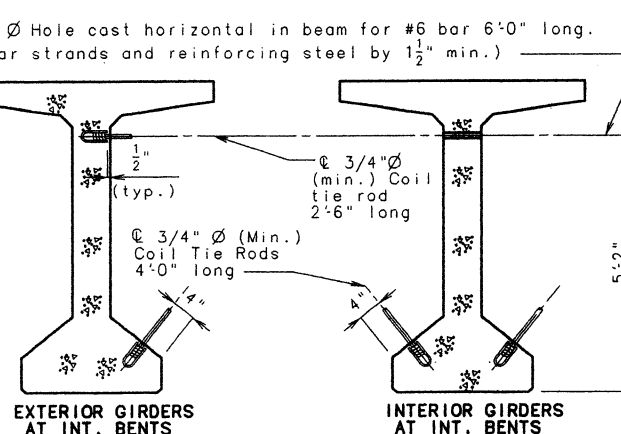
SECTION D-D

PART ELEVATION AT END OF GIRDER

BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.



EXTERIOR GIRDERS AT INT. BENTS

INTERIOR GIRDERS AT INT. BENTS

DETAILS OF COIL TIES

Note: For location of coil ties, and 1"  $\emptyset$  horizontal hole, see sheets no. 59 & 61.

SHEET NO. 53 OF 93.

NOTE: Cost of 3/4"  $\emptyset$  coil tie rods placed in diaphragm is included in the contract unit price for prestressing concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of Steel Intermediate Diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 76.

The 1-1/2"  $\emptyset$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For Details of Slotted Wells in top of Girder, see sheet no. 65.

JACKSON

COUNTY

A5496

GDR 6"BT,P/S3.55,4'6",6,A

APRIL 1993 REVISED JAN. 1995

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: Concrete for prestressed girders shall be class A1 with  $f'_c = 6,000$  psi and  $f'_{ci} = 4500$  psi.

(+) Indicates prestressing strands.

Use 32 strands with an initial prestress force of 992 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8.

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE JOB NO. 141011C  
PROJECT NO. F.A.M. 3973 (408)  
MO. C.T.D. 980724-05-PEM

SHEET NO. 133

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-3"	20	SHAPE 19
258	4 B1	7'-11"	11	
16	6 B2	7'-4"	11	SHAPE 9
274	4 C1	3'-6"	19	
274	4 D1	3'-2"	9	SHAPE 20

NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1 bars & C1 bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.

NOTE: Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 64.

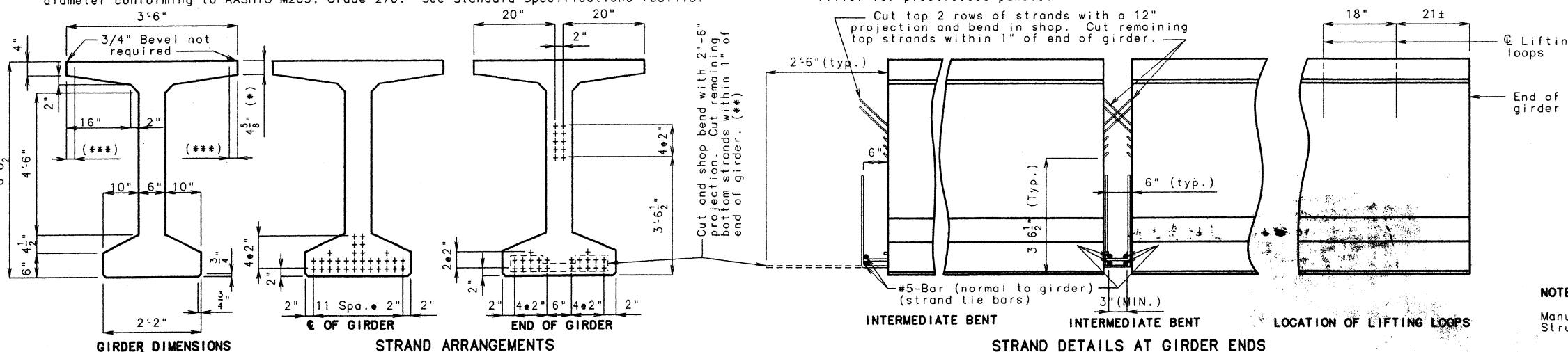
For location of coil inserts at slab drains, see sheet no. 76.

The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

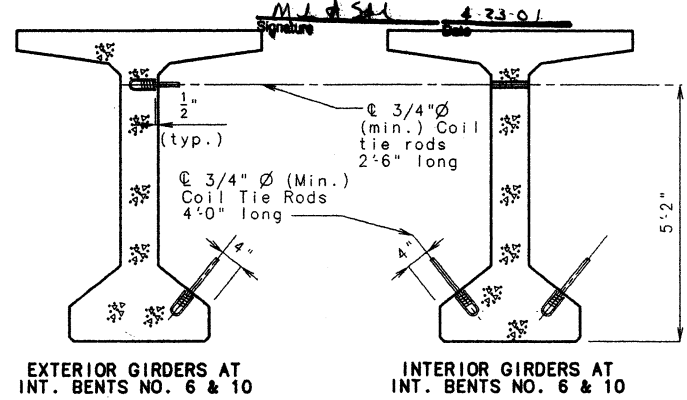
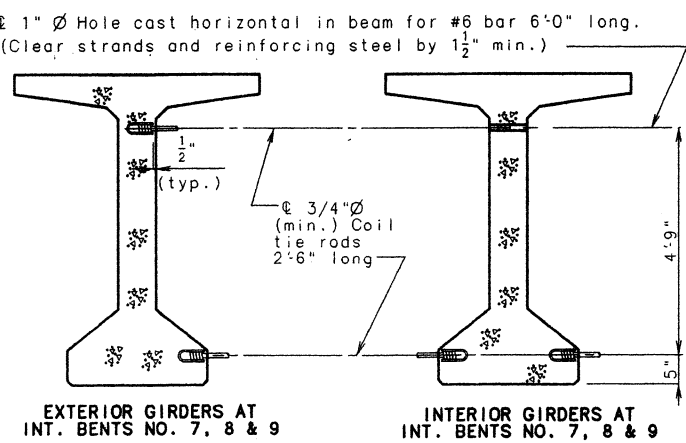
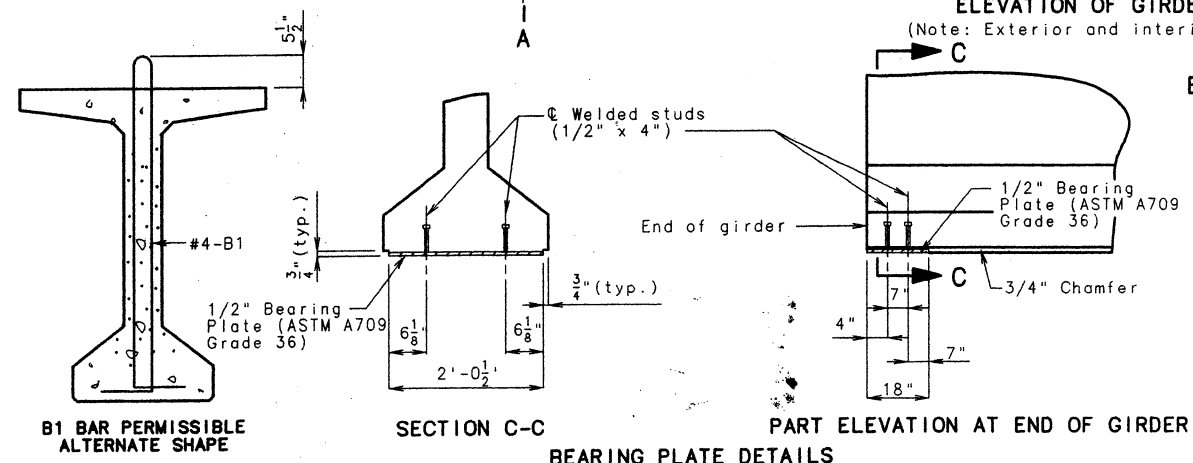
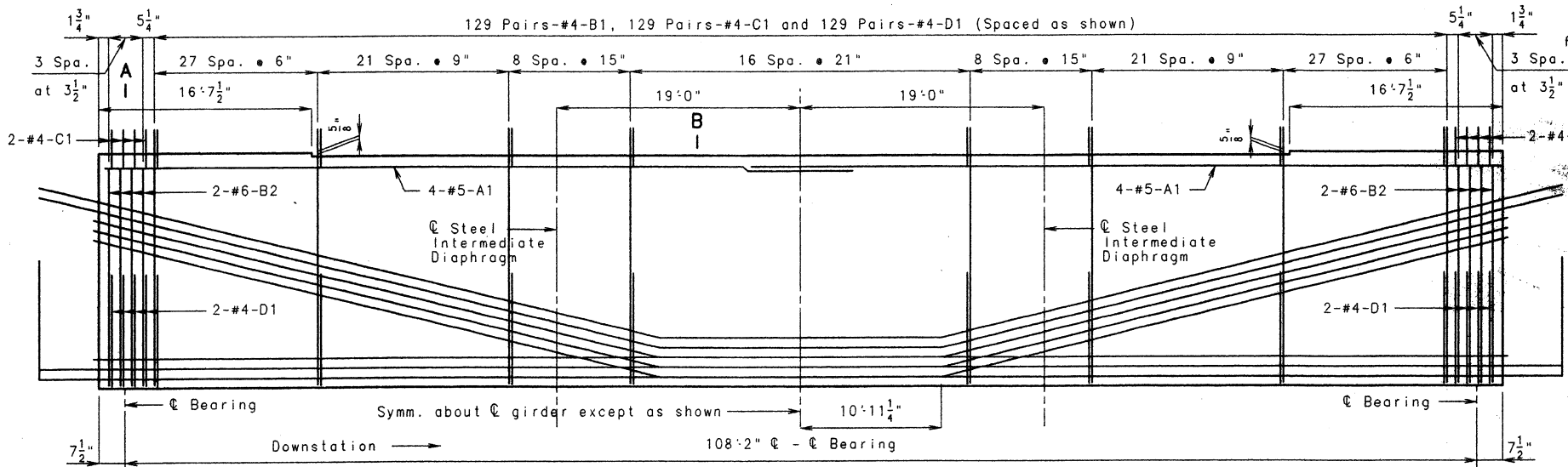
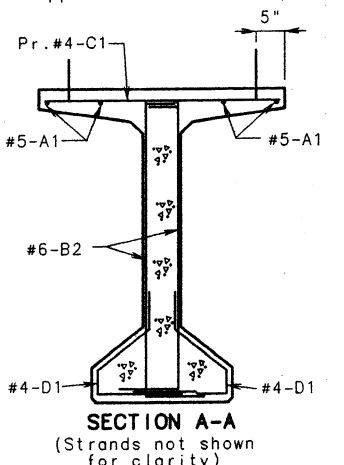
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

STATE OF MISSOURI  
KURT E. GRISBLE  
REGISTERED PROFESSIONAL ENGINEER  
NUMBER E-23678

DATE 5-1-98



(\*) Girders 1, 2 & 3 shown. Girders 4 & 5 sloped opposite.



# DETAILS OF COIL TIES

Note: For location of coil ties, and 1"  $\phi$  horizontal hole, see sheets no. 59 & 60.

SHEET NO. 54 OF 93.

JACKSON COUNTY

A5496

GDR 6"BT,P/S3.55,4'6",6,A  
REVISED  
JAN. 1995  
APRIL 1993

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



55

NOTE: Concrete for prestressed girders shall be class A1 with  $f'c = 6000$  psi and  $f'ci = 4500$  psi.

(+) Indicates prestressing strands.

Use 34 strands with an initial prestress force of 1054 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

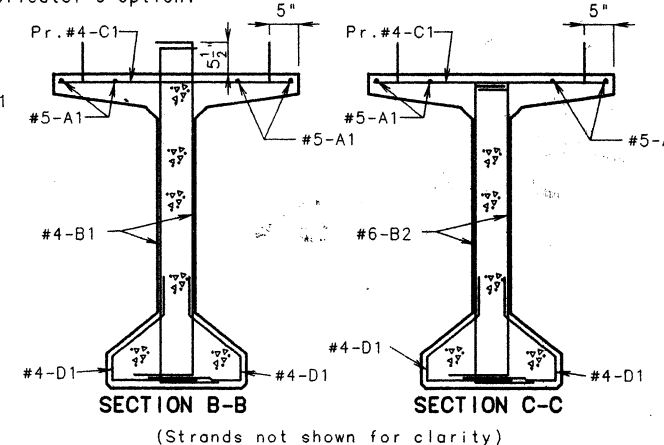
(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

STATE JOB NO. J-11011C SHEET NO. 155  
PROJECT NO. F.A.M.-3573 (100)  
MO. C.T.D.-980724-05-PEM

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-1"	20	
236	4 B1	7'-11"	11	
8	6 B2	7'-4"	11	
8	6 B3	7'-5"	11	
70	4 B4	8'-0"	11	
244	4 C1	3'-6"	19	
78	4 C2	3'-7"	19	
322	4 D1	3'-2"	9	

NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1, B4, C1 & C2 Bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.



Prestressing strands at Intermediate Bent No. 11 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.

NOTE: Cost of 3/4"  $\phi$  coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 77.

The 1-1/2"  $\phi$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

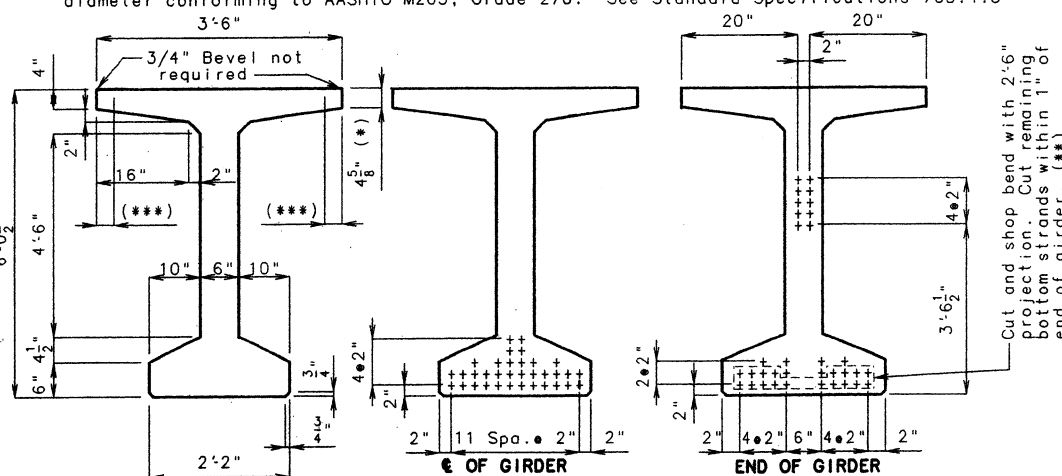
For Details of Slotted Wells in top of Girder, see sheet No. 65.

Cut top 2 rows of strands with a 12" projection and bend in shop. Cut remaining top strands within 1" of end of girder.

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

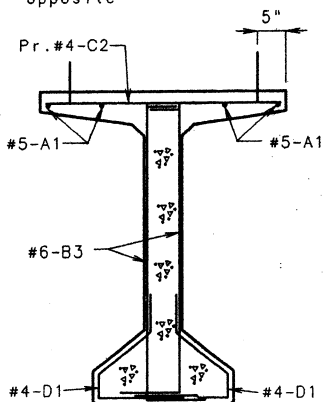
Signature: [Signature]  
Date: [Date]

INTERMEDIATE BENT NO. 11 INTERMEDIATE BENT NO. 12 LOCATION OF LIFTING LOOPS  
STRAND DETAILS AT GIRDER ENDS

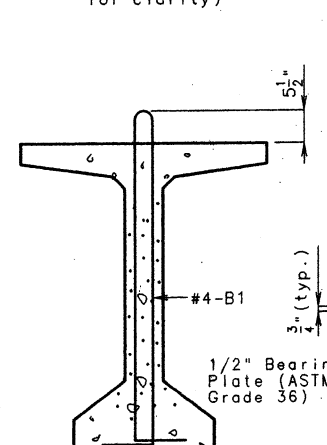


GIRDER DIMENSIONS (LOOKING DOWNSTATION)

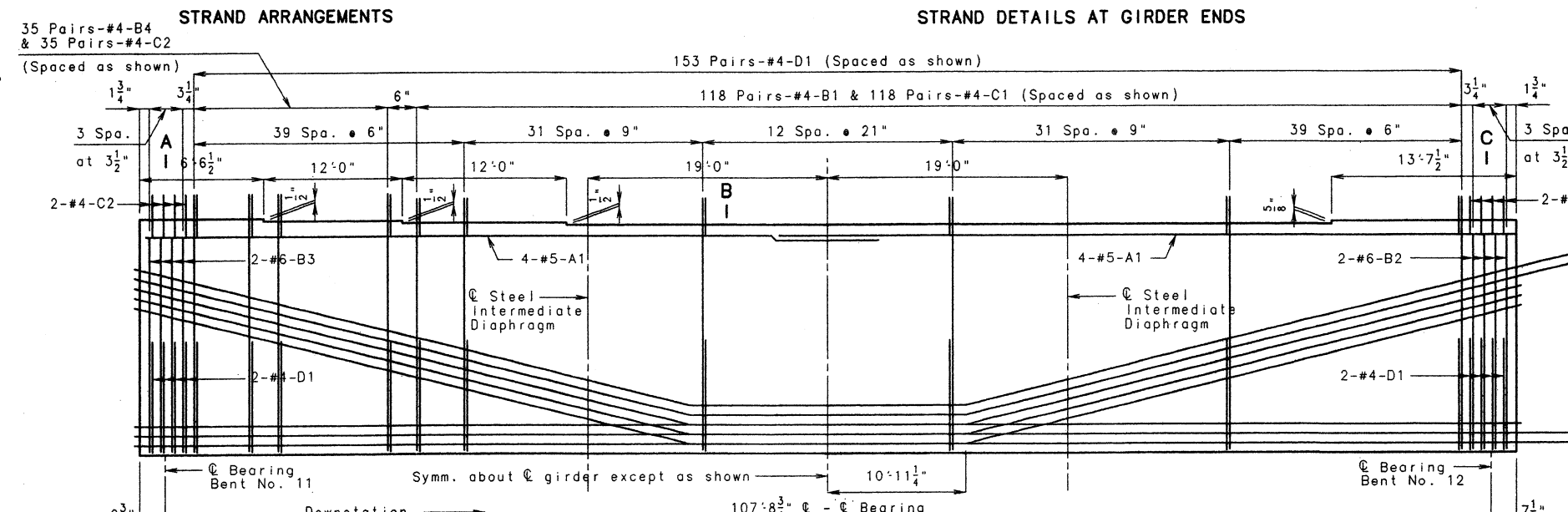
(\*) Girders 1, 2 & 3 shown. Girders 4 & 5 sloped opposite



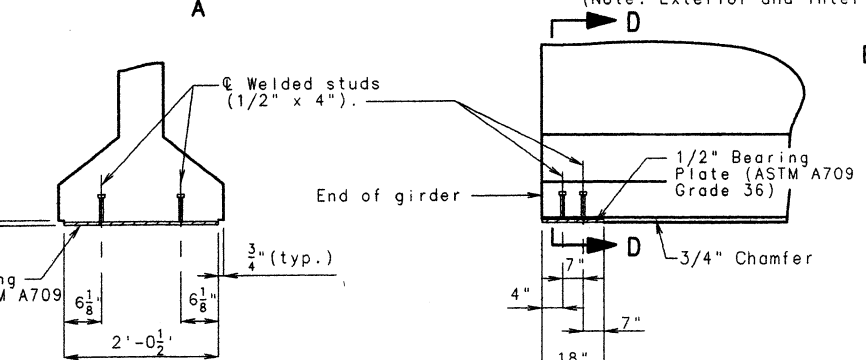
SECTION A-A (Strands not shown for clarity)



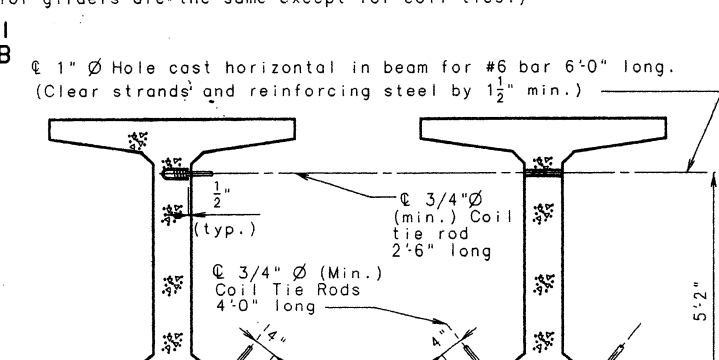
B1 BAR PERMISSIBLE ALTERNATE SHAPE



PART ELEVATION OF GIRDER SPAN (11-12)



PART ELEVATION AT END OF GIRDER BEARING PLATE DETAILS



DETAILS OF COIL TIES

Note: For location of coil ties, and 1"  $\phi$  horizontal hole, see sheets no. 59 & 62.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 56 OF 93.

JACKSON COUNTY A5496

GDR 6"BT,P/S3.55,4'-6",6.A

REVISOR JAN. 1995  
APRIL 1993

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: Concrete for prestressed girders shall be class A1 with  $f'_c = 6000$  psi and  $f'_{ci} = 4500$  psi.

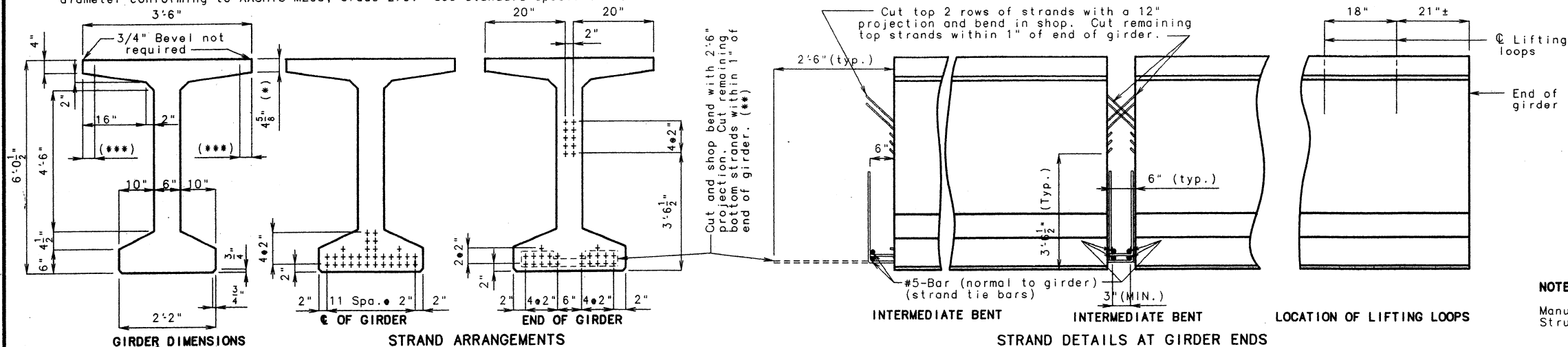
(+) Indicates prestressing strands.

Use 32 strands with an initial prestress force of 992 Kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8

(\*\*) At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

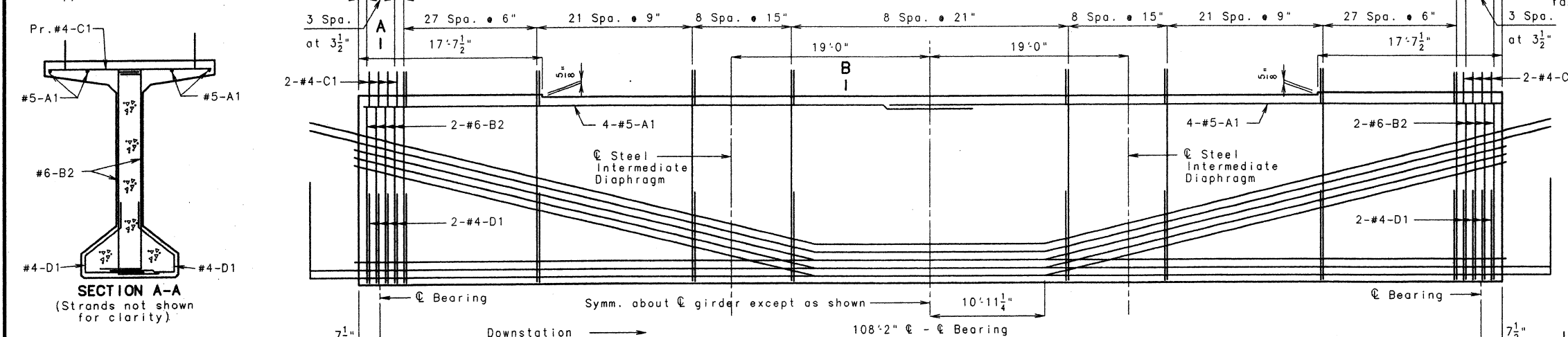


BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	56'-3"	20	 SHAPE 19
258	4 B1	7'-11"	11	
16	6 B2	7'-4"	11	
274	4 C1	3'-6"	19	 SHAPE 20
274	4 D1	3'-2"	9	
				 SHAPE 11

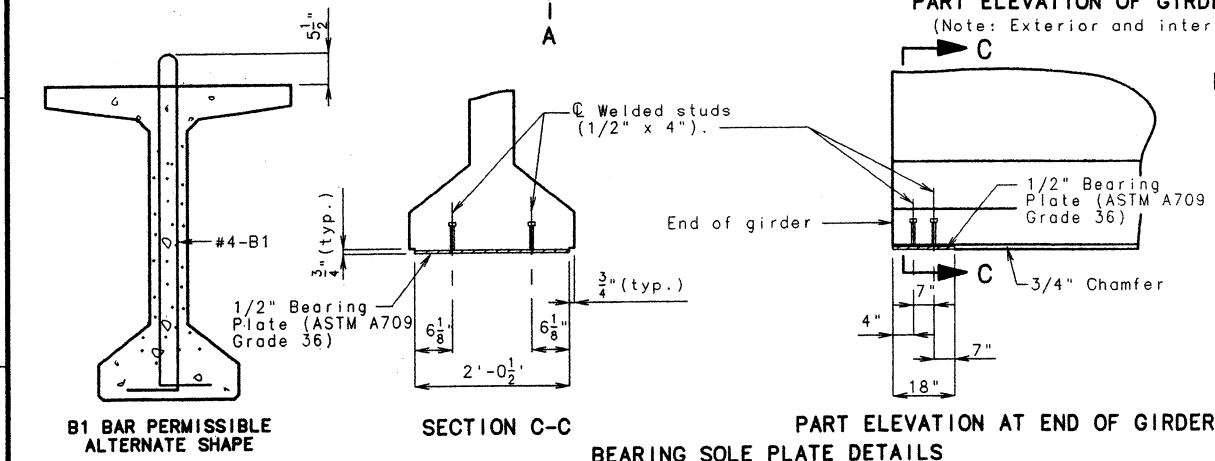
NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1 Bars & C1 Bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.

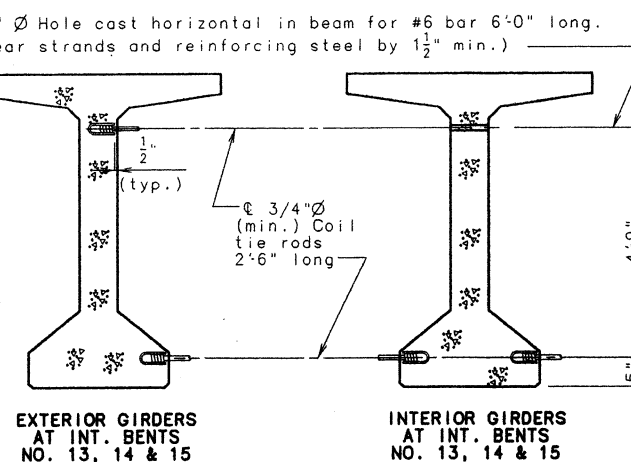
(\*) Girders 1, 2 & 3 shown. Girders 4 & 5 sloped opposite.



**PART ELEVATION OF GIRDER SPAN (12-13), (13-14), (14-15) & (15-16)**  
(Note: Exterior and interior girders are the same except for coil ties.)



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123. Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-Tee Girder, per each.



**DETAILS OF COIL TIES**

Note: For location of coil ties, and 1"  $\varnothing$  horizontal hole, see sheets no. 59 & 60.

SHEET NO. 57 OF 93.

JACKSON

COUNTY

A5496

GDR 6"BT,P/S3.55,4'-6",6,A

REVISED

JAN. 1995

APRIL 1993

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

For details of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 77.

The 1-1/2"  $\varnothing$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

NOTE: Cost of 3/4"  $\varnothing$  coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place by the forms. Wire-setting studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.



DATE 5-1-98

NOTE: Concrete for prestressed girders shall be class A1 with  $f'_c = 6000$  psi and  $f'_{ci} = 4500$  psi.

(+) Indicates prestressing strands.

Use 18 strands with an initial prestress force of 558 Kips.

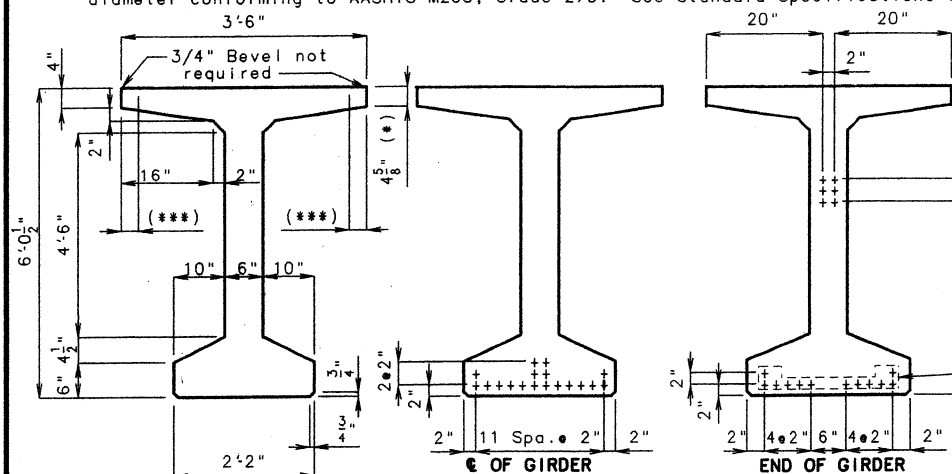
Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 1/2 inch diameter conforming to AASHTO M203, Grade 270. See Standard Specifications 705.4.8

(\*\*) One strand tie bar is required for each layer of bent-up strands.

(\*\*\*) At the contractor's option a 1-1/2" to 1-3/4" smooth finish strip is permitted to facilitate placement of joint filler for prestressed panels.

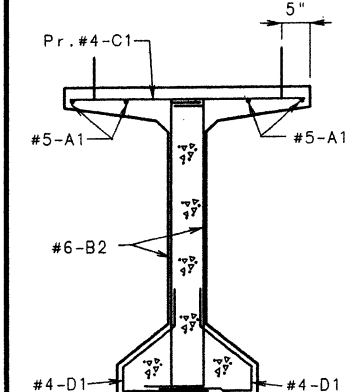
Prestressing strands at End Bent No. 17 shall be trimmed to within 1/8 inch of concrete if exposed, or 1 inch of concrete if encased. Exposed ends of girders shall be given 2 coats of asphaltic paint. Ends of girders which will be encased in concrete diaphragms shall not be painted.

STATE JOB NO. J4U1011C SHEET NO. 157  
PROJ. NO. EAM-3373(400)  
MO. C.T.D. 980724-05-PEM

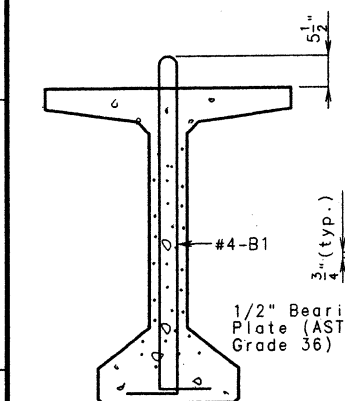


GIRDER DIMENSIONS (LOOKING DOWNSTATION)

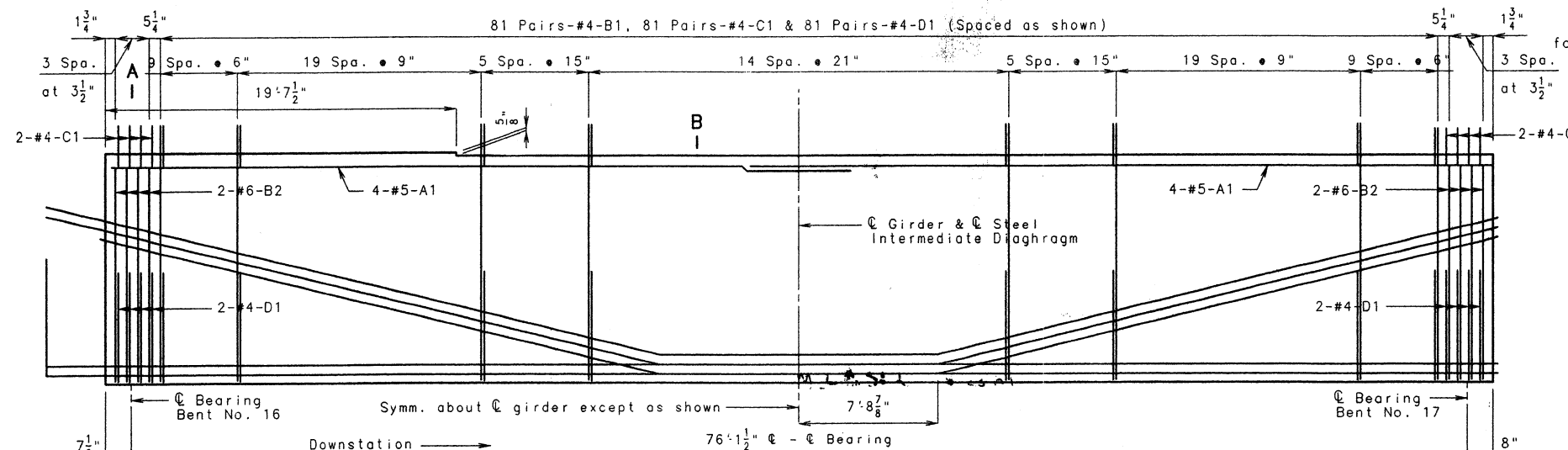
(\*) Girders 1, 2 & 3 shown. Girders 4 & 5 sloped opposite.



SECTION A-A (Strands not shown for clarity)

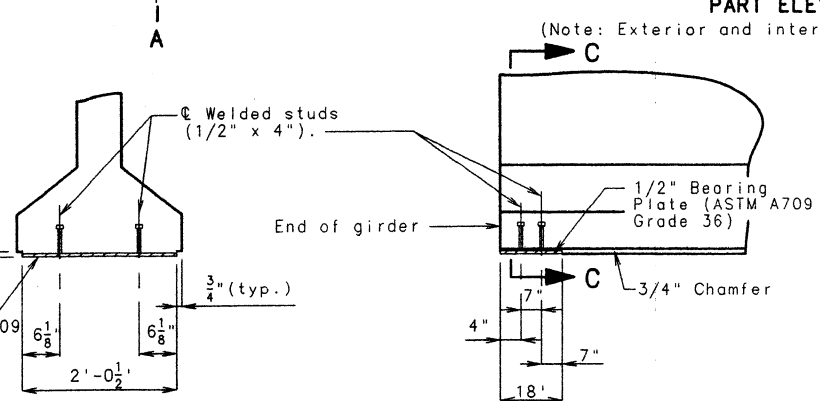


B1 BAR PERMISSIBLE ALTERNATE SHAPE



PART ELEVATION OF GIRDER SPAN (16-17)

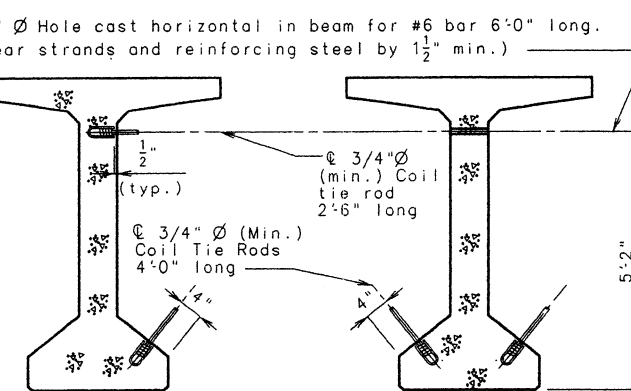
(Note: Exterior and interior girders are the same except for coil ties.)



SECTION C-C BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder shall be included in the price bid for Prestressed Concrete Bulb-tee Girder, per each.



DETAILS OF COIL TIES

Note: For location of coil ties, and 1"  $\varnothing$  horizontal hole, see sheets no. 59 & 63.

Detailed JAN. 1998  
Checked MAR. 1998

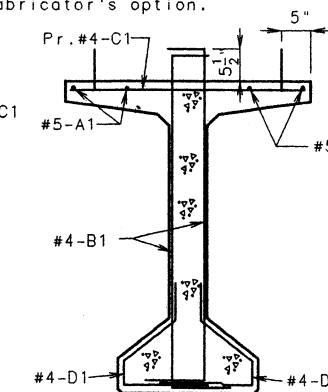
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 58 OF 93.

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
8	5 A1	40'-3"	20	
162	4 B1	7'-11"	11	
8	6 B2	7'-4"	11	
178	4 C1	3'-6"	19	
178	4 D1	3'-2"	9	

NOTE: All dimensions in bending diagram are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All B1 Bars & C1 Bars shall be epoxy coated. Actual lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing steel shall be 1". All reinforcement shall be grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.



SECTION B-B (Strands not shown for clarity)

I certify that this plan and specification accurately depicts the construction and location of the roadway and all its appurtenant facilities, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature M. L. A. S. H. Date 4-23-01



NOTE: Cost of 3/4"  $\varnothing$  coil tie rods placed in diaphragms is included in the contract unit price for prestressed concrete bulb-tee girders.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For details of steel intermediate diaphragms, see sheet no. 64.

For location of coil inserts at slab drains, see sheet no. 77.

The 1-1/2"  $\varnothing$  holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

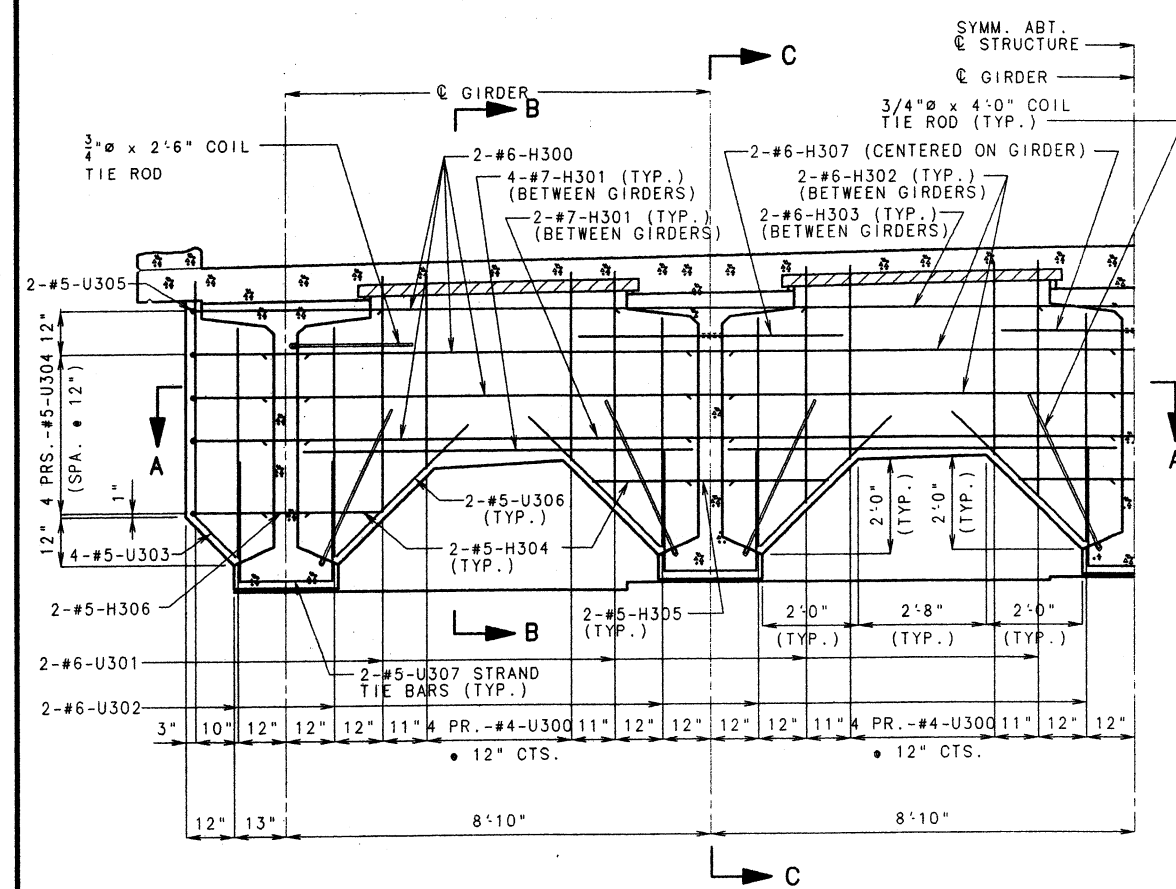
For Details of Slotted Wells in top of Girder, see sheet no. 66.

JACKSON

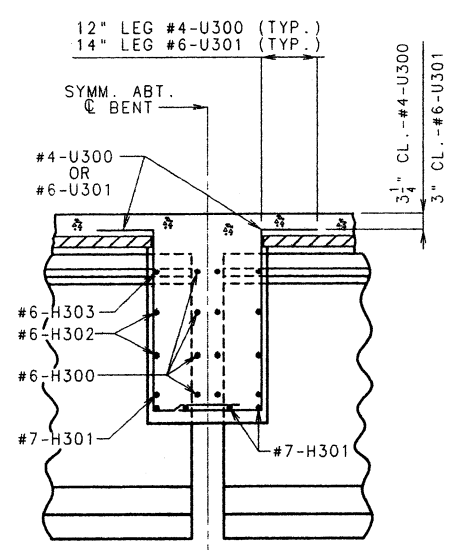
COUNTY

A5496





HALF SECTION NEAR INTERMEDIATE BENT NO. 6, 10, 12, & 16

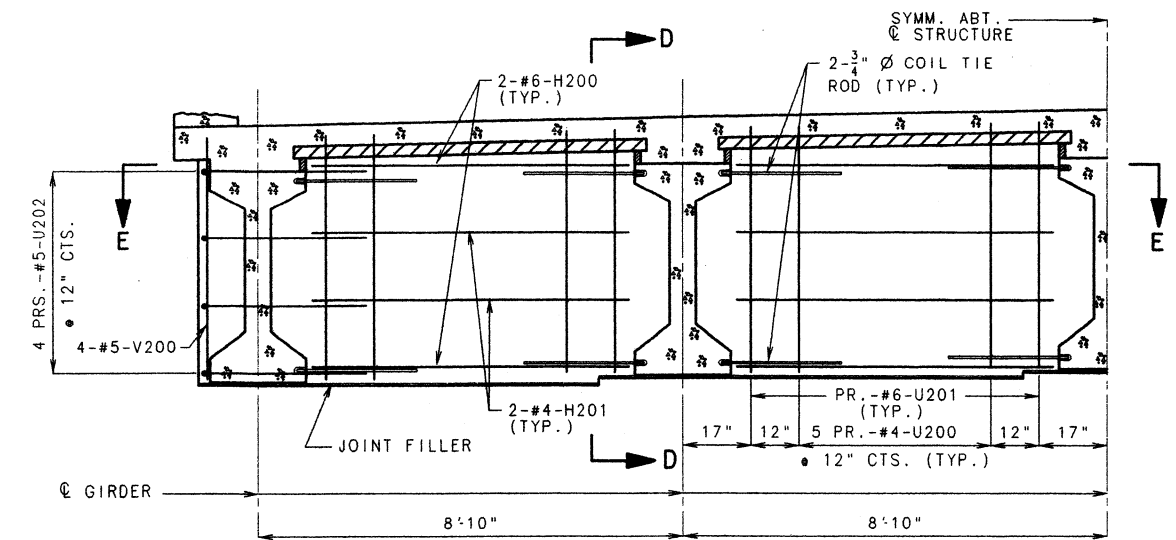


SECTION B-B

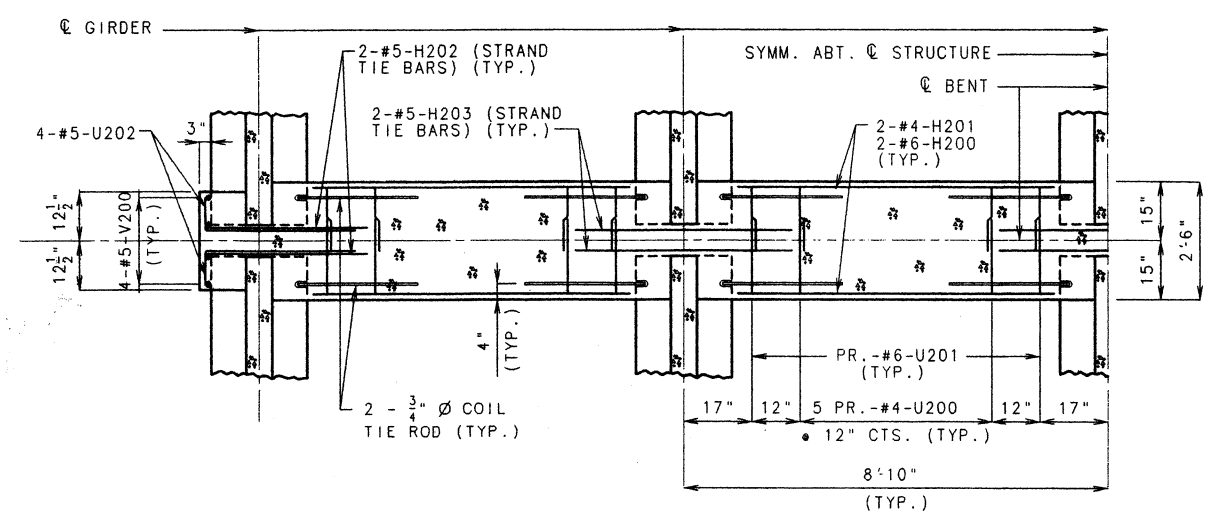
NOTE: PLACE #6-H307 BAR THROUGH 1" HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the location and location of the roadway and all structures and features of my knowledge, as I and my associates have the contractor's consent to the plan sheet. I specifically disclaim any responsibility for the design of this project, and I do not warrant that the project design, construction, or performance will be in accordance with the actual construction of the project, or that the project will have directed or ordered any other work.

