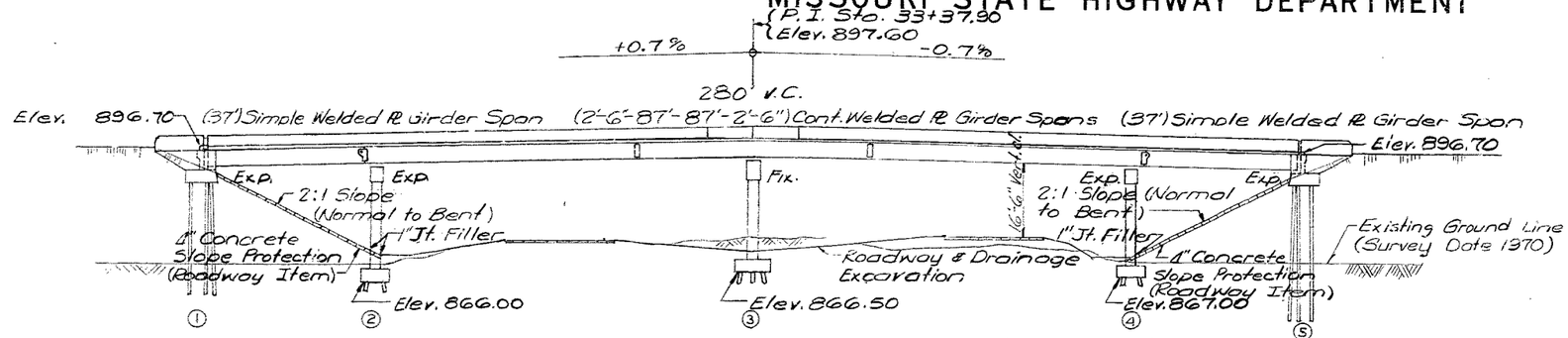
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	45	



Note: A minimum vertical clearance of 14'-0" from crown of existing lanes and a minimum lateral clearance of 28'-0" centered on existing lanes shall be maintained during construction.

GENERAL ELEVATION

Note: Compacted fill (full roadway width) shall be placed up to elevation of bottom of concrete beam in front of and not less than 25'-0" in back of End Bents No. 1 & 5 before piles are driven at end bents, #1 & #5.

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O. - 1973

Design Loading:
H20-44 15 #/sq. ft. Future Wearing Surface
Earth 120 # Equivalent Fluid Pressure 30 #
Fatigue Stress: Case II Interim 1974

Design Unit Stresses:

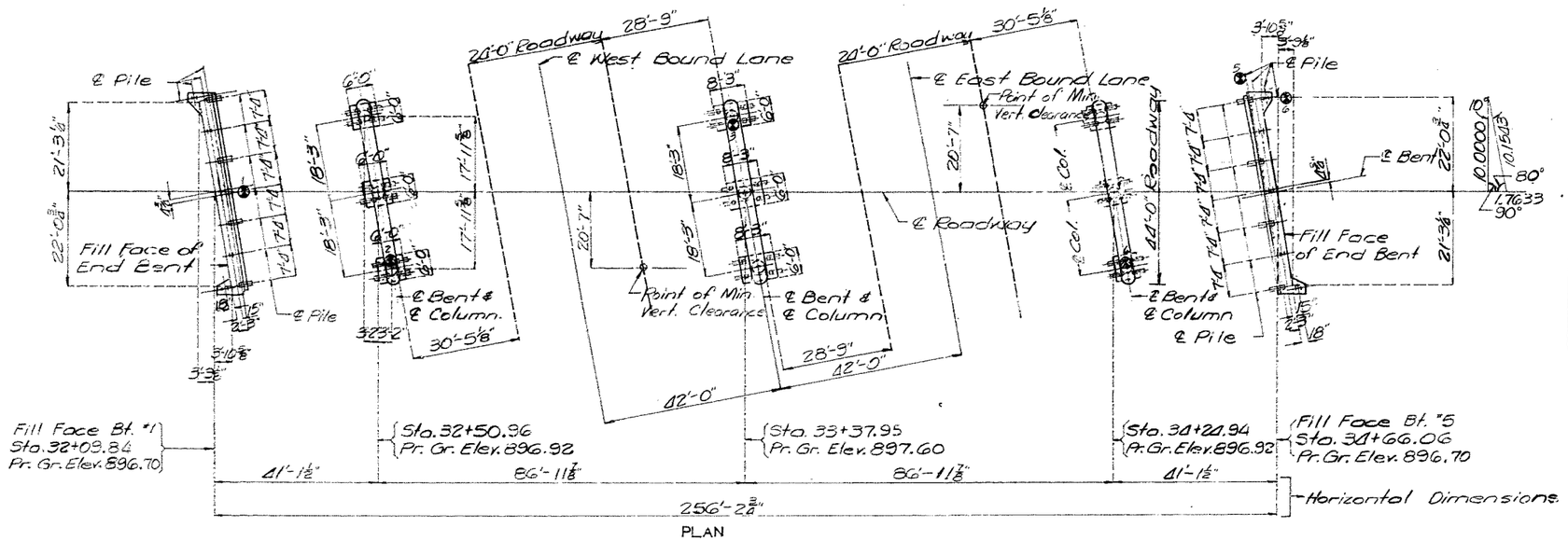
Class B Concrete (substructure) f_c = 1,200 psi
Class B1 Concrete (superstructure) f_c = 1,600 psi
Reinforcing Steel f_s = 40,000 psi
Structural Carbon Steel f_s = 20,000 psi
Structural Steel (ASTM A-572) Grade 50 f_s = 27,000 psi
Steel Pile f_b = 9000 psi

Fabricated Steel:
Field connections, High Strength Bolts ¾" ϕ, holes 13/16" ϕ except as noted.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1½" unless otherwise shown.

All reinforcing bars in tops of substructure beams or caps shall be spaced to clear anchor bolts for bearing by at least ½".

Paint: System B by contractor in accordance with Std. Spec. 712.12 Color of the final field coat shall be green.



ESTIMATED QUANTITIES				
ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation	Cu. Yd.	165		165
Class B Concrete	Cu. Yd.	184.5		184.5
Class B1 Concrete	Cu. Yd.		339.0	339.0
Reinforcing Steel Grade 60	Lbs.	27700	(52540)	(80240)
Fabricated Structural Low Alloy Steel	Lbs.		39780	39780
Fabricated Structural Carbon Steel	Lbs.		199000	199000
Painting	Ton		118.7	118.7
Structural Steel Pile (10 in.)	Lin. Ft.	1568		1568
Preformed Compression Exp. Jt. Seal (3.5 in.)	Lin. Ft.		90	90
Reinforcing Steel Grade 60 Epoxy Coated	Lbs.		(36100)	(36100)

All concrete and reinforcement in Barrier Curbs is included with Superstructure quantities.

△ 82,080
△ 54,380
△ 37,940

PILE DATA						
BENT NO.		1	2	3	4	5
Pile Type and Size		HP10x42	HP10x42	HP10x42	HP10x42	HP10x42
Number		9	12	10 @ 1'-3⅛" c-c	12	4 @ 52' Lt. 5 @ 51'-8" Rt.
Approximate Length	Ft.	48	20		15	
Design Bearing	Tons	43	39	50	39	43
Hammer Energy required	Ft. Lbs.	10,600	9200	12,700	9200	10600

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

Note: For Boring Data see sheet No. 2
⊕ Indicates location of boring.

B.M. Elev. 856.13 Iron Pin in S.E. Corn. Bridge Abut. #1, Sta. 697+00 (U.S.G.S. Datum)

BRIDGE: ROUTE H UNDERPASS

STATE ROAD FROM WAYNESVILLE TO LEBANON

ABOUT 2.0 MILES SOUTHWEST OF WAYNESVILLE

PROJECT NO. [illegible]
JOB NO. 8-I-44-9D
PULASKI **COUNTY**

STA. 689 +95.10
RTE. I-44

DATE 11-9-77

SEE FINAL PLANS

STD. 611.60	
STD. 706.30	
A-3052	

DESIGNED OCT. 1973
DETAILED DEC. 1973
CHECKED May 1976

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

Sheet No. 1 of 11 sheets.

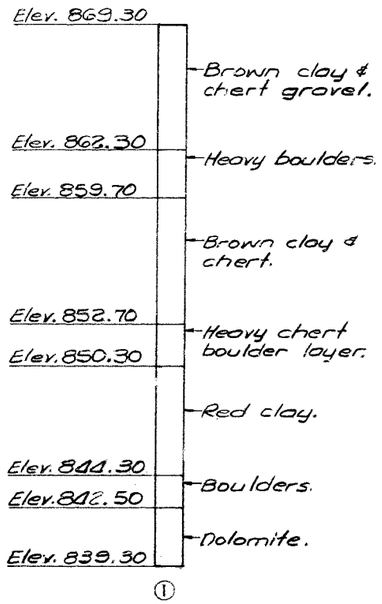
△ Revised Apr. 25, 1980

368

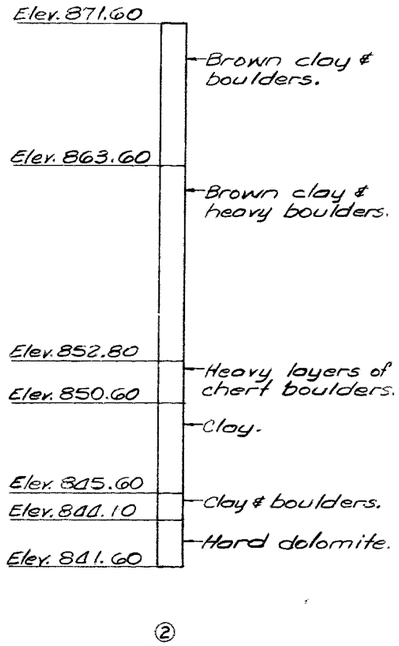
MISSOURI STATE HIGHWAY DEPARTMENT

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5	MO.		19	46	

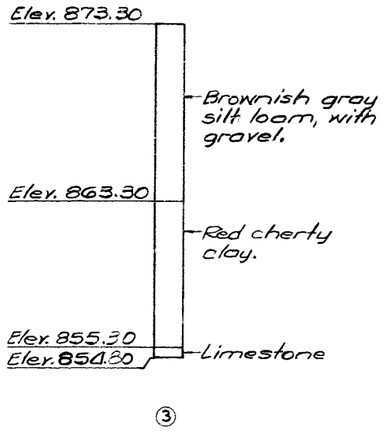
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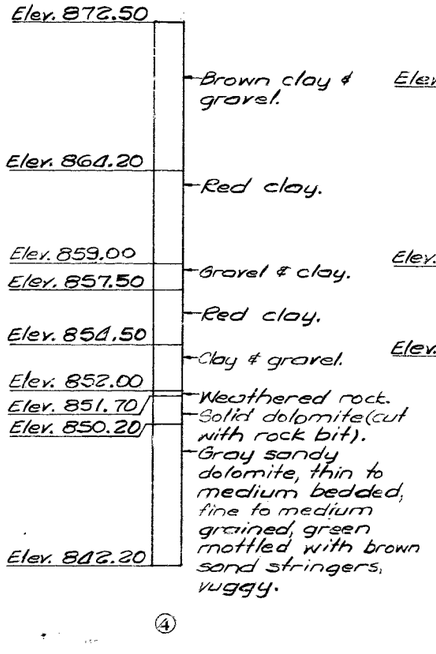
① CORE



② CORE



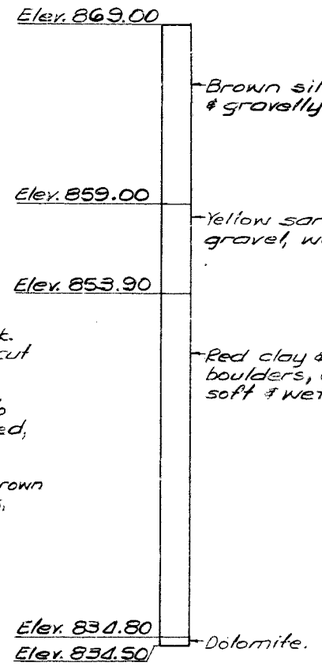
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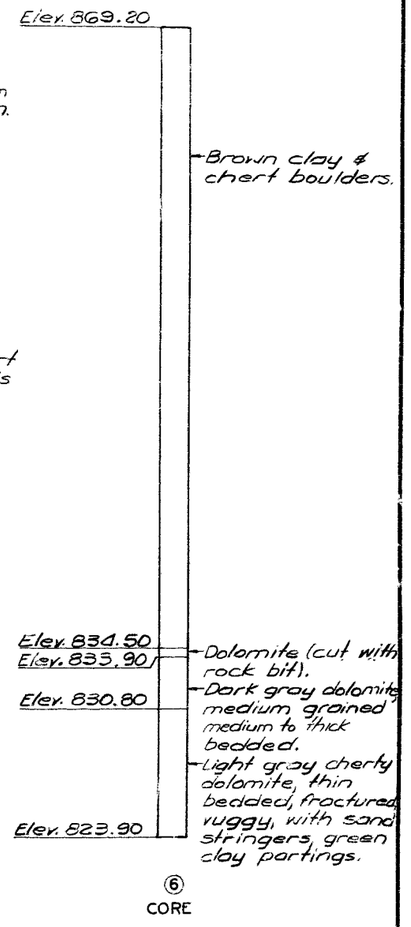
④ CORE

BORING DATA

Note: For location of borings see sheet No. 1



⑤



⑥ CORE

DETAILED NOV. 1973
CHECKED May 1976

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

Sheet No. 2 of 14.

PULASKI COUNTY

A-305

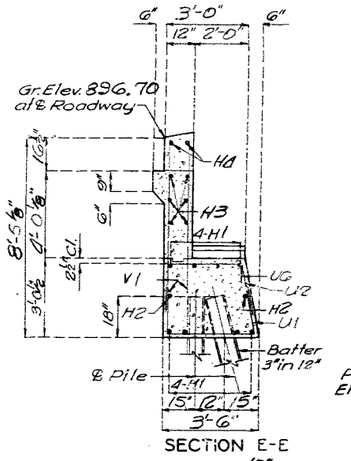
MISSOURI STATE HIGHWAY DEPARTMENT

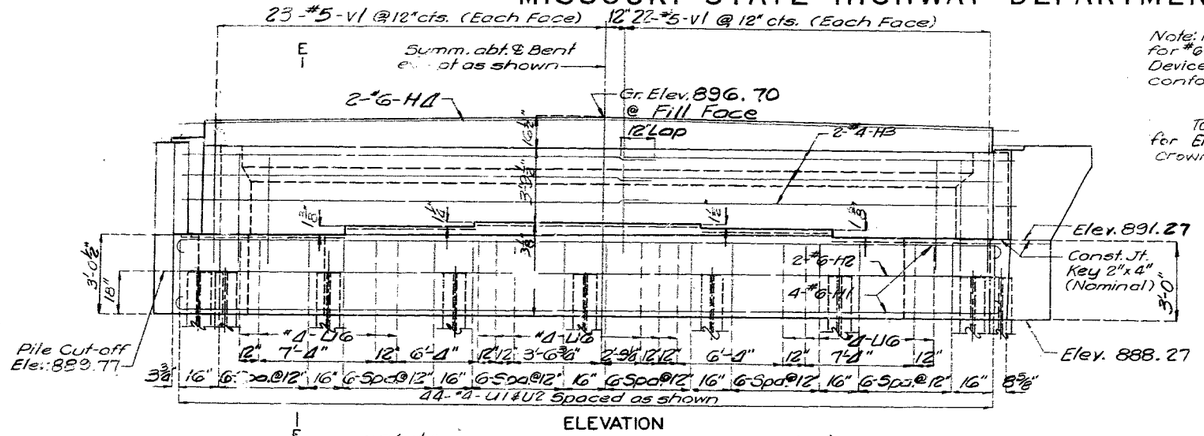
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	47	

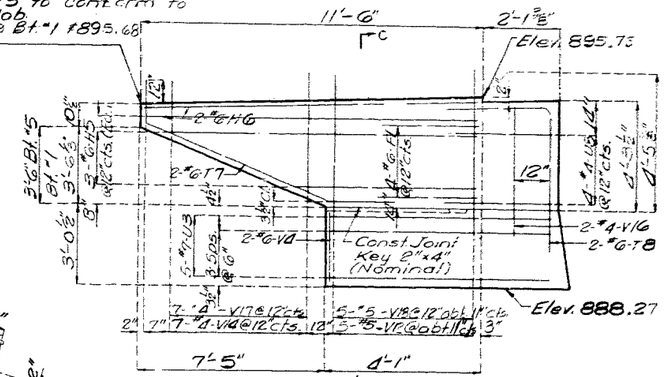
Note: Field bending shall be required of wings for #6-H4 bars in backwalls with Expansion Device and for F bars when necessary to conform to slope of wing.

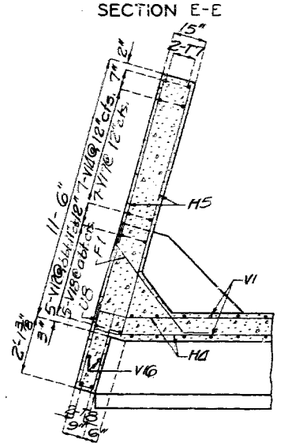
Note: Backwall above upper construction joint shall not be poured until the superstructure slab has been poured in the adjacent span.

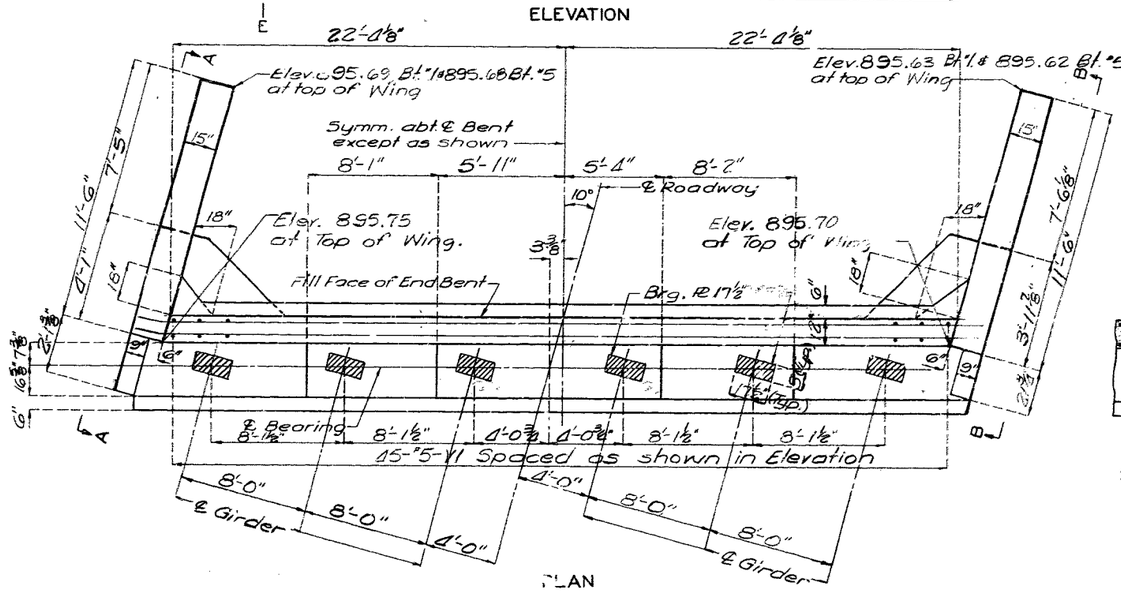
Top of backwall and expansion device for End Bents No. 185 to conform to crown of roadway slab.

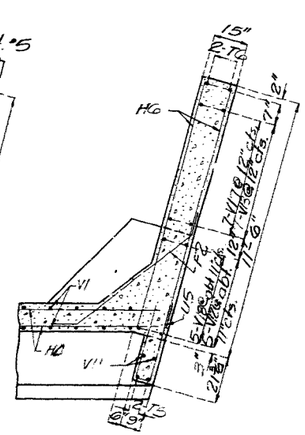


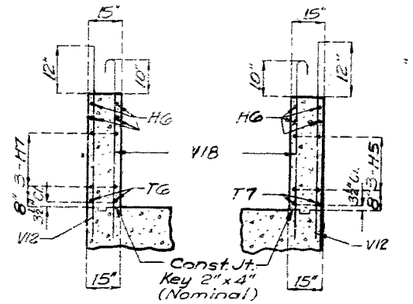


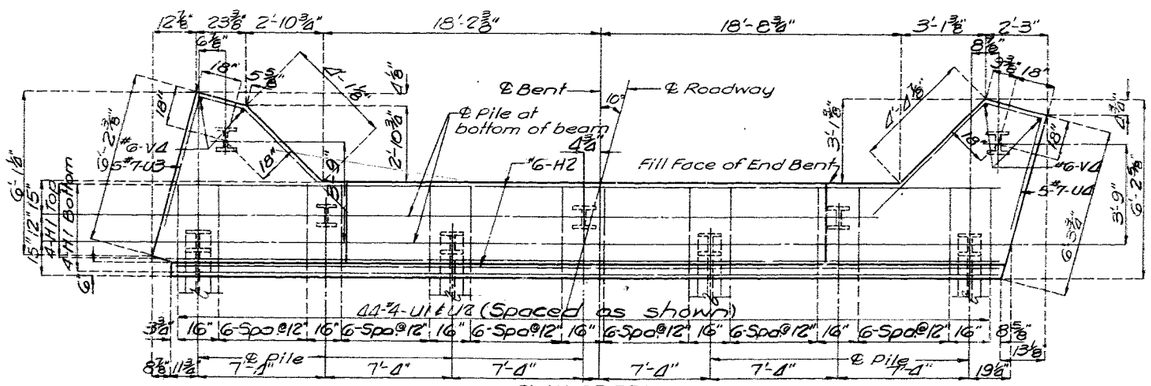


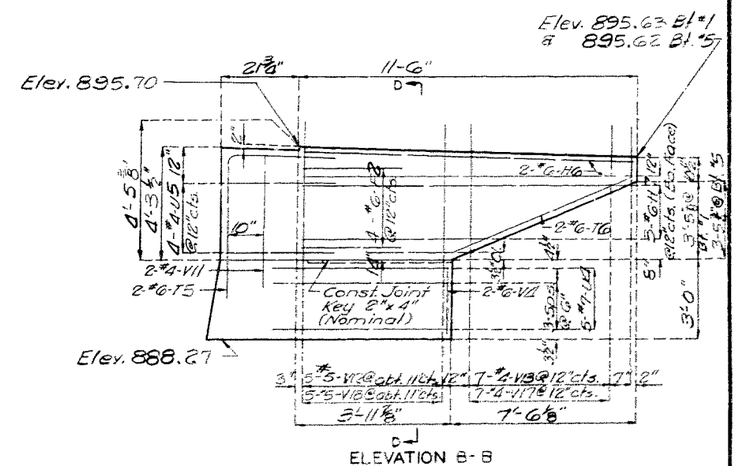




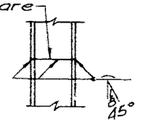








Butt splice (if required) Top of lower section to be cut square



STEEL PILE SPLICE

DETAILS OF END BENT NO. 1 & 5

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

STD. 12.2-15° | REVISED
OCT. 1972 | SEPT. 1973

DETAILED NOV. 1973
CHECKED May. 1976

Sheet No. 3 of 14.

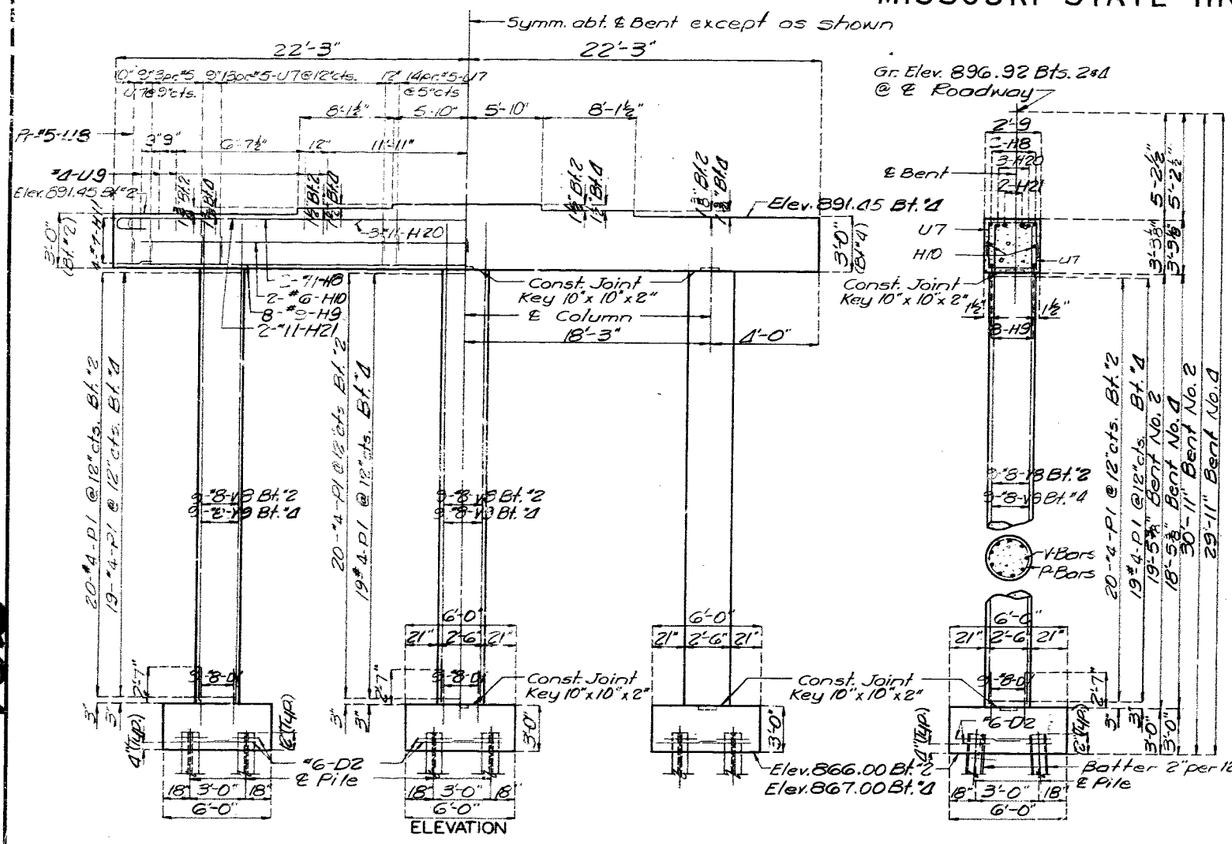
PULASKI COUNTY

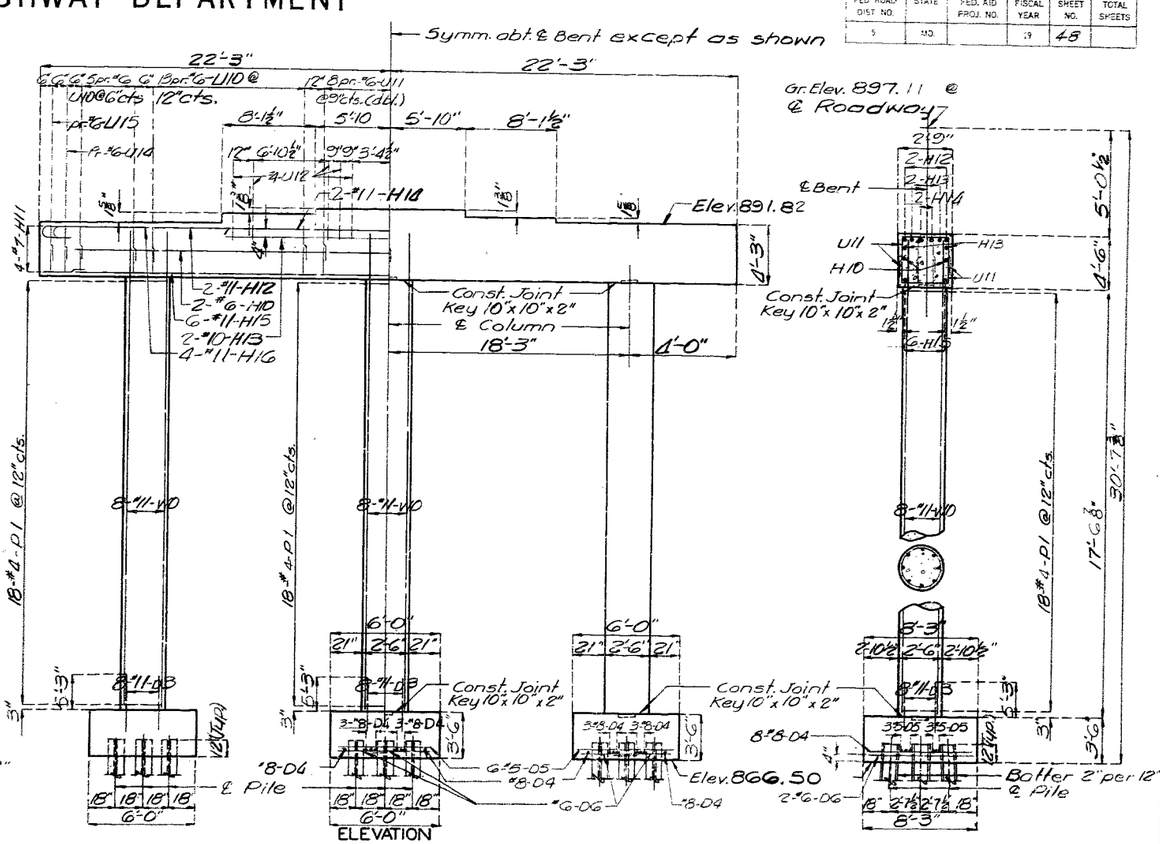
A-3052

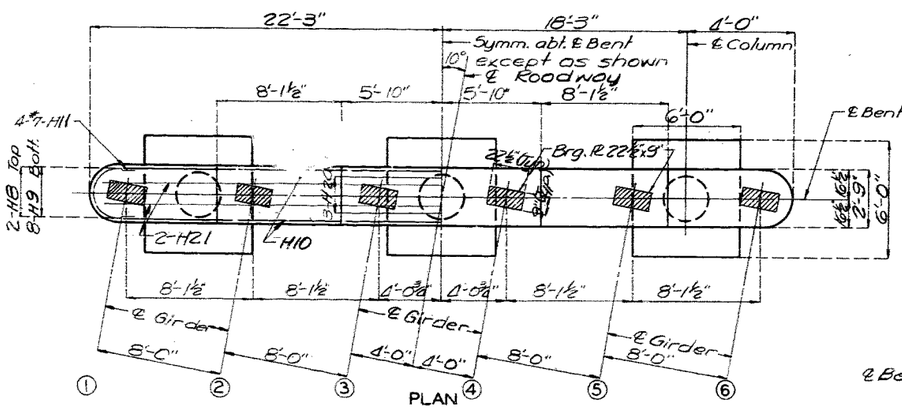
MISSOURI STATE HIGHWAY DEPARTMENT

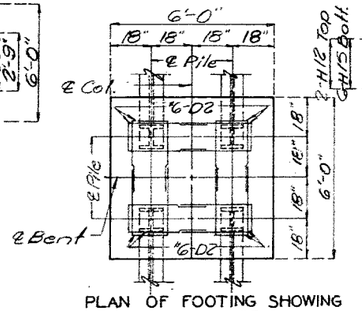
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	45	

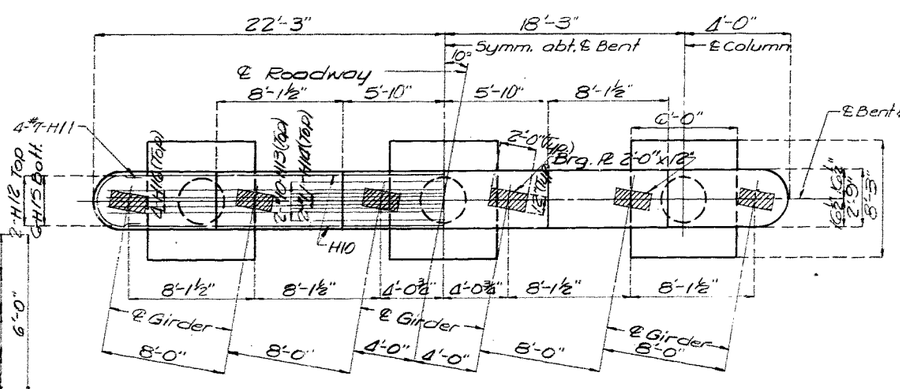
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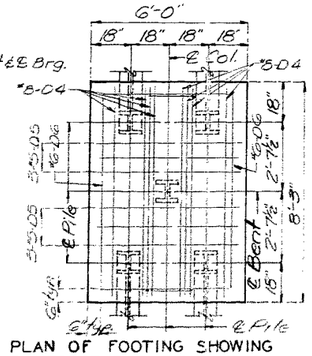












STD 19.6	REVISED
SEPT 1962	SEPT 1973

DETAILED NOV. 1975
CHECKED May 1976

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

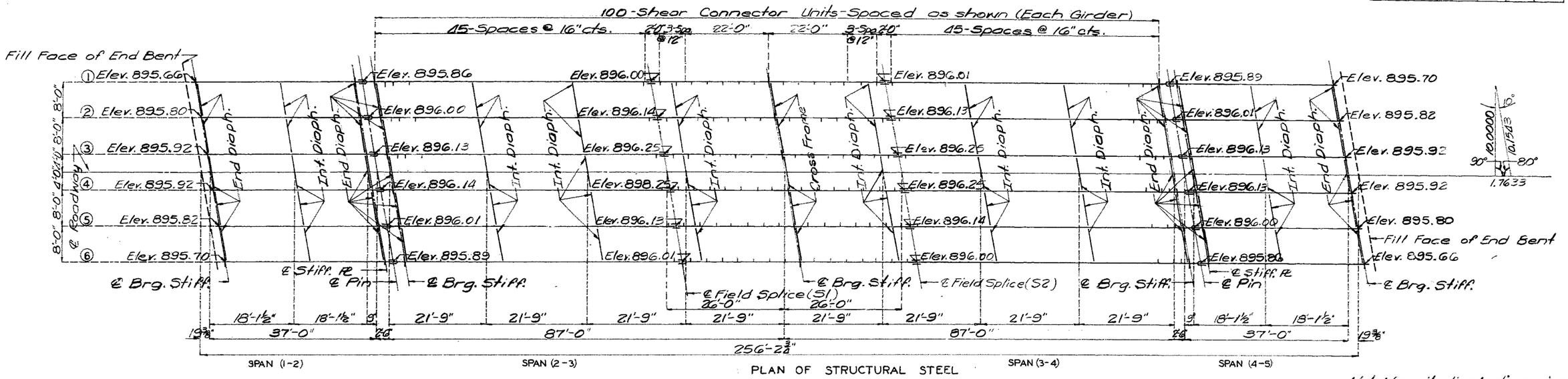
PULASKI COUNTY

A-3052

MISSOURI STATE HIGHWAY DEPARTMENT

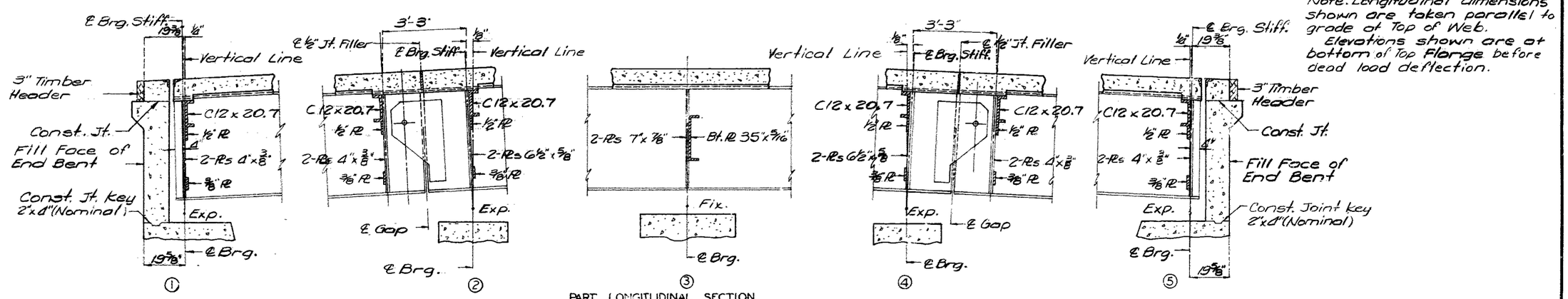
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5	MO.		19	49	

403

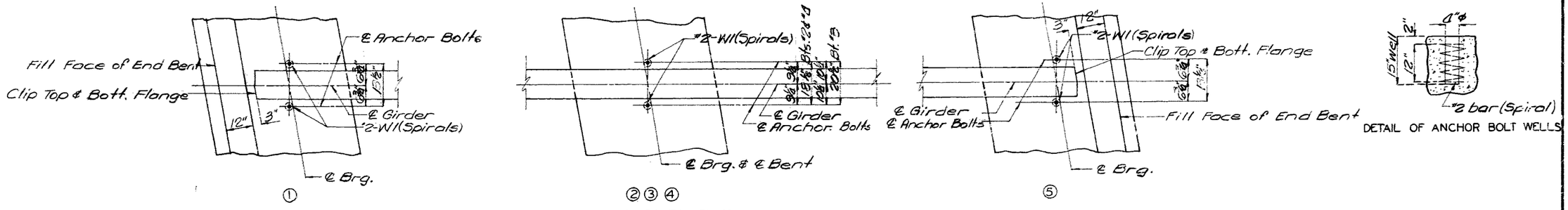


PLAN OF STRUCTURAL STEEL

Note: Longitudinal dimensions shown are taken parallel to grade of Top of Web.
Elevations shown are at bottom of Top Flange before dead load deflection.



PART LONGITUDINAL SECTION



PART ANCHOR BOLTS PLAN

DETAIL OF ANCHOR BOLT WELLS

DETAILED OCT. 1973
CHECKED May 1974

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

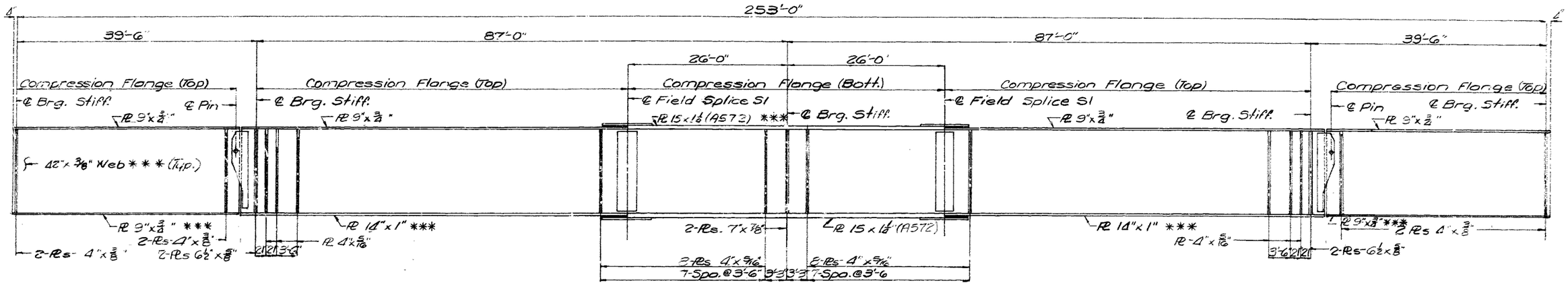
Sheet No. 5 of 14.

PULASKI COUNTY

A-3052

MISSOURI STATE HIGHWAY DEPARTMENT

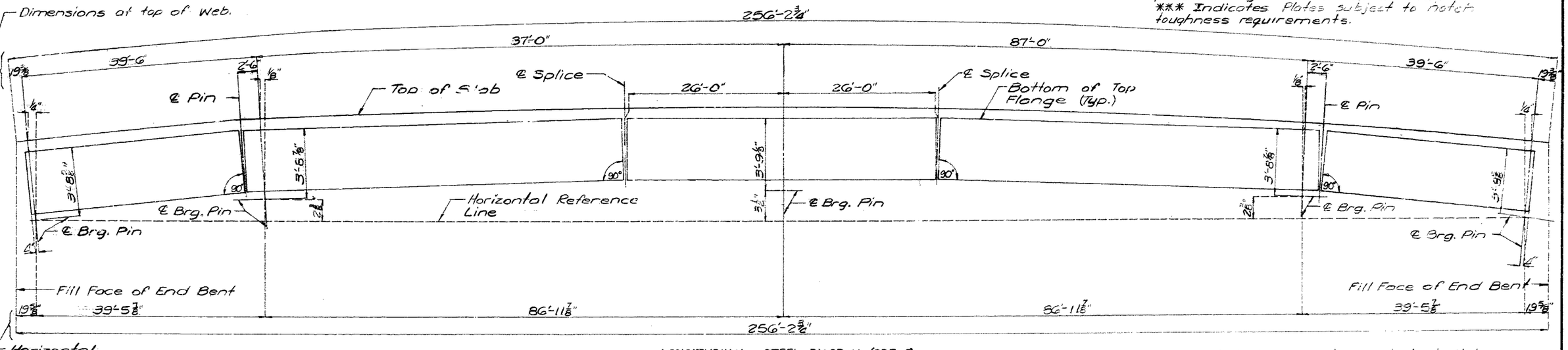
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	50	



SPAN (1-2) SPAN (2-3) SPAN (3-4) SPAN (4-5)

ELEVATION OF GIRDERS

Note: Transverse web stiffeners shall be placed on the inside face of exterior girders and in successive alignment along either side of interior girders.
Longitudinal dimensions shown are taken parallel to grade at Top of Web.
*** Indicates Plates subject to notch toughness requirements.



LONGITUDINAL STEEL DIAGRAM (GDR. 3)

Note: Fabricated structural steel shall be A-36 except as noted.

DETAILED NOV. 1973
CHECKED May 1976

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

Sheet No. 6 of 10.

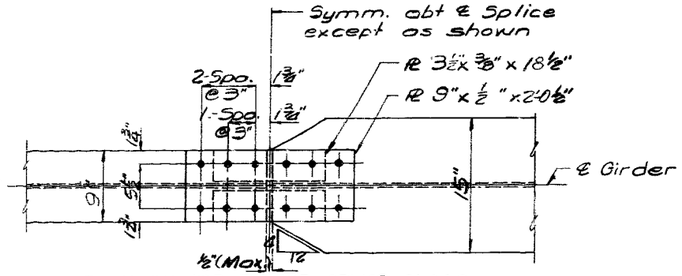
PULASKI COUNTY

A-3052

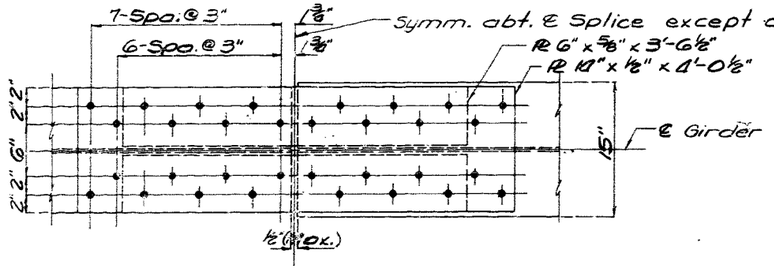
MISSOURI STATE HIGHWAY DEPARTMENT

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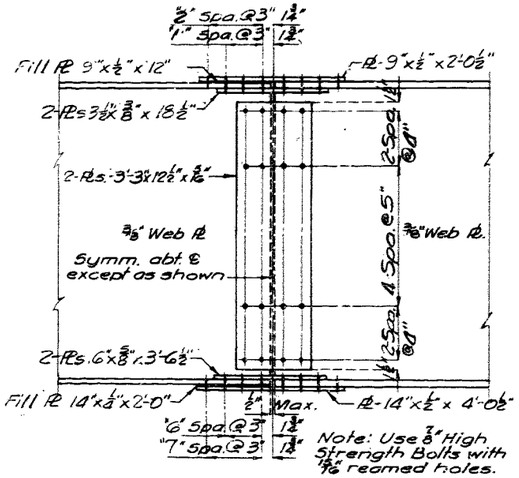
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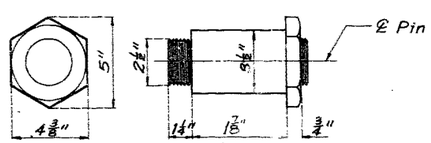
PLAN OF TOP FLANGE SPLICE S1 & S2



PLAN OF BOTTOM FLANGE SPLICE S1 & S2



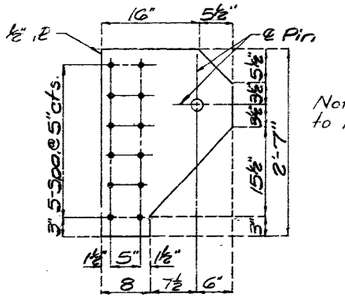
DETAILS OF BOLTED FIELD SPLICES



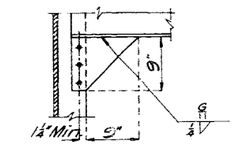
DETAILS OF PIN AND FLAT HEXAGONAL NUTS

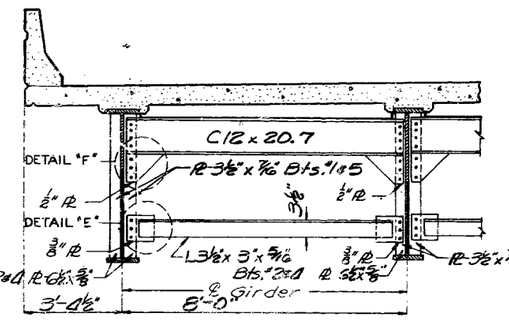
MATERIAL: PIN - ASTM A668 (CLASS F)

NUT - ASTM A 36

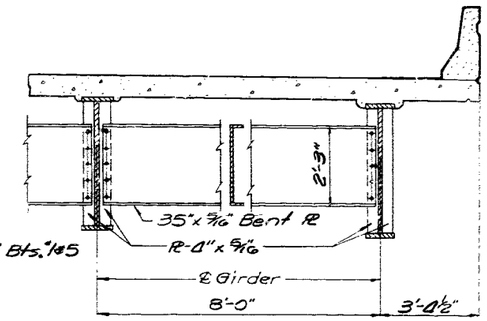


DETAIL OF PIN PLATE



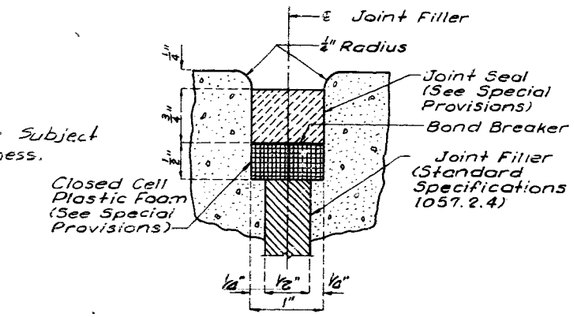


TYP. PART SECTION SHOWING END DIAPHRAGMS



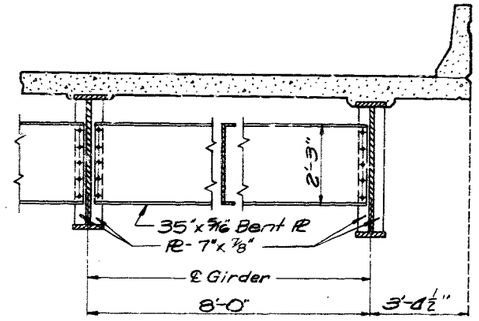
TYP. PART SECTION SHOWING INT. DIAPHRAGM

Note: Pin Plate Subject to Notch Toughness.

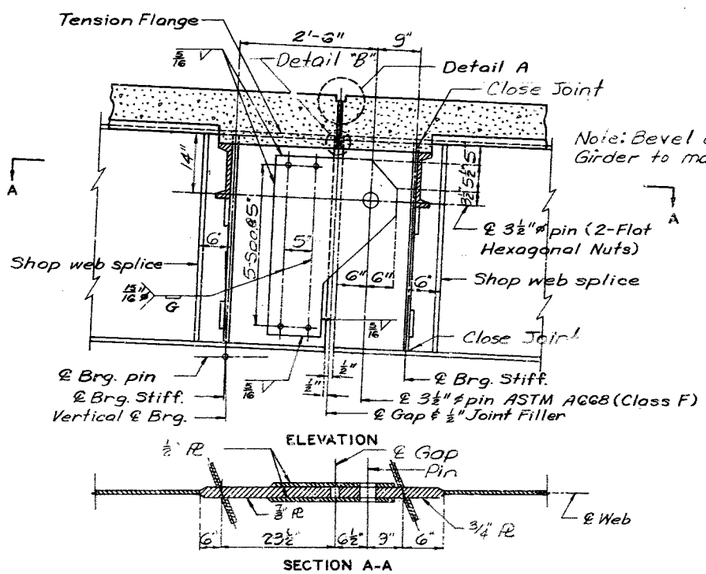


Note: 1" Joint to be constructed between roadway faces of curbs.

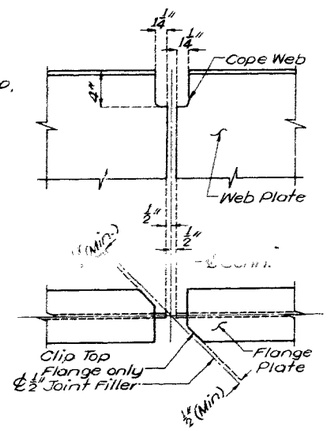
DETAIL "A"



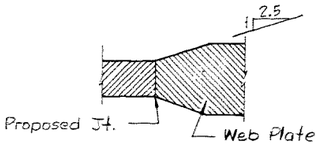
TYP. PART SECTION SHOWING CROSS FRAMES



PIN PLATE CONNECTION



DETAIL "B"



DETAILS OF SHOP WEB SPLICE

DETAILED May 1976
CHECKED May 1976

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

PULASKI COUNTY

A-3052

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	52	

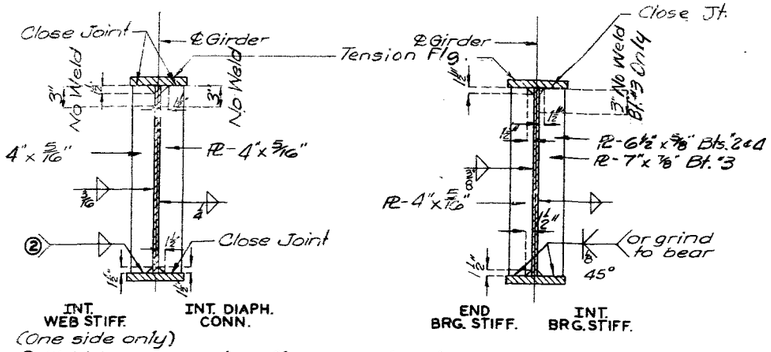
NOTES: TYPE "D" BEARINGS

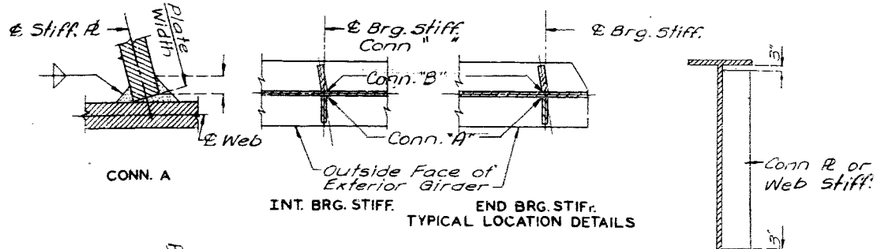
ANCHOR BOLTS FOR TYPE "D" BEARINGS SHALL BE 1-1/4"Ø SWEDGED BOLTS AND SHALL EXTEND 12" INTO CONCRETE, WITH HEXAGON NUTS AND PLAIN WASHERS FOR FIXED BEARINGS, NO NUTS FOR EXPANSION BEARINGS.

LEAD PLATES (8#/sq. ft.) OR PREFORMED FABRIC PADS UNDER BEARINGS SHALL BE APPROXIMATELY 1/8" THICKNESS. PREFORMED FABRIC PADS SHALL CONSIST OF FABRIC AND RUBBER BODY MADE FROM NEW UNVULCANIZED RUBBER AND UNUSED FABRIC FIBERS IN PROPER PROPORTION TO MAINTAIN STRENGTH AND STABILITY. THE VULCANIZED AND CURED PAD SHALL HAVE A SURFACE HARDNESS OF 80 SHORE "A" DUROMETER ±10 WITH AN ULTIMATE BREAKDOWN LIMIT UNDER COMPRESSIVE LOADS OF NO LESS THAN 7000 PSI. THE PREFORMED PADS SHALL BE FABCO SA-47 TYPE B OR EQUAL. COMPLETE SHOP DRAWINGS ARE REQUIRED FOR LEAD PLATED AND/OR PREFORMED FABRIC PADS. COST OF LEAD PLATES OR PREFORMED FABRIC PADS SHALL BE INCLUDED IN PRICE BID FOR OTHER ITEMS. LEAD PLATES OR PREFORMED FABRIC PADS SHALL BE 1/2" GREATER IN LENGTH AND WIDTH THAN BOTTOM BEARING PLATES.

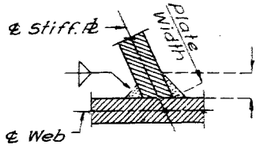
"ESTIMATED WEIGHT" DOES NOT INCLUDE WEIGHT OF ANCHOR BOLTS.

" ⌭ " INDICATES MACHINE FINISH SURFACE.



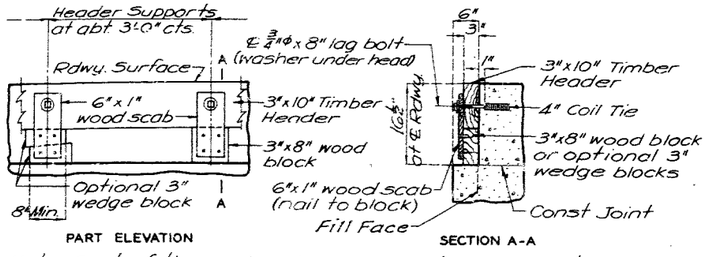


Note: When int. Diaphragm conn. plates or Web Stiff. Plates interfere with flange splice plates and bolts clip conn. or Stiff. Plates (as shown).



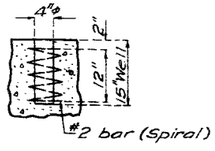
①Groove weld penetration = " " min.

WELDING DETAILS

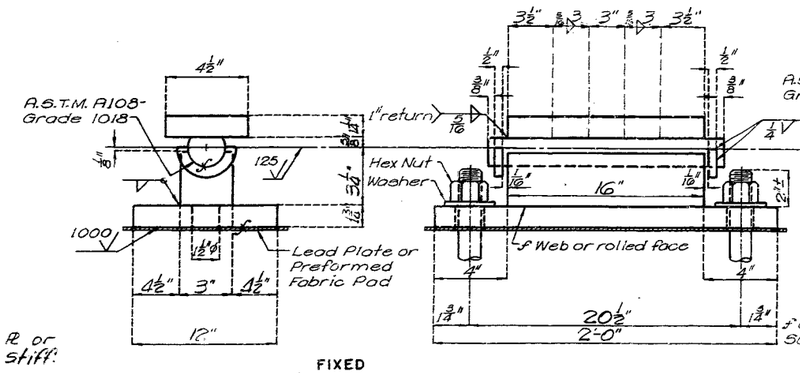


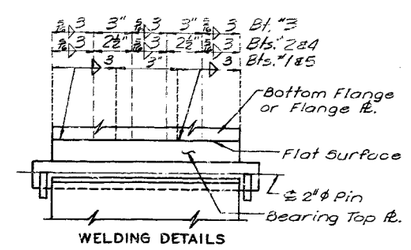
Note: Cost of timber headers complete in place to be included in price bid for concrete.

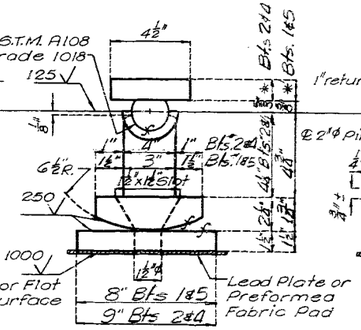
DETAILS OF TIMBER HEADER AT END BENTS



DETAIL OF ANCHOR BOLT WELLS

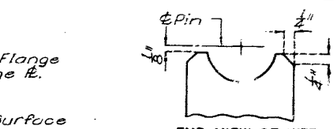


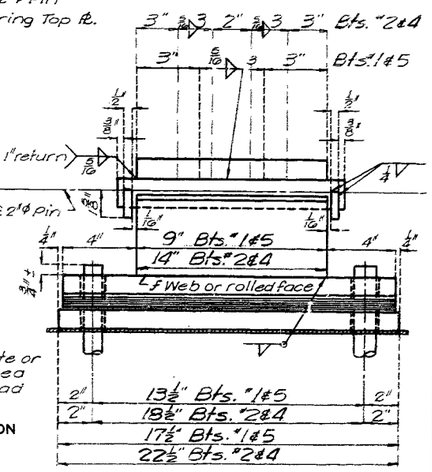


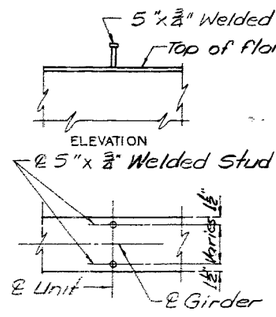


TYPE "D" BEARINGS
(ESTIMATED WEIGHT 6389)

* 1⅜" ℄ Bt #2 (Gdr. 4)
1¼" ℄ Bt #2 (Gdrs. 1, 2, 3, 5, 6)
1¼" ℄ Bts. #1, 4, & 5 (All Gdrs.)







DETAILS OF SHEAR CONNECTORS

Note: Weight of 906 lbs. of shear connectors is included in weight of Fabricated Structural Carbon Steel.

STD. D.B.	REVISED
FEB. 1965	DEC. 1975

DETAILED May 1976
CHECKED May 1976

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

Sheet No. 8 of 14

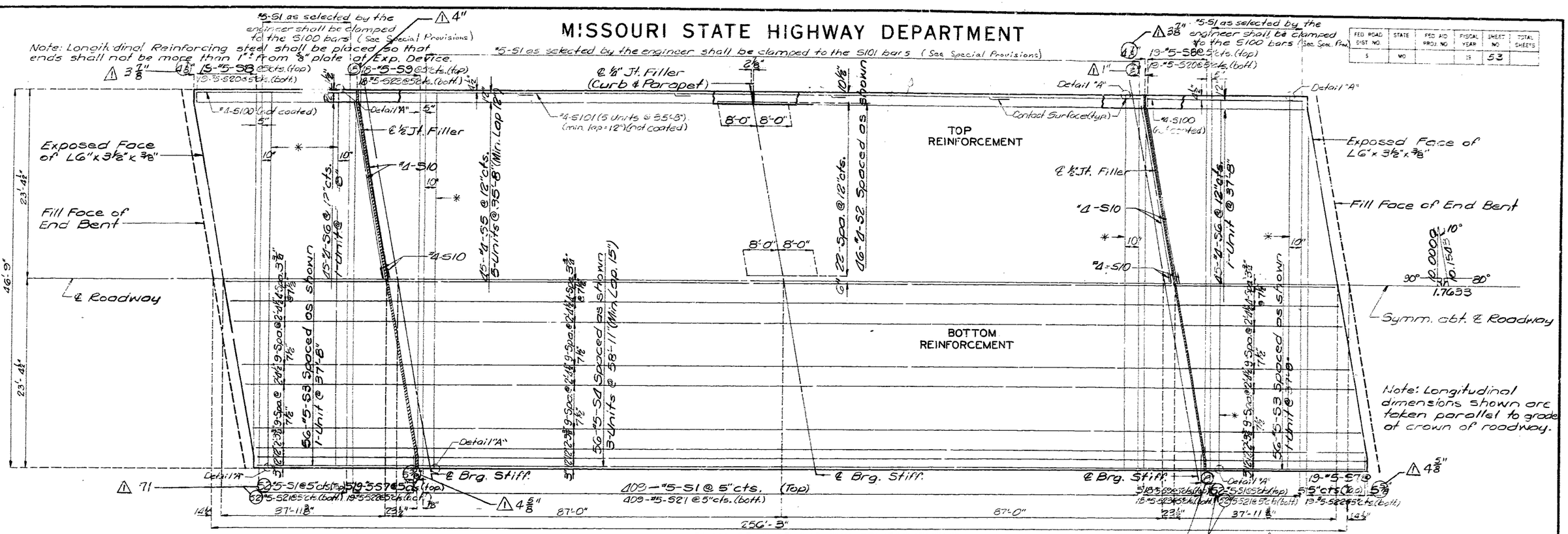
PULASKI COUNTY

A-3052

404

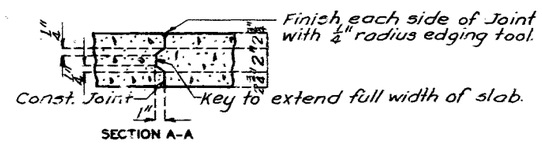
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		73	53	

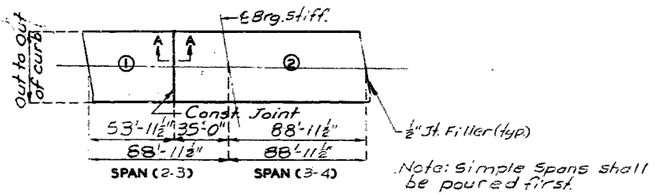


PLAN OF SLAB SHOWING REINFORCEMENT

*Shift top transverse bar to edge of slab.



SECTION A-A

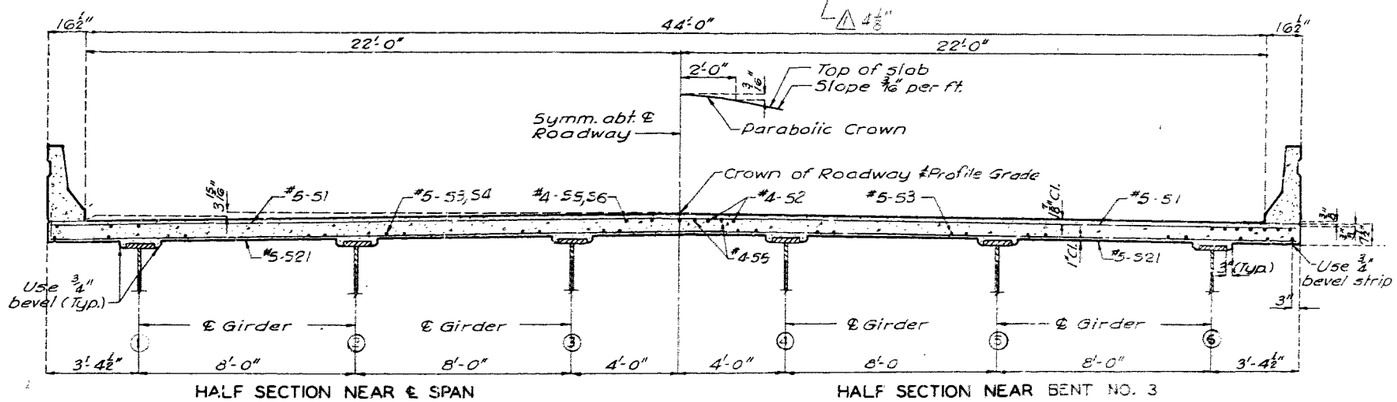


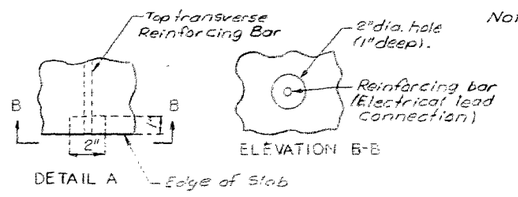
Note: Simple spans shall be poured first.

	Sequence of Pours Direction	
Basic Sequence	1	2
	End to 2	1 to End
Alternate "A" Pours	1 + 2	
	End to End	

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 a rate of not less than 40 cubic yards per hour.

SLAB POURING SEQUENCE





Note: For details and reinforcement of Barrier Curb not shown see sheet No. 12

STD. 42.44.6 | REVISED | FEB. 1969
SEPT. 1967 |

DETAILED NOV. 1973
CHECKED May 1976

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

Revised Apr. 25, 1980

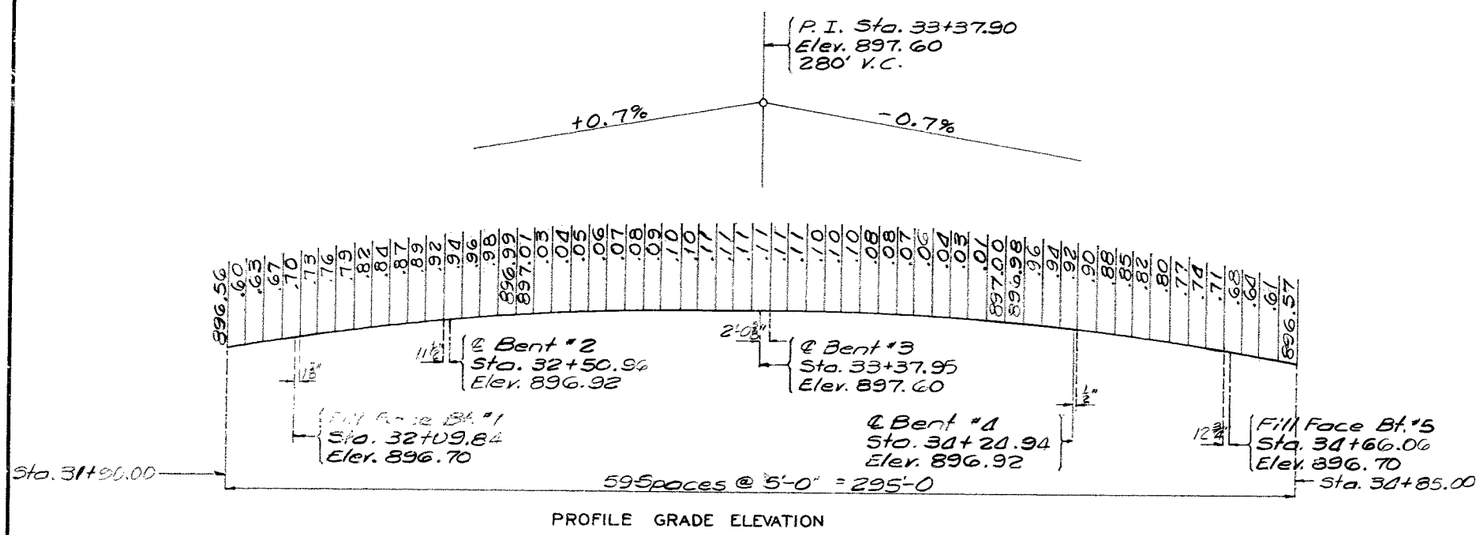
Sheet No. 9 of 14.

PULASKI COUNTY

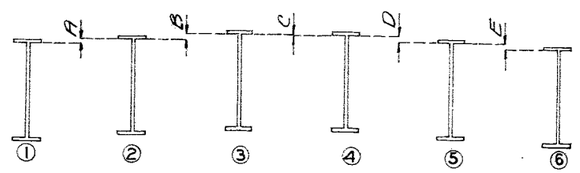
A-3052

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	54	

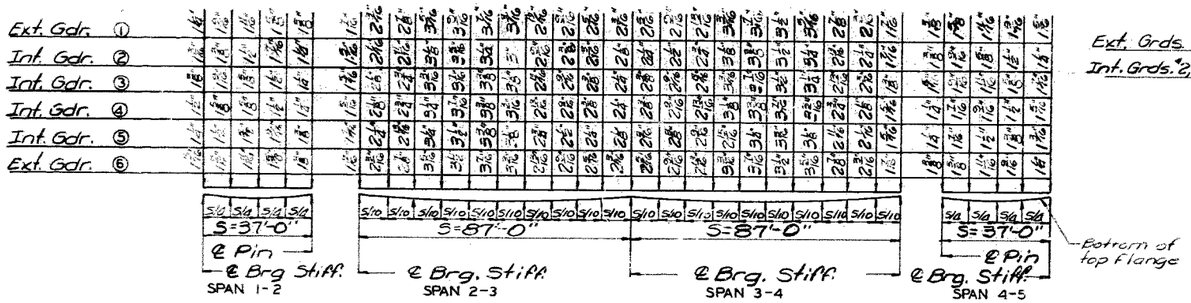


PROFILE GRADE ELEVATION

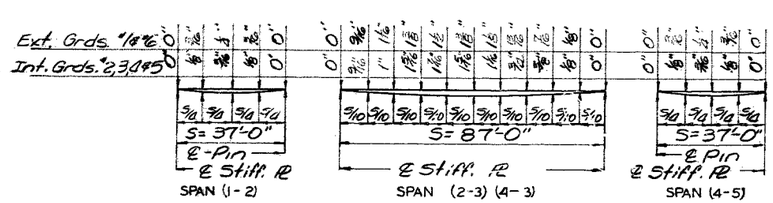


LOCATION	A	B	C	D	E
Bk."1 to ℄ Pin Near Bk."2	1 3/16"	varies	1/2"	varies	1 1/2"
℄ Pin Near Bk."2 to Splice S1	1 3/8"	varies	0"	varies	1 5/8"
Splice S1 to Splice S2	Varies	varies	0"	varies	Varies
Splice S2 to ℄ Pin Near Bk."4	1 1/2"	1 3/16"	-1/16"	varies	1 5/8"
℄ Pin Near Bk."4 to Bk."5	1 1/2"	varies	-1/2"	varies	1 7/16"

GIRDER ELEVATIONS VARIATION SKETCH



THEORETICAL SLAB HAUNCHING DIAGRAM



DEAD LOAD DEFLECTION

Dead load deflection due to weight of structural steel.
10 % Simple Spans. 15 % Continuous Spans.

DETAILED NOV. 19 72
CHECKED May 19 76

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

Sheet No. 10 of 14 .

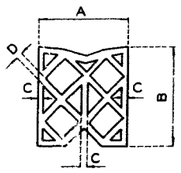
PULASKI COUNTY

A-3052

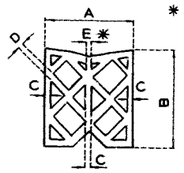
408

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	55	

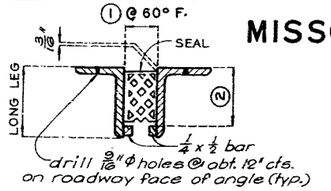


TYPE A1



* OPTIONAL "C"

TYPE B3



PART CROSS SECTION
THRU EXPANSION JOINT

NOTES FOR PREFORMED COMPRESSION JOINT SEAL:

STRUCTURAL STEEL FOR EXPANSION DEVICE SHALL BE FABRICATED IN ONE SECTION EXCEPT THAT WHEN THE LENGTH IS OVER 50 FEET, SPLICING IS PERMISSIBLE. EXPANSION DEVICE SHALL BE BENT TO CONFORM TO CROWN AND GRADE OF ROADWAY.

NO. 5 BARS FOR EXPANSION DEVICE SHALL BE STRUCTURAL GRADE.

APPROVED STUD WELDED ANCHORS OR DEFORMED BAR ANCHORS (ASTM A496) MAY BE USED IN LIEU OF #5 BARS SHOWN.

PREFORMED COMPRESSION JOINT SEAL SHALL BE INSTALLED BEFORE CURBS ARE POURED.

3/8" CURB PLATE SHALL BE INSTALLED WITH CURB.

PLAN DIMENSIONS ARE BASED ON INSTALLATION AT 60°F EXPANSION JOINT WIDTH SHALL BE ADJUSTED DURING INSTALLATION FOR COMPLIANCE WITH TABLES.

SEE SPECIAL PROVISIONS FOR THE REQUIREMENTS OF COMPRESSION JOINT SEAL.

TABLE OF TRANSVERSE SEAL TOLERANCES
(INCHES)

TYPE	"A" (WIDTH)	"B" (HEIGHT)	"C" (SHELL)	"D" (WEBS)	"E"(B3 ONLY) (SMALL WEBS)
A1 OR B3	2.500 +.250 −.000	2.750 +.125 −.125	0.187 +.046 −.015	0.093 +.031 −.015	0.062 +.031 −.031
A1 OR B3	3.000 +.250 −.000	3.406 +.187 −.187	0.187 +.046 −.015	0.125 +.046 −.015	0.075 +.046 −.031
A1 OR B3	3.500 +.250 −.000	3.500 +.187 −.187	0.187 +.046 −.015	0.125 +.046 −.015	0.097 +.046 −.031
A1 OR B3	4.000 +.312 −.000	4.718 +.250 −.250	A1: 0.250 +.049 −.031 / B3: 0.235 +.049 −.031	0.187 +.046 −.015	0.111 +.046 −.031

TABLE OF TRANSVERSE SEALS & ARMOR ANGLES

TYPE	GROOVE SIZE AT 60°F. ①	GROOVE SIZE AT 60°F. ②	SEAL SIZE WIDTH	SEAL SIZE HEIGHT	ANGLE SIZE
A1 OR B3	1-5/8"	4"	2-1/2"	2-3/4"	5 X 3 X 3/8
A1 OR B3	1-7/8"	4-7/8"	3"	3-13/32"	6X3-1/2 X 3/8
A1 OR B3	2-1/4"	5-1/8"	3-1/2"	3-1/2"	6 X 3-1/2 X 3/8 } Bts. #1&5
A1 OR B3	2-5/8"	6-3/8"	4"	4-23/32"	8 X 4 X 7/16

TABLE OF GROOVE SIZE "①"
(INSTALLATION DIMENSIONS)

TEMP. (°F.)	SEAL WIDTHS — CONCRETE STRUCTURES 2½"	3"	3½"	4"	STEEL STRUCTURES 2½"	3"	3½"	4"
-10°	—	—	—	—	2-1/8"	2-5/8"	3"	3-3/8"
0°	2-1/8"	2-5/8"	3"	3-3/8"	2"	2-1/2"	2-7/8"	3-1/4"
+20°	1-7/8"	2-1/4"	2-3/4"	3-1/8"	1-7/8"	2-1/4"	2-5/8"	3"
+40°	1-3/4"	2-1/8"	2-1/2"	2-7/8"	1-3/4"	2-1/8"	2-1/2"	2-7/8"
+60°	1-5/8"	1-7/8"	2-1/4"	2-5/8"	1-5/8"	1-7/8"	2-1/4"	2-5/8"
+80°	1-3/8"	1-3/4"	2"	2-1/4"	1-3/3"	1-3/4"	2"	2-1/4"
+100°	1-1/4"	1-1/2"	1-3/4"	2"	1-1/4"	1-5/8"	1-7/8"	2-1/8"
+110°	1-1/8"	1-3/8"	1-5/8"	1-7/8"	1-1/4"	1-1/2"	1-3/4"	2"
+120°	—	—	—	—	1-1/8"	1-3/8"	1-5/8"	1-7/8"

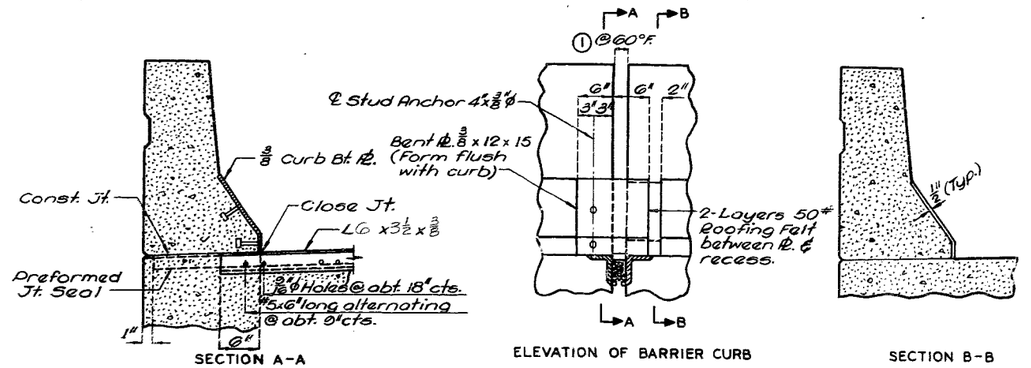
TABLE OF LONGITUDINAL SEALS

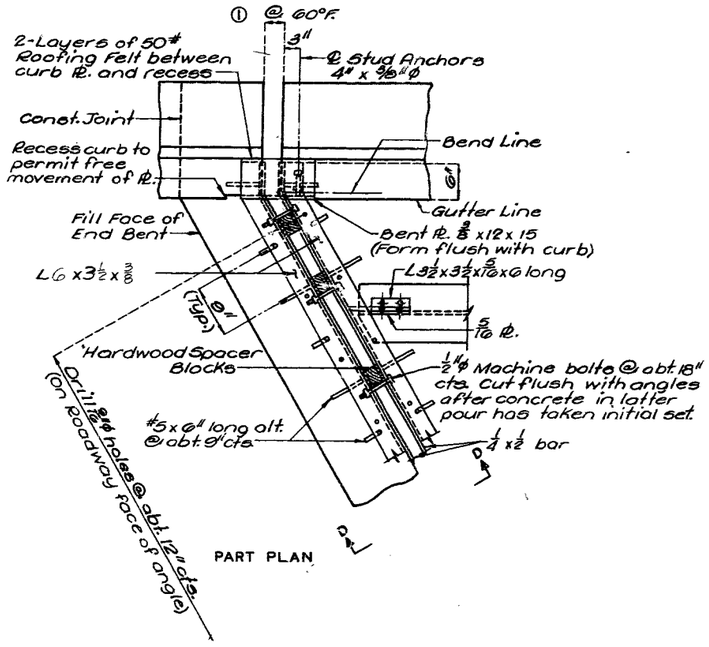
TYPE	GROOVE SIZE AT 60°F. WIDTH	GROOVE SIZE AT 60°F. HEIGHT	SEAL SIZE WIDTH	SEAL SIZE HEIGHT
A1 OR B3	1- 5/16"	2- 3/4"	2"	2-1/16"

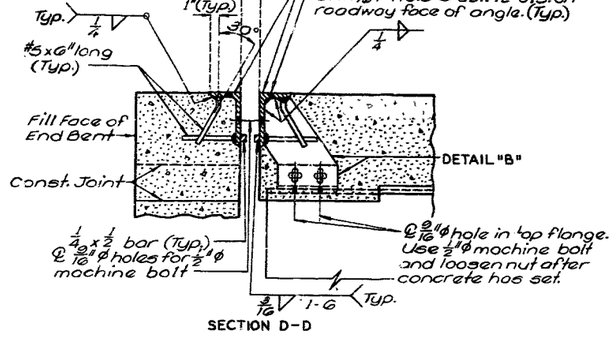
ARMOR ANGLES FOR LONGITUDINAL SEALS WILL NOT BE USED UNLESS SPECIFIED.

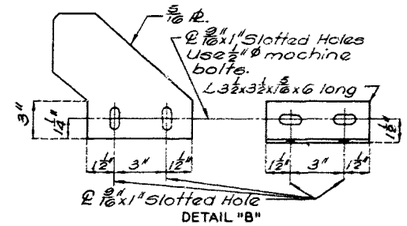
TABLE OF LONGITUDINAL SEAL TOLERANCES
(INCHES)

TYPE	"A" (WIDTH)	"B" (HEIGHT)	"C" (SHELL)	"D" (WEBS)
A1 OR B3	2.000 +.187 −.000	2.0625 +.125 −.125	0.125 +.030 −.015	0.094 +.030 −.015









DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT BENTS NO. 1 & 5

STD.	PCJS	REVISED
OCT.	1973	AUG. 1978

DETAILED Sept. 1978

CHECKED Sept. 1978

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

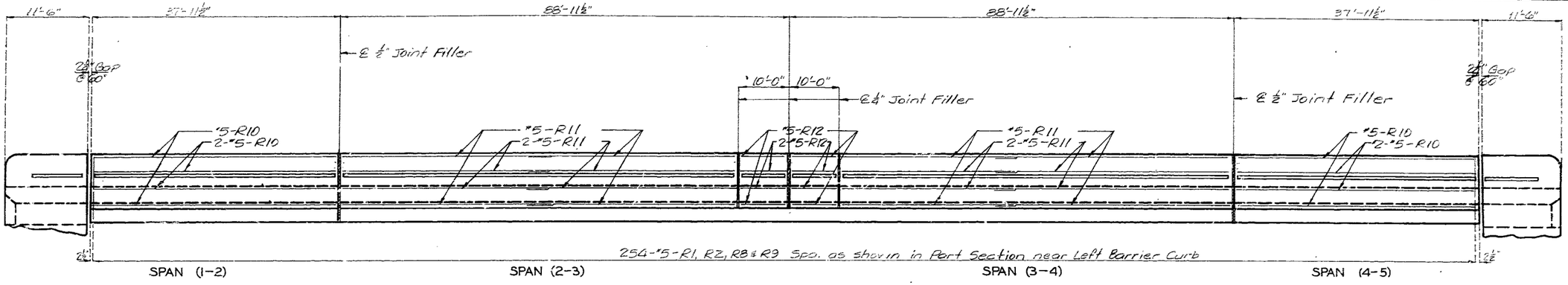
Sheet No. 11 of 14

PULASKI COUNTY

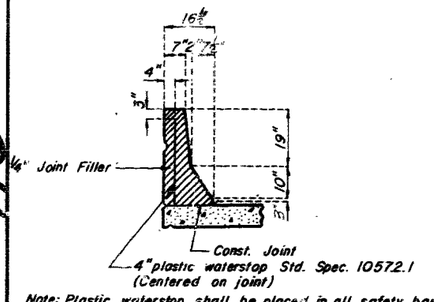
A-3052

MISSOURI STATE HIGHWAY DEPARTMENT

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



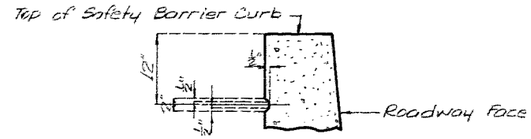
DEVELOPED ELEVATION OF RIGHT BARRIER CURB



Note: Plastic waterstop shall be placed in all safety barrier curb filled joints.

Cost of plastic waterstop complete in place to be included in unit price bid for concrete.

DETAILS OF PLASTIC WATERSTOP

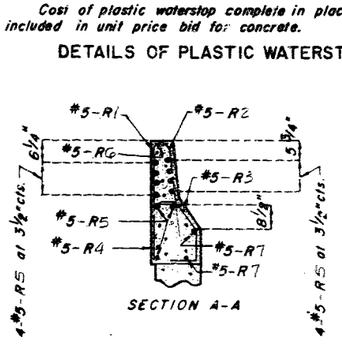


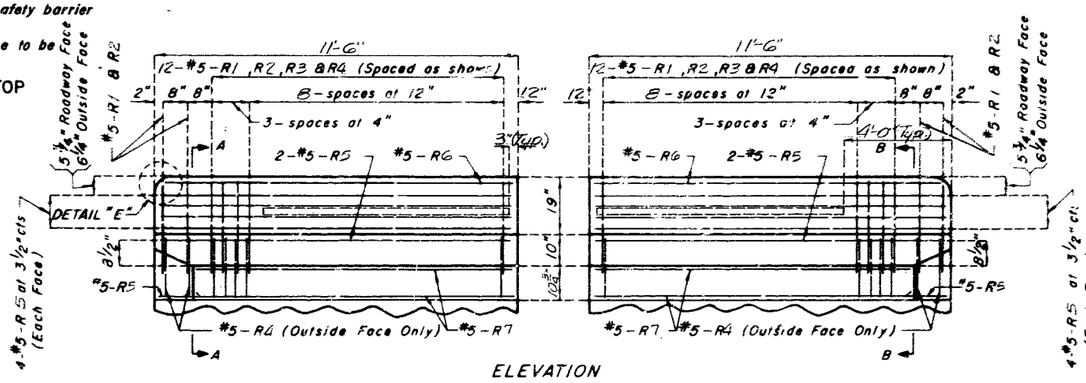
PART SECTION SHOWING RUSTICATION DETAILS

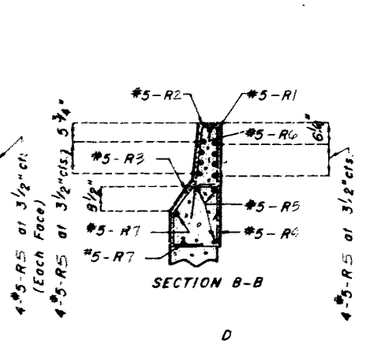
NOTES:

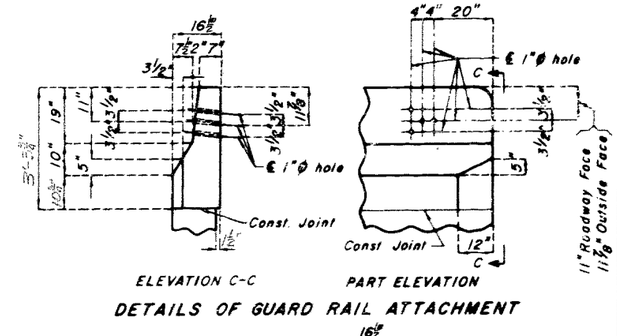
TOP OF BARRIER CURB TO BE BUILT PARALLEL TO GRADE WITH BARRIED CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.

ALL EXPOSED EDGES OF BARRIER CURB SHALL HAVE 1 2" RADIUS OR 3 8" BEVEL UNLESS OTHERWISE NOTED.

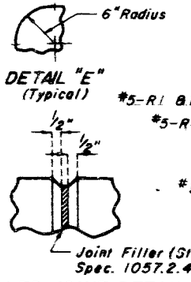




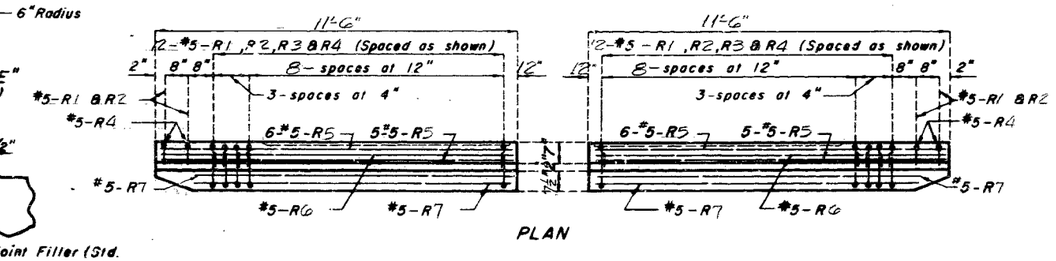


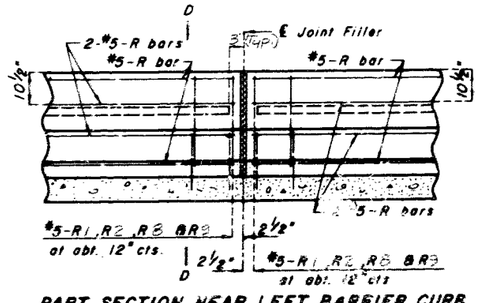


DETAILS OF GUARD RAIL ATTACHMENT



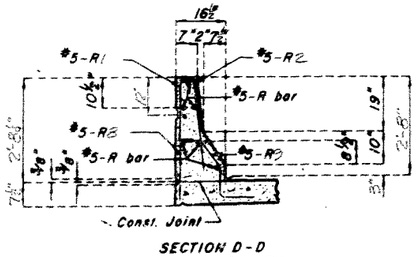
FILLED JOINT DETAIL





PART SECTION NEAR LEFT BARRIER CURB

Sheet No. 12 of 14



SECTION D-D

Note: Use a minimum lap of 17" for #5 horizontal barrier bars.

DETAILS OF BARRIER CURB AT END BENTS

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

410

REVISED	STD. 1.75(N)
AUG. 1978	

DETAILED Sept. 1978

CHECKED Sept. 1978

PULASKI COUNTY

A-3052

MISSOURI STATE HIGHWAY DEPARTMENT

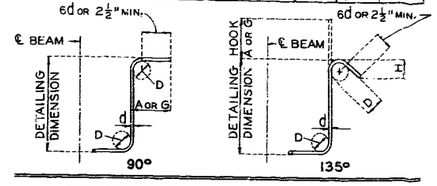
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	57	

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE MARK	LOCATION	GRADE 60(H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		END BTS NO 1 & 5																
8	6F1	WING BEAM	H	15		X			11.750	4 4.000	11.750	9.000	7.500	9.000	7.500	6 4	6 2	74
8	6F2	WING BEAM	H	15		X			11.750	5 1.500	11.750	7.500	9.000	7.500	9.000	7 1	7 0	84
16	6H1	BEAM	H	18		X			46 1.000							47 5	47 5	1140
4	6H2	BEAM	H	20		X			46 1.000							46 1	46 1	277
24	4H3	BACKWALL	H	20		X			23 10.000							23 10	23 10	382
4	6H4	BACKWALL	H	20		X			46 11.000							46 11	46 11	282
12	6H5	WING	H	20		X	V	4	5 1.000							5 1	5 1	
		INCR = 25.000 IN							9 3.000							9 3	9 3	129
16	6H6	WING	H	20		X			11 3.000							11 3	11 3	270
12	6H7	WING	H	20		X	V	4	5 0.000							5 0	5 0	
		INCR = 26.000 IN							9 4.000							9 4	9 4	129
4	6T5	CURTAIN WALL	H	19		X			5 8.000	3 2.000						8 10	8 8	52
4	6T6	WING	H	25		X			20.000	7 8.625	22.000			3 3.000	7 0.000	11 3	11 2	68
4	6T7	WING	H	25		X			20.000	7 7.875	22.000			3 3.500	6 11.000	11 2	11 1	67
4	6T8	CURTAIN WALL	H	19		X			5 8.000	3 6.000						9 2	9 0	54
88	4U1	BEAM	H	32	S	X			2 0.000	3 3.000	2 0.375			2 0.000	4.000	7 3	7 1	416
88	4U2	BEAM	H	14	S	X			2 0.000	2 9.000	2 0.375			2 0.000	4.000	6 9	6 8	392
10	7U3	BEAM	H	14		X			4 7.000	19.000	5 6.375			3 2.000	4 7.000	11 9	11 6	235
10	7U4	BEAM	H	14		X			4 2.000	2 0.000	5 10.500			4 10.000	3 4.000	12 1	11 10	242
8	4U5	CURTAIN WALL	H	10	S	X				3 3.000	6.000					7 0	6 10	37
30	4U6	BEAM	H	10	S	X				6.000	2 9.000					3 9	3 7	72
8	4U8	CURTAIN WALL	H	10	S	X				3 6.000	6.000					7 6	7 4	39
180	5V1	BACKWALL	H	20		X			6 7.000							6 7	6 7	1236
8	6V4	BEAM	H	20		X			2 9.000							2 9	2 9	33
4	4V11	CURTAIN WALL	H	20		X			5 3.000							5 3	5 3	14
20	5V12	WING	H	20		X			6 4.000							6 4	6 4	132
14	4V13	WING	H	20		X	V	2	2 1.000							2 1	2 1	
		INCR = 5.625 IN							4 11.000							4 11	4 11	33
14	4V14	WING	H	20		X	V	2	2 1.000							2 1	2 1	
		INCR = 5.875 IN							5 4.000							5 0	5 0	34
4	4V16	CURTAIN WALL	H	20		X			5 3.000							5 3	5 3	14
28	4V17	WING	H	17		X	V	4	23.000							25	25	
		INCR = 5.875 IN							4 10.000							5 4	5 4	73
20	4V18	WING	H	17		X			6 4.000							6 10	6 10	92
24	2W1	BEAM	H	22		X			12.000	3.125						19 9	19 9	79
		INT BTS 2 & 4																
54	8D1	COLUMN FOOTING	H	20		X			4 10.000							4 10	4 10	697
48	6D2	FOOTING	H	10	S	X				2 10.000	16.000					7 0	6 8	481
4	11H8	BEAM	H	18		X			41 9.000							44 11	44 11	955
16	9H9	BEAM	H	20		X			41 9.000							41 9	41 9	2271
4	6H10	BEAM	H	20		X			41 9.000							41 9	41 9	251
16	7H11	BEAM	H	7		X			3 9.000	2 3.000						8 10	8 10	289
6	11H20	BEAM	H	20		X			15 2.000							15 2	15 2	483
4	11H21	BEAM	H	18		X			43 10.000							46 11	46 11	999
60	4P1	COLUMN BT 2	H	16		X			2 3.000							7 11	7 11	317
57	4P1	COLUMN BT 4	H	16		X			2 3.000							7 11	7 11	301
236	5U7	BEAM	H	10	S	X				2 2.000	2 6.000					5 10	6 8	1641
8	5U8	BEAM	H	10	S	X				2 2.000	2 3.000					6 7	6 5	54
20	4U9	BEAM	H	10	S	X				6.000	2 6.000					3 6	3 4	45
27	8V8	COLUMN BT 2	H	20		X			21 10.000							21 10	21 10	1574
27	8V9	COLUMN BT 4	H	20		X			20 10.000							20 10	20 10	1502

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE MARK	LOCATION	GRADE 60(H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
24	2W1	BEAM	H	22		X			12.000	9.125						19 9	19 9	79
		INT BT 3																
24	11D3	COLUMN FOOTING	H	20		X			7 6.000							7 6	7 6	956
24	8D4	FOOTING	H	20		X			8 0.000							8 0	8 0	513
18	5D5	FOOTING	H	20		X			5 9.000							5 9	5 9	108
6	6D6	FOOTING	H	10	S	X				3 3.000	7 3.000					13 9	13 5	121
2	6H10	BEAM	H	20		X			41 9.000							41 9	41 9	125
8	7H11	BEAM	H	7		X			3 9.000	2 4.000						8 10	8 10	144
2	11H12	BEAM	H	18		X			41 9.000							44 11	44 11	477
2	10H13	BEAM	H	20		X			17 8.000							17 8	17 8	152
2	11H14	BEAM	H	20		X			17 8.000							17 8	17 8	188
6	11H15	BEAM	H	20		X			41 9.000							41 9	41 9	1331
4	11H16	BEAM	H	18		X			43 9.000							46 11	46 11	987
54	4P1	COLUMN	H	16		X			2 3.000							7 11	7 11	286
72	6U10	BEAM	H	10	S	X				2 9.000	2 6.000					8 0	7 8	829
60	6U11	BEAM	H	10	S	X				2 9.000	22.000					7 4	7 0	631
10	4U12	BEAM	H	10	S	X				6.000	2 6.000					3 6	3 4	22
4	6U14	BEAM	H	10	S	X				2 9.000	2 4.000					7 10	7 6	45
4	6U15	BEAM	H	10	S	X				2 9.000	21.000					7 3	6 11	42
24	11V10	COLUMN	H	20		X			20 3.000							20 3	20 3	2582
12	2W1	BEAM	H	22		X			12.000	9.125						19 9	19 9	40
		⚠551																
		SUPERSTRUCTURE																
(613)	5S1	SLAB **	H	20					46 6.000							46 6	46 6	24880
48	4S2	SLAB ** ①	H	20					16 0.000							16 0	16 0	513
112	5S3	SLAB	H	20					37 8.000							37 8	37 8	4400
168	5S4	SLAB	H	20					58 11.000							58 11	58 11	10324
(27)	4S5	SLAB ** ①	H	20					35 8.000							35 8	35 6	5408
90	4S6	SLAB **	H	20					37 8.000							37 8	37 8	2336
38	5S7	SLAB **	H	20			V	2	3 2.000							3 2	3 2	
		INCR = 28.375 IN							45 8.000							45 8	45 8	928
38	5S8	SLAB **	H	20			V	2	2 11.000							2 11	2 11	
		INCR = 28.375 IN							45 5.000							45 5	45 5	958
36	5S9	SLAB **	H	20			V	2	4 4.000							4 4	4 4	
		INCR = 28.375 IN							44 6.000							44 6	44 6	917
8	4S10	SLAB **	H	20					22 10.000							22 10	22 10	122
564	5R1	Barrier Curb	H	19	S				2 6.000	3.500						2 10	2 9	1618
564	5R2	Barrier Curb	H	15	S				2 6.125	3.500						2 10	2 9	1618
46	5R3	Barrier Curb	H	27	S				13.500	8.625	11.375	6.000		6.875	9.125	3 4	3 2	159
516	5R4	Barrier Curb	H	19	S				17.000	6.000						23	22	107
44	5R5	Barrier Curb	H	20					11 3.000							11 3	11 3	516
4	5R6	Barrier Curb	H	20					11 2.000							11 2	11 2	47
8	5R7	Barrier Curb	H	20					10 3.000							10 3	10 3	86
508	5R8	Barrier Curb	H	19	S				17.000	6.000						23	22	971
508	5R9	Barrier Curb	H	27	S					6.000	11.375	7.000	12.000	9.125	6.875	3 0	2 10	1501
24	5R10	Barrier Curb	H	20					37 8.000							37 8	37 8	948
48	5R11	Barrier Curb	H	20					40 2.000							40 2	40 2	2011
24	5R12	Barrier Curb	H	20					9 9.000							9 9	9 9	948

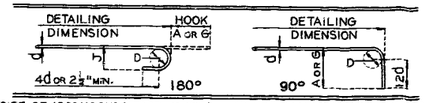


STIRRUP HOOK DIMENSIONS

GRADES 40-50-60 KSI

BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#3	1-1/2"	4"	4"	2-1/2"
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	8"	7"	4-1/2"

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



SIZE OF 180° HOOKS (GRADE 40 KSI)
D = 5d FOR #3 THRU #11
D = 10d FOR #14 AND #18

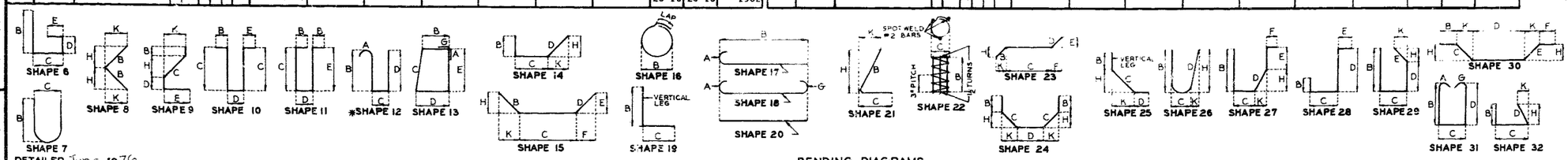
SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

END HOOK DIMENSIONS

BAR SIZE	180° HOOKS GRADE 40 A OR G	180° HOOKS GRADE 40 J	180° HOOKS GRADE 60 A OR G	180° HOOKS GRADE 60 J	90° HOOKS ALL GRADES A OR G
#3	5"	2-3/4"	5"	3"	6"
#4	6"	3-1/2"	6"	4"	8"
#5	7"	4-1/2"	7"	5"	10"
#6	8"	5-1/4"	8"	6"	12"
#7	9"	6-1/4"	10"	7"	14"
#8	10"	7"	11"	8"	16"
#9	12"	8"	15"	11-1/4"	19"
#10	13"	9"	17"	12-3/4"	22"
#11	14"	10"	19"	14-1/4"	2'-0"
#14	2'-2"	20-1/2"	21'-2"	20-1/2"	21'-7"
#18	2'-11"	21'-3"	21'-11"	21'-3"	31'-5"

NOTES:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
H - HIGH STRENGTH (ASTM A-615 GRADE 60).
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.
* ALL HOOKS AND BENDS FOR SHAPE NO. 12 - GRADE 40 (ONLY) ARE BASED ON D = 5d.

** Epoxy Coated
① Two additional 52 #5 bars are included for test purposes.



BENDING DIAGRAMS

REVISED	STD. 90.8
MAY 1978	MAY 1974

DETAILED June 1976
CHECKED June 1976

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

Sheet No. 13 of 14 ⚠ Revised Apr. 25, 1980 PULASKI COUNTY A-3052

MISSOURI STATE HIGHWAY DEPARTMENT

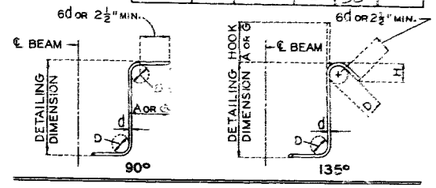
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	58	

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	GRADE 60 (H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.IN.	ACTUAL LENGTH FT.IN.	WEIGHT LBS.
4	45100		SLAB	H	20					37	8.000													37 8	37 8	89
10	45101		SLAB	H	20					35	8.000													35 8	35 8	238
38	5520		SLAB	H	20			V	2	2	11.000													2 11	2 11	
			INCR= 28.375 IN.							45	5.000													45 5	45 5	958
513	5521		SLAB	H	20					46	6.000													46 6	46 6	24880
38	5522		SLAB	H	20			V	2	3	2.000													3 2	3 2	
			INCR= 28.375 IN.							45	8.000													45 8	45 8	968
36	5523		SLAB	H	20			V	2	4	4.000													4 4	4 4	
			INCR= 28.375 IN.							44	6.000													44 6	44 6	917
			END OF BAR LIST																							

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO. SIZE	MARK NO. MARK	LOCATION	GRADE 60 (H)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.IN.	ACTUAL LENGTH FT.IN.	WEIGHT LBS.

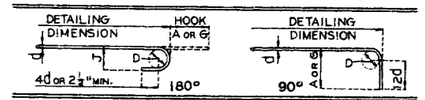


STIRRUP HOOK DIMENSIONS

GRADES 40-50-60 KSI

BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#3	1-1/2"	4"	4"	2-1/2"
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	8"	7"	4-1/2"

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



SIZE OF 180° HOOKS (GRADE 40 KSI)
D = 5d FOR #3 THRU # 11
D = 10d FOR #14 AND # 18

SIZE OF 90° HOOKS (ALL GRADES) AND 180° HOOKS (GRADE 60 KSI)
D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 AND #11
D = 10d FOR #14 AND #18

END HOOK DIMENSIONS

BAR SIZE	180° HOOKS GRADE 40 A OR G	180° HOOKS GRADE 40 J	180° HOOKS GRADE 60 A OR G	180° HOOKS GRADE 60 J	90° HOOKS ALL GRADES A OR G
#3	5"	2-3/4"	5"	3"	6"
#4	6"	3-1/2"	6"	4"	8"
#5	7"	4-1/2"	7"	5"	10"
#6	8"	5-1/4"	8"	6"	12"
#7	9"	6-1/4"	10"	7"	14"
#8	10"	7"	11"	8"	16"
#9	12"	8"	15"	11-1/4"	19"
#10	13"	9"	17"	12-3/4"	22"
#11	14"	10"	19"	14-1/4"	2'-0"
#14	2'-2"	20-1/2"	2'-2"	20-1/2"	2'-7"
#18	2'-11"	2'-3"	2'-11"	2'-3"	3'-5"

NOTES: ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

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

H - HIGH STRENGTH (ASTM A-615 GRADE 60).

S - STIRRUP.

X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

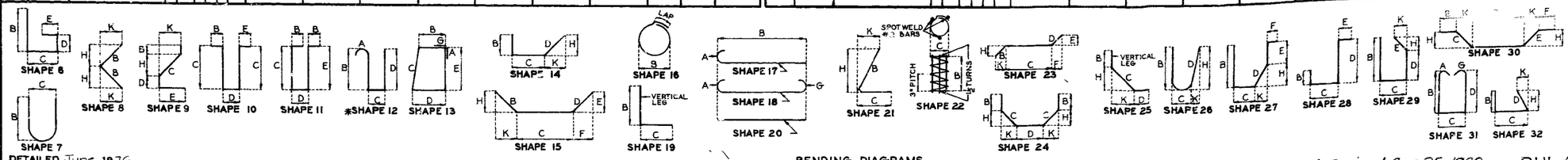
V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

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.

* ALL HOOKS AND BENDS FOR SHAPE NO. 12 - GRADE 40 (ONLY) ARE BASED ON D = 5d.



BENDING DIAGRAMS

REVISED	MAY 1976
STD. 90.8	MAY 1974

DETAILED June 1976
CHECKED June 1976

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

Sheet No. 14 of 14 ⚠ Revised Apr. 25, 1980

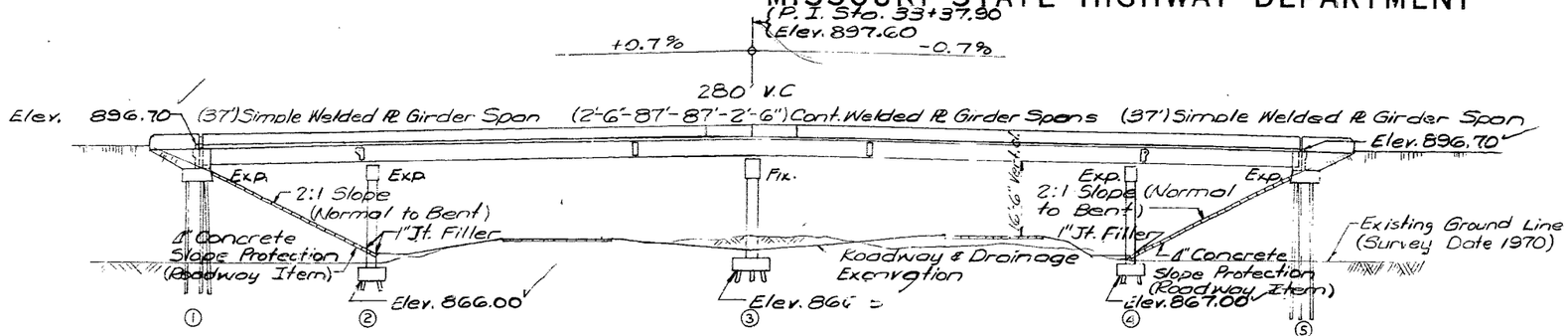
PULASKI COUNTY

A-3052

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	45	

FINAL PLANS



GENERAL ELEVATION

Note: A minimum vertical clearance of 14'-0" from crown of existing lanes and a minimum lateral clearance of 28'-0" centered on existing lanes was maintained during construction.

Note: Compacted fill (full roadway width) was placed up to elevation of Bottom of concrete beam in front of and not less than 25'-0" in back of End Bents No. 1 & 5 before piles were driven at end bents. #1 & #5.

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O. - 1973

Design Loading:
H20-44 15 #/sq. ft. Future Wearing Surface
Earth 120 # Equivalent Fluid Pressure 30 #
Fatigue Stress: Case II Interim 1974

Design Unit Stresses:

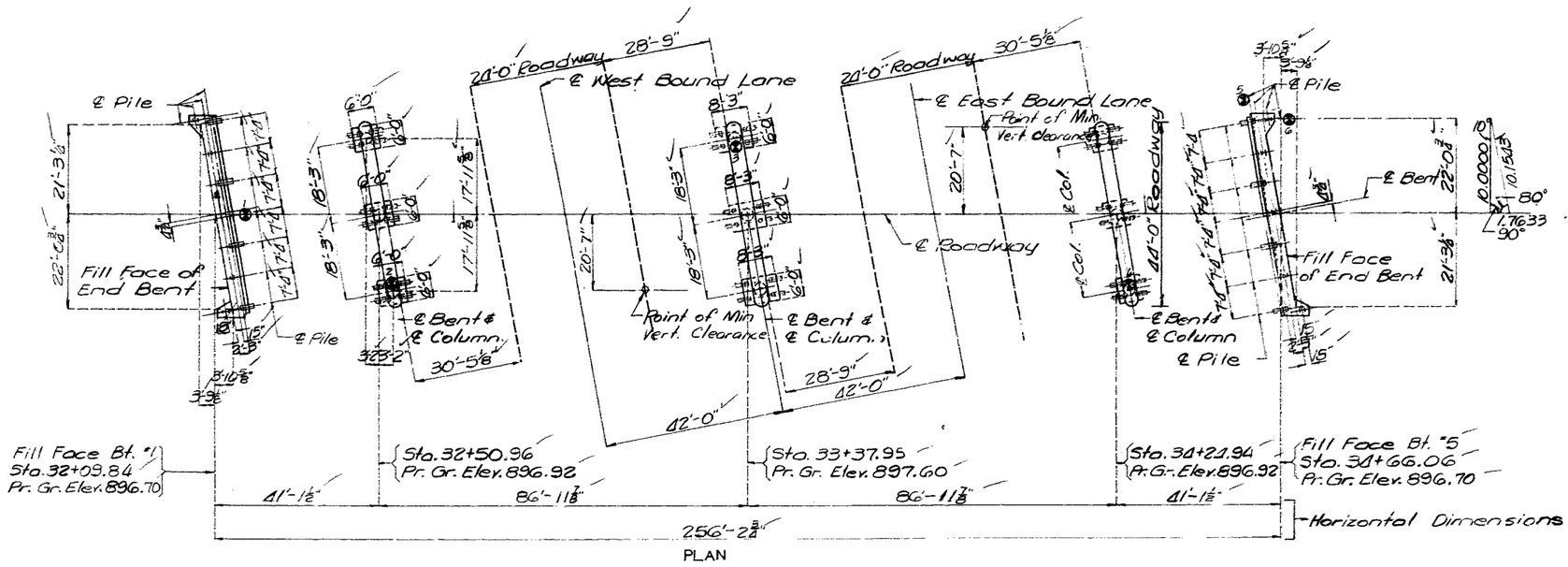
Class B Concrete (substructure) f_c = 1,200 psi
Class B1 Concrete (superstructure) f_c = 1,600 psi
Reinforcing Steel f_s = 20,000 psi
Structural Carbon Steel f_s = 20,000 psi
Structural Steel (ASTM A-572) Grade 50 f_s = 27,000 psi
Steel Pile f_b = 9000 psi

Fabricated Steel:
Field connections, High Strength Bolts 3/4" ϕ, holes 13/16" ϕ except as noted.

Reinforcing Steel:
Minimum clearance to reinforcing steel was 1½" unless otherwise shown.

All reinforcing bars in tops of substructure beams or caps was spaced to clear anchor bolts for bearing by at least ½"

Paint: System B by contractor in accordance with Std. Spec. 712.12 Color of the final field coat was green.



ESTIMATED QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class I Excavation	Cu. Yd.	198.0		198.0
Class B Concrete	Cu. Yd.	184.5		184.5
Class B1 Concrete	Cu. Yd.		339.0	339.0
Reinforcing Steel Grade 60	Lbs.	27700	54380	82080
Fabricated Structural Low Alloy Steel	Lbs.		39670	39670
Fabricated Structural Carbon Steel	Lbs.		199630	199630
Painting	Ton		119.2	119.2
Structural Steel Pile (10 in.)	Lin. ft.	1579		1579
Preformed Compression Exp. Jt. Seal (1.5 in.)	Lin. ft.		90	90
Reinforcing Steel Grade 60 Epoxy Coated	Lbs.		37940	37940

All concrete and reinforcement in Barrier Curbs is included with Superstructure Quantities.

PILE DATA

BENT NO.		1	2	3	4	5
Pile Type and Size		HP10x42	HP10x42	HP10x42	HP10x42	HP10x42
Number		9	12	10 @ 2'-0" & 2 @ 2'-6"	12	4 @ 5'-4" & 4 @ 2'-6"
Approximate Length	Ft.	50	24	See Rt	16	See Rt
Design Bearing	Tons	43	39	50	39	43
Hammer Energy required	Ft. Lbs.	10,600	9200	12700	9200	10600

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

Note: For Boring Data see sheet No. 2
⊗ Indicates location of boring.

B.M. Elev. 898.99' Bolt in Top of Barrier Curb S.W. Corner Sta. 34+798 Rte. H (U.S.G.S. Datum)

BRIDGE: ROUTE H UNDERPASS

STATE ROAD FROM WAYNESVILLE TO LEBANON

ABOUT 2.0 MILES SOUTHWEST OF WAYNESVILLE

PROJECT NO. I-IR-44-2(84) **STA.** 689 + 95.10
JOB NO. 8-I-44-9D RTE. I-44

PULASKI **COUNTY**

DATE 11-9-77

STD. 611.60	
STD. 706.30	
A-3052	

DESIGNED OCT. 1973
DETAILED DEC. 1973
CHECKED May 1976

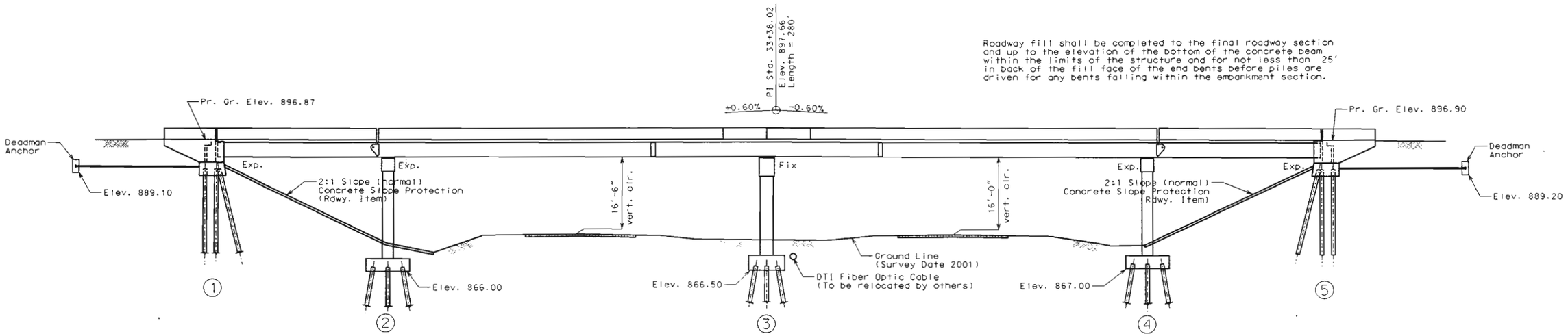
Note: This drawing is not to scale. Follow dimensions.

4/13

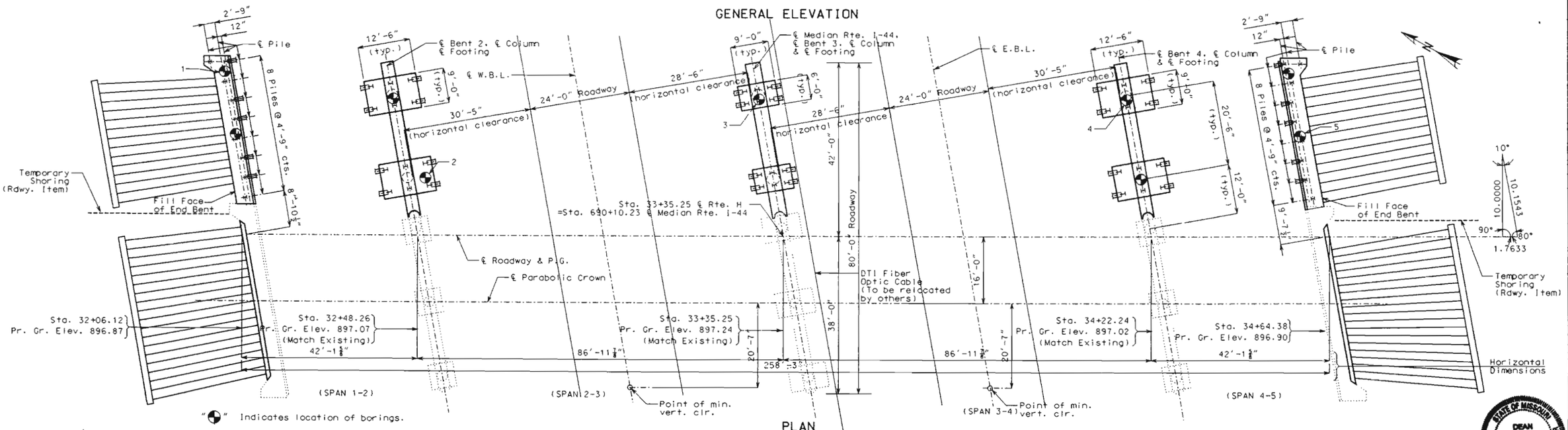
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

U.I.P. & Widen (37') Plate Girder Span, (2.5'-87'-87'-2.5')
Continuous Composite Plate Girder Spans, (37') Plate Girder Span

State	Proj. No.	Sheet No.
MO		B1
SEC/SUR 35	TWP 36N	RGE 12W



GENERAL ELEVATION



PLAN

Note: For General Notes, Pile Data, Estimated Quantites and Estimated Quantities for Slab on Steel, see Sheet No. 2.

Profile Grade Elevations do not include epoxy polymer overlay.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the bridge plan sheet(s) for this structure. Boring data for the numbered locations is shown on sheet(s) no. 4. 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 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 is subsurface data available from the district or elsewhere.

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.

B.M. #1 ELEV. 899.27 HEX BOLT IN TOP OF BRIDGE RAIL AT NE BRIDGE CORNER STA. 31+96.237, 13' Lt

REPAIRS TO BRIDGE: RTE. H OVER I-44

STATE ROAD FROM WAYNESVILLE TO I-44

ABOUT 2.0 MILES SOUTHWEST OF WAYNESVILLE

PROJECT NO. STA. 32+06.12

JOB NO. J9S0500 RTE. H

PULASKI COUNTY Date: 8/29/02

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-29132 REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-2002

STD. 609.00
STD. 611.60
STD. 706.35
A30521

Designed Feb. 2002
Detailed Apr. 2002
Checked May 2002

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

State	Proj. No.	Sheet No.
MO		B2

GENERAL NOTES:

Design Specifications:
AASHTO - 1996 and Interims thru 2000
Load Factor Design
Seismic Performance Category A

Design Loading (Widening only) :
HS20 Modified
35 #/Sq. Ft. Future Wearing Surface
Military 24.000# Tandem Axle
Earth - 120 #/Cu. Ft.
Equivalent Fluid Pressure 47 #/Cu. Ft.
Ø = 26°
Fatigue Stress - Case II

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 Safety Barrier Curb) f'c = 4.000 psi
Reinforcing Steel (Grade 60) fy = 60.000 psi
Structural Steel (ASTM A709 Grade 50) fy = 50.000 psi
Steel Pile (ASTM A709 Grade 36) fb = 9.000 psi

Fabricated Steel Connections:

Field connections shall be made with $\frac{3}{4}$" diameter high strength bolts and $\frac{13}{16}$" diameter holes, except as noted.

Joint Filler:

All joint filler shall meet the requirements of Section 1057.2.4 of the Missouri Standard Specifications, except as noted.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be $1\frac{1}{2}$", unless otherwise shown.

Painting:

Prime Coat (New Steel): The cost of the prime coat shall be included in the contract unit price of the fabricated structural steel. Tint of the prime coat for System G shall be similar to the color of the field coat to be used.

All Existing Structural Steel shall be painted with a Calcium Sulfonate System in accordance with Special Provisions.

All New Structural Steel shall be painted with a Calcium Sulfonate Top Coat in accordance with Special Provisions.

Miscellaneous:

A minimum vertical clearance of 15'-6" from crown of existing lanes and a minimum clear opening of 40'-0" centered on existing lanes shall be maintained during construction.

Traffic over structure to be maintained during construction.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Section 106 of the Missouri Standard Specifications and Field Section (FS-712) from Materials Manual.

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

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

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

Resin Anchors:
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.

Cost of furnishing and installing the resin anchor system complete in place shall be included in the price bid for Class B Concrete (Substr.).

The "A" diameter resin anchor systems shall have a minimum ultimate pullout strength of "B" lbs. in concrete with f'c = 4.000 psi, see Special Provisions.

A "C" Grade 60 reinforcing bar "D" long shall be substituted for the "A" threaded rod stud at Intermediate Bent No. 3. An epoxy coated "C" Grade 60 reinforcing bar extending "D" into new concrete substituted for the "A" threaded rod stud for all other applications.

"A"	"B"	"C"	"D"
$\frac{5}{8}$"	15.500	#5	37"
$\frac{3}{4}$"	20.400	#6	47"
$\frac{7}{8}$"	27.500	#7	63"
1"	33.600	#8	82"

ESTIMATED QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Partial Removal of Existing Bridge Deck	sq. foot		698	698
Seal Coat Removal (Bridges)	sq. foot		11008	11008
Replacement of Expansion Device and Adjacent Concrete	lin. foot		179	179
Partial Removal of Substructure Concrete	lump sum			1
Class 1 Excavation	cu. yard	350		350
Bridge Approach Slab (Bridge)	sq. yard		450	450
Structural Steel Piles (10 in.)	lin. foot	1503		1503
Structural Steel Piles (12 in.)	lin. foot	168		168
Pile Point Reinforcement	each	54		54
Class B Concrete (Substr)	cu. yard	256.4		256.4
Deadman Anchorage System	each	2		2
Protective Coating for Concrete Bents and Piers under Expansion Devices	lump sum			1
Slab on Steel	sq. yard		1099	1099
* Safety Barrier Curb	lin. foot		280	280
Epoxy Polymer Concrete Overlay	sq. yard		2271	2271
Laminated Neoprene Bearing Pad (Steel Structures)	each		55	55
Preformed Compression Expansion Joint Seal (2.5 in.)	lin. foot		163	163
Preformed Compression Expansion Joint Seal (4.5 in.)	lin. foot		163	163
Reinforcing Steel (Bridges)	pound	17.060		17.060
Mechanical Bar Splice	each	22		22
Conduit System on Structure	lump sum			1
Reinforcing Steel (Epoxy Coated)	pound	19.500		19.500
Fabricated Structural Low Alloy Steel (Plate Girders) ASTM A709 Grade 50	pound		279.170	279.170
Slab Drain	each		6	6
Painting (Existing and New Steel)	lump sum			1
Transporting Lead Contaminated Residue to Storage Area	lump sum			1
Transporting Lead Contaminated Residue to the Smelter	lump sum			1
Disposal of Lead Contaminated Residue	lump sum			1
Vertical Drain at End Bents	each			2
Removal of Existing Bearings & Anchor Bolts	each		30	30

* Safety barrier curb shall be cast-in-place option or slip-form option.

Concrete above the upper construction joint in backwall at End Bents is included with Class B2 Concrete (Slab on Steel) Quantities.

Pile Data

Bent No.		1	2	3	4	5
Pile Type and Size		HP10 X 42	HP10 X 42	HP12 X 53	HP10 X 42	HP10 X 42
Number		9	12	12	12	9
Approximate Length	ft.	52	28	14	17	55
Design Bearing	tons	52	45	68	45	52
Hammer Energy Required	ft.-lbs.	12,800	10,600	16,000	10,600	12,800

Minimum energy requirement of hammer is based on plan length and design bearing value of piles.

All piles shall be driven to practical refusal.

Manufactured pile point reinforcement shall be used on all piles in this structure. See Special Provisions.

ESTIMATED QUANTITIES FOR SLAB ON STEEL

Item		Total
Reinforcing Steel (Epoxy Coated)	pound	56,930
Concrete (Class B2)	cu. yard	176.1

The table of Estimated Quantities for Slab on Steel 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 Steel.

See Special Provisions for method of forming slab.

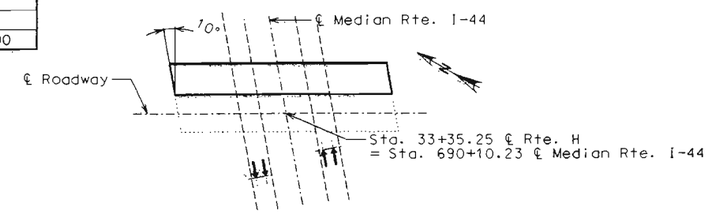
The Estimated Quantities for Slab on Steel are based on skewed precast prestressed end panels.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Steel.

REQUIRED SUPPORT LOAD PER GIRDER

BENT	LOADS
1	27 kips
2	79 kips
3	165 kips
4	79 kips
5	27 kips

Note: The above forces are the temporary support loads for existing girders during replacement of existing bearings, Stage 2 construction, before the closure pour. The above include the non-composite dead load, the composite dead load, a composite construction load of 50 psf, but no live load. They are service loads with no factor of safety applied to them. (See Special Provisions)



LOCATION SKETCH

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED ENGINEER
DATE 8-28-02

Detailed Jun. 2002
Checked Jul. 2002

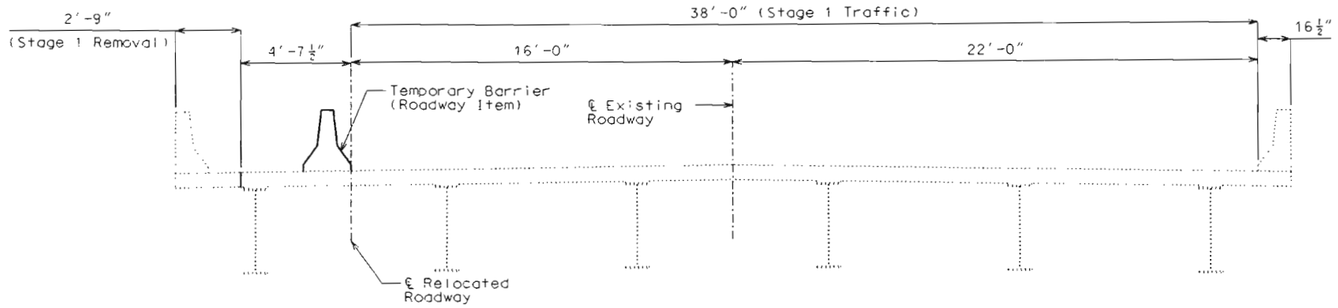
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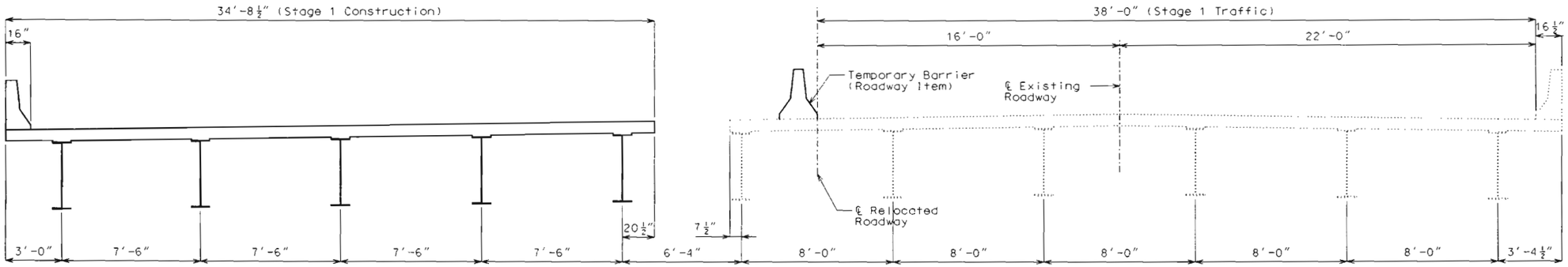
PULASKI COUNTY A30521

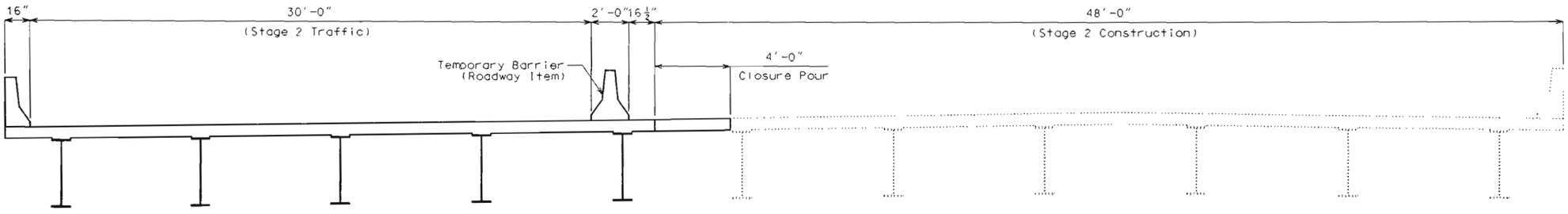
REV.

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State	Proj. No.	Sheet No.
MO		B3







DETAILS OF STAGE CONSTRUCTION

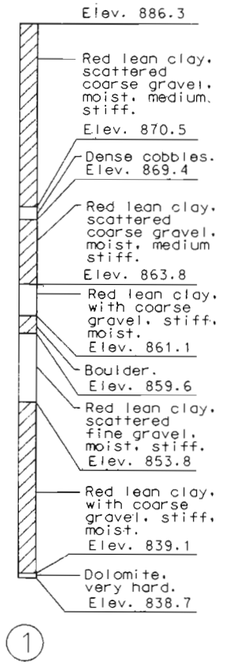
STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

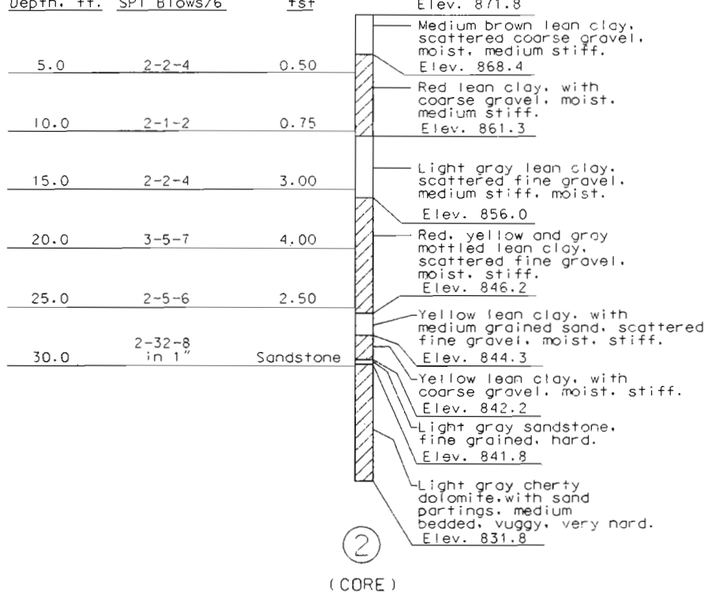
Detailed Apr. 2002
Checked May 2002

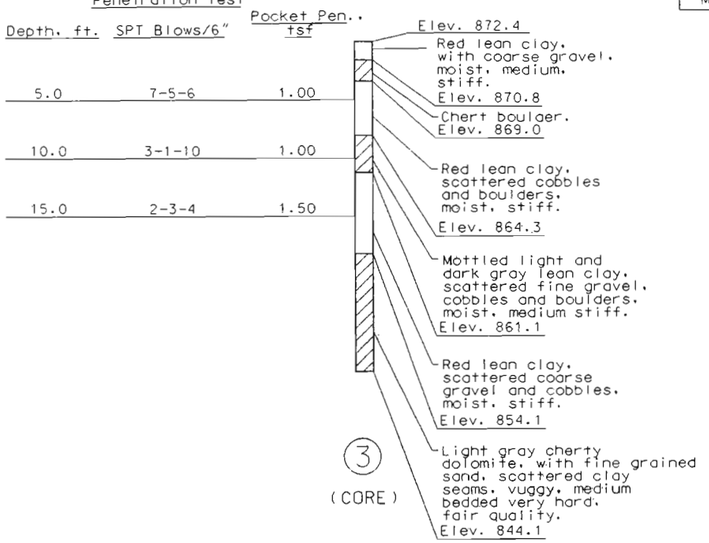
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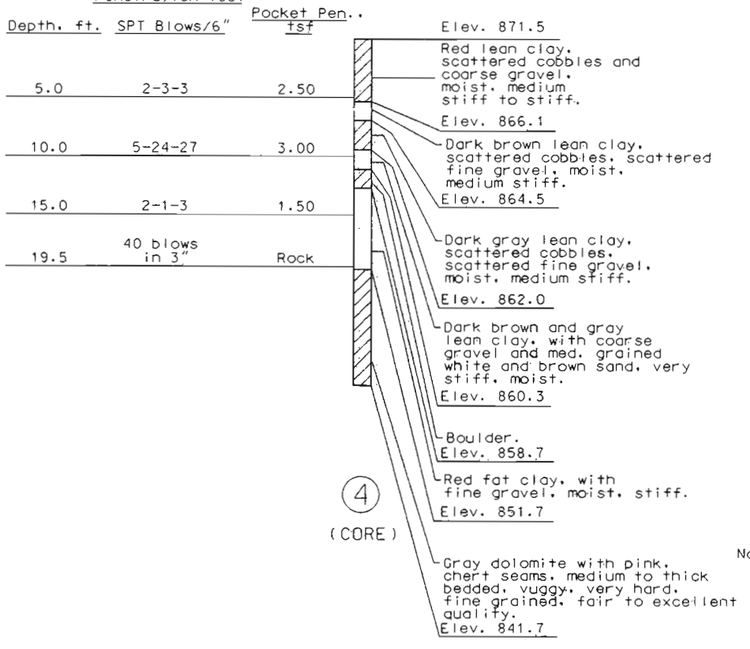
PULASKI COUNTY A30521

State	Proj. No.	Sheet No.
MO		134









BORING DATA

Note: For location of borings see sheet No. 1





Detailed Apr. 2002
Checked May 2002

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

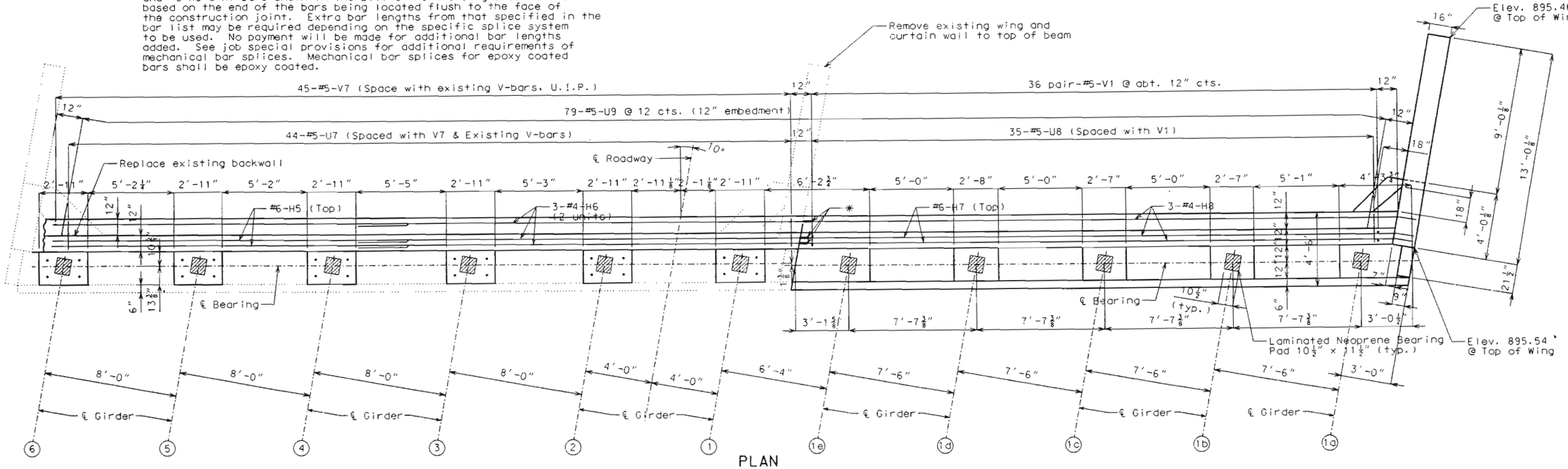
PULASKI COUNTY A30521

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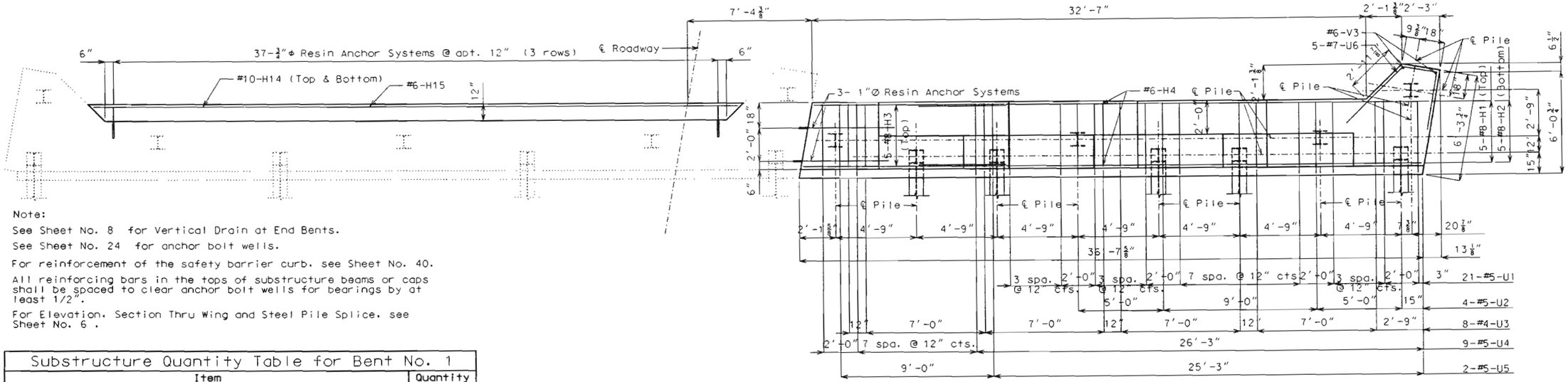
State	Proj. No.	Sheet No.
MO		B5

✱ Mechanical Bar Splice:

The contractor shall use a mechanical bar splice for the bars at the specified location. The total bar lengths for #4-H6 & H8 and #6-H5 & H7 bars shown in the Bill of Reinforcing Steel are determined based on the end of the bars being located flush to the face of the construction joint. Extra bar lengths from that specified in the bar list may be required depending on the specific splice system to be used. No payment will be made for additional bar lengths added. See job special provisions for additional requirements of mechanical bar splices. Mechanical bar splices for epoxy coated bars shall be epoxy coated.



PLAN



PLAN OF BEAM

Note:

See Sheet No. 8 for Vertical Drain at End Bents.

See Sheet No. 24 for anchor bolt wells.

For reinforcement of the safety barrier curb, see Sheet No. 40.

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 Elevation, Section Thru Wing and Steel Pile Splice, see Sheet No. 6 .

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	Cu. Yds.	75
Structural Steel Piles (10")	Lin. Ft.	468
Pile Point Reinforcement	Each	9
Class B Concrete (Substructure)	Cu. Yds.	49.4
Deadman Anchorage System	Each	1
Mechanical Bar Splice	Each	11
Reinforcing Steel (Epoxy Coated)	Lbs.	5620

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

DETAILS OF END BENT NO. 1

Detailed May 2002
Checked Jul. 2002

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

PULASKI COUNTY A30521

REV.

State	Proj. No.	Sheet No.
MO		36

*** Mechanical Bar Splice:

The contractor shall use a mechanical bar splice for the bars at the specified location. The total bar lengths for #4-H6 & H8. and #6-H5 & H7 bars shown in the Bill of Reinforcing Steel are determined based on the end of the bars being located flush to the face of the construction joint. Extra bar lengths from that specified in the bar list may be required depending on the specific splice system to be used. No payment will be made for additional bar lengths added. See job special provisions for additional requirements of mechanical bar splices. Mechanical bar splices for epoxy coated bars shall be epoxy coated.

**** Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.

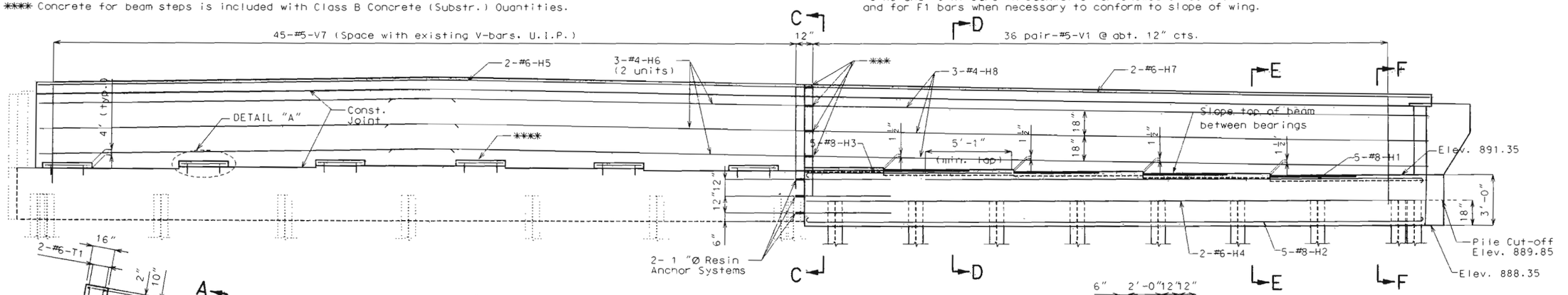
Note:
Top of backwall and expansion device for End Bent No. 1 shall conform to the Crown of Roadway slab. Backwall above upper construction joints shall not be poured until the superstructure slab has been poured in the adjacent span.

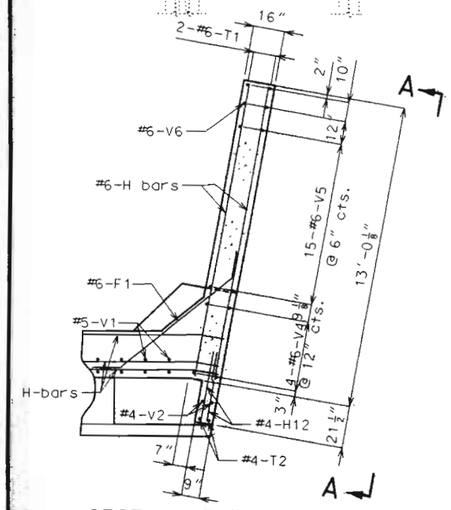
All concrete above the upper construction joint in backwall shall be Class B2.

* Seal backwall, top of beam and front face of beam with protective coating (See Special Provision).

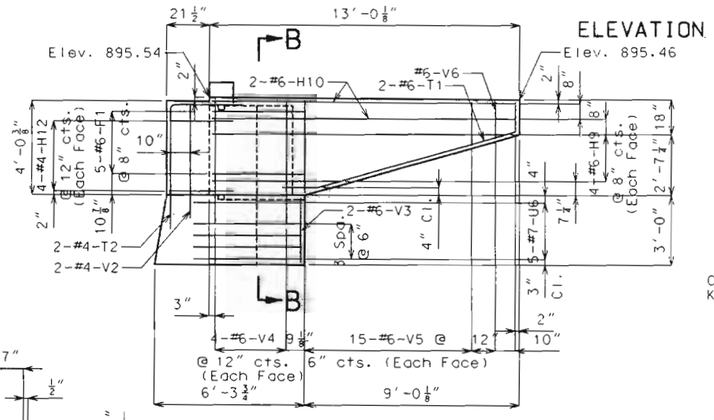
** Slope to drain between bearings

Field bending shall be required at wings for #4-H6, #4-H8, #6-H5 and #6-H7 bars in backwalls for skewed structures and for F1 bars when necessary to conform to slope of wing.



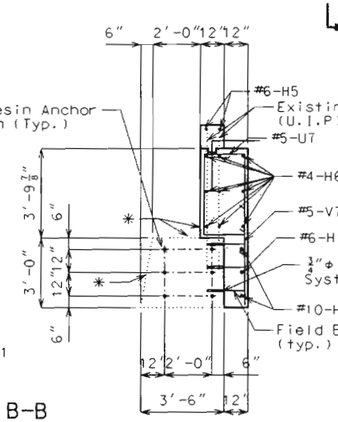


SECTION THRU WING

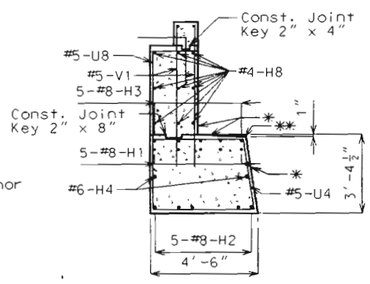


ELEVATION A-A

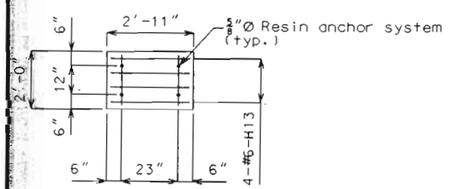
PART SECTION B-B



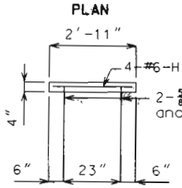
SECTION C-C



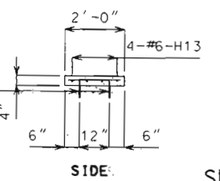
SECTION D-D



PLAN

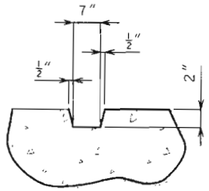


ELEVATION

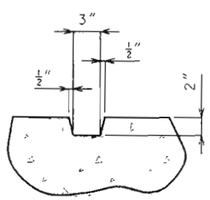


SIDE

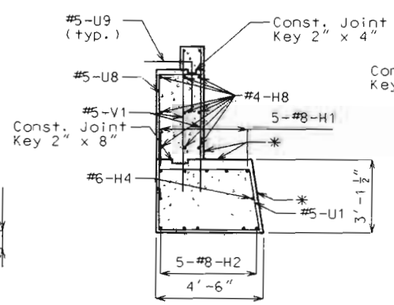
DETAIL "A"



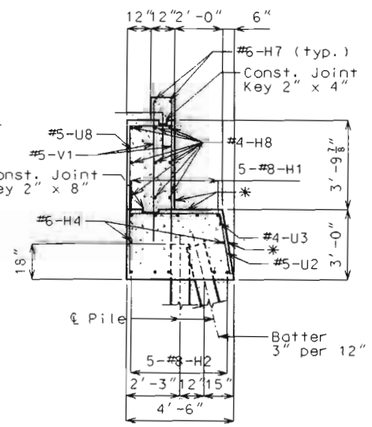
SECTION THRU 8" KEY



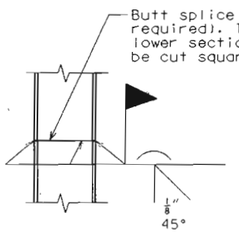
SECTION THRU 4" KEY



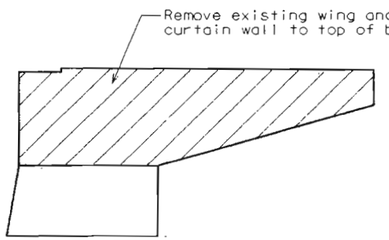
SECTION E-E



SECTION F-F



STEEL PILE SPLICE



Detail of Wing Removal

STATE OF MISSOURI
DEAN DAVID FRANKE
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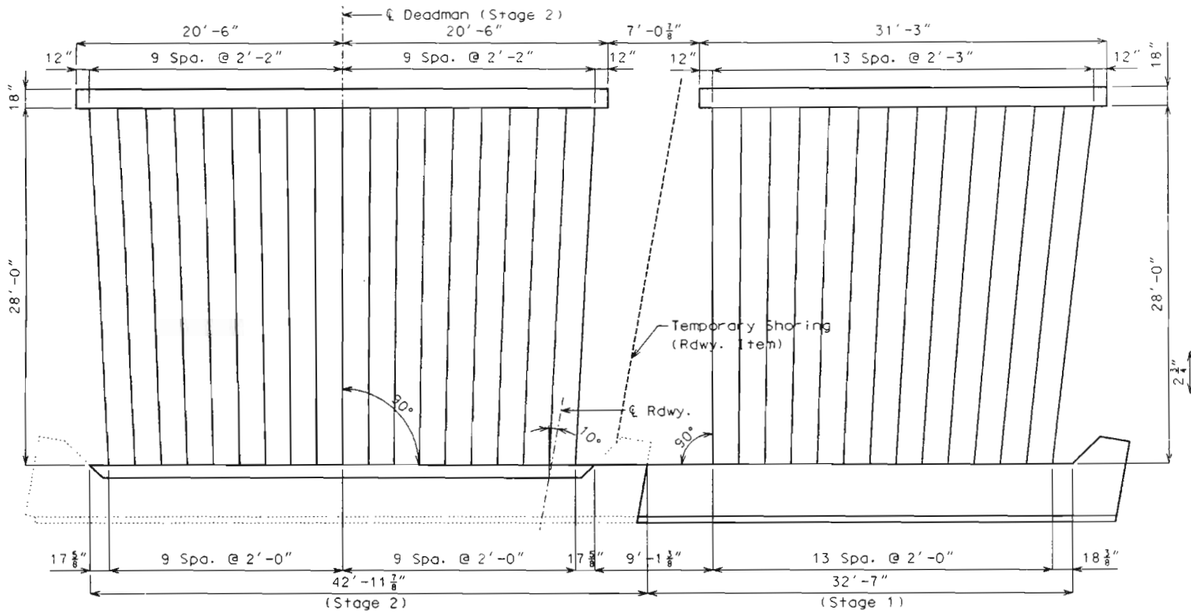
DETAILS OF END BENT NO. 1

PULASKI COUNTY A30521

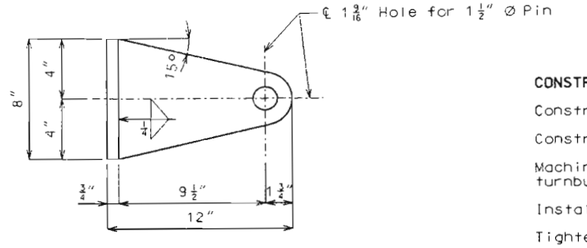
Detailed May 2002
Checked Jul. 2002

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

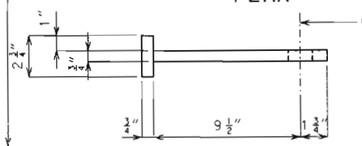
State	Proj. No.	Sheet No.
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PLAN



PLAN



ELEVATION
DETAIL OF ANCHOR TEE

CONSTRUCTION SEQUENCE:

Construct end bent with anchor tees in place.

Construct deadman with anchor tees in place.

Machine compact fill up to elevation of 1" Ø rod and turnbuckle.

Install 1" Ø rod, clevis and turnbuckle assembly.

Tighten turnbuckle until snug.

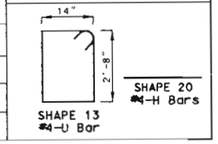
Hand compact fill for 12" (Min.) over 1" Ø rod and turnbuckle.

Machine compact remaining fill.

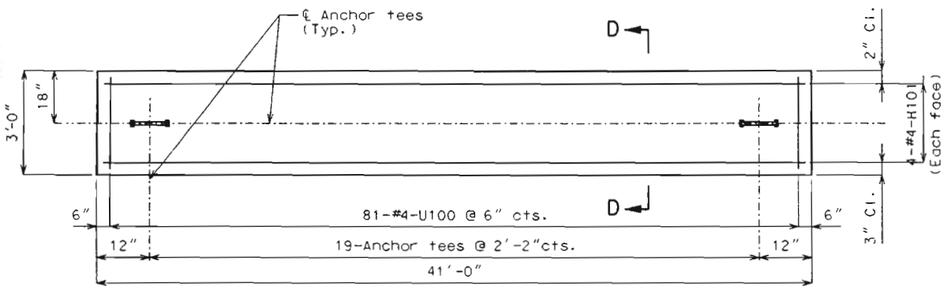
BILL OF REINFORCING STEEL EACH DEADMAN

NUMBER	SIZE & MARK		LENGTH
8	#4	H100	31'-0"
8	#4	H101	40'-9"
143	#4	U100	8'-5"

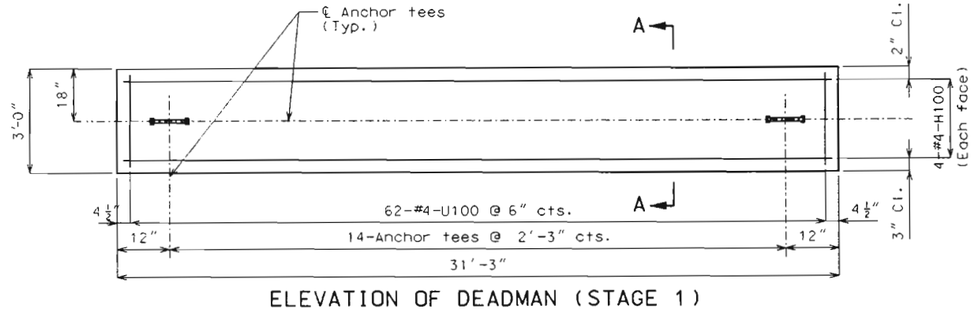
Bending Diagram



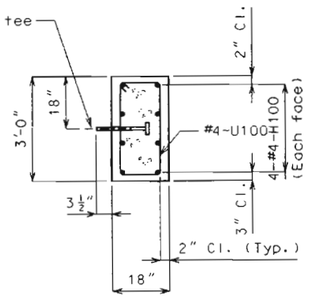
Note: Reinforcing steel lengths are based on nominal lengths. out to out.
#4-U100 shall meet the stirrup requirements on sheet No. 43.



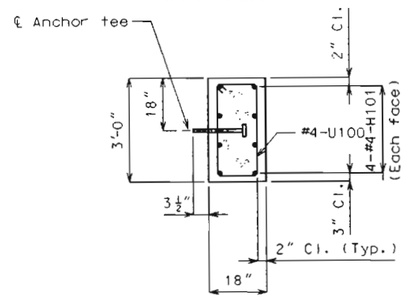
ELEVATION OF DEADMAN (STAGE 2)



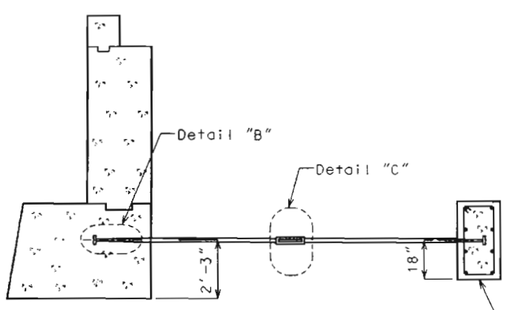
ELEVATION OF DEADMAN (STAGE 1)



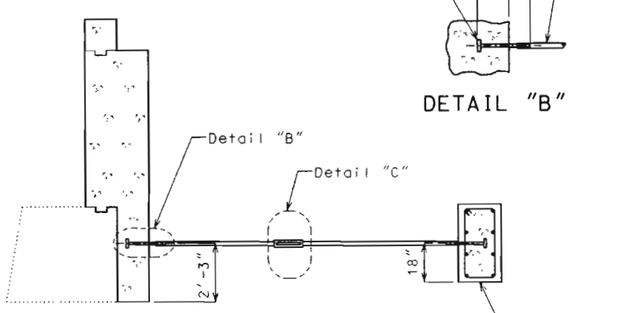
SECTION A-A



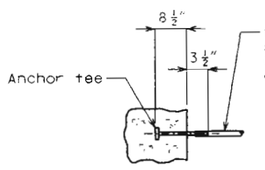
SECTION D-D



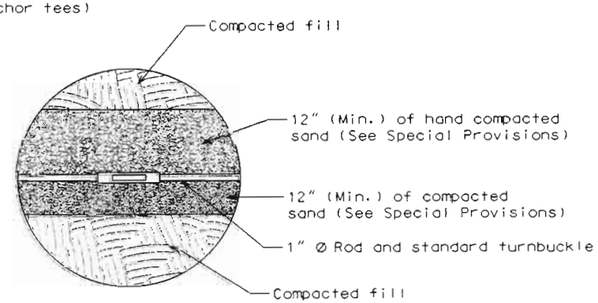
LOCATION OF ANCHOR TEES (STAGE 1)



LOCATION OF ANCHOR TEES (STAGE 2)



DETAIL "B"



DETAIL "C"

DETAILS OF DEADMAN ANCHORAGE SYSTEM AT END BENT 1

Detailed May 2002
Checked Jun. 2002

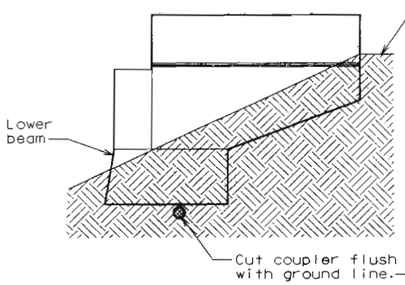
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7 of 46

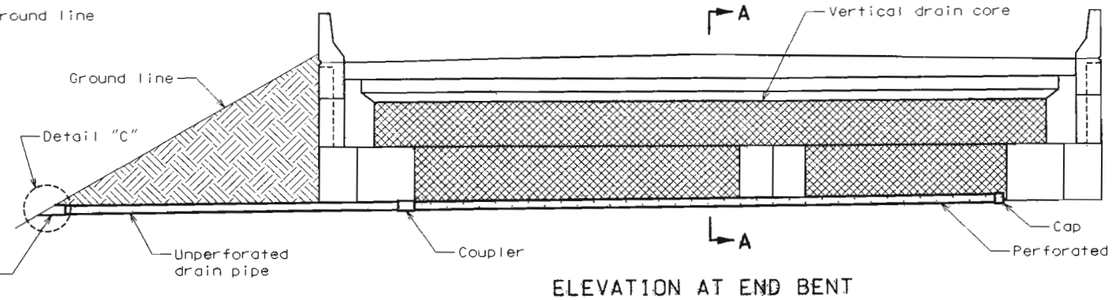
PULASKI COUNTY A30521

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

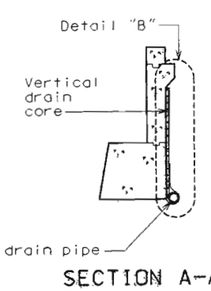
State	Proj. No.	Sheet No.
MO		38



ELEVATION OF WING



ELEVATION AT END BENT

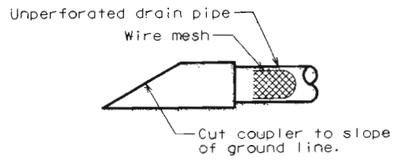


SECTION A-A

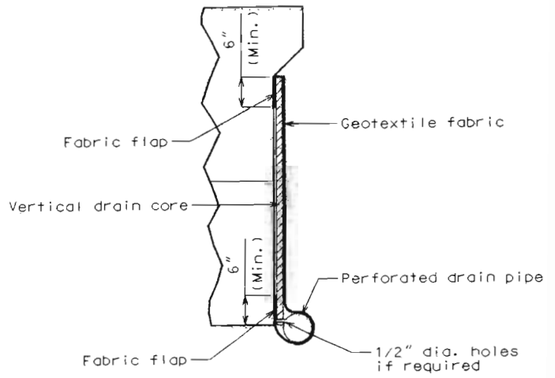
Note:
Drain pipe may be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

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.



DETAIL "C"

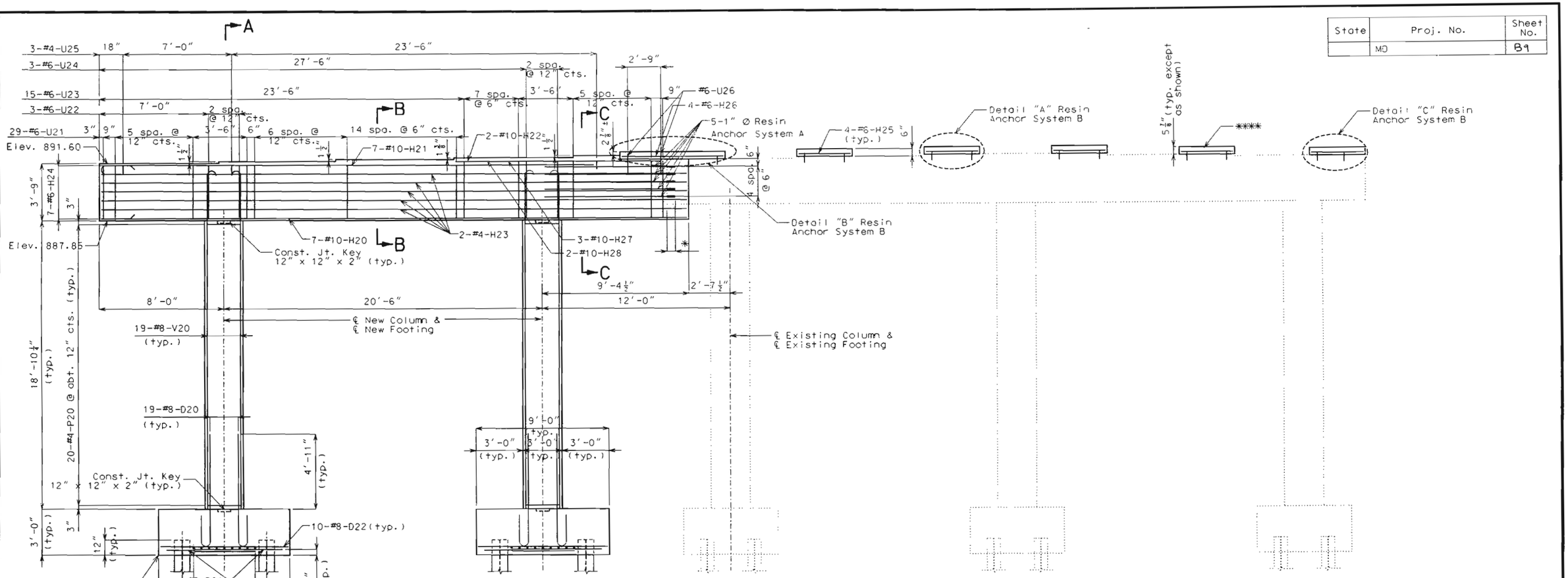


DETAIL "B"

VERTICAL DRAIN AT END BENTS

STATE OF MISSOURI
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REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

State	Proj. No.	Sheet No.
	MO	B9



ELEVATION

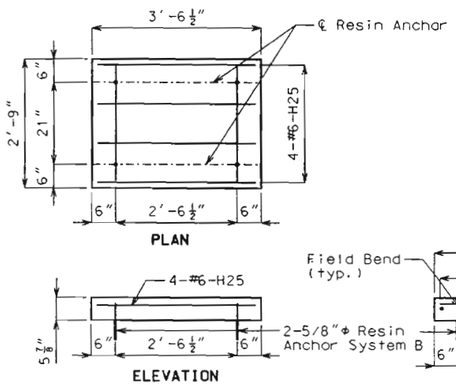
NOTES:

For Substructure Quantity Table, see Sheet No. 10.