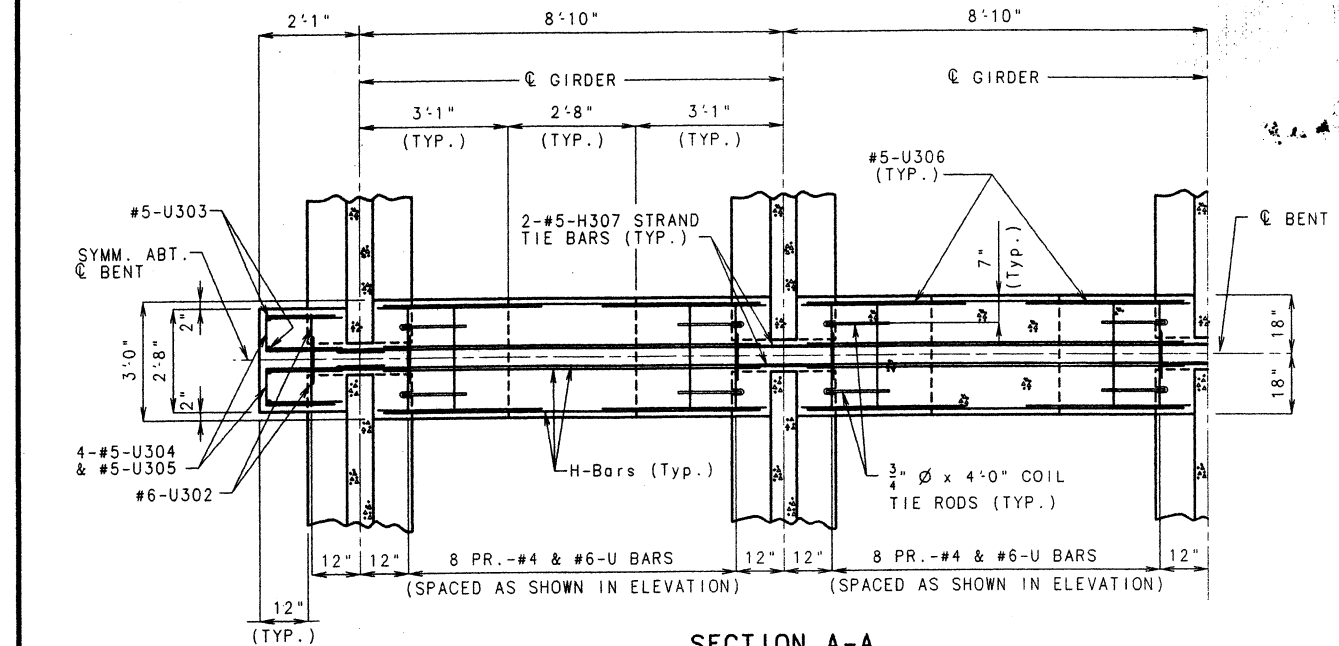
*[Signature]*  
4-23-01



HALF SECTION NEAR INTERMEDIATE BENT NO. 2 & 4

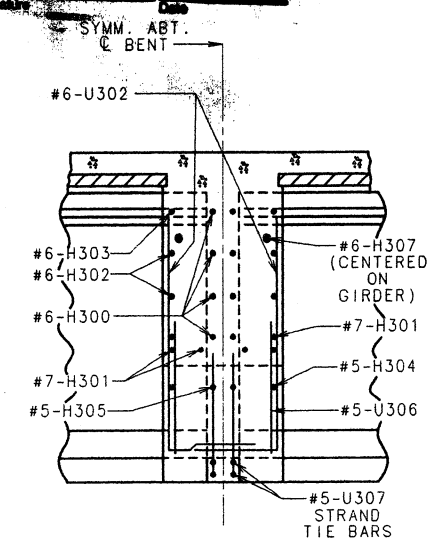


SECTION E-E

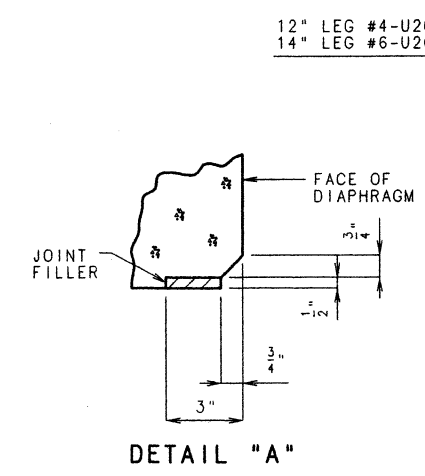


SECTION A-A

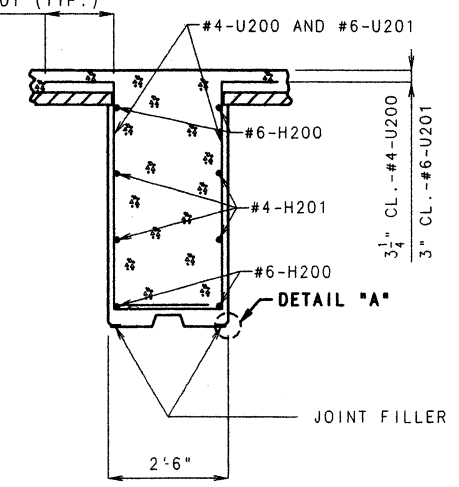
NOTE: FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.



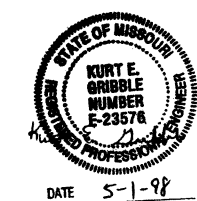
SECTION C-C



DETAIL "A"



SECTION D-D



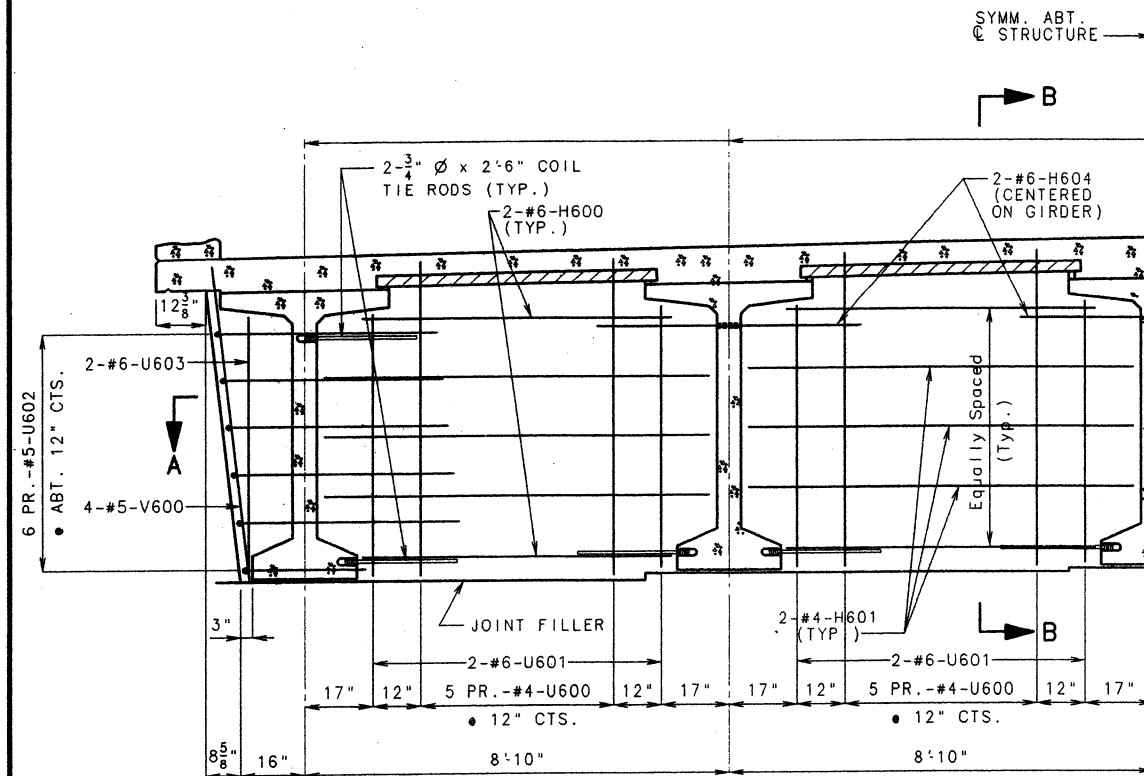
DETAILS OF INTERMEDIATE BENT DIAPHRAGM  
AT INTERMEDIATE BENTS NO. 2, 4, 6, 10, 12 & 16.

DETAILED: JAN. 1998  
CHECKED: MAR. 1998

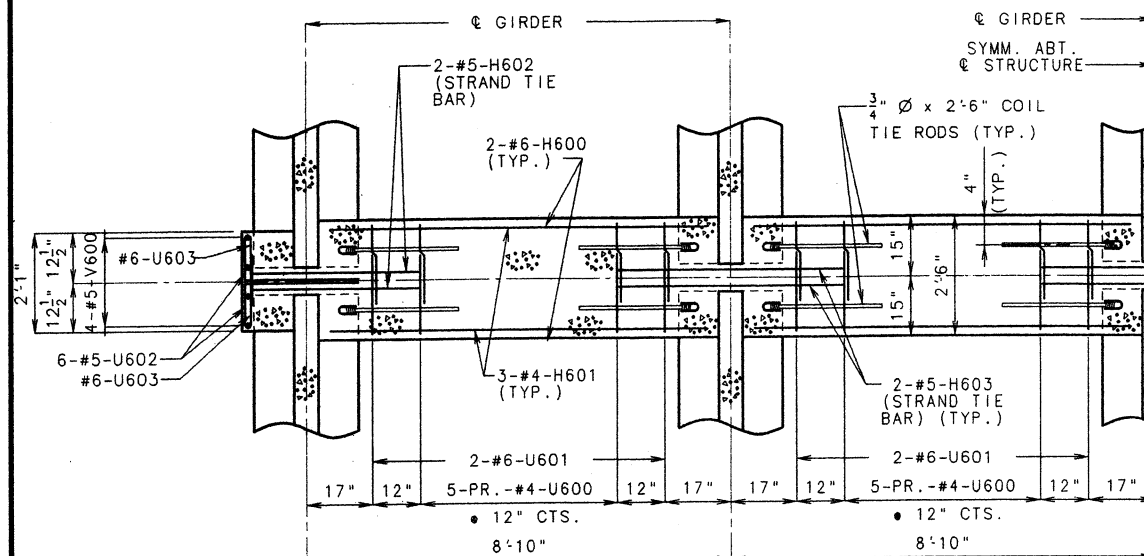
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 59 OF 93.

JACKSON COUNTY A5496

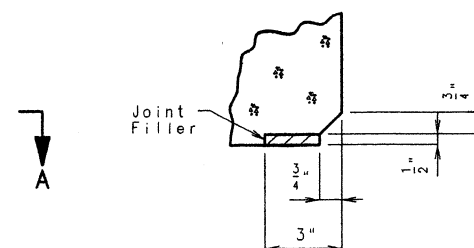


HALF SECTION NEAR INTERMEDIATE BENTS NO. 7, 8, 9, 13, 14, & 15



SECTION A-A

NOTE: FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.

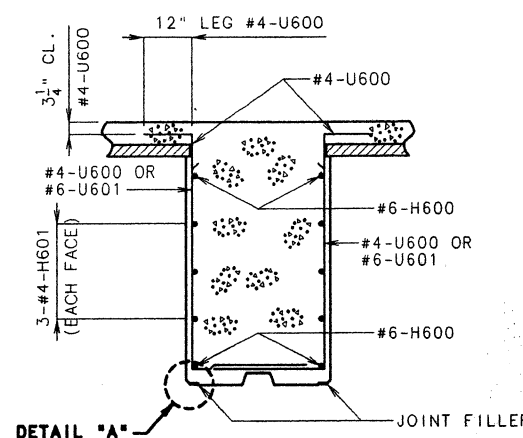


DETAIL "A"

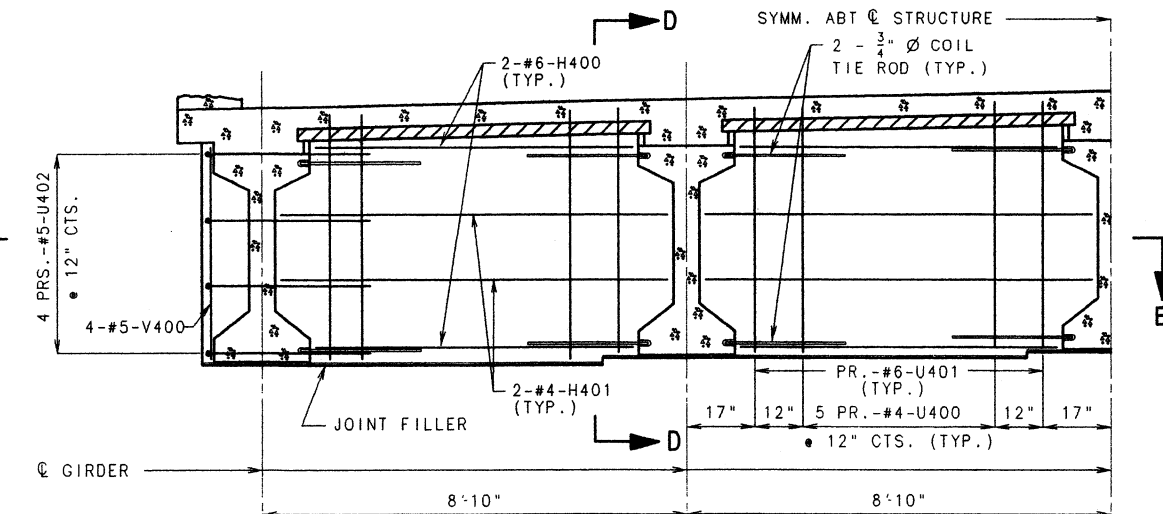
NOTE: PLACE #6-H604 BAR THROUGH 1" Ø HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, skill and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

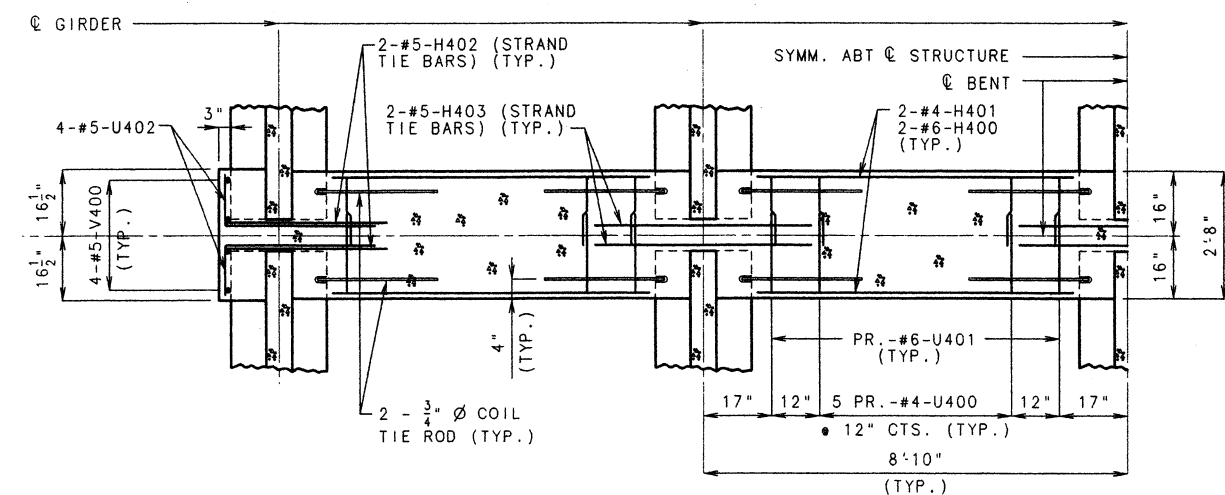
Signature: M. L. S. Date: 4-23-91



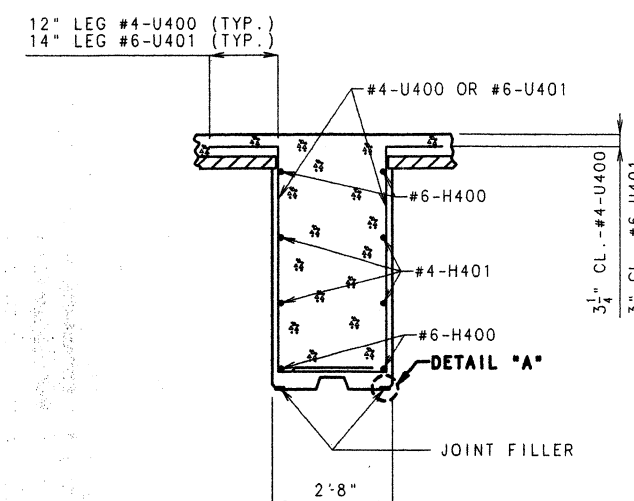
SECTION B-B



HALF SECTION NEAR INTERMEDIATE BENT NO. 3



SECTION E-E



SECTION D-D

# DETAILS OF INTERMEDIATE BENT DIAPHRAGM AT INTERMEDIATE BENTS NO. 3, 7, 8, 9, 13, 14 & 15.

DETAILED: JAN. 1998  
CHECKED: MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 60 OF 93.

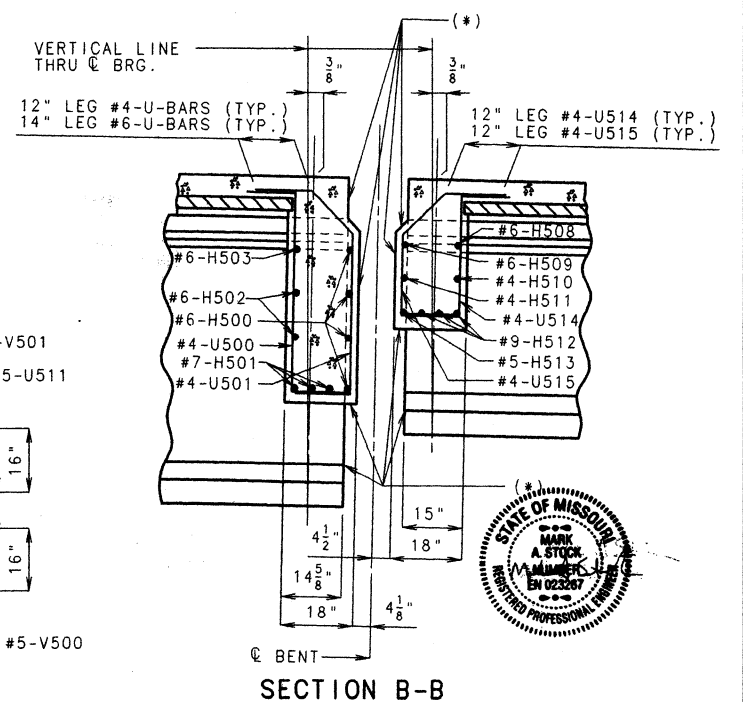
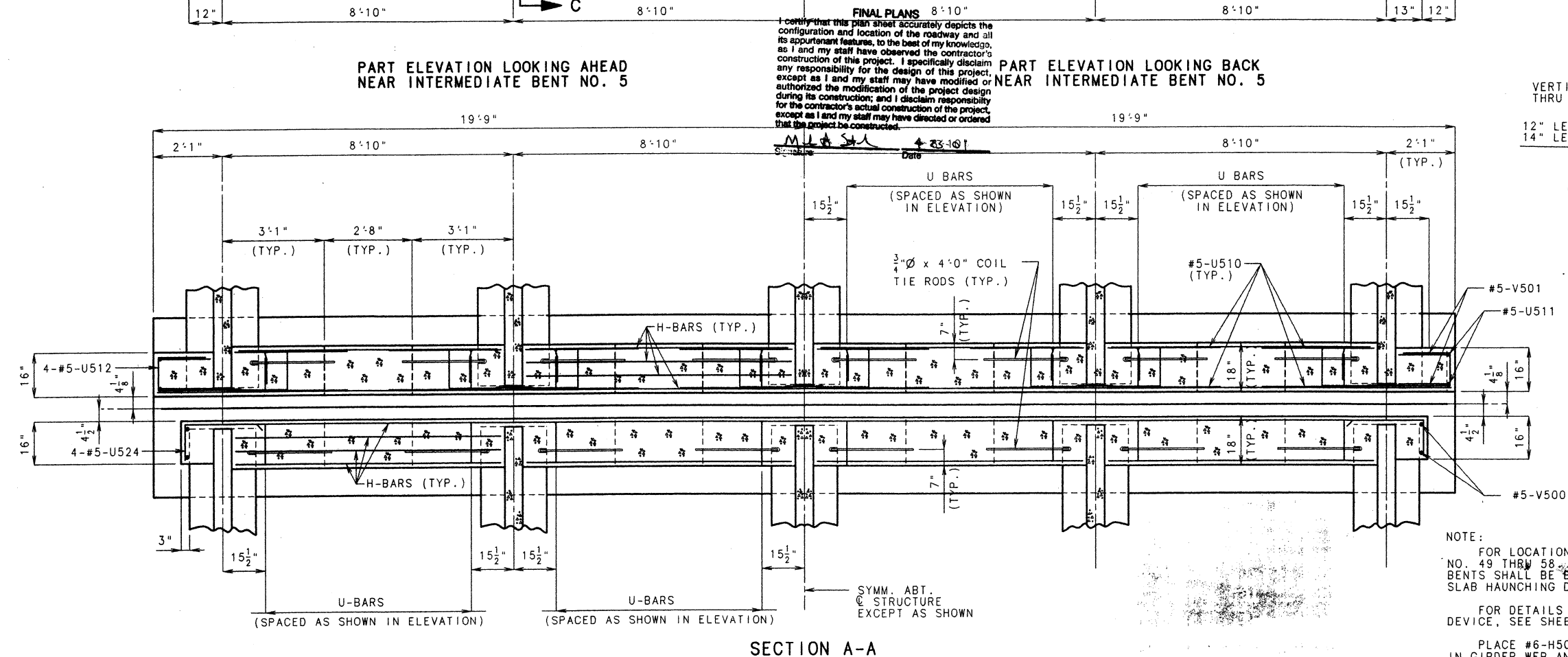
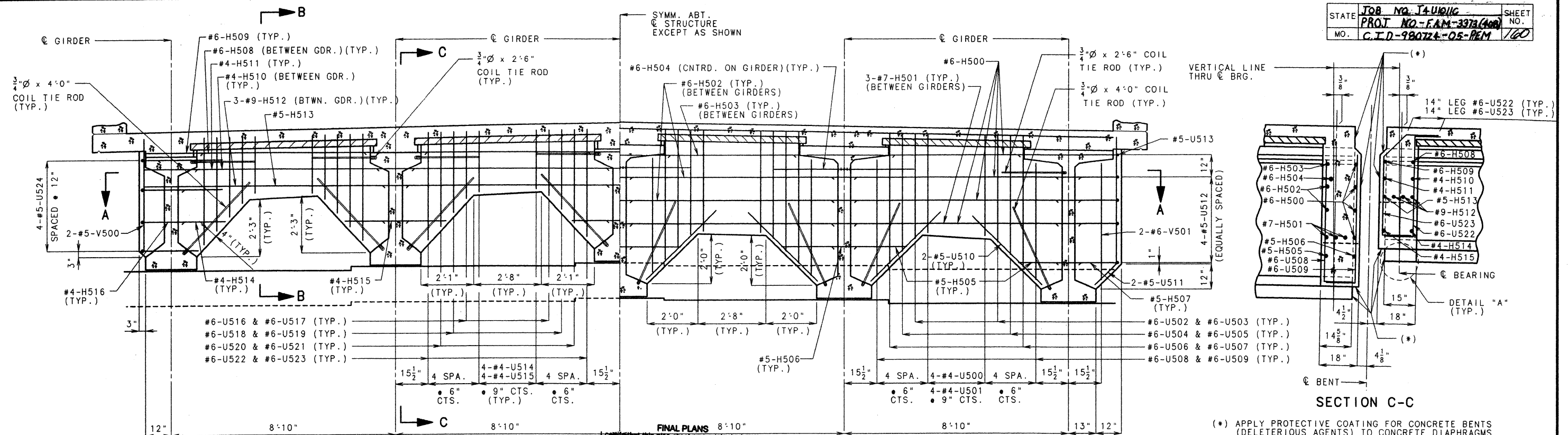
JACKSON

COUNTY

A5496



DATE 5-1-98



NOTE: SECTION B-B

FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICALLY FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.

FOR DETAILS OF FINGER PLATE EXPANSION DEVICE, SEE SHEET NO. 65.

PLACE #6-H504 BAR THROUGH 1"Ø HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.

FOR DETAIL "A", SEE SHEET NO. 62.

### DETAILS OF DIAPHRAGM AT INTERMEDIATE BENT NO. 5

DETAILED: JAN. 1998  
CHECKED: MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 61 OF 93.

JACKSON

COUNTY

A5496

DATE 5-1-98





STATE	JOB NO. FAVIOLIC	SHEET NO.
MO.	PROJ. NO. - F.A.M. 3978 (408)	162
	C.T.D. 980724-05-P&M	

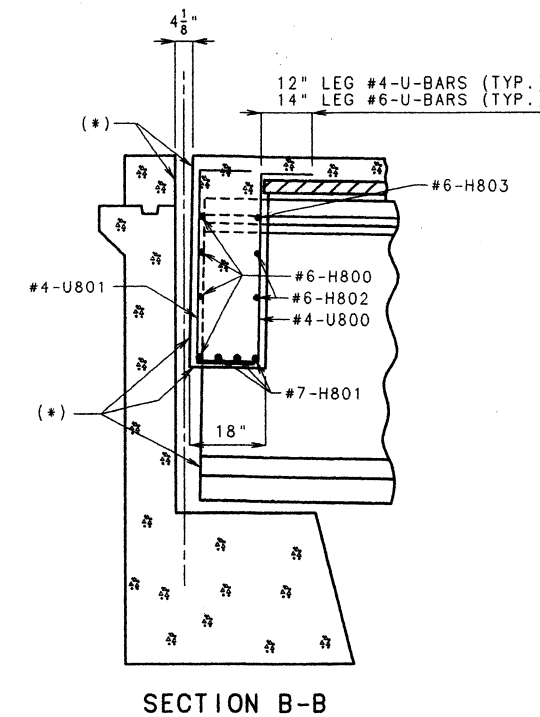
# NOTES:

FOR DETAILS OF FLAT PLATE EXPANSION DEVICE, SEE SHEET NO. 66.

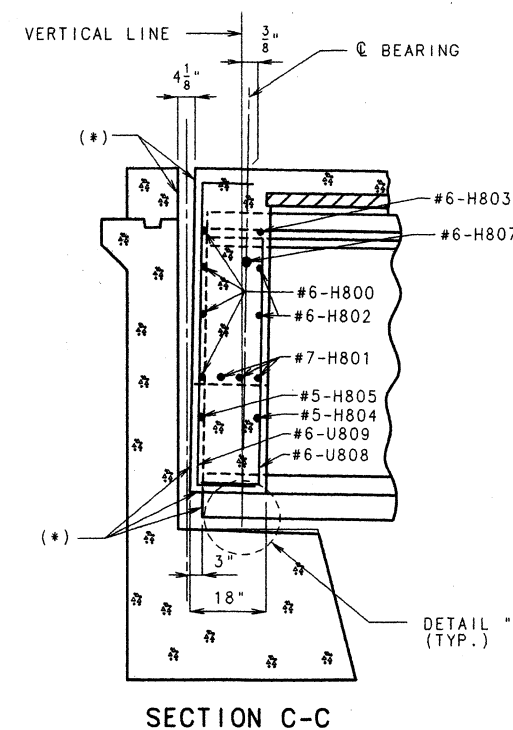
PLACE #6-H807 BAR THROUGH 1"Ø HOLE CAST IN GIRDER WEB AND CENTER ON GIRDER.

FOR LOCATION OF STRAND TIE BARS SEE SHEET NO. 49 THRU 58. DIAPHRAGMS AT INTERMEDIATE BENTS SHALL BE BUILT VERTICAL. FOR THEORETICAL SLAB HAUNCHING DIAGRAM SEE SHEET NO. 72.

FOR DETAIL "A", SEE SHEET NO. 62.



(\*) APPLY PROTECTIVE COATING FOR CONCRETE BENTS (DELETERIOUS AGENTS) TO CONCRETE DIAPHRAGMS BENEATH FLAT PLATE AS SHOWN. (SEE SPECIAL PROVISIONS).

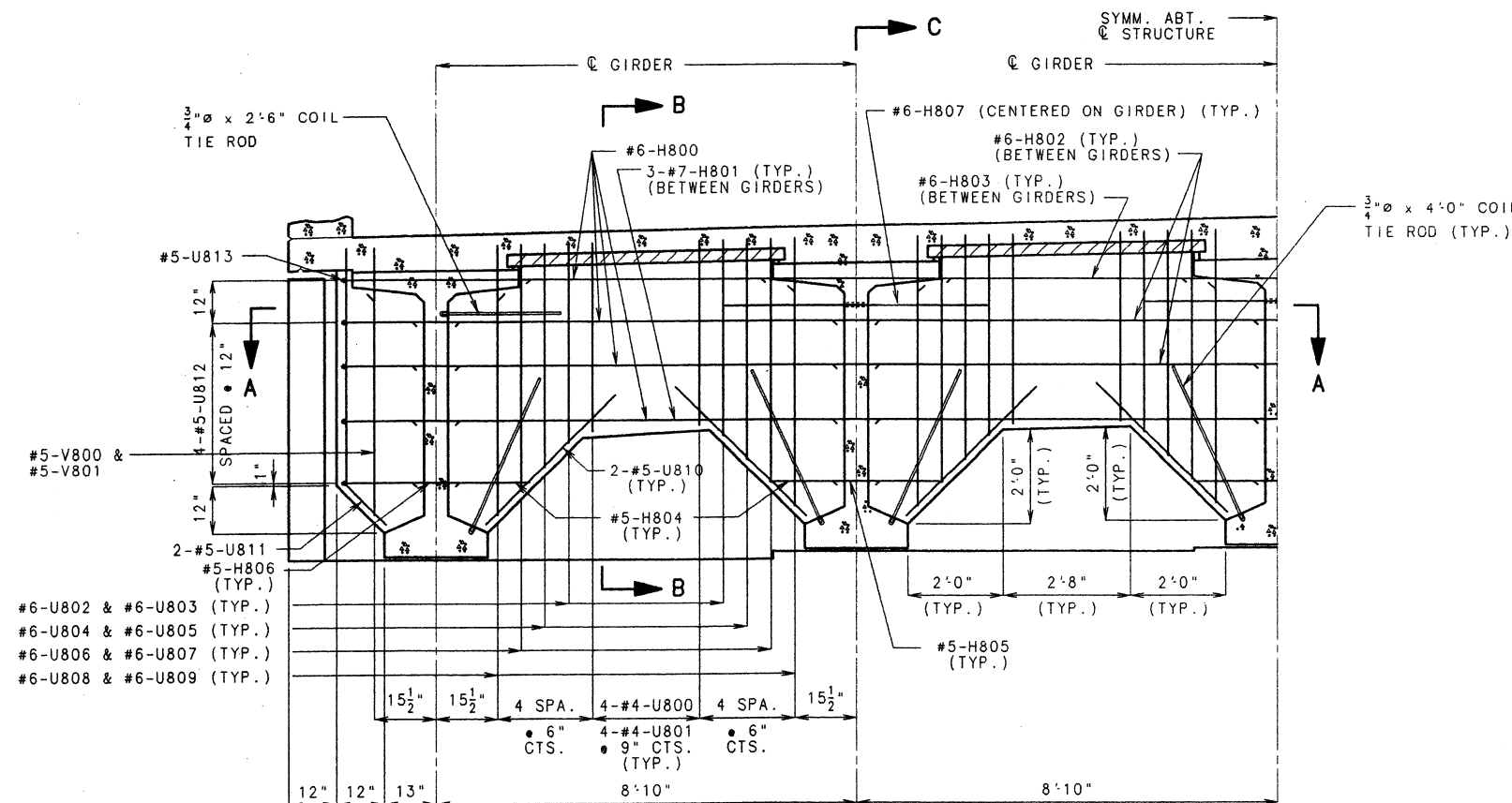


DETAIL "A"  
(TYP.)

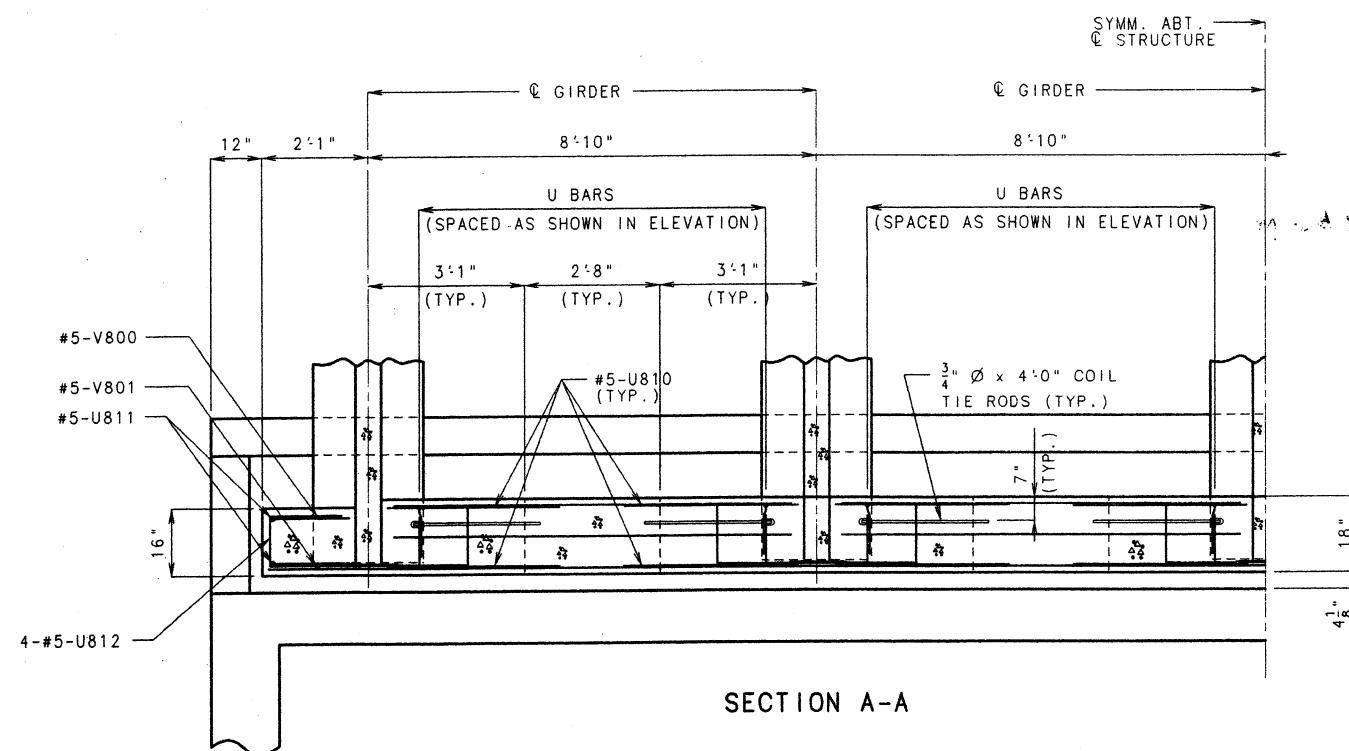
**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
Signature: M. J. S. S. Date: 4-23-01



DATE 5-1-98



HALF SECTION NEAR  
END BENT NO. 17



SECTION A-A

## DETAILS OF DIAPHRAGM AT END BENT NO. 17

DETAILED: JAN. 1998  
CHECKED: MAR. 1998

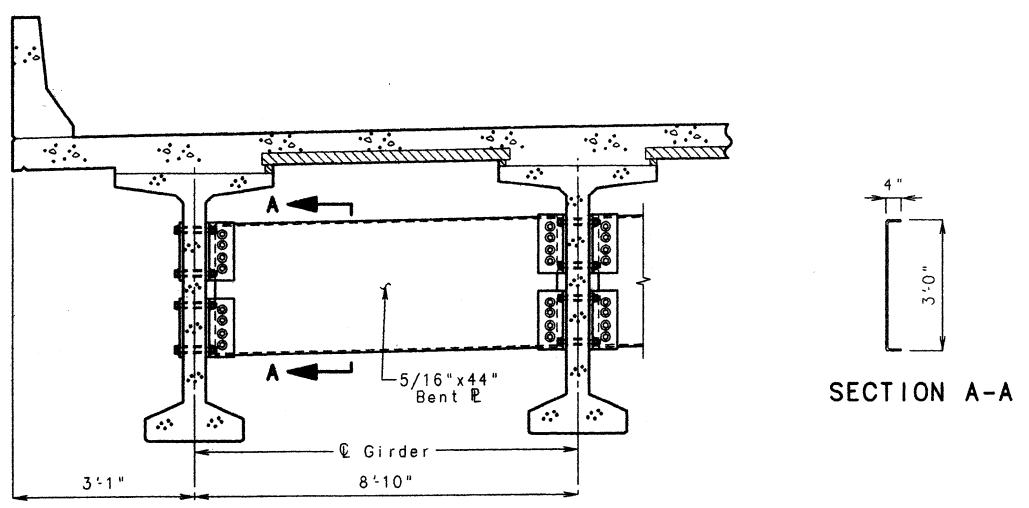
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 63 OF 93.

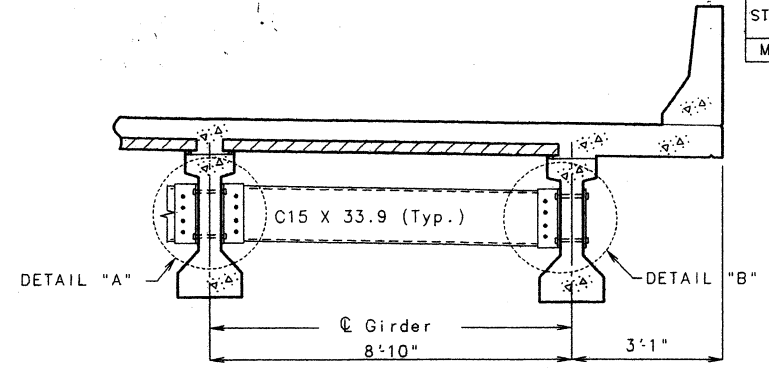
JACKSON

COUNTY

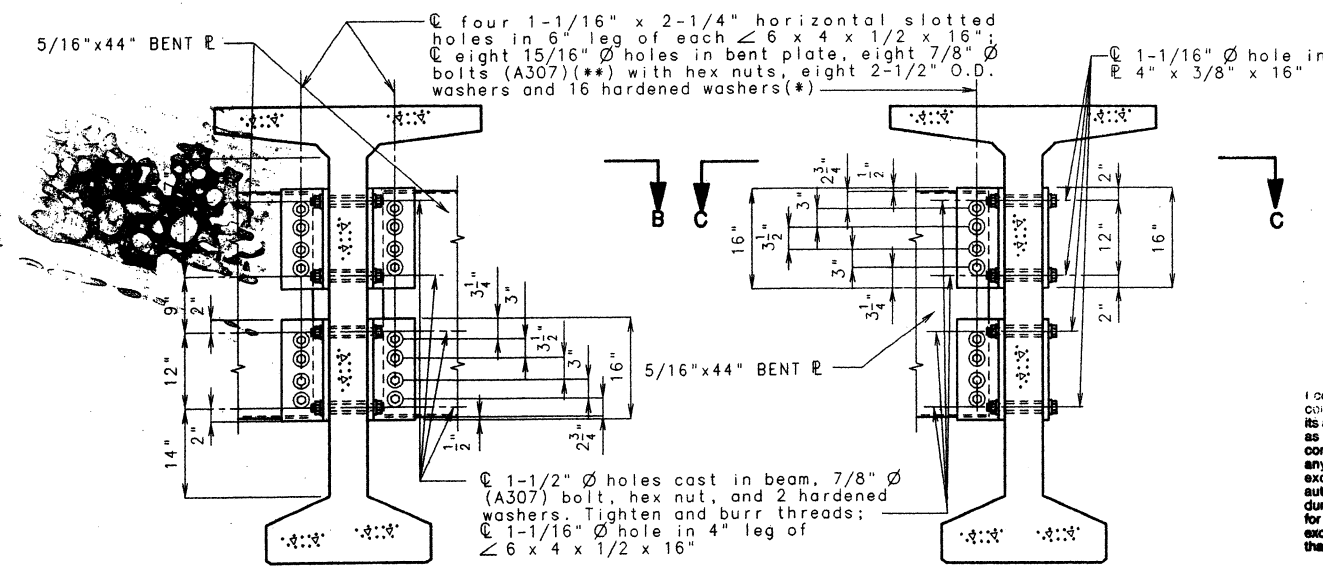
A5496



PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS FOR BULB-TEE GIRDERS

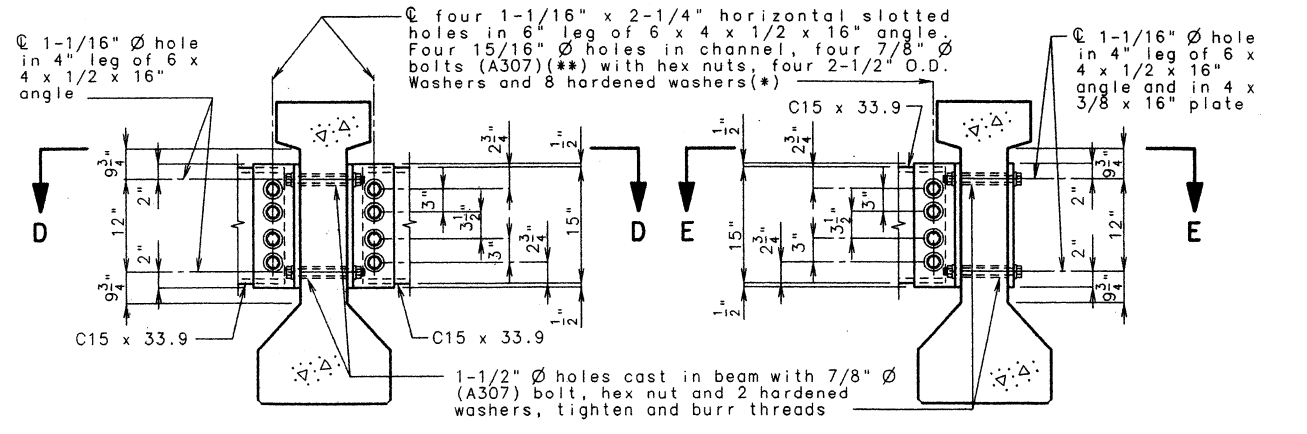


PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS FOR I-GIRDERS



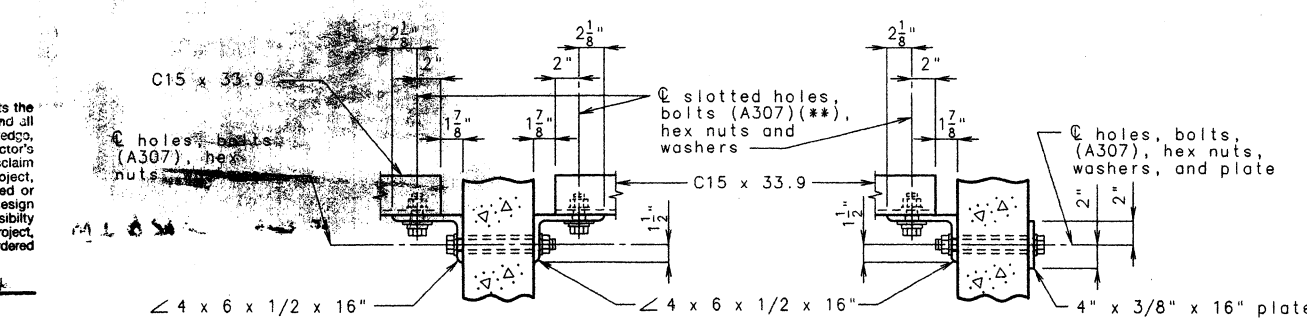
SECTION THRU INT. GIRDER AT DIAPHRAGM

SECTION THRU EXT. GIRDER AT DIAPHRAGM



DETAIL "A"

DETAIL "B"



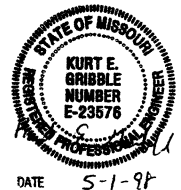
SECTION D-D

SECTION E-E

**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
 Signature *M. J. S. S.* Date *4-23-01*

**STEEL DIAPHRAGM NOTES:**

- \* In lieu of 2-1/2" O.D. washers, contractor may substitute a 3/16" (min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.
- \*\* These bolts shall be tightened to provide a tension of one-half that specified by Section 712.10.2 of the Missouri Standard Specifications. A325 bolts may be substituted for and installed in accordance with the requirements for the specified A307 bolts.
- All diaphragm materials including bolts, nuts, and washers shall be galvanized.
- Fabricated structural steel shall be ASTM A709 Grade 36, except as noted.
- Payment for furnishing and installing steel intermediate diaphragms, shall be included in contract unit price for Prestressed Concrete Bulb Tee Girders and Prestressed Concrete I-Girders.
- Shop drawings will not be required for steel intermediate diaphragms and angle connections.
- For location of intermediate diaphragms, see girder sheets.