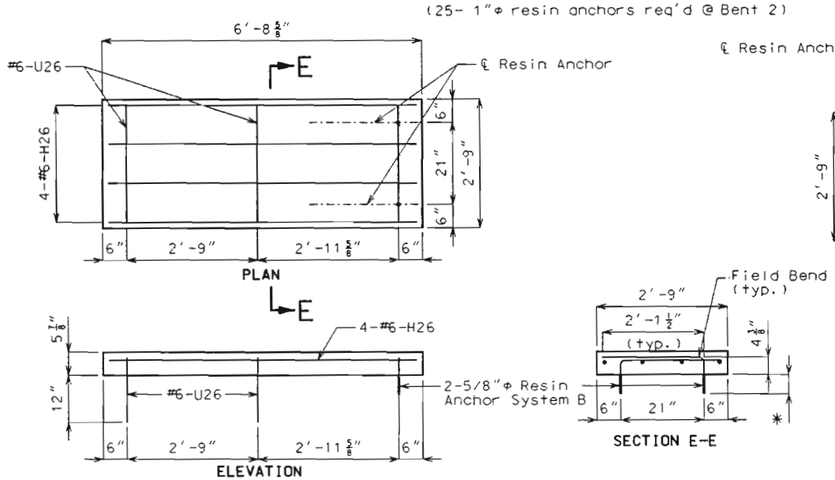
For Sections A-A, B-B, and C-C, Plan and Plan of Footing Showing Reinforcement, see Sheet No. 10.

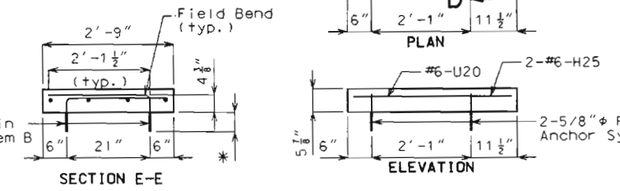
For details of Intermediate Bent 2 not shown, see Sheet No. 10.

**** Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.



(22-5/8"Φ resin anchors req'd @ Bent 2)
(25- 1"Φ resin anchors req'd @ Bent 2)





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DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Jun. 2002
Checked Jul. 2002

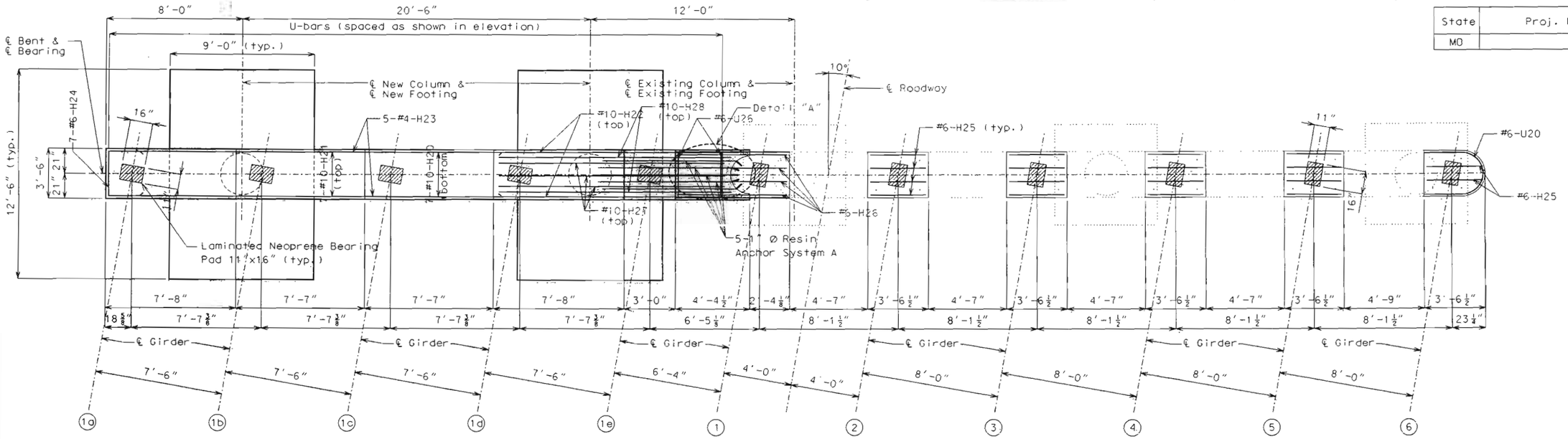
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

REV.

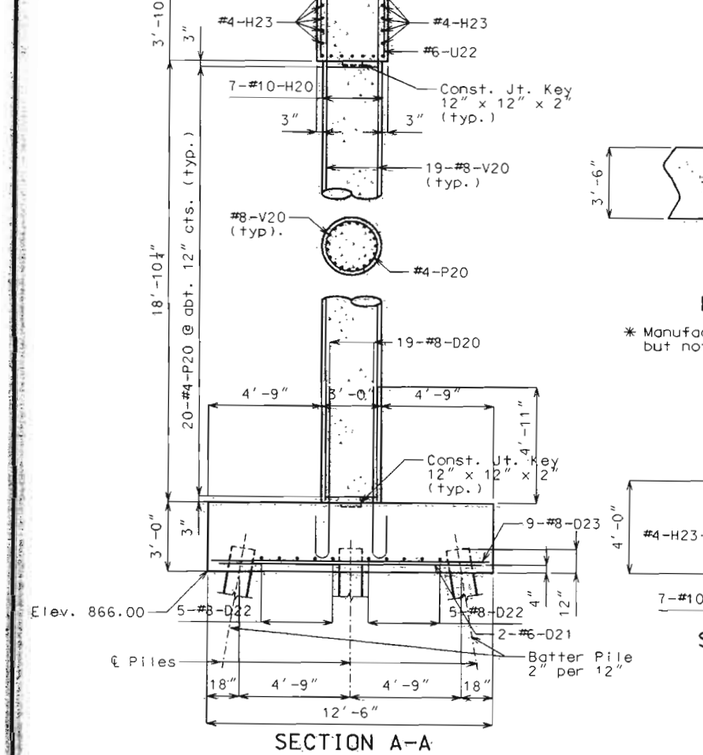
Plotted: 28-JUN-02 08:38 By: dfranke

State	Proj. No.	Sheet No.
MO		B10

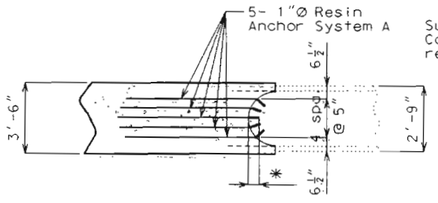


PLAN

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".



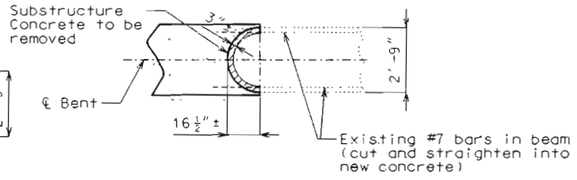
SECTION A-A



PLAN

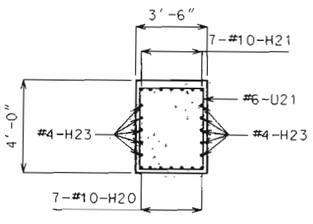
DETAIL "A"

* Manufacture's embedment length but not less than 5" min.

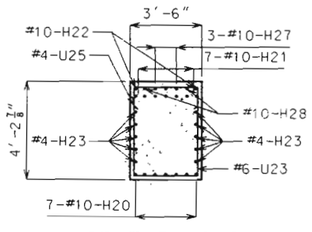


PART PLAN SHOWING AREAS OF SUBSTRUCTURE BEAM CAP CONCRETE TO BE REMOVED

Hatch area ▨ indicates existing concrete removal around existing U shaped bars at end of beam cap.

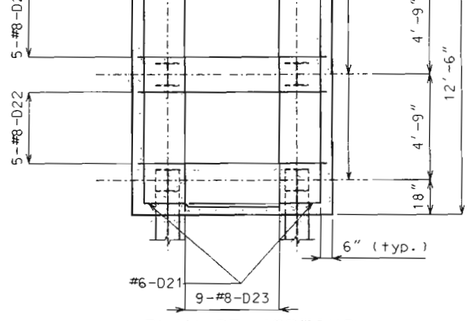


SECTION B-B



SECTION C-C

NOTE: Resin Anchor Systems not shown for clarity.



PLAN OF FOOTING SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 2

Item		Quantity
Class 1 Excavation	Cu. Yds.	80
Structural Steel Piles (10")	Lin. Ft.	336
Pile Point Reinforcement	Each	12
Class B Concrete (Substructure)	Cu. Yds.	55.4
Reinforcing Steel (Bridges)	Lbs.	4630
Reinforcing Steel (Epoxy Coated)	Lbs.	4250

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

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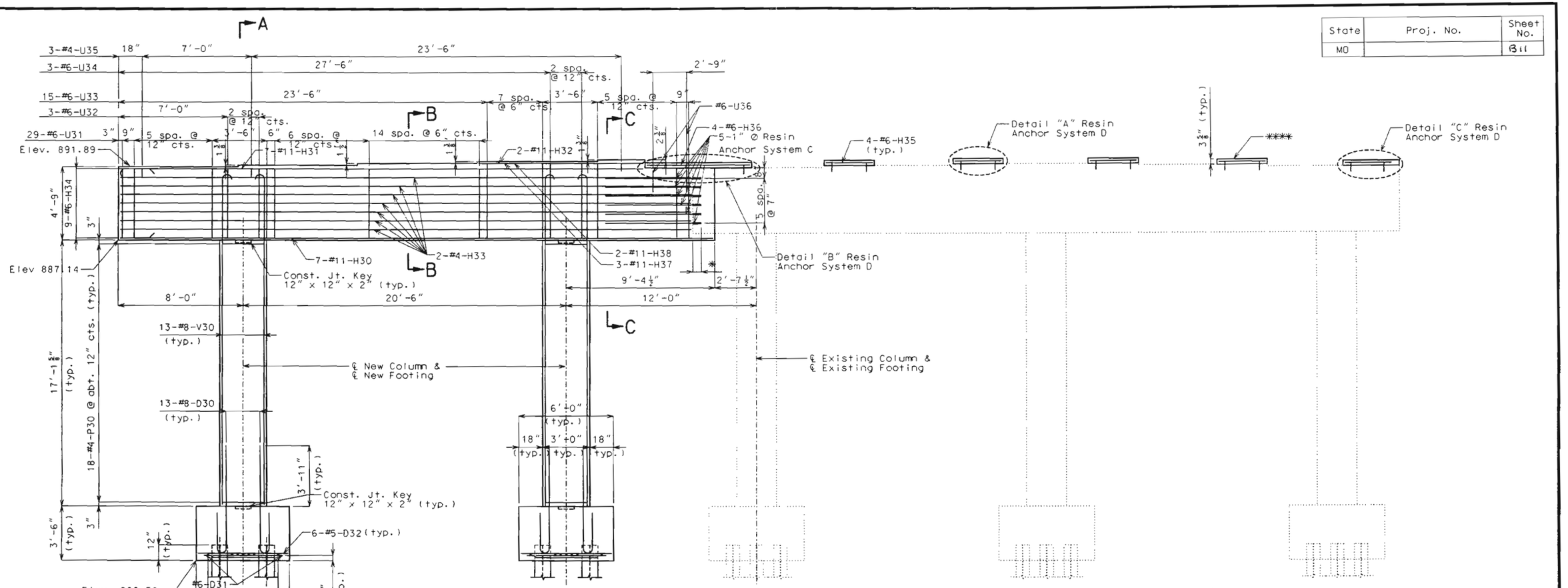
DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Jun. 2002
Checked Jul. 2002

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

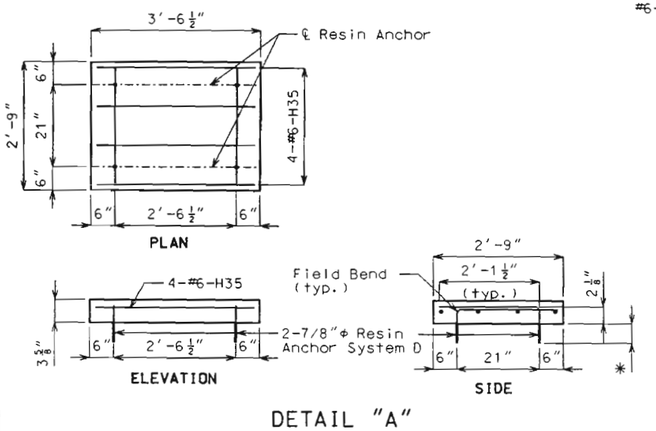
PULASKI COUNTY A3052.1

State	Proj. No.	Sheet No.
MO		B11



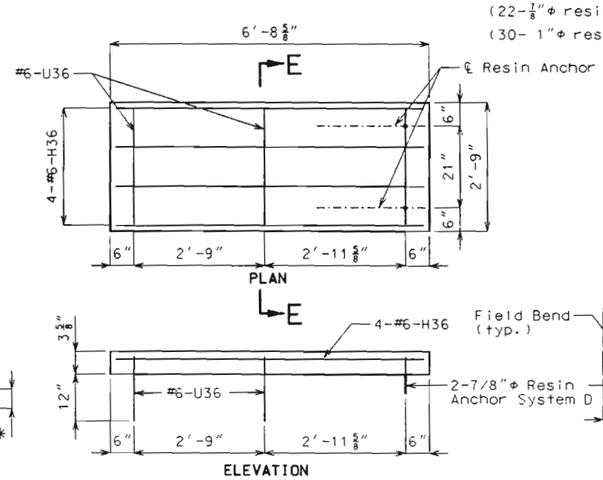
ELEVATION

(22-⅛"Φ resin anchors req'd @ Bent 3)
(30- 1"Φ resin anchors req'd @ Bent 3)

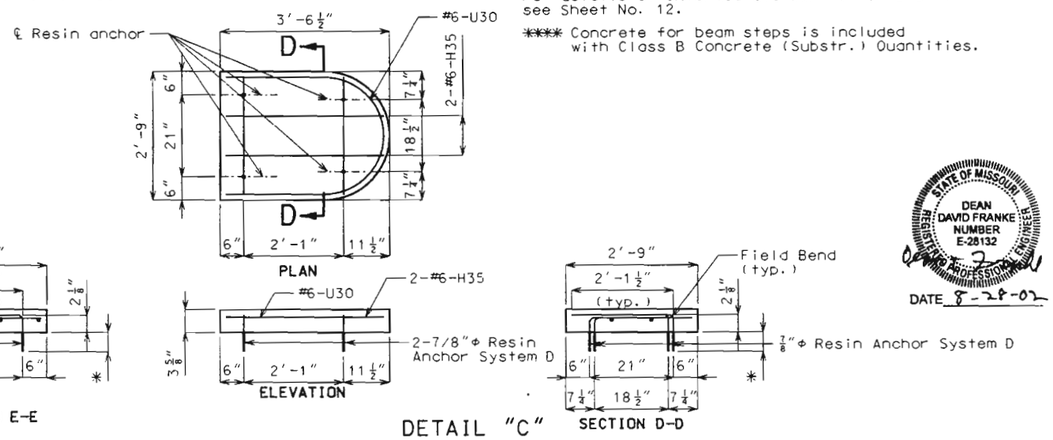


DETAIL "A"

* Manufacturer's embedment length, but not less than 5" min.



DETAIL "B"



DETAIL "C"

NOTES:

For Substructure Quantity Table, see Sheet No. 12.

For Sections A-A, B-B, and C-C, Plan and Plan of Footing Showing Reinforcement, see Sheet No. 12.

For details of Intermediate Bent 3 not shown, see Sheet No. 12.

**** Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.

STATE OF MISSOURI
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DATE 8-28-02

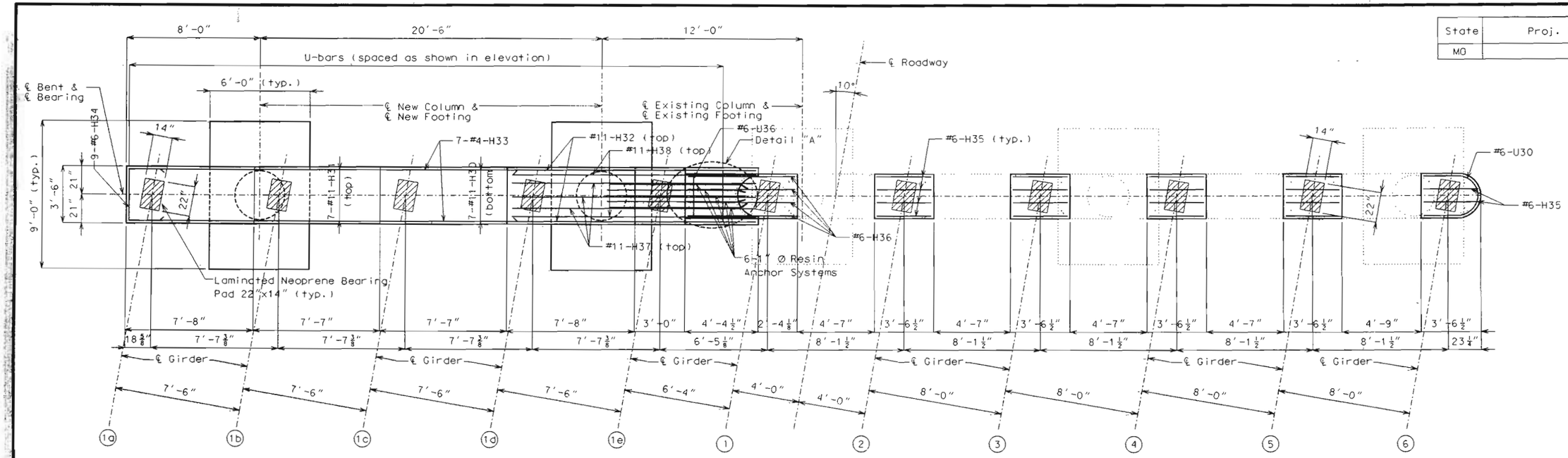
DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Jun. 2002
Checked Jul. 2002

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

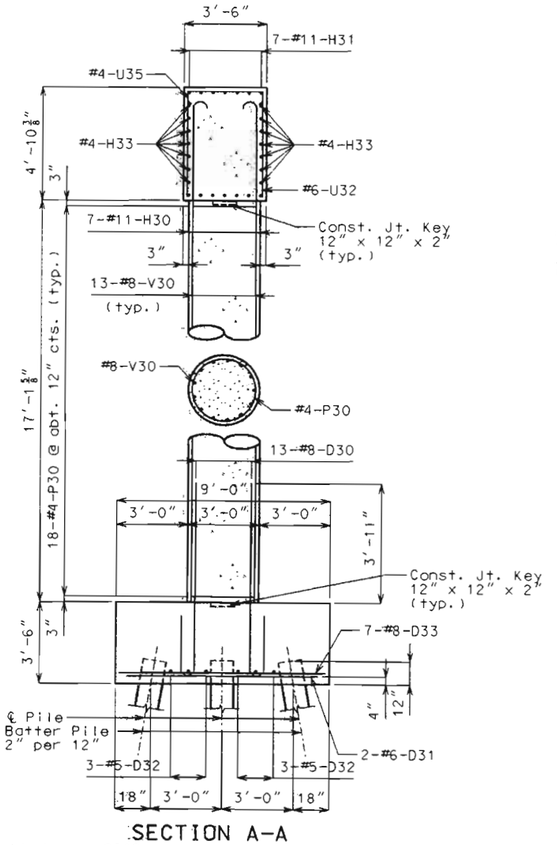
PULASKI COUNTY A30521

State	Proj. No.	Sheet No.
MO		B12

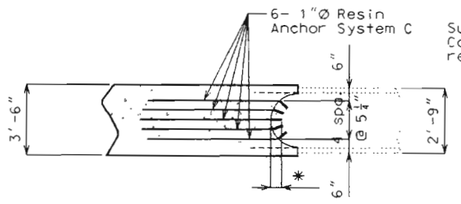


PLAN

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".



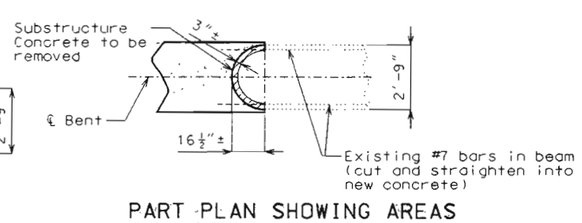
SECTION A-A



PLAN

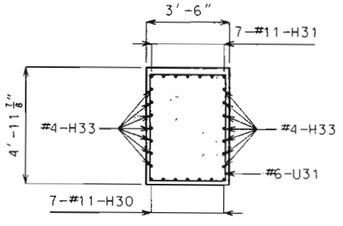
DETAIL "A"

* Manufacture's embedment length but not less than 5" min.

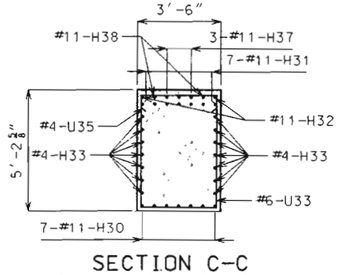


PART PLAN SHOWING AREAS OF SUBSTRUCTURE BEAM CAP CONCRETE TO BE REMOVED

Hatch area ▨ indicates existing concrete removal around existing U shaped bars at end of beam cap.

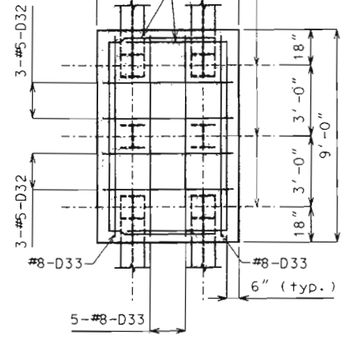


SECTION B-B



SECTION C-C

NOTE: Resin Anchor System not shown for clarity



PLAN OF FOOTING SHOWING REINFORCEMENT

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER

DATE 8-28-02

Substructure Quantity Table for Bent No. 3		
Item		Quantity
Class 1 Excavation	Cu. Yds.	55
Structural Steel Piles (12")	Lin. Ft.	168
Pile Point Reiforcement	Each	12
Class B Concrete (Substructure)	Cu. Yds.	47.6
Reinforcing Steel (Bridges)	Lbs.	7910

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

Detailed Jun. 2002
Checked Jul. 2002

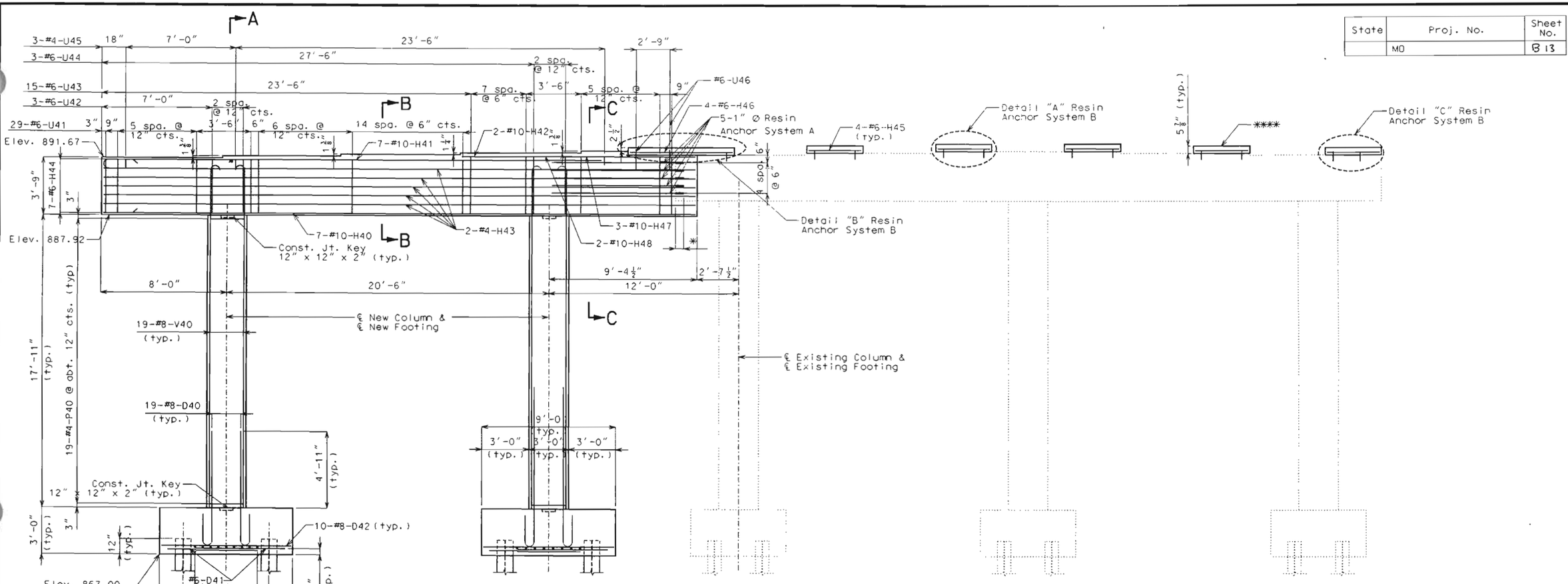
Note: This drawing is not to scale. Follow dimensions.

DETAILS OF INTERMEDIATE BENT NO. 3

PULASKI COUNTY A30521

REV.

State	Proj. No.	Sheet No.
	MO	B 13



ELEVATION

(22-⅝"Φ resin anchors req'd @ Bent 4)
(25- 1"Φ resin anchors req'd @ Bent 4)

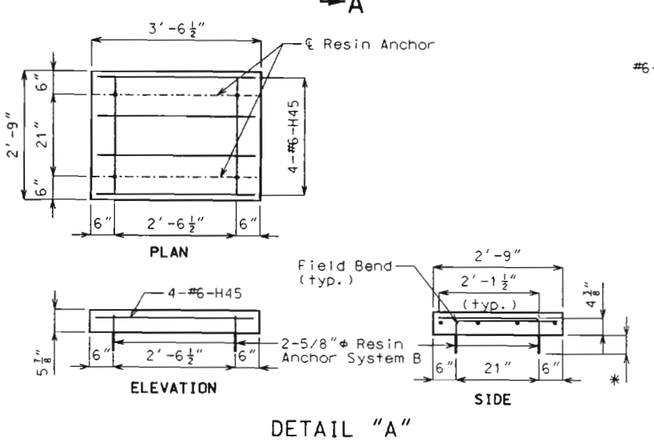
NOTES:

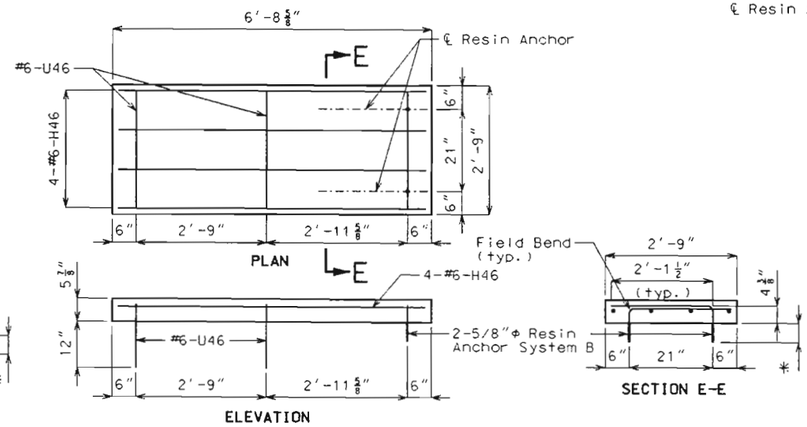
For Substructure Quantity Table. see Sheet No. 14.

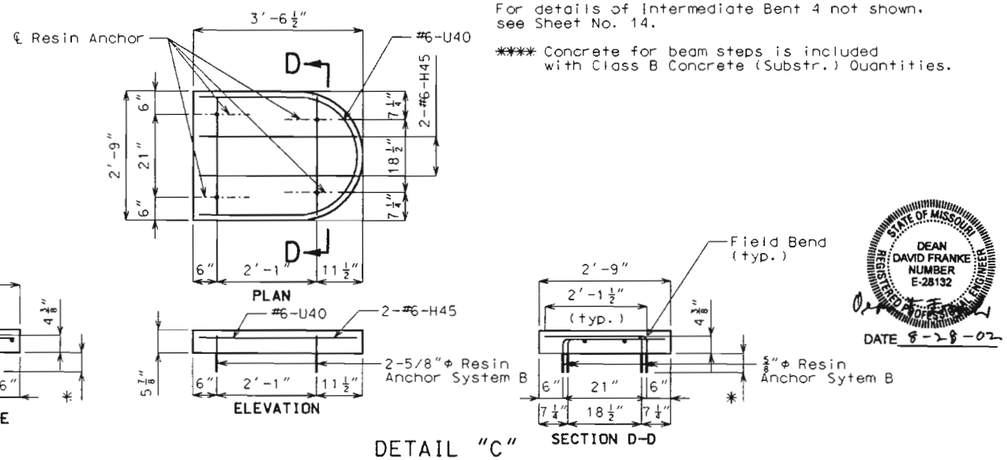
For Sections A-A, B-B, and C-C, Plan and Plan of Footing Showing Reinforcement. see Sheet No. 14.

For details of Intermediate Bent 4 not shown. see Sheet No. 14.

**** Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.







DETAILS OF INTERMEDIATE BENT NO. 4

Detailed Jun. 2002
Checked Jul. 2002

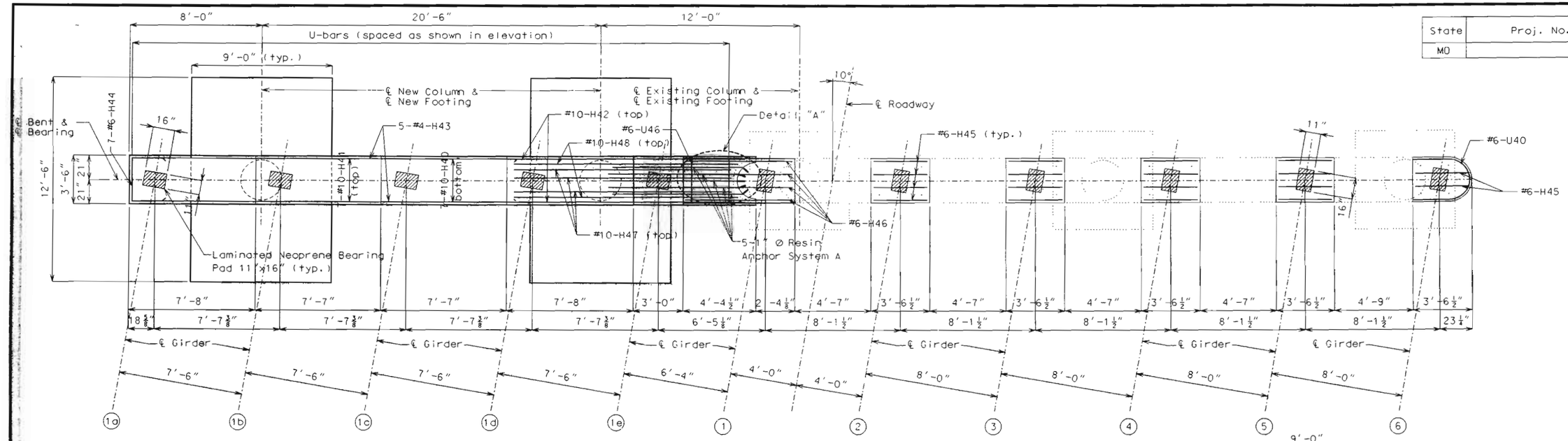
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

REV.

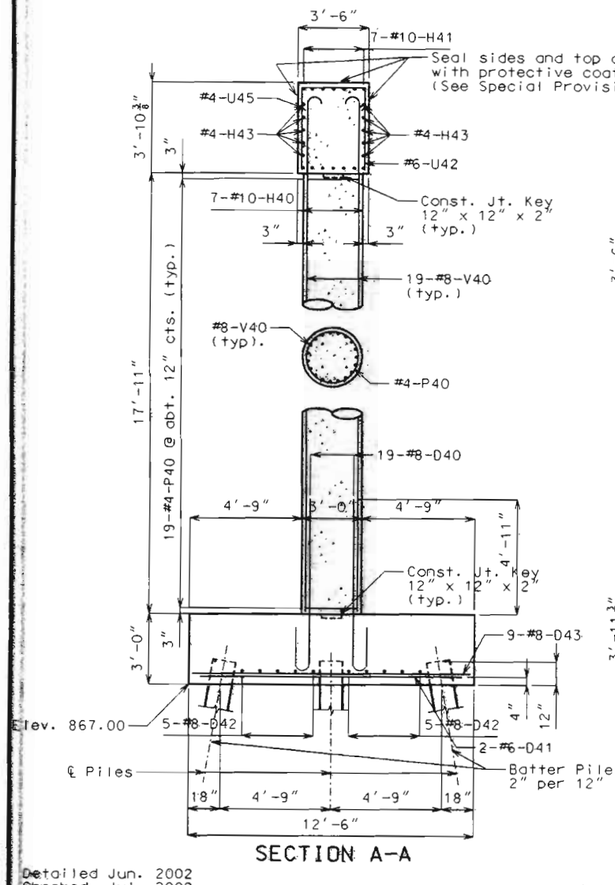
Bridge Design\A30505\A30521-30521_013.dgn 11:41 AM 08/28/2002

State	Proj. No.	Sheet No.
MO		B 14

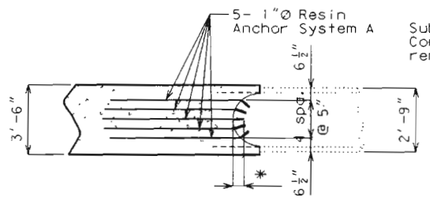


PLAN

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".



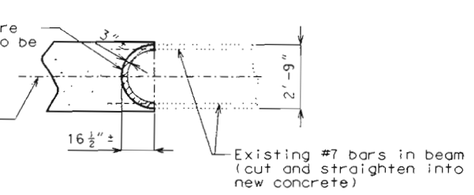
SECTION A-A



PLAN

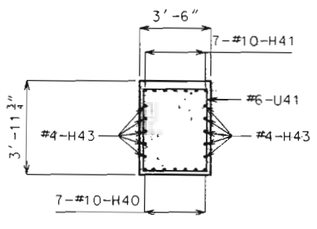
DETAIL "A"

* Manufacture's embedment length but not less than 5" min.

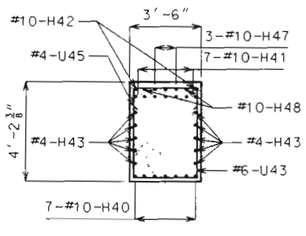


PART PLAN SHOWING AREAS OF SUBSTRUCTURE BEAM CAP CONCRETE TO BE REMOVED

Hatch area ▨ indicates existing concrete removal around existing U shaped bars at end of beam cap.

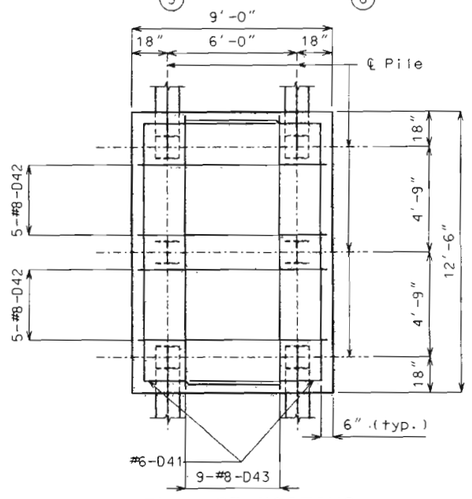


SECTION B-B



SECTION C-C

NOTE: Resin Anchor Systems not shown for clarity.



PLAN OF FOOTING SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	Cu. Yds.	65
Structural Steel Piles (10")	Lin. Ft.	204
Pile Point Reinforcement	Each	12
Class B Concrete (Substructure)	Cu. Yds.	54.7
Reinforcing Steel (Bridges)	Lbs.	4520
Reinforcing Steel (Epoxy Coated)	Lbs.	4120

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER

DATE 5-28-02

DETAILS OF INTERMEDIATE BENT NO. 4

Detailed Jun. 2002
Checked Jul. 2002

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

PULASKI COUNTY A30521

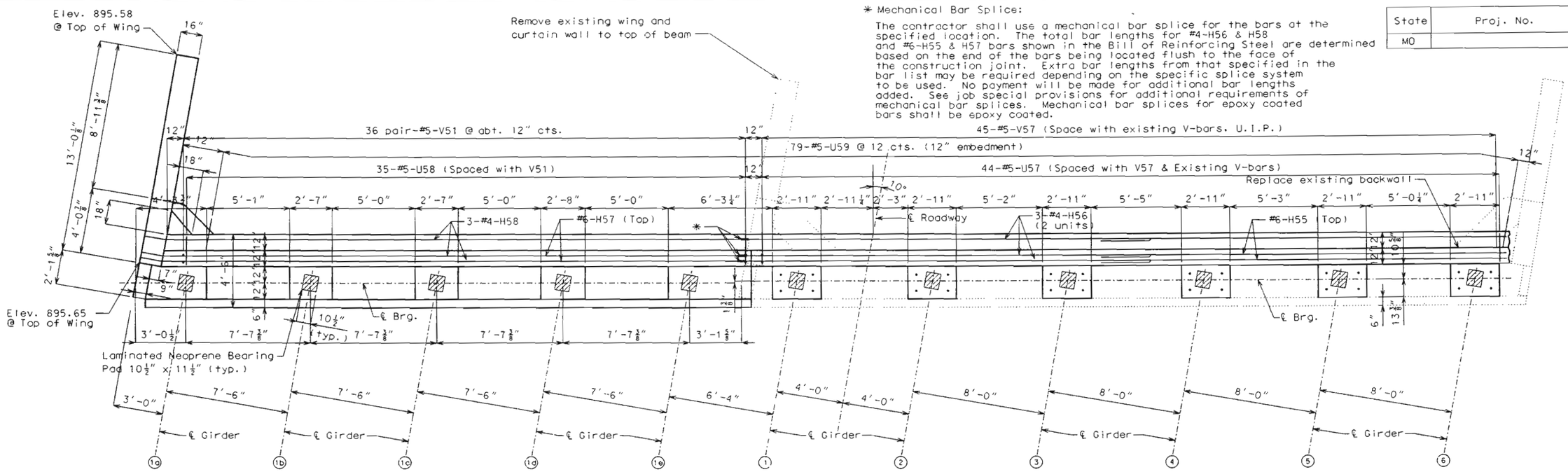
REV.

...\dgn-proj\...\A30521\A30521-B14.dgn 03:07:44 PM 05/28/2002

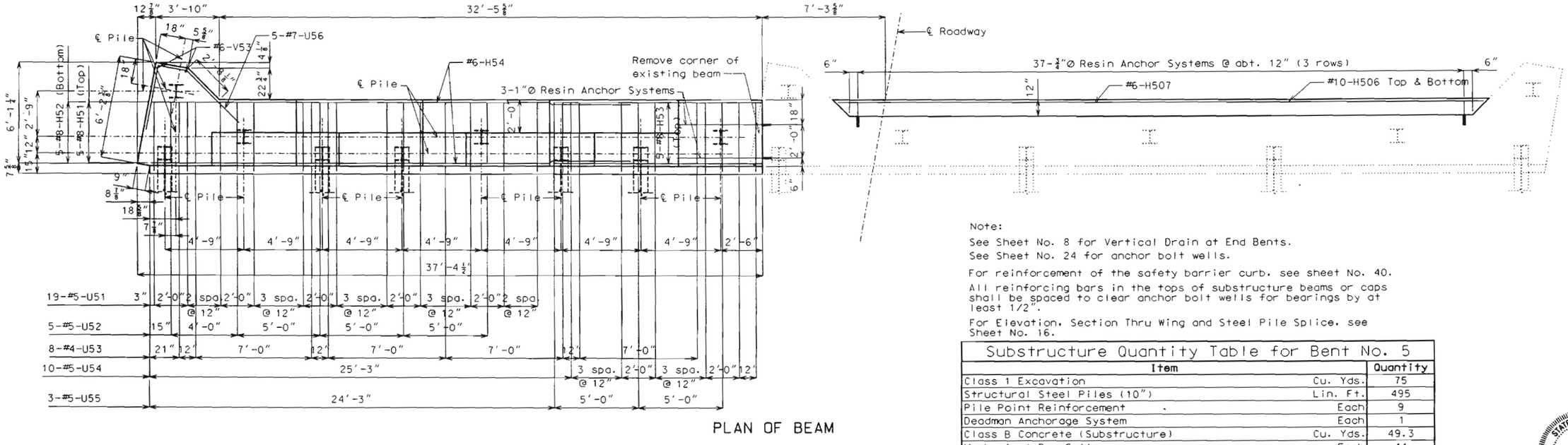
State	Proj. No.	Sheet No.
MO		B15

* Mechanical Bar Splices:

The contractor shall use a mechanical bar splice for the bars at the specified location. The total bar lengths for #4-H56 & H58 and #6-H55 & H57 bars shown in the Bill of Reinforcing Steel are determined based on the end of the bars being located flush to the face of the construction joint. Extra bar lengths from that specified in the bar list may be required depending on the specific splice system to be used. No payment will be made for additional bar lengths added. See job special provisions for additional requirements of mechanical bar splices. Mechanical bar splices for epoxy coated bars shall be epoxy coated.



PLAN



PLAN OF BEAM

Note:

See Sheet No. 8 for Vertical Drain at End Bents.

See Sheet No. 24 for anchor bolt wells.

For reinforcement of the safety barrier curb, see sheet No. 40.

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 Elevation, Section Thru Wing and Steel Pile Splice, see Sheet No. 16.

Substructure Quantity Table for Bent No. 5

Item		Quantity
Class 1 Excavation	Cu. Yds.	75
Structural Steel Piles (10")	Lin. Ft.	495
Pile Point Reinforcement	Each	9
Deadman Anchorage System	Each	1
Class B Concrete (Substructure)	Cu. Yds.	49.3
Mechanical Bar Splice	Each	11
Reinforcing Steel (Epoxy Coated)	Lbs.	5510

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

DETAILS OF END BENT NO. 5

Detailed Jun. 2002
Checked Jul. 2002

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

PULASKI COUNTY A30521

REV.

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State	Proj. No.	Sheet No.
MO		B 16

*** Mechanical Bar Splice:

The contractor shall use a mechanical bar splice for the bars at the specified location. The total bar lengths for #4-H56 & H58, and #6-H55 & H57 bars shown in the Bill of Reinforcing Steel are determined based on the end of the bars being located flush to the face of the construction joint. Extra bar lengths from that specified in the bar list may be required depending on the specific splice system to be used. No payment will be made for additional bar lengths added. See job special provisions for additional requirements of mechanical bar splices. Mechanical bar splices for epoxy coated bars shall be epoxy coated.

**** Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.

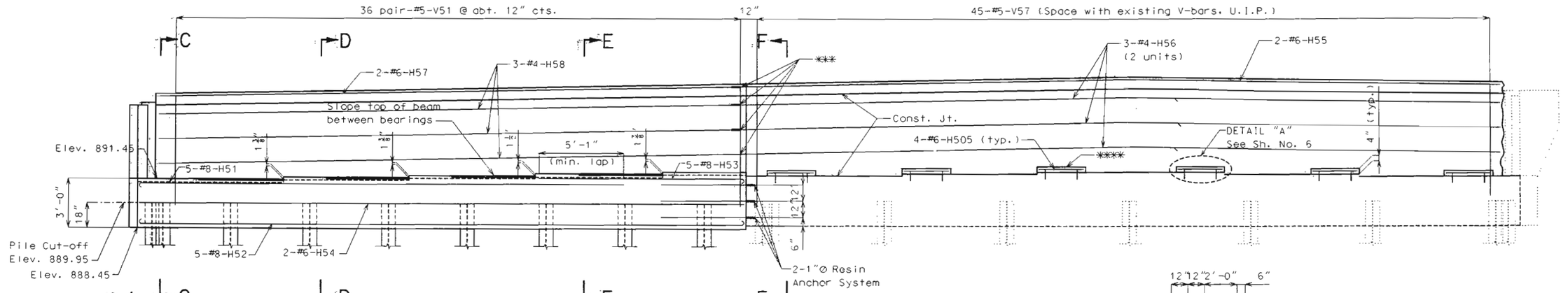
Note:
Top of backwall and expansion device for End Bent No. 5 shall conform to the Crown of Roadway slab. Backwall above upper construction joints shall not be poured until the superstructure slab has been poured in the adjacent span.

All concrete above the upper construction joint in backwall shall be Class B2.

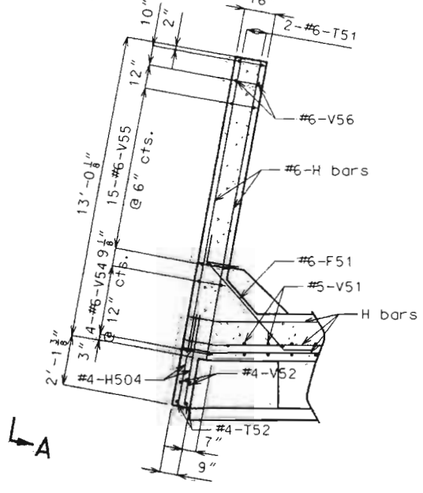
* Seal backwall, top of beam and front face of beam with protective coating (See Special Provision).

** Slope to drain between bearings

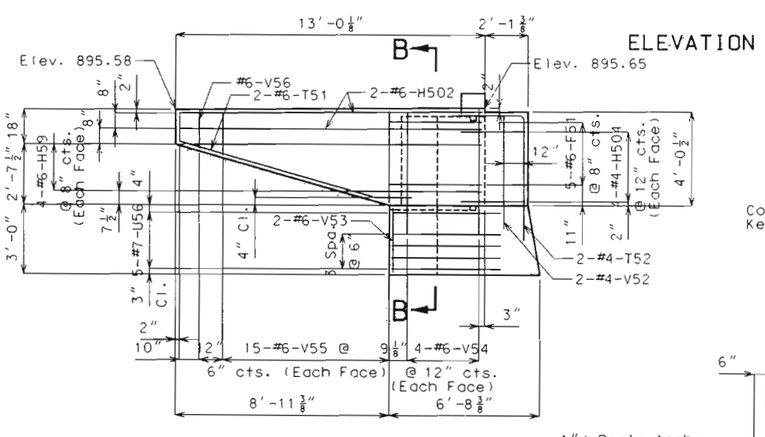
Field bending shall be required at wings for #4-H56, #4-H58, #6-H55 and #6-H57 bars in backwalls for skewed structures and for F51 bars when necessary to conform to slope of wing.



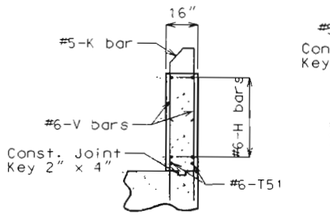
ELEVATION



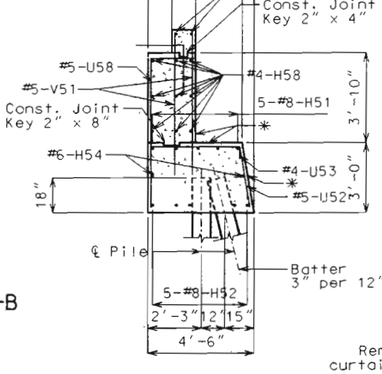
SECTION THRU WING



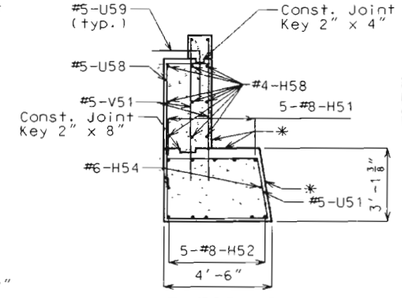
ELEVATION A-A



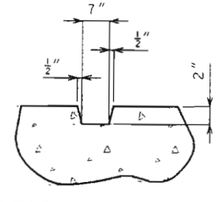
PART SECTION B-B



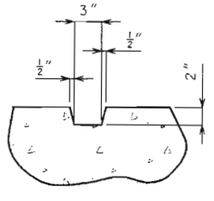
SECTION C-C



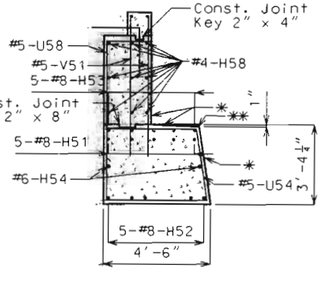
SECTION D-D



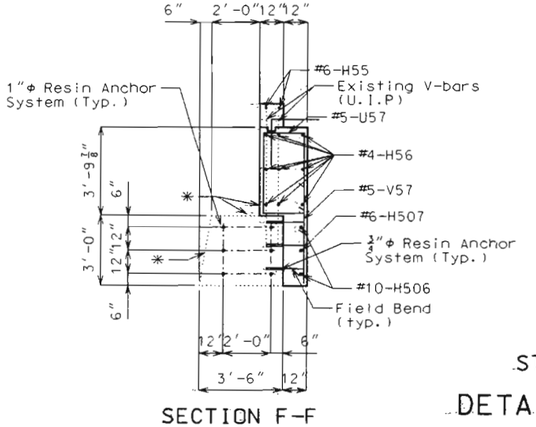
SECTION THRU 8" KEY



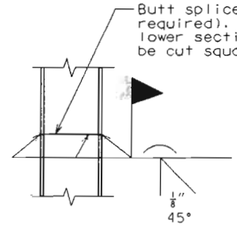
SECTION THRU 4" KEY



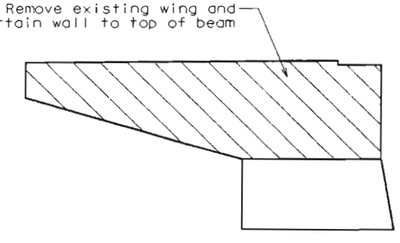
SECTION E-E



SECTION F-F



STEEL PILE SPLICE



Detail of Wing Removal

DETAILS OF END BENT NO. 5



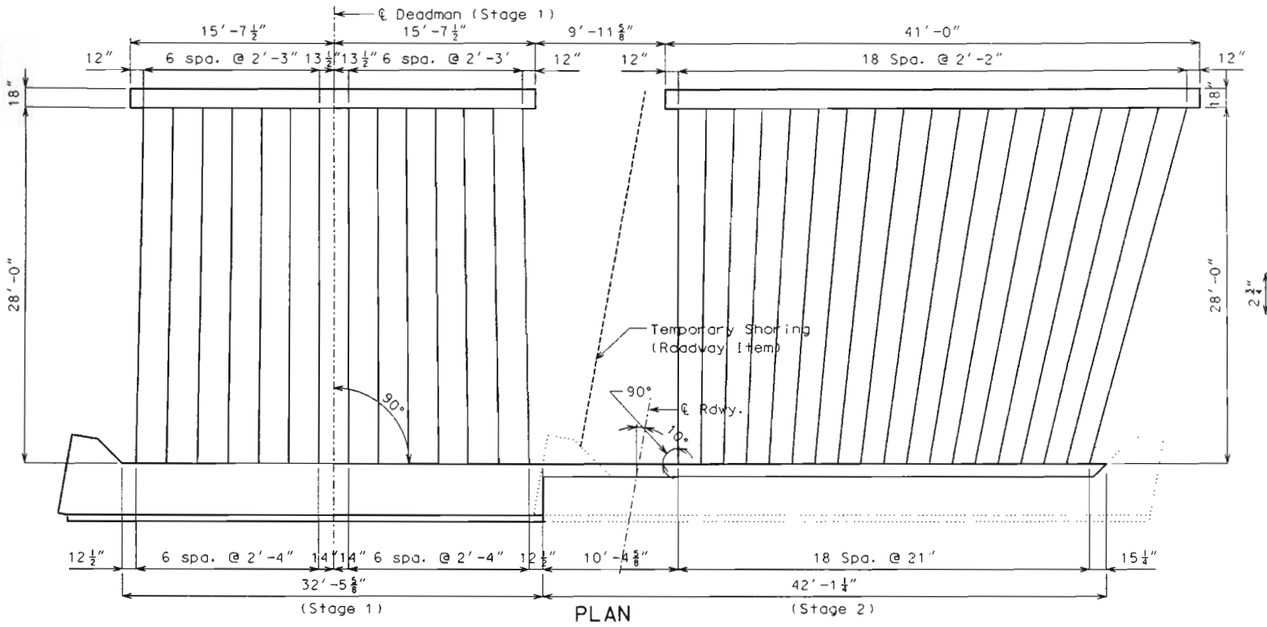
Detailed Jun. 2002
Checked Jul. 2002

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

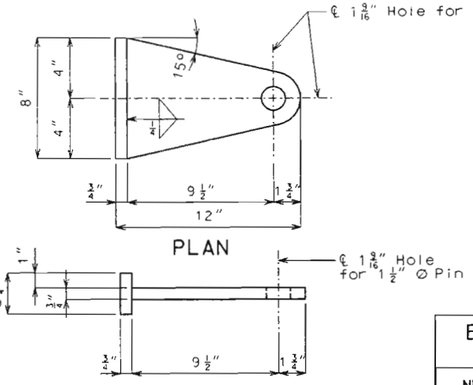
PULASKI COUNTY A30521

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State	Proj. No.	Sheet No.
MO		B 17



PLAN



PLAN

ELEVATION

DETAIL OF ANCHOR TEE

CONSTRUCTION SEQUENCE:

Construct end bent with anchor tees in place.

Construct deadman with anchor tees in place.

Machine compact fill up to elevation of 1″ Ø rod and turnbuckle.

Install 1″ Ø rod, clevis and turnbuckle assembly.

Tighten turnbuckle until snug.

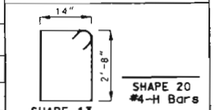
Hand compact fill for 12″ (Min.) over 1″ Ø rod and turnbuckle.

Machine compact remaining fill.

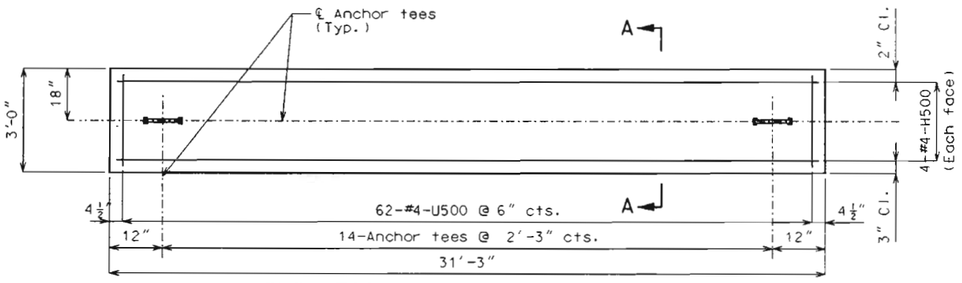
BILL OF REINFORCING STEEL EACH DEADMAN

NUMBER	SIZE & MARK		LENGTH
8	#4	H500	31′-0″
8	#4	H501	40′-9″
143	#4	U500	8′-5″

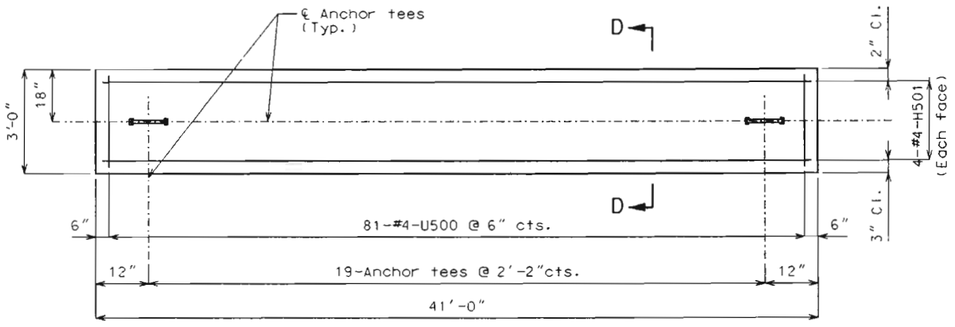
Bending Diagram



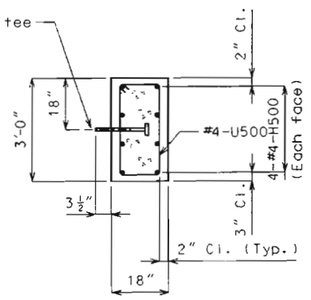
Note: Reinforcing steel lengths are based on nominal lengths. out to out.
#4-U500 shall meet the stirrup requirements on sheet No. 43.



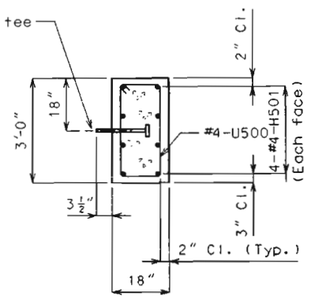
ELEVATION OF DEADMAN (STAGE 1)



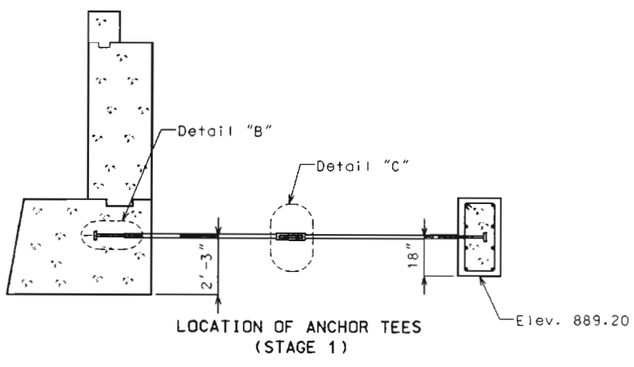
ELEVATION OF DEADMAN (STAGE 2)



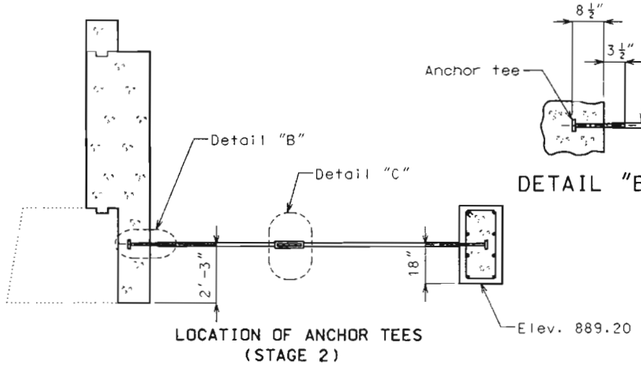
SECTION A-A



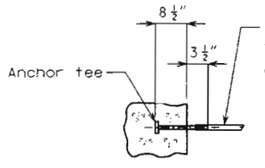
SECTION D-D



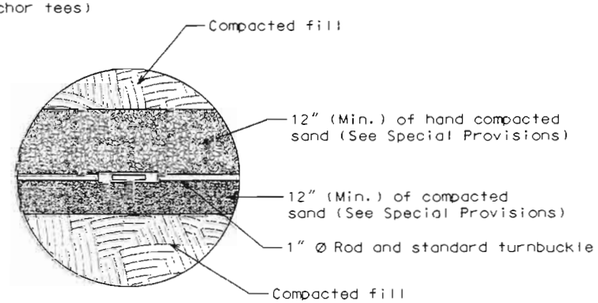
LOCATION OF ANCHOR TEES (STAGE 1)



LOCATION OF ANCHOR TEES (STAGE 2)



DETAIL "B"



DETAIL "C"

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

DETAILS OF DEADMAN ANCHORAGE SYSTEM AT END BENT 5

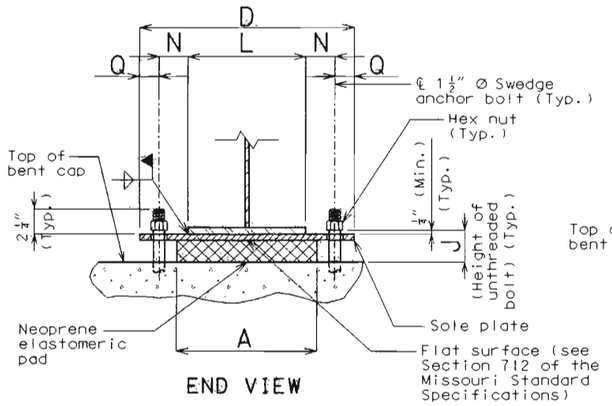
Detailed May 2002
Checked Jun. 2002

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

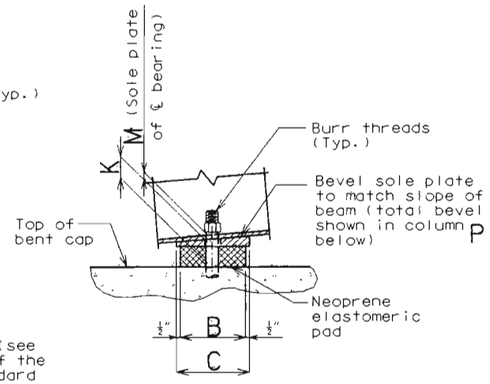
PULASKI COUNTY A30521

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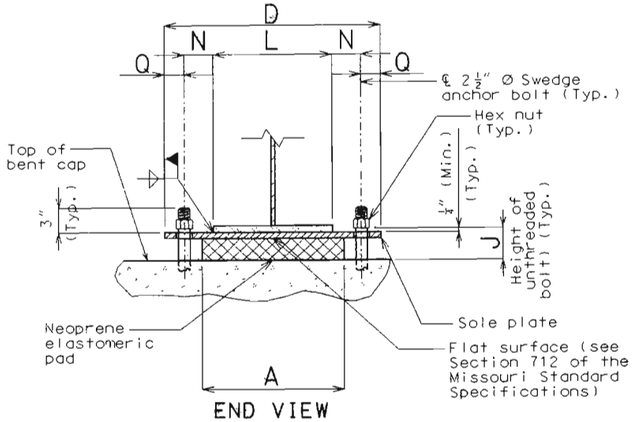
State	Proj. No.	Sheet No.
MO		B 18



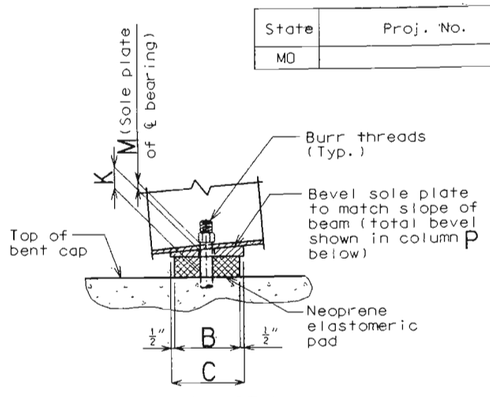
END VIEW



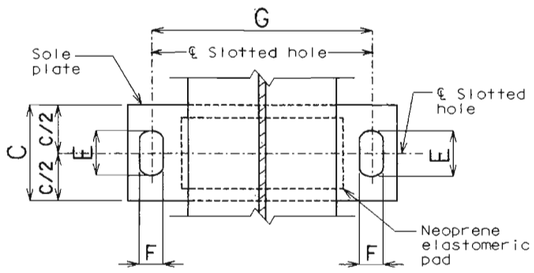
SIDE VIEW



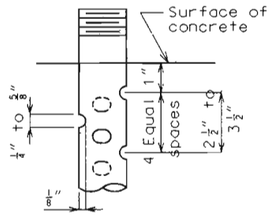
END VIEW



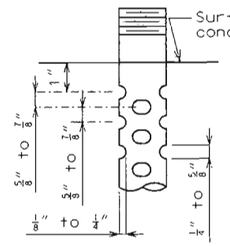
SIDE VIEW



PART PLAN

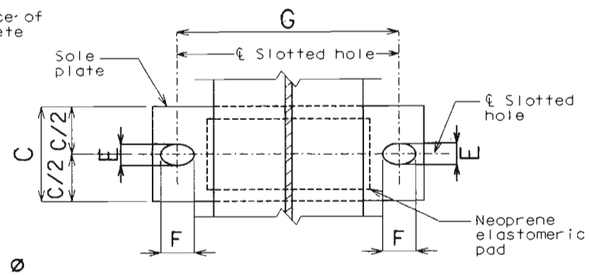


DETAIL OF 3/4" Ø THRU 2-1/2" Ø ANCHOR BOLTS

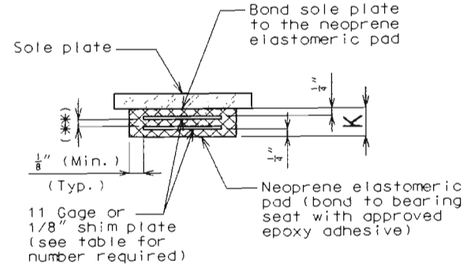


OPTIONAL DETAIL OF 1-3/8" Ø THRU 2-1/2" Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

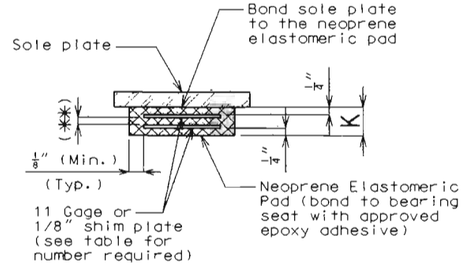


PART PLAN



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

NEOPRENE ELASTOMERIC PAD



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

NEOPRENE ELASTOMERIC PAD

GENERAL NOTES:

Anchor bolts shall be ① Ø ASTM A709 Grade 50W steel swedged bolts and shall extend ② into the concrete with ASTM A194 - 2, 2H or ASTM 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 the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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 sole plate shall be ASTM A709 Grade 50 and shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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

EXPANSION BEARINGS

BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
1 & 5	10½	11½	12½	21	4½	③	16	6⅛	4⅜	12	1½	2	⅛	2½	7	10
2 & 4	16	11	12	24	3¾	③	19	4¼	2½	13	1½	3	0	2½	4	10
															TOTAL BEARINGS	20

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

① 1½" Ø at Bents 1,2,4&5; 2½" Ø at Bent 3 ② 15" at Bents 1,2,4&5; 25" at Bent 3 ③ 2" for Girder Nos. 1a, 1b & 1c; 1¾" for Girder 1d & 1e

FIXED BEARINGS

BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
3	14	22	23	26½	2⅝	④	18¼	3⅝	1⅞	13	1½	2⅝	0	4	3	5
															TOTAL BEARINGS	5

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

④ 3" for Girder Nos. 1a, 1b & 1c; 2¾" for Girder 1d & 1e

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER

DATE 8-28-02

DETAILS OF LAMINATED NEOPRENE BEARINGS FOR NEW GIRDERS (STEEL STRUCTURES)

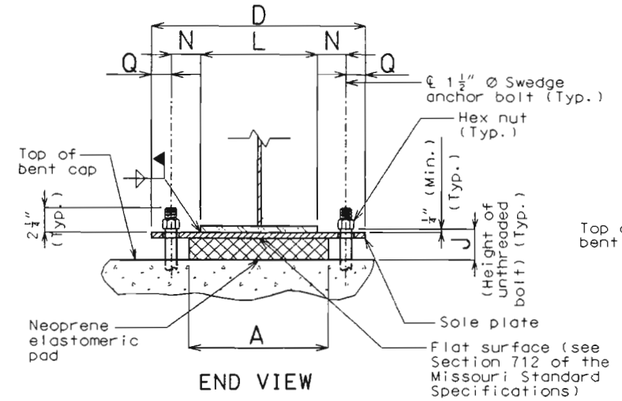
Detailed Apr. 2002
Checked May 2002

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

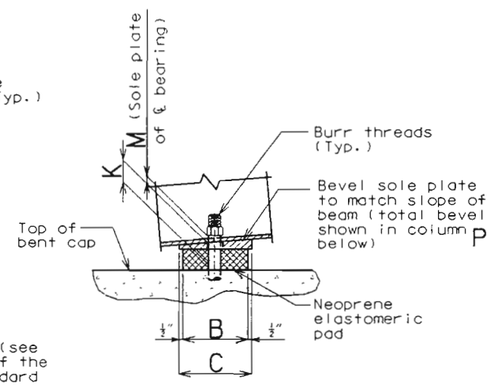
PULASKI COUNTY A30521

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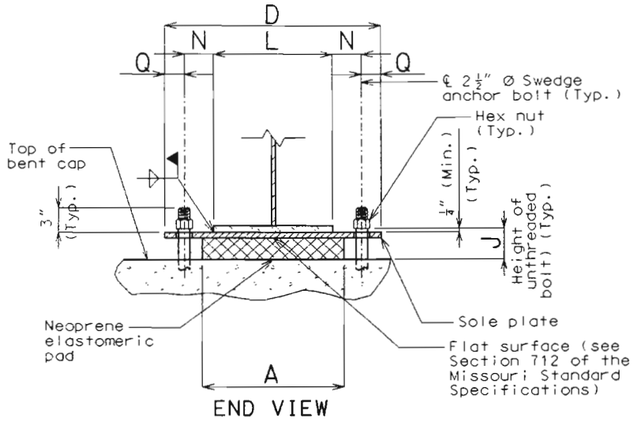
State	Proj. No.	Sheet No.
MO		B 19



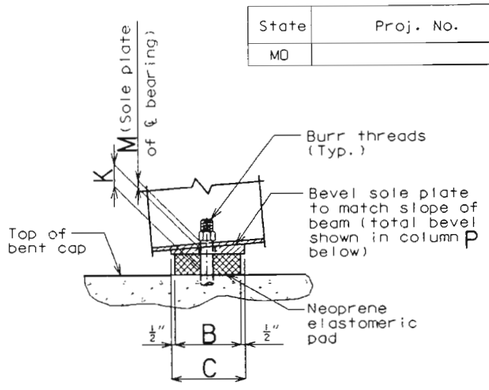
END VIEW



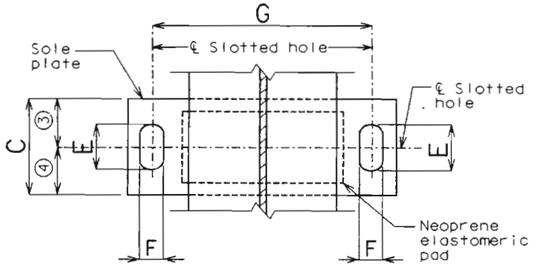
SIDE VIEW



END VIEW



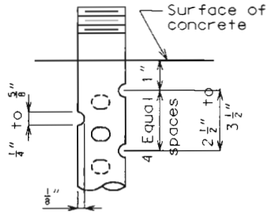
SIDE VIEW



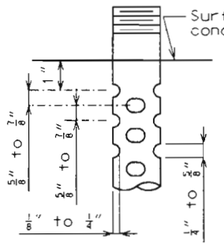
PART PLAN

③ 3" at Bents 1 & 5
8½" at Bents 2 & 4

④ 9½" at Bents 1 & 5
8½" at Bents 2 & 4

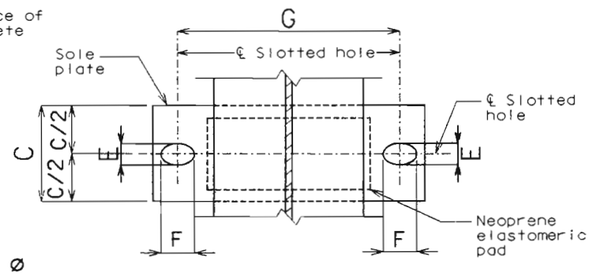


DETAIL OF 3/4" Ø THRU 2-1/2" Ø ANCHOR BOLTS

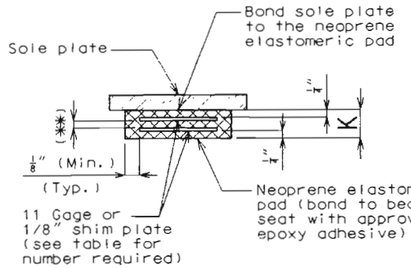


OPTIONAL DETAIL OF 1-3/8" Ø THRU 2-1/2" Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

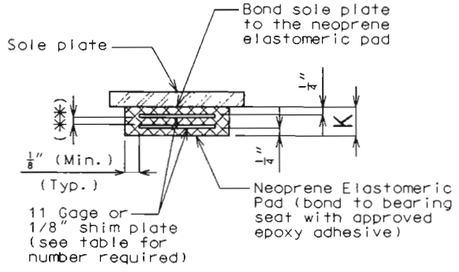


PART PLAN



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

NEOPRENE ELASTOMERIC PAD



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

NEOPRENE ELASTOMERIC PAD

GENERAL NOTES:

Anchor bolts shall be ① Ø ASTM A709 Grade 50W steel swedged bolts and shall extend ② into the concrete with ASTM A194 - 2, 2H or ASTM 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 the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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 sole plate shall be ASTM A709 Grade 50 and shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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

Payment for removal of existing steel rocker bearings and partial removal of existing anchor bolts shall be included in the contract unit price for Removal of Existing Bearings & Anchor Bolts, each.

Installation of new anchor bolts may require temporary removal of steel Cross frames. Any incidental removal and reconnection of cross frames will be paid for in the contract unit price for Removal of Existing Bearings and Anchor Bolts, each.

EXPANSION BEARINGS

BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
1 & 5	10½	11½	12½	18½	4½	⑤	13½	6⅛	4⅜	9	1½	2¼	⅛	2½	7	12
2 & 4	11	16	17	23½	3¾	⑤	18½	4¼	2½	14	1½	2¼	⅛	2½	4	12
															TOTAL BEARINGS	24

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

① 1½" Ø at Bents 1.2.4&5
2½" Ø at Bent 3

② 15" at Bents 1.2.4&5
25" at Bent 3

⑤ 2" for Gdr. Nos. 4, 5 & 6
1¾" for Gdr. Nos. 1, 2 & 3

FIXED BEARINGS

BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
3	14	22	23	28½	2¾	⑥	20½	3⅜	1⅞	15	1½	2¾	0	4	3	6
															TOTAL BEARINGS	6

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

⑥ 3" for Gdr. Nos. 4, 5 & 6
2¾" for Gdr. Nos. 1, 2 & 3

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER

DATE 8-28-02

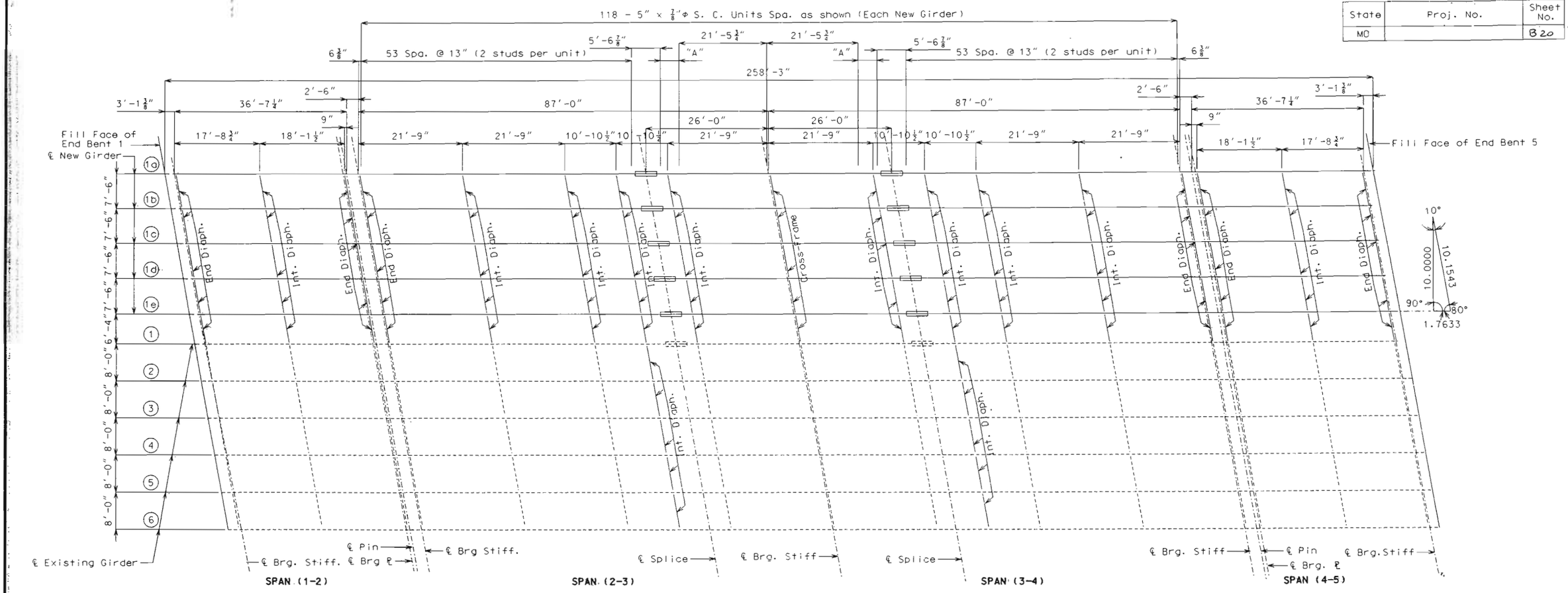
DETAILS OF LAMINATED NEOPRENE BEARINGS FOR EXISTING GIRDERS (STEEL STRUCTURES)

Detailed Apr. 2001
Checked May 2002

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

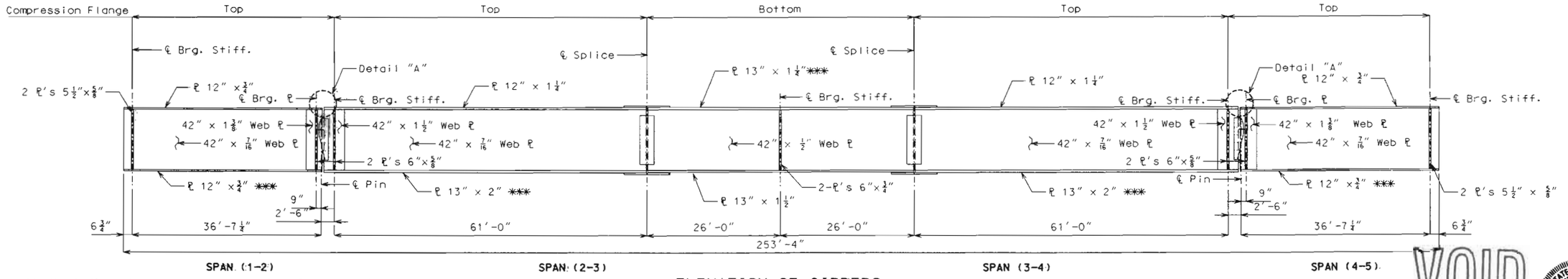
PULASKI COUNTY A30521

State	Proj. No.	Sheet No.
MO		B 20



"A"= 4 spa. @ 6" (2 studs per unit)

PLAN OF STRUCTURAL STEEL



ELEVATION OF GIRDERS

Longitudinal dimensions are horizontal from ℄ brg. to ℄ brg. See Part-Longitudinal Sections on Sheet No. 24.

Fabricated structural steel shall be ASTM A709 Grade 50.

For details of bolted field splice and pin connection details, see Sheet No. 22.

For details of intermediate diaphragms, end diaphragms and stiffener details, see Sheet Nos. 23, 25, 26, 27, & 28.

For details of shear connectors, see Sheet No. 23.

Plate girders shall be fabricated to conform to the camber diagram shown on Sheet No. 21.

*** Indicates flange plates subject to notch toughness requirements.

All web plates shall be subject to notch toughness requirements.

For Detail "A", see Sheet No. 22.

Bolts on intermediate diaphragms and cross frames that connect girders under different construction stage slab pours shall be installed snug tight, then tightened after both adjacent slab pours are completed.

For location of slab drain attachment holes, see Slab Drain Details sheet.

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STATE OF MISSOURI
DEAN DAVID FRANKE
NUMBER E-28182
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

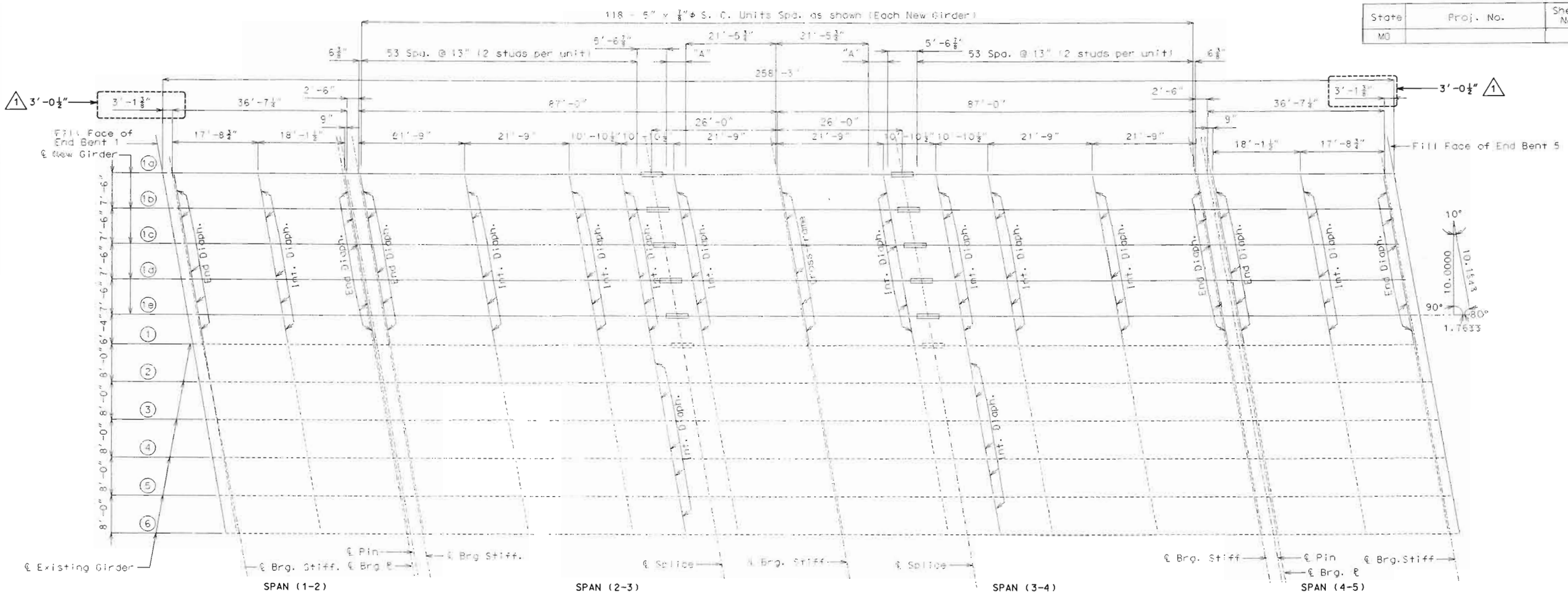
Detailed Apr. 2002
Checked May 2002

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

PULASKI COUNTY A30521

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State	Proj. No.	Sheet No.
MO		



Longitudinal dimensions are horizontal from ℄ brg. to ℄ brg. See Part-Longitudinal Sections on Sheet No. 24.

Fabricated structural steel shall be ASTM A709 Grade 50.

For details of bolted field splice and pin connection details, see Sheet No. 22.

For details of intermediate diaphragms, end diaphragms and stiffener details, see Sheet Nos. 23, 25, 26, 27, & 28.

For details of shear connectors, see Sheet No. 23.

Plate girders shall be fabricated to conform to the camber diagram shown on Sheet No. 21.

REVISED APR. 2003

*** Indicates flange plates subject to notch toughness requirements.

All web plates shall be subject to notch toughness requirements.

For Detail "A", see Sheet No. 22.

Bolts on intermediate diaphragms and cross frames that connect girders under different construction stage slab pours shall be installed snug tight, then tightened after both adjacent slab pours are completed.

For location of slab drain attachment holes, see Slab Drain Details sheet.

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 PROFESSIONAL ENGINEER
DATE 4-23-03

Detailed Apr. 2002
Checked May 2002

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

PULASKI COUNTY A30521

State	Proj. No.	Sheet No.
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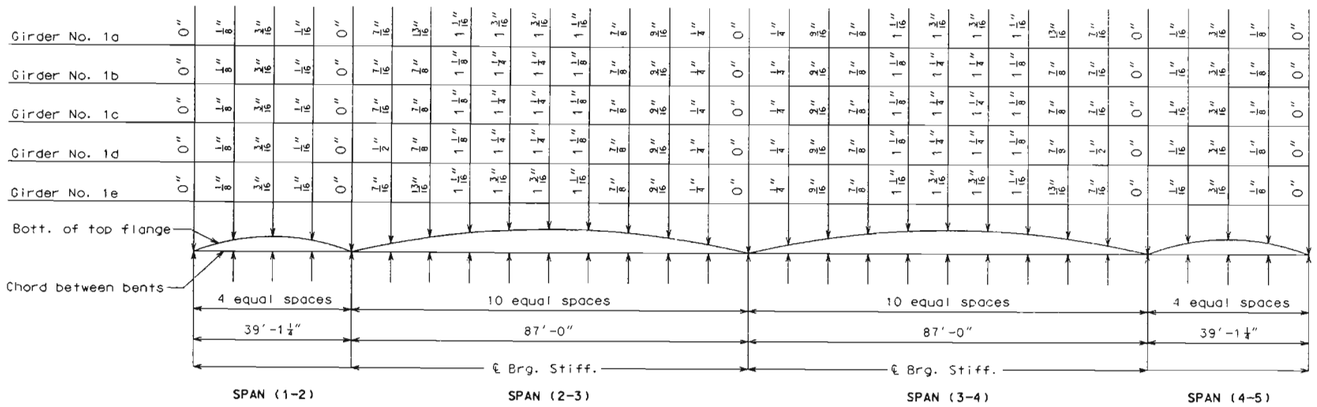
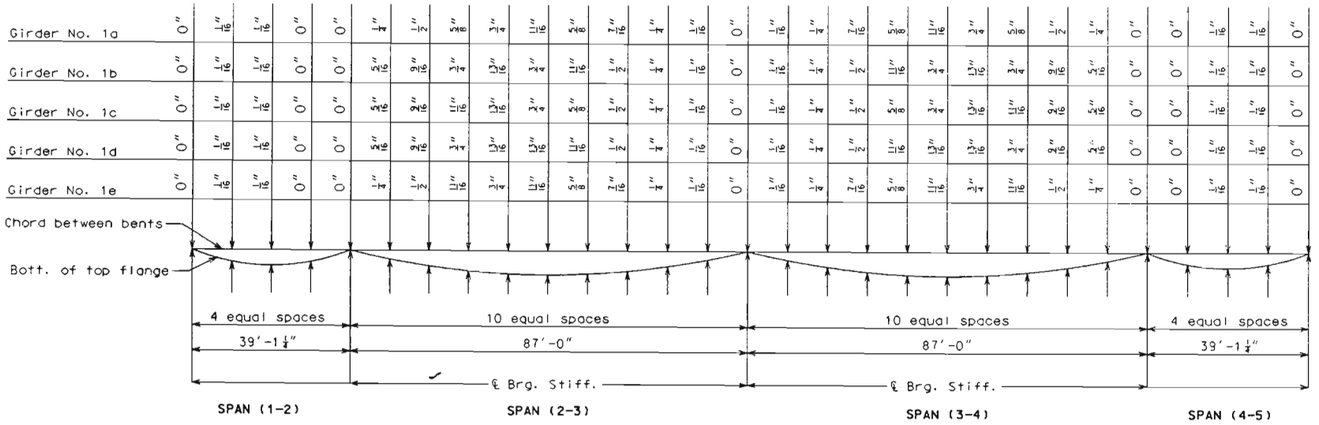


PLATE GIRDER CAMBER DIAGRAM

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



DEAD LOAD DEFLECTION

Note: ① of dead load deflection is due to the weight of structural steel.

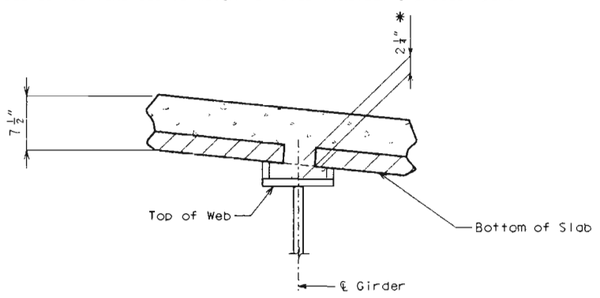
Dead load deflection includes weight of structural steel and concrete slab.

① 24% for Girder No. 1a
23% for Girder No. 1b, 1c & 1d
25% for Girder No. 1e

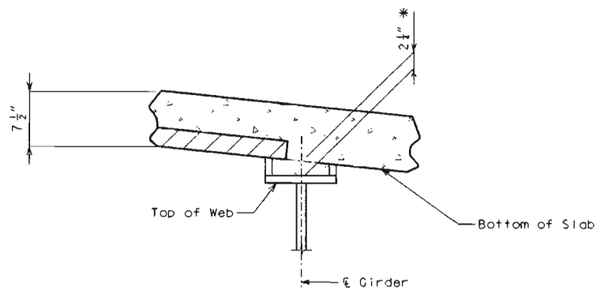
Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab) ✱✱

	Span (1-2) (39′-1¼″ ℄ brg - ℄ brg.)										
	℄ brg.	.25	.50	.75	℄ brg.						
Girder No. 1a	895.59	895.65	895.70	895.74	895.78						
Girder No. 1b	895.71	895.77	895.82	895.86	895.91						
Girder No. 1c	895.84	895.89	895.95	895.99	896.03						
Girder No. 1d	895.96	896.02	896.07	896.11	896.15						
Girder No. 1e	896.09	896.14	896.19	896.23	896.27						
	Span (2-3) (87′-0″ ℄ brg - ℄ brg.)										
	℄ brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ brg.
Girder No. 1a	895.78	895.83	895.88	895.92	895.95	895.97	895.98	895.98	895.98	895.98	895.98
Girder No. 1b	895.91	895.96	896.01	896.04	896.07	896.09	896.10	896.11	896.10	896.10	896.10
Girder No. 1c	896.03	896.08	896.13	896.17	896.19	896.21	896.22	896.23	896.22	896.22	896.22
Girder No. 1d	896.15	896.20	896.25	896.29	896.32	896.33	896.34	896.35	896.34	896.34	896.34
Girder No. 1e	896.27	896.32	896.37	896.40	896.43	896.45	896.46	896.46	896.46	896.45	896.45
	Span (3-4) (87′-0″ ℄ brg - ℄ brg.)										
	℄ brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ brg.
Girder No. 1a	895.98	895.99	896.00	896.01	896.01	896.00	895.99	895.97	895.94	895.90	895.86
Girder No. 1b	896.10	896.11	896.12	896.13	896.13	896.13	896.11	896.09	896.06	896.02	895.97
Girder No. 1c	896.22	896.22	896.23	896.24	896.24	896.24	896.23	896.20	896.17	896.13	896.08
Girder No. 1d	896.34	896.34	896.35	896.36	896.36	896.36	896.34	896.32	896.28	896.24	896.20
Girder No. 1e	896.45	896.46	896.46	896.47	896.48	896.47	896.45	896.43	896.39	896.35	896.31
	Span (4-5) (39′-1¼″ ℄ brg - ℄ brg.)										
	℄ brg.	.25	.50	.75	℄ brg.						
Girder No. 1a	895.86	895.82	895.79	895.74	895.69						
Girder No. 1b	895.97	895.93	895.90	895.86	895.80						
Girder No. 1c	896.08	896.05	896.01	895.97	895.91						
Girder No. 1d	896.20	896.16	896.12	896.08	896.02						
Girder No. 1e	896.31	896.27	896.23	896.19	896.14						

✱✱ Elevations are based on a constant slab thickness of 7½″ and include allowance for theoretical dead load deflections due to weight of slab (including precast panel).



GIRDER NOS. 1b, 1c, & 1d



GIRDER NOS. 1a & 1e

✱ Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more than the ① of Dead Load Deflection due to weight of structural steel. No payment will be made for additional forming or concrete required for variable haunching.

THEORETICAL SLAB HAUNCH

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

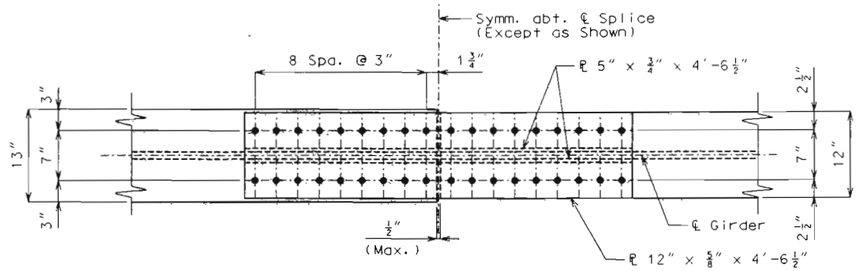
Detailed Apr. 2002
Checked May 2002

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

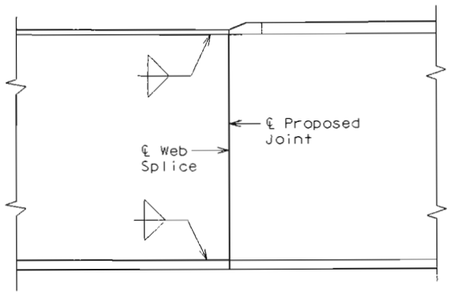
PULASKI COUNTY A30521

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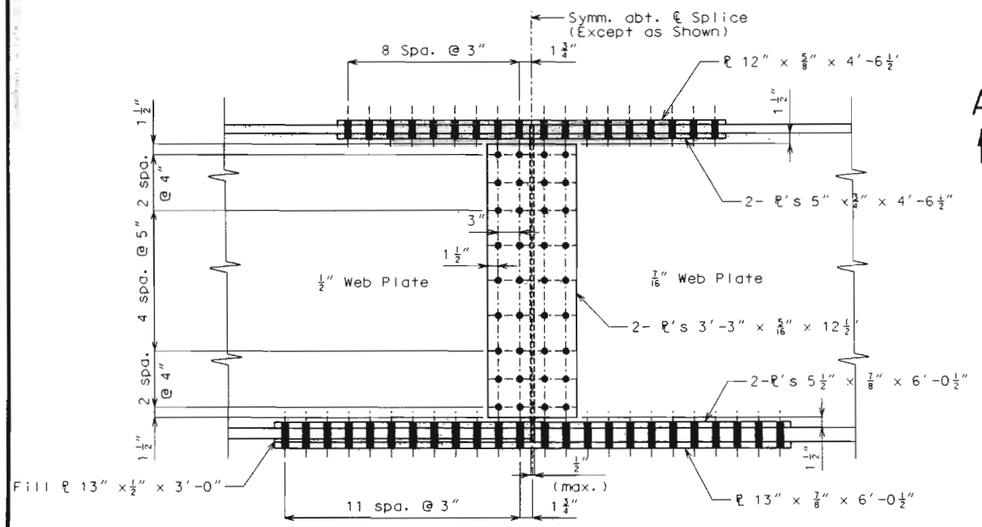
State	Proj. No.	Sheet No.
MO		B 22



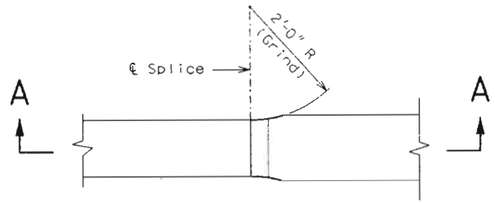
PLAN OF TOP FLANGE



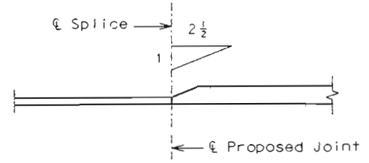
WELDED SHOP WEB SPLICE



DETAIL OF BOLTED FIELD SPLICE

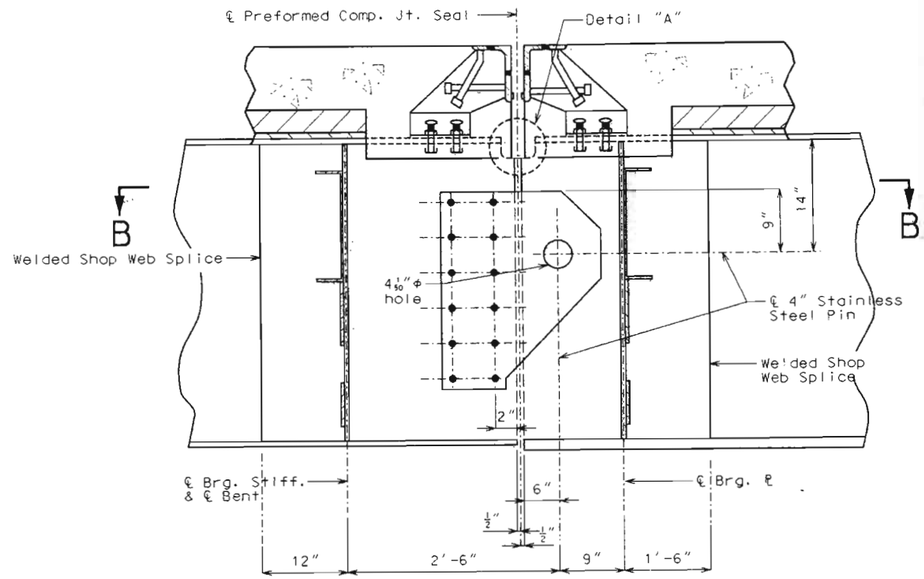


PLAN SHOWING
2'-0" RADIUS TRANSITION

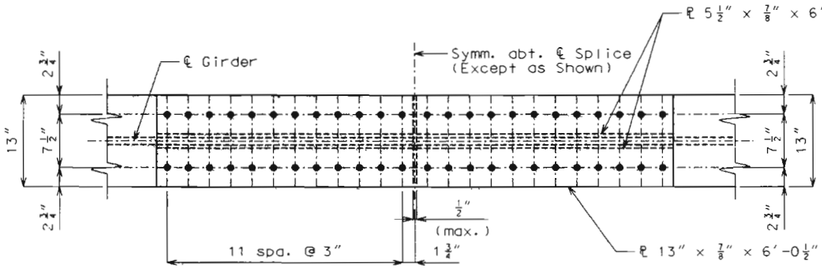


SECTION A-A
WELDED SHOP FLANGE SPLICE

Note: Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional welded shop web and flange splices.

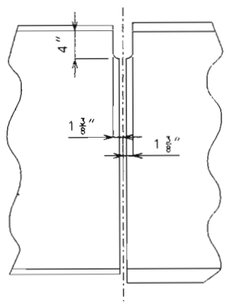


ELEVATION

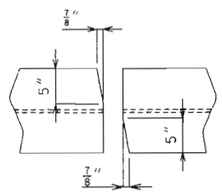


PLAN OF BOTTOM FLANGE

Use 7/8" Ø high strength bolts with 15/16" Ø holes.
Contact surfaces are to be blast cleaned in accordance with Section 712.12.2.1 of the Missouri Standard Specifications.



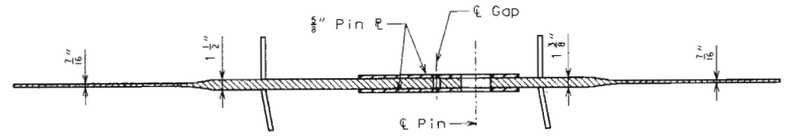
WEB COPING DETAIL @ HINGE



FLANGE CLIPPING
DETAIL @ HINGE

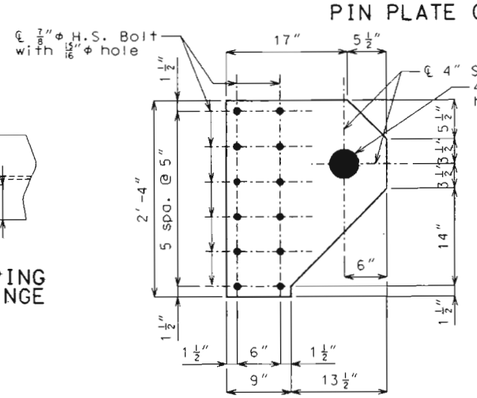
DETAIL "A"

For Details of Preformed Compression Joint Seal, see Sheet Nos. 32 & 34.

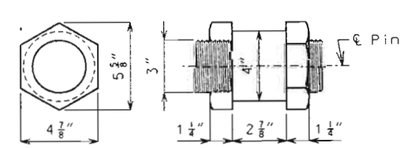


SECTION B-B

PIN PLATE CONNECTION



DETAILS OF PIN ℄



DETAIL OF 4" Ø PIN AND
FLAT HEXAGONAL NUTS

Note:
Pin plate shall be subject to notch toughness requirements.
Pin shall be Nitronic 60 Alloy.
Nut may be 316 Alloy or Nitronic 60 Alloy.

The cost of the pins shall be included in the price bid for Fabricated Structural Low Alloy Steel (Plate Girders) ASTM A709 Grade 50.

STATE OF MISSOURI
DEAN DAVID FRANKE
NUMBER E-28132
PROFESSIONAL ENGINEER
DATE 5-28-02

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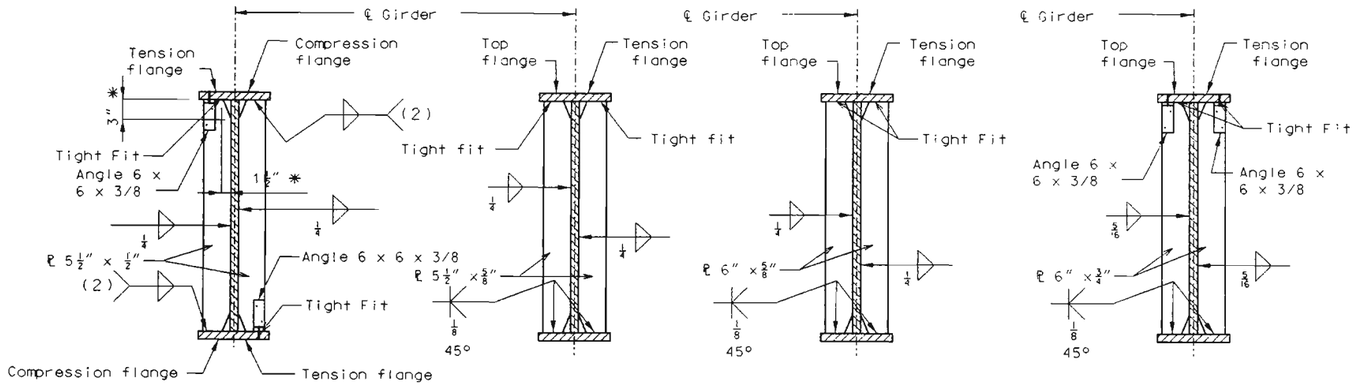
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

REV.

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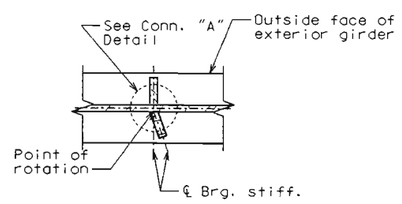


INT. DIAPH. CONN. PLATE | END BRG. STIFF. | INT. BT. 2 & 4 BRG. STIFF. | INT. BT. 3 BRG. STIFF.

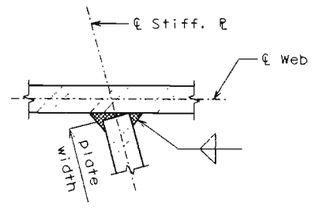
(2) Weld to compression flange as located on elevation of girder.

* Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff.

WELDING DETAILS



BRG. STIFF.

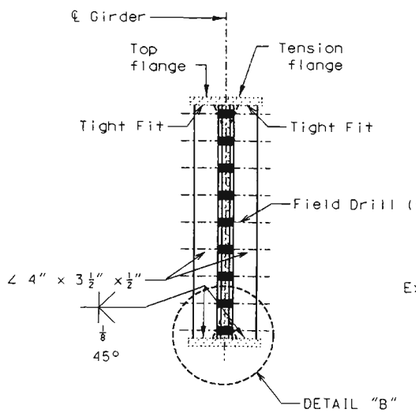


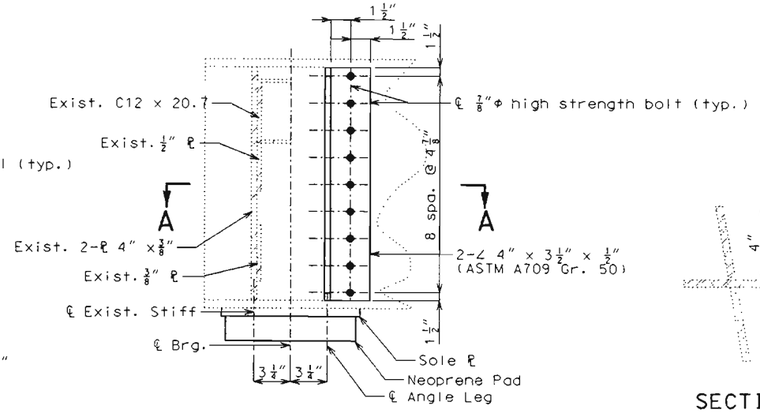
** CONN. "A"

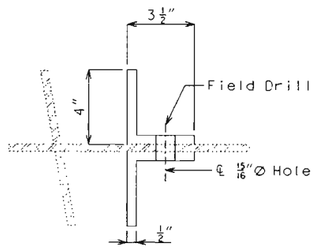
TYPICAL LOCATION DETAILS

Note: ** Also used for Int. Diaph. Conn. Plate attachment

WELDING DETAILS

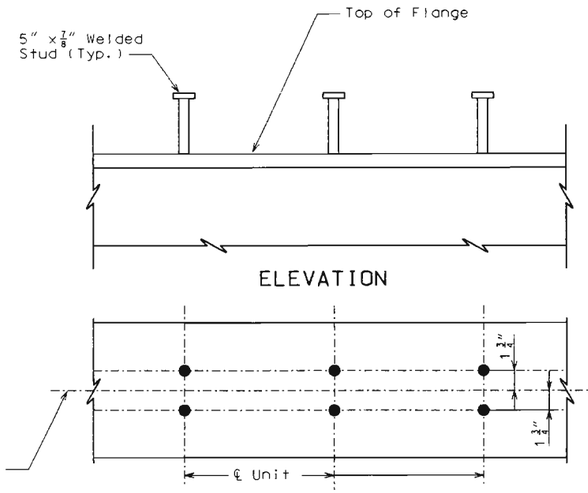






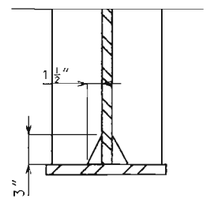
SECTION A-A

STIFFENER AT END BENTS FOR EXIST. GIRDERS



PLAN

DETAIL OF SHEAR CONNECTORS (2 STUDS PER UNIT)



DETAIL "B"

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

Weight of 1157 lbs. of shear connectors is included in the weight of Fabricated Structural Low Alloy (Plate Girders).

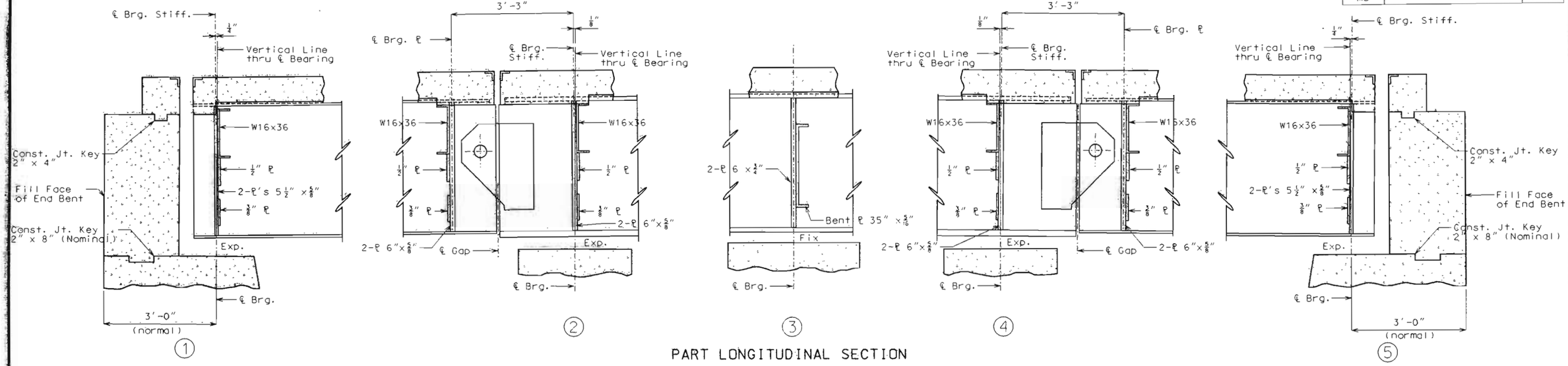
Shear connectors shall meet the requirements of Section 1037 of the Missouri Standard Specifications.

Detailed Apr. 2002
Checked May 2002

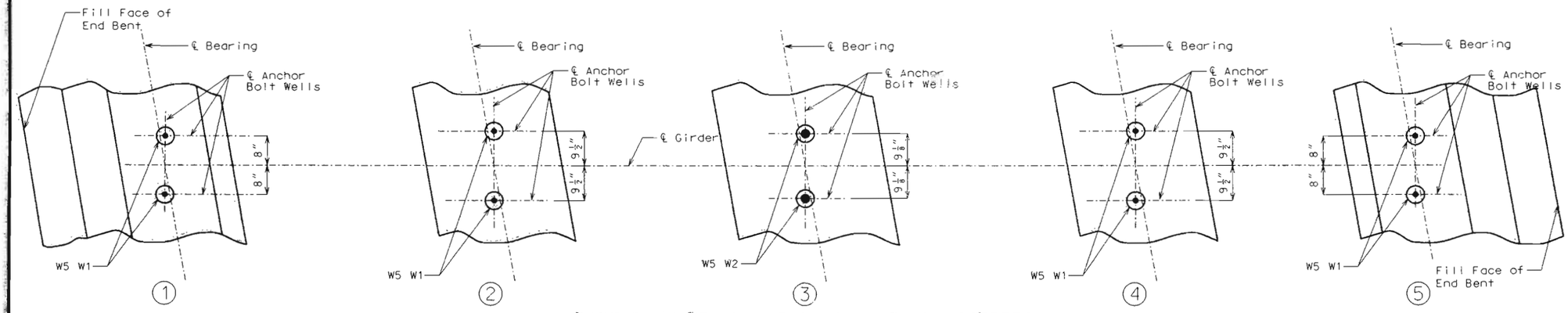
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

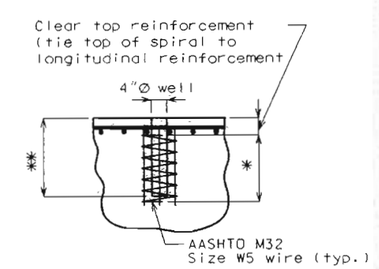
State	Proj. No.	Sheet No.
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PART LONGITUDINAL SECTION

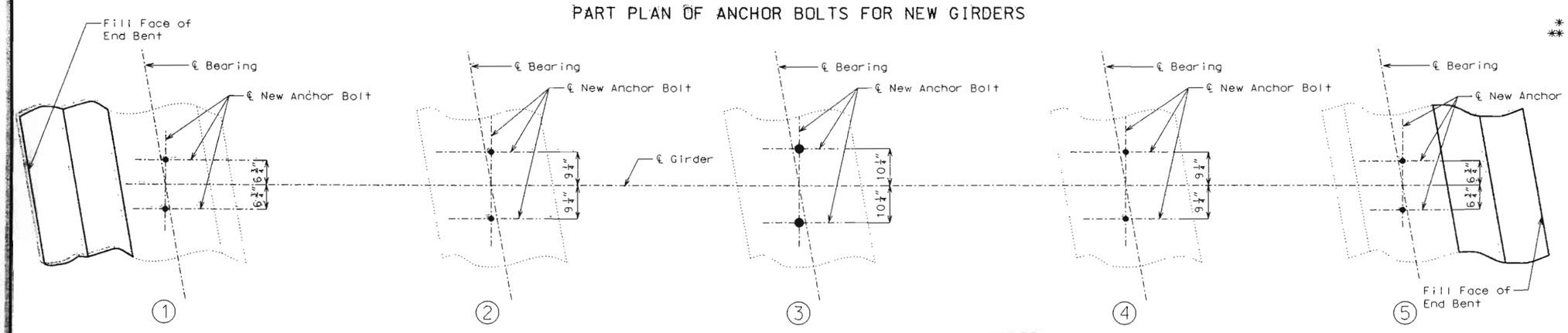


PART PLAN OF ANCHOR BOLTS FOR NEW GIRDERS



* (15" @ Bents 1.2.4.& 5) (25" @ Bent 3)
** (18" @ Bents 1.2.4.& 5) (28" @ Bent 3)

DETAIL OF ANCHOR BOLT WELLS



PART PLAN OF ANCHOR BOLTS FOR EXISTING GIRDERS



Detailed Apr. 2002
Checked May 2002

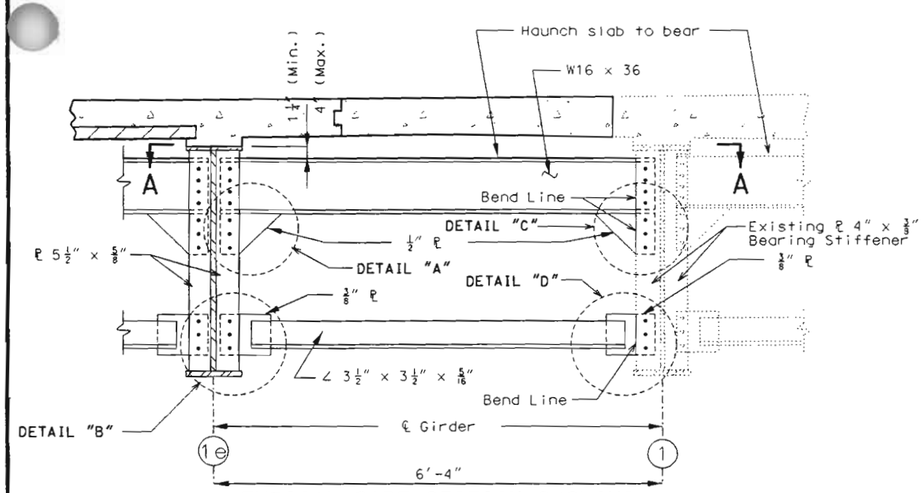
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

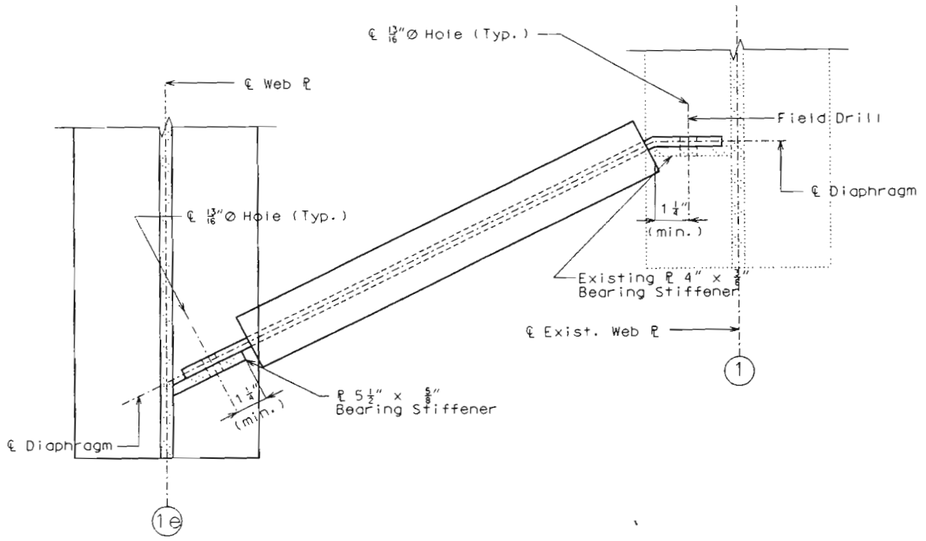
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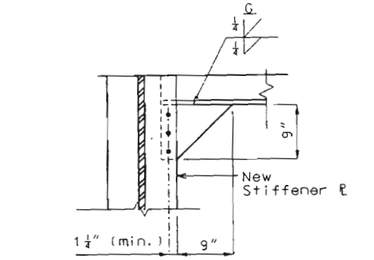
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MO		B25



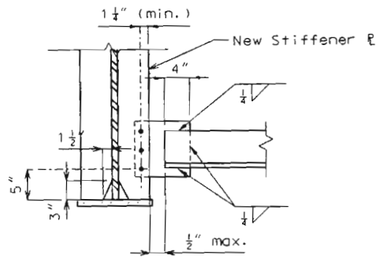
TYPICAL PART SECTION SHOWING
END DIAPHRAGM CONN. BETWEEN
GIRDERS 1e & 1 @ BENTS 1 & 5
AND @ ℄ BRG. ℄ NEAR PIN PLATE CONNECTION



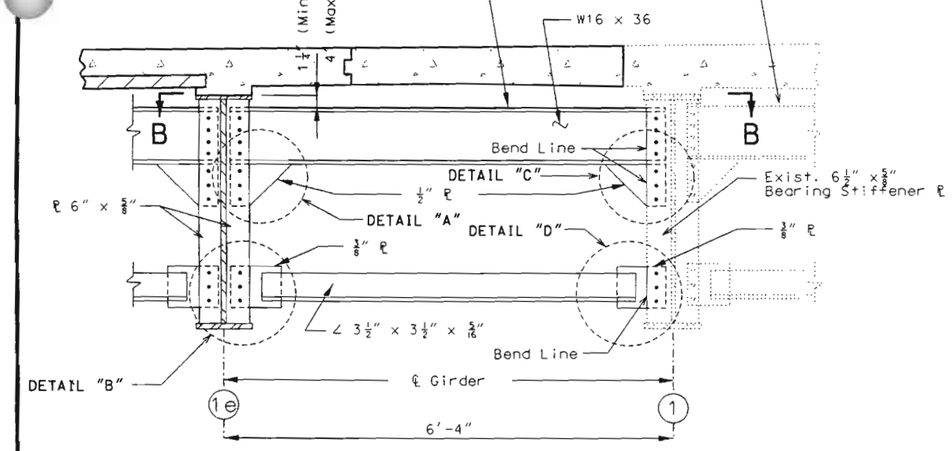
SECTION A-A



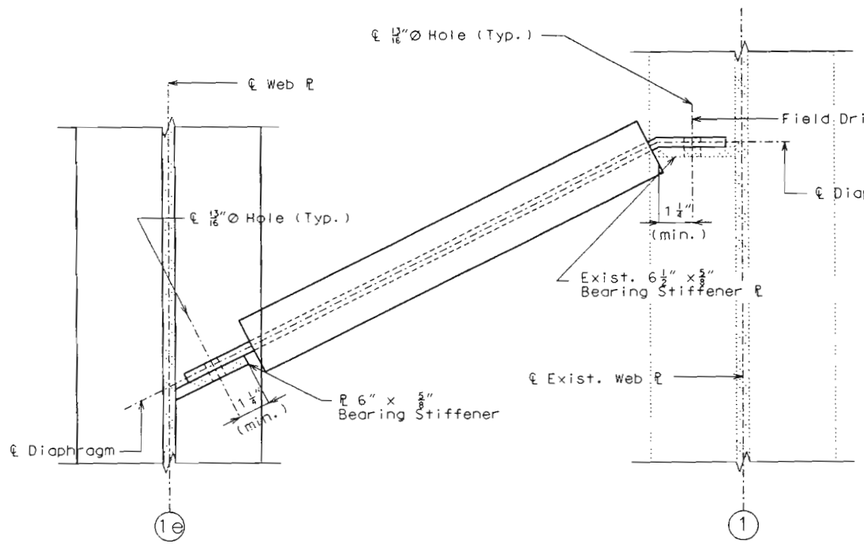
DETAIL "A"



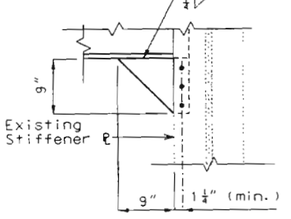
DETAIL "B"



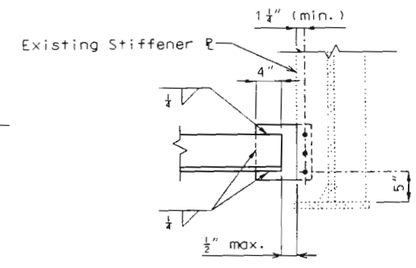
TYPICAL PART SECTION SHOWING
END DIAPHRAGM CONN. BETWEEN
GIRDER 1e & 1 @ BENTS 2 & 4



SECTION B-B



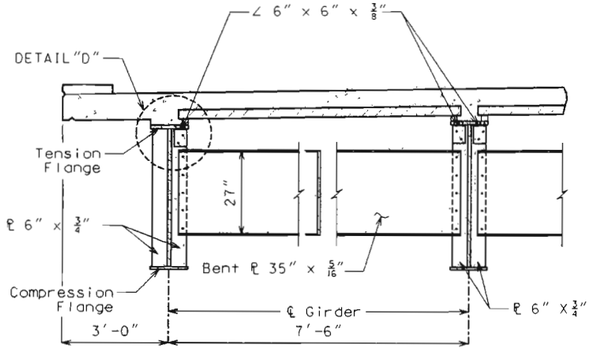
DETAIL "C"



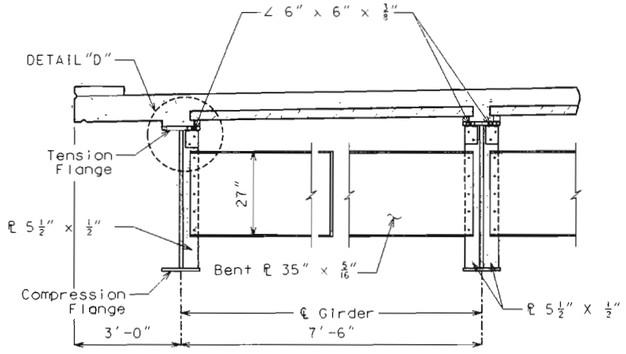
DETAIL "D"



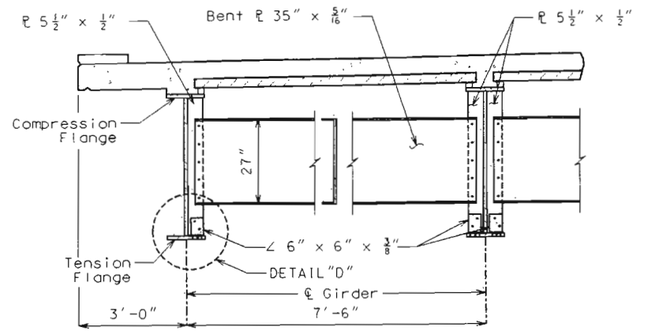
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TYPICAL PART SECTION SHOWING
CROSS FRAMES AT BENT 3
TOP FLANGE IN TENSION

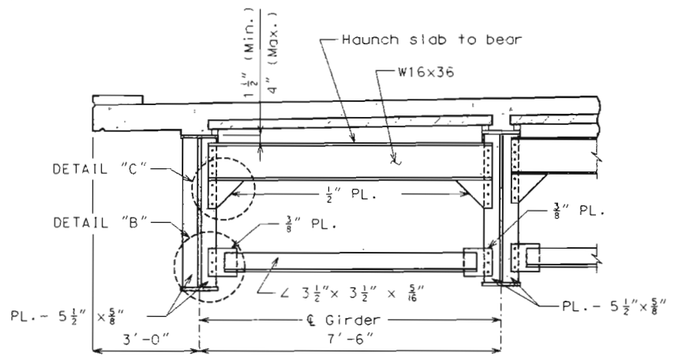


TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
TOP FLANGE IN TENSION

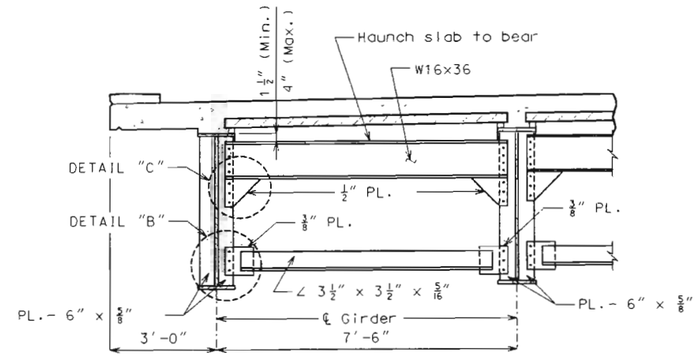


TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
BOTTOM FLANGE IN TENSION

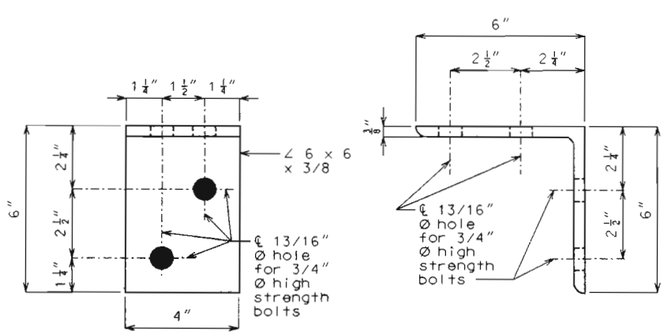
At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 3/16" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate or transverse web stiffener shall be standard size.



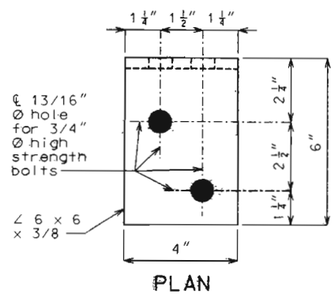
TYPICAL PART SECTION SHOWING
END DIAPHRAGMS @ BENTS 1 & 5



TYPICAL PART SECTION SHOWING
END DIAPHRAGMS @ BENTS 2 & 4
AND @ ℄ BRG. ℄ NEAR PIN PLATE CONNECTION



ELEVATION SIDE VIEW

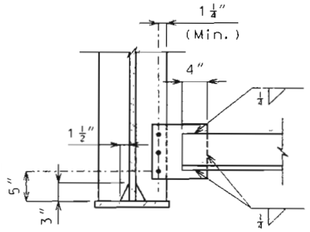


PLAN

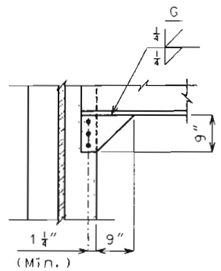
DETAIL OF FLANGE CONNECTION ANGLE

Note: The two 3/4" Ø H.S. bolts that connect the 6 x 6 x 3/8 angle to the top flange shall be placed so the nut is on the inside of flange (toward the web).

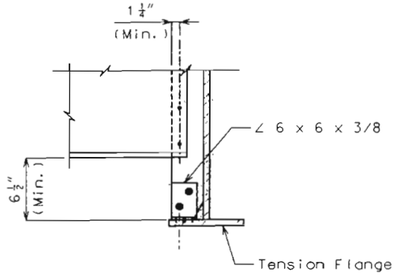
The 6 x 6 x 3/8 angle legs shall be adjusted to conform to the variable angle between bearing stiffener and top flange created by girder tilt due to grade requirements.



DETAIL "B"



DETAIL "C"



DETAIL "D"

STATE OF MISSOURI
DEAN DAVID FRANKE
NUMBER E-28132
PROFESSIONAL ENGINEER
DATE 5-28-02

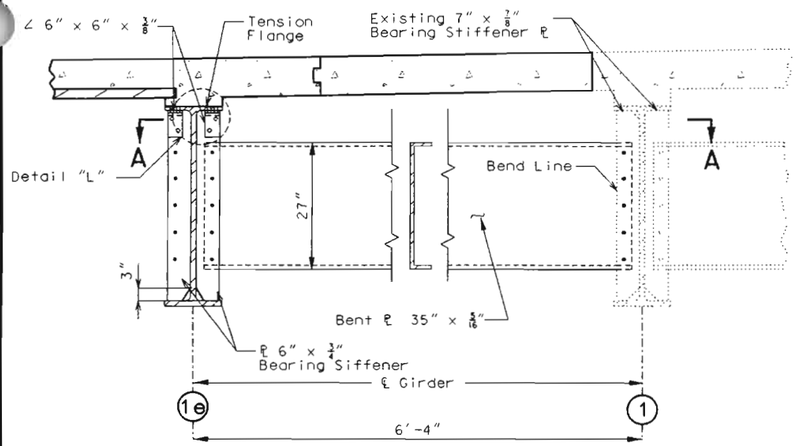
Detailed Apr. 2002
Checked May 2002

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

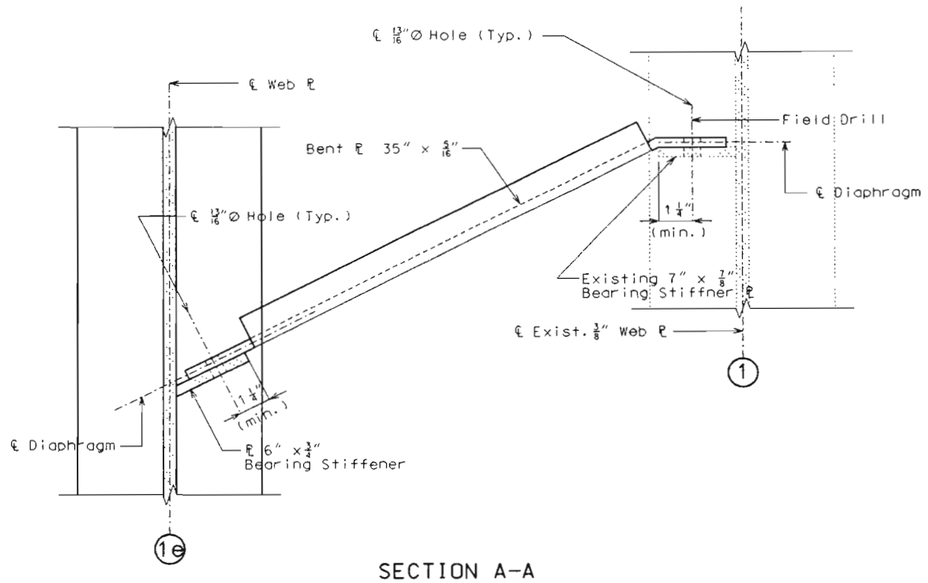
PULASKI COUNTY A30521

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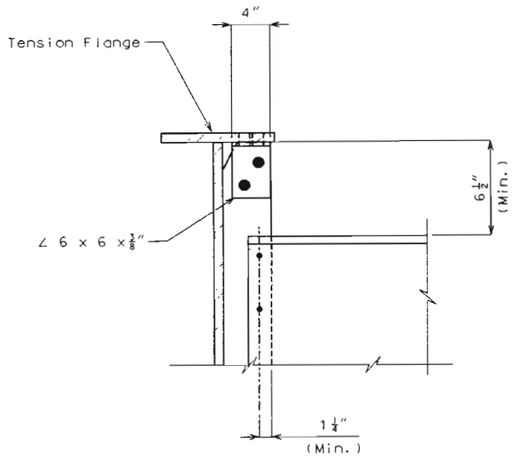
State	Proj. No.	Sheet No.
MO		B27



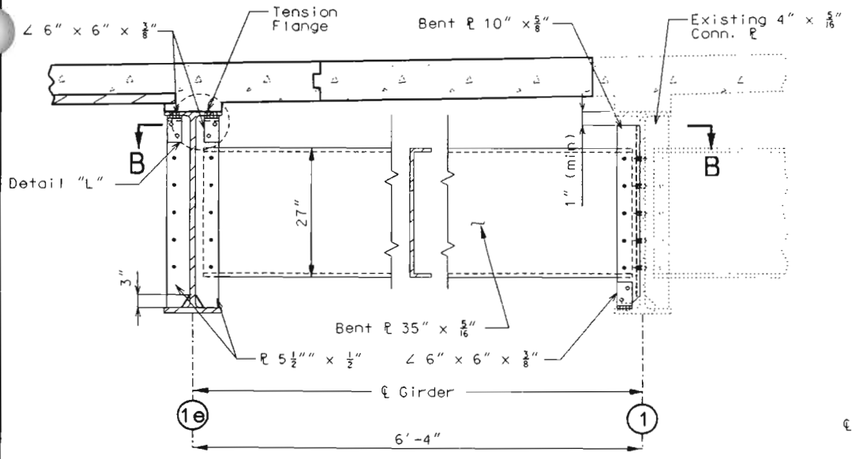
TYPICAL PART SECTION SHOWING
CROSS FRAMES BETWEEN GIRDERS
1e & 1 AT BENT 3



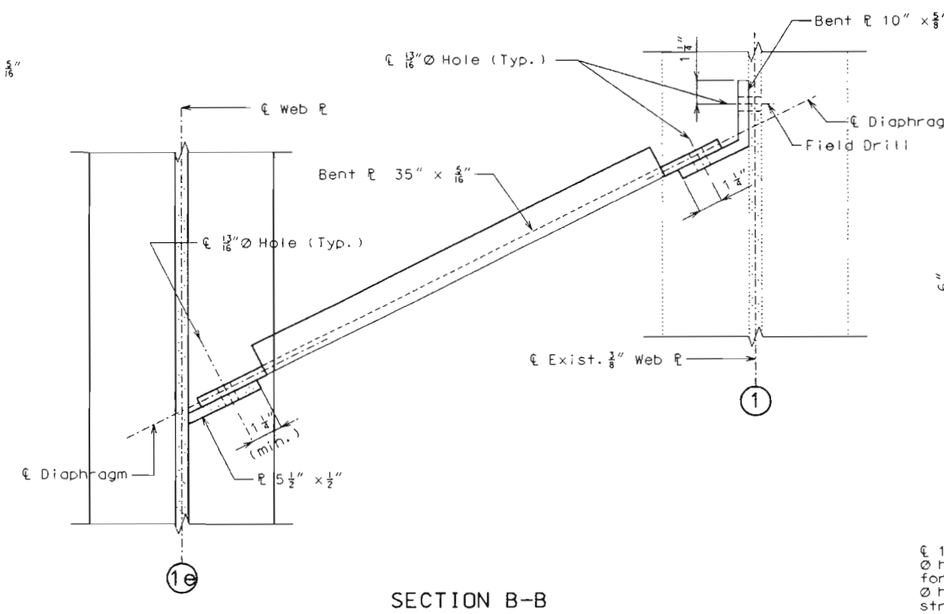
SECTION A-A



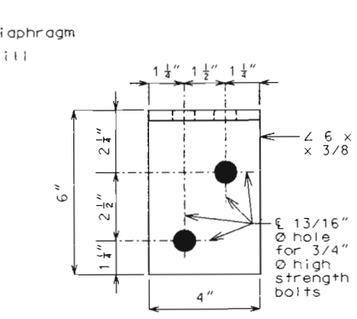
DETAIL "L"



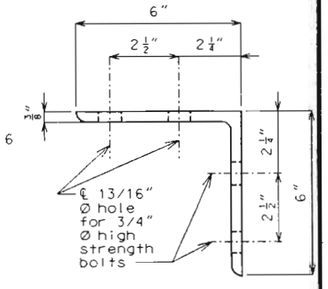
TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
BETWEEN GIRDERS 1e & 1



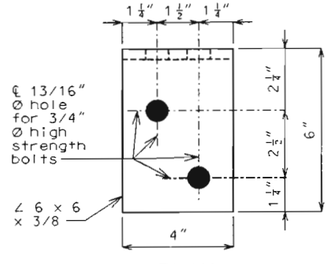
SECTION B-B



ELEVATION



SIDE VIEW



PLAN
FLANGE CONNECTION ANGLE

NOTES:
At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made $\frac{3}{16}$" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate shall be standard size.

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

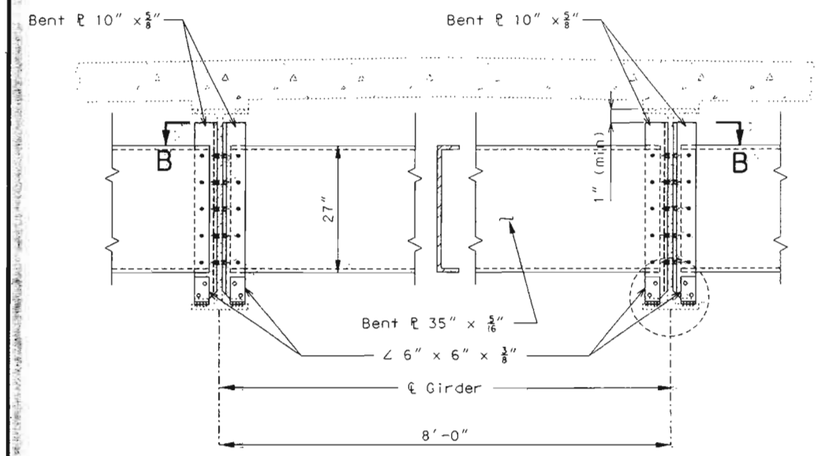
Detailed Apr. 2002
Checked May 2002

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

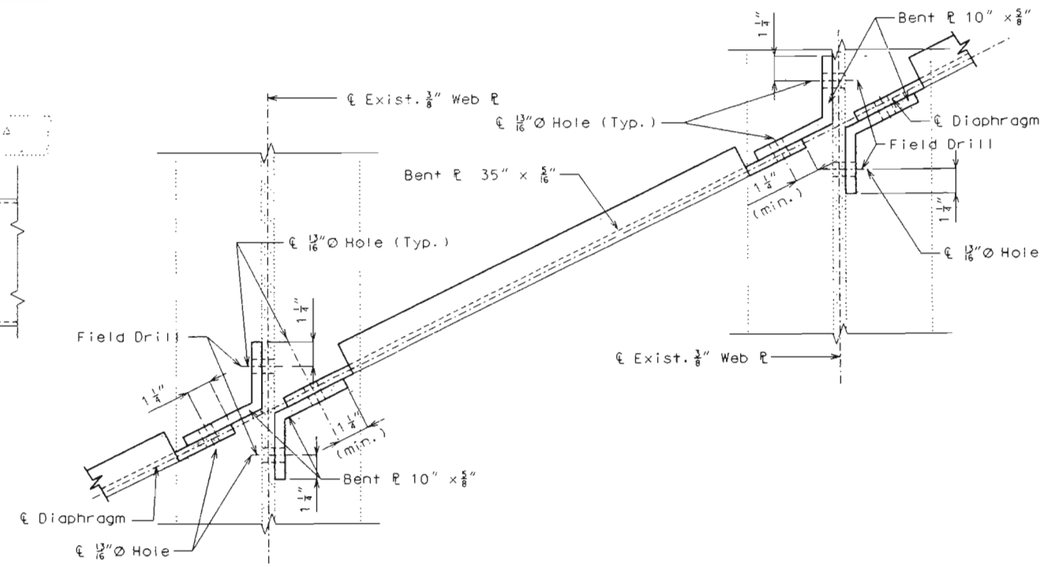
PULASKI COUNTY A30521 REV.

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State	Proj. No.	Sheet No.
MO		B28



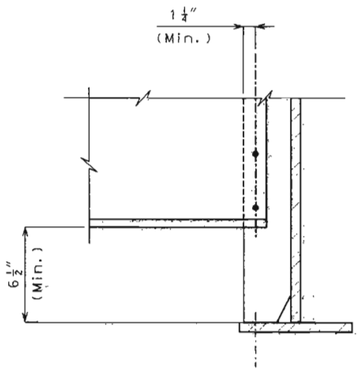
TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
BETWEEN EXISTING GIRDERS



SECTION A-A

NOTES:

At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 1/16" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate shall be standard size.



DETAIL "A"



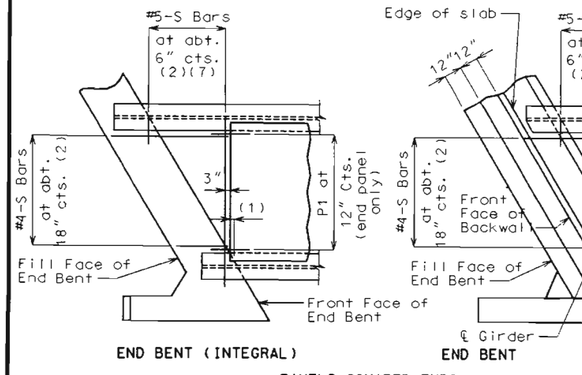
Detailed Apr. 2002
Checked May 2002

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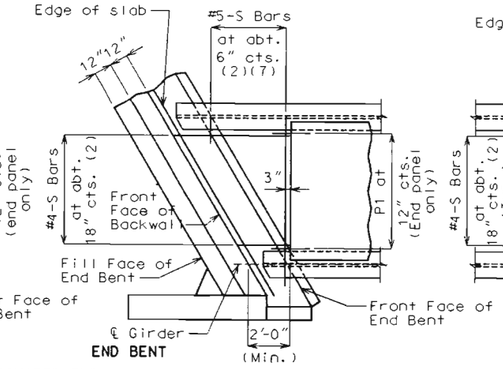
PULASKI COUNTY A30521

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State	Proj. No.	Sheet No.
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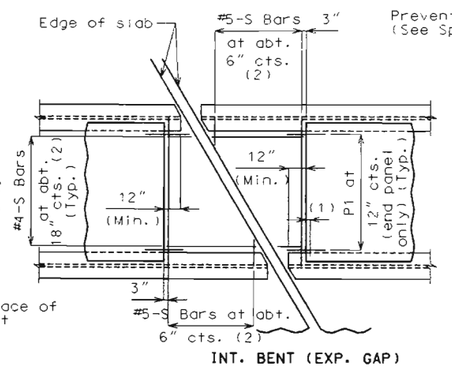


END BENT (INTEGRAL)

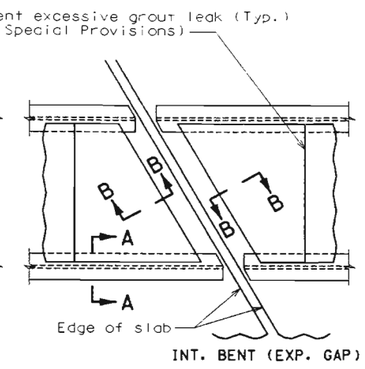


END BENT

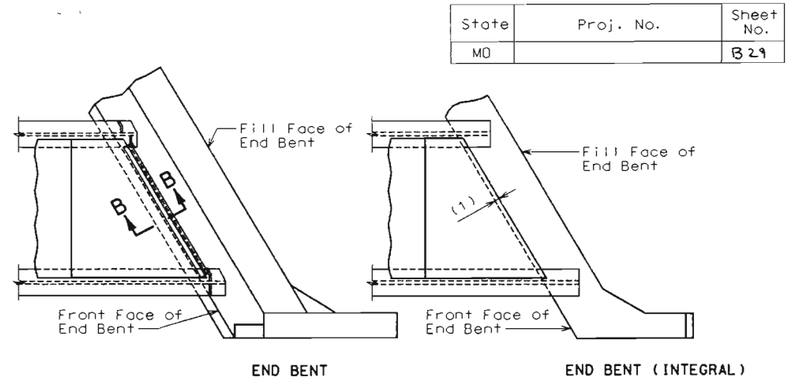
PANELS-SQUARED ENDS



INT. BENT (EXP. GAP)



INT. BENT (EXP. GAP)

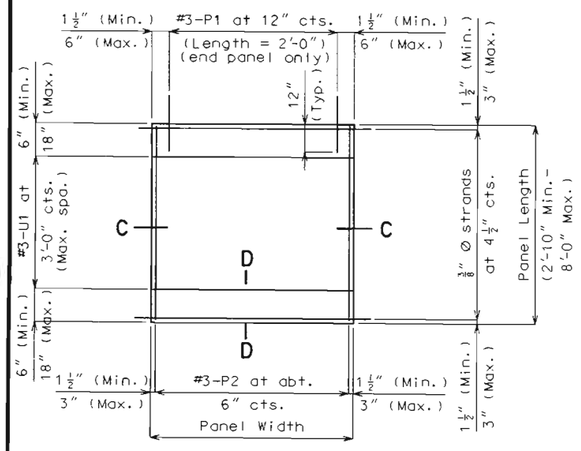


END BENT

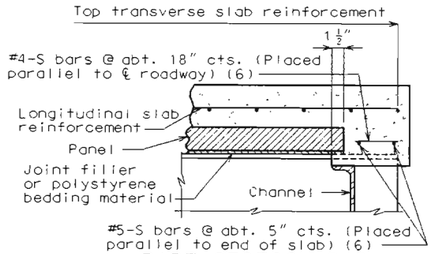
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PANELS-SKEWED ENDS

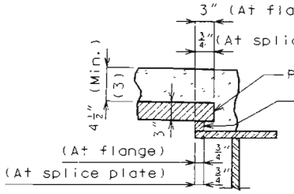
PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



PLAN OF PRECAST PRESTRESSED PANEL



PART SECTION B-B



SECTION A-A

Note: Use slab haunching diagram on sheet No. 21 for determining thickness of joint filler or polystyrene bedding material within the limits noted in general notes.

NOTES:

Cost of S-bars shall be included in the price bid for Slab on Steel per square yard.

S-bars are not listed in the 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) Adjustment in the slab thickness, joint filler or polystyrene bedding material thickness, or grade will be necessary if the girder camber after erection differs from plan camber by more than the ¾ of dead load deflection due to the weight of structural steel. No payment will be made for additional labor or materials for the adjustment.

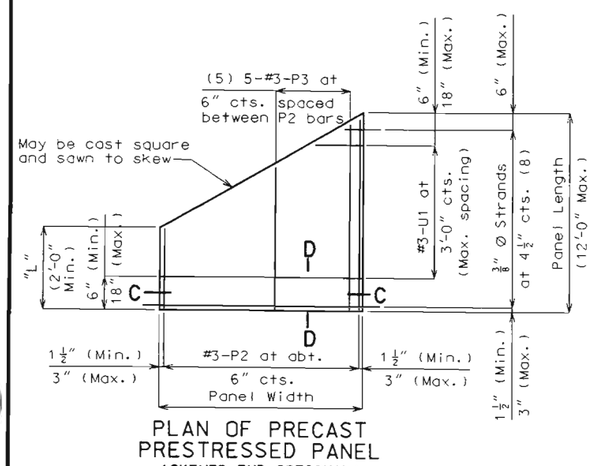
(4) All panel support pads shall be glued to the girder. When support thickness exceeds 1-1/2 inches, the pads shall be glued top and bottom. The glue used shall be the type recommended by the panel support pads manufacturer.

(5) Use #3-P3 bars if panel is skewed 45° or greater.

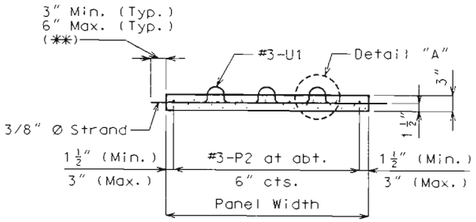
(6) S-bars shown are used with skewed end panels, or square end panels of square structures only. The #5 S-bars shall extend the width of slab (30 inches lap if necessary) or to within 3 inches of expansion device assemblies.

(7) Extend S-bars 18" beyond the front face of end bents only.

(8) 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 fabricator's option.

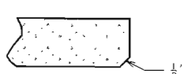


PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)

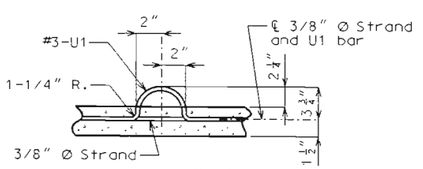


SECTION C-C

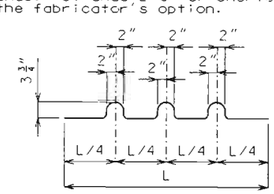
(**) Prestressing strands to extend 6" or to within 1" of adjacent panel.



SECTION D-D



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).

GENERAL NOTES:

PRESTRESSED PANELS:

Concrete for prestressed panels shall be Class A1 with f'c = 6.000 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" 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 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq. in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 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 additional concrete and reinforcing required.

Minimum joint filler or polystyrene bedding material thickness shall be 3/4 inch except over splice plates where minimum thickness shall be 1/4 inch. When joint filler or polystyrene bedding material is less than 1/2 inch thick over a splice plate, make the width of material at the splice the same width as panel on splice. Thicker 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 splices, and the maximum change in thickness between adjacent panels shall be 1/4 inch to correct for variations from girder camber diagram. The polystyrene bedding material may be cut to match haunch height above top of flange.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3.000 psi compressive strength.

REINFORCING STEEL:

All dimensions are out to out.

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

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.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Steel.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

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 then 0.375 inch. 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 feet.

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.

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER

DATE 9-28-02

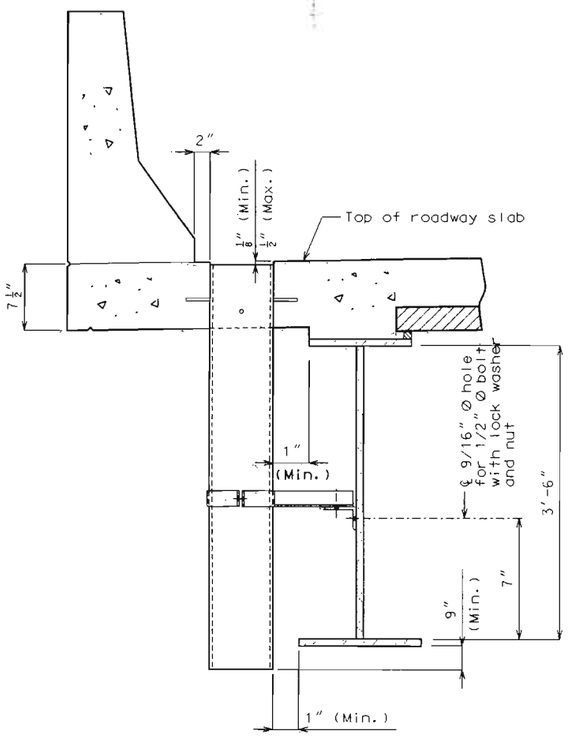
Detailed Jun. 2002
Checked Jul. 2002

DETAILS OF PRECAST PRESTRESSED PANELS

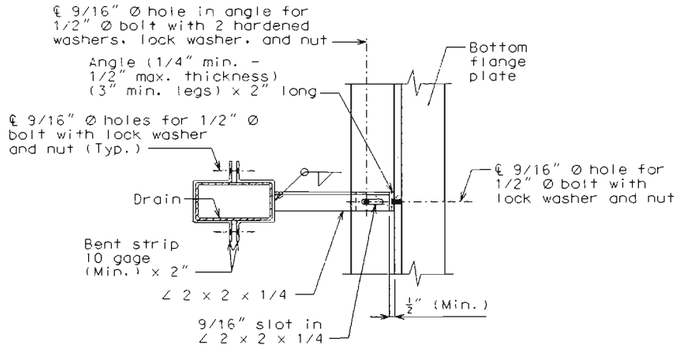
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PULASKI COUNTY A30521

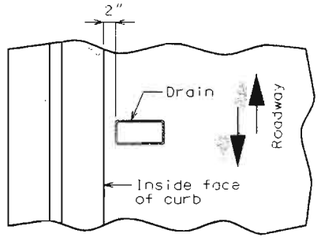
State	Proj. No.	Sheet No.
MO		B30



PART SECTION NEAR DRAIN

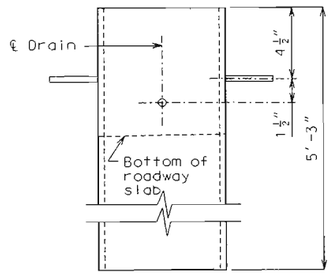


PART SECTION SHOWING BRACKET ASSEMBLY

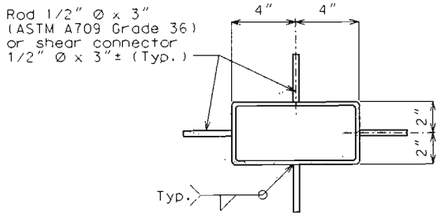


PART PLAN OF SLAB AT DRAIN

DETAILS OF DRAINS TRANSVERSE TO ROADWAY



ELEVATION OF DRAIN



PLAN OF DRAIN

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.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Outside dimensions of drains are 8" x 4".

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

Shift reinforcing steel in field where necessary to clear drains.

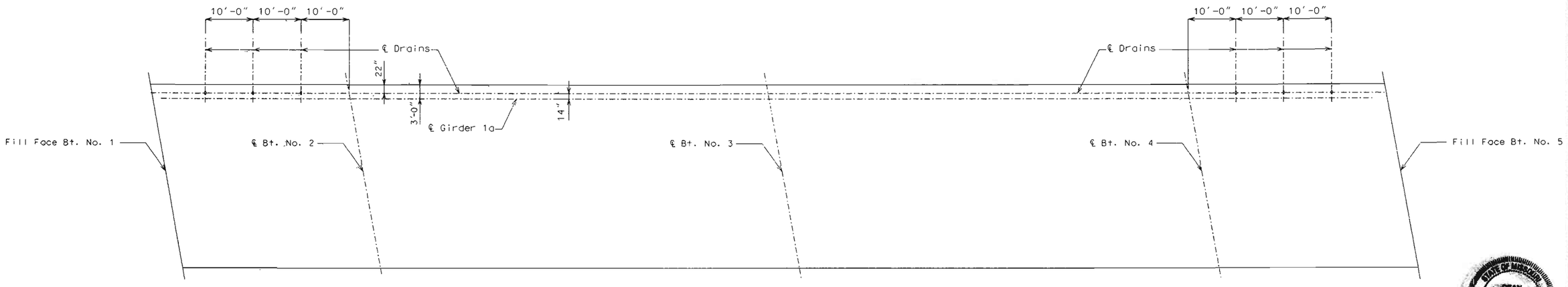
The drains and bracket assembly shall be galvanized in accordance with ASTM A123.

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

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

The bolt hole for the bracket assembly attachment shall be located on the plate girder shop drawings.

SLAB DRAIN DETAILS



PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

STATE OF MISSOURI — DEAN DAVID FRANCE — NUMBER E-29132

DATE 5-29-02

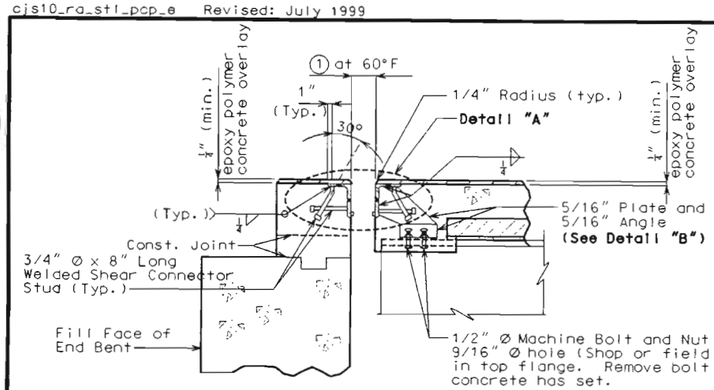
Detailed Apr. 2002
Checked May 2002

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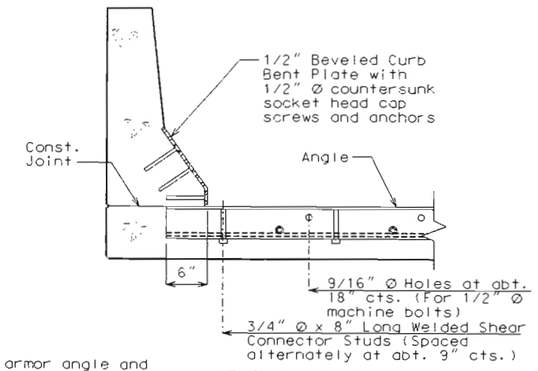
PULASKI COUNTY A30521 REV.

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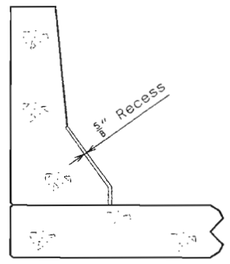
State	Proj. No.	Sheet No.
MO		B 31



PART SECTION D-D

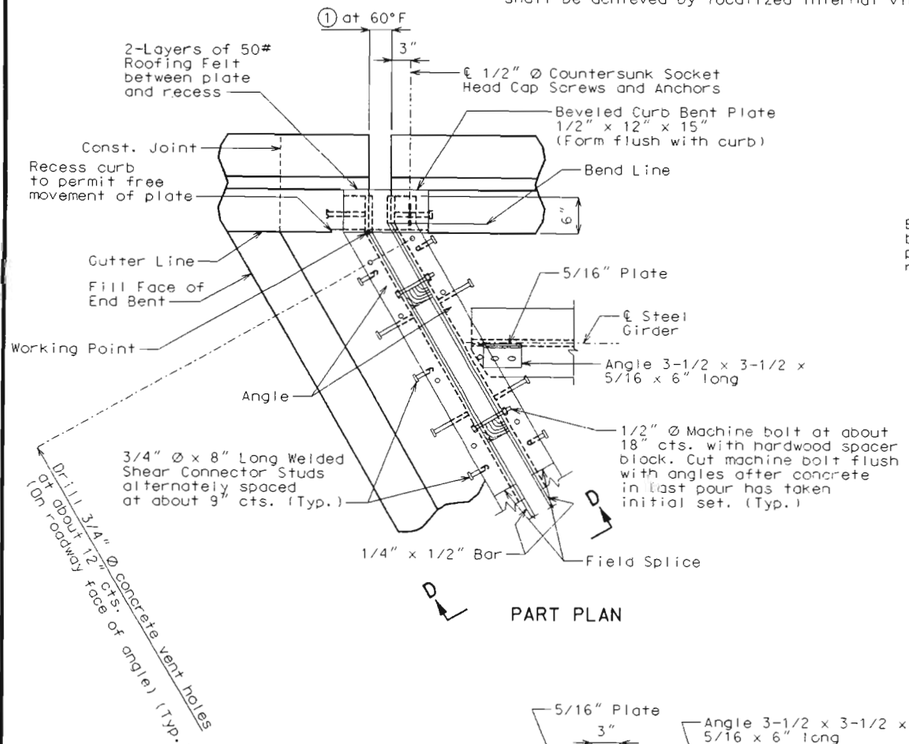


PART SECTION B-B

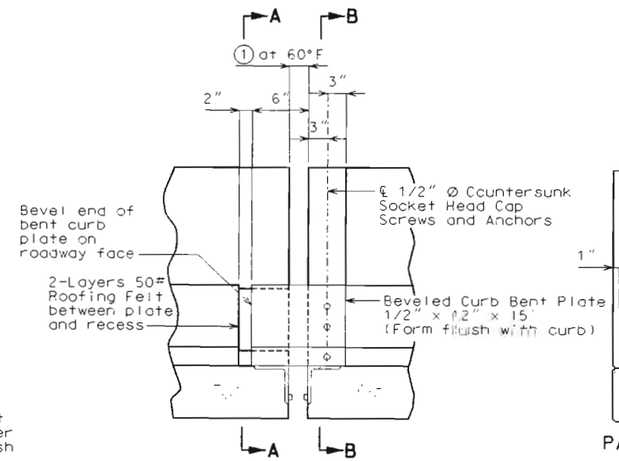


PART SECTION A-A

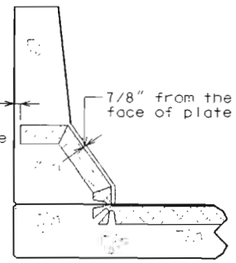
Note: Concrete shall be forced under armor angle and around studs. Proper consolidation of the concrete shall be achieved by localized internal vibration.



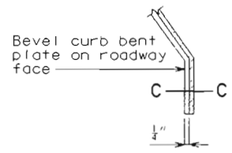
PART PLAN



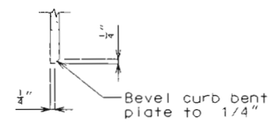
PART ELEVATION OF BARRIER CURB



PART SECTION THRU JOINT SEAL



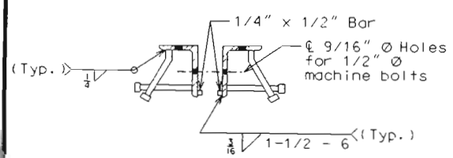
PART ELEVATION AT END OF BEVELED CURB BENT PLATE



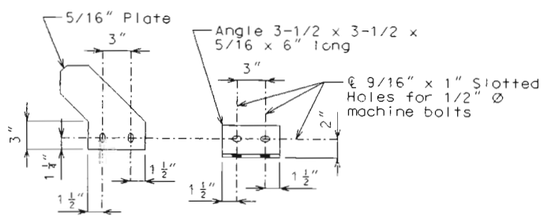
SECTION C-C

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
4.5"	2-3/4"	Manufacturer's Recommended Height	1.9"

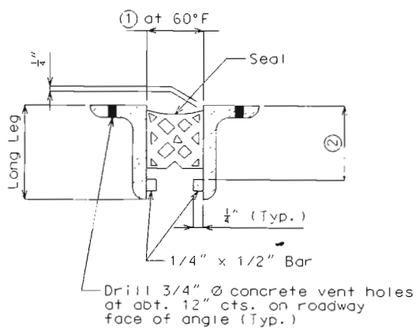
Note: Depth of seal shall not be less than width of seal.



DETAIL "A"



DETAIL "B"



PART CROSS SECTION THRU EXPANSION JOINT

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50 feet, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709 Grade 36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/8" for each 10° fall in temperature and decreased 1/8" for each 10° rise in temperature at installation.

See Special Provisions for the requirements of compression joint seal.

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.

Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plate shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

Neoprene extrusions shall meet ASTM D3542.

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

SIZE OF ARMOR ANGLE

Vertical leg of angle shall be a minimum of ② + 3/4".
Horizontal leg of angle shall be a minimum of 3".
Minimum thickness of angle shall be 1/2".

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60°F and all dimensions for the armor angles shall be shown on the shop drawings.

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-24-02

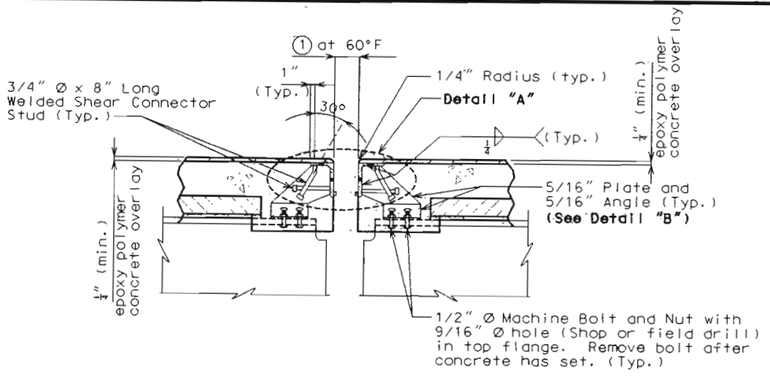
DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT END BENT NOS. 1 & 5 (STAGE 1)

Detailed Apr. 2002
Checked May 2002

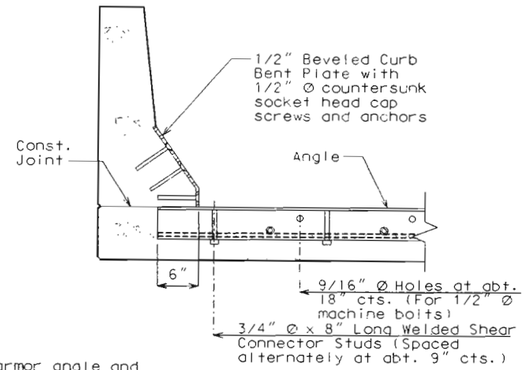
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

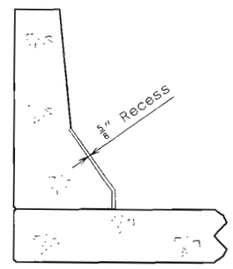
State	Proj. No.	Sheet No.
MO		B32



PART SECTION D-D



PART SECTION B-B



PART SECTION A-A

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

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50 feet, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709 Grade 36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/16" for each 10° fall in temperature and decreased 1/16" for each 10° rise in temperature at installation.

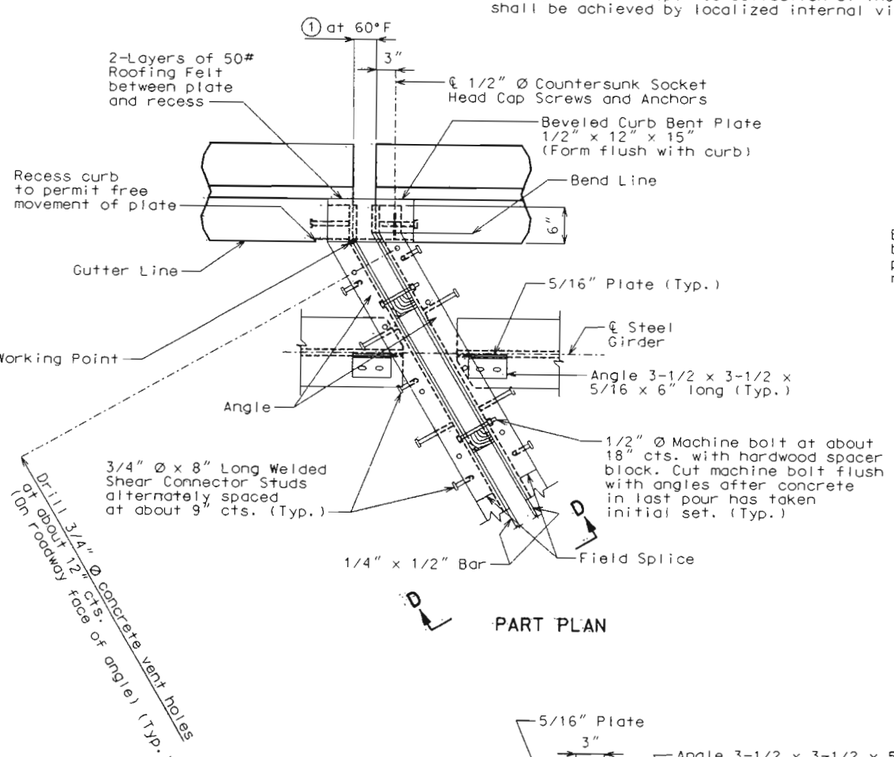
See Special Provisions for the requirements of compression joint seal.

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.

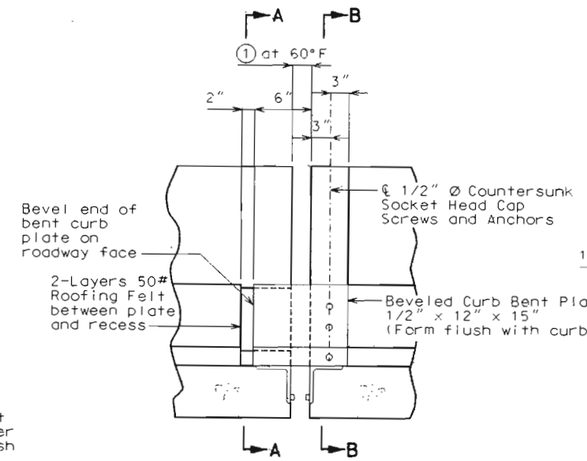
Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plate shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

Neoprene extrusions shall meet ASTM D3542.

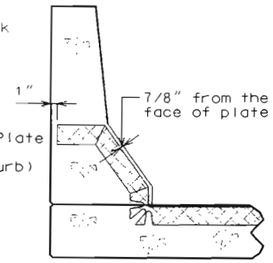
Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in f'c = 4000 psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until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



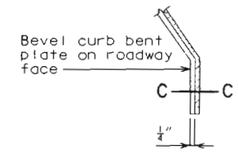
PART PLAN



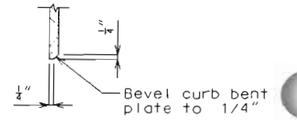
PART ELEVATION OF BARRIER CURB



PART SECTION THRU JOINT SEAL



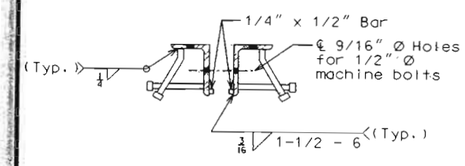
PART ELEVATION AT END OF BEVELED CURB BENT PLATE



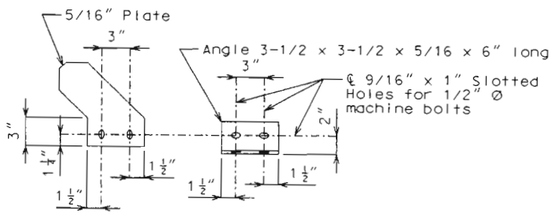
SECTION C-C

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
2.5"	1-5/8"	Manufacturer's Recommended Height	0.9"

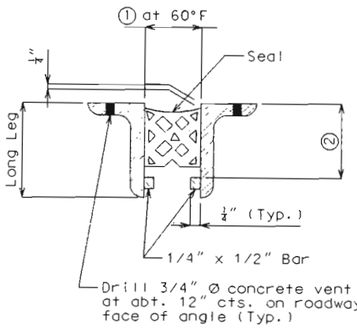
Note: Depth of seal shall not be less than width of seal.



DETAIL "A"



DETAIL "B"



PART CROSS SECTION THRU EXPANSION JOINT

SIZE OF ARMOR ANGLE

Vertical leg of angle shall be a minimum of ② + 3/4".
Horizontal leg of angle shall be a minimum of 3".
Minimum thickness of angle shall be 1/2".

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60°F and all dimensions for the armor angles shall be shown on the shop drawings.

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
PROFESSIONAL ENGINEER
DATE 6-28-02

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT PIN PLATE CONNECTION (STAGE 1)

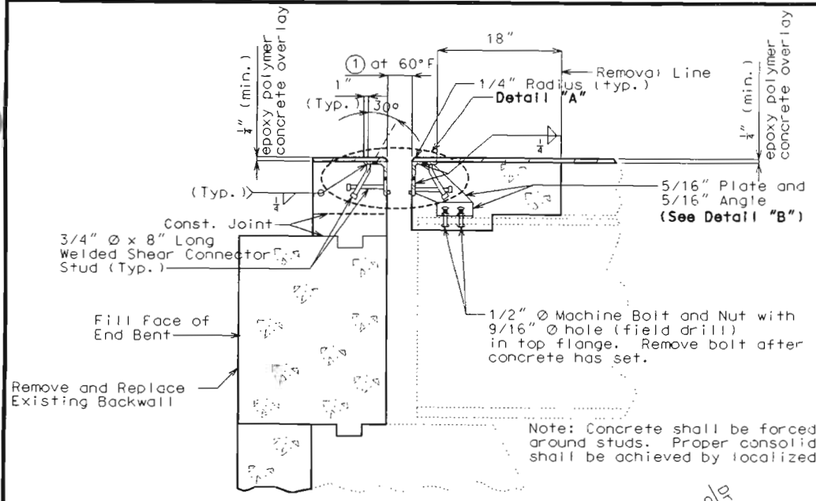
Detailed Apr. 2002
Checked May 2002

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

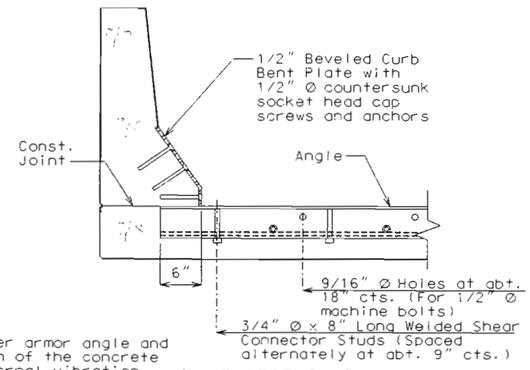
PULASKI COUNTY

A30521

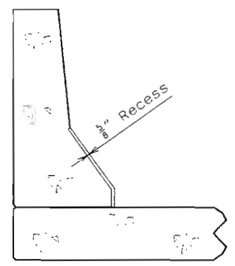
State	Proj. No.	Sheet No.
MO		B33



PART SECTION D-D



PART SECTION B-B



PART SECTION A-A

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50 feet, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709 Grade 36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/8" for each 10° fall in temperature and decreased 1/8" for each 10° rise in temperature at installation.

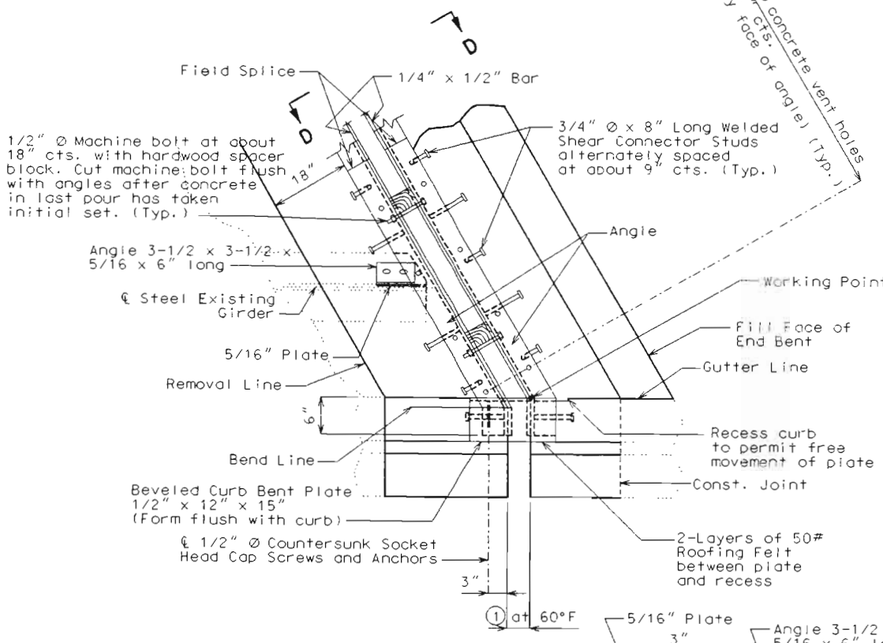
See Special Provisions for the requirements of compression joint seal.

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.

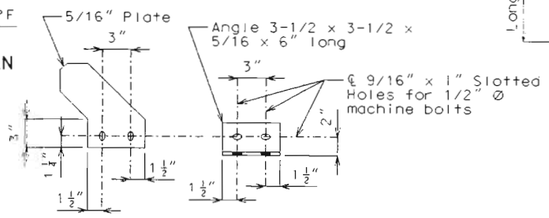
Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plate shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

Neoprene extrusions shall meet ASTM D3542.

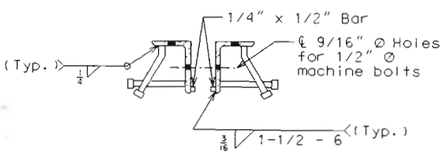
Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in f'c = 4000 psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until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



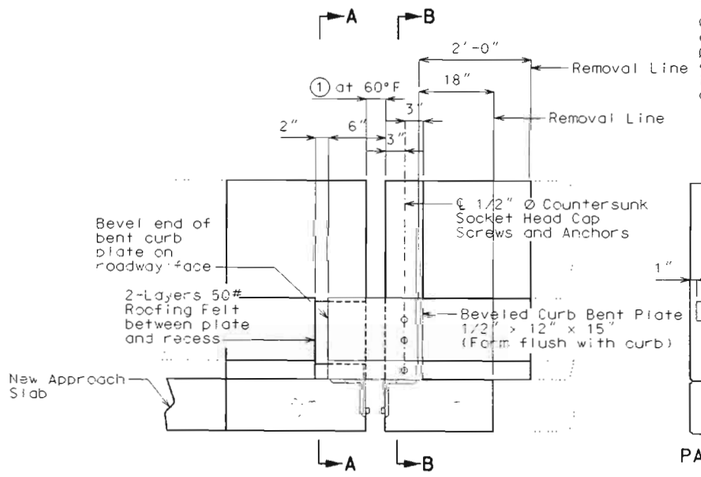
PART PLAN



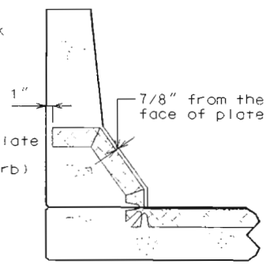
DETAIL "B"



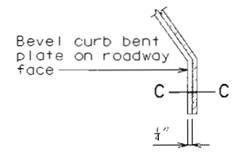
DETAIL "A"



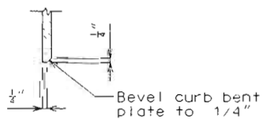
PART ELEVATION OF BARRIER CURB



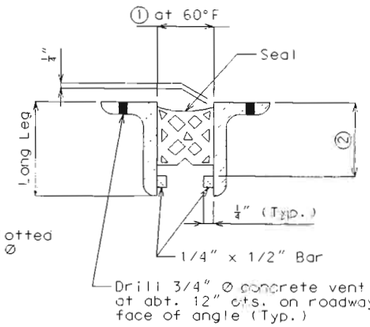
PART SECTION THRU JOINT SEAL



PART ELEVATION AT END OF BEVELED CURB BENT PLATE



SECTION C-C



PART CROSS SECTION THRU EXPANSION JOINT

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
4.5"	2-3/4"	Manufacturer's Recommended Height	1.9"

Note: Depth of seal shall not be less than width of seal.

SIZE OF ARMOR ANGLE

Vertical leg of angle shall be a minimum of ② + 3/4".
Horizontal leg of angle shall be a minimum of 3".
Minimum thickness of angle shall be 1/2".

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60°F and all dimensions for the armor angles shall be shown on the shop drawings.

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

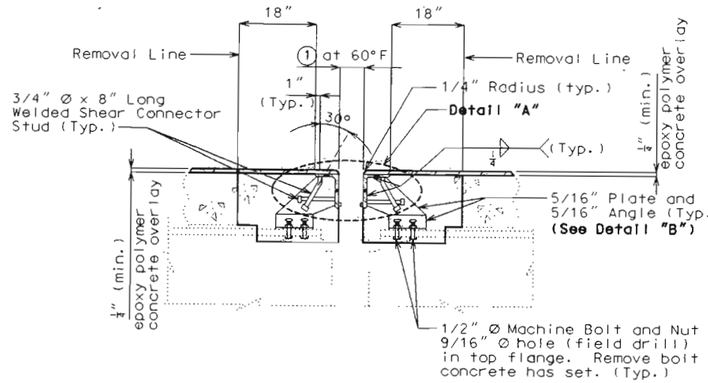
DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT END BENT NOS. 1 & 5 (STAGE 2)

Detailed Apr. 2002
Checked May 2002

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

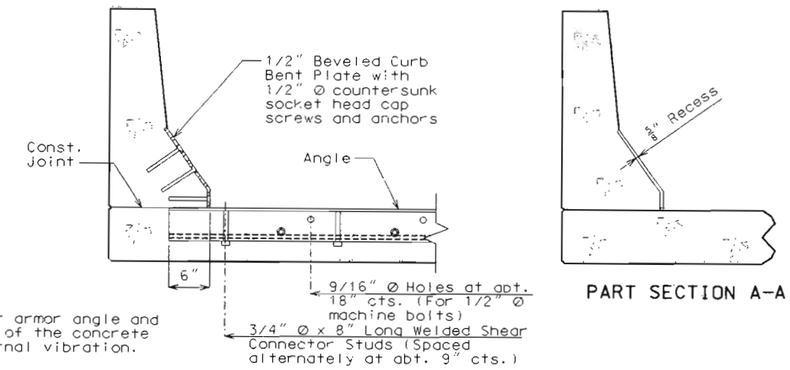
PULASKI COUNTY A30521

State	Proj. No.	Sheet No.
MO		834



PART SECTION D-D

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



PART SECTION B-B

PART SECTION A-A

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50 feet, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709 Grade 36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/16" for each 10° fall in temperature and decreased 1/16" for each 10° rise in temperature at installation.

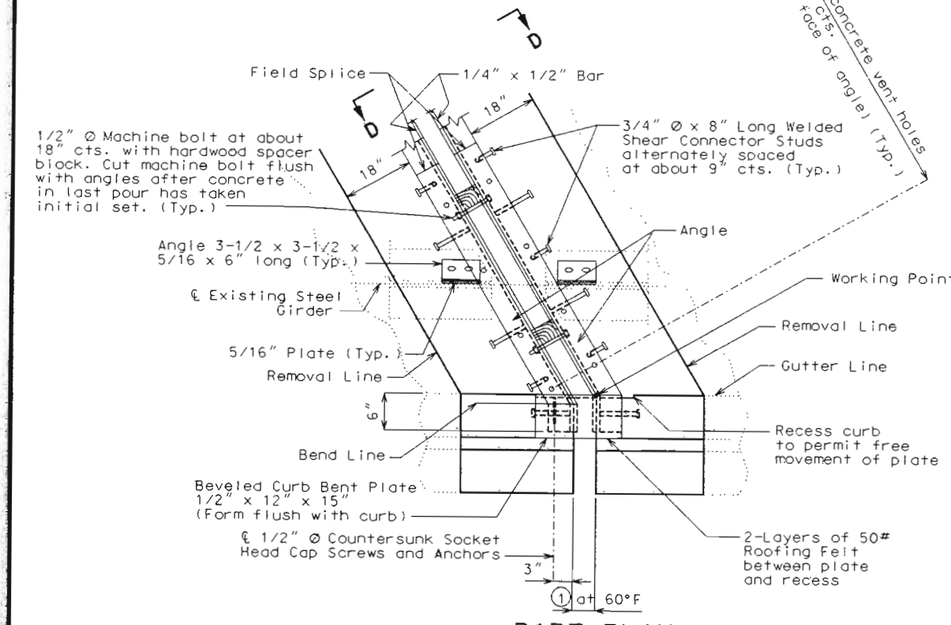
See Special Provisions for the requirements of compression joint seal.

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.

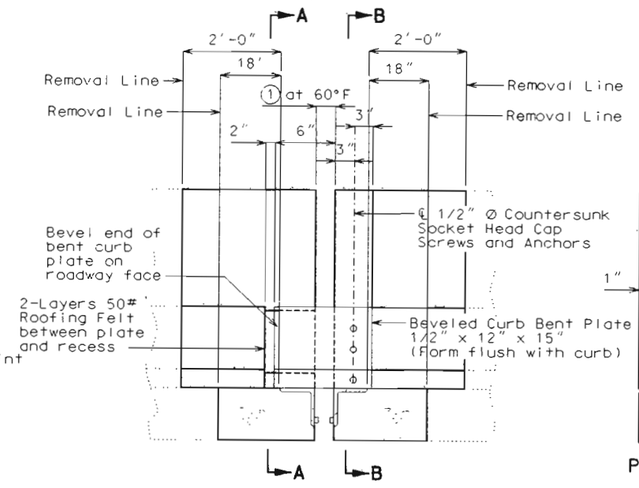
Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plate shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

Neoprene extrusions shall meet ASTM D3542.

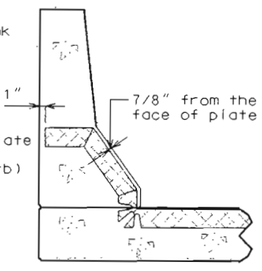
Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in f'c = 4000 psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until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



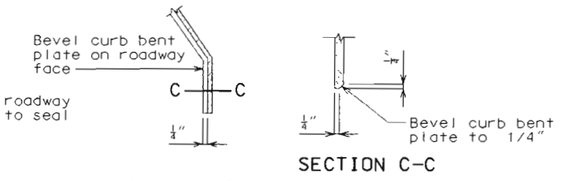
PART PLAN



PART ELEVATION OF BARRIER CURB



PART SECTION THRU JOINT SEAL

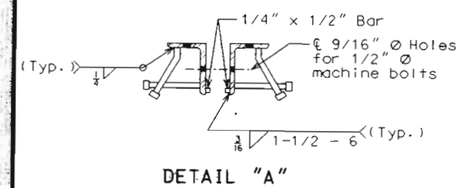


SECTION C-C

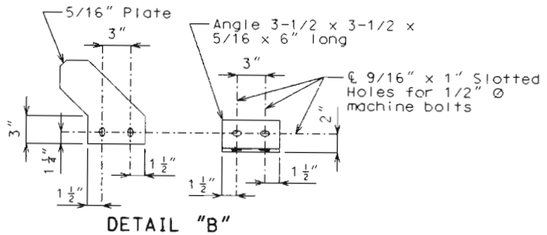
PART ELEVATION AT END OF BEVELED CURB BENT PLATE

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
2.5"	1-5/8"	Manufacturer's Recommended Height	0.9"

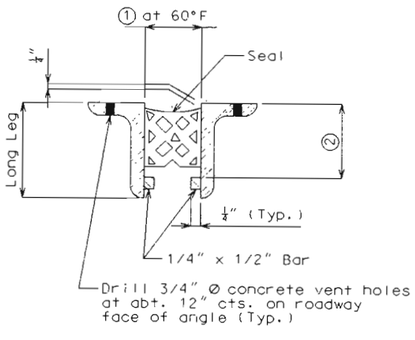
Note: Depth of seal shall not be less than width of seal.



DETAIL "A"



DETAIL "B"



PART CROSS SECTION THRU EXPANSION JOINT

SIZE OF ARMOR ANGLE

Vertical leg of angle shall be a minimum of ② + 3/4".
Horizontal leg of angle shall be a minimum of 3".
Minimum thickness of angle shall be 1/2".

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60°F and all dimensions for the armor angles shall be shown on the shop drawings.

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT PIN PLATE CONNECTION (STAGE 2)

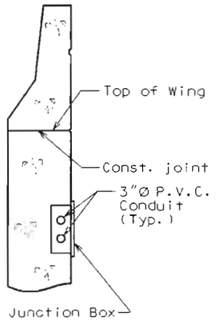
Detailed Apr. 2002
Checked May 2002

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

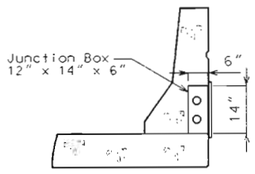
PULASKI COUNTY A30521

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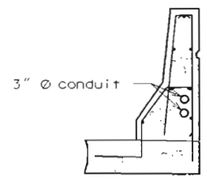
State	Proj. No.	Sheet No.
MO		B35



PART SECTION A-A



SECTION OF JUNCTION BOX IN BARRIER CURB



PART SECTION B-B OF MULTIPLE CONDUIT IN BARRIER CURB

Note:

All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3" minimum cover in concrete. Each section of conduit shall bear the Underwriters' Laboratories, Inc., (UL) label.

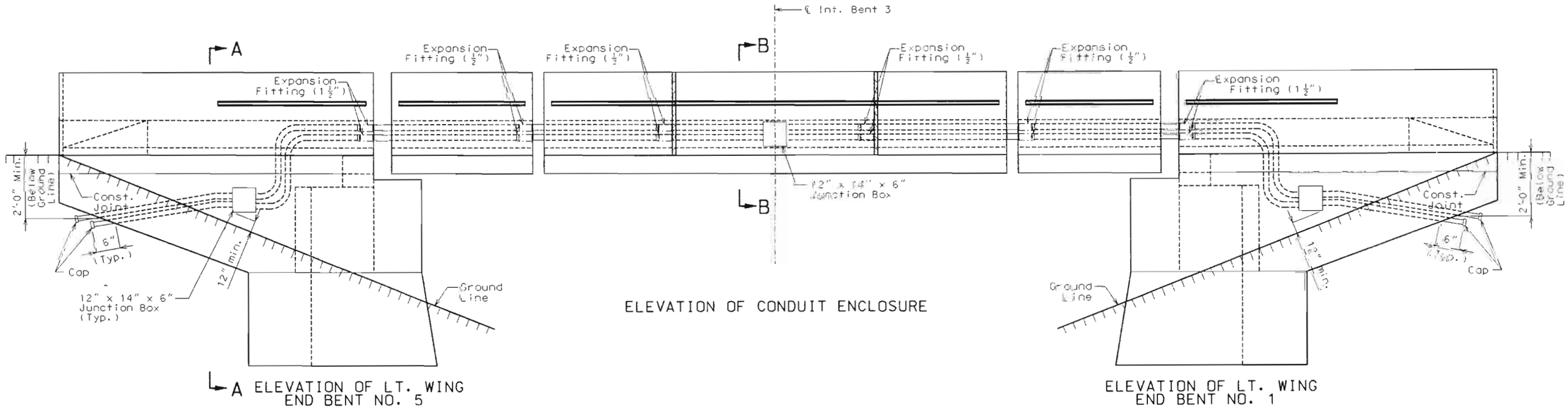
Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall provide a minimum movement in either direction of 1½" at open joints at end bents, ½" at open joints at pin plate connections and ½" at filled joints. Expansion fittings shall be equal to Carlon Electrical Construction Products or Cantex, Inc.

All end bent and safety barrier curb junction boxes shall be PVC molded flush mounted and equal to Carlon Electrical Construction Products or Cantex, Inc. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4 enclosure.

Weepholes shall be provided at appropriate locations to drain any moisture in the conduit system.

Payment for furnishing and installing Conduit System, complete-in-place, will be paid for at the contract unit price for Conduit System on Structure, lump sum.



ELEVATION OF CONDUIT ENCLOSURE

A ELEVATION OF LT. WING END BENT NO. 5

ELEVATION OF LT. WING END BENT NO. 1

DETAILS OF CONDUIT SYSTEM (LT. SIDE OF STRUCTURE)

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER

DATE 8-28-02

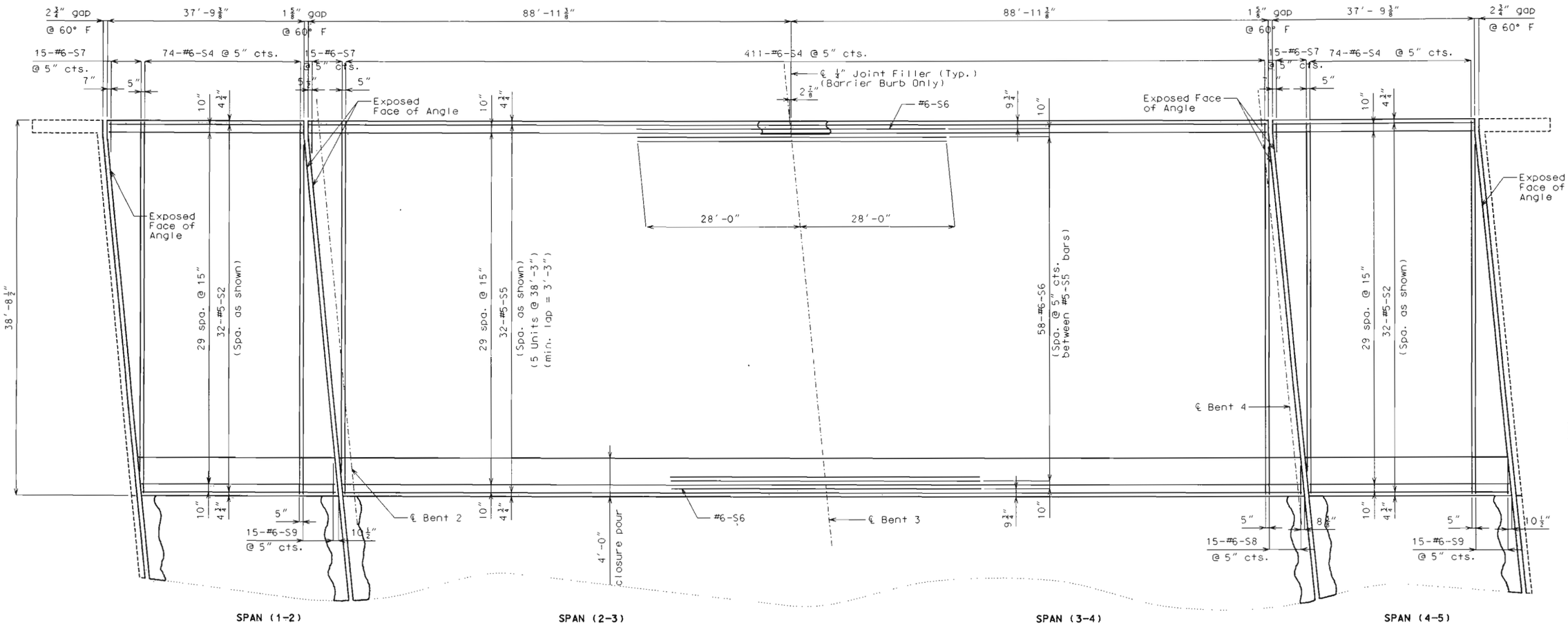
Detailed Apr. 2002
Checked May 2002

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

PULASKI COUNTY A30521

REV.

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MO		B36



SPAN (1-2) SPAN (2-3) SPAN (3-4) SPAN (4-5)

PLAN OF SLAB SHOWING TOP REINFORCEMENT

Longitudinal dimensions are horizontal.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 38.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than 1" ± from vertical leg of angle at expansion device.

For Plan of Slab Showing Bottom Reinforcement, see Sheet No. 37.

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28182 REGISTERED PROFESSIONAL ENGINEER

DATE 8-28-02

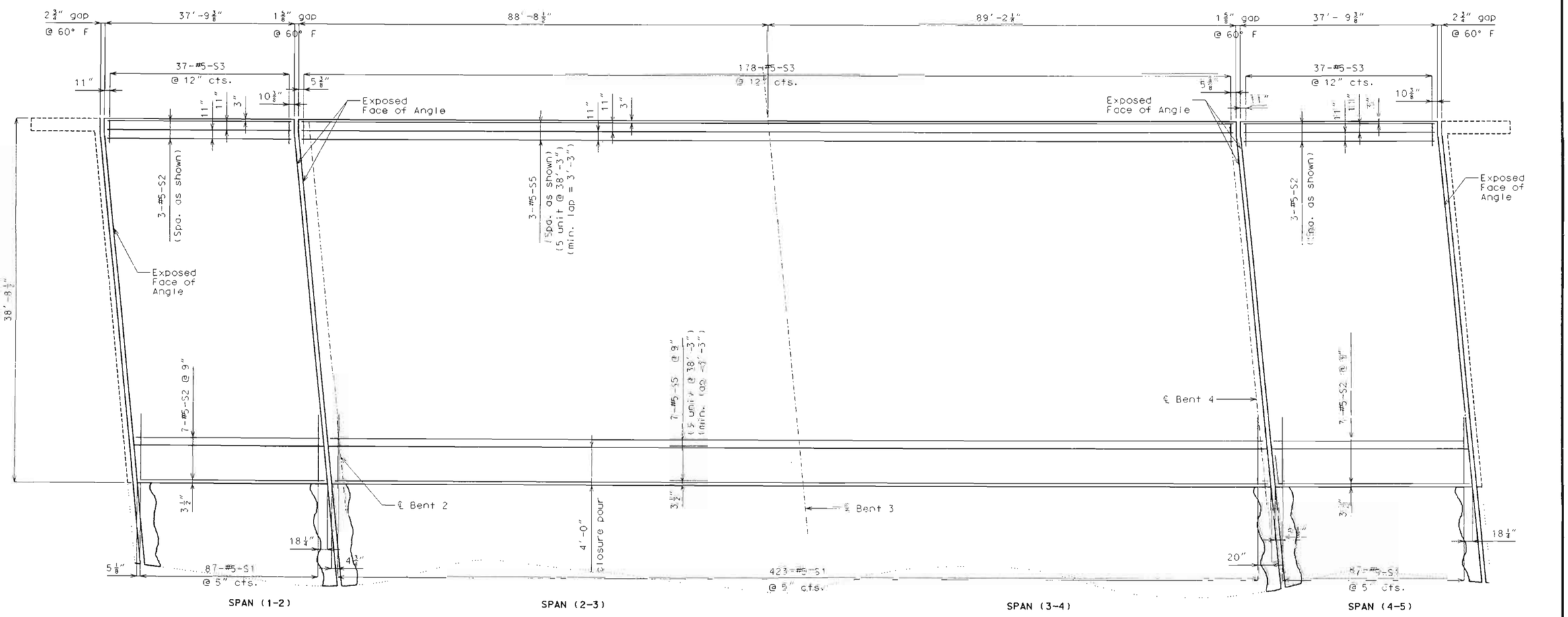
Detailed Apr. 2002
Checked May. 2002

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

PULASKI COUNTY A30521

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PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Longitudinal dimensions are horizontal.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 38.

Longitudinal reinforcing steel shall be placed so that ends should not be more than 1" ± from vertical leg of angle at expansion device.

For Plan of Slab Showing Top Reinforcement, see Sheet No. 36.

STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER

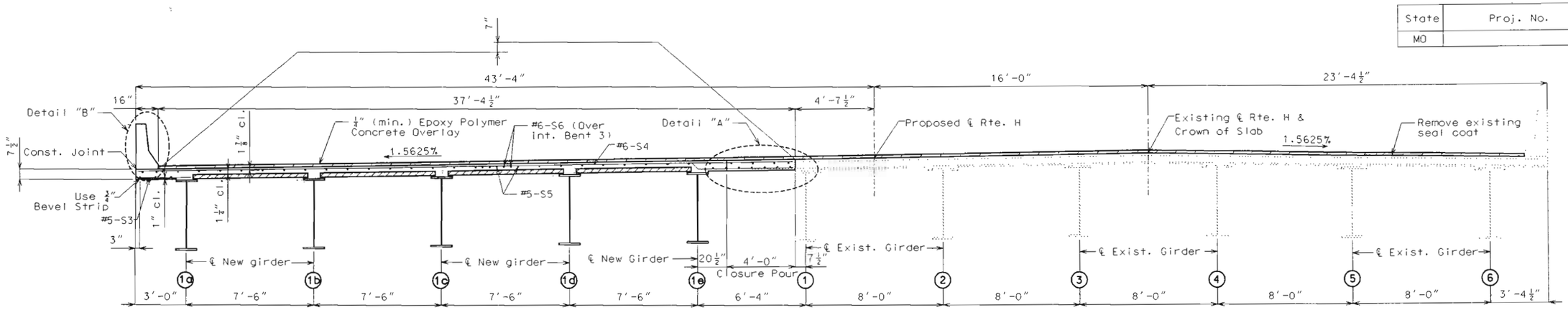
DATE 8-28-02

Detailed Apr. 2002
Checked May 2002

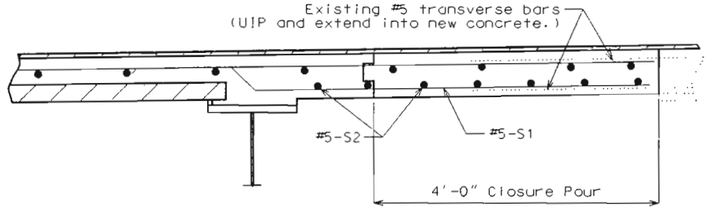
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

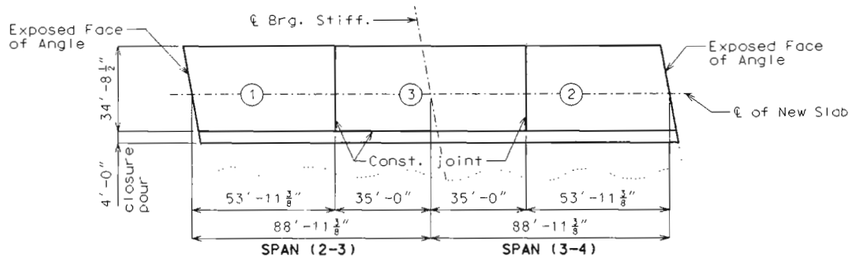
State	Proj. No.	Sheet No.
MO		B38



SECTION THRU NEW AND EXISTING SLAB



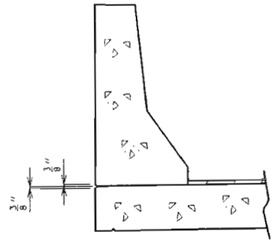
DETAIL "A"



Note: Simple spans shall be poured first.

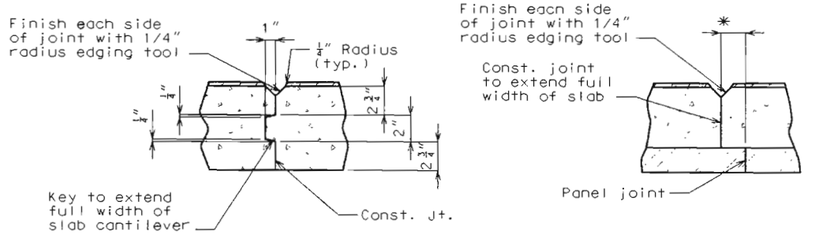
	Sequence of Pours			Min. rate of pour cu. yds./hr.	
	Direction			With retarder	No retarder
Basic sequence	1	2	3	25	25
	Either direction				
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Section 703.3.12.4 of Missouri Standard Specifications.					
Alternate "A" pours	1		3 + 2	26	43
	End to 3		1 to end		
Alternate "B" pours	1 + 3 + 2			26	43
	End to end				

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



DETAIL "B"

* Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.



SLAB CONSTRUCTION JOINT DETAILS

SLAB POURING SEQUENCE

For details and reinforcement of Barrier Curb, see Sheet Nos. 39, 40, and 41.

For Plan of Slab, see Sheet Nos. 36 & 37.

For Theoretical Bottom of Slab Elevations Table, see Sheet No. 21.

Use expansive Class B2 Concrete in closure pour (See Special Provisions). Release forms before closure pour is placed.

In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

The contractor shall exercise care to ensure spillage over joint edges is prevented and that a neat line is obtained along any terminating edge of the epoxy polymer concrete.

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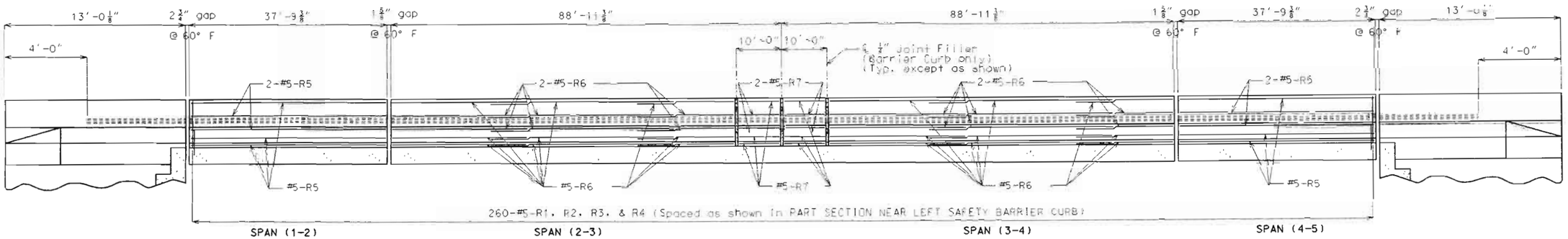
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

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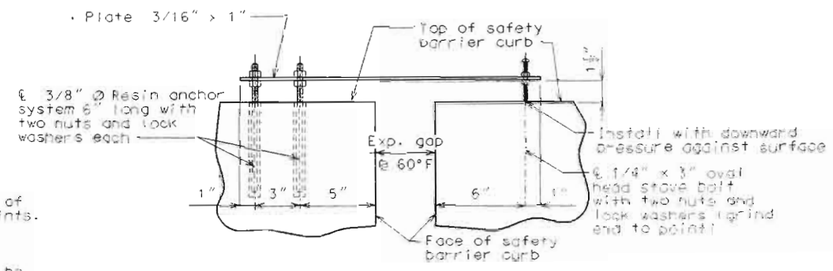
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State	Proj. No.	Sheet No.
MO		139

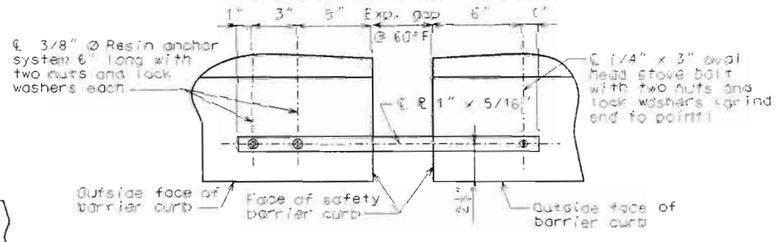


SECTION NEAR LEFT BARRIER CURB

Note: Longitudinal dimensions are horizontal



PART ELEVATION OF BARRIER CURB SHOWING MOVEMENT GAUGE



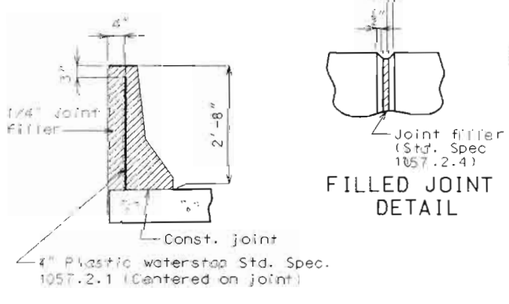
PART PLAN OF BARRIER CURB SHOWING MOVEMENT GAUGE

Notes:

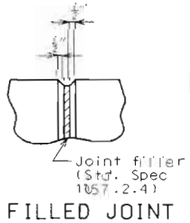
A movement gauge shall be provided on one side of bridge at all safety barrier curb expansion joints.

All steel shall be galvanized.

Cost of movement gauge complete in place shall be included in the contract unit price bid for Safety Barrier Curb.



DETAILS OF PLASTIC WATERSTOP

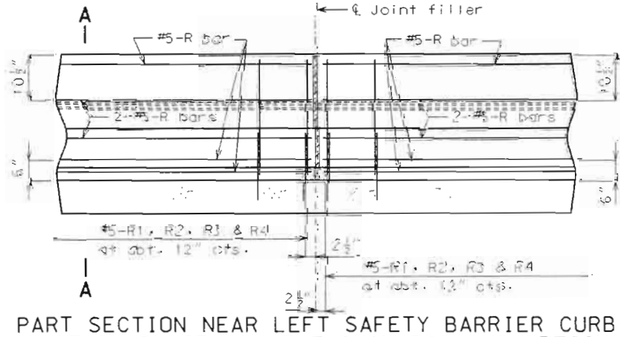


FILLED JOINT DETAIL

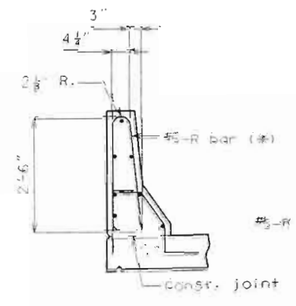
Notes:

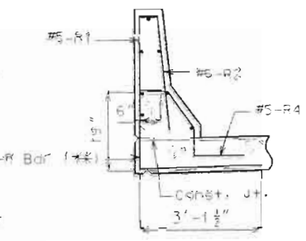
Plastic waterstop shall be placed in all safety barrier curb filled joints. (Except structures with superelevation, use on all lower safety barrier curb joints only.)

Cost of plastic waterstop complete in place to be included in the contract unit price for Safety Barrier Curb.



PART SECTION NEAR LEFT SAFETY BARRIER CURB (CAST-IN-PLACE CONVENTIONAL FORMING OPTION)

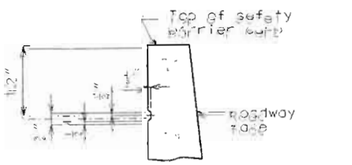




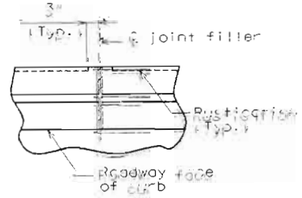
R-BAR PERMISSIBLE ALTERNATE SHAPE

(*) The R1 and R2 bar combination may be furnished as one bar, as shown, at the contractor's option. (All dimensions are out to out.)

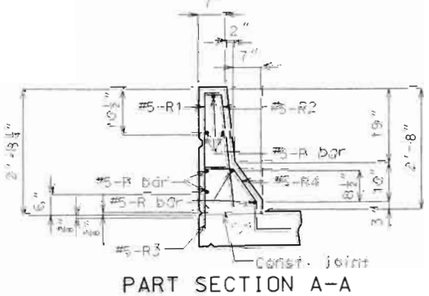
(**) The #3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.



PART SECTION SHOWING RUSTICATION DETAILS



PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART SECTION A-A

Notes:

Use a minimum lap of 2'-1" for #5 horizontal safety barrier curb bars.

The cross-sectional area above the slab = 2.27 sq. ft.

Notes:

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 curbs shall have either a 1/2" radius or a 3/8" bevel, unless otherwise noted.

When the safety barrier curb is bid by linear foot, 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.

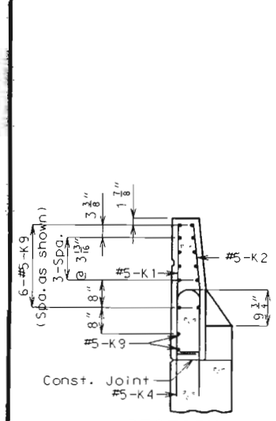
STATE OF MISSOURI
DEAN DAVID FRANKE NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

Detailed Apr. 2002
Checked May 2002

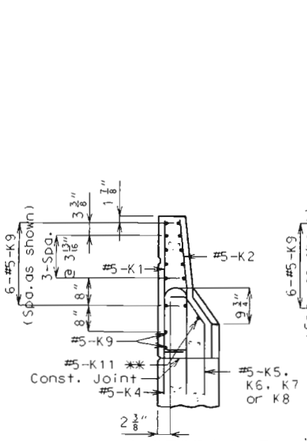
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

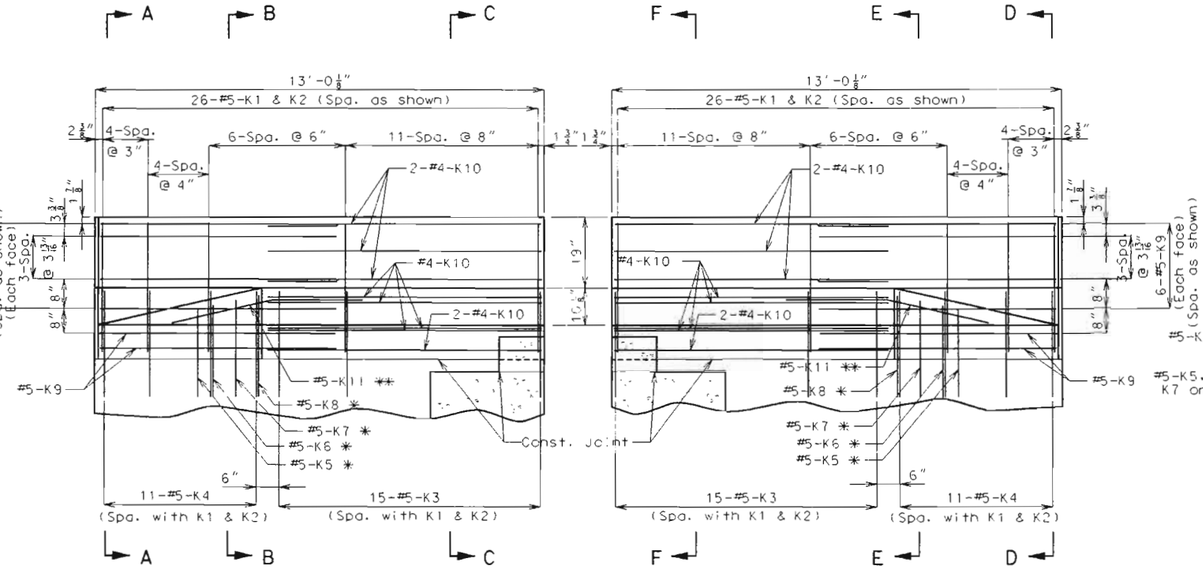
State	Proj. No.	Sheet No.
MO		B40



SECTION A-A

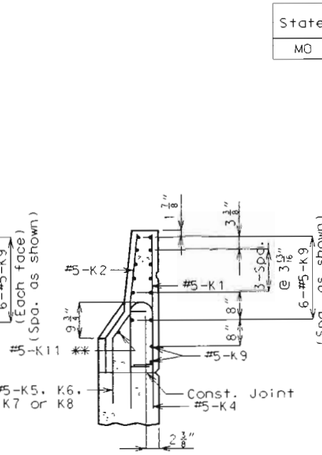


SECTION B-B

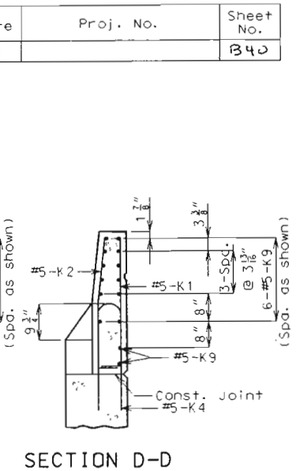


ELEVATION

ELEVATION



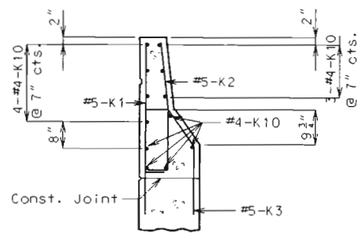
SECTION E-E



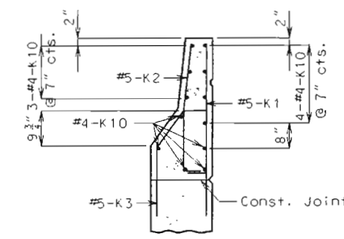
SECTION D-D

* Spaced with #5-K4 bars.

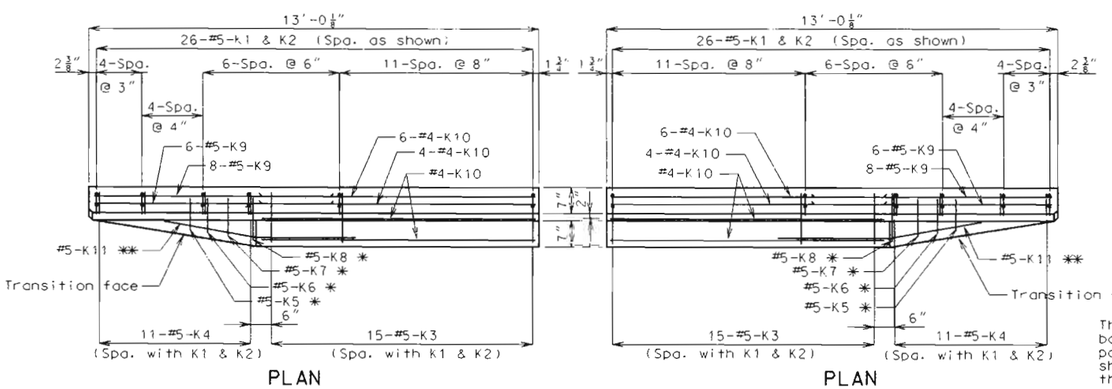
** Fit bar to follow transition face of curb



SECTION C-C



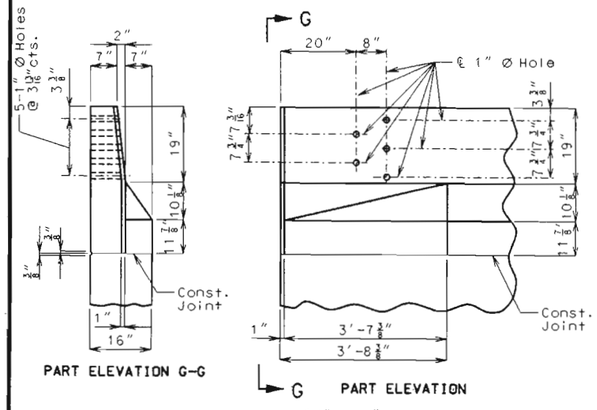
SECTION F-F



PLAN

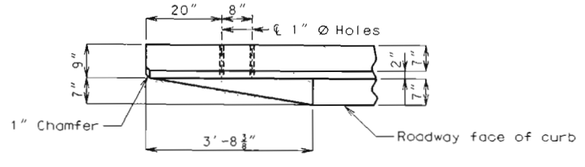
PLAN

NOTE: Rustification not shown for clarity



PART ELEVATION G-G

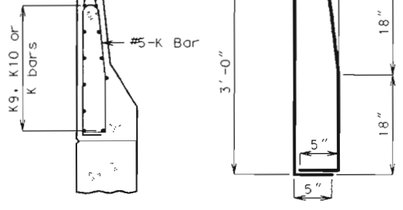
PART ELEVATION

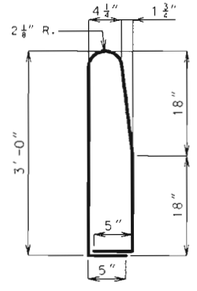


PART PLAN

DETAILS OF GUARD RAIL ATTACHMENT

The top two K9, K10 or K bars shall be kept with position close to those shown in Sections A-A thru F-F.





(K3 or K4 thru K8 bars not shown for clarity)

K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE (***)

(***) The K1 and K2 bar combination may be furnished as one bar as shown, at the contractor's option.

NOTE: Use a minimum lap of 2'-0" between K9 and K10 bars.

DETAILS OF LEFT SAFETY BARRIER CURB AT END BENTS

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER

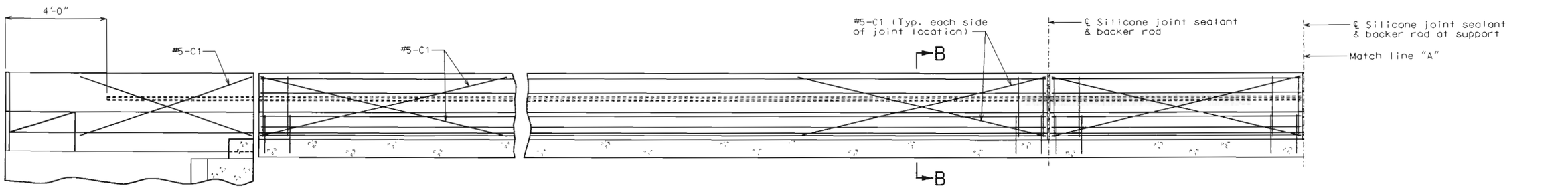
DATE 8-28-02

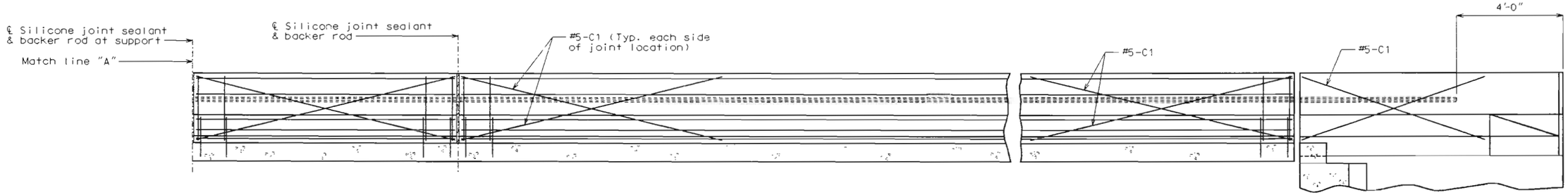
Detailed Apr. 2002
Checked May 2002

Note: This drawing is not scale. Follow dimensions.

PULASKI COUNTY A30521

State	Proj. No.	Sheet No.
MO		1341





Notes:

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 B-1.

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.

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

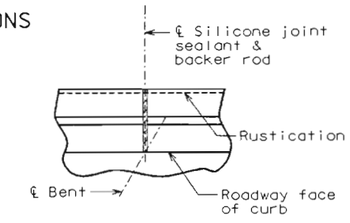
Notes:

Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filler.

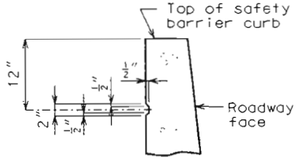
Plastic waterstop shall not be used with slip-form option.

C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

For Slip-Form option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a tranversely broomed finish.

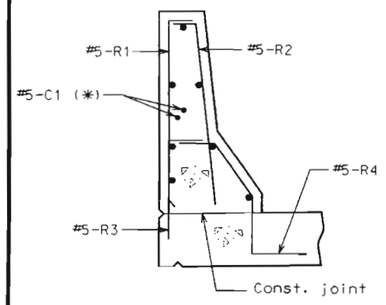


PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART SECTION SHOWING RUSTICATION DETAILS

RUSTICATION DETAIL



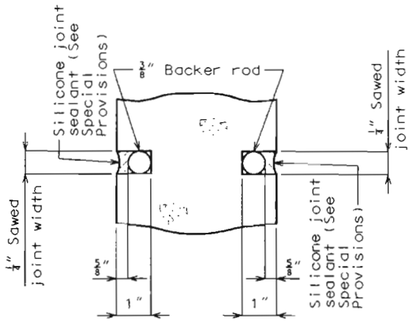
PART SECTION B-B

Notes:

(*) Each side of joint location.

(**) The R1 and R2 bar combination may be furnished as one bar, as shown, at the contractor's option. (All dimensions are out to out.)

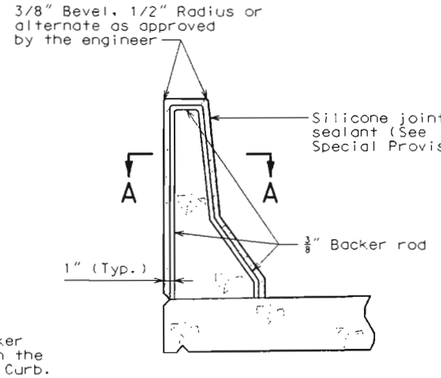
(***) The R3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.



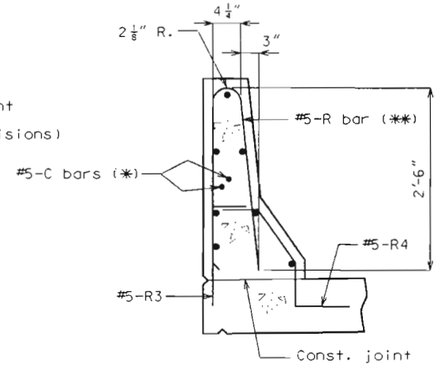
SECTION A-A

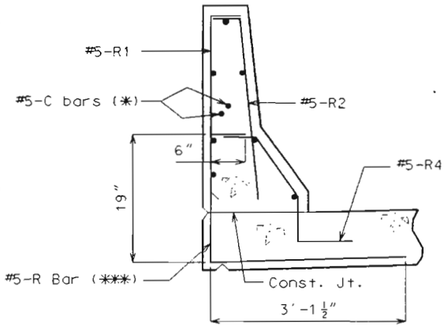
Note:

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





R-BAR PERMISSIBLE ALTERNATE SHAPE

OPTIONAL SLIP-FORM BRIDGE LEFT SAFETY BARRIER CURB

STATE OF MISSOURI DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER

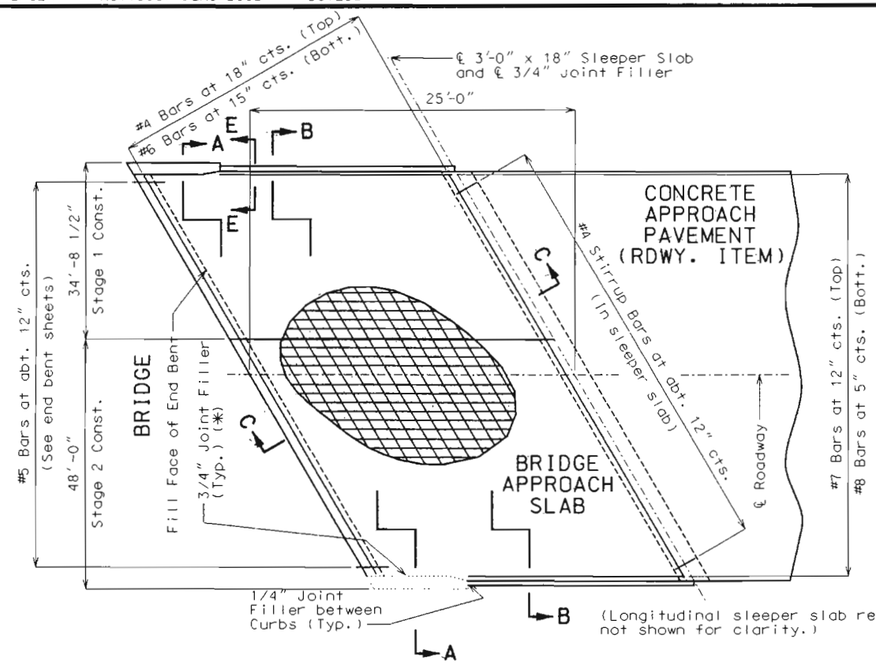
DATE 5-28-02

Detailed Apr. 2002
Checked May 2002

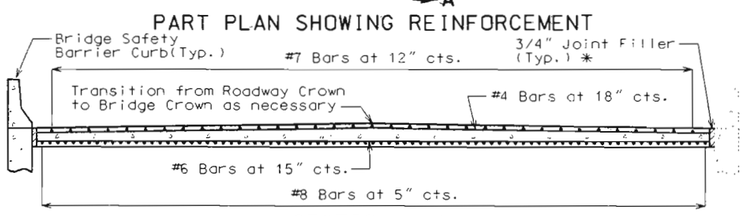
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

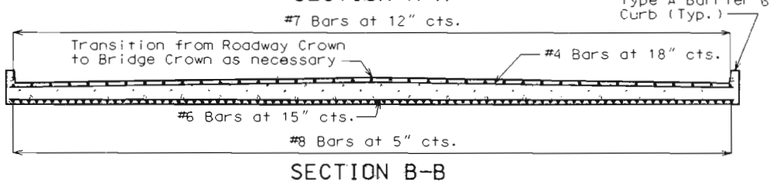
State	Proj. No.	Sheet No.
MO		B42



PART PLAN SHOWING REINFORCEMENT

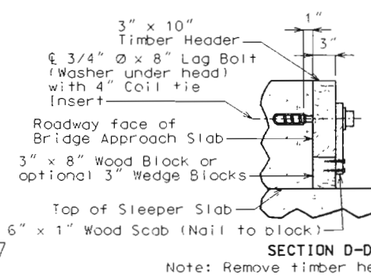


SECTION A-A



SECTION B-B

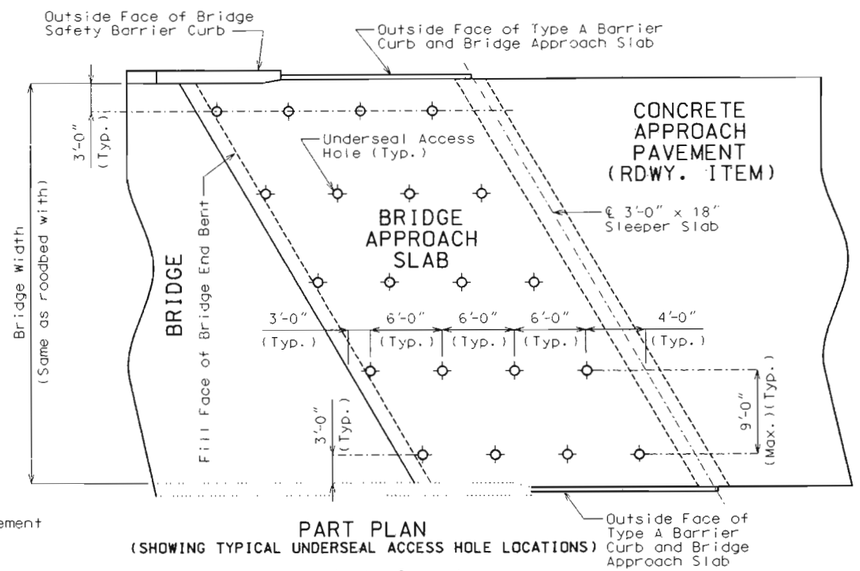
Note: With the approval of the Engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION D-D PART ELEVATION

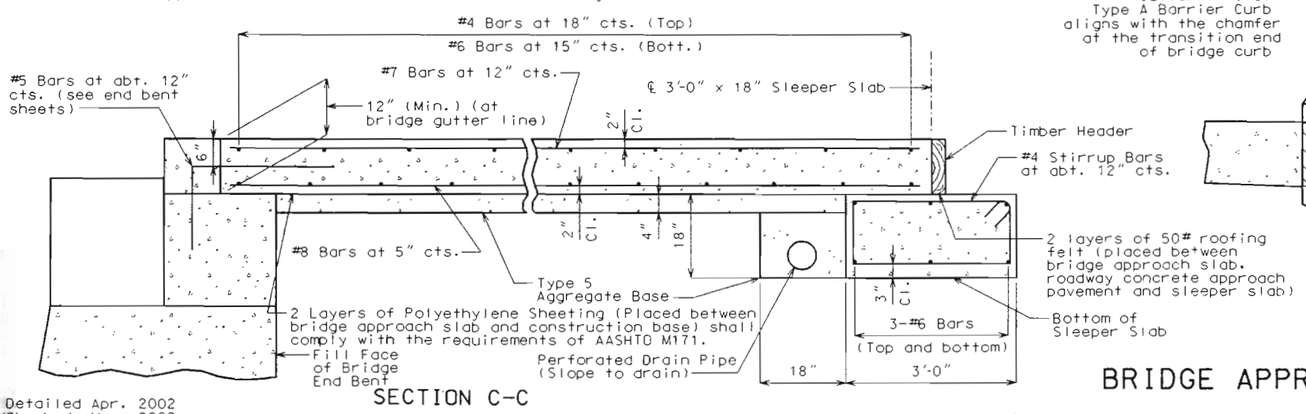
Note: Remove timber header when concrete pavement is placed.

DETAILS OF TIMBER HEADER

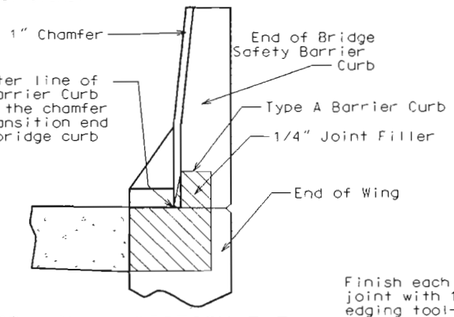


PART PLAN
(SHOWING TYPICAL UNDERSEAL ACCESS HOLE LOCATIONS)

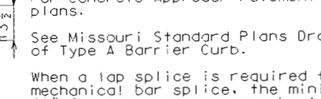
(*) Use 3/4" Joint Filler between vertical face of Approach Slab and roadway face of Safety Barrier Curb/Wing, except at the end of Safety Barrier Curb/Wing face use 1/4" Joint Filler. Seal joint with joint sealant. See Special Provisions.



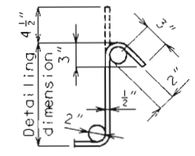
SECTION C-C



SECTION E-E
(BETWEEN CURBS)



#4 STIRRUP BAR (ACTUAL LENGTH = 8'-3")

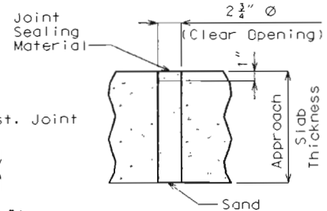


TYPICAL 135° STIRRUP HOOK DIMENSIONS BENDING DIAGRAM

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

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 18" and 26" 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 materials, 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.

STATE OF MISSOURI REGISTERED DEAN DAVID FRANKE NUMBER E-28132 ENGINEER
DATE 8-29-02

Detailed Apr. 2002
Checked May 2002

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

BRIDGE APPROACH SLAB

PULASKI COUNTY A30521

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			SUBSTRUCT																
			END BT NO 1																
5	6	F1	WING BRACE	E	15	S	X			14.000	6 5.625	14.000	8.875	10.750	9.125	10.625	8 10	8 9	66
5	8	H1	BEAM	E	17		X			29 6.500							30 6	30 6	407
5	8	H2	BEAM	E	18		X			36 4.000							38 2	38 2	510
* 7	8	H3	BEAM	E	17		X			11 10.000							12 9	12 9	238
2	6	H4	BEAM	E	20		X			36 4.000							36 4	36 4	109
2	6	H5	BACKWALL	E	20		X			45 0.000							45 0	45 0	135
18	4	H6	BACKWALL	E	20		X			24 0.000							24 0	24 0	289
2	6	H7	BACKWALL	E	20		X			36 5.000							36 5	36 5	109
9	4	H8	BACKWALL	E	20		X			36 5.000							36 5	36 5	219
8	6	H9	WING	E	20		X	V	2	5 5.000							5 5	5 5	
			INCREMENT = 27.625 INCH							12 4.000							12 4	12 4	107
* 6	6	H10	WING	E	20		X			12 9.000							12 9	12 9	115
8	4	H12	WING	E	20		X			2 8.000							2 8	2 8	14
24	6	H13	BEAM	E	20		X			2 8.000							2 8	2 8	96
2	10	H14	BEAM	E	20		X			45 0.000							45 0	45 0	387
1	6	H15	BEAM	E	20		X			45 0.000							45 0	45 0	68
2	6	T1	WING	E	25	S	X			15.000	8 7.625	2 0.625			2 4.750	8 3.500	11 11	11 10	36
2	4	T2	CURT WALL	E	19	S	X			5 4.375	3 1.500						8 6	8 5	11
21	5	U1	BEAM	E	13	S	X			3 9.375	2 6.875	4 2.500	2 6.500				14 0	13 8	299
4	5	U2	BEAM	E	14	S	X			2 6.500	3 9.375	2 6.875			2 6.500	5.125	8 11	8 9	37
8	4	U3	BEAM	E	10	S	X				6.000	3 9.375					4 9	4 7	24
9	5	U4	BEAM	E	13	S	X			3 8.625	2 11.500	4 2.500	2 11.000				14 9	14 5	135
2	5	U5	BEAM	E	14	S	X			2 11.000	3 8.625	2 11.500			2 11.000	5.875	9 7	9 5	20
5	7	U6	BEAM	E	14		X			3 5.625	2 0.375	4 6.875			3 8.875	2 7.500	10 1	9 10	100
44	5	U7	BACKWALL	E	13	S	X			21.000	3 5.875	21.000	3 5.875				11 5	11 1	509
35	5	U8	BACKWALL	E	19	S	X			5 2.000	21.000						6 11	6 10	249
79	5	U9	BACKWALL	E	19	S	X			2 0.000	2 0.000						4 0	3 11	323
72	5	V1	BEAM	E	20		X			6 0.000							6 0	6 0	451
2	4	V2	WING	E	20		X			5 2.000							5 2	5 2	7
2	6	V3	BEAM	E	20		X			2 9.000							2 9	2 9	8
8	6	V4	WING	E	20		X			5 4.000							5 4	5 4	64
30	6	V5	WING	E	20		X	V	2	22.000							0 22	0 22	
			INCREMENT = 1.750 INCH							3 11.000							3 11	3 11	130
1	6	V6	WING	E	10	S	X				18.500	13.000					4 2	3 10	6
45	5	V7	BACKWALL	E	20		X			6 5.000							6 5	6 5	301
10	W5	W1	A B WELLS	E	22		X			15.000	9.125						23 0	23 0	38
			INT BENT 2																
38	8	D20	FOOTING		17		X			7 7.000							8 6	8 6	862
4	6	D21	FOOTING		10	S	X				5 1.500	11 5.000					21 8	21 4	128
20	8	D22	FOOTING		20		X			8 8.000							8 8	8 8	463
18	8	D23	FOOTING		20		X			12 2.000							12 2	12 2	585
7	10	H20	BEAM	E	20		X			37 7.000							37 7	37 7	1132
7	10	H21	BEAM	E	17		X			31 8.000							33 1	33 1	997
2	10	H22	BEAM	E	20		X			14 9.000							14 9	14 9	127
10	4	H23	BEAM	E	20		X			37 7.000							37 7	37 7	251
7	6	H24	BEAM	E	10	S	X				22.000	3 1.500					6 10	6 6	68
18	6	H25	BEAM	E	20		X			3 3.000							3 3	3 3	88
4	6	H26	BEAM	E	20		X			6 5.000							6 5	6 5	39
3	10	H27	BEAM	E	20		X			13 6.000							13 6	13 6	174
* 4	10	H28	BEAM	E	20		X			14 0.000							14 0	14 0	241
40	4	P20	COLUMN		16		X			2 9.000							9 6	9 6	254
1	6	U20	BEAM	E	7		X			3 3.500	2 6.000						7 11	7 11	12
29	6	U21	BEAM	E	13	S	X			3 3.000	3 6.000	3 3.000	3 6.000				14 10	14 4	624
3	6	U22	BEAM	E	10	S	X				3 6.000	3 3.000					10 3	9 11	45
15	6	U23	BEAM	E	13	S	X			3 3.000	3 10.375	3 3.000	3 10.375				15 7	15 1	340
3	6	U24	BEAM	E	10	S	X				3 10.375	3 3.000					11 0	10 8	48
3	4	U25	BEAM	E	10	S	X				6.000	3 3.000					4 3	4 1	8
2	6	U26	BEAM	E	10	S	X				16.375	2 6.000					5 3	4 11	15
38	8	V20	COLUMN		17		X			22 1.000							23 0	23 0	2334
10	W5	W1	A B WELLS	E	22		X			15.000	9.125						23 0	23 0	38
			INT BENT 3																
26	8	D30	FOOTING		17		X			7 1.000							8 0	8 0	555
4	6	D31	FOOTING		10		X				3 7.500	7 11.000					15 2	14 10	89
12	5	D32	FOOTING		20		X			8 8.000							5 8	5 8	71
14	8	D33	FOOTING		20		X			8 8.000							8 8	8 8	324
7	11	H30	BEAM		20		X			37 7.000							37 7	37 7	1398
7	11	H31	BEAM		17		X			33 9.000							35 4	35 4	1314
2	11	H32	BEAM		20		X			14 9.000							14 9	14 9	157
14	4	H33	BEAM		20		X			37 7.000							37 7	37 7	351
9	6	H34	BEAM		10	S	X				22.000	3 1.500					6 10	6 6	88
18	6	H35	BEAM		20		X			3 3.000							3 3	3 3	88
4	6	H36	BEAM		20		X			6 5.000							6 5	6 5	39
3	11	H37	BEAM		20		X			13 6.000							13 6	13 6	215
2	11	H38	BEAM		20		X			14 1.000							14 1	14 1	150
36	4	P30	COLUMN		16		X			2 9.000							9 6	9 6	228
1	6	U30	BEAM		7		X			3 3.500	2 6.000						7 11	7 11	12
29	6	U31	BEAM		13	S	X			3 3.000	4 6.000	3 3.000	4 6.000				16 10	16 4	711
3	6	U32	BEAM		10	S	X				4 6.000	3 3.000					12 3	11 11	54
15	6	U33	BEAM		13	S	X			3 3.000	4 10.250	3 3.000	4 10.250				17 7	17 1	385
3	6	U34	BEAM		10	S	X				4 10.250	3 3.000					13 0	12 8	57
3	4	U35	BEAM		10	S	X				6.000	3 3.000					4 3	4 1	8
2	6	U36	BEAM		10	S	X				14.500	2 6.000					4 11	4 7	14
26	8	V30	COLUMN		17		X			21 5.000							22 4	22 4	1550
10	W5	W2	A B WELLS		22		X			2 1.000	9.125						33 2	33 2	55
			INT BENT 4																
38	8	D40	FOOTING		17		X			7 7.000							8 6	8 6	862
4	6	D41	FOOTING		10		X				5 1.500	11 5.000					21 8	21 4	128
20	8	D42	FOOTING		20		X			8 8.000							8 8	8 8	463

* TWO ADDITIONAL #4-K10, #5-R7, #6-H10, #8-H3, & #10-H28 ARE INCLUDED IN THE BAR BILL FOR TESTING.

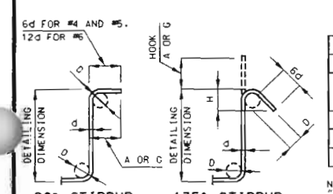
NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR 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.

State	Proj. No.	Sheet No.
MO		843

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 20 · SHAPE 19 · SHAPE 21 · SHAPE 23 · SHAPE 24 · SHAPE 22 · SHAPE 25 · SHAPE 26 · SHAPE 27 · SHAPE 28 · SHAPE 29 · SHAPE 31 · SHAPE 30 · SHAPE 32 · SHAPE 36 · SHAPE 35 · SHAPE 34 · SHAPE 33

SPOT WELD AASHTO M32 SIZE W5 WIRE (TYP.)

BENDING DIAGRAMS



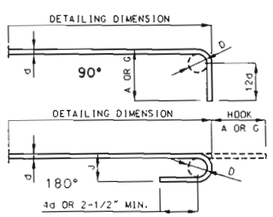
DETAILED Jun. 2002
CHECKED Jul. 2002

STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	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 A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	2'-0"
#14	18-1/4"	2'-3"	21-3/4"	2'-7"

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

SHEET NO. 43 OF 46

PULASKI COUNTY

A30521

DEAN DAVID FRANKE NUMBER E-28132 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

DATE 8-26-02

barbill_1 June 2002

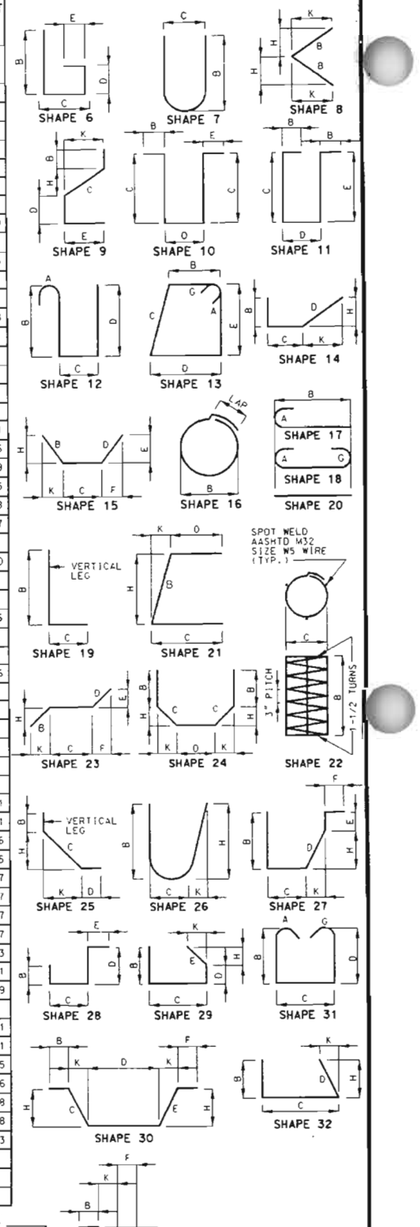
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
18	8	D43	FOOTING		20		X			12	2.000													12	2	12	2	585
7	10	H40	BEAM	E	20		X			37	7.000													37	7	37	7	1132
7	10	H41	BEAM	E	17		X			31	8.000													33	1	33	1	997
2	10	H42	BEAM	E	20		X			14	9.000													14	9	14	9	127
10	4	H43	BEAM	E	20		X			37	7.000													37	7	37	7	251
7	6	H44	BEAM	E	10	S	X					22.000		3	1.500									6	10	6	6	68
18	6	H45	BEAM	E	20		X			3	3.000													3	3	3	3	88
4	6	H46	BEAM	E	20		X			6	5.000													6	5	6	5	39
3	10	H47	BEAM	E	20		X			13	6.000													13	6	13	6	174
2	10	H48	BEAM	E	20		X			14	0.000													14	0	14	0	120
38	4	P40	COLUMN		16		X			2	9.000													9	6	9	6	241
1	6	U40	BEAM	E	7		X			3	3.500	2	6.000											7	11	7	11	12
29	6	U41	BEAM	E	13	S	X			3	3.000	3	6.000	3	3.000	3	6.000							14	10	14	4	624
3	6	U42	BEAM	E	10	S	X					3	6.000	3	3.000									10	3	9	11	45
15	6	U43	BEAM	E	13	S	X			3	3.000	3	10.000	3	3.000	3	10.000							15	6	15	0	338
3	6	U44	BEAM	E	10	S	X					3	10.000	3	3.000									10	11	10	7	48
3	4	U45	BEAM	E	10	S	X					6.000		3	3.000									4	3	4	1	8
2	6	U46	BEAM	E	10	S	X					16.375		2	6.000									5	3	4	11	15
38	8	V40	COLUMN		17		X			21	2.000													22	1	22	1	2241
10	W5	W1	A B WELLS	E	22		X				15.000		9.125											23	0	23	0	38
			END BENT 5																									
5	6	F51	WING BRACE	E	15	S	X				14.000	5	6.000		14.000		10.650		9.125		10.750		8.875	7	10	7	9	58
5	8	H51	BEAM	E	17		X			29	3.000													30	2	30	2	403
5	8	H52	BEAM	E	18		X			36	4.000													38	2	38	2	510
5	8	H53	BEAM	E	17		X			12	4.000													13	3	13	3	177
2	6	H54	BEAM	E	20		X			36	4.000													36	4	36	4	109
2	6	H55	BACKWALL	E	20		X			45	7.000													45	7	45	7	137
18	4	H56	BACKWALL	E	20		X			24	2.000													24	2	24	2	291
2	6	H57	BACKWALL	E	20		X			36	5.000													36	5	36	5	109
9	4	H58	BACKWALL	E	20		X			36	5.000													36	5	36	5	219
8	6	H59	WING	E	20		X	V	2	5	5.000													5	5	5	5	
			INCREMENT =							12	3.000													12	3	12	3	106
			27.375 INCH																									
4	6	H502	WING	E	20		X			12	8.000													12	8	12	8	76
8	4	H504	WING	E	20		X			3	1.000													3	1	3	1	16
24	6	H505	BEAM	E	20		X			2	8.000													2	8	2	8	96
2	10	H506	BEAM	E	20		X			45	0.000													45	0	45	0	387
1	6	H507	BEAM	E	20		X			45	0.000													45	0	45	0	68
2	6	T51	WING	E	25		X				15.000	8	7.000	2	0.500					2	5.000	8	2.875	11	11	11	9	35
2	4	T52	CURT WALL	E	19	S	X			5	4.375	3	5.625											8	10	8	9	12
19	5	U51	BEAM	E	13	S	X			3	9.375	2	6.875	4	2.500	2	6.500							14	0	13	8	271
5	5	U52	BEAM	E	14	S	X			2	6.500	3	9.375	2	6.875					2	6.500	5	0.125	8	11	8	9	46
8	4	U53	BEAM	E	10	S	X					6	0.000	3	9.375									4	9	4	7	24
10	5	U54	BEAM	E	13	S	X			3	8.625	2	11.250	4	2.500	2	10.750							14	8	14	4	149
3	5	U55	BEAM	E	14	S	X			2	10.750	3	8.625	2	11.250					2	10.750	5	0.750	9	7	9	4	29
5	7	U56	BEAM	E	14		X			3	11.250	21	0.000	4	3.500					2	5.500	3	6.250	10	0	9	9	100
44	5	U57	BACKWALL	E	13	S	X			21	0.000	3	6.000		21.000	3	6.000							11	5	11	1	509
35	5	U58	BACKWALL	E	19	S	X			5	2.000		21.000											6	11	6	10	249

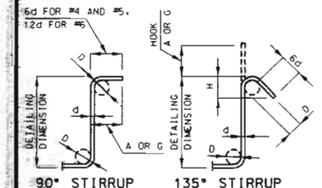
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
79	5	U59	BACKWALL	E	19	S	X			2	0.000	2	0.000											4	0	3	11	323
72	5	V51	BEAM	E	20		X			6	0.000													6	0	6	0	451
2	4	V52	WING	E	20		X			5	2.000													5	2	5	2	7
2	6	V53	BEAM	E	20		X			2	9.000													2	9	2	9	8
8	6	V54	WING	E	20		X			5	4.000													5	4	5	4	64
30	6	V55	WING	E	20		X	V	2	22.000														0	22	0	22	
			INCREMENT =							3	11.000													3	11	3	11	130
			1.750 INCH																									
1	6	V56	WING	E	10	S	X					18.500		13.000										4	2	3	10	6
45	5	V57	BEAM	E	20		X			6	5.000													6	5	6	5	301
10	W5	W1	A B WELLS	E	22		X				15.000		9.125											23	0	23	0	38
			SUPERSTRUCT																									
597	5	S1	SLAB	E	23						16.125		3.875	5	6.000	3	10.625	3	10.625		11.250		11.250	7	2	7	1	4411
84	5	S2	SLAB	E	20					37	6.000													37	6	37	6	3285
252	5	S3	SLAB	E	20					3	0.000													3	0	3	0	789
559	6	S4	SLAB	E	20					38	5.000													38	5	38	5	32255
210	5	S5	SLAB	E	20					38	3.000													38	3	38	3	8378
60	6	S6	SLAB	E	20					56	0.000													56	0	56	0	5047
45	6	S7	SLAB	E	20			V	3	3	7.000													3	7	3	7	
			INCREMENT =							36	8.000													36	8	36	8	1360
			28.375 INCH																									
15	6	S8	SLAB	E	20			V	1	3	3.000													3	3	3	3	
			INCREMENT =							36	4.000													36	4	36	4	446
			28.375 INCH																									
30	6	S9	SLAB	E	20			V	2	4	0.000													4	0	4	0	
			INCREMENT =							38	5.000													38	5	38	5	956
			29.500 INCH																									
			BARRIER CURB																									
52	5	K1	BARRIER CURB	E	19	S				3	0.000	5.125												3	5	3	4	181
52	5	K2	BARRIER CURB	E	14	S					5.125	18.125		18.000						2.000		17.875		3	5	3	4	181
30	5	K3	BARRIER CURB	E	27	S				3	1.000	5.125		12.000		2	3.125			9.875		6.875		6	9	6	7	206
22	5	K4	BARRIER CURB	E	7					3	1.000	6.000												6	4	6	4	145
2	5	K5	BARRIER CURB	E	25	S				2	3.125	6.750		4.375						5.500		4.000		3	2	3	2	7
2	5	K6	BARRIER CURB	E	25	S				2	3.125	7.875		4.375						6.500		4.500		3	3	3	3	7
2	5	K7	BARRIER CURB	E	25	S				2	3.125	9.625		4.375						7.875		5.500		3	5	3	4	7
2	5	K8	BARRIER CURB	E	25	S				2	3.125	11.250		4.375						9.250		6.500		3	7	3	6	7
28	5	K9	BARRIER CURB	E	20					5	7.000													5	7	5	7	163
*26	4	K10	BARRIER CURB	E	20					9	3.000													9	3	9	3	161
2	5	K11	BARRIER CURB	E	8					2	2.125									2	2.000	2	2.375	4	4	4	4	9
260	5	R1	BARRIER CURB	E	19					2	5.000	3	5.00											2	9	2	7	701
260	5	R2	BARRIER CURB	E	15					2	5.125	3	5.00							2	5.000	3	0.000	2	9	2	7	701
260	5	R3	BARRIER CURB	E	19						16.000	6	0.000											0	22	0	21	475
260	5	R4	BARRIER CURB	E	27							6	0.000	11	2.500	6	0.000	12	0.000	9	2.500	6	3.75	2	11	2	9	746
14	5	R5	BARRIER CURB	E	20					37	6.000													37	6	37	6	548
42	5	R6	BARRIER CURB	E	20					29	2.000													29	2	29	2	1278
*16	5	R7	BARRIER CURB	E	20					9	9.000													9	9	9	9	163
			SLIP FORM																									
			CURB ONLY																									

State	Proj. No.	Sheet No.
MO		B44



BENDING DIAGRAMS



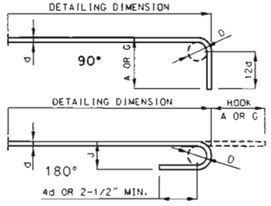
DETAILED Jun. 2002
CHECKED Jul. 2002

STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK: HOOK A OR G	90° HOOK: A OR G	135° HOOK: HOOK A OR G	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: A OR G	180° HOOKS: J	90° HOOKS: A OR G
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	2'-0"
#14	18-1/4"	2'-3"	21-3/4"	2'-7"

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

* TWO ADDITIONAL #4-K10. #5-R7. #6-H10. #8-H3. & #10-H28 ARE INCLUDED IN THE BAR BILL FOR TESTING.

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.

STATE OF MISSOURI
DEAN DAVID FRANKE
NUMBER E-28132
REGISTERED PROFESSIONAL ENGINEER
DATE 6-28-02

SHEET NO. 44 OF 46

PULASKI COUNTY

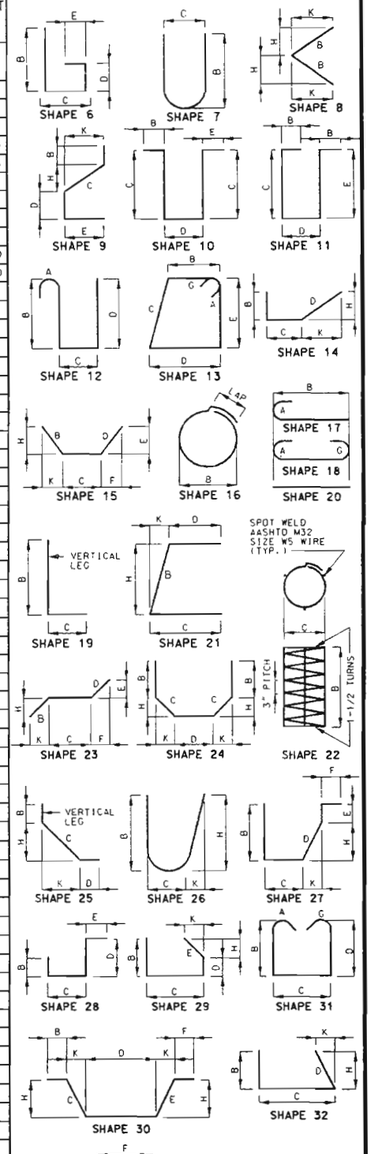
A30521

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
24	5	C1	SLIP FORM	E	20					10	0.000													10	0	10	0	250
			TOTALS																									
	4																											1082
	4			E																								1812
	5																											71
	5			E																								27290
	6																											1793
	6			E																								44671
	7			E																								200
	8																											10824
	8			E																								2245
	10			E																								5995
	11																											3234
	W5																											55
	W5			E																								152
			TOTAL																									17059
			TOTAL	E																								82365
			Slab on																									
			Girder																									
	5			E																								16863
	6			E																								40064
			TOTAL																									56927
			Reinforcing																									
			Steel																									
			(Bridges)																									
	4																											1082
	5																											71
	6																											1793
	8																											10824
	11																											3234
	W5																											55
			TOTAL																									17059
			Reinforcing																									
			Steel																									
			(Epoxy																									
			Coated)																									
	4			E																								1651
	5			E																								4652
	6			E																								4607
	7			E																								200
	8			E																								2245
	10			E																								5995
	W5			E																								152
			TOTAL																									19502
			Safety																									

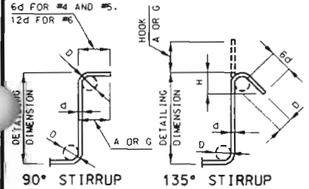
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			Barrier																									
			Curb																									
	4			E																								161
	5			E																								5525
			TOTAL																									5686
			Slip Form																									
			Option																									
	5			E																								250
			TOTAL																									250



State	Proj. No.	Sheet No.
MO		B45

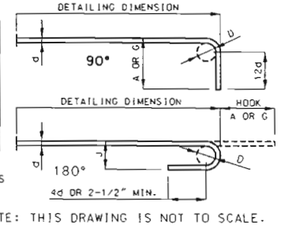
6d FOR #4 AND #5.
12d FOR #6



DETAILED Jun. 2002
CHECKED Jul. 2002

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

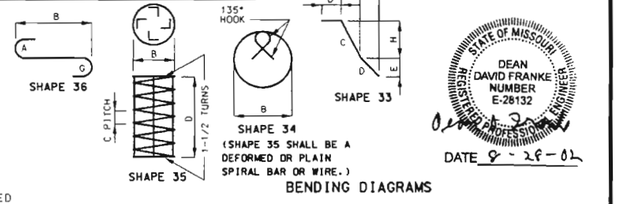
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



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

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 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.



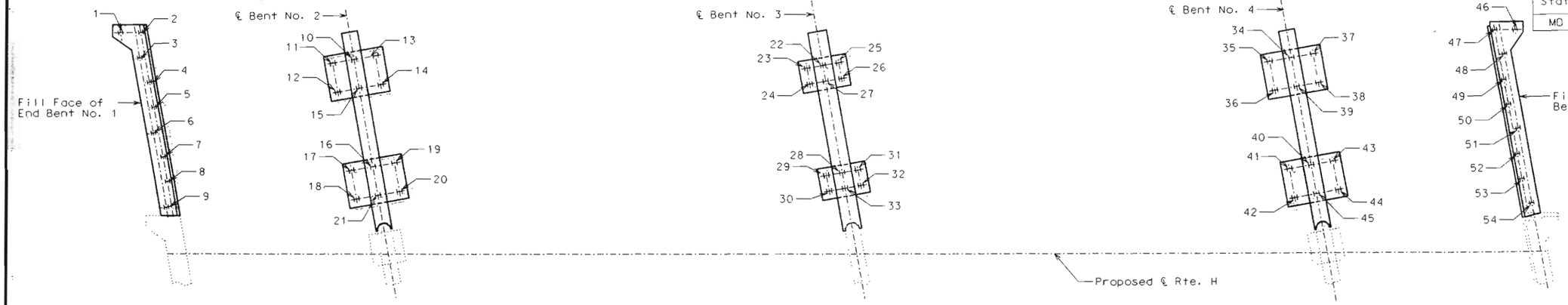
BENDING DIAGRAMS

DATE 8-29-02

SHEET NO. 45 OF 46

PULASKI COUNTY A30521

State	Proj. No.	Sheet No.
MO		346



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			
			INT. BENT NO. 3
22			
23			
24			
25			
26			
27			
28			
29			

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
			INT. BENT NO. 3 (con't.)
30			
31			
32			
33			
			INT. BENT NO. 4
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
			END BENT NO. 5
46			
47			
48			
49			
50			
51			
52			
53			
54			

NOTE: INDICATE IN REMARKS 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.

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

STATE OF MISSOURI
DEAN DAVID FRANKE
NUMBER E-26132
REGISTERED PROFESSIONAL ENGINEER
DATE 8-28-02

Detailed Apr. 2002
Checked May. 2002

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

PULASKI COUNTY A30521

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.

John L Sandlos 11/18/05

SIGNATURE DATE

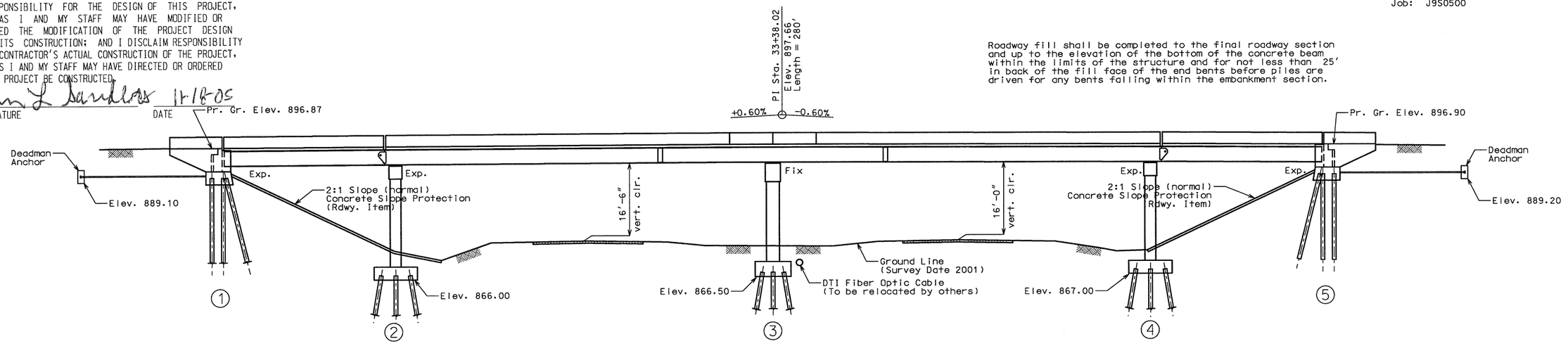
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

U.I.P. & Widen (37') Plate Girder Span, (2.5'-87'-87'-2.5') Continuous Composite Plate Girder Spans, (37') Plate Girder Span

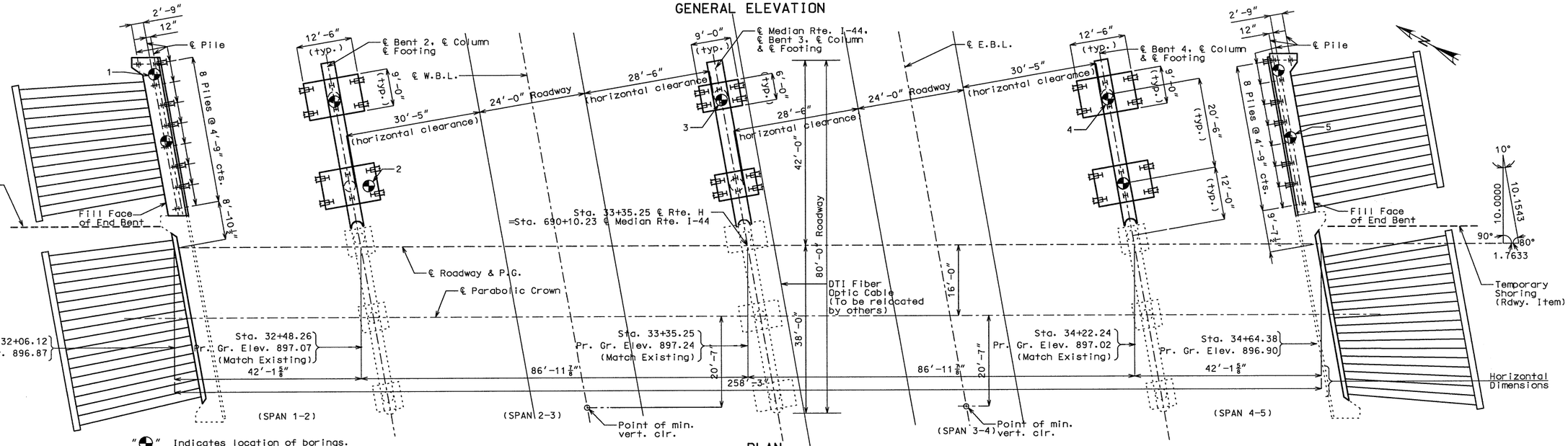
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	81
SEC/SUR 35	TWP 36N	RGE 12W

Contract ID: 030321-906
Job: J9S0500

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.



GENERAL ELEVATION



PLAN

"⊕" Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the bridge plan sheet(s) for this structure. Boring data for the numbered locations is shown on sheet(s) no. 4. 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 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 is subsurface data available from the district or elsewhere.

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.

Note: For General Notes, Pile Data, Estimated Quantites and Estimated Quantities for Slab on Steel, see Sheet No. 2.

Profile Grade Elevations do not include epoxy polymer overlay.

B.M. #2 ELEV. 899.31 HEX BOLT IN TOP OF BRIDGE RAIL AT SW BRIDGE CORNER STA. 34+79.23, 38.45' Rt

REPAIRS TO BRIDGE: RTE. H OVER I-44

STATE ROAD FROM WAYNESVILLE TO I-44

ABOUT 2.0 MILES SOUTHWEST OF WAYNESVILLE

PROJECT NO. STA. 32+06.12

JOB NO. J9S0500 RTE. H

STD. 609.00
STD. 611.60
STD. 706.35
A30521

PULASKI COUNTY Date: / /

Designed Feb. 2002
Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Dzurick

Checked By: Jennifer Woodall

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

Sheet No. 1 of 46

REV.

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GENERAL NOTES:

Design Specifications:
AASHTO - 1996 and Interims thru 2000
Load Factor Design
Seismic Performance Category A

Design Loading (Widening only) :
HS20 Modified
35 #/Sq. Ft. Future Wearing Surface
Military 24,000# Tandem Axle
Earth - 120 #/Cu. Ft.
Equivalent Fluid Pressure 47 #/Cu. Ft.
Ø = 26°
Fatigue Stress - Case II

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 Safety Barrier Curb) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi
Structural Steel (ASTM A709 Grade 50) fy = 50,000 psi
Steel Pile (ASTM A709 Grade 36) fb = 9,000 psi

Fabricated Steel Connections:

Field connections shall be made with $\frac{3}{4}$" diameter high strength bolts and $\frac{15}{16}$" diameter holes, except as noted.

Joint Filler:

All joint filler shall meet the requirements of Section 1057.2.4 of the Missouri Standard Specifications, except as noted.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be $1\frac{1}{2}$", unless otherwise shown.

Painting:

Prime Coat (New Steel): The cost of the prime coat shall be included in the contract unit price of the fabricated structural steel. Tint of the prime coat for System G shall be similar to the color of the field coat to be used.

All Existing Structural Steel shall be painted with a Calcium Sulfonate System in accordance with Special Provisions.

All New Structural Steel shall be painted with a Calcium Sulfonate Top Coat in accordance with Special Provisions.

Miscellaneous:

A minimum vertical clearance of 15'-6" from crown of existing lanes and a minimum clear opening of 40'-0" centered on existing lanes shall be maintained during construction.

Traffic over structure to be maintained during construction.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Section 106 of the Missouri Standard Specifications and Field Section (FS-712) from Materials Manual.

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

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

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

Resin Anchors:
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.

Cost of furnishing and installing the resin anchor system complete in place shall be included in the price bid for Class B Concrete (Substr.).

The "A" diameter resin anchor systems shall have a minimum ultimate pullout strength of "B" lbs. in concrete with f'c = 4,000 psi, see Special Provisions.

A "C" Grade 60 reinforcing bar "D" long shall be substituted for the "A" threaded rod stud at Intermediate Bent No. 3. An epoxy coated "C" Grade 60 reinforcing bar extending "D" into new concrete substituted for the "A" threaded rod stud for all other applications.

"A"	"B"	"C"	"D"
$\frac{5}{8}$"	15,500	#5	37"
$\frac{3}{4}$"	20,400	#6	47"
$\frac{7}{8}$"	27,500	#7	63"
1"	33,600	#8	82"

ACTUAL QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Partial Removal of Existing Bridge Deck	sq. foot		698	698
Seal Coat Removal (Bridges)	sq. foot		11008	11008
Replacement of Expansion Device and Adjacent Concrete	lin. foot		179	179
Partial Removal of Substructure Concrete	lump sum			1
Class 1 Excavation	cu. yard	140		140
Bridge Approach Slab (Bridge)	sq. yard		450	450
Structural Steel Piles (10 in.)	lin. foot	1428		1428
Structural Steel Piles (12 in.)	lin. foot	172		172
Pile Point Reinforcement	each	54		54
Class B Concrete (Substr)	cu. yard	256.4		256.4
Deadman Anchorage System	each	2		2
Protective Coating for Concrete Bents and Piers under Expansion Devices	lump sum			1
Slab on Steel	sq. yard		1099	1099
* Safety Barrier Curb	lin. foot		280	280
Epoxy Polymer Concrete Overlay	sq. yard		2271	2271
Laminated Neoprene Bearing Pad (Steel Structures)	each		55	55
Preformed Compression Expansion Joint Seal (2.5 in.)	lin. foot		163	163
Preformed Compression Expansion Joint Seal (4.5 in.)	lin. foot		163	163
Reinforcing Steel (Bridges)	pound	17,060		17,060
Mechanical Bar Splice	each	22		22
Conduit System on Structure	lump sum			1
Reinforcing Steel (Epoxy Coated)	pound	19,500		19,500
Fabricated Structural Low Alloy Steel (Plate Girders) ASTM A709 Grade 50	pound		279,170	279,170
Slab Drain	each		6	6
Painting (Existing and New Steel)	lump sum			1
Transporting Lead Contaminated Residue to Storage Area	lump sum			1
Transporting Lead Contaminated Residue to the Smelter	lump sum			1
Disposal of Lead Contaminated Residue	lump sum			1
Vertical Drain at End Bents	each			2
Removal of Existing Bearings & Anchor Bolts	each		30	30
Pre Bore	Lin ft.	450		450

* Safety barrier curb shall be slip-form option.

Concrete above the upper construction joint in backwall at End Bents is included with Class B2 Concrete (Slab on Steel) Quantities.

Pile Data

Bent No.		1	2	3	4	5
Pile Type and Size		HP10 X 42	HP10 X 42	HP12 X 53	HP10 X 42	HP10 X 42
Number		9	12	12	12	9
Average Length	ft.	50	27	14	16	50
Design Bearing	tons	52	45	68	45	52
Hammer Energy Required	ft.-lbs.	12,800	10,600	16,000	10,600	12,800

Minimum energy requirement of hammer is based on plan length and design bearing value of piles.

All piles shall be driven to practical refusal.

Manufactured pile point reinforcement shall be used on all piles in this structure. See Special Provisions.

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.

John L Sanders — SIGNATURE

11-18-05 — DATE

FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B2

Contract ID: 030321-906
Job: J9S0500

ACTUAL QUANTITIES FOR SLAB ON STEEL

Item		Total
Reinforcing Steel (Epoxy Coated)	pound	56,930
Concrete (Class B2)	cu. yard	176.1

The table of Actual Quantities for Slab on Steel 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 Steel.

See Special Provisions for method of forming slab.

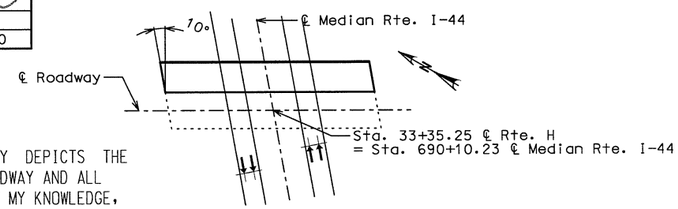
The Estimated Quantities for Slab on Steel are based on skewed precast prestressed end panels.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Steel.

REQUIRED SUPPORT LOAD PER GIRDER

BENT	LOADS
1	27 kips
2	79 kips
3	165 kips
4	79 kips
5	27 kips

Note: The above forces are the temporary support loads for existing girders during replacement of existing bearings, Stage 2 construction, before the closure pour. The above include the non-composite dead load, the composite dead load, a composite construction load of 50 psf, but no live load. They are service loads with no factor of safety applied to them. (See Special Provisions)



LOCATION SKETCH

Detailed Jun. 2002
Checked Jul. 2002

Compiled By: Cindy Dzurick
Checked By: Jeannie Patti-Woodall

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

PULASKI COUNTY A30521 REV.

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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.

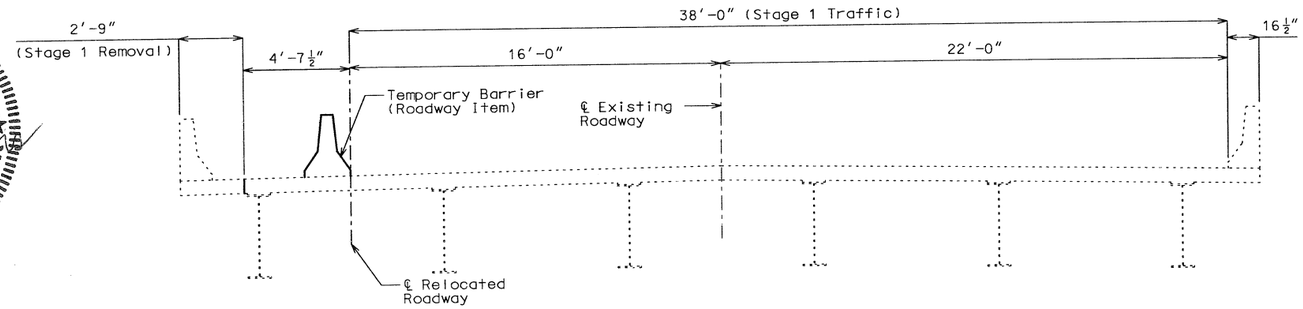
John L Sanders — 12-9-04
SIGNATURE — DATE

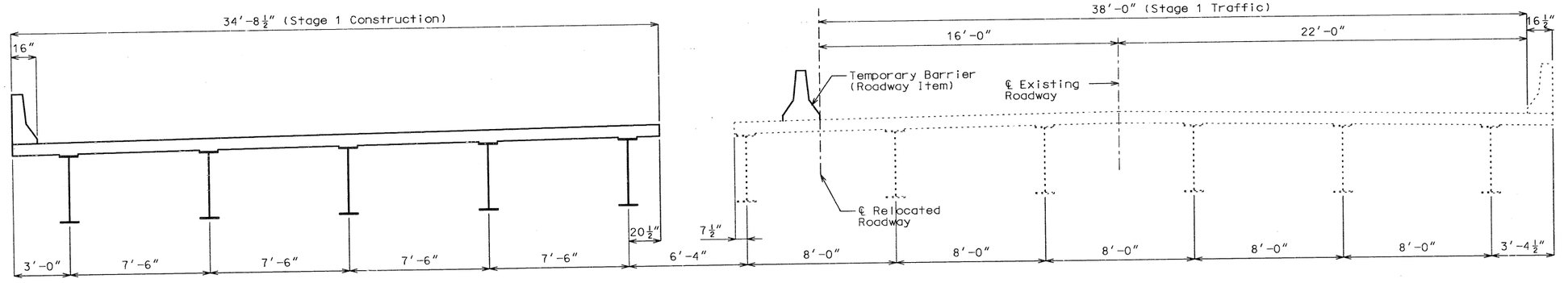
STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

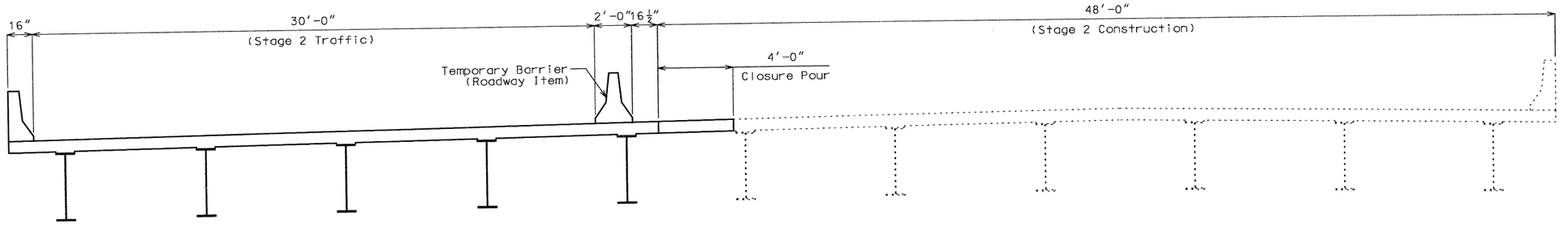
FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B3

Contract ID: 030321-906
Job: J9S0500







DETAILS OF STAGE CONSTRUCTION

Detailed Apr. 2002
Checked May 2002

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

Sheet No. 3 of 46

Compiled by: Cindy Grzywacz
Checked by: Jason Kay 11-4-04

PULASKI COUNTY A30521

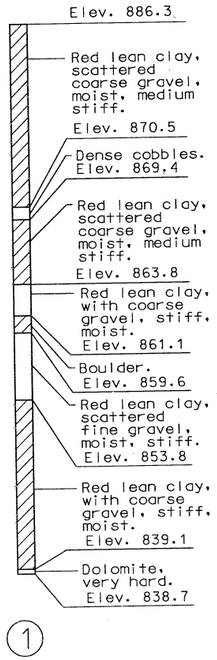
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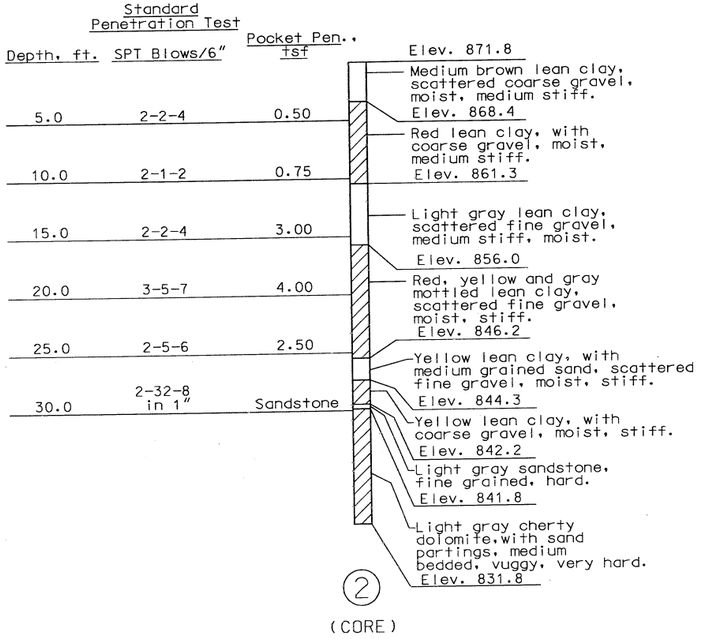
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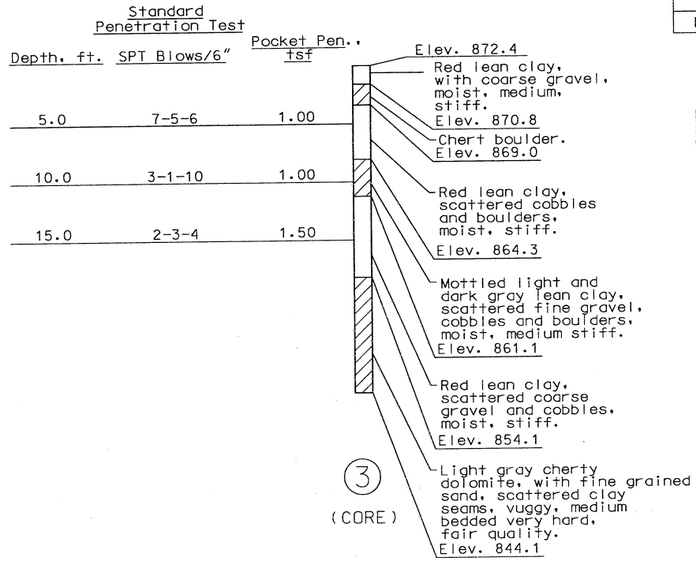
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	64

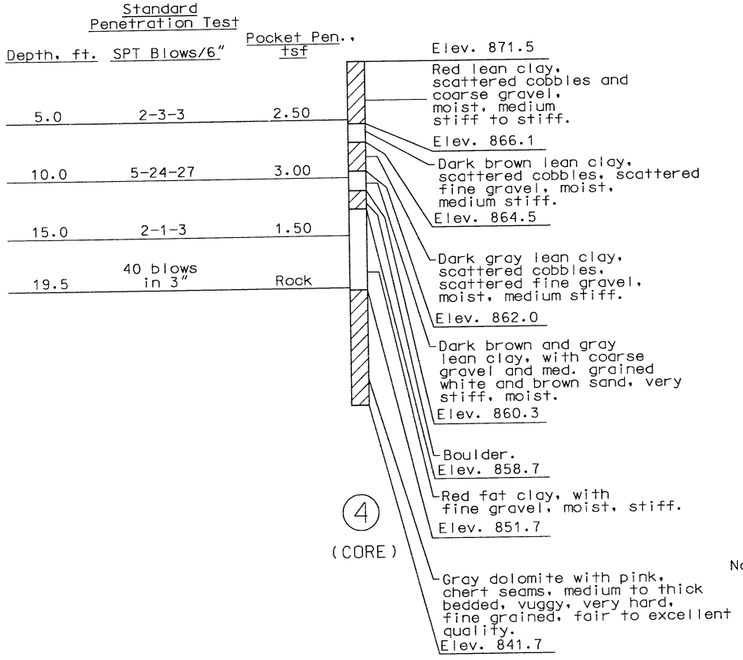
Contract ID: 030321-906
Job: J9S0500

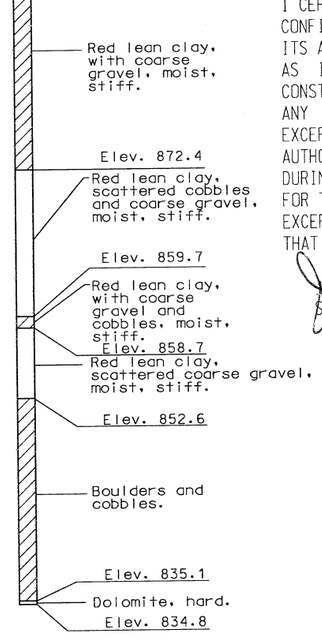
FINAL PLANS











BORING DATA

Note: For location of borings see sheet No. 1

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.

John L Sanders
SIGNATURE

12-9-04
DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER

12-9-04

Detailed Apr. 2002
Checked May 2002

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

PULASKI COUNTY A30521 REV.

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Compiled by: Cindy Gilmore Checked by: Jason Gast 11-4-04

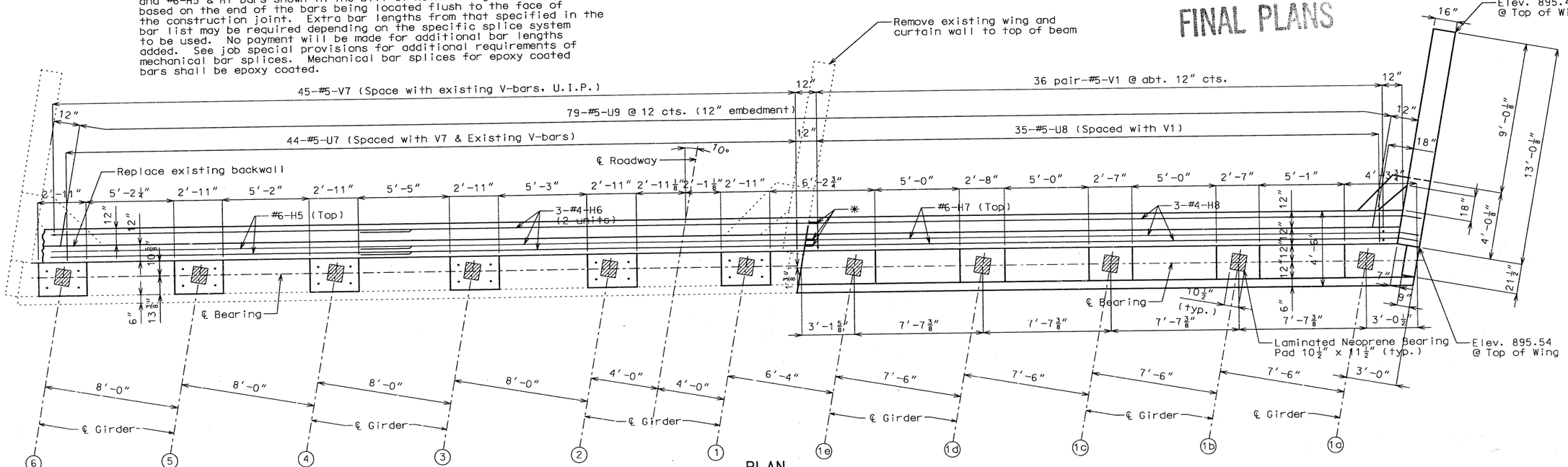
Contract ID: 030321-906
Job: J9S0500

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	135

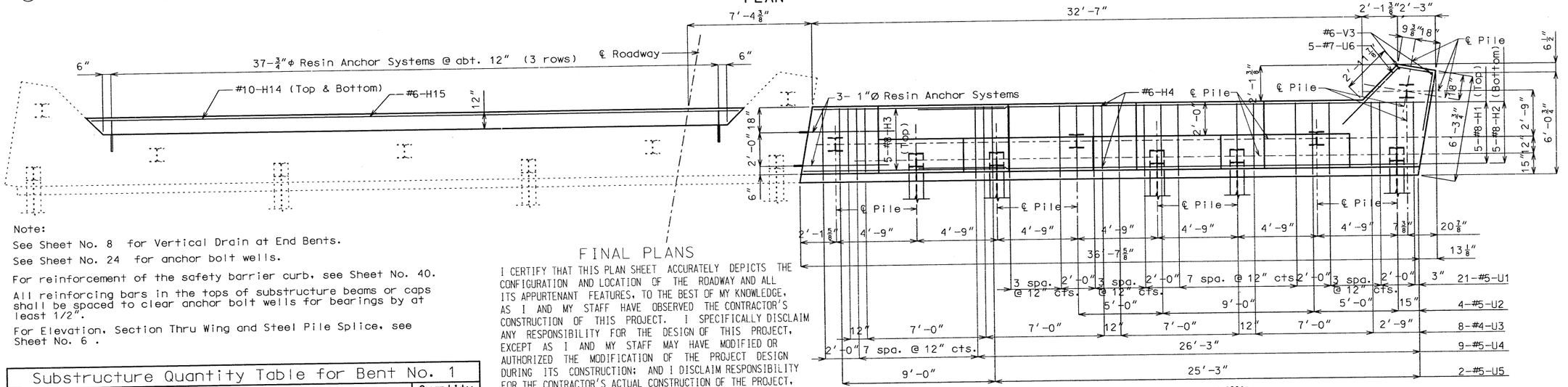
FINAL PLANS

✳ Mechanical Bar Splice:

The contractor shall use a mechanical bar splice for the bars at the specified location. The total bar lengths for #4-H6 & H8 and #6-H5 & H7 bars shown in the Bill of Reinforcing Steel are determined based on the end of the bars being located flush to the face of the construction joint. Extra bar lengths from that specified in the bar list may be required depending on the specific splice system to be used. No payment will be made for additional bar lengths added. See job special provisions for additional requirements of mechanical bar splices. Mechanical bar splices for epoxy coated bars shall be epoxy coated.



PLAN



PLAN OF BEAM

Note:

See Sheet No. 8 for Vertical Drain at End Bents.

See Sheet No. 24 for anchor bolt wells.

For reinforcement of the safety barrier curb, see Sheet No. 40.

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 Elevation, Section Thru Wing and Steel Pile Splice, see Sheet No. 6 .

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	Cu. Yds.	0 ✓
Structural Steel Piles (10")	Lin. Ft.	454 ✓
Pile Point Reinforcement	Each	9 ✓
Class B Concrete (Substructure)	Cu. Yds.	49.4 ✓
Deadman Anchorage System	Each	1 ✓
Mechanical Bar Splice	Each	11 ✓
Reinforcing Steel (Epoxy Coated)	Lbs.	5620 ✓

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

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.

John L Sanders — SIGNATURE
12-9-04 — DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

DETAILS OF END BENT NO. 1

Detailed May 2002
Checked Jul. 2002

Compiled By: Cwd
Checked By: JLS 11-4-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 46

PULASKI COUNTY A30521

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REV.

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B6

Contract ID: 030321-906
Job: J9S0500

FINAL PLANS

FINAL PLANS

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John L Sanders 12-9-04
SIGNATURE DATE

Note:
Top of backwall and expansion device for End Bent No. 1 shall conform to the Crown of Roadway slab. Backwall above upper construction joints shall not be poured until the superstructure slab has been poured in the adjacent span.

All concrete above the upper construction joint in backwall shall be Class B2.

* Seal backwall, top of beam and front face of beam with protective coating (See Special Provision).

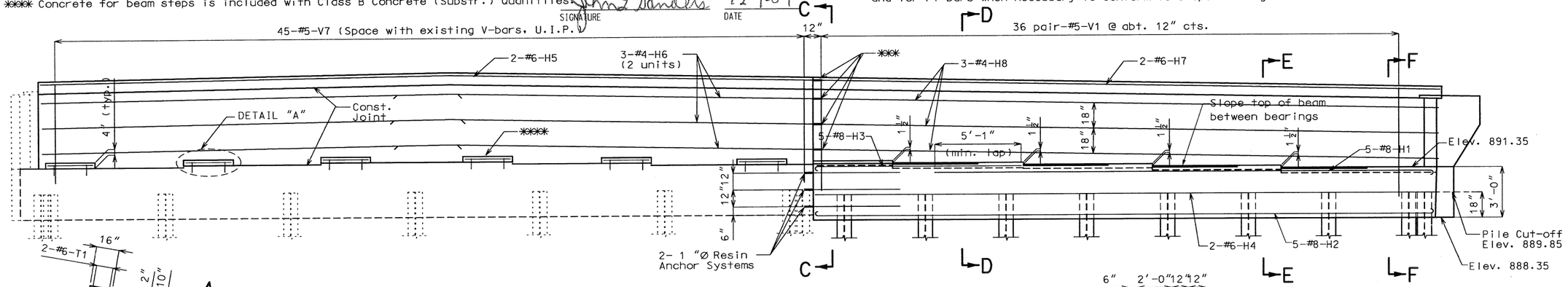
** Slope to drain between bearings

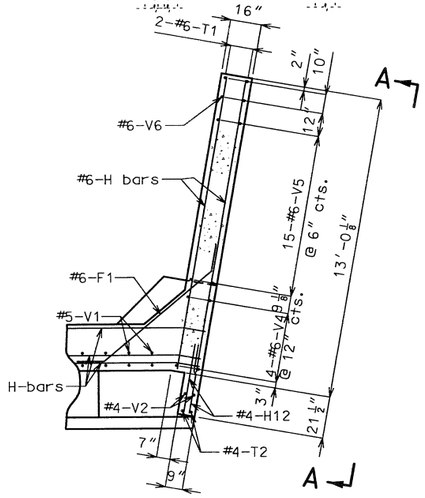
Field bending shall be required at wings for #4-H6, #4-H8, #6-H5 and #6-H7 bars in backwalls for skewed structures and for F1 bars when necessary to conform to slope of wing.

*** Mechanical Bar Splice:

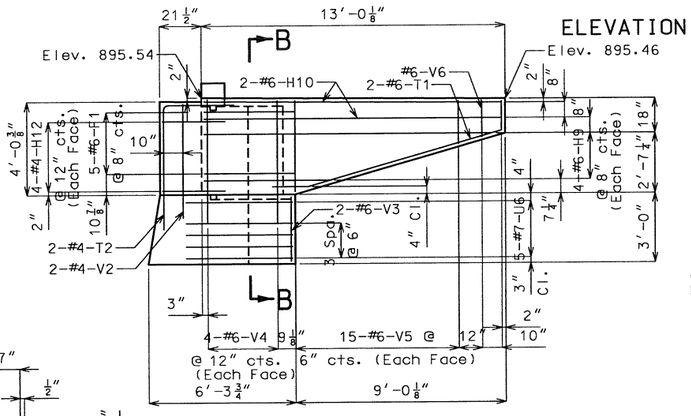
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**** Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.

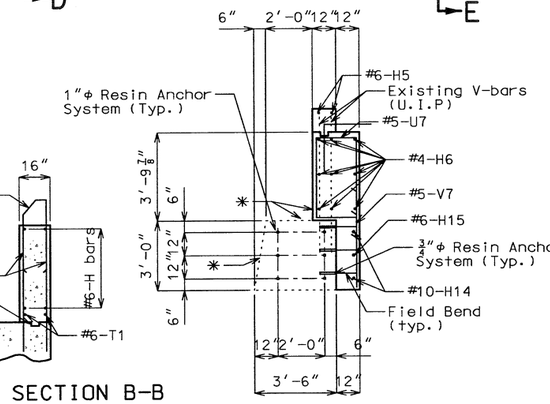




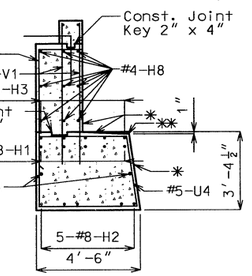
SECTION THRU WING



ELEVATION A-A



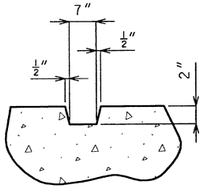
SECTION C-C



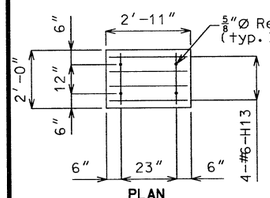
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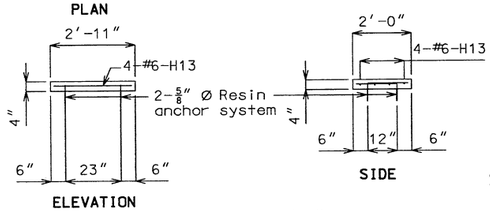
PART SECTION B-B



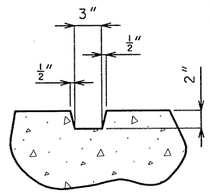
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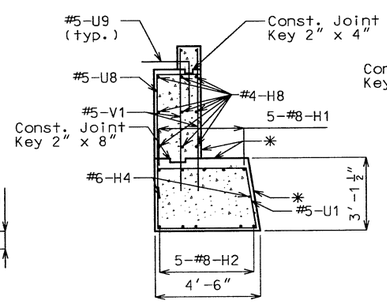
PLAN



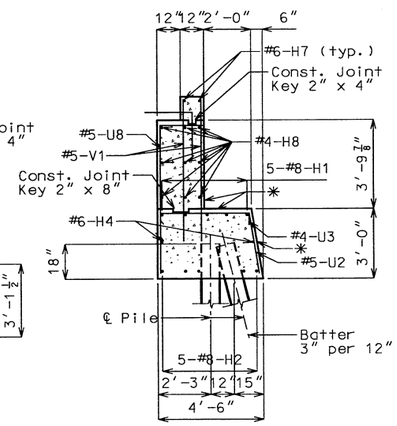
DETAIL "A"



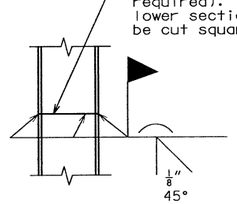
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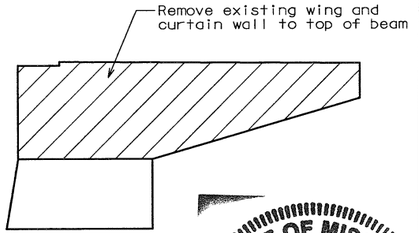
SECTION E-E



SECTION F-F



STEEL PILE SPLICE



Detail of Wing Removal

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

Detailed May 2002
Checked Jul. 2002

Compiled By: [signature] Checked By: [signature] 11-4-04

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

DETAILS OF END BENT NO. 1

Sheet No. 6 of 46

PULASKI COUNTY A30521

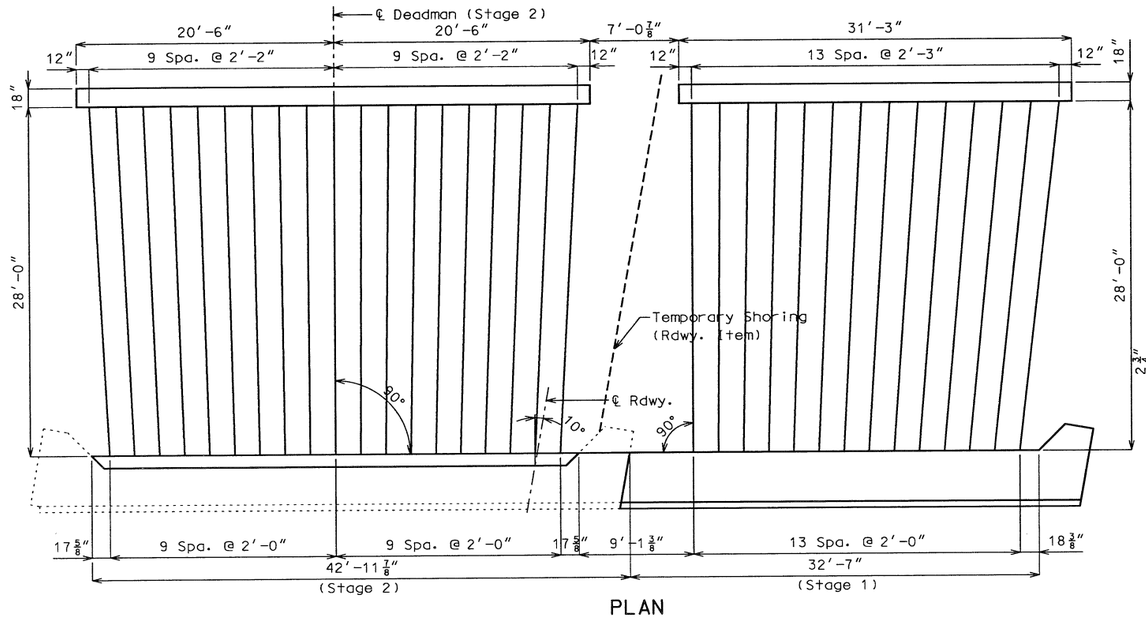
REV.

C:\J9S0500\A30521\A30521_006.dgn 02:51:15 PM 11/03/2004

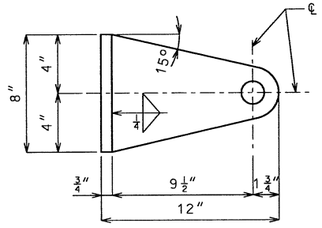
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	87

FINAL PLANS

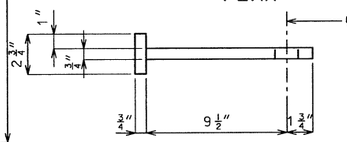
Contract ID: 030321-906
JOB: J9S0500



PLAN



PLAN



ELEVATION
DETAIL OF ANCHOR TEE

CONSTRUCTION SEQUENCE:

Construct end bent with anchor tees in place.

Construct deadman with anchor tees in place.

Machine compact fill up to elevation of 1″ Ø rod and turnbuckle.

Install 1″ Ø rod, clevis and turnbuckle assembly.

Tighten turnbuckle until snug.

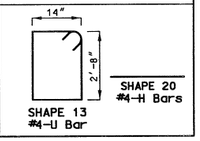
Hand compact fill for 12″ (Min.) over 1″ Ø rod and turnbuckle.

Machine compact remaining fill.

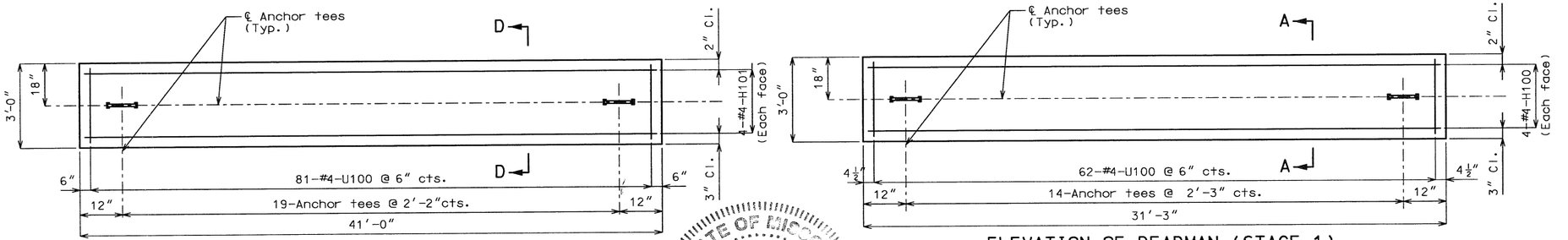
BILL OF REINFORCING STEEL EACH DEADMAN

NUMBER	SIZE & MARK		LENGTH
8	#4	H100	31′-0″
8	#4	H101	40′-9″
143	#4	U100	8′-5″

Bending Diagram

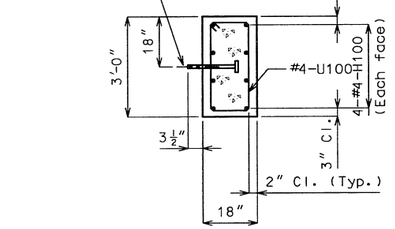


Note: Reinforcing steel lengths are based on nominal lengths, out to out.
#4-U100 shall meet the stirrup requirements on sheet No. 43.

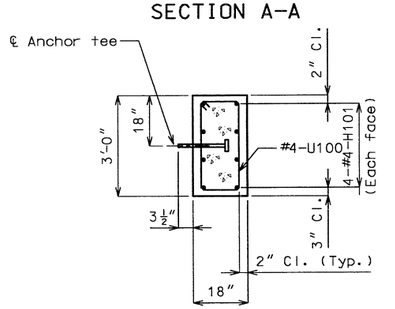


ELEVATION OF DEADMAN (STAGE 2)

ELEVATION OF DEADMAN (STAGE 1)



SECTION A-A



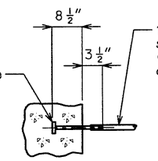
SECTION D-D

FINAL PLANS

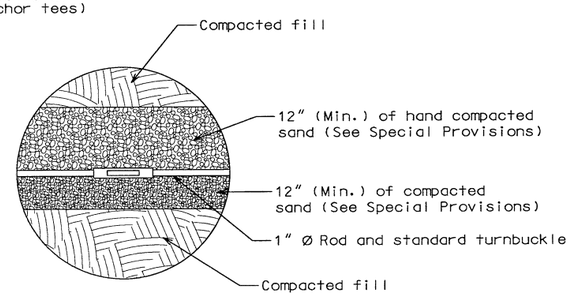
I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS 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.

John L. Sanders 12-9-04
SIGNATURE DATE

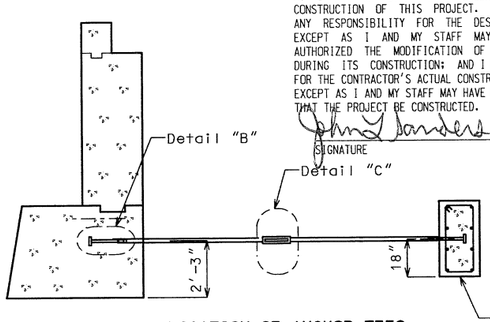
STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04



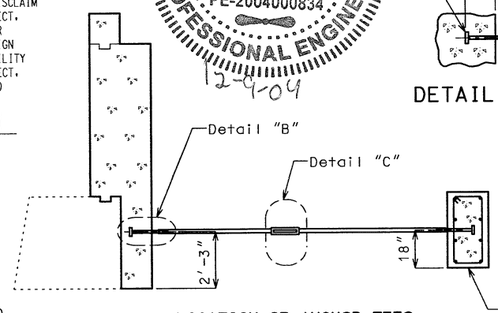
DETAIL "B"



DETAIL "C"



LOCATION OF ANCHOR TEES (STAGE 1)



LOCATION OF ANCHOR TEES (STAGE 2)

DETAILS OF DEADMAN ANCHORAGE SYSTEM AT END BENT 1

Detailed May 2002
Checked Jun. 2002

Compiled By: Cindy Swadley Checked By: Jason Hess 11/4/04

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

Sheet No. 7 of 46

PULASKI COUNTY A30521

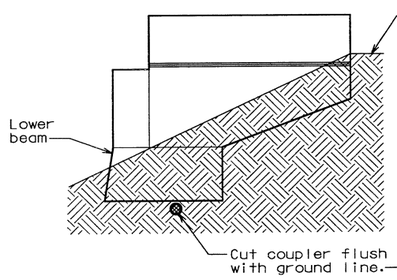
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FINAL PLANS

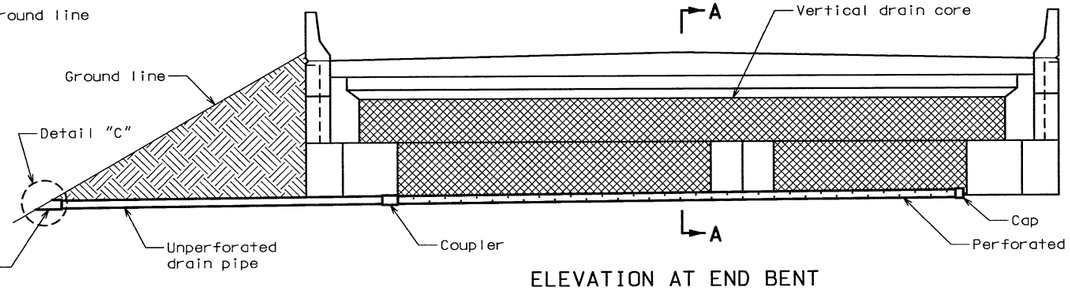
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	13 E

Contract ID: 030321-906

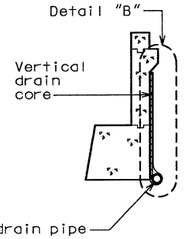
Job: J9S0500



ELEVATION OF WING



ELEVATION AT END BENT

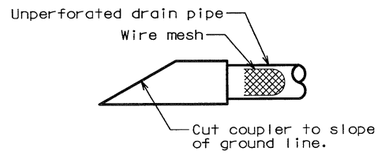


SECTION A-A

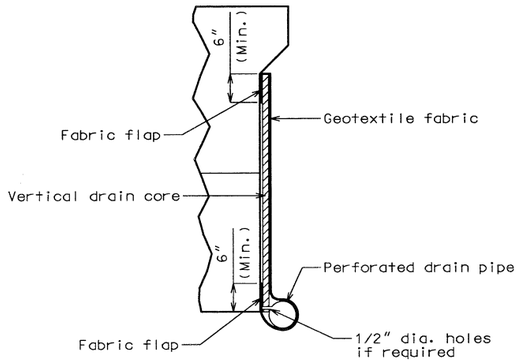
Note:
Drain pipe ~~may be either 6" diameter corrugated metallic coated steel pipe underdrain,~~ 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, ~~or 4" diameter corrugated polyethylene (PE) drain pipe.~~

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.



DETAIL "C"



DETAIL "B"

VERTICAL DRAIN AT END BENTS

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.

John L Sanders 12-9-04
SIGNATURE DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

Checked by: Jason Hoff 11/4/04

Detailed Apr. 2002
Checked May 2002

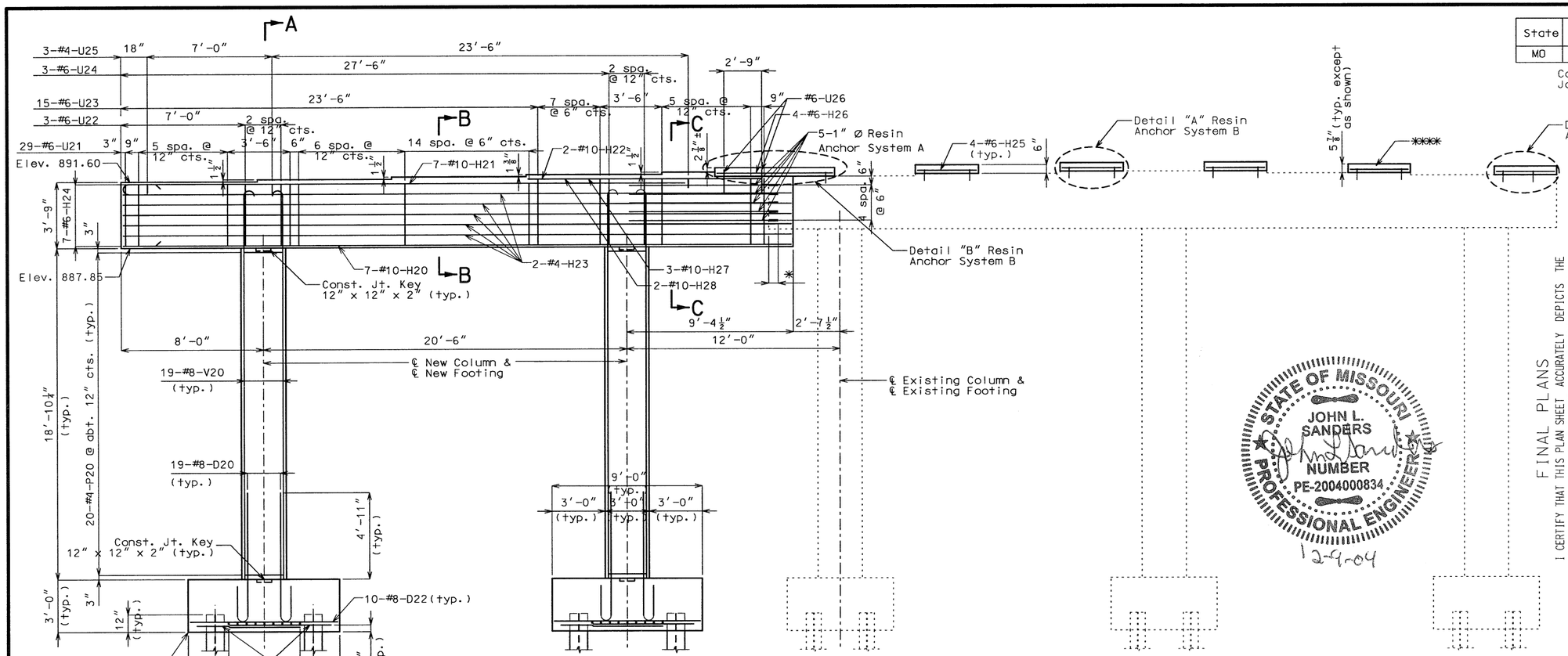
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

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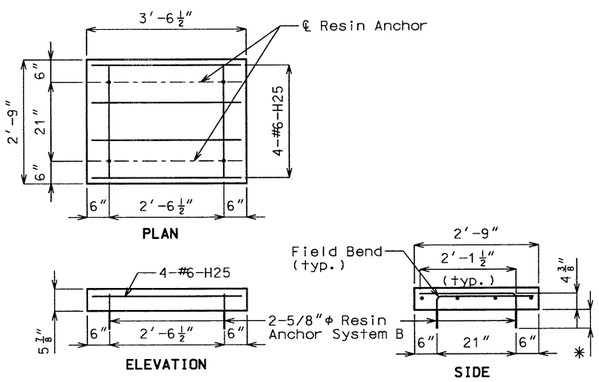
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B9

Contract # 030321-906
Job# J9S0500



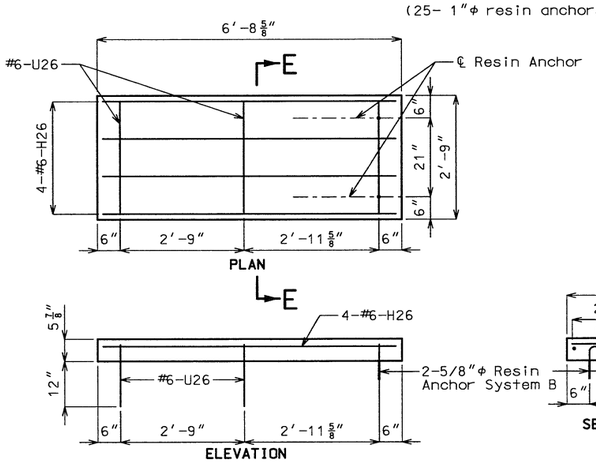
ELEVATION

(22-⅞"ϕ resin anchors req'd @ Bent 2)
(25- 1"ϕ resin anchors req'd @ Bent 2)

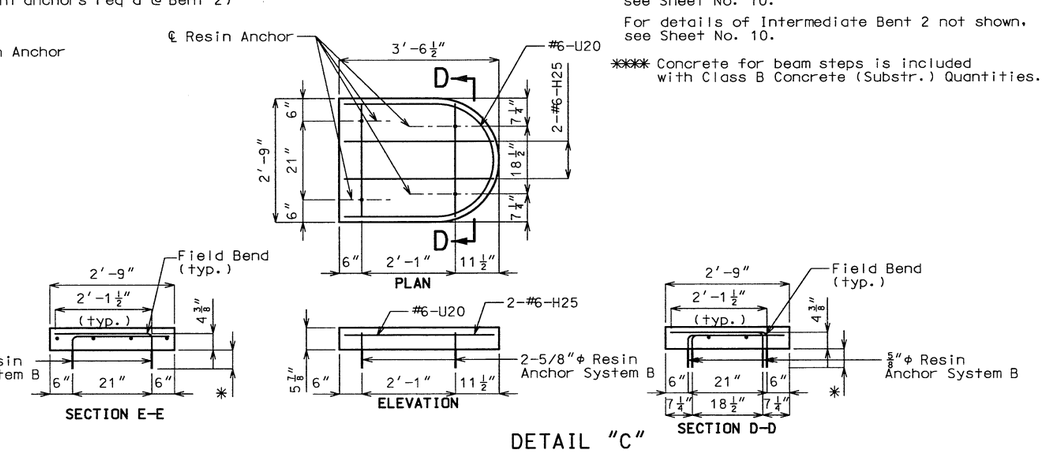


DETAIL "A"

✱ Manufacturer's embedment length, but not less than 5" min.



DETAIL "B"



DETAIL "C"

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER
PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

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.

John L. Sanders — SIGNATURE
12-9-04 — DATE

NOTES:

For Substructure Quantity Table, see Sheet No. 10.

For Sections A-A, B-B, and C-C, Plan and Plan of Footing Showing Reinforcement, see Sheet No. 10.

For details of Intermediate Bent 2 not shown, see Sheet No. 10.

✱✱✱✱ Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Jun. 2002
Checked Jul. 2002

Compiled By: Cindy Dziedzic
Checked By: Jason Hoff 11-19-04

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

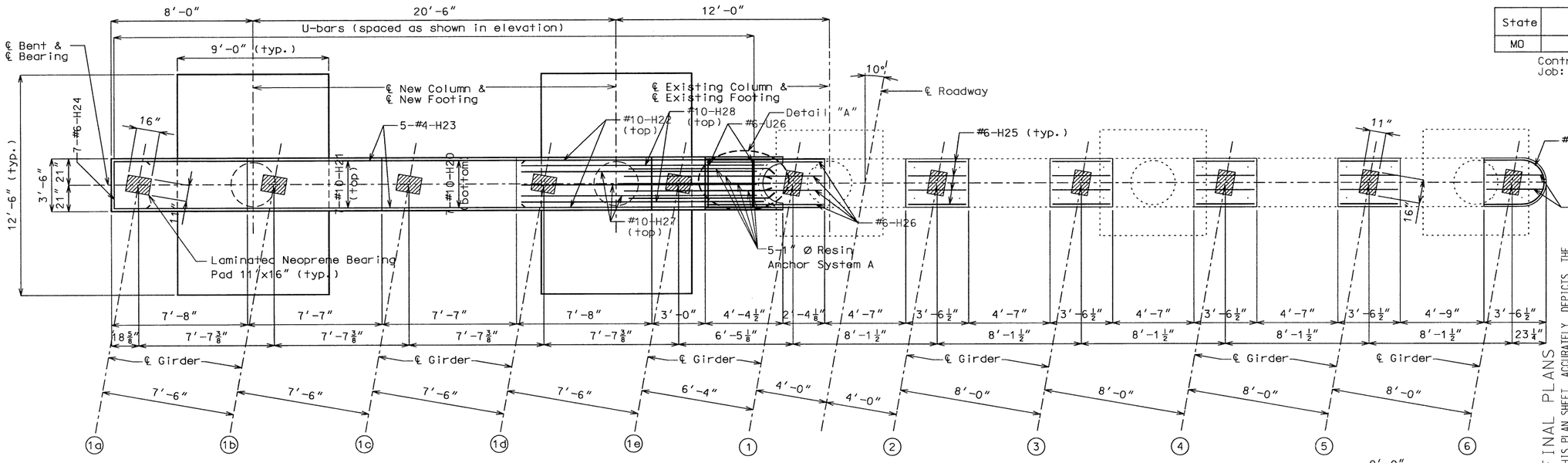
Sheet No. 9 of 46

PULASKI COUNTY A30521 REV.

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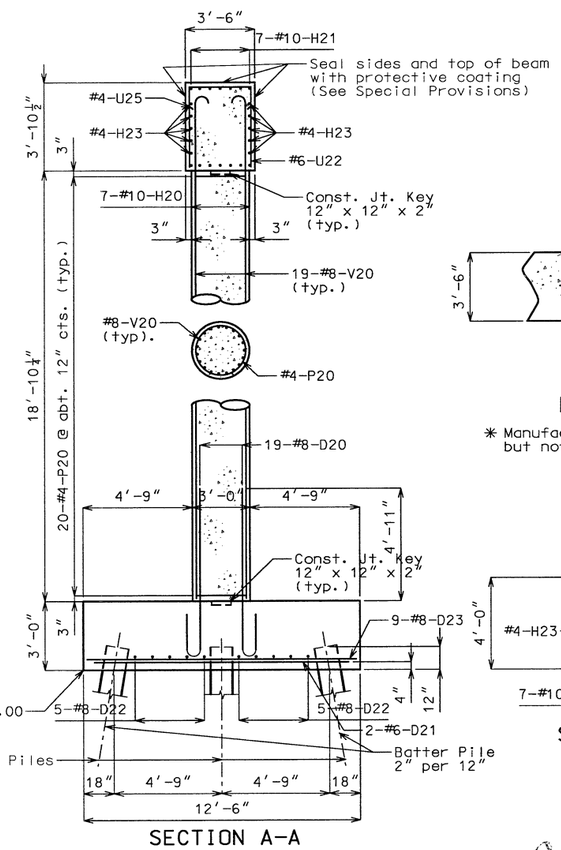
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B10

Contract ID: 030321-906
Job: J9S0500

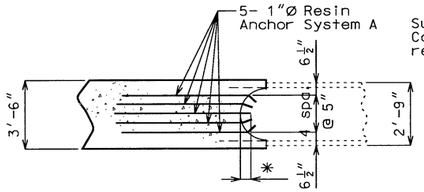


PLAN

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".



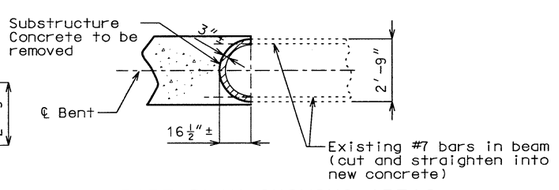
SECTION A-A



PLAN

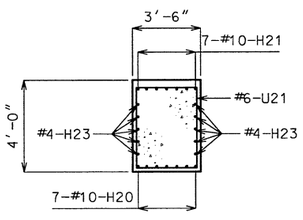
DETAIL "A"

* Manufacture's embedment length but not less than 5" min.

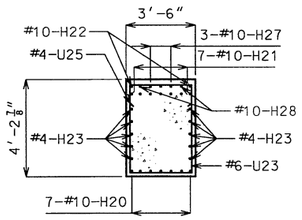


PART PLAN SHOWING AREAS OF SUBSTRUCTURE BEAM CAP CONCRETE TO BE REMOVED

Hatch area ▨ indicates existing concrete removal around existing U shaped bars at end of beam cap.

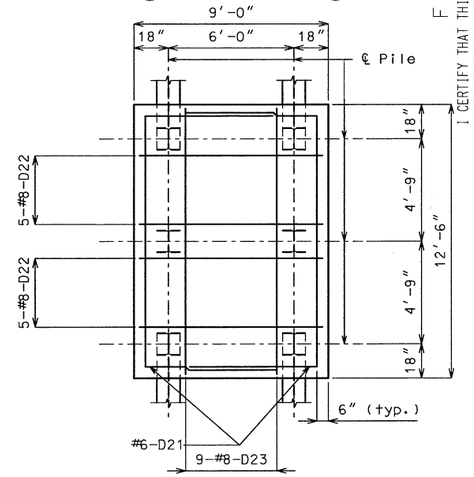


SECTION B-B



SECTION C-C

NOTE: Resin Anchor Systems not shown for clarity.



PLAN OF FOOTING SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Class 1 Excavation	Cu. Yds.	50
Structural Steel Piles (10")	Lin. Ft.	329
Pile Point Reinforcement	Each	12
Class B Concrete (Substructure)	Cu. Yds.	55.4
Reinforcing Steel (Bridges)	Lbs.	4630
Reinforcing Steel (Epoxy Coated)	Lbs.	4250

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

FINAL PLANS

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John L. Sanders 12-9-04
SIGNATURE DATE

STATE OF MISSOURI JOHN L. SANDERS NUMBER PE-2004000834 PROFESSIONAL ENGINEER
12-9-04

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Jun. 2002
Checked Jul. 2002

Compiled By: [illegible] Checked By: [illegible] 11-19-04

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

Sheet No. 10 of 46

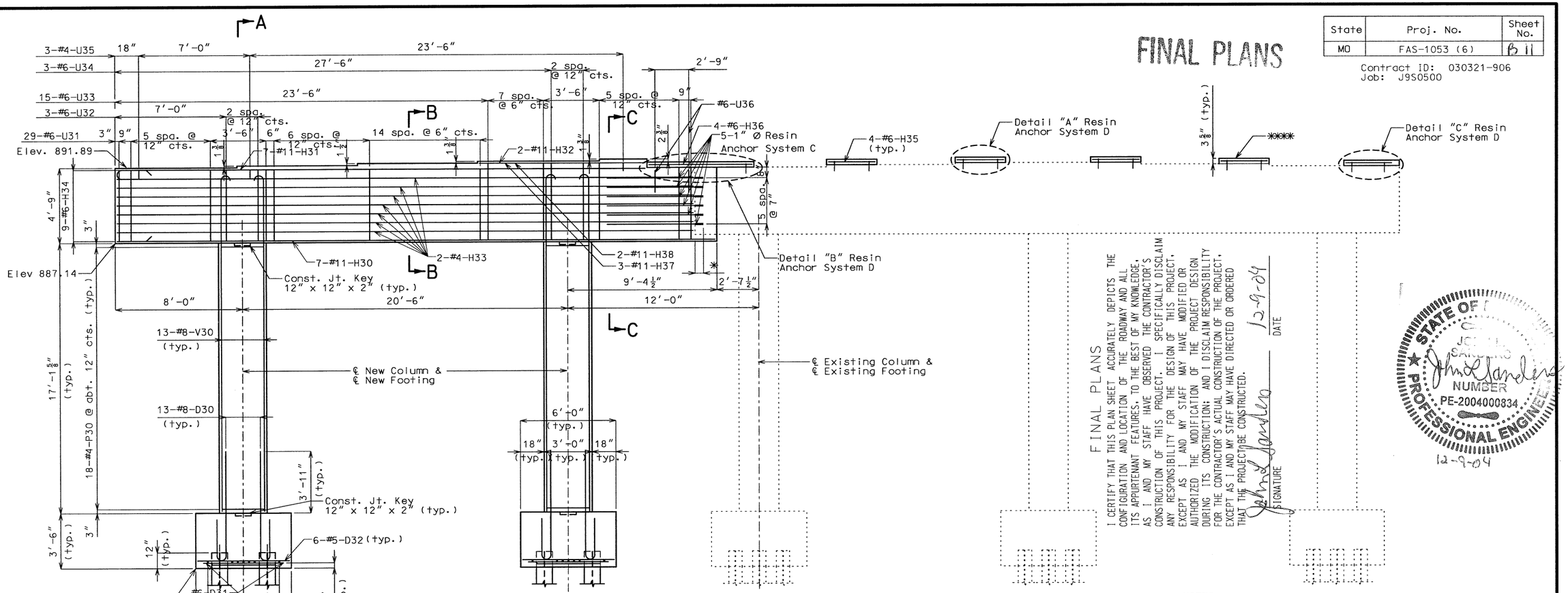
PULASKI COUNTY A30521 REV.