DATE **5-1-98**

DIA 11, SQ BTEE STL, A  
 STEEL DIA. (SQ)  
 June 1995  
 REVIS: AUGUST 1996

DETAILED JAN. 1998  
 CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 64 OF 93.

JACKSON COUNTY

A5496

# GENERAL NOTES:

FINGER PLATE SHALL BE CUT WITH A MACHINE GUIDED GAS TORCH FROM ONE PLATE. THE PLATE FROM WHICH FINGERS ARE CUT MAY BE SPLICED BEFORE FINGERS ARE CUT. THE SURFACE OF CUT SHALL BE PERPENDICULAR TO THE SURFACE OF THE PLATE. THE CUT SHALL NOT EXCEED 1/8" IN WIDTH. THE CENTERLINE OF CUT SHALL NOT DEVIATE MORE THAN 1/16" FROM THE POSITION OF CENTERLINE OF CUT SHOWN. NO SPLICING OF FINGER PLATE OR FINGER PLATE ASSEMBLY WILL BE ALLOWED AFTER FINGERS ARE CUT.

PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F. THE EXPANSION GAP AND OTHER DIMENSIONS SHALL BE INCREASED 1/4" FOR EACH 10°F FALL IN TEMPERATURE AND DECREASED 1/4" FOR EACH 10°F RISE IN TEMPERATURE AT INSTALLATION.

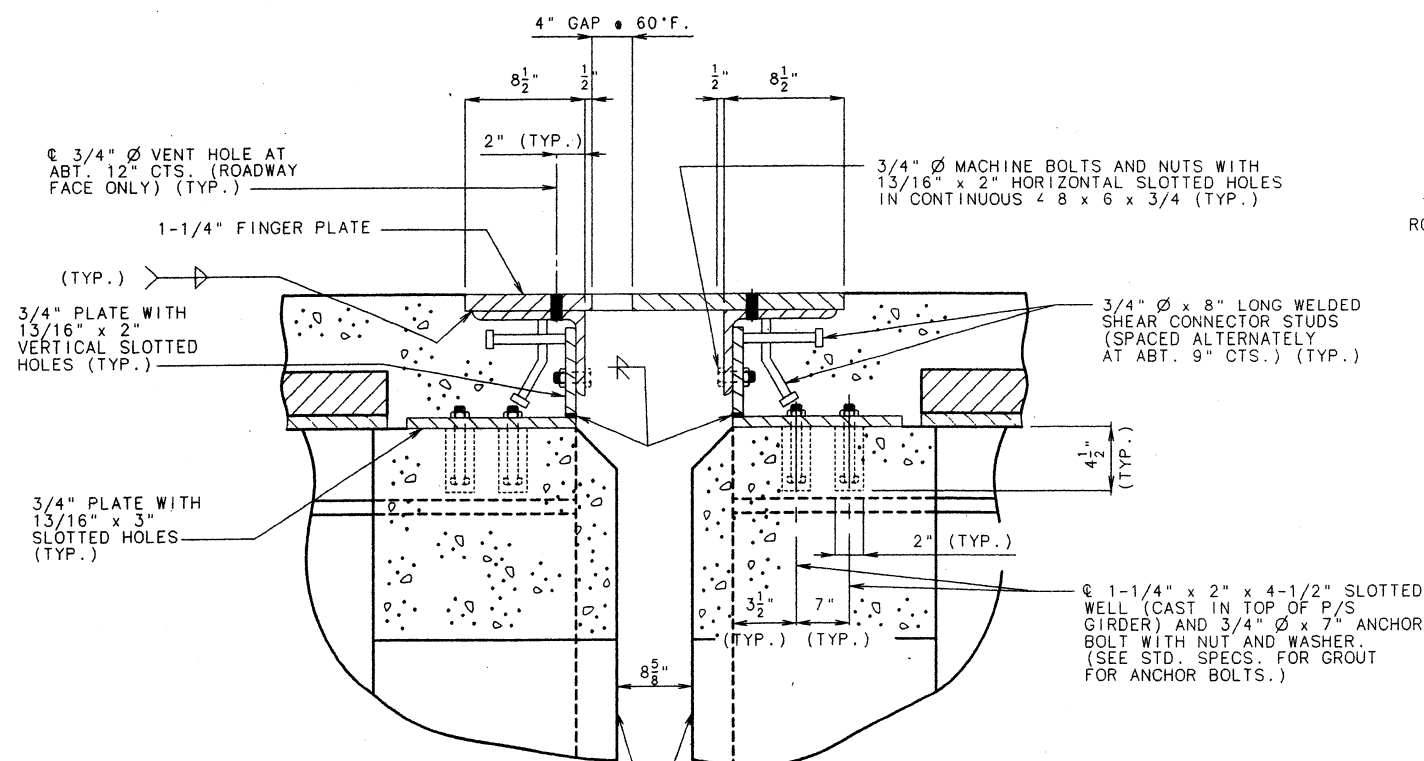
STRUCTURAL STEEL FOR THE EXPANSION DEVICE AND CURB PLATE SHALL BE COATED WITH A MINIMUM OF TWO COATS OF INORGANIC ZINC PRIMER (5 MILS MINIMUM) OR GALVANIZED IN ACCORDANCE WITH ASTM A123. ANCHORS NEED NOT BE PROTECTED FROM OVERSPRAY.

PAYMENT FOR FURNISHING, COATING OR GALVANIZING, AND INSTALLING STRUCTURAL STEEL FOR THE EXPANSION DEVICE WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EXPANSION DEVICE (FINGER PLATE) PER LIN. FT.

1-1/4" FINGER PLATE AND 4 8 x 6 x 3/4 SHALL BE BENT TO CONFORM TO CROWN OF ROADWAY.

LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS SHALL NOT BE MORE THAN 1"± FROM 3/4" VERTICAL PLATE AT EXPANSION DEVICE.

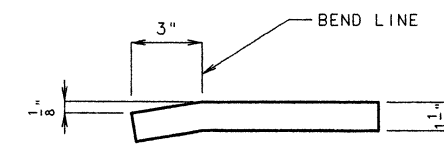
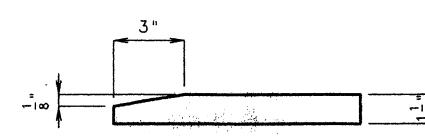
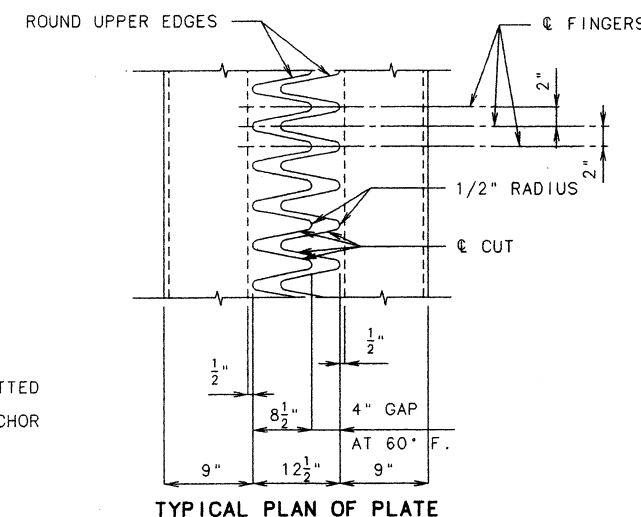
MATERIAL FOR THE EXPANSION DEVICE SHALL BE ASTM A709 GRADE 36 STRUCTURAL STEEL. ANCHORS FOR THE EXPANSION DEVICE SHALL BE APPROVED STUD WELDED ANCHORS (C1010 THRU C1020).



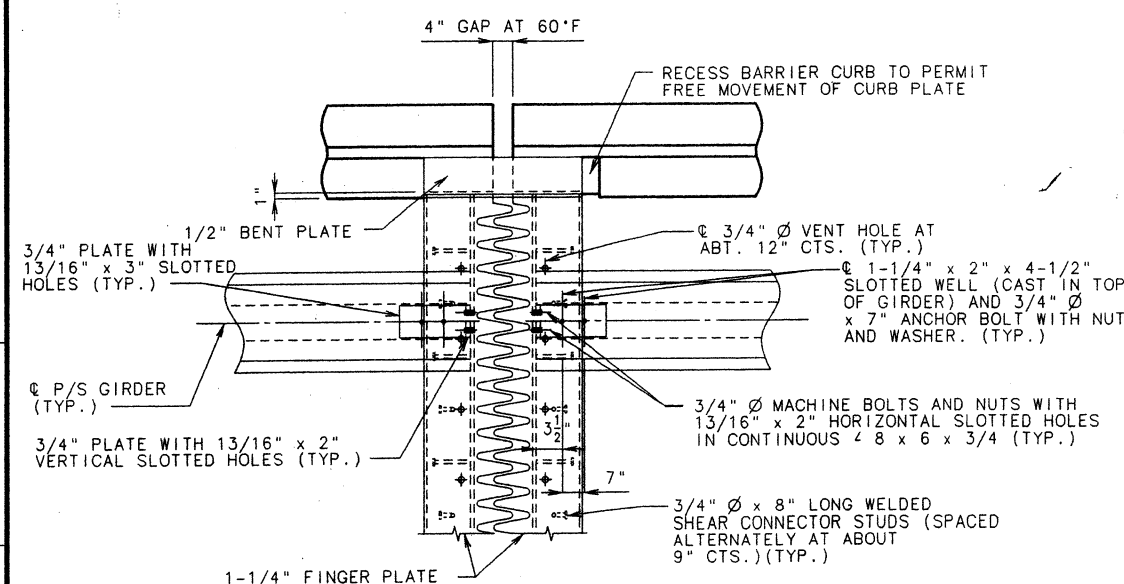
APPLY PROTECTIVE COATING TO EXPOSED CONCRETE SURFACE. (SEE SPECIAL PROVISIONS)

## PART SECTION THRU EXPANSION DEVICE

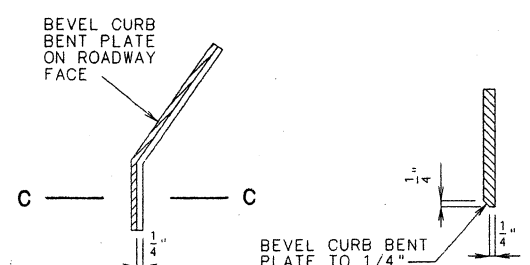
NOTE: CONCRETE SHALL BE FORCED UNDER AND AROUND FINGER PLATE SUPPORTING HARDWARE, STUDS, ANGLES AND BARS. PROPER CONSOLIDATION OF THE CONCRETE SHALL BE ACHIEVED BY LOCALIZED INTERNAL VIBRATION.



## OPTIONAL FINGER DETAIL

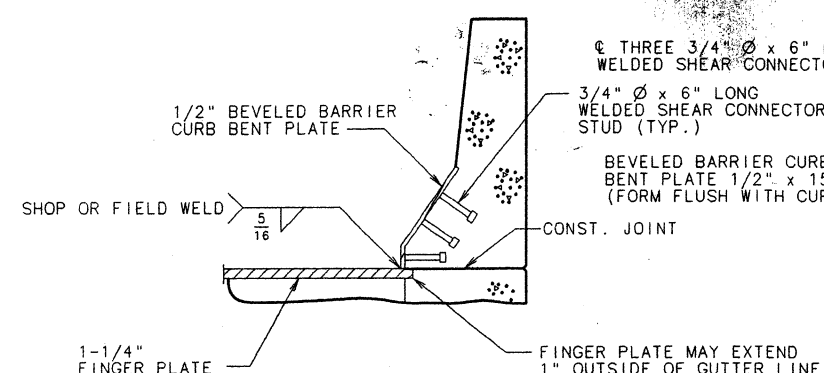


## PART PLAN OF EXPANSION DEVICE



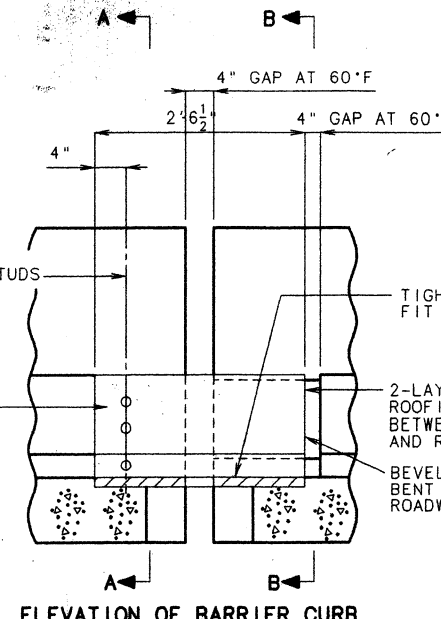
## PART ELEVATION AT END OF BEVELED CURB BENT PLATE

## SECTION C-C

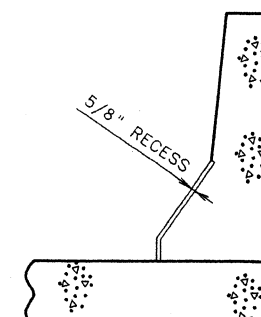


## PART SECTION A-A

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
Signature: [Signature] Date: 4-23-91



## ELEVATION OF BARRIER CURB



## PART SECTION B-B



DATE 5-1-98

# DETAILS OF FINGER PLATE EXPANSION DEVICE AT INT. BENTS NO. 5 & 11

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 65 OF 93.

JACKSON

COUNTY

A5496

FIN 27, SQ, P/S, I, D  
P/S INT BENT (SQ) REVISED  
JAN. 1992  
Aug. 1996

DETAILED JAN. 1998  
CHECKED MAR. 1998

**GENERAL NOTES:**

EXPANSION DEVICE SHALL BE FABRICATED IN ONE SECTION, EXCEPT FOR STAGE CONSTRUCTION AND WHEN THE LENGTH IS OVER 50 FEET. SPlicing IS PERMISSIBLE. THE EXPANSION DEVICE SHALL BE BENT TO CONFORM TO CROWN OF ROADWAY.

MATERIAL FOR THE EXPANSION DEVICE SHALL BE ASTM A709 GRADE 36 STRUCTURAL STEEL. ANCHORS FOR THE EXPANSION DEVICE SHALL BE APPROVED STUD-WELDED ANCHORS (C1010 THRU C1020).

STRUCTURAL STEEL FOR THE EXPANSION DEVICE 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.

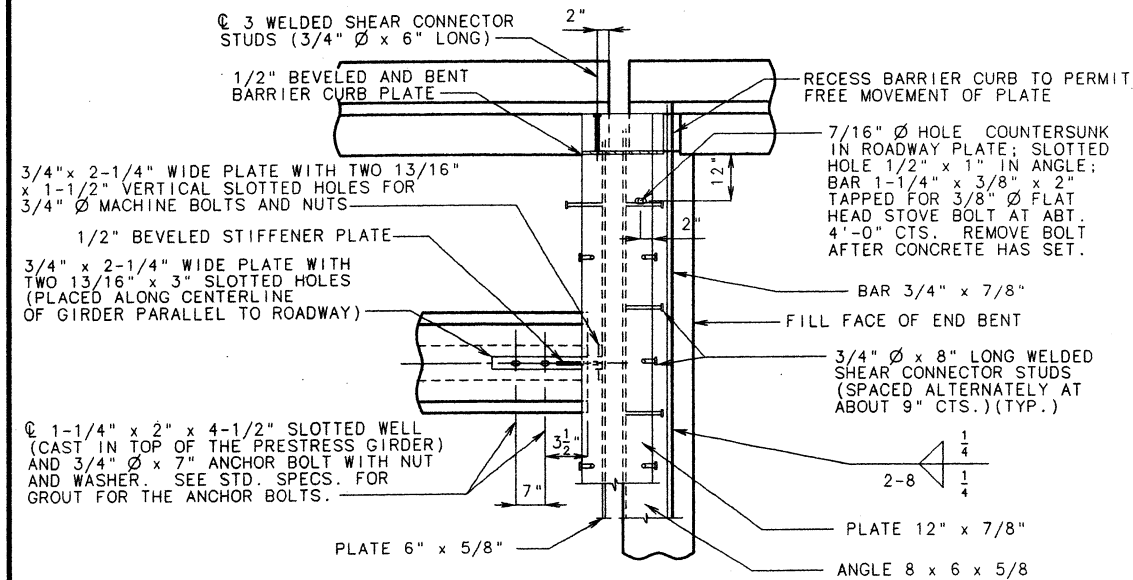
USE 2 LAYERS OF 50# ROOFING FELT BETWEEN THE SLIDING CONTACT SURFACES OF BEVELED BARRIER CURB BENT PLATE AND CONCRETE BARRIER CURB.

PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F. THE EXPANSION GAP AND OTHER DIMENSIONS SHALL BE INCREASED 1/4" FOR EACH 10° FALL AND DECREASED 1/4" FOR EACH 10° RISE IN TEMPERATURE AT INSTALLATION.

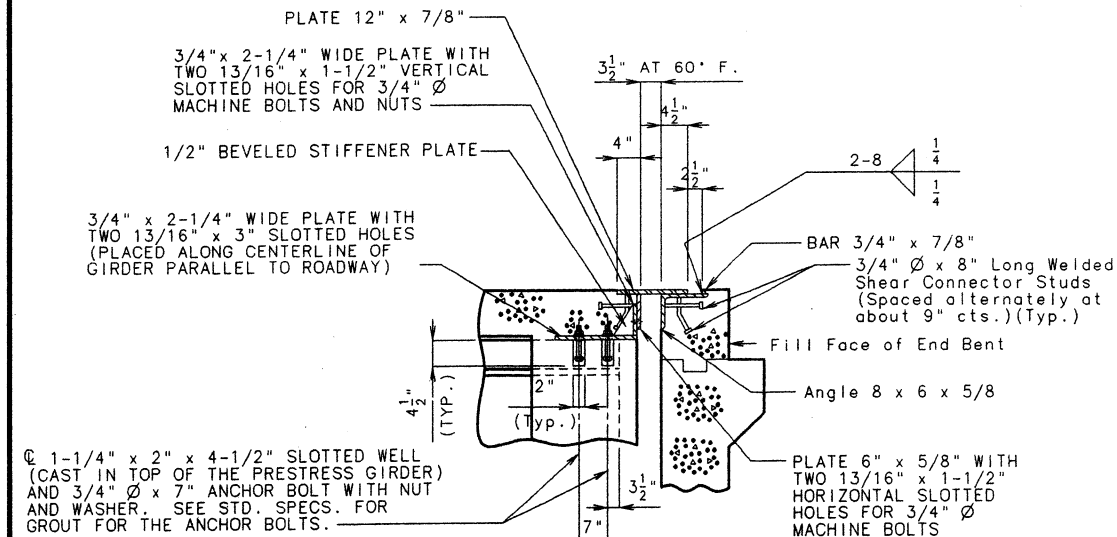
FURNISHING, COATING OR GALVANIZING AND INSTALLING THE EXPANSION DEVICE AND BARRIER CURB PLATES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR FLAT PLATE EXPANSION DEVICE.

CONCRETE SHALL BE FORCED UNDER AND AROUND FLAT PLATE, STUDS AND ANGLES. PROPER CONSOLIDATION OF THE CONCRETE SHALL BE ACHIEVED BY LOCALIZED INTERNAL VIBRATION.

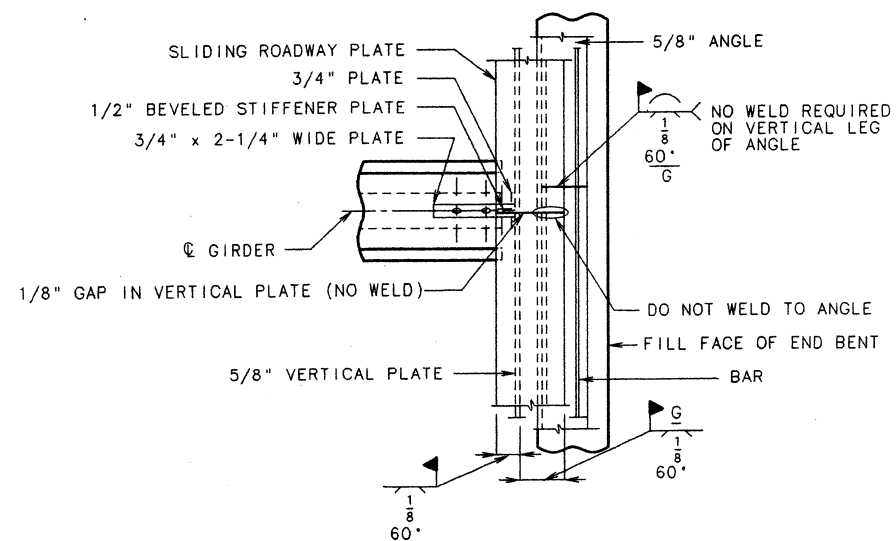
LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS SHALL NOT BE MORE THAN 1"± FROM 3/4" VERTICAL PLATE AT EXPANSION DEVICE.



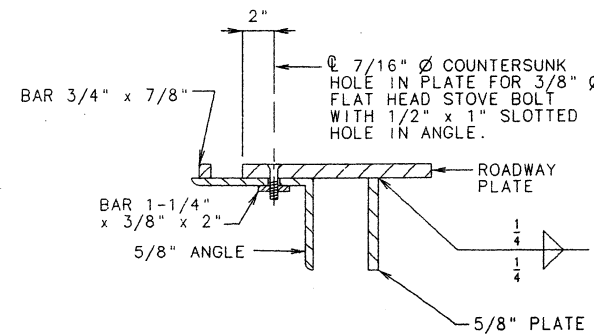
**PART PLAN**



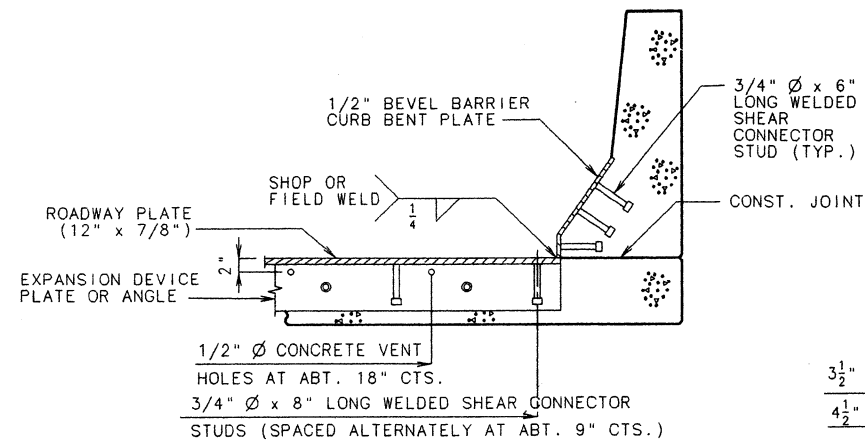
**PART SECTION AT END BENT**



**PERMISSIBLE FIELD SPLICE AT END BENT**

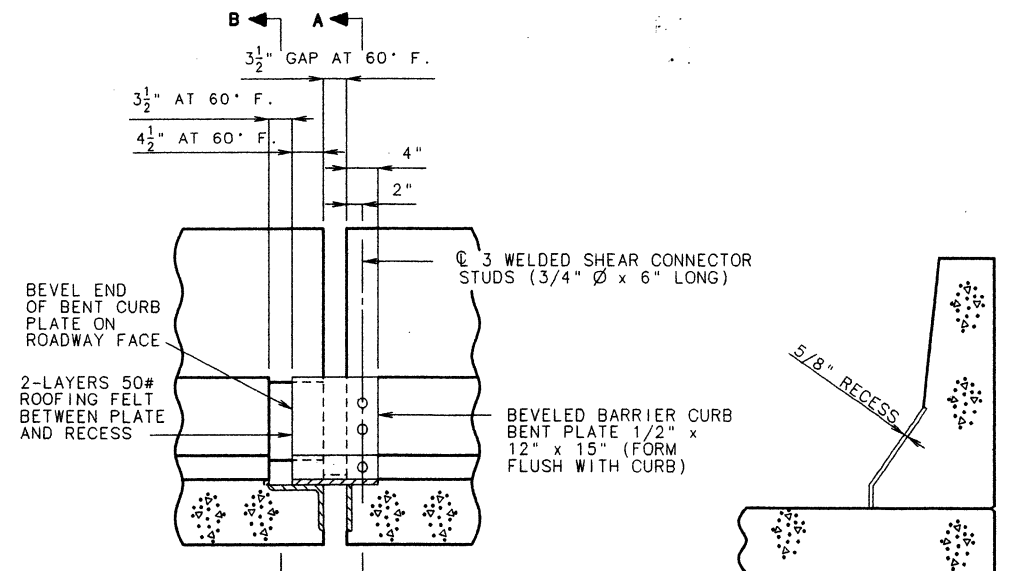


**PART SECTION (TYPICAL)**

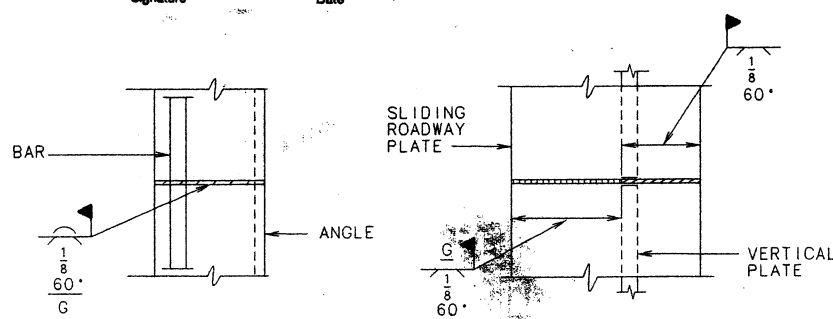


**PART SECTION A-A**

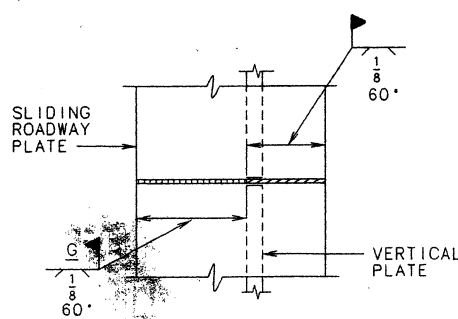
**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
 M. A. S. L. 4-23-01  
 Signature Date



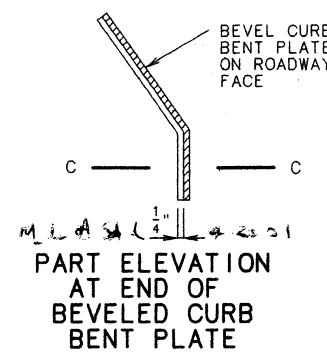
**PART SECTION B-B**



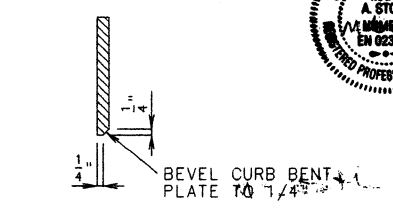
**PART PLAN OF ANGLE AND BAR**



**PART PLAN ROADWAY PLATE AND VERTICAL PLATE**



**PART ELEVATION AT END OF BEVELED CURB BENT PLATE**



**SECTION C-C**

**DETAILS OF FLAT PLATE EXPANSION DEVICE AT END BENT NO. 17**



DATE 5-1-98

FPE 9, 3.5 SQ.P/S,E,A  
 P/S END BENT (3-1/2")  
 (SQ) FEB. 1970  
 REVISED  
 Aug. 1996

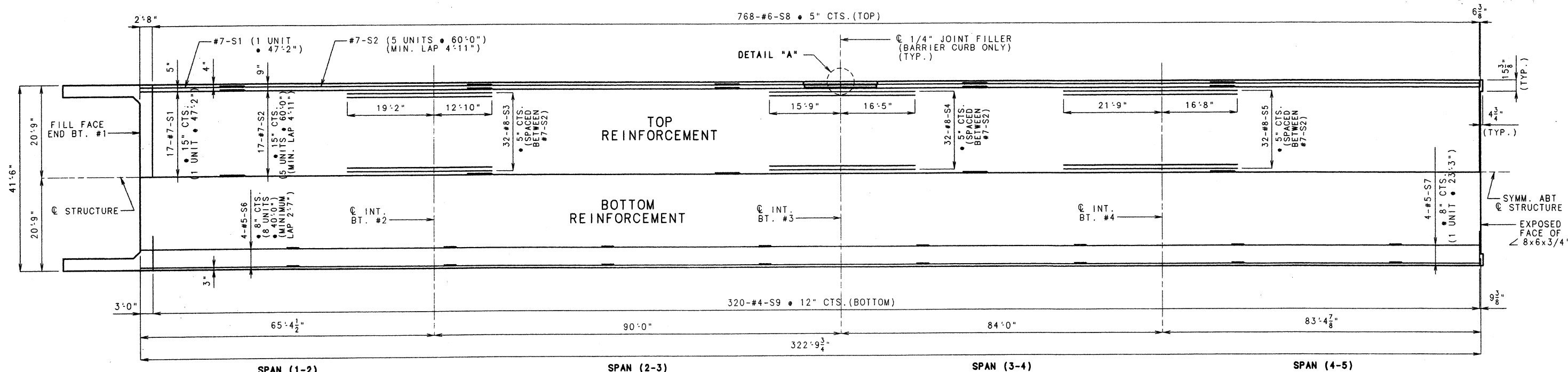
DETAILED JAN. 1998  
 CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

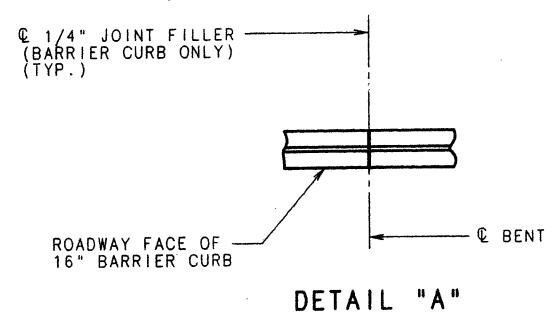
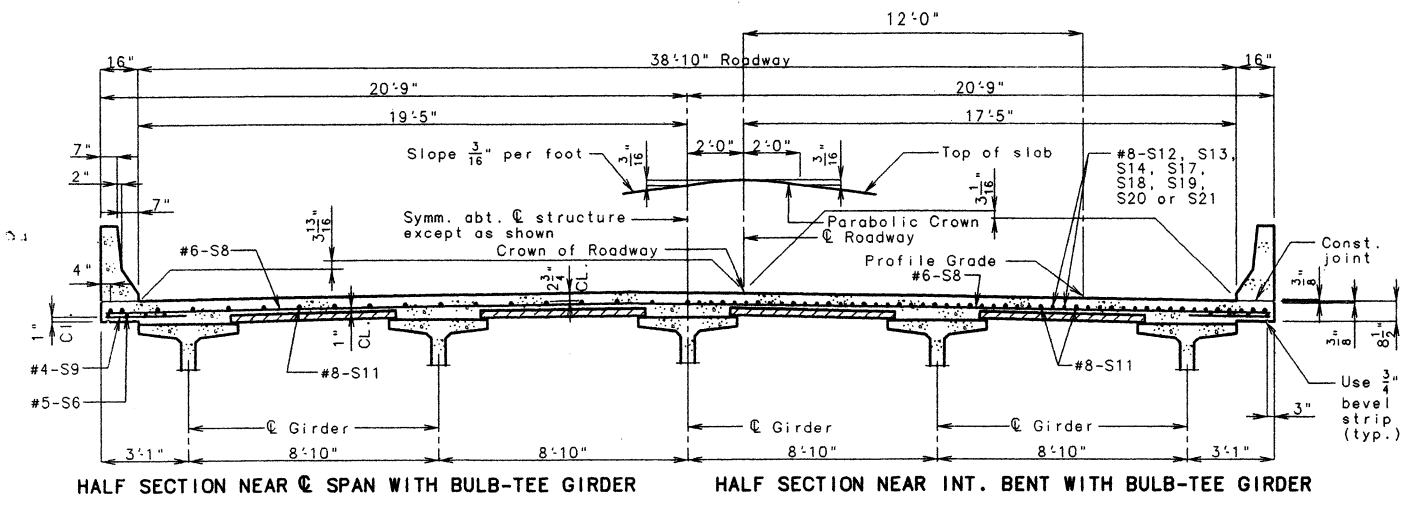
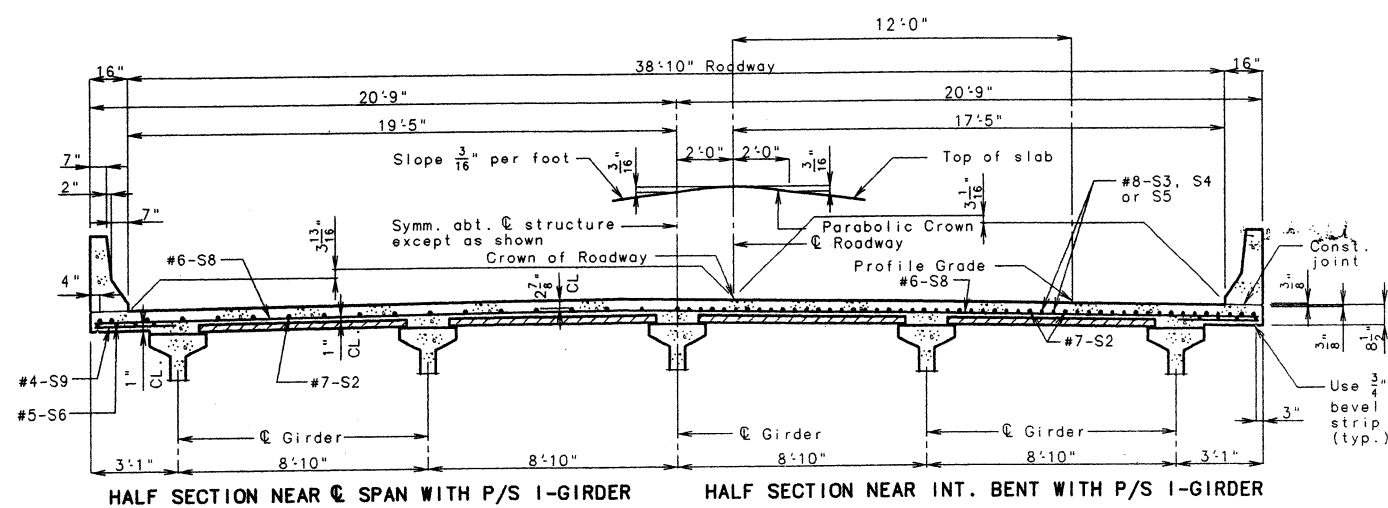
SHEET NO. 66 OF 93.

JACKSON COUNTY A5496





PART PLAN OF SLAB SHOWING REINFORCEMENT



**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. J. S. H.* Date: *4-22-01*

**NOTE:**  
 LONGITUDINAL REINFORCING STEEL SHALL BE PLACED SO THAT ENDS SHALL NOT BE MORE THAN 1"± FROM 3/4" VERTICAL PLATE AT EXPANSION DEVICE.

LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL.

FOR DETAILS OF SLAB DRAINS, SEE SHEET NO. 75.

FOR DETAILS AND REINFORCEMENT OF SAFTY BARRIER CURB, SEE SHEETS NO. 78, 79 & 80.

FOR DETAILS OF FINGER PLATE EXPANSION DEVICE, SEE SHEET NO. 65.

FOR SLAB POURING SEQUENCE, SEE SHEET NO. 71.

FOR THEORETICAL SLAB HAUNCHING DIAGRAM, SEE SHEET NO. 72.

FOR DETAILS OF FLAT PLATE EXPANSION DEVICE, SEE SHEET NO. 66.

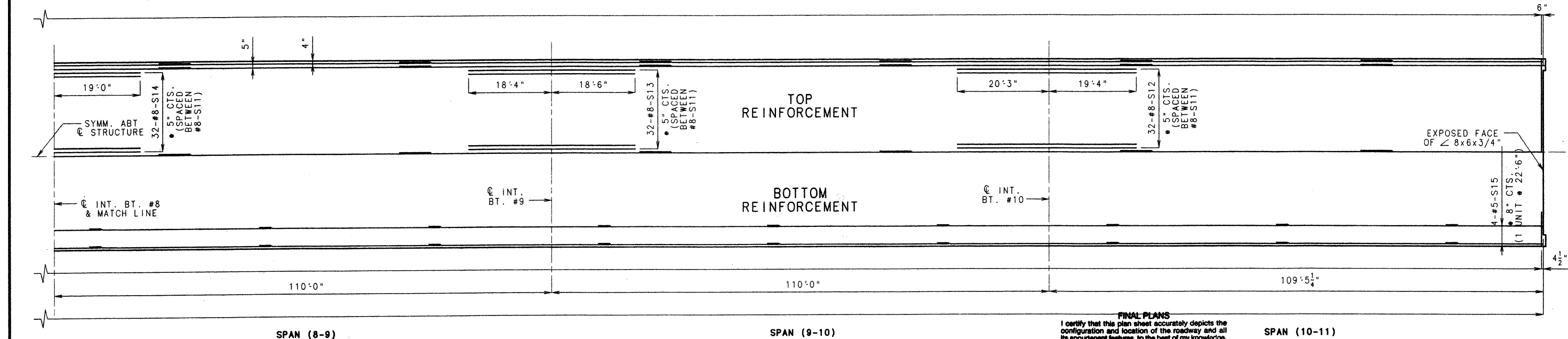
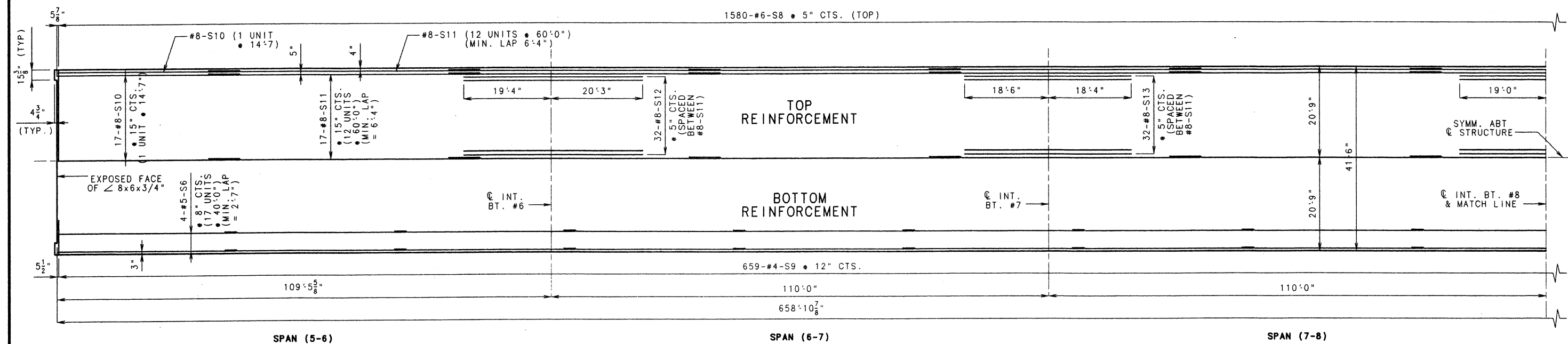


DETAILED JAN. 1998  
 CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 67 OF 93.

JACKSON COUNTY A5496



# PART PLAN OF SLAB SHOWING REINFORCEMENT

**FINAL PLANS**  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

*M. A. S. L.* 4-23-01  
 Signature Date



FOR SECTION VIEW SEE SHEET NO. 67.

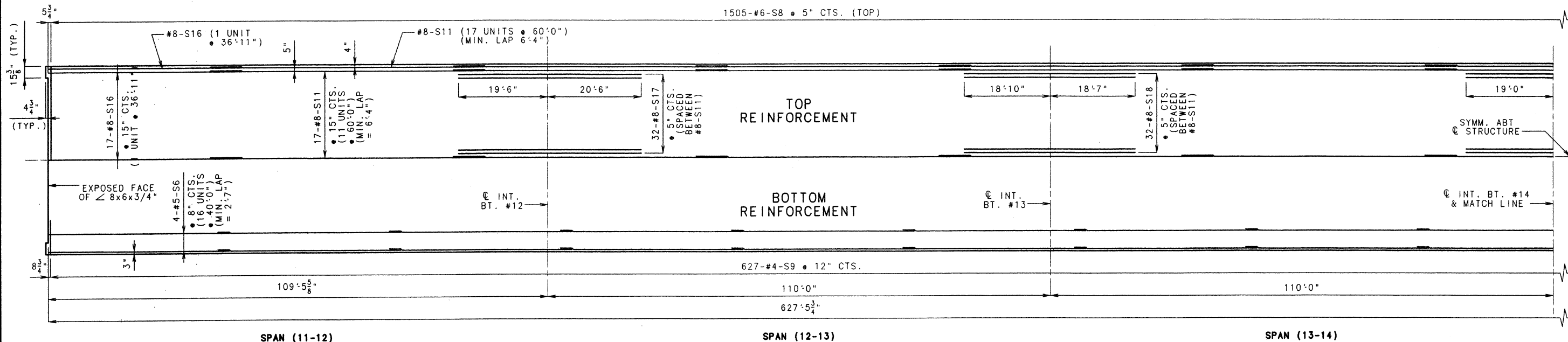
DATE 5-1-98

DETAILED JAN. 1998  
 CHECKED MAR. 1998

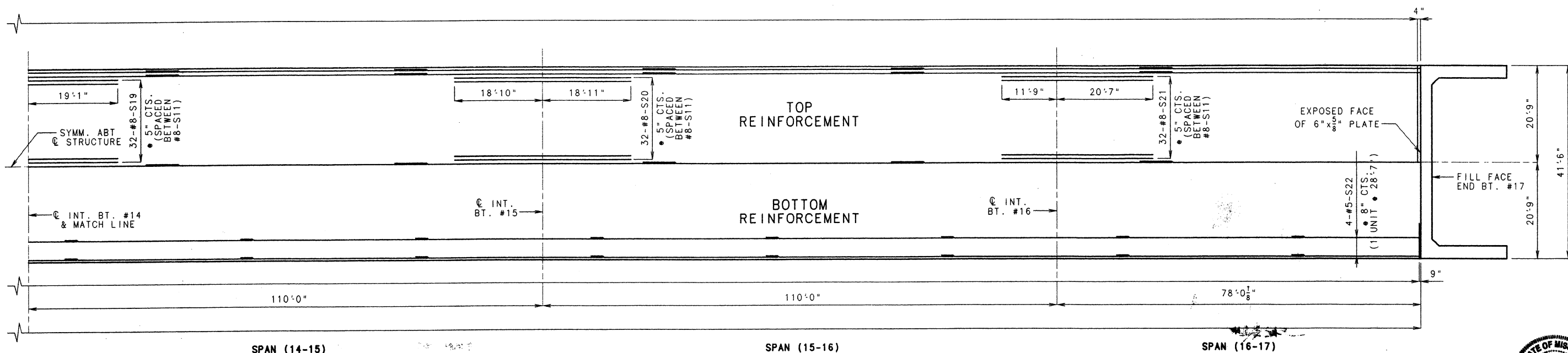
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 68 OF 93.

JACKSON COUNTY A5496



NOTE: LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL



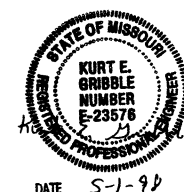
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Signature: M. J. A. S. L. Date: 4-23-98



### PART PLAN OF SLAB SHOWING REINFORCEMENT

FOR SECTION VIEW, SEE SHEET NO. 67.



DATE: 5-1-98

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 69 OF 93.