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State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	6 11

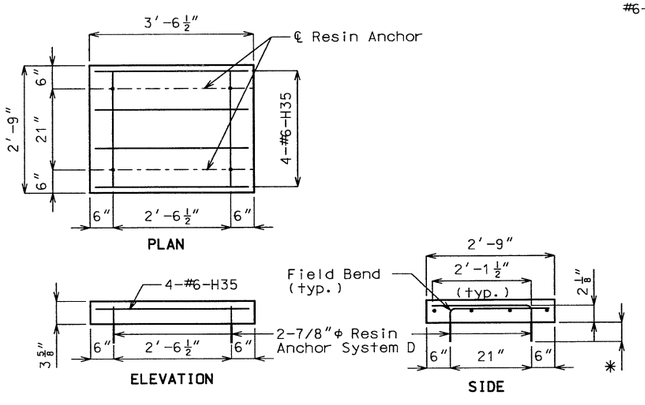
Contract ID: 030321-906
Job: J9S0500

FINAL PLANS



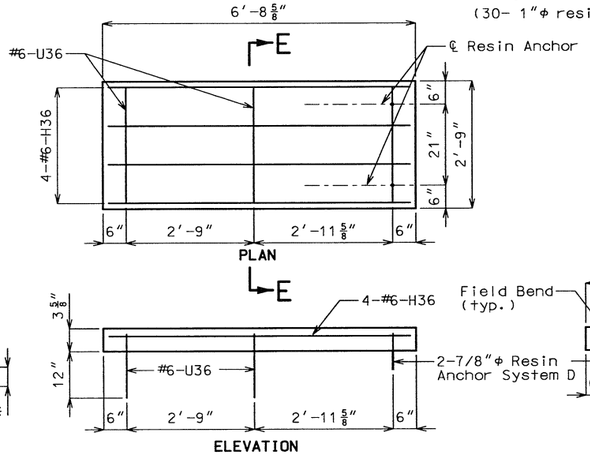
ELEVATION

(22-⅞"ϕ resin anchors req'd @ Bent 3)
(30- 1"ϕ resin anchors req'd @ Bent 3)

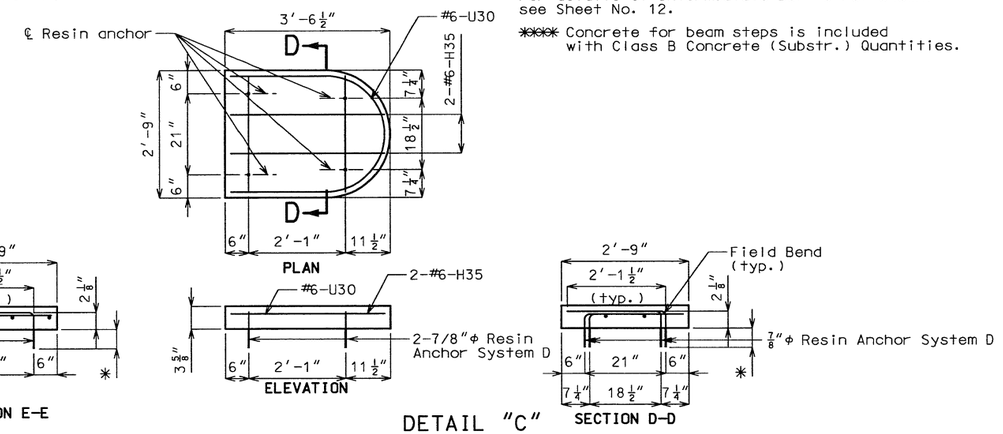


DETAIL "A"

* Manufacturer's embedment length, but not less than 5" min.



DETAIL "B"



DETAIL "C"

NOTES:

For Substructure Quantity Table, see Sheet No. 12.

For Sections A-A, B-B, and C-C, Plan and Plan of Footing Showing Reinforcement, see Sheet No. 12.

For details of Intermediate Bent 3 not shown, see Sheet No. 12.

**** Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.

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.

John L. Sanders — 12-9-04
SIGNATURE — DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Jun. 2002
Checked Jul. 2002

Compiled By: CMG
Checked By: JLS 11-4-04

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

Sheet No. 11 of 46

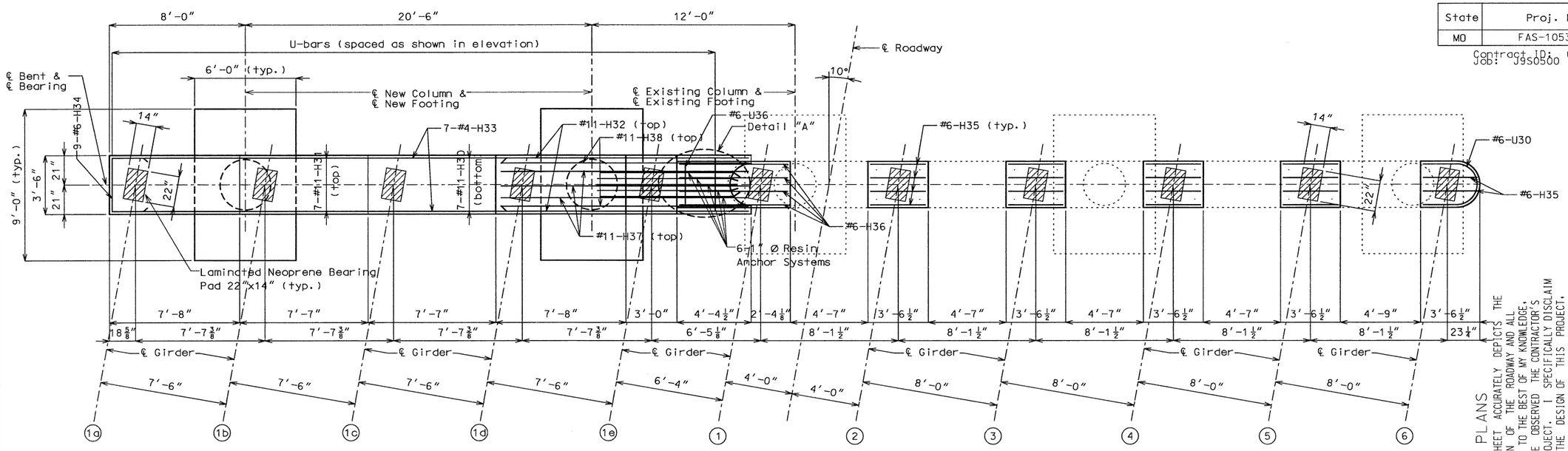
PULASKI COUNTY A30521

REV.

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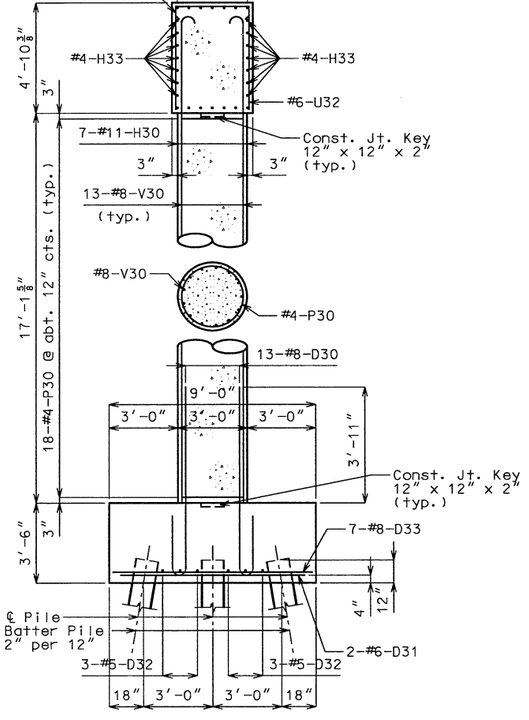
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B12

Contract ID: 030321-906
Job: J9S0500

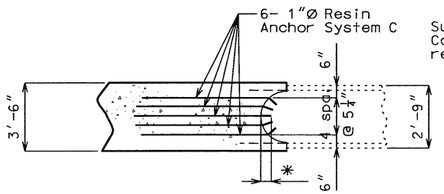


PLAN

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".



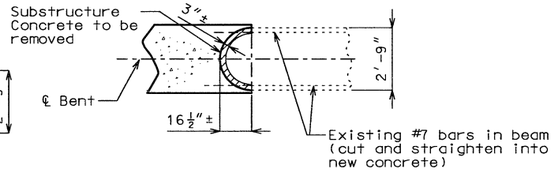
SECTION A-A



PLAN

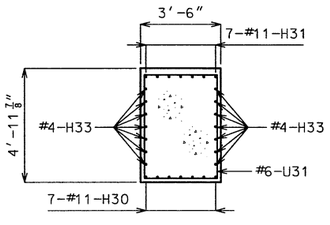
DETAIL "A"

* Manufacture's embedment length but not less than 5" min.

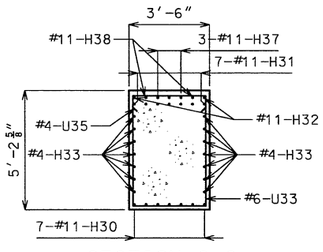


PART PLAN SHOWING AREAS OF SUBSTRUCTURE BEAM CAP CONCRETE TO BE REMOVED

Hatch area ▨ indicates existing concrete removal around existing U shaped bars at end of beam cap.

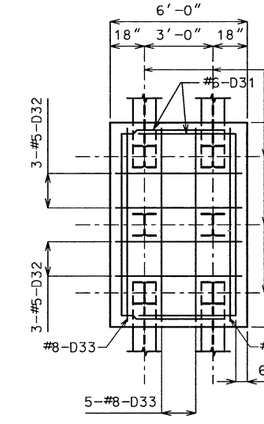


SECTION B-B



SECTION C-C

NOTE: Resin Anchor System not shown for clarity



PLAN OF FOOTING SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 3		
Item		Quantity
Class 1 Excavation	Cu. Yds.	37 ✓
Structural Steel Piles (12")	Lin. Ft.	172 ✓
Pile Point Reiforcement	Each	12 ✓
Class B Concrete (Substructure)	Cu. Yds.	47.6 ✓
Reinforcing Steel (Bridges)	Lbs.	7910 ✓

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

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.

FINAL PLANS

John L. Sanders 12-9-04
SIGNATURE DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

Detailed Jun. 2002
Checked Jul. 2002 Compiled By: Jason Coertz 11-19-04 Checked By: Charles Bruce

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

DETAILS OF INTERMEDIATE BENT NO. 3

Sheet No. 12 of 46

PULASKI COUNTY A30521

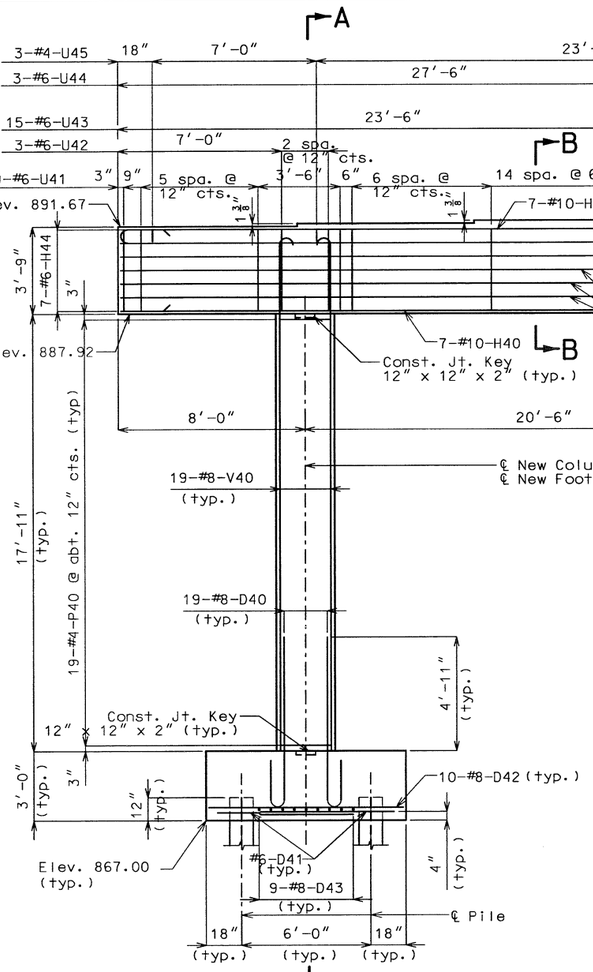
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FINAL PLANS

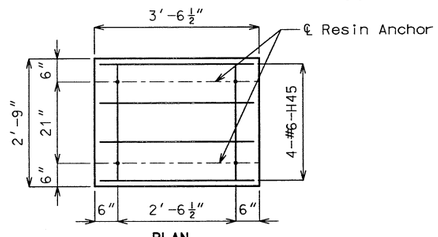
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 13

Contract ID: 030321-906
Job: J9S0500



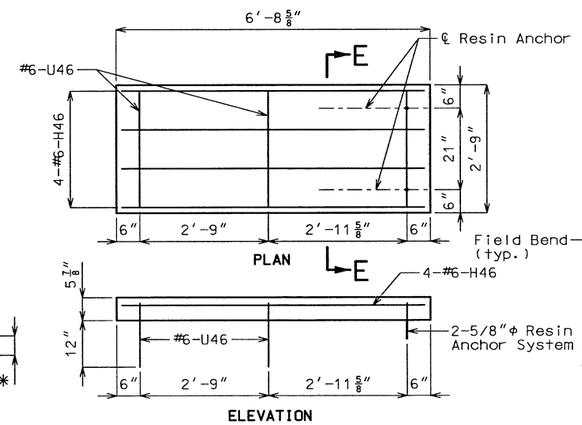
ELEVATION

(22-$\frac{5}{8}$"Φ resin anchors req'd @ Bent 4)
(25- 1"Φ resin anchors req'd @ Bent 4)

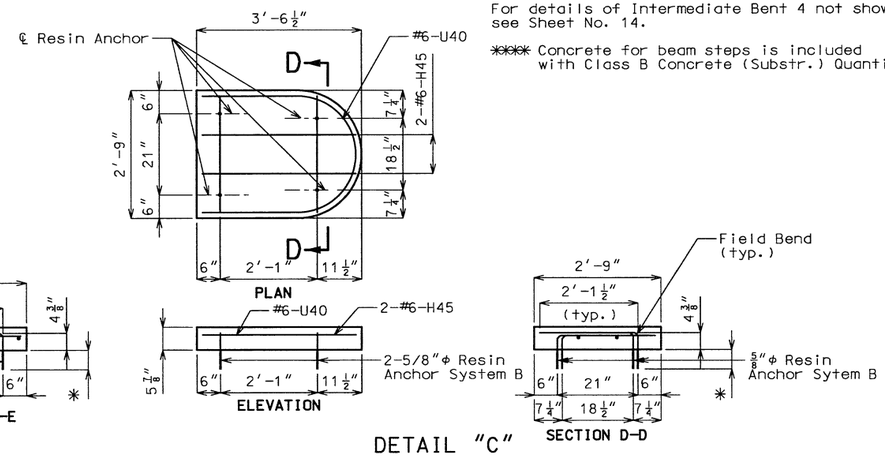


DETAIL "A"

✳ Manufacturer's embedment length, but not less than 5" min.



DETAIL "B"



DETAIL "C"

NOTES:

For Substructure Quantity Table, see Sheet No. 14.

For Sections A-A, B-B, and C-C, Plan and Plan of Footing Showing Reinforcement, see Sheet No. 14.

For details of Intermediate Bent 4 not shown, see Sheet No. 14.

✳✳✳✳ Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.

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.

John L. Sanders
SIGNATURE

12-9-04
DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

DETAILS OF INTERMEDIATE BENT NO. 4

Detailed Jun. 2002
Checked Jul. 2002 Compiled By: Cindy Rueda

Checked By: Jason Hart 11-4-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 13 of 46

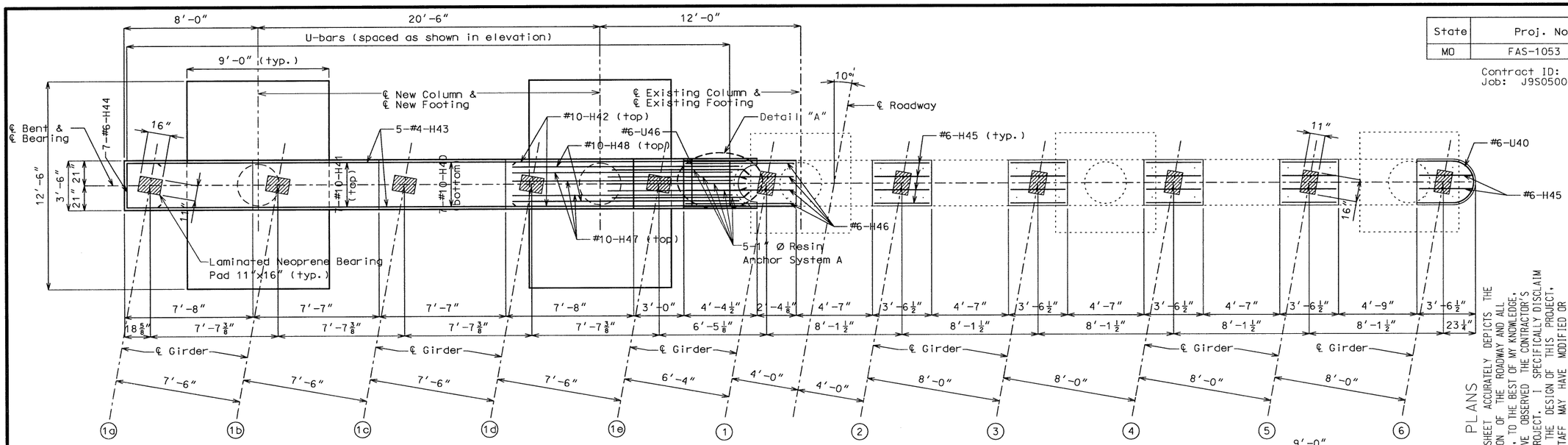
PULASKI COUNTY A30521

REV.

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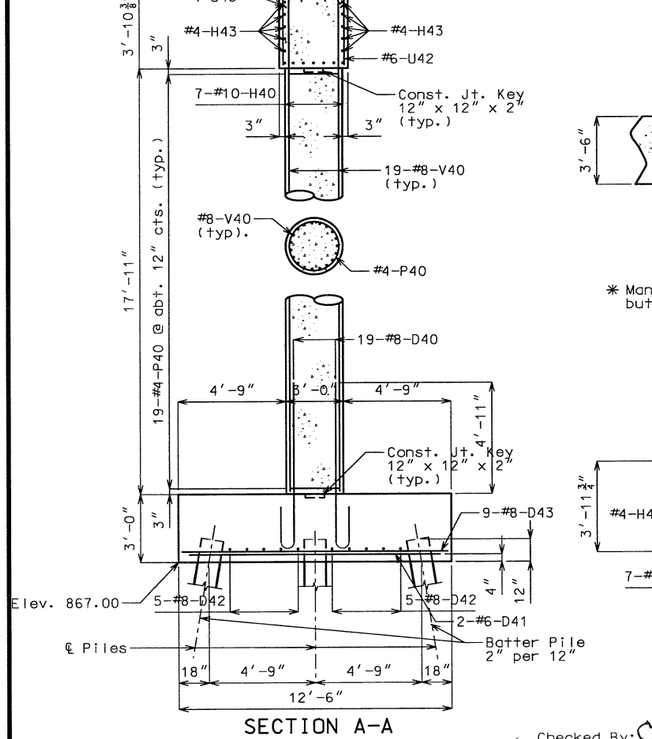
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B14

Contract ID: 030321-906
Job: J9S0500

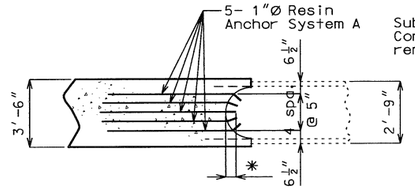


PLAN

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".



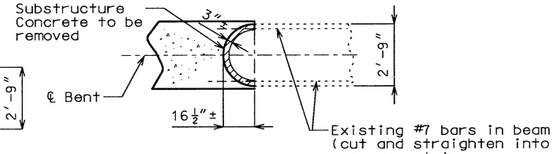
SECTION A-A



PLAN

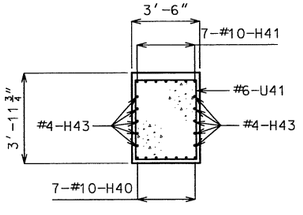
DETAIL "A"

* Manufacture's embedment length but not less than 5" min.

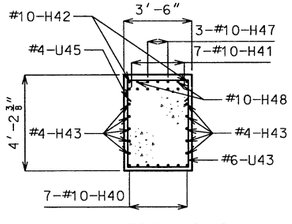


PART PLAN SHOWING AREAS OF SUBSTRUCTURE BEAM CAP CONCRETE TO BE REMOVED

Hatch area ▨ indicates existing concrete removal around existing U shaped bars at end of beam cap.

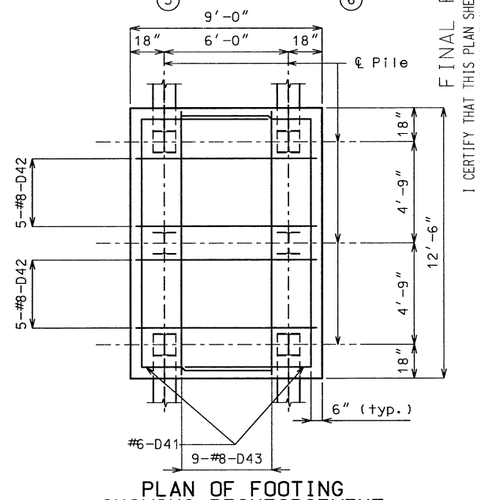


SECTION B-B



SECTION C-C

NOTE: Resin Anchor Systems not shown for clarity.



PLAN OF FOOTING SHOWING REINFORCEMENT

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	Cu. Yds.	53
Structural Steel Piles (10")	Lin. Ft.	192
Pile Point Reinforcement	Each	12
Class B Concrete (Substructure)	Cu. Yds.	54.7
Reinforcing Steel (Bridges)	Lbs.	4520
Reinforcing Steel (Epoxy Coated)	Lbs.	4120

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

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

12-9-04
DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER

12-9-04

DETAILS OF INTERMEDIATE BENT NO. 4

Detailed Jun. 2002
Checked Jul. 2002
Compiled By: Jason Coats 11-19-04
Checked By: Cindy Zwicke
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 14 of 46

PULASKI COUNTY A30521

REV.

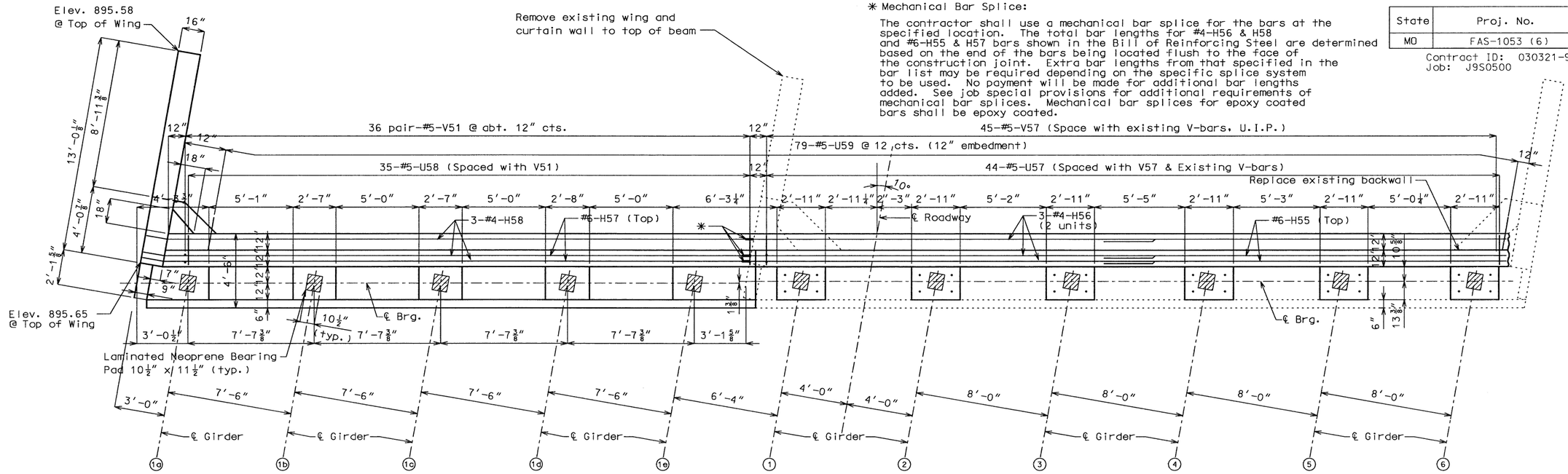
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State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B15

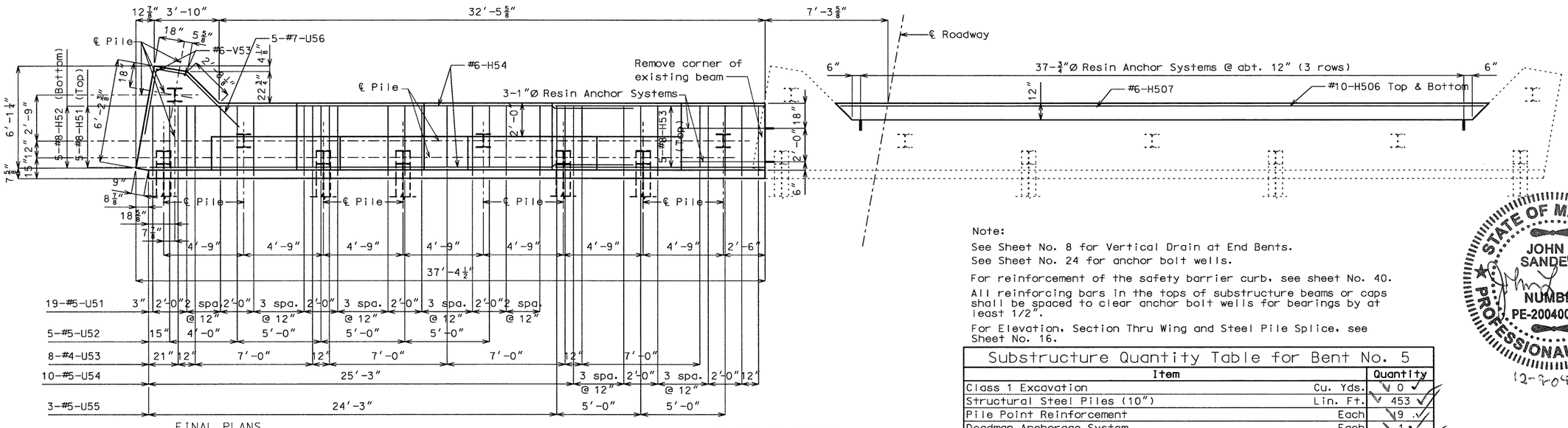
Contract ID: 030321-906
Job: J9S0500

* Mechanical Bar Splice:

The contractor shall use a mechanical bar splice for the bars at the specified location. The total bar lengths for #4-H56 & H58 and #6-H55 & H57 bars shown in the Bill of Reinforcing Steel are determined based on the end of the bars being located flush to the face of the construction joint. Extra bar lengths from that specified in the bar list may be required depending on the specific splice system to be used. No payment will be made for additional bar lengths added. See job special provisions for additional requirements of mechanical bar splices. Mechanical bar splices for epoxy coated bars shall be epoxy coated.



PLAN



PLAN OF BEAM

Note:

See Sheet No. 8 for Vertical Drain at End Bents.
See Sheet No. 24 for anchor bolt wells.

For reinforcement of the safety barrier curb, see sheet No. 40.

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 Elevation, Section Thru Wing and Steel Pile Splice, see Sheet No. 16.

Substructure Quantity Table for Bent No. 5

Item		Quantity
Class 1 Excavation	Cu. Yds.	0
Structural Steel Piles (10")	Lin. Ft.	453
Pile Point Reinforcement	Each	9
Deadman Anchorage System	Each	1
Class B Concrete (Substructure)	Cu. Yds.	49.3
Mechanical Bar Splice	Each	11
Reinforcing Steel (Epoxy Coated)	Lbs.	5510

Note: These quantities are included in the estimated quantities table on Sheet No. 2 .

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

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 John L Sanders DATE 12-9-04

Detailed Jun. 2002
Checked Jul. 2002

DETAILS OF END BENT NO. 5

Compiled By: Cindy Hazelwood
Checked By: Tina Stuff 11-19-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 15 of 46

PULASKI COUNTY A30521

REV.

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*** Mechanical Bar Splice:

The contractor shall use a mechanical bar splice for the bars at the specified location. The total bar lengths for #4-H56 & H58, and #6-H55 & H57 bars shown in the Bill of Reinforcing Steel are determined based on the end of the bars being located flush to the face of the construction joint. Extra bar lengths from that specified in the bar list may be required depending on the specific splice system to be used. No payment will be made for additional bar lengths added. See job special provisions for additional requirements of mechanical bar splices. Mechanical bar splices for epoxy coated bars shall be epoxy coated.

**** Concrete for beam steps is included with Class B Concrete (Substr.) Quantities.

FINAL PLANS

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SIGNATURE John L Sanders DATE 12-9-04

Note:
Top of backwall and expansion device for End Bent No. 5 shall conform to the Crown of Roadway slab. Backwall above upper construction joints shall not be poured until the superstructure slab has been poured in the adjacent span.

All concrete above the upper construction joint in backwall shall be Class B2.

* Seal backwall, top of beam and front face of beam with protective coating (See Special Provision).

** Slope to drain between bearings

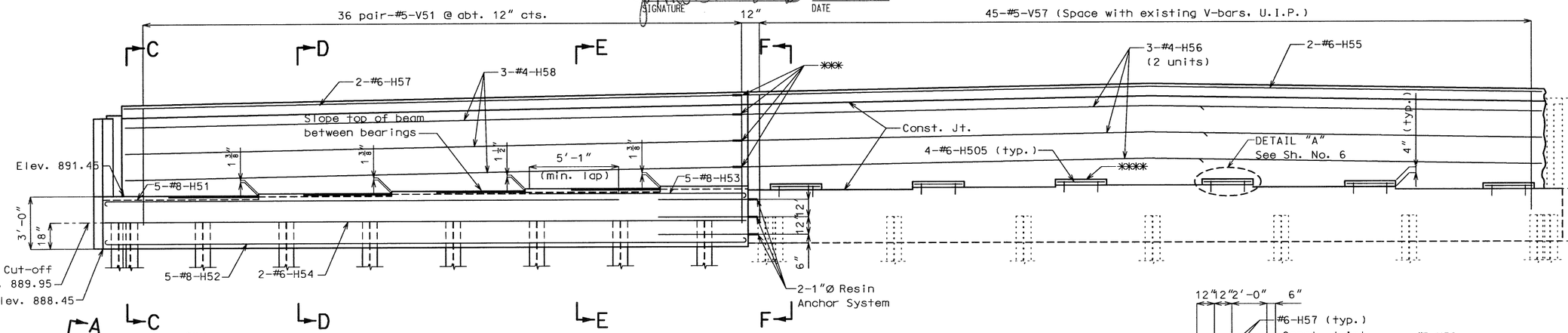
Field bending shall be required at wings for #4-H56, #4-H58, #6-H55 and #6-H57 bars in backwalls for skewed structures and for F51 bars when necessary to conform to slope of wing.

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 14

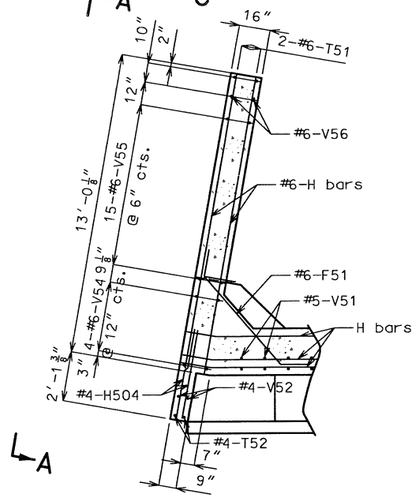
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Job: J9S0500

FINAL PLANS

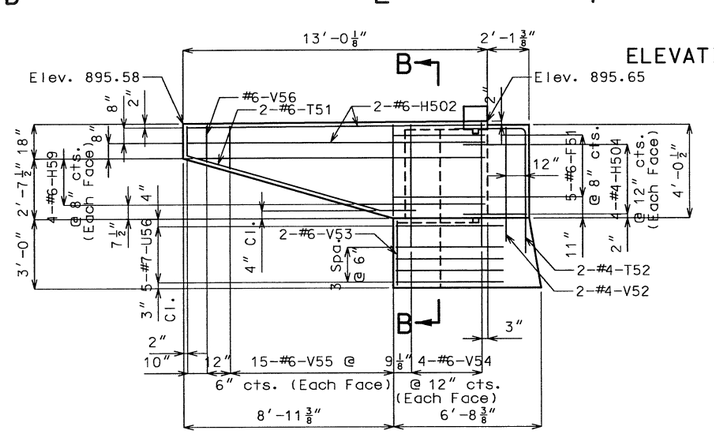
STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000894
PROFESSIONAL ENGINEER
12-9-04



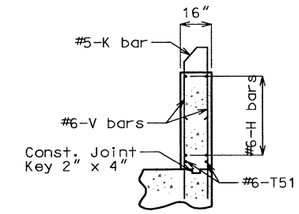
ELEVATION



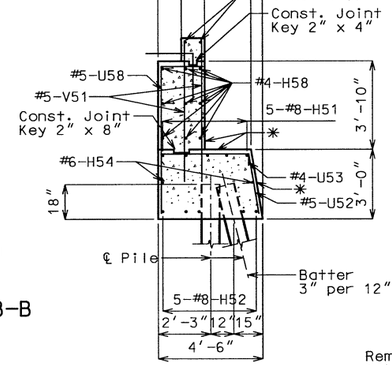
SECTION THRU WING



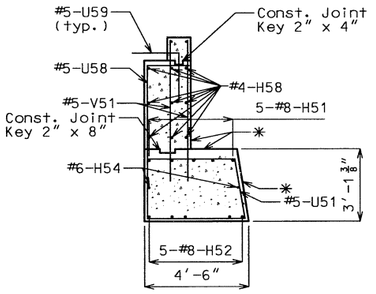
ELEVATION A-A



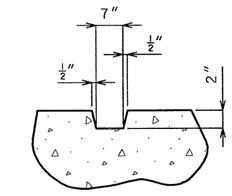
PART SECTION B-B



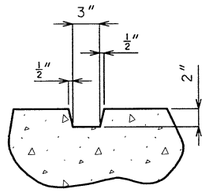
SECTION C-C



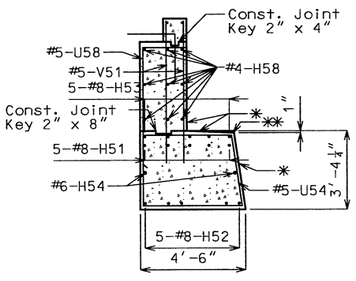
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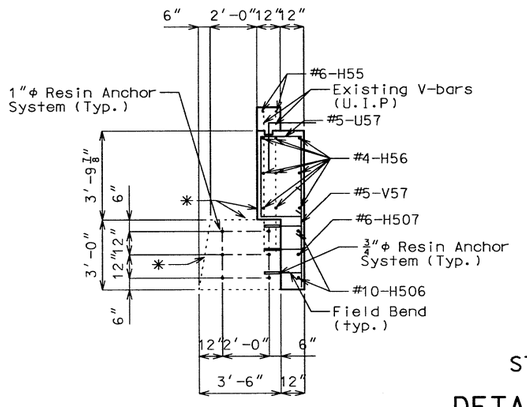
SECTION THRU 8" KEY



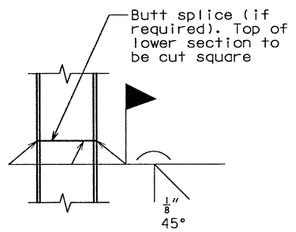
SECTION THRU 4" KEY



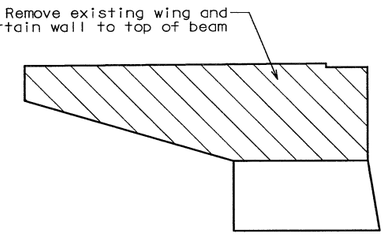
SECTION E-E



SECTION F-F



STEEL PILE SPLICE



Detail of Wing Removal

DETAILS OF END BENT NO. 5

Detailed Jun. 2002
Checked Jul. 2002 Compiled By: Cindy Bueche

Checked By: Thomas Hoft 11/4/04

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

Sheet No. 16 of 46

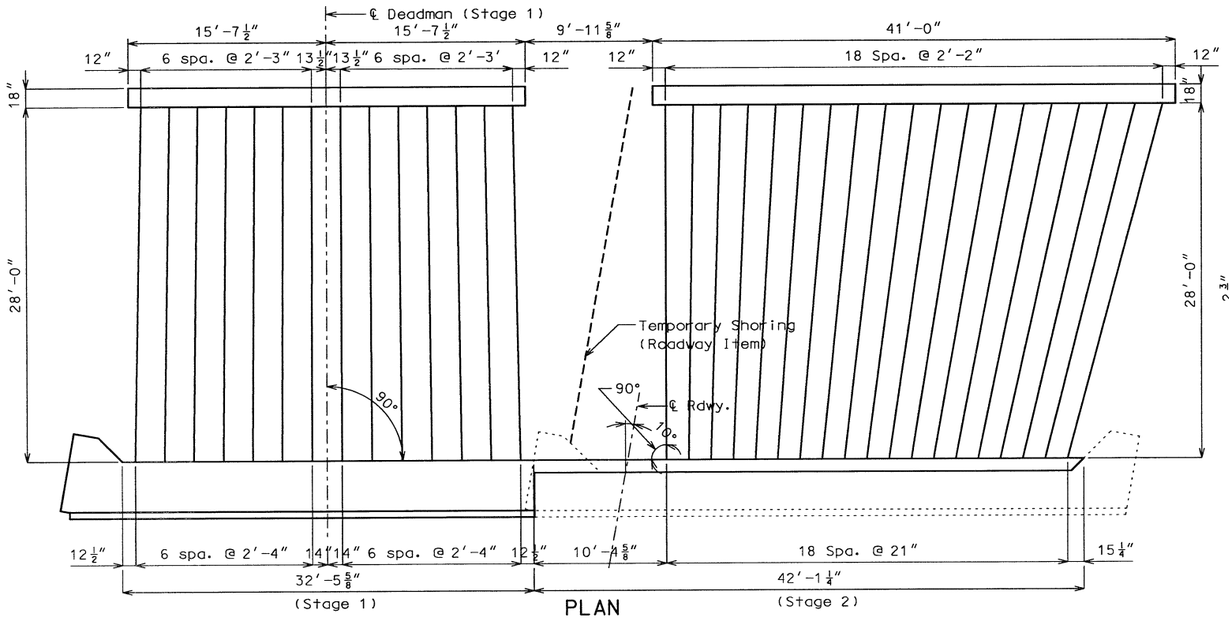
PULASKI COUNTY A30521 REV.

C:\J9S0500\A30521\A30521_016.dgn 03:33:06 PM 11/03/2004

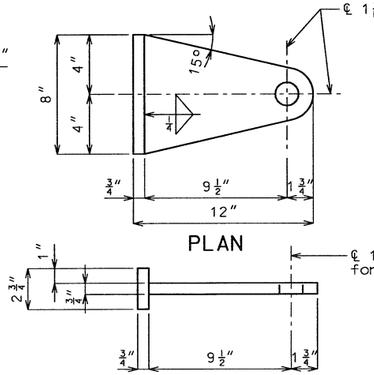
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	17

FINAL PLANS

Contract ID: 030321-906
Job: J9S0500



PLAN



PLAN

ELEVATION

DETAIL OF ANCHOR TEE

CONSTRUCTION SEQUENCE:

Construct end bent with anchor tees in place.

Construct deadman with anchor tees in place.

Machine compact fill up to elevation of 1″ Ø rod and turnbuckle.

Install 1″ Ø rod, clevis and turnbuckle assembly.

Tighten turnbuckle until snug.

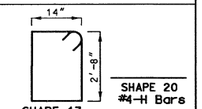
Hand compact fill for 12″ (Min.) over 1″ Ø rod and turnbuckle.

Machine compact remaining fill.

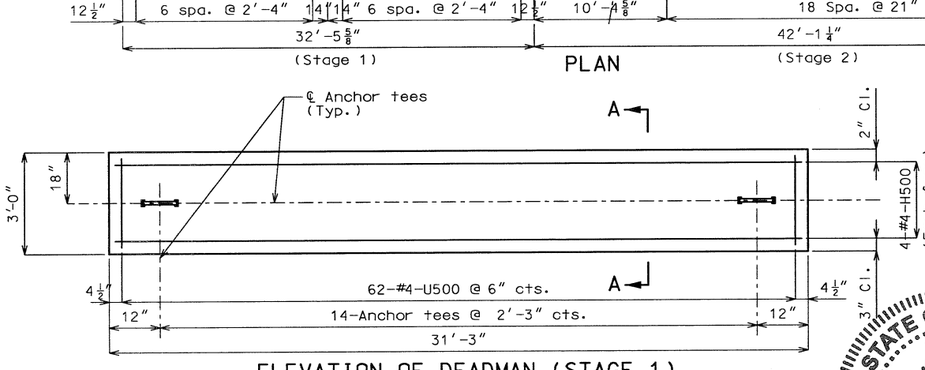
BILL OF REINFORCING STEEL EACH DEADMAN

NUMBER	SIZE & MARK	LENGTH
8	#4 H500	31′-0″
8	#4 H501	40′-9″
143	#4 U500	8′-5″

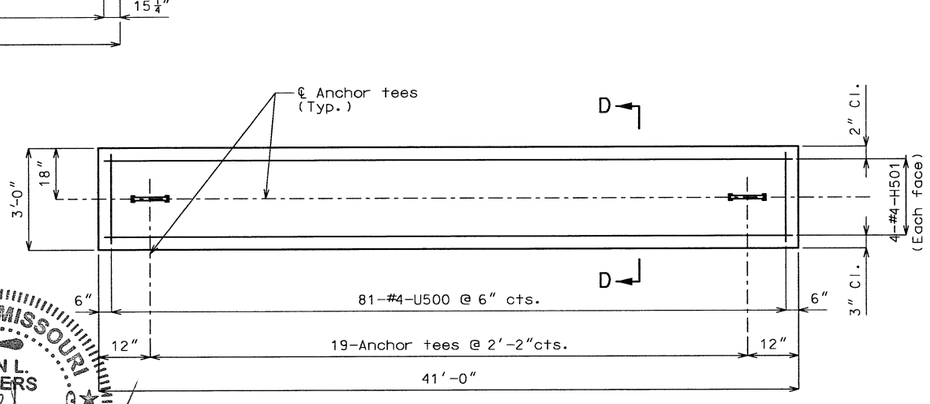
Bending Diagram



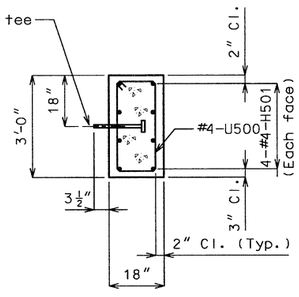
Note: Reinforcing steel lengths are based on nominal lengths, out to out.
#4-U500 shall meet the stirrup requirements on sheet No. 43.



ELEVATION OF DEADMAN (STAGE 1)

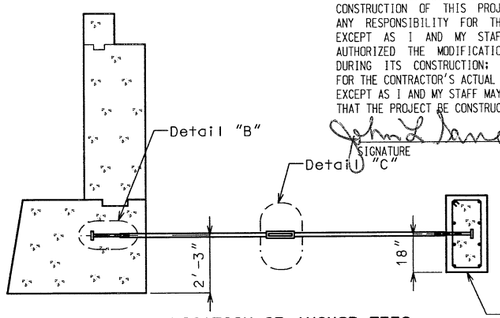


ELEVATION OF DEADMAN (STAGE 2)

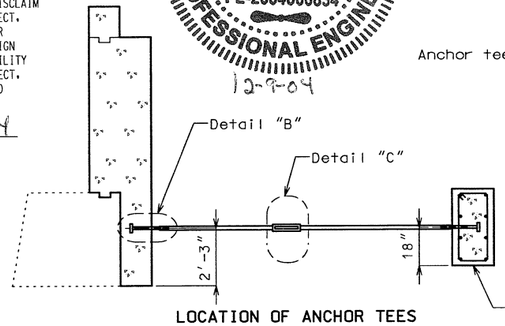


SECTION A-A

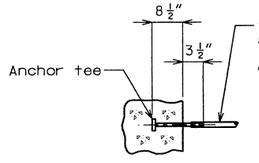
SECTION D-D



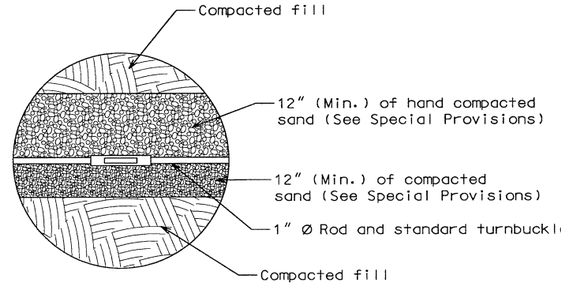
LOCATION OF ANCHOR TEES (STAGE 1)



LOCATION OF ANCHOR TEES (STAGE 2)



DETAIL "B"



DETAIL "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 THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

John L. Sanders 12-9-04
SIGNATURE DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

DETAILS OF DEADMAN ANCHORAGE SYSTEM AT END BENT 5

Compiled By: C.S.G. Checked By: Jason Hoff 11-4-04

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

Detailed May 2002
Checked Jun. 2002

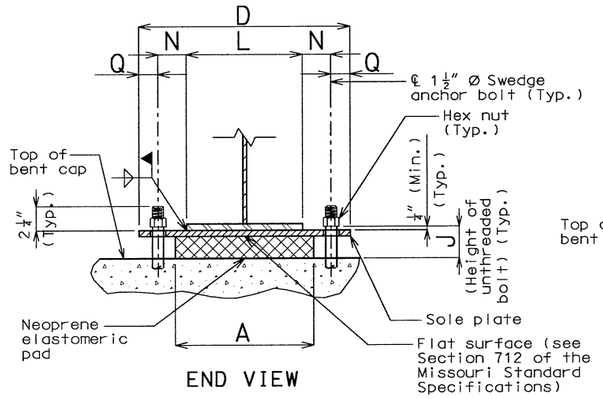
PULASKI COUNTY A30521

C:\J9S0500\A30521\A30521_017.dgn 03:35:52 PM 11/03/2004

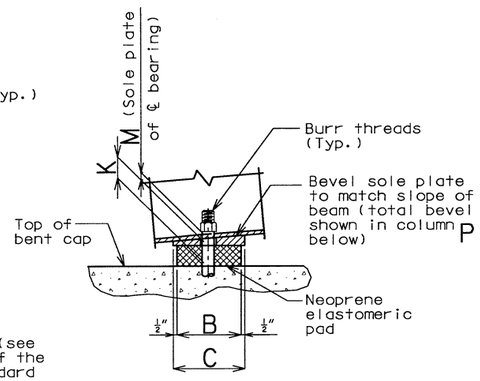
FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 18

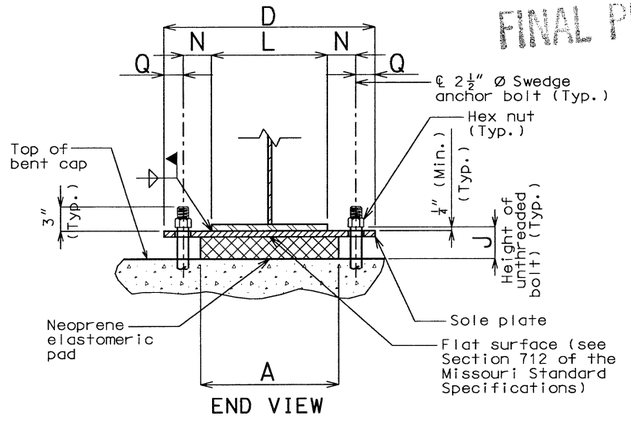
Contract ID: 030321-906
Job: J9S0500



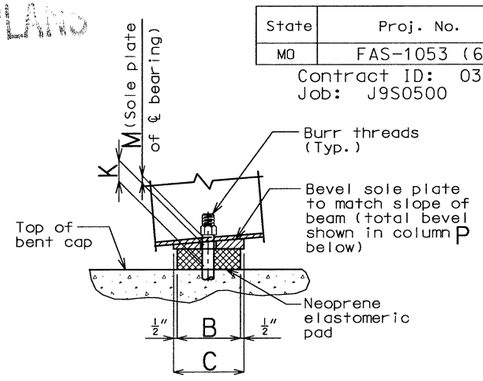
END VIEW



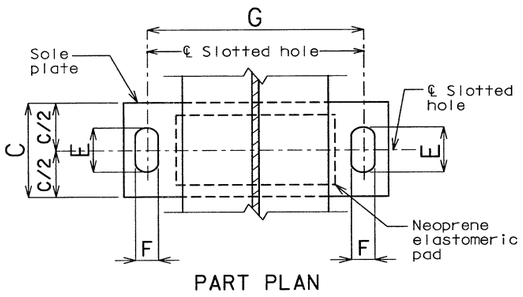
SIDE VIEW



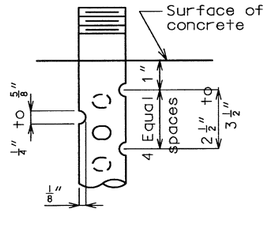
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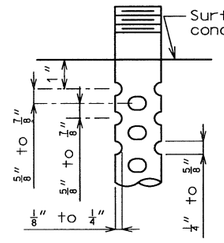
SIDE VIEW



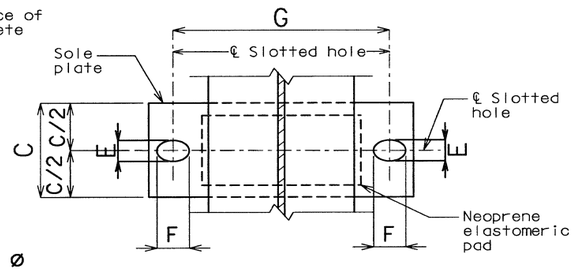
PART PLAN



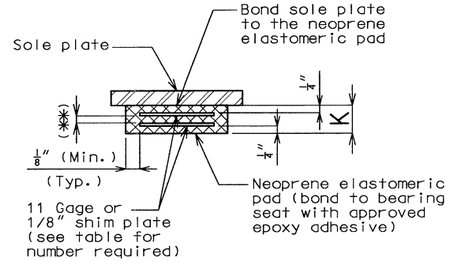
DETAIL OF 3/4" Ø THRU 2-1/2" Ø ANCHOR BOLTS



OPTIONAL DETAIL OF 1-3/8" Ø THRU 2-1/2" Ø ANCHOR BOLTS



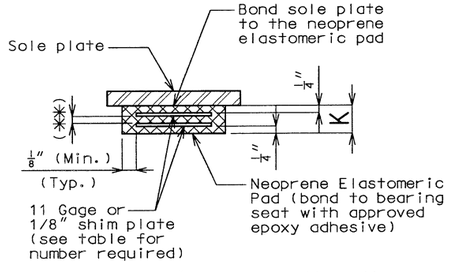
PART PLAN



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

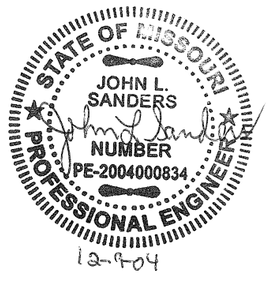
NEOPRENE ELASTOMERIC PAD

SWEDGE ANCHOR BOLT DETAILS



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

NEOPRENE ELASTOMERIC PAD



GENERAL NOTES:

Anchor bolts shall be ① Ø ASTM A709 Grade 50W steel swedged bolts and shall extend ② into the concrete with ASTM A194 - 2, 2H or ASTM 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 the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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 sole plate shall be ASTM A709 Grade 50 and shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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

FIXED BEARINGS																
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
3	14	22	23	26½	2⅝	④	18¼	3⅝	1⅞	13	1½	2⅝	0	4	3	5
															TOTAL BEARINGS	5

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

④ 3" for Girder Nos. 1a, 1b & 1c
2¾" for Girder 1d & 1e

EXPANSION BEARINGS																
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
1 & 5	10½	11½	12½	21	4½	③	16	6⅛	4⅜	12	1½	2	⅛	2½	7	10
2 & 4	16	11	12	24	3¾	③	19	4¼	2½	13	1½	3	0	2½	4	10
															TOTAL BEARINGS	20

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

① 1½" Ø at Bents 1,2,4&5
2½" Ø at Bent 3

② 15" at Bents 1,2,4&5
25" at Bent 3

③ 2" for Girder Nos. 1a, 1b & 1c
1¾" for Girder 1d & 1e

FINAL PLANS

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John L Sanders — SIGNATURE
12-9-04 — DATE

DETAILS OF LAMINATED NEOPRENE BEARINGS FOR NEW GIRDERS (STEEL STRUCTURES)

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Zurch
Checked By: Jason Stoft 11-4-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 18 of 46

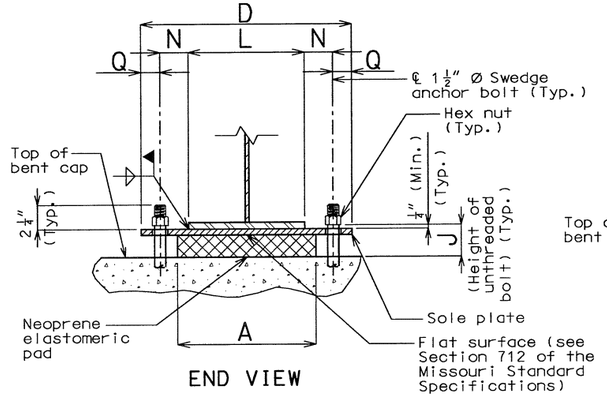
PULASKI COUNTY A30521

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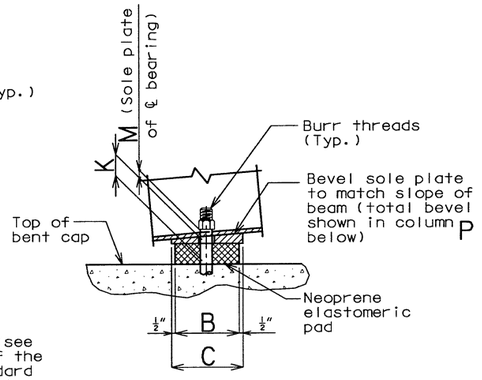
FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 19

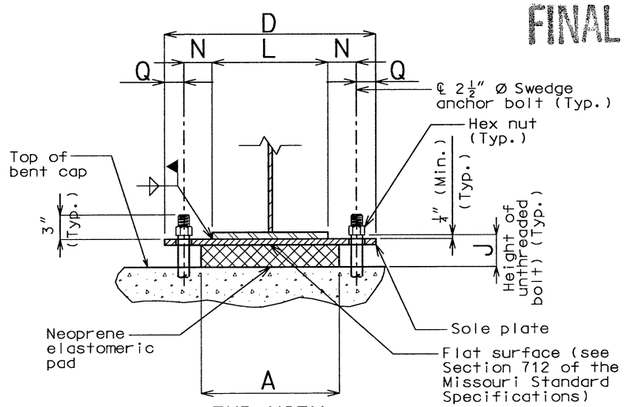
Contract ID: 030321-906
Job: J9S0500



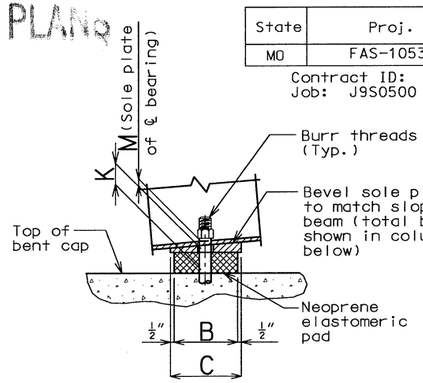
END VIEW



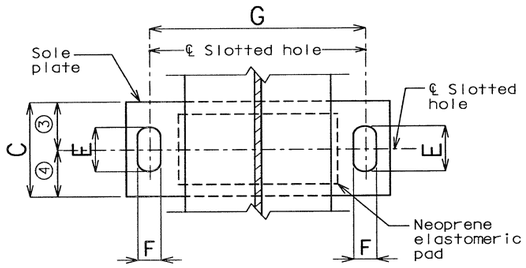
SIDE VIEW



END VIEW



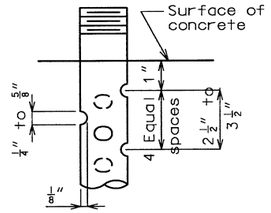
SIDE VIEW



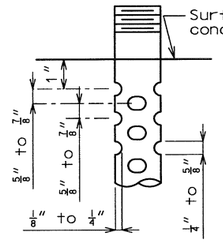
PART PLAN

③ 3" at Bents 1 & 5
8½" at Bents 2 & 4

④ 9½" at Bents 1 & 5
8½" at Bents 2 & 4

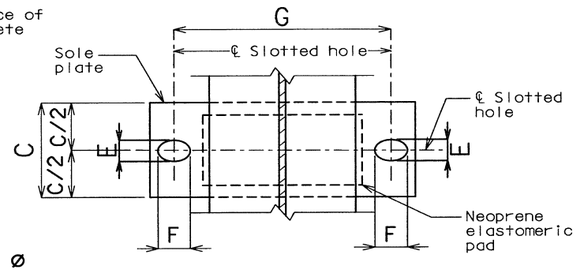


DETAIL OF 3/4" Ø THRU 2-1/2" Ø ANCHOR BOLTS

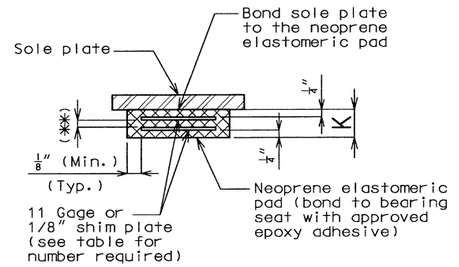


OPTIONAL DETAIL OF 1-3/8" Ø THRU 2-1/2" Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

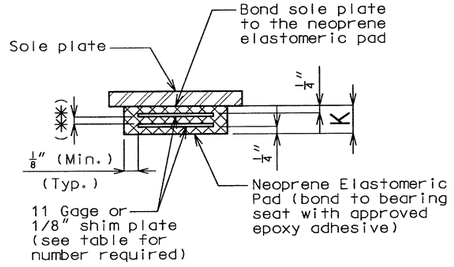


PART PLAN



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

NEOPRENE ELASTOMERIC PAD



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

NEOPRENE ELASTOMERIC PAD

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.

John L Sanders 12-9-04
SIGNATURE DATE

GENERAL NOTES:

Anchor bolts shall be ① Ø ASTM A709 Grade 50W steel swedged bolts and shall extend ② into the concrete with ASTM A194 - 2, 2H or ASTM 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 the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

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FIXED BEARINGS																
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
3	14	22	23	28½	2⅝	⑥	20½	3⅜	1⅞	15	1½	2¾	0	4	3	6
															TOTAL BEARINGS	6

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

⑥ 3" for Gdr. Nos. 4, 5 & 6
2¾" for Gdr. Nos. 1, 2 & 3

Payment for removal of existing steel rocker bearings and partial removal of existing anchor bolts shall be included in the contract unit price for Removal of Existing Bearings & Anchor Bolts, each.

Installation of new anchor bolts may require temporary removal of steel Cross frames. Any incidental removal and reconnection of cross frames will be paid for in the contract unit price for Removal of Existing Bearings and Anchor Bolts, each.

EXPANSION BEARINGS																
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES(*)	NUMBER REQUIRED
1 & 5	10½	11½	12½	18½	4½	⑤	13½	6⅛	4⅜	9	1½	2¼	⅛	2½	7	12
2 & 4	11	16	17	23½	3¾	⑤	18½	4¼	2½	14	1½	2¼	⅛	2½	4	12
															TOTAL BEARINGS	24

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

① 1½" Ø at Bents 1,2,4&5
2½" Ø at Bent 3

② 15" at Bents 1,2,4&5
25" at Bent 3

⑤ 2" for Gdr. Nos. 4, 5 & 6
1¾" for Gdr. Nos. 1, 2 & 3

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
John L Sanders
12-9-04

DETAILS OF LAMINATED NEOPRENE BEARINGS FOR EXISTING GIRDERS (STEEL STRUCTURES)

Detailed Apr. 2001
Checked May 2002

Compiled By: Cindy Russell
Checked By: Jason Hoff 11-4-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 19 of 46

PULASKI COUNTY A30521

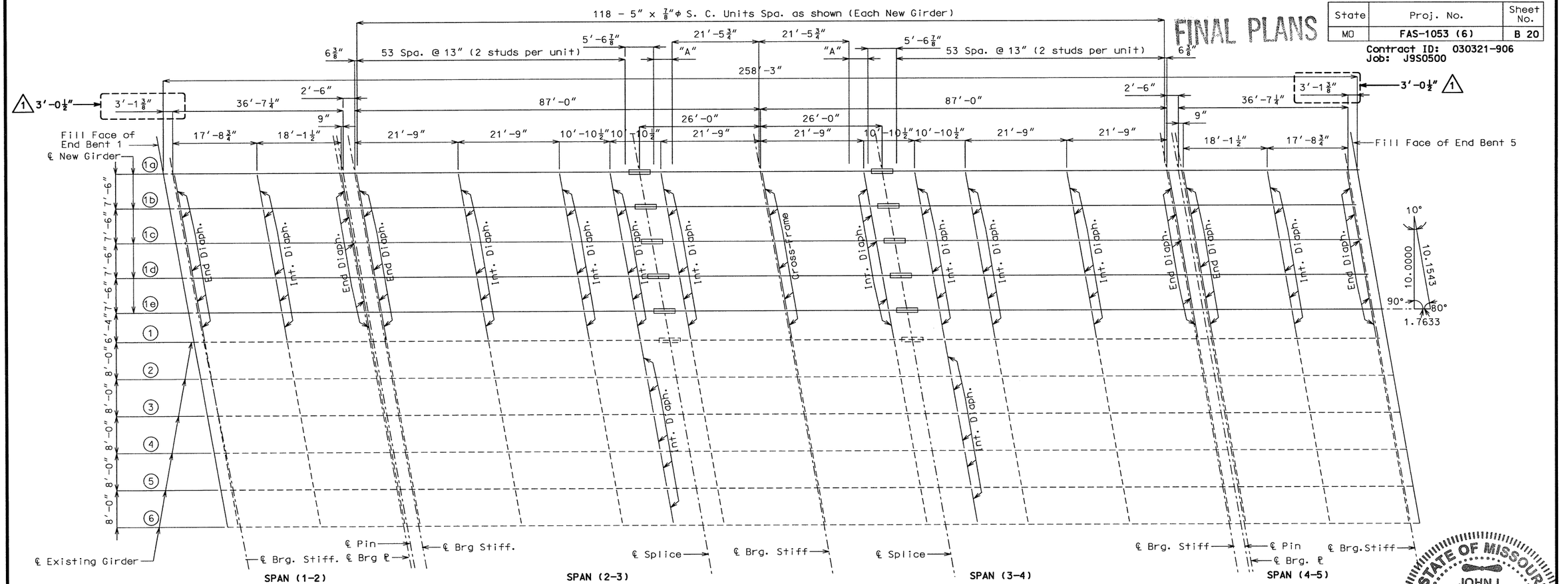
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FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 20

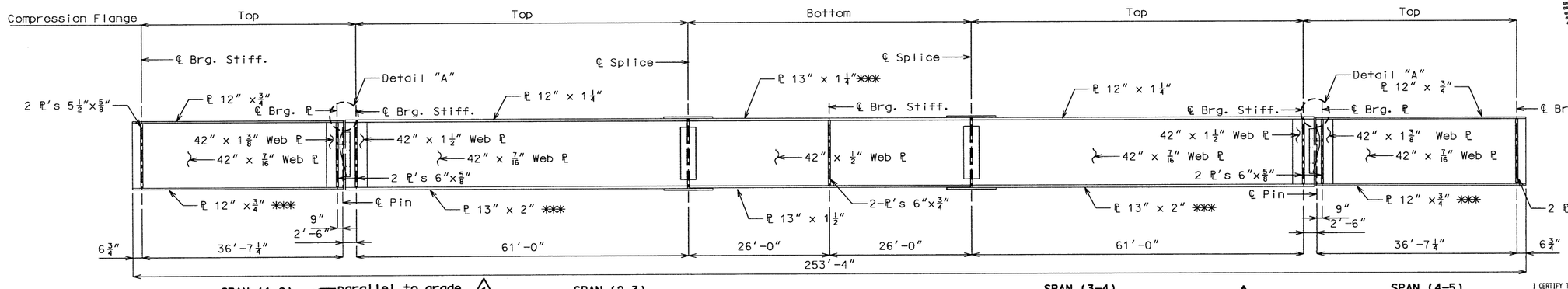
Contract ID: 030321-906
Job: J9S0500

118 - 5" x $\frac{7}{8}$"ϕ S. C. Units Spa. as shown (Each New Girder)



"A"= 4 spa. @ 6" (2 studs per unit)

PLAN OF STRUCTURAL STEEL



1 parallel to grade

Longitudinal dimensions are horizontal from ℄ brg. to ℄ brg. See Part-Longitudinal Sections on Sheet No. 24.

Fabricated structural steel shall be ASTM A709 Grade 50.

For details of bolted field splice and pin connection details, see Sheet No. 22.

For details of intermediate diaphragms, end diaphragms and stiffener details, see Sheet Nos. 23, 25, 26, 27, & 28.

ELEVATION OF GIRDERS

For details of shear connectors, see Sheet No. 23.

Plate girders shall be fabricated to conform to the camber diagram shown on Sheet No. 21.

*** Indicates flange plates subject to notch toughness requirements.

All web plates shall be subject to notch toughness requirements.

For Detail "A", see Sheet No. 22.

Bolts on intermediate diaphragms and cross frames that connect girders under different construction stage slab pours shall be installed snug tight, then tightened after both adjacent slab pours are completed.

For location of slab drain attachment holes, see Slab Drain Details sheet.

1 REVISED APR. 2003

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

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.

John L Sanders 12-9-04
SIGNATURE DATE

Detailed Apr. 2002
Checked May 2002 Compiled By: Cindy Quick

Checked By: Cindy Quick for Jeff 11-4-04

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

Sheet No. 20 of 46

PULASKI COUNTY A30521

REV.

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FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B-21

Contract ID: 030321-906
Job: J9S0500

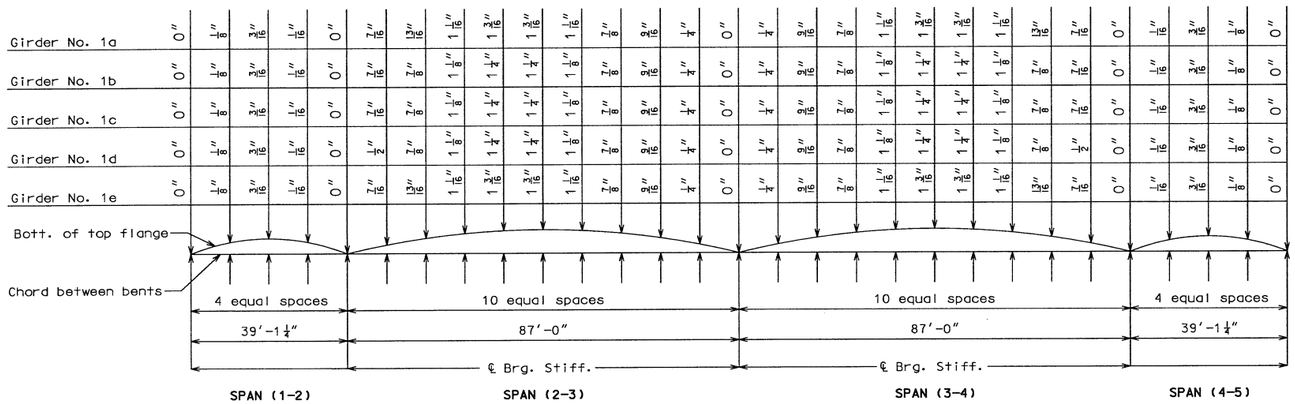
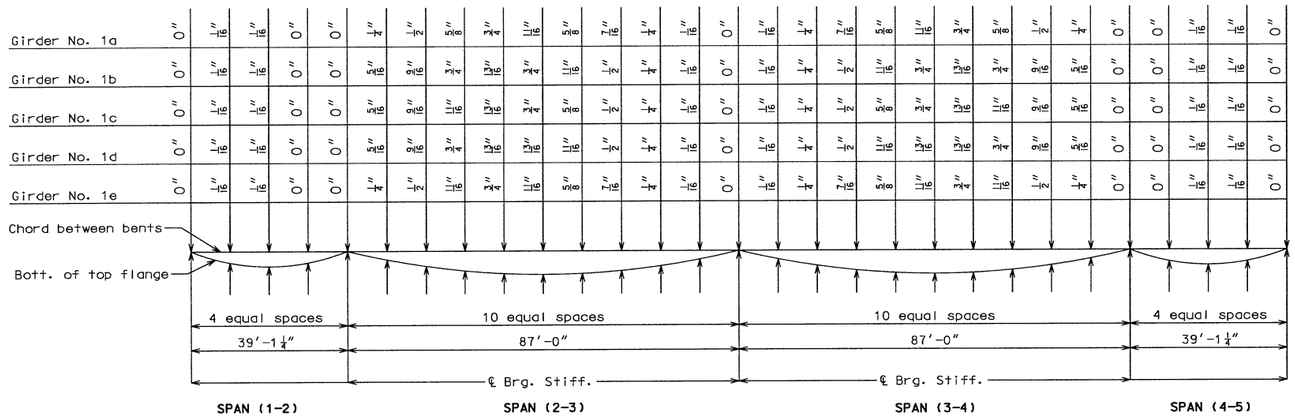


PLATE GIRDER CAMBER DIAGRAM

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



DEAD LOAD DEFLECTION

Note: ① of dead load deflection is due to the weight of structural steel.

Dead load deflection includes weight of structural steel and concrete slab.

① 24% for Girder No. 1a
23% for Girder No. 1b, 1c & 1d
25% for Girder No. 1e

Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab) ✱✱

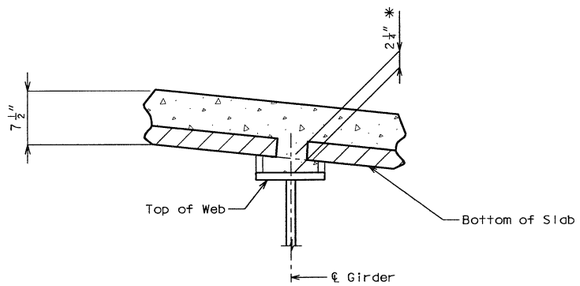
	Span (1-2) (39′-1¼″ ℄ brg − ℄ brg.)				
	℄ brg.	.25	.50	.75	℄ brg.
Girder No. 1a	895.59	895.65	895.70	895.74	895.78
Girder No. 1b	895.71	895.77	895.82	895.86	895.91
Girder No. 1c	895.84	895.89	895.95	895.99	896.03
Girder No. 1d	895.96	896.02	896.07	896.11	896.15
Girder No. 1e	896.09	896.14	896.19	896.23	896.27

	Span (2-3) (87′-0″ ℄ brg − ℄ brg.)										
	℄ brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ brg.
Girder No. 1a	895.78	895.83	895.88	895.92	895.95	895.97	895.98	895.98	895.98	895.98	895.98
Girder No. 1b	895.91	895.96	896.01	896.04	896.07	896.09	896.10	896.11	896.10	896.10	896.10
Girder No. 1c	896.03	896.08	896.13	896.17	896.19	896.21	896.22	896.23	896.22	896.22	896.22
Girder No. 1d	896.15	896.20	896.25	896.29	896.32	896.33	896.34	896.35	896.34	896.34	896.34
Girder No. 1e	896.27	896.32	896.37	896.40	896.43	896.45	896.46	896.46	896.46	896.45	896.45

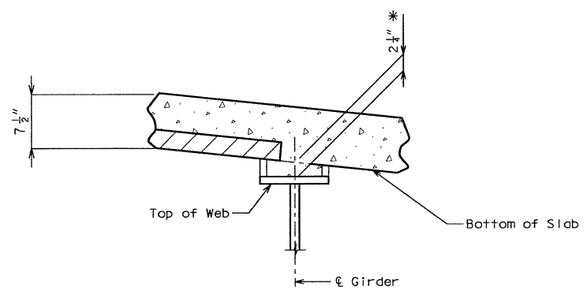
	Span (3-4) (87′-0″ ℄ brg − ℄ brg.)										
	℄ brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ brg.
Girder No. 1a	895.98	895.99	896.00	896.01	896.01	896.00	895.99	895.97	895.94	895.90	895.86
Girder No. 1b	896.10	896.11	896.12	896.13	896.13	896.13	896.11	896.09	896.06	896.02	895.97
Girder No. 1c	896.22	896.22	896.23	896.24	896.24	896.24	896.23	896.20	896.17	896.13	896.08
Girder No. 1d	896.34	896.34	896.35	896.36	896.36	896.36	896.34	896.32	896.28	896.24	896.20
Girder No. 1e	896.45	896.46	896.46	896.47	896.48	896.47	896.45	896.43	896.39	896.35	896.31

	Span (4-5) (39′-1¼″ ℄ brg − ℄ brg.)				
	℄ brg.	.25	.50	.75	℄ brg.
Girder No. 1a	895.86	895.82	895.79	895.74	895.69
Girder No. 1b	895.97	895.93	895.90	895.86	895.80
Girder No. 1c	896.08	896.05	896.01	895.97	895.91
Girder No. 1d	896.20	896.16	896.12	896.08	896.02
Girder No. 1e	896.31	896.27	896.23	896.19	896.14

✱✱ Elevations are based on a constant slab thickness of 7½″ and include allowance for theoretical dead load deflections due to weight of slab (including precast panel).



GIRDER NOS. 1b, 1c, & 1d



GIRDER NOS. 1a & 1e

✱ Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more than the ① of Dead Load Deflection due to weight of structural steel. No payment will be made for additional forming or concrete required for variable haunching.

THEORETICAL SLAB HAUNCH

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.

John L. Sanders — 12-9-04
SIGNATURE — DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Bewley
Checked By: Jason Hoff 11-4-04
Note: This drawing is not to scale. Follow dimensions.

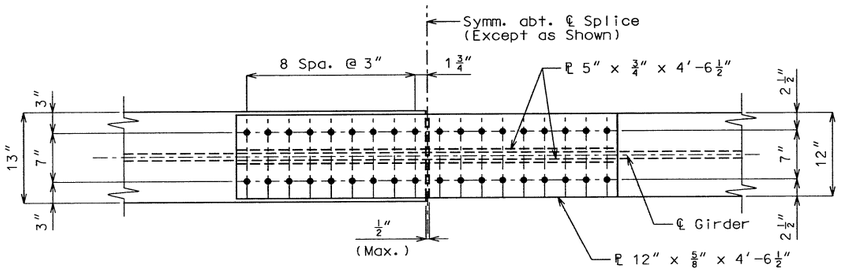
PULASKI COUNTY A30521 REV.

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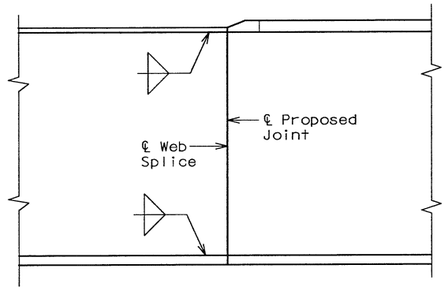
FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B22

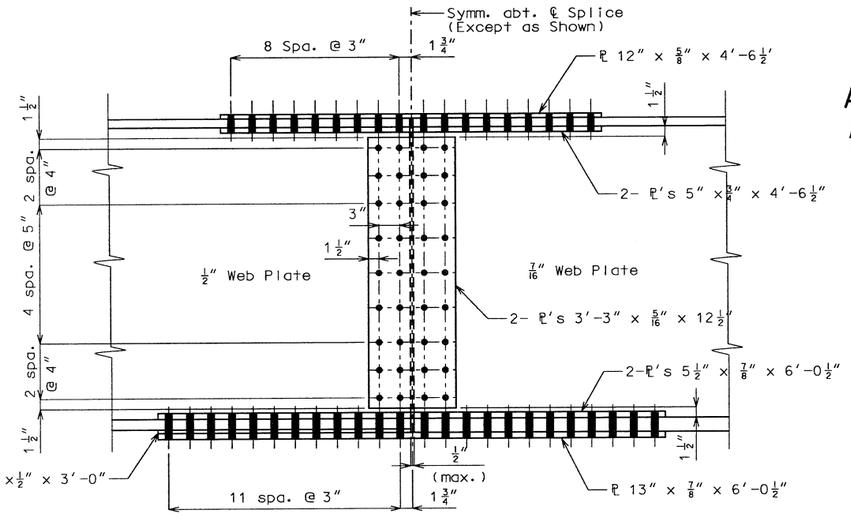
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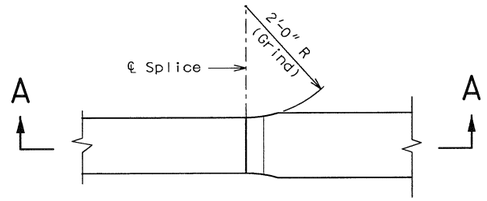
PLAN OF TOP FLANGE



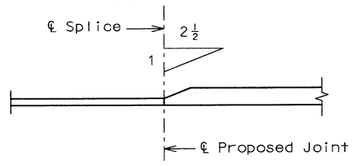
WELDED SHOP WEB SPLICE



DETAIL OF BOLTED FIELD SPLICE

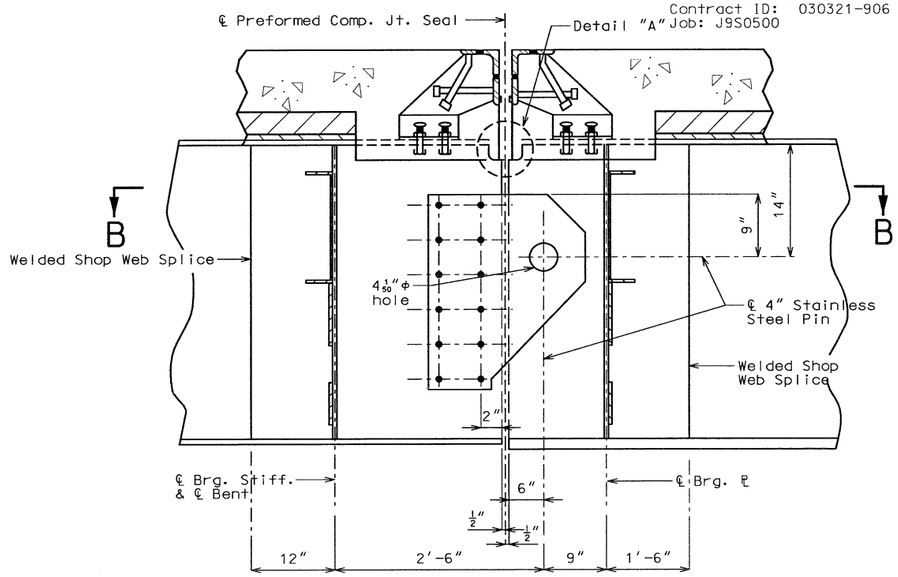


PLAN SHOWING
2'-0" RADIUS TRANSITION

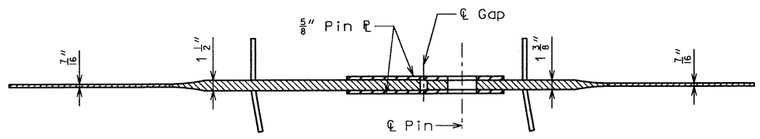


SECTION A-A
WELDED SHOP FLANGE SPLICE

Note: Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional welded shop web and flange splices.

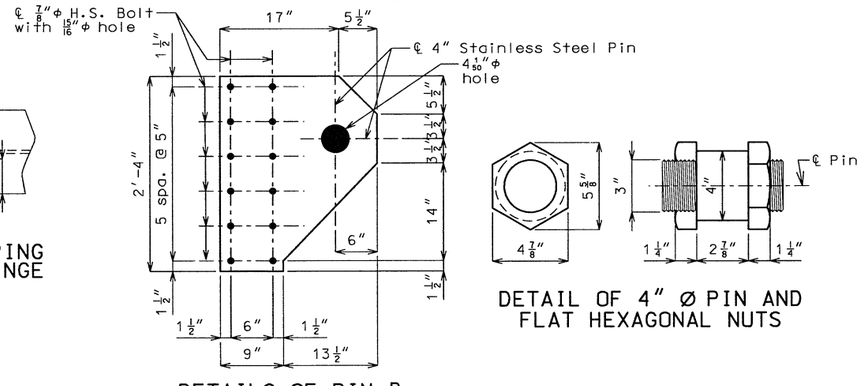


ELEVATION



SECTION B-B

PIN PLATE CONNECTION

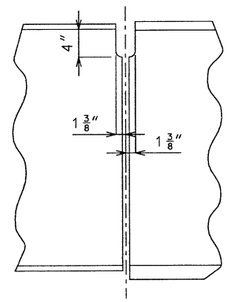


DETAIL OF 4" Ø PIN AND
FLAT HEXAGONAL NUTS

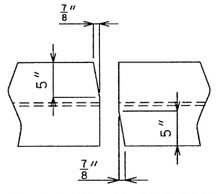
DETAILS OF PIN ℄

Note:
Pin plate shall be subject to notch toughness requirements.
Pin shall be Nitronic 60 Alloy.
Nut may be 316 Alloy or Nitronic 60 Alloy.

The cost of the pins shall be included in the price bid for Fabricated Structural Low Alloy Steel (Plate Girders) ASTM A709 Grade 50.



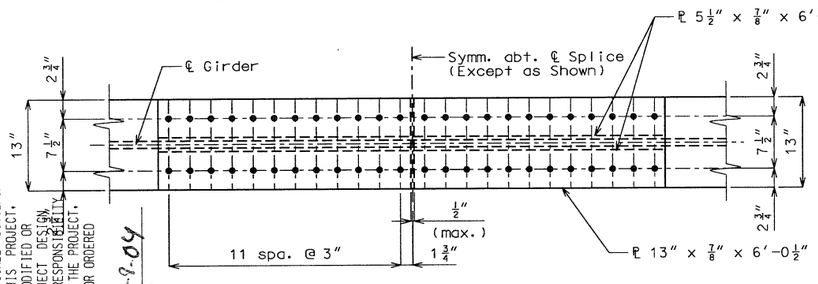
WEB COPING DETAIL @ HINGE



FLANGE CLIPPING
DETAIL @ HINGE

DETAIL "A"

For Details of Preformed Compression Joint Seal, see Sheet Nos. 32 & 34.



PLAN OF BOTTOM FLANGE

Use 7/8" Ø high strength bolts with 15/16" Ø holes.
Contact surfaces are to be blast cleaned in accordance with Section 712.12 of the Missouri Standard Specifications.

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.

John L. Sanders
SIGNATURE

12-9-04
DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Reynolds
Checked By: Jason Hall 11-4-04

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

Sheet No. 22 of 46

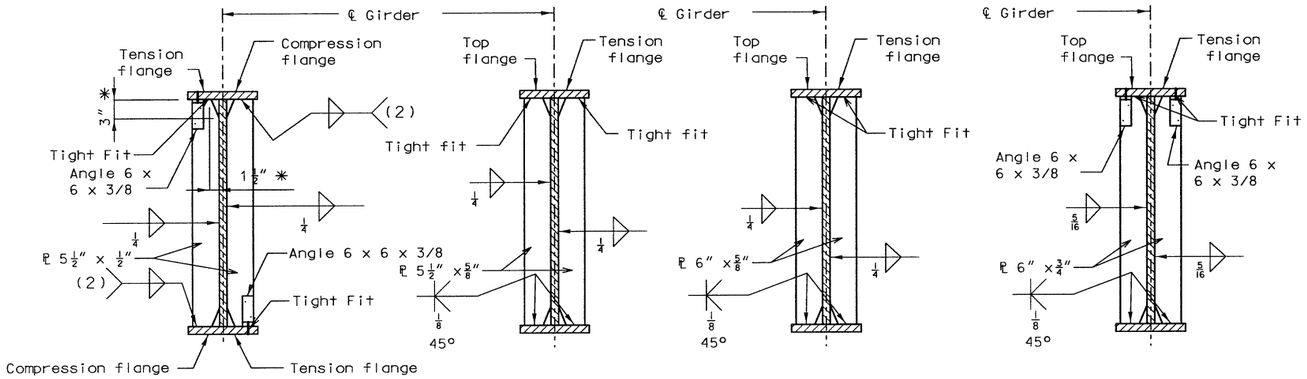
PULASKI COUNTY A30521

REV:

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12-9-04

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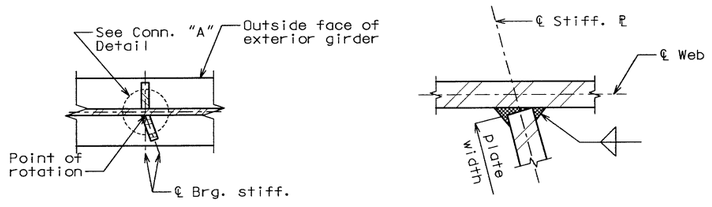


INT. DIAPH. CONN. PLATE | END BRG. STIFF. | INT. BT. 2 & 4 BRG. STIFF. | INT. BT. 3 BRG. STIFF.

(2) Weld to compression flange as located on elevation of girder.

* Typical for all int. web stiff., int. diaph. conn. pl. and brg. stiff.

WELDING DETAILS



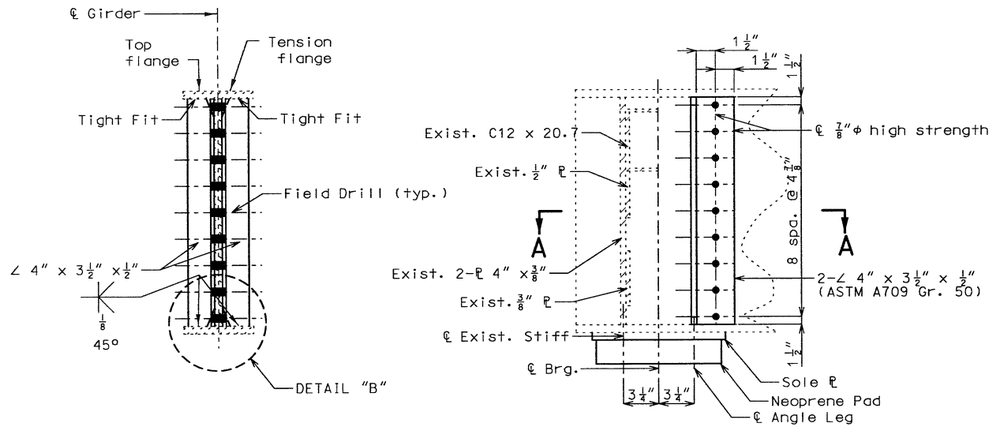
BRG. STIFF.

** CONN. "A"

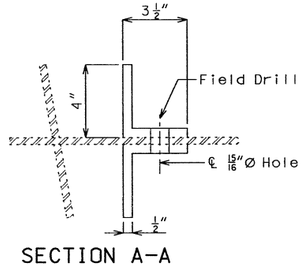
Note: ** Also used for Int. Diaph. Conn. Plate attachment

TYPICAL LOCATION DETAILS

WELDING DETAILS



STIFFENER AT END BENTS FOR EXIST. GIRDERS



SECTION A-A

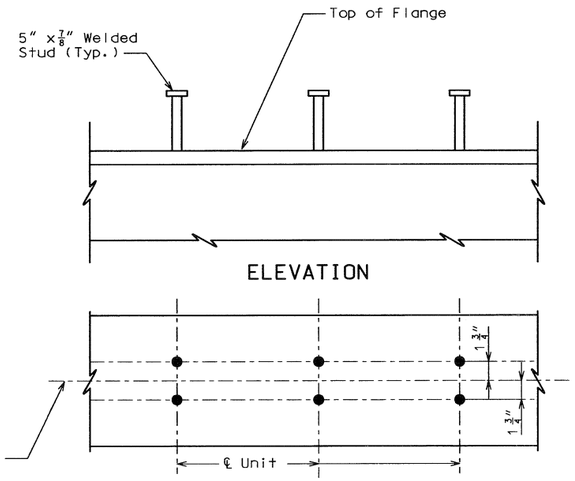
FINAL PLANS

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John L Sanders
SIGNATURE

12-9-04
DATE

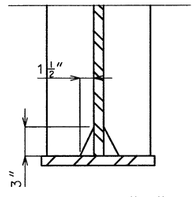
STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04



ELEVATION

PLAN

DETAIL OF SHEAR CONNECTORS (2 STUDS PER UNIT)



DETAIL "B"

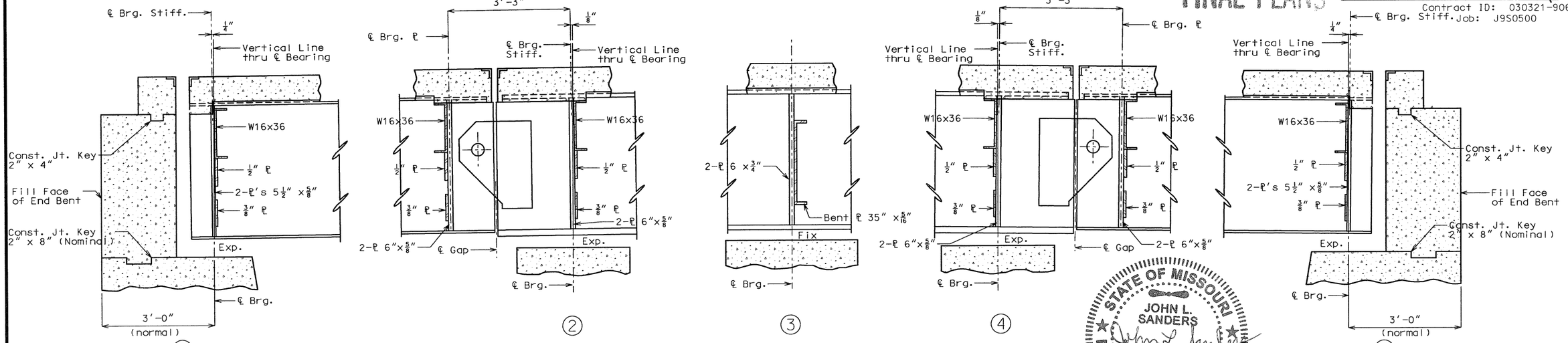
Weight of 1157 lbs. of shear connectors is included in the weight of Fabricated Structural Low Alloy (Plate Girders).

Shear connectors shall meet the requirements of Section 1037 of the Missouri Standard Specifications.

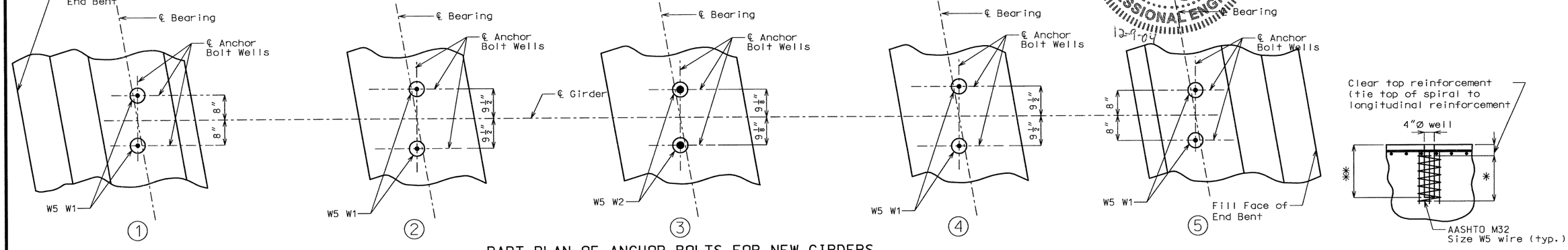
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B-24

FINAL PLANS

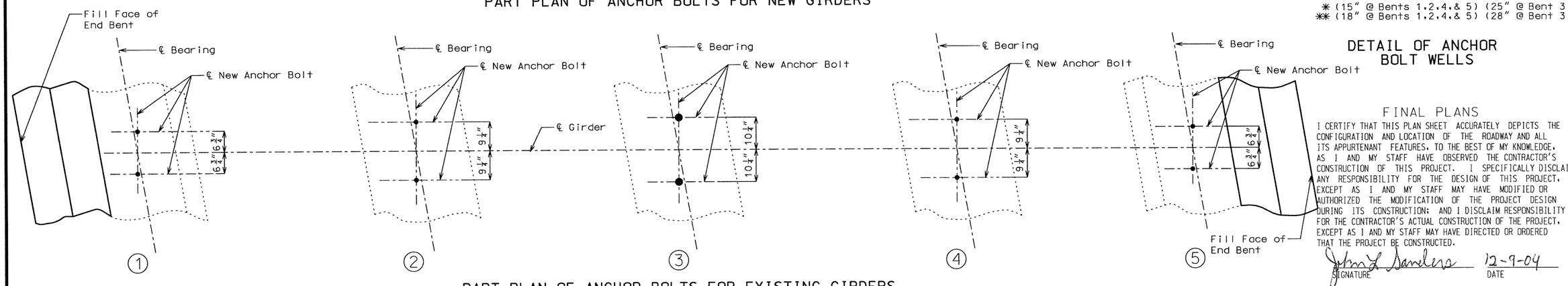
Contract ID: 030321-906
Job: J9S0500



PART LONGITUDINAL SECTION



PART PLAN OF ANCHOR BOLTS FOR NEW GIRDERS



PART PLAN OF ANCHOR BOLTS FOR EXISTING GIRDERS

* (15" @ Bents 1,2,4,& 5) (25" @ Bent 3)
** (18" @ Bents 1,2,4,& 5) (28" @ Bent 3)

DETAIL OF ANCHOR BOLT WELLS

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

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.

John L Sanders 12-9-04
SIGNATURE DATE

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Bruce
Checked By: Steven Yost 11-4-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 24 of 46

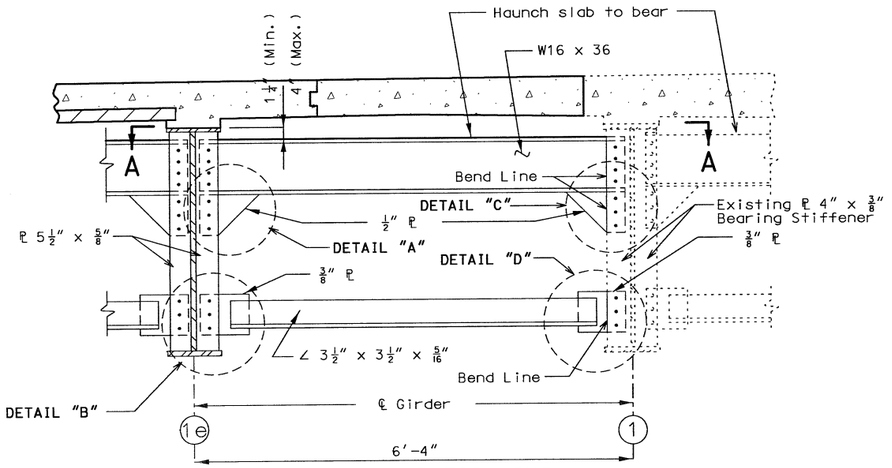
PULASKI COUNTY A30521 REV.

C:\J9S0500\A30521\A30521_024.dgn 08:02:18 AM 11/04/2004

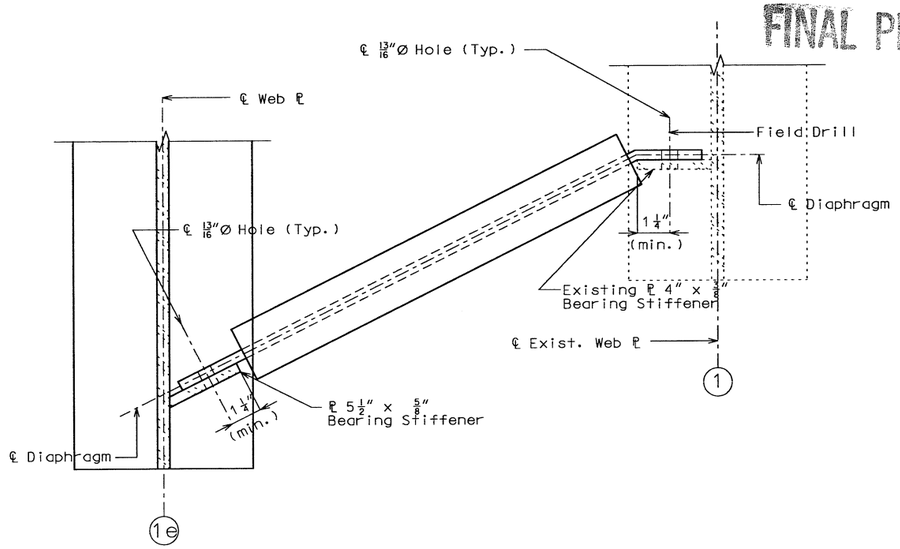
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 25

Contract ID: 030321-906
Job: J9S0500

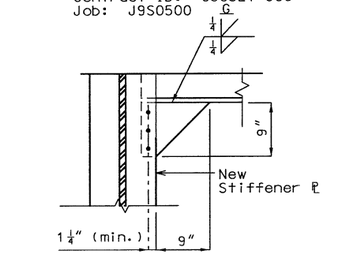
FINAL PLANS



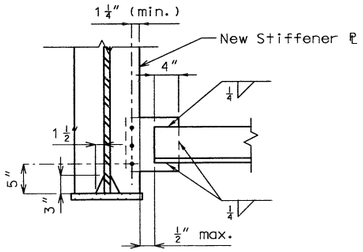
TYPICAL PART SECTION SHOWING END DIAPHRAGM CONN. BETWEEN GIRDERS 1e & 1 @ BENTS 1 & 5 AND @ ℄ BRG. ℄ NEAR PIN PLATE CONNECTION



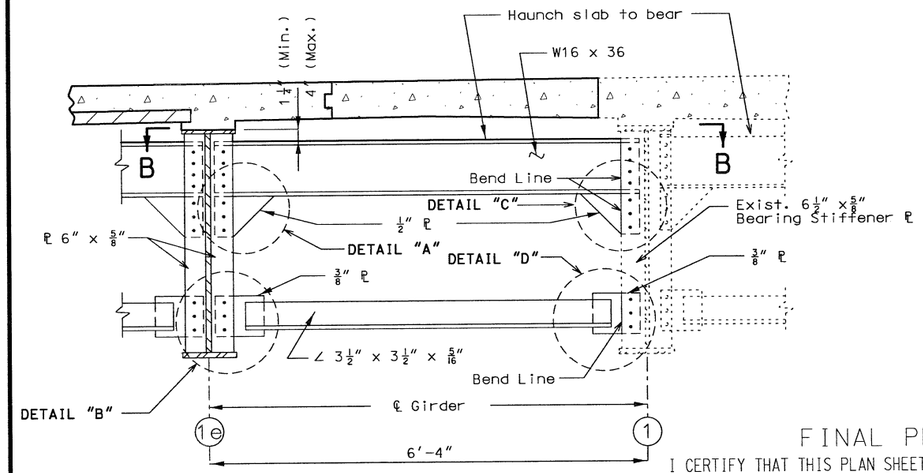
SECTION A-A



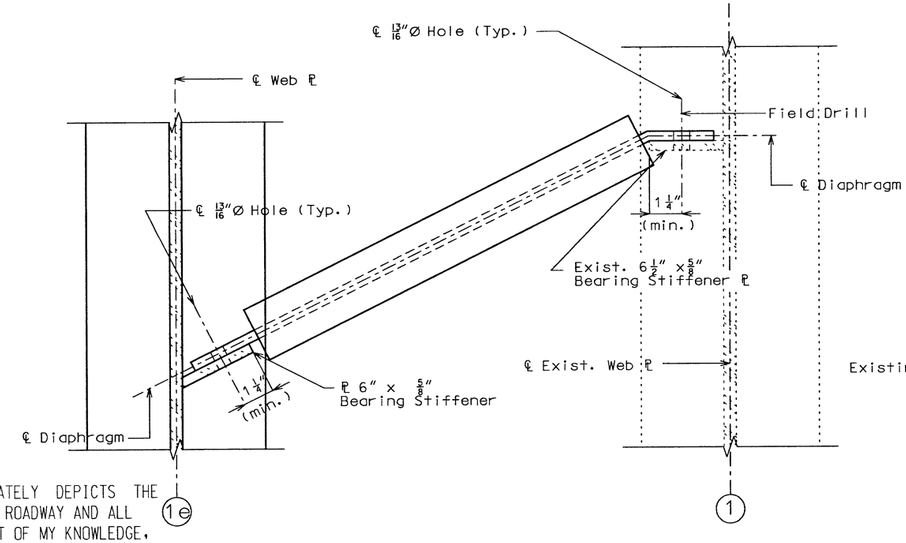
DETAIL "A"



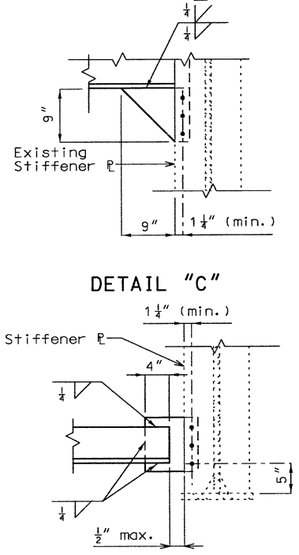
DETAIL "B"



TYPICAL PART SECTION SHOWING END DIAPHRAGM CONN. BETWEEN GIRDER 1e & 1 @ BENTS 2 & 4



SECTION B-B



DETAIL "C"

DETAIL "D"

FINAL PLANS

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John L Sanders 12-9-04
SIGNATURE DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

Detailed Apr. 2002
Checked May 2002

Compiled By: C. Schmidt
Checked By: Jason Seitz 11-4-04

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

Sheet No. 25 of 46

PULASKI COUNTY A30521

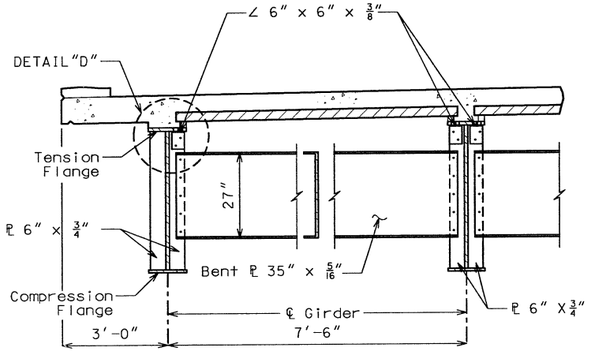
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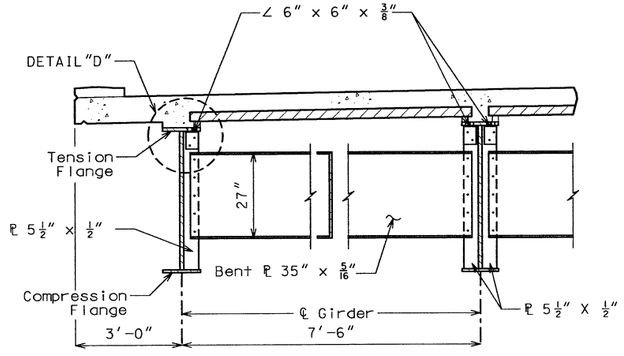
FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 26

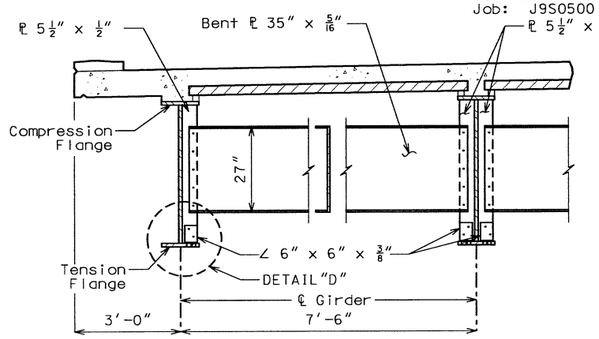
Contract ID: 030321-906
Job: J9S0500



TYPICAL PART SECTION SHOWING
CROSS FRAMES AT BENT 3
TOP FLANGE IN TENSION



TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
TOP FLANGE IN TENSION



TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
BOTTOM FLANGE IN TENSION

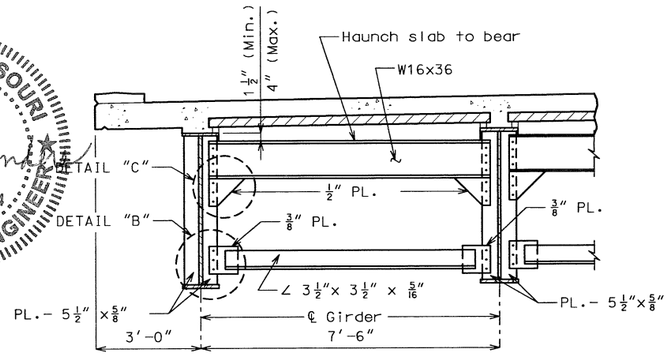
FINAL PLANS

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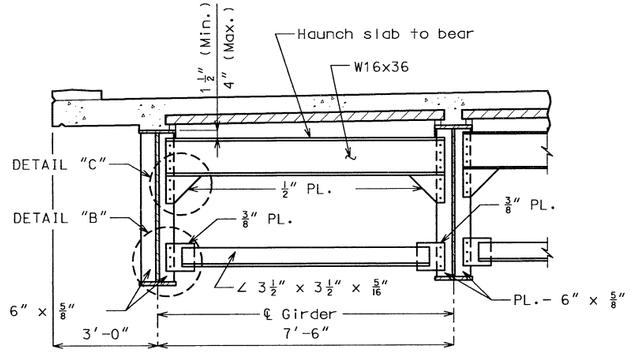
John L Sanders 12-9-04
SIGNATURE DATE

At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 3/16" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate or transverse web stiffener shall be standard size.

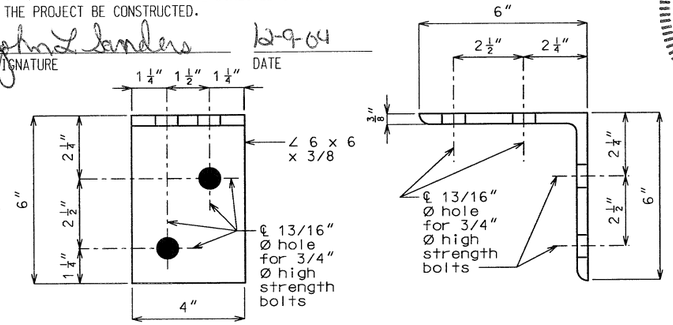
STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

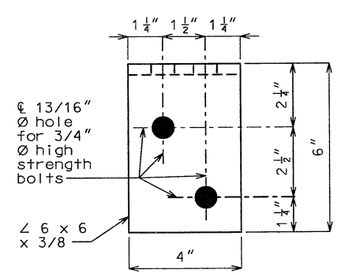


TYPICAL PART SECTION SHOWING
END DIAPHRAGMS @ BENTS 1 & 5



TYPICAL PART SECTION SHOWING
END DIAPHRAGMS @ BENTS 2 & 4
AND @ ℄ BRG. ℙ NEAR PIN PLATE CONNECTION



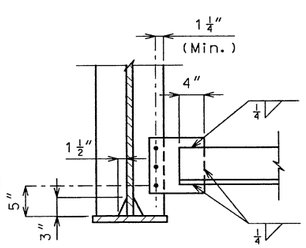


PLAN

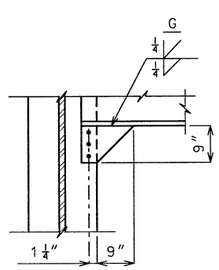
DETAIL OF FLANGE CONNECTION ANGLE

Note: The two 3/4" Ø H.S. bolts that connect the 6 x 6 x 3/8 angle to the top flange shall be placed so the nut is on the inside of flange (toward the web).

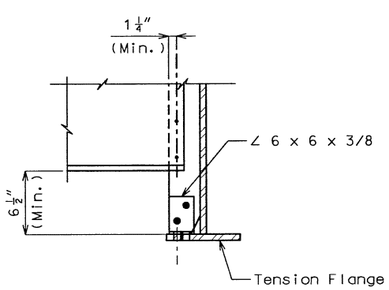
The 6 x 6 x 3/8 angle legs shall be adjusted to conform to the variable angle between bearing stiffener and top flange created by girder tilt due to grade requirements.



DETAIL "B"



DETAIL "C"



DETAIL "D"

Detailed Apr. 2002
Checked May 2002

Compiled By: Chad Bowles
Checked By: Jason Hoff 11-4-04

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

Sheet No. 26 of 46

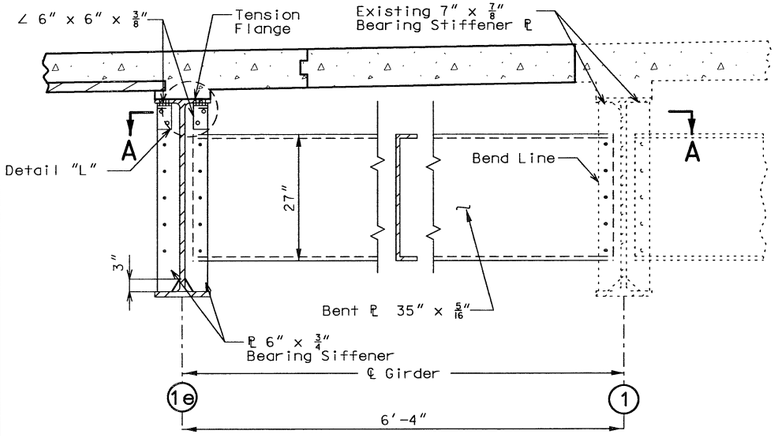
PULASKI COUNTY A30521

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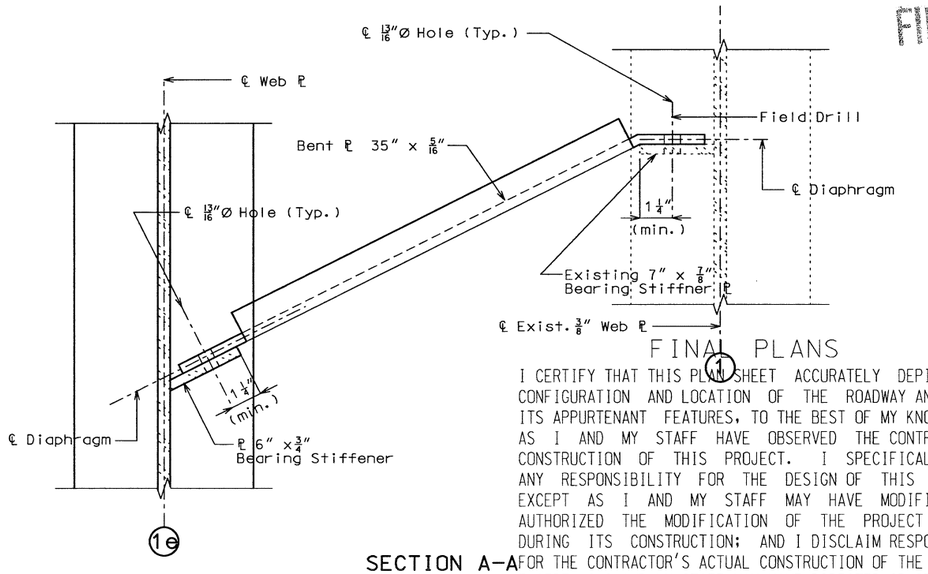
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 27

Contract ID: 030321-906
Job: J9S0500

FINAL PLANS



TYPICAL PART SECTION SHOWING
CROSS FRAMES BETWEEN GIRDERS
1e & 1 AT BENT 3

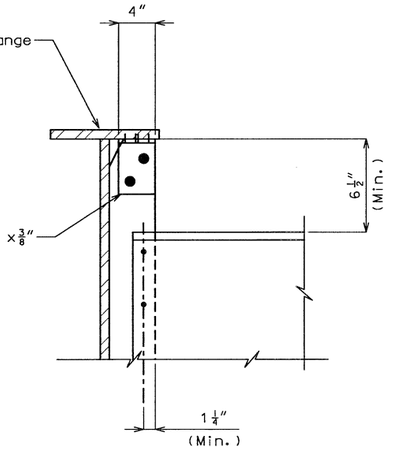


SECTION A–A

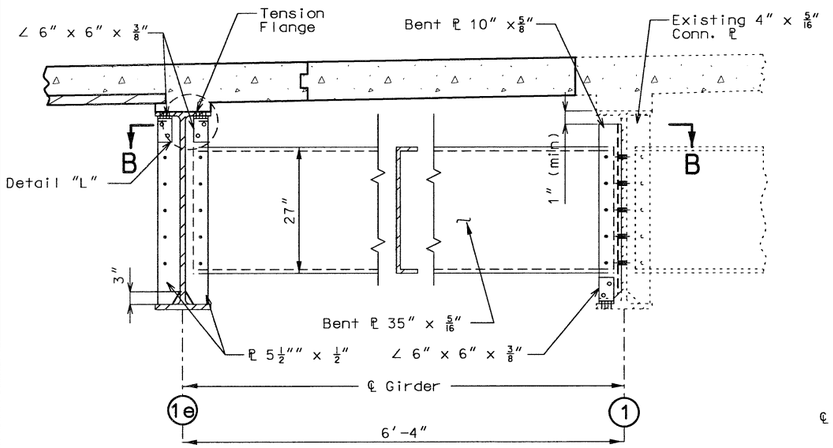
FINAL PLANS

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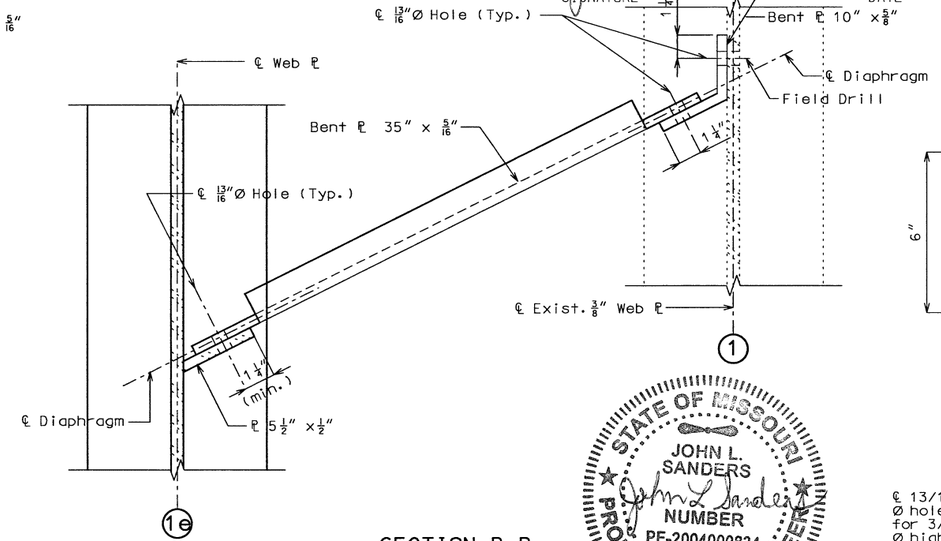
John L Sanders — SIGNATURE
12-9-04 — DATE



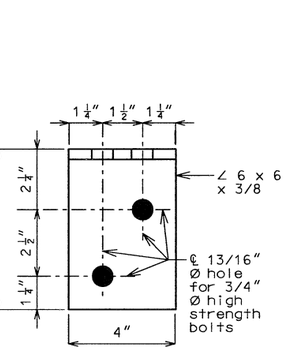
DETAIL "L"



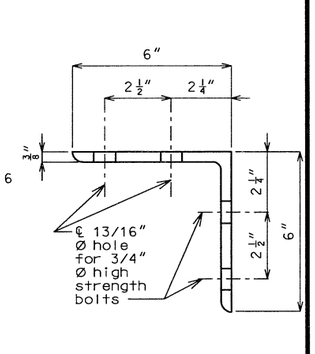
TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
BETWEEN GIRDERS 1e & 1



SECTION B–B

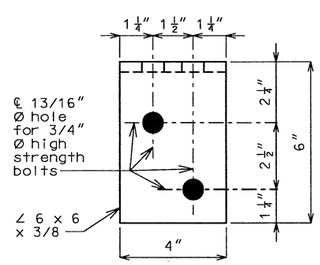


ELEVATION



SIDE VIEW

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER
PE-2004000834
PROFESSIONAL ENGINEER
John L Sanders
12-9-04



PLAN
FLANGE CONNECTION ANGLE

NOTES:
At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 3/16" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate shall be standard size.

Detailed Apr. 2002
Checked May 2002

Compiled By: [illegible] Checked By: Jason Lock 11-4-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 27 of 46

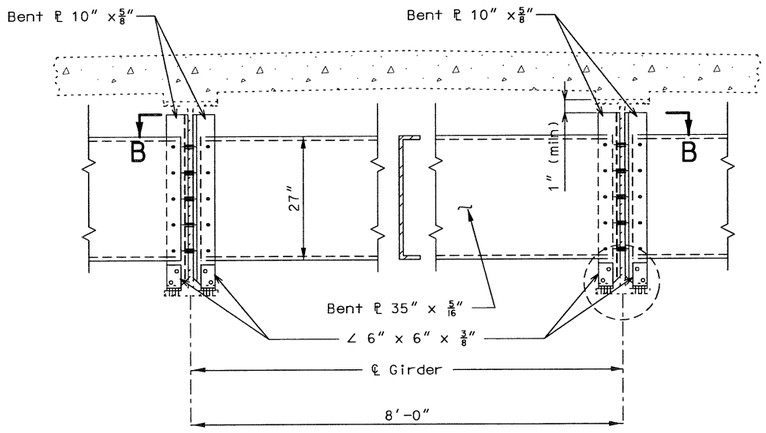
PULASKI COUNTY A30521 REV.

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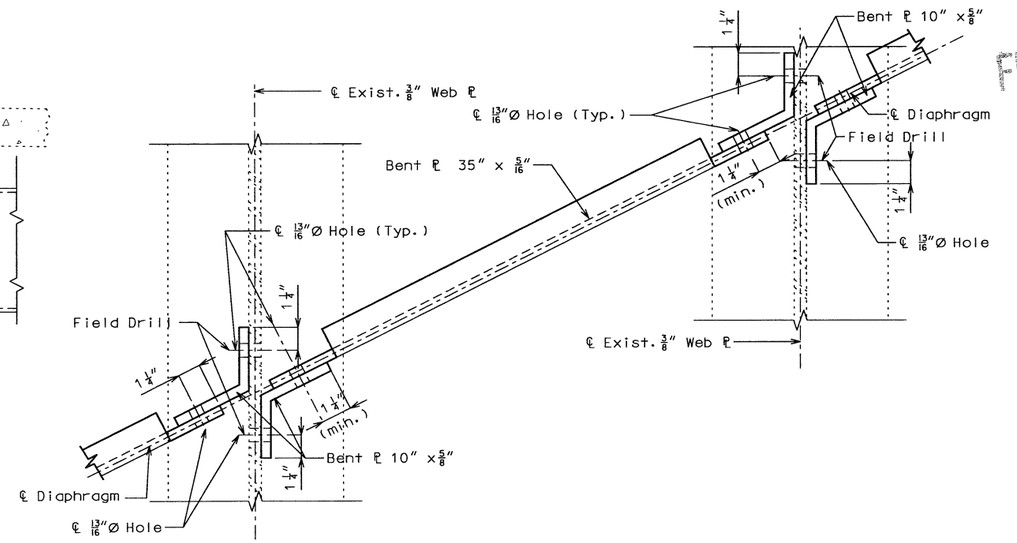
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 28

Contract ID: 030321-906
Job: J9S0500

FINAL PLANS

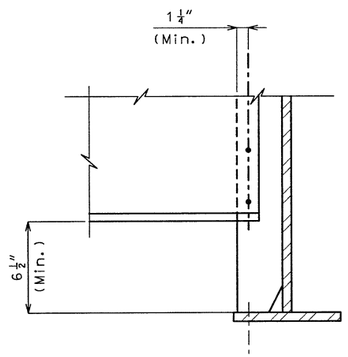


TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
BETWEEN EXISTING GIRDERS



SECTION A-A

NOTES:
At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 1/16" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate shall be standard size.



DETAIL "A"

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

FINAL PLANS

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John L Sanders — SIGNATURE
12-9-04 — DATE

Detailed Apr. 2002
Checked May 2002

Compiled By: Cwell
Checked By: Jason Hoff 11-4-04
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

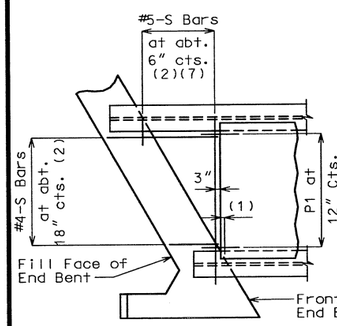
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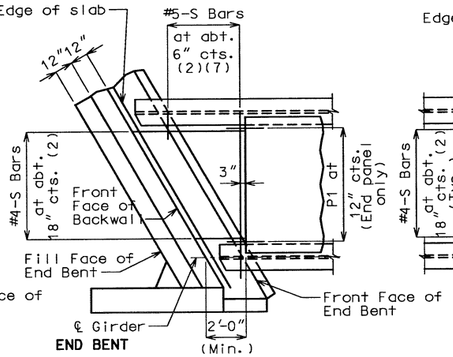
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 29

Contract ID: 030321-906
Job: J9S0500

FINAL PLANS

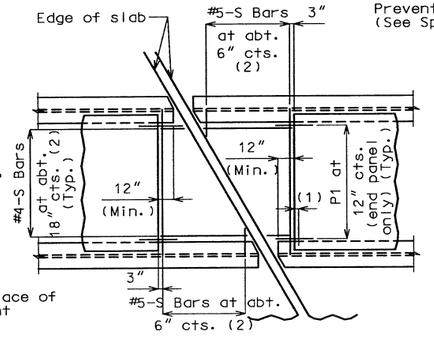


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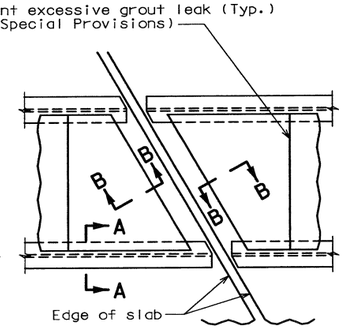


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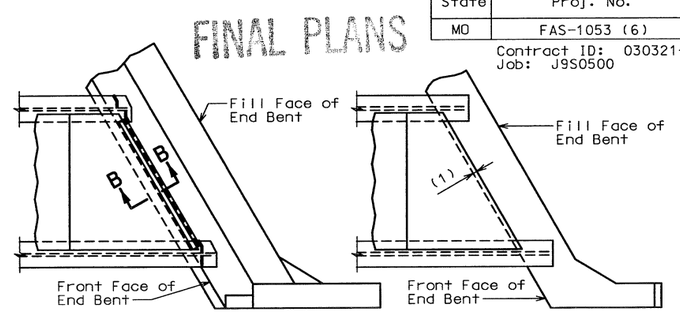
PANELS-SQUARED ENDS



INT. BENT (EXP. GAP)



INT. BENT (EXP. GAP)

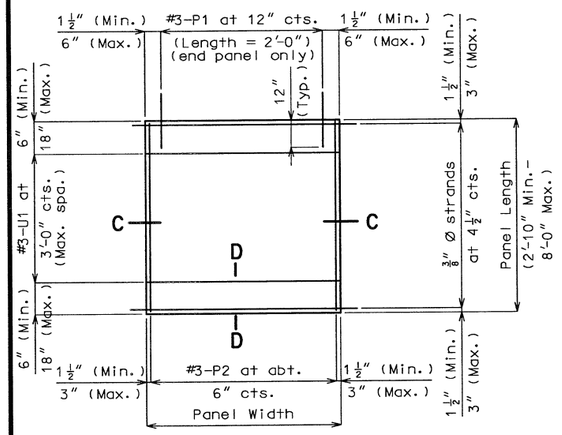


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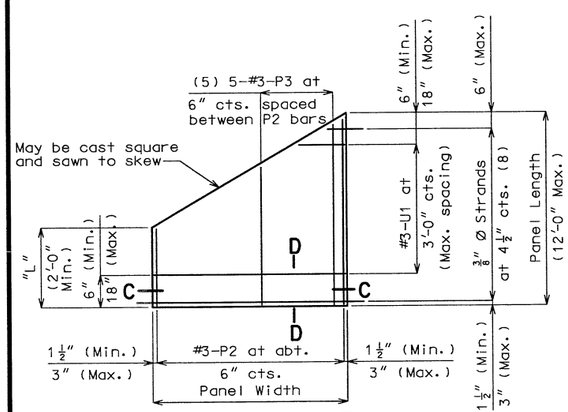
PANELS-SKEWED ENDS

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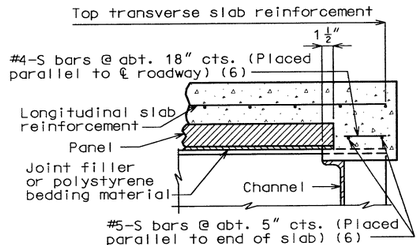
PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT



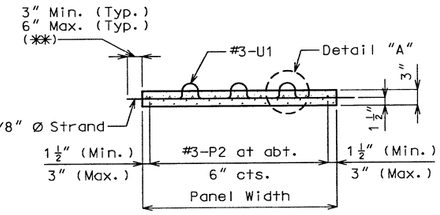
PLAN OF PRECAST PRESTRESSED PANEL



PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)

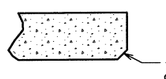


PART SECTION B-B

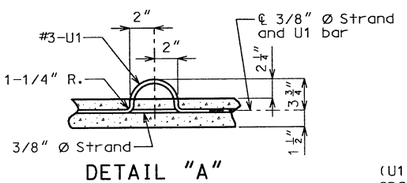


SECTION C-C

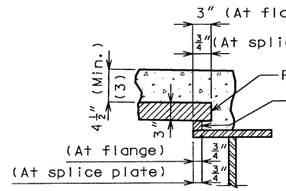
(**) Prestressing strands to extend 6" or to within 1" of adjacent panel.



SECTION D-D



DETAIL "A"



SECTION A-A

Note: Use slab haunching diagram on sheet No. 21 for determining thickness of joint filler or polystyrene bedding material within the limits noted in general notes.

NOTES:

Cost of S-bars shall be included in the price bid for Slab on Steel per square yard.

S-bars are not listed in the 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) Adjustment in the slab thickness, joint filler or polystyrene bedding material thickness, or grade will be necessary if the girder camber after erection differs from plan camber by more than the ¼ of dead load deflection due to the weight of structural steel. No payment will be made for additional labor or materials for the adjustment.

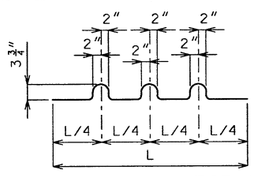
(4) All panel support pads shall be glued to the girder. When support thickness exceeds 1-1/2 inches, the pads shall be glued top and bottom. The glue used shall be the type recommended by the panel support pads manufacturer.

(5) Use #3-P3 bars if panel is skewed 45° or greater.

(6) S-bars shown are used with skewed end panels, or square end panels of square structures only. The #5 S-bars shall extend the width of slab (30 inches lap if necessary) or to within 3 inches of expansion device assemblies.

(7) Extend S-bars 18" beyond the front face of end bents only.

(8) Any strand 2'-0" or shorter shall have a #3 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.



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).

GENERAL NOTES:

PRESTRESSED PANELS:

Concrete for prestressed panels shall be Class A1 with f'c = 6,000 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" 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 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq. in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 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 additional concrete and reinforcing required.

Minimum joint filler or polystyrene bedding material thickness shall be 3/4 inch except over splice plates where minimum thickness shall be 1/4 inch. When joint filler or polystyrene bedding material is less than 1/2 inch thick over a splice plate, make the width of material at the splice the same width as panel on splice. Thicker 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 splices, and the maximum change in thickness between adjacent panels shall be 1/4 inch to correct for variations from girder camber diagram. The polystyrene bedding material may be cut to match haunch height above top of flange.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

REINFORCING STEEL:

All dimensions are out to out.

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

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.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Steel.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

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 inch. 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 feet.

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.

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER

DETAILS OF PRECAST PRESTRESSED PANELS

Detailed Jun. 2002
Checked Jul. 2002

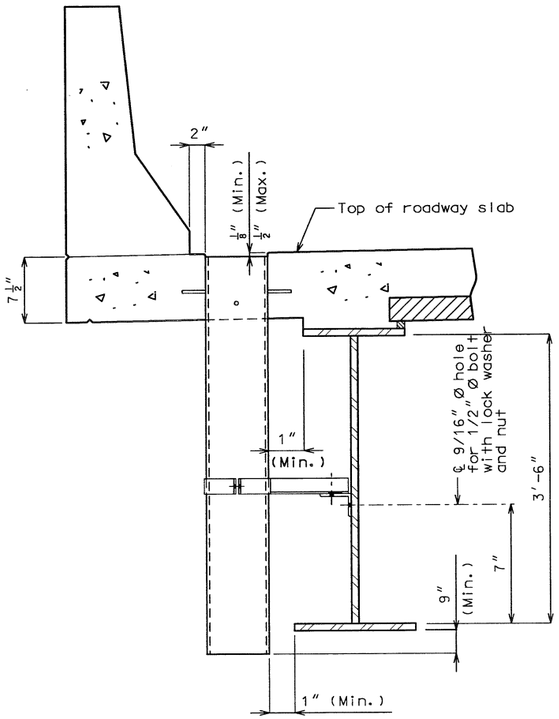
Compiled By: Cindy Rymer
Checked By: Jason Stoll 11-4-04

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

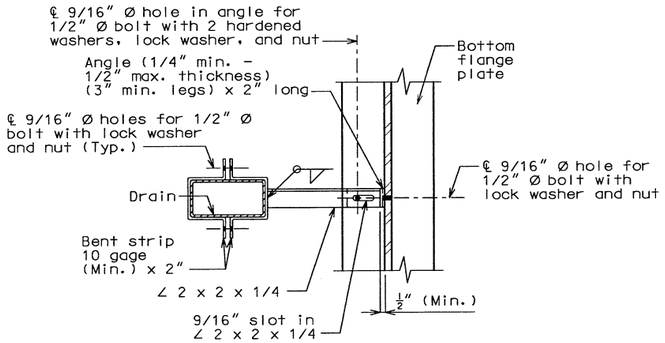
Sheet No. 29 of 46

PULASKI COUNTY A30521

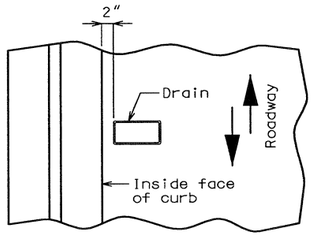
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PART SECTION NEAR DRAIN



PART SECTION SHOWING BRACKET ASSEMBLY

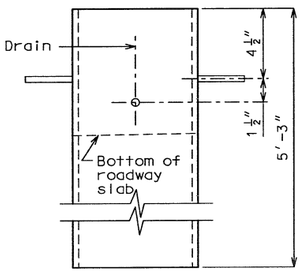


PART PLAN OF SLAB AT DRAIN

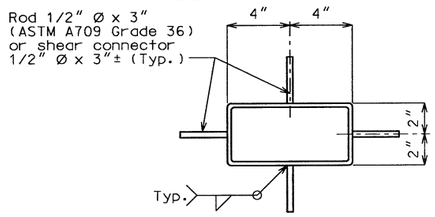
DETAILS OF DRAINS TRANSVERSE TO ROADWAY

SLAB DRAIN DETAILS

FINAL PLANS



ELEVATION OF DRAIN



PLAN OF DRAIN

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 30

Contract ID: 030321-906
Job: J9S0500

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.~~

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Outside dimensions of drains are 8" x 4".

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

Shift reinforcing steel in field where necessary to clear drains.

The drains 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 the slab drains and the bracket assembly.

The bolt hole for the bracket assembly attachment shall be located on the plate girder shop drawings.

FINAL PLANS

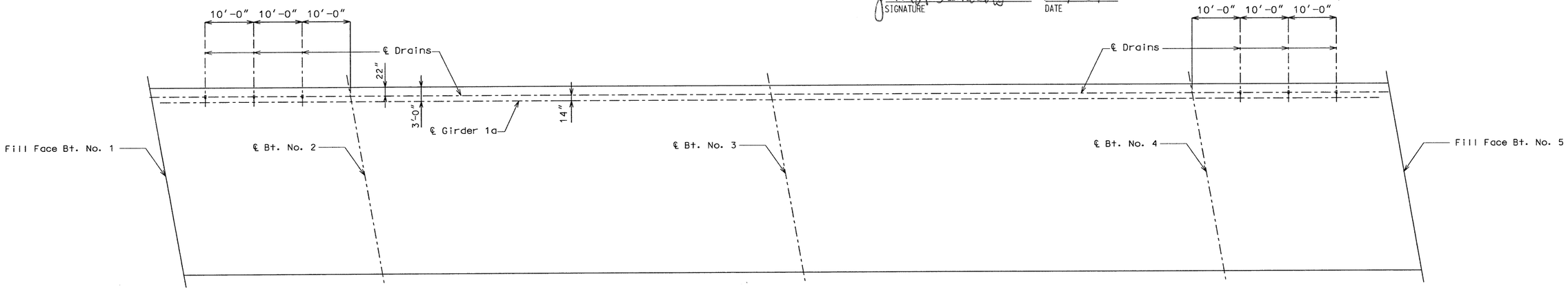
I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS 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.

John L. Sanders
SIGNATURE

12-9-04
DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER

12-9-04



PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

Detailed Apr. 2002
Checked May 2002

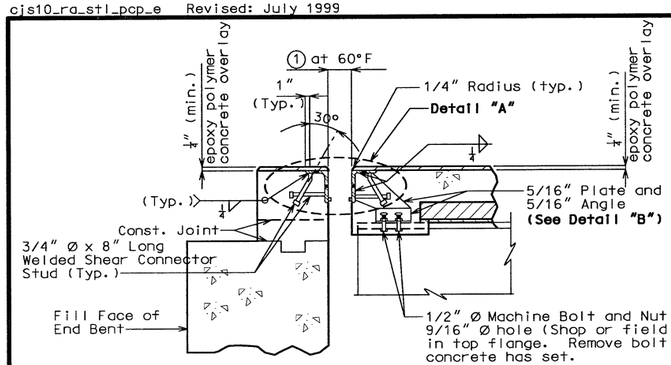
Compiled By: Cindy Reynolds
Checked By: Jason Hoff 11-4-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 30 of 46

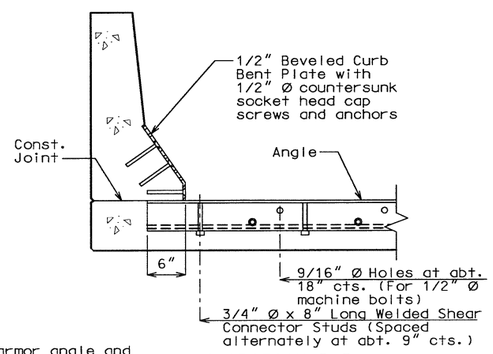
PULASKI COUNTY

A30521 REV.

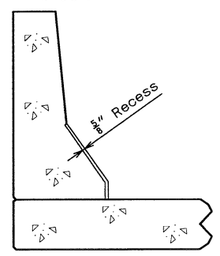
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PART SECTION D-D



PART SECTION B-B



PART SECTION A-A

FINAL PLANS

Contract ID: 0303321-906
Job: J9S0500

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 31

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50 feet, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709 Grade 36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/8" for each 10° fall in temperature and decreased 1/8" for each 10° rise in temperature at installation.

See Special Provisions for the requirements of compression joint seal.

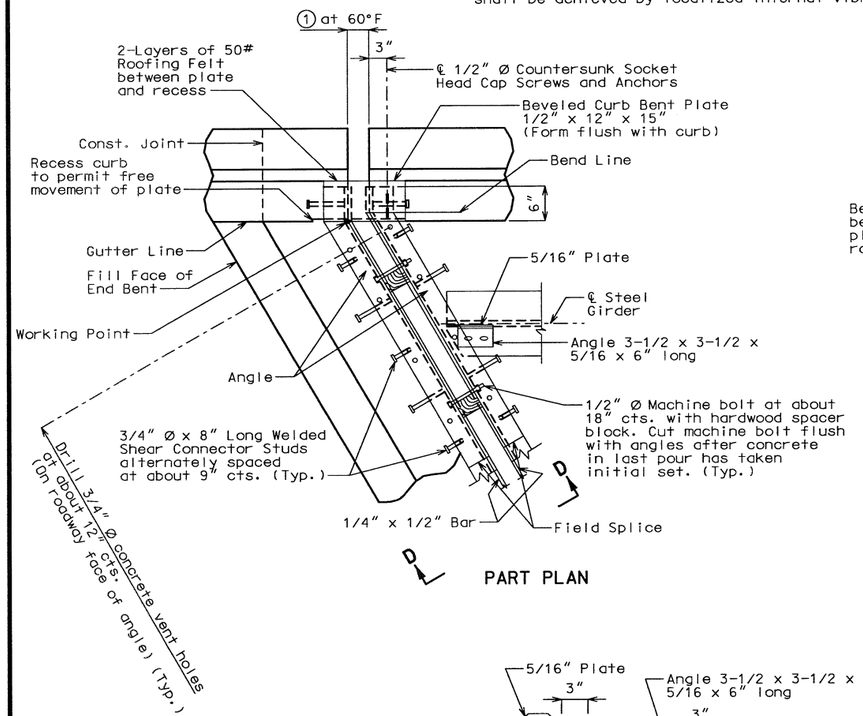
Structural steel for the expansion device and curb plate shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plate shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

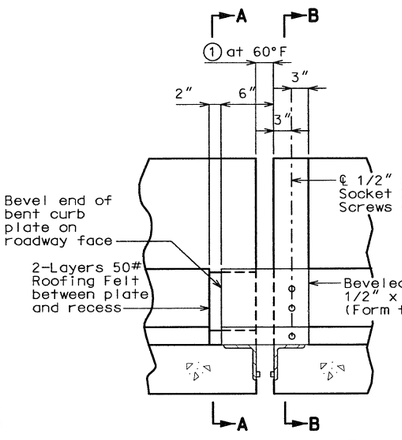
Neoprene extrusions shall meet ASTM D3542.

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

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



PART PLAN

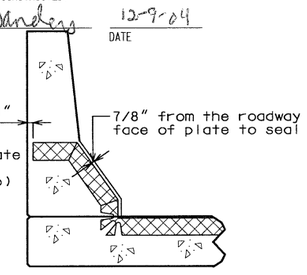


PART ELEVATION OF BARRIER CURB

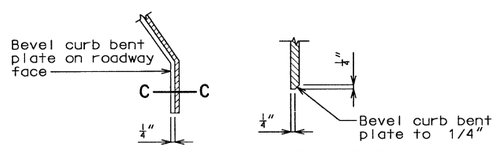
FINAL PLANS

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.

John L. Sanders 12-9-04
SIGNATURE DATE



PART SECTION THRU JOINT SEAL



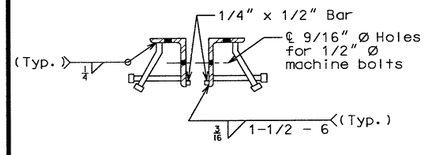
PART ELEVATION AT END OF BEVELED CURB BENT PLATE

SECTION C-C

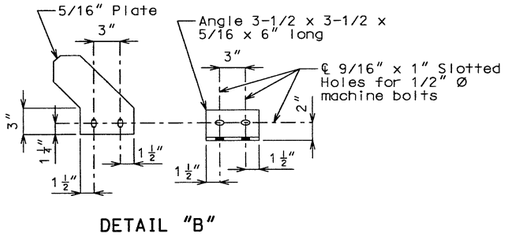
TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
4.5"	2-3/4"	Manufacturer's Recommended Height	1.9"

Note: Depth of seal shall not be less than width of seal.

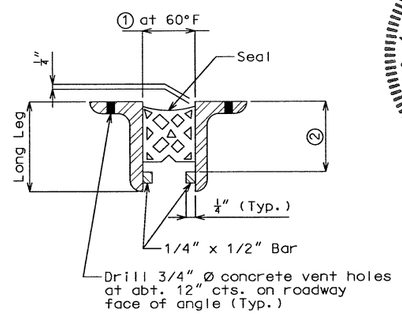
STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04



DETAIL "A"



DETAIL "B"



PART CROSS SECTION THRU EXPANSION JOINT

SIZE OF ARMOR ANGLE

Vertical leg of angle shall be a minimum of ② + 3/4".
Horizontal leg of angle shall be a minimum of 3".
Minimum thickness of angle shall be 1/2".

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60°F and all dimensions for the armor angles shall be shown on the shop drawings.

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT END BENT NOS. 1 & 5 (STAGE 1)

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Dunwich
Checked By: Jason Hoff 11-4-04
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

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Contract ID: 030321-906
Job: J9S0500

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 32

FINAL PLANS

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50 feet, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709 Grade 36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/16" for each 10° fall in temperature and decreased 1/16" for each 10° rise in temperature at installation.

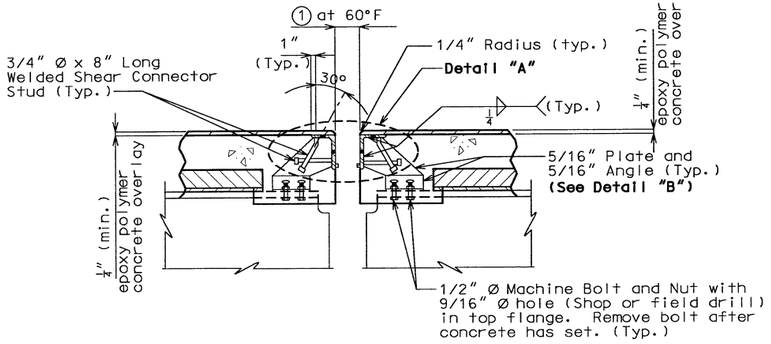
See Special Provisions for the requirements of compression joint seal.

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.

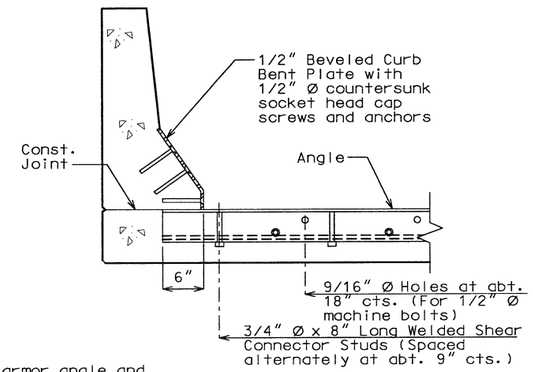
Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plate shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

Neoprene extrusions shall meet ASTM D3542.

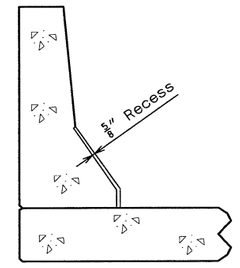
Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in f'c = 4000 psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until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



PART SECTION D-D

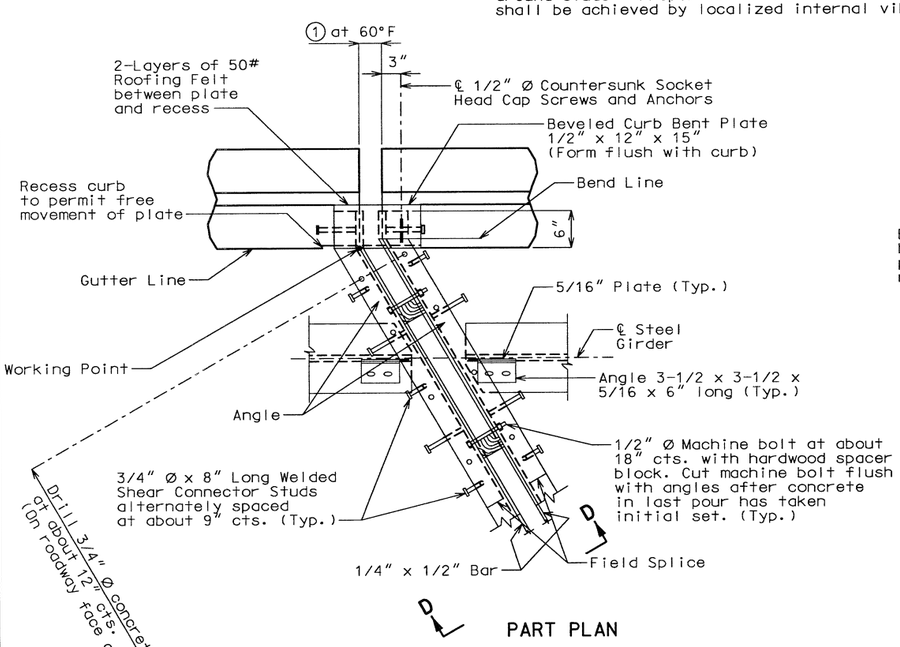


PART SECTION B-B

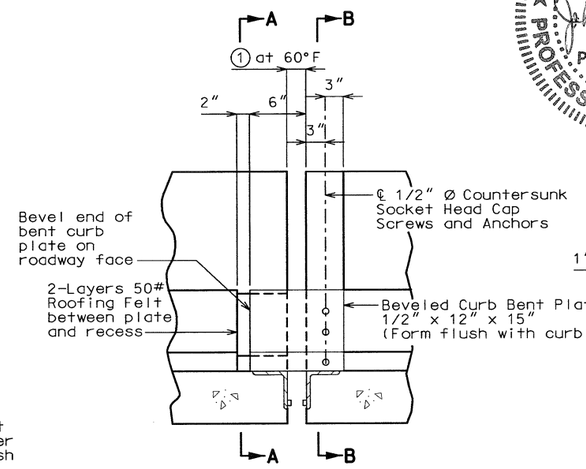


PART SECTION A-A

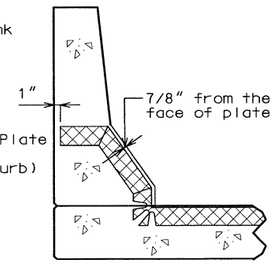
Note: Concrete shall be forced under armor angle and around studs. Proper consolidation of the concrete shall be achieved by localized internal vibration.



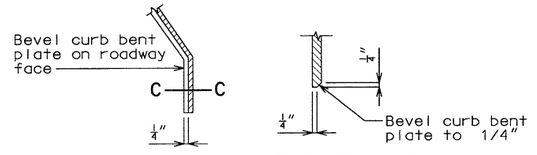
PART PLAN



PART ELEVATION OF BARRIER CURB



PART SECTION THRU JOINT SEAL

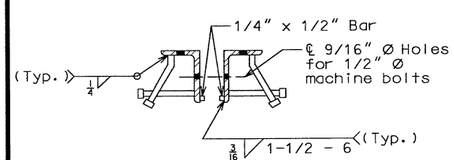


PART ELEVATION AT END OF BEVELED CURB BENT PLATE

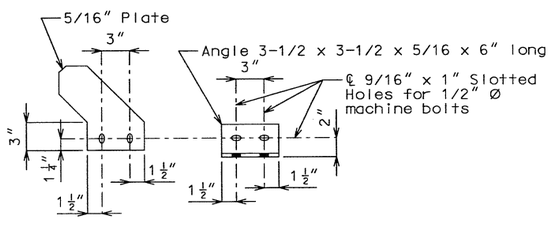
SECTION C-C

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
2.5"	1-5/8"	Manufacturer's Recommended Height	0.9"

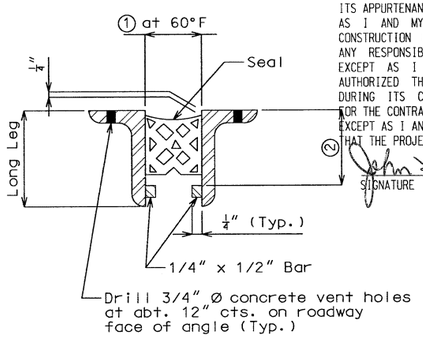
Note: Depth of seal shall not be less than width of seal.



DETAIL "A"



DETAIL "B"



PART CROSS SECTION THRU EXPANSION JOINT

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.

John L Sanders 12-9-04
SIGNATURE DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

SIZE OF ARMOR ANGLE

Vertical leg of angle shall be a minimum of ② + 3/4".
Horizontal leg of angle shall be a minimum of 3".
Minimum thickness of angle shall be 1/2".

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60°F and all dimensions for the armor angles shall be shown on the shop drawings.

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT PIN PLATE CONNECTION (STAGE 1)

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Gooch Checked By: Thao Le

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

Sheet No. 32 of 46

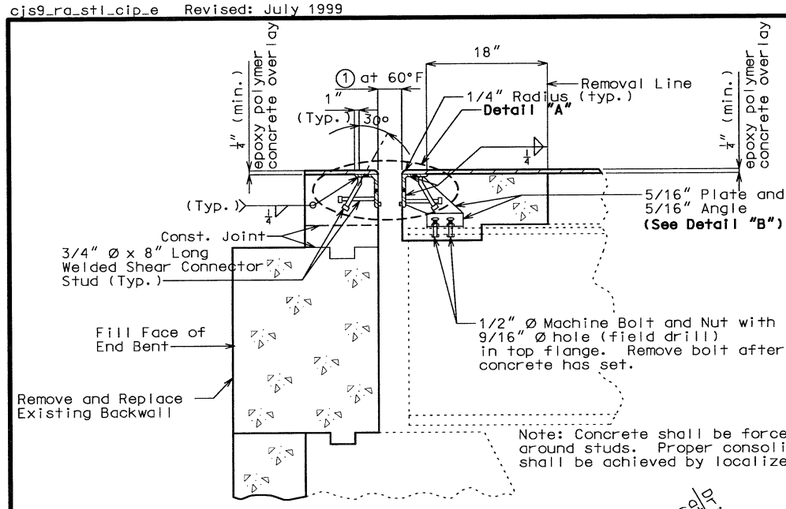
PULASKI COUNTY A30521

C:\J9S0500\A30521\A30521_032.dgn 09:12:10 AM 11/04/2004

Contract ID: 030321-906
Job: J9S0500

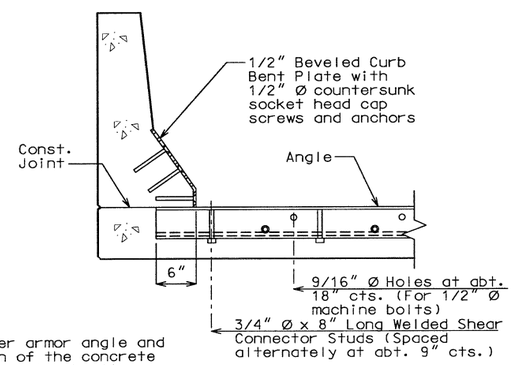
State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 33

FINAL PLANS

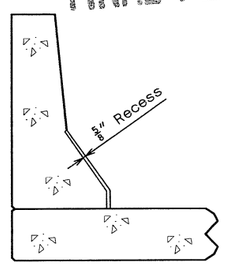


PART SECTION D-D

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



PART SECTION B-B



PART SECTION A-A

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50 feet, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709 Grade 36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/8" for each 10° fall in temperature and decreased 1/8" for each 10° rise in temperature at installation.

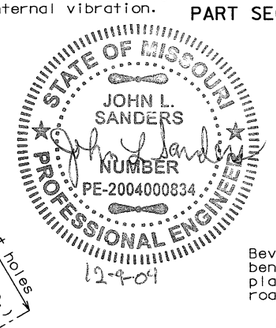
See Special Provisions for the requirements of compression joint seal.

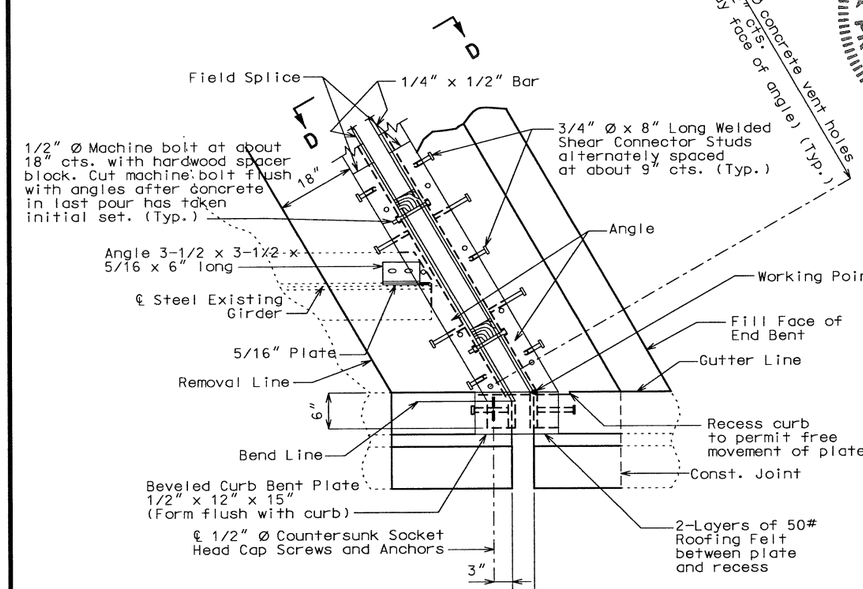
Structural steel for the expansion device and curb plate shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plate shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

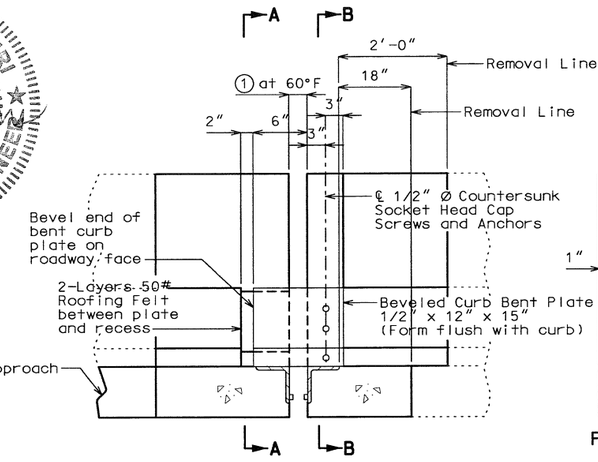
Neoprene extrusions shall meet ASTM D3542.

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

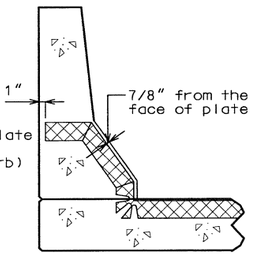




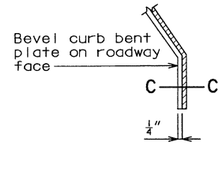
PART PLAN



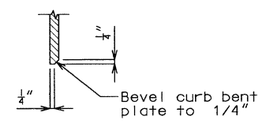
PART ELEVATION OF BARRIER CURB



PART SECTION THRU JOINT SEAL



PART ELEVATION AT END OF BEVELED CURB BENT PLATE



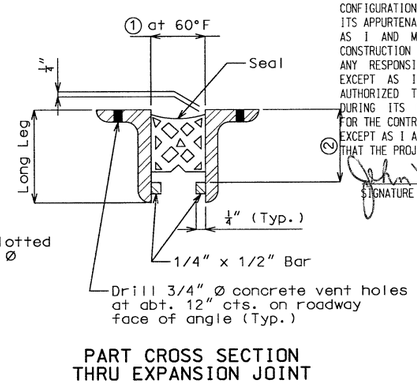
SECTION C-C

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 THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

John L Sanders
SIGNATURE

12-9-04
DATE



PART CROSS SECTION THRU EXPANSION JOINT

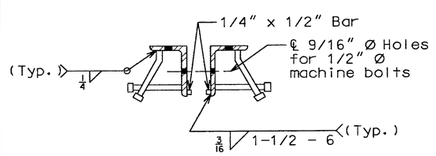
TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
4.5"	2-3/4"	Manufacturer's Recommended Height	1.9"

Note: Depth of seal shall not be less than width of seal.

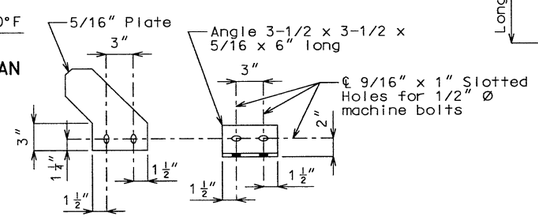
SIZE OF ARMOR ANGLE

Vertical leg of angle shall be a minimum of ② + 3/4".
Horizontal leg of angle shall be a minimum of 3".
Minimum thickness of angle shall be 1/2".

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60°F and all dimensions for the armor angles shall be shown on the shop drawings.



DETAIL "A"



DETAIL "B"

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT END BENT NOS. 1 & 5 (STAGE 2)

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Dunsworth
Checked By: Jason Lott 11-4-04
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 33 of 46

PULASKI COUNTY A30521

C:\J9S0500\A30521\A30521_033.dgn 09:14:22 AM 11/04/2004

Contract ID: 030321-906
Job: J9S0500

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 34

GENERAL NOTES:

Structural steel for expansion device shall be fabricated in one section, except for stage construction and when the length is over 50 feet, a complete joint penetration groove welded splice is permissible.

The expansion device shall be bent to conform to crown and grade of roadway.

Structural steel for the armored joint shall be ASTM A709 Grade 36.

Plan dimensions are based on installation at 60°F.

Dimension ① shall be increased 1/16" for each 10° fall in temperature and decreased 1/16" for each 10° rise in temperature at installation.

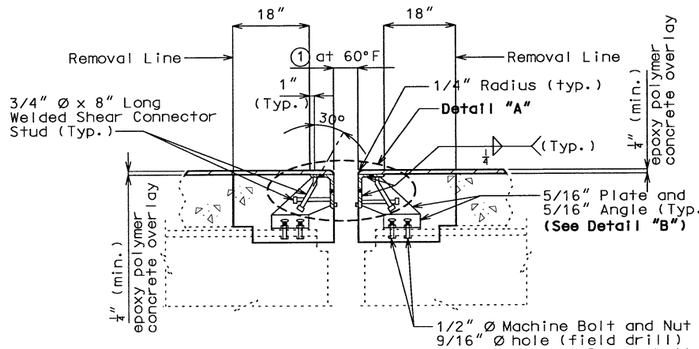
See Special Provisions for the requirements of compression joint seal.

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.

Furnishing, coating or galvanizing and installing the structural steel armored joint and curb plate shall be included in contract unit price for Preformed Compression Expansion Joint Seal.

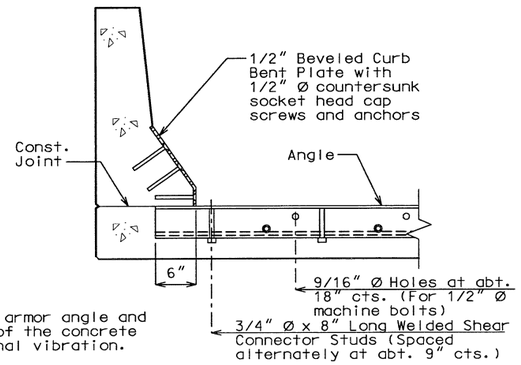
Neoprene extrusions shall meet ASTM D3542.

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

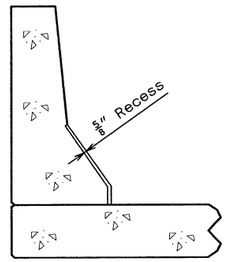


PART SECTION D-D

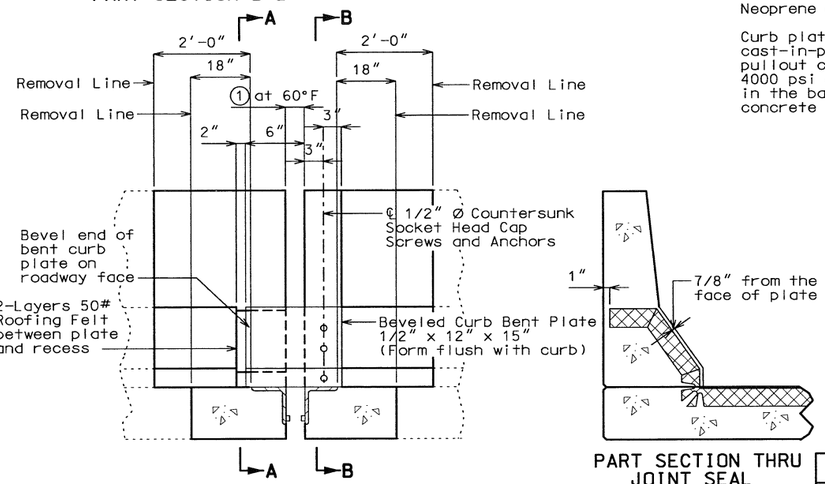
Note: Concrete shall be forced under armor angle and around studs. Proper consolidation of the concrete shall be achieved by localized internal vibration.



PART SECTION B-B

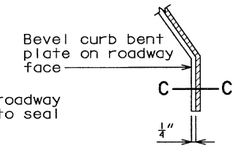


PART SECTION A-A

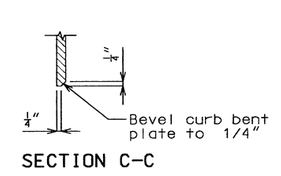


PART ELEVATION OF BARRIER CURB

PART SECTION THRU JOINT SEAL



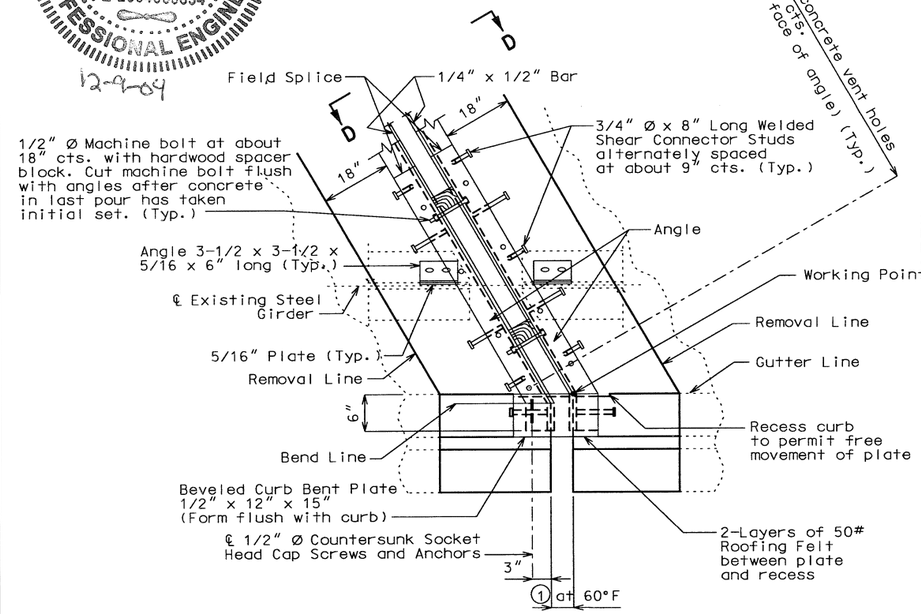
PART ELEVATION AT END OF BEVELED CURB BENT PLATE



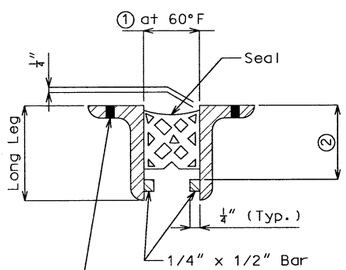
SECTION C-C

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
Seal (Width)	①	②	Required Movement Range
2.5"	1-5/8"	Manufacturer's Recommended Height	0.9"

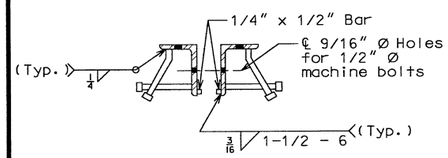
Note: Depth of seal shall not be less than width of seal.



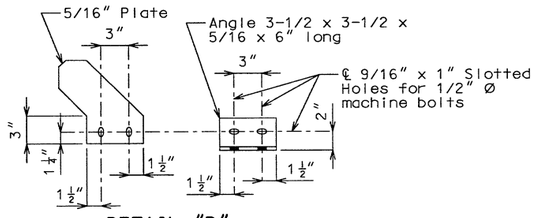
PART PLAN



PART CROSS SECTION THRU EXPANSION JOINT



DETAIL "A"



DETAIL "B"

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.

John L. Sanders — 12-9-04
SIGNATURE — DATE

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

SIZE OF ARMOR ANGLE

Vertical leg of angle shall be a minimum of ② + 3/4".
Horizontal leg of angle shall be a minimum of 3".
Minimum thickness of angle shall be 1/2".

If a seal size larger than that indicated on the plans is used, the movement range, the opening at 60°F and all dimensions for the armor angles shall be shown on the shop drawings.

DETAILS OF PREFORMED COMPRESSION JOINT SEAL AT PIN PLATE CONNECTION (STAGE 2)

Detailed Apr. 2002
Checked May 2002

Compiled By: [illegible]
Checked By: [illegible] 11-5-04
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

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State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 35

Contract ID: 030321-906
Job: J9S0500

Note:
All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3" minimum cover in concrete. Each section of conduit shall bear the Underwriters' Laboratories, Inc., (UL) label.

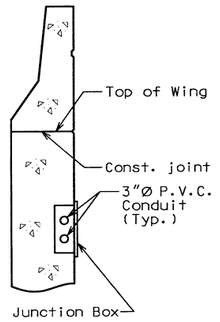
Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall provide a minimum movement in either direction of 1½" at open joints at end bents, ½" at open joints at pin plate connections and ½" at filled joints. Expansion fittings shall be equal to Carlon Electrical Construction Products or Cantex, Inc.

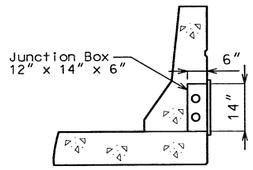
All end bent and safety barrier curb junction boxes shall be PVC molded flush mounted and equal to Carlon Electrical Construction Products or Cantex, Inc. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4 enclosure.

Weepholes shall be provided at appropriate locations to drain any moisture in the conduit system.

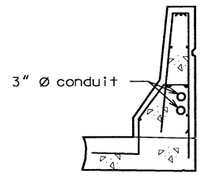
Payment for furnishing and installing Conduit System, complete-in-place, will be paid for at the contract unit price for Conduit System on Structure, lump sum.



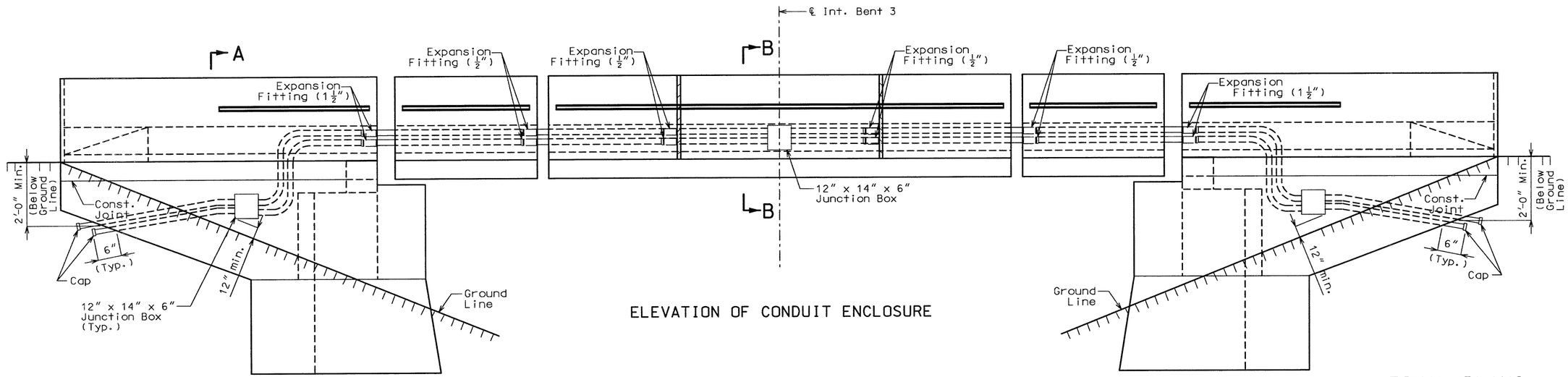
PART SECTION A-A



SECTION OF JUNCTION BOX IN BARRIER CURB



PART SECTION B-B OF MULTIPLE CONDUIT IN BARRIER CURB



ELEVATION OF CONDUIT ENCLOSURE

A ELEVATION OF LT. WING END BENT NO. 5

ELEVATION OF LT. WING END BENT NO. 1

DETAILS OF CONDUIT SYSTEM (LT. SIDE OF 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.

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

SIGNATURE 12-9-04 DATE

PULASKI COUNTY A30521

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Schmidt
Checked By: Jason Hoft 11-5-04
Note: This drawing is not to scale. Follow dimensions.

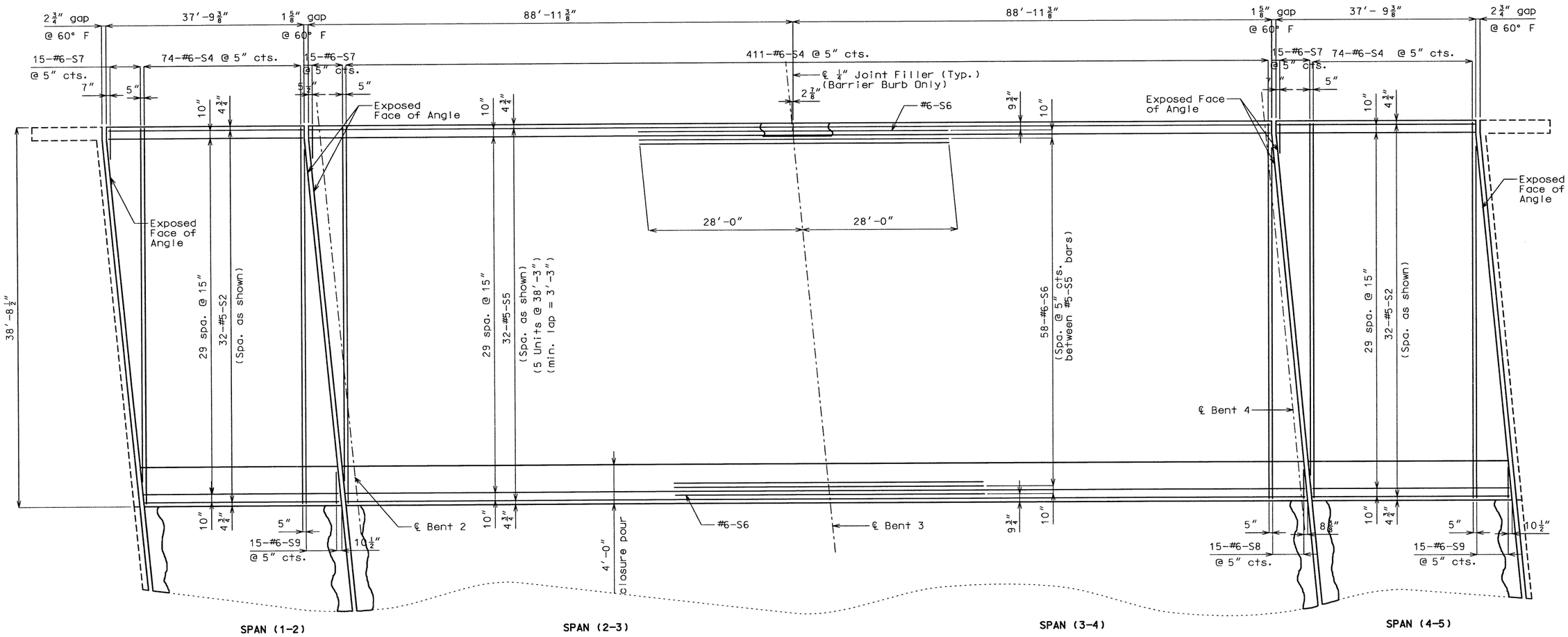
Sheet No. 35 of 46

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REV.

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 36

Contract ID: 030321-906
Job: J9S0500



PLAN OF SLAB SHOWING TOP REINFORCEMENT

Longitudinal dimensions are horizontal.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 38.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than 1" ± from vertical leg of angle at expansion device.

For Plan of Slab Showing Bottom Reinforcement, see Sheet No. 37.

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

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.

John L Sanders 12-9-04
SIGNATURE DATE

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Reynolds
Checked By: Jason Story 11-5-04
Note: This drawing is not to scale. Follow dimensions.

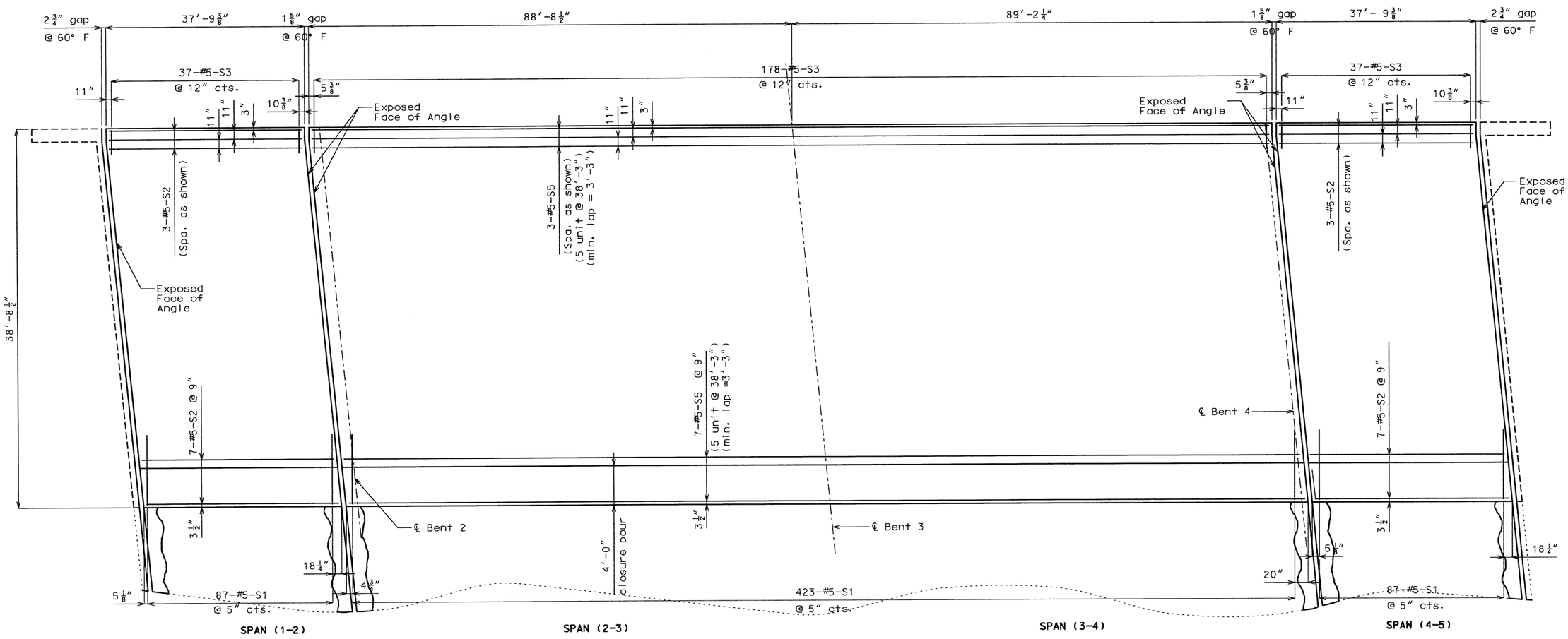
Sheet No. 36 of 46

PULASKI COUNTY A30521 REV.

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State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 37

Contract ID: 030321-906
Job: J9S0500



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Longitudinal dimensions are horizontal.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 38.

Longitudinal reinforcing steel shall be placed so that ends shall not be more than 1" ± from vertical leg of angle at expansion device.

For Plan of Slab Showing Top Reinforcement, see Sheet No. 36.

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

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.

John L Sanders — SIGNATURE
12-9-04 — DATE

Detailed Apr. 2002
Checked May 2002

Compiled By: C.A.H.
Checked By: J.A.S. 11-5-04

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

Sheet No. 37 of 46

PULASKI COUNTY A30521

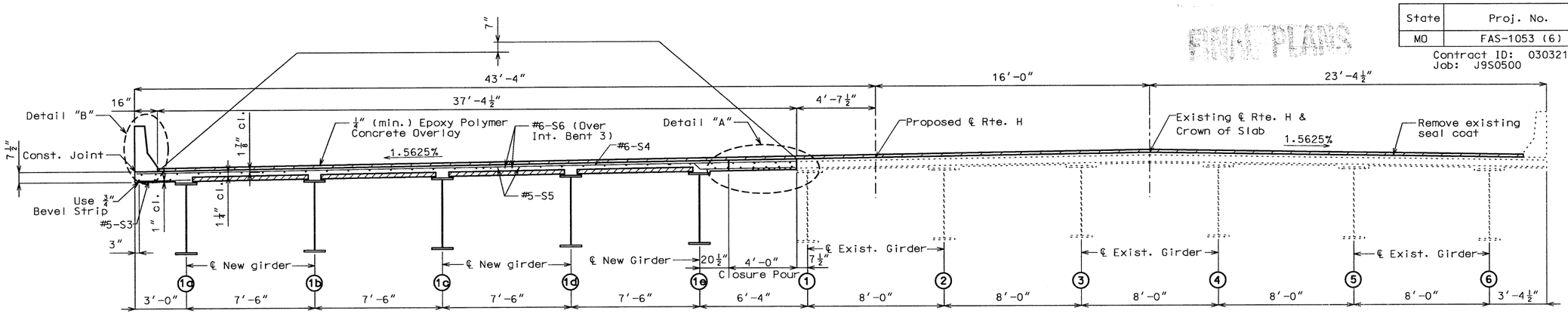
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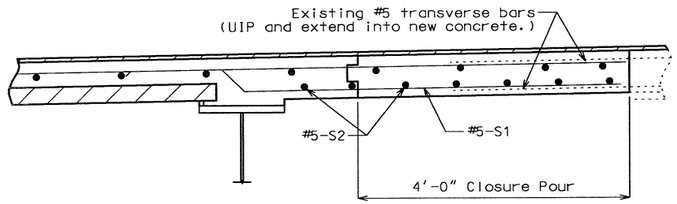
State	Proj. No.	Sheet No.
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Contract ID: 030321-906
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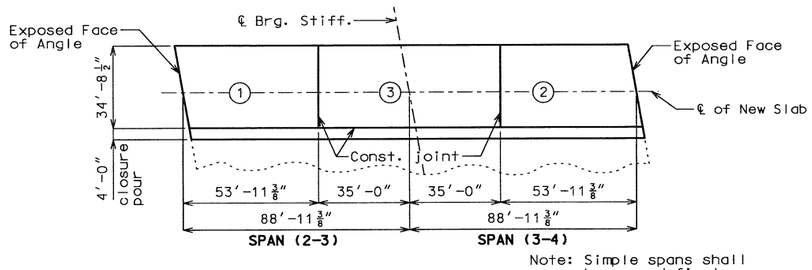
FINAL PLANS



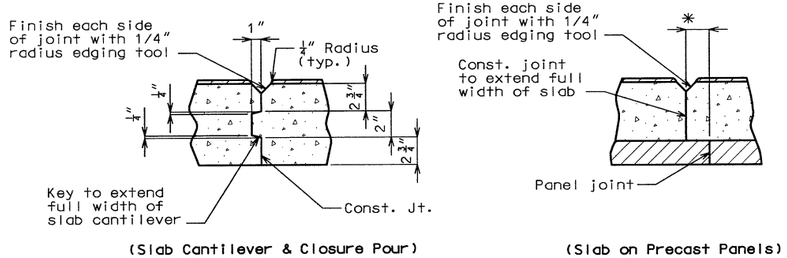
SECTION THRU NEW AND EXISTING SLAB



DETAIL "A"



Note: Simple spans shall be poured first.



SLAB CONSTRUCTION JOINT DETAILS

	Sequence of Pours			Min. rate of pour cu. yds./hr.	
	Direction			With retarder	No retarder
Basic sequence	1	2	3	25	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		3 + 2	26	43
	End to end		1 to end		
Alternate "B" pours	1 + 3 + 2			26	43
	End to end				

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

SLAB POURING SEQUENCE

For details and reinforcement of Barrier Curb, see Sheet Nos. 39, 40, and 41.

For Plan of Slab, see Sheet Nos. 36 & 37.

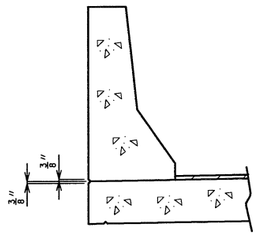
For Theoretical Bottom of Slab Elevations Table, see Sheet No. 21.

Use expansive Class B2 Concrete in closure pour (See Special Provisions). Release forms before closure pour is placed.

In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

The contractor shall exercise care to ensure spillage over joint edges is prevented and that a neat line is obtained along any terminating edge of the epoxy polymer concrete.

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04



DETAIL "B"

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.

John L Sanders — SIGNATURE
12-9-04 — DATE

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Quick
Checked By: Jason Abt 11-5-04

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

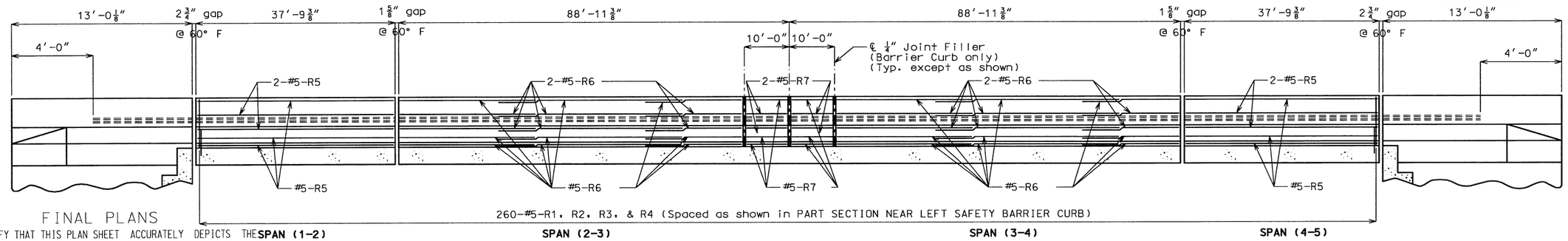
PULASKI COUNTY A30521

REV.

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State	Proj. No.	Sheet No.
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Job: J9S0500



SECTION NEAR LEFT BARRIER CURB

Note: Longitudinal dimensions are horizontal.

FINAL PLANS

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SIGNATURE DATE 12-9-04

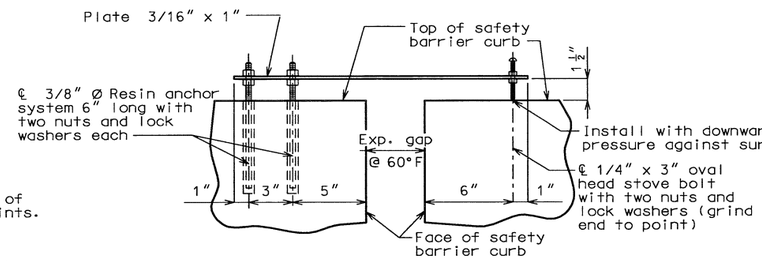
Notes:

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

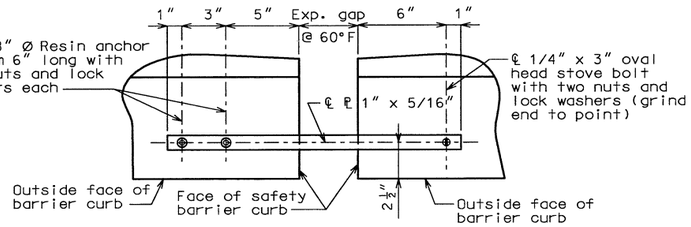
All steel shall be galvanized.

Cost of movement gauge, complete in place shall be included in the contract unit price bid for Safety Barrier Curb.

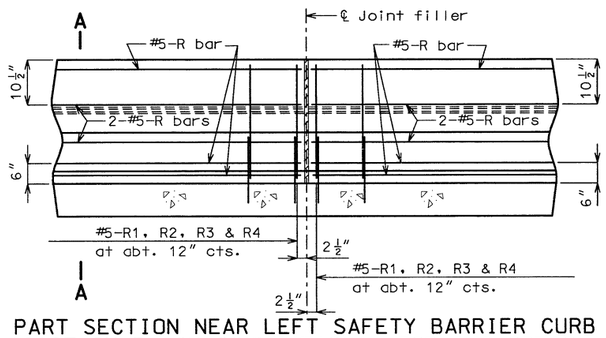
STATE OF MISSOURI JOHN L. SANDERS NUMBER PE-2004000834 PROFESSIONAL ENGINEER 12-9-04



PART ELEVATION OF BARRIER CURB SHOWING MOVEMENT GAUGE

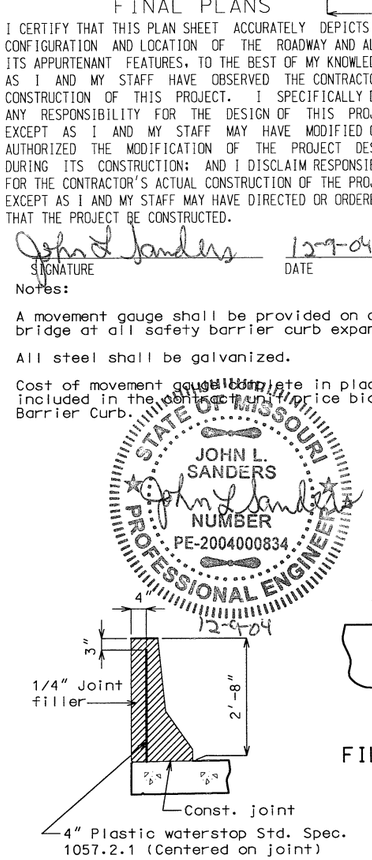


PART PLAN OF BARRIER CURB SHOWING MOVEMENT GAUGE



PART SECTION NEAR LEFT SAFETY BARRIER CURB (CAST-IN-PLACE CONVENTIONAL FORMING OPTION)

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

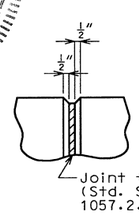


DETAILS OF PLASTIC WATERSTOP

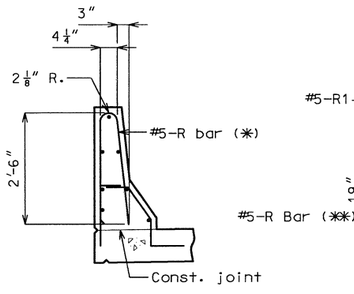
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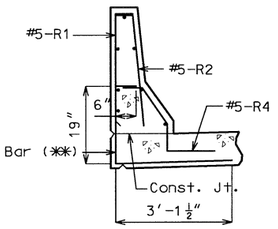
Plastic waterstop shall be placed in all safety barrier curb filled joints. (Except structures with superelevation, use on all lower safety barrier curb joints only.)

Cost of plastic waterstop complete in place to be included in the contract unit price for Safety Barrier Curb.



FILLED JOINT DETAIL

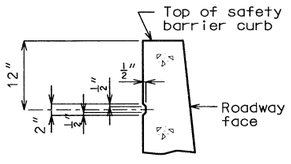




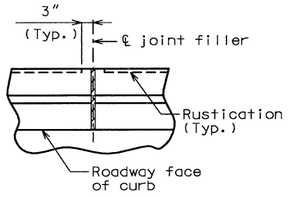
R-BAR PERMISSIBLE ALTERNATE SHAPE

(*) The R1 and R2 bar combination may be furnished as one bar, as shown, at the contractor's option. (All dimensions are out to out.)

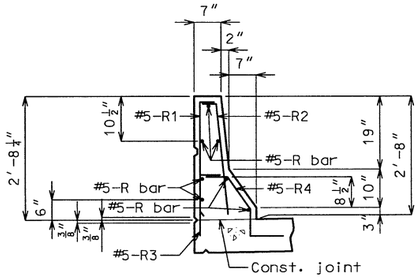
(**) The R3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination was furnished as one bar as shown.



PART SECTION SHOWING RUSTICATION DETAILS



PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART SECTION A-A

Notes:

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.

Notes:

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.

Detailed Apr. 2002
Checked May 2002 Compiled By: Checked By:

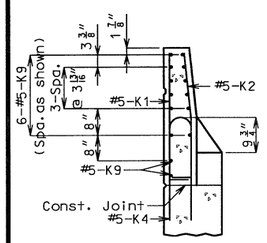
PULASKI COUNTY A30521

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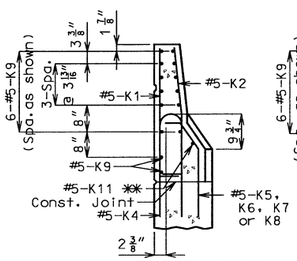
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State	Proj. No.	Sheet No.
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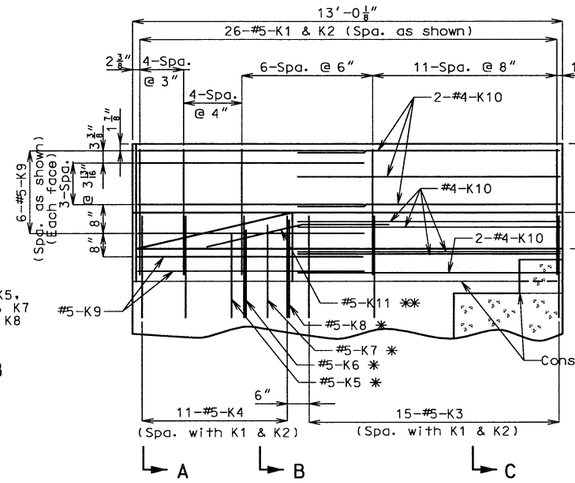
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Job: J9S0500



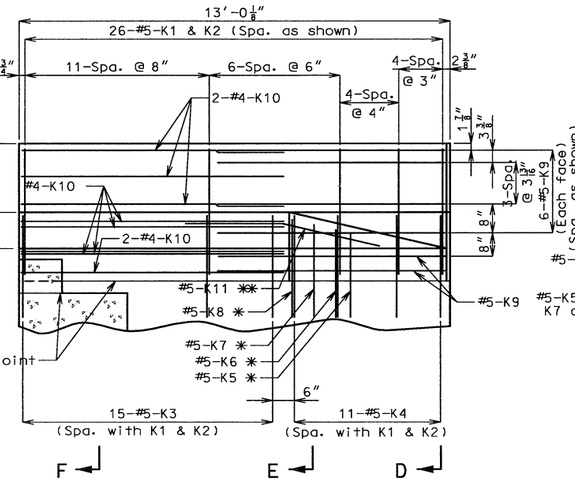
SECTION A-A



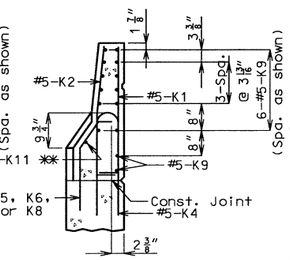
SECTION B-B



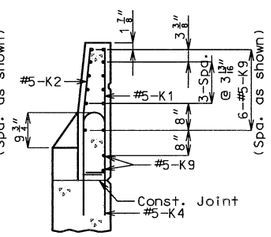
ELEVATION



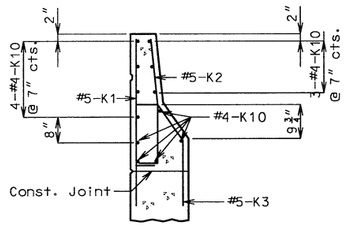
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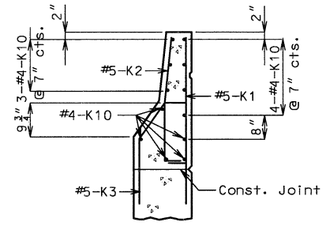
SECTION E-E



SECTION D-D



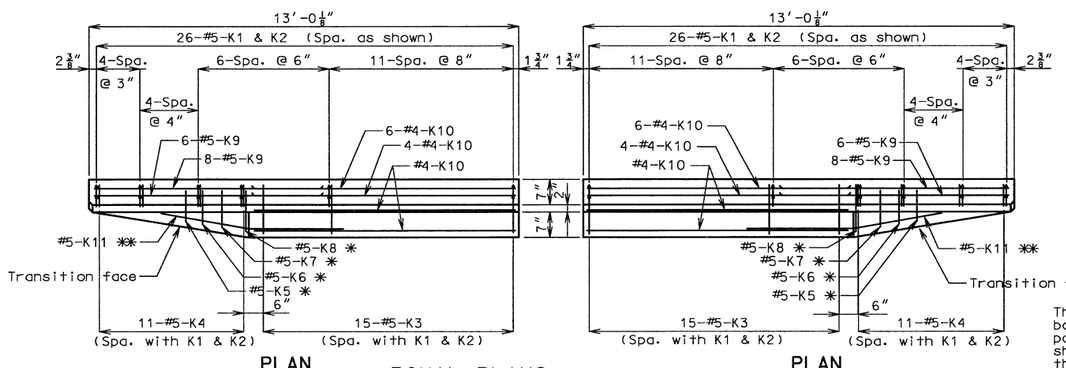
SECTION C-C



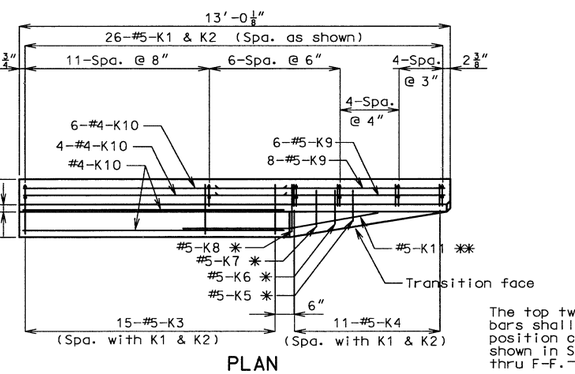
SECTION F-F

* Spaced with #5-K4 bars.

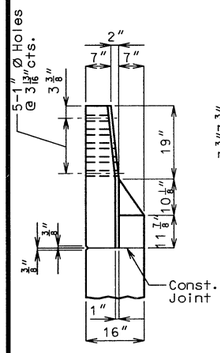
** Fit bar to follow transition face of curb



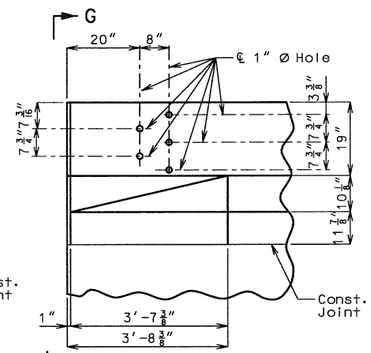
PLAN



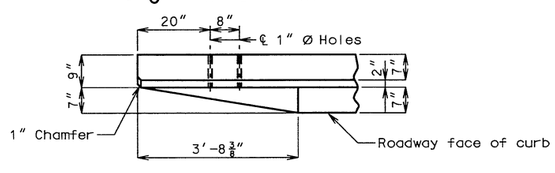
PLAN



PART ELEVATION G-G



PART ELEVATION



PART PLAN

DETAILS OF GUARD RAIL ATTACHMENT

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.

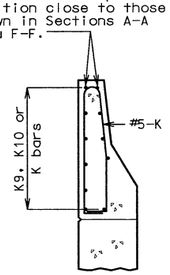
John L Sanders 12-9-04
SIGNATURE DATE

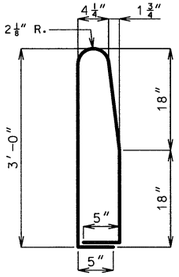
NOTE: Use a minimum lap of 2'-0" between K9 and K10 bars.

NOTE: Rustification not shown for clarity

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

The top two K9, K10 or K bars shall be kept with position close to those shown in Sections A-A thru F-F.





(K3 or K4 thru K8 bars not shown for clarity)

K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE (***)

(***) The K1 and K2 bar combination was furnished as one bar as shown.

DETAILS OF LEFT SAFETY BARRIER CURB AT END BENTS

Detailed Apr. 2002
Checked May 2002

Compiled By: Checked By: 11-19-04

Note: This drawing is not scale. Follow dimensions.

Sheet No. 40 of 46

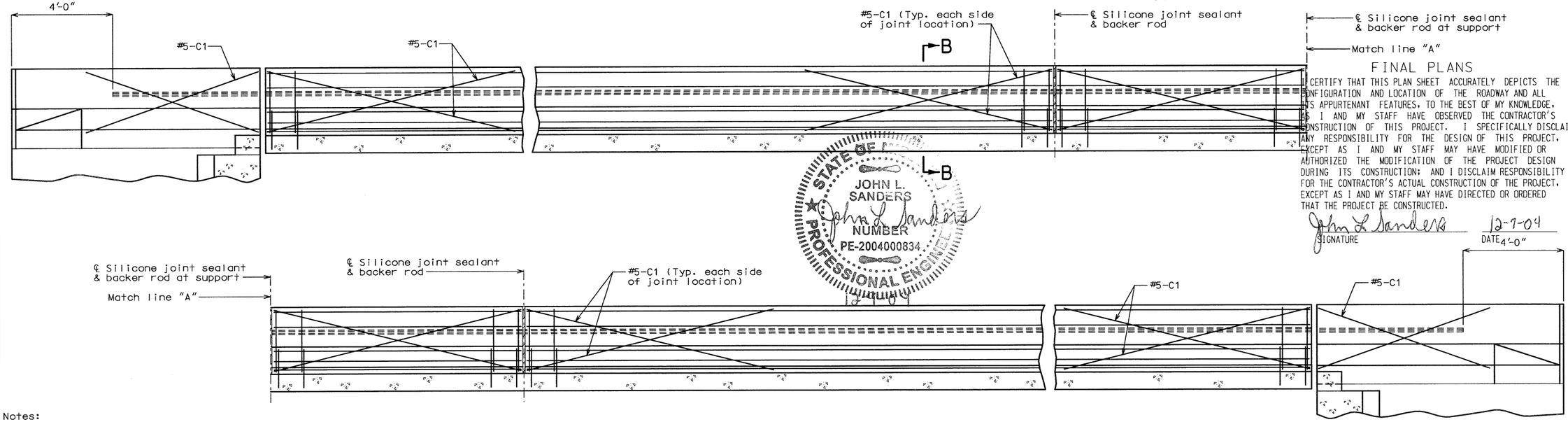
PULASKI COUNTY A30521

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State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 41

Contract ID: 030321-906
Job: J9S0500

FINAL PLANS



STATE OF MISSOURI
JOHN L. SANDERS
NUMBER
PE-2004000834
PROFESSIONAL ENGINEER

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.

John L Sanders — SIGNATURE
12-7-04 — DATE

Notes:

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 B-1.

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.

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

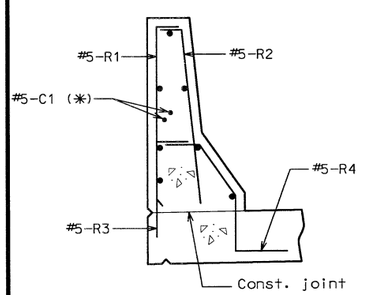
Notes:

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.

For Slip-Form option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a tranversely broomed finish.



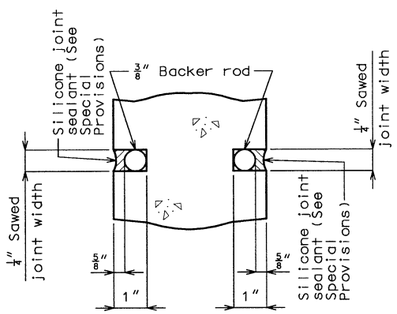
PART SECTION B-B

Notes:

(*) Each side of joint location.

(**) The R1 and R2 bar combination was furnished as one bar, as shown. All dimensions are out to out.)

(***) The R3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination was furnished as one bar as shown.

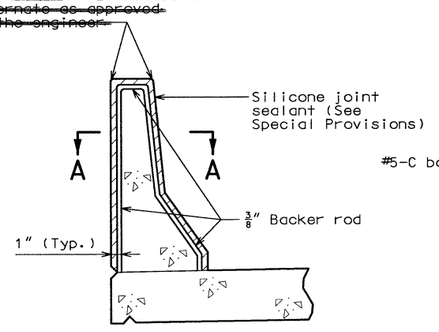


SECTION A-A

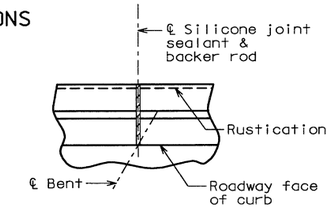
Note:

Cost of silicone joint sealant and backer rod complete in place to be included on the contract unit price for Safety Barrier Curb.

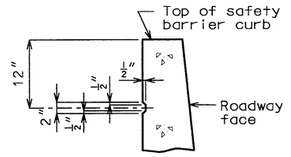
~~3/8" Bevel, 1/2" Radius or alternate as approved by the engineer~~



SECTION THRU JOINT

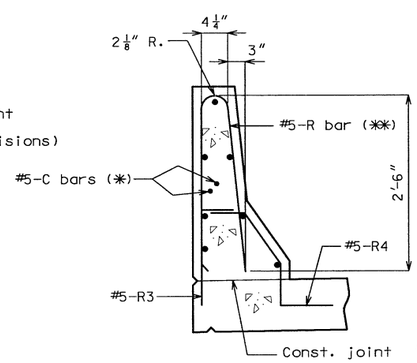


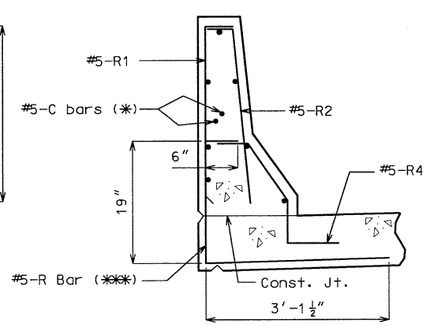
PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART SECTION SHOWING RUSTICATION DETAILS

RUSTICATION DETAIL





R-BAR PERMISSIBLE ALTERNATE SHAPE

OPTIONAL SLIP-FORM BRIDGE LEFT SAFETY BARRIER CURB

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Lewis
Checked By: Jason Lot 11-19-04
Note: This drawing is not to scale. Follow dimensions.

PULASKI COUNTY A30521

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FINAL PLANS

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 42

Contract ID: 030321-906
Job: J9S0500

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 18" and 26" 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 materials, 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.

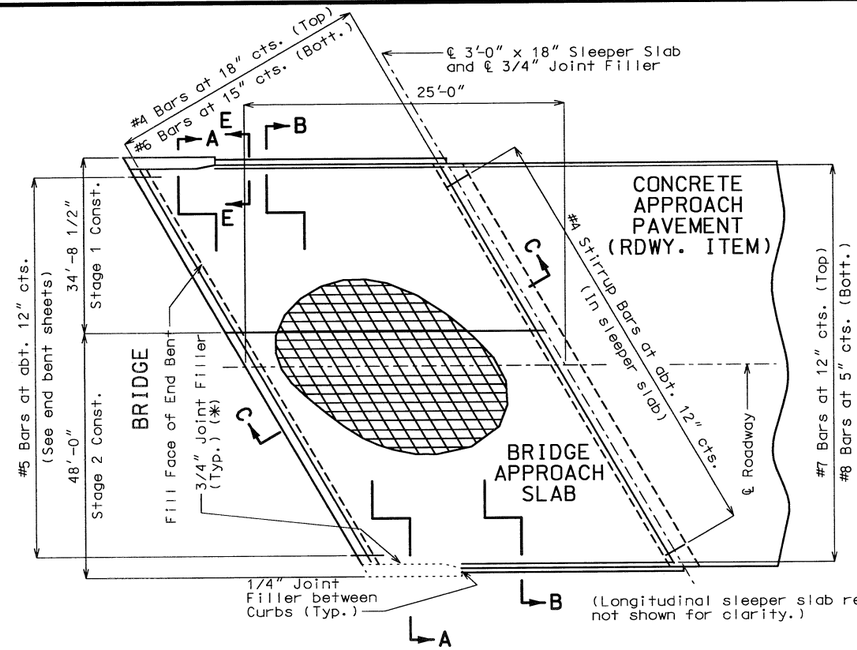
See Missouri Standard Plans Drawing 609.00 for details of Type A Barrier Curb.

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.

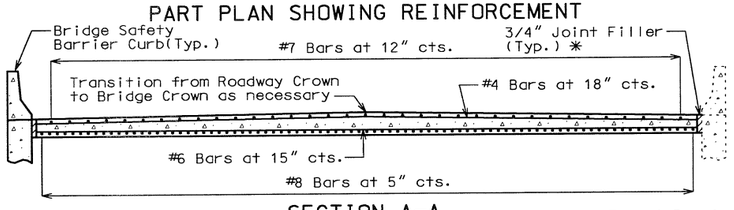
At the contractor's option, Grade 40 reinforcement may be substituted for the Grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

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.

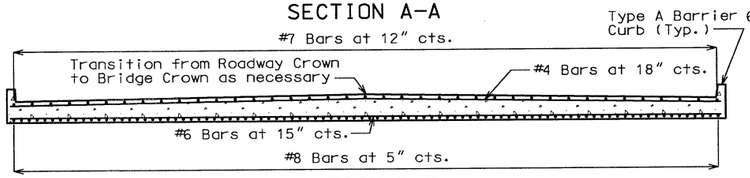
Drain pipe ~~may be either 6" diameter corrugated metallic coated pipe underdrain~~, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, ~~or 4" diameter corrugated polyethylene (PE) drain pipe.~~



PART PLAN SHOWING REINFORCEMENT

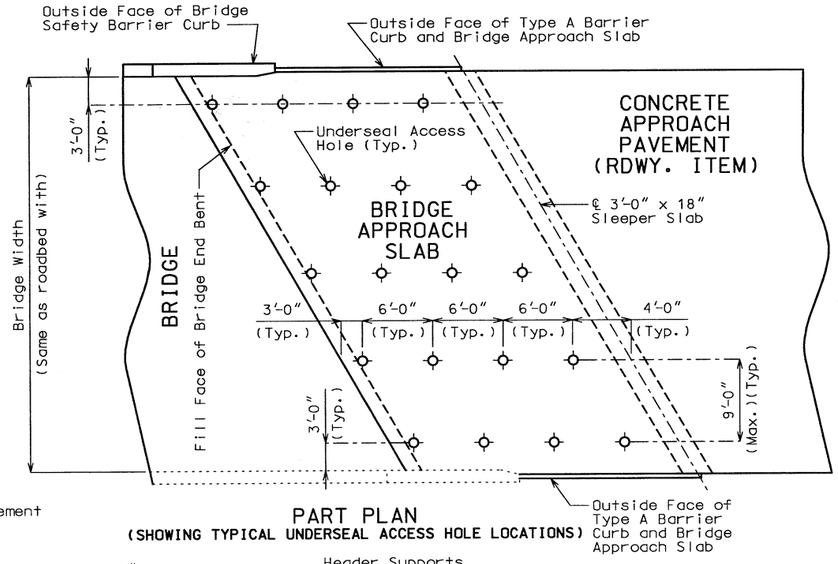


SECTION A-A

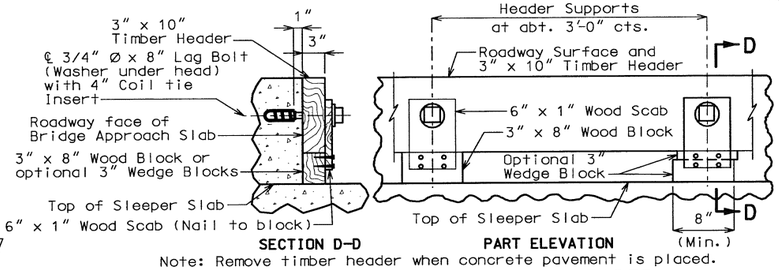


SECTION B-B

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)

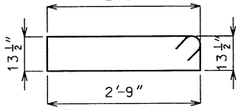


SECTION D-D PART ELEVATION

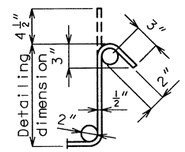
Note: Remove timber header when concrete pavement is placed.

DETAILS OF TIMBER HEADER

(*) Use 3/4" Joint Filler between vertical face of Approach Slab and roadway face of Safety Barrier Curb/Wing, except at the end of Safety Barrier Curb/Wing face use 1/4" Joint Filler. Seal joint with joint sealant. See Special Provisions.

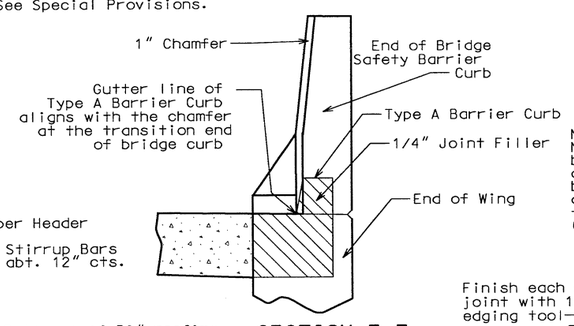


#4 STIRRUP BAR (ACTUAL LENGTH = 8'-3")

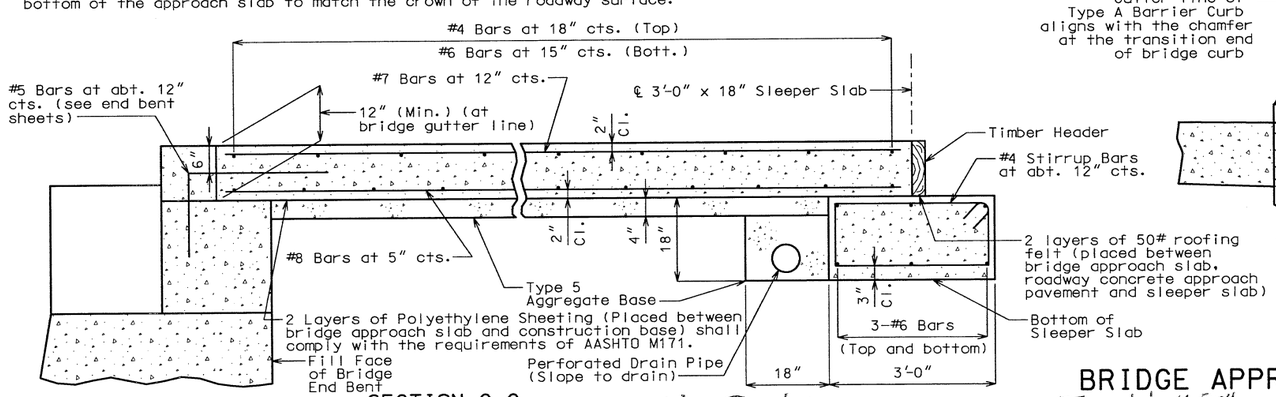


TYPICAL 135° STIRRUP HOOK DIMENSIONS BENDING DIAGRAM

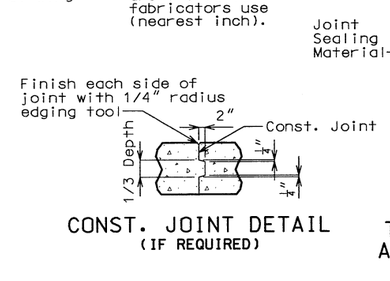
Note:
Nominal lengths are based on out to out dimensions shown in bending diagram and are listed for fabricators use (nearest inch).



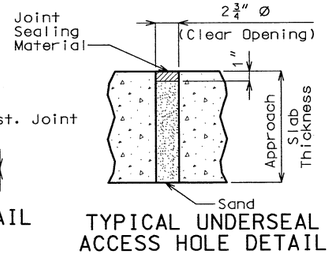
SECTION E-E
(BETWEEN CURBS)



SECTION C-C



CONST. JOINT DETAIL
(IF REQUIRED)



TYPICAL UNDERSEAL ACCESS HOLE DETAIL

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
12-9-04

Detailed Apr. 2002
Checked May 2002

Compiled By: Cindy Squires
Checked By: Jason Hoff 11-5-04

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

BRIDGE APPROACH SLAB

Sheet No. 42 of 46

PULASKI COUNTY A30521

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barbill_i June 2002

FINAL PLANS

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 B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		SUBSTRUCT																
		END BT NO 1																
5	6 F1	WING BRACE	E	15	S	X			14.000	6 5.625	14.000	8.875	10.750	9.125	10.625	8 10	8 9	66
5	8 H1	BEAM	E	17		X			29 6.500							30 6	30 6	407
5	8 H2	BEAM	E	18		X			36 4.000							38 2	38 2	510
* 7	8 H3	BEAM	E	17		X			11 10.000							12 9	12 9	238
2	6 H4	BEAM	E	20		X			36 4.000							36 4	36 4	109
2	6 H5	BACKWALL	E	20		X			45 0.000							45 0	45 0	135
18	4 H6	BACKWALL	E	20		X			24 0.000							24 0	24 0	289
2	6 H7	BACKWALL	E	20		X			36 5.000							36 5	36 5	109
9	4 H8	BACKWALL	E	20		X			36 5.000							36 5	36 5	219
8	6 H9	WING	E	20		X	V	2	5 5.000							5 5	5 5	
		INCREMENT =							12 4.000							12 4	12 4	107
		27.625 INCH																
* 6	6 H10	WING	E	20		X			12 9.000							12 9	12 9	115
8	4 H12	WING	E	20		X			2 8.000							2 8	2 8	14
24	6 H13	BEAM	E	20		X			2 8.000							2 8	2 8	96
2	10 H14	BEAM	E	20		X			45 0.000							45 0	45 0	387
1	6 H15	BEAM	E	20		X			45 0.000							45 0	45 0	68
2	6 T1	WING	E	25	S	X			15.000	8 7.625	2 0.625			2 4.750	8 3.500	11 11	11 10	36
2	4 T2	CURT WALL	E	19	S	X			5 4.375	3 1.500						8 6	8 5	11
21	5 U1	BEAM	E	13	S	X			3 9.375	2 6.875	4 2.500	2 6.500				14 0	13 8	299
4	5 U2	BEAM	E	14	S	X			2 6.500	3 9.375	2 6.875			2 6.500	5.125	8 11	8 9	37
8	4 U3	BEAM	E	10	S	X				6.000	3 9.375					4 9	4 7	24
9	5 U4	BEAM	E	13	S	X			3 8.625	2 11.500	4 2.500	2 11.000				14 9	14 5	135
2	5 U5	BEAM	E	14	S	X			2 11.000	3 8.625	2 11.500			2 11.000	5.875	9 7	9 5	20
5	7 U6	BEAM	E	14		X			3 5.625	2 0.375	4 6.875			3 8.875	2 7.500	10 1	9 10	100
44	5 U7	BACKWALL	E	13	S	X			21.000	3 5.875	21.000	3 5.875				11 5	11 1	509
35	5 U8	BACKWALL	E	19	S	X			5 2.000	21.000						6 11	6 10	249
79	5 U9	BACKWALL	E	19	S	X			2 0.000	2 0.000						4 0	3 11	323
72	5 V1	BEAM	E	20		X			6 0.000							6 0	6 0	451
2	4 V2	WING	E	20		X			5 2.000							5 2	5 2	7
2	6 V3	BEAM	E	20		X			2 9.000							2 9	2 9	8
8	6 V4	WING	E	20		X			5 4.000							5 4	5 4	64
30	6 V5	WING	E	20		X	V	2	22.000							0 22	0 22	
		INCREMENT =							3 11.000							3 11	3 11	130
		1.750 INCH																
1	6 V6	WING	E	10	S	X				18.500	13.000					4 2	3 10	6
45	5 V7	BACKWALL	E	20		X			6 5.000							6 5	6 5	301
10	W5 W1	A B WELLS	E	22		X			15.000	9.125						23 0	23 0	38
		INT BENT 2																
38	8 D20	FOOTING		17		X			7 7.000							8 6	8 6	862
4	6 D21	FOOTING		10	S	X				5 1.500	11 5.000					21 8	21 4	128
20	8 D22	FOOTING		20		X			8 8.000							8 8	8 8	463
18	8 D23	FOOTING		20		X			12 2.000							12 2	12 2	585
7	10 H20	BEAM	E	20		X			37 7.000							37 7	37 7	1132
7	10 H21	BEAM	E	17		X			31 8.000							33 1	33 1	997
2	10 H22	BEAM	E	20		X			14 9.000							14 9	14 9	127

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 B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
10	4 H23	BEAM	E	20		X			37 7.000							37 7	37 7	251
7	6 H24	BEAM	E	10	S	X				22.000	3 1.500					6 10	6 6	68
18	6 H25	BEAM	E	20		X			3 3.000							3 3	3 3	88
4	6 H26	BEAM	E	20		X			6 5.000							6 5	6 5	39
3	10 H27	BEAM	E	20		X			13 6.000							13 6	13 6	174
* 4	10 H28	BEAM	E	20		X			14 0.000							14 0	14 0	241
40	4 P20	COLUMN		16		X			2 9.000							9 6	9 6	254
1	6 U20	BEAM	E	7		X			3 3.500	2 6.000						7 11	7 11	12
29	6 U21	BEAM	E	13	S	X			3 3.000	3 6.000	3 3.000	3 6.000				14 10	14 4	624
3	6 U22	BEAM	E	10	S	X				3 6.000	3 3.000					10 3	9 11	45
15	6 U23	BEAM	E	13	S	X			3 3.000	3 10.375	3 3.000	3 10.375				15 7	15 1	340
3	6 U24	BEAM	E	10	S	X				3 10.375	3 3.000					11 0	10 8	48
3	4 U25	BEAM	E	10	S	X				6.000	3 3.000					4 3	4 1	8
2	6 U26	BEAM	E	10	S	X				16.375	2 6.000					5 3	4 11	15
38	8 V20	COLUMN		17		X			22 1.000							23 0	23 0	2334
10	W5 W1	A B WELLS	E	22		X			15.000	9.125						23 0	23 0	38
		INT BENT 3																
26	8 D30	FOOTING		17		X			7 1.000							8 0	8 0	555
4	6 D31	FOOTING		10		X				3 7.500	7 11.000					15 2	14 10	89
12	5 D32	FOOTING		20		X			5 8.000							5 8	5 8	71
14	8 D33	FOOTING		20		X			8 8.000							8 8	8 8	324
7	11 H30	BEAM		20		X			37 7.000							37 7	37 7	1398
7	11 H31	BEAM		17		X			33 9.000							35 4	35 4	1314
2	11 H32	BEAM		20		X			14 9.000							14 9	14 9	157
14	4 H33	BEAM		20		X			37 7.000							37 7	37 7	351
9	6 H34	BEAM		10	S	X				22.000	3 1.500					6 10	6 6	88
18	6 H35	BEAM		20		X			3 3.000							3 3	3 3	88
4	6 H36	BEAM		20		X			6 5.000							6 5	6 5	39
3	11 H37	BEAM		20		X			13 6.000							13 6	13 6	215
2	11 H38	BEAM		20		X			14 1.000							14 1	14 1	150
36	4 P30	COLUMN		16		X			2 9.000							9 6	9 6	228
1	6 U30	BEAM		7		X			3 3.500	2 6.000						7 11	7 11	12
29	6 U31	BEAM		13	S	X			3 3.000	4 6.000	3 3.000	4 6.000				16 10	16 4	711
3	6 U32	BEAM		10	S	X				4 6.000	3 3.000					12 3	11 11	54
15	6 U33	BEAM		13	S	X			3 3.000	4 10.250	3 3.000	4 10.250				17 7	17 1	385
3	6 U34	BEAM		10	S	X				4 10.250	3 3.000					13 0	12 8	57
3	4 U35	BEAM		10	S	X				6.000	3 3.000					4 3	4 1	8
2	6 U36	BEAM		10	S	X				14.500	2 6.000					4 11	4 7	14
26	8 V30	COLUMN		17		X			21 5.000							22 4	22 4	1550
10	W5 W2	A B WELLS		22		X			2 1.000	9.125						33 2	33 2	55
		INT BENT 4																
38	8 D40	FOOTING		17		X			7 7.000							8 6	8 6	862
4	6 D41	FOOTING		10		X				5 1.500	11 5.000					21 8	21 4	128
20	8 D42	FOOTING		20		X			8 8.000							8 8	8 8	463

State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 43

Contract ID: 030321-906
Job: J9S0500C

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 20
SHAPE 19 SHAPE 21
SHAPE 23 SHAPE 24 SHAPE 22
SHAPE 25 SHAPE 26 SHAPE 27
SHAPE 28 SHAPE 29 SHAPE 31
SHAPE 30 SHAPE 32
SHAPE 36 SHAPE 33
SHAPE 35 SHAPE 34

SPOT WELD AASHTO M32 SIZE W5 WIRE (TYP.)

BENDING DIAGRAMS

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

90° STIRRUP 135° STIRRUP

STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	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.

DETAILING DIMENSION
90°
180°
4d OR 2-1/2" MIN.
12d

END HOOK DIMENSIONS

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

* TWO ADDITIONAL #4-K10, #5-R7, #6-H10, #8-H3, & #10-H28 ARE INCLUDED IN THE BAR BILL FOR TESTING.

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.

STATE OF MISSOURI JOHN L SANDERS NUMBER PE-2004000834 PROFESSIONAL ENGINEER
12-9-09

DETAILED Jun. 2002
CHECKED Jul. 2002 Compiled By:

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS. Checked By: 11-5-04

SHEET NO. 43 OF 46

PULASKI COUNTY A30521

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barbill_i June 2002

FINAL PLANS

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
18	8	D43	FOOTING		20		X			12	2.000													12	2	12	2	585
7	10	H40	BEAM	E	20		X			37	7.000													37	7	37	7	1132
7	10	H41	BEAM	E	17		X			31	8.000													33	1	33	1	997
2	10	H42	BEAM	E	20		X			14	9.000													14	9	14	9	127
10	4	H43	BEAM	E	20		X			37	7.000													37	7	37	7	251
7	6	H44	BEAM	E	10	S	X					22.000		3	1.500									6	10	6	6	68
18	6	H45	BEAM	E	20		X			3	3.000													3	3	3	3	88
4	6	H46	BEAM	E	20		X			6	5.000													6	5	6	5	39
3	10	H47	BEAM	E	20		X			13	6.000													13	6	13	6	174
2	10	H48	BEAM	E	20		X			14	0.000													14	0	14	0	120
38	4	P40	COLUMN		16		X			2	9.000													9	6	9	6	241
1	6	U40	BEAM	E	7		X			3	3.500	2	6.000											7	11	7	11	12
29	6	U41	BEAM	E	13	S	X			3	3.000	3	6.000	3	3.000	3	6.000							14	10	14	4	624
3	6	U42	BEAM	E	10	S	X					3	6.000	3	3.000									10	3	9	11	45
15	6	U43	BEAM	E	13	S	X			3	3.000	3	10.000	3	3.000	3	10.000							15	6	15	0	338
3	6	U44	BEAM	E	10	S	X					3	10.000	3	3.000									10	11	10	7	48
3	4	U45	BEAM	E	10	S	X						6.000	3	3.000									4	3	4	1	8
2	6	U46	BEAM	E	10	S	X						16.375	2	6.000									5	3	4	11	15
38	8	V40	COLUMN		17		X			21	2.000													22	1	22	1	2241
10	W5	W1	A B WELLS	E	22		X					15.000		9.125										23	0	23	0	38
			END BENT 5																									
5	6	F51	WING BRACE	E	15	S	X					14.000		5	6.000	14.000		10.650		9.125		10.750		8.875	7	10	7	9	58
5	8	H51	BEAM	E	17		X			29	3.000													30	2	30	2	403
5	8	H52	BEAM	E	18		X			36	4.000													38	2	38	2	510
5	8	H53	BEAM	E	17		X			12	4.000													13	3	13	3	177
2	6	H54	BEAM	E	20		X			36	4.000													36	4	36	4	109
2	6	H55	BACKWALL	E	20		X			45	7.000													45	7	45	7	137
18	4	H56	BACKWALL	E	20		X			24	2.000													24	2	24	2	291
2	6	H57	BACKWALL	E	20		X			36	5.000													36	5	36	5	109
9	4	H58	BACKWALL	E	20		X			36	5.000													36	5	36	5	219
8	6	H59	WING	E	20		X	V	2	5	5.000													5	5	5	5	
			INCREMENT =							12	3.000													12	3	12	3	106
			27.375 INCH																									
4	6	H502	WING	E	20		X			12	8.000													12	8	12	8	76
8	4	H504	WING	E	20		X			3	1.000													3	1	3	1	16
24	6	H505	BEAM	E	20		X			2	8.000													2	8	2	8	96
2	10	H506	BEAM	E	20		X			45	0.000													45	0	45	0	387
1	6	H507	BEAM	E	20		X			45	0.000													45	0	45	0	68
2	6	T51	WING	E	25		X			15.000		8	7.000	2	0.500					2	5.000	8	2.875	11	11	11	9	35
2	4	T52	CURT WALL	E	19	S	X			5	4.375	3	5.625											8	10	8	9	12
19	5	U51	BEAM	E	13	S	X			3	9.375	2	6.875	4	2.500	2	6.500							14	0	13	8	271
5	5	U52	BEAM	E	14	S	X			2	6.500	3	9.375	2	6.875					2	6.500	5.125		8	11	8	9	46
8	4	U53	BEAM	E	10	S	X					6.000		3	9.375									4	9	4	7	24
10	5	U54	BEAM	E	13	S	X			3	8.625	2	11.250	4	2.500	2	10.750							14	8	14	4	149
3	5	U55	BEAM	E	14	S	X			2	10.750	3	8.625	2	11.250					2	10.750	5.750		9	7	9	4	29
5	7	U56	BEAM	E	14		X			3	11.250	21	0.000	4	3.500					2	5.500	3	6.250	10	0	9	9	100
44	5	U57	BACKWALL	E	13	S	X			21	0.000	3	6.000	21	0.000	3	6.000							11	5	11	1	509
35	5	U58	BACKWALL	E	19	S	X			5	2.000	21	0.000											6	11	6	10	249

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
79	5	U59	BACKWALL	E	19	S	X			2	0.000	2	0.000											4	0	3	11	323
72	5	V51	BEAM	E	20		X			6	0.000													6	0	6	0	451
2	4	V52	WING	E	20		X			5	2.000													5	2	5	2	7
2	6	V53	BEAM	E	20		X			2	9.000													2	9	2	9	8
8	6	V54	WING	E	20		X			5	4.000													5	4	5	4	64
30	6	V55	WING	E	20		X	V	2	22.000														0	22	0	22	
			INCREMENT =							3	11.000													3	11	3	11	130
			1.750 INCH																									
1	6	V56	WING	E	10	S	X					18.500		13.000										4	2	3	10	6
45	5	V57	BEAM	E	20		X			6	5.000													6	5	6	5	301
10	W5	W1	A B WELLS	E	22		X			15.000		9.125												23	0	23	0	38
			SUPERSTRUCT																									
597	5	S1	SLAB	E	23					16.125		3.875		5 6.000		3 10.625		3 10.625		11.250		11.250		7	2	7	1	4411
84	5	S2	SLAB	E	20					37	6.000													37	6	37	6	3285
252	5	S3	SLAB	E	20					3	0.000													3	0	3	0	789
559	6	S4	SLAB	E	20					38	5.000													38	5	38	5	32255
210	5	S5	SLAB	E	20					38	3.000													38	3	38	3	8378
60	6	S6	SLAB	E	20					56	0.000													56	0	56	0	5047
45	6	S7	SLAB	E	20			V	3	3	7.000													3	7	3	7	
			INCREMENT =							36	8.000													36	8	36	8	1360
			28.375 INCH																									
15	6	S8	SLAB	E	20			V	1	3	3.000													3	3	3	3	
			INCREMENT =							36	4.000													36	4	36	4	446
			28.375 INCH																									
30	6	S9	SLAB	E	20			V	2	4	0.000													4	0	4	0	
			INCREMENT =							38	5.000													38	5	38	5	956
			29.500 INCH																									
			BARRIER CURB																									
52	5	K1	BARRIER CURB	E	19	S				3	0.000	5.125												3	5	3	4	181
52	5	K2	BARRIER CURB	E	14	S				5.125		18.125		18.000						2.000		17.875		3	5	3	4	181
30	5	K3	BARRIER CURB	E	27	S				3	1.000	5.125		12.000		2 3.125				9.875		6.875		6	9	6	7	206
22	5	K4	BARRIER CURB	E	7					3	1.000	6.000												6	4	6	4	145
2	5	K5	BARRIER CURB	E	25	S				2	3.125	6.750		4.375						5.500		4.000		3	2	3	2	7
2	5	K6	BARRIER CURB	E	25	S				2	3.125	7.875		4.375						6.500		4.500		3	3	3	3	7
2	5	K7	BARRIER CURB	E	25	S				2	3.125	9.625		4.375						7.875		5.500		3	5	3	4	7
2	5	K8	BARRIER CURB	E	25	S				2	3.125	11.250		4.375						9.250		6.500		3	7	3	6	7
28	5	K9	BARRIER CURB	E	20					5	7.000													5	7	5	7	163
✱26	4	K10	BARRIER CURB	E	20					9	3.000													9	3	9	3	161
2	5	K11	BARRIER CURB	E	8					2	2.125									2 2.000		2.375		4	4	4	4	9
260	5	R1	BARRIER CURB	E	19					2	5.000	3.500												2	9	2	7	701
260	5	R2	BARRIER CURB	E	15					2	5.125	3.500								2 5.000		3.000		2	9	2	7	701
260	5	R3	BARRIER CURB	E	19					16.000		6.000												0	22	0	21	475
260	5	R4	BARRIER CURB	E	27							6.000		11.250		6.000		12.000		9.250		6.375		2	11	2	9	746
14	5	R5	BARRIER CURB	E	20					37	6.000													37	6	37	6	548
42	5	R6	BARRIER CURB	E	20					29	2.000													29	2	29	2	1278
✱16	5	R7	BARRIER CURB	E	20					9	9.000													9	9	9	9	163
			SLIP FORM																									
			CURB ONLY																									

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Contract ID: 030321-906
Job: J9S0500

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 20
SHAPE 19 SHAPE 21
SHAPE 22 SHAPE 23 SHAPE 24
SHAPE 25 SHAPE 26 SHAPE 27
SHAPE 28 SHAPE 29 SHAPE 31
SHAPE 30 SHAPE 32
SHAPE 33 SHAPE 34 SHAPE 35 SHAPE 36

(SHAPE 35 SHALL BE A DEFORMED OR PLAIN SPIRAL BAR OR WIRE.)

BENDING DIAGRAMS

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

90° STIRRUP 135° STIRRUP

STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	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.

DETAILING DIMENSION

90° A OR G 12d HOOK A OR G

DETAILING DIMENSION

180° 4d OR 2-1/2" MIN.

END HOOK DIMENSIONS

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

✱ TWO ADDITIONAL #4-K10, #5-R7, #6-H10, #8-H3, & #10-H28 ARE INCLUDED IN THE BAR BILL FOR TESTING.

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.

SPOT WELD AASHTO M32 SIZE W5 WIRE (TYP.)

STATE OF MISSOURI JOHN L. SANDERS NUMBER PE-2004000834 PROFESSIONAL ENGINEER 12-9-04

DETAILED Jun. 2002
CHECKED Jul. 2002 Compiled By:

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS. Checked By: 11-5-04

SHEET NO. 44 OF 46

PULASKI COUNTY A30521

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FINAL PLANS

barbill_i June 2002

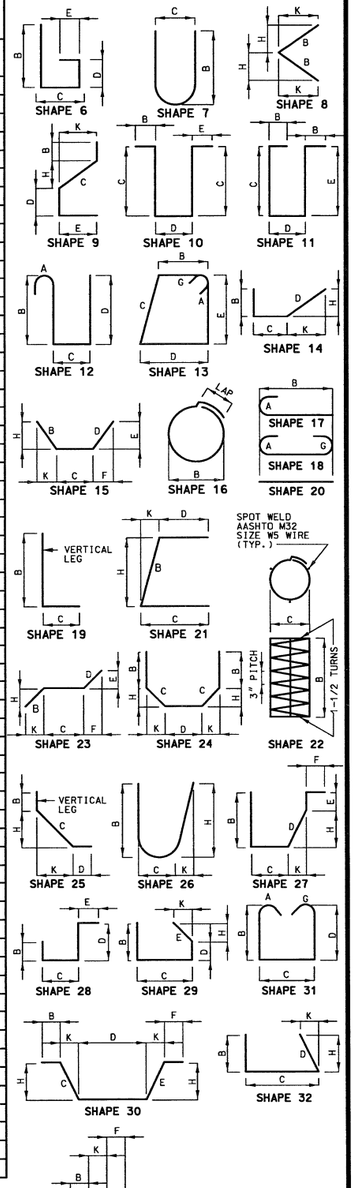
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
24	5	C1	SLIP FORM	E	20					10	0.000													10	0	10	0	250
			TOTALS																									
	4																											1082
	4			E																								1812
	5																											71
	5			E																								27290
	6																											1793
	6			E																								44671
	7			E																								200
	8																											10824
	8			E																								2245
	10			E																								5995
	11																											3234
	W5																											55
	W5			E																								152
			TOTAL																									17059
			TOTAL	E																								82365
			Slab on																									
			Girder																									
	5			E																								16863
	6			E																								40064
			TOTAL																									56927
			Reinforcing																									
			Steel																									
			(Bridges)																									
	4																											1082
	5																											71
	6																											1793
	8																											10824
	11																											3234
	W5																											55
			TOTAL																									17059
			Reinforcing																									
			Steel																									
			(Epoxy																									
			Coated)																									
	4			E																								1651
	5			E																								4652
	6			E																								4607
	7			E																								200
	8			E																								2245
	10			E																								5995
	W5			E																								152
			TOTAL																									19502
			Safety																									

BILL OF REINFORCING STEEL

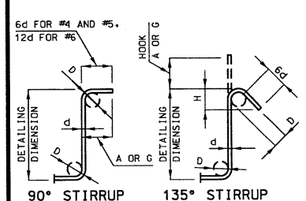
Contract ID: 030321-906
Job: J9S0500

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			Barrier																									
			Curb																									
	4			E																								161
	5			E																								5525
			TOTAL																									5686
			Slip Form																									
			Option																									
	5			E																								250
			TOTAL																									250



BENDING DIAGRAMS

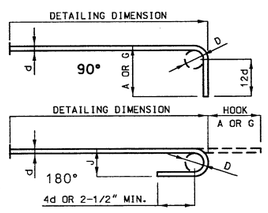
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MO	FAS-1053 (6)	B 45



DETAILED Jun. 2002
CHECKED Jul. 2002 Compiled By: Cindy Spinck

STIRRUP HOOK DIMENSIONS GRADES 40 - 50 - 60 KSI			
BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	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 A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	2'-0"
#14	18-1/4"	2'-3"	21-3/4"	2'-7"

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.

STATE OF MISSOURI
JOHN L. SANDERS
NUMBER PE-2004000834
PROFESSIONAL ENGINEER
11-5-04

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS. Checked By: 11-5-04

SHEET NO. 45 OF 46

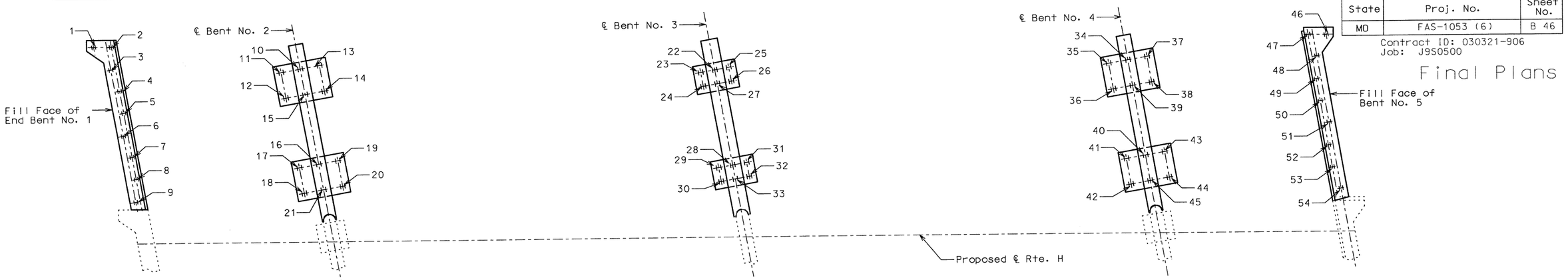
PULASKI COUNTY A30521

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State	Proj. No.	Sheet No.
MO	FAS-1053 (6)	B 46

Contract ID: 030321-906
Job: J9S0500

Final Plans



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	48	97.5	Driven to Practical Refusal
2	48	99.06	Driven to Practical Refusal 3" per 12"
3	49	97.5	Driven to Practical Refusal
4	50	99.06	Driven to Practical Refusal 3" per 12"
5	51	97.5	Driven to Practical Refusal
6	53	99.06	Driven to Practical Refusal 3" per 12"
7	49	97.5	Driven to Practical Refusal
8	53	99.06	Driven to Practical Refusal 3" per 12"
9	53	97.5	Driven to Practical Refusal
			INT. BENT NO. 2
10	23	85.05	Driven to Practical Refusal 2" per 12"
11	21	85.05	Driven to Practical Refusal 2" per 12"
12	34	86.36	Driven to Practical Refusal
13	33	86.36	Driven to Practical Refusal
14	30	85.05	Driven to Practical Refusal 2" per 12"
15	28	85.05	Driven to Practical Refusal 2" per 12"
16	26	85.05	Driven to Practical Refusal 2" per 12"
17	26	85.05	Driven to Practical Refusal 2" per 12"
18	25	86.36	Driven to Practical Refusal
19	25	86.36	Driven to Practical Refusal
20	28	85.05	Driven to Practical Refusal 2" per 12"
21	30	85.05	Driven to Practical Refusal 2" per 12"
			INT. BENT NO. 3
22	12	131.45	Driven to Practical Refusal 2" per 12"
23	12	131.45	Driven to Practical Refusal 2" per 12"
24	12	131.41	Driven to Practical Refusal
25	12	131.41	Driven to Practical Refusal
26	12	131.45	Driven to Practical Refusal 2" per 12"
27	12	131.45	Driven to Practical Refusal 2" per 12"
28	13	131.45	Driven to Practical Refusal 2" per 12"
29	11	131.45	Driven to Practical Refusal 2" per 12"

"AS BUILT PILE" DATA			
PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
			INT. BENT NO. 3 (con't.)
30	14	131.41	Driven to Practical Refusal
31	16	131.41	Driven to Practical Refusal
32	17	131.45	Driven to Practical Refusal 2" per 12"
33	30	131.45	Driven to Practical Refusal 2" per 12"
			INT. BENT NO. 4
34	18	85.05	Driven to Practical Refusal 2" per 12"
35	19	85.05	Driven to Practical Refusal 2" per 12"
36	18	86.36	Driven to Practical Refusal
37	16	86.36	Driven to Practical Refusal
38	19	85.05	Driven to Practical Refusal 2" per 12"
39	14	85.05	Driven to Practical Refusal 2" per 12"
40	14	85.05	Driven to Practical Refusal 2" per 12"
41	14	85.05	Driven to Practical Refusal 2" per 12"
42	15	86.36	Driven to Practical Refusal
43	16	86.36	Driven to Practical Refusal
44	14	85.05	Driven to Practical Refusal 2" per 12"
45	15	85.05	Driven to Practical Refusal 2" per 12"
			END BENT NO. 5
46	49	99.06	Driven to Practical Refusal 3" per 12"
47	46	97.5	Driven to Practical Refusal
48	50	97.5	Driven to Practical Refusal
49	50	99.06	Driven to Practical Refusal 3" per 12"
50	49	99.06	Driven to Practical Refusal 3" per 12"
51	49	97.5	Driven to Practical Refusal
52	53	99.06	Driven to Practical Refusal 3" per 12"
53	53	99.06	Driven to Practical Refusal 3" per 12"
54	54	97.5	Driven to Practical Refusal

NOTE: INDICATE IN REMARKS 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.

NOTE: THIS SHEET TO BE COMPLETED BY MoDOT 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.

John L Landers — SIGNATURE
12-7-05 — DATE

PULASKI COUNTY A30521 REV.

Detailed Apr. 2002
Checked May 2002 Compiled By: Cindy Dzurick

Checked By: Jeannie Patti-Woodall
Note: This drawing is not to scale. Follow dimensions.

J:\Ao500\A30521\A30521_046.dgn 10:03:36 AM 12/07/2005

SHOP DRAWINGS FOR STEEL STRUCTURE

Pulaski COUNTY BRIDGE NO. A-3052

PROJECT NO. I-44-2(84)

INDEX

ERECTION SHEET NOS. _____ THRU _____

GENERAL MATERIALS SHEET NOS. 1 THRU 116

BOLT LIST SHEET NOS. _____ THRU _____

BEARING DETAILS SHEET NOS. _____ THRU _____

BRIDGE RAILING DETAILS SHEET NOS. _____ THRU _____

PAINT DETAILS SHEET NOS. _____ THRU _____

BLOCKING DIAGRAM SHEET NOS. _____ THRU _____

EXPANSION DEVICE DETAILS SHEET NOS. 1 THRU 1

SHOP WELDED SPLICE DETAILS SHEET NOS. _____ THRU _____

WEB AND FLANGE CUTTING DETAILS SHEETS NOS. _____ THRU _____

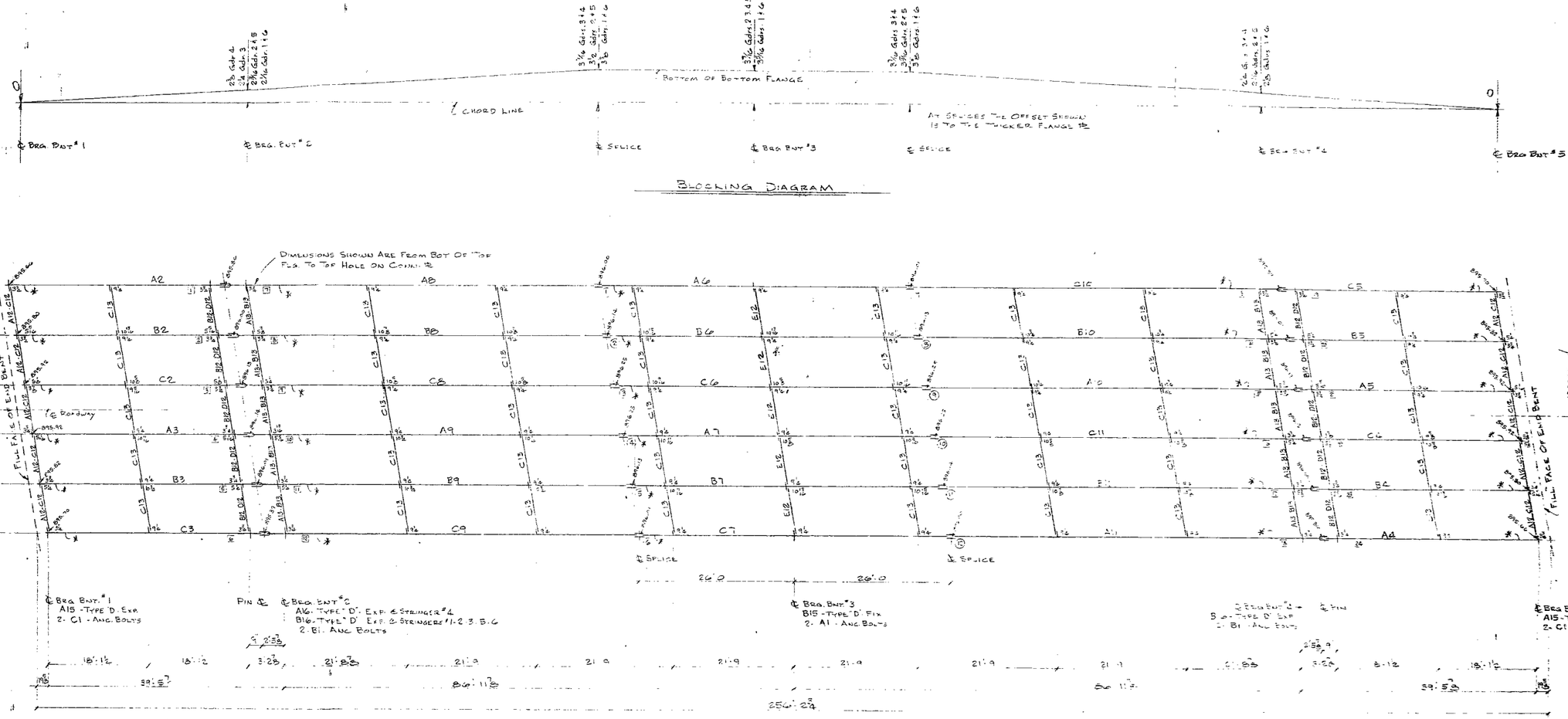
DRAIN DETAILS SHEET NOS. _____ THRU _____

DRAINAGE SYSTEM DETAILS SHEET NOS. _____ THRU _____

STEEL GRID FLOORING DETAILS SHEET NOS. _____ THRU _____

PEDESTRIAN FENCE DETAILS SHEET NOS. _____ THRU _____

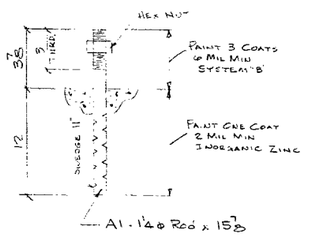
69



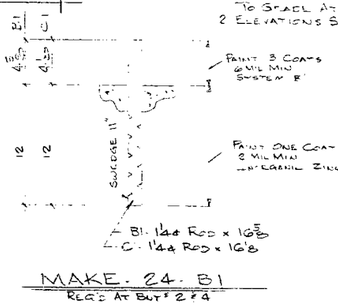
BLOCKING DIAGRAM

LEGEND
- ⑤ STRINGER NO.
- ✱ FIELD SPLICE NO.
- ✱ SHOP WEB SPLICE

NO EXPANSION DEVICE MATERIAL FURNISHED BY DELONG'S INC.



MAKE - 12 - A1
REQ'D AT BNT #3



MAKE - 24 - B1
REQ'D AT BNT # 2 & 4

MAKE - 24 - C1
REQ'D AT BNT # 1 & 5

ERECTION PLAN
1. LONGITUDINAL DIMENSIONS SHOWN ARE TAKEN PARALLEL TO GRADE AT TOP OF BOTTOM FLANGE.
2. ELEVATIONS SHOWN ARE AT BOTTOM OF TOP FLANGE.

NOTE
C - FINISH - NOMINAL 2.5 MIL HEIGHTS PROFILE
ALL SURFACES TO BE PAINTED ONE COAT - 2 MIL MIN. SYSTEM 'B' TYPE II UNLESS N'TED.

HIGH TENSILE FIELD BOLTS

SHIP	REQ'D	SIZE	GRIP	LENGTH	HEAD	NUT	WASHER	LOCATION
645	432	⅞	1	2½	HEX	HEX	CASE	ALL WEB SPLICES
60	96	⅞	1¼	3½	do	do	do	TOP FLG SPLICE / BOT FLG SPLICE; S14 TO FLG ONLY / E14 TO FLG ONLY
148	144	⅞	2⅜	3½	do	do	do	TOP FLG SPLICE S14 TO FLG TO C12
345	336	⅞	2⅜	3½	do	do	do	BOT FLG SPLICE S14 TO FLG TO E14
255	250	¾	1¼	2½	do	do	do	E12 - A13 - B13 TO CONN. ℄'S
415	496	¾	1⅝	2½	do	do	do	A12 - B12 - C12 - D12 TO CONN. ℄'S
415	420	¾	⅝	2	do	do	do	C13 TO CONN ℄'S
10		¾		3	do	do	do	CALIBRATION BOLTS
10		⅞		3	do	do	do	CALIBRATION BOLTS

FILLER WASHERS

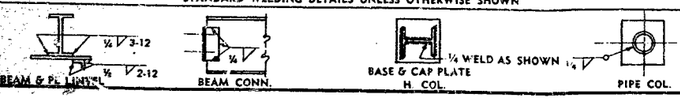
1045	018	¾	CASE-HARDENED
095	006	¾	CARBURIZED
12	12	⅞	FOR A.N.C. BOLTS

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

WILLIAM L. MISCH NUMBER E-6258 STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



PAINT: SYSTEM 'B' TYPE II
BOLTS REVETS. ____ UNLESS NTD.
OPEN HLS. ____ UNLESS NTD.

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
1	✓	3-6-79	2	C	4-17-79
2	✓	3-6-79	4	5	do
			6	A	do

DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY: J.D.P.
DATE: 2-20-79
CHECKED BY: C.H.D.
DATE: 3-22-79

REVISIONS

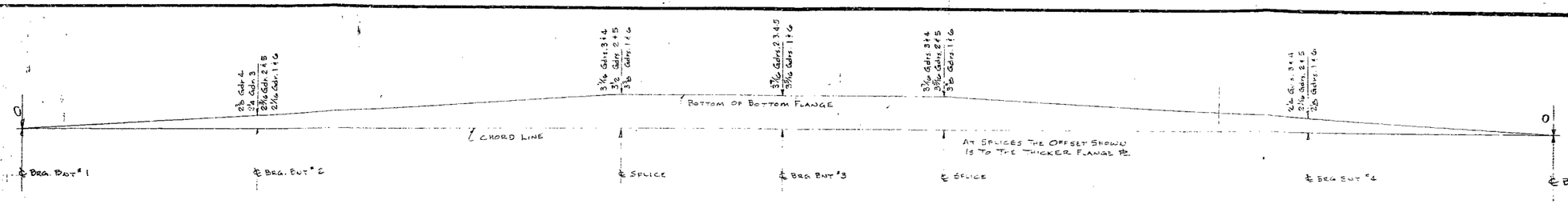
DATE	MK.	BY	REMARKS

ROUTE A UNDERPASS — BRIDGE NO. A-3052

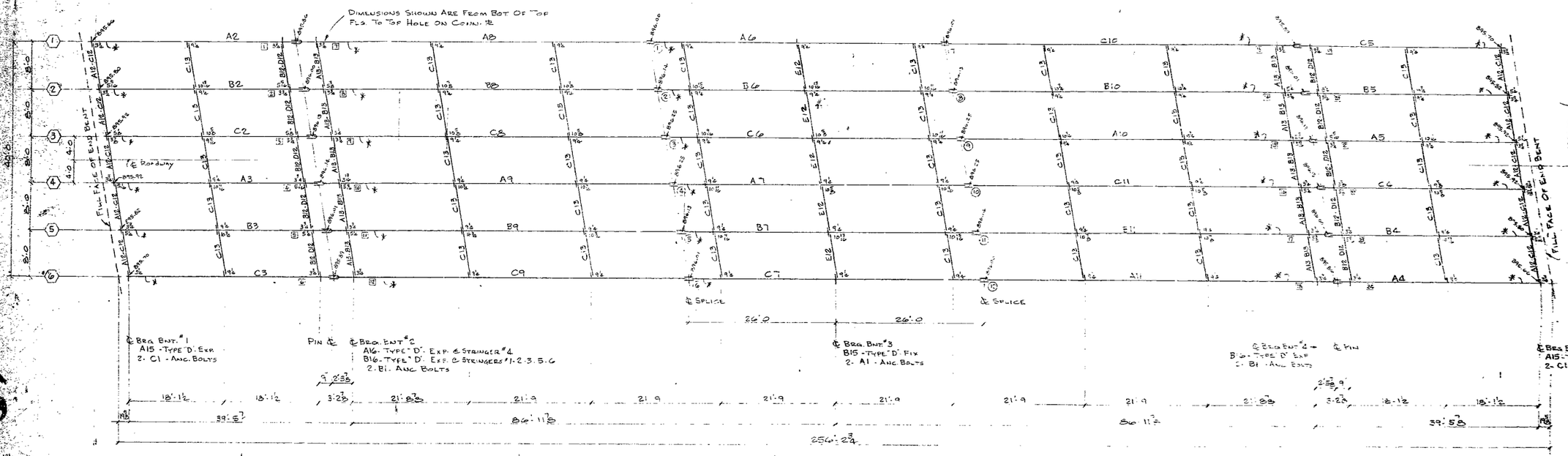
CUSTOMER: HOWARD CONST. CO.
JOB: FAS-I-44-9D — PROJ# I-44-2(94)
LOCATION: FRANKLIN COUNTY, RTE. I-44 APPX 2 MILES SOUTHEAST OF WASHINGTON
ARCH.-ENGR.: MO. STATE HWY. DEPT.

JOB No. 79-7
SHT. No. 12 OF 16

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

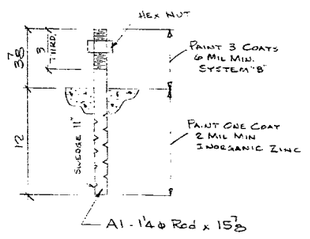


BLOCKING DIAGRAM

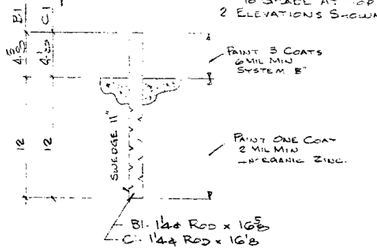


LEGEND
- ⊛ STRINGER No.
- ⊛ FIELD SPLICE No.
- ⊛ SHOP WEB SPLICE

NO EXPANSION DEVICE MATERIAL FURNISHED BY DELONG'S INC.



MAKE - 12 - A1
REQ'D AT BNT # 3



MAKE - 24 - B1
REQ'D AT BNT # 2 & 4

MAKE - 24 - C1
REQ'D AT BNT # 1 & 5

NOTE:
CLEANING - NOMINAL 2.5 MIL HEIGHTS PROFILE.
ALL SURFACES TO BE PAINTED ONE COAT - 2 MIL MIN SYSTEM 'B' TYPE II UNLESS NOTED.

ERECTION PLAN

1. LONGITUDINAL DIMENSIONS SHOWN ARE TAKEN PARALLEL TO GRADE AT TOP OF BOTTOM FLANGE.
2. ELEVATIONS SHOWN ARE AT BOTTOM OF TOP FLANGE.

HI. TENSILE FIELD BOLTS

SHIP	REQ'D	SIZE	GRIP	LENGTH	HEAD	NUT	WASHER	LOCATION
645	432	⅞	1	2½	HEX	HEX	CAST	ALL WEB SPLICES
102	96	⅞	1¾	3⅛	do	do	do	TOP FLG SPLICE B14 TO FLG ONLY / BOT FLG SPLICE E14 TO FLG ONLY
118	144	⅞	2⅜	3⅝	do	do	do	TOP FLG SPLICE B14 TO FLG TO C14.
345	336	⅞	2⅝	3¾	do	do	do	BOT. FLG SPLICE D14 TO FLG TO E14
255	350	¾	[illegible]	2½	do	do	do	E12 - A13 - B13 TO CONN. ℄'s
415	400	¾	⅝ & ⅞	2¼	do	do	do	A12 - B12 - C12 - D12 TO CONN. ℄'s
415	400	¾	⅝	2	do	do	do	C13 TO CONN ℄'s
10	-	¾	-	3	do	do	-	CALIBRATION BOLTS
10	-	⅞	-	3	do	do	do	CALIBRATION BOLTS

FILLET WASHERS

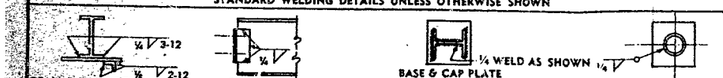
1049	1018	¾	CASE HARDENED
1095	1060	⅞	CASE HARDENED
12	12	1¼ ø	SUIT FOR A. ANC BOLTS

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
[illegible]
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

WILLIAM L. HISCH NUMBER E-6258 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



PAINT: SYSTEM "B" TYPE II
BOLTS RIVETS ____ UNLESS NTD.
OPEN HLS. ____ UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	V	2-6-79	2	C	6-17-79
2	R	6-21-79	5	S	do
			6	A	do

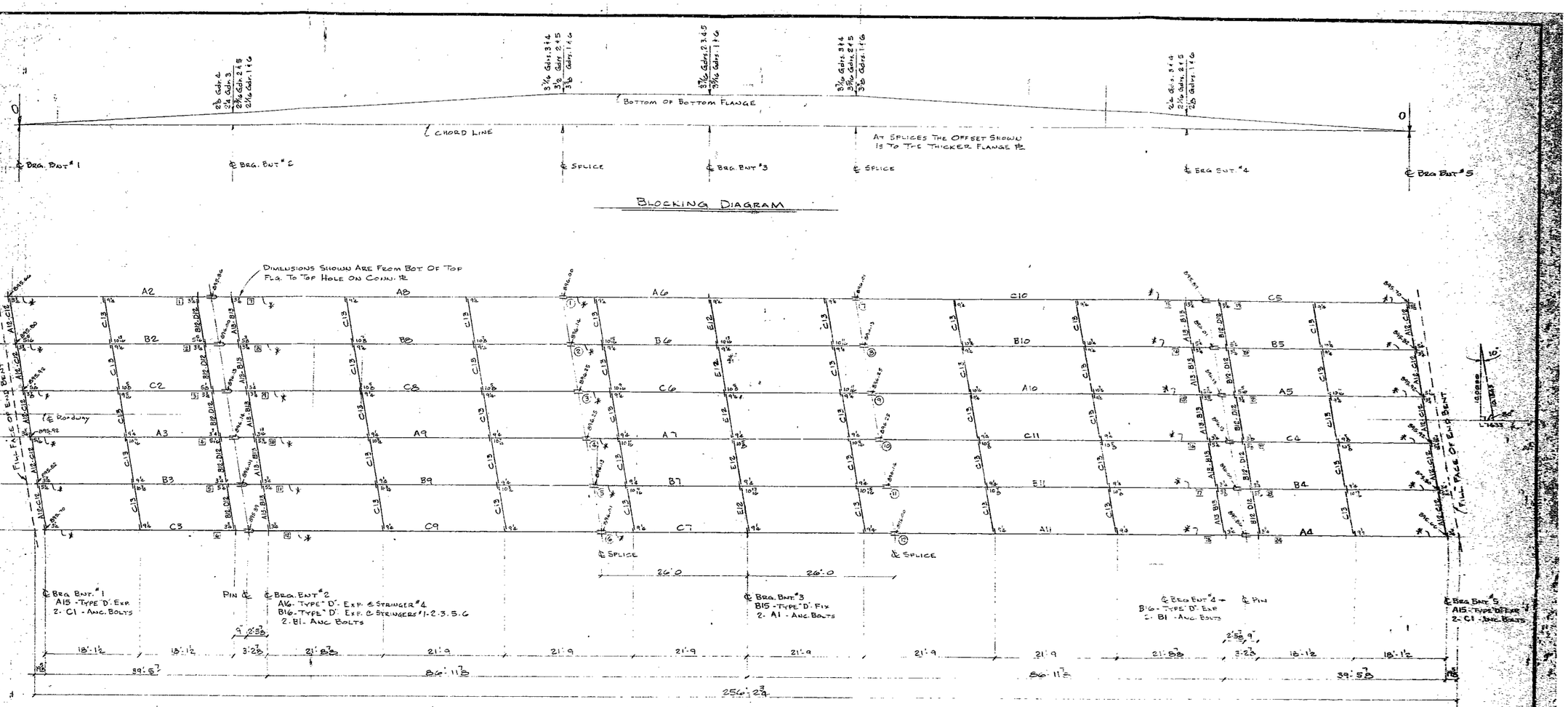
DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY: J.D.P. DATE 2-20-79
CHECKED BY: D.A.D. DATE 2-22-79

REVISIONS			
DATE	MK	BY	REMARKS

ROUTE H UNDERPASS BRIDGE No. A-3052
CUSTOMER HOWARD CONST. CO.
JOB F.A.S. I-44-9D PROJ. I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44 APX 2 MILES SOUTHWEST OF WAYNESVILLE
ARCH.-ENGR. MO. STATE HWY. DEPT.
JOB NO. 1977
SHT. NO. 5
SHTS. 16

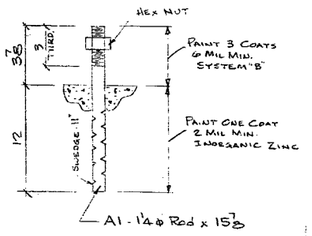
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



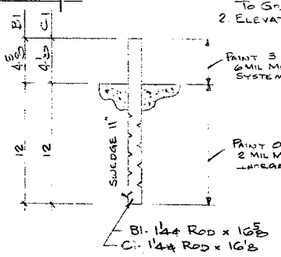
BLOCKING DIAGRAM

LEGEND
- ⑤ STRINGER NO.
- ⑤ FIELD SPLICE NO.
- ⑤ SHOP WEB SPLICE

NO EXPANSION DEVICE MATERIAL FURNISHED BY DELONG'S INC.



MAKE - 12 - A1
REQ'D AT BNT # 3



MAKE - 24 - B1
REQ'D AT BNT # 2 & 4

MAKE - 24 - C1
REQ'D AT BNT # 1 & 5

ERECTION PLAN

1. LONGITUDINAL DIMENSIONS SHOWN ARE TAKEN PARALLEL TO GRADE AT TOP OF BOTTOM FLANGE.
2. ELEVATIONS SHOWN ARE AT BOTTOM OF TOP FLANGE.

NOTE:
CLEANING - NOMINAL 2.5 MIL HEIGHTS PROFILE.
ALL SURFACES TO BE PAINTED ONE COAT - 2 MIL MIN. SYSTEM "B" TYPE II UNLESS NOTED.

HI TENSILE FIELD BOLTS

SHIP	REQ'D	SIZE	GRIP	LENGTH	HEAD	NUT	WASHER	LOCATION
445	432	⅞	1	2½	HEX	HEX	1 CAGE	ALL WEB SPLICES
100	96	⅞	1⅜	3¼	do	do	do	TOP FLG SPLICE \ BOT FLG SPLICE B14 TO FLG ONLY \ E14 TO FLG ONLY
148	144	⅞	2⅜	3½	do	do	do	TOP FLG SPLICE B14 TO FLG TO C14
345	336	⅞	2⅜	3¾	do	do	do	BOT FLG SPLICE D14 TO FLG TO E14
255	250	¾	1⅜	2½	do	do	do	E12 - A15 - B13 TO CONN. ℄'S
415	400	¾	1⅜	2¼	do	do	do	A12 - B12 - C12 - D12 TO CONN. ℄'S
415	400	¾	⅝	2	do	do	do	C13 TO CONN ℄'S
10	-	⅞	-	3	do	do	do	CALIBRATION BOLTS
10	-	⅞	-	3	do	do	do	CALIBRATION BOLTS

FILLE WASHERS

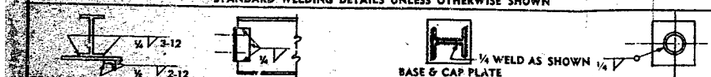
1045	1018	⅞	CARBURIZED
1095	1060	¾	CARBURIZED
12	12	1¼ ø	CUT FROM A-ANC BOLTS

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 30 '79
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

MYRL LEE L. WISDOM NUMBER E-6258 REGISTERED PROFESSIONAL ENGINEER

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



PAINT: SYSTEM "B" TYPE II
BOLTS
RIVETS UNLESS NTD.
OPEN HLS. UNLESS NTD.

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
1	~~A~~	~~3-16-79~~	2	C	4-17-79
2	~~A~~	~~3-27-79~~	5	5	~~do~~
			6	A	do

DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

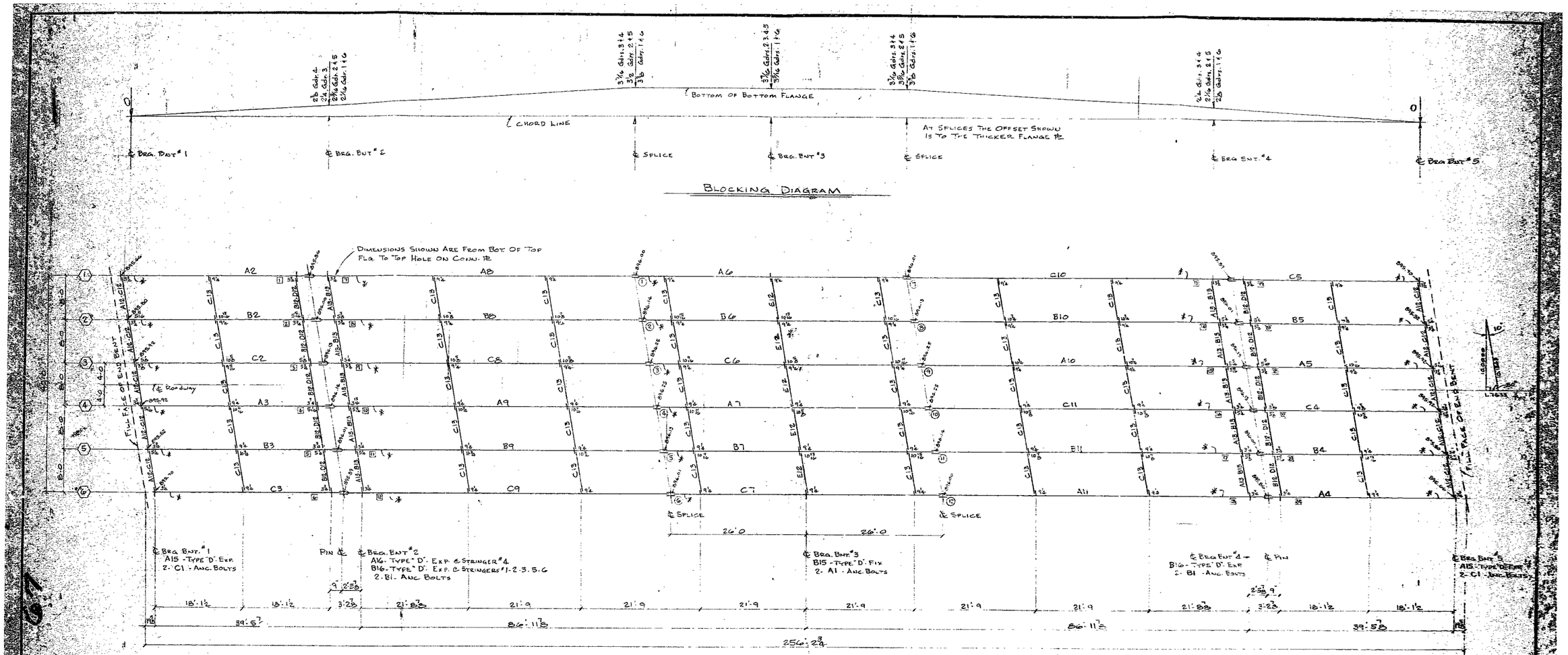
DETAILED BY JDP
DATE 2-20-79
CHECKED BY CHD
DATE 3-27-79

REVISIONS

DATE	MK.	BY	REMARKS

ROUTE H UNDERPASS BRIDGE NO. A-3552
CUSTOMER HOWARD CONST CO.
JOB # S-I-44-9D PROJ # I-44-2(64)
LOCATION PULASKI COUNTY - RTE. I-44
ABT 2 MILES SOUTHWEST OF WAYNESVILLE
ARCH-ENGR. MO. STATE HWY DEPT.

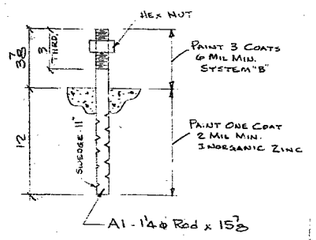
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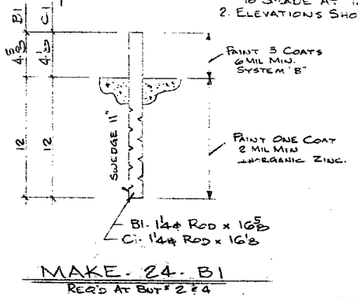
Blocking Diagram

LEGEND
- (N) Stringer No.
- (N) Field Splice No.
- (N) Shop Web Splice

No Expansion Device Material Furnished By DeLong's Inc.



MAKE - 12 - A1
Req'd At Bnt #3

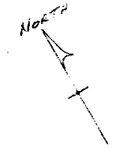


MAKE - 24 - B1
Req'd At Bnt # 2 & 4

MAKE - 24 - C1
Req'd At Bnt # 1 & 5

Erection Flan

1. Longitudinal Dimensions Shown Are Taken Parallel To Grade At Top Of Bottom Flange.
2. Elevations Shown Are At Bottom Of Top Flange.



Note:
Cleaning - Nominal 2.5 Mil Heights Profile.
All Surfaces To Be Painted One Coat - 2 Mil Min. System "B" Type II Unless Noted.

Hi. Tensile Field Bolts

Ship	Req'd	Size	Grip	Length	Head	Nut	Washer	Location
445	432	⅞	1	2½	Hex	Hex	Case	All Web Splices
100	96	⅞	1⅜	3½	do	do	do	Top Flg Splice B14 To Flg & Top Flg Splice B15 To Flg Only / Bot Flg Splice E14 To Flg Only
148	144	⅞	⅝	3½	do	do	do	Top Flg Splice B14 To Flg To C13
345	336	⅞	2⅜	3¾	do	do	do	Bot Flg Splice D14 To Flg To E14
255	250	¾	¾ - 1⅛	2½	do	do	do	E12 - A13 - B13 To Conn. ℄'s
415	400	¾	⅝ - 1⅜	2¼	do	do	do	A12 - B12 - C12 - D12 To Conn ℄'s
415	400	¾	⅝	2	do	do	do	C13 To Conn ℄'s
10	–	¾	–	3	do	do	do	Calibration Bolts
10	–	⅞	–	3	do	do	do	Calibration Bolts

Field Washers

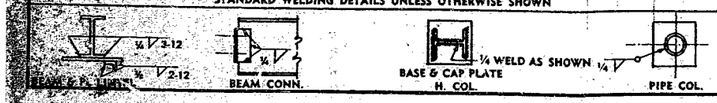
1048	1018	⅞	Carburized
1095	1060	¾	Carburized
12	12	1¼	Cut For A1 Anc Bolts

Fill Face

APPROVED
General Design Features Only
Apr 23 '79
Md. State Highway Dept. Division of Bridges

WILLIAM L. WISE — Engineer — E-6258

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



Paint: System "B" Type II
Bolts Rivets ____ Unless Ntd.
Open Hls. ____ Unless Ntd.

Print Record							
No.	For	Date		No.	For	Date	
1	V	3-16-79		2	C	6-17-79	
2	A	6-21-79		5	S	do	
				6	A	do	

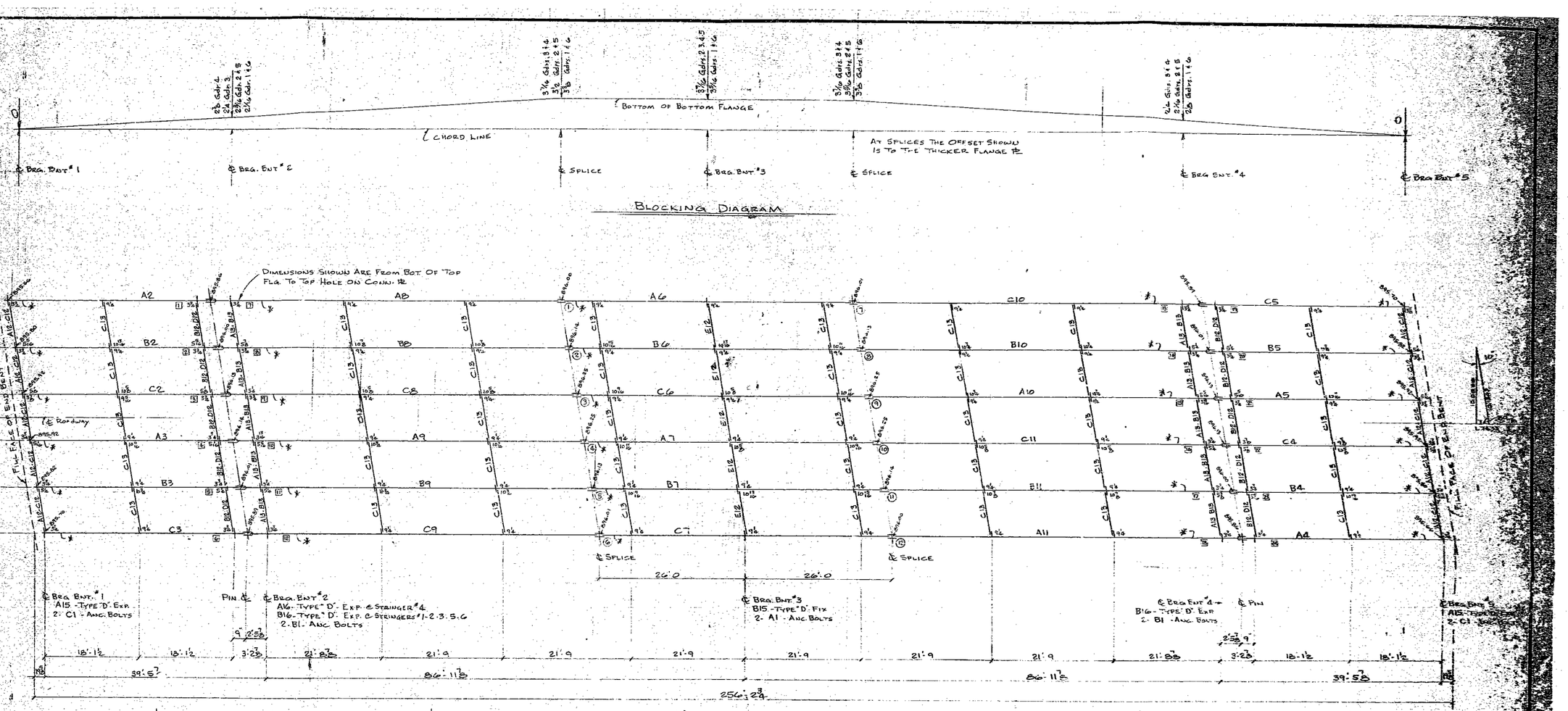
DeLONG'S INC.
Dial 635-6121 — Dix Rd. & Ind. Dr. — Jefferson City, Missouri

Detailed By	Revisions			
J.D.P.	Date	Mk.	By	Remarks
Date 2-20-79				
Checked By				
D.M.P.				
Date 3-27-79				

Route H Underpass — Bridge No. ____

Customer Howard Const Co.
Job # 8-I-44-9D Proj # I-44-2(60)
Location Pulaski County, Rte. I-44
Abt 2 Miles Southwest Of Waynesville
Arch. Engr. Mo. State Highway Dept.

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



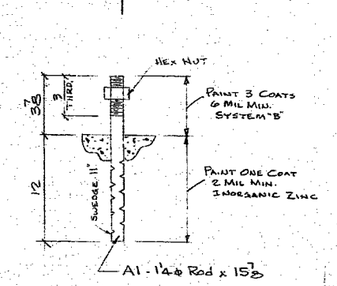
LEGEND

(1) STRINGER NO.

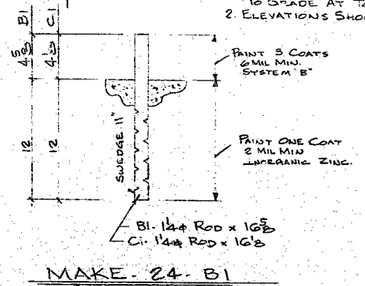
(1) FIELD SPLICE NO.

SHOP WELD SPLICE

NO EXPANSION DEVICE MATERIAL FURNISHED BY DELONG'S INC.



MAKE - 12 - A1
REQ'D AT BNT # 3



MAKE - 24 - B1
REQ'D AT BNT # 2 & 4

MAKE - 24 - C1
REQ'D AT BNT # 1 & 5

ERECTION PLAN

1. LONGITUDINAL DIMENSIONS SHOWN ARE TAKEN PARALLEL TO GRADE AT TOP OF BOTTOM FLANGE.
2. ELEVATIONS SHOWN ARE AT BOTTOM OF TOP FLANGE.

NORTH

NOTE:
CLEANING - NOMINAL 2.5 MIL HEIGHTS PROFILE.
ALL SURFACES TO BE PAINTED ONE COAT - 2 MIL MIN. SYSTEM "B" TYPE II UNLESS NOTED.

HI TENSILE FIELD BOLTS

SHIP	REQ'D	SIZE	GRIP	LENGTH	HEAD	NUT	WASHER	LOCATION
445	432	⅞ø	1	2½	HEX	HEX	I CAGE	ALL WEB SPLICES
100	96	⅞ø	1¾	3½	do	do	do	TOP FLG SPLICE B14 TO FLG ONLY / BOT FLG SPLICE B16 TO FLG ONLY
148	144	⅞ø	2⅜	3½	do	do	do	TOP FLG SPLICE B14 TO FLG TO CONN
345	336	⅞ø	2⅜	3¾	do	do	do	BOT FLG SPLICE DIA TO FLG TO EDA
255	250	¾ø	5-11/16	2½	do	do	do	E12 - A13 - B13 TO CONN PL
415	400	¾ø	5-11/16	2¼	do	do	do	A12 - B12 - C12 - D12 TO CONN PL
415	400	¾ø	⅝	2	do	do	do	C13 TO CONN PL
10	-	¾ø	-	3	do	do	do	CALIBRATION BOLTS
10	-	⅞ø	-	3	do	do	do	CALIBRATION BOLTS

FIELD WASHERS

1048	1018	⅞ø	CARBURIZED
1095	1060	¾ø	CARBURIZED
12	12	1¼ø	CUT FOR A1 ANC BOLTS

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



PAINT: SYSTEM "B" TYPE II
BOLTS RIVETS ____ UNLESS NTD.
OPEN HLS. ____ UNLESS NTD.

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
1	A	3-16-79	12	C	4-17-79
2	A	3-27-79	13	S	do
			16	A	do

DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

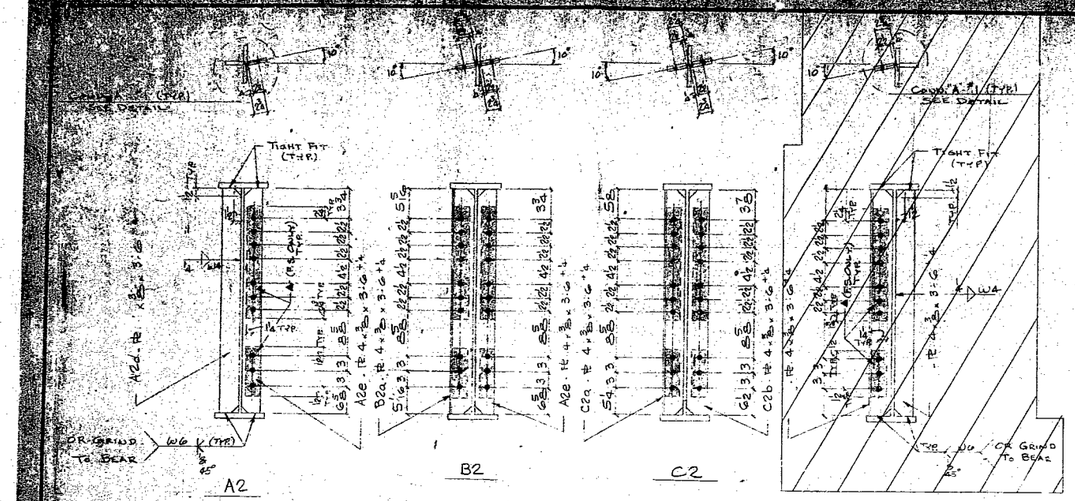
DETAILED BY JDR
DATE 2-20-79
CHECKED BY DHP
DATE 3-27-79

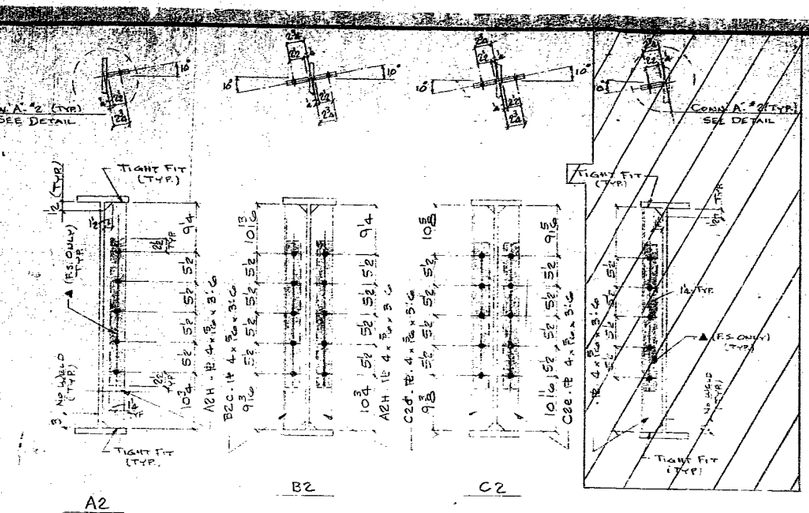
REVISIONS

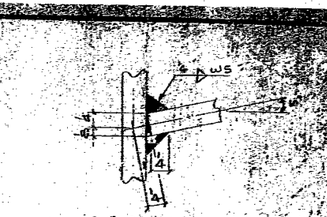
DATE	MK.	BY	REMARKS

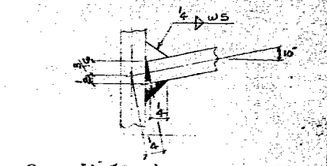
ROUTE H UNDERPASS
CUSTOMER HOWARD CONST. CO.
JOB # 8-I-44-9D PROJ # I-44-1(66)
LOCATION PULASKI COUNTY, MISSOURI
ABT 2 MILES SOUTHWEST OF ST. ROBERT
ARCH. ENGR. MO. STATE HIGHWAY DEPT.

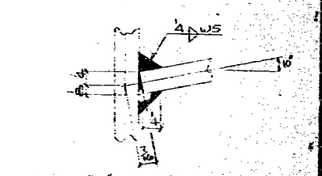
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

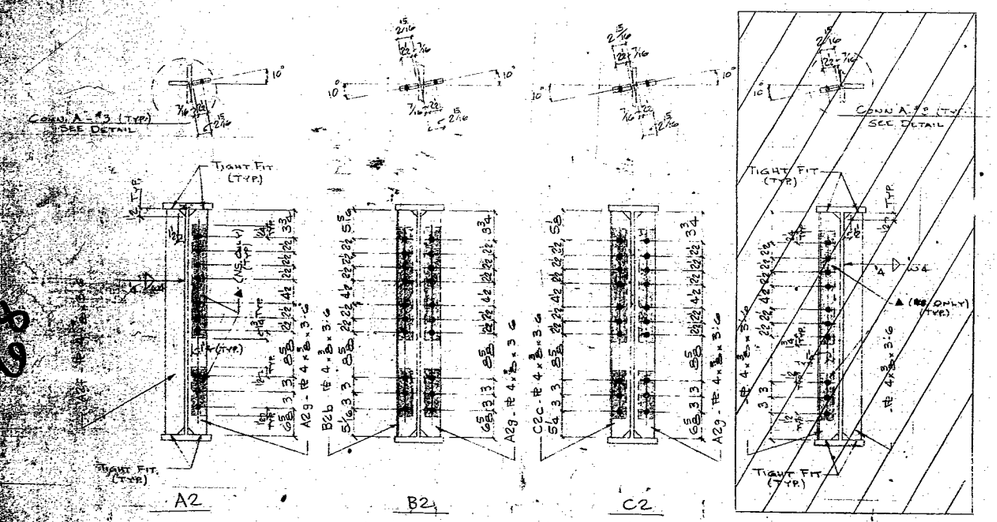


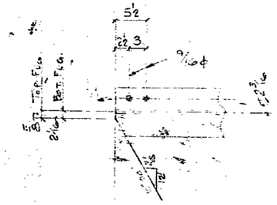


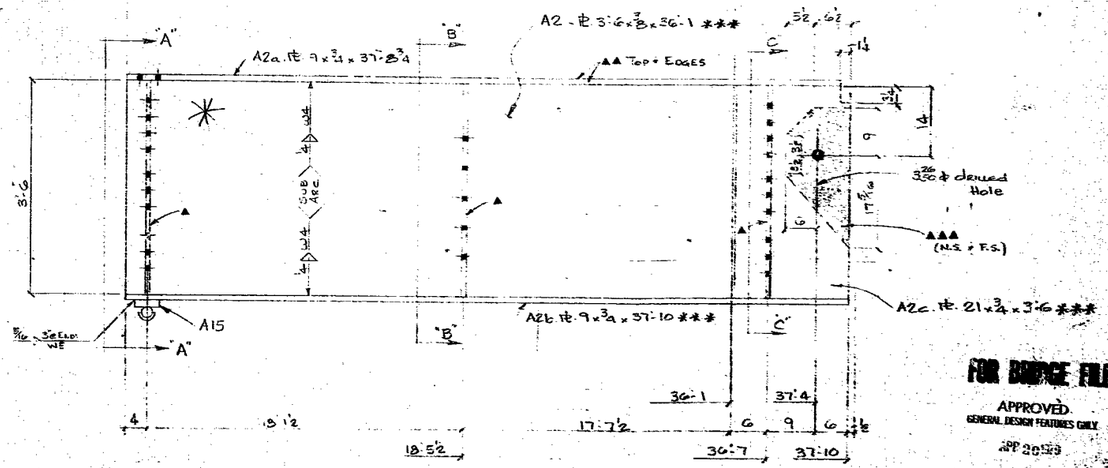












NOTES:
*** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40°F REQ'D
▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

MAKE ONE A2
MAKE ONE B2
MAKE ONE C2

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. — ½ WELD AS SHOWN — BASE & CAP PLATE & COL. — PIPE COL.

SYSTEM "B" TYPE II

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
			2	C	6-27-79
			5	S	do
			6	A	do

DELONG'S INC. — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI — DIAL 635-6121

DETAILED BY J.D.R. — DATE 2-23-79 — CHECKED BY OHP — DATE 3-27-79

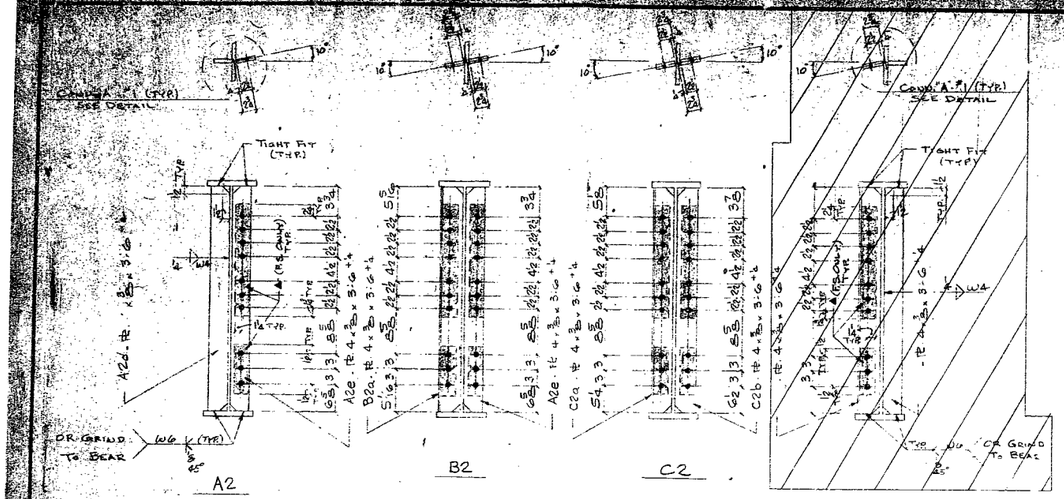
REVISIONS			
DATE	MK	BY	REMARKS

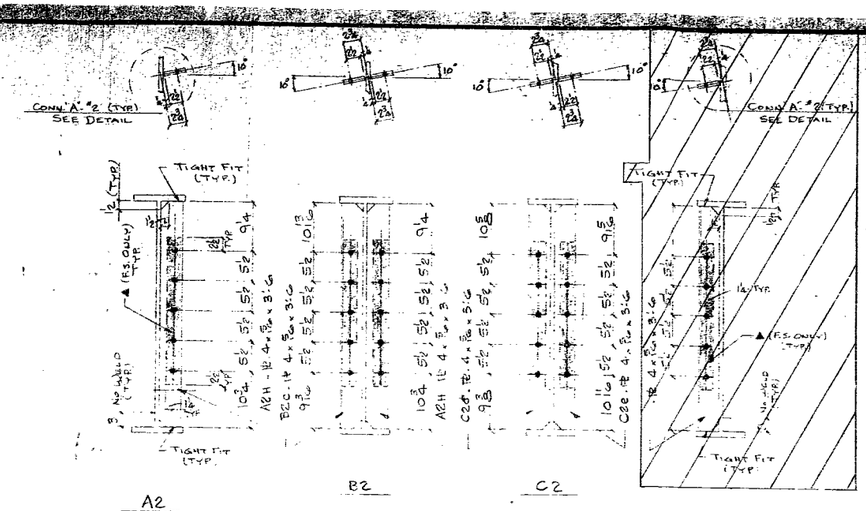
BRIDGE: PIERCE II BRIDGE
JOB: "B" I-44-1(9) PROJ. - I-44-2(9)
LOCATION: PULASKI COUNTY - RTE. 7
CREEK: MO. STATE HIGHWAY DEPT.

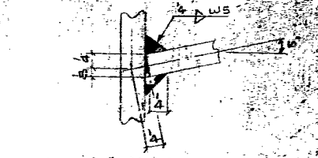
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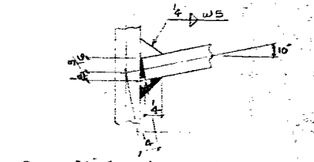
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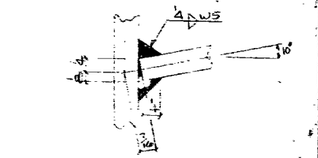
902 24 101

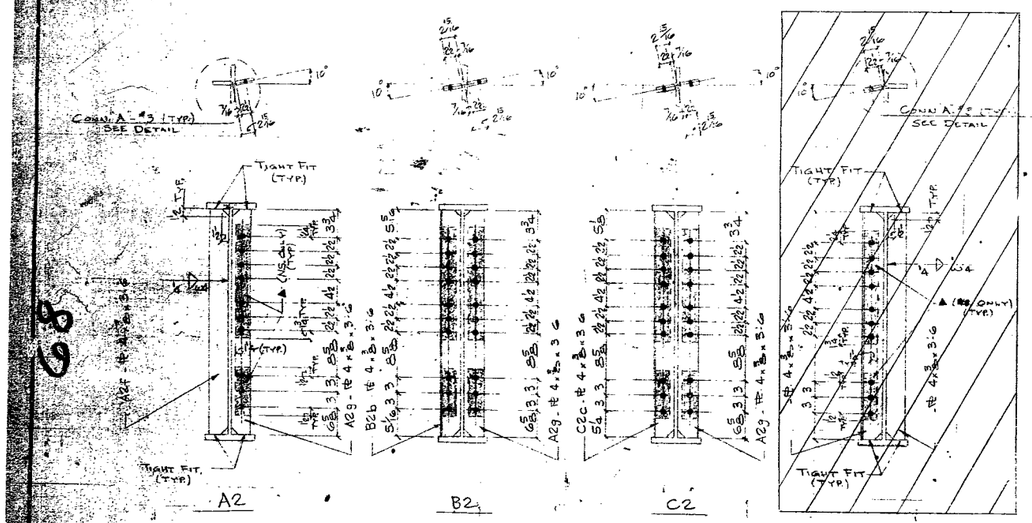


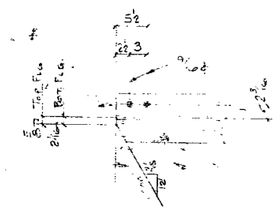




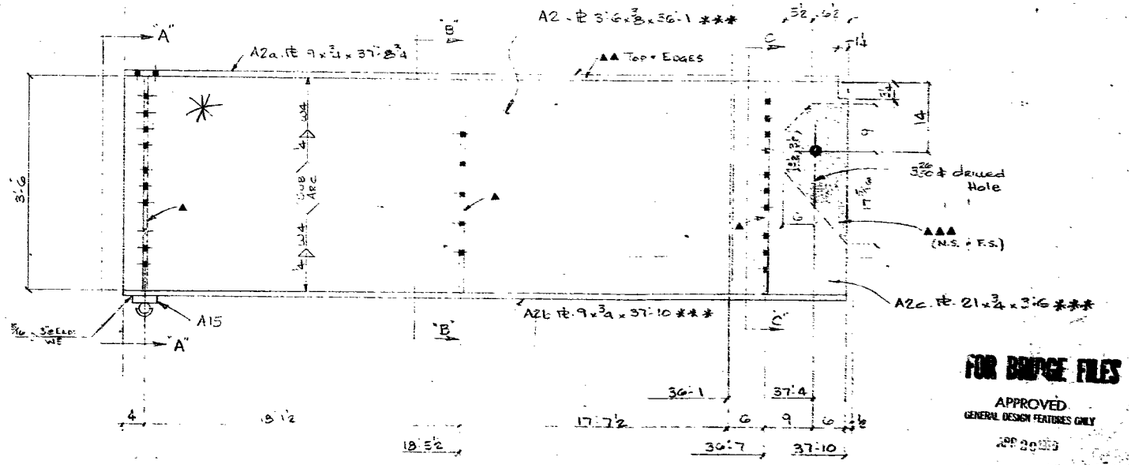








DETAIL OF SHOP WEB SPLICE



NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

MAKE ONE A2
MAKE ONE B2
MAKE ONE C2

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. — BASE & CAP PLATE H. COL. — ⅛ WELD AS SHOWN — PIPE COL.

"S" ITEM "B" TYPE "T"

BOLTS ⅞ ø UNLESS NTD.
OPEN HOLE 15/16 ø UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
			2	C	6-2-75
			5	S	do
			6	A	do

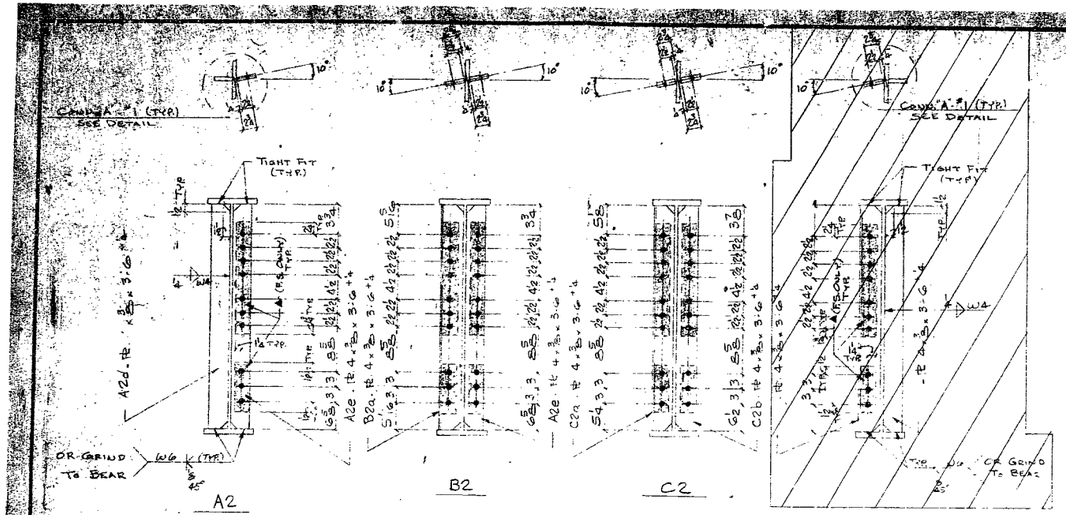
DeLONG'S INC.
DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

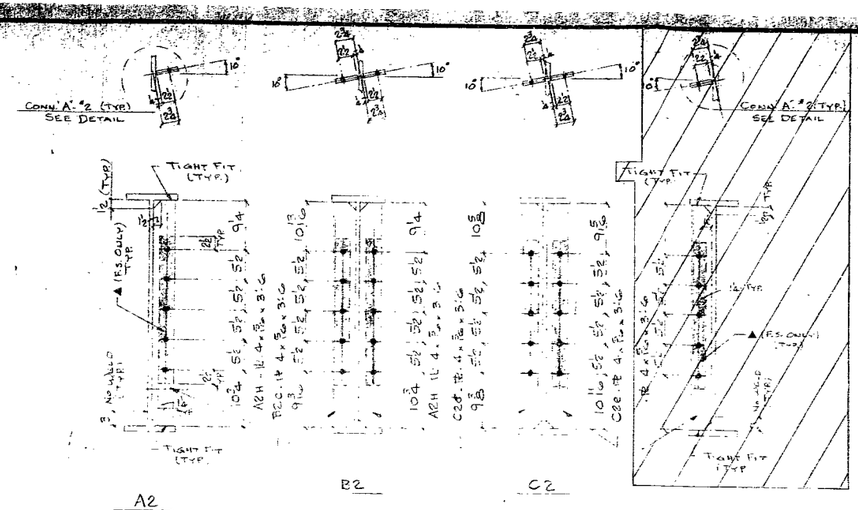
DETAILED BY J.D.P.
DATE 2-23-79
CHECKED BY OHP
DATE 3-27-79

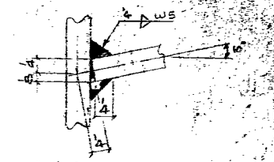
REVISIONS			
DATE	MK.	BY	REMARKS

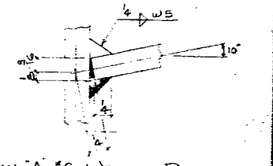
BRIDGE: ROUTE H UNDERPASS
JOB "B-I-44-9D Proj" - I-44-2 (84)
LOCATION PULASKI COUNTY - RTE I44
ORDER NO. A-3052
ARCH. & ENG. MO. STATE HWY. DEPT.

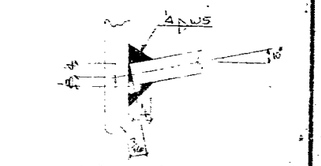
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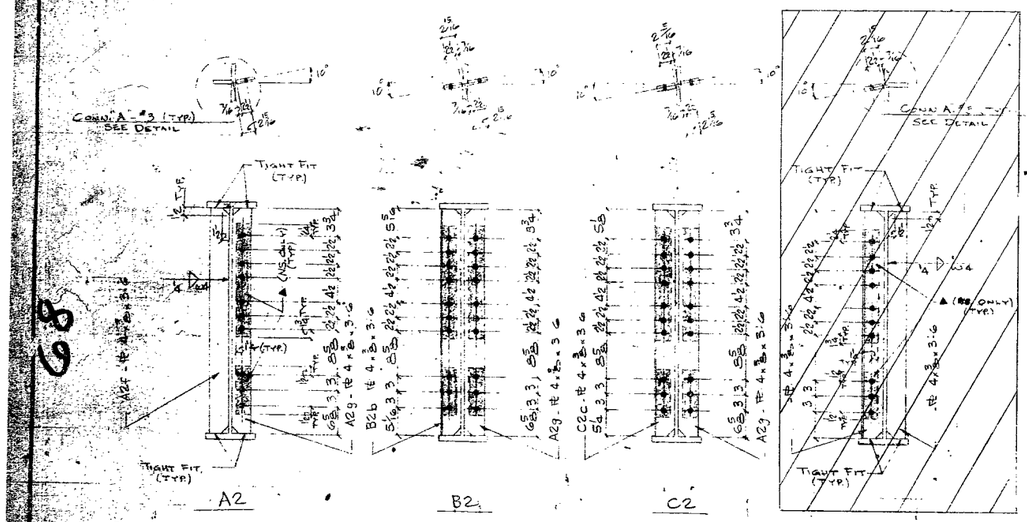


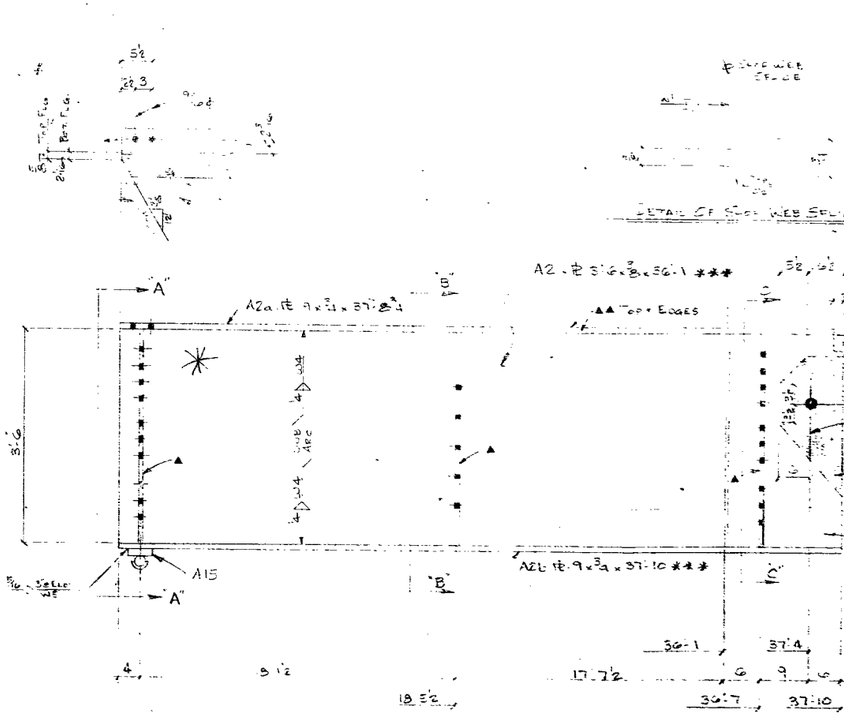












NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
SEP 30 1974
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

MAKE ONE A2
MAKE ONE B2
MAKE ONE C2

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

5/16 V2-12 — BEAM & GIRDER
5/16 V2-12 — BEAM CONN.
1/4 WELD AS SHOWN — BASE & CAP PLATE
PIPE COL.

STEEL: "B" TYPE II
BOLTS: 3/4" UNLESS NTD.
RIVETS: 3/4" UNLESS NTD.
OPEN HOLES: 13/16" UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
			2	C	1-7-75
			5	S	06
			6	A	00

DELONG'S INC. — DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

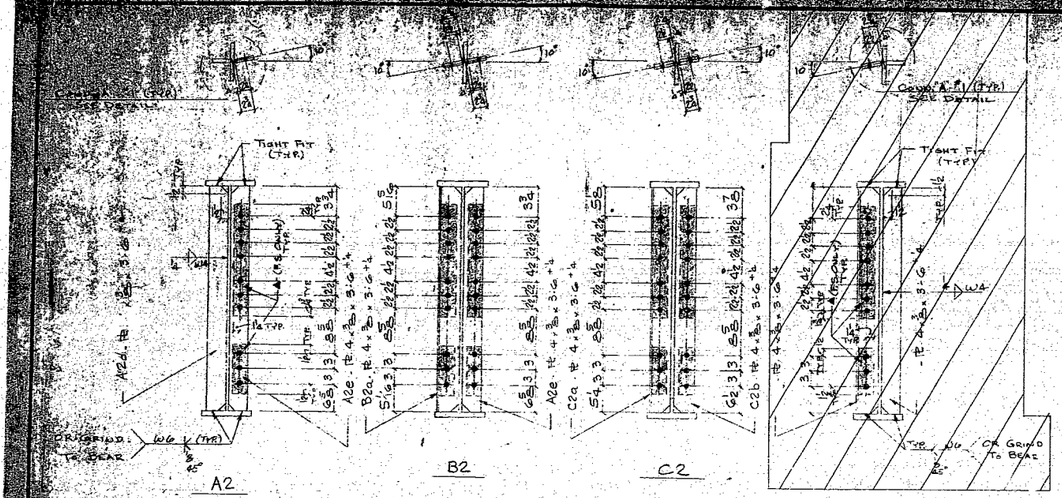
DETAILED BY: JDF
DATE: 2-23-79
CHECKED BY: OHP
DATE: 3-27-79

REVISIONS			
DATE	MK.	BY	REMARKS

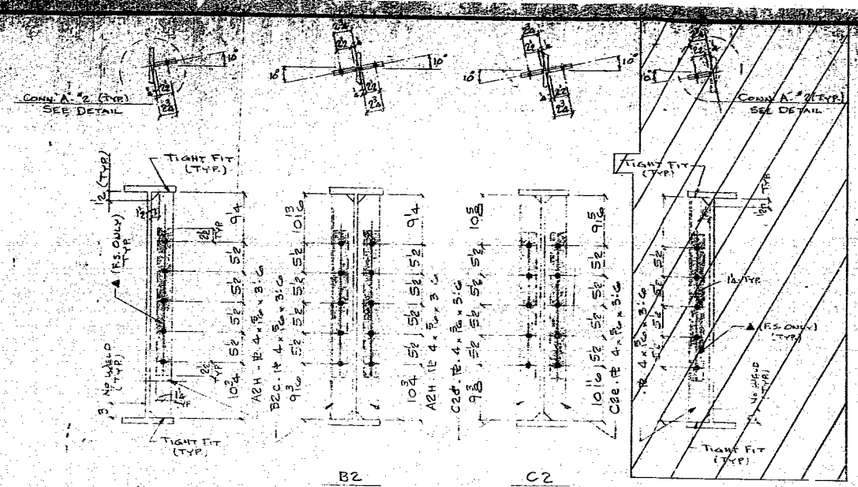
DESIGNATION: BRIDGE: ROUTE H UNDERPASS
JOB: *B-I-44-9D Prel* - I-44-2 (84)
LOCATION: PULASKI COUNTY - RTE I44
BRIDGE NO. A-3052
ARCH. ENG. MO. STATE HWY. DEPT.

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

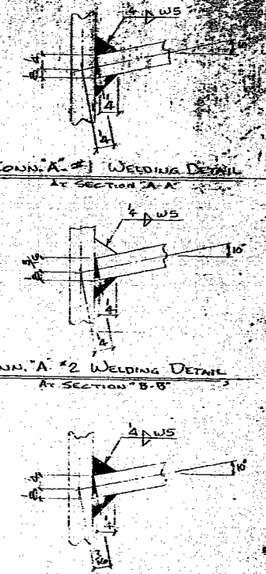
902.24 JO 1

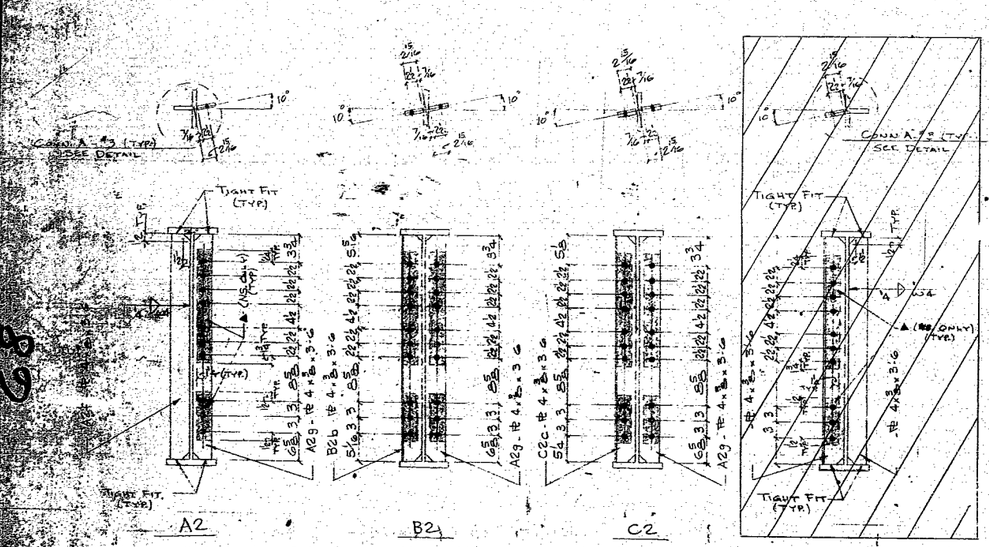


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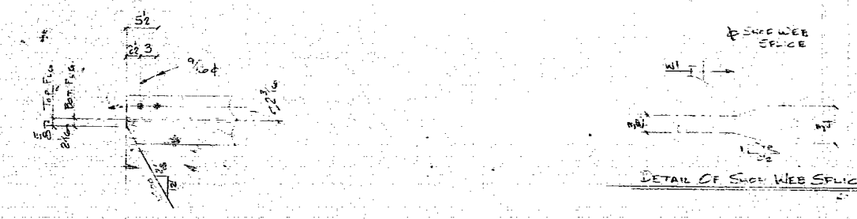


SECTION "B-B"

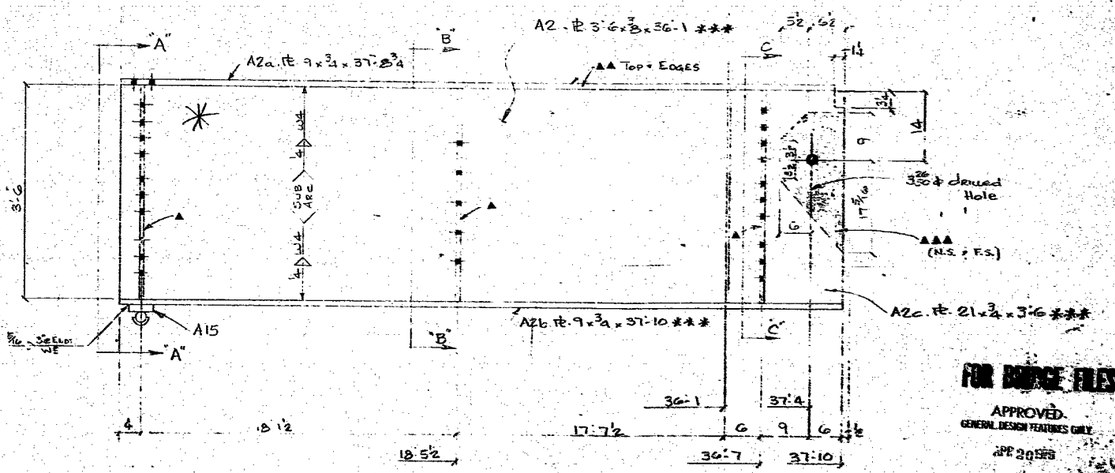




SECTION "C-C"



DETAIL OF SHOP WEB SPLICE

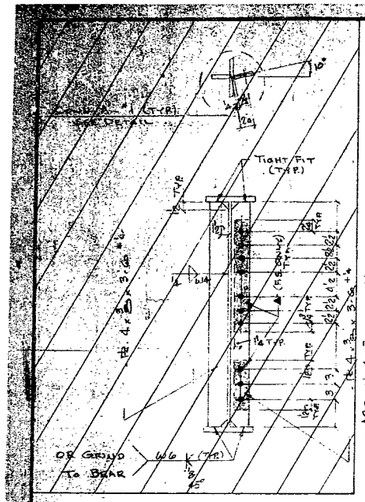


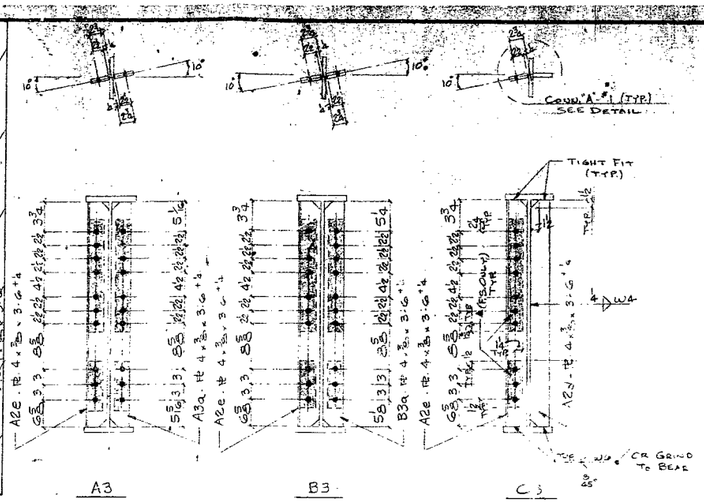
NOTES:
- *** = Notch Toughness Of 15 Ft. Lbs @ 40°F Req'd
- ▲ = Paint One Coat 1.5 To 2.5 Mil Inorganic Zinc
- ▲▲ = Paint One Coat 2.0 Mil Min. Inorganic Zinc.
- ▲▲▲ = Paint 3 Coats 6.0 Mil Min. System "B"

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1978
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

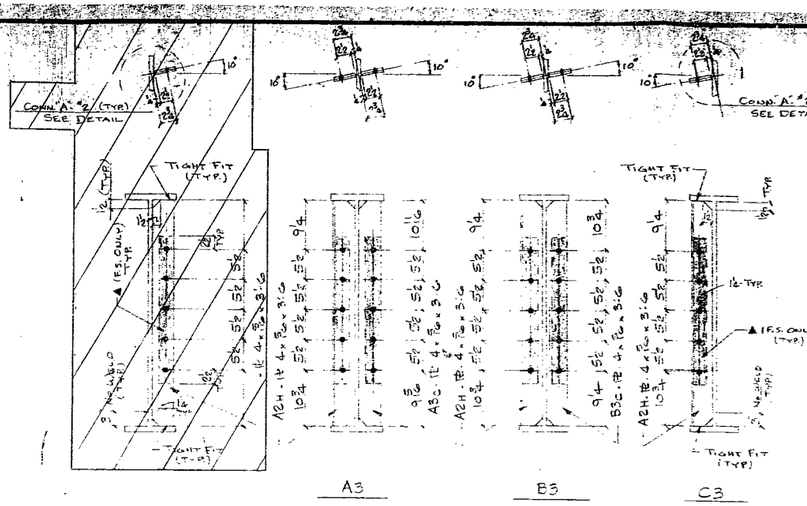
MAKE - ONE - A2
MAKE - ONE - B2
MAKE - ONE - C2

All STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN
BEAM CONN.
BASE PLATE
1/4 WELD AS SHOWN
SYSTEM B Type T
UNBRS RTD.
UNBRS NTD.
PRINT RECORD
DeLONG'S INC.
DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI
DETAILED BY J.D.R
DATE 2-23-77
CHECKED BY O.H.P
DATE 3-27-77
REVISIONS
DATE | MK | BY | REMARKS
Bridge Name: Route H Bridge
Bridge No. 51-44-10 Proj. I-44-2(9)
Location: 0.2 Mi. S. of Intersection Rte. 19
Over: Spring Creek
Dist. 10 County: Crawford

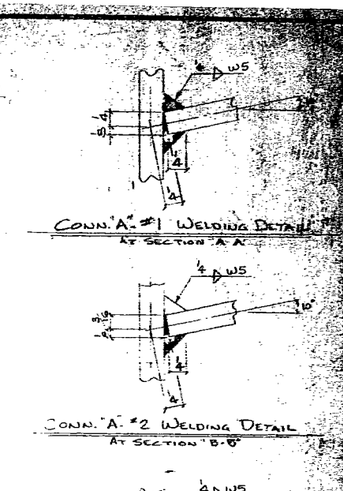


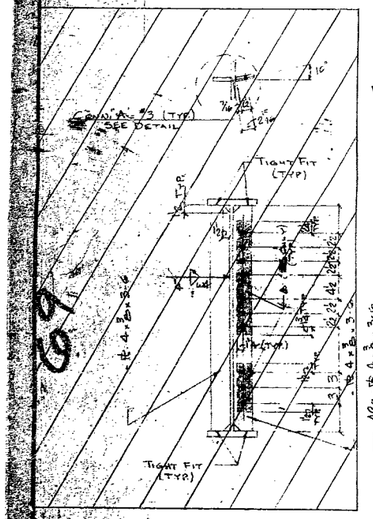


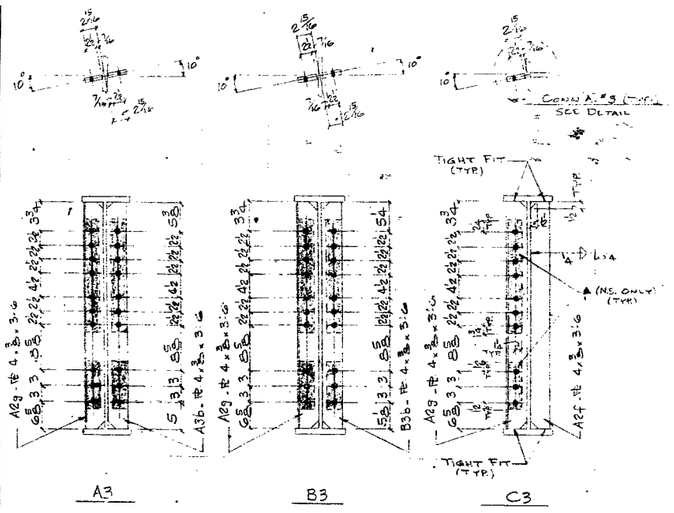
SECTION "A-A"



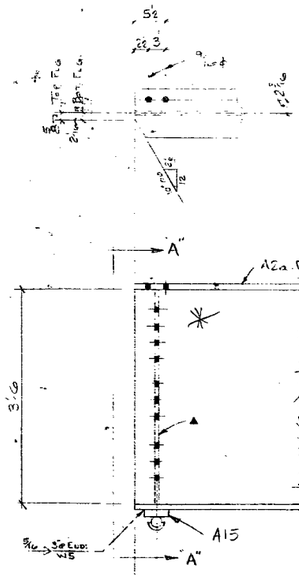
SECTION "B-B"





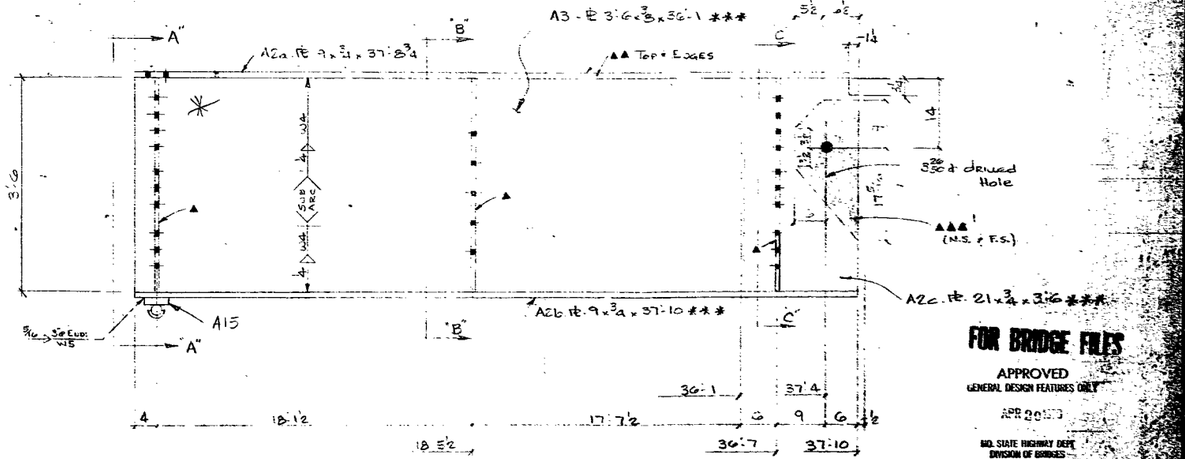


SECTION "C-C"





DETAIL OF SLOTTED SPLICE



NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT-LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

MAKE - ONE A3
MAKE - ONE - B3
MAKE - ONE - C3

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
APR 30 [illegible]
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. — BASE & CAP PLATE H. COL. — ¼ WELD AS SHOWN — PIPE COL.