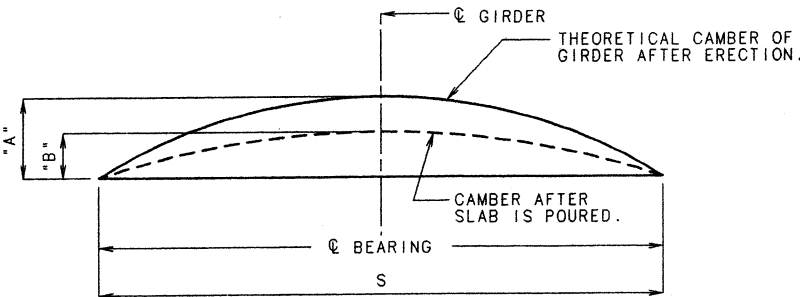
JACKSON COUNTY

A5496





GIRDERS	SPAN (1-2)		SPAN (2-3)		SPANS (3-4) & (4-5)		SPAN (5-6)		SPANS (6-7), (7-8), (8-9) & (9-10)		SPANS (10-11), (11-12)		SPANS (12-13), (13-14), (14-15) & (15-16)		SPAN (16-17)	
	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"
Exterior	$\frac{7}{8}$ "	$\frac{5}{8}$ "	$2\frac{1}{4}$ "	$1\frac{3}{16}$ "	$2\frac{1}{8}$ "	$1\frac{3}{8}$ "	$2\frac{9}{16}$ "	$1\frac{5}{8}$ "	$2\frac{5}{16}$ "	$1\frac{3}{8}$ "	$2\frac{9}{16}$ "	$1\frac{5}{8}$ "	$2\frac{5}{16}$ "	$1\frac{3}{8}$ "	$\frac{3}{4}$ "	$\frac{1}{2}$ "
Interior	$\frac{7}{8}$ "	$\frac{1}{2}$ "	$2\frac{1}{4}$ "	$\frac{7}{8}$ "	$2\frac{1}{8}$ "	$1\frac{1}{8}$ "	$2\frac{9}{16}$ "	$1\frac{7}{16}$ "	$2\frac{5}{16}$ "	$1\frac{1}{8}$ "	$2\frac{9}{16}$ "	**	$2\frac{5}{16}$ "	$1\frac{1}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{16}$ "
Center	$\frac{7}{8}$ "	$\frac{9}{16}$ "	$2\frac{1}{4}$ "	1"	$2\frac{1}{8}$ "	$1\frac{3}{16}$ "	$2\frac{9}{16}$ "	$1\frac{1}{2}$ "	$2\frac{5}{16}$ "	$1\frac{1}{4}$ "	$2\frac{9}{16}$ "	$1\frac{1}{2}$ "	$2\frac{5}{16}$ "	$1\frac{3}{16}$ "	$\frac{3}{4}$ "	$\frac{7}{16}$ "



CONVERSION FACTORS FOR GIRDER CAMBER		
FROM BEARING	CAMBER	
0.1 PT	0.314 x CAMBER AT G GIRDER	
0.2 PT	0.593 x CAMBER AT G GIRDER	
0.25 PT	0.7125 x CAMBER AT G GIRDER	
0.3 PT	0.813 x CAMBER AT G GIRDER	
0.4 PT	0.952 x CAMBER AT G GIRDER	

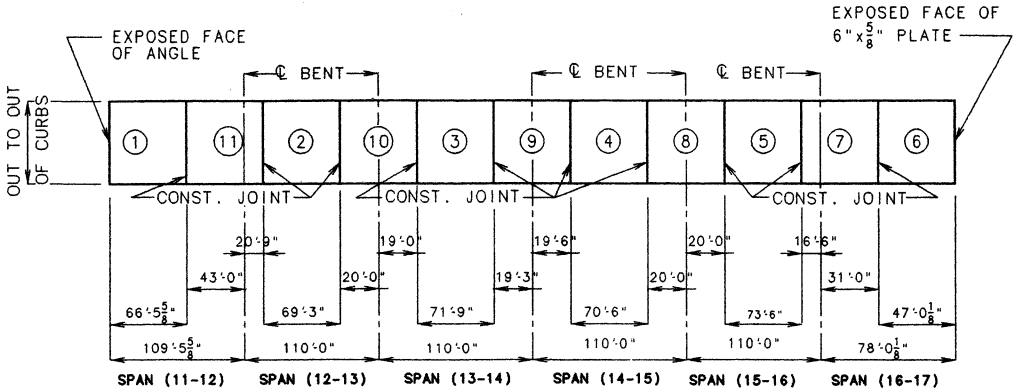
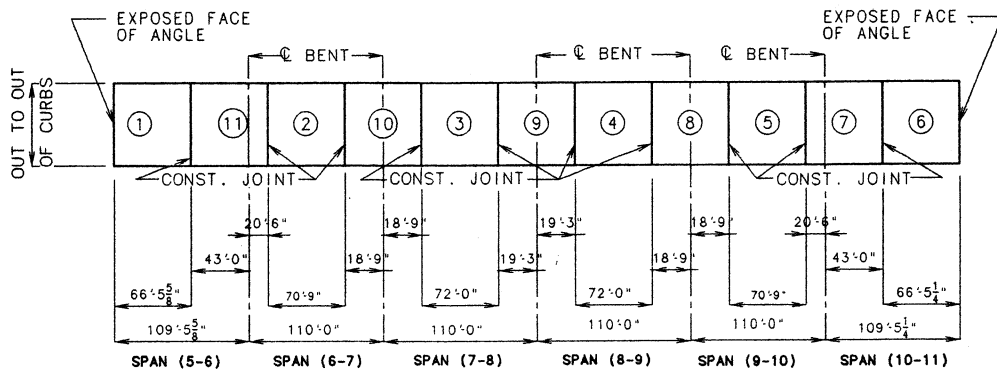
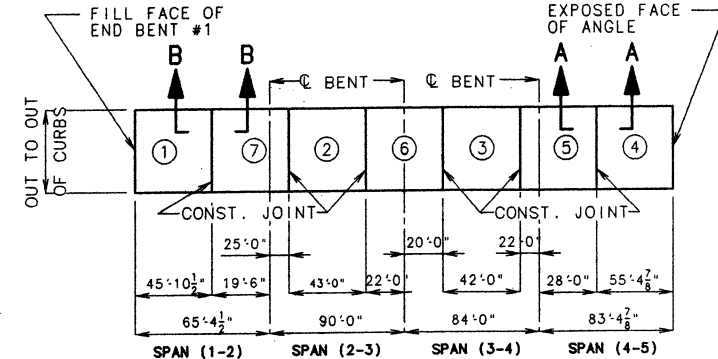
GIRDER CAMBER DIAGRAM

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. J. Sullivan* Date: 4-23-01

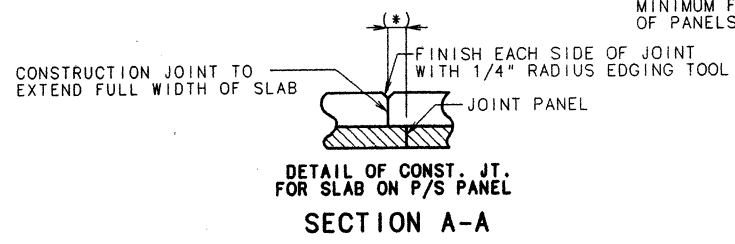
NOTE: IF GIRDER CAMBER IS DIFFERENT FROM THAT SHOWN IN THE CAMBER DIAGRAM, IT SHALL BE NECESSARY TO ADJUST THE SLAB HAUNCHES, INCREASE THE SLAB THICKNESS OR TO RAISE THE GRADE UNIFORMLY THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE MADE FOR ADDITIONAL LABOR OR MATERIALS REQUIRED FOR VARIATION IN HAUNCHING, SLAB THICKNESS OF GRADE ADJUSTMENT. CONCRETE IN THE SLAB HAUNCHES IS INCLUDED IN THE ESTIMATED QUANTITIES FOR SLAB ON CONCRETE I-GIRDERS OR SLAB ON BULB-TEE GIRDERS.

\*\*  $1\frac{7}{16}$ " SPAN (10-11)  
 $1\frac{3}{8}$ " SPAN (11-12)



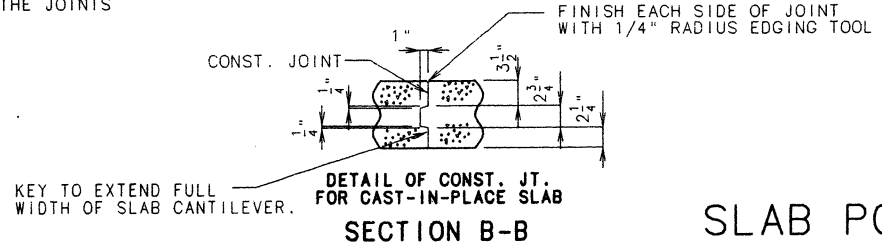
	SEQUENCE OF POURS							MIN. RATE OF POUR CU. YDS./HR.
	DIRECTION							
BASIC SEQUENCE	1	2	3	4	5	6	7	WITH RETARDER
	EITHER DIRECTION							
ALTERNATE POURS TO THE BASIC SKIP SEQUENCE ARE SUBJECT TO THE APPROVAL OF THE ENGINEER IN ACCORDANCE WITH SECTION 703.3.12.4 OF MISSOURI STANDARD SPECIFICATIONS.								
ALTERNATE "A" POURS	1	7 + 2	6 + 3	5 + 4	END TO 7 1 TO 6 2 TO 5 3 TO END			25
ALTERNATE "B" POURS	1 + 7 + 2	6 + 3	5 + 4	END TO 6 2 TO 5 3 TO END			25	
ALTERNATE "C" POURS	1 + 7 + 2	6 + 3 + 5 + 4	END TO 6 2 TO END			25		
ALTERNATE "D" POURS	1 + 7 + 2 + 6 + 3 + 5 + 4	END TO END					25	

SLAB POURING SEQUENCE  
SPANS (1-2), (2-3), (3-4) & (4-5)



BASIC SEQUENCE	SEQUENCE OF POURS											MIN. RATE OF POUR CU. YDS./HR.	
	DIRECTION											WITH RETARDER	
	1	2	3	4	5	6	7	8	9	10	11	25	
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	11 + 2	10 + 3	9 + 4	8 + 5	7 + 6	END TO 11 1 TO 10 2 TO 9 3 TO 8 4 TO 7 5 TO END						27
ALTERNATE "B" POURS	1 + 11 + 2 + 10	END TO 3		3 + 9 + 4			10 TO 8			8 + 5 + 7 + 6		4 TO END	27
ALTERNATE "C" POURS	1 + 11 + 2 + 10 + 3 + 9	END TO 4				4 + 8 + 5 + 7 + 6			9 TO END				27
ALTERNATE "D" POURS	1 + 11 + 2 + 10 + 3 + 9 + 4 + 8 + 5 + 7 + 6					END TO END							27

SLAB POURING SEQUENCE  
SPANS (5-6), (6-7), (7-8), (8-9), (9-10) & (10-11)



		SEQUENCE OF POURS										MIN. RATE OF POUR CU. YDS./HR.
		DIRECTION										WITH RETARDER
BASIC SEQUENCE	1	2	3	4	5	6	7	8	9	10	11	25
	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	11 + 2		10 + 3		9 + 4		8 + 5		7 + 6		27
	END TO 11	1 TO 10		2 TO 9		3 TO 8		4 TO 7		5 TO END		
ALTERNATE "B" -POURS	1 + 11 + 2 + 10			3 + 9 + 4				8 + 5 + 7 + 6				27
	END TO 3			10 TO 8				4 TO END				
ALTERNATE "C" POURS	1 + 11 + 2 + 10 + 3 + 9					4 + 8 + 5 + 7 + 6					27	
	END TO 4					9 TO END						
ALTERNATE "D" -POURS	1 + 11 + 2 + 10 + 3 + 9 + 4 + 8 + 5 + 7 + 6										27	
	END TO END											

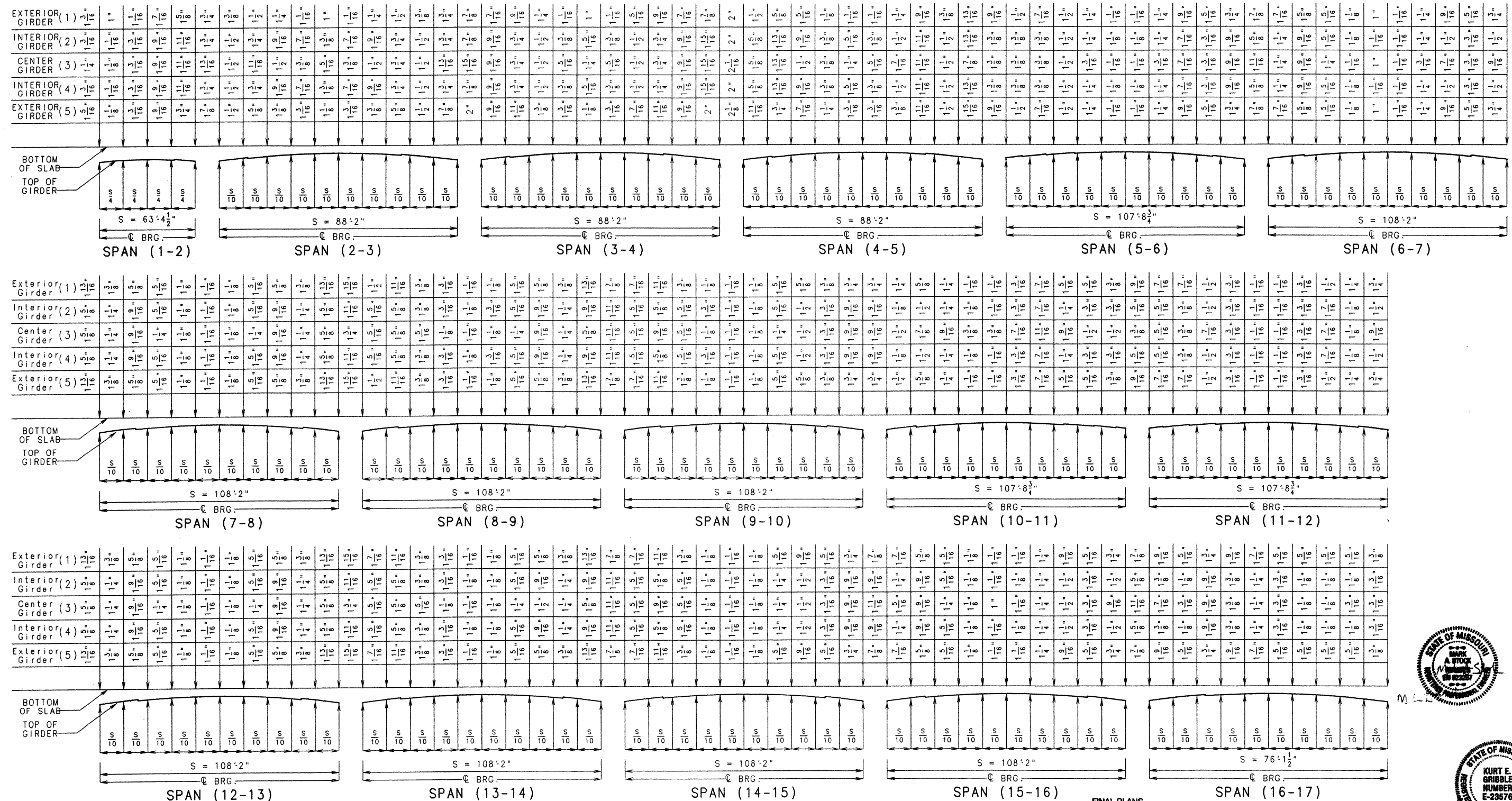
SLAB POURING SEQUENCE  
SPANS (11-12), (12-13), (13-14), (14-15), (15-16) & (16-17)

NOTE: THE CONTRACTOR SHALL FURNISH AN APPROVED RETARDER TO RETARD THE SET OF THE CONCRETE TO 2.5 HOURS AND SHALL POUR AND SATISFACTORILY FINISH THE SLAB POURS AT THE RATE GIVEN.

THE CONCRETE DIAPHRAGM AT THE INTERMEDIATE BENTS AND INTEGRAL END BENT SHALL BE POURED A MINIMUM OF 30 MINUTES AND A MAXIMUM OF 2 HOURS BEFORE THE SLAB IS POURED.

END DIAPHRAGMS AT EXPANSION DEVICES MAY BE POURED WITH A CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND SLAB, OR MONOLITHIC WITH THE SLAB.

SLAB POURING SEQUENCE



NOTE: Longitudinal dimensions are horizontal.

# THEORETICAL SLAB HAUNCHING DIAGRAM

DETAILED JAN. 1998  
 CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 72 OF 93.

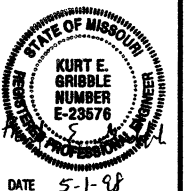
JACKSON

COUNTY

A5496

FINAL PLANS  
 I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M. J. A. S. 4-23-01



DATE 5-1-98

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																												
	SPAN (1-2) (63'-4½" C BRG. - C BRG.)					SPAN (2-3) (88'-2" C BRG. - C BRG.)											SPAN (3-4) (88'-2" C BRG. - C BRG.)											
	C BRG.	.25	.50	.75	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	
GIRDER NO. 1	898.60	898.69	898.78	898.85	898.91	898.92	898.99	899.06	899.12	899.17	899.22	899.26	899.29	899.31	899.33	899.35	899.36	899.46	899.47	899.48	899.51	899.54	899.59	899.64	899.71	899.78	899.76	
GIRDER NO. 2	898.74	898.84	898.92	898.99	899.05	899.06	899.13	899.21	899.28	899.34	899.38	899.42	899.45	899.47	899.48	899.49	899.50	899.60	899.62	899.64	899.67	899.70	899.75	899.80	899.86	899.93	899.90	
GIRDER NO. 3	898.88	898.97	899.06	899.13	899.19	899.19	899.27	899.34	899.41	899.47	899.51	899.55	899.58	899.60	899.61	899.62	899.64	899.74	899.75	899.77	899.80	899.83	899.88	899.93	899.99	900.06	900.04	
GIRDER NO. 4	898.80	898.90	898.99	899.06	899.11	899.12	899.20	899.27	899.34	899.40	899.45	899.48	899.51	899.53	899.54	899.55	899.56	899.64	899.68	899.70	899.73	899.76	899.81	899.86	899.92	899.99	899.96	
GIRDER NO. 5	898.66	898.76	898.84	898.91	898.97	898.98	899.05	899.12	899.18	899.24	899.28	899.32	899.35	899.38	899.40	899.41	899.42	899.49	899.53	899.55	899.57	899.61	899.65	899.71	899.77	899.82	899.82	

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (4-5) (82'-0 $\frac{1}{2}$ " C BRG. - C BRG.)											SPAN (5-6) (107'-8 $\frac{3}{4}$ " C BRG. - C BRG.)											SPAN (6-7) (108'-2" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	899.77	899.87	899.88	899.89	899.92	899.95	900.00	900.05	900.12	900.19	900.17	900.18	900.26	900.33	900.40	900.46	900.52	900.57	900.61	900.65	900.68	900.71	900.72	900.79	900.87	900.94	901.00	901.06	901.11	901.15	901.19	901.22	901.25
GIRDER NO. 2	899.91	900.01	900.03	900.05	900.07	900.11	900.15	900.21	900.27	900.33	900.31	900.32	900.40	900.48	900.56	900.62	900.68	900.73	900.77	900.80	900.82	900.85	900.86	900.94	901.02	901.09	901.16	901.22	901.26	901.30	901.34	901.36	901.38
GIRDER NO. 3	900.04	900.15	900.16	900.18	900.21	900.24	900.29	900.34	900.40	900.47	900.45	900.46	900.54	900.62	900.69	900.75	900.81	900.86	900.90	900.93	900.96	900.99	900.99	901.08	901.15	901.23	901.29	901.35	901.40	901.44	901.47	901.50	901.52
GIRDER NO. 4	899.97	900.05	900.09	900.11	900.14	900.17	900.22	900.27	900.33	900.37	900.37	900.38	900.47	900.54	900.62	900.68	900.74	900.79	900.83	900.86	900.89	900.91	900.92	901.00	901.08	901.15	901.22	901.28	901.33	901.37	901.40	901.42	901.45
GIRDER NO. 5	899.83	899.90	899.94	899.96	899.98	900.01	900.06	900.12	900.18	900.22	900.23	900.24	900.32	900.39	900.46	900.53	900.58	900.63	900.67	900.71	900.74	900.77	900.78	900.86	900.93	901.00	901.06	901.12	901.17	901.21	901.25	901.28	901.31

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (7-8) (108'-2" C BRG. - C BRG.)											SPAN (8-9) (108'-2" C BRG. - C BRG.)											SPAN (9-10) (108'-2" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	901.26	901.33	901.41	901.48	901.54	901.60	901.64	901.69	901.72	901.76	901.78	901.79	901.87	901.94	902.01	902.08	902.13	902.18	902.23	902.26	902.29	902.32	902.33	902.41	902.48	902.55	902.61	902.67	902.72	902.76	902.80	902.83	902.86
GIRDER NO. 2	901.39	901.48	901.56	901.63	901.70	901.75	901.80	901.84	901.87	901.90	901.92	901.93	902.01	902.09	902.17	902.23	902.29	902.34	902.38	902.41	902.44	902.46	902.47	902.55	902.63	902.71	902.77	902.83	902.88	902.92	902.95	902.98	903.00
GIRDER NO. 3	901.53	901.61	901.69	901.76	901.83	901.89	901.93	901.98	902.01	902.04	902.06	902.07	902.15	902.23	902.30	902.37	902.42	902.47	902.51	902.55	902.57	902.60	902.61	902.69	902.77	902.84	902.90	902.96	903.01	903.05	903.08	903.11	903.14
GIRDER NO. 4	901.46	901.54	901.62	901.69	901.76	901.82	901.86	901.90	901.94	901.96	901.99	901.99	902.08	902.16	902.23	902.30	902.35	902.40	902.44	902.47	902.50	902.52	902.53	902.62	902.69	902.77	902.83	902.89	902.94	902.98	903.01	903.04	903.06
GIRDER NO. 5	901.32	901.39	901.47	901.54	901.60	901.66	901.71	901.75	901.79	901.82	901.85	901.86	901.93	902.01	902.08	902.14	902.20	902.25	902.29	902.32	902.36	902.39	902.39	902.47	902.54	902.61	902.68	902.73	902.78	902.83	902.86	902.89	902.92

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)											
	SPAN (10-11) (107'-8 3/4" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	902.87	902.95	903.02	903.09	903.15	903.21	903.26	903.30	903.34	903.37	903.40
GIRDER NO. 2	903.01	903.09	903.17	903.24	903.31	903.37	903.41	903.45	903.49	903.51	903.53
GIRDER NO. 3	903.15	903.25	903.33	903.40	903.47	903.53	903.57	903.61	903.65	903.68	903.70
GIRDER NO. 4	903.07	903.15	903.23	903.31	903.37	903.43	903.48	903.52	903.55	903.57	903.60
GIRDER NO. 5	902.93	903.01	903.08	903.15	903.21	903.27	903.32	903.36	903.40	903.43	903.46

\*\* Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of Slab (including Precast Panel) and Barrier Curb.

NOTE: FOR TYPICAL SLAB ELEVATION DIAGRAM, SEE SHEET NO. 74.

FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature  
Date

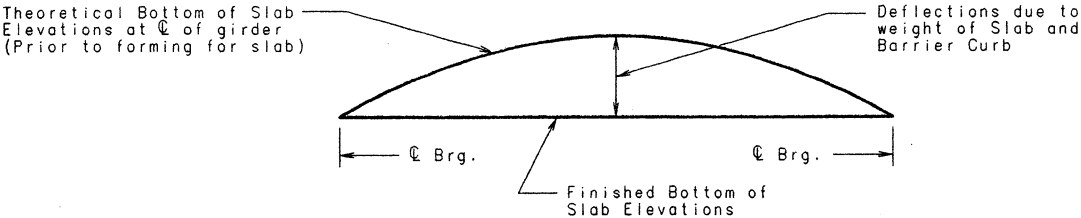


DATE 5-1-98

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (11-12) (107'-8 <sup>3</sup> / <sub>4</sub> " C BRG. - C BRG.)											SPAN (12-13) (108'-2" C BRG. - C BRG.)											SPAN (13-14) (108'-2" C BRG. - C BRG.)										
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	903.41	903.49	903.56	903.63	903.69	903.75	903.80	903.84	903.88	903.91	903.94	903.95	904.02	904.10	904.17	904.23	904.29	904.33	904.38	904.41	904.45	904.47	904.48	904.56	904.63	904.70	904.77	904.82	904.87	904.91	904.95	904.98	905.01
GIRDER NO. 2	903.55	903.63	903.71	903.78	903.85	903.91	903.95	903.99	904.03	904.05	904.07	904.08	904.17	904.25	904.32	904.39	904.44	904.49	904.53	904.56	904.59	904.61	904.62	904.70	904.78	904.86	904.92	904.98	905.03	905.07	905.10	905.13	905.15
GIRDER NO. 3	903.69	903.77	903.85	903.92	903.98	904.04	904.09	904.13	904.16	904.19	904.21	904.22	904.30	904.38	904.45	904.52	904.58	904.62	904.67	904.70	904.73	904.75	904.76	904.84	904.92	904.99	905.06	905.11	905.16	905.20	905.24	905.26	905.29
GIRDER NO. 4	903.61	903.69	903.77	903.85	903.91	903.97	904.02	904.06	904.09	904.11	904.14	904.15	904.23	904.31	904.38	904.45	904.51	904.55	904.59	904.63	904.65	904.67	904.68	904.77	904.85	904.92	904.99	905.04	905.09	905.13	905.16	905.19	905.21
GIRDER NO. 5	903.47	903.55	903.62	903.69	903.75	903.81	903.86	903.90	903.94	903.97	904.00	904.01	904.08	904.16	904.23	904.29	904.35	904.40	904.44	904.48	904.51	904.54	904.55	904.62	904.70	904.77	904.83	904.89	904.93	904.98	905.01	905.05	905.07

** THEORETICAL BOTTOM OF SLAB ELEVATIONS AT C OF GIRDER (PRIOR TO FORMING OF SLAB)																																	
	SPAN (14-15) (108'-2" C BRG. - C BRG.)										SPAN (15-16) (108'-2" C BRG. - C BRG.)										SPAN (16-17) (76'-1½" C BRG. - C BRG.)												
	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.	C BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C BRG.
GIRDER NO. 1	905.02	905.10	905.17	905.24	905.30	905.36	905.41	905.45	905.49	905.52	905.55	905.56	905.64	905.71	905.78	905.84	905.90	905.95	905.99	906.03	906.06	906.09	906.10	906.14	906.18	906.22	906.26	906.30	906.34	906.37	906.41	906.44	906.47
GIRDER NO. 2	905.16	905.24	905.32	905.40	905.46	905.52	905.57	905.61	905.64	905.67	905.69	905.70	905.78	905.86	905.93	906.00	906.06	906.11	906.15	906.18	906.20	906.23	906.23	906.28	906.32	906.37	906.41	906.45	906.48	906.52	906.55	906.58	906.61
GIRDER NO. 3	905.30	905.38	905.46	905.53	905.59	905.65	905.70	905.74	905.77	905.80	905.83	905.84	905.92	905.99	906.07	906.13	906.19	906.24	906.28	906.31	906.34	906.36	906.37	906.42	906.46	906.50	906.54	906.58	906.62	906.65	906.68	906.72	906.75
GIRDER NO. 4	905.22	905.30	905.38	905.46	905.52	905.58	905.63	905.67	905.70	905.73	905.75	905.76	905.84	905.92	906.00	906.06	906.12	906.17	906.21	906.24	906.27	906.29	906.30	906.34	906.39	906.43	906.47	906.51	906.55	906.58	906.61	906.64	906.67
GIRDER NO. 5	905.08	905.16	905.23	905.30	905.37	905.42	905.47	905.52	905.55	905.58	905.61	905.62	905.70	905.77	905.84	905.90	905.96	906.01	906.05	906.09	906.12	906.15	906.16	906.20	906.25	906.29	906.33	906.37	906.40	906.44	906.47	906.50	906.53

\*\* Elevations are based on a constant slab thickness of 8<sup>1</sup>/<sub>2</sub>" and include allowance for theoretical dead load deflections due to weight of Slab (including Precast Panel) and Barrier Curb.



TYPICAL SLAB ELEVATIONS DIAGRAM

FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M. L. ASH  
Signature  
4-23-01  
Date



M. L. ASH



DATE 5-1-98



DETAILED JAN. 1998  
CHECKED MAR. 1998

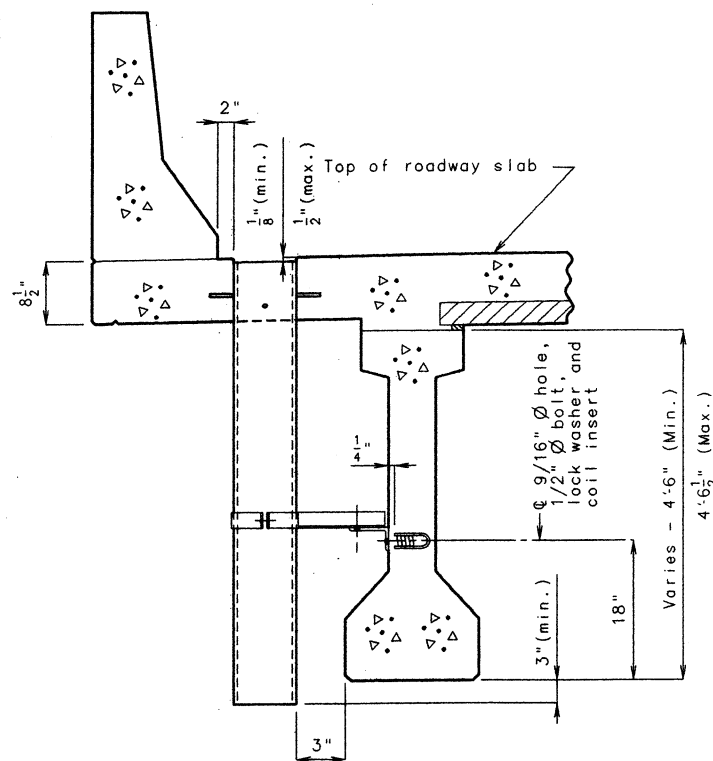
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 75 OF 93.

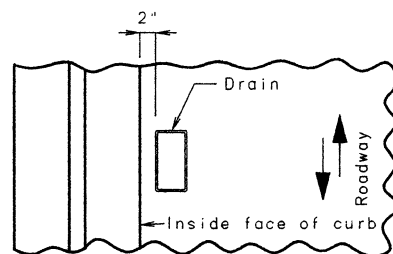
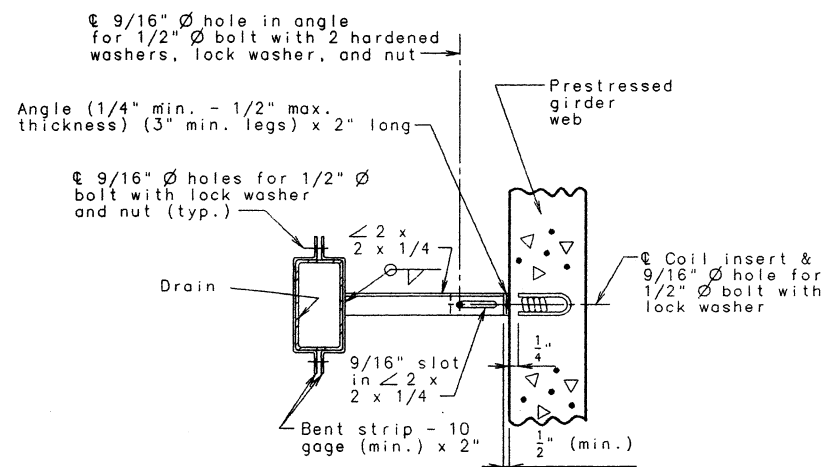
JACKSON COUNTY

A5496

PART SECTION NEAR DRAIN



PART SECTION SHOWING BRACKET ASSEMBLY

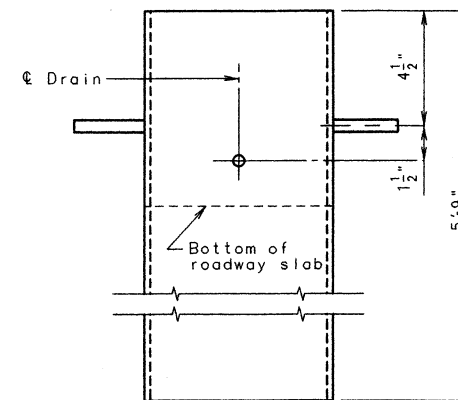


PART PLAN OF SLAB AT DRAIN

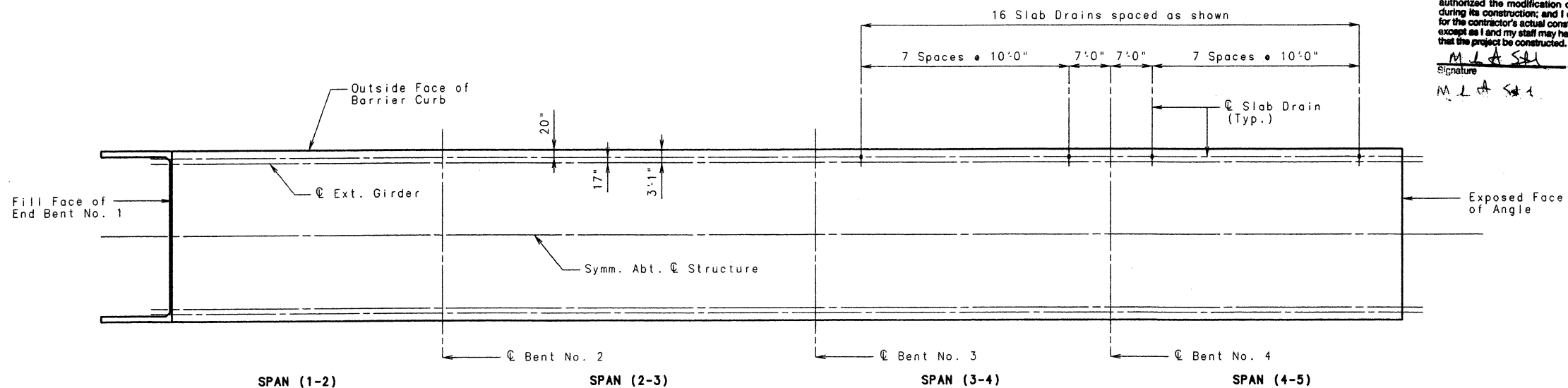
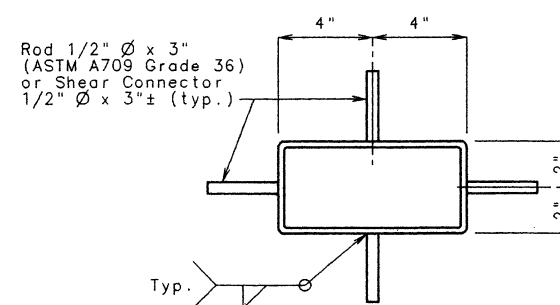
DETAILS OF DRAINS PARALLEL TO ROADWAY

SLAB DRAIN DETAILS FOR PRESTRESSED I-GIRDER

ELEVATION OF DRAIN



PLAN OF DRAIN



PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

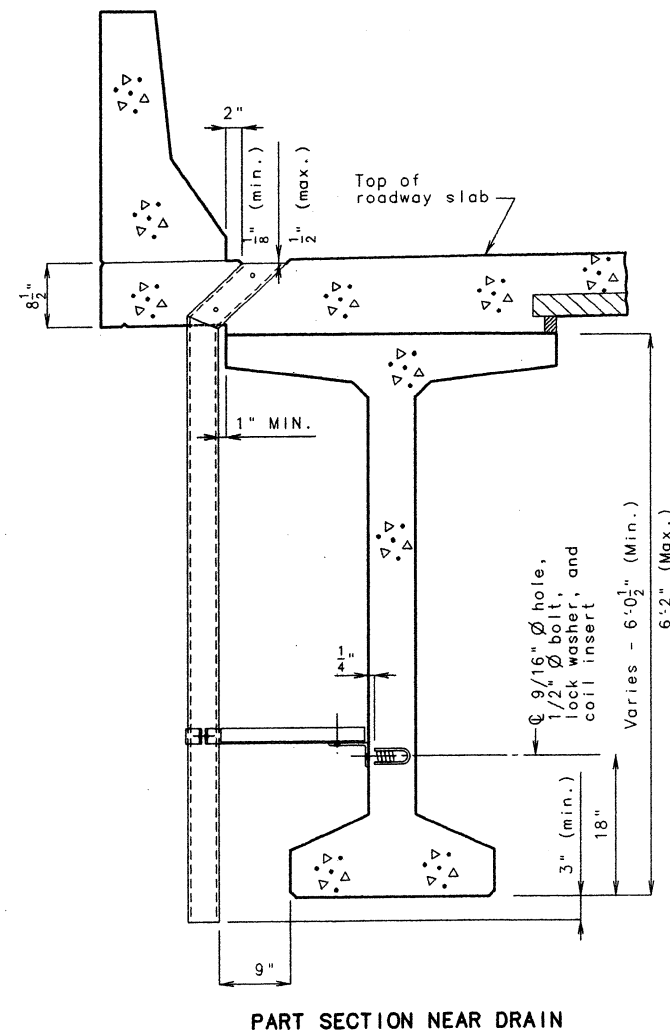
NOTE: Longitudinal dimensions are horizontal.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
Signature: M. L. A. S. H. Date: 4-23-01  
M. L. A. S. H. 4-23-01

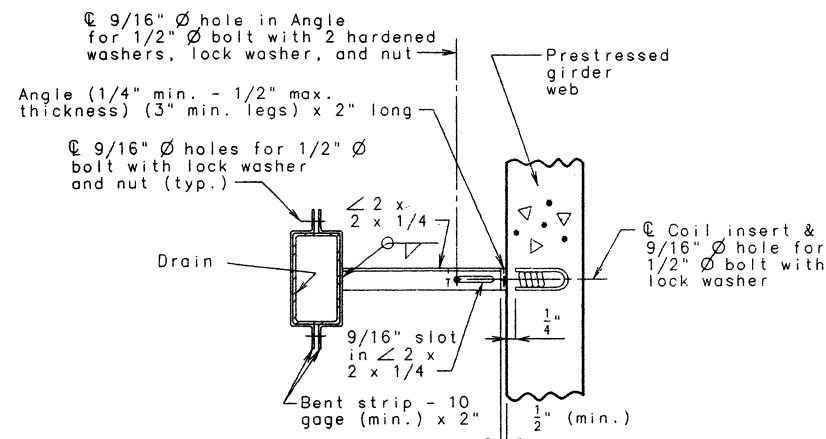


DATE 5-1-98

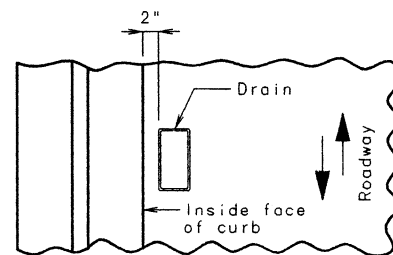
DETAILED JAN. 1998  
CHECKED MAR. 1998



PART SECTION NEAR DRAIN

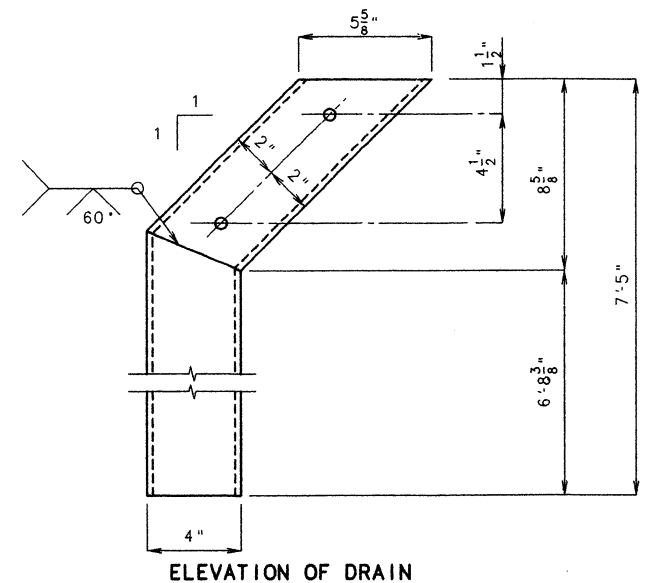


PART SECTION SHOWING BRACKET ASSEMBLY

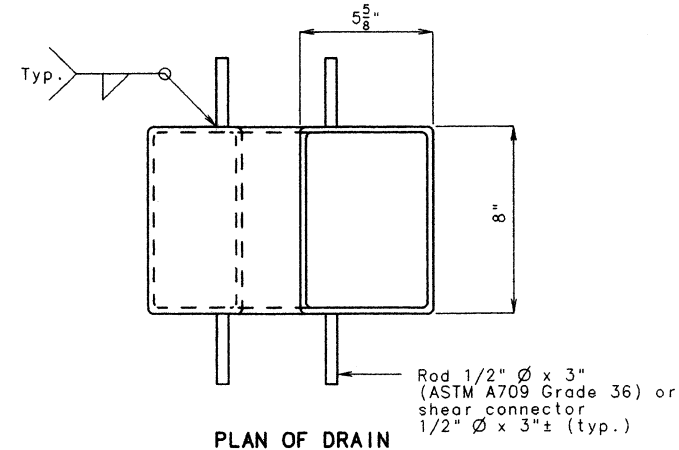


PART PLAN OF SLAB AT DRAIN

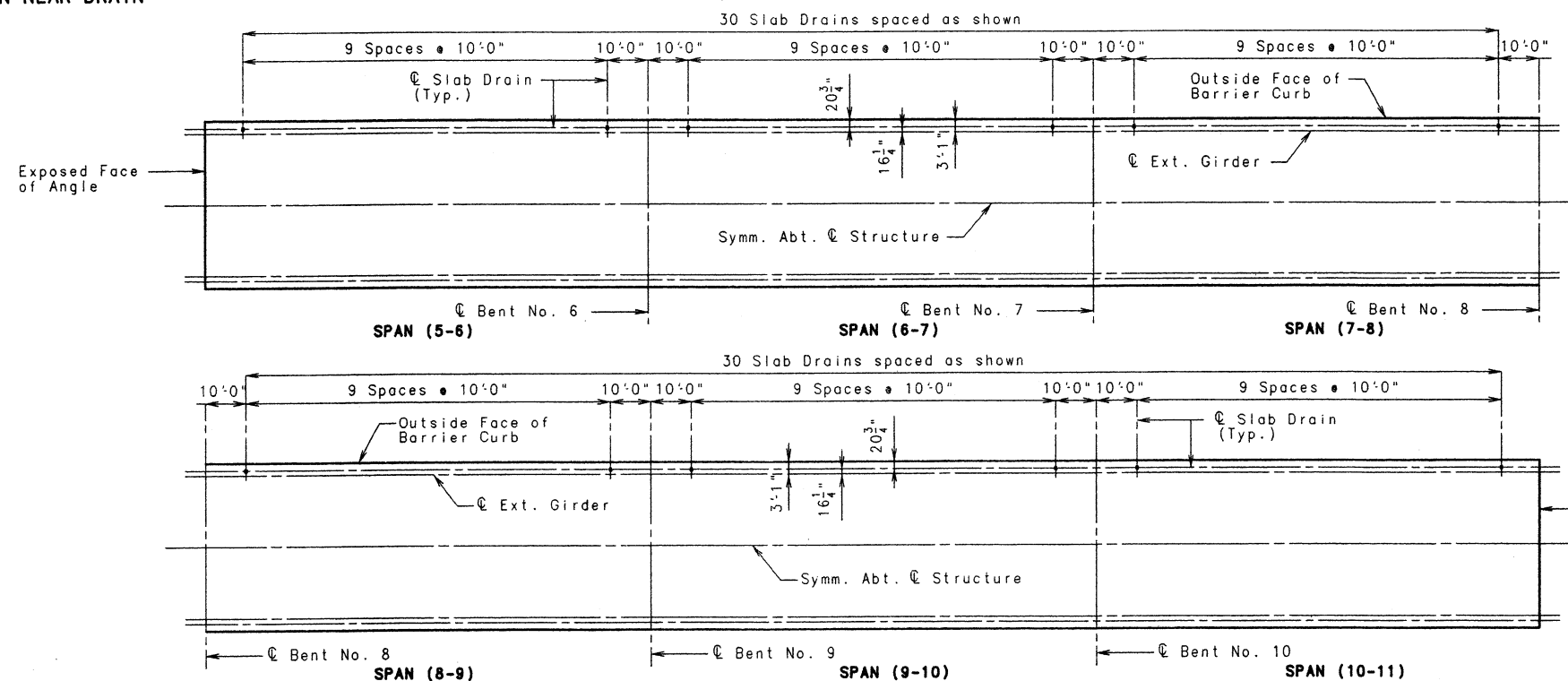
## SLAB DRAIN DETAILS FOR BULB-TEE GIRDER



ELEVATION OF DRAIN



PLAN OF DRAIN



PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: Longitudinal dimensions are horizontal.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. L. S. L.* Date: 4-23-01  
Signature: *M. L. S. L.* Date: 4-23-01



DATE 5-1-98

SHEET NO. 76 OF 93.

JACKSON

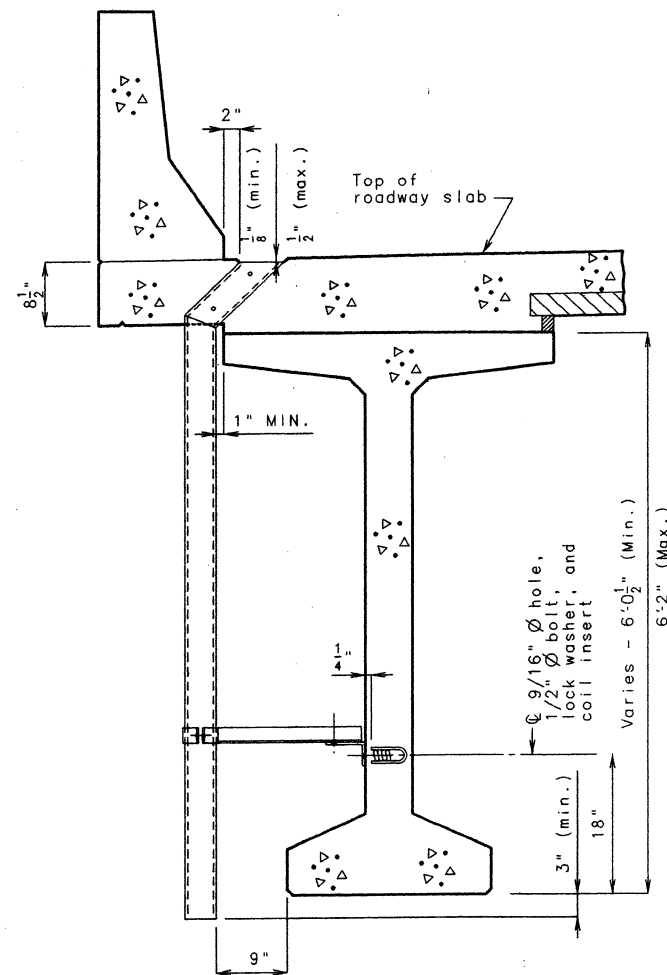
COUNTY

A5496

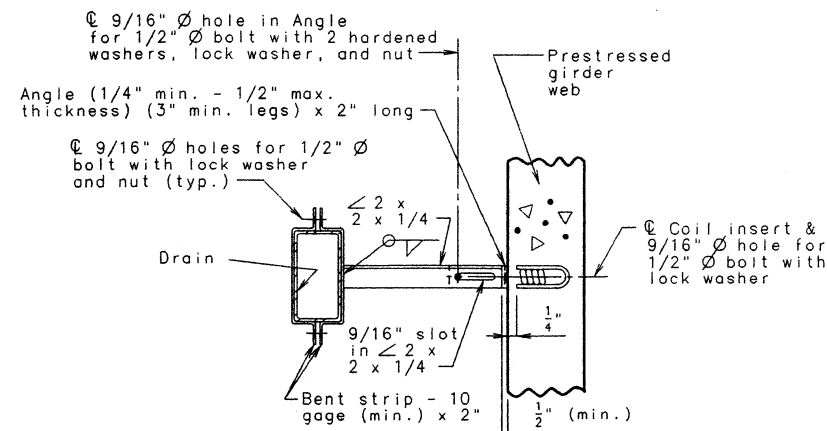
DRA 5 .GS 3.30.P/S.B.B  
P/S Bulb Tee Angle Drain  
Revised  
September 1994  
Aug. 1996

DETAILED JAN. 1998  
CHECKED MAR. 1998

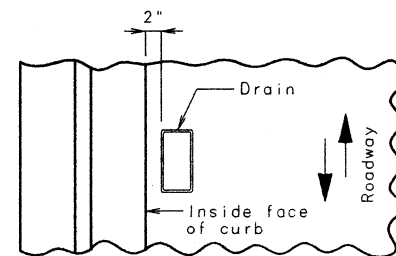
September 1994  
Aug. 1996



PART SECTION NEAR DRAIN

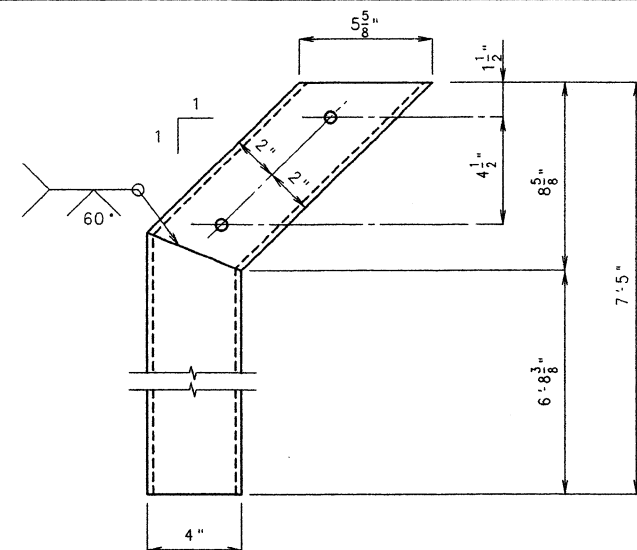


PART SECTION SHOWING BRACKET ASSEMBLY

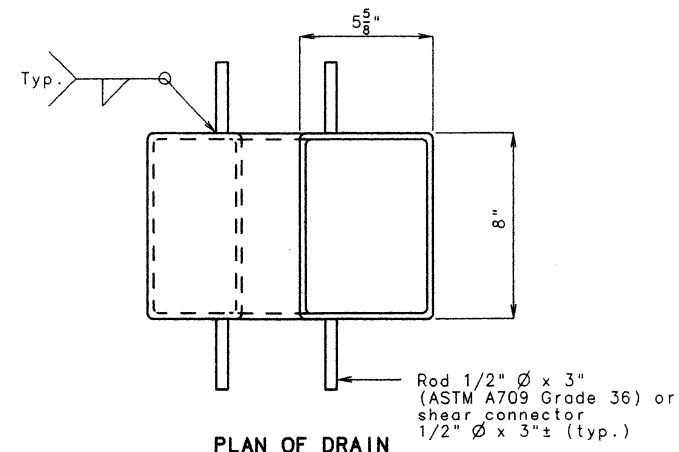


PART PLAN OF SLAB AT DRAIN

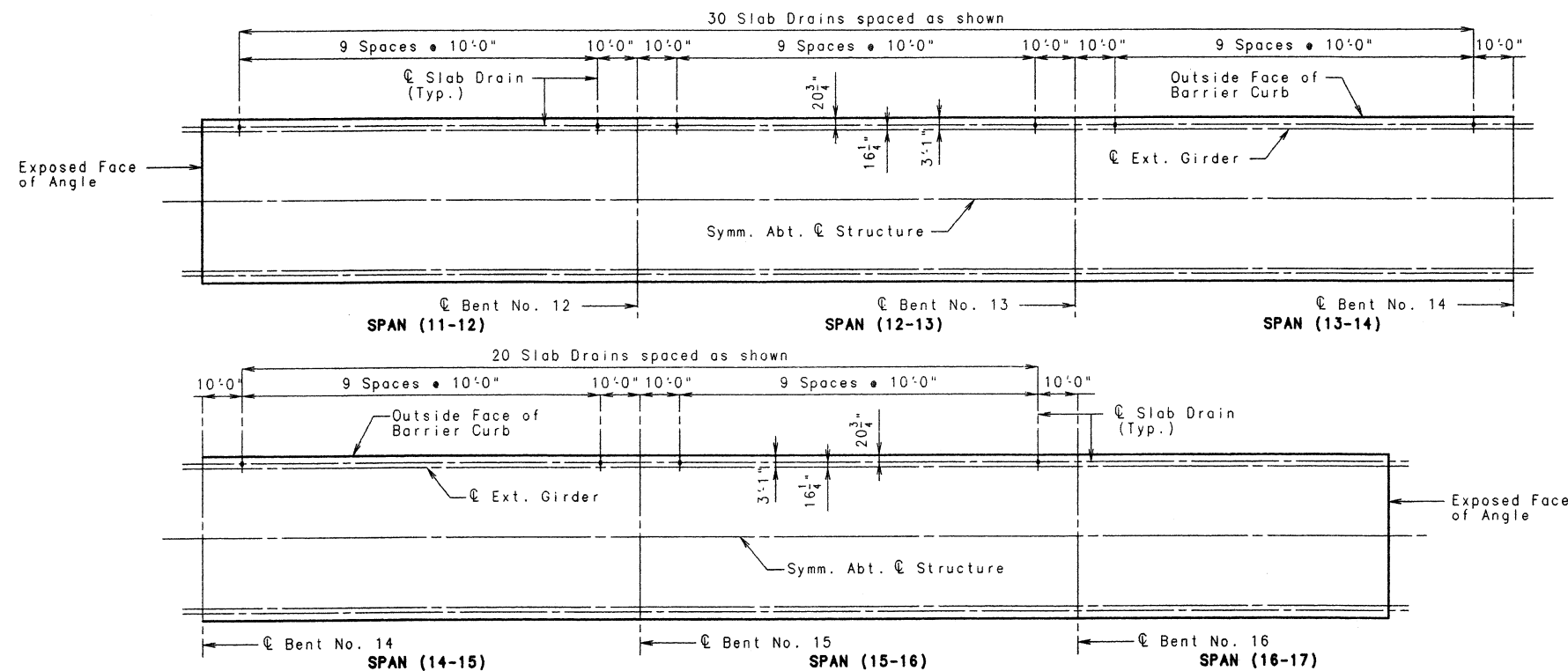
## SLAB DRAIN DETAILS FOR BULB-TEE GIRDER



ELEVATION OF DRAIN



PLAN OF DRAIN



PLAN OF SLAB SHOWING SLAB DRAIN LOCATION

NOTE: Longitudinal dimensions are horizontal.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 77 OF 93.

JACKSON

COUNTY

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STATE	MO.	NO.	NO.
MO.	NO.	NO.	NO.
MO.	NO.	NO.	NO.

NOTE:  
Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

Locate drains in slab by dimensions shown in Part Section Near Drain.

Shift reinforcing in field where necessary to clear drains.

The drains, coil inserts, and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for slab drains and the bracket assembly.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed I-girder fabricator.

The bolt hole for the bracket assembly attachment shall be located on the Bulb-Tee Girder shop drawings.

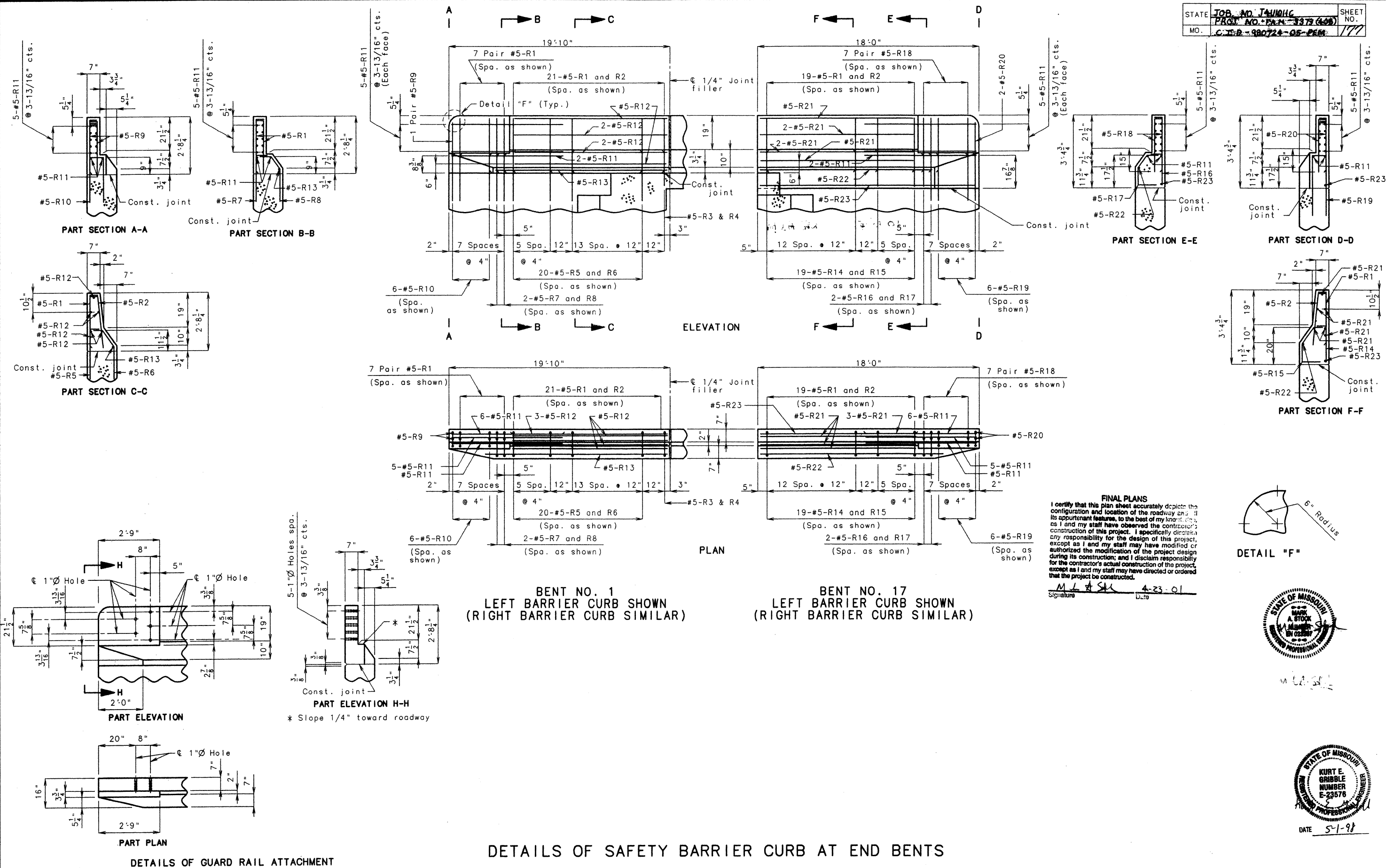
Coil inserts shall have a concrete pull-out strength (Ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M. J. S. 4-23-01

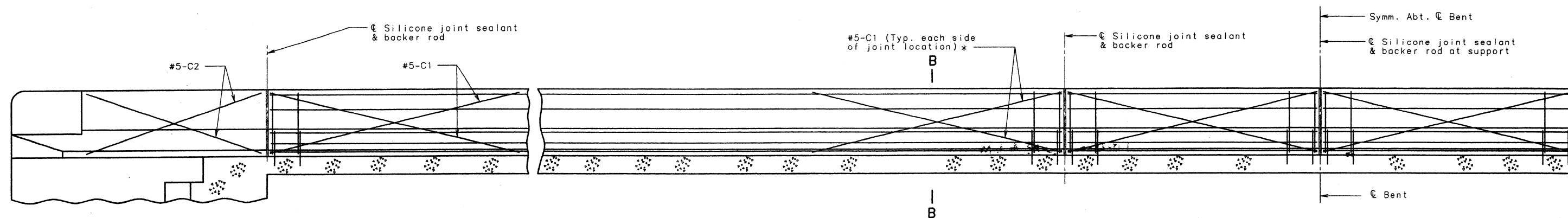


DATE 5-1-98

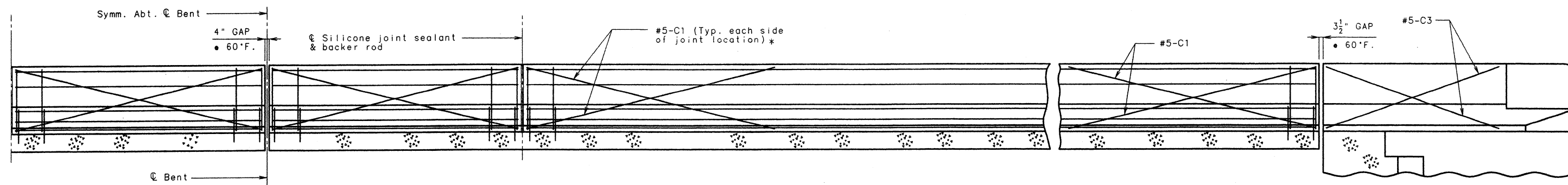




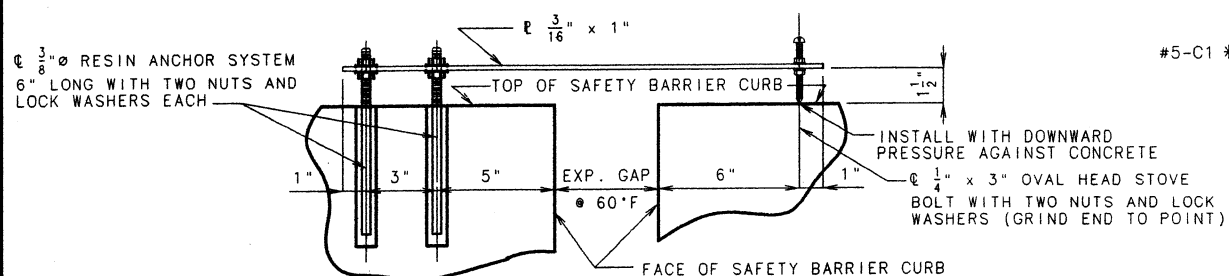
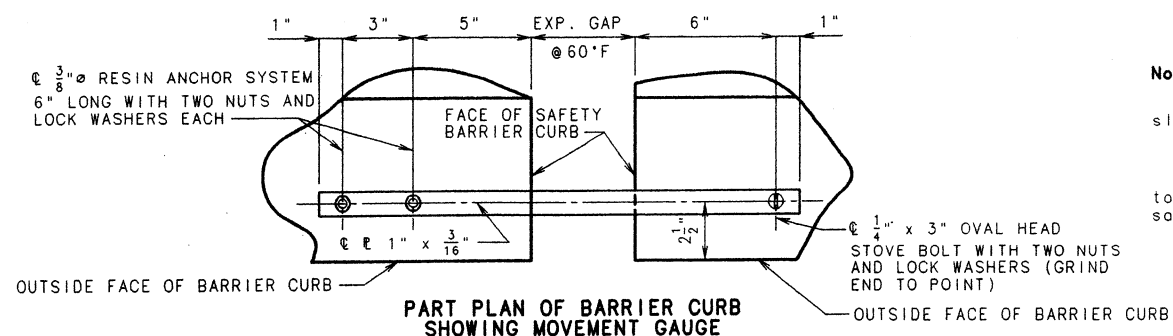




TYPICAL PART SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS (FIXED)  
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

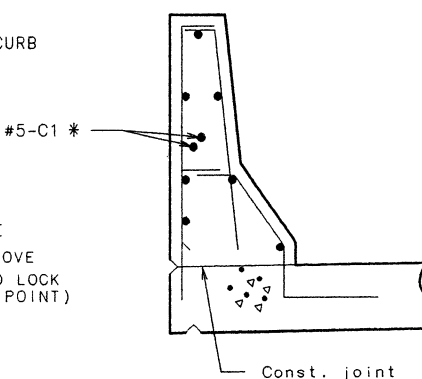


TYPICAL PART SECTION NEAR LEFT SAFETY BARRIER CURB AT SUPPORT LOCATIONS WITH EXPANSION GAP  
(OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

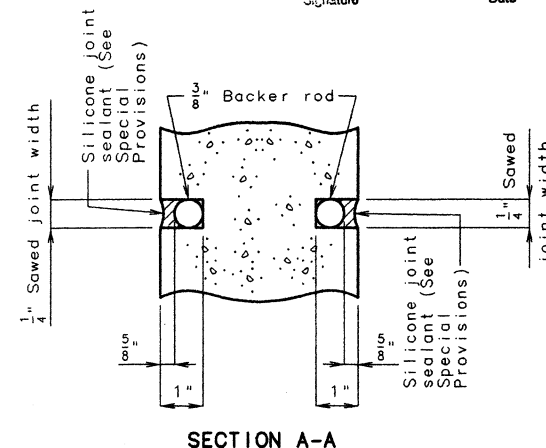


NOTE: A MOVEMENT GAUGE SHALL BE PROVIDED ON ONE SIDE OF BRIDGE AT ALL SAFETY BARRIER CURB EXPANSION JOINTS.  
ALL STEEL SHALL BE GALVANIZED.  
COST OF MOVEMENT GAUGE COMPLETE IN PLACE SHALL BE INCLUDED IN CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.

Note:  
Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filler.  
Plastic waterstop shall not be used with slip-form option.  
C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.



Note: \* Each side of joint location.



Note: Cost of silicone joint sealant and backer rod complete in place to be included on the contract unit price for safety barrier curb.

Note:

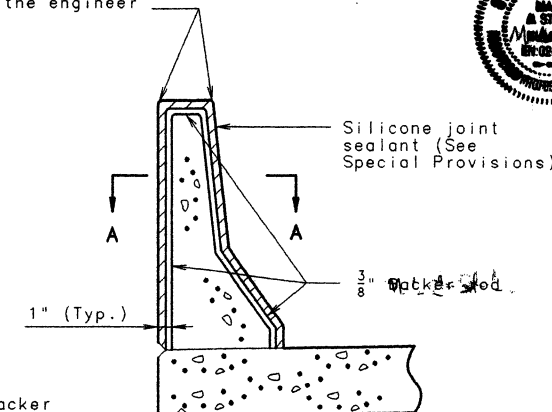
Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints (except at end bents) normal to grade.

When the safety barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.

Concrete in the safety barrier curb shall be Class B1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

3/8" Bevel, 1/2" Radius or alternate as approved by the engineer



SECTION THRU JOINT



# OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

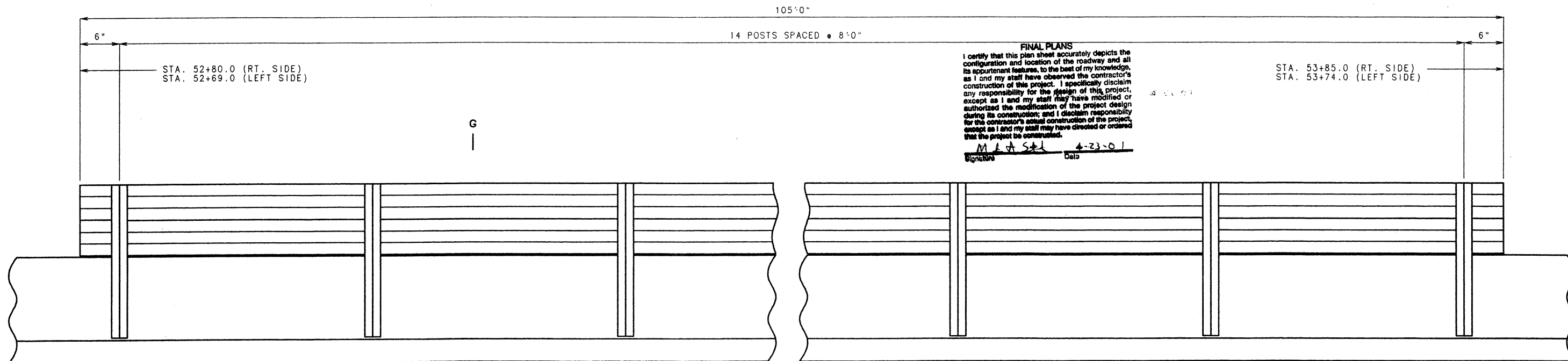
SHEET NO. 80 OF 93.

JACKSON COUNTY

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BAC9f16,gs 3.30, .a  
BARRIER CURB ELEVATION  
FEB. 1991  
SEPT. 1995

DETAILED JAN. 1998  
CHECKED MAR. 1998



PART ELEVATION OF BARRIER CURB  
SHOWING SPLASH PROTECTION SHIELD

NOTES:

FABRICATION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 712 OF THE MISSOURI STANDARD SPECIFICATIONS.

POSTS SHALL BE SET VERTICAL.

5/8"Ø RESIN ANCHOR BOLTS SHALL BE PLACED HORIZONTAL.

ALL SPACERS, RESIN ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.

ALL WT 6 x 17.5 POSTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.

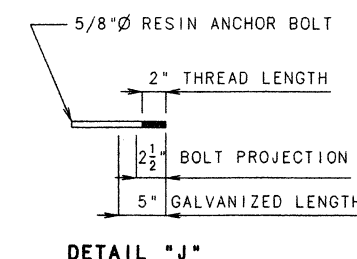
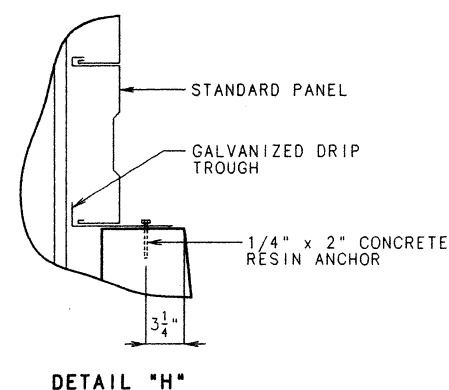
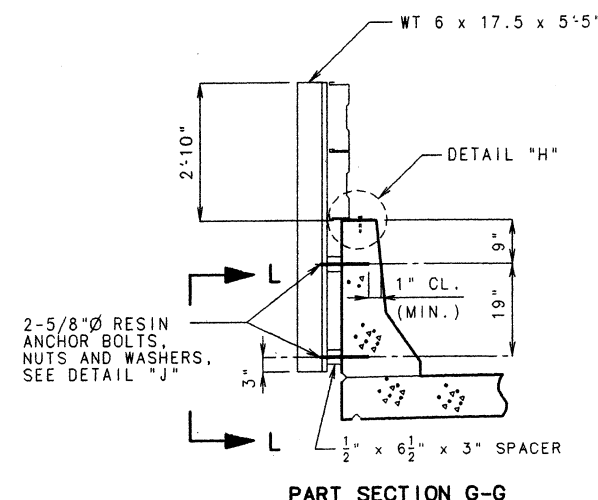
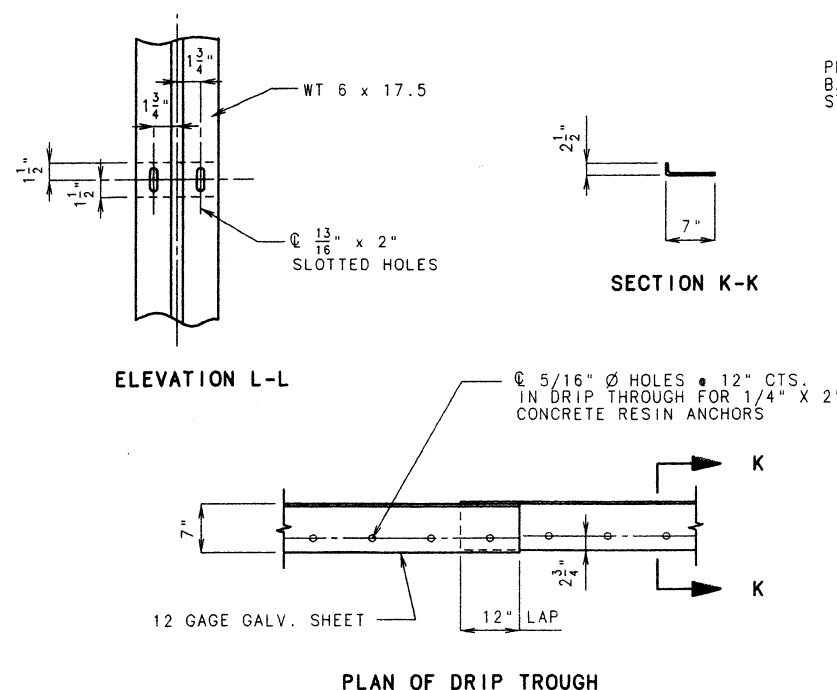
PANELS SHALL HAVE A PROTECTIVE COLOR COATING OF POLYVINYL FLUORIDE FILM WITH A MINIMUM THICKNESS OF 1 1/2 MILS ON BOTH SIDES. COLOR SHALL BE SIMILAR TO COLOR NO. 30045 AS SHOWN IN THE FEDERAL STANDARD COLORS NO. 595B.

PANELS SHALL HAVE A MINIMUM GAGE OF .24 AND A MINIMUM SECTION MODULUS OF 0.016 IN. PER INCH. PANELS SHALL HAVE A MINIMUM COVERING WIDTH OF 16 INCHES.

THE 5/8"Ø RESIN ANCHOR BOLTS SHALL HAVE A MINIMUM ULTIMATE PULLOUT STRENGTH OF 15,500 LBS. IN CONCRETE WITH F'C = 4000 PSI. SEE SPECIAL PROVISIONS.

COST OF FURNISHING AND INSTALLING THE SPLASH PROTECTION SHIELD COMPLETE-IN-PLACE SHALL BE INCLUDED IN THE PRICE BID PER LUMP SUM SPLASH PROTECTION SHIELD.

SHOP DRAWINGS WILL NOT BE REQUIRED FOR SPLASH PROTECTION SHIELD ASSEMBLY.



DETAILS OF SAFETY BARRIER CURB AT SPAN 2-3  
SHOWING SPLASH PROTECTION SHIELD

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 81 OF 93.

JACKSON COUNTY

A5496



DATE 5-1-98

BACK 16.03.30.1, a  
INT-END POST (16")  
AUG. 1978  
SEPT. 1995

DETAILED JAN. 1998  
CHECKED MAR. 1998





**GENERAL NOTES:**  
 All concrete for the bridge approach slab and sleeper slab shall be in accordance with Section 503 (f'c = 4,000 psi) of the Missouri Standard Specifications.

All joint filler shall meet the requirements of Section 1057.2.5 of the Missouri Standard Specifications, except as noted.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with  $F_y = 60,000$  psi.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 27" and 40" respectively.

Mechanical bar splices will be permitted and shall develop at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturer's certification that this requirement is met and is required to follow the manufacturer's recommendation for installation.

Mechanical bar splices shall be epoxy coated in accordance with Section 710 of the Missouri Standard Specifications.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

Payment for furnishing all material, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base and all other appurtenances and incidental work as shown on this sheet, complete in place, shall be considered as completely covered under the contract unit price for Bridge Approach Slab (Bridge), per sq. yd.

For Concrete Approach Pavement details, see roadway plans.

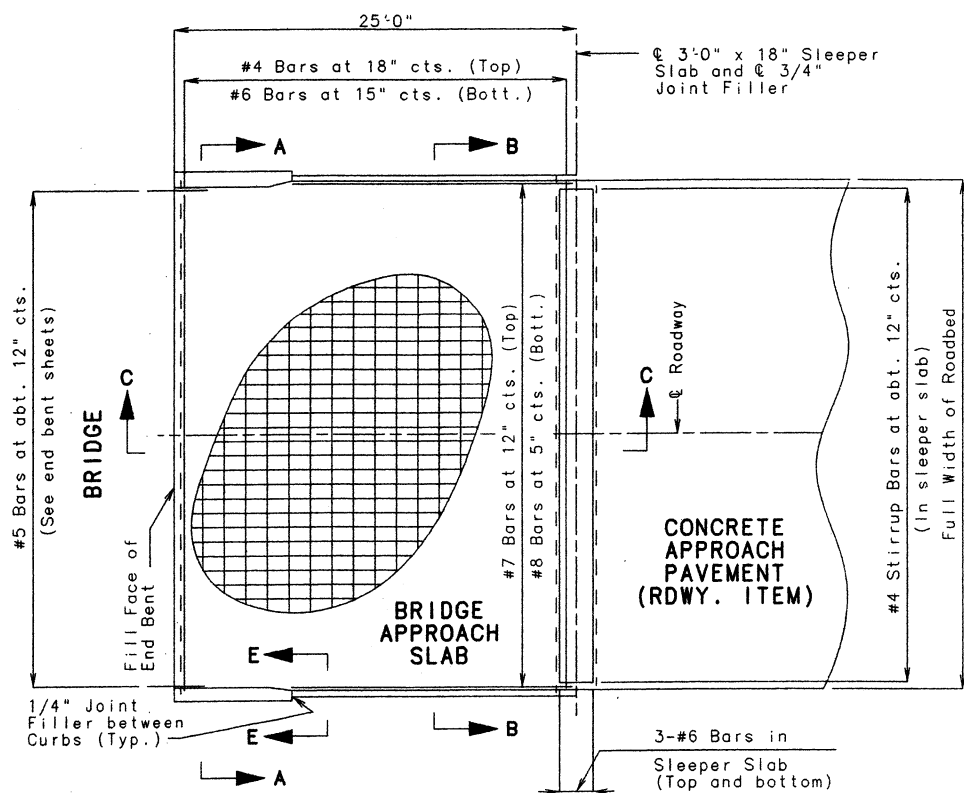
See Missouri Standard Plans Drawing 609.00 for details of Type A Barrier Curb.

When a lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 40" for transverse approach slab bar splices.

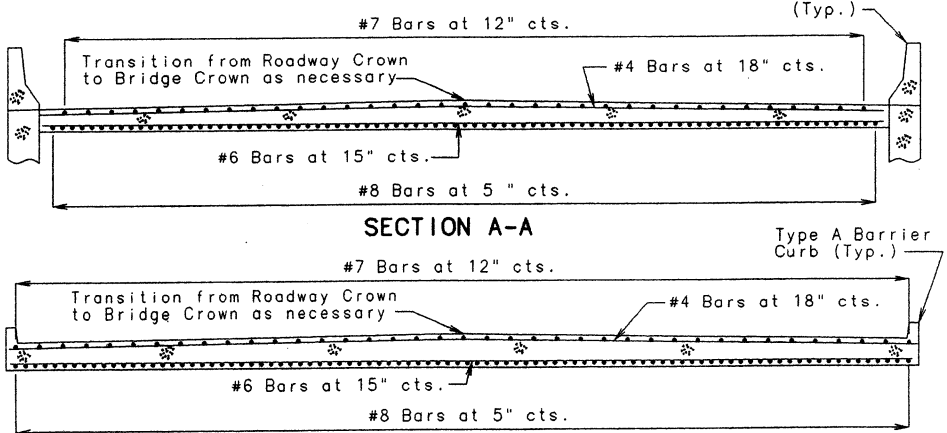
At the contractor's option, Grade 40 reinforcement may be substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 2" minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Section 710.3.3 of the Missouri Standard Specifications.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.



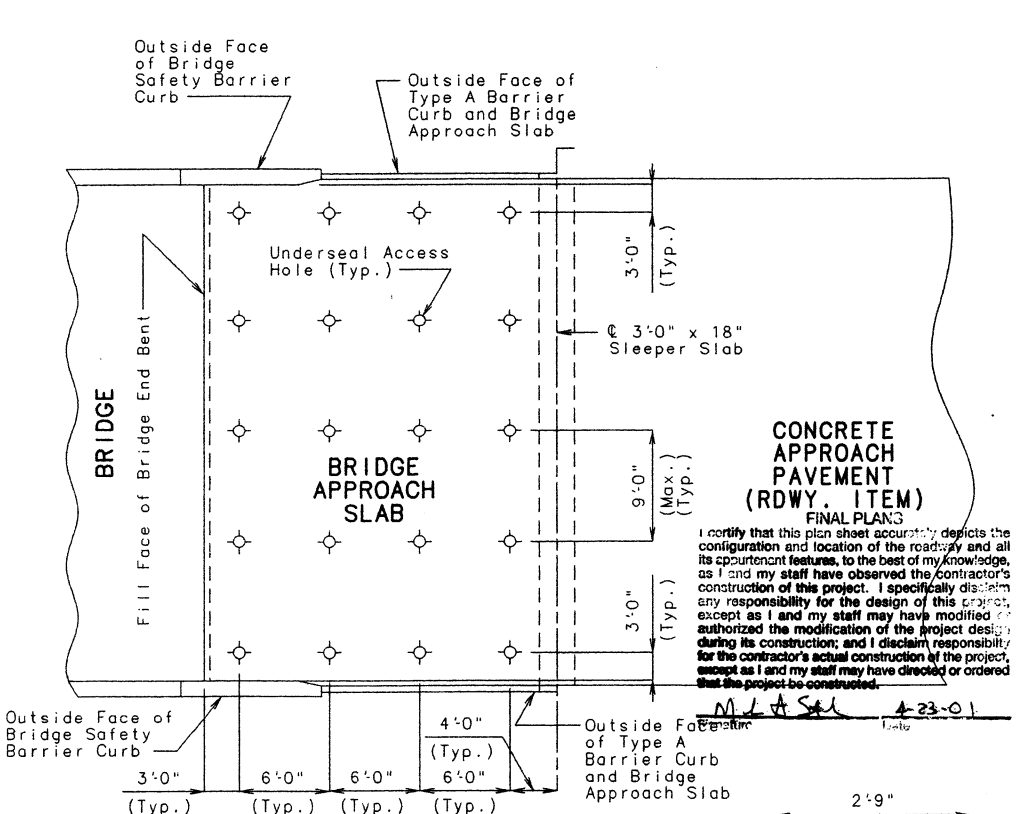
**PART PLAN SHOWING REINFORCEMENT**



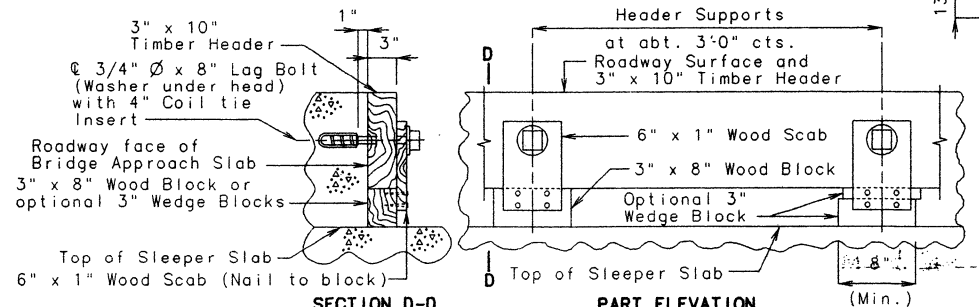
**SECTION A-A**

**SECTION B-B**

Note: With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

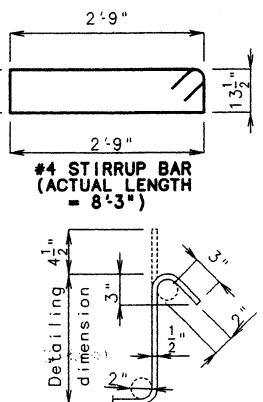


**PART PLAN (Showing typical underseal access hole locations)**

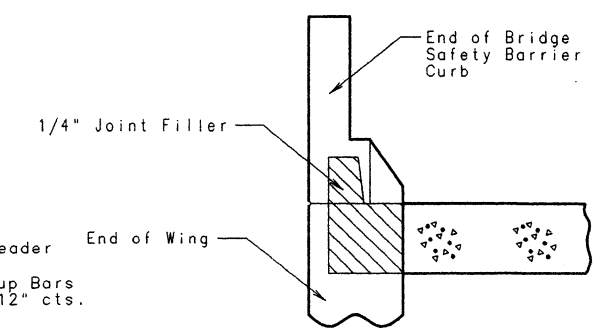


**SECTION D-D**

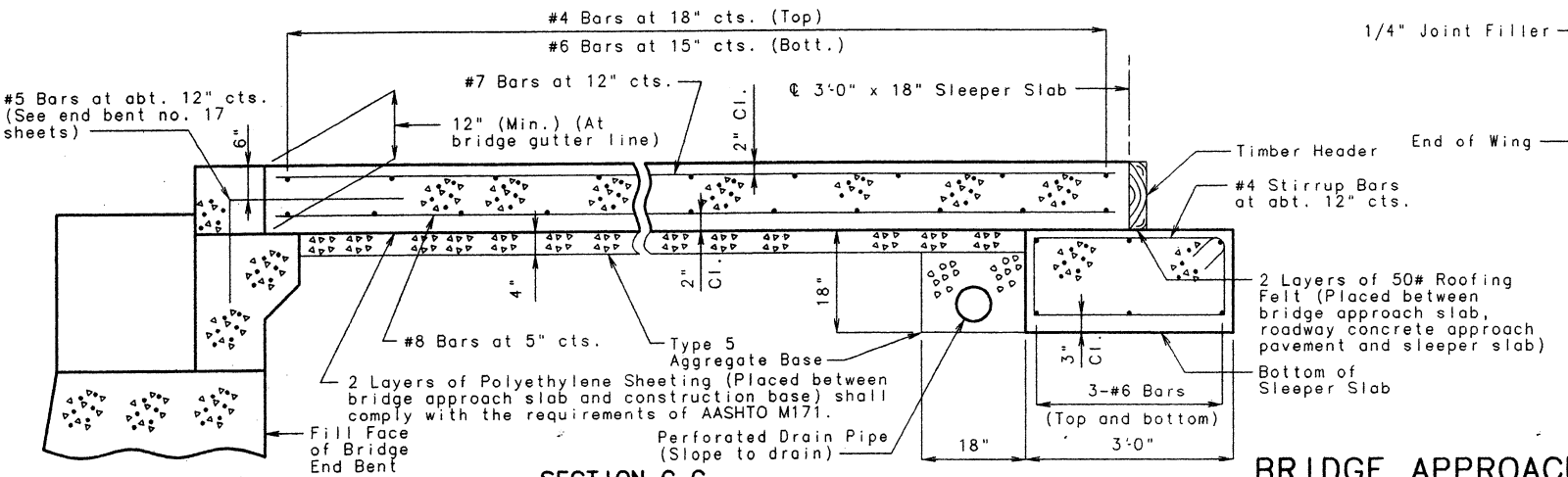
**DETAILS OF TIMBER HEADER**



**TYPICAL 135° STIRRUP BAR HOOK DIMENSIONS BENDING DIAGRAM**

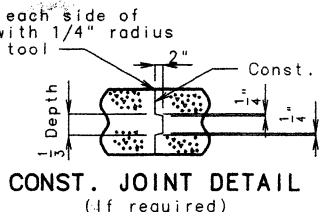


**SECTION E-E (Between Curbs)**

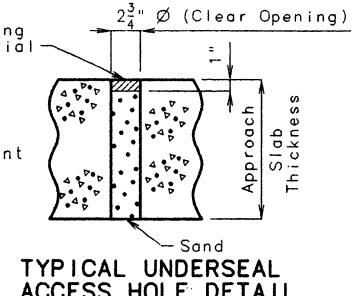


**SECTION C-C**

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



**CONST. JOINT DETAIL (If required)**



**TYPICAL UNDERSEAL ACCESS HOLE DETAIL**

**BRIDGE APPROACH SLAB AT END BENT NO. 17**

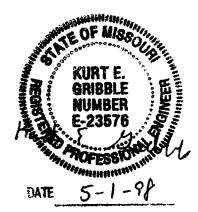
SHEET NO. 83 OF 93.

JACKSON COUNTY

A5496

APP SLAB, GS 3.30, SQ, N, G  
 Approach Slab  
 December 1992  
 Revised  
 December 1997

DETAILED JAN. 1998  
 CHECKED MAR. 1998



# 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.
		SUBSTRUCTURE																	
		INTERMEDIATE																	
		BENT NO. 2																	
40	7 D21	FOOTING	20		X				8	8.000						8	8	709	
4	6 D22	FOOTING	10		X					5	2.000	8	0.000			18	4	108	
36	8 D23	FOOTING	20		X				7	1.000						7	1	681	
16	6 D24	BEAM KEY	20		X				2	6.000						2	6	60	
11	10 H21	BEAM	20		X				38	9.000						38	9	1834	
9	10 H22	BEAM	18		X				38	9.000						41	7	1610	
4	6 H23	BEAM	20		X				38	9.000						38	9	233	
9	6 H24	BEAM	20		X				3	9.000						3	9	51	
10	6 H25	BEAM	10		X					22.000	3	9.000				7	5	106	
54	4 P21	COLUMN	16		X				3	3.000						11	1	400	
39	6 U21	BEAM	13		S	X			3	9.000	3	9.000	3	9.000		16	4	927	
20	6 U22	BEAM	13		S	X			2	10.250	3	9.000	2	10.250	3	9.000	14	7	423
8	6 U23	BEAM	10		S	X				3	9.000	2	10.250			10	4	121	
6	6 U24	BEAM	10		S	X				3	9.000	3	9.000			11	3	98	
7	4 U25	BEAM	10		S	X				6.000	3	9.000				4	9	21	
36	8 V21	COLUMN	20		X				29	8.000						29	8	2852	
		INTERMEDIATE																	
		BENT NO. 3																	
20	8 D31	FOOTING	20		X				11	8.000						11	8	623	
4	6 D32	FOOTING	10		X					4	11.000	11	0.000			20	10	123	
46	8 D33	FOOTING	20		X				8	7.000						8	7	1054	
16	7 D34	FOOTING	20		X				8	2.000						8	2	267	
36	8 D35	COLUMN	20		X				8	0.000						8	0	769	
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9	10 H32	BEAM	18		X				38	9.000						41	7	1610	
4	6 H33	BEAM	20		X				38	9.000						38	9	233	
9	6 H34	BEAM	20		X				3	9.000						3	9	51	
10	6 H35	BEAM	10		X					22.000	3	9.000				7	5	106	
36	4 P31	COLUMN	16		X				3	9.000						12	8	305	
32	4 P32	COLUMN	16		X				3	3.000						11	1	237	
39	6 U31	BEAM	13		S	X			3	9.000	3	9.000	3	9.000		16	4	927	
20	6 U32	BEAM	13		S	X			2	10.250	3	9.000	2	10.250	3	9.000	14	7	423
8	6 U33	BEAM	10		S	X				3	9.000	2	10.250			10	4	121	
6	6 U34	BEAM	10		S	X				3	9.000	3	9.000			11	3	98	
7	4 U35	BEAM	10		S	X				6.000	3	9.000				4	9	21	

# BILL OF REINFORCING STEEL

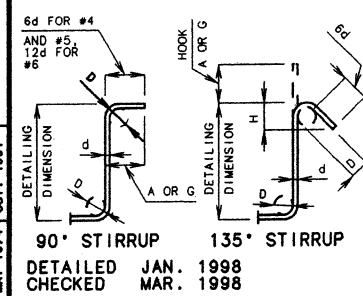
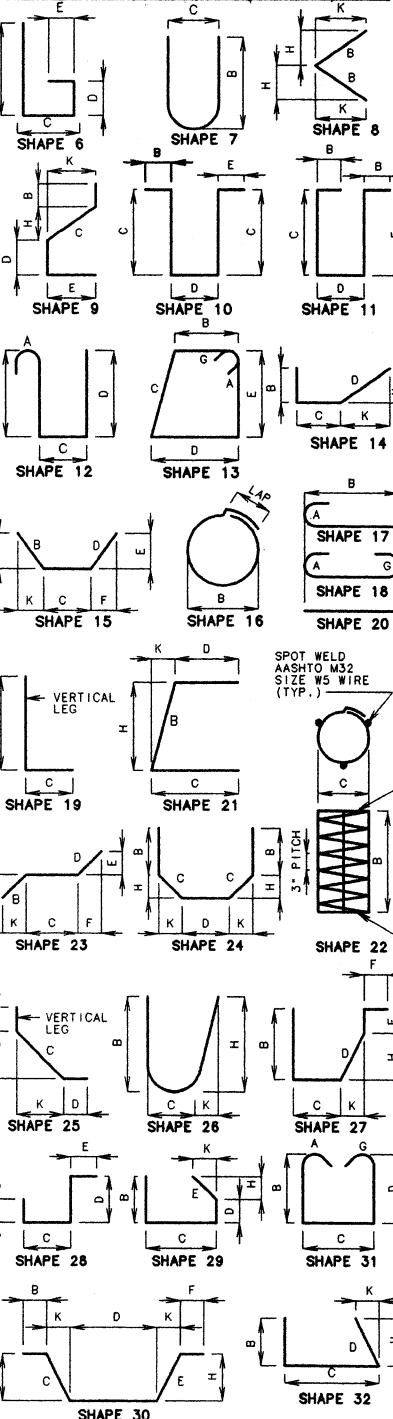
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	
									B	C	D	E	F	H	K					
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
46	8 V31	COLUMN		20	X				17	10.000							17	10	2190	
36	8 V32	COLUMN		20	X				19	1.000							19	1	1834	
		INTERMEDIATE																		
		BENT NO. 4																		
20	8 D41	FOOTING		20	X				11	8.000							11	8	623	
4	6 D42	FOOTING		10	X					4	11.000	11	0.000				20	10	123	
46	8 D43	FOOTING		20	X				8	7.000							8	7	1054	
16	7 D44	FOOTING		20	X				8	2.000							8	2	267	
36	8 D45	COLUMN		20	X				8	0.000							8	0	769	
16	6 D46	BEAM KEY		20	X				2	6.000							2	6	60	
12	10 H41	BEAM		20	X				38	9.000							38	9	2001	
9	10 H42	BEAM		18	X				38	9.000							41	7	1610	
4	6 H43	BEAM		20	X				38	9.000							38	9	233	
9	6 H44	BEAM		20	X				3	9.000							3	9	51	
10	6 H45	BEAM		10	X					22.000	3	9.000					7	5	106	
36	4 P41	COLUMN		16	X				3	9.000							12	8	305	
34	4 P42	COLUMN		16	X				3	3.000							11	1	252	
39	6 U41	BEAM		13	S	X			3	9.000	3	9.000	3	9.000	3	9.000	16	4	927	
20	6 U42	BEAM		13	S	X			2	10.250	3	9.000	2	10.250	3	9.000	14	7	423	
8	6 U43	BEAM		10	S	X			3	9.000	2	10.250					10	4	121	
6	6 U44	BEAM		10	S	X			3	9.000	3	9.000					11	3	98	
7	4 U45	BEAM		10	S	X				6.000	3	9.000					4	9	21	
									AA	I certify that this plan sheet accurately depicts the position, shape, and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I, and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.										
46	8 V41	COLUMN		20	X				17	10.000							17	10	2190	
36	8 V42	COLUMN		20	X				19	6.000							19	6	1874	
		INTERMEDIATE																		
		BENT NO. 5																		
32	8 D51	FOOTING		20	X				17	8.000							17	8	1509	
4	8 D52	FOOTING		10	X					6	6.000	17	0.000				30	0	316	
56	10 D53	FOOTING		17	X				11	7.000							13	0	3133	
24	8 D54	FOOTING		20	X				9	8.000							9	8	619	
36	8 D55	COLUMN		20	X				8	0.000							8	0	769	
13	10 H51	BEAM	E	20	X				39	3.000							39	3	2196	
9	10 H52	BEAM	E	18	X				39	3.000							42	1	1630	
4	6 H53	BEAM	E	20	X				39	3.000							39	3	236	
10	6 H54	BEAM	E	20	X				3	9.000							3	9	56	
10	6 H55	BEAM	E	10	X					22.000	5	3.000					8	11	129	
5	6 H56	BEAM	E	18	X				39	3.000							40	7	305	
2	4 H57	BEAM	E	10	X					22.000	2	6.000					6	2	8	

FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M. J. S. 4-23-01



STATE: MO. PROJECT: TOLSONIC PROJECT NO. FA-M-3373(100) SHEET NO. 183  
MO. C.T.D. 980724-06-PEM



STIRRUP HOOK DIMENSIONS  
GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPRO
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# 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.
36	4	P51	COLUMN	16		X				3	9.000								12	8	12	8	305			
30	4	P52	COLUMN	16		X				3	3.000								11	1	11	1	222			
40	6	U51	BEAM	E 13		S	X			5	3.000	3	8.000	5	3.000	3	8.000		19	2	18	8	1121			
24	6	U52	BEAM	E 13		S	X			3	6.875	3	8.000	3	6.875	3	8.000		15	10	15	4	553			
62	5	U53	BEAM	E 10		S	X			2	6.250	2	6.000						7	7	7	4	474			
6	6	U54	BEAM	E 10		S	X					3	8.000	5	3.000				12	7	12	3	110			
8	6	U55	BEAM	E 10		S	X					3	8.000	3	6.875				10	11	10	7	127			
7	4	U56	BEAM	E 10		S	X					6.000	2	6.000				3	6	3	4	16				
7	4	U57	BEAM	E 10		S	X					6.000	5	3.000				6	3	6	1	28				
56	10	V51	COLUMN	20		X				17	10.000								17	10	17	10	4297			
36	8	V52	COLUMN	E 20		X				18	0.000								18	0	18	0	1730			
10	W5	W50	ANCBOLT WELL	E 22		X				15.000		9.125							23	0	23	0	38			
10	W5	W51	ANCBOLT WELL	E 22		X				18.000		9.125							26	1	26	1	44			
			INTERMEDIATE BENT NO. 6																							
24	8	D61	FOOTING	20		X				10	8.000								10	8	10	8	684			
4	6	D62	FOOTING	10		X						5	2.000	10	0.000				20	4	20	0	120			
46	8	D63	FOOTING	20		X				8	7.000								8	7	8	7	1054			
16	8	D64	FOOTING	20		X				8	8.000								8	8	8	8	370			
13	10	H61	BEAM	20		X				39	3.000								39	3	39	3	2196			
10	10	H62	BEAM	18		X				39	3.000								42	1	42	1	1811			
4	6	H63	BEAM	20		X				39	3.000								39	3	39	3	236			
10	6	H64	BEAM	20		X				3	9.000								3	9	3	9	56			
12	6	H65	BEAM	10		X						22.000	4	3.000					7	11	7	7	137			
66	4	P61	COLUMN	16		X				3	9.000								12	8	12	8	558			
39	6	U61	BEAM	13		S	X			4	3.000	4	6.000	4	3.000	4	6.000		18	10	18	4	1074			
20	6	U62	BEAM	13		S	X			2	10.750	4	6.000	2	10.750	4	6.000		16	2	15	8	471			
8	6	U63	BEAM	10		S	X					4	6.000	2	10.750				11	11	11	7	139			
6	6	U64	BEAM	10		S	X					4	6.000	4	3.000				13	3	12	11	116			
7	4	U65	BEAM	10		S	X					6.000	4	3.000					5	3	5	1	24			
46	8	V61	COLUMN	20		X				36	4.000								36	4	36	4	4462			
20	W5	W60	ANCBOLT WELL	22		X				18.000		9.125							26	1	26	1	87			
			INTERMEDIATE BENT NO. 7																							
24	8	D71	FOOTING	20		X				10	8.000								10	8	10	8	684			
4	6	D72	FOOTING	10		X						5	2.000	10	0.000				20	4	20	0	120			

# BILL OF REINFORCING STEEL

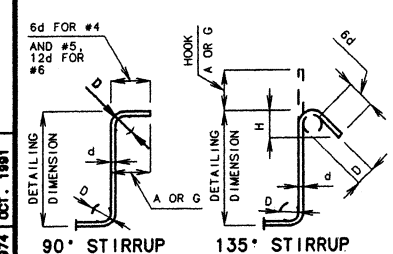
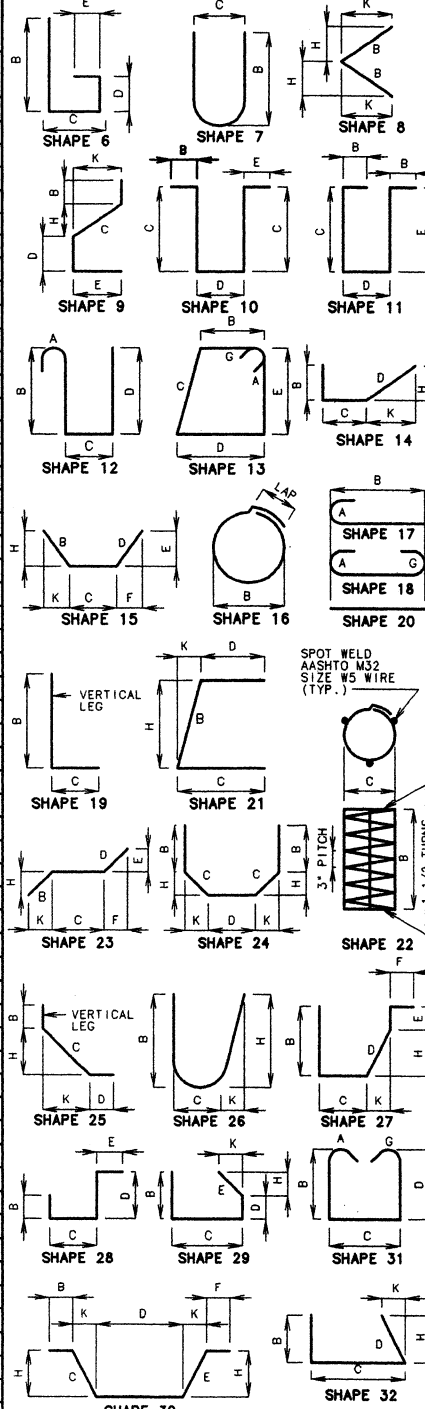
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.				
46	8 D73	FOOTING	20		X				8 7.000							8 7	8 7	1054	
16	8 D74	FOOTING	20		X				8 8.000							8 8	8 8	370	
16	6 D75	BEAM KEY	20		X				2 6.000							2 6	2 6	60	
13	10 H71	BEAM	20		X				38 9.000							38 9	38 9	2168	
9	10 H72	BEAM	18		X				38 9.000							41 7	41 7	1610	
4	6 H73	BEAM	20		X				38 9.000							38 9	38 9	233	
9	6 H74	BEAM	20		X				3 9.000							3 9	3 9	51	
12	6 H75	BEAM	10		X					22.000	4 3.000					7 11	7 7	137	
68	4 P71	COLUMN	16		X				3 9.000							12 8	12 8	575	
39	6 U71	BEAM	13		S X				4 3.000	4 6.000	4 3.000	4 6.000				18 10	18 4	1074	
20	6 U72	BEAM	13		S X				2 10.750	4 6.000	2 10.750	4 6.000				16 2	15 8	471	
8	6 U73	BEAM	10		S X				4 6.000	2 10.750						11 11	11 7	139	
6	6 U74	BEAM	10		S X				4 6.000	4 3.000						13 3	12 11	116	
7	4 U75	BEAM	10		S X				6.000	4 3.000						5 3	5 1	24	
46	8 V71	COLUMN	20		X				37 5.000							37 5	37 5	4596	
		INTERMEDIATE BENT NO. 8																	
22	8 D81	FOOTING	18		X				12 8.000							14 6	14 6	852	
20	5 D82	FOOTING	18		X				7 8.000							8 10	8 10	184	
58	9 D83	FOOTING	20		X				9 11.000							9 11	9 11	1956	
58	8 D84	COLUMN	20		X				10 0.000							10 0	10 0	1549	
16	6 D85	BEAM KEY	20		X				2 6.000							2 6	2 6	60	
12	10 H81	BEAM	20		X				38 9.000							38 9	38 9	2001	
8	10 H82	BEAM	18		X				38 9.000							41 7	41 7	1431	
6	6 H83	BEAM	20		X				38 9.000							38 9	38 9	349	
8	6 H84	BEAM	20		X				3 9.000							3 9	3 9	45	
12	6 H85	BEAM	10		X					22.000	4 9.000					8 5	8 1	146	
54	4 P81	COLUMN	16		X				4 9.000							15 9	15 9	568	
42	4 P82	COLUMN	16		X				4 3.000							14 3	14 3	400	
37	6 U81	BEAM	13		S X				4 9.000	4 9.000	4 9.000	4 9.000				20 4	19 10	1102	
16	6 U82	BEAM	13		S X				3 5.500	4 9.000	3 5.500	4 9.000				17 9	17 3	415	
12	6 U83	BEAM	10		S X				4 9.000	3 5.500						13 0	12 8	228	
8	6 U84	BEAM	10		S X				4 9.000	4 9.000						14 3	13 11	167	
7	4 U85	BEAM	10		S X				6.000	4 9.000						5 9	5 7	26	
58	9 V81	COLUMN	20		X				26 10.000							26 10	26 10	5292	
58	8 V82	COLUMN	20		X				24 11.000							24 11	24 11	3859	
		INTERMEDIATE																	

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the rebar and all its appurtenant features, to the best of my knowledge, skill and my staff have observed the construction of this project. I specifically disclaim any responsibility for the design or construction of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. J. S. S. S.* Date: *4-23-01*



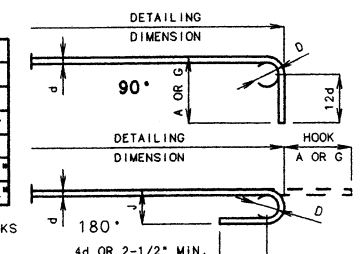
STATE: **MO.** JOB NO.: **JAH011C** SHEET NO.: **184**  
PROJ. NO.: **E.A.M.-3372 (400)**  
C.I.D.: **980724-05-REM**



**STIRRUP HOOK DIMENSIONS**  
GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. I
#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"

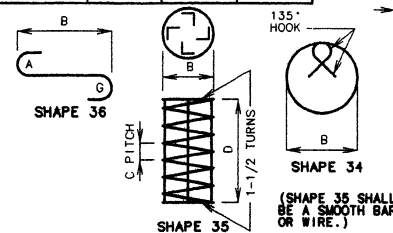
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



**END HOOK DIMENSIONS**  
ALL GRADES

BAR SIZE	D (IN.)	180° HOOKS	90° HOOKS
#3	2-1/4"	5"	3"
#4	3"	6"	4"
#5	3-3/4"	7"	5"
#6	4-1/2"	8"	6"
#7	5-1/4"	10"	7"
#8	6"	11"	8"
#9	6-1/2"	15"	11-3/4"
#10	10-3/4"	17"	13-1/4"
#11	12"	19"	14-3/4"
#14	18-1/4"	21-3/4"	21-7"

**NOTE:**  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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) = FY 60,000 PSI.



BENDING DIAGRAMS





# 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.
		BENT NO. 9																	
24	8 D91	FOOTING		18	X				12	8.000							14	6	929
20	5 D92	FOOTING		18	X				7	8.000							8	10	184
58	9 D93	FOOTING		20	X				9	11.000							9	11	1956
58	8 D94	COLUMN		20	X				10	0.000							10	0	1549
16	6 D95	BEAM KEY		20	X				2	6.000							2	6	60
12	10 H91	BEAM		20	X				38	9.000							38	9	2001
8	10 H92	BEAM		18	X				38	9.000							41	7	1431
6	6 H93	BEAM		20	X				38	9.000							38	9	349
8	6 H94	BEAM		20	X				3	9.000							3	9	45
12	6 H95	BEAM		10	X						22.000	4	9.000				8	5	146
52	4 P91	COLUMN		16	X				4	9.000							15	9	547
42	4 P92	COLUMN		16	X				4	3.000							14	3	400
37	6 U91	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000	20	4	1102
16	6 U92	BEAM		13	S	X			3	5.500	4	9.000	3	5.500	4	9.000	17	9	415
12	6 U93	BEAM		10	S	X					4	9.000	3	5.500			13	0	228
8	6 U94	BEAM		10	S	X					4	9.000	4	9.000			14	3	167
7	4 U95	BEAM		10	S	X					6.000	4	9.000				5	9	26
58	9 V91	COLUMN		20	X				25	10.000							25	10	5094
58	8 V92	COLUMN		20	X				25	6.000							25	6	3949
		INTERMEDIATE																	
		BENT NO. 10																	
28	8 D101	FOOTING		18	X				13	8.000							15	6	1159
22	5 D102	FOOTING		18	X				7	8.000							8	10	203
58	9 D103	FOOTING		20	X				9	11.000							9	11	1956
58	8 D104	COLUMN		20	X				10	0.000							10	0	1549
12	10 H101	BEAM		20	X				39	3.000							39	3	2027
8	10 H102	BEAM		18	X				39	3.000							42	1	1449
6	6 H103	BEAM		20	X				39	3.000							39	3	354
8	6 H104	BEAM		20	X				3	9.000							3	9	45
12	6 H105	BEAM		10	X						22.000	4	9.000				8	5	146
50	4 P101	COLUMN		16	X				4	9.000							15	9	526
44	4 P102	COLUMN		16	X				4	3.000							14	3	419
37	6 U101	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000	20	4	1102
16	6 U102	BEAM		13	S	X			3	8.125	4	9.000	3	8.125	4	9.000	18	2	427
12	6 U103	BEAM		10	S	X					4	9.000	3	8.125			13	2	231
8	6 U104	BEAM		10	S	X					4	9.000	4	9.000			14	3	167
7	4 U105	BEAM		10	S	X					6.000	4	9.000				5	9	26
58	9 V101	COLUMN		20	X				24	10.000							24	10	4897

# BILL OF REINFORCING STEEL

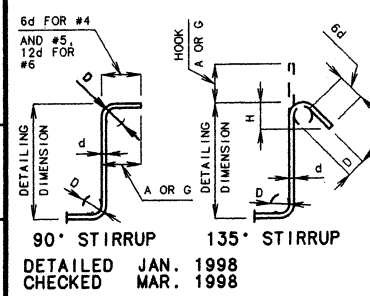
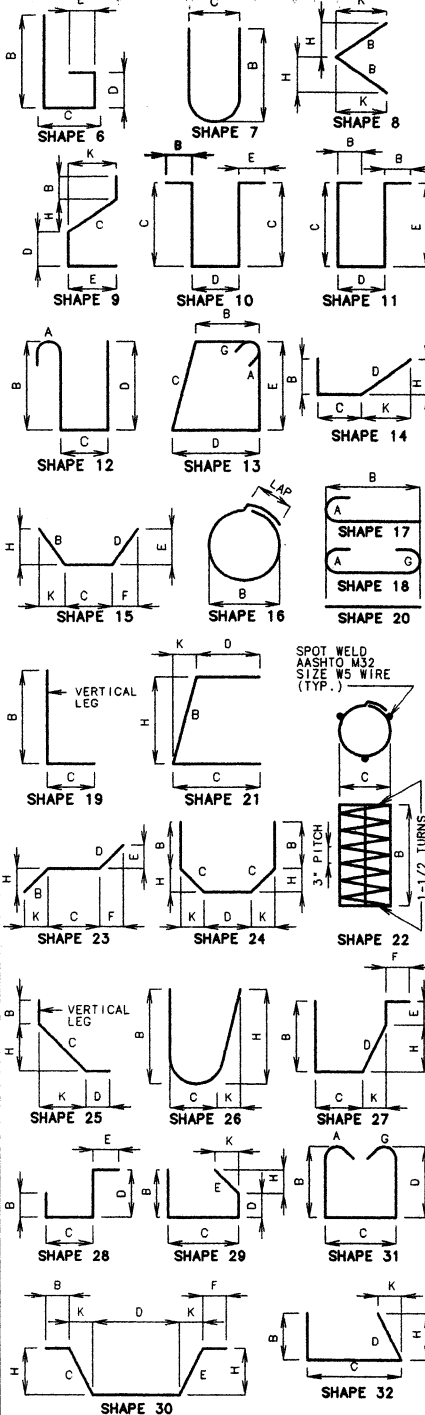
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT						
									B		C		D		E					F		H		K	
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.	IN.
58	8 V102	COLUMN		20		X			25	6.000								25	6	25	6	3949			
20	W5 W100	ANCBOLT WELL		22		X			18.000	9.125								26	1	26	1	87			
		INTERMEDIATE BENT NO. 11																							
32	8 D111	FOOTING		18		X			14	8.000								16	6	16	6	1410			
24	5 D112	FOOTING		18		X			8	2.000								9	4	9	4	234			
70	9 D113	FOOTING		20		X			10	5.000								10	5	10	5	2479			
58	8 D114	COLUMN		20		X			10	0.000								10	0	10	0	1549			
11	10 H111	BEAM	E	20		X			39	3.000								39	3	39	3	1858			
8	10 H112	BEAM	E	18		X			39	3.000								42	1	42	1	1449			
6	6 H113	BEAM	E	20		X			39	3.000								39	3	39	3	354			
8	6 H114	BEAM	E	20		X			3	9.000								3	9	3	9	45			
12	6 H115	BEAM	E	10		X					22.000	5	9.000					9	5	9	1	164			
50	4 P111	COLUMN		16		X			4	9.000								15	9	15	9	526			
44	4 P112	COLUMN		16		X			4	3.000								14	3	14	3	419			
36	6 U111	BEAM	E	13	S	X			5	9.000	4	8.000	5	9.000	4	8.000		22	2	21	8	1172			
16	6 U112	BEAM	E	13	S	X			4	0.000	4	8.000	4	0.000	4	8.000		18	8	18	2	437			
12	6 U113	BEAM	E	10	S	X					4	8.000	4	0.000				13	4	13	0	234			
8	6 U114	BEAM	E	10	S	X					4	8.000	5	9.000				15	1	14	9	177			
7	4 U115	BEAM	E	10	S	X					6.000	5	9.000					6	9	6	7	31			
70	9 V111	COLUMN		20		X			24	4.000								24	4	24	4	5791			
58	8 V112	COLUMN	E	20		X			26	3.000								26	3	26	3	4065			
20	W5 W110	ANCBOLT WELL	E	22		X			18.000	9.125								26	1	26	1	87			
		INTERMEDIATE BENT NO. 12																							
26	8 D121	FOOTING		18		X			13	8.000								15	6	15	6	1076			
22	5 D122	FOOTING		18		X			7	8.000								8	10	8	10	203			
58	9 D123	FOOTING		20		X			9	11.000								9	11	9	11	1956			
58	8 D124	COLUMN		20		X			10	0.000								10	0	10	0	1549			
12	10 H121	BEAM		20		X			39	3.000								39	3	39	3	2027			
8	10 H122	BEAM		18		X			39	3.000								42	1	42	1	1449			
6	6 H123	BEAM		20		X			39	3.000								39	3	39	3	354			
8	6 H124	BEAM		20		X			3	9.000								3	9	3	9	45			
12	6 H125	BEAM		10		X					22.000	4	9.000					8	5	8	1	146			
50	4 P121	COLUMN		16		X			4	9.000								15	9	15	9	526			
46	4 P122	COLUMN		16		X			4	3.000								14	3	14	3	438			

FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature: *M. A. S. L.* Date: 4-23-01



STATE: MO. JOB NO. J411011C  
PROJ. NO. EAM-3972(408)  
C.I.D. 980724-05-P&M 185



STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		HOOK A OR G	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



# 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.
37	6	U121	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000			20	4	19	10	1102
16	6	U122	BEAM		13	S	X			3	8.125	4	9.000	3	8.125	4	9.000			18	2	17	9	427
12	6	U123	BEAM		10	S	X					4	9.000	3	8.125					13	2	12	10	231
8	6	U124	BEAM		10	S	X					4	9.000	4	9.000					14	3	13	11	167
7	4	U125	BEAM		10	S	X					6.000	4	9.000						5	9	5	7	26
58	9	V121	COLUMN		20		X			24	10.000									24	10	24	10	4897
58	8	V122	COLUMN		20		X			26	7.000									26	7	26	7	4117
20	W5	W120	ANCBOLT WELL		22		X			18.000		9.125								26	1	26	1	87
			INTERMEDIATE BENT NO. 13																					
26	8	D131	FOOTING		18		X			13	8.000									15	6	15	6	1076
22	5	D132	FOOTING		18		X			7	8.000									8	10	8	10	203
58	9	D133	FOOTING		20		X			9	11.000									9	11	9	11	1956
58	8	D134	COLUMN		20		X			10	0.000									10	0	10	0	1549
16	6	D135	BEAM KEY		20		X			2	6.000									2	6	2	6	60
12	10	H131	BEAM		20		X			38	9.000									38	9	38	9	2001
8	10	H132	BEAM		18		X			38	9.000									41	7	41	7	1431
6	6	H133	BEAM		20		X			38	9.000									38	9	38	9	349
8	6	H134	BEAM		20		X			3	9.000									3	9	3	9	45
12	6	H135	BEAM		10		X					22.000	4	9.000						8	5	8	1	146
50	4	P131	COLUMN		16		X			4	9.000									15	9	15	9	526
48	4	P132	COLUMN		16		X			4	3.000									14	3	14	3	457
37	6	U131	BEAM		13	S	X			4	9.000	4	9.000	4	9.000	4	9.000			20	4	19	10	1102
16	6	U132	BEAM		13	S	X			3	5.500	4	9.000	3	5.500	4	9.000			17	9	17	3	415
12	6	U133	BEAM		10	S	X					4	9.000	3	5.500					13	0	12	8	228
8	6	U134	BEAM		10	S	X					4	9.000	4	9.000					14	3	13	11	167
7	4	U135	BEAM		10	S	X					6.000	4	9.000						5	9	5	7	26
58	9	V131	COLUMN		20		X			24	10.000									24	10	24	10	4897
58	8	V132	COLUMN		20		X			27	7.000									27	7	27	7	4272
			INTERMEDIATE BENT NO. 14																					
26	8	D141	FOOTING		18		X			13	8.000									15	6	15	6	1076
22	5	D142	FOOTING		18		X			7	8.000									8	10	8	10	203
58	9	D143	FOOTING		20		X			9	11.000									9	11	9	11	1956
58	8	D144	COLUMN		20		X			10	0.000									10	0	10	0	1549
16	6	D145	BEAM KEY		20		X			2	6.000									2	6	2	6	60

# BILL OF REINFORCING STEEL

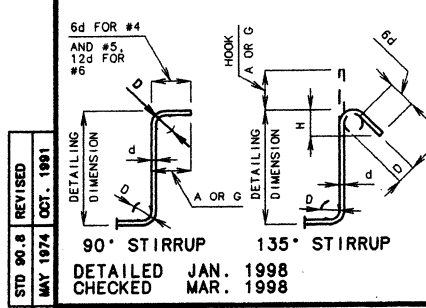
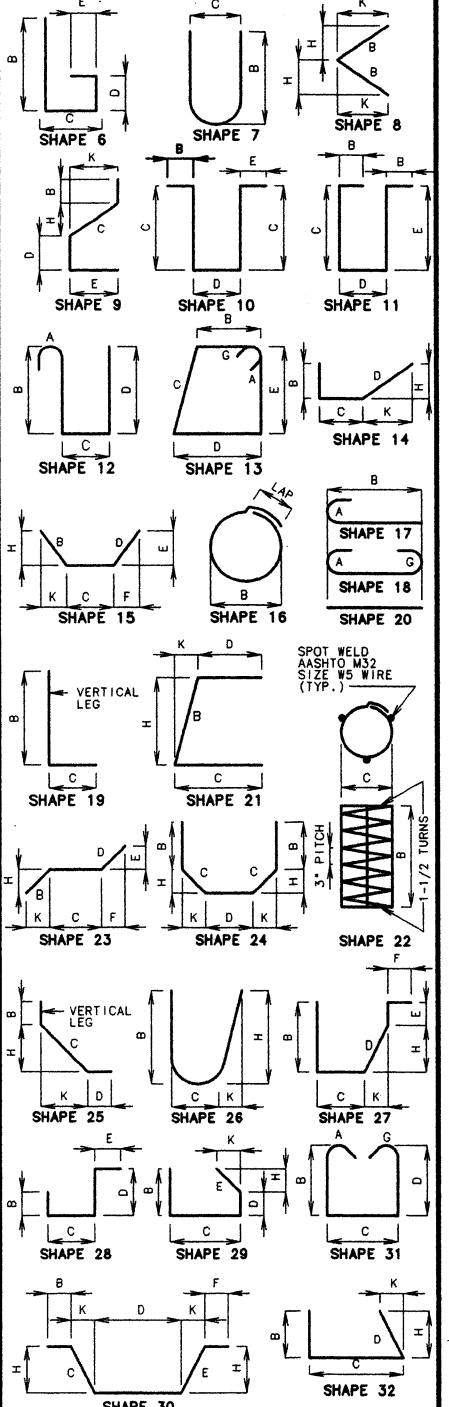
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K				
									FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.				
12	10 H141	BEAM	20	X					38 9.000							38 9	38 9	2001	
8	10 H142	BEAM	18	X					38 9.000							41 7	41 7	1431	
6	6 H143	BEAM	20	X					38 9.000							38 9	38 9	349	
8	6 H144	BEAM	20	X					3 9.000							3 9	3 9	45	
12	6 H145	BEAM	10	X						22.000	4 9.000					8 5	8 1	146	
50	4 P141	COLUMN	16	X					4 9.000							15 9	15 9	526	
48	4 P142	COLUMN	16	X					4 3.000							14 3	14 3	457	
37	6 U141	BEAM	13	S X					4 9.000	4 9.000	4 9.000	4 9.000				20 4	19 10	1102	
16	6 U142	BEAM	13	S X					3 5.500	4 9.000	3 5.500	4 9.000				17 9	17 3	415	
12	6 U143	BEAM	10	S X						4 9.000	3 5.500					13 0	12 8	228	
8	6 U144	BEAM	10	S X						4 9.000	4 9.000					14 3	13 11	167	
7	4 U145	BEAM	10	S X						6.000	4 9.000					5 9	5 7	26	
58	9 V141	COLUMN	20	X					24 10.000							24 10	24 10	4897	
58	8 V142	COLUMN	20	X					28 2.000							28 2	28 2	4362	
		INTERMEDIATE BENT NO. 15																	
26	8 D151	FOOTING	18	X					13 8.000							15 6	15 6	1076	
22	5 D152	FOOTING	18	X					7 8.000							8 10	8 10	203	
58	9 D153	FOOTING	20	X					9 11.000							9 11	9 11	1956	
58	8 D154	COLUMN	20	X					10 0.000							10 0	10 0	1549	
16	6 D155	BEAM KEY	20	X					2 6.000							2 6	2 6	60	
12	10 H151	BEAM	20	X					38 9.000							38 9	38 9	2001	
8	10 H152	BEAM	18	X					38 9.000							41 7	41 7	1431	
6	6 H153	BEAM	20	X					38 9.000							38 9	38 9	349	
8	6 H154	BEAM	20	X					3 9.000							3 9	3 9	45	
12	6 H155	BEAM	10	X						22.000	4 9.000					8 5	8 1	146	
50	4 P151	COLUMN	16	X					4 9.000							15 9	15 9	526	
50	4 P152	COLUMN	16	X					4 3.000							14 3	14 3	476	
37	6 U151	BEAM	13	S X					4 9.000	4 9.000	4 9.000	4 9.000				20 4	19 10	1102	
16	6 U152	BEAM	13	S X					3 5.500	4 9.000	3 5.500	4 9.000				17 9	17 3	415	
12	6 U153	BEAM	10	S X						4 9.000	3 5.500					13 0	12 8	228	
8	6 U154	BEAM	10	S X						4 9.000	4 9.000					14 3	13 11	167	
7	4 U155	BEAM	10	S X						6.000	4 9.000					5 9	5 7	26	
58	9 V151	COLUMN	20	X					24 10.000							24 10	24 10	4897	
58	8 V152	COLUMN	20	X					28 8.000							28 8	28 8	4439	
		INTERMEDIATE BENT NO. 16																	
26	8 D161	FOOTING	18	X					13 8.000							15 6	15 6	1076	

**FINAL PLANS**  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or caused that the project be constructed.

M. J. A. 3-21-01  
Date



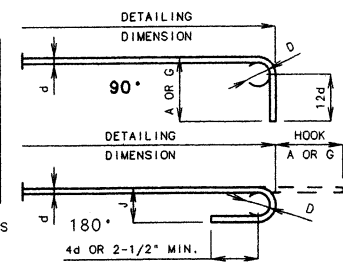
STATE: MO. JOB NO. JAWHUG  
PROJ. NO. E.M. 3373 (408)  
C.I.D. - 980724-05-PRM  
SHEET NO. 180



**STIRRUP HOOK DIMENSIONS**  
GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK	135° HOOK	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"

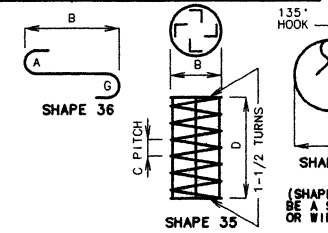
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



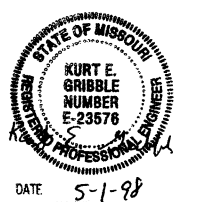
**END HOOK DIMENSIONS**

BAR SIZE	D (IN.)	ALL GRADES	180° HOOKS	90° HOOKS
#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	6-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	21-0"
#14	18-1/4"	21-3/4"	21-3/4"	21-7"

**NOTE:**  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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.  
PAY WEIGHTS 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<sub>y</sub> 60,000 PSI.



BENDING DIAGRAMS



SHEET NO. 87 OF 93.

JACKSON

COUNTY

A5496

# BILL OF REINFORCING STEEL

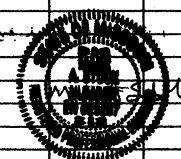
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT					
										B	C	D	E	F	H	K									
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
22	5	D162	FOOTING	18	X					7	8.000							8	10	8	10	203			
58	9	D163	FOOTING	20	X					9	11.000							9	11	9	11	1956			
58	8	D164	COLUMN	20	X					10	0.000							10	0	10	0	1549			
11	10	H161	BEAM	20	X					39	3.000							39	3	39	3	1858			
8	10	H162	BEAM	18	X					39	3.000							42	1	42	1	1449			
6	6	H163	BEAM	20	X					39	3.000							39	3	39	3	354			
8	6	H164	BEAM	20	X					3	9.000							3	9	3	9	45			
12	6	H165	BEAM	10	X							22.000	4	9.000				8	5	8	1	146			
50	4	P161	COLUMN	16	X					4	9.000							15	9	15	9	526			
50	4	P162	COLUMN	16	X					4	3.000							14	3	14	3	476			
37	6	U161	BEAM	13	S	X				4	9.000	4	9.000	4	9.000	4	9.000		20	4	19	10	1102		
16	6	U162	BEAM	13	S	X				3	8.125	4	9.000	3	8.125	4	9.000		18	2	17	9	427		
12	6	U163	BEAM	10	S	X						4	9.000	3	8.125				13	2	12	10	231		
8	6	U164	BEAM	10	S	X						4	9.000	4	9.000				14	3	13	11	167		
7	4	U165	BEAM	10	S	X						6.000	4	9.000				5	9	5	7	26			
58	9	V161	COLUMN	20	X					24	10.000							24	10	24	10	4897			
58	8	V162	COLUMN	20	X					28	9.000							28	9	28	9	4452			
20	W5	W160	ANCBOLT WELL	22	X					18.000	9.125							26	1	26	1	87			
			END BENT																						
			NO. 17																						
12	6	F170	WING BRACE	E 15	S	X				14.000	4	7.500	14.000	9.875	9.875	9.875	9.875	7	0	6	11	125			
8	7	H170	BEAM	E 18	X					41	3.000							42	11	42	11	702			
1	4	H171	APPR. HAUNCH	E 20	X					36	3.000							36	3	36	3	24			
39	5	H172	BACKWALL	E 19	X					2	0.000	2	0.000					4	0	3	11	159			
2	6	H173	BEAM	E 20	X					41	3.000							41	3	41	3	124			
20	4	H174	BACKWALL	E 20	X					21	4.000							21	4	21	4	285			
2	6	H175	HEADWALL	E 20	X					41	3.000							41	3	41	3	124			
24	6	H176	WING	E 20	X					17	9.000							17	9	17	9	640			
* 14	6	H177	WING	E 20	X					10	3.000							10	3	10	3	216			
24	4	H178	MUD WALL	E 20	X					3	8.000							3	8	3	8	59			
16	5	H179	PILE	E 20	X					2	3.000							2	3	2	3	38			
4	6	H180	BEAM	E 20	X					3	9.000							3	9	3	9	23			
4	6	T170	WING	E 19	X					4	0.375	9	3.000					13	3	13	2	79			
4	6	T171	WING	E 19	X					3	8.000	8	8.000					12	4	12	2	73			
4	4	T172	WING	E 19	X					7	9.000	4	1.000					11	10	11	9	31			
37	4	U170	APPR. HAUNCH	E 10	S	X						15.000	6.000					3	0	2	10	70			
36	6	U171	BEAM	E 13	S	X				3	6.500	2	9.000	4	2.500	2	8.000		14	6	14	0	757		
35	4	U172	BEAM	E 10	S	X						6.000	3	6.000				4	6	4	4	101			
10	7	U173	BEAM	E 14	X					3	10.500	23.875	4	9.125				3	4.375	10	8	10	5	213	
9	6	U174	BEAM	E 14	S	X				2	8.000	3	6.500	2	9.000			2	8.000	8.000	9	0	8	8	117

# BILL OF REINFORCING STEEL

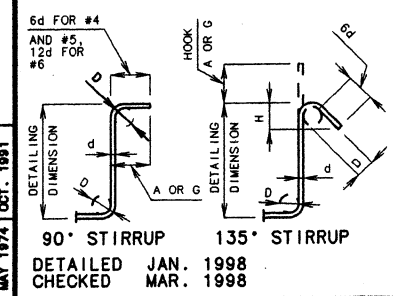
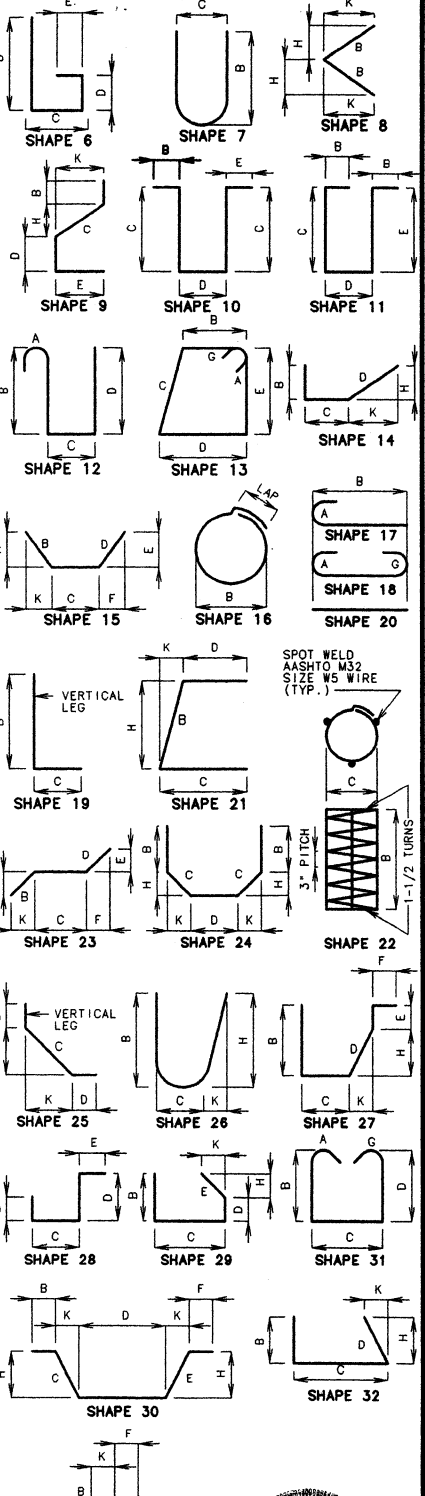
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, skill and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except for the design of the project, which I have authorized the modification of the project design during its construction, and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

M. J. S. 4-23-01



STATE JOB NO. T-4011C  
 PROJ. NO. F.A.M.-3373 (A08)  
 MO. C.T.D.-980724-05-PEN

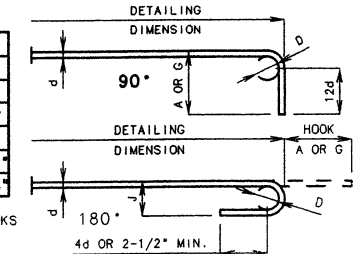


STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK	135° HOOK	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° HOOK	90° HOOK
#3	2-1/4"	5"	3"
#4	3"	6"	4"
#5	3-3/4"	7"	5"
#6	4-1/2"	8"	6"
#7	5-1/4"	10"	7"
#8	6"	11"	8"
#9	6-1/2"	15"	11-3/4"
#10	10-3/4"	17"	13-1/4"
#11	12"	19"	14-3/4"
#14	18-1/4"	21-3/4"	21-7/8"

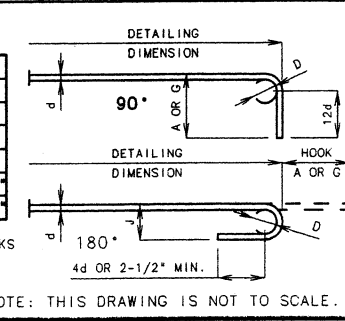
\*\* REINFORCEMENT IN DEADMAN IS NOT INCLUDED IN SUBSTRUCTURE REINFORCEMENT QUANTITIES.

NOTE: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROC

[illegible]

STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		HOOK A OR G	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.



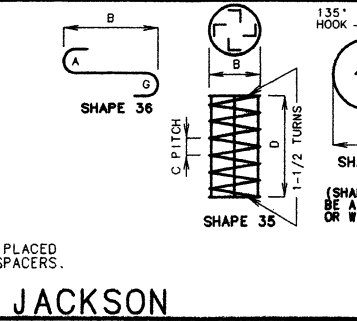
END HOOK DIMENSIONS					
BAR SIZE	D (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A OR G	J	A OR G	J
#3	2-1/4"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3-3/4"	7"	5"	10"	
#6	4-1/2"	8"	6"	12"	
#7	5-1/4"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9-1/2"	15"	11-3/4"	19"	
#10	10-3/4"	17"	13-1/4"	22"	
#11	12"	19"	14-3/4"	21"-0"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

FOLLOW DIMENSIONS.

**NOTE:**  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.  
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.  
S = 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 CUT TO CUT 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) = FY 60,000 PSI.

SHEET NO. 89 OF 93.

BILL OF REINFORCING STEEL														NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT				
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								FT. IN.	FT. IN.	LBS.
										B	C	D	E	F	H	K				
										FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.			
12	7	H501	D IAPHRAGM	E	20					8	0.000						8 0	8 0	196	
8	6	H502	D IAPHRAGM	E	20					8	0.000						8 0	8 0	96	
4	6	H503	D IAPHRAGM	E	20					5	0.000						5 0	5 0	30	
3	6	H504	D IAPHRAGM	E	20					6	0.000						6 0	6 0	27	
8	5	H505	D IAPHRAGM	E	20					2	0.000						2 0	2 0	17	
3	5	H506	D IAPHRAGM	E	20					4	5.000						4 5	4 5	14	
2	5	H507	D IAPHRAGM	E	20					3	11.000						3 11	3 11	8	
4	6	H508	D IAPHRAGM	E	20					6	7.000						6 7	6 7	40	
1	6	H509	D IAPHRAGM	E	20					37	7.000						37 7	37 7	56	
4	4	H510	D IAPHRAGM	E	20					7	10.000						7 10	7 10	21	
1	4	H511	D IAPHRAGM	E	20					37	7.000						37 7	37 7	25	
* 14	9	H512	D IAPHRAGM	E	20					7	10.000						7 10	7 10	373	
1	5	H513	D IAPHRAGM	E	20					37	7.000						37 7	37 7	39	
8	4	H514	D IAPHRAGM	E	20					2	0.000						2 0	2 0	11	
3	4	H515	D IAPHRAGM	E	20					4	9.000						4 9	4 9	10	
2	4	H516	D IAPHRAGM	E	20					3	6.000						3 6	3 6	5	
16	4	U500	D IAPHRAGM	E	28	S						15.000	3 11.750	12.000			6 3	6 1	65	
16	4	U501	D IAPHRAGM	E	27	S					15.000	3 1.375	14.625	12.000		10.375	6 7	6 5	69	
8	6	U502	D IAPHRAGM	E	28	S					15.000	4 3.125	14.000				6 8	6 4	76	
8	6	U503	D IAPHRAGM	E	27	S					15.000	3 4.500	15.000	14.000		10.625	7 1	6 10	82	
8	6	U504	D IAPHRAGM	E	28	S						15.000	4 9.250	14.000			7 2	6 11	83	
8	6	U505	D IAPHRAGM	E	27	S					15.000	3 10.625	15.000	14.000		10.625	7 7	7 4	88	
8	6	U506	D IAPHRAGM	E	28	S						15.000	5 3.250	14.000			7 8	7 5	89	
8	6	U507	D IAPHRAGM	E	27	S					15.000	4 4.625	15.000	14.000		10.625	8 1	7 10	94	
8	6	U508	D IAPHRAGM	E	19	S					4 7.000	15.000					5 10	5 8	68	
8	6	U509	D IAPHRAGM	E	19	S					4 10.500	15.000					6 2	6 0	72	
16	5	U510	D IAPHRAGM	E	20						4 1.000						4 1	4 1	68	
4	5	U511</																		

[illegible]

STATE	<b>JOB NO. T440011G</b>	SHEET NO.
	<b>PROJ. NO. F.A.M. - 9372 (408)</b>	
MO.	<b>C.I.D. - 980724-05-PRM</b>	<b>135</b>

SHAPE 6

SHAPE 7

SHAPE 8

SHAPE 9

SHAPE 10

SHAPE 11

SHAPE 12

SHAPE 13

SHAPE 14

SHAPE 15

SHAPE 16

SHAPE 17

SHAPE 18

SHAPE 19

SHAPE 20

SHAPE 21

SHAPE 22

SHAPE 23

SHAPE 24

SHAPE 25

SHAPE 26

SHAPE 27

SHAPE 28

SHAPE 29

SHAPE 30

SHAPE 31

SHAPE 32

SHAPE 33

SHAPE 34

PE 35 SHALL SMOOTH BAR (WIRE.)