"SYSTEM B" TYPE II
BOLTS 3/4 Ø UNLESS NTD.
DRIL HOLES 13/16 Ø UNLESS NTD.

PRINT RECORD						
PRI.	FOR	DATE	REV.	FOR	DATE
1	P		2	C	4-11-79
3	A		5	S	
			6	A	

DeLONG'S INC. DIX RD. & IND. DR. DIAL 635-6121 JEFFERSON CITY, MISSOURI

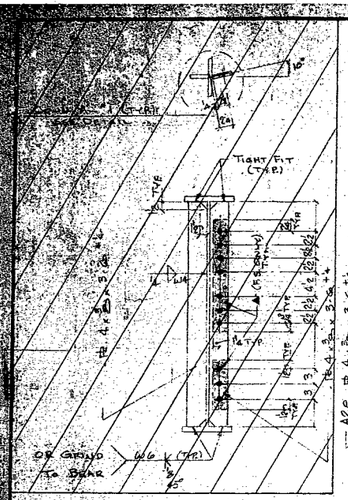
DETAILED BY	J.D.P
DATE	2-23-79
CHECKED BY	J.H.P
DATE	3-27-79

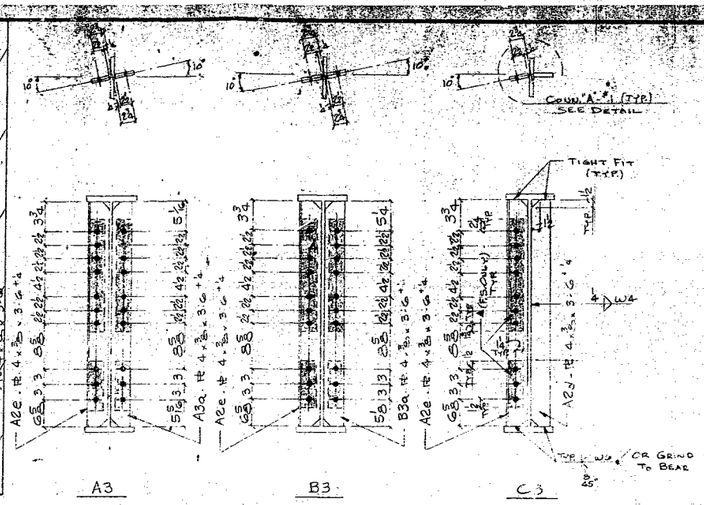
REVISIONS			
DATE	MK.	BY	REMARKS

SUPERSTR. BRIDGE ROUTE H UNDER I-44
JOB S-I-44-9(D) PROJ. I-44-2(36)
LOCATION PULASKI COUNTY - RTE. 28 & H
CONTRACT NO. A 3258
ARCH. SUPV. MO. STATE HIGHWAY DEPT.

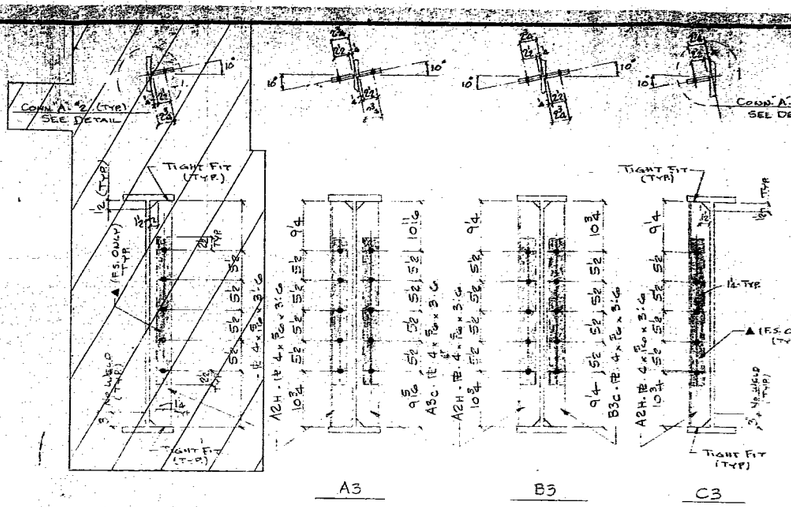
A B C D E F G H J K M N P R T U V W X Y Z AA AS AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

902 24 10 1

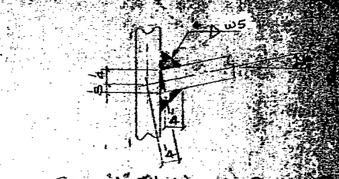


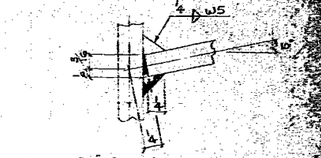


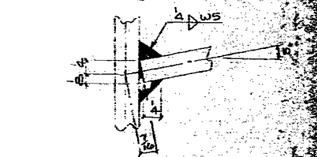
SECTION "A-A"

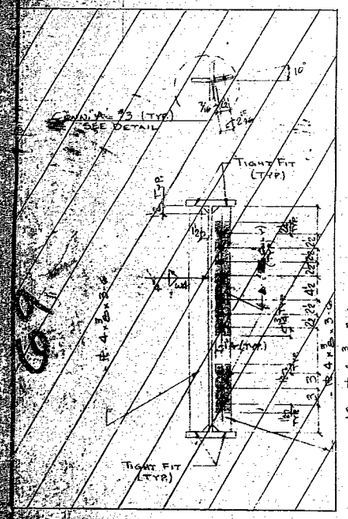


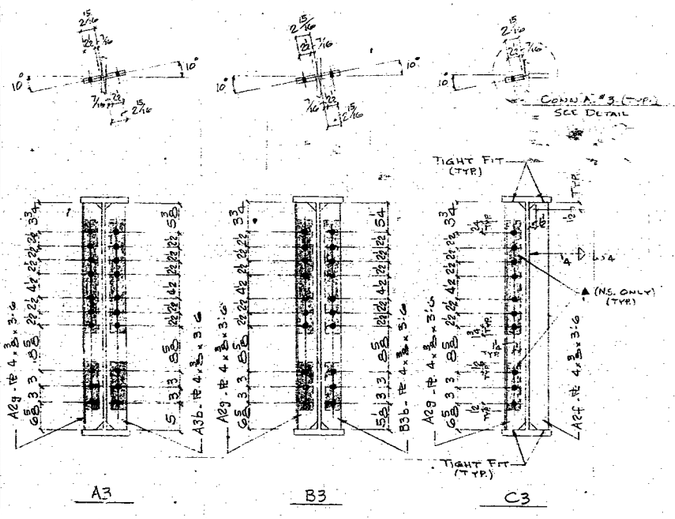
SECTION "B-B"



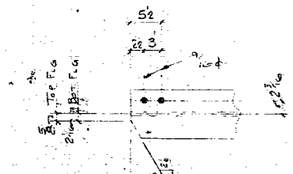


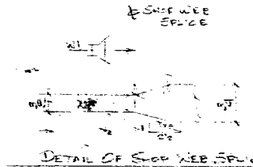




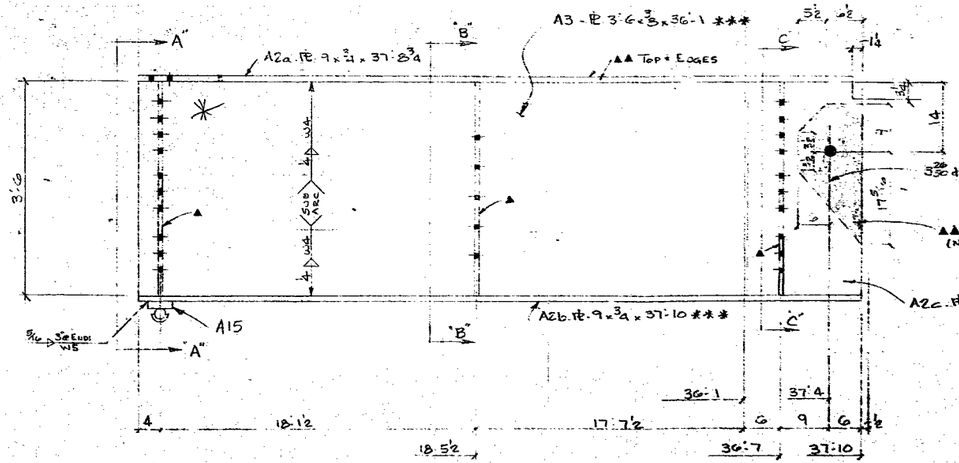


SECTION "C-C"





DETAIL OF SHOP WEB SPLICE



NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20[illegible]
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

MAKE - ONE A3
MAKE - ONE - B3
MAKE - ONE - C3

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. | BASE OR CAP PLATE | ½ WELD AS SHOWN | RIVET CONN.

"SYSTEM B" TYPE II
PAINT ½ UNPAINTED
BOLTS ¾" UNPAINTED
SURFACE 3/16" UNPAINTED

PRINT RECORD					
PRINT	NOS.	DATE	NOS.	FOR	DATE
1	1		2	C	4-1979
2	4		5	5	"
			6	4	"

DELONG'S INC. DIX RD. & IND. DR. DIAL 635-6121 JEFFERSON CITY, MISSOURI

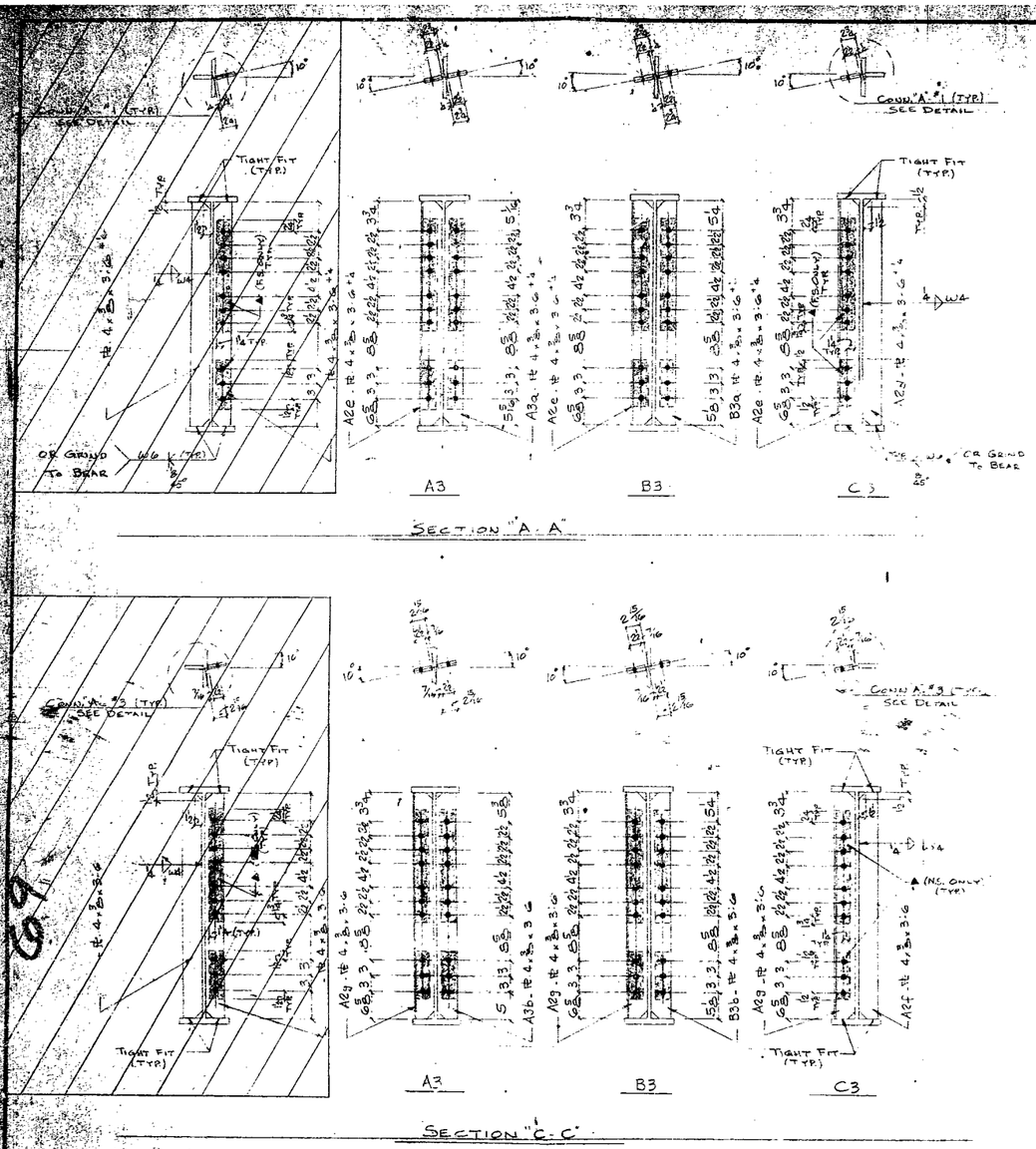
DETAILED BY J.D.P
DATE 2-23-79
CHECKED BY DHP
DATE 3-27-79

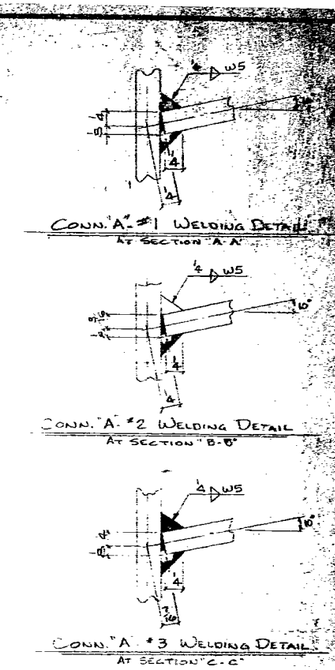
REVISIONS			
DATE	MK.	BY	REMARKS

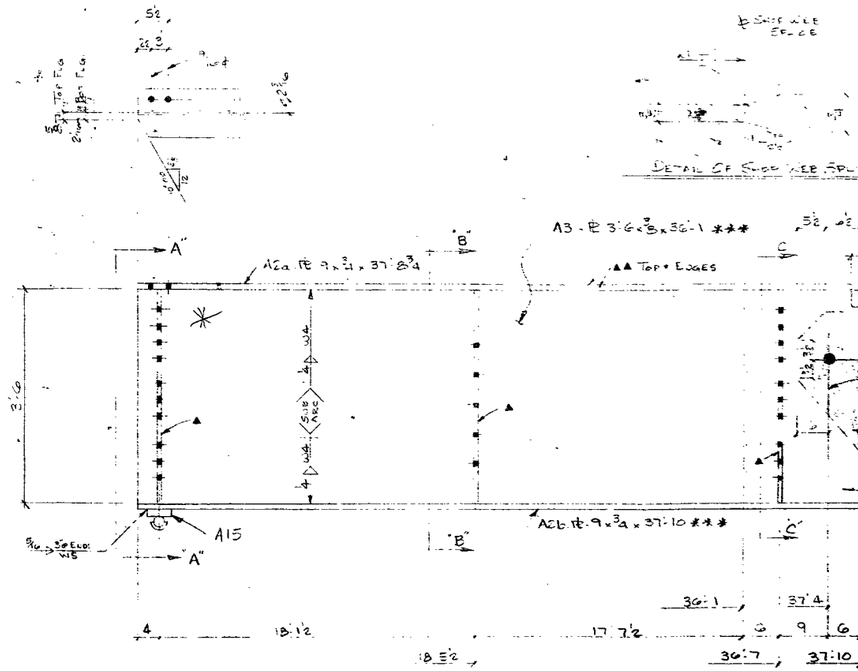
BRIDGE ROUTE [illegible]
JOB B-T-54-78 PROJ. T-[illegible]
LOCATION PULASKI CO. [illegible]
MISSOURI STATE HIGHWAY DEPARTMENT

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

92 24 10 1







Notes:
- *** = Notch Toughness Of 15 Ft-Lbs @ 40°F Req'd
- ▲ = Paint One Coat 1.5 To 2.5 Mil Inorganic Zinc
- ▲▲ = Paint One Coat 2.0 Mil Min. Inorganic Zinc.
- ▲▲▲ = Paint 3 Coats 6.0 Mil Min. System "B"

MAKE ONE A3
MAKE ONE B3
MAKE ONE C3

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20[illegible]
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN
BEAM CONN. | BASE & CAP PLATE H. COL. | PIER COL.

"SYSTEM B" TYPE II
BOLTS 3/4ø UNLESS NTD.
RIVETS 15/16ø UNLESS NTD.
OPEN HOLES 21/16ø UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1			2	=	4-11-79
3			5	5	"
			6	A	"

DELONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI DIAL 635-6121

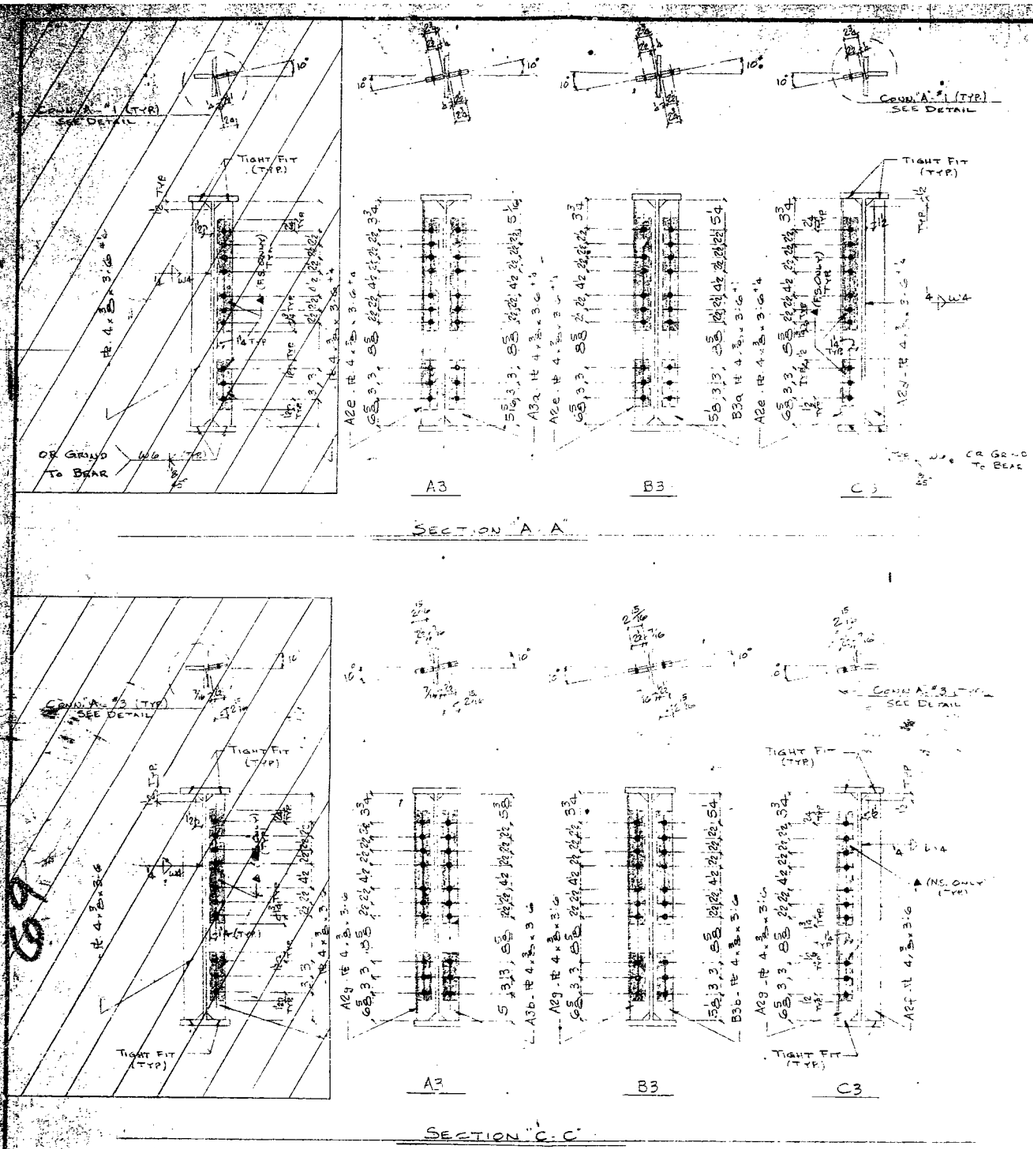
DETAILED BY J.D.R
DATE 2-23-79
CHECKED BY DHP
DATE 3-27-79

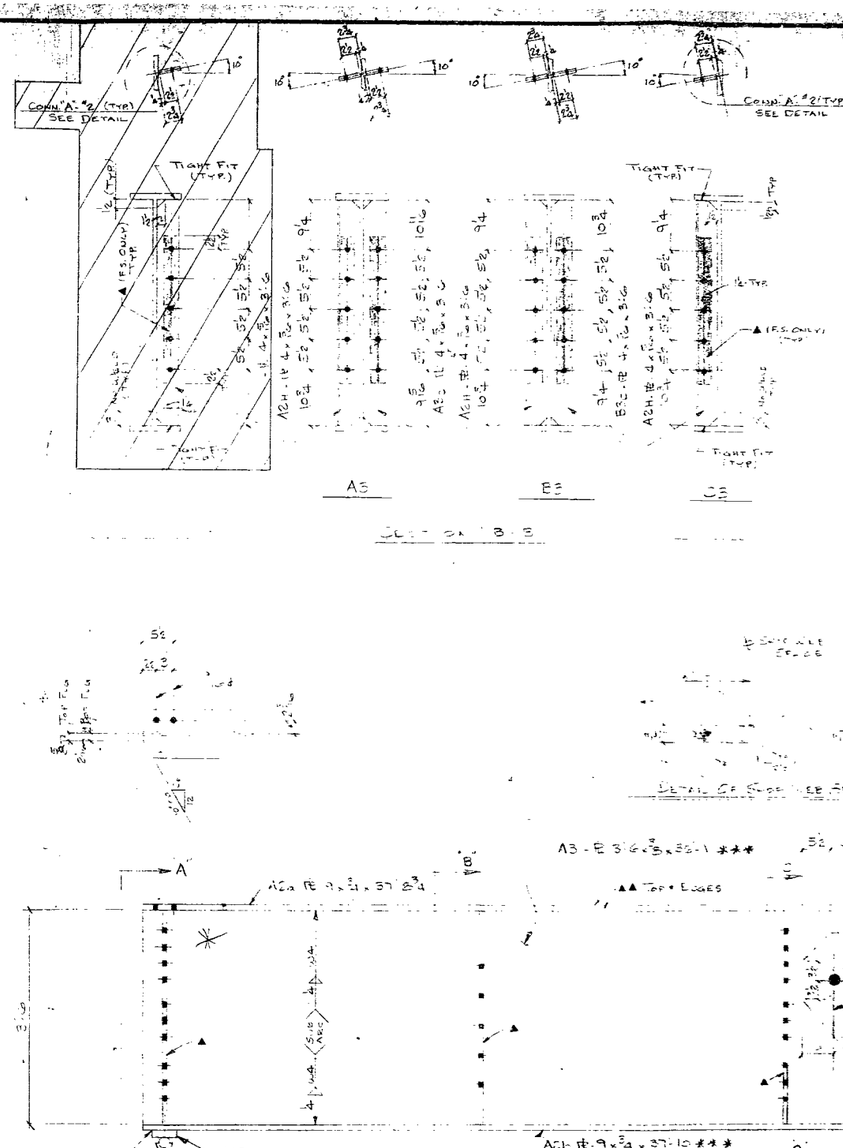
REVISIONS			
DATE	MK.	BY	REMARKS

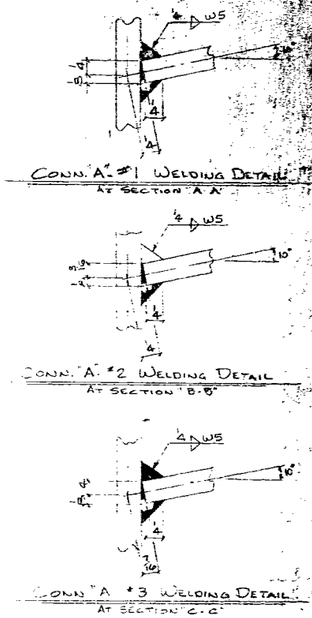
SUPERSTR. Bridge Route H Under U.S. 54
JOB B-T-44-9D PROJ. I-44-2(66)
LOCATION Pulaski County - Rte. 2544
CONTRACT NO. A-3258
ARCH. SUPR. Mo. State Hwy. Dept.

A B C D E F G H J K M N P S T U V W X Y Z AA AS AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

902.24 JO 1







NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

MAKE ONE A3
MAKE ONE B3
MAKE ONE C3

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. | BASE & CAP PLATE H. COL. | PIER COL.

SYSTEM "B" TYPE II
BOLTS 3/4ø UNLESS NTD.
RIVETS 7/8ø UNLESS NTD.

PRINT RECORD						
NO.	FOR	DATE	NO.	FOR	DATE
1	P		2	E	4-11-79
3	A		5	E	"
			6	A	"

DELONG'S INC. DIX RD. & IND. DR.
DIAL 635-6121 JEFFERSON CITY, MISSOURI

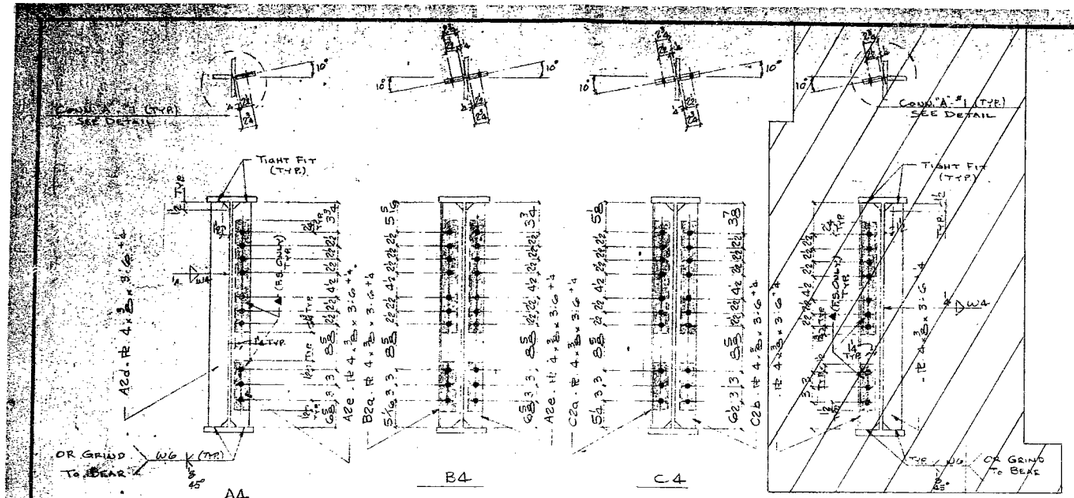
DETAILED BY J.D.R.
DATE 2-23-79
CHECKED BY O.H.P.
DATE 3-27-79

REVISIONS			
DATE	MK.	BY	REMARKS

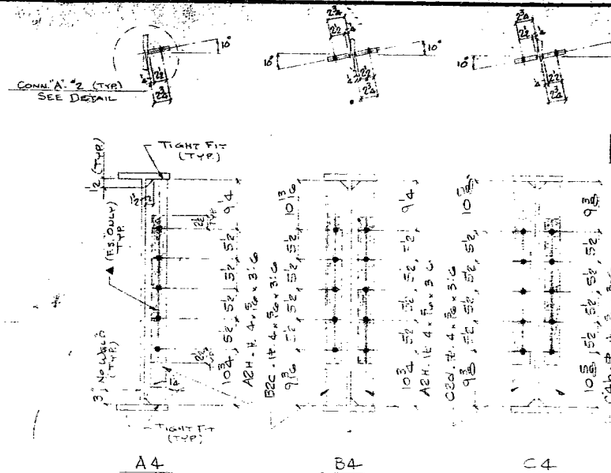
SUPERSTR. BRIDGE ROUTE H UNDERPASS
JOB S-T-44-9D PROJ. I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I44
BRIDGE NO. A-3052
ARCH. SUPR. MO STATE HWY DEPT.

A B C D E F G H J K M N P R S T U V W X Y Z AA AS AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

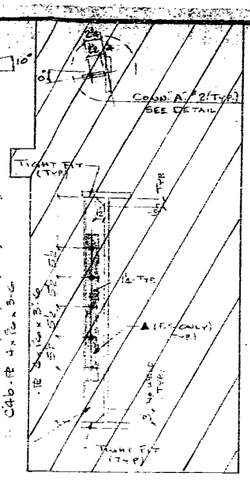
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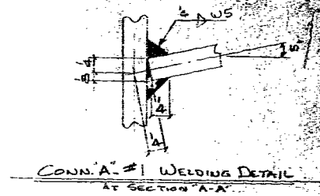


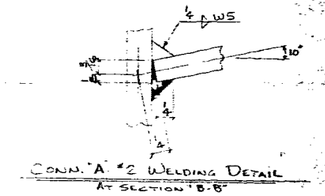
SECTION "A-A"

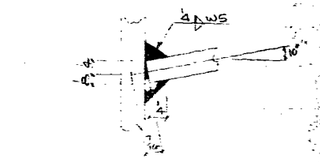


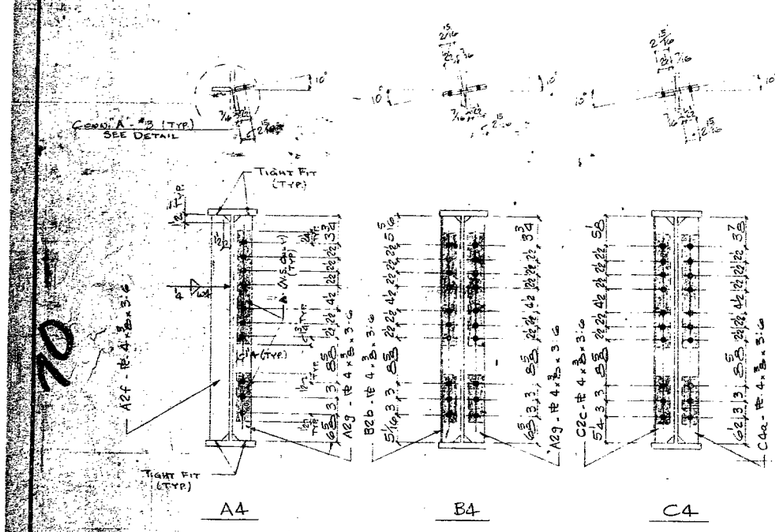
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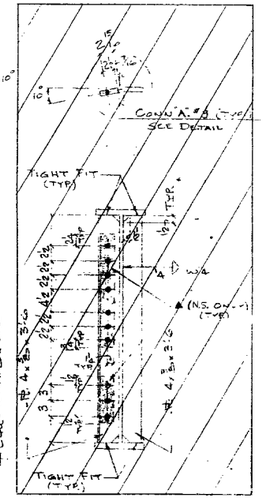






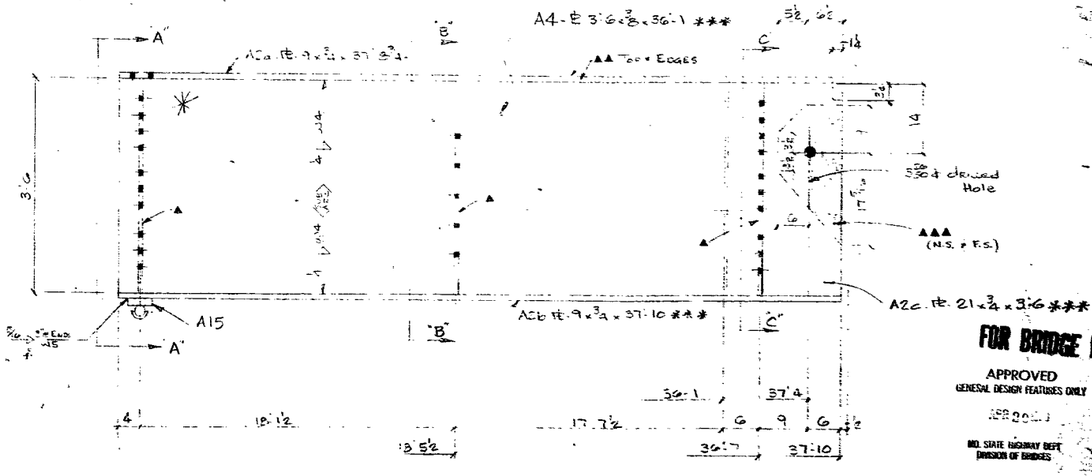


SECTION "C-C"





DETAIL OF SHOP WEB SPLICE



NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT-LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
MD. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

MAKE ONE A4
MAKE ONE B4
MAKE ONE C4

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN | BASE PLATE | PIPE COL.

SYSTEM "B" TYPE II
BOLTS 3/4ø UNLESS NOTED
OPEN HOLES 13/16 UNLESS NOTED

PRINT NO.	PRINT FOR	PRINT DATE	RECORD NO.	RECORD FOR	RECORD DATE
1	✓		2	C	
3	A		5	S	
1			4	A	

DELONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI DIAL 635-6121

DETAILED BY J.D.R
DATE 2-23-79
CHECKED BY CHP
DATE 3-27-79

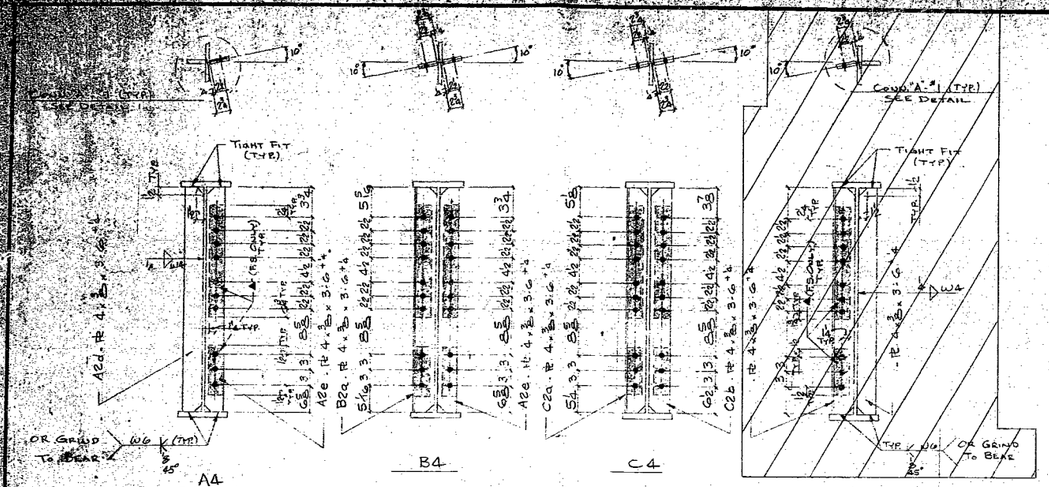
REVISIONS DATE	MK. BY	REMARKS

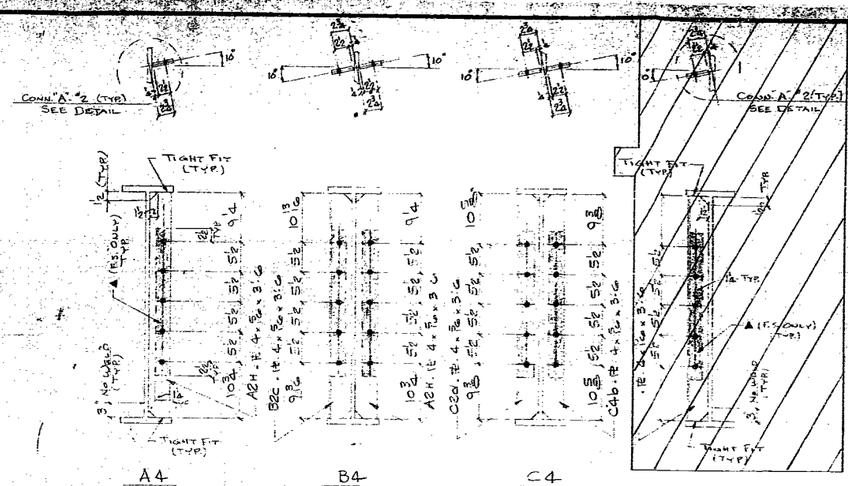
BRIDGE: ROUTE H UNDERPASS
JOB *B-I-44-9D PROJ.# I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. 11-1052
ARCH-ENGR. MO. STATE HWY. DEPT.

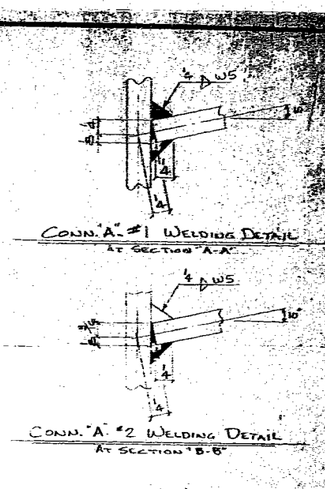
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

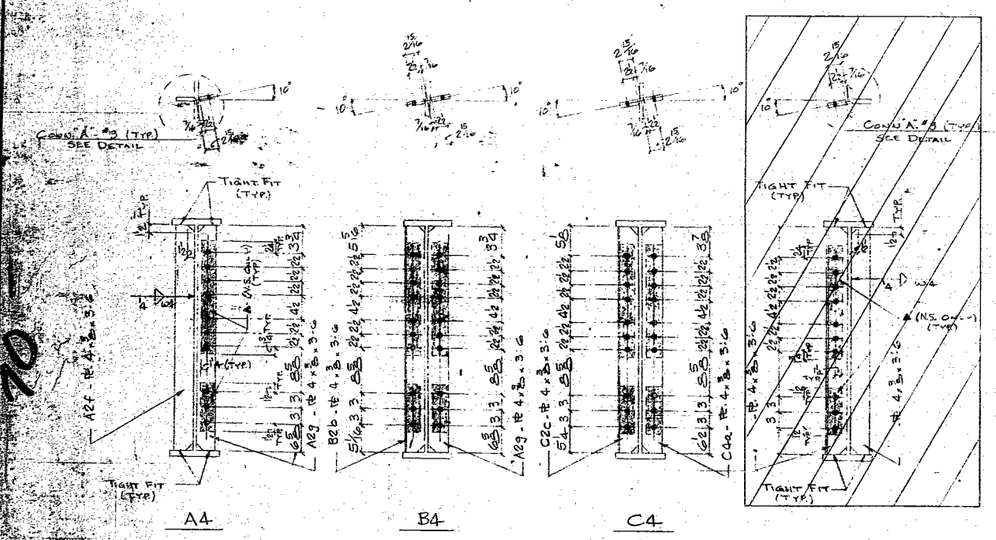
10-1

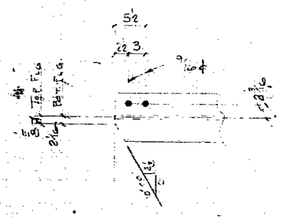
902 24 10 1

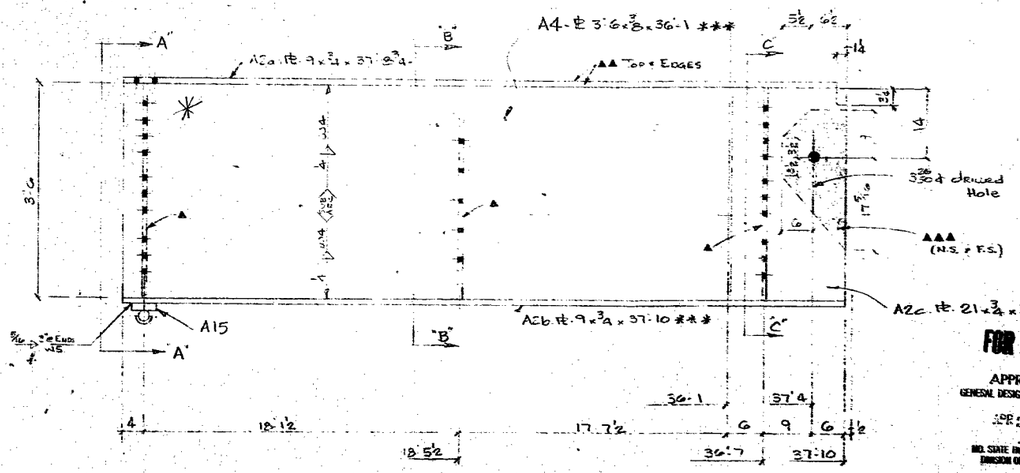












NOTES:
- *** = Notch Toughness Of 15 Ft. Lbs @ 40° F Req'd
- ▲ = Paint One Coat 1.5 To 2.5 Mil Inorganic Zinc
- ▲▲ = Paint One Coat 2.0 Mil Min. Inorganic Zinc.
- ▲▲▲ = Paint 3 Coats 6.0 Mil Min. System "B"

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
APR 2001
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

MAKE ONE A4
MAKE ONE B4
MAKE ONE C4

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. | ½ WELD AS SHOWN | BASE PLATE | PIPE COL.

System "B" Type II

PRINT			RECORD			
NO.	FOR	DATE	NO.	FOR	DATE
1			2	C	
3			5	S	
4			6	A	

DeLONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI DIAL 635-6121

DETAILED BY	J.D.P.
DATE	2-23-99
CHECKED BY	O.H.P.
DATE	3-27-99

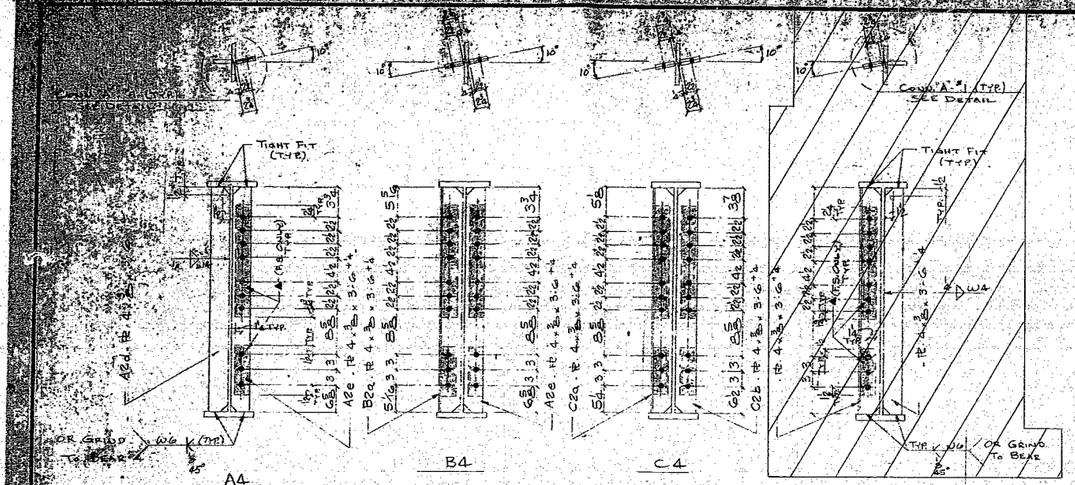
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE: Route 11 Under Rail
JOB B-I 44-90 Proj. I-44-2(
LOCATION Phase I, Conn. Str.
ARCH-ENGR. Mo. State Hwy. Comm.

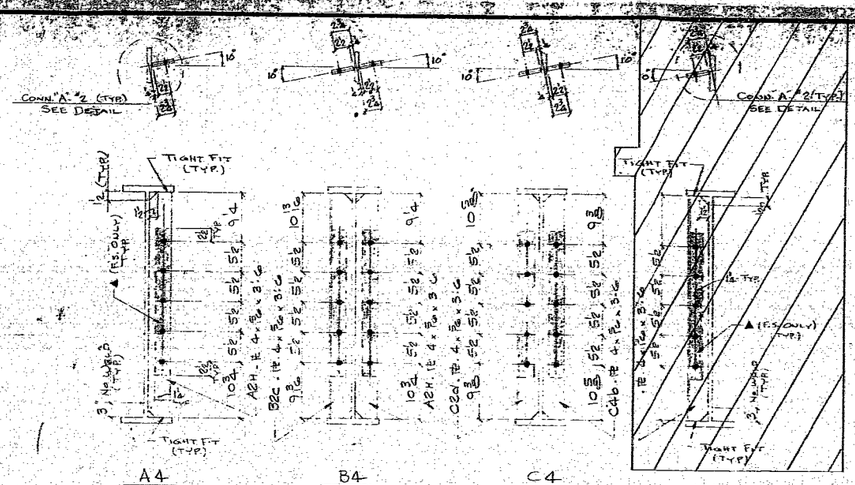
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

10-1

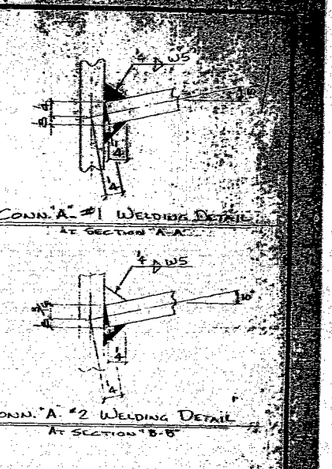
02 24 TO 1

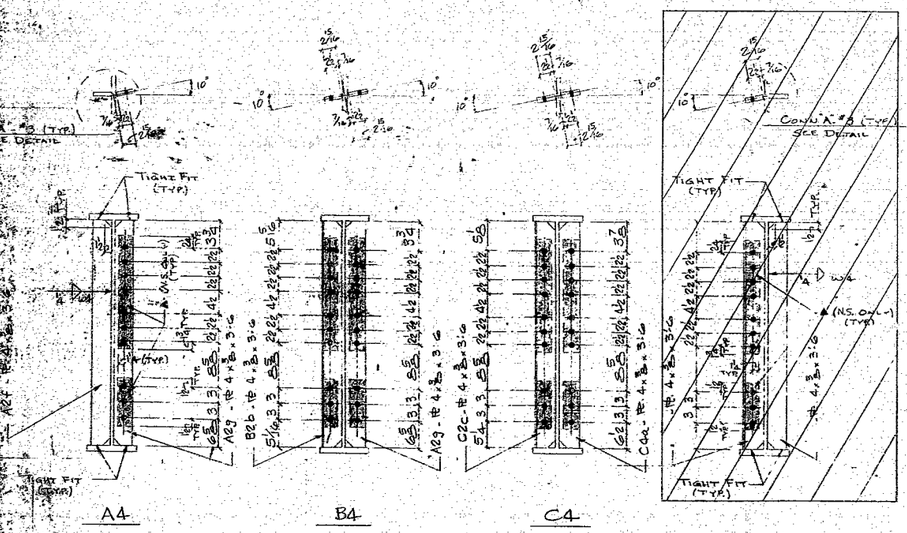


SECTION "A-A"

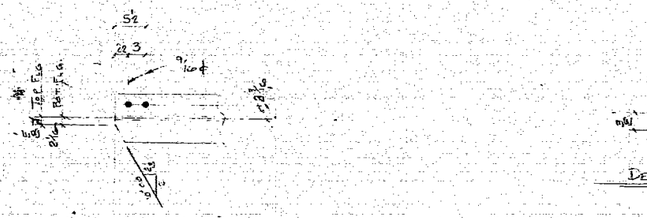


SECTION "B-B"

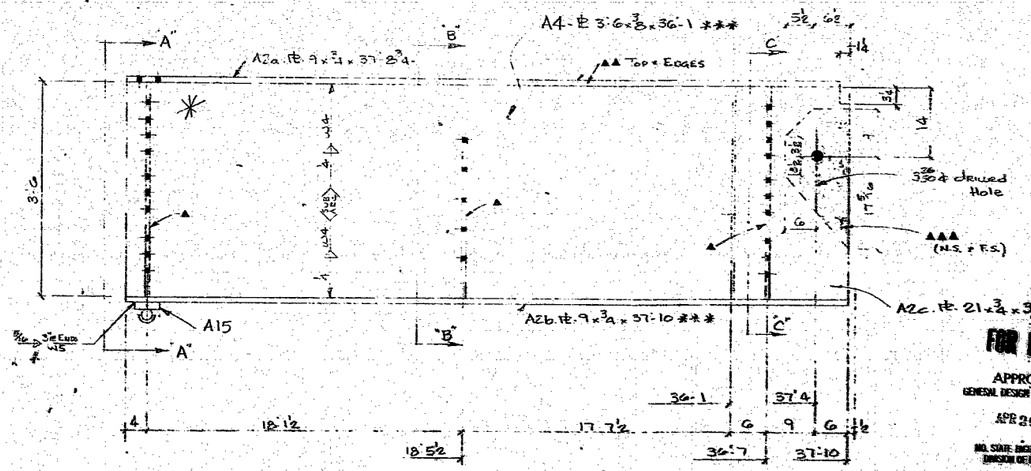




SECTION "C-C"



DETAIL OF SHOP WEB SPLICE



NOTES:
- *** = Notch Toughness Of 15 Ft. Lbs @ 40° F Req'd
- ▲ = Paint One Coat 1.5 To 3.5 Mil Inorganic Zinc
- ▲▲ = Paint One Coat 2.0 Mil Min. Inorganic Zinc.
- ▲▲▲ = Paint 3 Coats 6.0 Mil Min. System "B"

MAKE - ONE - A4
MAKE - ONE - B4
MAKE - ONE - C4

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

DeLONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

DETAILED BY	REVISIONS				
J.D.R	DATE	MK	BY	REMARKS	
DATE 8-23-77					
CHECKED BY OHP					
DATE 9-27-77					

PRINT RECORD

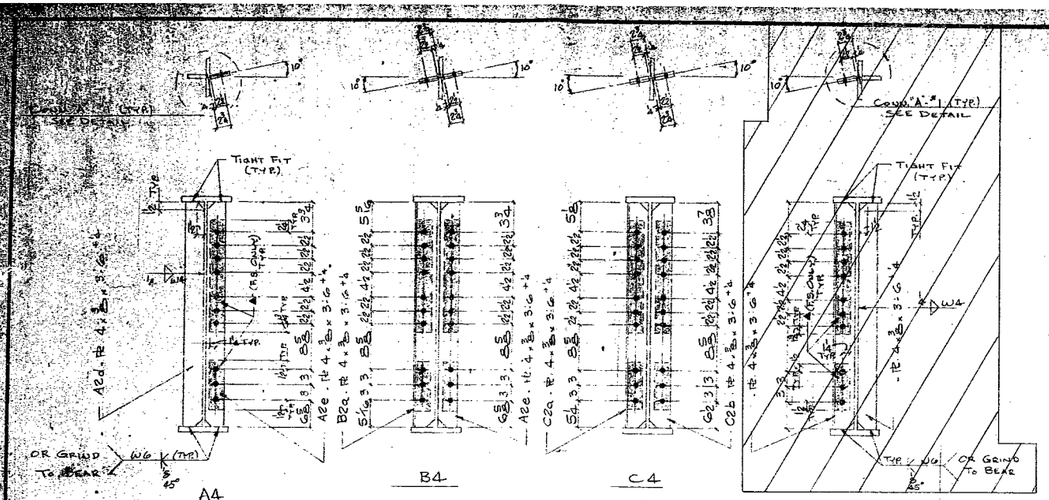
NO.	PRINTS	DATE	NO.	PRINTS	DATE
1			5		
2			6		
3			7		
4			8		

BRIDGE PLAN REVISIONS

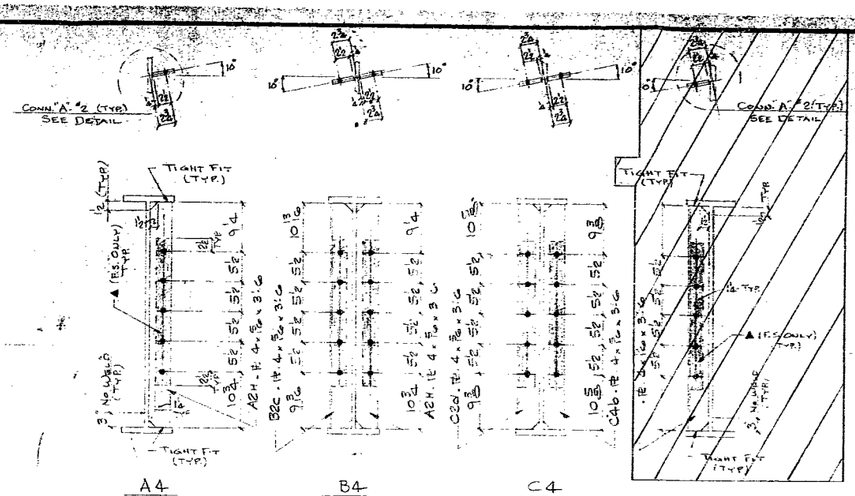
APP. 2-1-78 36" x 96" x 3/4" PL's

LOCATION: I-44 - 1 COUNTY - 1.7 MILES

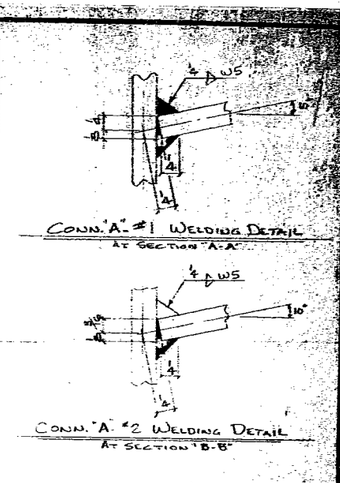
ARCH: 1 SPAN - 36" x 96" x 3/4" PL's

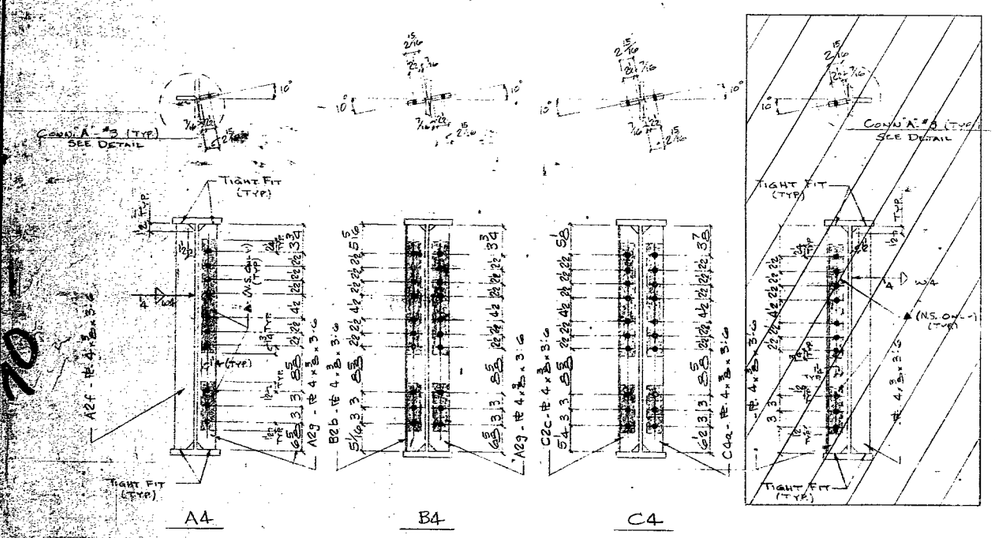


SECTION "A-A"

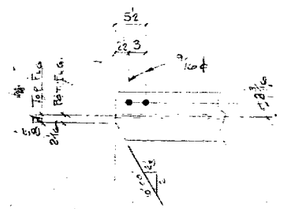


SECTION "B-B"

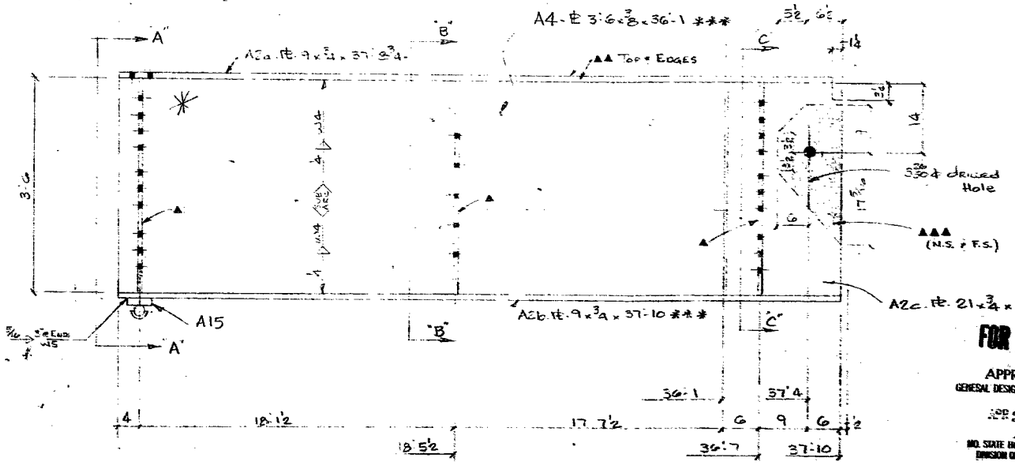




SECTION "C-C"



DETAIL OF SHOP WEB SPLICE



NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT-LBS @ 40° F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

MAKE - ONE - A4
MAKE - ONE - B4
MAKE - ONE - C4

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
DATE 20__
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN | ½ WELD AS SHOWN | BASE/CAP PLATE | PIPE COL.

SYSTEM "B" TYPE II
BOLTS: 3/4 ø — SPACING REF.
OVER 50 — 1 1/8 ø — SPACING REF.

PRINT NO.	PRINT FOR	RECORD DATE	RECORD NO.	RECORD FOR	RECORD DATE
1	✓		2	C	
5	✓		5	S	
6	✓		6	A	

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

DeLONG'S INC.
DIAL 855-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

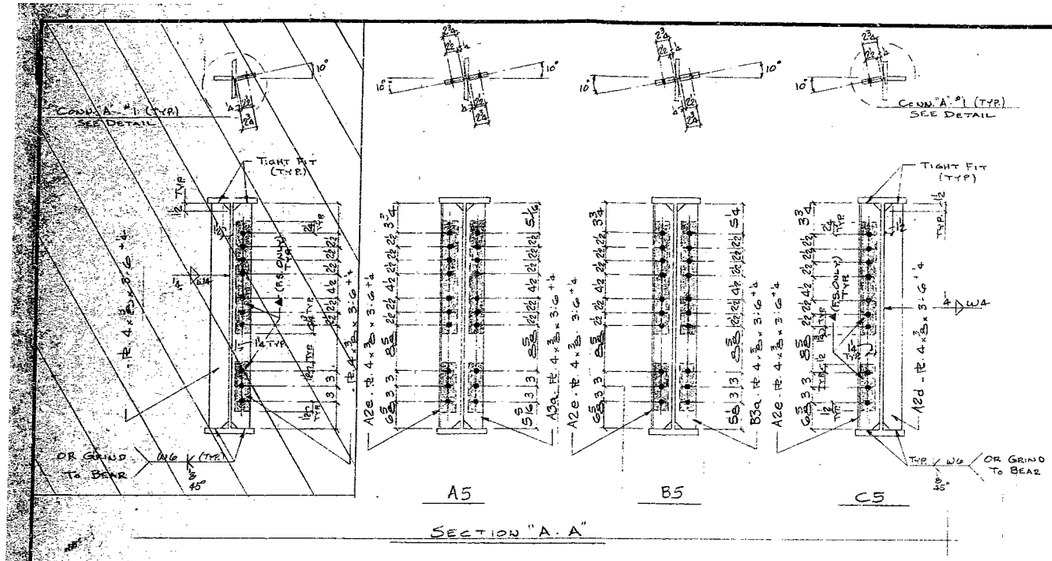
DETAILED BY J.D.P.
DATE 2-23-79
CHECKED BY CHP
DATE 3-27-79

REVISIONS DATE	MADE BY	REMARKS

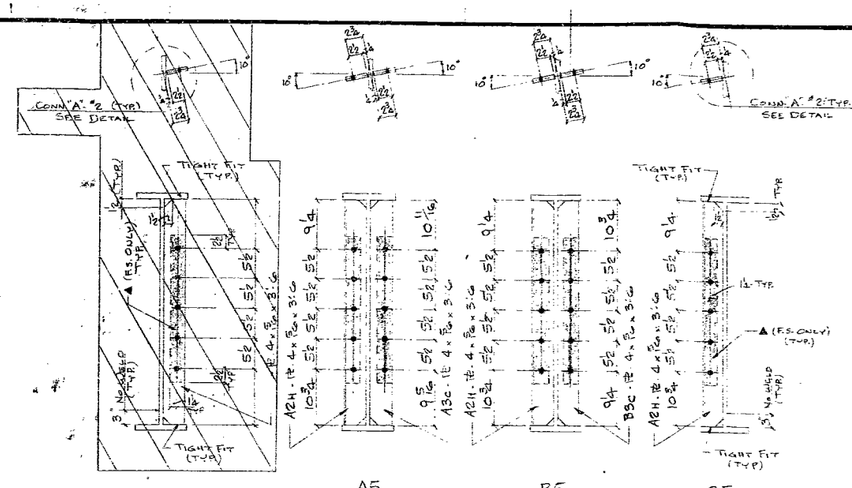
BRIDGE: ROUTE H UNDER I-44
JOB # B-I-44-9D PROJ. # I-44-2(84)
LOCATION: PULASKI COUNTY, 1.7 MI. E. OF ROUTE 133
DESIGNED TO MEET REQUIREMENTS OF AASHTO SPECIFICATIONS
ADDITIONAL: MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

20-1

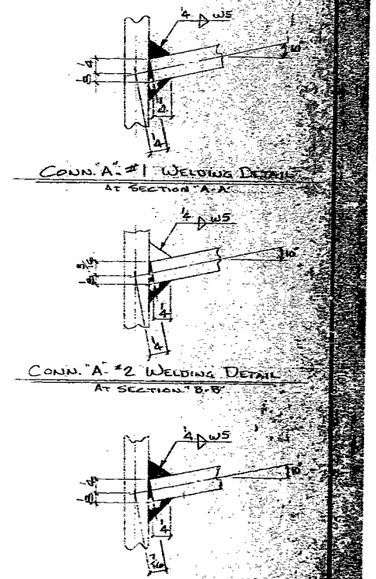
902 24 10 1

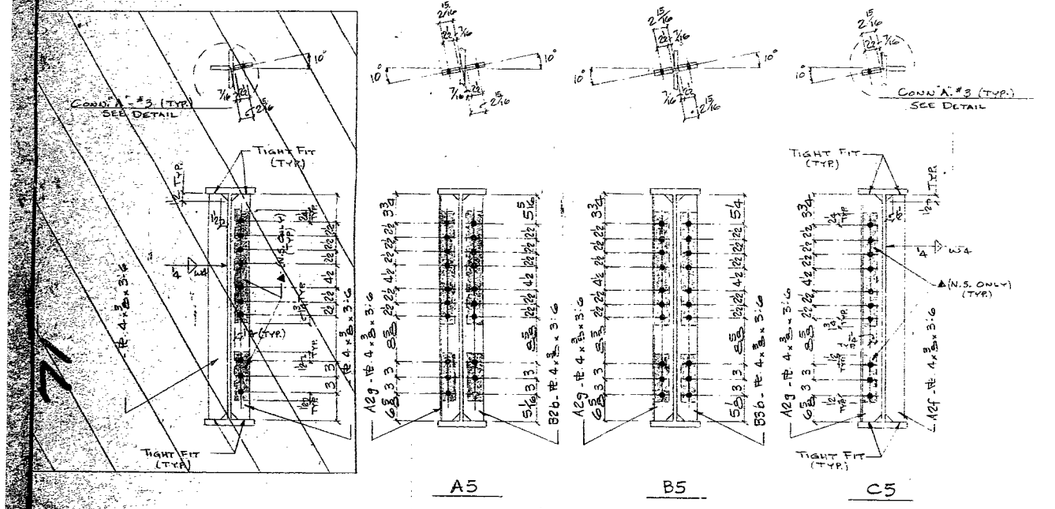


SECTION "A-A"

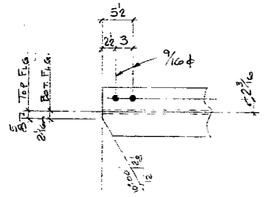


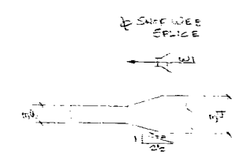
SECTION "B-B"



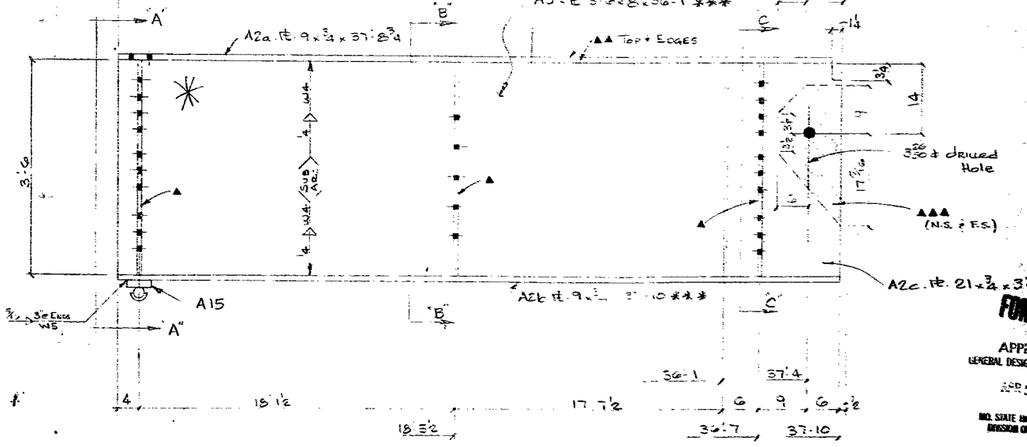


SECTION "C-C"





DETAIL OF SHOP WEB SPLICE

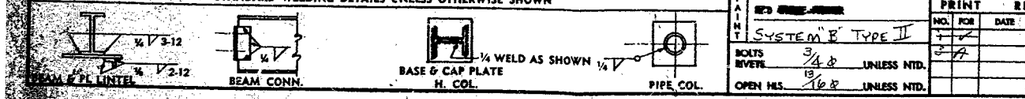


NOTES:
*** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40°F REQ'D
▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

MAKE - ONE - A5
MAKE - ONE - B5
MAKE - ONE - C5

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
APR 30 19[illegible]
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



PAINT SYSTEM "B" TYPE II
BOLTS 3/4 ϕ UNLESS NTD.
RIVETS
OPEN HLS. 15/16 ϕ UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	✓		2	Q	
3	A		5	S	
			6	A	

DELONG'S INC.
DIAL 635-6121
DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

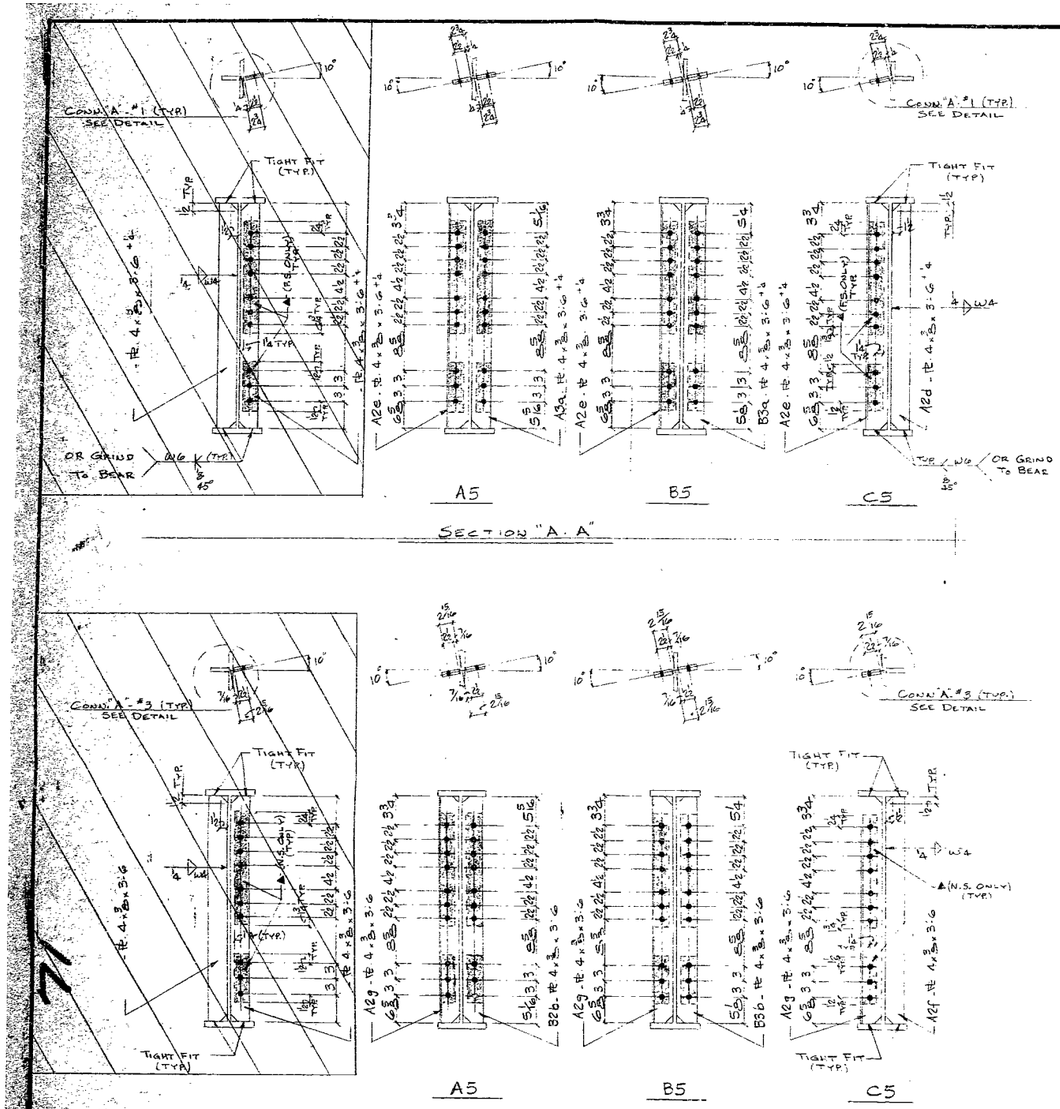
DETAILED BY J.D.P.
DATE 2-23-79
CHECKED BY OHP
DATE 3-27-79

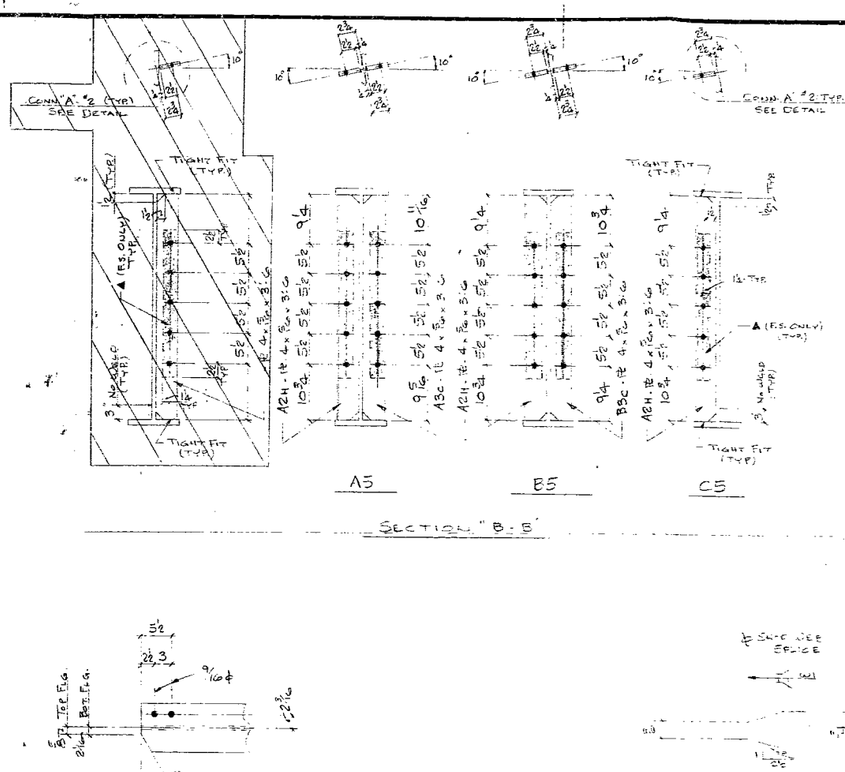
REVISIONS			
DATE	MK.	BY	REMARKS

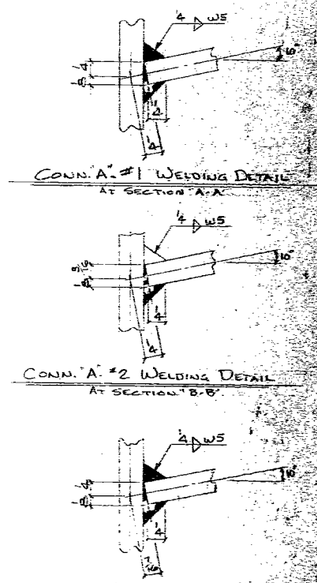
OWNER BRIDGE ROUTE H UNDERPASS
JOB *B-I-44-9D Proj.# I 44-2(84)
LOCATION PULASKI COUNTY - RTE. I44
BRIDGE NO. A-3052
ARCH-ENGR. MO. STATE HWY DEPT.

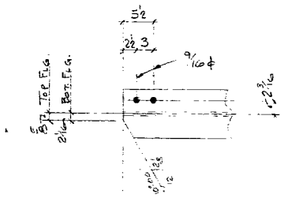
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

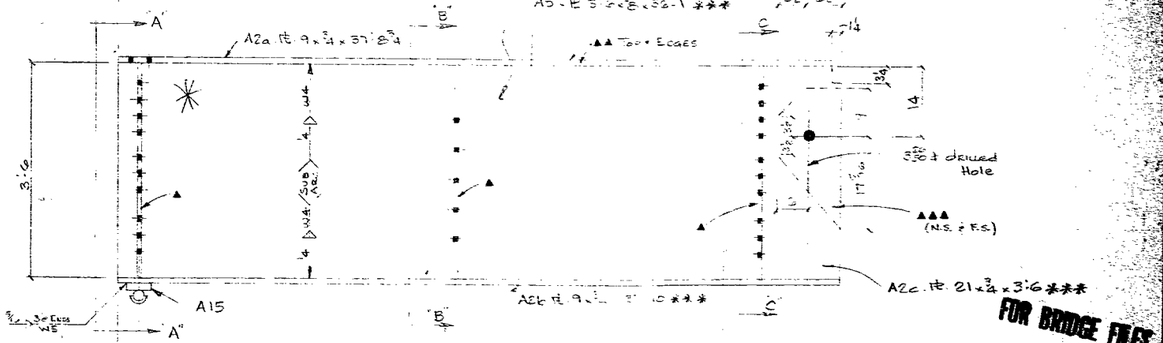
902 24 TO 1











NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ : PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ : PAINT 3 COATS 6.0 MIL MIN. SYSTEM 'B'

MAKE - ONE - A5
MAKE - ONE - B5
MAKE - ONE - C5

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEP.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL | BEAM CONN. | BASE & CAP PLATE H. COL. | PIPE COL.

PAINT: SYSTEM "B" TYPE II
BOLTS 3/4 UNLESS NTD.
RIVETS
OPEN HLS. 13/16 UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	F		2	C	
2	A		5	S	
			6	A	

DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.R. DATE 2-28-79
CHECKED BY OHD DATE 3-27-79

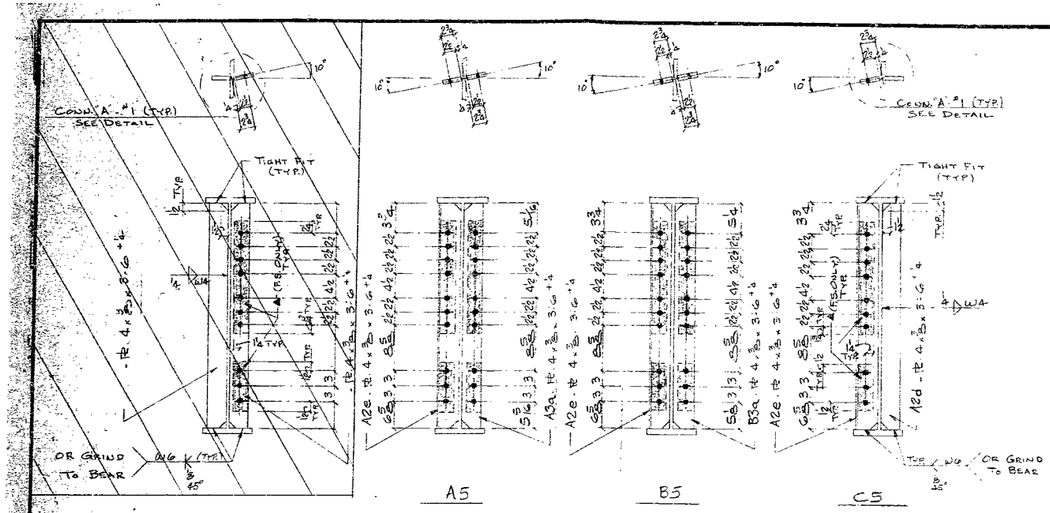
REVISIONS			
DATE	MK.	BY	REMARKS

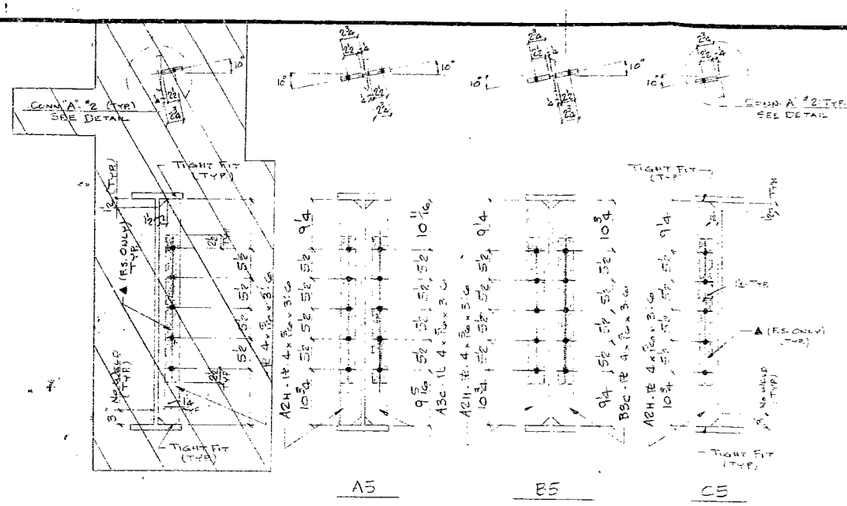
BRIDGE ROUTE H UNDERPASS
JOB 9-I-44-2(84) PROJ. I 44-2(84)
LOCATION PULASKI COUNTY - RTE. I44
BRIDGE NO. A-5052
ARCH-ENGR. MO. STATE HWY DEPT

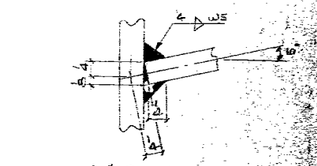
ADD NO. 19-7
SHT. NO. 24
NO. SHTS. 24

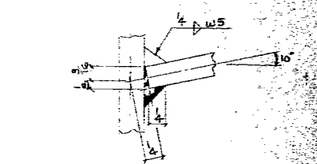
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

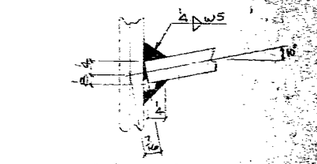
902 24 TO 1

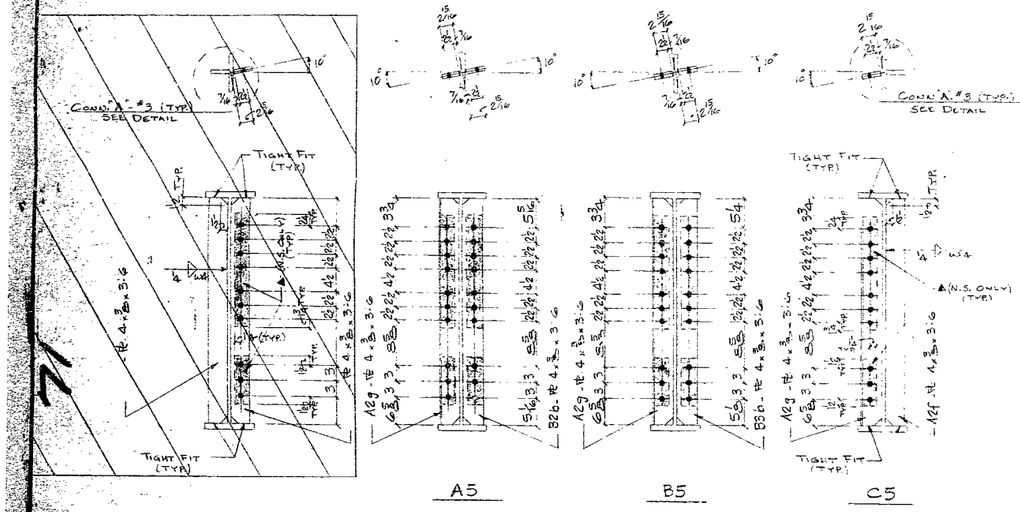


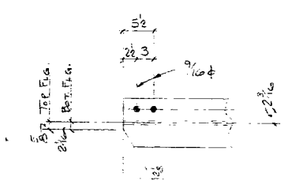


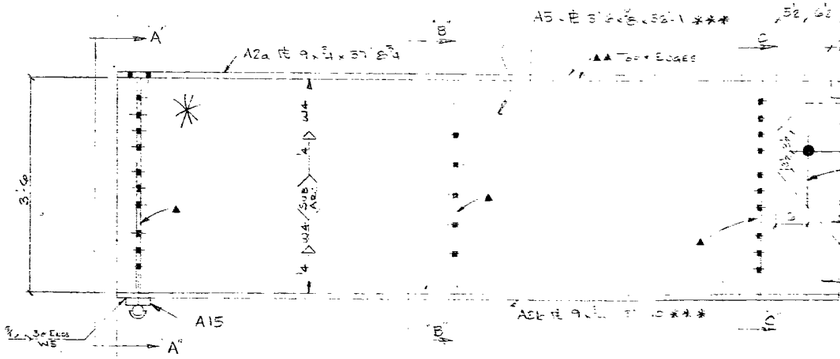












NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM "B"

MAKE - ONE - A5
MAKE - ONE - B5
MAKE - ONE - C5

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — PIPE COL.

¼ WELD AS SHOWN

PAINT: SYSTEM "B" TYPE II
BOLTS A325 3/4ø UNLESS NTD.
RIVETS OPEN HLS. 13/16ø UNLESS NTD.

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
1	FC		2	C	
3	FA		5	S	
			6	A	

DELONG'S INC.
DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

DETAILED BY JDR DATE 2-23-79
CHECKED BY OHD DATE 3-27-79

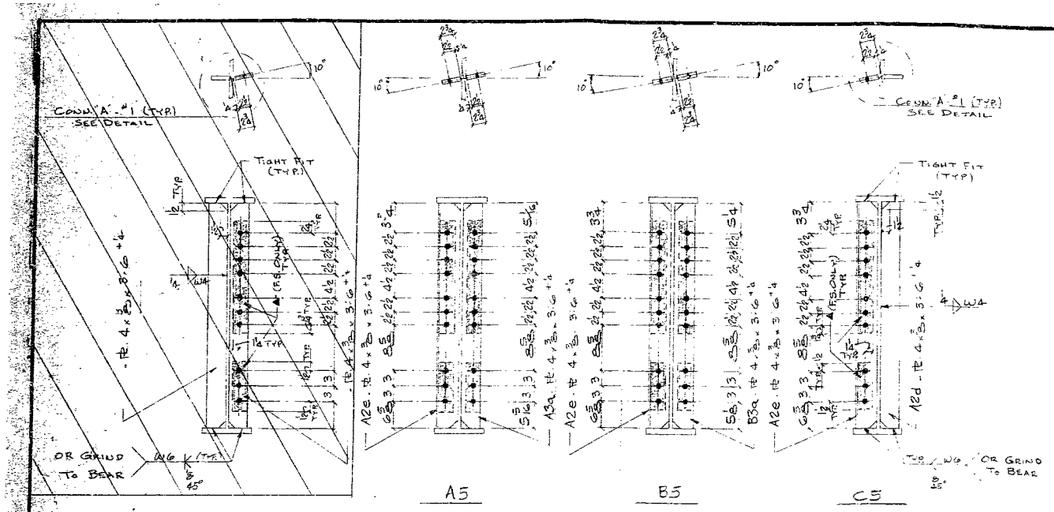
REVISIONS			
DATE	MK.	BY	REMARKS

CUSTOMER BRIDGE ROUTE H UNDERPASS
JOB B-C-44-2(84) PROJ. I 44-2(84)
LOCATION PULASKI COUNTY - RTE. I44
BRIDGE NO. A-5052
ARCH-ENGR. MO. STATE HWY DEPT.

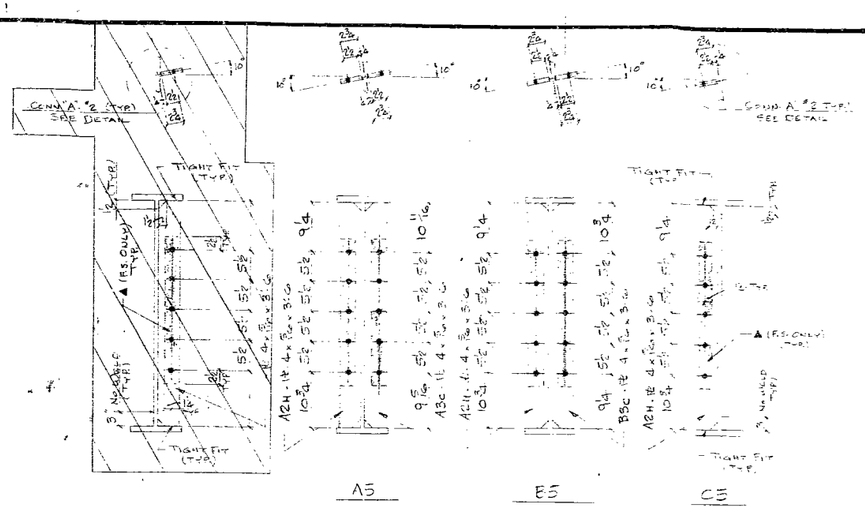
ADR No. 79-7
SHT. No. 5
OF No.

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

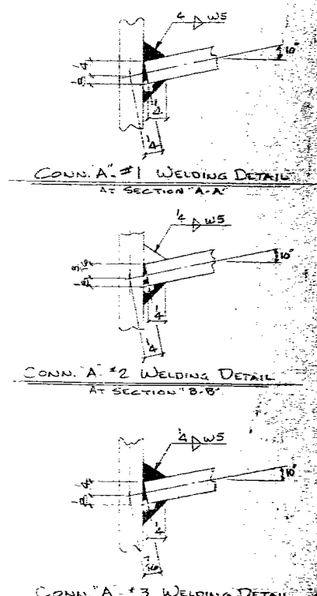
902 24 TO 1

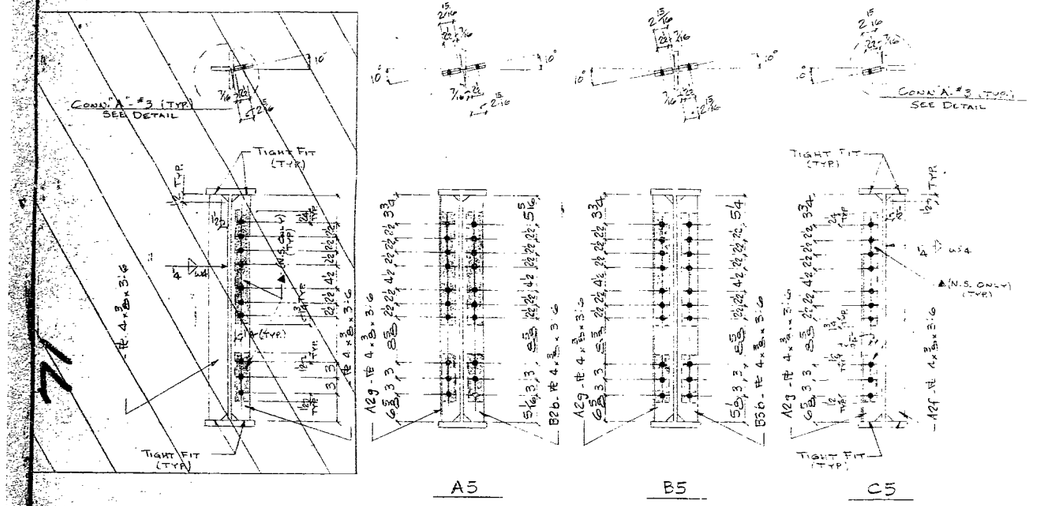


SECTION "A-A"

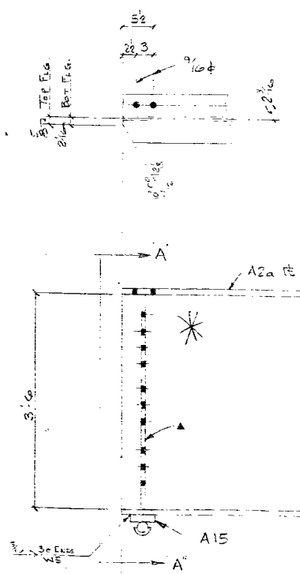


SECTION "B-B"





SECTION "C-C"



NOTES:

*** : NOTCH TOUGHNESS OF 15 FT. LBS @ 40°F REQ'D

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC

▲▲ : PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.

▲▲▲ : PAINT 3 COATS 6.0 MIL MIN. SYSTEM 'B'

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY

MD. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

MAKE ONE A5
MAKE ONE B5
MAKE ONE C5

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL · BEAM CONN. · BASE & CAP PLATE H. COL. · ¼ WELD AS SHOWN · PIPE COL.

PAINT: SYSTEM 'B' TYPE II

BOLTS 3/4ø UNLESS NTD.
RIVETS 13/16ø UNLESS NTD.
OPEN HLS. UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	FC		2	CA	
2	CA		5	S	
			6	A	

DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY JDF
DATE 2-23-79
CHECKED BY OHO
DATE 3-27-79

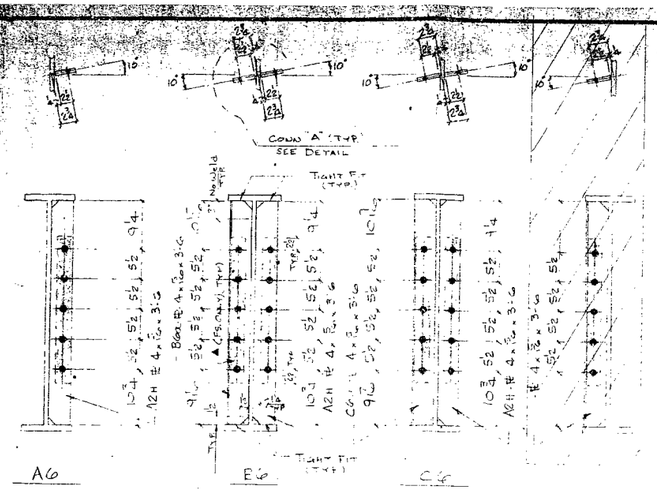
REVISIONS		
DATE	MK. BY	REMARKS

OWNER BRIDGE ROUTE H UNDERPASS
JOB #3-41-PD PROJ. # I 44-2(84)
LOCATION PULASKI COUNTY - RTE. I44
BRIDGE NO. A-5052
ARCH.-ENGR. VA. STATE HWY DEPT.

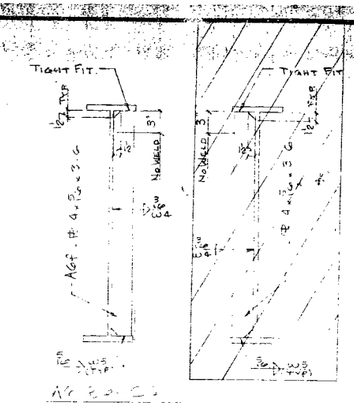
JOB NO. 79-7
SHT. NO. 5 OF NO.

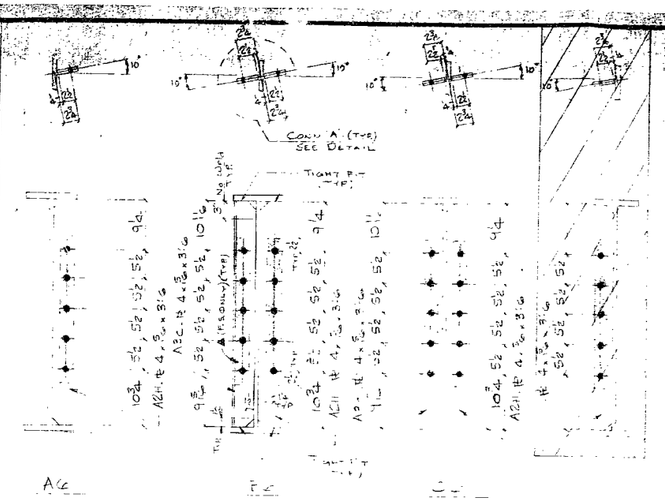
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902 24 TO 1

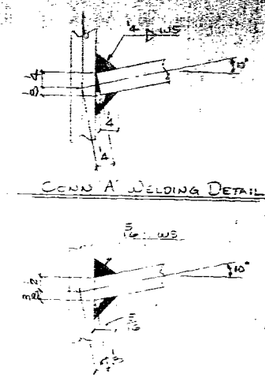


SECTION A-A

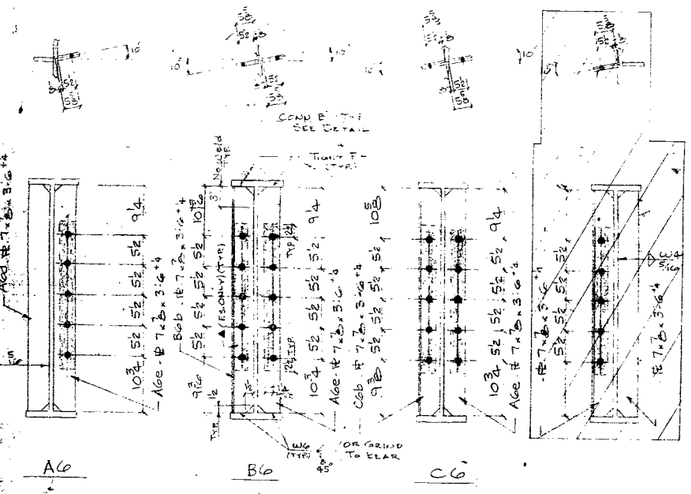




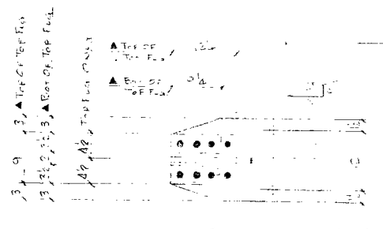
SECTION C-C

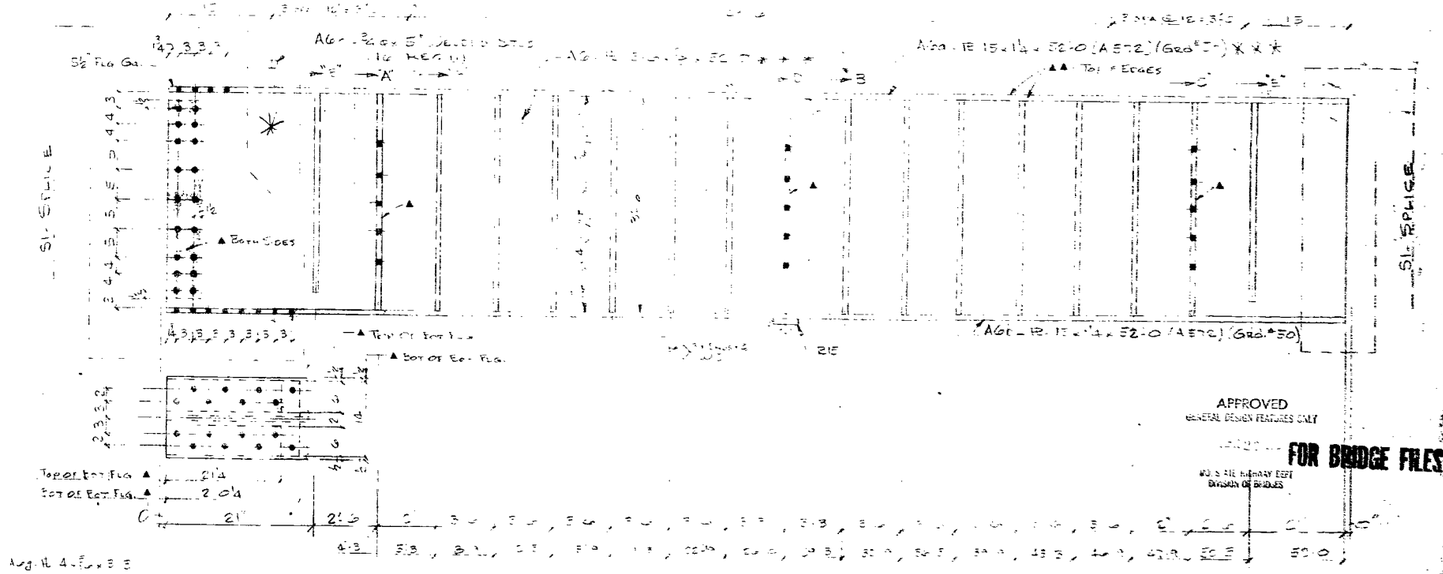






SECTION D-D





NOTES:

*** : NOTCH TOUGHNESS OF 15 FT LBS @ 40° F REQ'D

▲ : PAINT ONE COAT 2 TO 2.5 MIL INORGANIC ZINC

▲▲ : PAINT ONE COAT 2 MIL MIN INORGANIC ZINC

REMAINDER SAME AS SECTION B-B

A6 B6 C6

SECTION E-E

APPROVED
GENERAL DESIGN FEATURES ONLY
FOR BRIDGE FILES
MO. STATE HIGHWAY DEPT
DIVISION OF BRIDGES

MAKE - ONE - A6
MAKE - ONE - B6
MAKE - ONE - C6

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL | BEAM CONN. | BASE & CAP PLATE H. COL. | PIPE COL.

¼ WELD AS SHOWN

PAINT: SYSTEM B TYPE II

BOLTS 3/4" UNLESS NTD.

RIVETS

OPEN HS. 13/16" UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1			2	C	
3			4		
5	A		6	F	

DELONG'S INC.
DIAL 635-5121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

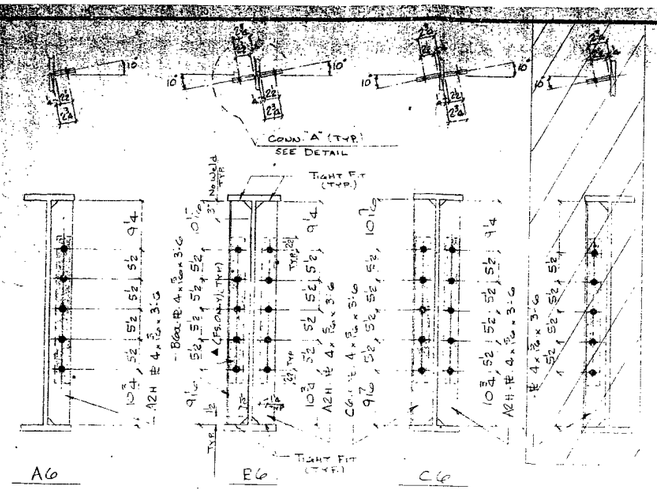
DETAILED BY JDF
DATE 2-8-
CHECKED BY GAU
DATE 2-21-

REVISIONS			
DATE	MK	BY	REMARKS

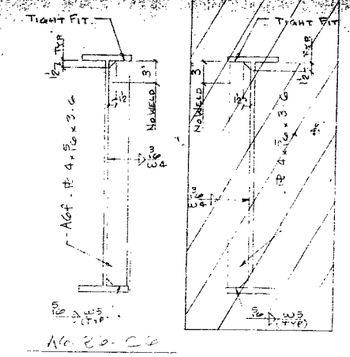
BRIDGE ROUTE H UNDERPASS
JOB BI-44-90 FED. I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I44
BRIDGE No. A-3052
ARCH-ENGR MO. STATE HWY DEPT.

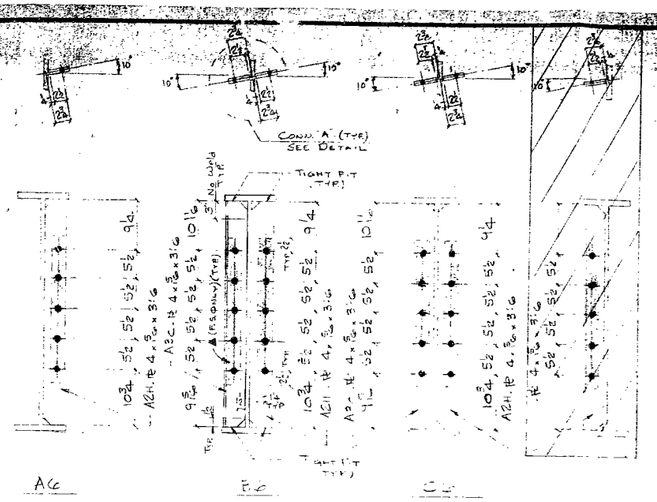
JOB No. 99-7
SHT. 6
OF 16

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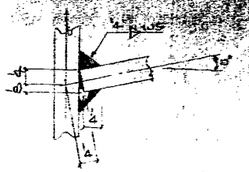


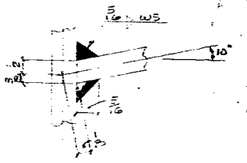
SECTION "A-A"

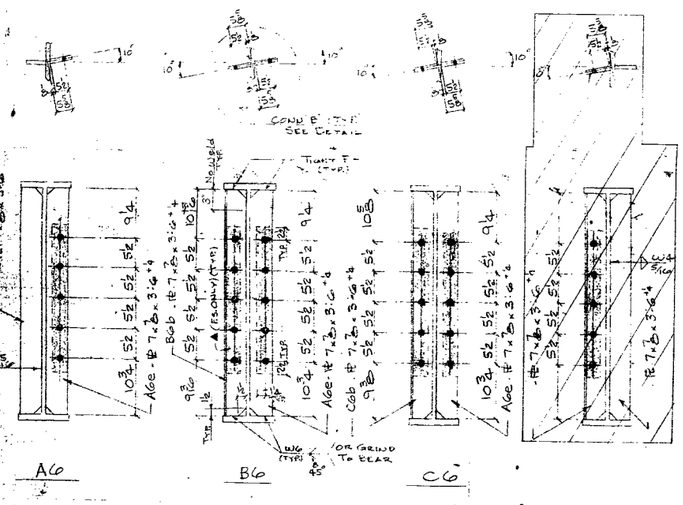




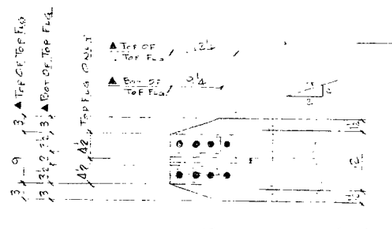
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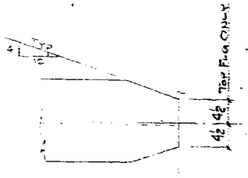


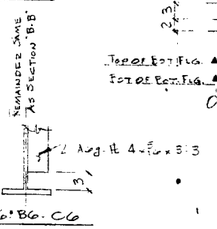




SECTION "D-D"







SECTION "E-E"

NOTES:

*** = NOTCH TOUGHNESS OF 15 FT LBS @ 40° F REQ'D

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC

▲▲ = PAINT ONE COAT 2 MIL MIN INORGANIC ZINC.

APPROVED
GENERAL DESIGN FEATURES ONLY
MD. STATE HIGHWAY DEPT
DIVISION OF BRIDGES
FOR BRIDGE FILES

MAKE - ONE - A6
MAKE - ONE - B6
MAKE - ONE - C6

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL GIRDER | BEAM CONN. | BASE & CAP PLATE H. COL. | PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS RIVETS 3/4 UNLESS NTD.

OPEN HS. 7/8 UNLESS NTD.

PRINT RECORD	NO.	FOR	DATE	NO.	FOR	DATE
	1			2		
	3			4		
	5			6		

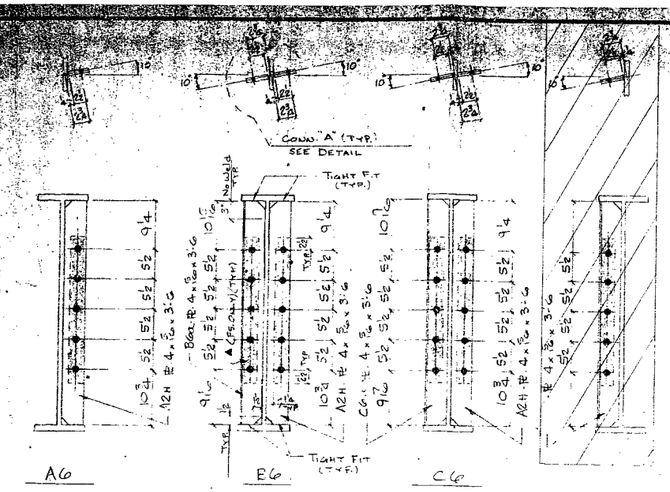
DELONG'S INC. DIX RD. & IND. DR. DIAL 635-6121 JEFFERSON CITY, MISSOURI

DETAILED BY JDP
DATE 2-28-79
CHECKED BY CWD
DATE 5-27-79

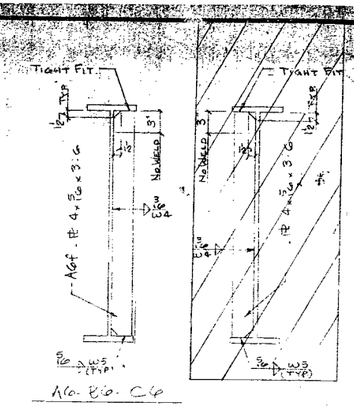
REVISIONS	DATE	MK	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
JOB S-I-44-9D(82) FED I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE No. A-3052
ARCH-ENGR. MD. STATE HWY DEPT.

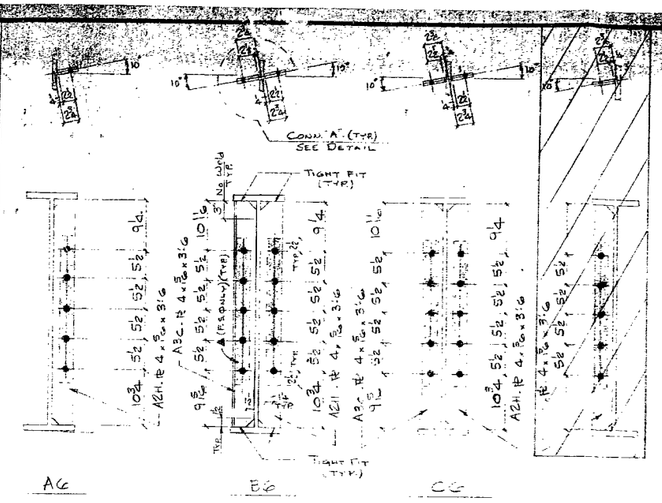
JOB No. 39-7
SHT. No. 6



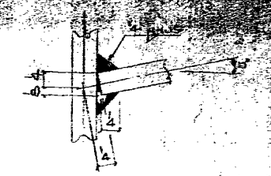
SECTION "A-A"

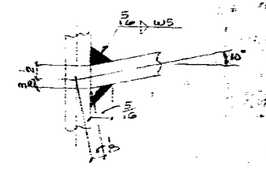


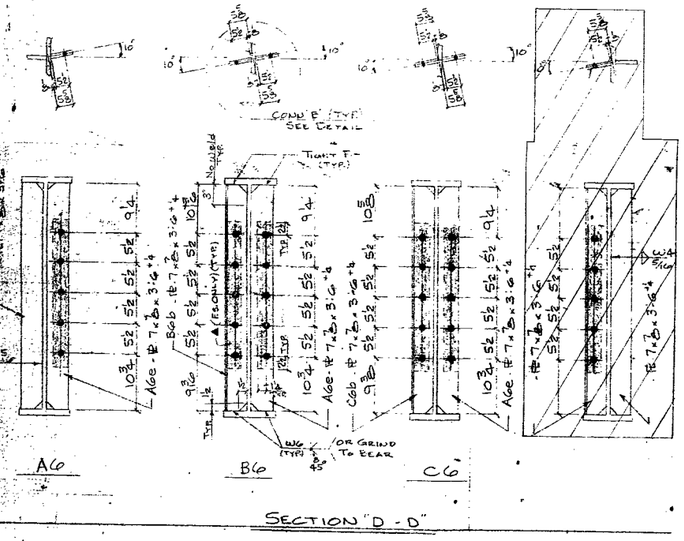
SECTION "B-B"



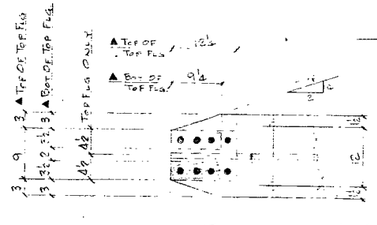
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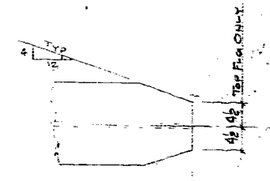






SECTION "D-D"





SECTION "E-E"

NOTES:

*** = NOTCH TOUGHNESS OF 15 FT LBS @ 40° F REQ'D

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC

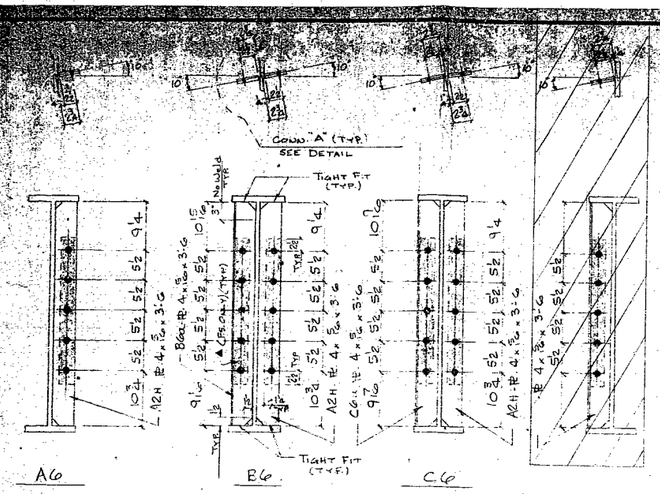
▲▲ = PAINT ONE COAT 2 MIL MIN. INORGANIC ZINC.

MAKE - ONE - A6
MAKE - ONE - B6
MAKE - ONE - C6

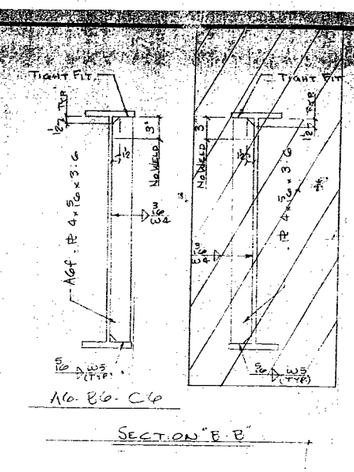
STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. | BASE & CAP PLATE H. COL. | ¼ WELD AS SHOWN | PIPE COL.

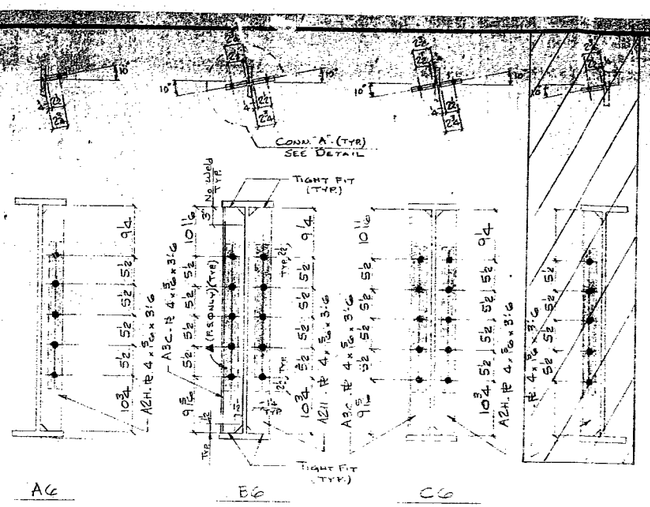
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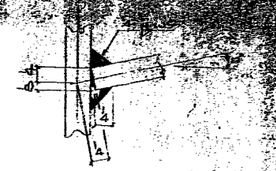
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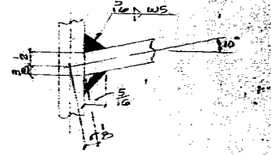


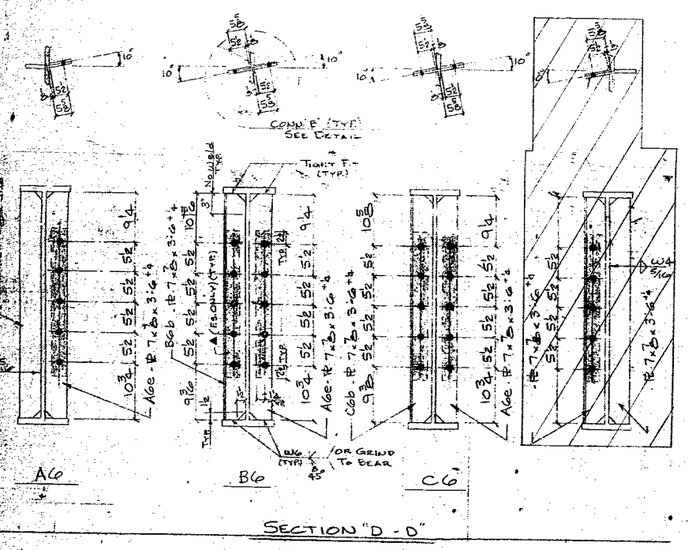
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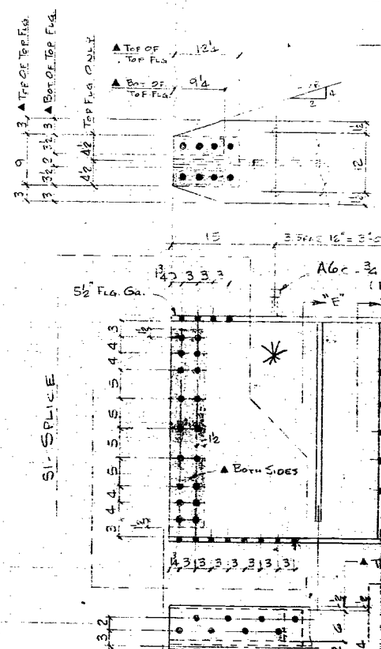
SECTION "C-C"

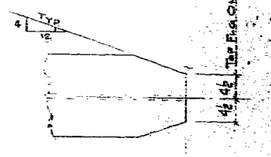


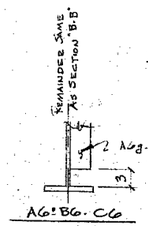




SECTION "D-D"







SECTION "E-E"

NOTES:

*** = NOTCH TOUGHNESS OF 15 FT LBS @ 40° F REQ'D

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC

▲▲ = PAINT ONE COAT 2 MIL MIN. INORGANIC ZINC.

MAKE - ONE - A6
MAKE - ONE - B6
MAKE - ONE - C6

APPROVED
GENERAL DESIGN FEATURES ONLY
FOR BRIDGE FILES
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. — BASE & CAP PLATE H. COL. — ¼ WELD AS SHOWN — PIPE COL.

SYSTEM "B" TYPE II

PRINT RECORD	NO.	FOR	DATE	NO.	FOR	DATE
	1			2		
	3			4		
	5			6		

BOLTS SHOP UNLESS NTD. / RIVER UNLESS NTD. / OPEN HOLE

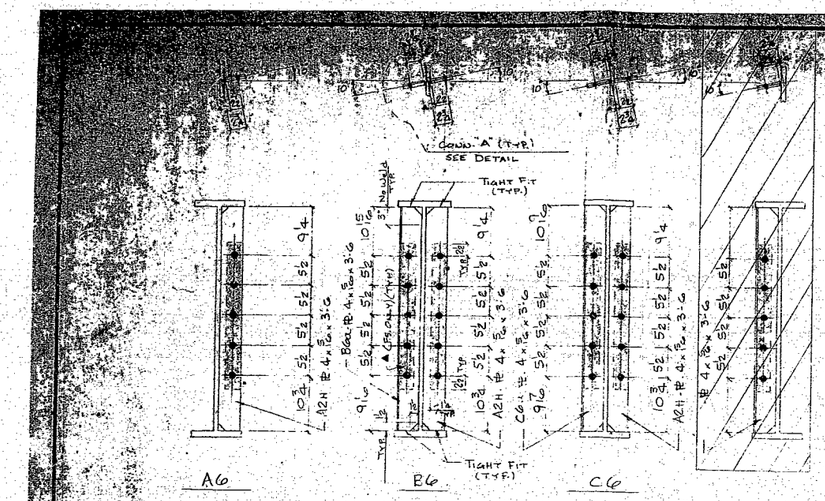
DELONG'S INC. — DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P. DATE 2-28-79
CHECKED BY OHD DATE 3-27-79

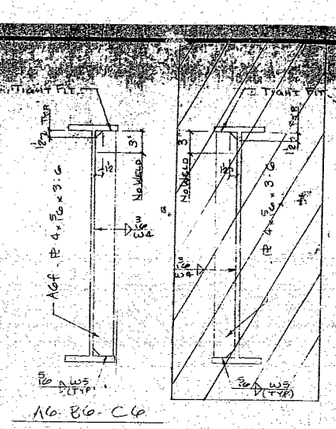
REVISIONS	DATE	MK. BY	REMARKS

BRIDGE: ROUTE 11 UNDERPASS
JOB B-I-44-90 PROJ. I-44-2(68)
LOCATION PULASKI COUNTY - RTE. 11
ENTIRE PLAN NO. 10
MISCELLANEOUS STRUCTURE DETAILS

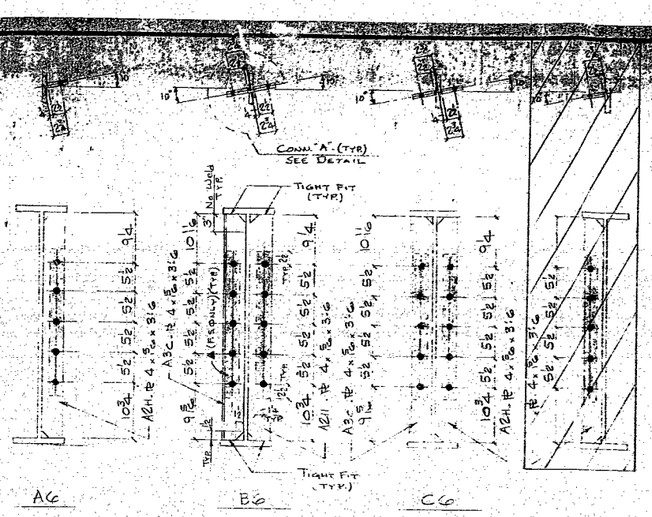
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



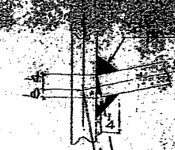
SECTION "A-A"

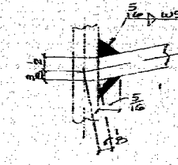


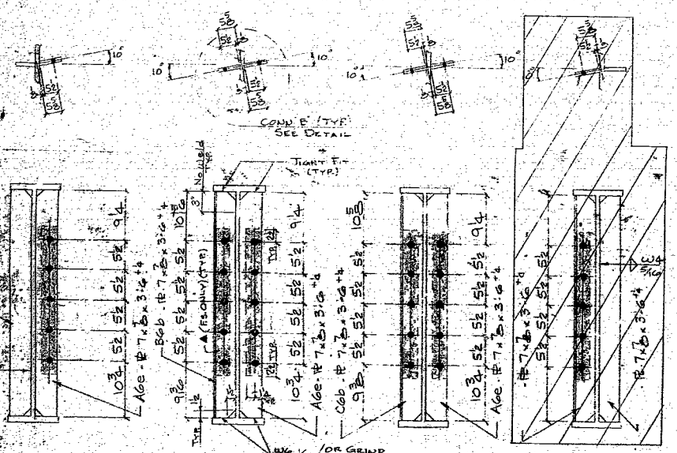
SECTION "B-B"



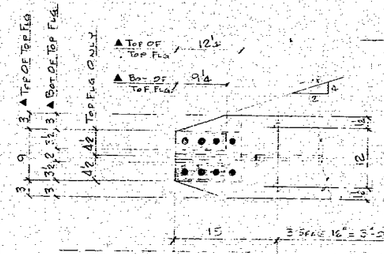
SECTION "C-C"



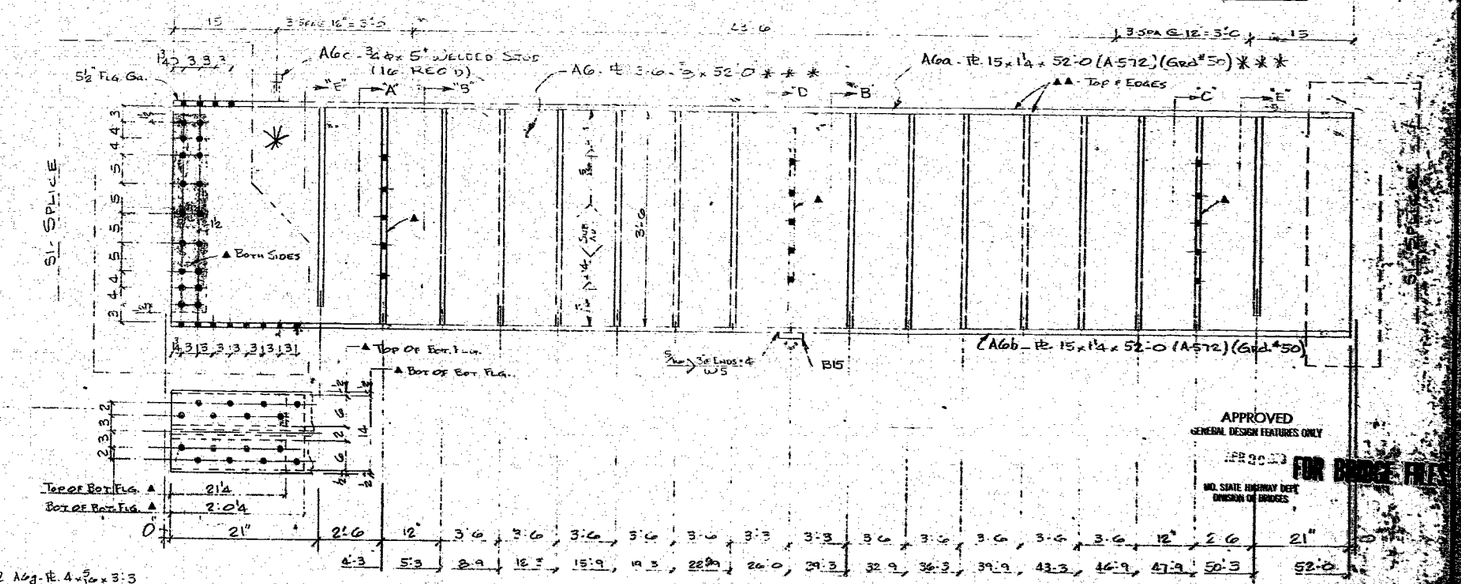




SECTION "D-D"







SECTION "E-E"

NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT LBS @ 40° F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2 MIL MIN. INORGANIC ZINC.

MAKE - ONE - A6
MAKE - ONE - B6
MAKE - ONE - C6

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN | CASE 0 CAP PLATE THICK | ¼ WELD AS SHOWN | PIPE COL

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
1			4		
2			5		
3			6		

ROLL WITH | OPEN HEARTH | "B" Type III | UNLESS NOTED | UNLESS NOTED

DeLONG'S INC. DIAL 635-7121 DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

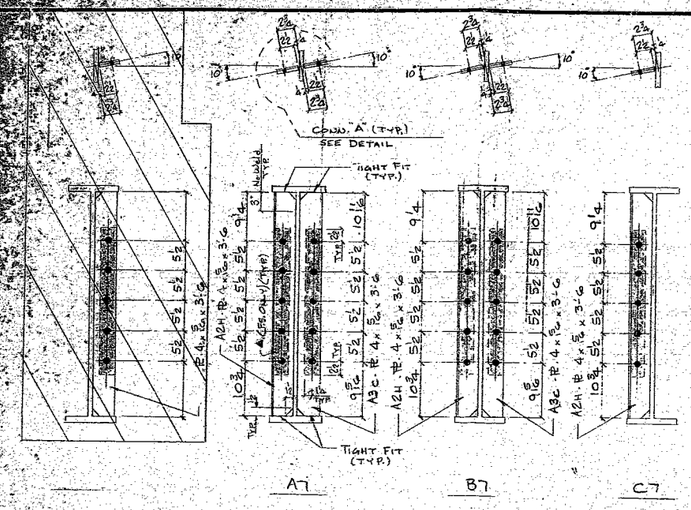
DETAILED BY J.D.P. | DATE 2-5-71 | CHECKED BY CHP | DATE 2-21-71

REVISIONS

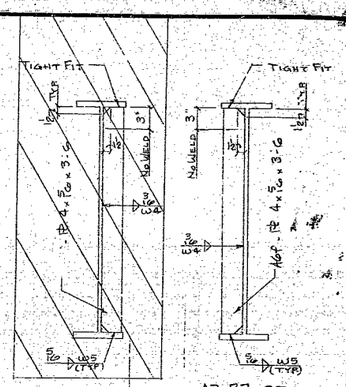
DATE	MK	BY	REMARKS

BRIDGE: Route M Under
NO. I-44-30(52)
LOCATION Pulaski County 8.4 mi. E.
Rte. 44 & Route M Int.
MISSOURI STATE HIGHWAY COMMISSION

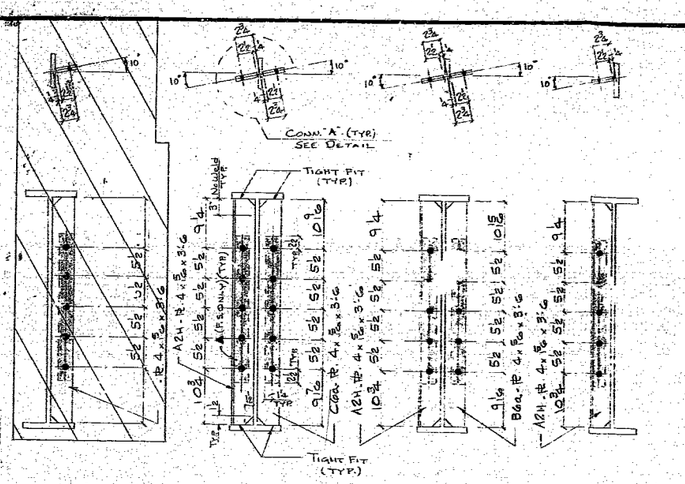
A B C D E F G H I K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



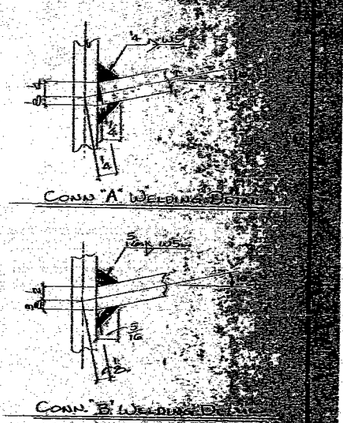
SECTION "A-A"

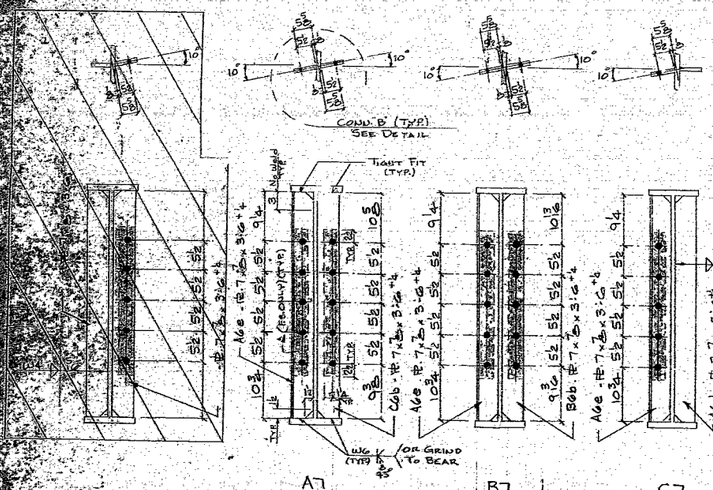


SECTION "B-B"

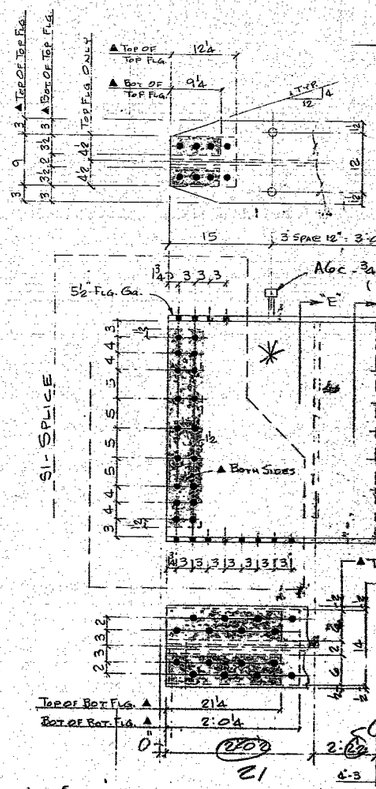


SECTION "C-C"

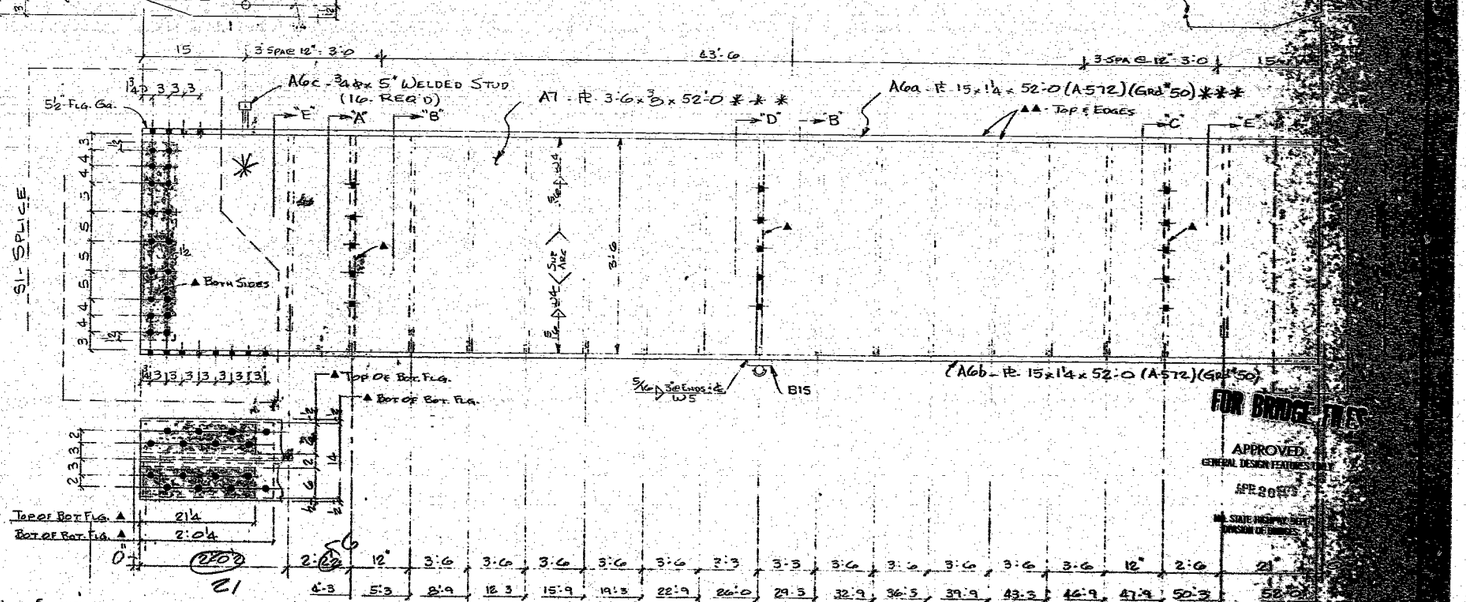




SECTION "D-D"



SECTION "E-E"



NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F. REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ▲▲ = PAINT ONE COAT 2 MIL MIN. INORGANIC ZINC.

MAKE - ONE - A7
MAKE - ONE - B7
MAKE - ONE - C7

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM OR LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — ¼ WELD AS SHOWN — PIPE COL.

SYSTEM "B" TYPE II

BOLTS 3/4ø UNLESS NTD.
RIVETS 13/16ø UNLESS NTD.
OPEN HS

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	Prelim		2		
2	Final		3		
3			4		

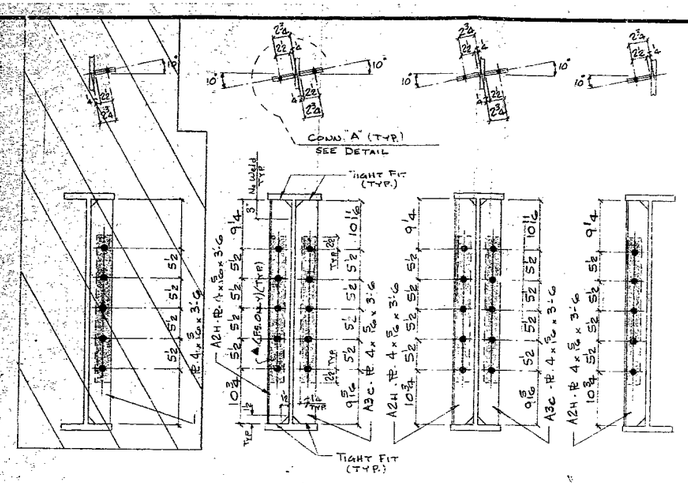
DELONG'S INC. — DIX RD. & IND. DR. — DIAL 635-6121 — JEFFERSON CITY, MISSOURI

DETAILED BY: J.D.P. — DATE: 2-26-79
CHECKED BY: DHP — DATE: 3-27-79

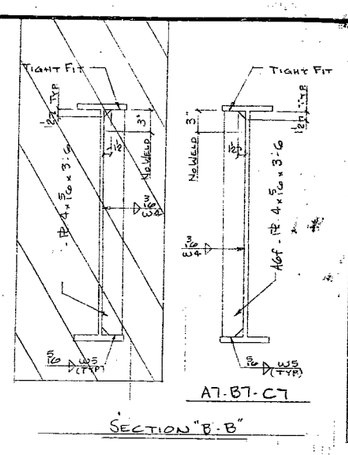
REVISIONS			
DATE	MK	BY	REMARKS

BRIDGE No. [illegible]
JOB B1A6-11 (1)
LOCATION Pulaski County
[illegible] Bridge Over [illegible]
ARCH. ENG. MO. State Highway Dept.

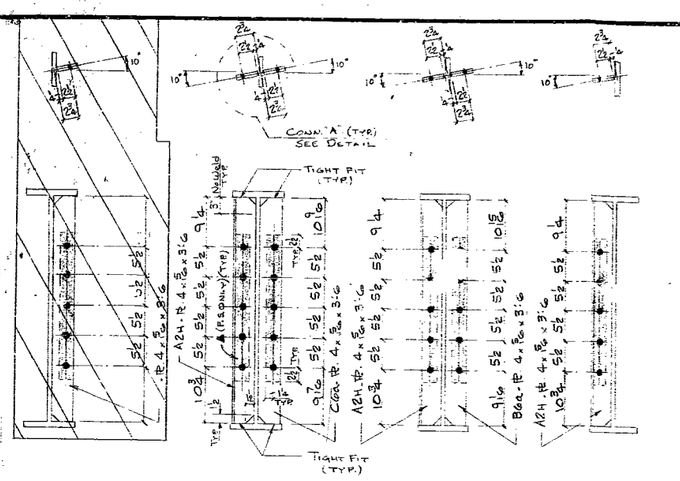
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX A AZ



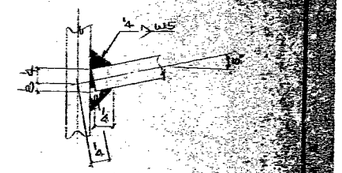
SECTION "A-A"

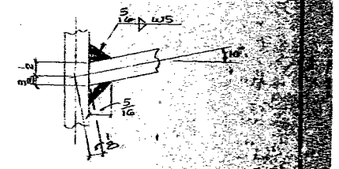


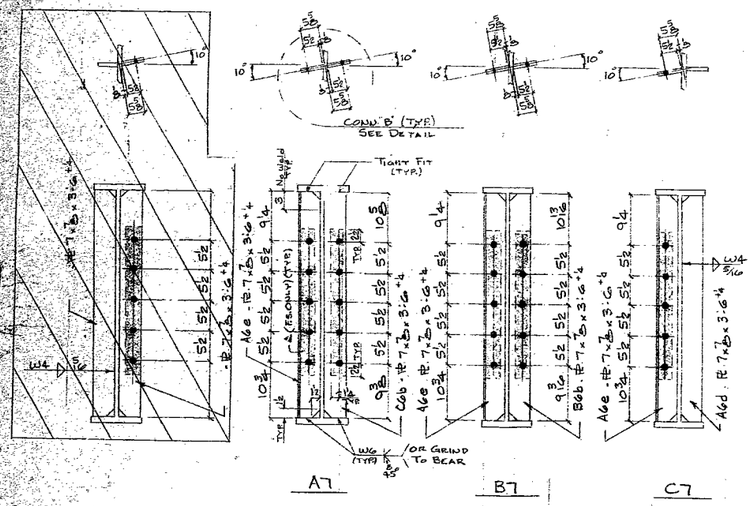
SECTION "B-B"



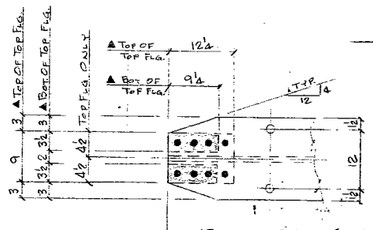
SECTION "C-C"



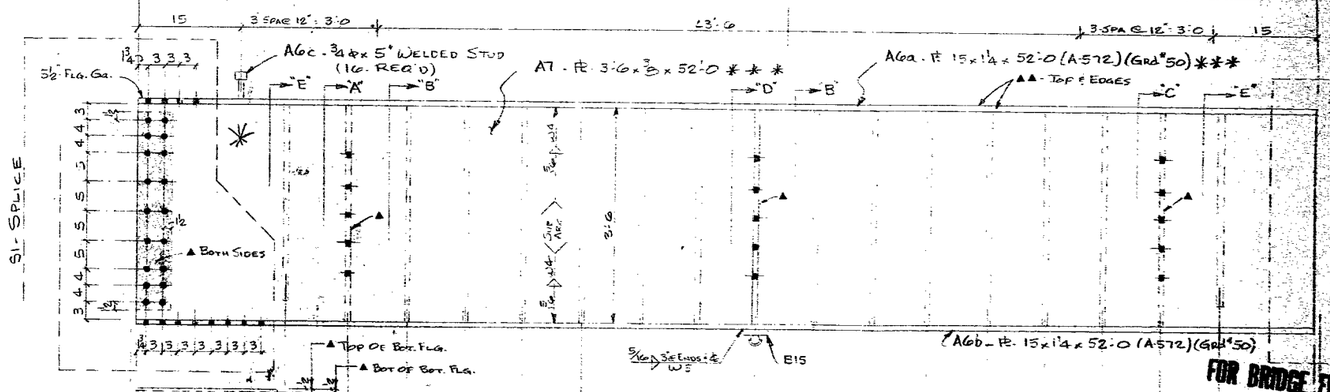


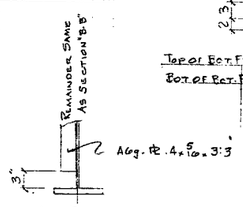


SECTION "D-D"









SECTION "E-E"

NOTES:
* * * = NOTCH TOUGHNESS OF 15 FT LBS @ 40° F REQ'D
▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
▲▲ = PAINT ONE COAT 2 MIL MIN. INORGANIC ZINC.

MAKE - ONE - A7
MAKE - ONE - B7
MAKE - ONE - C7

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL | BEAM CONN. | BASE & CAP PLATE H. COL. | ¼ WELD AS SHOWN | PIPE COL.

PAINT: SYSTEM "B" TYPE II
BOLTS 3/4ø UNLESS NTD.
RIVETS 7/8ø
OPEN HOLES 13/16ø UNLESS NTD.

PRINT RECORD	NO.	FOR	DATE
	2	C	
	5	S	
	4	A	

DELONG'S INC. DIX RD. & IND. DR.
DIAL 635-6121 JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 2-28-79
CHECKED BY GHP
DATE 3-2-79

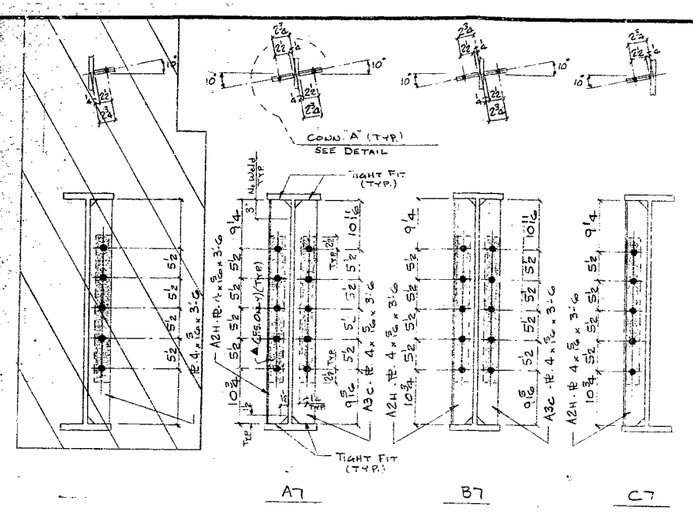
REVISIONS	DATE	MK	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
JOB B-I-44-9D PROJ. I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. A-3052
ARCH-ENGR. MO. STATE HWY DEPT.

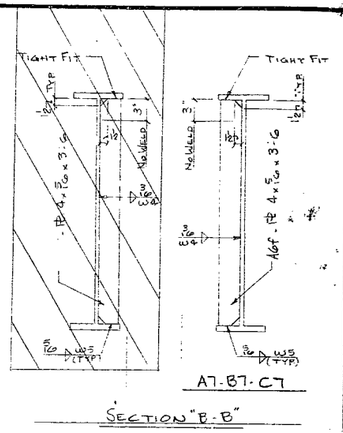
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29

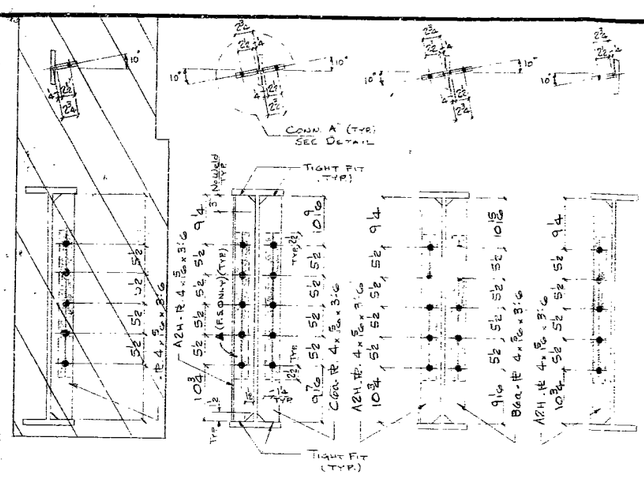
803.24.10.1



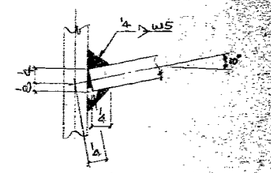
SECTION "A-A"



SECTION "B-B"

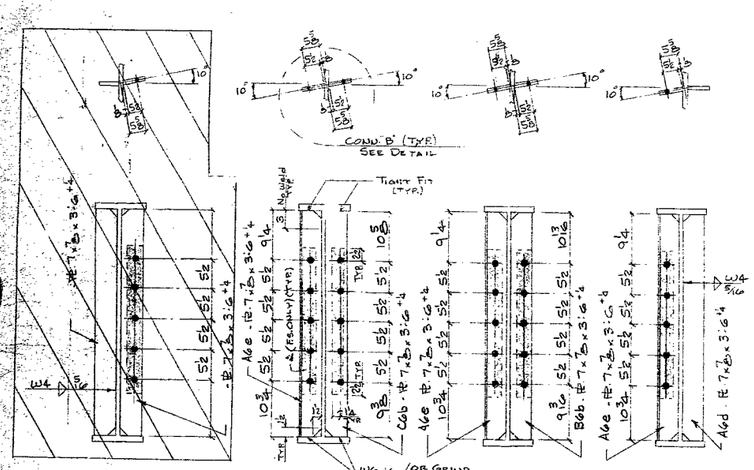


SECTION "C-C"

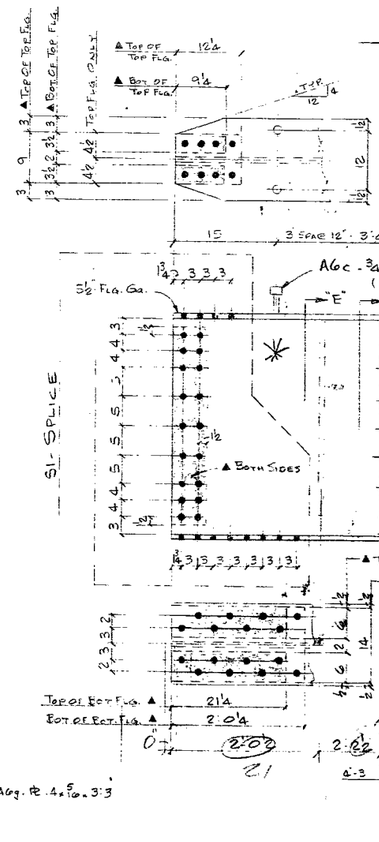


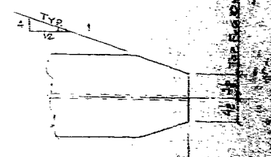
CONN "A" WELDING DETAIL

CONN "B" WELDING DETAIL

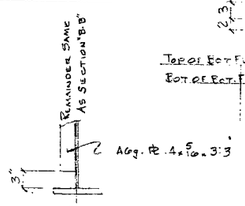


SECTION "D-D"





TOP FLG. PLAN



SECTION "E-E"

NOTES:

*** = NOTCH TOUGHNESS OF 15 FT LBS @ 40°F REQ'D

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.

▲▲ = PAINT ONE COAT 2 MIL MIN. INORGANIC ZINC.

MAKE ONE A7

MAKE ONE B7

MAKE ONE C7

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — PIPE COL.

¼ WELD AS SHOWN

PAINT: SYSTEM "B" TYPE II

BOLTS 3/4 UNLESS NTD.

OPEN HLS. 13/16 UNLESS NTD.

PRINT RECORD	NO.	FOR	DATE	NO.	FOR	DATE
	1			2		
	3			5		
	4			6		

DELONG'S INC.
DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.F
DATE 2-28-79
CHECKED BY G40
DATE 5-2-79

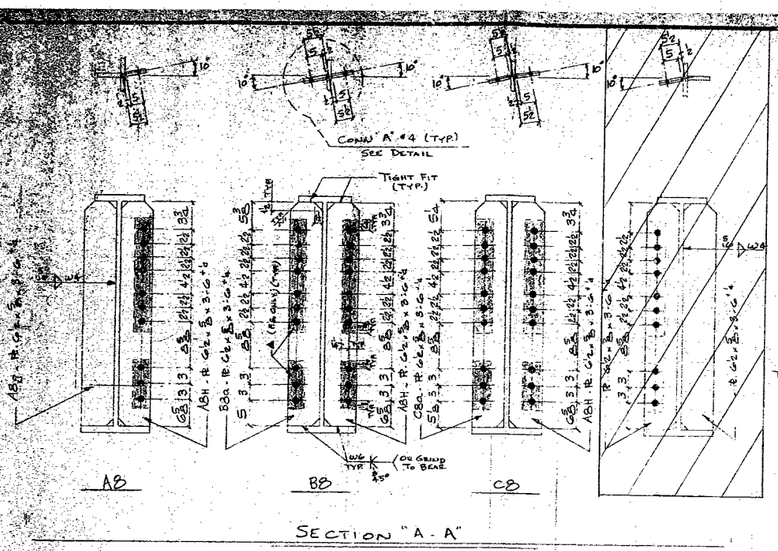
REVISIONS	DATE	MK.	BY	REMARKS

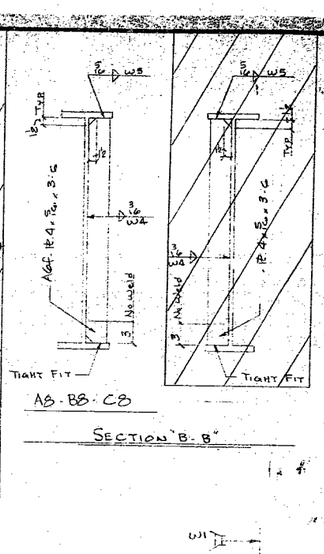
BRIDGE: ROUTE H UNDERPASS
JOB B-I-44-9D PROJ. I-44-7(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE No. A-3052
ARCH.-ENGR. MO. STATE HWY DEPT.

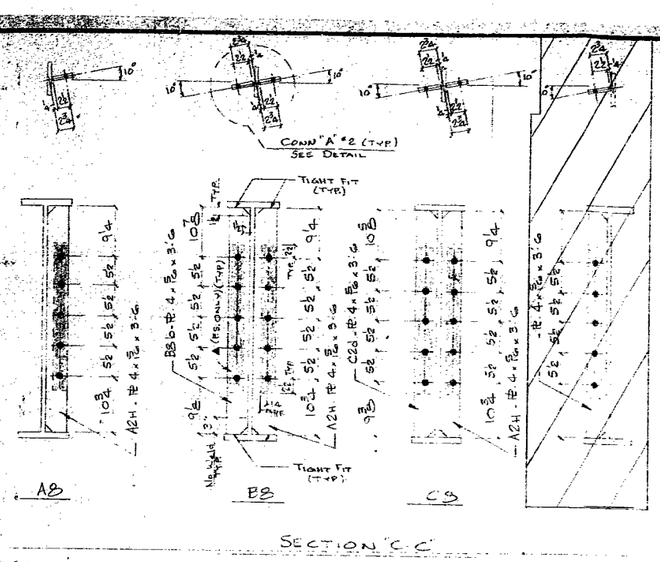
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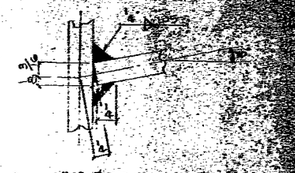
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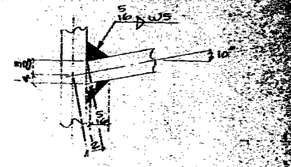
802.24 IQ 1

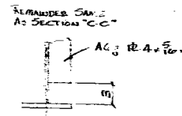


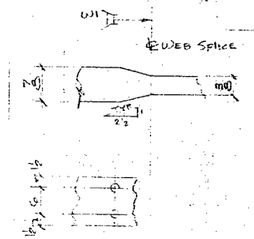


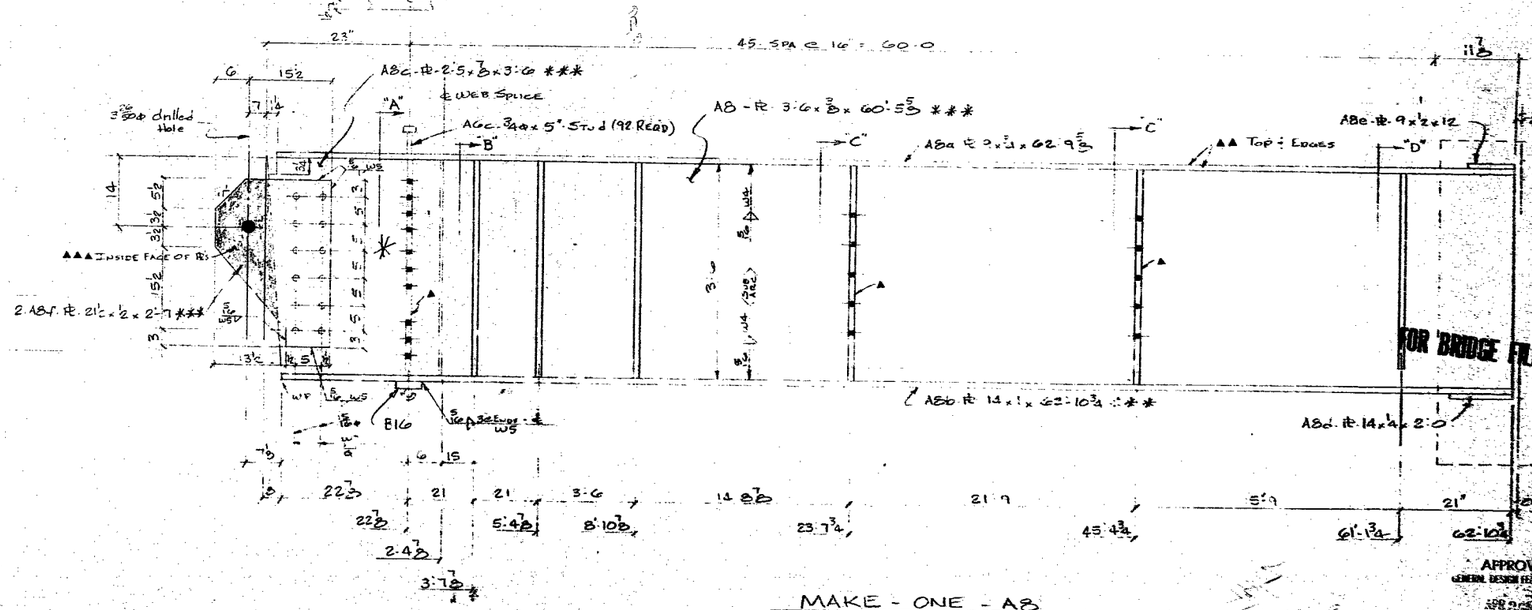












NOTES:

*** - NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F REQ'D.
▲ - PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
▲▲ - PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
▲▲▲ - PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - AB
MAKE - ONE - BB
MAKE - ONE - CB

APPROVED:
GENERAL DESIGN FEATURES ONLY
APR 2 1979
MO. STATE HIGHWAY DEPT.
BUREAU OF BRIDGES

FOR BRIDGE FILES

"STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN"

BEAM CONN. | BASE & CAP PLATE W14 COL. | PIPE COL.

PAINT: SYSTEM "B" TYPE II
BOLTS 3/4" ø UNLESS NTD.
RIVETS 13/16" ø UNLESS NTD.
OPEN HOLES

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	FIN		2	C	
2			3		
3	FIN		4		

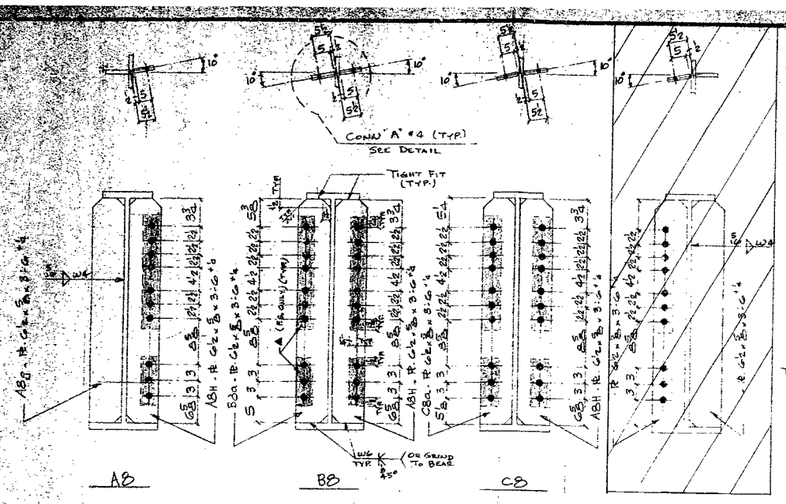
DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

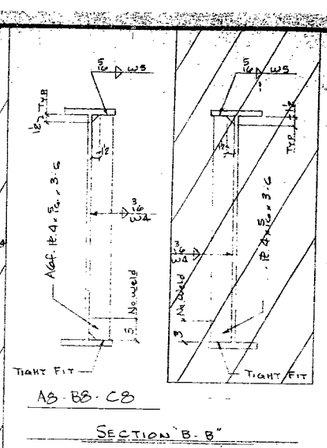
DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY OHP
DATE 3-27-79

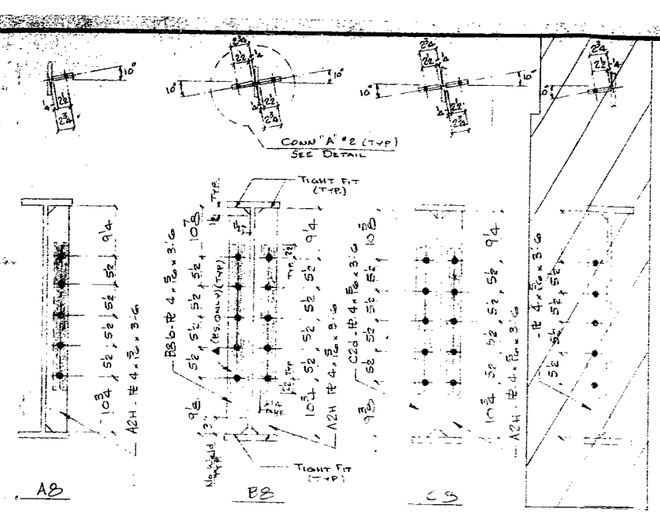
REVISIONS			
DATE	MK.	BY	REMARKS

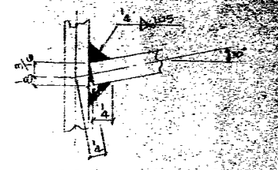
BRIDGE: ROUTE R UNDER I-44
JOB B-I-44-9D PROJ. I-44-3(76)
LOCATION PULASKI COUNTY - ROUTE
BRIDGE NO.
ARCH. INSP. MO. STATE HIGHWAY DEPT.