**BENDING DIAGRAMS**

DATE 5-1-98



# 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.
24	5	H305	DIAPHRAGM		20					4	5.000							4	5		111		
16	5	H306	DIAPHRAGM		20					3	11.000							3	11		65		
24	6	H307	DIAPHRAGM		20					6	0.000							6	0		216		
128	4	U300	DIAPHRAGM	E 28	S						2	2.000	3	11.875	12.000			7	2	7	0	599	
64	6	U301	DIAPHRAGM	E 28	S						2	7.000	5	0.750	14.000			8	10	8	6	817	
80	6	U302	DIAPHRAGM	E 19	S					4	9.750	2	7.000					7	5	7	3	871	
32	5	U303	DIAPHRAGM	E 15	S						15.250	5	1.000				10.750	10.750	6	4	6	4	211
64	5	U304	DIAPHRAGM	E 6	S					4	0.500	13.000	18.000					6	8	6	5	428	
16	5	U305	DIAPHRAGM	E 19	S					4	8.500	13.000						5	10	5	8	95	
64	5	U306	DIAPHRAGM	E 20						4	1.000							4	1	4	1	273	
80	5	U307	DIAPHRAGM	E 10	S						2	0.000	23.000					5	11	5	9	480	
			DIAPH. •																				
			INT. BENTS																				
			7, 8, 9, 13																				
			14 & 15																				
96	6	H600	DIAPHRAGM	E 20						6	5.000							6	5	6	5	925	
144	4	H601	DIAPHRAGM	E 20						8	0.000							8	0	8	0	770	
48	5	H602	DIAPHRAGM	E 20						3	7.000							3	7	3	7	179	
72	5	H603	DIAPHRAGM	E 20						4	8.000							4	8	4	8	350	
36	6	H604	DIAPHRAGM	E 20						6	0.000							6	0	6	0	324	
240	4	U600	DIAPHRAGM	E 28	S						2	0.000	6	4.000	12.000			9	4	9	2	1470	
96	6	U601	DIAPHRAGM	E 19	S					5	1.875	2	2.000					7	4	7	2	1033	
144	5	U602	DIAPHRAGM	E 19	S					4	7.875	9.000						5	5	5	4	801	
24	6	U603	DIAPHRAGM	E 19	S					4	10.875	22.000						6	9	6	7	237	
48	5	V600	DIAPHRAGM	E 20						6	6.000							6	6	6	6	325	
			DIAPH. •																				
			INT. BENT																				
			11																				
8	6	H700	DIAPHRAGM	E 20						39	3.000							39	3	39	3	472	
24	7	H701	DIAPHRAGM	E 20						8	0.000							8	0	8	0	392	
16	6	H702	DIAPHRAGM	E 20						8	0.000							8	0	8	0	192	
8	6	H703	DIAPHRAGM	E 20						5	0.000							5	0	5	0	60	
16	5	H704	DIAPHRAGM	E 20						2	0.000							2	0	2	0	33	
6	5	H705	DIAPHRAGM	E 20						4	5.000							4	5	4	5	28	
4	5	H706	DIAPHRAGM	E 20						3	11.000							3	11	3	11	16	
6	6	H707	DIAPHRAGM	E 20						6	0.000							6	0	6	0	54	
32	4	U700	DIAPHRAGM	E 28	S						15.000	4	0.000	12.000				6	3	6	1	130	
32	4	U701	DIAPHRAGM	E 27	S					15.000	3	1.625	14.625	12.000			10.375	10.375	6	7	6	6	139
16	6	U702	DIAPHRAGM	E 28	S						15.000	4	3.125	14.000				6	8	6	4	152	
16	6	U703	DIAPHRAGM	E 27	S					15.000	3	4.500	15.000	14.000			10.625	10.625	7	1	6	10	164
16	6	U704	DIAPHRAGM	E 28	S						15.000	4	9.250	14.000				7	2	6	11	166	
16	6	U705	DIAPHRAGM	E 27	S					15.000	3	10.625	15.000	14.000			10.625	10.625	7	7	7	4	176
16	6	U706	DIAPHRAGM	E 28	S						15.000	5	3.250	14.000				7	8	7	5	178	
16	6	U707	DIAPHRAGM	E 27	S					15.000	4	4.625	15.000	14.000			10.625	10.625	8	1	7	10	188

# BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	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.
16	6 U708	DIAPHRAGM	E 19	S				4	7.000	15.000						5	10	5	8	136
16	6 U709	DIAPHRAGM	E 19	S				4	10.500	15.000						6	2	6	0	144
32	5 U710	DIAPHRAGM	E 20					4	1.000							4	1	4	1	136
8	5 U711	DIAPHRAGM	E 15	S					15.250	5	1.000			10.750	10.750	6	4	6	4	53
16	5 U712	DIAPHRAGM	E 6	S				4	0.500	13.000	18.000					6	8	6	5	107
4	5 U713	DIAPHRAGM	E 19	S				4	8.500	13.000						5	10	5	8	24
8	5 V700	DIAPHRAGM	E 20					4	7.000							4	7	4	7	38
		DIAPH. •																		
		INT. BENT																		
		17																		
4	6 H800	DIAPHRAGM	E 20					39	3.000							39	3	39	3	236
* 14	7 H801	DIAPHRAGM	E 20					8	0.000							8	0	8	0	229
8	6 H802	DIAPHRAGM	E 20					8	0.000							8	0	8	0	96
4	6 H803	DIAPHRAGM	E 20					5	0.000							5	0	5	0	30
8	5 H804	DIAPHRAGM	E 20					2	0.000							2	0	2	0	17
3	5 H805	DIAPHRAGM	E 20					4	5.000							4	5	4	5	14
2	5 H806	DIAPHRAGM	E 20					3	11.000							3	11	3	11	8
3	6 H807	DIAPHRAGM	E 20					6	0.000							6	0	6	0	27
16	4 U800	DIAPHRAGM	E 28	S					15.000	3	10.375	12.000				6	1	5	11	63
16	4 U801	DIAPHRAGM	E 11	S					15.000	3	10.375	12.000				6	1	5	11	63
8	6 U802	DIAPHRAGM	E 28	S					15.000	4	1.500	14.000				6	7	6	3	75
8	6 U803	DIAPHRAGM	E 11	S					15.000	4	1.500	14.000				6	7	6	3	75
8	6 U804	DIAPHRAGM	E 28	S					15.000	4	7.625	14.000				7	1	6	9	81
8	6 U805	DIAPHRAGM	E 11	S					15.000	4	7.625	14.000				7	1	6	9	81
8	6 U806	DIAPHRAGM	E 28	S					15.000	5	1.625	14.000				7	7	7	3	87
8	6 U807	DIAPHRAGM	E 11	S					15.000	5	1.625	14.000				7	7	7	3	87
8	6 U808	DIAPHRAGM	E 19	S				4	7.000	15.000						5	10	5	8	68
8	6 U809	DIAPHRAGM	E 11	S					15.000	5	7.500	14.000				8	1	7	9	93
16	5 U810	DIAPHRAGM	E 20					4	1.000							4	1	4	1	68
4	5 U811	DIAPHRAGM	E 15	S					15.250	5	1.000			10.750	10.750	6	4	6	4	26
8	5 U812	DIAPHRAGM	E 6	S				4	0.500	13.000	18.000					6	8	6	5	54
2	5 U813	DIAPHRAGM	E 19	S				4	8.500	13.000						5	10	5	8	12
2	5 V800	DIAPHRAGM	E 20					4	7.000							4	7	4	7	10
2	5 V801	DIAPHRAGM	E 20					5	7.500							5	8	5	8	12
		MAIN SLAB																		
35	7 S1	SLAB	E 20					47	2.000							47	2	47	2	3374
175	7 S2	SLAB	E 20					60	0.000							60	0	60	0	21462
64	8 S3	SLAB	E 20					32	0.000							32	0	32	0	5468
64	8 S4	SLAB	E 20					32	2.000							32	2	32	2	5497
64	8 S5	SLAB	E 20					38	5.000							38	5	38	5	6565
328	5 S6	SLAB	E 20					40	0.000							40	0	40	0	13684
8	5 S7	SLAB	E 20					23	3.000							23	3	23	3	194
3853	6 S8	SLAB	E 20					41	3.000							41	3	41	3	238722
3212	4 S9	SLAB	E 20					3	4.000							3	4	3	4	7152
* 37	8 S10	SLAB	E 20					14	7.000							14	7	14	7	1441
805	8 S11	SLAB	E 20					60	0.000							60	0	60	0	128961



# BILL OF REINFORCING STEEL

[illegible]

STATE	<b>JOB NO. 1411111C</b>	SHEET NO.
	<b>PROJ. NO.-F.A.M.-3373 (408)</b>	
MO.	<b>G.I.D.-780724-05-PEM</b>	<b>190</b>

**SHAPE 6**

**SHAPE 7**

**SHAPE 8**

**SHAPE 9**

**SHAPE 10**

**SHAPE 11**

**SHAPE 12**

**SHAPE 13**

**SHAPE 14**

**SHAPE 15**

**SHAPE 16**

**SHAPE 17**

**SHAPE 18**

**SHAPE 19**

**SHAPE 20**

**SHAPE 21**

**SHAPE 22**

**SHAPE 23**

**SHAPE 24**

**SHAPE 25**

**SHAPE 26**

**SHAPE 27**

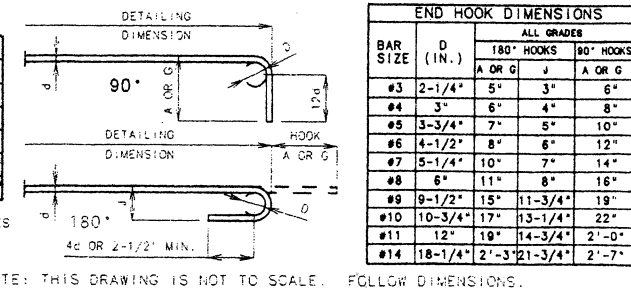
**SHAPE 28**

**SHAPE 29**

**SHAPE 30**

**SHAPE 31**

**SHAPE 32**



**NOTE:**  
 A. ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME  
 PROCEDURE AS FOR 90 DEG. STD. HOOKS.  
 B. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.  
 C. EPOXY COATED REINFORCEMENT.  
 D. REINFORCEMENT.  
 E. BARS INCLUDED IN SUBSTRUCTURE QUANTITIES.  
 F. BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE  
 AND THE FOLLOWING LINE.  
 G. NO. EA. = NUMBER OF BARS OF EACH LENGTH.  
 H. LENGTHS AND WEIGHTS ARE TO BE OBTAINED FROM THE DIMENSIONS SHOWN IN BENDING DIAGRAM AND  
 ARE LISTED FOR FABRICATORS USE. (NEAREST INCH).  
 I. ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.  
 J. WEIGHTS ARE BASED ON ACTUAL LENGTHS.  
 K. FOUR AND EIGHT SPIRAL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO  
 BE INSIDE OF SPIRAL LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES  
 REINFORCING STEEL GRADE 60 = FY 60,000 PSI.

8

STATE OF MISSOURI  
KURT E. GRIBBE  
NUMBER E-23576  
REGISTERED PROFESSIONAL ENGINEER

6

1-1/2 TURNS

DATE 11-4-99


SHAPE 35

E PLACED SPACERS

1 Revised 10-28-99

LACKSON

35  
WOOD




6

SHAPE 34

(SHAPE 35 SHALL BE A SMOOTH BAR OR WIRE.)

35  
WOOD



6

SHAPE 33

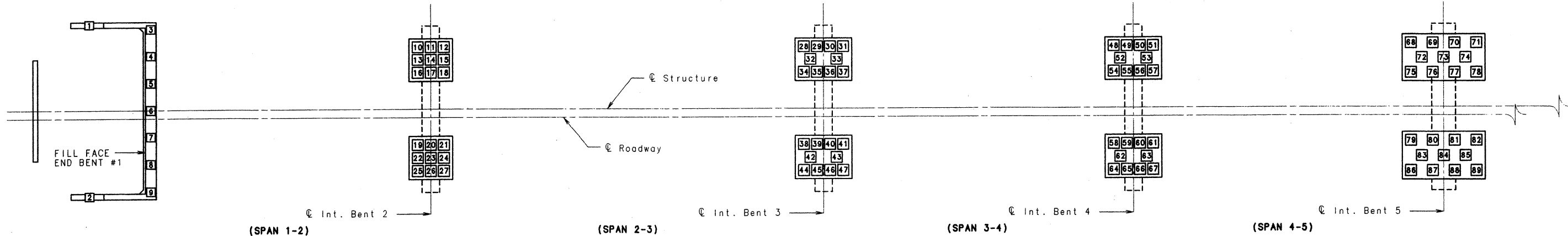
STATE OF MISSISSIPPI  
REGISTERED PROFESSIONAL ENGINEER  
KURT E. GRIBBLE  
NUMBER E-23576

DATE 5-1-98

BENDING DIAGRAMS

COUNTY

45422



PART PLAN SHOWING  
PILE NUMBERING FOR RECORDING  
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	Pre Bore	REMARKS
END BENT NO. 1				
1	45.97	59	24.91	DRIVEN TO PRACTICAL REFUSAL, HP 10x42#
2	46.05	59	24.76	
3	45.97	110	23.9	
4	45.80	110	23.9	
5	45.64	110	23.9	
6	45.64	126	23.9	
7	46.22	126	23.9	
8	46.22	110	23.9	
9	45.72	110	23.9	
SUB TOTAL	413		217	
INT. BENT NO. 2				
10-B	15.70	120		HP 10x42# DRIVEN TO PRACTICAL REFUSAL
11	14.60	110		
12-B	14.00	105		
13-B	14.00	105		
14	14.40	110		
15-B	14.70	120		
16-B	14.60	120		
17	14.30	126		
18-B	13.20	105		
19-B	13.80	105		
20	14.50	110		
21-B	14.80	120		
22-B	14.60	120		
23	14.70	126		
24-B	14.70	105		
25-B	13.80	105		
26	14.40	110		
27-B	14.80	105		
SUB TOTAL	260			
INT. BENT NO. 3				
28-B	12.80	120		HP 10x42# DRIVEN TO PRACTICAL REFUSAL 10' Pre Bore (Paid L.S.)
29	10.80	110		
30	12.40	110		
31-B	11.60	109		
32	11.50	114		

"AS BUILT PILE" DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS	
33	12.50	110	HP 10x42# DRIVEN TO PRACTICAL REFUSAL 10' Pre Bore (Paid L.S.)	
34-B	13.20	105		
35	12.90	126		
36	12.00	126		
37-B	12.50	120		
38-B	11.80	105		
39	12.10	110		
40	12.00	114		
41-B	12.30	109		
42	11.00	110		
43	11.80	110		
44-B	10.10	120		
45	11.20	126		
46	11.00	110		
47-B	11.60	105		
SUB TOTAL	237			
INT. BENT NO. 4				
48-B	15.10	105	HP 10x42# DRIVEN TO PRACTICAL REFUSAL	
49	14.60	110		
50	14.50	126		
51-B	13.20	120		
52	13.00	126		
53	13.00	110		
54-B	13.20	105		
55	13.40	114		
56	12.80	114		
57-B	13.20	105		
58-B	13.00	105		
59	13.00	126		
60	12.80	126		
61-B	14.10	105		
62	12.80	110		
63	13.00	110		
64-B	12.80	120		
65	12.80	126		
66	12.80	110		
67-B	13.30	105		
SUB TOTAL	267			

"AS BUILT PILE" DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS	
			INT. BENT NO. 5	
68-B	13.80 ✓	105 ✓	HP 10x42# DRIVEN TO PRACTICAL REFUSAL	
69	13.70 ✓	110 ✓		
70	13.80 ✓	126 ✓		
71-B	13.90 ✓	120 ✓		
72	13.80 ✓	126 ✓		
73	13.80 ✓	110 ✓		
74	13.70 ✓	110 ✓		
75-B	14.00 ✓	109 ✓		
76	13.70 ✓	114 ✓		
77	13.70 ✓	110 ✓		
78-B	13.90 ✓	105 ✓		
79-B	13.90 ✓	120 ✓		
80	13.70 ✓	126 ✓		
81	14.80 ✓	110 ✓		
82-B	14.80 ✓	105 ✓		
83	14.80 ✓	110 ✓		
84-B	13.90 ✓	120 ✓		
85	13.80 ✓	126 ✓		
86-B	14.00 ✓	105 ✓		
87	14.00 ✓	110 ✓		
88	14.80 ✓	126 ✓		
89-B	14.10 ✓	120 ✓		
SUB TOTAL	308 ✓			

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.

FINAL PLANS  
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.  
M. J. S. 4-23-01  
Date



NOTE: INDICATE IN REMARK COLUMN:  
A.) IF PILING WERE DRIVEN TO PRACTICAL REFUSAL.  
B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.  
C.) TYPE OF PILING USED.

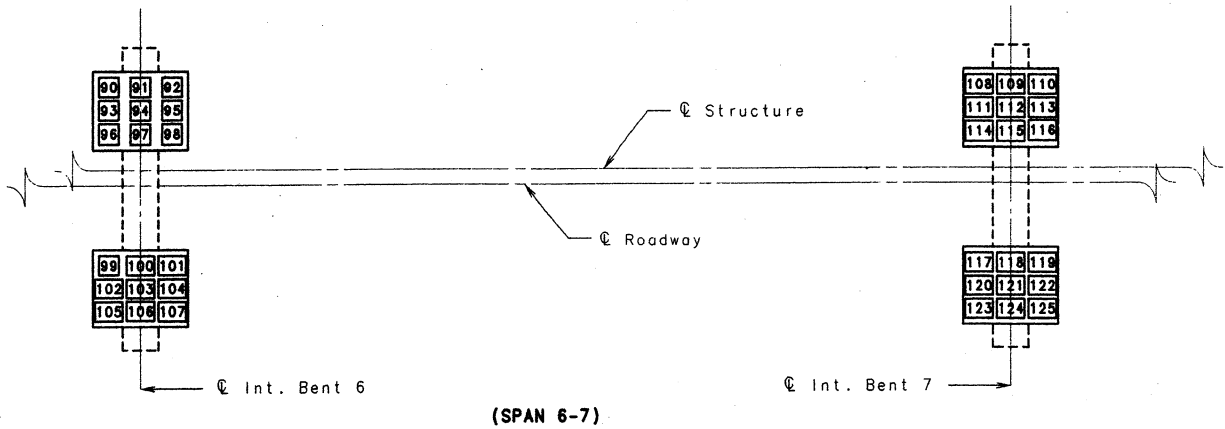
MISC. PILES IN .PLA. .A  
PILES IN PLACE  
MAY 1992

DETAILED JAN. 1998  
CHECKED MAR. 1998

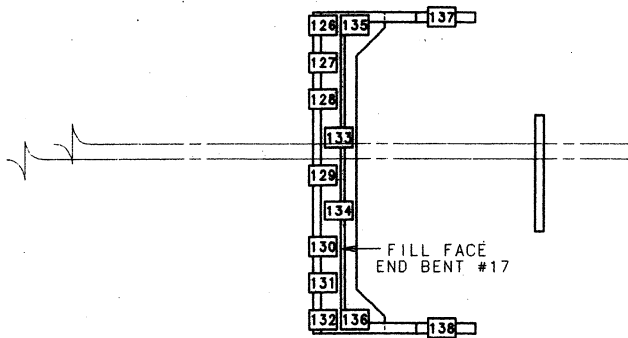
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 92 OF 93.

JACKSON COUNTY A5496



Int. Bents No. 8-16 have spread footings, no piles are required.



PART PLAN SHOWING  
PILE NUMBERING FOR RECORDING  
"AS BUILT PILE" DATA

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
INT. BENT NO. 6			
90-8	13.20	140	HP12x53* DRIVEN TO PRACTICAL REFUSAL
91	13.30	135	
92-8	13.30	135	
93-8	13.20	135	
94	14.80	147	
95-8	13.30	135	
96-8	13.70	140	
97	13.00	135	
98-8	13.30	135	
99-8	14.30	140	
100	12.50	147	
101-8	12.90	140	
102-8	12.80	135	
103	13.50	135	
104-8	12.80	140	
105-8	12.80	140	
106	12.70	147	
107-8	12.90	135	
SUB TOTAL	238		

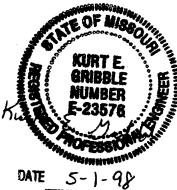
"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
INT. BENT NO. 7			
108-8	13.80	140	HP12x53* DRIVEN TO PRACTICAL REFUSAL
109	13.70	133	
110-8	13.80	140	
111-8	13.80	135	
112	13.60	135	
113-8	13.80	140	
114-8	13.80	140	
115	13.70	147	
116-8	13.80	135	
117-8	13.80	135	
118	13.70	147	
119-8	14.70	140	
120-8	13.10	140	
121	13.60	135	
122-8	13.70	135	
123-8	13.80	140	
124	13.70	147	
125-8	13.60	140	
SUB TOTAL	248		

"AS BUILT PILE" DATA				
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	PRIOR	REMARKS
END BENT NO. 17				
126-8	60	101	42.04	HP10x42* DRIVEN TO PRACTICAL REFUSAL
127-8	60	115	42.04	
128-8	60	115	42.04	
129-8	60	115	42.04	
130-8	60	101	42.04	
131-8	59.70	101	42.04	
132-8	59.60	115	42.04	
133	58.40	116	42.04	
134	58.40	110	42.04	
135	58.70	126	42.04	
136	58.20	110	42.04	
137	61.00	88	44.79	
138	62.00	88	44.85	
SUB TOTAL	776		552	

FINAL PLANS  
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M. J. SELL 4-23-01  
Signature Date

NOTE: THIS SHEET TO BE COMPLETED BY MHTD CONSTRUCTION PERSONNEL.




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B.) PILE BATTER IF OTHER THAN SHOWN ON BENT DETAIL SHEET.  
C.) TYPE OF PILING USED.

MISC. PILES IN .PLA. .A  
PILES IN PLACE  
MAY 1992

DETAILED JAN. 1998  
CHECKED MAR. 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 93 OF 93.


		Missouri Department of Transportation				August 08, 2023	
		State Bridge Inspection Report				10:47:10AM	
COUNTY: JACKSON		DISTRICT: KC		CLASS: STATBR		FED-ID: 11895	
						BRIDGE: A5495	
***GENERAL STRUCTURE INFORMATION***						***BRIDGE INSPECTION INFORMATION***	
ROUTE: MO150E FEATURE: BLUE RVR, UP RR STATUS: A-OPEN LOG MILE: 0.985 DETOUR: 1.00 MILES NHS: YES BUILT: 1999 REHAB: LOCATION: S 30 T 47 R 33 W LATITUDE: 38 52 12.09 (DMS) LONGITUDE: 94 36 6.76 (DMS)		# SPANS: 16 LANES ON: 2 LANES UNDER: 0 COMPASS DIRECTION: NORTH to SOUTH DIRECTION OF TRAFFIC: 1-WAY TRAF FUNCTIONAL CLASS: UR-FREEWAY NBI OWNER: MODOT NBI MAINTAINED: MODOT MAINTENANCE DISTRICT: KC MAINTENANCE COUNTY: JACKSON SUB AREA: 7C03		PLACE CODE: 38000 KANSAS CITY CITY LENGTH: 1,613 FT 0 IN MAXIMUM SPAN: 110 FT 0 IN APPROACH ROADWAY: 40 FT 0 IN CURB TO CURB: 38 FT 10 IN OUT TO OUT: 41 FT 6 IN AADT: 11764 AADT YEAR: 2022 AADT TRUCK: 4.2% FUTURE AADT: 15881 FUTURE AADT YEAR: 2042		DATE: 05/03/2023 RESPONSIBILITY: BRIDGEDIV	
						FREQUENCY: 24 CALCULATED INTERVAL**: 23	
						TEAM LEADER: STEVE HULBERT ELEMENT: YES	
				INSPECTOR 2: DUSTIN PIERCE (NTLQ) INSPECTOR 4:			
				INSPECTOR 3:			
				** When calculated interval exceeds the frequency, a justification comment per BIRM is required.			
***FRACTURE CRITICAL INSPECTION INFORMATION***						***INDEPTH INSPECTION INFORMATION***	
DATE: RESPONSIBILITY: CATEGORY:			DATE: RESPONSIBILITY: CATEGORY:				
FREQUENCY: CALCULATED INTERVAL**: NBI:			FREQUENCY: CALCULATED INTERVAL**: NBI:				
TEAM LEADER: INSPECTOR 3: METHOD:			TEAM LEADER: INSPECTOR 3: METHOD:				
INSPECTOR 2: INSPECTOR 4:			INSPECTOR 2: INSPECTOR 4:				
** When calculated interval exceeds the frequency, a justification comment per BIRM is required.			** When calculated interval exceeds the frequency, a justification comment per BIRM is required.				
FRACTURE CRITICAL INSPECTION COMMENTS				INDEPTH INSPECTION COMMENTS			
***SPECIAL INSPECTION INFORMATION***				***UNDERWATER INSPECTION INFORMATION***			
DATE: 12/07/2022 RESPONSIBILITY: BRIDGEDIV CATEGORY: CHANNEL CROSS SEC				DATE: 05/03/2023 RESPONSIBILITY: BRIDGEDIV CATEGORY: DRY			
FREQUENCY: 72 CALCULATED INTERVAL**: 88 NBI: NO				FREQUENCY: 60 CALCULATED INTERVAL**: 23 NBI: NO			
TEAM LEADER: STEVE HULBERT INSPECTOR 3: METHOD: WT TAPE				TEAM LEADER: STEVE HULBERT INSPECTOR 3: METHOD: VISUAL			
INSPECTOR 2: INSPECTOR 4:				INSPECTOR 2: DUSTIN PIERCE (NTLQ) INSPECTOR 4:			
** When calculated interval exceeds the frequency, a justification comment per BIRM is required.				** When calculated interval exceeds the frequency, a justification comment per BIRM is required.			
SPECIAL INSPECTION COMMENTS				UNDERWATER INSPECTION COMMENTS			
OTHER SPECIAL INSPECTIONS				OTHER UNDERWATER INSPECTIONS			
<u>DATE</u>	<u>FREQUENCY</u>	<u>CATEGORY</u>	<u>NBI</u>	<u>CALCULATED INTERVAL</u>	<u>RESPONSIBILITY</u>	<u>METHOD</u>	<u>DATE</u>
01/17/2014	999	QUALITY ASSURANCE	NO		BRIDGEDIV		


Design\_No = A5495

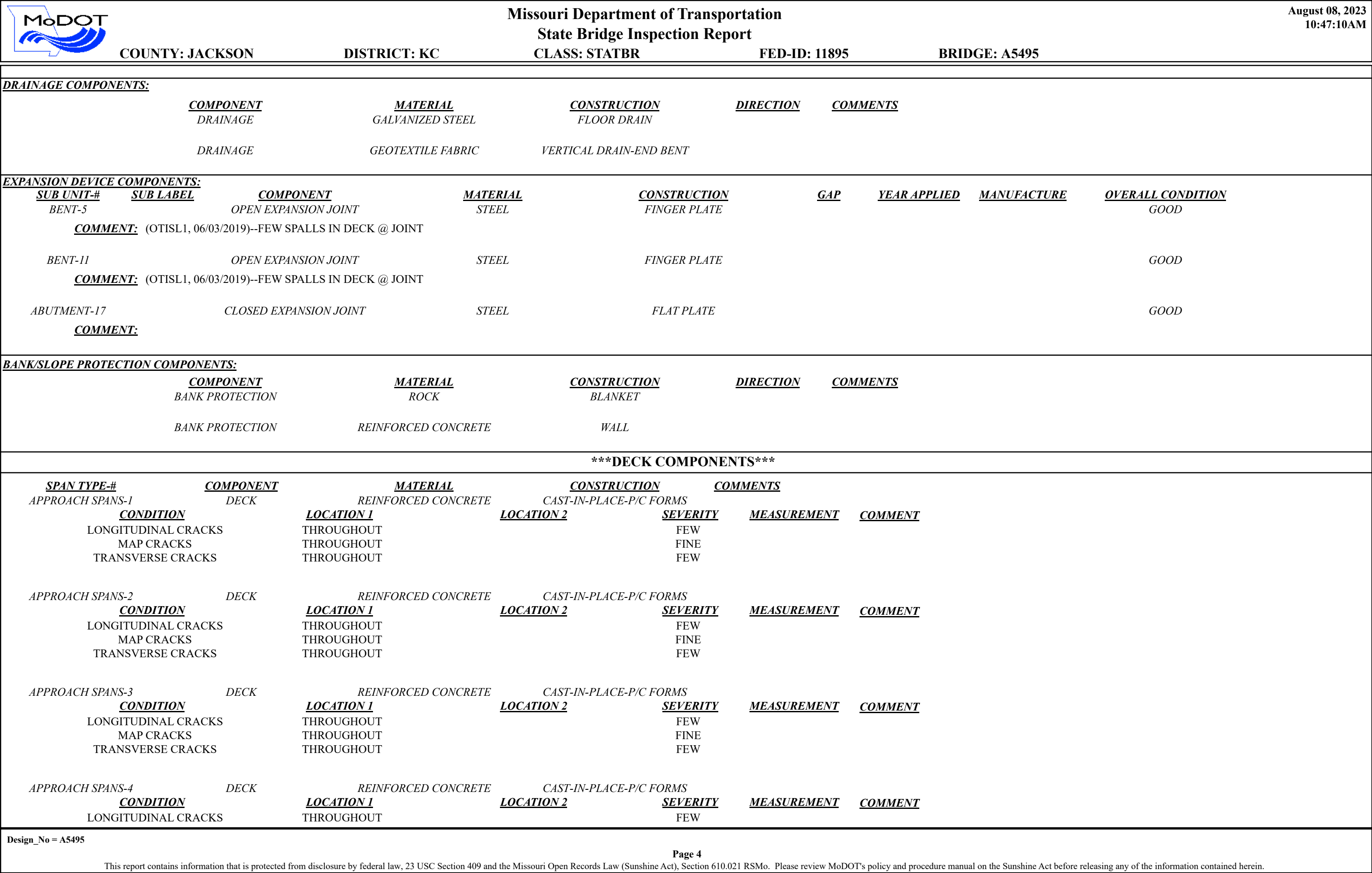
Page 1

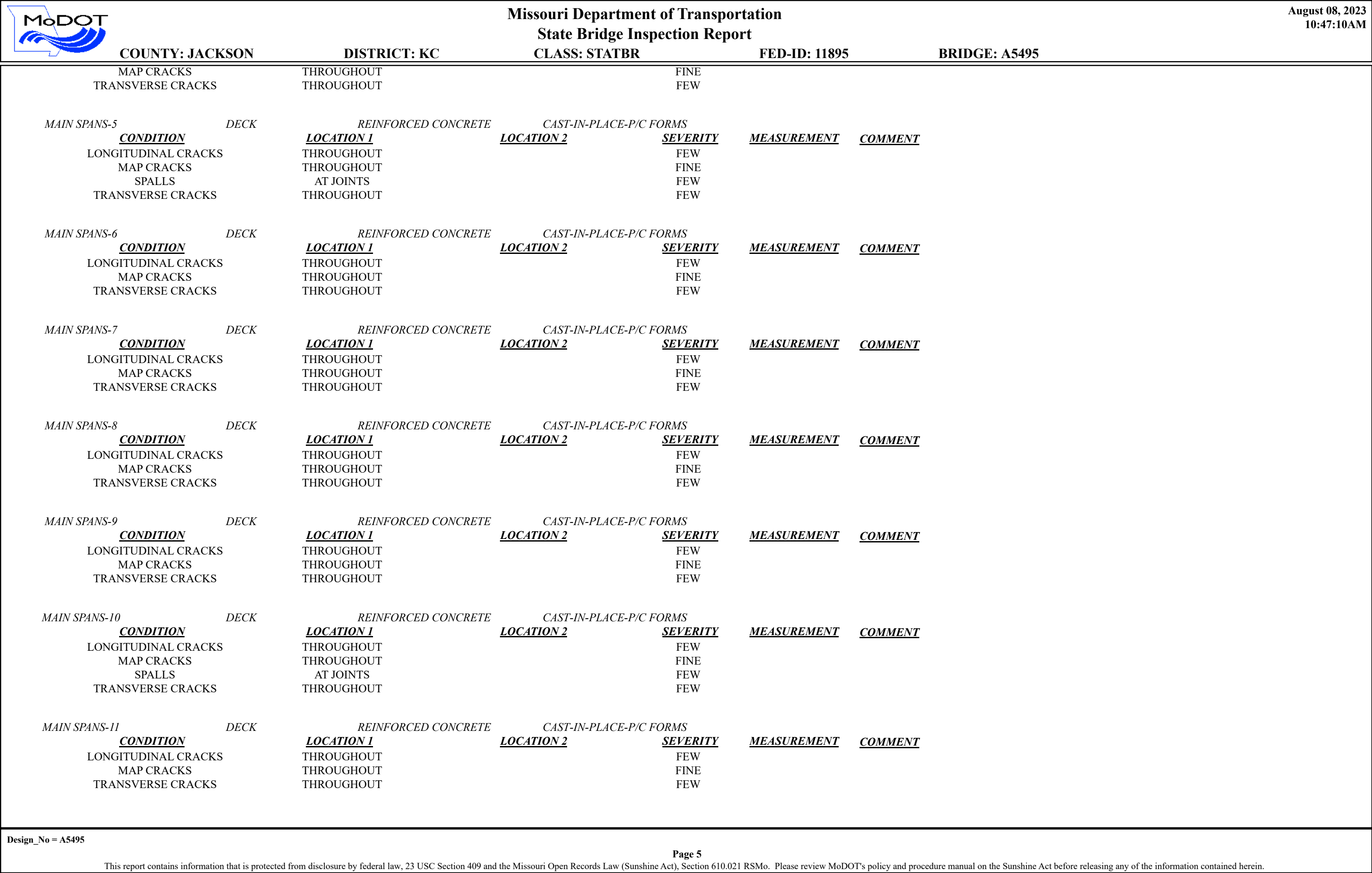
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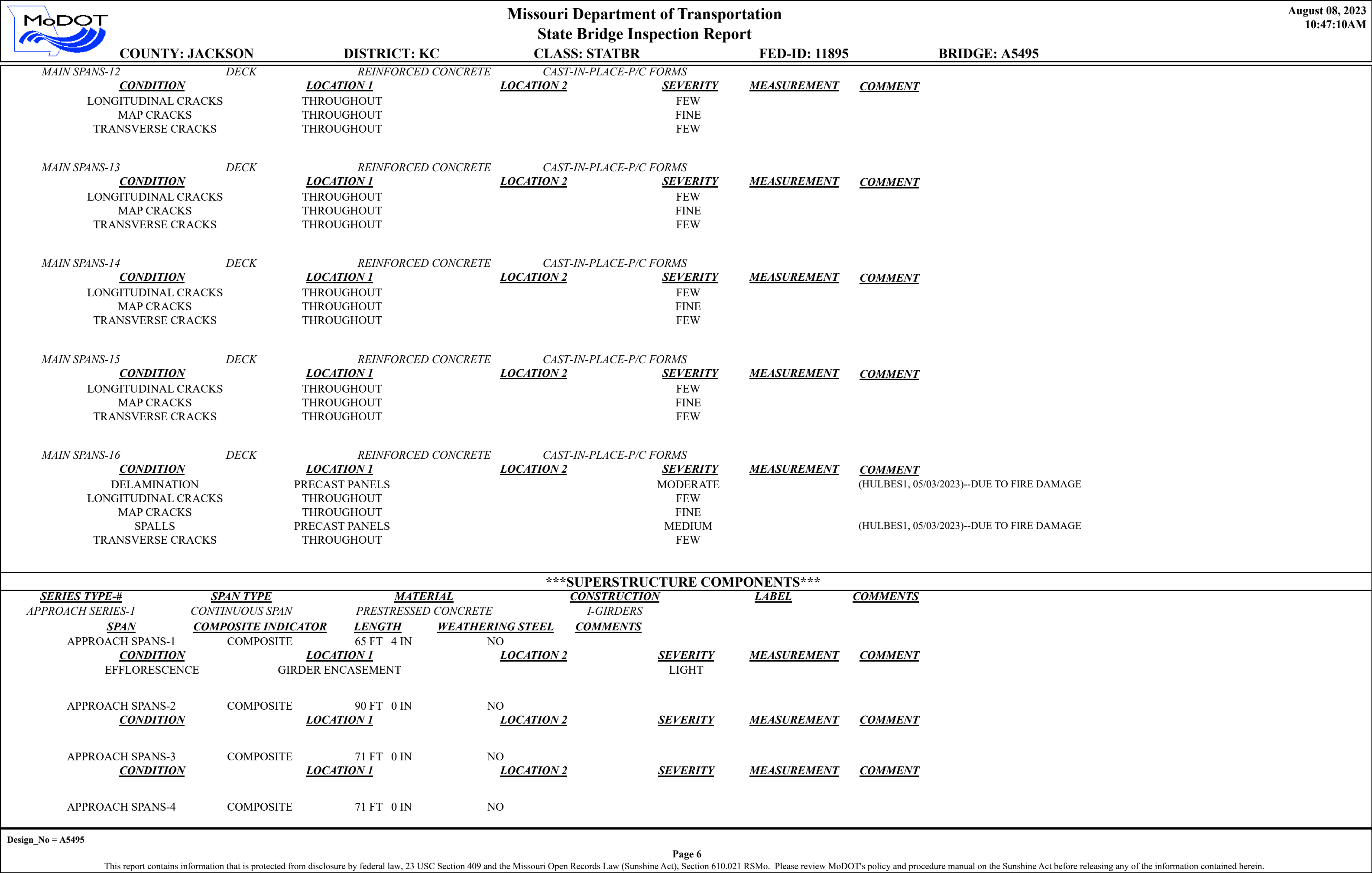
		Missouri Department of Transportation			August 08, 2023	
		State Bridge Inspection Report			10:47:10AM	
COUNTY: JACKSON		DISTRICT: KC	CLASS: STATBR	FED-ID: 11895	BRIDGE: A5495	
***STRUCTURE POSTING***						
APPROVED CATEGORY: S-1		NO POSTING REQUIRED				
Ton 1:		Ton 2:		Ton 3:		
COMMENTS:						
FIELD CATEGORY: S-1		NO POSTING REQUIRED				
Ton 1:		Ton 2:		Ton 3:	PROBLEM:	PROBLEM DIRECTION:
COMMENTS:						
***GENERAL COMMENTS/MAJOR RATED ITEMS***						
GENERAL COMMENTS: (HAGEMD1, 06/04/2015)-- (65'-90'-71'-71')P/S CONC I-GRDR SPNS (6 @ 110')(5@110'-78') P/S BULB-TEE GRDR SPANS						
[ITEM 58] DECK: 6-SATISFACTORY CONDITION		COMMENTS: (MADSEJ, 05/03/2019)--EXCESSIVE FINE MAP CRACKS THROUGHOUT THE DECK SURFACE.				
RATING : 05/02/2019						
[ITEM 59] SUPER: 6-SATISFACTORY CONDITION		COMMENTS: (MADSEJ, 05/03/2019)--MANY SPALLS AND DELAMINATIONS WITH A FEW VERTICAL STIRRUP BARS EXPOSED ON THE SOUTH SPAN PRESTRESSED				
RATING : 05/02/2019		GIRDERS.				
[ITEM 60] SUB: 7-GOOD CONDITION		COMMENTS: (MADSEJ, 06/07/2017)--A FEW VERTICAL CRACKS THROUGHOUT THE BEAMCAPS AT THE EXPANSION JOINTS.				
RATING : 06/07/2017						
[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE		COMMENTS: (MADSEJ, 06/07/2017)--POOR UPSTREAM ALIGNMENT. STEEP ERODING BANKS THROUGHOUT THE CHANNEL. DEBRIS AND VEGETATION GROWING				
RATING : 06/07/2017		IN THE DOWNSTREAM CHANNEL IS SLIGHTLY RESTRICTING FLOW.				
[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED		COMMENTS: (MADSEJ, 06/07/2017)--MINOR EROSION/SCOUR AT THE BENT 5 COLUMNS.				
RATING : 05/18/2001						
EVALUATION TYPE :						
[ITEM 71] WATERWAY ADEQUACY: DECK ABOVE FLOOD ELEV		COMMENTS:				
RATING : 05/18/2001						
[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD		COMMENTS:				
RATING : 05/18/2001						
***RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS***						
[ITEM 36A] BRIDGE RAILING RATING: MEETS CURRENT STANDARDS-1		RATING : 05/18/2001		COMMENTS:		
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>			
REINFORCED CONCRETE	SAFETY BARRIER CURB	BOTH				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>COMMENT</u>		
SPALLS	THROUGHOUT		MINOR			
VERTICAL CRACKS	THROUGHOUT		MANY			
[ITEM 36B] TRANSITION RAILING RATING: MEETS CURRENT STANDARDS-1		RATING : 05/18/2001		COMMENTS:		
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>			
GALVANIZED STEEL	THRIE BEAM TO W-BEAM	BOTH-WEST				
[ITEM 36C] APPROACH RAILING RATING: MEETS CURRENT STANDARDS-1		RATING : 05/18/2001		COMMENTS:		
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>			
GALVANIZED STEEL	W-BEAM	BOTH-WEST				
Design_No = A5495						
Page 2						
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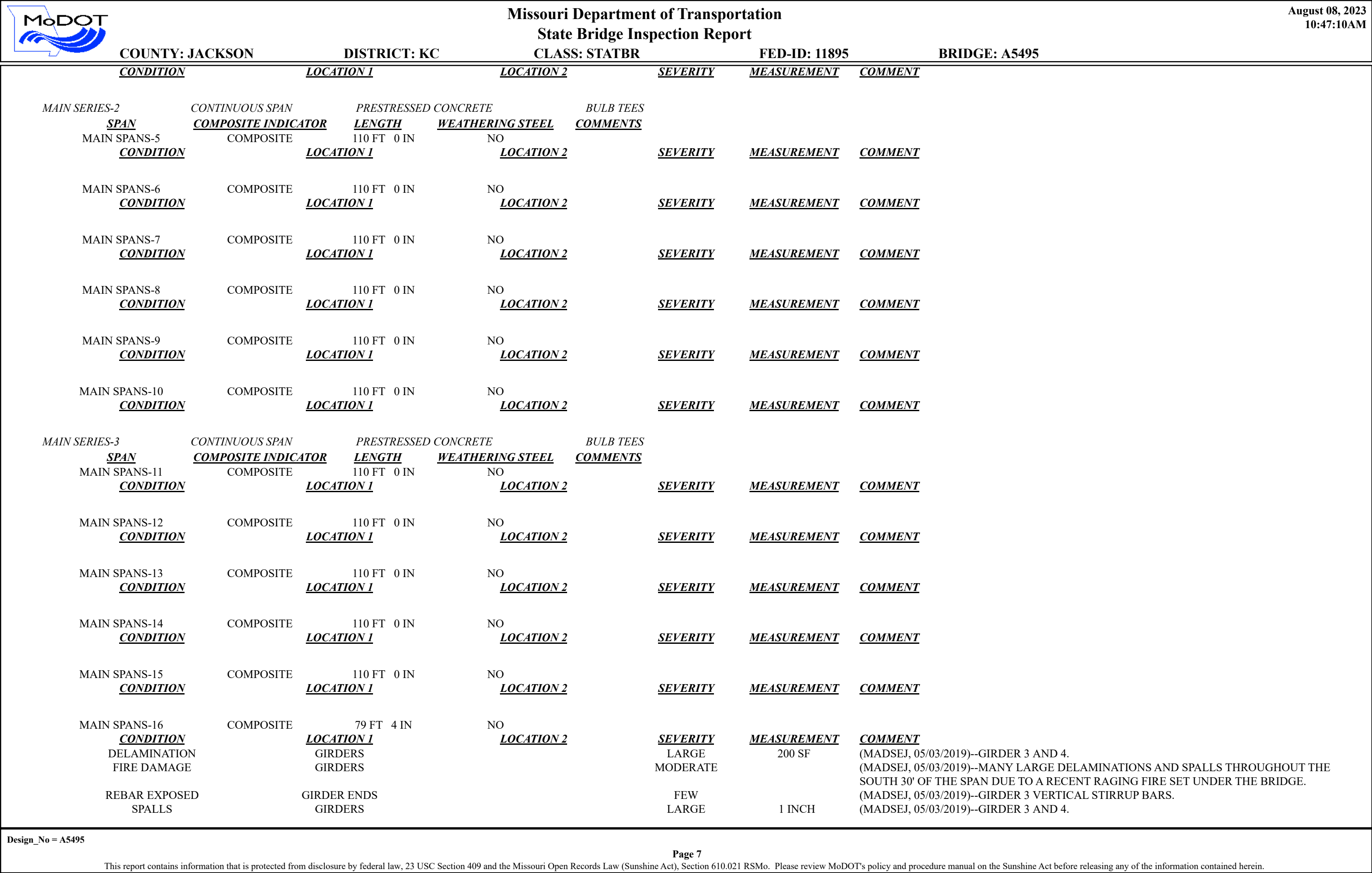
		Missouri Department of Transportation			August 08, 2023	
		State Bridge Inspection Report			10:47:10AM	
COUNTY: JACKSON		DISTRICT: KC	CLASS: STATBR	FED-ID: 11895	BRIDGE: A5495	
[ITEM 36D] RAIL END TREATMENT RATING: MEETS CURRENT STANDARDS-I						
RATING : 05/18/2001						
COMMENTS:						
<u>MATERIAL</u>		<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>		
GALVANIZED STEEL		BREKAWAY SYSTEM	BOTH-WEST			
APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.						
<u>MATERIAL</u>		<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>CONDITION*</u>	<u>COMMENTS</u>	
REINFORCED CONCRETE		TIED SLAB	BOTH	GOOD		
***DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS***						
DECK PROTECTIVE COMPONENTS:						
<u>SERIES TYPE-#</u>	<u>COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>THICKNESS</u>	<u>YEAR APPLIED</u>	<u>MANUFACTURE</u>
APPROACH SERIES-1	WEARING SURFACE	PLAIN CONCRETE	MONOLITHIC			
<u>COMMENT:</u>						
	DECK PROTECTION	EPOXY POLYMER	COATED REBAR			
<u>COMMENT:</u>						
	MEMBRANE	NOTAPPLICABLE	NONE			
<u>COMMENT:</u>						
	SECONDARY DECK PROTECTION	LIQUID SEALANT	INTERNALLY SEALED		2014	SILANE
<u>COMMENT:</u>						
MAIN SERIES-2	WEARING SURFACE	PLAIN CONCRETE	MONOLITHIC			
<u>COMMENT:</u>						
	DECK PROTECTION	EPOXY POLYMER	COATED REBAR			
<u>COMMENT:</u>						
	MEMBRANE	NOTAPPLICABLE	NONE			
<u>COMMENT:</u>						
	SECONDARY DECK PROTECTION	LIQUID SEALANT	INTERNALLY SEALED		2014	SILANE
<u>COMMENT:</u>						
MAIN SERIES-3	WEARING SURFACE	PLAIN CONCRETE	MONOLITHIC			
<u>COMMENT:</u>						
	DECK PROTECTION	EPOXY POLYMER	COATED REBAR			
<u>COMMENT:</u>						
	MEMBRANE	NOTAPPLICABLE	NONE			
<u>COMMENT:</u>						
	SECONDARY DECK PROTECTION	LIQUID SEALANT	INTERNALLY SEALED		2014	SILANE
<u>COMMENT:</u>						
Design_No = A5495						
Page 3						
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		Missouri Department of Transportation				August 08, 2023	
		State Bridge Inspection Report				10:47:10AM	
COUNTY: JACKSON		DISTRICT: KC		CLASS: STATBR		FED-ID: 11895	
						BRIDGE: A5495	
***SUBSTRUCTURE COMPONENTS***							
<u>SUBSTRUCTURE</u>	<u>SKEW</u>	<u>LENGTH</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>LABEL</u>	<u>COMMENTS</u>	
ABUTMENT-1		41 FT 6 IN	REINFORCED CONCRETE	INTEGRAL			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE		CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EFFLORESCENCE		THROUGHOUT			LIGHT		
VERTICAL CRACKS		THROUGHOUT			FEW		
PILING		STEEL		H-SHAPE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
DEADMAN ANCHORS		STEEL		ROD			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
TURNED BACK WINGS		REINFORCED CONCRETE		CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
WING PILES		STEEL		H-SHAPE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC		LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-2		39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE		CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE		CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE		H-PILE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC		LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-3		39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE		CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE		CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE		H-PILE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC		LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-4		39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE		CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE		CAST-IN-PLACE			

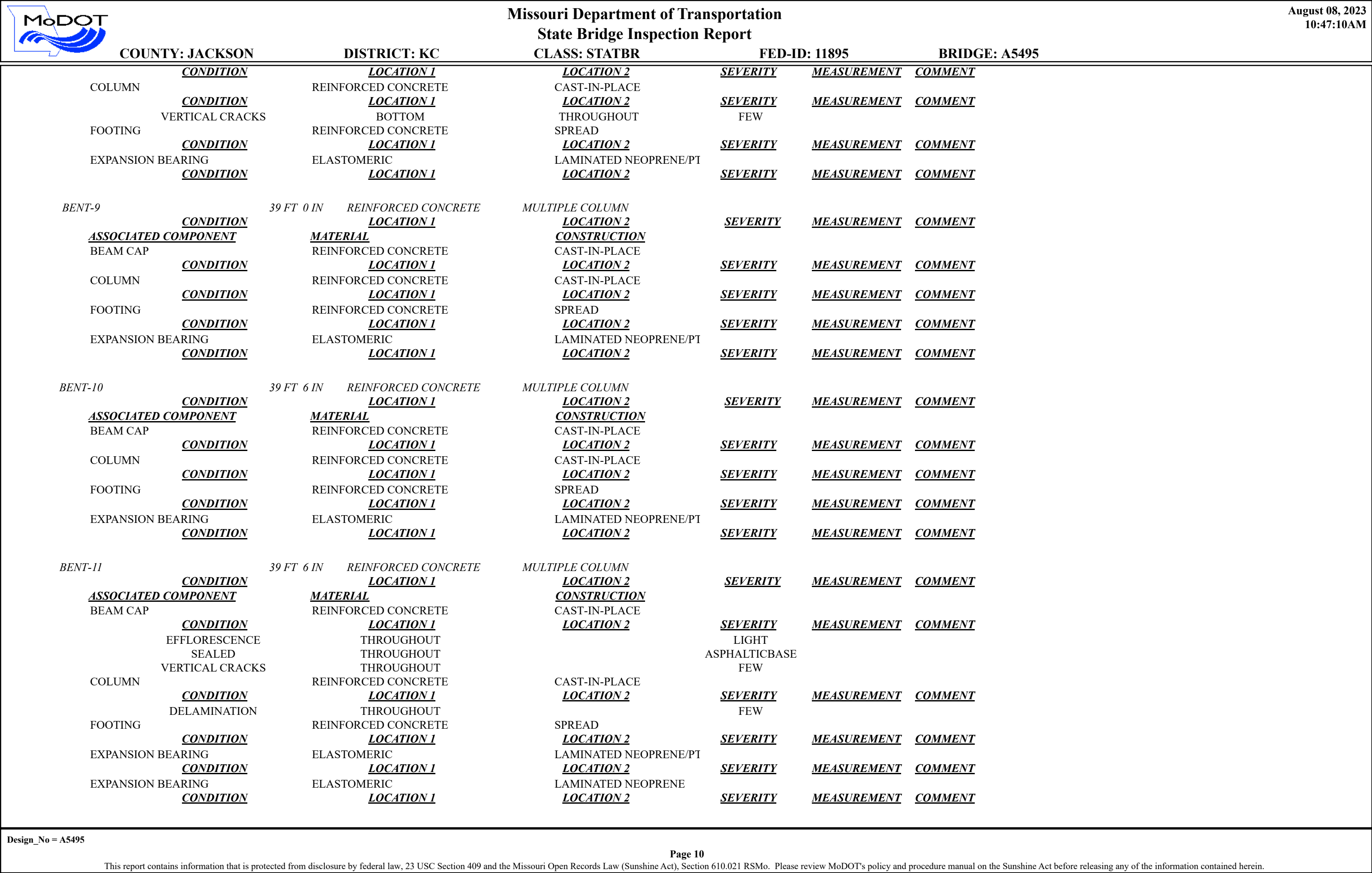
Design\_No = A5495

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		Missouri Department of Transportation State Bridge Inspection Report				August 08, 2023 10:47:10AM
COUNTY: JACKSON		DISTRICT: KC		CLASS: STATBR		FED-ID: 11895
						BRIDGE: A5495
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE	H-PILE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-5		39 FT 6 IN REINFORCED CONCRETE	MULTIPLE COLUMN			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EFFLORESCENCE		THROUGHOUT		LIGHT		
SEALED		THROUGHOUT		ASPHALTICBASE		
VERTICAL CRACKS		THROUGHOUT		FEW		
COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE	H-PILE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-6		39 FT 6 IN REINFORCED CONCRETE	MULTIPLE COLUMN			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE	H-PILE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-7		39 FT 0 IN REINFORCED CONCRETE	MULTIPLE COLUMN			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE	H-PILE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-8		39 FT 0 IN REINFORCED CONCRETE	MULTIPLE COLUMN			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			







# Missouri Department of Transportation State Bridge Inspection Report

**August 08, 2023**  
**10:47:10AM**

**COUNTY: JACKSON**

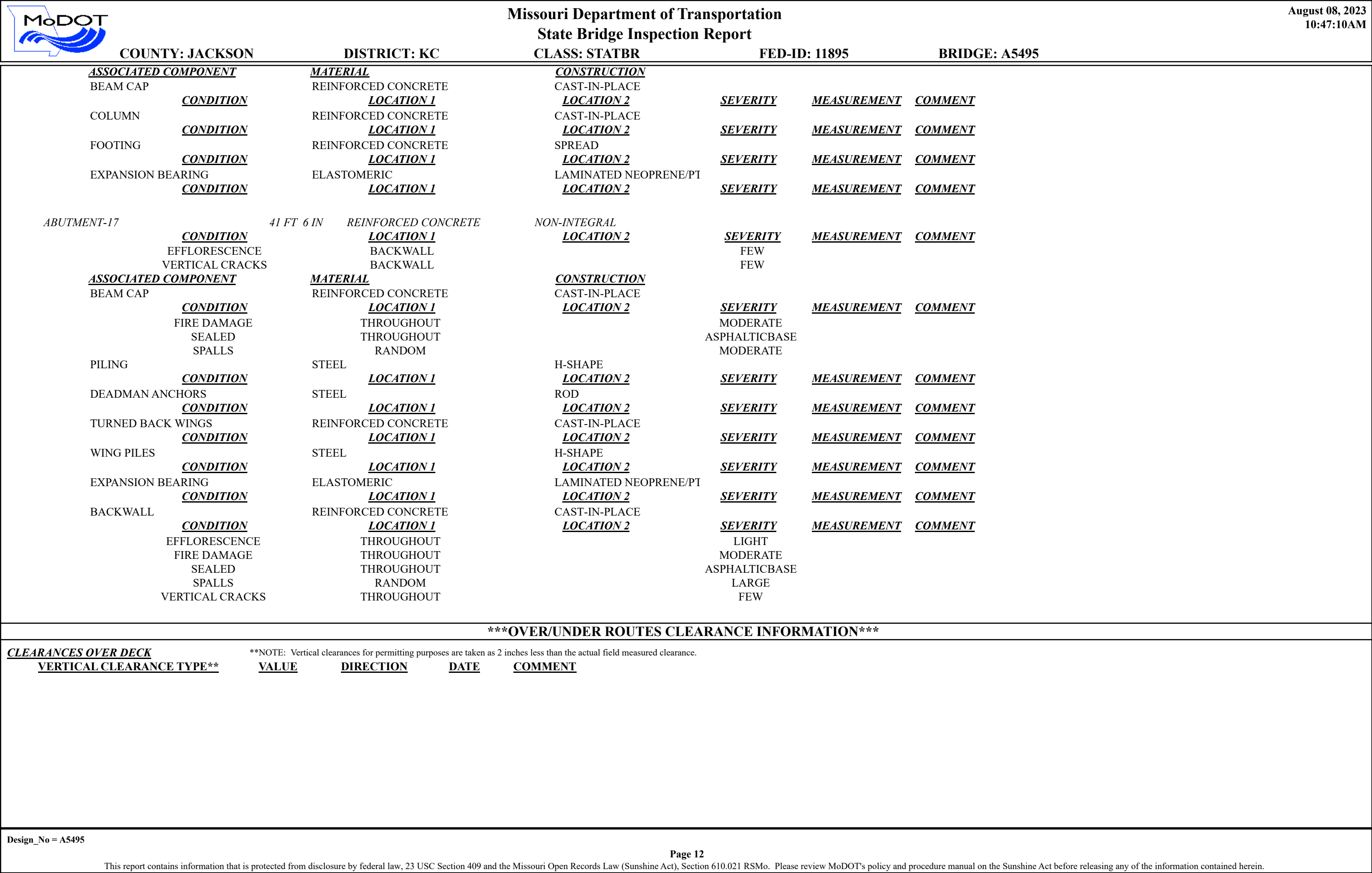
DISTRICT: KC


**CLASS: STATBR**

**FED-ID: 11895**


BRIDGE: A5495

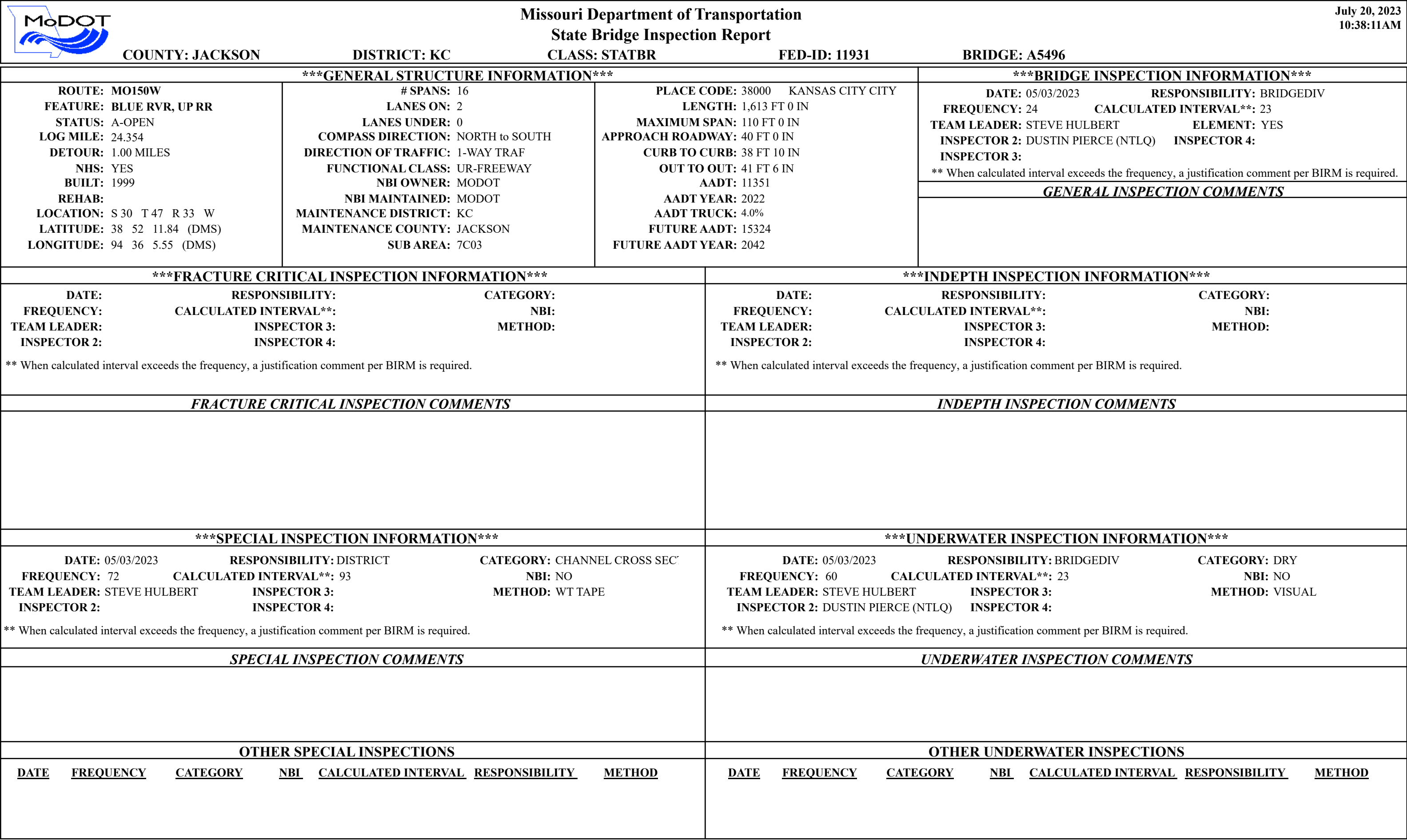
BENT-12		39 FT 6 IN	REINFORCED CONCRETE	MULTIPLE COLUMN				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>				
	BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	VERTICAL CRACKS		THROUGHOUT		FEW			
	COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	FOOTING		REINFORCED CONCRETE	SPREAD				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	BENT-13	<u>CONDITION</u>	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
<u>ASSOCIATED COMPONENT</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
BEAM CAP			REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
FOOTING			REINFORCED CONCRETE	SPREAD				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	BENT-14	<u>CONDITION</u>	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
		<u>ASSOCIATED COMPONENT</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
		BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
FOOTING			REINFORCED CONCRETE	SPREAD				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	BENT-15	<u>CONDITION</u>	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
		<u>ASSOCIATED COMPONENT</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
		BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
COLUMN			REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
FOOTING			REINFORCED CONCRETE	SPREAD				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT				
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
	BENT-16	<u>CONDITION</u>	39 FT 6 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
				<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>





		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>August 08, 2023</div> <div>10:47:10AM</div>							
COUNTY: JACKSON		DISTRICT: KC		CLASS: STATBR		FED-ID: 11895		BRIDGE: A5495					
<div><div><div>CLEARANCES UNDER BRIDGE</div><div>RECORD #</div><div>1</div><div>VERTICAL CLEARANCE TYPE**</div><div>CONVERTED</div></div><div><div>ROUTE</div><div>UP RR</div></div></div>		<div><div>**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.</div><div><div># LANES</div><div>VALUE</div><div>23 FT 0 IN</div></div><div><div>DIRECTION OF TRAFFIC</div><div>DIRECTION</div></div><div><div>DATE</div></div><div><div>RIGHT LATERAL CLEARANCE</div><div>29 FT 4 IN</div><div>COMMENT</div></div><div><div>LEFT LATERAL CLEARANCE</div></div><div><div>UR-ID</div><div>25417</div></div></div>											
***STRUCTURE PAINT INFORMATION***													
CONDITION:		RUST AMOUNT :		STEEL TONS :									
<div><div><div>ORIGINAL PAINT</div><div>PAINT TYPE :</div><div>NAME :</div><div>PAINT COLOR :</div><div>PAINT YEAR :</div><div>MILS :</div></div><div><div>CONTRACT REPAINT</div><div>PAINT TYPE :</div><div>NAME :</div><div>PAINT COLOR :</div><div>PAINT YEAR :</div><div>MILS :</div></div><div><div>DEPARTMENT REPAINT</div><div>MANUFACTURE :</div><div>SURFACE PREP :</div></div></div>													
***REQUESTED WORK ITEMS***													
GENERAL WORK COMMENTS:													
<div><div>RESPONSIBILITY</div><div>DISTRICT ROUTINE</div><div>DISTRICT SPECIAL</div></div>		<div><div>LOCATION</div><div>SLOPE</div><div>ROADWAY SURFACE</div></div>		<div><div>ITEM</div><div>CUT BRSH&amp;TREES SPAYVINES</div><div>SEAL WITH SILANE</div></div>		<div><div>CATEGORY</div><div>SLOPE</div><div>DECK</div></div>		<div><div>PRIORITY</div><div>2</div><div>2</div></div>		<div><div>DATE</div><div>06/07/2017</div><div>01/05/2021</div></div>		<div><div>WORK ITEM COMMENT</div></div>	
***UTILITY ATTACHMENTS***													
UTILITY		OWNER		METHOD		MEASUREMENT TYPE		VALUE		NUMBER		UTILITY ATTACHMENT COMMENT	
***PROGRAM NOTES INFORMATION***													
YEAR		PROJECT #		MONTH LET		YEAR LET		ITEMS		COMMENT			
Design_No = A5495										Page 13			
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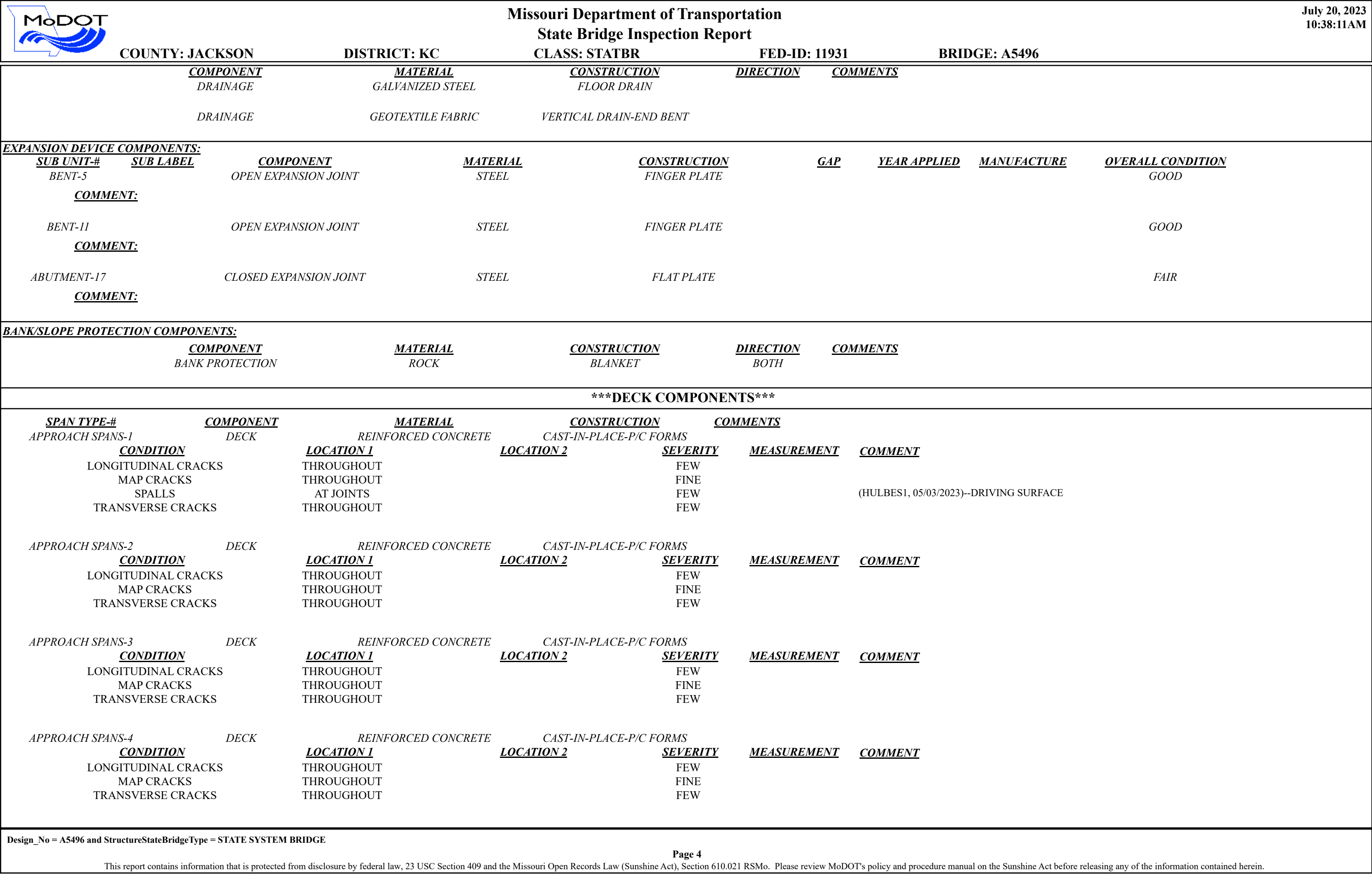
			<b>Missouri Department of Transportation</b>		<b>August 08, 2023</b>	
			<b>State Bridge Inspection Report</b>		<b>10:47:10AM</b>	
<b>COUNTY: JACKSON</b>			<b>DISTRICT: KC</b>		<b>CLASS: STATBR</b>	
			<b>FED-ID: 11895</b>		<b>BRIDGE: A5495</b>	
<b>***COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS***</b>					<b>***ADVANCED SIGN INFORMATION***</b>	
NOTE: The items listed in this section are updated whenever computer edits are ran on a structure after the inspection updates have been entered in to TMS.					<b>SIGN #</b>	
					<b>SIGN TYPE</b>	
					<b>PROBLEM</b>	
					<b>PROBLEM DIRECTION</b>	
<b><u>Rated Item</u></b>					<b><u>Rating</u></b>	
					<b><u>Rating Date</u></b>	
[Item 67] Structure Evaluation Rating:					6-EQ TO PRESENT MIN CRITR	
[Item 68] Deck Geometry Rating:					6-EQ TO PRESENT MIN CRITR	
[Item 69] Underclearance:					8-EQ TO PRESENT DESIRAB	
Sufficiency Rating:					99.5%	
Deficiency:					NOT DEFICIENT	
Funding Eligibility:					----	
Estimated New Structure Length:					----	
Estimated Structure Cost:					----	
Estimated Total Project Cost:					----	
Year of Cost Estimate:					----	
NOTE: The above structure length and cost estimates are computer generated using algorithms in the TMS system. These algorithms are generalized to use NBI items to come up with a new structure length and width to calculate a new area which is taken times a representative cost per square foot. The actual structure size and cost may vary significantly from these numbers once site specific engineering is done.						
					<b>***OUTFALL INSPECTION INFORMATION***</b>	
					<b># OUTFALLS:</b>	
					<b>INSPECTOR:</b>	
					<b>STATUS:</b>	
					<b>DATE:</b>	
					<b>NOTES:</b>	

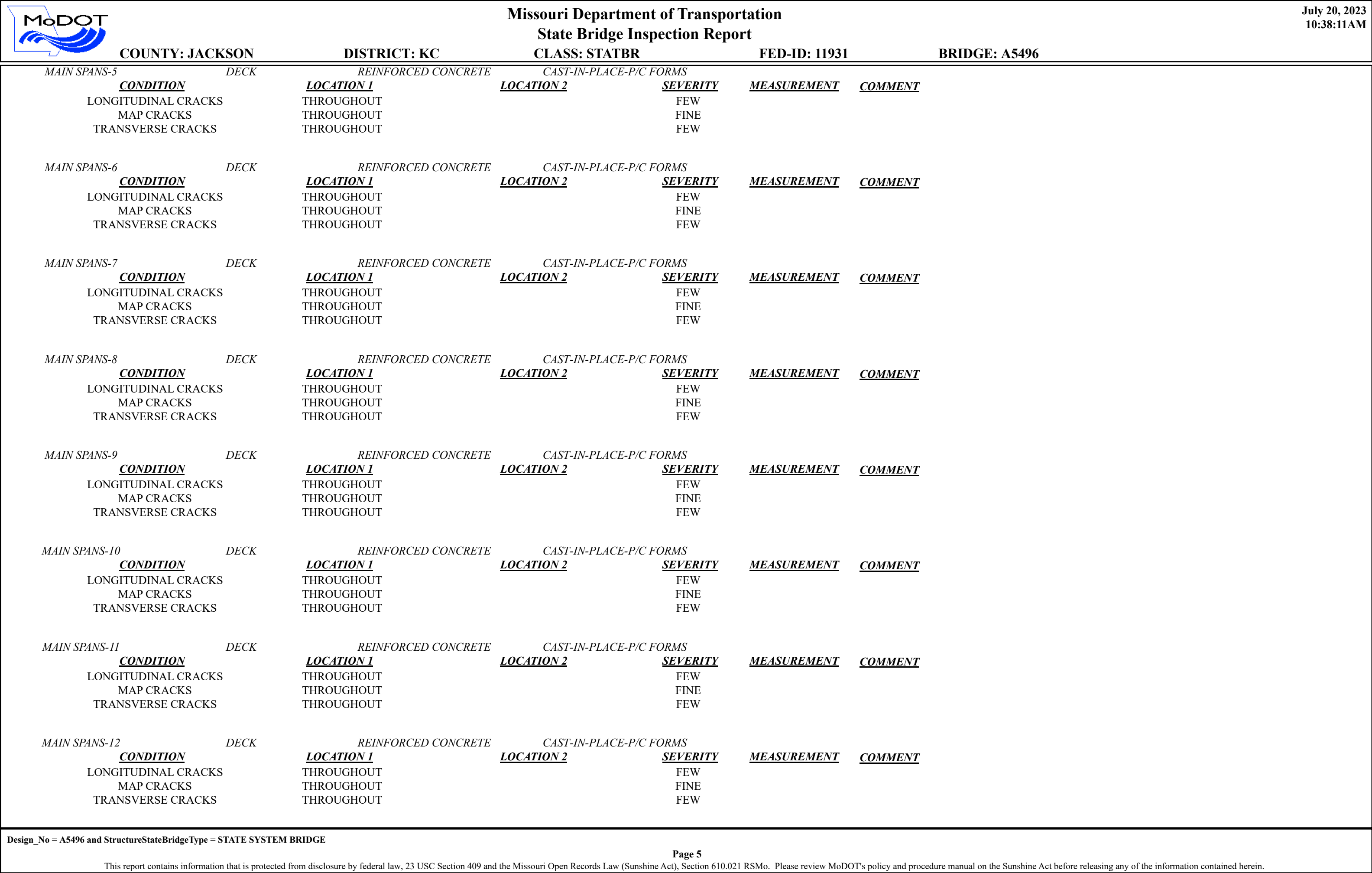


		Missouri Department of Transportation				July 20, 2023	
		State Bridge Inspection Report				10:38:11AM	
COUNTY: JACKSON		DISTRICT: KC		CLASS: STATBR		FED-ID: 11931	
				BRIDGE: A5496			
***STRUCTURE POSTING***							
APPROVED CATEGORY: S-1		NO POSTING REQUIRED					
Ton 1:		Ton 2:		Ton 3:			
COMMENTS:							
FIELD CATEGORY: S-1		NO POSTING REQUIRED					
Ton 1:		Ton 2:		Ton 3:		PROBLEM:	
COMMENTS:						PROBLEM DIRECTION:	
***GENERAL COMMENTS/MAJOR RATED ITEMS***							
GENERAL COMMENTS: (HAGEMD1, 06/04/2015)--(65'-90'-84'-84') P/S CONC I-GIRDER SPANS (6@110')(5@110'-78') P/S BULB-TEE SPANS							
[ITEM 58] DECK:		6-SATISFACTORY CONDITION		COMMENTS: (MADSEJ, 05/03/2019)--EXCESSIVE FINE MAP CRACKS THROUGHOUT THE DECK SURFACE.			
RATING :		05/02/2019					
[ITEM 59] SUPER:		6-SATISFACTORY CONDITION		COMMENTS: (MADSEJ, 06/07/2017)--AN 11" FINE VERTICAL CRACK ON THE SPAN 14 GIRDER 3 TOP FLANGE.			
RATING :		07/06/2017					
[ITEM 60] SUB:		5-FAIR CONDITION		COMMENTS: (MADSEJ, 05/03/2019)--EROSION OR SETTLEMENT HAS EXPOSED THE EAST SIDE OF THE SOUTH ABUTMENT PILES WITH PACKRUST AND MINOR			
RATING :		07/06/2017		SECTION LOSS ON THE EXPOSED PILES AT THE BEAMCAP.			
[ITEM 61] BANK/CHANNEL:		5-MAJOR DAMAGE		COMMENTS: (MADSEJ, 06/08/2021)--POOR UPSTREAM ALIGNMENT. STEEP ERODING BANKS THROUGHOUT THE CHANNEL. DEBRIS AND VEGETATION GROWING			
RATING :		06/07/2017		IN THE DOWNSTREAM CHANNEL IS SLIGHTLY RESTRICTING FLOW.			
[ITEM 113] SCOUR:		8-STABLE FOR CALCULATED		COMMENTS: (MADSEJ, 06/07/2017)--MODERATE BANK EROSION/SCOUR AROUND THE BENT 8 COLUMNS.			
RATING :		05/18/2001					
EVALUATION TYPE :							
[ITEM 71] WATERWAY ADEQUACY:		ABOVE FLOOD ELEVATIONS		COMMENTS:			
RATING :		05/18/2001					
[ITEM 72] APPRRDWY ALIGNMENT:		8-VERYGOOD		COMMENTS:			
RATING :		05/18/2001					
***RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS***							
[ITEM 36A] BRIDGE RAILING RATING:		MEETS CURRENT STANDARDS-1		RATING :		05/18/2001	
COMMENTS:							
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>COMMENTS</u>	
REINFORCED CONCRETE		SAFETY BARRIER CURB		BOTH			
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
VERTICAL CRACKS		THROUGHOUT				MANY	
<u>COMMENT</u>							
[ITEM 36B] TRANSITION RAILING RATING:		MEETS CURRENT STANDARDS-1		RATING :		05/18/2001	
COMMENTS:							
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>COMMENTS</u>	
GALVANIZED STEEL		THRIE BEAM TO W-BEAM		BOTH-NORTH			
GALVANIZED STEEL		THRIE BEAM TO W-BEAM		SOUTHWEST			
[ITEM 36C] APPROACH RAILING RATING:		MEETS CURRENT STANDARDS-1		RATING :		05/18/2001	
COMMENTS:							
Design_No = A5496 and StructureStateBridgeType = STATE SYSTEM BRIDGE							
Page 2							
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		Missouri Department of Transportation				July 20, 2023	
		State Bridge Inspection Report				10:38:11AM	
COUNTY: JACKSON		DISTRICT: KC		CLASS: STATBR		FED-ID: 11931	
				BRIDGE: A5496			
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>COMMENTS</u>	
GALVANIZED STEEL		W-BEAM		BOTH-NORTH			
GALVANIZED STEEL		W-BEAM		SOUTHWEST			
[ITEM 36D] RAIL END TREATMENT RATING: MEETS CURRENT STANDARDS-1				RATING : 05/18/2001		COMMENTS:	
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>COMMENTS</u>	
GALVANIZED STEEL		BREKAWAY SYSTEM		BOTH-NORTH			
APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.							
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>CONDITION*</u>	
REINFORCED CONCRETE		TIED SLAB		BOTH		POOR	
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
LONGITUDINAL CRACKS		THROUGHOUT				MANY	
***DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS***							
<u>DECK PROTECTIVE COMPONENTS:</u>							
<u>SERIES TYPE-#</u>		<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>	
APPROACH SERIES-1		WEARING SURFACE		PLAIN CONCRETE		MONOLITHIC	
<u>COMMENT:</u>							
		DECK PROTECTION		EPOXY POLYMER		COATED REBAR	
<u>COMMENT:</u>							
		MEMBRANE		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
		SECONDARY DECK PROTECTION		LIQUID SEALANT		INTERNALLY SEALED	
<u>COMMENT:</u>						PAVON INDECK	
MAIN SERIES-2		WEARING SURFACE		PLAIN CONCRETE		MONOLITHIC	
<u>COMMENT:</u>							
		DECK PROTECTION		EPOXY POLYMER		COATED REBAR	
<u>COMMENT:</u>							
		MEMBRANE		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
MAIN SERIES-3		DECK PROTECTION		EPOXY POLYMER		COATED REBAR	
<u>COMMENT:</u>							
		MEMBRANE		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
<u>DRAINAGE COMPONENTS:</u>							
Design_No = A5496 and StructureStateBridgeType = STATE SYSTEM BRIDGE							
Page 3							
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# Missouri Department of Transportation

## State Bridge Inspection Report

**July 20, 2023**  
**10:38:11AM**

**COUNTY: JACKSON**

**DISTRICT: KC**

**CLASS: STATBR**

**FED-ID: 11931**

## BRIDGE: A5496

MAIN SPANS-13	DECK	REINFORCED CONCRETE	CAST-IN-PLACE-P/C FORMS			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
LONGITUDINAL CRACKS		THROUGHOUT		FEW		
MAP CRACKS		THROUGHOUT		FINE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
MAIN SPANS-14	DECK	REINFORCED CONCRETE	CAST-IN-PLACE-P/C FORMS			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
LONGITUDINAL CRACKS		THROUGHOUT		FEW		
MAP CRACKS		THROUGHOUT		FINE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
MAIN SPANS-15	DECK	REINFORCED CONCRETE	CAST-IN-PLACE-P/C FORMS			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
LONGITUDINAL CRACKS		THROUGHOUT		FEW		
MAP CRACKS		THROUGHOUT		FINE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		
MAIN SPANS-16	DECK	REINFORCED CONCRETE	CAST-IN-PLACE-P/C FORMS			
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
LONGITUDINAL CRACKS		THROUGHOUT		FEW		
MAP CRACKS		THROUGHOUT		FINE		
TRANSVERSE CRACKS		THROUGHOUT		FEW		

### \*\*\*SUPERSTRUCTURE COMPONENTS\*\*\*

<u>SERIES TYPE-#</u>	<u>SPAN TYPE</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>LABEL</u>	<u>COMMENTS</u>
APPROACH SERIES-1	CONTINUOUS SPAN	PRESTRESSED CONCRETE	I-GIRDERS		
<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>	
APPROACH SPANS-1	COMPOSITE	65 FT 4 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EFFLORESCENCE	GIRDER ENCASEMENT		LIGHT		
APPROACH SPANS-2	COMPOSITE	90 FT 0 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
APPROACH SPANS-3	COMPOSITE	84 FT 0 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
APPROACH SPANS-4	COMPOSITE	84 FT 0 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
MAIN SERIES-2	CONTINUOUS SPAN	PRESTRESSED CONCRETE	BULB TEES		
<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>	
MAIN SPANS-5	COMPOSITE	110 FT 0 IN	NO		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>

**Design\_No = A5496 and StructureStateBridgeType = STATE SYSTEM BRIDGE**

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# Missouri Department of Transportation

## State Bridge Inspection Report

**July 20, 2023**  
**10:38:11AM**

**COUNTY: JACKSON**

**DISTRICT: KC**

**CLASS: STATBR**

**FED-ID: 11931**

## BRIDGE: A5496

MAIN SPANS-6	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
MAIN SPANS-7	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
MAIN SPANS-8	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
MAIN SPANS-9	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
MAIN SPANS-10	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
SPALLS		GDR2		FEW			
MAIN SERIES-3	CONTINUOUS SPAN	PRESTRESSED CONCRETE					
<u>SPAN</u>	<u>COMPOSITE INDICATOR</u>	<u>LENGTH</u>	<u>WEATHERING STEEL</u>	<u>COMMENTS</u>			
MAIN SPANS-11	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
MAIN SPANS-12	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
MAIN SPANS-13	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
MAIN SPANS-14	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
TRANSVERSE CRACKS		RANDOM		FEW			
VERTICAL CRACKS		TOP FLANGE		FINE	11 INCH	(MADSEJ, 06/07/2017)--WEST SIDE GIRDER 3 AT MIDSPAN.	
MAIN SPANS-15	COMPOSITE	110 FT 0 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
MAIN SPANS-16	COMPOSITE	79 FT 4 IN	NO				
<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	

### \*\*\*SUBSTRUCTURE COMPONENTS\*\*\*

<u>SUBSTRUCTURE</u>	<u>SKEW</u>	<u>LENGTH</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>LABEL</u>	<u>COMMENTS</u>
ABUTMENT-1		41 FT 6 IN	REINFORCED CONCRETE	INTEGRAL		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		
BEAM CAP		REINFORCED CONCRETE		CAST-IN-PLACE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>
PILING		STEEL		H-SHAPE		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u> <u>COMMENT</u>

**Design\_No = A5496 and StructureStateBridgeType = STATE SYSTEM BRIDGE**

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# Missouri Department of Transportation State Bridge Inspection Report

**July 20, 2023**  
**10:38:11AM**

**COUNTY: JACKSON**

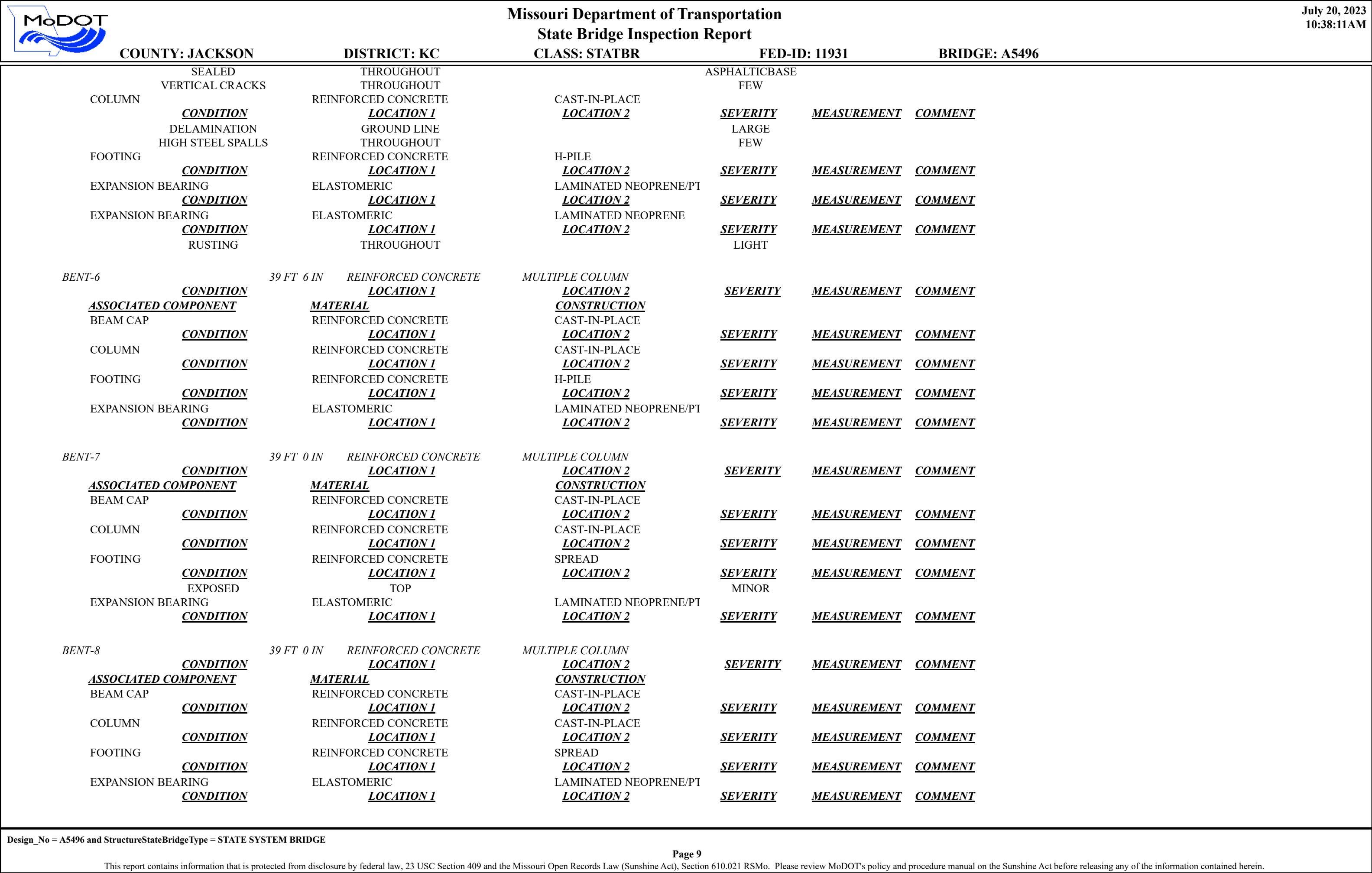
**DISTRICT: KC**

**CLASS: STATBR**

FED-ID: 11931

**BRIDGE: A5496**

DEADMAN ANCHORS	STEEL	ROD			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
WING PILES	STEEL	H-SHAPE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING	ELASTOMERIC	LAMINATED NEOPRENE/PT			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-2	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	REINFORCED CONCRETE	H-PILE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING	ELASTOMERIC	LAMINATED NEOPRENE/PT			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-3	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	REINFORCED CONCRETE	H-PILE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING	ELASTOMERIC	LAMINATED NEOPRENE/PT			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-4	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	REINFORCED CONCRETE	H-PILE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING	ELASTOMERIC	LAMINATED NEOPRENE/PT			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-5	39 FT 6 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EFFLORESCENCE	THROUGHOUT		LIGHT		





# Missouri Department of Transportation State Bridge Inspection Report

**July 20, 2023**  
**10:38:11AM**

**COUNTY: JACKSON**

DISTRICT: KC

**CLASS: STATBR**

FED-ID: 11931

BRIDGE: A5496

BENT-9	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>				
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
FOOTING	REINFORCED CONCRETE	SPREAD				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
EXPANSION BEARING	ELASTOMERIC	LAMINATED NEOPRENE/PT				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
BENT-10	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>				
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
FOOTING	REINFORCED CONCRETE	SPREAD				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
EXPANSION BEARING	ELASTOMERIC	LAMINATED NEOPRENE/PT				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
BENT-11	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>				
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
EFFLORESCENCE	THROUGHOUT		MODERATE			
SEALED	THROUGHOUT		ASPHALTICBASE			
VERTICAL CRACKS	THROUGHOUT		FEW			
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
DELAMINATION	BOTTOM		FEW			
VERTICAL CRACKS	RANDOM		FEW			(HULBES1, 05/03/2023)--COLUMN 2
FOOTING	REINFORCED CONCRETE	SPREAD				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
EXPANSION BEARING	ELASTOMERIC	LAMINATED NEOPRENE/PT				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
RUSTING	SOLE PLATE		LIGHT			
EXPANSION BEARING	ELASTOMERIC	LAMINATED NEOPRENE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
BENT-12	39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN			
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>				
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE				
<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>	



# Missouri Department of Transportation State Bridge Inspection Report

**July 20, 2023**  
**10:38:11AM**

**COUNTY: JACKSON**

DISTRICT: KC

**CLASS: STATBR**

**FED-ID: 11931**


**BRIDGE: A5496**


FOOTING		REINFORCED CONCRETE	SPREAD			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<hr/>						
BENT-13		39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE	SPREAD			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<hr/>						
BENT-14		39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE	SPREAD			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<hr/>						
BENT-15		39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE	SPREAD			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<hr/>						
BENT-16		39 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING		REINFORCED CONCRETE	SPREAD			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING		ELASTOMERIC	LAMINATED NEOPRENE/PT			

**Design No = A5496 and StructureStateBridgeType = STATE SYSTEM BRIDGE**

This report contains information that is protected from disclosure by federal law, 23 USC Section 409 and the Missouri Open Records Law (Sunshine Act), Section 610.021 RSMo. Please review MoDOT's policy and procedure manual on the Sunshine Act before releasing any of the information contained herein.



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		Missouri Department of Transportation				July 20, 2023	
		State Bridge Inspection Report				10:38:11AM	
COUNTY: JACKSON		DISTRICT: KC		CLASS: STATBR		FED-ID: 11931	
						BRIDGE: A5496	
CONDITION:		RUST AMOUNT :		STEEL TONS :			
<u>ORIGINAL PAINT</u>		<u>CONTRACT REPAINT</u>		<u>DEPARTMENT REPAINT</u>			
PAINT TYPE :		PAINT TYPE :		PAINT TYPE :		MANUFACTURE :	
NAME :		NAME :		NAME :		SURFACE PREP :	
PAINT COLOR :		PAINT COLOR :		PAINT COLOR :			
PAINT YEAR :		PAINT YEAR :		PAINT YEAR :			
MILS :		MILS :		MILS :			
***REQUESTED WORK ITEMS***							
GENERAL WORK COMMENTS:							
<i>RESPONSIBILITY</i>	<i>LOCATION</i>	<i>ITEM</i>	<i>CATEGORY</i>	<i>PRIORITY</i>	<i>DATE</i>	<i>WORK ITEM COMMENT</i>	
DISTRICT SPECIAL	AROUND SUBSTRUCTURE	CORRECT SCOUR	CHANNEL	2	05/21/2013	(RACKEM, 02/15/2012)--BT 9	
DISTRICT SPECIAL	BENT	PLACE RIP-RAP	CHANNEL	2	05/21/2013		
DISTRICT SPECIAL	BENT-CAPS	CLEAN AND SEAL	SUBSTRUCTURE	3	05/21/2013		
DISTRICT ROUTINE	SLOPE	CUT BRSH&TREES SPAYVINES	SLOPE	2	06/07/2017		
DISTRICT SPECIAL	SOUTH	BACKFILL ABUTMENT-SLOPE	SLOPE	2	06/07/2017		
DISTRICT SPECIAL	ROADWAY SURFACE	SEAL WITH SILANE	DECK	3	01/05/2021		
***UTILITY ATTACHMENTS***							
<i>UTILITY</i>	<i>OWNER</i>	<i>METHOD</i>	<i>MEASUREMENT TYPE</i>	<i>VALUE</i>	<i>NUMBER</i>	<i>UTILITY ATTACHMENT COMMENT</i>	
***PROGRAM NOTES INFORMATION***							
<u>YEAR</u>	<u>PROJECT #</u>	<u>MONTH LET</u>	<u>YEAR LET</u>	<u>ITEMS</u>	<u>COMMENT</u>		
***COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS***							
NOTE: The items listed in this section are updated whenever computer edits are ran on a structure after the inspection updates have been entered in to TMS.					***ADVANCED SIGN INFORMATION***		
<u>Rated Item</u>					<u>SIGN #</u>	<u>SIGN TYPE</u>	<u>PROBLEM</u>
<u>Rating</u>							<u>PROBLEM DIRECTION</u>
<u>Rating Date</u>					1		
[Item 67] Structure Evaluation Rating:							
5-BETTER THAN MINIMUM							
[Item 68] Deck Geometry Rating:							
6-EQ TO PRESENT MIN CRITR							
[Item 69] Underclearance:							
8-EQ TO PRESENT DESIRAB							
Sufficiency Rating:							
88.4%							
Deficiency:							
NOT DEFICIENT							
Funding Eligibility:							
----							
Estimated New Structure Length:							
----							
Estimated Structure Cost:							
----							
Estimated Total Project Cost:							
----							
Year of Cost Estimate:							
----							
NOTE: The above structure length and cost estimates are computer generated using algorithms in the TMS system. These algorithms are generalized to use NBI items to come up with a new structure length and width to calculate a new area which is taken times a representative cost per square foot. The actual structure size and cost may vary significantly from these numbers once site specific engineering is done.					***OUTFALL INSPECTION INFORMATION***		
					# OUTFALLS:	INSPECTOR:	
					STATUS:	DATE:	
					NOTES:		