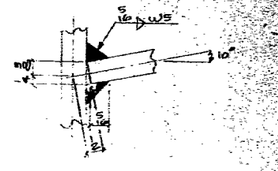
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

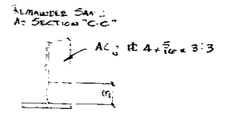


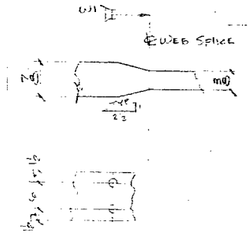


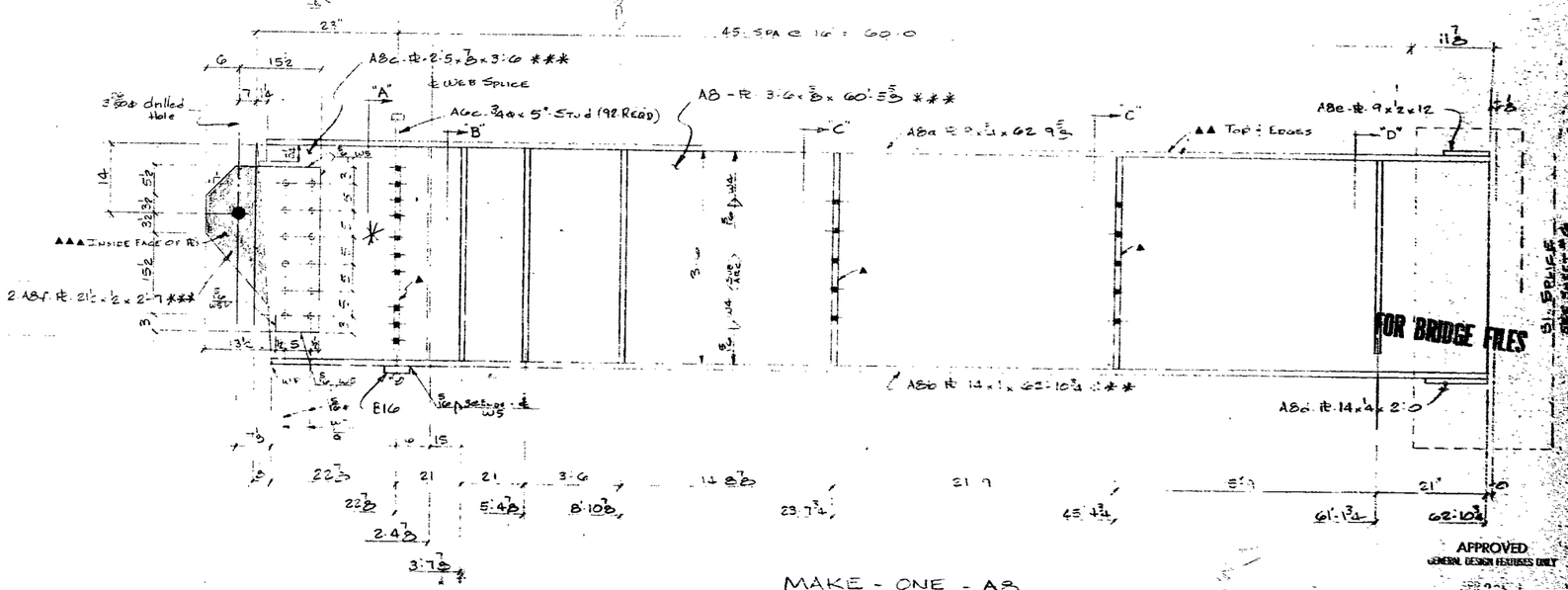












NOTES:
- *** : NOTCH TOUGHNESS OF 15 FT LBS @ 40° F REQ'D.
- ▲ : PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ▲▲ : PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ : PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - AB
MAKE - ONE - BB
MAKE - ONE - CB

APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & FLANGE ½ WELD AS SHOWN

BEAM CONN. — BASE & CAP PLATE H. COL. — PIPE COL.

PAINT: SYSTEM "B" TYPE II
BOLTS RIVETS 3/4" ø UNLESS NTD.
OPEN HOLES 13/16" ø UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	FA		2	C	
3	K		5	S	
4	A		6	A	

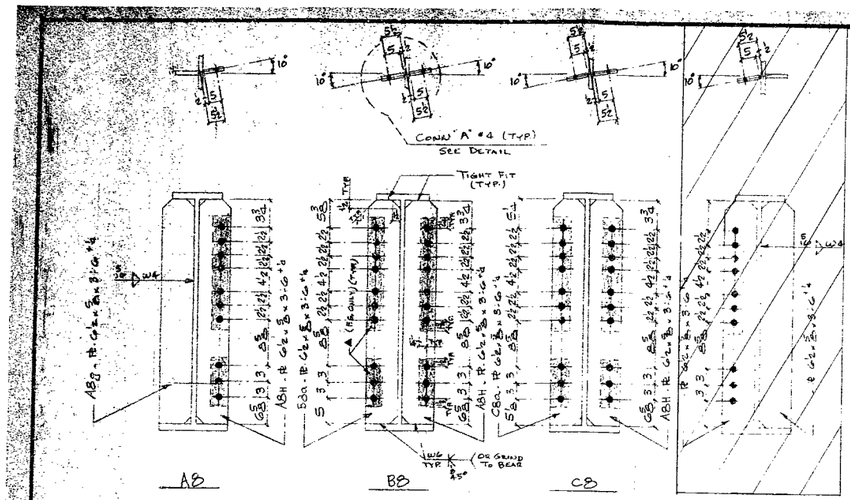
DELONG'S INC.
DIAL 635-6121 — DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY CHC
DATE 3-27-79

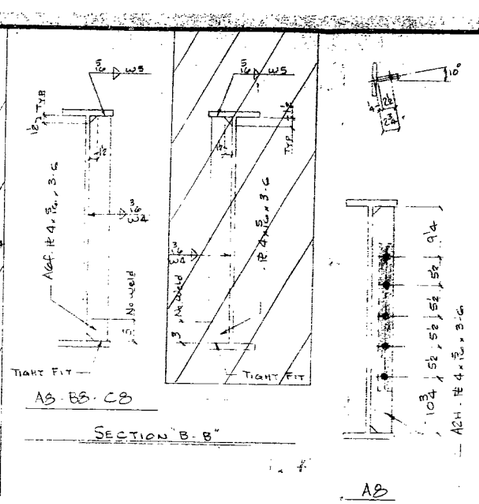
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
JOB B-I-44-9(1) PROJ # I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. 14-301
ARCH. ENGR. MO. STATE HWY. DEPT.

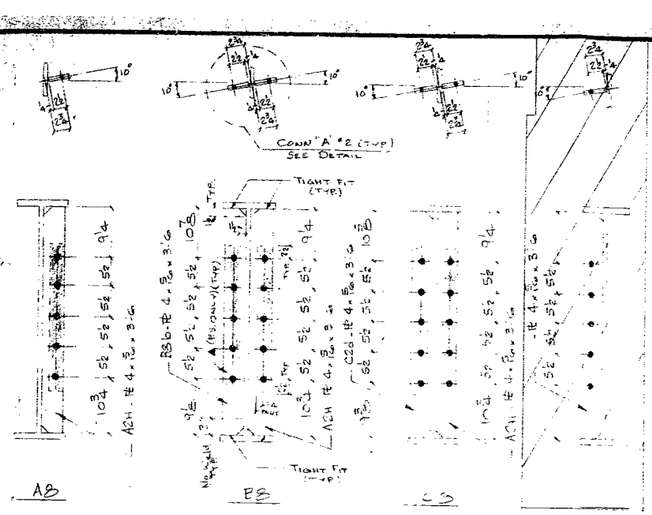
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



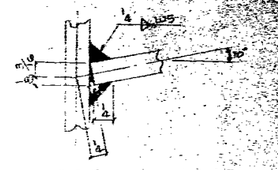
SECTION "A-A"



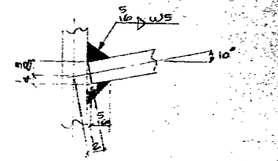
SECTION "B-B"



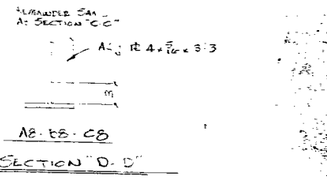
SECTION "C-C"



CONN "A" #2 WELDING DETAIL

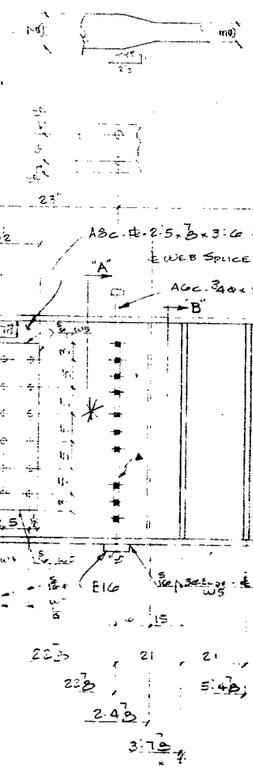


CONN "A" #4 WELDING DETAIL



AB-BB-CB

SECTION "D-D"



Notes:
- *** = Notch Toughness Of 15 Ft. Lbs @ 40° F Req'd.
- ▲ = Paint One Coat 1.5 To 2.5 Mil Inorganic Zinc.
- ▲▲ = Paint One Coat 2.0 Mil Min. Inorganic Zinc.
- ▲▲▲ = Paint 3 Coats 6.0 Mil Min. System B

MAKE - ONE - AB
MAKE - ONE - BB
MAKE - ONE - CB

APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

FOR BRIDGE FILES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. WIDTH | BEAM CONN. | BASE & CAP PLATE H. COL. | PIPE COL.

PAINT: SYSTEM B "TYPE II"
BOLTS 3/4 Ø UNLESS NTD.
RIVETS UNLESS NTD.
OPEN HLS. 13/16 UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	PP		2	C	
2	C		5	S	
3	A		6	A	

DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY CHC
DATE 3-27-79

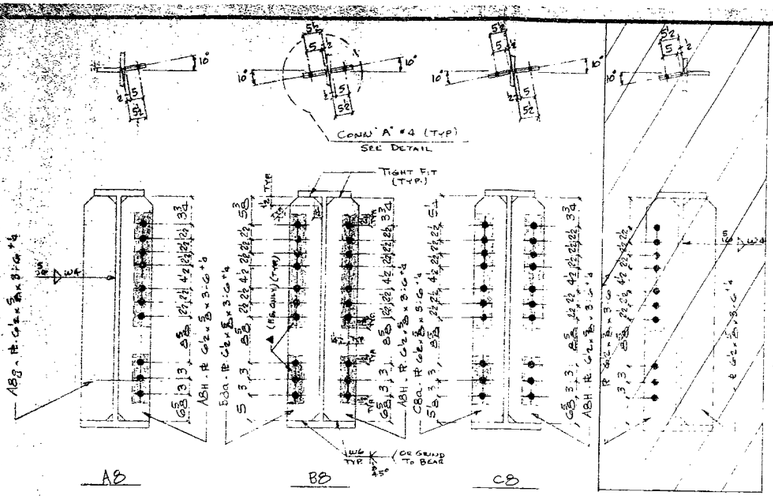
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
JOB S-44-9(7) PROJ # I-44-2(84)
LOCATION PULASKI COUNTY - RTE I-44
BRIDGE No. A-3078
ARCH. ENGR. MO. STATE HWY. DEPT.

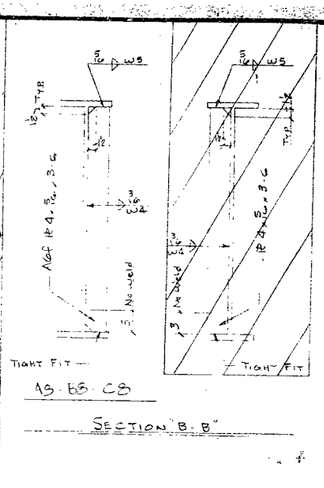
JOB NO. 11-7
SHT. NO. 5 OF 5 SHTS.

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

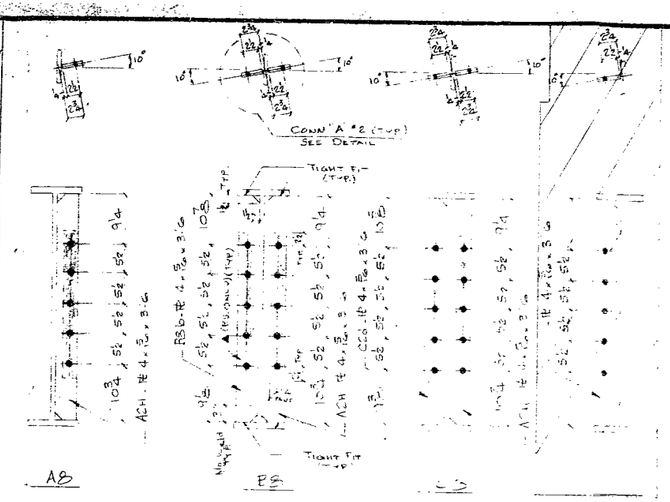
203.24 TO 1



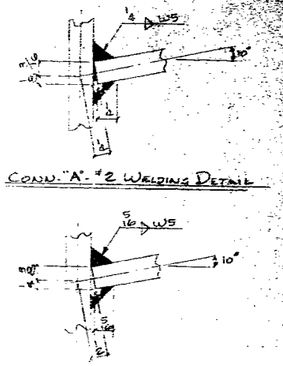
SECTION "A-A"

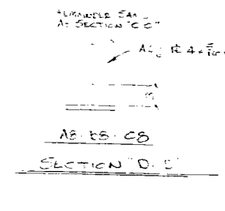


SECTION "B-B"

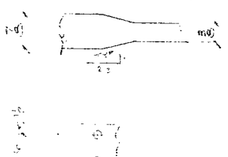


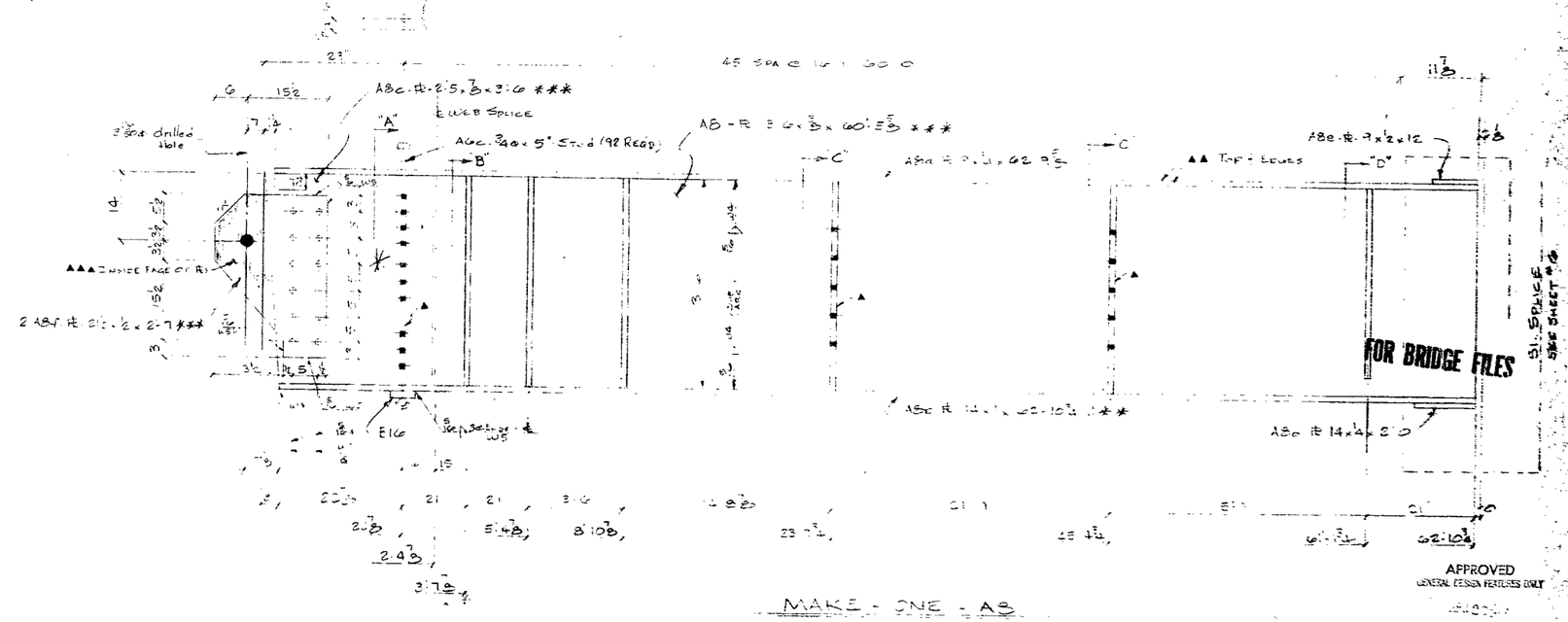
SECTION "C-C"





SECTION "D-D"





Notes:
*** : Notch Toughness Of 15 Ft. Lbs @ 40° F Req'd.
▲ : Paint One Coat 1.5 To 2.5 Mil Inorganic Zinc.
▲▲ : Paint One Coat 2.0 Mil Min. Inorganic Zinc.
▲▲▲ : Paint 3 Coats 6.0 Mil Min. System B

MAKE - ONE - AS
MAKE - ONE - BS
MAKE - ONE - CS

APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. UNITED — BEAM CONN. — BASE & CAP PLATE H. COL. — ½ WELD AS SHOWN — PIPE COL.

PAINT: SYSTEM B "TYPE II"
BOLTS RIVETS 3/4" UNLESS NTD.
OPEN HES. 13/16" UNLESS NTD.

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
			2	C	
			5	S	
			6	A	

DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY JDF
DATE 3-6-79
CHECKED BY CHC
DATE 3-7-79

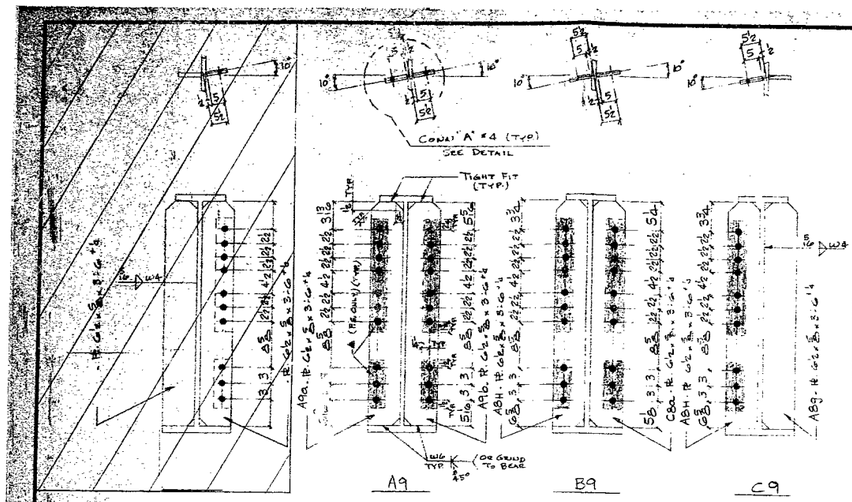
REVISIONS			
DATE	MK.	BY	REMARKS

CONTRACT BRIDGE: ROUTE H UNDERPASS
JOB 8-I-44-9(84) PROJ# I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE No. A-3058
ARCH-ENGR. MO. STATE HWY. DEPT.

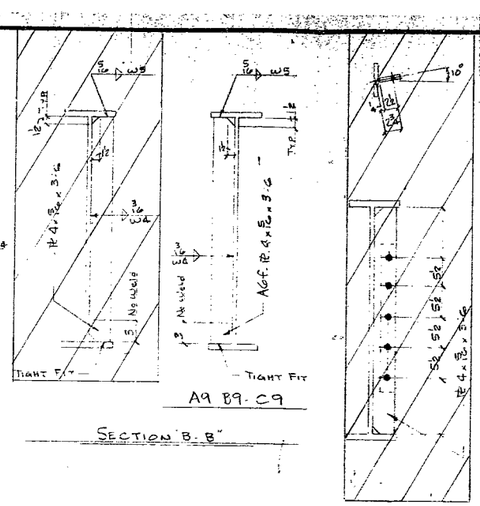
JOB No. 11-7
SHT. No. 15
DWG. No. 20

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

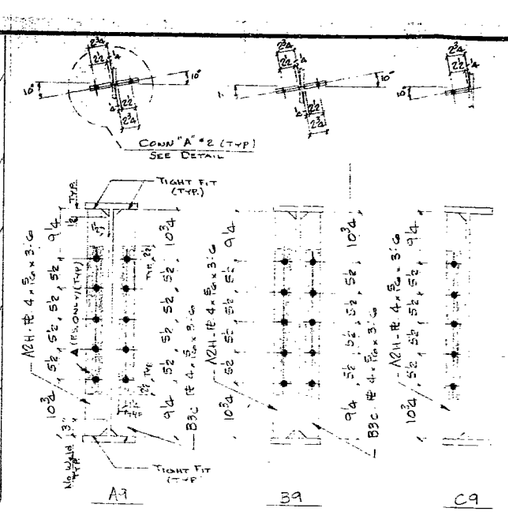
203.24 TO 1



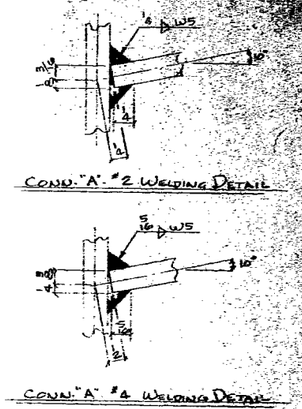
SECTION "A-A"

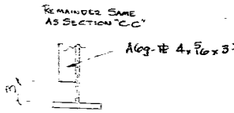


SECTION "B-B"

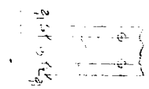


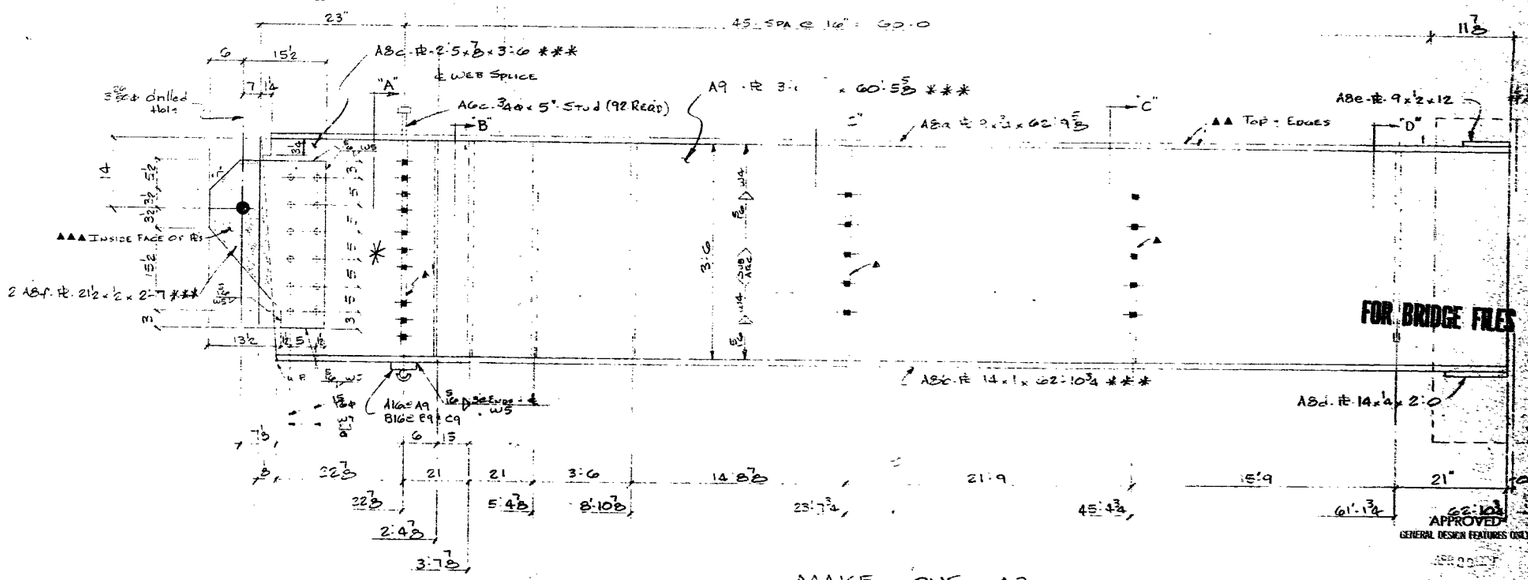
SECTION "C-C"





SECTION "D-D"





NOTES:
- *** : NOTCH TOUGHNESS OF 15 FT LBS @ 40° F REQ'D
- ▲ : PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ▲▲ : PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ : PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A9
MAKE - ONE - B9
MAKE - ONE - C9

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN | BASE & CAP PLATE H. COL. | PIPE COL.

PAINT: SYSTEM "B" TYPE II
BOLTS RIVETS 3/4Ø UNLESS NTD.
OPEN HLS. 13/16Ø UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	9%		2	C	
1	V		5	S	
3	A		6	A	

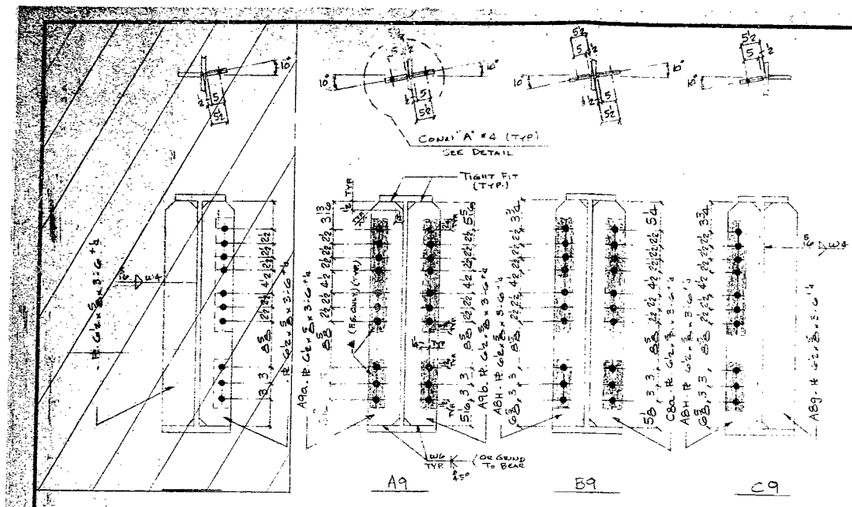
DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY O.H.S
DATE 3-22-79

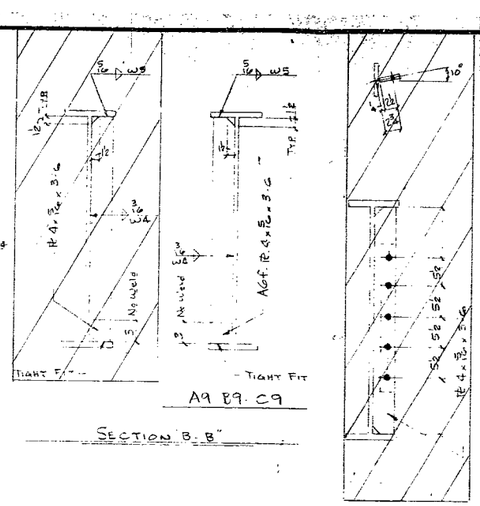
REVISIONS			
DATE	MK	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
JOB S-I-44 9D PROJ. # I-44-2(84)
LOCATION PULASKI COUNTY - RTE. H
BRIDGE NO. A-1812
ARCH-ENGR. MO. STATE HWY. DEPT.

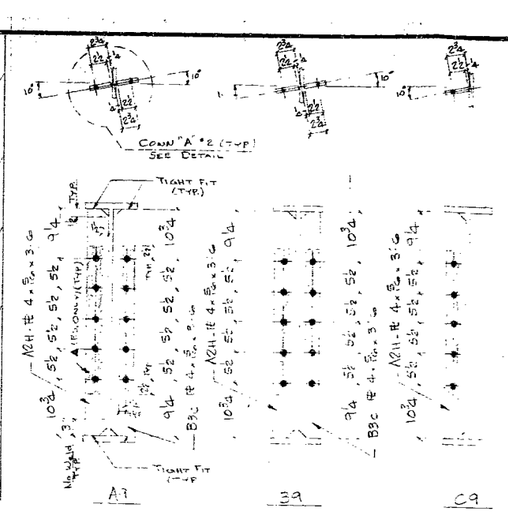
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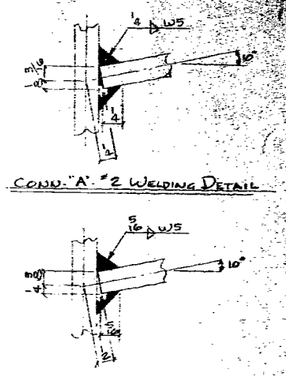
SECTION "A-A"



SECTION "B-B"



SECTION "C-C"

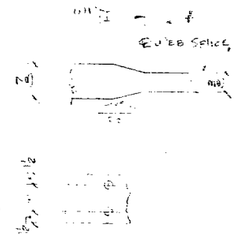


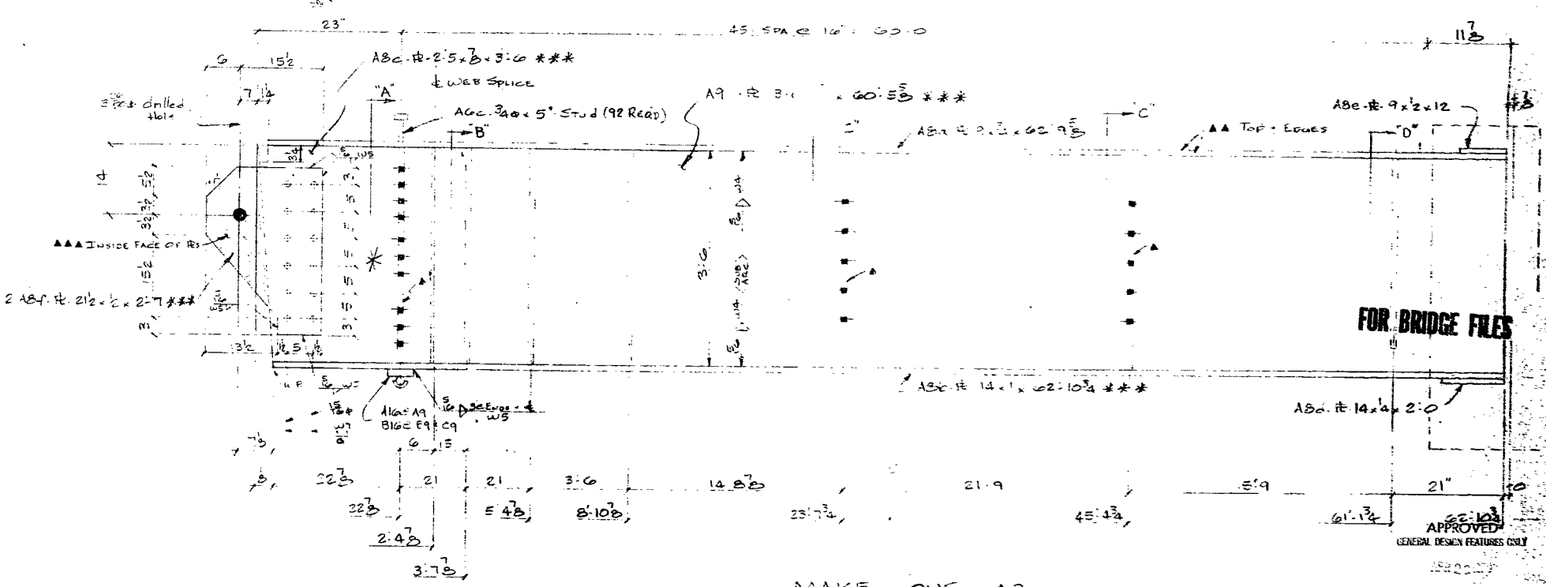
REMAINDER SAME AS SECTION "CC"

Aleg. PL 4 x $\frac{5}{16}$ x 3'-3

A9 B9 C9

SECTION "D-D"





NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A9
MAKE - ONE - B9
MAKE - ONE - C9

APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF EP 'ES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & P.L. WEB

BEAM CONN

BASE & CAP PLATE H. COL.

$\frac{1}{4}$ WELD AS SHOWN

PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS RIVETS 3/4ø UNLESS NTD

OPEN HLS. 1 3/8ø UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
3	Bidg		2	C	
4	F		5	S	
5	A		6	A	

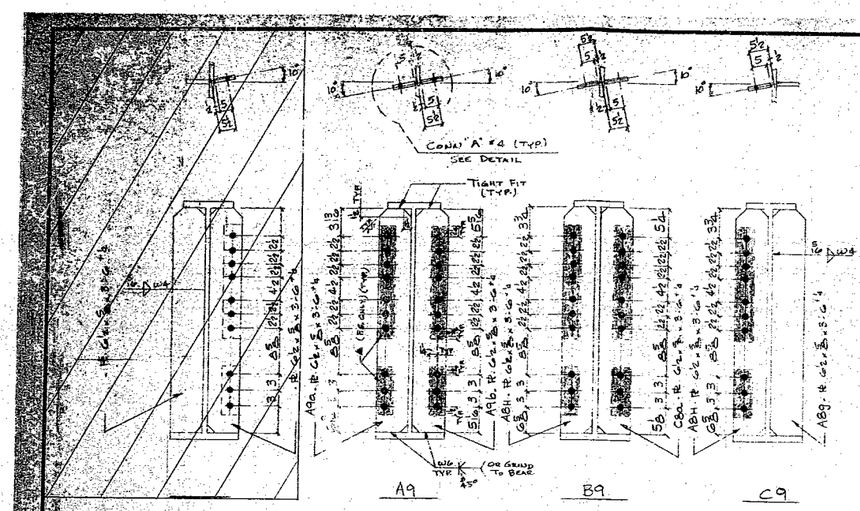
DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY DHC
DATE 3-27-79

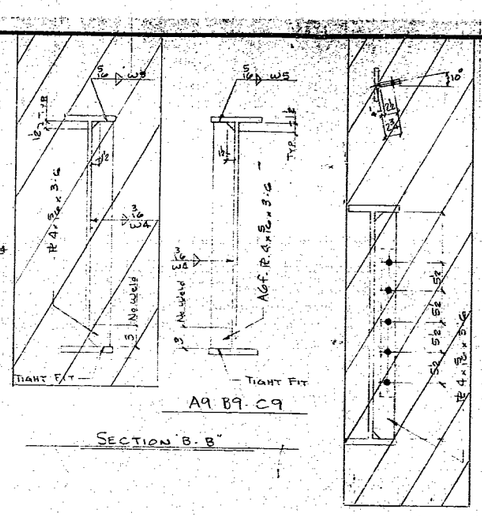
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
J.N. S-I-44 9D Proj# I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. A-0256
ARCH-ENGR. MO. STATE HWY. DEPT.

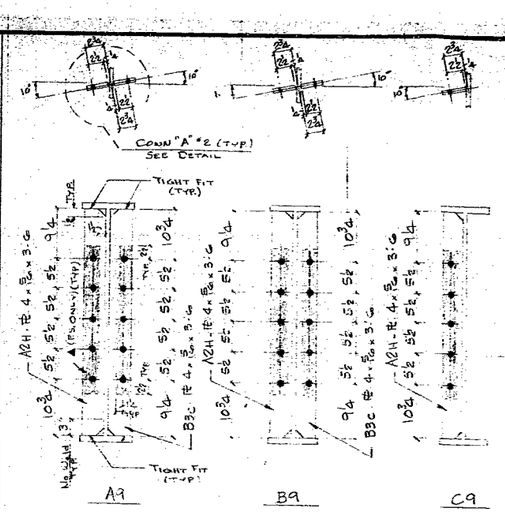
A & C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



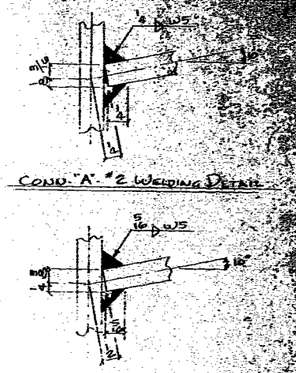
SECTION "A - A"

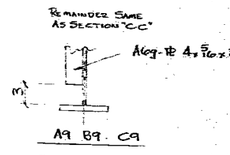


SECTION "B - B"

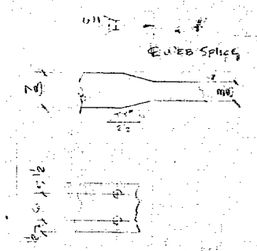


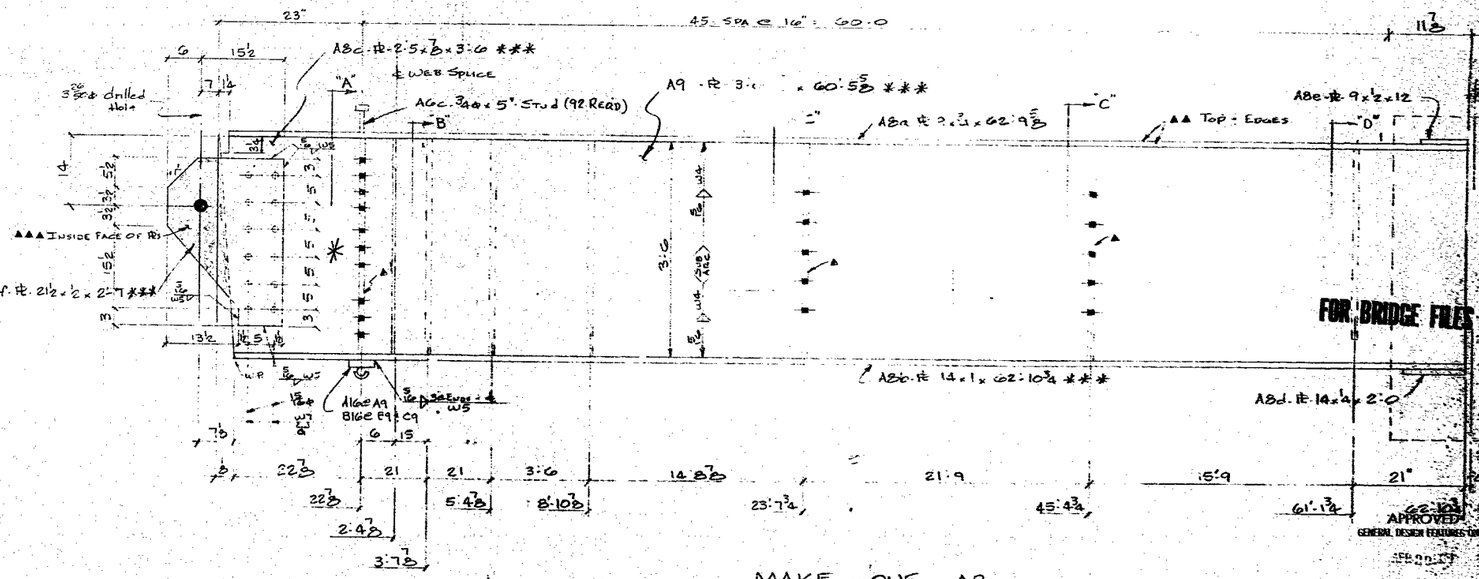
SECTION "C - C"





SECTION "D-D"





NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F REQ'D
- * = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ** PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- *** PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A9
MAKE - ONE - B9
MAKE - ONE - C9

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

½ WELD AS SHOWN — BASE & CAP PLATE — H. COL. — PIPE COL.

SYSTEM "B" TYPE II

BOLTS BVTR. 3/4 Ø UNLESS NTD.
OPEN HLS. 15/16 Ø UNLESS NTD.

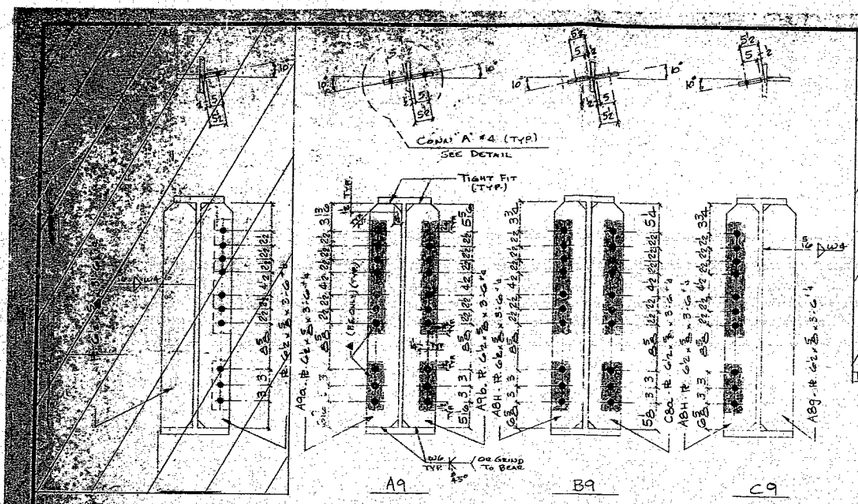
PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
3	FINAL		2	C	
1	C		5	S	
2	A		6	A	

DELONG'S INC.
DIAL 635-4121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

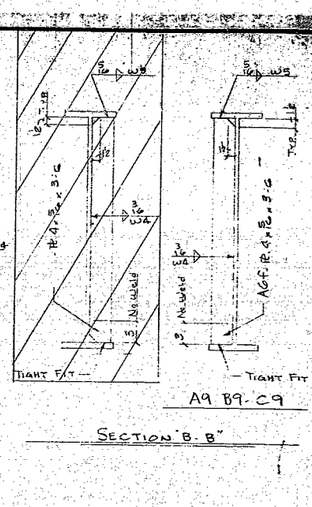
DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY OHD
DATE 3-27-79

REVISIONS			
DATE	MK.	BY	REMARKS

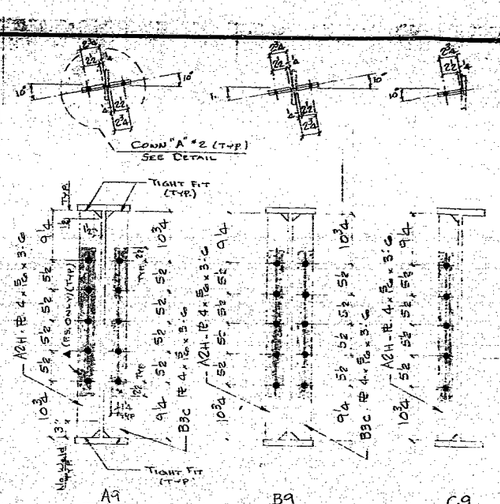
BRIDGE: ROUTE H OVER
JOB S-I-44 9D PROJ. I-44
LOCATION PULASKI COUNTY
BRIDGE NO.
AASHTO SIZE: MO. STATE HIGHWAY DEPT.



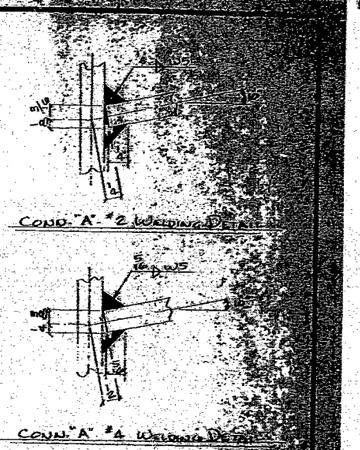
SECTION "A-A"

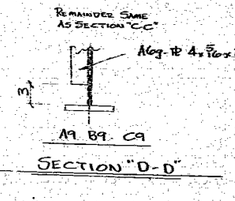


SECTION "B-B"

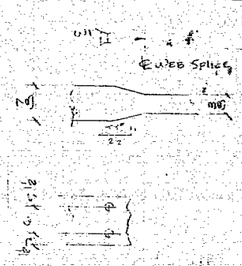


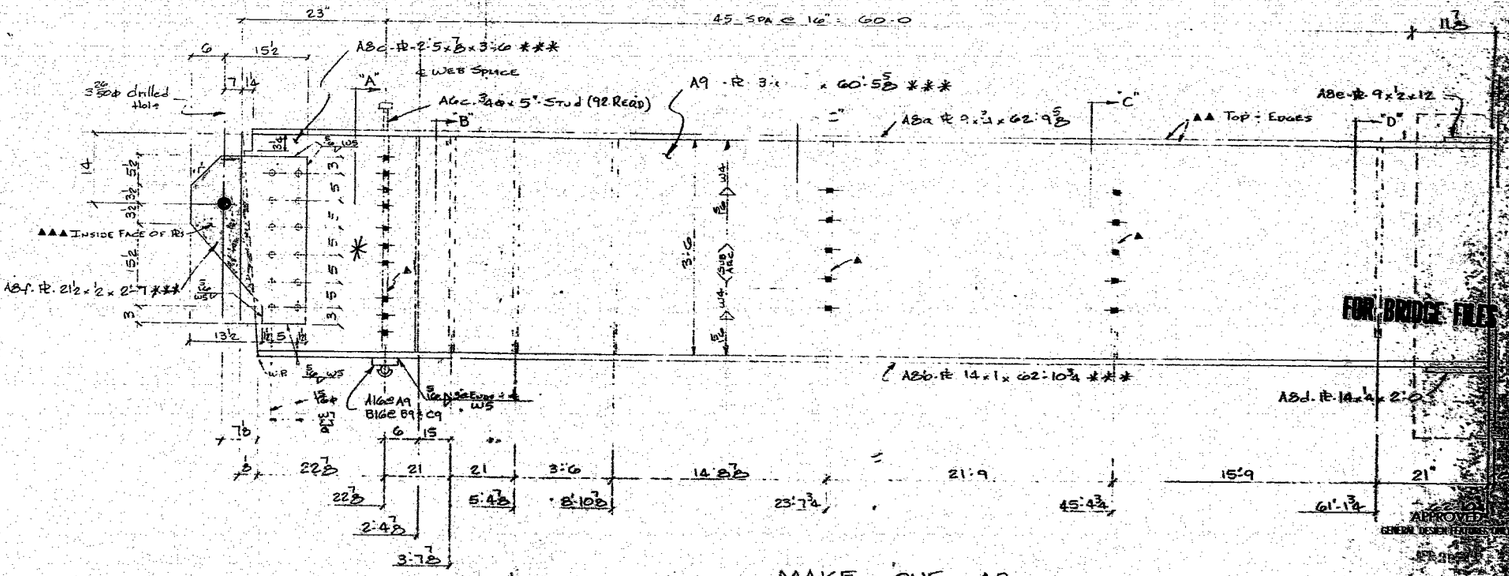
SECTION "C-C"





SECTION "D-D"





MAKE - ONE - A9
MAKE - ONE - B9
MAKE - ONE - C9

* : NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F REQ'D
** : PAINTONE COAT 2.5 TO 2.5 MIL INORGANIC ZINC.
*** : SHOP TOUCH UP COAT 2.0 MIL MIN. INORGANIC ZINC.
**** : FIELD COATS 2.0 MIL MIN. SYSTEM B

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

¼ WELD AS SHOWN

BASE PLATE OR CAP PLATE

PIPE COL.

SYSTEM "B" TYPE II

PRINT RECORD						
NO.	INK	DATE	NO.	INK	DATE
1			5		
2			6		
3			7		
4			8		

DELONG'S INC.
DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY DHP
DATE 3-29-79

REVISIONS			
DATE	MK. BY	REMARKS

BRIDGES B8c - B9 & C9
I-44 SD Proj. I-44-1(
LOCATION PULASKI CO. MO. & CR
MISSOURI HIGHWAY

CONN "A" #4 (TYP)
SEE DETAIL

TIGHT FIT (TYP)

A10 B10 C10

SECTION "A-A"

TIGHT FIT

SECTION "B-B"

A10·B10·C10

CONN "A" #2 (TYP)
SEE DETAIL

TIGHT FIT (TYP)

A10 B10 C10

SECTION "C-C"

CONN "A" #4 (TYP)

CONN "A" #4 (TYP)

REMAINDER SAME AS SECTION "C-C"

A10·B10·C10

SECTION "D-D"

WEB SPLICE

WEB SPLICE

45 SPA @ 16" = 60'-0"

A10 - PL 3'-6" x 3/8" x 60'-5 5/8" ***

A8a PL 9-3/4" x 62'-9 3/8"

A8b PL 14" x 1" x 62'-10 3/4" ***

A8c PL 2 5/8" x 3/8" x 3'-6" ***

A8d PL 14" x 2"

A8e PL 9" x 2"

A8f PL 2 1/2" x 1/2" x 2'-7" ***

A9g PL 4" x 5/16" x 5" STUD (92 REQ'D)

3 25/32" DRILLED HOLE

INSIDE FACE OF PIER

TOP & EDGES

FOR BRIDGE LINES

MAKE - ONE - A10
MAKE - ONE - B10
MAKE - ONE - C10

* MIN. CHARPY V-NOTCH TOUGHNESS OF 15 FT-LBS @ 40° F REQ'D
** PAINT ONE COAT 3.0 MILS INORGANIC ZINC.
*** PAINT ONE COAT 2.0 MILS INORGANIC ZINC.
**** PAINT 3 COATS 6.0 MILS SYSTEM B, 4.

SHOP AND WELDING DETAILS SIMILAR OTHERWISE SHOWN

WELD AS SHOWN

DeLONG'S INC.
DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

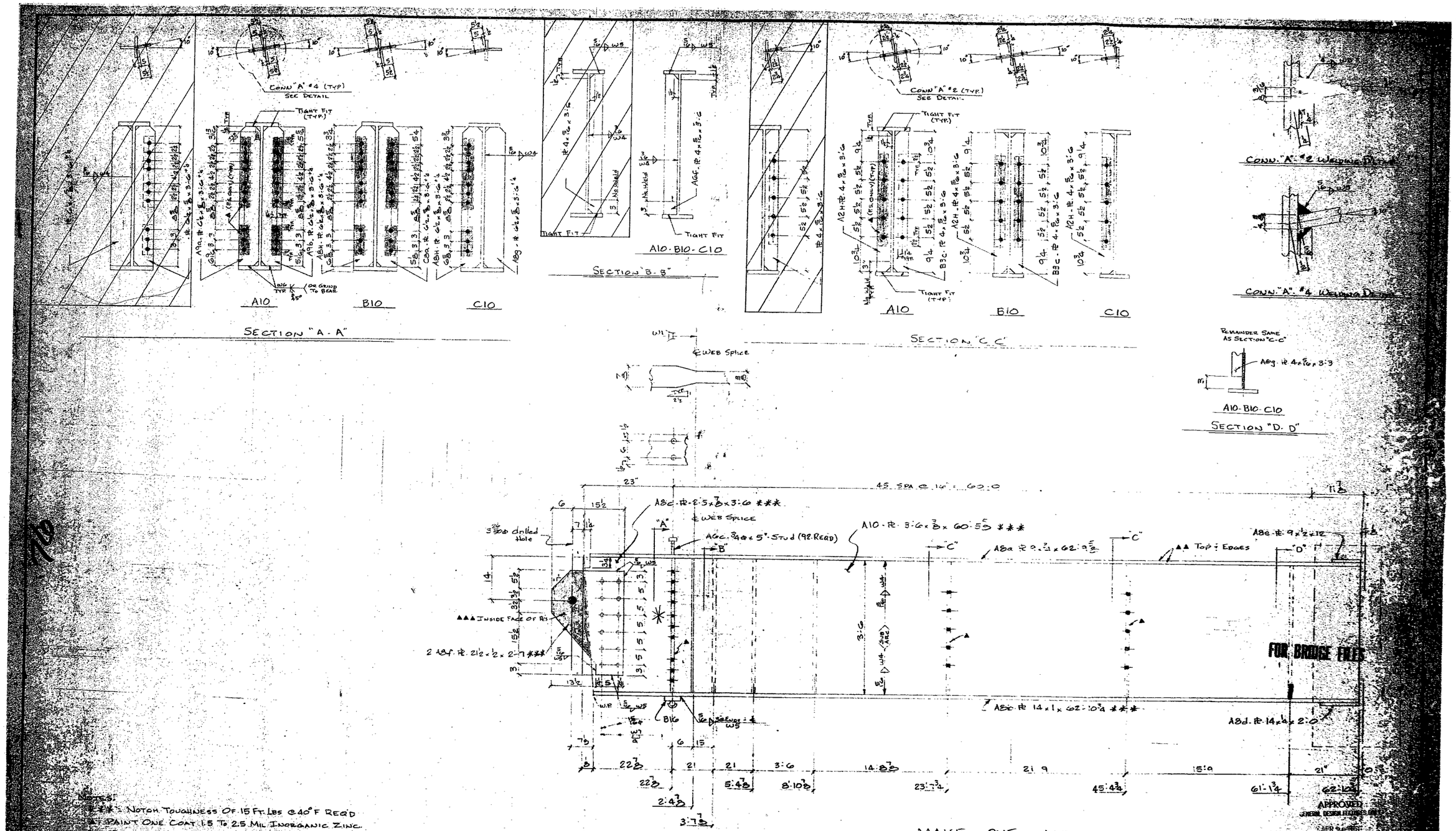
DETAILED BY: J.D.P.
DATE: 3-6-78
CHECKED BY: O.H.P.
DATE: 3-24-78

REVISIONS

DATE	MK	BY	REMARKS

Bridge No. [illegible]
Route [illegible]
Location PIPESTONE CREEK
Owner STATE HIGHWAY COMMISSION

APPROVED



Notes:
- ***: Notch Toughness Of 15 Ft. Lbs @ 40° F Req'd
- ▲▲: Paint One Coat 1.5 To 2.5 Mil Inorganic Zinc.
- ▲▲▲: Paint One Coat 2.0 Mil Min. Inorganic Zinc.
- ▲▲▲▲: Paint 3 Coats 6.0 Mil Min. System B.

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

¼ WELD AS SHOWN ¼

BASE PL CAP PLATE

PIPE COL.

SYSTEM B "TYPE II"

PRINT RECORD					
NO.	JOB	DATE	NO.	INIT.	DATE
1	904		2	C	
2			5	S	
3	12		6	A	

DELONG'S INC. — JEFFERSON CITY, MISSOURI — DIX RD. & IND. DR. — TEL. 635-6121

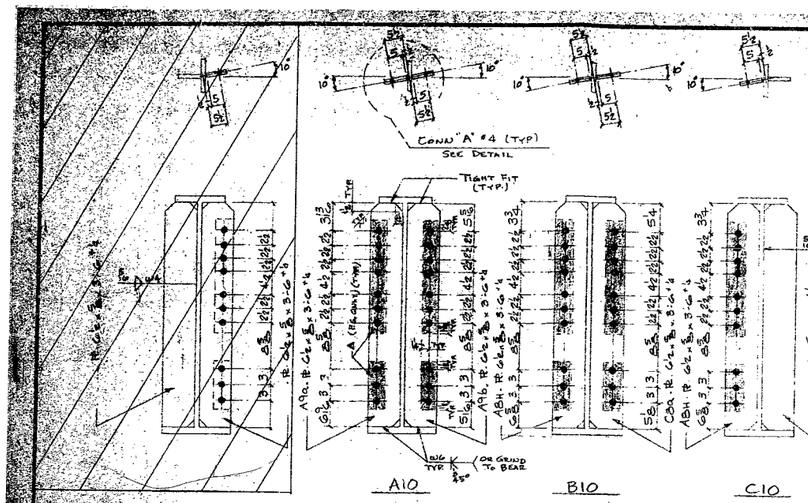
DETAILED BY	J.D.P.
DATE	3-6-79
CHECKED BY	OHD
DATE	5-27-79

REVISIONS			
DATE	MK.	BY	REMARKS

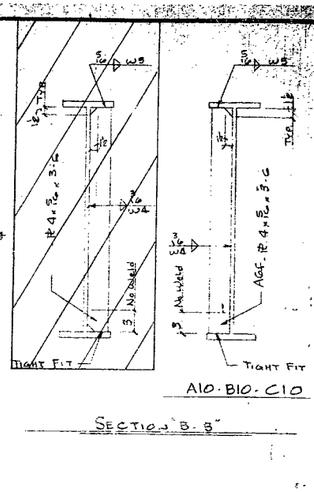
BRIDGE: ROUTE 44 OVER [illegible]
JOB S-I-44-9D PROJ. [illegible]
LOCATION PULASKI COUNTY
APPROVED MO. STATE HIGHWAY ENGINEER

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

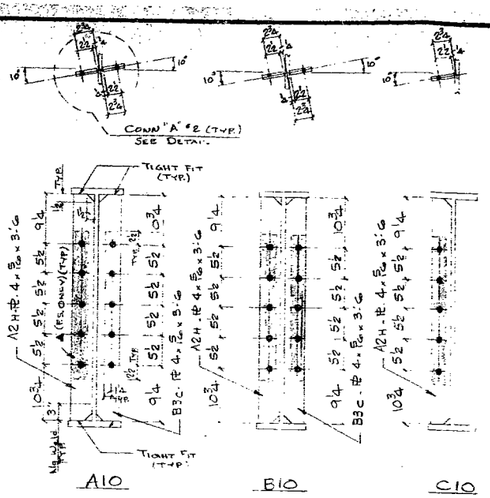
902 24 TO 1



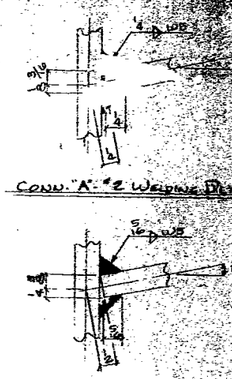
SECTION "A - A"



SECTION B-B"

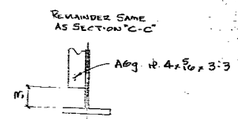


SECTION "C C"



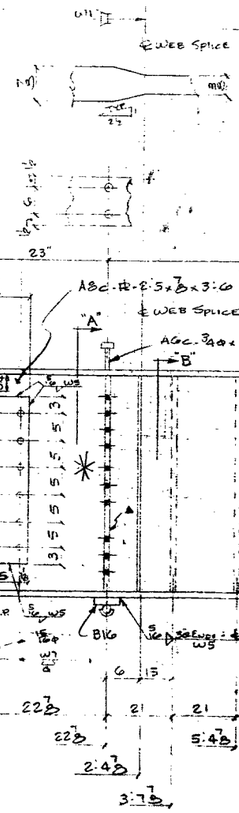
CONN. "A" #2 WELDING DETAIL

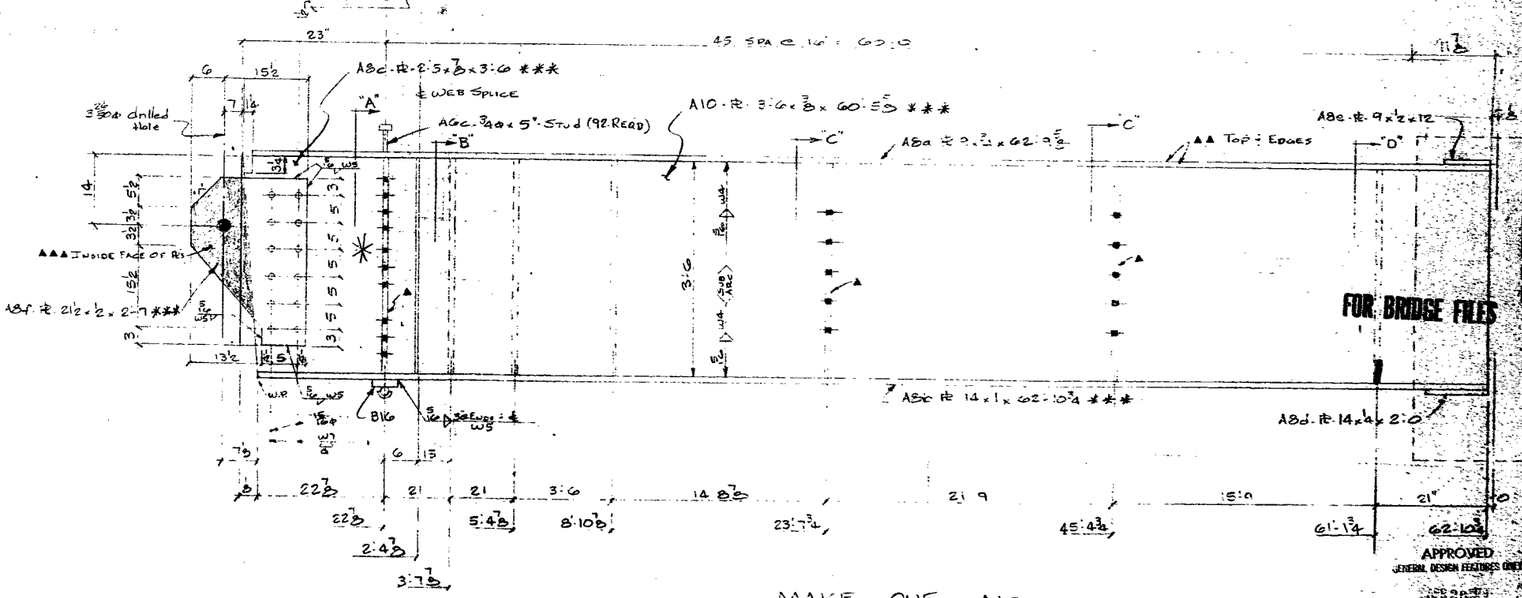
CONN. "A" #4 WELDING DETAIL



A10 · B10 · C10

SECTION "D. D"





NOTES:
*** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F REQ'D
* = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
** = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
*** = PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A10
MAKE - ONE - B10
MAKE - ONE - C10

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

SEAM CONN. | BASE & CAP PLATE W. COL. | ⅛ WELD AS SHOWN | PIPE COL.

PAINT: SYSTEM B" TYPE II

ROUTE RIVETS 3 ½ UNLESS NOTED
OPEN HOLE 13 16 UNLESS NOTED

PRINT			RECORD		
NO.	INIT	DATE	NO.	INIT	DATE
1	MK		2	C	
1	MC		5	S	
2	A		6	A	

DELONG'S INC.
JEFFERSON CITY, MISSOURI
DIX RD. & IND. DR.
EMAIL 635-6121

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY OHP
DATE 3-27-79

REVISIONS			
DATE	MK.	BY	REMARKS

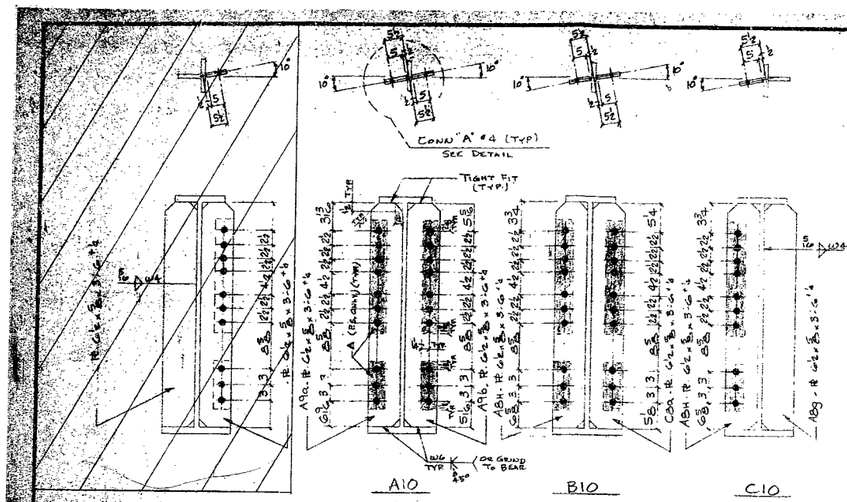
BRIDGE: ROUTE H OVER [illegible]
JOB B-I-44-9D PROJ. I-44-2([illegible])
LOCATION: PULASKI COUNTY - [illegible]
APPROVED: MO. STATE HIGHWAY DEPT.

FOR BRIDGE FILES

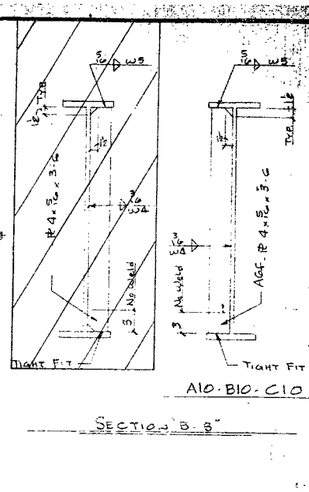
APPROVED
GENERAL DESIGN FEATURES ONLY
FEB 28 '79
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

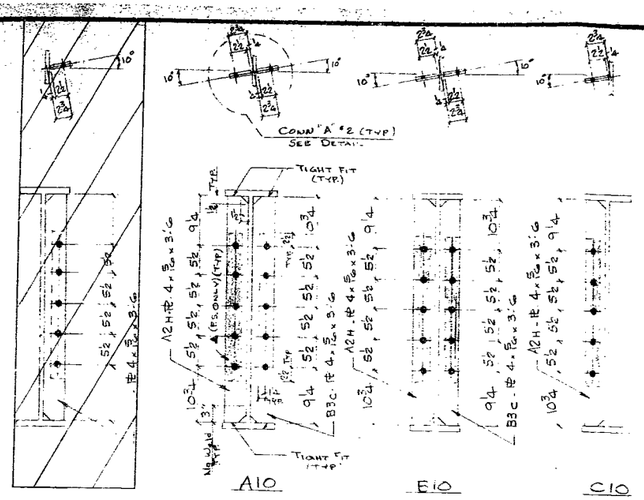
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

902 24 10 1

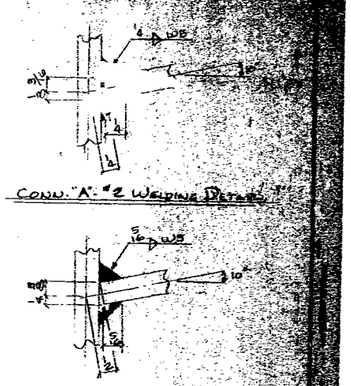


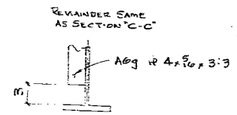
SECTION "A-A"



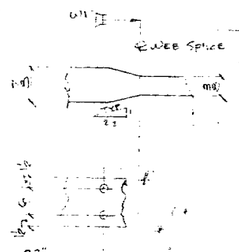


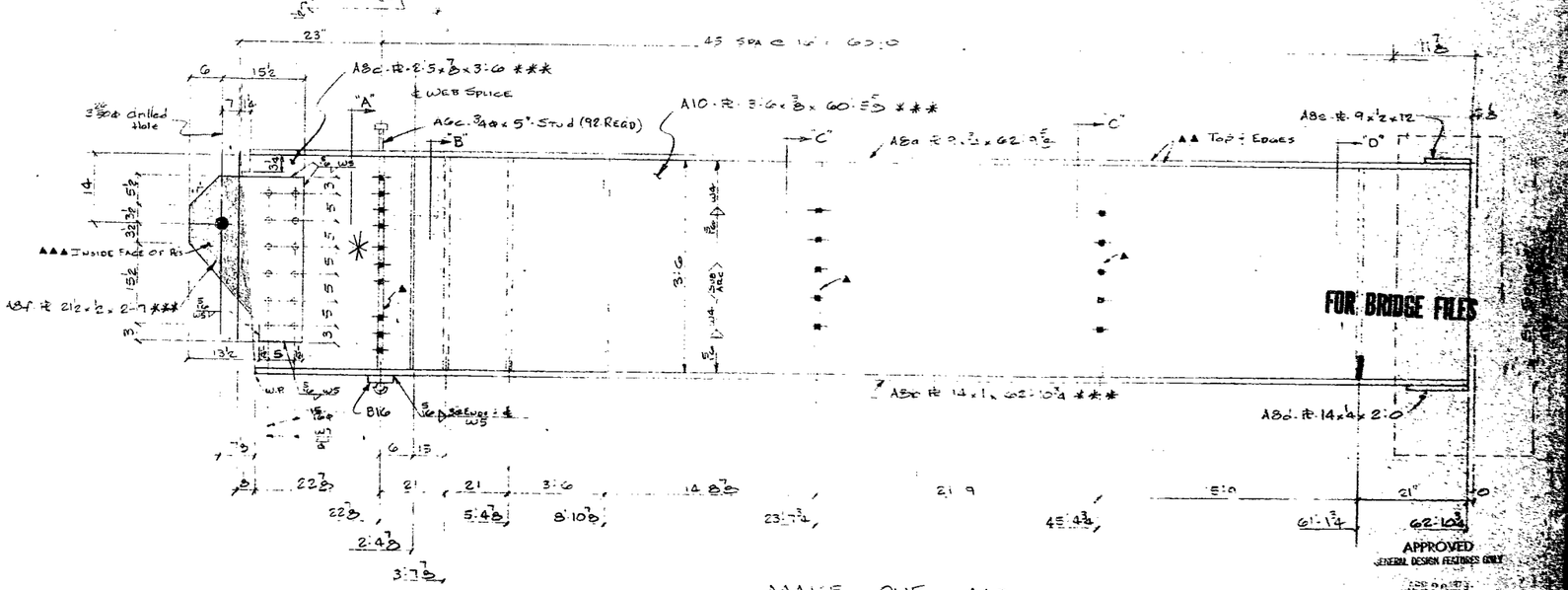
SECTION C-C





SECTION "D-D"





NOTES:
- ***: NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F REQ'D
- ▲: PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ▲▲: PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲: PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A10
MAKE - ONE - B10
MAKE - ONE - C10

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. | BASE & CAP PLATE W. COL. | ⅛ WELD AS SHOWN | PIPE COL.

PAINT: SYSTEM B" TYPE II

BOLTS 3/4ϕ UNLESS NTED.
RIVETS
OPEN HOLES 1 3/16ϕ UNLESS NTED.

PRINT			RECORD		
NO.	FOR	DATE	NO.	FOR	DATE
1	4/4		2	C	
2	L		5	S	
3	E		6	A	

DELONG'S INC.
DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI
DIAL 635-6121

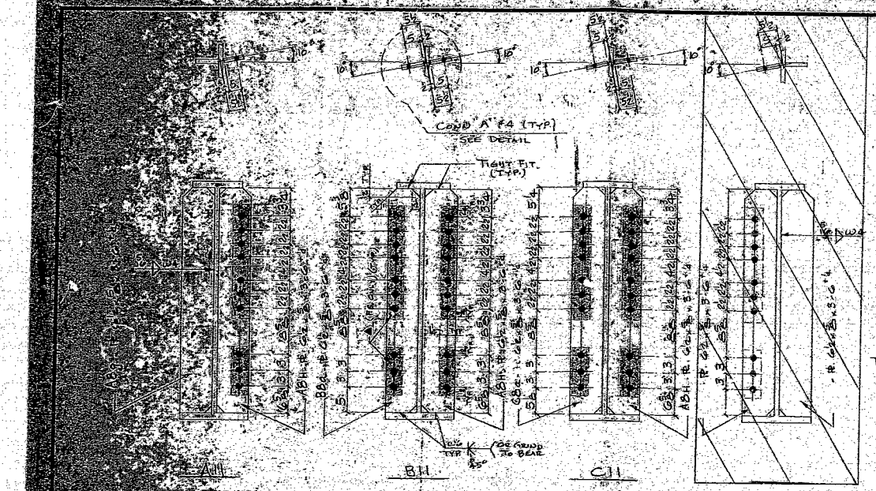
DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY CHD
DATE 9-27-79

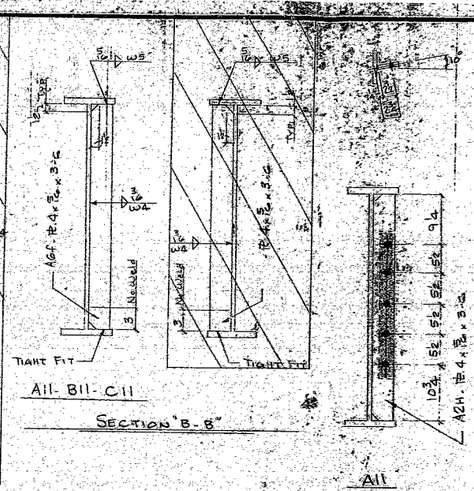
REVISIONS			
DATE	MK.	BY	REMARKS

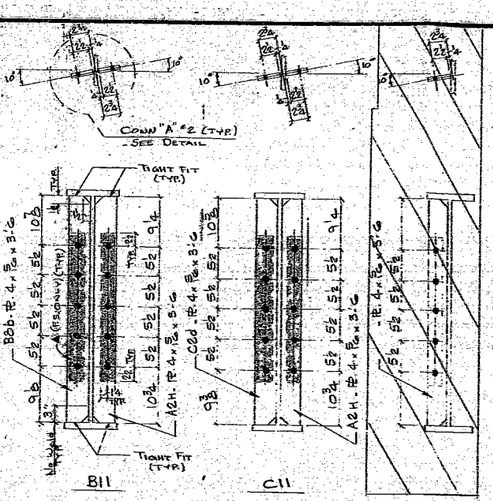
BRIDGE: ROUTE H UNDER PROP. I-44
JOB B-I-44-9D PROJ. I-44-2(33)
LOCATION: PULASKI COUNTY - RTE. I-44
ARCH. ENGR. MO. STATE HWY. DEPT.

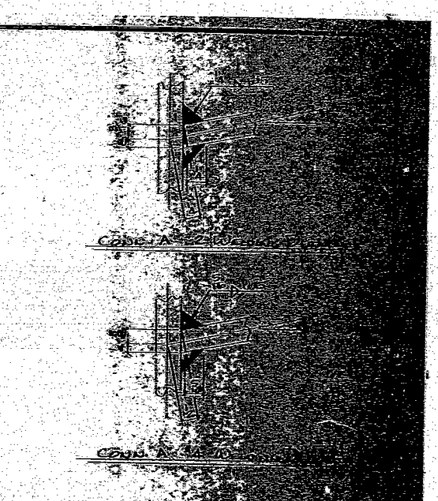
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

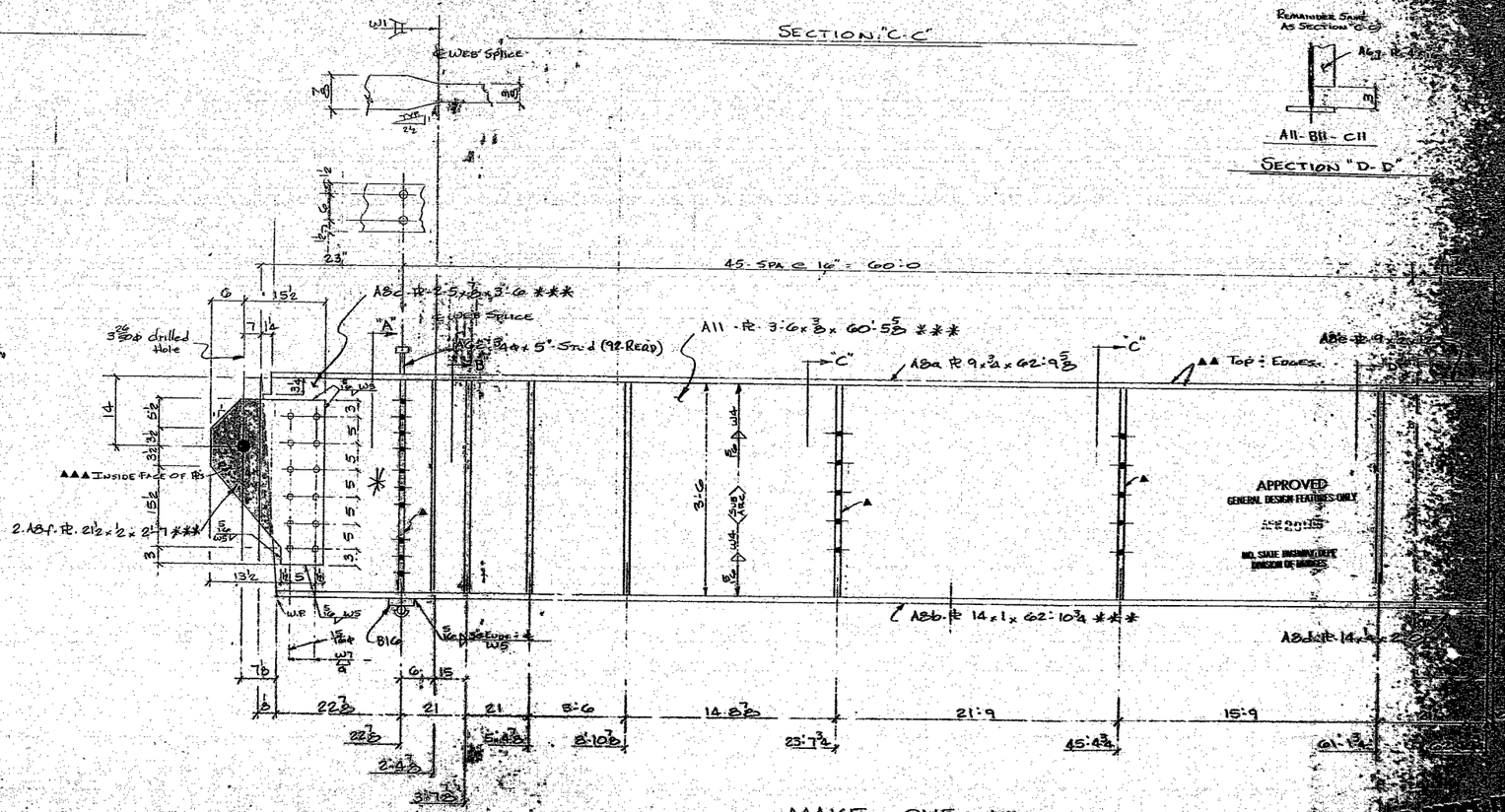
902.24 IQ 1



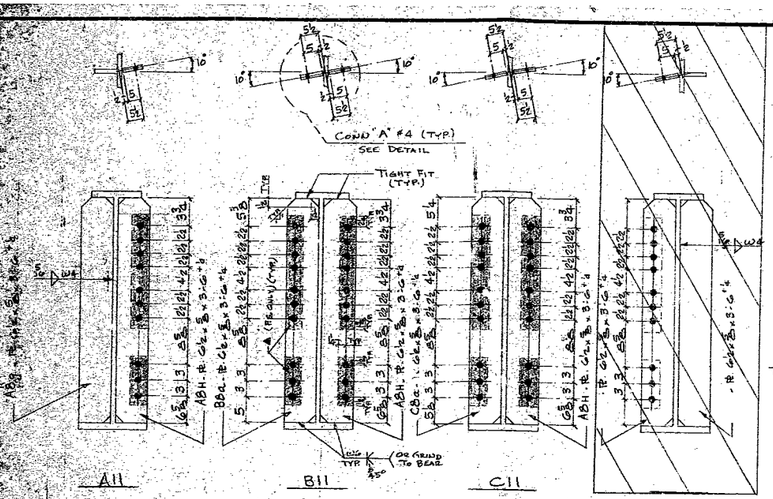




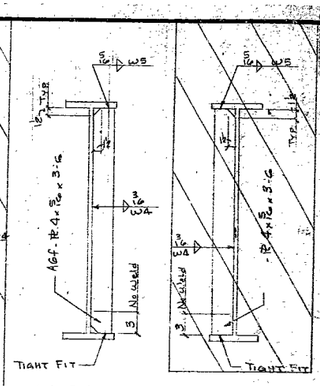




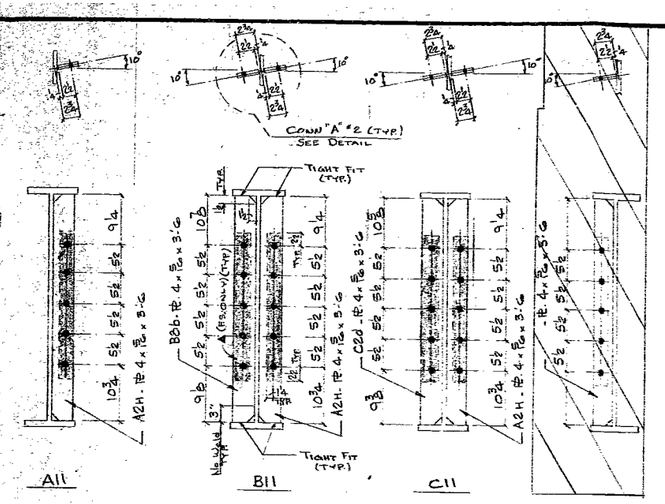
NOTES:
- ALL WELDS SHALL BE 5/16" FILLET WELDS UNLESS OTHERWISE SHOWN.



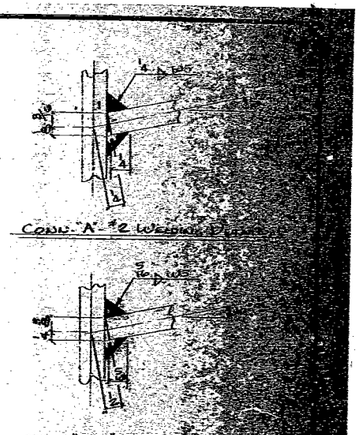
SECTION "A - A"



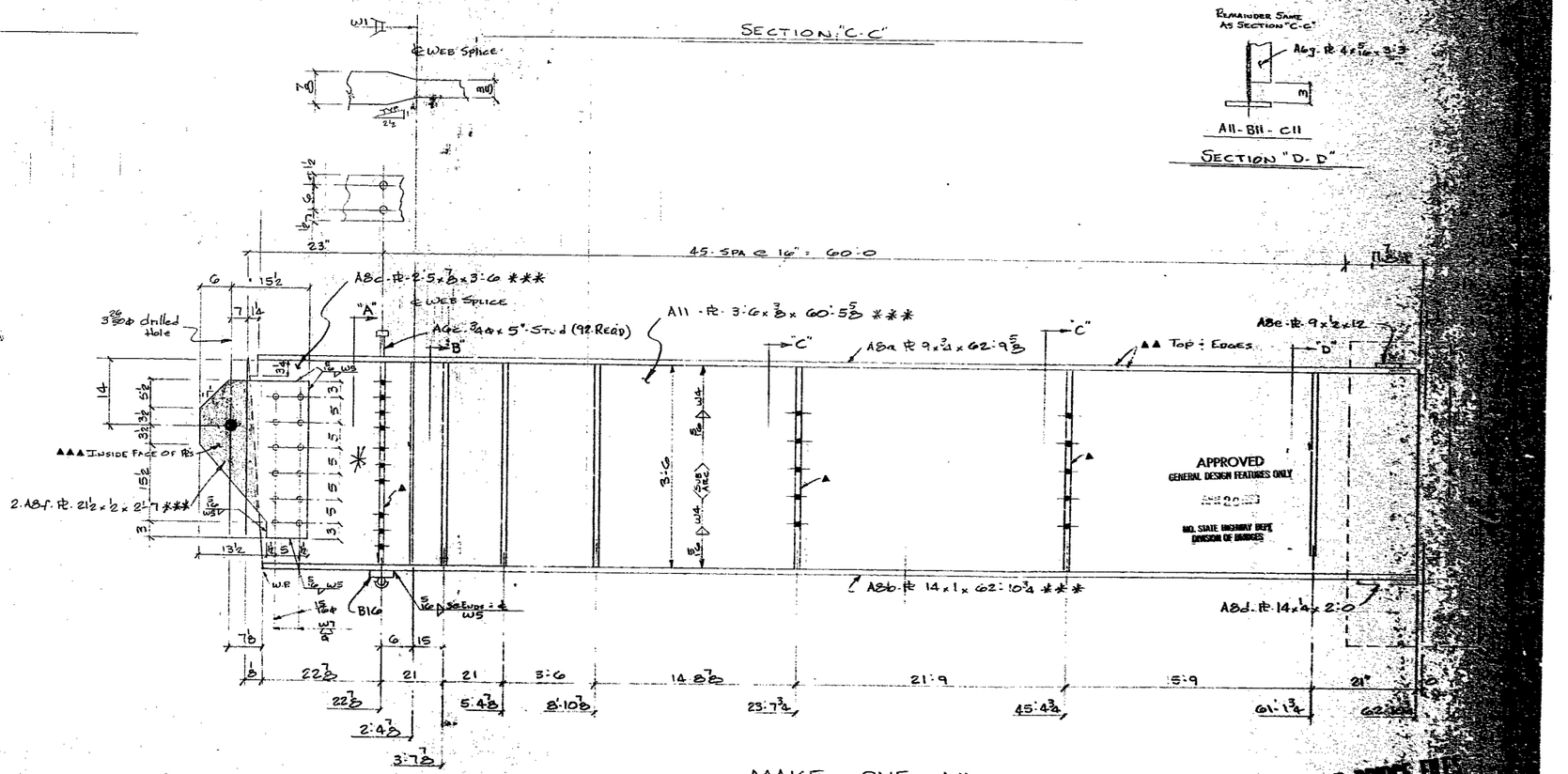
SECTION "B - B"



SECTION "C - C"



SECTION "D - D"



NOTES:
- *** = NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A11
MAKE - ONE - B11
MAKE - ONE - C11

FOR BRIDGE FILES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. | BASE & CAP PLATE H. COL. | PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS 3/4ø UNLESS NTD.
RIVETS 13/16ø
OPEN HLS 1 1/16ø UNLESS NTD.

PRINT RECORD						
NO.	FOR	DATE	NO.	FOR	DATE
3	Const		2	C	
2	H		5	S	
1	H		6	A	

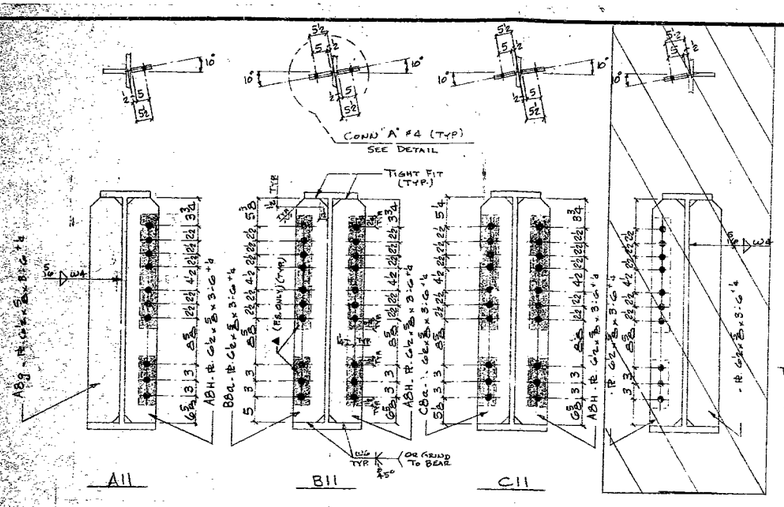
DELONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI DIAL 635-6121

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY OHP
DATE 3-22-79

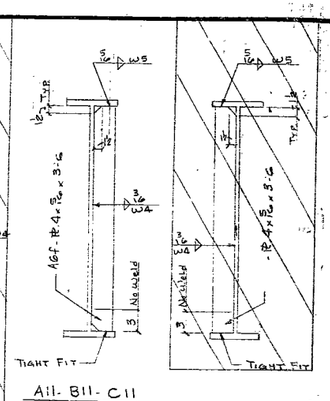
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE: ROUTE H OVER [illegible]
JOB B-I-44-9D PROJ. [illegible]
LOCATION PULASKI COUNTY [illegible]
BRIDGE NO. [illegible]
AREN. ENGR. MO. STATE HWY. DEPT.

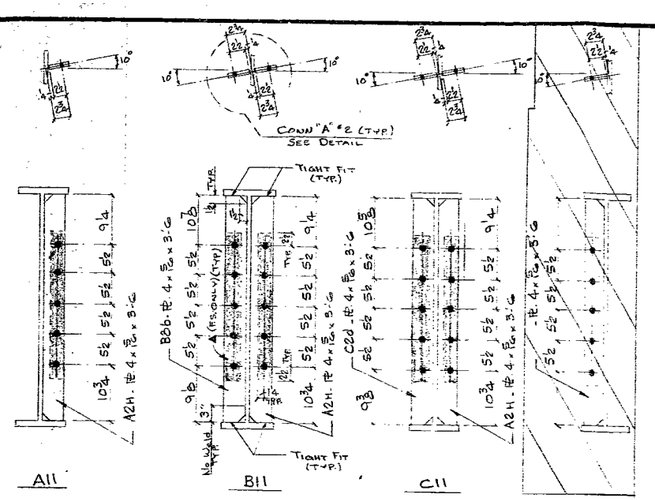
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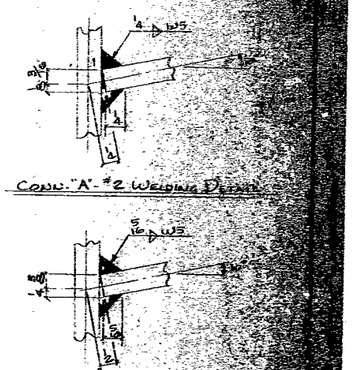
SECTION "A-A"



SECTION "B-B"



SECTION "C-C"



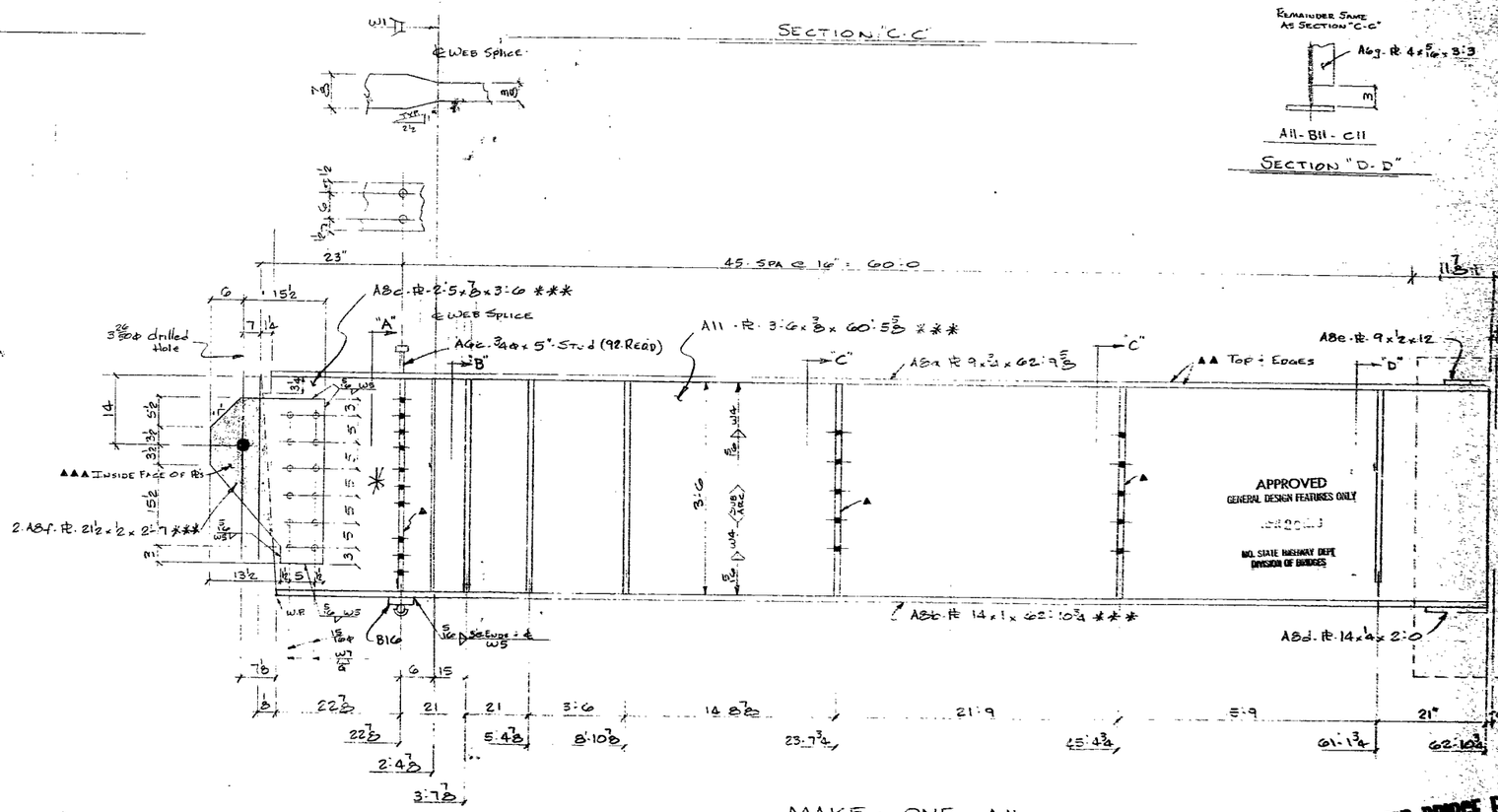
CONN. "A" #2 WELDING DETAIL

CONN. "A" #4 WELDING DETAIL

REMAINDER SAME AS SECTION "C-C"

A11- B11- C11

SECTION "D-D"



NOTES:
- ***: NOTCH TOUGHNESS OF 15 FT. LBS @ 40° F REQ'D
- ▲: PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ▲▲: PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲: PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A11
MAKE - ONE - B11
MAKE - ONE - C11

FOR BRIDGE FILES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL · BEAM CONN. · BASE & CAP PLATE H. COL. · ⅛ WELD AS SHOWN · PIPE COL.

PAINT: SYSTEM "B" TYPE II
BOLTS 3/4ϕ UNLESS NTD.
RIVETS 15/8ϕ UNLESS NTD.
OPEN HLS 1 1/2ϕ UNLESS NTD.

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
			2	C	
			5	S	
			6	A	

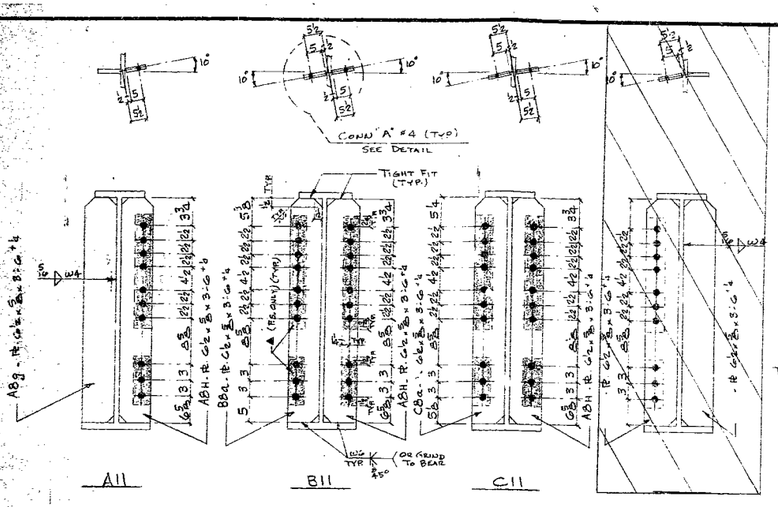
DELONG'S INC. — DIX RD. & IND. DR. — DIAL 635-6121 — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY CHP
DATE 3-22-79

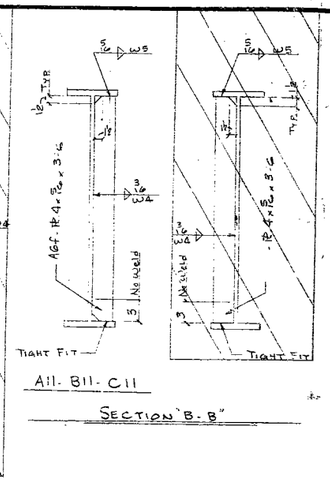
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
JOB # 8-J-44-9D PROJ # J-44-2(26)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. A-5080
ARCH-ENGR. MO. STATE HWY DEPT.

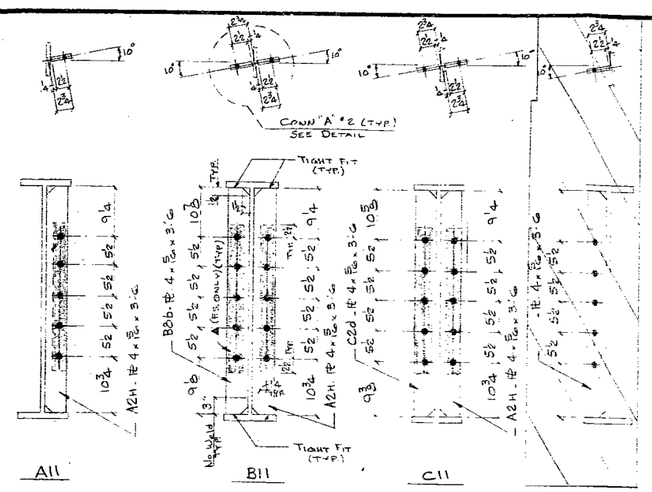
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



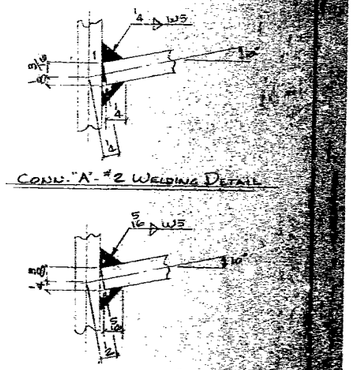
SECTION "A - A"



SECTION "B - B"



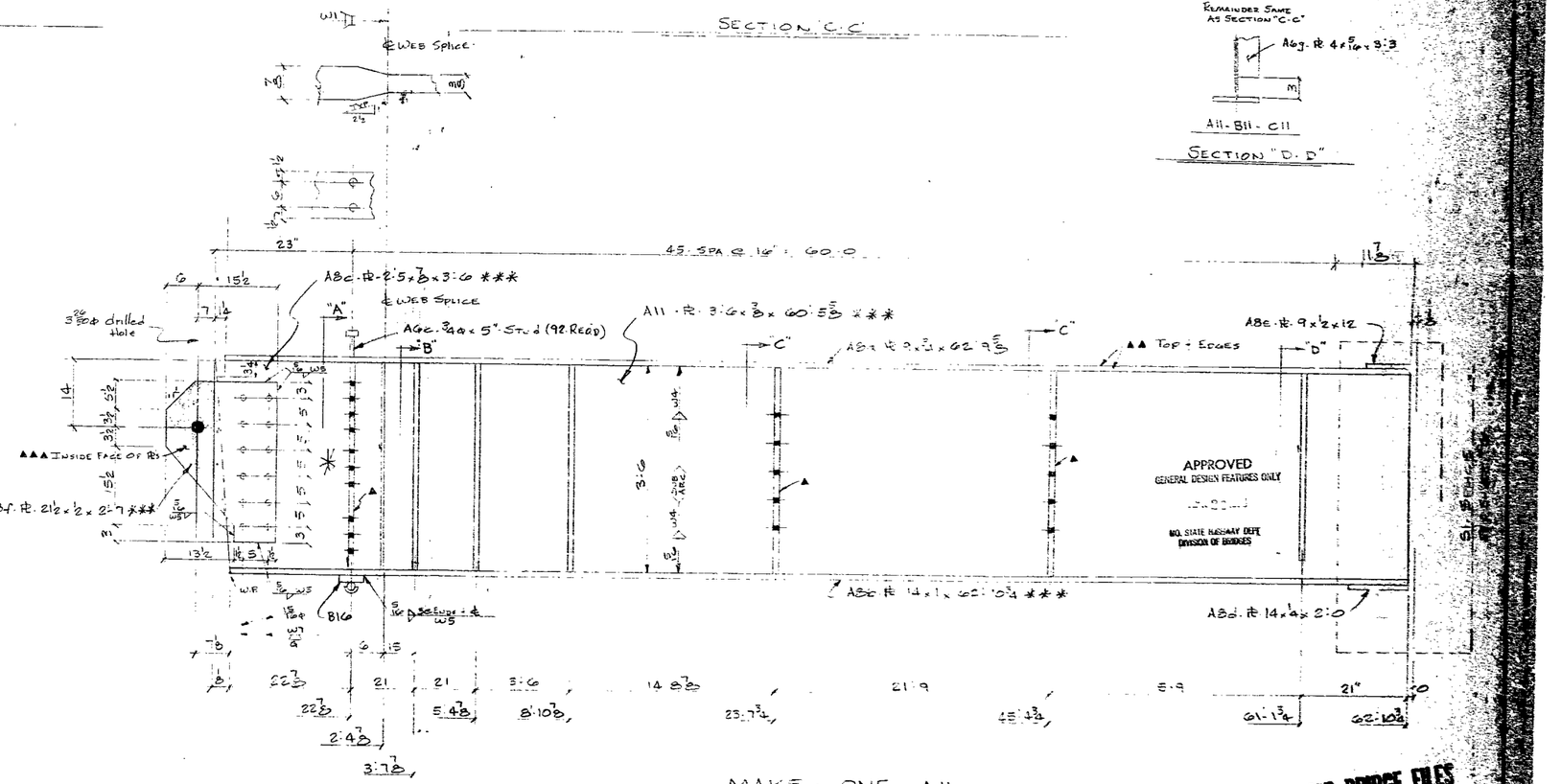
SECTION "C - C"



REMAINDER SAME AS SECTION "C-C"

A11 - B11 - C11

SECTION "D - D"



NOTES:
- *** : NOTCH TOUGHNESS OF 15 FT LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A11
MAKE - ONE - B11
MAKE - ONE - C11

FOR BRIDGE FILES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL | BEAM CONN. | BASE & CAP PLATE H. COL. | PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS 3/4ø UNLESS NTD.
RIVETS 15/16ø UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
			2	C	
			5	S	
			6	A	

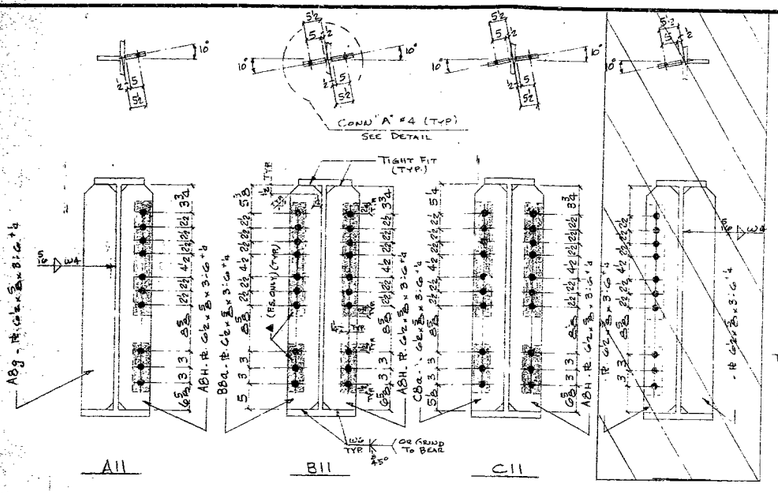
DELONG'S INC. — DIX RD. & IND. DR. — DIAL 635-6121 — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY C.H.D.
DATE 3-27-79

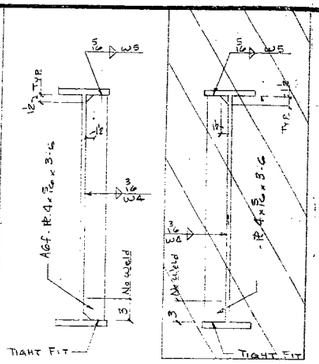
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
JOB F.B.I-44-9D PROJ. I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. A-3095
ARCH. ENGR. MO. STATE HWY. DEPT.

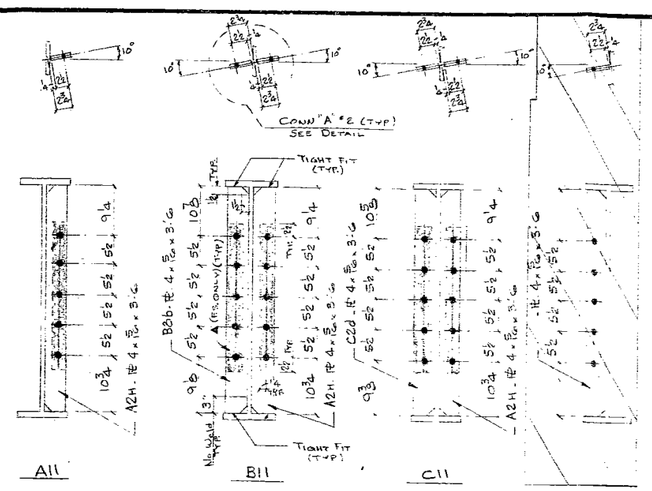
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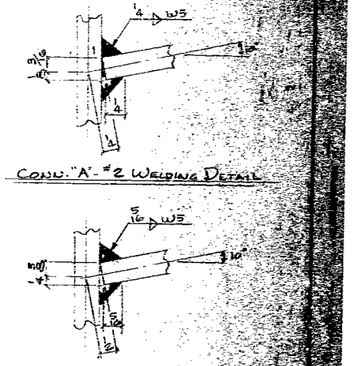
SECTION "A-A"



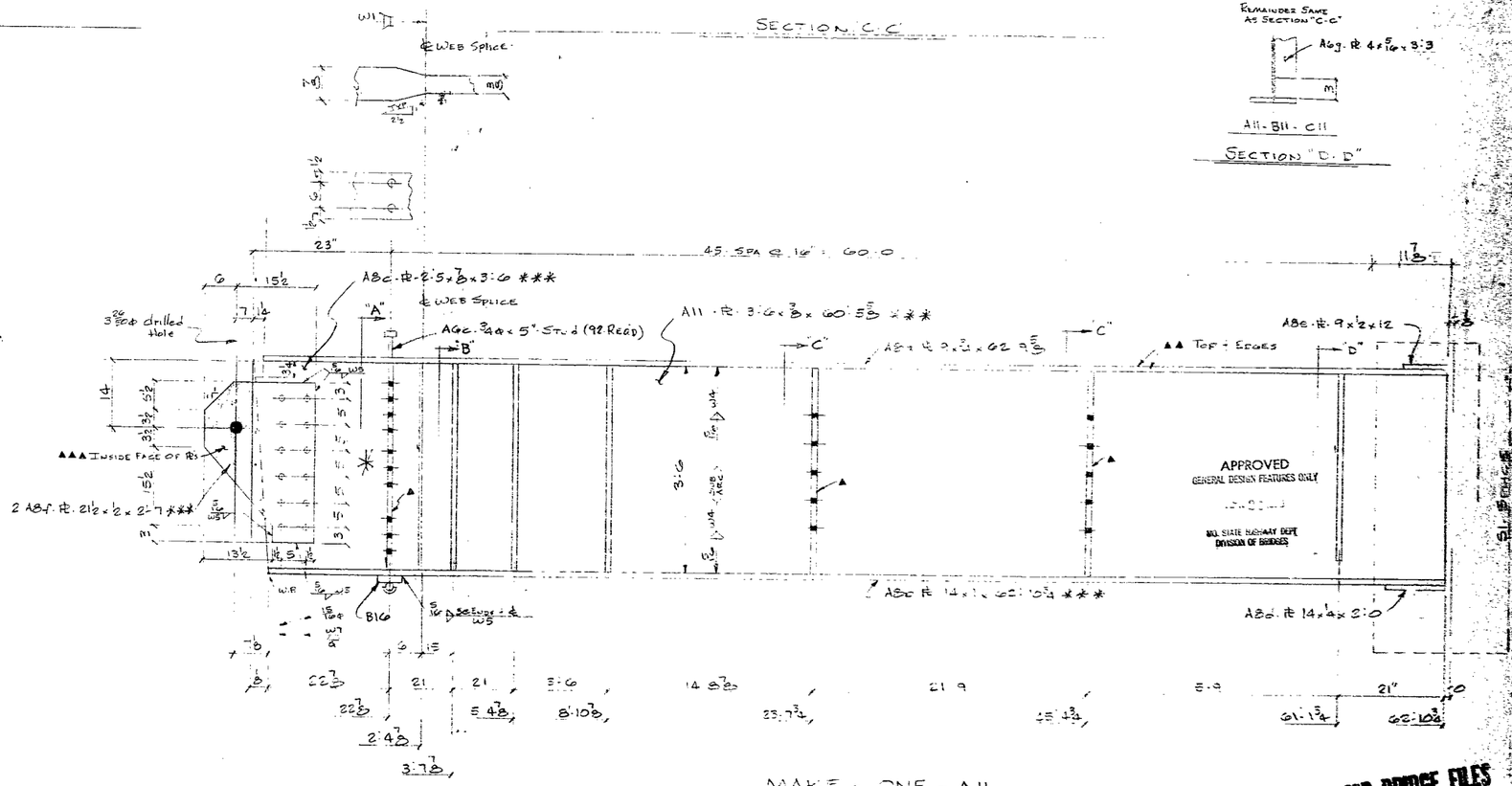
SECTION "B-B"



SECTION C-C



SECTION "D-D"



NOTES:
- *** : NOTCH TOUGHNESS OF 15 FT LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A11
MAKE - ONE - B11
MAKE - ONE - C11

FOR BRIDGE FILES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL · BEAM CONN. · BASE & CAP PLATE H. COL. · PIPE COL.

PAINT: SYSTEM B "TYPE II"
BOLTS 3/4ø UNLESS NTD.
RIVETS 13/16ø UNLESS NTD.
OPEN HLS 1 5/16ø UNLESS NTD.

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
			2	C	
			5	S	
			6	A	

DELONG'S INC. — DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

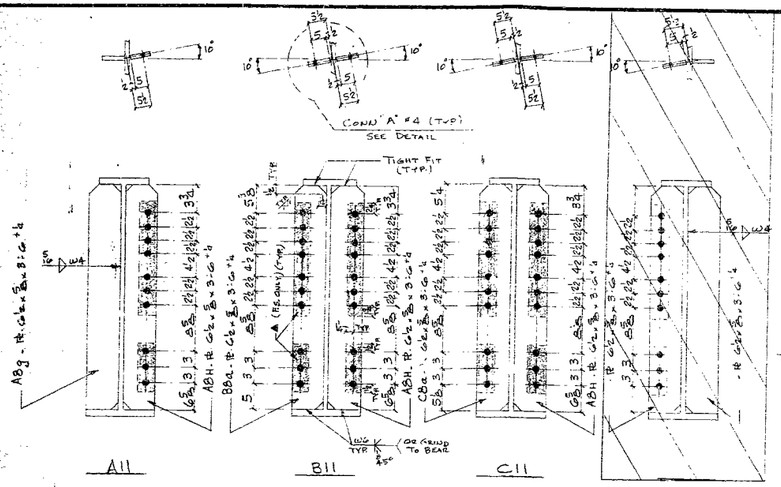
DETAILED BY J.D.P
DATE 3-6-79
CHECKED BY CHD
DATE 5-22-79

REVISIONS

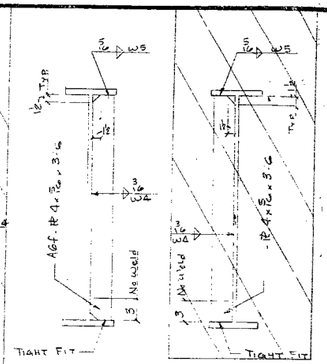
DATE	MK.	BY	REMARKS

BRIDGE: ROUTE H UNDERPASS
JOB S-I-44-9D PROJ. I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. A-3056
ARCH.-ENGR. MO. STATE HWY. DEPT.

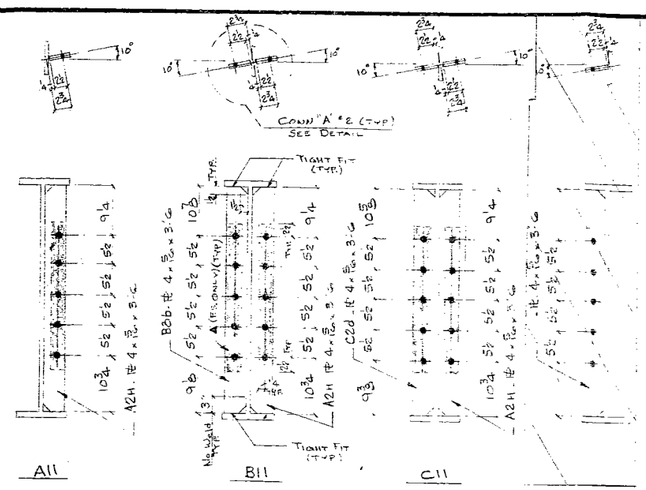
JOB NO. 79-7
SHT. NO. 11



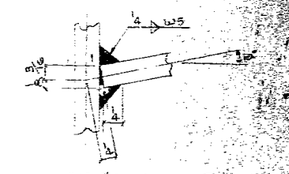
SECTION "A-A"



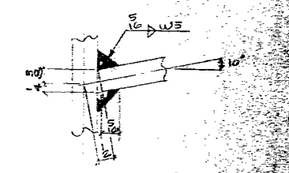
SECTION "B-B"



SECTION "C-C"

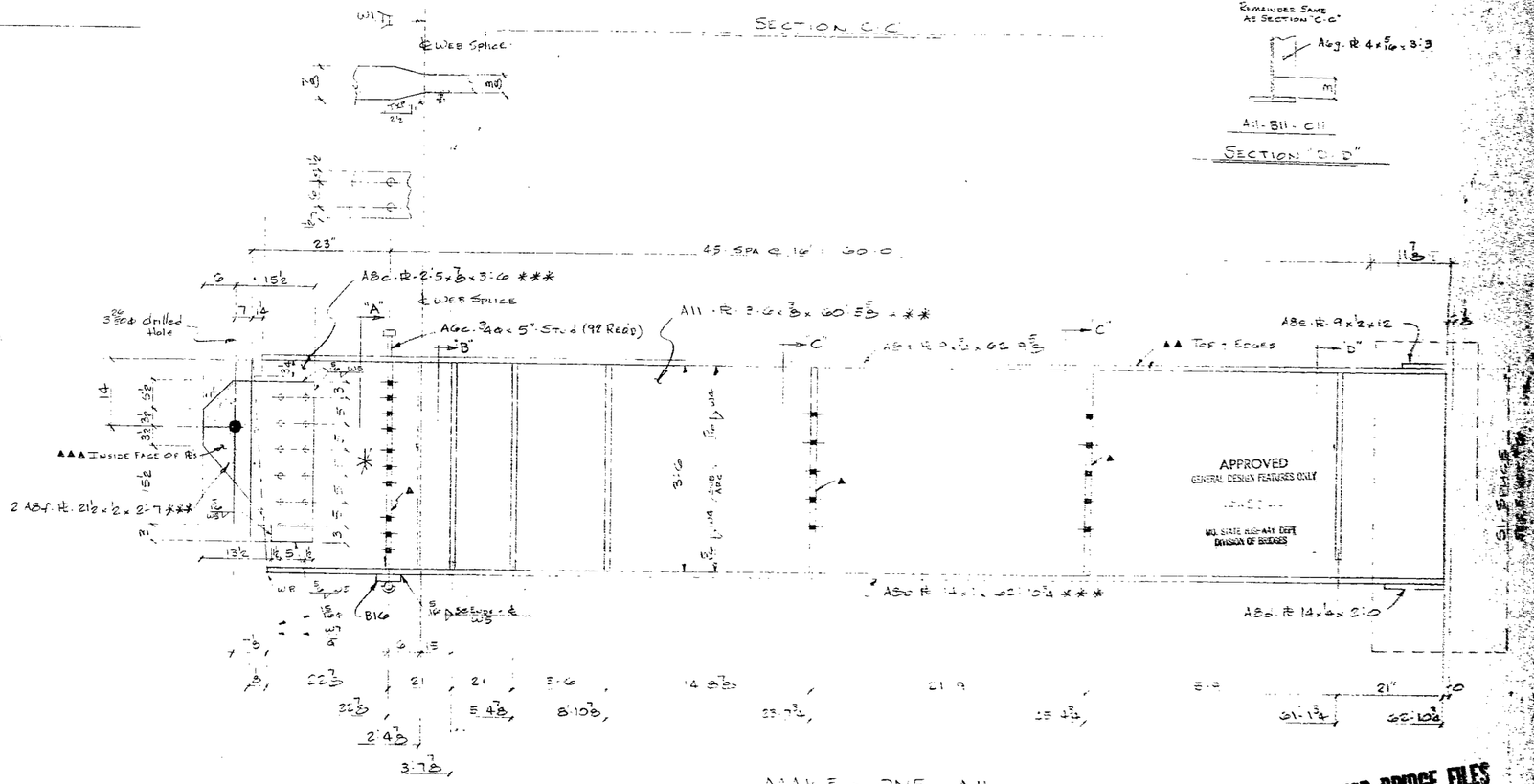


CONN. "A" #2 WELDING DETAIL



CONN. "A" #4 WELDING DETAIL

SECTION "D-D"



NOTES:
- *** : NOTCH TOUGHNESS OF 15 FT LBS @ 40°F REQ'D
- ▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC
- ▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC
- ▲▲▲ = PAINT 3 COATS 6.0 MIL MIN. SYSTEM B

MAKE - ONE - A11
MAKE - ONE - B11
MAKE - ONE - C11

FOR BRIDGE FILES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL · BEAM CONN. · BASE & CAP PLATE H. COL. · PIPE COL.

PAINT: SYSTEM B "TYPE II"

BOLTS 3/4ø UNLESS NTD.
RIVETS 13/16ø UNLESS NTD.
OPEN HLS UNLESS NTD.

PRINT RECORD

NO.	FOR	DATE	NO.	FOR	DATE
			2	C	
			5	S	
			6	A	

DELONG'S INC. — DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-6-78
CHECKED BY C.H.D
DATE 5-22-78

REVISIONS

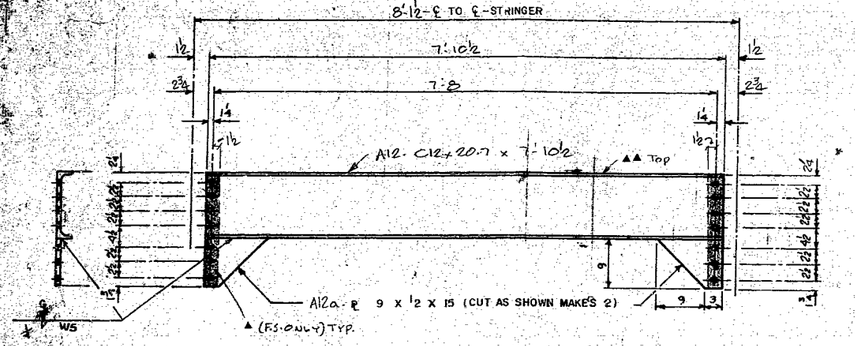
DATE	MK. BY	REMARKS

CONTRACT BRIDGE: ROUTE H UNDERPASS
JOB S-3-44-90 PROJ. I-44-2(86)
LOCATION PLASKI COUNTY - RTE. I-44
BRIDGE NO. A-3056
ARCH-ENGR. MO. STATE HWY DEPT.

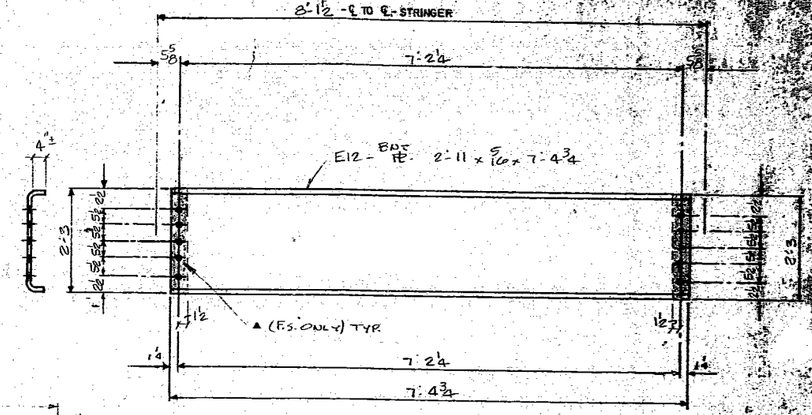
JOB NO. 78-7
SHT. 11
NO. 16

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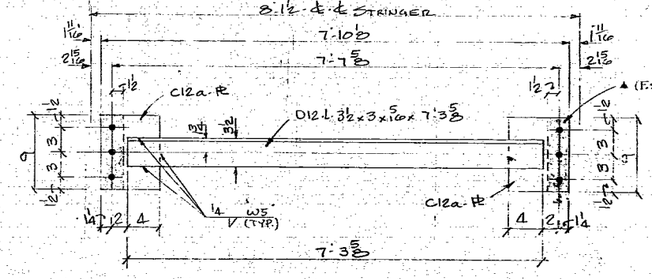
27



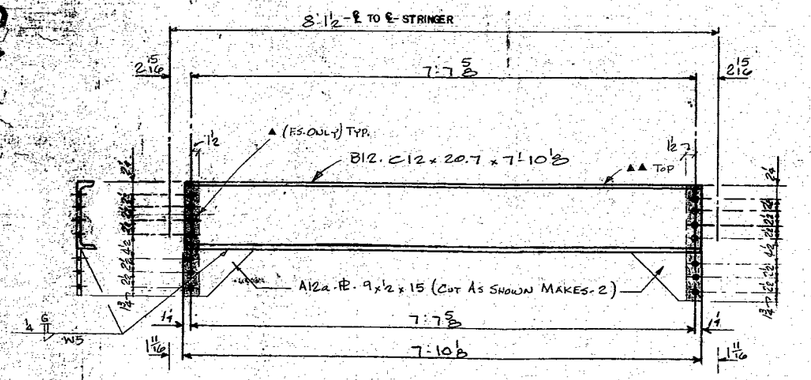
-MAKE- 10 - A12 - END DIAPH'S



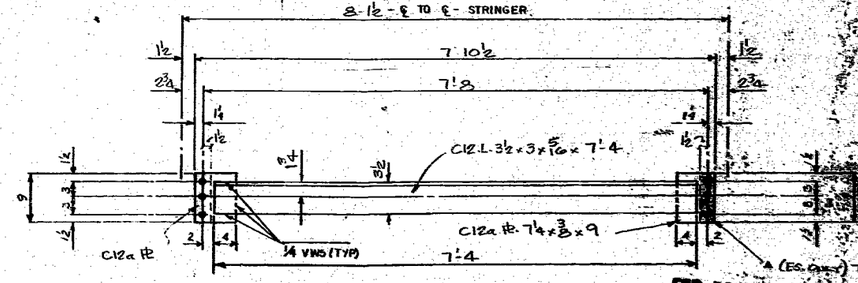
-MAKE- 5 - E12 - CROSS FRAMES



MAKE- 10 - D12 - END DIAPH'S



-MAKE- 10 - B12 - END DIAPH'S-



-MAKE- 10 -C12 -END DIAPH'S-

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.

▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES UNIT
MD. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL · BEAM CONN. · BASE & CAP PLATE H COL · ¼ WELD AS SHOWN · PIPE COL.

SYSTEM B - TYPE II

BOLTS — UNLESS NTD
RIVETS — UNLESS NTD
OPEN HLS.

PRINT RECORD	NO.	BY	DATE	NO.	BY	DATE

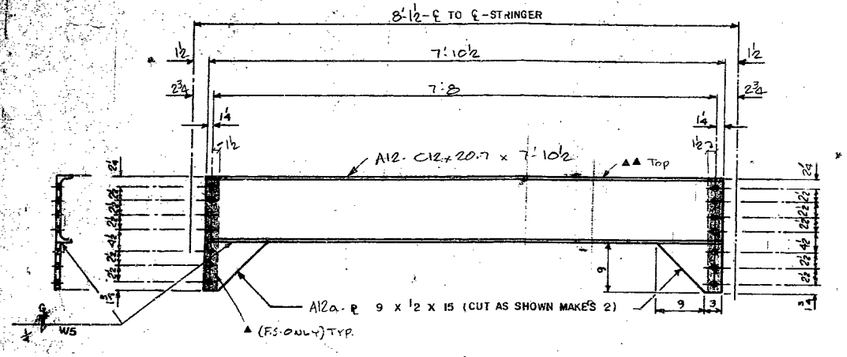
DeLONG'S INC.
DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI
DIAL 635-6121

DETAILED BY	J.D.P.
DATE	3-9-79
CHECKED BY	CHP
DATE	3-22-79

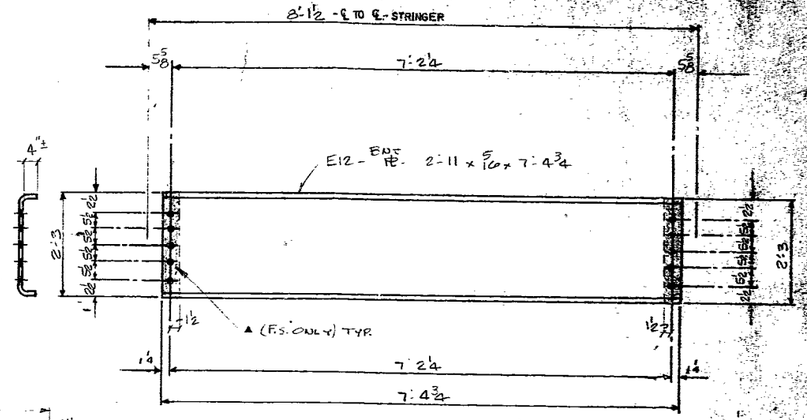
REVISIONS	DATE	MK.	BY	REMARKS

BRIDGE OVER ROUTE H UNDER
PROJECT NO. I-44-2(84)
LOCATION: PUCKETT COUNTY
BRIDGE NO.
ARCH-ENGR MO. STATE HWY. DEPT.

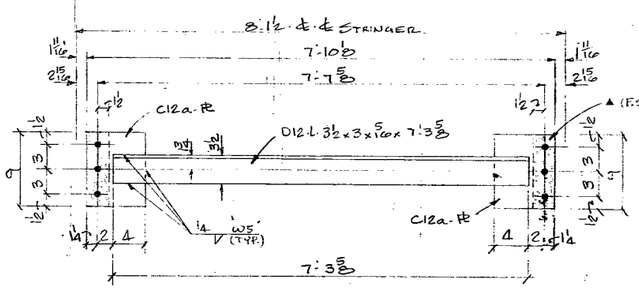
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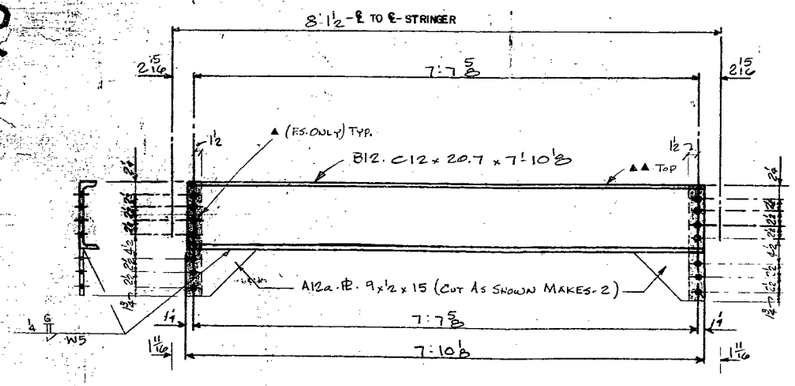
-MAKE- 10 - A12 - END DIAPH'S



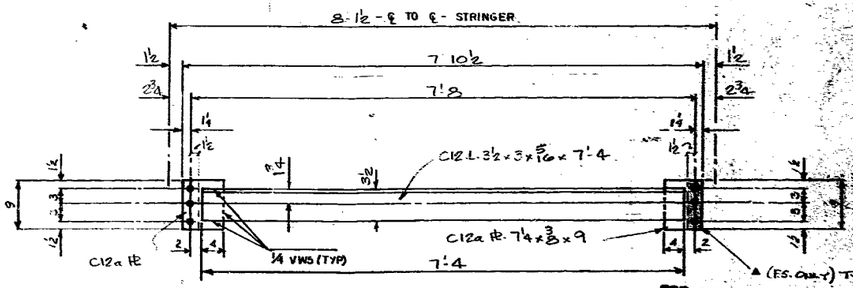
-MAKE- 5 - E12 - CROSS FRAMES



MAKE- 10 - D12 - END DIAPH'S



-MAKE- 10 - B12 - END DIAPH'S-



-MAKE- 10 -C12 - END DIAPH'S-

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.

▲▲ - PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — ¼ WELD AS SHOWN — PIPE COL.

SYSTEM B - TYPE II

BOLTS 3/4 ø UNLESS NTD
RIVETS
OPEN HLS. 1 1/8 ø UNLESS NTD

PRINT RECORD						
NO.	FOR	DATE:		NO.	FOR	DATE
1	FC			2	C	
3	FC			5	S	
				6	A	

DeLONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

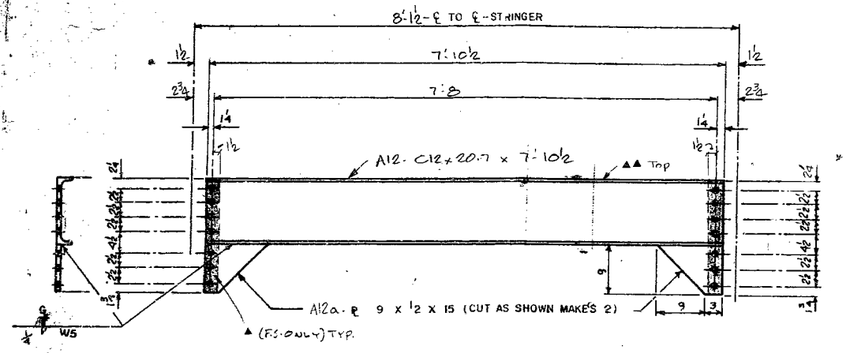
DETAILED BY J.D.P.
DATE 3-9-79
CHECKED BY CHP
DATE 3-22-79

REVISIONS			
DATE	MK.	BY	REMARKS

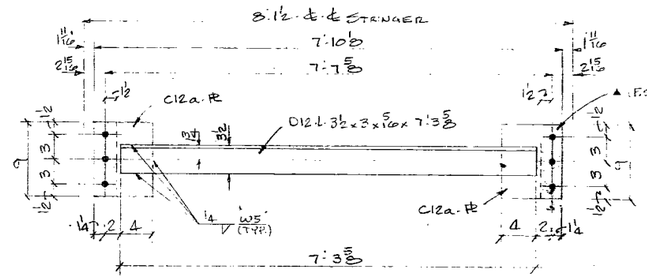
BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(84) Job B-7A1 70
LOCATION: PULASKI COUNTY - RTE. I44
BRIDGE NO. A3052
ORGN-ENGR. MO. STATE HWY DEPT.

JOB NO.
SHEET NO.
OF NO.

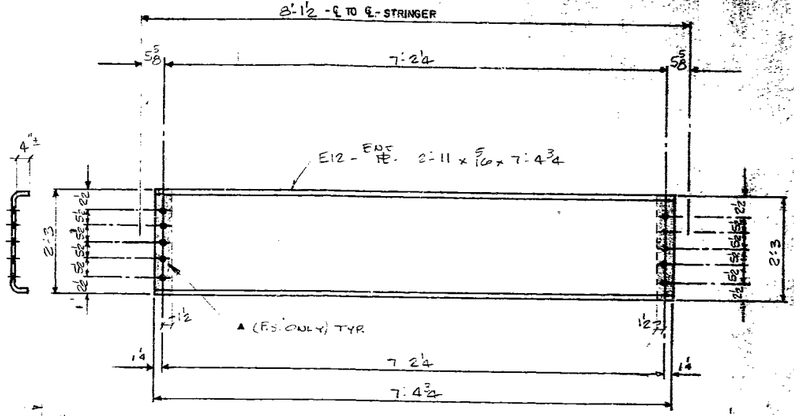
A B C D F F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



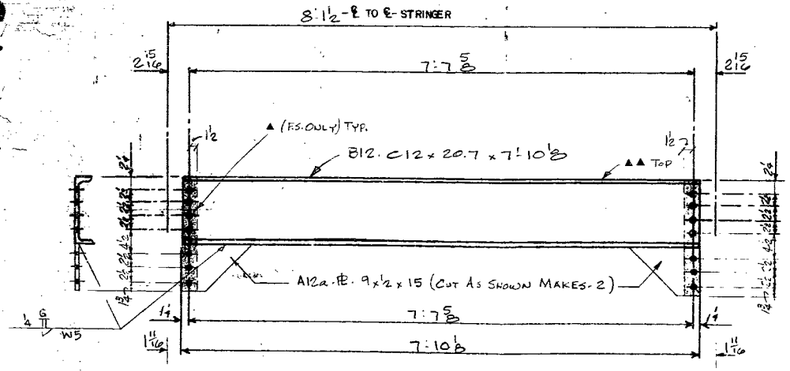
-MAKE- 10 - A12 - END DIAPH'S



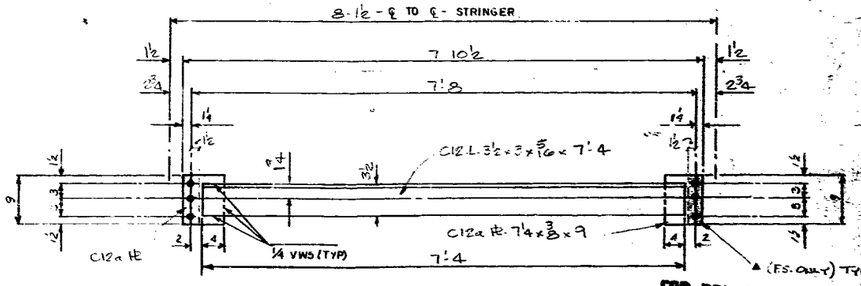
MAKE- 10 - D12 - END DIAPH'S



-MAKE- 5 - E12 - CROSS FRAMES



-MAKE- 10 - B12 - END DIAPH'S-



-MAKE- 10 -C12 - END DIAPH'S-

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.

▲▲ = PAINT ONE COAT 2.0 MIL MIN INORGANIC ZINC.

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — ¼ WELD AS SHOWN — PIPE COL.

SYSTEM B - TYPE II

BOLTS ⅞ Ø UNLESS NTD
RIVETS ⅞ Ø UNLESS NTD
OPEN HLS 1⅛ Ø UNLESS NTD

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	✓		2	✓	
3	✓		5	✓	
			6	✓	

DeLONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.F. DATE 3-9-79
CHECKED BY CHD DATE 3-22-79

REVISIONS			
DATE	MK.	BY	REMARKS

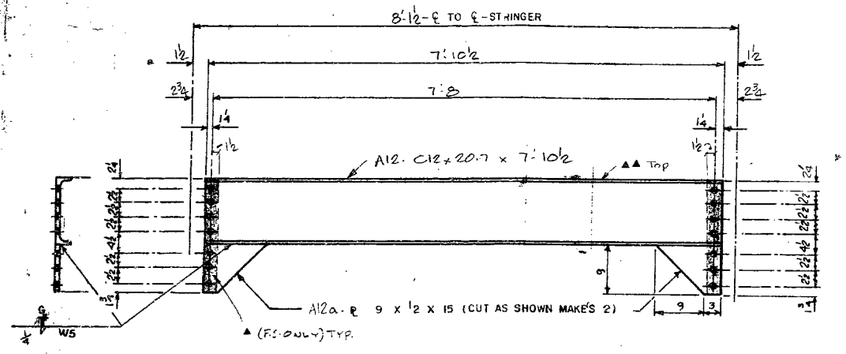
BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(84) Job B-I44-10
LOCATION: PULASKI COUNTY - RTE. I44
BRIDGE No. A3052
ARCH-ENGR. MO. STATE HWY DEPT.

JOB NO. 79-T
SHEET 12 OF 16

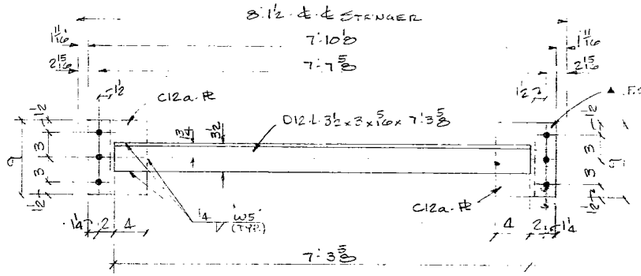
A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

78

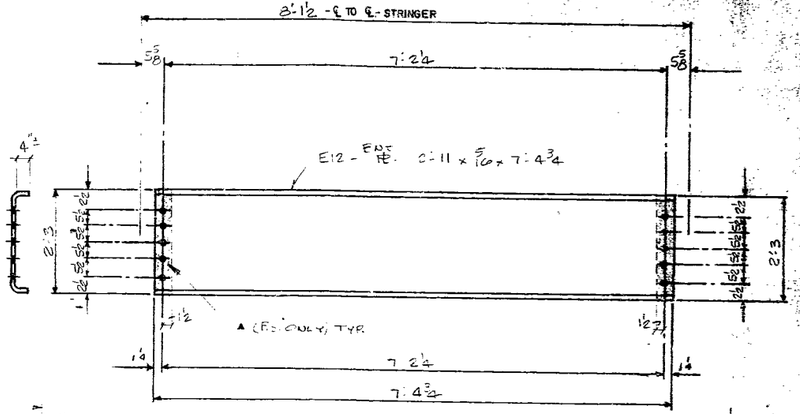
803.24 TO 1



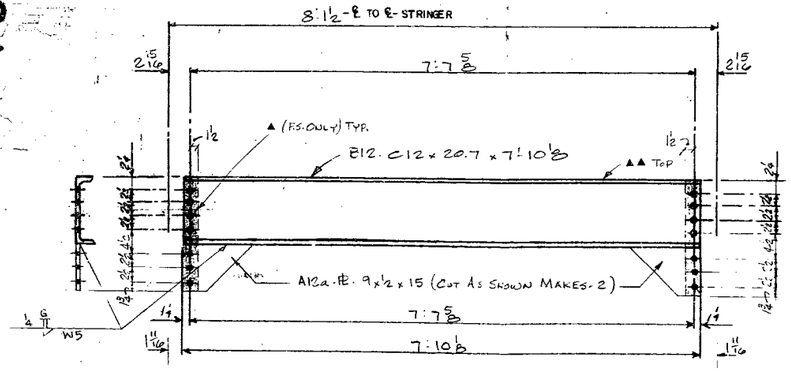
-MAKE- 10 - A12 - END DIAPH'S



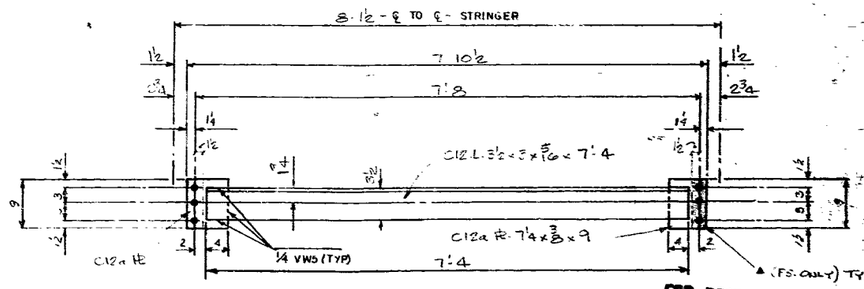
MAKE- 10 - D12 - END DIAPH'S



-MAKE- 5 - E12 - CROSS FRAMES



-MAKE- [illegible] - B12 - END DIAPH'S-



-MAKE- 10 - C12 - END DIAPH'S-

FOR BRIDGE FILES
APPROVED
GENERAL DESIGN FEATURES ONLY
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC.

▲▲ = PAINT ONE COAT 2.0 MIL MIN INORGANIC ZINC.

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — ¼ WELD AS SHOWN — PIPE COL.

SYSTEM E - TYPE II

BOLTS ¾ ø UNLESS NTD
RIVETS
OPEN HLS. 1⅛ ø UNLESS NTD

PRINT RECORD

NO.	FOR	DATE	NO	FOR	DATE
1			2		
3			5		
			6		

DeLONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY JDF
DATE 3-9-79
CHECKED BY CHO
DATE 3-22-79

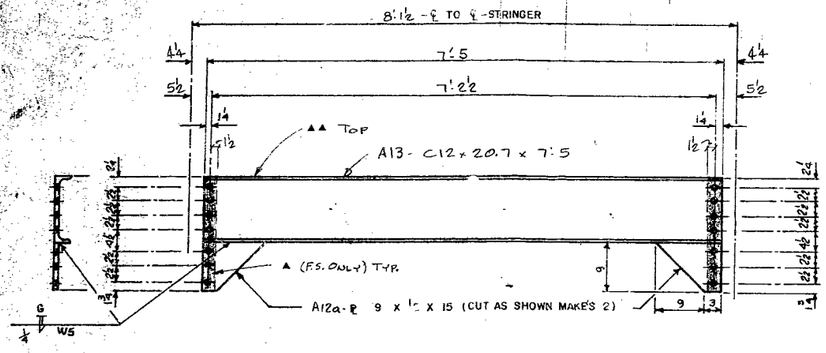
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE OVER Route H Underpass
PROJECT NO. I-44-2 (84) Job B-I44-90
LOCATION: Pulaski County - RTE. I44
Bridge No. A-3052
ARCH-ENGR. Mo. State Hwy Dept.

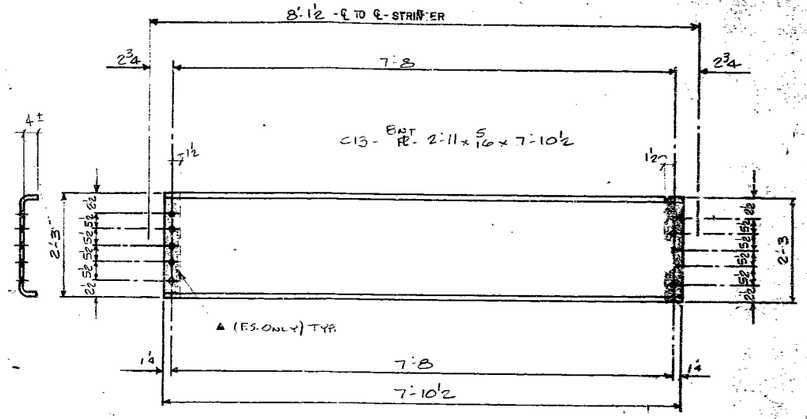
JOB NO. 79-7
SHEET 12
OF 16

A B C D F F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

B5a

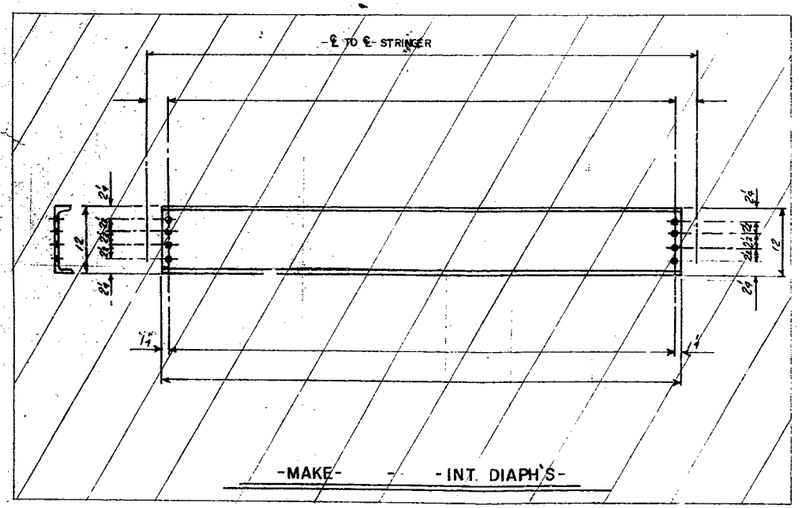


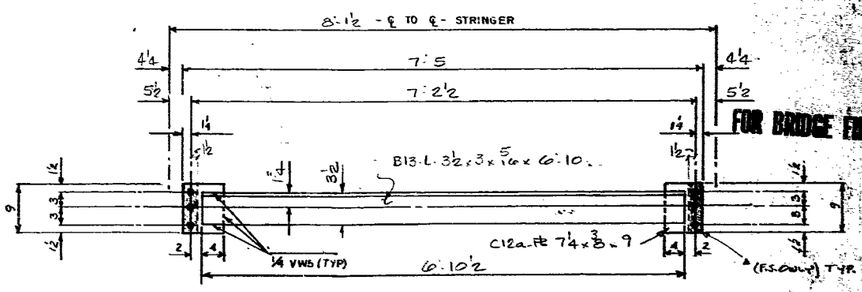
-MAKE- 10 - A13 - END DIAPH'S



-MAKE - 40 - C13 - INT. DIAPH'S -

79





-MAKE- 10 - B13 - END DIAPH'S-

▲: PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC

▲▲: PAINT ONE COAT 3.0 MIL MIN. INORGANIC ZINC.

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

FOR BRIDGE FILES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — ¼ WELD AS SHOWN — PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS RIVETS ¾ ø UNLESS NTD

OPEN HLS 13/16 ø UNLESS NTD

PRINT RECORD	NO	FOR	DATE	NO	FOR	DATE
	3	FF		2	C	
	3	FF		5	S	
				1	A	

DeLONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-9-79
CHECKED BY CHP
DATE 3-27-79

REVISIONS	DATE	MK.	BY	REMARKS

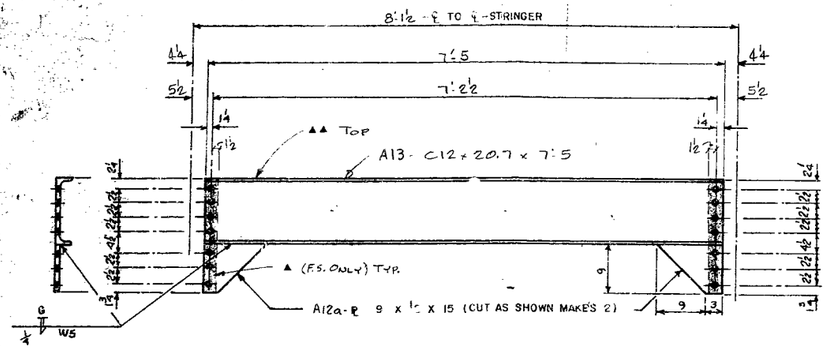
BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(84) Job B-I44-9D
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE No. A-3058
ARCH-ENGR. MO. STATE HWY DEPT.

JOB NO. 79-1
SHEET
OF

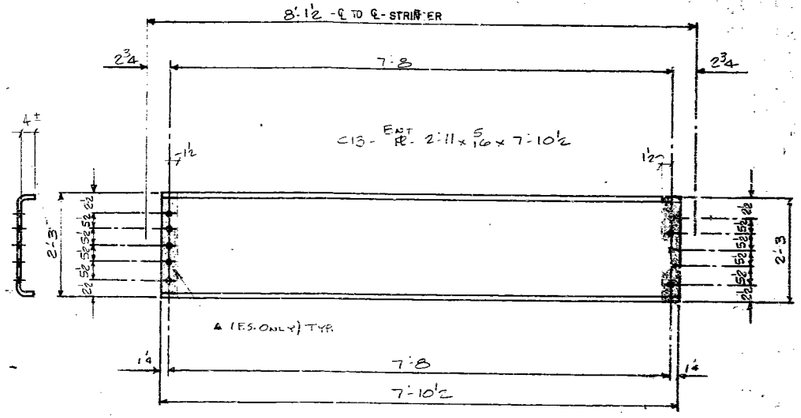
A B C D E F G H J K M N P R T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

86d

803 24 10 1

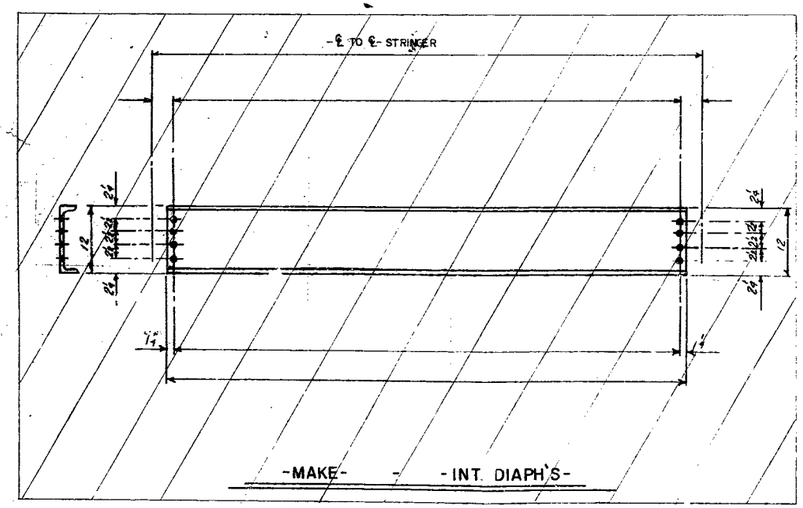


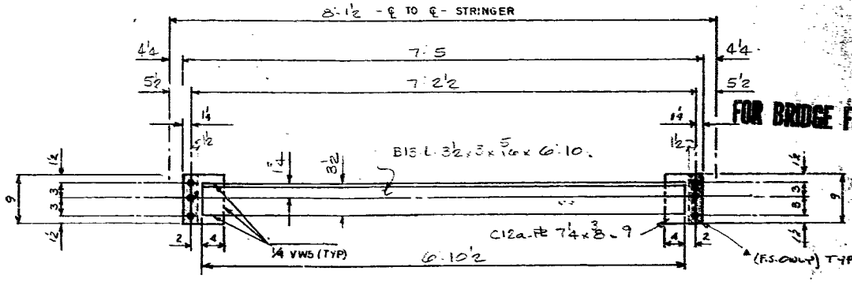
-MAKE- 10 - A13 - END DIAPH'S



-MAKE - 40 - C13 - INT. DIAPH'S -

79





-MAKE- 10 - B13 - END DIAPH'S-

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

▲: PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC

▲▲: PAINT ONE COAT 3.0 MIL MIN. INORGANIC ZINC.

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL — BEAM CONN. — BASE & CAP PLATE — ¼ WELD AS SHOWN — PIPE COL.

PAINT: System "B" Type II

BOLTS RIVETS 3⅞ UNLESS NT'D

OPEN HOLE 13/16 ⌀ UNLESS NT'D

PRINT RECORD					
NO	FOR	DATE	NO	FOR	DATE
1			2	C	
3			5	S	
			6	A	

DeLONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-9-79
CHECKED BY CHD
DATE 3-22-79

REVISIONS			
DATE	NO.	BY	REMARKS

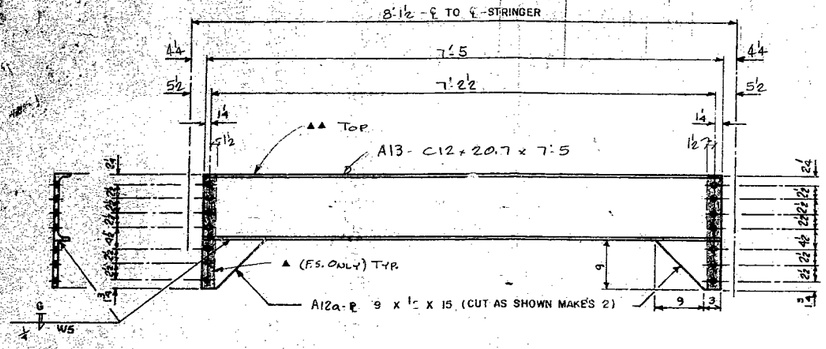
BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(84) Job 8-I44-9D
LOCATION PULASKI COUNTY - RTE. I44
BRIDGE No. A-3058
ARCH-ENGR. Mo. STATE HWY. DEPT.

JOB NO. 79-7
SHEET 15 OF 116

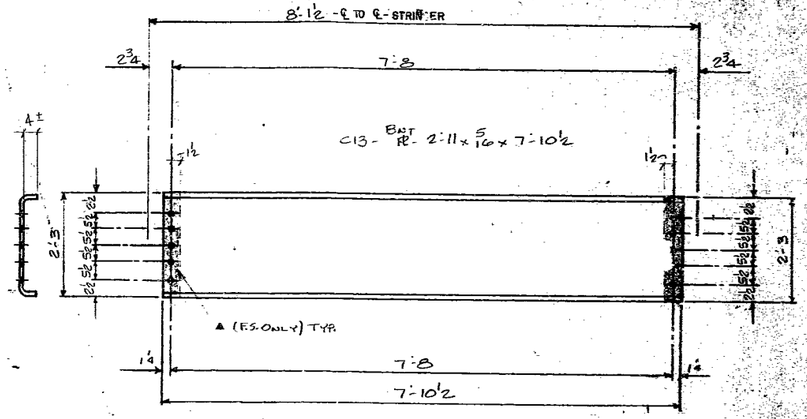
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B6a

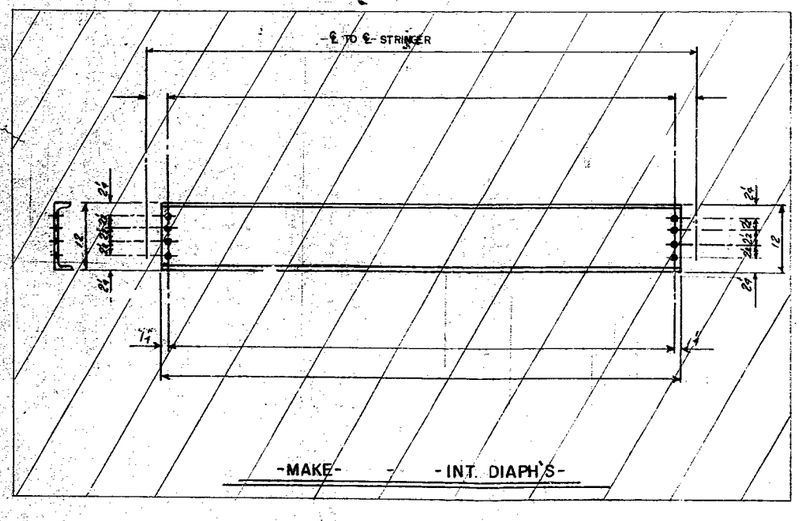
902.24 IO 1

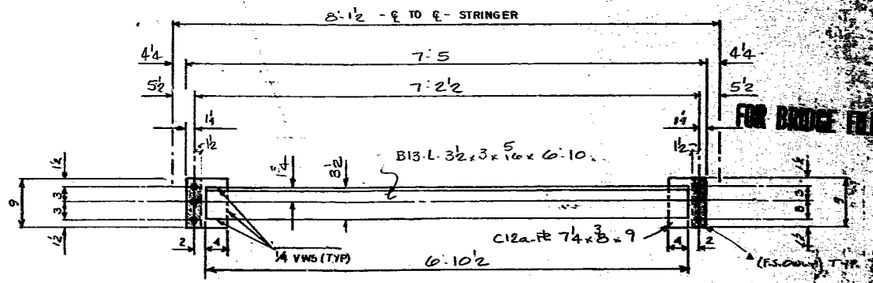


-MAKE- 10 - A13 - END DIAPH'S



-MAKE - 40 - C13 - INT. DIAPH'S -





-MAKE- 10 - B13 - END DIAPH'S-

▲ = PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC

▲▲ = PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

FOR BRIDGE FILES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — ¼ WELD AS SHOWN — PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS RIVETS ¾ ø UNLESS NTD.
OPEN HLS. 13/16 ø UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
4	FC		2	C	
5	FF		5	F	
			1/1	A	

DELONG'S INC.
DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P DATE 3-9-79
CHECKED BY OHP DATE 3-27-79

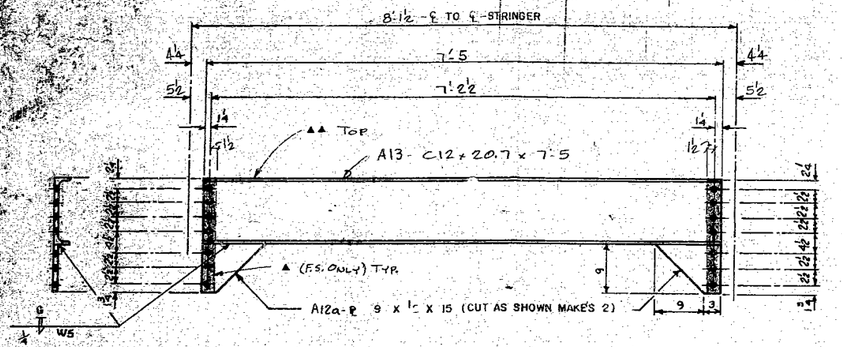
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(84) Job B-744-10
LOCATION PULASKI COUNTY - RTE. 44-I
BRIDGE NO. A-305
ARCH-ENGR. MO. STATE HWY. DEPT.

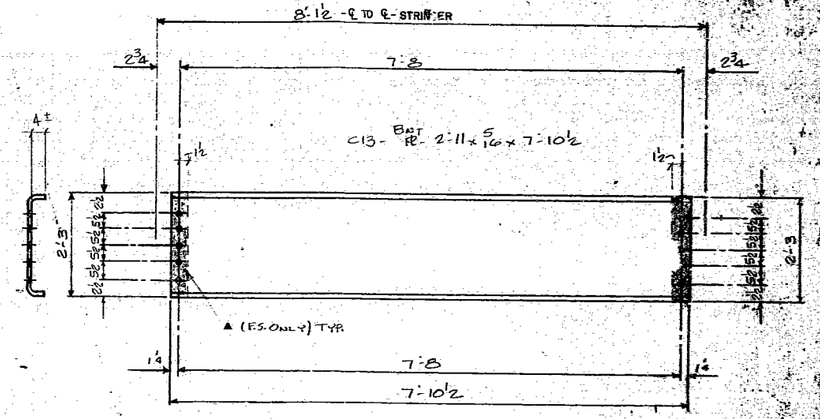
JOB NO.
B60

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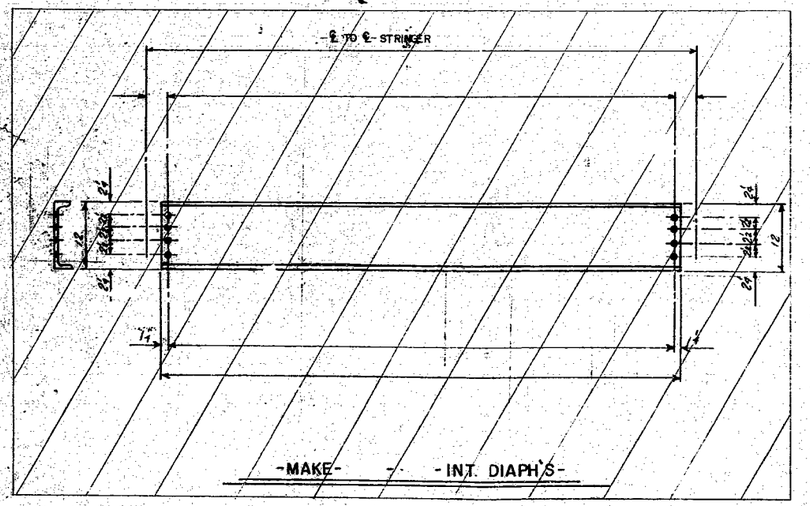
24 TO 1

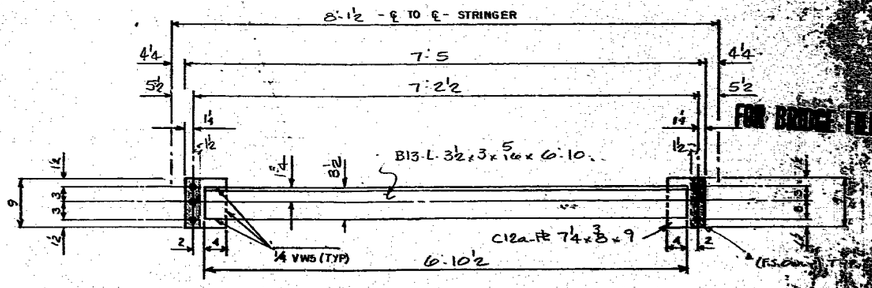


-MAKE- 10 - A13 - END DIAPH'S



-MAKE - 40 - C13 - INT. DIAPH'S -





-MAKE- 10 - B13 - END DIAPH'S-

▲: PAINT ONE COAT 1.5 TO 2.5 MIL INORGANIC ZINC

▲▲: PAINT ONE COAT 2.0 MIL MIN. INORGANIC ZINC.

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF ENGINEERING

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL. LINTEL — BEAM CONN. — BASE & CAP PLATE H. COL. — PIPE COL

PAINT: SYSTEM "B" TYPE II

BOLTS ¾ ø UNLESS NTD.
RIVETS ⅞ ø UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	FA	3-27-79	2	BR	4-20-79

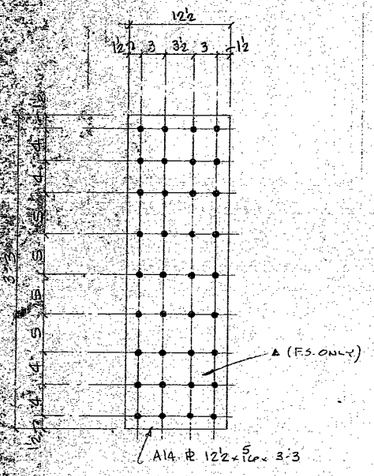
DELONG'S INC.
DIAL 635-6121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-9-79
CHECKED BY DHP
DATE 3-27-79

REVISIONS			
DATE	MK.	BY	REMARKS

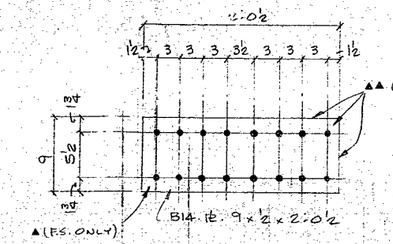
BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(86) Job 5.44-10
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. A-0614
ARCH-ENGR. MO. STATE HWY. DEPT.

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



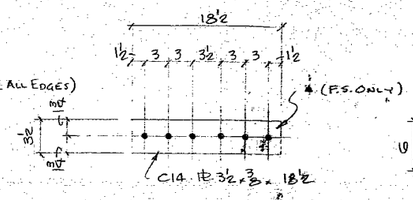
MAKE - 24 - A14

WEB SPLICE PL - 2 REQ'D AT EACH SPLICE #1 THRU #12



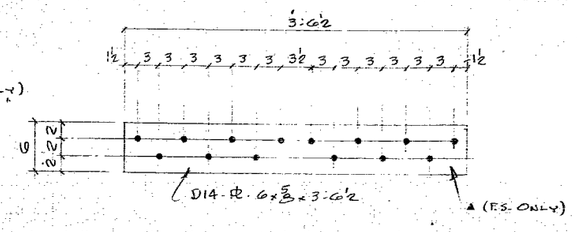
MAKE - 12 - B14

SPLICE PL AT TOP OF TOP FLG. AT EACH SPLICE #1 THRU #12



MAKE - 24 - C14

SPLICE PL AT BOT. OF TOP FLG. AT EA. SPLICE #1 THRU #12

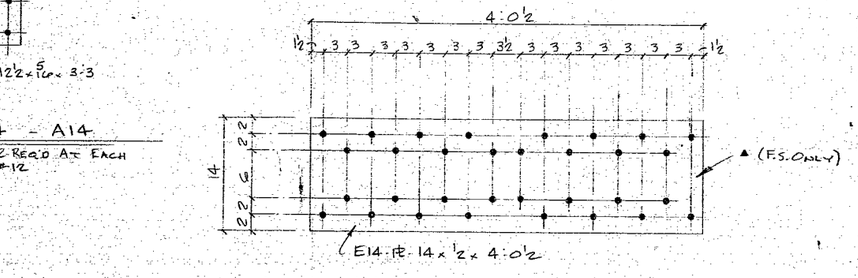


MAKE - 24 - D14

SPLICE PL AT TOP OF BOT. FLG. AT EA. SPLICE #1 THRU #12

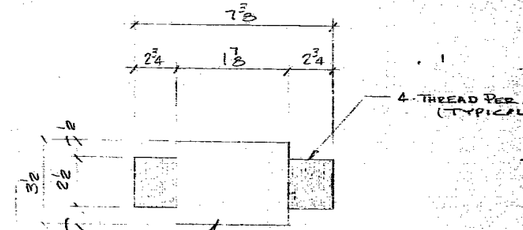
▲ - DENOTES 1.5 MIL MIN. TO 2.5 MIL MAX INORGANIC ZINC.

▲▲ - DENOTES ONE COAT, 2 MIL MIN. INORGANIC ZINC.



MAKE - 12 - E14

SPLICE PL AT BOT. OF BOT. FLG. AT EA. SPLICE #1 THRU #12



MAKE - 12 - F14

SHIP - 24 - G14 - 2¼ø HEAVY SEMI-FINISH HEX NUT. 4 THRD PER INCH

SEE GENERAL NOTES ON SHEET #15 FOR INFORMATION ON HOLES IN SPLICE PL'S

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM CONN. · BASE & CAP PLATE H. COL. · ¼ WELD AS SHOWN · PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS — UNLESS NTD.
RIVETS — UNLESS NTD.
OPEN HOLES — UNLESS NTD.

PRINT RECORD						
NO.	FOR	DATE	NO.	FOR	DATE
1	C		2	C	4-17-79
3	A		5	S	do
			6	A	do

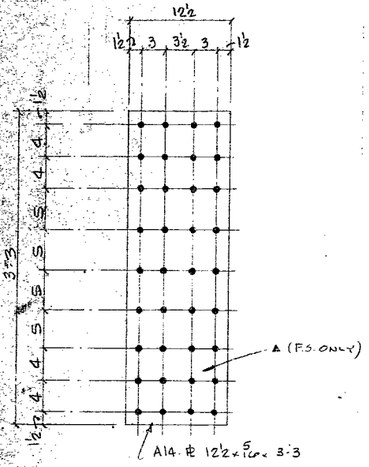
DELONG'S INC. — DIAL 635-6123 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P. DATE 3-13-79
CHECKED BY OHP DATE 3-27-79

REVISIONS			
DATE	MK.	BY	REMARKS

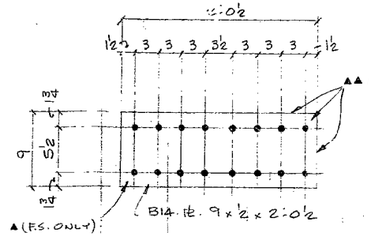
CUSTOMER BRIDGE: ROUTE H UNDERPASS
JOB # B-I-44-9D PROJ. # I-44-2(62)
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. A-1057
ARCH. ENGR. MO. STATE HWY. DEPT.

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



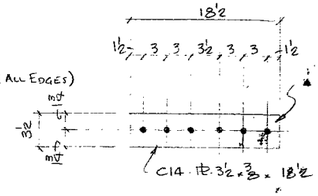
MAKE - 24 - A14

WEB SPLICE PL. 2 REQ'D AT EACH SPLICE #1 THRU #12



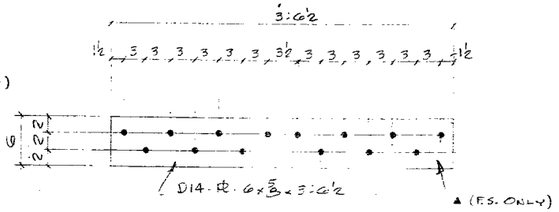
MAKE - 12 - B14

SPLICE PL AT TOP OF TOP FLG. AT EACH SPLICE #1 THRU #12



MAKE - 24 - C14

SPLICE PL AT BOT. OF TOP FLG. AT EA. SPLICE #1 THRU #12

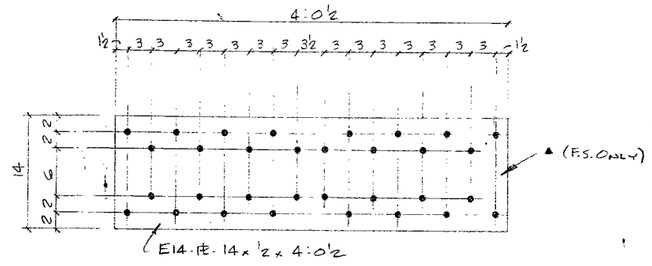


MAKE - 24 - D14

SPLICE PL AT TOP OF BOT FLG. AT EA. SPLICE #1 THRU #12

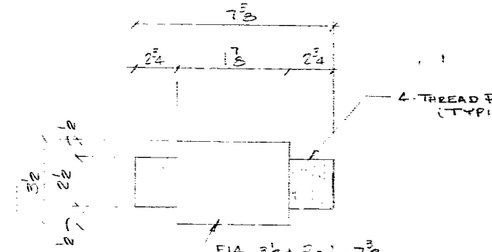
▲ - DENOTES 1.5 MIL MIN. TO 2.5 MIL MAX INORGANIC ZINC.

▲▲ - DENOTES ONE COAT, 2 MIL MIN INORGANIC ZINC.



MAKE - 12 - E14

SPLICE PL AT BOT. OF BOT. FLG. AT EA. SPLICE #1 THRU #12



MAKE - 12 - F14

SHIP - 24 - G14 - 2½ø HEAVY SEMI-FINISH HEX NUT. 4 THRD PER INCH

SEE GENERAL NOTES ON SHEET #15 FOR INFORMATION ON HOLES IN SPLICE PL'S

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

¼ V 3-12 / ¼ V 2-12 BEAM & ANGLE INTEL — BEAM CONN. — ¼ WELD AS SHOWN BASE & CAP PLATE H. COL. — ¼ PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS RIVETS ____ UNLESS NTD.

OPEN HLS. ____ UNLESS NTD.

PRINT NO.	PRINT FOR	PRINT DATE	RECORD NO.	RECORD FOR	RECORD DATE
1	C		2	C	4-17-79
2	S		5	S	do
			6	A	do

DELONG'S INC. — DIX RD & IND. DR. — DIAL 635-6121 — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P
DATE 3-15-79
CHECKED BY CHP
DATE 3-21-79

REVISIONS DATE	MK.	BY	REMARKS

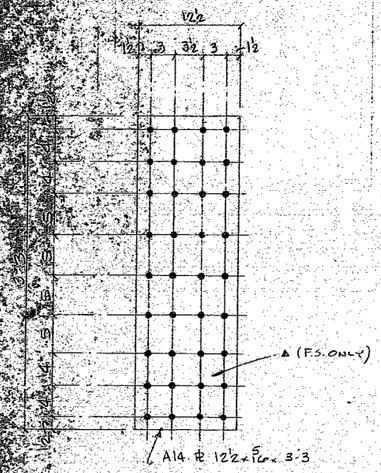
CUSTOMER BRIDGE: ROUTE H UNDERPASS
JOB # S-T-44-9(0 PROJ. # I-44-2(84)
LOCATION PULASKI COUNTY - RTE. I44
BRIDGE NO. A-3052
ARCH.-ENGR. D. STATE HWY DEPT.

JOB No. 79-7
SHT. No. 14 OF 16

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AX AM AN AP AS AT AU AV AW AX AY AZ

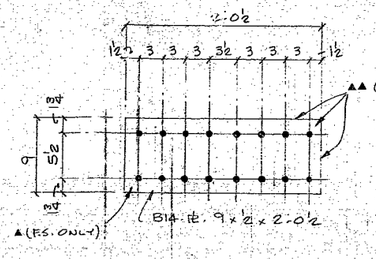
80

203.24 IQ 1



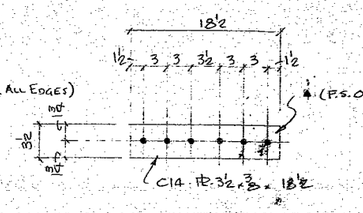
MAKE - 24 - A14

SPLICE PL - 2 REQ'D AT EACH SPLICE # 1 THRU # 12



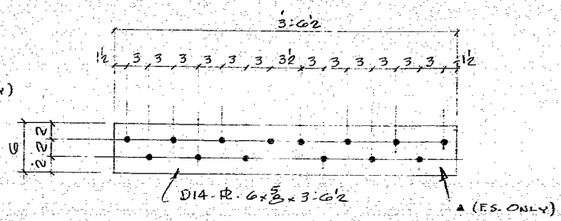
MAKE - 12 - B14

SPLICE PL AT TOP OF TOP FLG. AT EACH SPLICE # 1 THRU # 12



MAKE - 24 - C14

SPLICE PL AT BOT. OF TOP FLG. AT EA. SPLICE # 1 THRU # 12

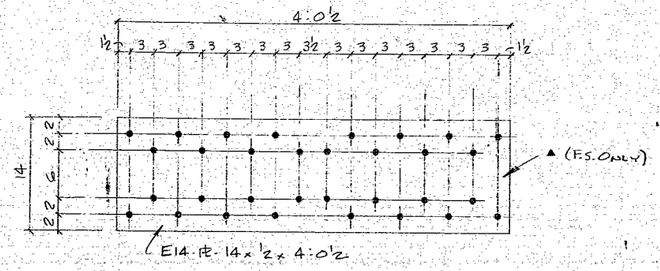


MAKE - 24 - D14

SPLICE PL AT TOP OF BOT. FLG. AT EA. SPLICE # 1 THRU # 12

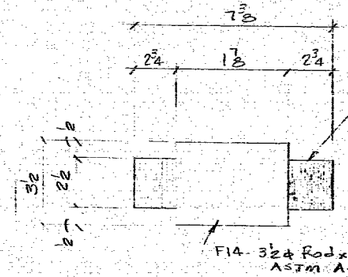
▲ - DENOTES 1.5 MIL MIN. TO 2.5 MIL MAX INORGANIC ZINC.

▲▲ - DENOTES ONE COAT, 2 MIL MIN. INORGANIC ZINC.



MAKE - 12 - E14

SPLICE PL AT BOT. OF BOT. FLG. AT EA. SPLICE # 1 THRU # 12



MAKE - 12 - F14

SHIP - 24 - G14 - 2½ Ø HEAVY SEMI-FINISH HEX NUT: 4 THRD PER INCH

SEE GENERAL NOTES ON SHEET # 15 FOR INFORMATION ON HOLES IN SPLICE PL'S

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

UNLESS OTHERWISE NOTED, STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BASE & CAP PLATE WELD AS SHOWN — W. BEAM-CONN. — W. COL. — PIPE COL.

PAINT: SYSTEM "B" TYPE II

BOLTS — UNLESS NTD.
RIVETS — UNLESS NTD.
OPEN HOLES — UNLESS NTD.

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	w		2	c	4-17-79
2	f		5	s	do
			6	f	do

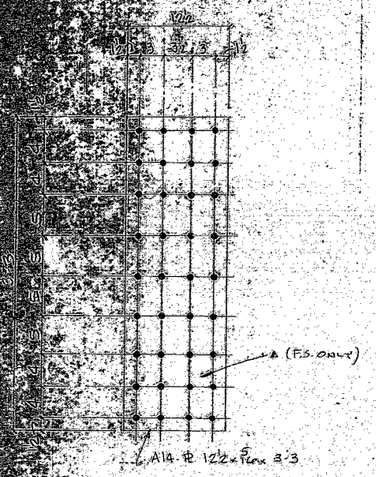
DELONG'S INC. — DIAL 635-6121 — DIX RD. & IND. DR. — JEFFERSON CITY, MISSOURI

DETAILED BY J.D.P. DATE 3-13-79
CHECKED BY CHP DATE 3-21-79

REVISIONS			
DATE	MK	BY	REMARKS

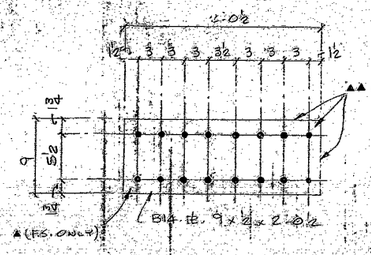
CUSTOMER Bridge: Route H Underpass
JOB # S-I-44-9D Proj # I-44-2(66)P
LOCATION Pulaski County - Route H
S Bridge No. 91-0?
ARCH-ENGR. Mo. State Hwy. Dept.

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



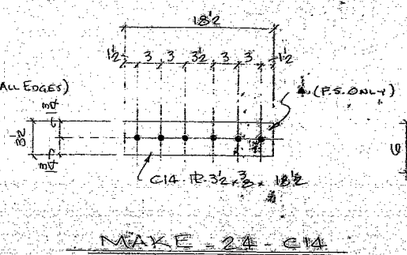
MAKE - 24 - A14

SPLICE PL - 2 REQ'D AT EACH SPLICE #1 THRU #12



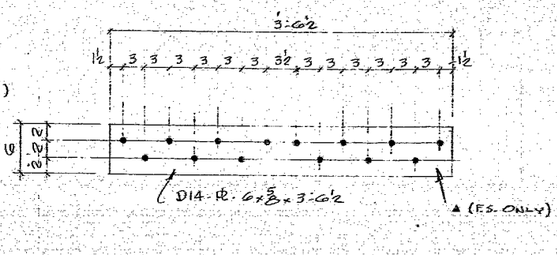
MAKE - 12 - B14

SPLICE PL AT TOP OF TOP FLG. AT EACH SPLICE #1 THRU #12



MAKE - 24 - C14

SPLICE PL AT BOT. OF TOP FLG. AT EA. SPLICE #1 THRU #12

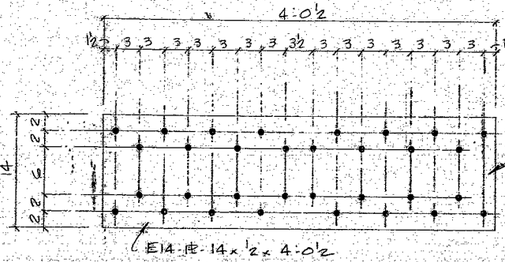


MAKE - 24 - D14

SPLICE PL AT TOP OF BOT. FLG. AT EA. SPLICE #1 THRU #12

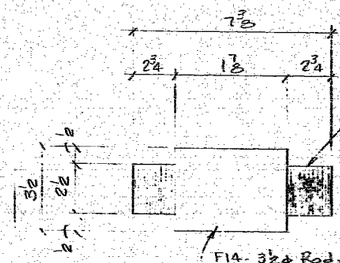
▲ - DENOTES 1.5 MIL MIN. TO 2.5 MIL MAX INORGANIC ZINC

▲▲ - DENOTES ONE COAT, 2 MIL MIN. INORGANIC ZINC



MAKE - 12 - E14

SPLICE PL AT BOT. OF BOT. FLG. AT EA. SPLICE #1 THRU #12



MAKE - 12 - F14

SHIP - 24 - G14 - 2 1/2 ø HEAVY SEMI FINISH HEX NUT, 4 THRD PER INCH

SEE GENERAL NOTES ON SHEET #15 FOR INFORMATION ON HOLES IN SPLICE PL'S

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 2 1975
MO. STATE HIGHWAY DEPT. BUREAU OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

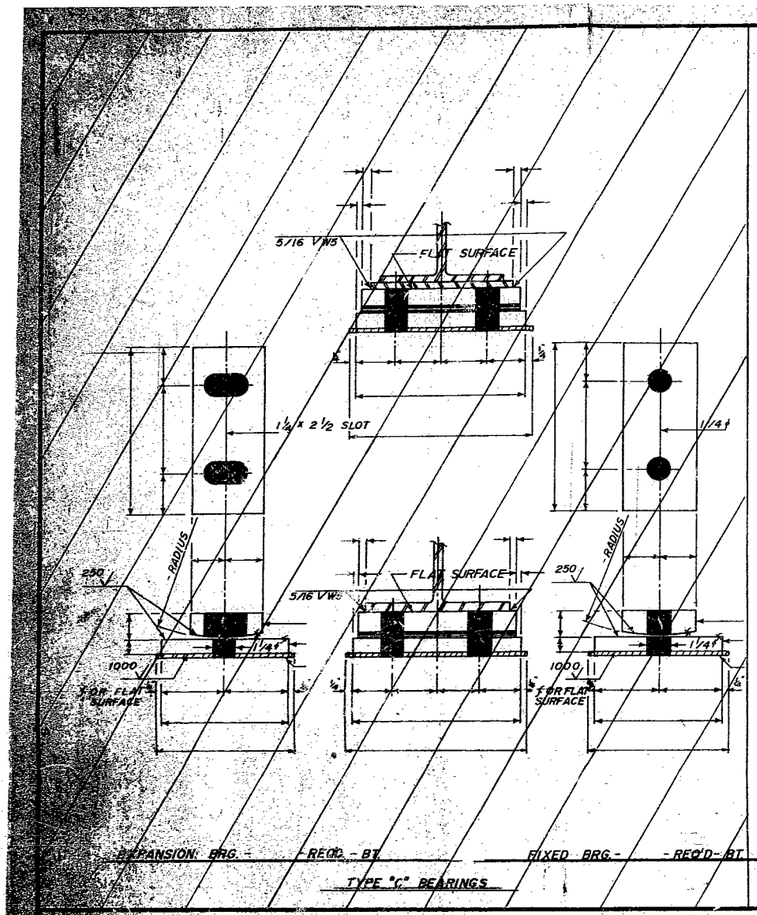
DELONG'S INC.
DIAL 635-4121 DIX RD. & IND. DR.
JEFFERSON CITY, MISSOURI

DETAILED BY
CHECKED BY
DATE

REVISIONS

DATE	MK	BY	REMARKS

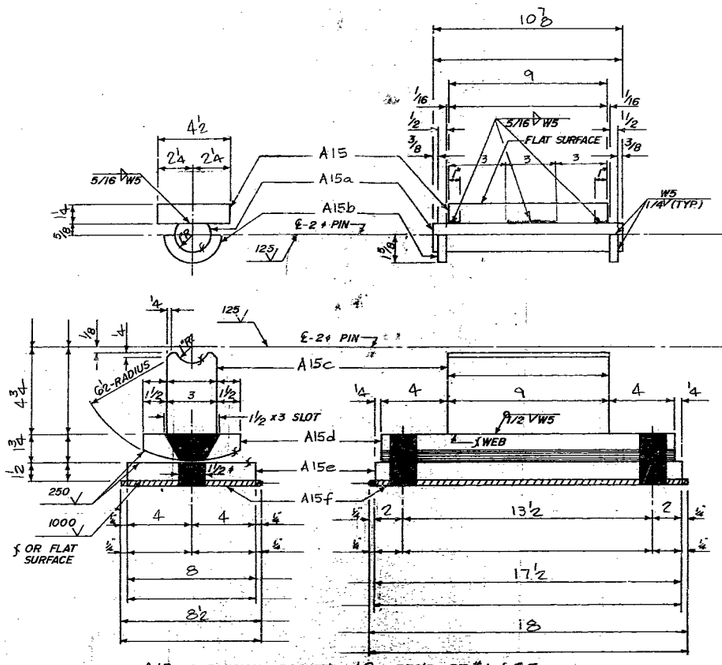
CUSTOMER
FOR
LOCATION
ARCHITECT



EXPANSION BRG. - REQ'D - BT

FIXED BRG. - REQ'D - BT

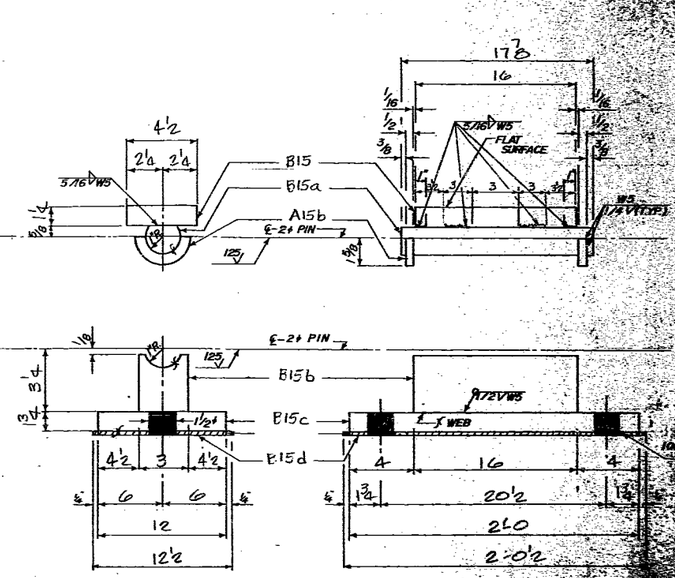
TYPE "C" BEARINGS



A15- EXPANSION ROCKER- 12 - REQ'D - BT. "1 ¼"S

EXPANSION ROCKER- - REQ'D - BT.

TYPE "D" BEARINGS



B15- FIXED PEDESTAL - 6 - REQ'D - BT. "3"

TYPE "D" BEARINGS

MATERIAL REQ'D FOR EACH - A15 - EXP. BRG.

A15!- TOP ℙ - 4½ x 1¼ x 9
A15a- PIN 2"ϕ x 10⅞ (MACH. DIM.)(A.I.S.I. C-1018)
A15b- COLLAR ℙ - 3¼ x ½ x 3¼ (CUT MAKES-2)
A15c- WEB ℙ - 3 x 4⅝ x 9 (MACH. DIM.)
A15d- ROCKER ℙ - 6 x 1¾ x 17 (MACH. DIM.)
A15e- BASE ℙ - 8 x 1½ x 17½ (MACH. DIM.)
A15f- PAD - 8½ x ⅛ x 18

MATERIAL REQ'D FOR EACH - B15 - FIX BRG.

B15 - TOP ℙ - 4½ x 1¼ x 16
B15a- PIN 2"ϕ x 17⅞ (MACH. DIM.)(A.I.S.I. C-1018)
A15b- COLLAR
B15b- WEB ℙ - 3⅛ x 3 x 16 (MACH. DIM.)
B15c- BASE ℙ - 12 x 1¾ x 2'-0 (MACH. DIM.)
B15d- PAD - 12½ x ⅛ x 2'-0½

NOTE: FABRIC PADS FOR BRG'S ARE ½" GREATER IN LENGTH & WIDTH THAN BASE ℙ'S. APPROX. ⅛" THICK.

DUROMETER: 80 ±10 (SHORE A) ULTIMATE BREAKDOWN: NOT LESS THAN 7000 P.S.I.

NOTE: ON ALL MATERIAL _____ HEAT NUMBER SHALL BE PAINTED APPROX. 3'-0 FROM LEFT END & ON TOP OF ℙ's.

BEARING NOTES:

MATERIAL FOR "C" & "D" BEARINGS SHALL BE A.S.T.M. - A36 STEEL.
MATERIAL FOR PINS SHALL BE A.I.S.I. - C1018 STEEL.
PREHEAT IN ACCORDANCE WITH A.W.
WHITE LEAD AND TALLOW ALL PINS & SETS AFTER INSPECTION.
WHERE FLAT SURFACE IS INDICATED TOLERANCE SHALL BE .003 IN/IN. IN ANY DIRECTION.
ROCKERS AND PEDESTALS SHALL BE MACHINED AFTER WELDING.

FOR BRIDGE TYPES

GENERAL NOTES:

BEAM OR GIRDER FLANGES SHALL BE SQUARED UP AT ALL POINTS OF BEARING.
ALL STEEL A.S.T.M. - A36-75 - EXCEPT AS NOTED. ALL BEAMS AND GIRDER FLG. ℙ'S NOTED WILL HAVE NOTCH TOUGHNESS OF 15 FT/LBS. AT 70°F.
HOLES IN GIRDERS OR BEAMS AND PLATES FOR SPLICES TO BE SUBPUNCHED 11/16" AND REAMED ASSEMBLED TO 25/16", OR DRILLED FROM THE SOLID WHILE ASSEMBLED, AND MATCH MARKED.
GIRDER OR BEAM BEARING STIFFENER PLATES SHALL BE GROUND TO BEAR OR WELDED AT BOTTOM, CLOSE JOINT AT TOP.
MEASURE WF BEAMS BEFORE CUTTING BEARING STIFFENER PLATES.

GIRDER NOTES:

~~GIRDER INTERMEDIATE WEB AND DIAPHRAGM STIFFENER PLATES SHALL BE FITTED TO FORM A CLOSE JOINT (1/16) TOP AND BOTTOM.~~

GIRDER SHOP WELDED FLANGE SPLICES ARE TO BE MARKED WITH STEEL STENCIL APPROXIMATELY 1/4" FROM EDGE OF WELD AND ABOUT IN THE MIDDLE OF PLATE WITH "T" AND SHOP SPLICE NUMBER ON TOP OF TOP FLANGE AND WITH "B" AND SHOP SPLICE NUMBER ON BOTTOM OF BOTTOM FLANGE. ALL MARKS TO BE ON THE THICKER MATERIAL JOINED.

GIRDER WELDING WILL BE SUBJECT TO RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION.

APPROVED

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

SYSTEM "B" TYPE II

DETAILED BY J.D.A DATE 3-13-79
CHECKED BY DKP DATE 3-21-79

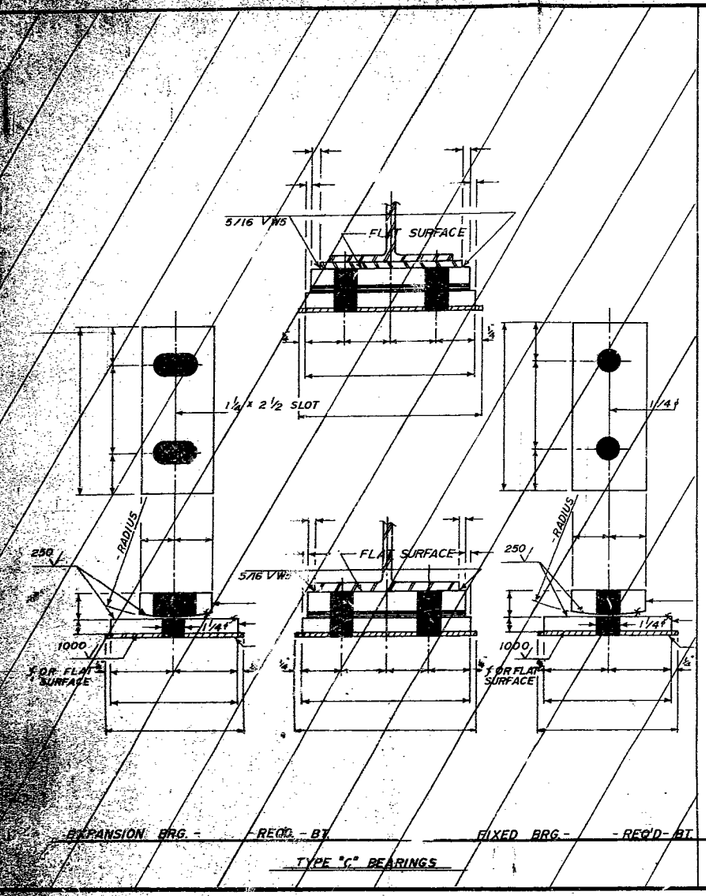
REVISIONS

DATE	MK. BY	REMARKS

BRIDGE OVER ROUTE 11 UNDERPASS
PROJECT NO. I-44-2(64) JOB 8-44-11
LOCATION FULASKI COUNTY - RTE. I-44

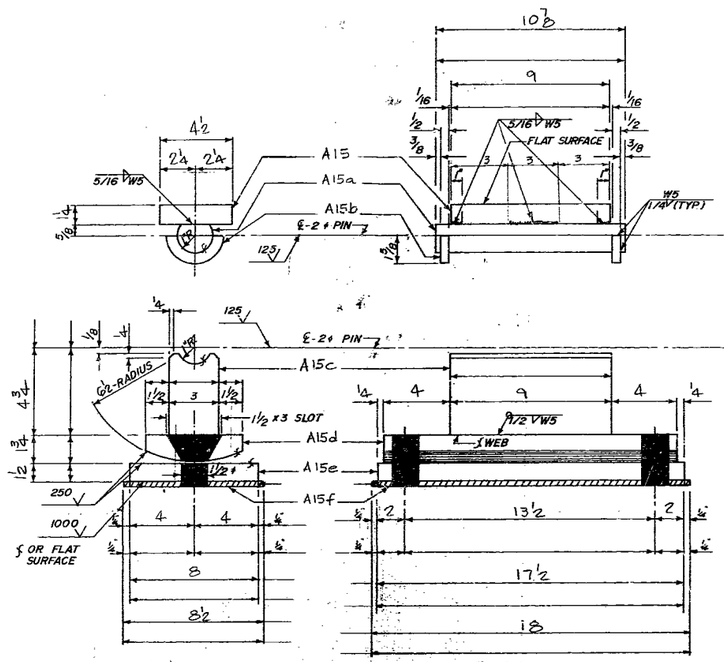
DeLONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

A B C D E F G H J K M N P AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



EXPANSION BRG. - - REQ'D. - BT. FIXED BRG. - - REQ'D - BT.

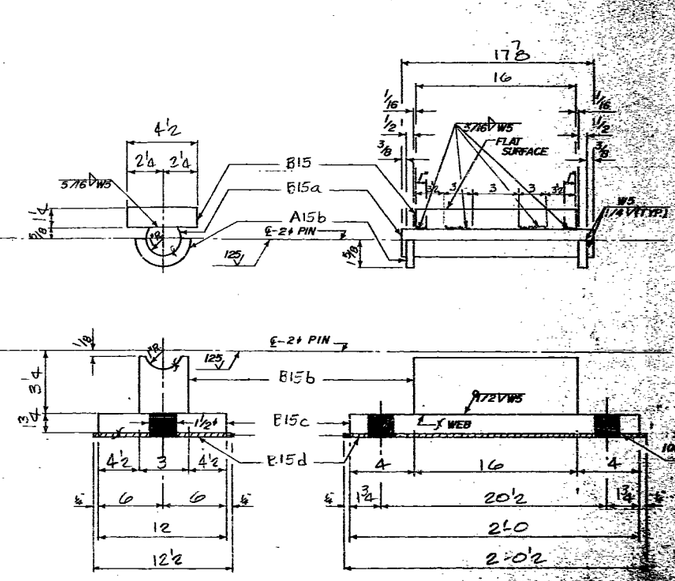
TYPE "C" BEARINGS



A15 - EXPANSION ROCKER - 12 - REQ'D - BT. 1 1/4" ϕ

EXPANSION ROCKER - - REQ'D - BT.

TYPE "D" BEARINGS



B15 - FIXED PEDESTAL - 6 - REQ'D - BT. 3

TYPE "D" BEARINGS

MATERIAL REQ'D FOR EACH - A15 - EXP. BRG.

A15! - TOP ℄ - 4½ x 1¼ x 9
A15a - PIN 2"ϕ x 10⅝ (MACH. DIM.) (A.I.S.I. C-1018)
A15b - COLLAR ℄ - 3¼ x 1½ x 3¼ (CUT MAKES - 2)
A15c - WEB ℄ - 3 x 45⅝ x 9 (MACH. DIM.)
A15d - ROCKER ℄ - 6 x 1¾ x 17 (MACH. DIM.)
A15e - BASE ℄ - 8 x 1½ x 17½ (MACH. DIM.)
A15f - PAD - 8½ x ⅛ x 18

MATERIAL REQD FOR EACH - B15 - FIX BRG.

B15 - TOP ℄ - 4½ x 1¼ x 16
B15a - PIN 2"ϕ x 17⅝ (MACH. DIM.) (A.I.S.I. C-1018)
A15b - COLLAR
B15b - WEB ℄ - 3⅛ x 3 x 16 (MACH. DIM.)
B15c - BASE ℄ - 12 x 1¾ x 2'0 (MACH. DIM.)
B15d - PAD - 12½ x ⅛ x 2'0½

NOTE: FABRIC PADS FOR BRG'S ARE ½" GREATER IN LENGTH & WIDTH THAN BASE ℄'S. APPROX. ⅛" THICK.

DUROMETER: 80 ± 10 (SHORE A) ULTIMATE BREAKDOWN: NOT LESS THAN 7000 P.S.I.

NOTE: ON ALL MATERIAL ——— HEAT NUMBER SHALL BE PAINTED APPROX. 3'-0 FROM LEFT END & ON TOP OF 2's.

BEARING NOTES:

MATERIAL FOR "C" & "D" BEARINGS SHALL BE A.S.T.M. - A36 STEEL.
MATERIAL FOR PINS SHALL BE A.I.S.I. - C1018 STEEL.
PREHEAT IN ACCORDANCE WITH A.W.
WHITE LEAD AND TALLOW ALL PINS & SETS AFTER INSPECTION.
WHERE FLAT SURFACE IS INDICATED TOLERANCE SHALL BE .003 IN/IN. IN ANY DIRECTION.
ROCKERS AND PEDESTALS SHALL BE MACHINED AFTER WELDING.

FOR BRIDGE FILES

GENERAL NOTES:

BEAM OR GIRDER FLANGES SHALL BE SQUARED UP AT ALL POINTS OF BEARING.
ALL STEEL A.S.T.M. - A36-75 - EXCEPT AS NOTED. ALL BEAMS AND GIRDER FLG. P'S NOTED WILL HAVE NOTCH TOUGHNESS OF 15 FT/LB AT 70°F.
HOLES IN GIRDERS OR BEAMS AND PLATES FOR SPLICES TO BE SUBPUNCHED 11/16" AND REAMED ASSEMBLED TO 25/16". OR DRILLED FROM THE SOLID WHILE ASSEMBLED, AND MATCH MARKED.
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MEASURE WF BEAMS BEFORE CUTTING BEARING STIFFENER PLATES.

GIRDER NOTES:

~~GIRDER INTERMEDIATE WEB AND DIAPHRAGM STIFFENER PLATES SHALL BE FITTED TO FORM A CLOSE JOINT (1/16) TOP AND BOTTOM.~~

GIRDER SHOP WELDED FLANGE SPLICES ARE TO BE MARKED WITH STEEL STENCIL APPROXIMATELY 1/4" FROM EDGE OF WELD AND ABOUT IN THE MIDDLE OF PLATE WITH "T" AND SHOP SPLICE NUMBER ON TOP OF TOP FLANGE AND WITH "B" AND SHOP SPLICE NUMBER ON BOTTOM OF BOTTOM FLANGE. ALL MARKS TO BE ON THE THICKER MATERIAL JOINED.
GIRDER WELDING WILL BE SUBJECT TO RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION.

APPROVED
FEDERAL HIGHWAY ADMINISTRATION
APR 20 1979
MO. STATE HIGHWAY DEPT. BRIDGE ENGINEER

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

PAINT: SYSTEM "B" TYPE II

BOLTS RIVETS UNLESS NOTED
OPEN HOLS UNLESS NOTED

PRINT RECORD

NO.	FOR	DATE
1		
2		
3		
4		

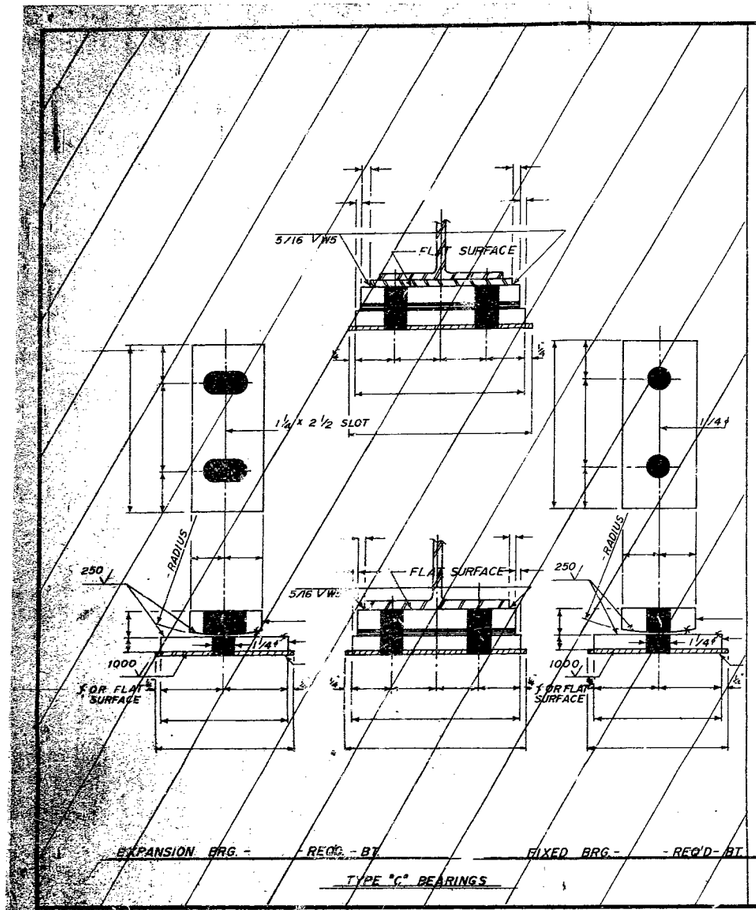
DeLONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

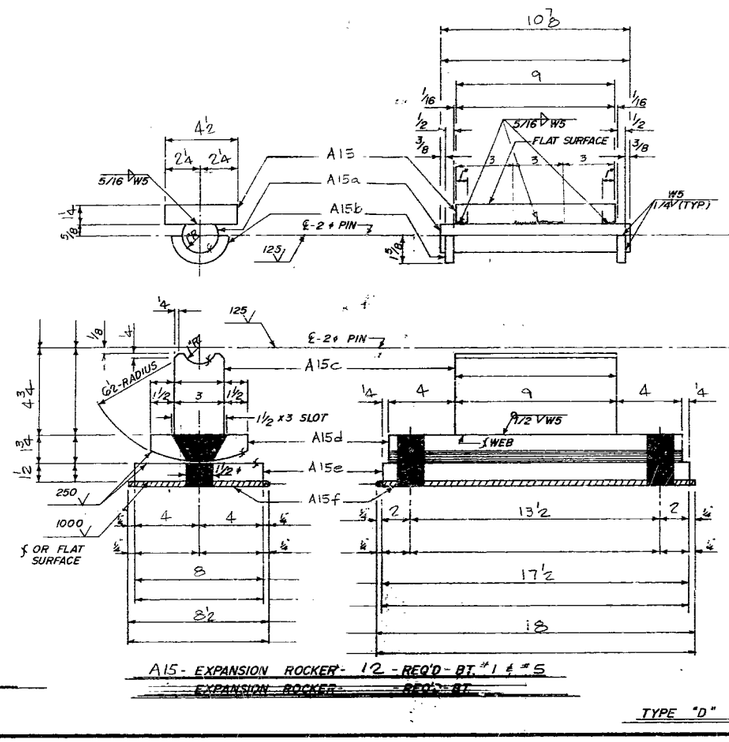
DETAILED BY J.D.A
DATE 3-13-79
CHECKED BY OHP
DATE 3-21-79

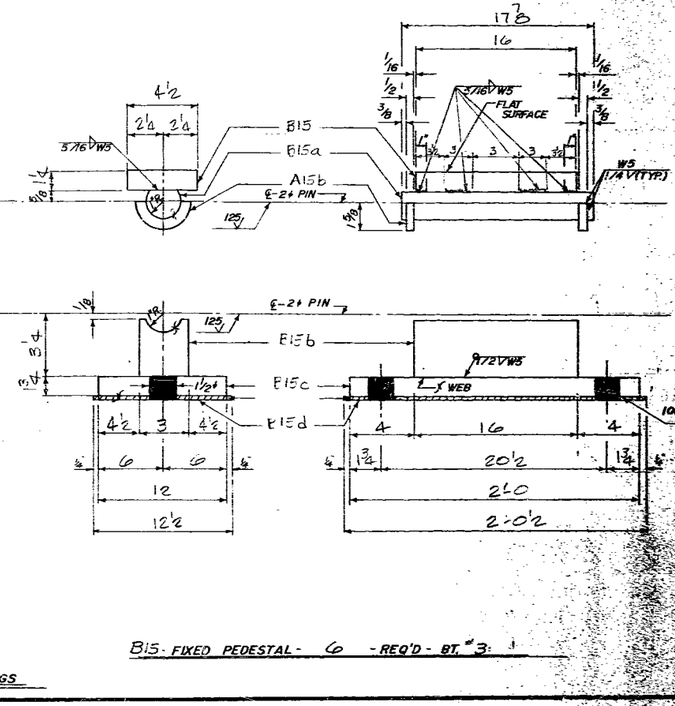
REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE OVER ROUTE U UNDERPASS
PROJECT NO. I-44-2(84) Job 8-144 U
LOCATION PULASKI COUNTY - RTE. I-44
ARCH. BRIDGE NO. A-5022

A B C D E F G H J K M N P R S T U V W X Y AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ







MATERIAL REQ'D FOR EACH - A15 - EXP. BRG.

A15¹ - TOP PL - 4½ x 1¼ x 9
A15a - PIN 2¼ x 10⅞ (MACH. DIM.) (A.I.S.I. C-1018)
A15b - COLLAR PL - 3¼ x ½ x 3¼ (CUT MAKES - 2)
A15c - WEB PL - 3 x 4⅝ x 9 (MACH. DIM.)
A15d - ROCKER PL - 6 x 1¾ x 17 (MACH. DIM.)
A15e - BASE PL - 8 x 1½ x 17½ (MACH. DIM.)
A15f - PAD - 8½ x ⅛ x 18

MATERIAL REQ'D FOR EACH - B15 - FIX BRG.

B15 - TOP PL - 4½ x 1¼ x 16
B15a - PIN 2¼ x 17⅞ (MACH DIM) (A.I.S.I. C 1018)
A15b - COLLAR
B15b - WEB PL - 3⅛ x 3 x 16 (MACH DIM)
B15c - BASE PL - 12 x 1¾ x 2'-0 (MACH. DIM)
B15d - PAD - 12½ x ⅛ x 2'-0½

NOTE:
FABRIC PADS FOR BRG'S ARE ½" GREATER IN LENGTH & WIDTH THAN BASE PL'S. APPROX. ⅛" THICK.
DUROMETER: 80 ± 10 (SHORE A) ULTIMATE BREAKDOWN: NOT LESS THAN 7000 P.S.I.
NOTE: ON ALL MATERIAL _____ HEAT NUMBER SHALL BE PAINTED APPROX. 3'-0 FROM LEFT END & ON TOP OF PL'S.

BEARING NOTES:

MATERIAL FOR "C" & "D" BEARINGS SHALL BE A.S.T.M. - A36 STEEL.
MATERIAL FOR PINS SHALL BE A.I.S.I. - C1018 STEEL.
PREHEAT IN ACCORDANCE WITH A.W.
WHITE LEAD AND TALLOW ALL PINS & NUTS AFTER INSPECTION.
WHERE FLAT SURFACE IS INDICATED TOLERANCE SHALL BE .003 IN./IN. IN ANY DIRECTION.
ROCKERS AND PEDESTALS SHALL BE MACHINED AFTER WELDING.

FOR BRIDGE FILES

GENERAL NOTES:

BEAM OR GIRDER FLANGES SHALL BE SQUARED UP AT ALL POINTS OF BEARING.
ALL STEEL A.S.T.M. - A36-75 - EXCEPT AS NOTED. ALL BEAMS AND GIRDER FLG. PL'S NOTED WILL HAVE NOTCH TOUGHNESS OF 15 FT./LB. AT 40° F.
HOLES IN GIRDERS OR BEAMS AND PLATES FOR SPLICES TO BE SUBPUNCHED 11/16" AND REAMED ASSEMBLED TO 15/16", OR DRILLED FROM THE SOLID WHILE ASSEMBLED, AND MATCH MARKED.
GIRDER OR BEAM BEARING STIFFENER PLATES SHALL BE GROUND TO BEAR OR WELDED AT BOTTOM, CLOSE JOINT AT TOP.
MEASURE WF BEAMS BEFORE CUTTING BEARING STIFFENER PLATES.

GIRDER NOTES:

~~GIRDER INTERMEDIATE WEB AND DIAPHRAGM STIFFENER PLATES SHALL BE FITTED TO FORM A CLOSE JOINT (1/16) TOP AND BOTTOM.~~

GIRDER SHOP WELDED FLANGE SPLICES ARE TO BE MARKED WITH STEEL STENCIL APPROXIMATELY 1/4" FROM EDGE OF WELD AND ABOUT IN THE MIDDLE OF PLATE WITH "T" AND SHOP SPLICE NUMBER ON TOP OF TOP FLANGE AND WITH "B" AND SHOP SPLICE NUMBER ON BOTTOM OF BOTTOM FLANGE. ALL MARKS TO BE ON THE THICKER MATERIAL JOINED.
GIRDER WELDING WILL BE SUBJECT TO RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION.

APPROVED
GENERAL DESIGN FEATURES DEPT.
APR 30 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS - UNLESS OTHERWISE SHOWN



PAINT: SYSTEM "B" TYPE II

BOLTS	UNLESS NTD
RIVETS	UNLESS NTD
OPEN HLS	UNLESS NTD

PRINT RECORD	NO.	FOR	DATE
	1	FC	4/27/77
	3	FC	5/5
	5	FC	6/1
	6	FC	6/1

DeLONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

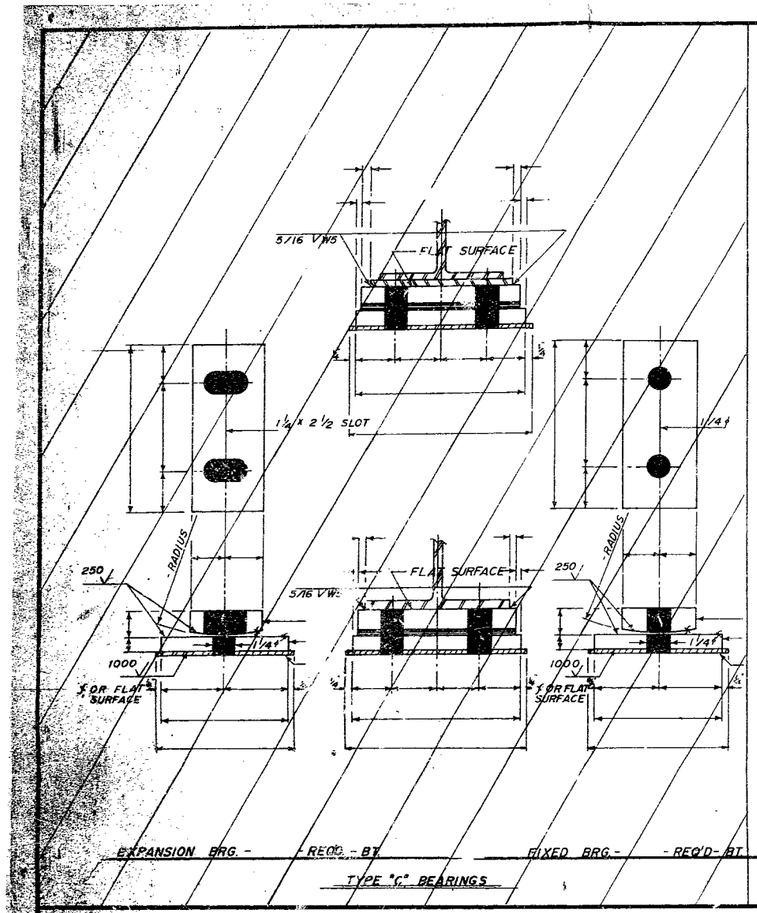
DETAILED BY	J.D.F.
DATE	3-15-79
CHECKED BY	CHP
DATE	3-21-79

REVISIONS	DATE	MK.	BY	REMARKS

BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(84) Job B-I-44-4D
LOCATION PULASKI COUNTY, FR. 1.4
BRIDGE No. A-3052
ARCH. FILE 1021-2-2

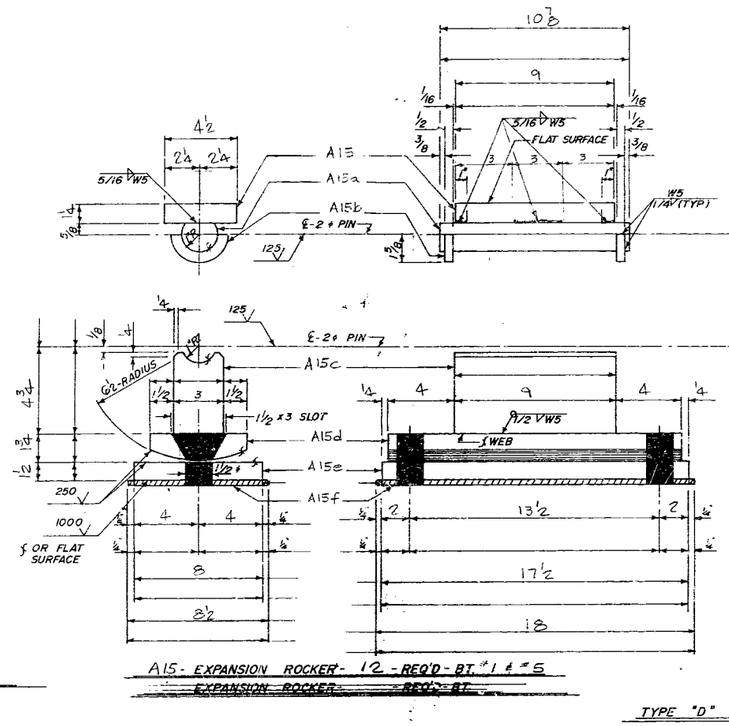
77-1
15
17

A B C D E F G H J K M N P R S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



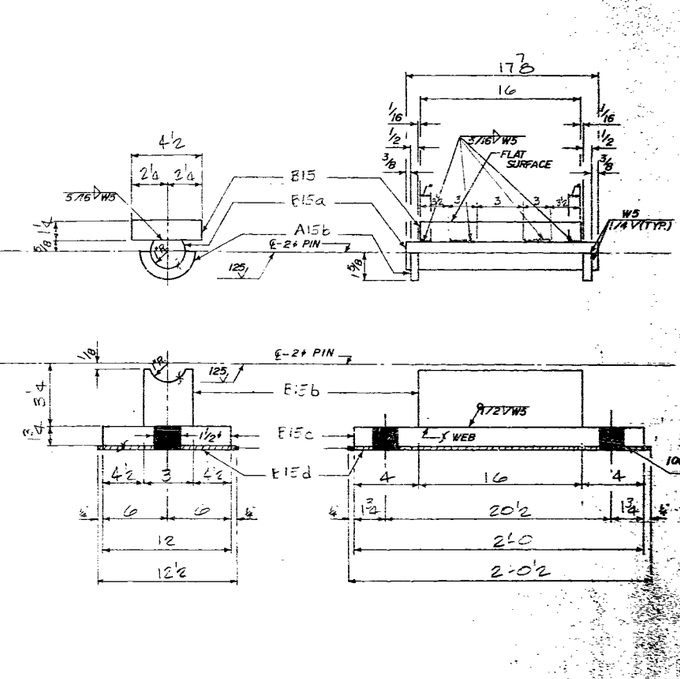
EXPANSION BRG. - - REQ'D - BT. FIXED BRG. - - REQ'D - BT.

TYPE "C" BEARINGS



A15- EXPANSION ROCKER- 12 - REQ'D - BT. # 1 # 5

EXPANSION ROCKER - - REQ'D - BT.



B15- FIXED PEDESTAL - 6 - REQ'D - BT. # 3

TYPE "D" BEARINGS

MATERIAL REQ'D FOR EACH - A15 - EXP. BRG.

A15 - TOP PL - 4 1/2 x 1 1/4 x 9
A15a - PIN 2 3/4 x 10 7/8 (MACH. DIM.) (A.I.S.I. C-1018)
A15b - COLLAR PL - 3 1/4 x 1/2 x 3 1/4 (CUT MARKS - 2)
A15c - WEB PL - 3 x 4 5/8 x 9 (MACH. DIM.)
A15d - ROCKER PL - 6 x 1 3/8 x 17 (MACH. DIM.)
A15e - BASE PL - 8 x 1 1/2 x 17 1/2 (MACH. DIM.)
A15f - PAD - 8 1/2 x 18 x 18

MATERIAL REQ'D FOR EACH - B15 - FIX BRG.

B15 - TOP PL - 4 1/2 x 1 1/4 x 16
B15a - PIN 2 3/4 x 17 7/8 (MACH. DIM.) (A.I.S.I. C 1018)
A15b - COLLAR
B15b - WEB PL - 3 5/8 x 3 x 16 (MACH. DIM.)
B15c - BASE PL - 12 x 1 3/8 x 2'-0 (MACH. DIM.)
B15d - PAD - 12 1/2 x 18 x 2'-0 1/2

NOTE:
FABRIC PADS FOR BRG'S ARE 1/2" GREATER IN LENGTH & WIDTH THAN BASE PL'S.
APPROX. 1/8" THICK.
DUROMETER: 80 ± 10 (SHORE A) ULTIMATE BREAKDOWN: NOT LESS THAN 7000 P.S.I.

NOTE: ON ALL MATERIAL ——— HEAT NUMBER SHALL BE PAINTED
APPROX. 3'-0 FROM LEFT END & ON TOP OF PL'S.

BEARING NOTES:

MATERIAL FOR "C" & "D" BEARINGS SHALL BE A.S.T.M. - A36 STEEL.
MATERIAL FOR PINS SHALL BE A.I.S.I. - C1018 STEEL.
PREHEAT IN ACCORDANCE WITH A.W.
WHITE LEAD AND TALLOW ALL PINS & SETS AFTER INSPECTION.
WHERE FLAT SURFACE IS INDICATED TOLERANCE SHALL BE .003 IN/IN IN ANY DIRECTION.
ROCKERS AND PEDESTALS SHALL BE MACHINED AFTER WELDING

FOR BRIDGE FILES

GENERAL NOTES:

BEAM OR GIRDER FLANGES SHALL BE SQUARED UP AT ALL POINTS OF BEARING.
ALL STEEL A.S.T.M. - A36-75 - EXCEPT AS NOTED. ALL BEAMS AND GIRDER FLG. PL'S NOTED WILL HAVE NOTCH TOUGHNESS OF 15 FT./LB. AT 40° F.
HOLES IN GIRDERS OR BEAMS AND PLATES FOR SPLICES TO BE SUBPUNCHED 11/16" AND REAMED ASSEMBLED TO 13/16", OR DRILLED FROM THE SOLID WHILE ASSEMBLED, AND MATCH MARKED.
GIRDER OR BEAM BEARING STIFFENER PLATES SHALL BE GROUND TO BEAR OR WELDED AT BOTTOM, CLOSE JOINT AT TOP.
MEASURE WF BEAMS BEFORE CUTTING BEARING STIFFENER PLATES.

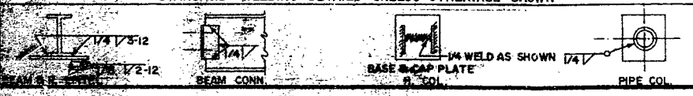
GIRDER NOTES:

~~GIRDER INTERMEDIATE WEB AND DIAPHRAGM STIFFENER PLATES SHALL BE FITTED TO FORM A CLOSE JOINT (1/16) TOP AND BOTTOM.~~

GIRDER SHOP WELDED FLANGE SPLICES ARE TO BE MARKED WITH STEEL STENCIL APPROXIMATELY 1/4" FROM EDGE OF WELD AND ABOUT IN THE MIDDLE OF PLATE WITH "T" AND SHOP SPLICE NUMBER ON TOP OF TOP FLANGE AND WITH "B" AND SHOP SPLICE NUMBER ON BOTTOM OF BOTTOM FLANGE. ALL MARKS TO BE ON THE THICKER MATERIAL JOINED.
GIRDER WELDING WILL BE SUBJECT TO RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION.

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 26 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF ENGINEERING

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



PAINT: SYSTEM "B" TYPE II

BOLTS UNLESS NTD.
RIVETS UNLESS NTD.
OPEN HLS UNLESS NTD.

PRINT RECORD						
NO.	FOR	DATE	NO.	FOR	DATE
			1	C	4-17-79
3	F		5	S	4
			6	F	4

DETAIL SHT. DATA

DeLONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

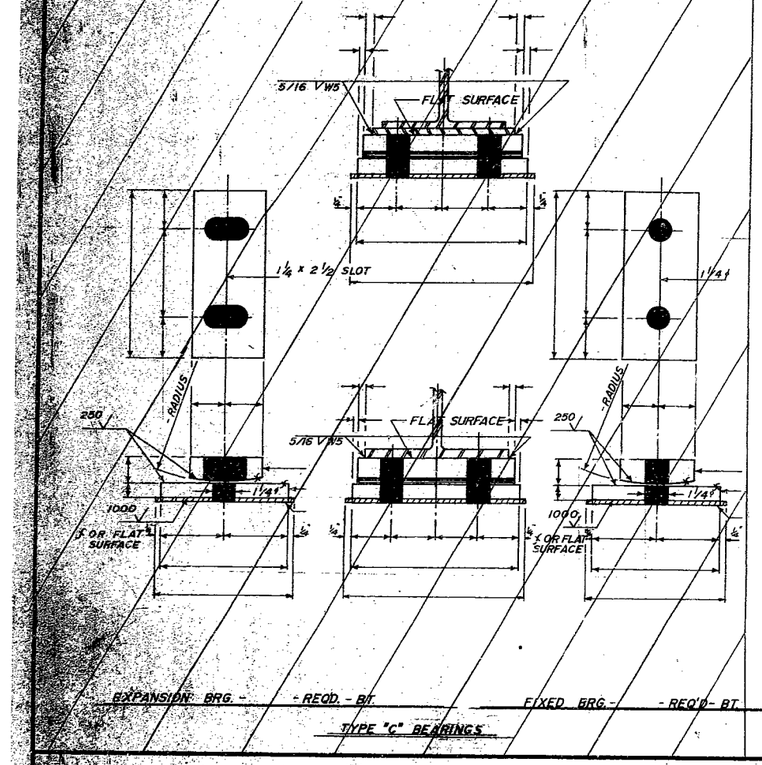
DETAILED BY J.D.A
DATE 3-5-79
CHECKED BY CHD
DATE 3-27-79

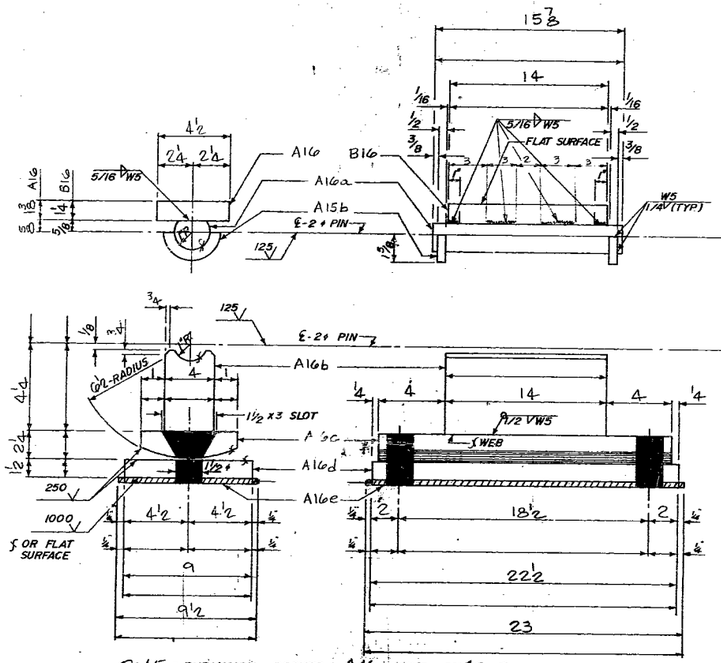
REVISIONS			
DATE	MK.	BY	REMARKS

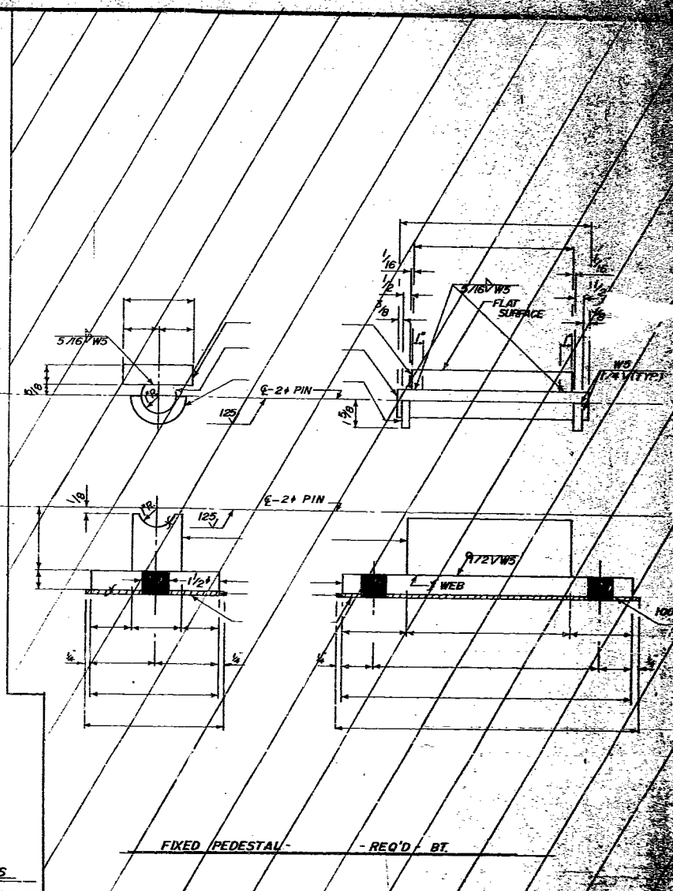
BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(84) Job 8-44-10
LOCATION PULASKI COUNTY, RTE. 44
BRIDGE No. A 5052
ARCH. ENG. PLANS APPROVED

79-7
15
16

A B C D E F G H J K M N P R S T U V W X Y AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ







FOR EACH: A16 - EXP. BRG.
A16 - TOP PL. 4½ x 1'-3 x 14
A16a - PIN 2'-4 x 15⅞ (MACH. DIM.) (A.I.S.I. C-1018)
A15b - COLLAR PL. 3¼ x ½ x 3¼ (CUT MAKES 2)
A16b - WEB PL. 4'-6 x 4 x 14 (MASS. DIM.)
A16c - ROCKER PL. 6 x 2¼ x 22" (MACH. DIM.)
A16d - BASE PL. 9 x 1½ x 22½ (MACH. DIM.)
A16e - PAD 9½ x 5 x 23

FOR EACH - B16 - EXP. BRG.
B16 - TOP PL. 4½ x 1¼ x 14
A16a - PIN
A15b - COLLAR
A16b - WEB PL
A16c - ROCKER PL
A16d - BASE PL
A16e - PAD

NOTE:
FABRIC PADS FOR BRG'S ARE ½" GREATER IN LENGTH & WIDTH THAN BASE PL'S. APPROX. ⅛" THICK.
DUROMETER: 80+10 (SHORE A) ULTIMATE BREAKDOWN: NOT LESS THAN 7000 P.S.I.
NOTE: ON ALL MATERIAL ——— HEAT NUMBER SHALL BE PAINTED
APPROX. 3'-0 FROM LEFT END & ON TOP OF PL'S.

BEARING NOTES:
MATERIAL FOR "C" & "D" BEARINGS SHALL BE A.S.T.M. - A36 STEEL.
MATERIAL FOR PINS SHALL BE A.I.S.I. - C1018 STEEL.
PREHEAT IN ACCORDANCE WITH A.W.S.
WHITE LEAD AND TALLOW ALL PINS & PIN SETS AFTER INSPECTION.
WHERE FLAT SURFACE IS INDICATED TOLERANCE SHALL BE .003 IN/IN IN ANY DIRECTION.
ROCKERS AND PEDESTALS SHALL BE MACHINED AFTER WELDING.

FOR BRIDGE PLANS

GENERAL NOTES:
BEAM OR GIRDER FLANGES SHALL BE SQUARED UP AT ALL POINTS OF BEARING.
ALL STEEL A.S.T.M. - A36-75 - EXCEPT AS NOTED. ALL BEAMS AND GIRDER FLG. PL'S NOTED WILL HAVE NOTCH TOUGHNESS OF 15 FT/LB AT 40°F.
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GIRDER OR BEAM BEARING STIFFENER PLATES SHALL BE GROUND TO BEAR OR WELDED AT BOTTOM, CLOSE JOINT AT TOP. MEASURE WF BEAMS BEFORE CUTTING BEARING STIFFENER PLATES.

GIRDER NOTES:
~~GIRDER INTERMEDIATE WEB AND DIAPHRAGM STIFFENER PLATES SHALL BE FITTED TO FORM A CLOSE JOINT (1/16) TO TOP AND BOTTOM.~~
GIRDER SHOP WELDED FLANGE SPLICES ARE TO BE MARKED WITH STEEL STENCIL APPROXIMATELY 1/4" FROM EDGE OF WELD AND ABOUT IN THE MIDDLE OF PLATE WITH "T" AND SHOP SPLICE NUMBER ON TOP OF TOP FLANGE AND WITH "B" AND SHOP SPLICE NUMBER ON BOTTOM OF BOTTOM FLANGE. ALL MARKS TO BE ON THE THICKER MATERIAL JOINED.
GIRDER WELDING WILL BE SUBJECT TO RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION.

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 2019
MO. STATE HIGHWAY DEPT.
DIVISION OF ENGINEERING

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN
FIELD WELD AS SHOWN
SHOP WELD
FIELD WELD

PAINT: SYSTEM "B" TYPE II
BOLTS RIVETS UNLESS NOTED
OPEN HOLES UNLESS NOTED

PRINT RECORD
NO. | PRINT DATE | BY | SET

DELONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

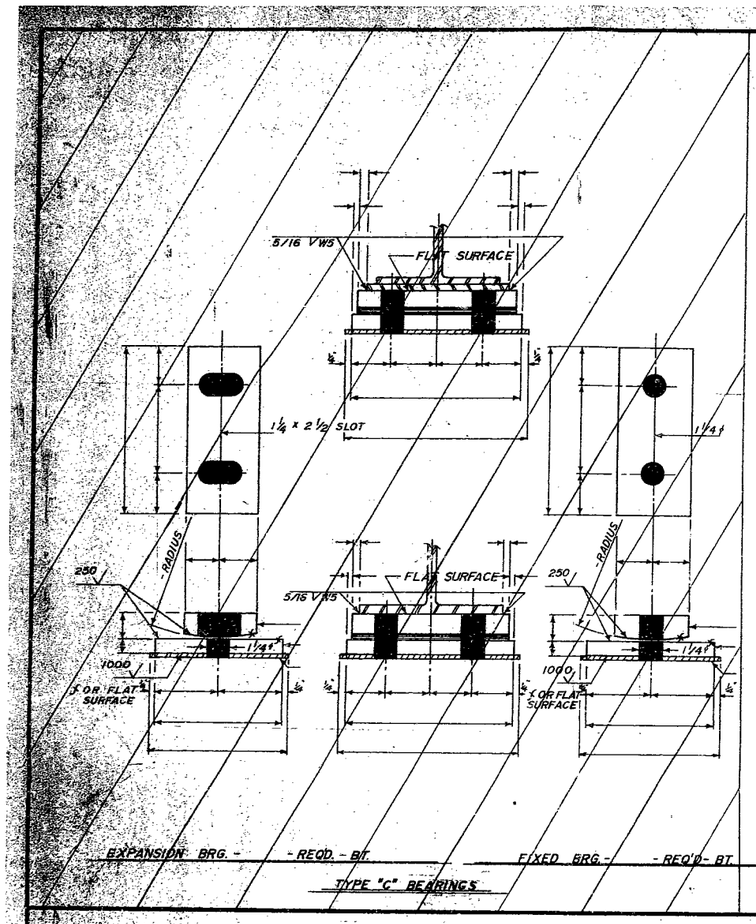
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DATE	3-14-79
CHECKED BY	DMP
DATE	3-27-79

REVISIONS

DATE	MK. BY	REMARKS

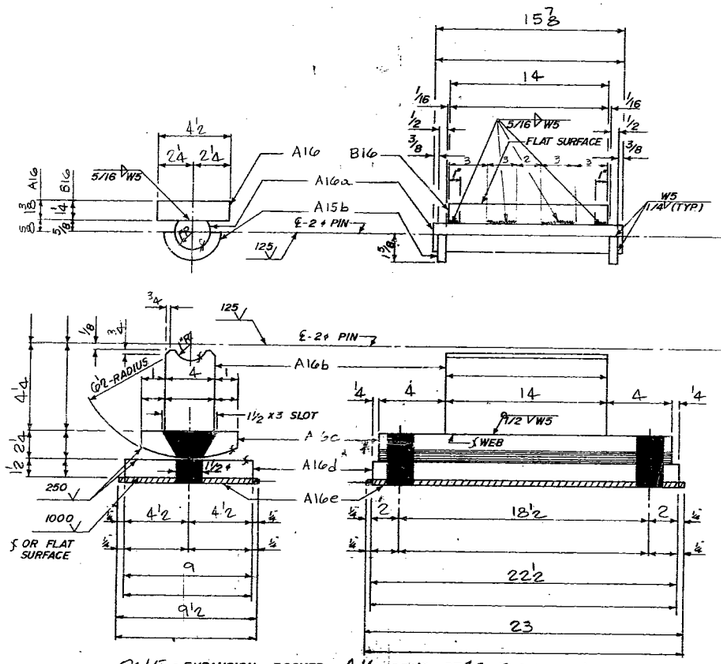
BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(84) Job B-I-44-90
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE NO. A-3052
ARCH-ENG. MO. 2

A B C D E F G H J K L M N P R S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



EXPANSION BRG. - - REQD. - BT. FIXED BRG. - - REQ'D - BT.

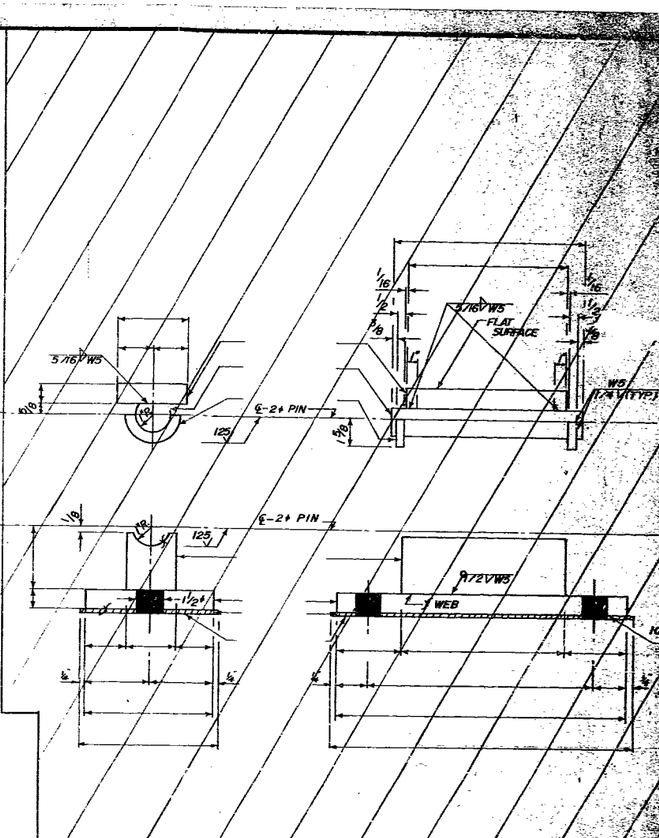
TYPE "C" BEARINGS



ONE - EXPANSION ROCKER - A16 - REQ'D - BT. #2 STRINGER 4

11 - EXPANSION ROCKER - B16 - REQ'D - BT. #2 STRINGERS 1-2-3-5-6
BT. #4 STRINGERS 1-2-3-4-5-6

TYPE "D" BEARINGS



FIXED PEDESTAL - - REQ'D / BT.

FOR EACH A16 - EXP. BRG.

A16 - TOP PL - 2'-2½" x 1'-3" x 14
A16a - PIN 2"ϕ x 15⅞ (MACH. DIM.) (A.I.S.I. C-1018)
A15b - COLLAR PL - 3¼" x ½" x 3¼" (CUT MAKES 2)
A16b - WEB PL - 4'-6" x 4" x ¼" (MASS. DIM.)
A16c - ROCKER PL - 6" x 2¼" x 22" (MACH. DIM.)
A16d - BASE PL - 9" x 1½" x 22½" (MACH. DIM.)
A16e - PAD - 9½" x ⅝" x 23

FOR EACH B16 - EXP. BRG.

B16 - TOP PL - 4'-2½" x 1'-2" x 14
A16a - PIN
A15b - COLLAR
A16b - WEB PL
A16c - ROCKER PL
A16d - BASE PL
A16e - PAD

NOTE:
FABRIC PADS FOR BRG'S ARE ½" GREATER IN LENGTH & WIDTH THAN BASE PL'S. APPROX. ⅛" THICK.
DUROMETER: 80 ± 10 (SHORE A) ULTIMATE BREAKDOWN: NOT LESS THAN 7000 P.S.I.
NOTE: ON ALL MATERIAL ——— HEAT NUMBER SHALL BE PAINTED
APPROX. 5'-0" FROM LEFT END & ON TOP OF PL's.

BEARING NOTES:

MATERIAL FOR "C" & "D" BEARINGS SHALL BE A.S.T.M. - A36 STEEL.
MATERIAL FOR PINS SHALL BE A.I.S.I. - C1018 STEEL.
PREHEAT IN ACCORDANCE WITH A.W.S.
WHITE LEAD AND TALLOW ALL PINS & PIN SETS AFTER INSPECTION.
WHERE FLAT SURFACE IS INDICATED TOLERANCE SHALL BE .003 IN/IN. IN ANY DIRECTION.
ROCKERS AND PEDESTALS SHALL BE MACHINED AFTER WELDING.

GENERAL NOTES:

BEAM OR GIRDER FLANGES SHALL BE SQUARED UP AT ALL POINTS OF BEARING.
ALL STEEL A.S.T.M. - 436-75 - EXCEPT AS NOTED. ALL BEAMS AND GIRDER FLG. PL'S NOTED WILL HAVE NOTCH TOUGHNESS OF 15 FT/LB AT 40°F.
HOLES IN GIRDERS OR BEAMS AND PLATES FOR SPLICES TO BE SUBPUNCHED 11/16" AND REAMED ASSEMBLED TO 15/16", OR DRILLED FROM THE SOLID WHILE ASSEMBLED, AND MATCH MARKED.
GIRDER OR BEAM BEARING STIFFENER PLATES SHALL BE GROUND TO BEAR OR WELDED AT BOTTOM, CLOSE JOINT AT TOP. MEASURE WF BEAMS BEFORE CUTTING BEARING STIFFENER PLATES.

GIRDER NOTES:

~~GIRDER INTERMEDIATE WEB AND DIAPHRAGM STIFFENER PLATES SHALL BE FITTED TO FORM A CLOSE JOINT (1/16) TOP AND BOTTOM.~~

GIRDER SHOP WELDED FLANGE SPLICES ARE TO BE MARKED WITH STEEL STENCIL APPROXIMATELY 1/4" FROM EDGE OF WELD AND ABOUT IN THE MIDDLE OF PLATE WITH "T" AND SHOP SPLICE NUMBER ON TOP OF TOP FLANGE AND WITH "B" AND SHOP SPLICE NUMBER ON BOTTOM OF BOTTOM FLANGE. ALL MARKS TO BE ON THE THICKER MATERIAL JOINED.
GIRDER WELDING WILL BE SUBJECT TO RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION.

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

PAINT: SYSTEM "B" TYPE II

BOLTS UNLESS NTD
RIVETS UNLESS NTD
OPEN HLS

PRINT RECORD					
NO.	FOR	DATE	NO.	FOR	DATE
1	PE	3-14-79			
2	F	3-27-79			

DELONG'S INC. DIX RD. & IND. DR. DE SOTO, MISSOURI

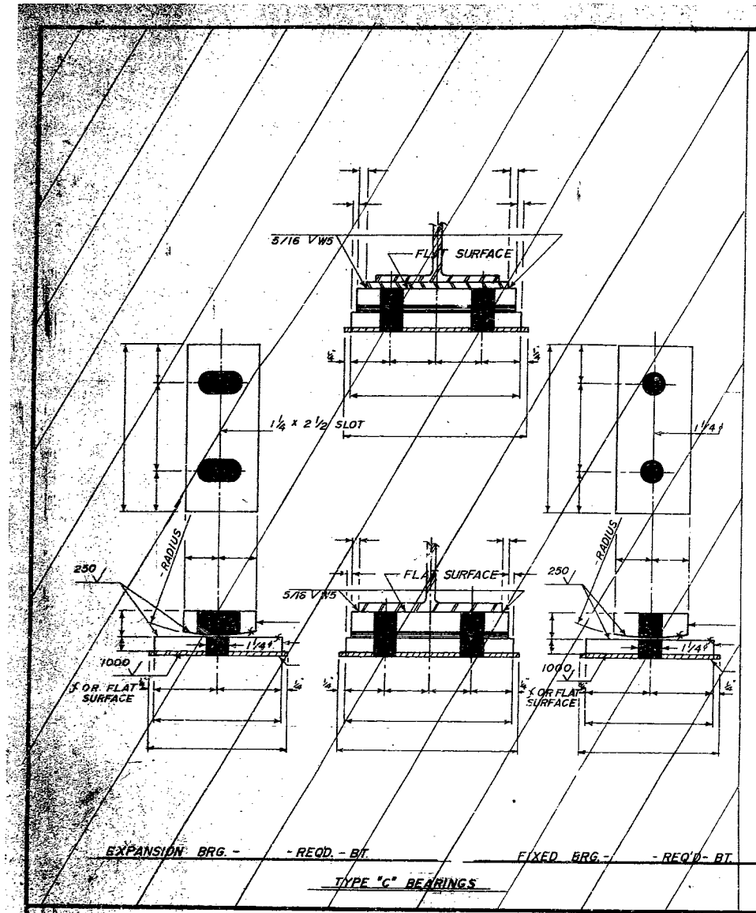
DETAILED BY J.D.P DATE 3-14-79
CHECKED BY DMP DATE 3-27-79

REVISIONS			
DATE	MK.	BY	REMARKS

BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(64) Job B-7-44-90
LOCATION PULASKI COUNTY - RTE. I-44
BRIDGE No. A-3052
ARCH-ENGR. No. 79-7

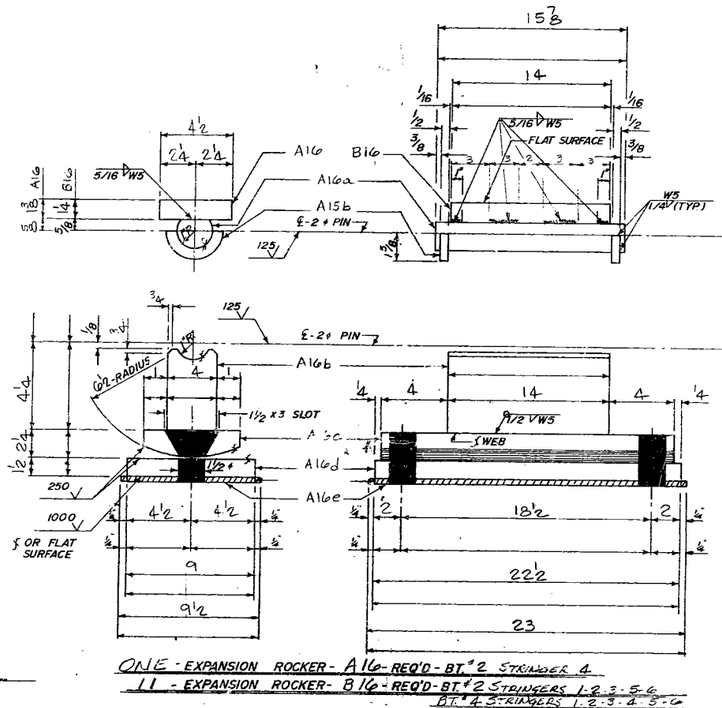
79-7
16
16

A B C D E F G H J K M N P S AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



EXPANSION BRG. - - REQD. - BT. FIXED BRG. - - REQ'D - BT.

TYPE "C" BEARINGS

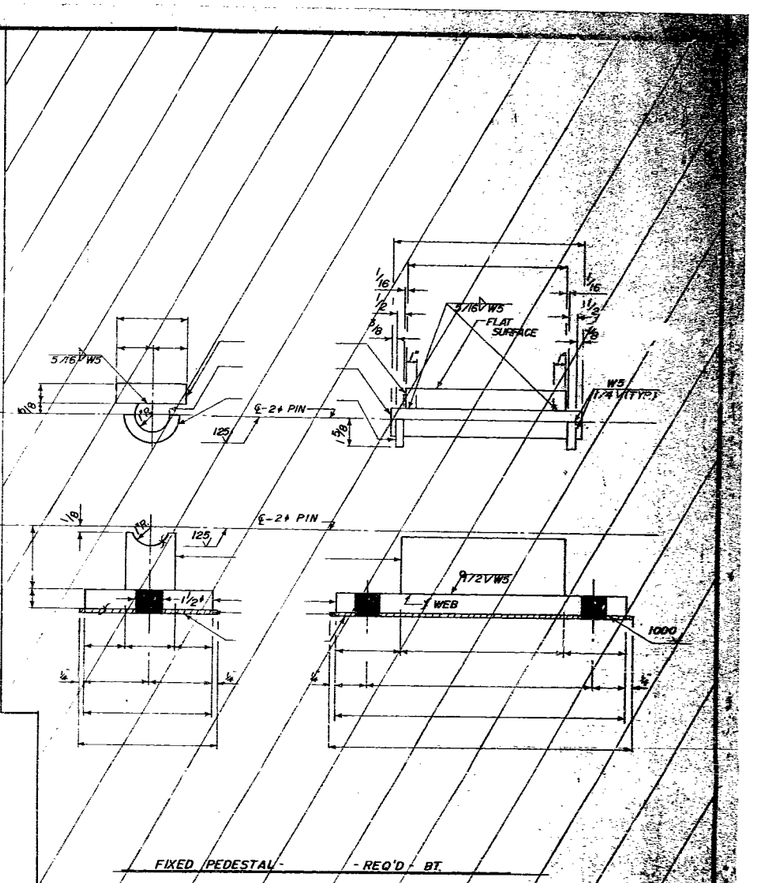


ONE - EXPANSION ROCKER - A16 - REQ'D - BT. #2 STRINGER 4

11 - EXPANSION ROCKER - B16 - REQ'D - BT. #2 STRINGERS 1-2-3-5-6

BT. #4 STRINGERS 1-2-3-4-5-6

TYPE "D" BEARINGS



FIXED PEDESTAL - - REQ'D / BT.

FOR EACH - A16 - EXP. BRG.

A16 - TOP PL - 4½ x 1'8 x 14
A16a - PIN 2¼ x 15⅞ (MACH. DIM.) (A.I.S.I. C-1018)
A15b - COLLAR PL - 3¼ x ½ x 3¼ (CUT MAKES 2)
A16b - WEB PL - 4'8 x 4 x 14 - (MACH. DIM.)
A16c - ROCKER PL - 6 x 2¼ x 22" (MACH. DIM.)
A16d - BASE PL - 9 x 1½ x 22½ (MACH. DIM.)
A16e - PAD - 9½ x ⅝ x 23

FOR EACH - B16 - EXP. BRG.

B16 - TOP PL - 4½ x 1½ x 14
A16a - PIN
A15b - COLLAR
A16b - WEB PL
A16c - ROCKER PL
A16d - BASE PL
A16e - PAD

NOTE:
FABRIC PADS FOR BRG'S ARE ½" GREATER IN LENGTH & WIDTH THAN BASE PL'S. APPROX. ⅛" THICK.
DUROMETER: 80±10 (SHORE A) ULTIMATE BREAKDOWN: NOT LESS THAN 7000 P.S.I.

NOTE: ON ALL MATERIAL _____ HEAT NUMBER SHALL BE PAINTED
APPROX. 3'-0 FROM LEFT END & ON TOP OF PL's.

BEARING NOTES:

MATERIAL FOR "C" & "D" BEARINGS SHALL BE A.S.T.M. - A36 STEEL.
MATERIAL FOR PINS SHALL BE A.I.S.I - C1018 STEEL.
PREHEAT IN ACCORDANCE WITH A.W.S.
WHITE LEAD AND TALLOW ALL PINS & PIN SETS AFTER INSPECTION.
WHERE FLAT SURFACE IS INDICATED TOLERANCE SHALL BE .003 IN/IN IN ANY DIRECTION.
ROCKERS AND PEDESTALS SHALL BE MACHINED AFTER WELDING.

FOR BRIDGE FILES

GENERAL NOTES:

BEAM OR GIRDER FLANGES SHALL BE SQUARED UP AT ALL POINTS OF BEARING.
ALL STEEL A.S.T.M. - A36-75 - EXCEPT AS NOTED. ALL BEAMS AND GIRDER FLG. PL'S NOTED WILL HAVE NOTCH TOUGHNESS OF 15 FT/LB. AT 40°F.
HOLES IN GIRDERS OR BEAMS AND PLATES FOR SPLICES TO BE SUBPUNCHED 11/16" AND REAMED ASSEMBLED TO 15/16", OR DRILLED FROM THE SOLID WHILE ASSEMBLED, AND MATCH MARKED.
GIRDER OR BEAM BEARING STIFFENER PLATES SHALL BE GROUND TO BEAR OR WELDED AT BOTTOM, CLOSE JOINT AT TOP. MEASURE WC BEAMS BEFORE CUTTING BEARING STIFFENER PLATES.

GIRDER NOTES:

~~GIRDER INTERMEDIATE WEB AND DIAPHRAGM STIFFENER PLATES SHALL BE FITTED TO FORM A CLOSE JOINT (1/16) TOP AND BOTTOM.~~

GIRDER SHOP WELDED FLANGE SPLICES ARE TO BE MARKED WITH STEEL STENCIL APPROXIMATELY 1/4" FROM EDGE OF WELD AND ABOUT IN THE MIDDLE OF PLATE WITH "T" AND SHOP SPLICE NUMBER ON TOP OF TOP FLANGE AND WITH "B" AND SHOP SPLICE NUMBER ON BOTTOM OF BOTTOM FLANGE. ALL MARKS TO BE ON THE THICKER MATERIAL JOINED.
GIRDER WELDING WILL BE SUBJECT TO RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION.

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 30 1979
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



PAINT System "B" Type II

BOLTS UNLESS NTD
RIVETS UNLESS NTD
OPEN HLS

PRINT RECORD						
NO.	POR	DATE	NO.	POR	DATE
1			2		
3			4		

DELONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

DETAILED BY	REVISIONS				
J.U.P	DATE	MK.	BY	REMARKS
DATE 3-14-79				
CHECKED BY DMP				
DATE 3-27-79				

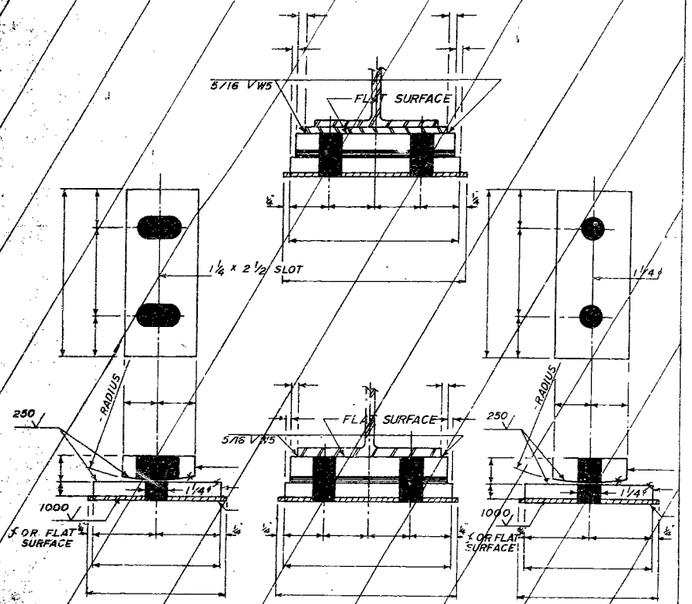
BRIDGE OVER ROUTE H UNDERPASS
PROJECT NO. I-44-2(64) Job 8-I-44-90
LOCATION PULASKI COUNTY - RT. I-44
BRIDGE No. A-3052
ARCH-ENGR. MO. STATE HIGHWAY DEPT.

79-7
16
16

A B C D E F G H J K M N P S T U W Y AA AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

82

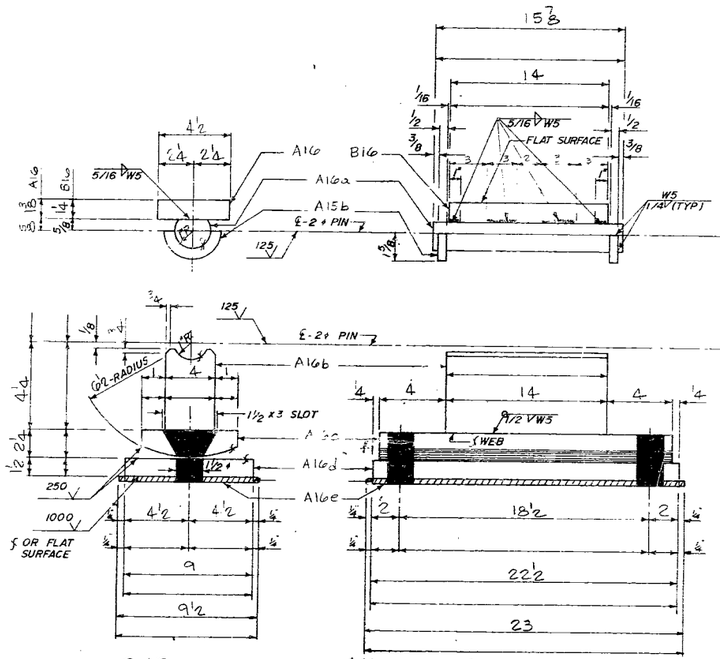
203-84 TO 1



EXPANSION BRG. - - REQD. - BT.

FIXED BRG. - - REQ'D - BT.

TYPE "C" BEARINGS

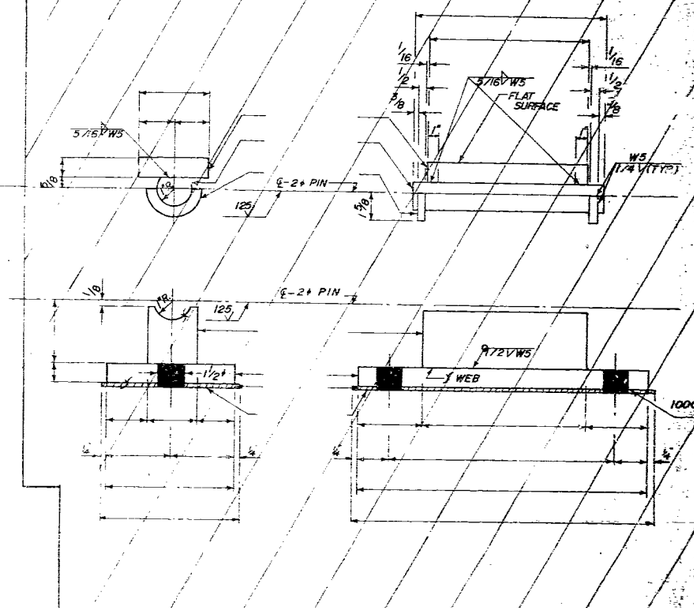


ONE - EXPANSION ROCKER - A16 - REQ'D - BT. #2 STRINGER 4

11 - EXPANSION ROCKER - B16 - REQ'D - BT. #2 STRINGERS 1-2-5-6

BT. #4 STRINGER 1-2-3-4-5-6

TYPE "D" BEARINGS



FIXED PEDESTAL - - REQ'D - BT.

82

FOR EACH A16 - EXP. BRG.

A16 - TOP PL - 4'-2 x 1'-8 x 14

A16a - PIN 2'-4 x 15⅞ (MACH. DIM.) (A.I.S.I. C-1018)

A15b - COLLAR PL - 3¼ x 1'-2 x 3¼ (CUT MAKES 2)

A16b - WEB PL - 4'-6 x 4 x 14 (MACH. DIM.)

A16c - ROCKER PL - 6 x 2'-4 x 22" (MACH. DIM.)

A16d - BASE PL - 9 x 1'-2 x 22'-2

A16e - PAD - 9½ x ⅝ x 23

FOR EACH B16 - EXP. BRG.

B16 - TOP PL - 4'-2 x 1'-4 x 14

A16a - PIN

A15b - COLLAR

A16b - WEB PL

A16c - ROCKER PL

A16d - BASE PL

A16e - PAD

NOTE:

FABRIC PADS FOR BRG'S ARE ½" GREATER IN LENGTH & WIDTH THAN BASE PL'S.

APPROX. ⅛" THICK.

DUROMETER: 50+10 (SHORE A) ULTIMATE BREAKDOWN: NOT LESS THAN 7000 P.S.I.

NOTE: ON ALL MATERIAL ——— HEAT NUMBER SHALL BE PAINTED

APPROX. 3'-0 FROM LEFT END & ON TOP OF PL'S.

BEARING NOTES:

MATERIAL FOR "C" & "D" BEARINGS SHALL BE A.S.T.M. - A36 STEEL.

MATERIAL FOR PINS SHALL BE A.I.S.I. - C1018 STEEL.

PREHEAT IN ACCORDANCE WITH A.W.S.

WHITE LEAD AND TALLOW ALL PINS & PIN SETS AFTER INSPECTION.

WHERE FLAT SURFACE IS INDICATED TOLERANCE SHALL BE .003 IN/IN IN ANY DIRECTION.

ROCKERS AND PEDESTALS SHALL BE MACHINED AFTER WELDING.

FOR BRIDGE FILES

GENERAL NOTES:

BEAM OR GIRDER FLANGES SHALL BE SQUARED UP AT ALL POINTS OF BEARING.

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GIRDER OR BEAM BEARING STIFFENER PLATES SHALL BE GROUND TO BEAR OR WELDED AT BOTTOM, CLOSE JOINT AT TOP. MEASURE WF BEAMS BEFORE CUTTING BEARING STIFFENER PLATES.

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 20 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

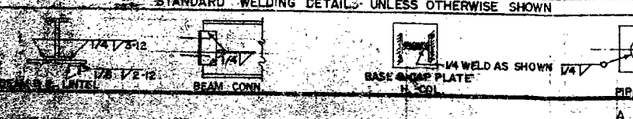
GIRDER NOTES:

~~GIRDER INTERMEDIATE WEB AND DIAPHRAGM STIFFENER PLATES SHALL BE FITTED TO FORM A CLOSE JOINT (1/16) FOR AND BOTTOM.~~

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GIRDER WELDING WILL BE SUBJECT TO RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION.

STANDARD WELDING DETAILS - UNLESS OTHERWISE SHOWN



PAINT: System 3 Type II

BOLTS ——— UNLESS NTD

RIVETS ——— UNLESS NTD

OPEN HLS ——— UNLESS NTD

PRINT RECORD	NO.	FOR	DATE	NO.	FOR	DATE
	1	F		2	C	1-17-79
	5	F	3-23-79	6	S	4-6-79
				6	M	4-6-79

DELONG'S INC. DIX RD. & IND. DR. JEFFERSON CITY, MISSOURI

DETAILED BY	JDP
DATE	3-14-79
CHECKED BY	DMC
DATE	3-27-79

REVISIONS	DATE	MK.	BY	REMARKS

BRIDGE OVER ROUTE H UNDERPASS

PROJECT NO. F-44-2(84) Job B-7-41-80

LOCATION PULASKI COUNTY - RT. 44 - E

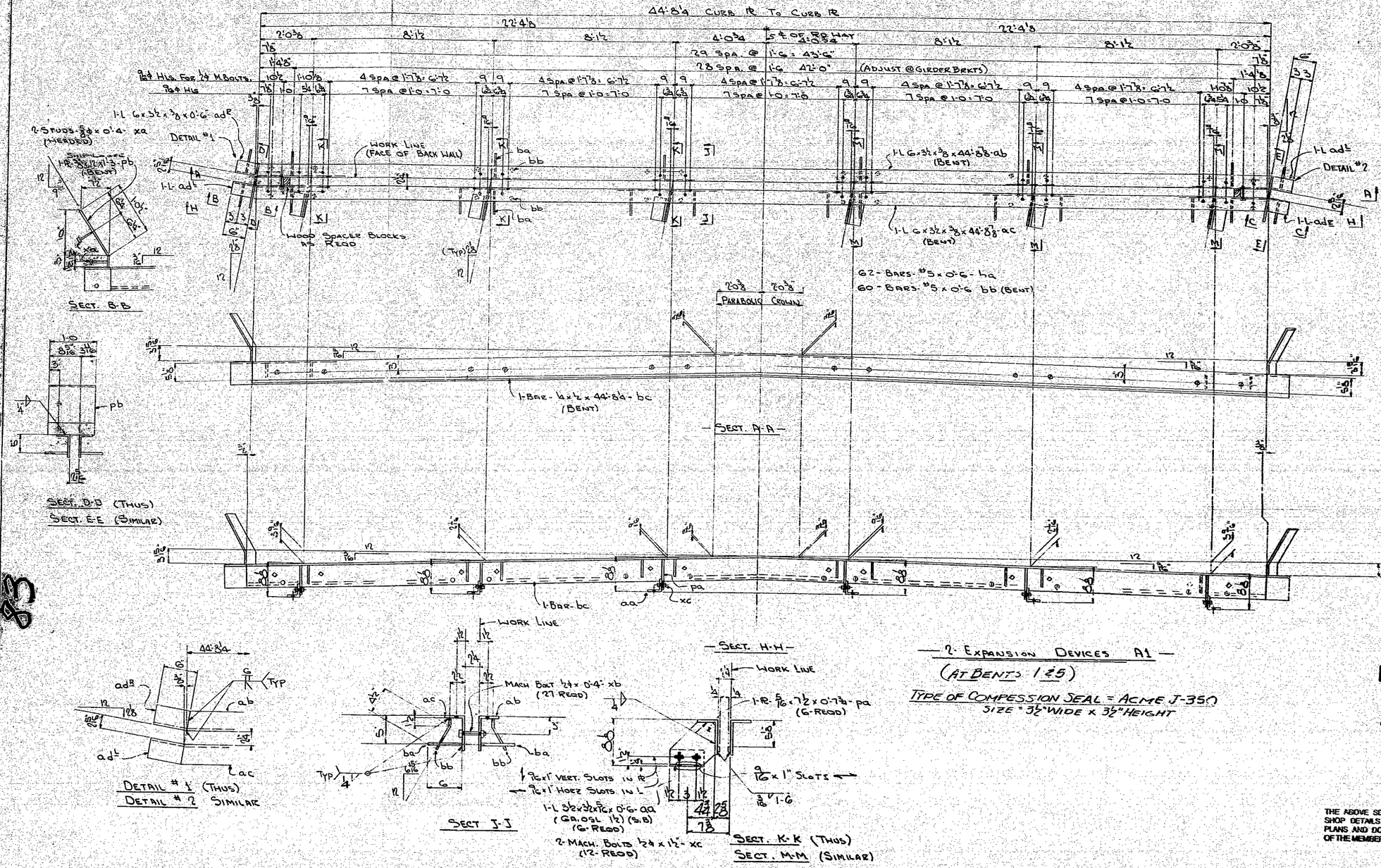
BRIDGE No. A-3052

ARCH. ENGR. MO. STATE HWY. DEPT.

MISC. NO.	79-7
	16
	16

A B C D E F G H J K M N P S T U V W X Y Z AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

203.24 TO 1



2 EXPANSION DEVICES A1

(AT BENTS 1 & 5)

TYPE OF COMPRESSION SEAL = ACME J-350
SIZE = 3½" WIDE x 3½" HEIGHT

CLEANING SPEC: SSPC-SP10 SANDBLAST
PAINT SPEC: INORGANIC ZINC SILICATE (1) COAT SYSTEM (MIL/MIL INC. (SYSTEM C)
HUB: NOTED

DRAWN: R 9/3/79
CHKD: KW 2/15/79

FOR BRIDGE FILES

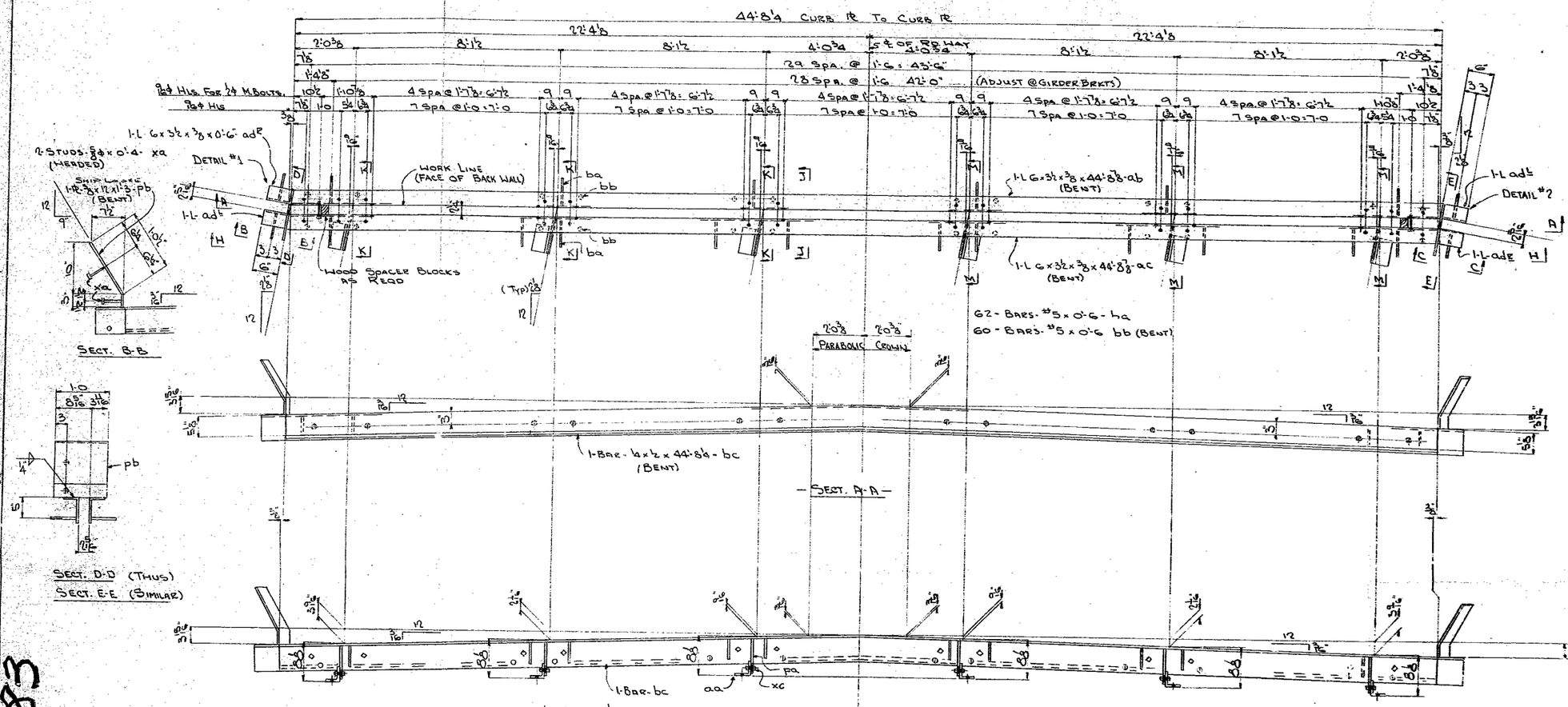
APPROVED
GENERAL DESIGN FEATURES ONLY
APR 25 1979
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

THE ABOVE SEAL AND SIGNATURE REPRESENT A REVIEW OF THE SHOP DETAILS ON THIS DRAWING FOR CONFORMITY TO DESIGN PLANS AND DOES NOT ASSUME RESPONSIBILITY FOR THE DESIGN OF THE MEMBERS FOR THIS STRUCTURE.

Sheet No. 1 of 1

MESCO INDUSTRIES INC.
604 SO. 10TH ST.
BLUE SPRINGS, MO. 64015

EXPANSION DEVICES
MISSOURI STATE HIGHWAY COMMISSION
BRIDGE: ROUTE H UNDER PASS
STATE ROAD, FROM WAYNESVILLE TO LEBANON
ABT. 20 MILES SOUTHWEST OF WAYNESVILLE
PROJECT NO. I-44-2 (84) STA. 689+53.50
JOB NO. 8-I 44-9D ROUTE I-44
PULASKI COUNTY - MISSOURI
BRIDGE A-3052



FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 25 1979
MO. STATE HIGHWAY DEPT. DIVISION OF BRIDGES

KENNETH A. KEPNER — NUMBER E-6730 — REGISTERED PROFESSIONAL ENGINEER — STATE OF MISSOURI

THE ABOVE SEAL AND SIGNATURE REPRESENT A REVIEW OF THE SHOP DETAILS ON THIS DRAWING FOR CONFORMITY TO DESIGN PLANS AND DOES NOT ASSUME RESPONSIBILITY FOR THE DESIGN OF THE MEMBERS FOR THIS STRUCTURE.

Sheet No. 1 of 1

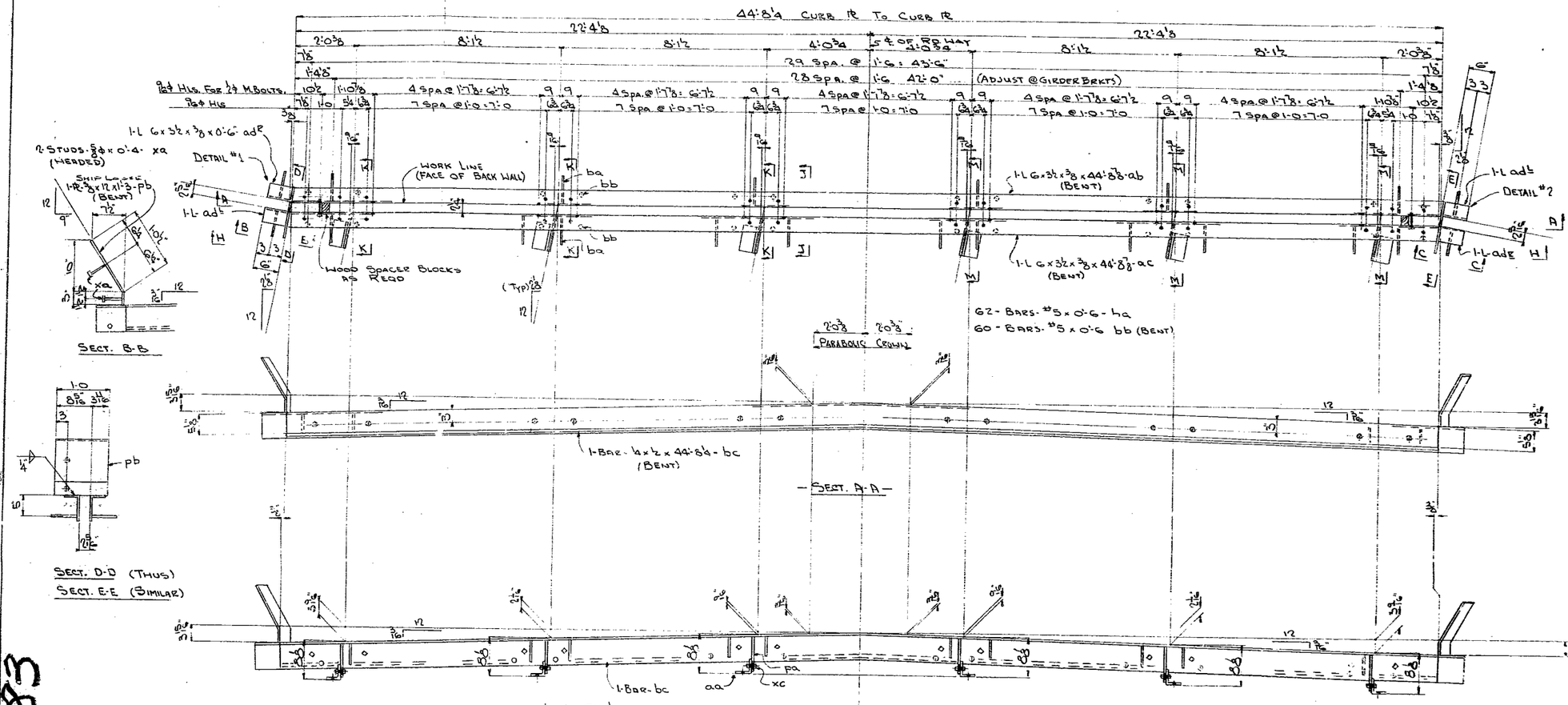
MESCO INDUSTRIES INC.
604 So. 10TH St.
BLUE SPRINGS, MO. 64015

EXPANSION DEVICES
MISSOURI STATE HIGHWAY COMMISSION
BRIDGE: ROUTE H UNDER I-44
STATE ROAD. FROM WAYNESVILLE TO LEBANON
ABT. 20 MILES SOUTHWEST OF WAYNESVILLE
PROJECT NO. I-44-2 (84) STA. 689+93.0
JOB NO. 8.1.44.90 ROUTE I-44
PULASKI COUNTY - MISSOURI
BRIDGE A-3052

CLEANING SPEC: SANDBLAST SSPC-SP10
PAINT SPEC. INORGANIC ZINC SILICATE(2) COAT SHERWIN-WILLIAMS (SYSTEM C)
HLS: NOTED

DRAWN: R 2/5/79
CHK'D: KW 2/15/79

83



2 EXPANSION DEVICES A1

(AT BENTS 1 & 5)

TYPE OF COMPRESSION SEAL = ACME J-350
SIZE = 3½" WIDE x 3½" HEIGHT

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 25 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

STATE OF MISSOURI
JOSEPH A. ROMER
NUMBER 15734
REGISTERED PROFESSIONAL ENGINEER

THE ABOVE SEAL AND SIGNATURE REPRESENT A REVIEW OF THE SHOP DETAILS ON THIS DRAWING FOR CONFORMITY TO DESIGN PLANS AND DOES NOT ASSUME RESPONSIBILITY FOR THE DESIGN OF THE MEMBERS FOR THIS STRUCTURE.

Sheet No. 1 of 1

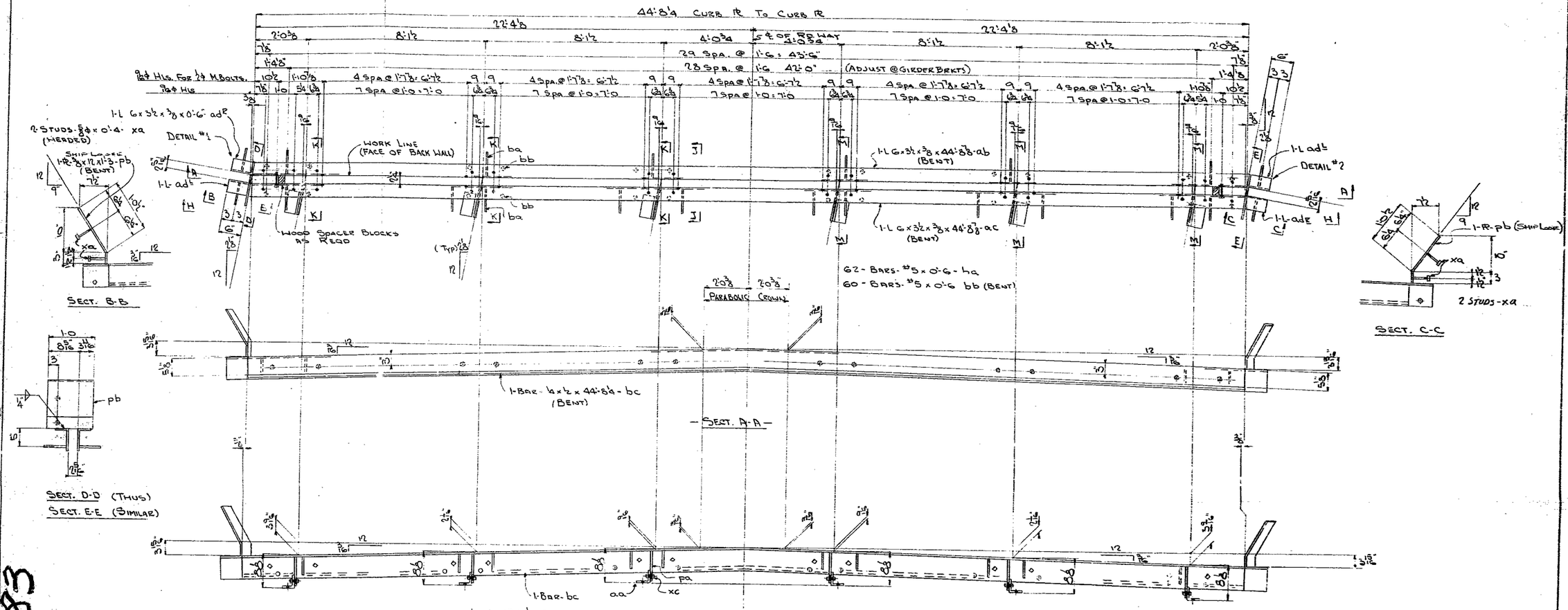
MESCO INDUSTRIES INC.
604 So. 10TH St.
BLUE SPRINGS, MO. 64015

EXPANSION DEVICES
MISSOURI STATE HIGHWAY COMMISSION
BRIDGE: ROUTE H UNDER PASS
STATE ROAD FROM WAYNESVILLE TO LEBANON
ABT. 2.0 MILES SOUTHWEST OF WAYNESVILLE
PROJECT NO. I-44-2 (54) STA. 689+9510
JOB NO. 8.1.44.90 ROUTE I-44
PULASKI COUNTY - MISSOURI
BRIDGE A-3052

CLEANING SPEC: SANDBLAST SSPC-SP10
PAINT SPEC. INORGANIC ZINC SILICATE (2) COATS SYST. MAINTNC. (SYSTEM C)
HLS: NOTED

DRAWN: R 2/5/79
CHK'D: KW 2/5/79

83



83

— 2 EXPANSION DEVICES A1 —
(AT BENTS 1 & 5)

TYPE OF COMPESSION SEAL = ACME J-350
SIZE = 3½" WIDE x 3½" HEIGHT

FOR BRIDGE FILES

APPROVED
GENERAL DESIGN FEATURES ONLY
APR 25 1979
MO. STATE HIGHWAY DEPT.
DIVISION OF BRIDGES

THE ABOVE SEAL AND SIGNATURE REPRESENT A REVIEW OF THE SHOP DETAILS ON THIS DRAWING FOR CONFORMITY TO DESIGN PLANS AND DOES NOT ASSUME RESPONSIBILITY FOR THE DESIGN OF THE MEMBERS FOR THIS STRUCTURE.

Sheet No. 1 of 1

MESCO INDUSTRIES INC.
604 So. 10TH St.
BLUE SPRINGS, MO. 64015

EXPANSION DEVICES
MISSOURI STATE HIGHWAY COMMISSION
BRIDGE: ROUTE H UNDER PASS
STATE ROAD. FROM WAYNESVILLE TO LEBANON
ABT. 20 MILES SOUTHWEST OF WAYNESVILLE
PROJECT NO. I-44-2 (84) STA. 689+9510
JOB NO. 8.1.44.90 ROUTE I-44
PULASKI COUNTY - MISSOURI
BRIDGE A-3052

CLEANING SPEC: SANDBLAST SSPC-SP10
PAINT SPEC. INORGANIC ZINC SILICATE(2) COATS 5 MIL MIN THK. (SYSTEM C)
HLS: NOTED

DRAWN: R 2/15/79
CHK'D: KW 2/15/79

CD Label

Bridge No. A30521

District 9

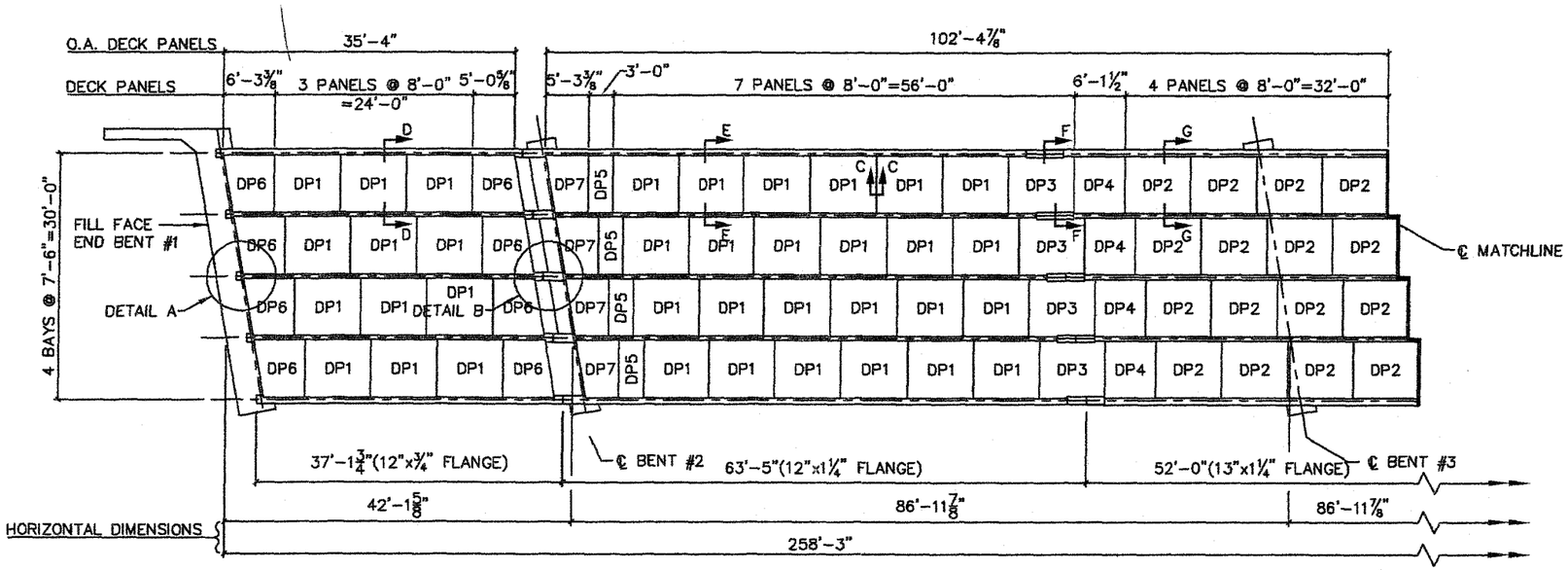
Pulaski County

Route H

Job Number [redacted] J9S0580

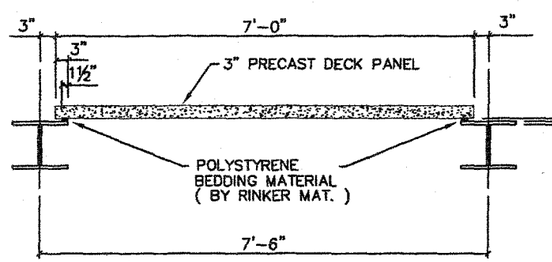
Book marks [✓ Yes] [No]

Reviewed for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.
... is not intended to coordinate ... item.
... responsible for ... elements when so ... specifications.
... only is in no ... this review.
08/19/03
X ... DESIGN FEATURES ONLY
☐ ... CTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

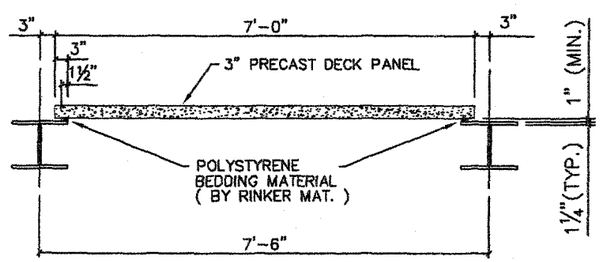


ERECTION PLAN

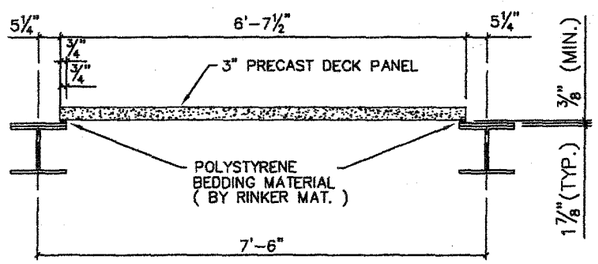
10°
RIGHT ADVANCE



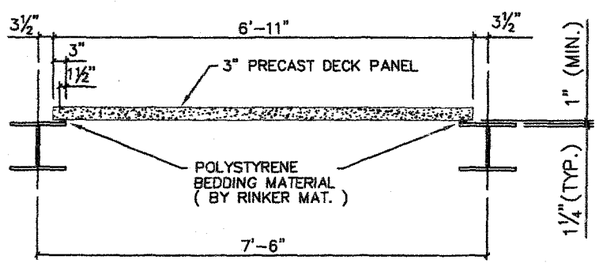
SECTION 'D-D'
(TYPICAL)



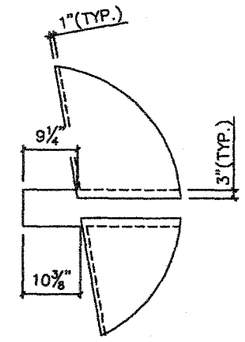
SECTION 'E-E'
(TYPICAL)



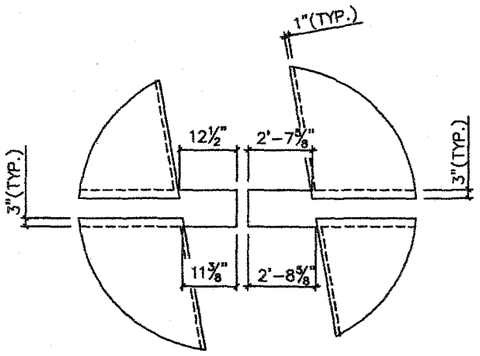
SECTION 'F-F'
(TYPICAL @ SPLICE PLATE)



SECTION 'G-G'
(TYPICAL)

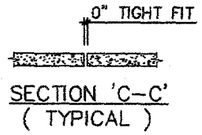


DETAIL A



DETAIL B

JOINT FILLER		
SECTION D-D	1½" X 1½"	566 FT.
SECTION E-E & SECTION G-G	1½" X 1"	1316 FT.
SECTION F-F	¾" X ¾"	73 FT.



SECTION 'C-C'
(TYPICAL)

FOR BRIDGE FILES

THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

Rinker MATERIALS™ MARSHALL, MISSOURI (660)886-3306 HWY 20 WEST

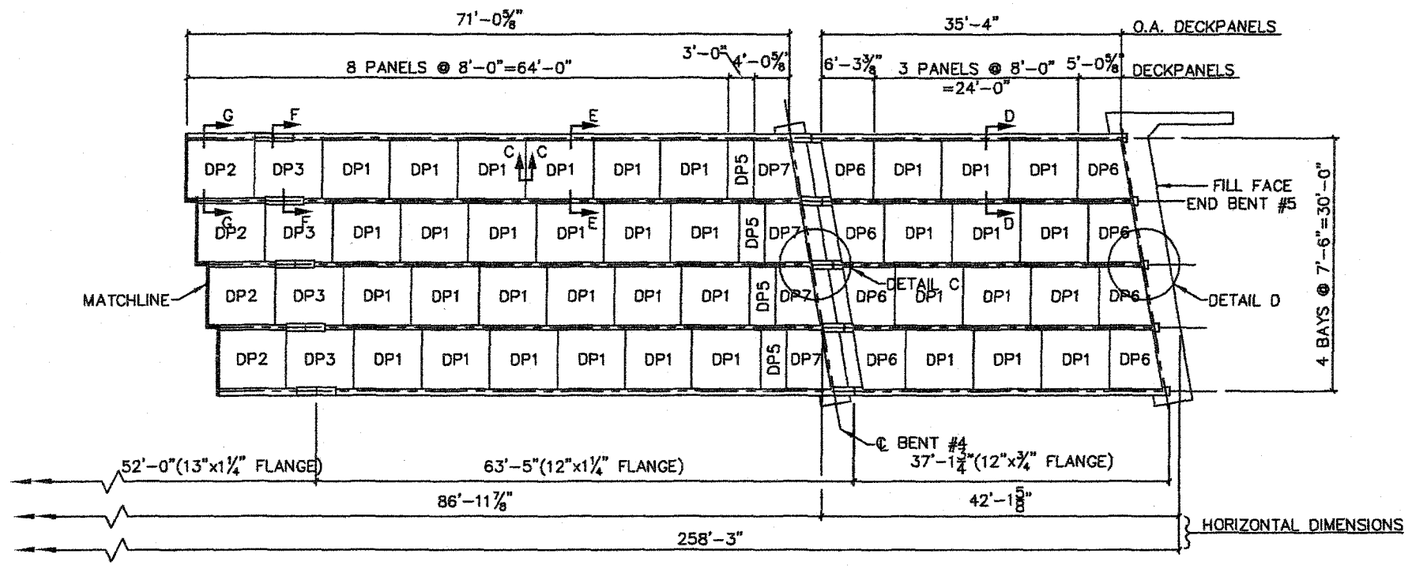
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MO
BRIDGE OVER I-44
STATE ROAD RTE. H FROM WAYNESVILLE TO I-44

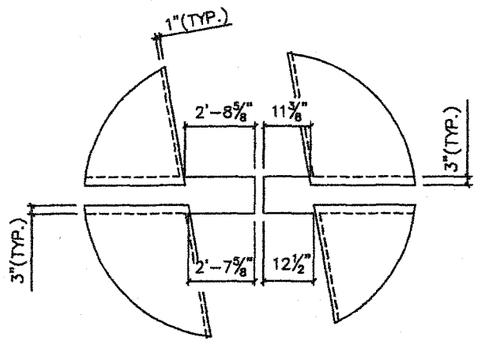
BRIDGE NO. A30521 JOB NO. J9S0500
PROJ. NO. F.A.F-1053(6) STATION NO. 32+06.12

CONTRACTOR: EMERY SAPP

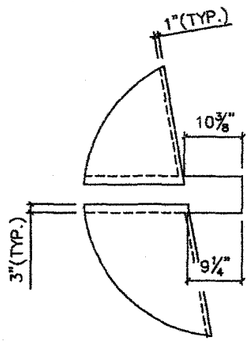
DRWN. BY RAA RM JOB NO. PLE
CHKD. BY: ACF RM FILE # 04-070
DATE 8-5-03 SH. E1 OF 2

△ REVISIONS





DETAIL C



DETAIL D

ERECTION PLAN



10°

RIGHT ADVANCE

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

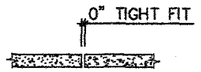
Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 08/19/03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION
  MoDOT - BRIDGES

FOR BRIDGE FILES



SECTION 'E-E'
(TYPICAL)

△ REVISIONS

THIS DRAWING IS NOT TO SCALE, FOLLOW DIMENSIONS

Rinker MATERIALS™ MARSHALL, MISSOURI (660)886-3306 HWY 20 WEST

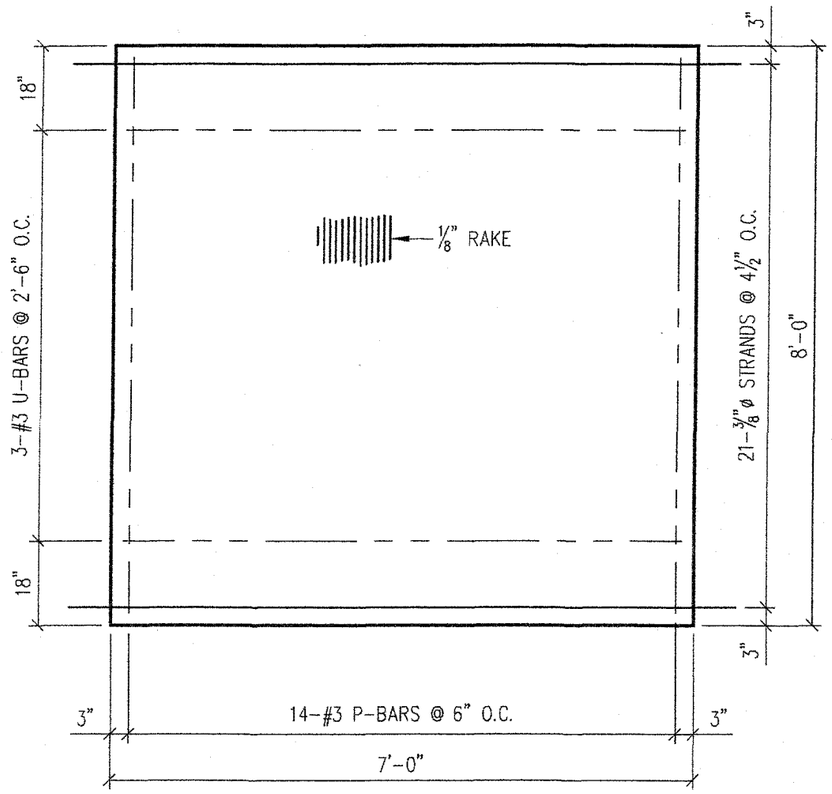
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MO
BRIDGE OVER I-44
STATE ROAD RTE. H FROM WAYNESVILLE TO I-44

BRIDGE NO. A30521 JOB NO. J9S0500
PROJ. NO. F.A.F-1053(6) STATION NO. 32+06.12

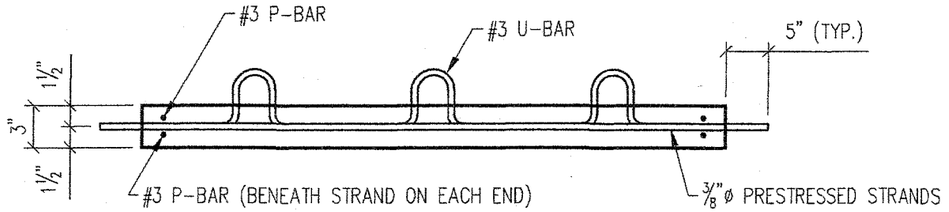
CONTRACTOR:
EMERY SAPP

DRWN. BY RAA
CHKD. BY: ACF
DATE 8-5-03

RM JOB NO. PLE
RM FILE # 04-070
SH. E2 OF 2

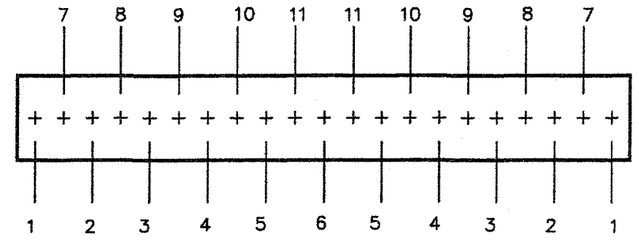


PLAN OF PRESTRESSED PANEL



SECTION A-A

NOTE: U–BARS USED AS LIFTING LOOPS.



CUTTING SEQUENCE

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

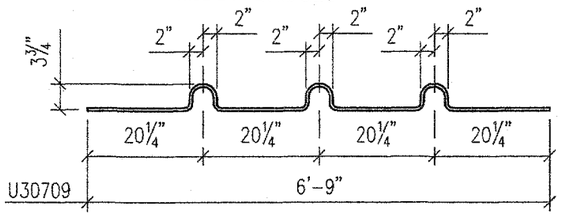
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DATE 08/19/03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES



NOTE: SPECIAL STRAND CUT

** EPOXY COATED*

FOR BRIDGE FILES

WBS ELEMENT PS120

CAST IN PARTS		
DESCRIPTION	REQ'D	TOT
*U30709	3	216
*P30709	16	1152

FINISH –	1/8" RAKE
REINF. STEEL GRADE –	60
STRAND TYPE –	LOW RELAX
STRAND –	21 – 3/8"ø 270 KSI
STRAND INITIAL TENSION –	17.2 K
CONC. @ 28 DAY –	6000 PSI
CONC. @ RELEASE –	3500 PSI
VOL. – 0.52 cu.yds WT. –	2,100 lbs.

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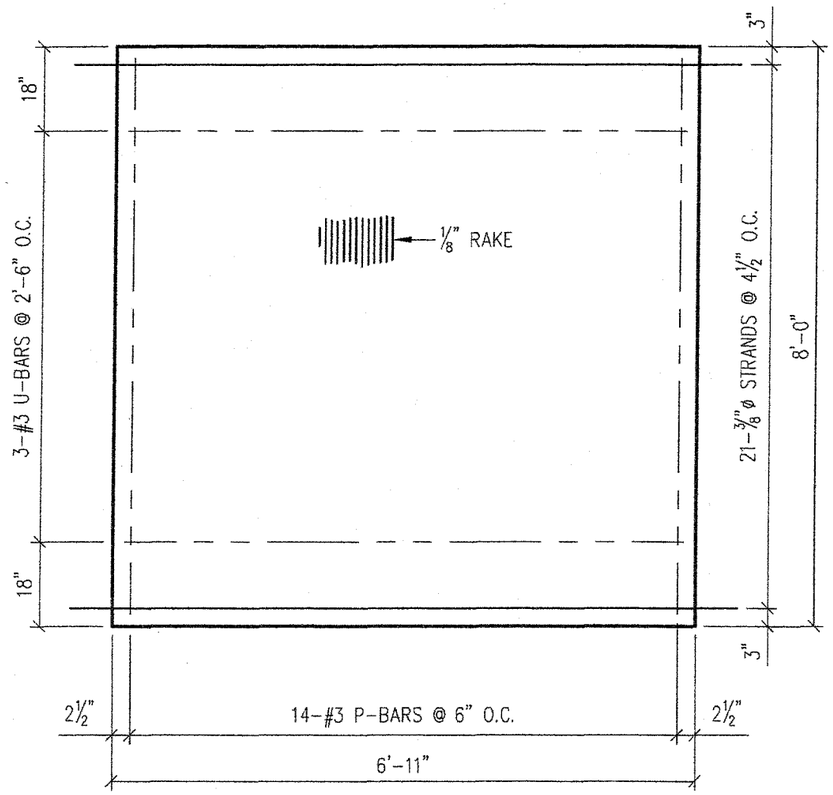
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FX: (660) 886-9686

RM JOB# PLE 04-070

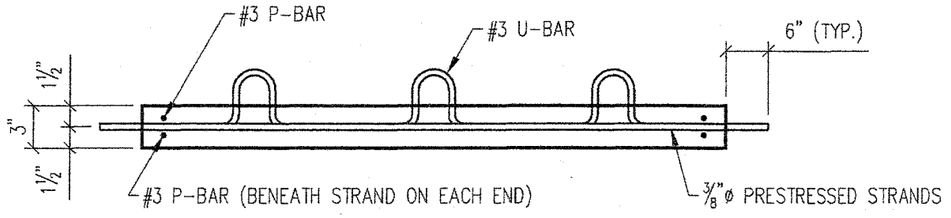
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MO
BRIDGE NO. A30521
JOB NO. J9S0500
PROJECT NO. F.A.F–1053(6)

QUANTITY 72

DRAWN BY:	CHK'D BY:	DATE:	MARK
RAA	ACF	8-5-03	DP1

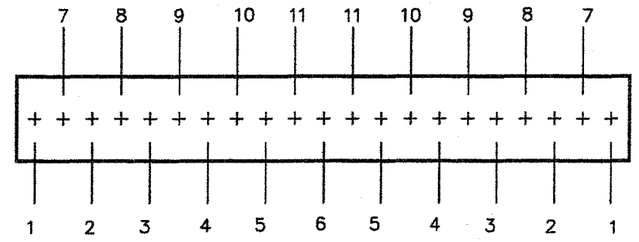


PLAN OF PRESTRESSED PANEL



SECTION A-A

NOTE: U–BARS USED AS LIFTING LOOPS.



CUTTING SEQUENCE

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

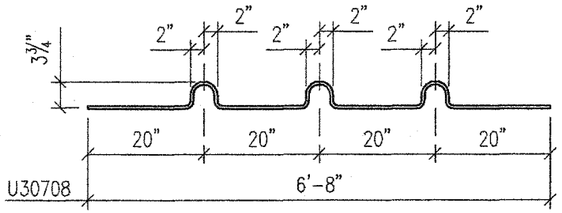
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DATE 08/19/03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES



FOR BRIDGE FILES

WBS ELEMENT PS120

* EPOXY COATED

CAST IN PARTS		
DESCRIPTION	REQ'D	TOT
*U30708	3	60
*P30709	16	320

FINISH –	1/8" RAKE
REINF. STEEL GRADE –	60
STRAND TYPE –	LOW RELAX
STRAND –	21 – 3/8"ø 270 KSI
STRAND INITIAL TENSION –	17.2 K
CONC. @ 28 DAY –	6000 PSI
CONC. @ RELEASE –	3500 PSI
VOL. – 0.51 cu.yds	WT. – 2,075 lbs.

△

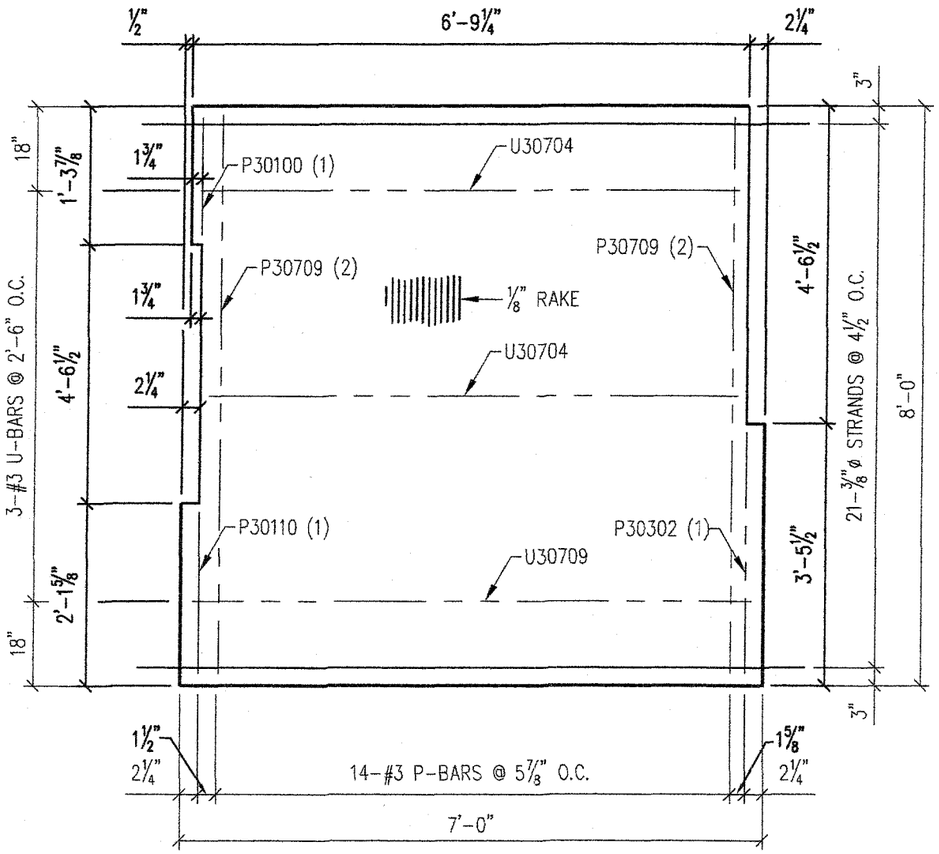
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RM JOB# PLE 04-070

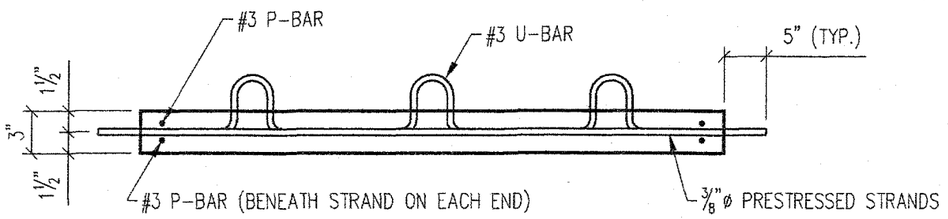
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MO
BRIDGE NO. A30521
JOB NO. J9S0500
PROJECT NO. F.A.F–1053(6)

QUANTITY 20

DRAWN BY:	CHK'D BY:	DATE:	MARK
RAA	ACF	8-5-03	DP2

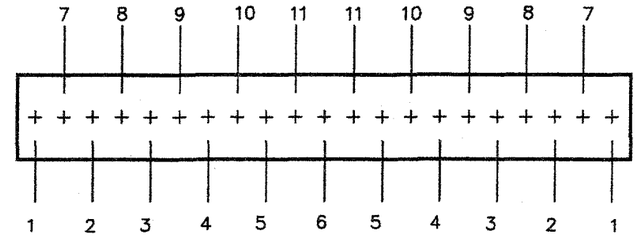


PLAN OF PRESTRESSED PANEL



SECTION A-A

NOTE: U-BARS USED AS LIFTING LOOPS.



CUTTING SEQUENCE

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item

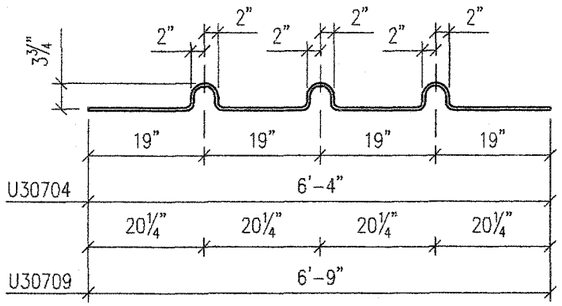
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DATE 08/19/03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES



NOTE: SPECIAL STRAND CUT

** EPOXY COATED*

FOR BRIDGE FILES

WBS ELEMENT PS120

CAST IN PARTS			FINISH – ⅛" RAKE
DESCRIPTION	REQ'D	TOT	REINF. STEEL GRADE – 60
*U30709	1	8	STRAND TYPE – LOW RELAX
*U30704	2	16	STRAND – 21 – ⅜" ø 270 KSI
*P30709	16	128	STRAND INITIAL TENSION – 17.2 K
*P30302	1	8	CONC. @ 28 DAY – 6000 PSI
*P30110	1	8	CONC. @ RELEASE – 3500 PSI
*P30100	1	8	VOL. – 0.50 cu.yds WT. – 2,034 lbs.

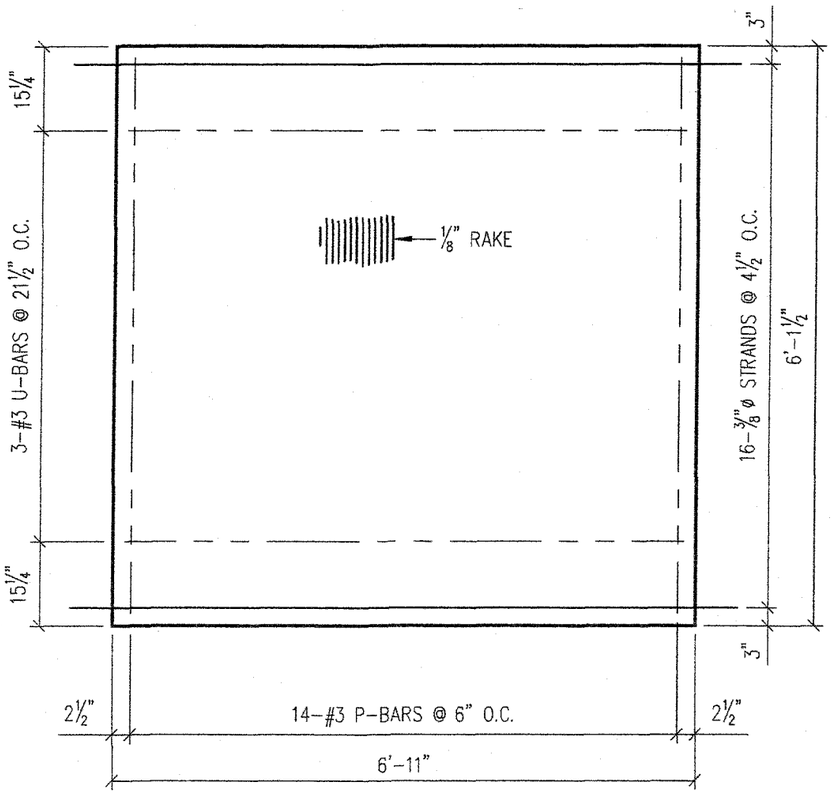
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PULASKI COUNTY, MO
BRIDGE NO. A30521
JOB NO. J9S0500
PROJECT NO. F.A.F-1053(6)

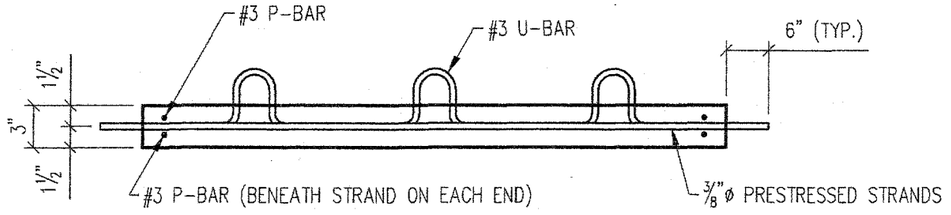
RM JOB# PLE 04-070

QUANTITY 8

DRAWN BY:	CHK'D BY:	DATE:	MARK
RAA	ACF	8-5-03	DP3

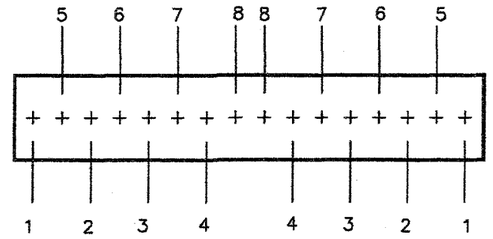


PLAN OF PRESTRESSED PANEL



SECTION A-A

NOTE: U–BARS USED AS LIFTING LOOPS.



CUTTING SEQUENCE

Reviewed for general conformity to plans and specifications.
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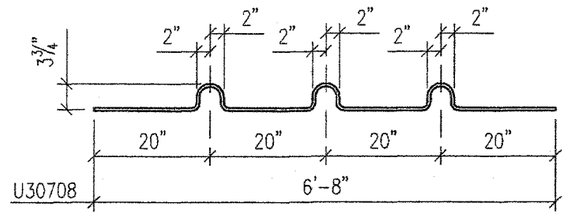
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DATE 08/19/03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES



FOR BRIDGE FILES

WBS ELEMENT PS120

* EPOXY COATED

CAST IN PARTS		
DESCRIPTION	REQ'D	TOT
*U30708	3	12
*P30510	16	64

FINISH –	⅛" RAKE
REINF. STEEL GRADE –	60
STRAND TYPE –	LOW RELAX
STRAND –	16 – ⅜" ø 270 KSI
STRAND INITIAL TENSION –	17.2 K
CONC. @ 28 DAY –	6000 PSI
CONC. @ RELEASE –	3500 PSI
VOL. – 0.39 cu.yds	WT. – 1,589 lbs.

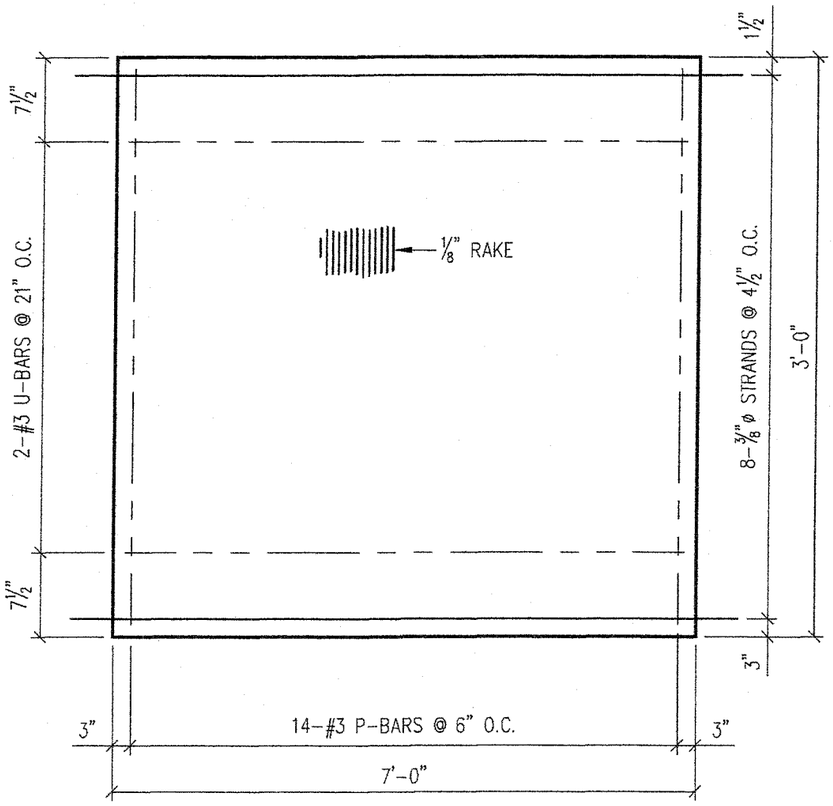
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FX: (660) 886-9686

RM JOB# PLE 04-070

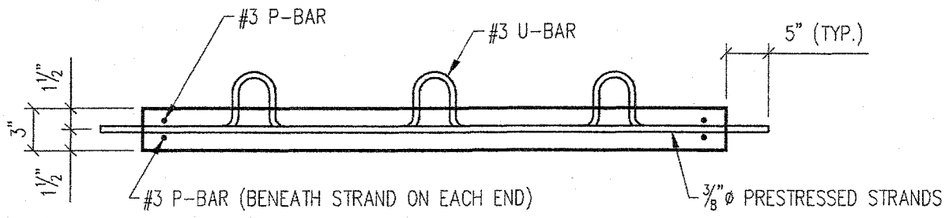
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MO
BRIDGE NO. A30521
JOB NO. J9S0500
PROJECT NO. F.A.F–1053(6)

QUANTITY 4

DRAWN BY:	CHK'D BY:	DATE:	MARK
RAA	ACF	8-5-03	DP4

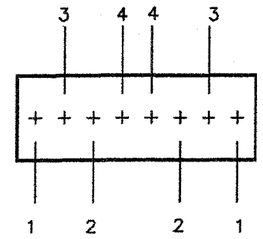


PLAN OF PRESTRESSED PANEL



SECTION A-A

NOTE: U–BARS USED AS LIFTING LOOPS.



CUTTING SEQUENCE

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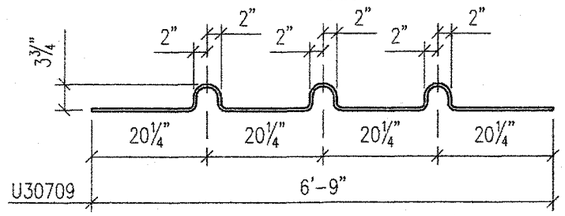
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DATE 08/19/03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES



FOR BRIDGE FILES

WBS ELEMENT PS120

NOTE: SPECIAL STRAND CUT

** EPOXY COATED*

CAST IN PARTS		
DESCRIPTION	REQ'D	TOT
*U30709	2	16
*P30209	16	128

FINISH –	⅛" RAKE
REINF. STEEL GRADE –	60
STRAND TYPE –	LOW RELAX
STRAND –	8 – ⅜" ø 270 KSI
STRAND INITIAL TENSION –	17.2 K
CONC. @ 28 DAY –	6000 PSI
CONC. @ RELEASE –	3500 PSI
VOL. – 0.20 cu.yds	WT. – 788 lbs.

△

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RM JOB# PLE 04-070

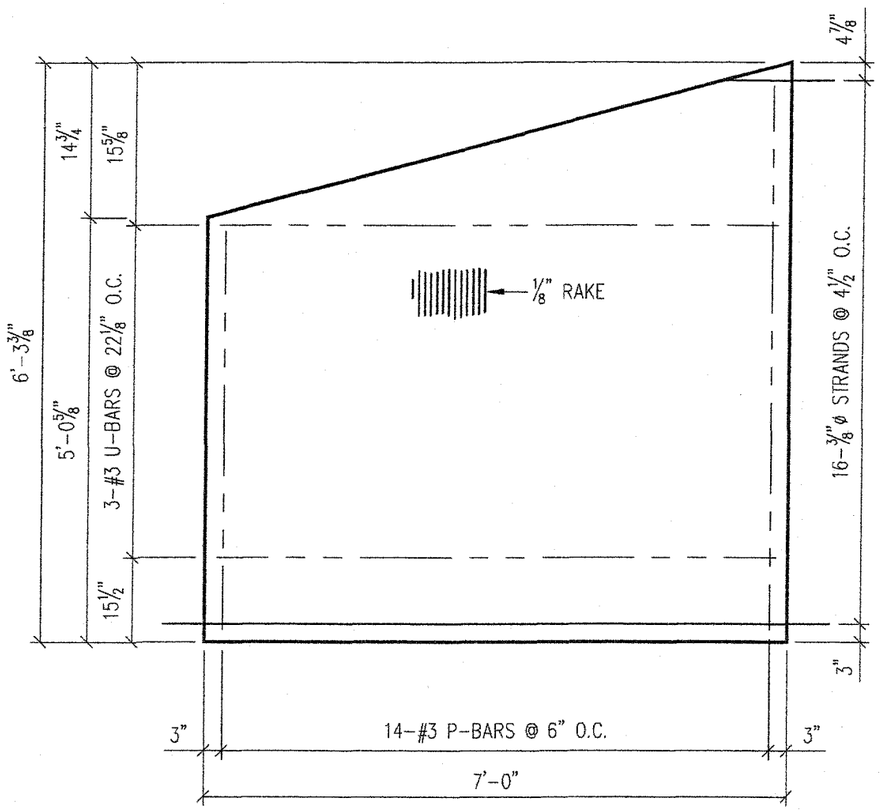
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MO
BRIDGE NO. A30521
JOB NO. J9S0500
PROJECT NO. F.A.F-1053(6)

QUANTITY 8

DRAWN BY:	CHK'D BY:	DATE:	MARK
RAA	ACF	8-5-03	DP5

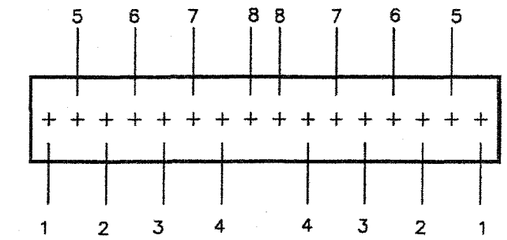
RIGHT ADVANCE

NOTE: DEBOND STRANDS SHORTER THAN 2'-0".



PLAN OF PRESTRESSED PANEL

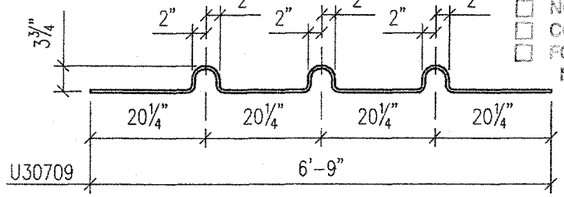
#3 P-BARS*	QUAN.
P30511	2
P30510	1
P30509	1
P30508	1
P30507	1
P30506	1
P30505	1
P30504	1
P30503	1
P30502	1
P30501	1
P30500	1
P30411	1
P30410	2

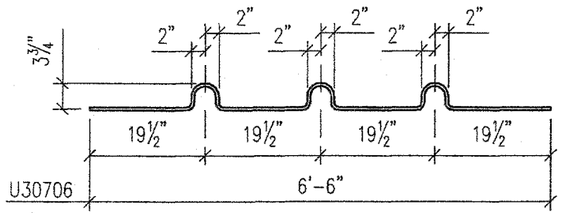


CUTTING SEQUENCE

SECTION A-A

NOTE: U-BARS USED AS LIFTING LOOPS.





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DATE 08/19/03

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☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

NOTE: SPECIAL STRAND CUT

** EPOXY COATED*

FOR BRIDGE FILES

WBS ELEMENT PS120

CAST IN PARTS		
DESCRIPTION	REQ'D	TOT
*U30706	1	16
*U30709	2	32

FINISH –			⅛" RAKE
REINF. STEEL GRADE –			60
STRAND TYPE –			LOW RELAX
STRAND –			16 – ⅜" ø 270 KSI
STRAND INITIAL TENSION –			17.2 K
CONC. @ 28 DAY –			6000 PSI
CONC. @ RELEASE –			3500 PSI
VOL. – 0.37 cu.yds	WT. –		1,488 lbs.

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RM JOB# PLE 04-070

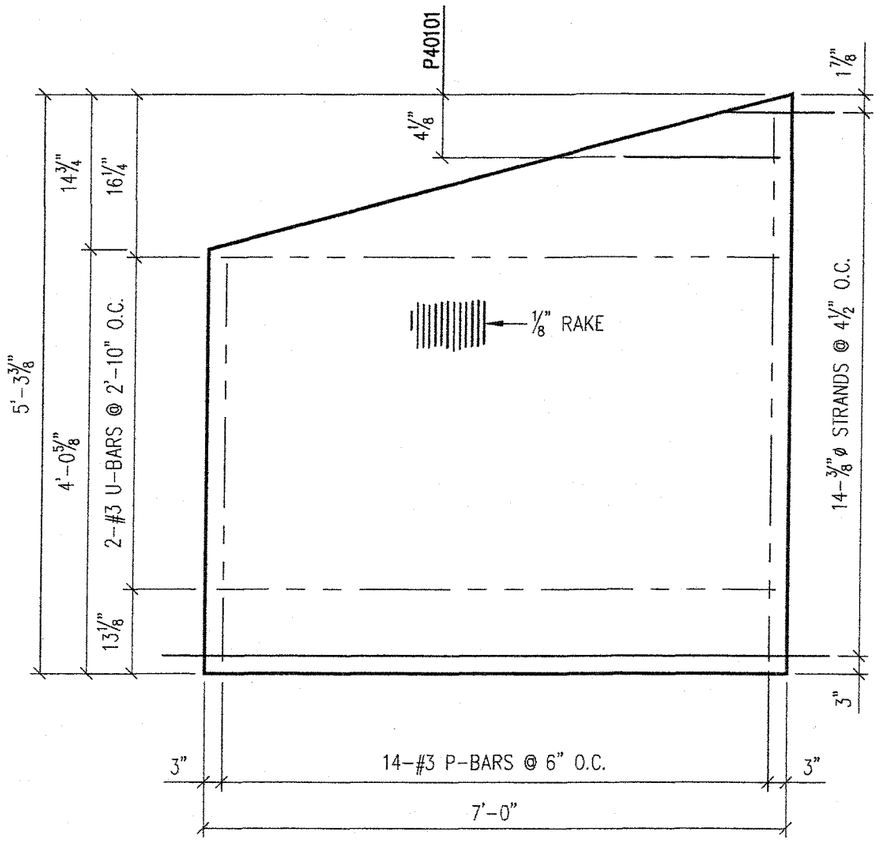
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MO
BRIDGE NO. A30521
JOB NO. J9S0500
PROJECT NO. F.A.F-1053(6)

QUANTITY 16

DRAWN BY:	CHK'D BY:	DATE:	MARK
RAA	ACF	8-5-03	DP6

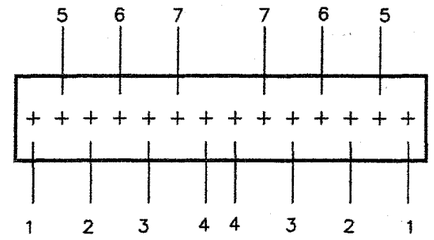
RIGHT ADVANCE

NOTE: DEBOND STRANDS SHORTER THAN 2'-0".



PLAN OF PRESTRESSED PANEL

#3 P-BARS*	QUAN.
P30411	2
P30410	1
P30409	1
P30408	1
P30407	1
P30406	1
P30405	1
P30404	1
P30403	1
P30402	1
P30401	1
P30400	1
P30311	1
P30310	2



CUTTING SEQUENCE

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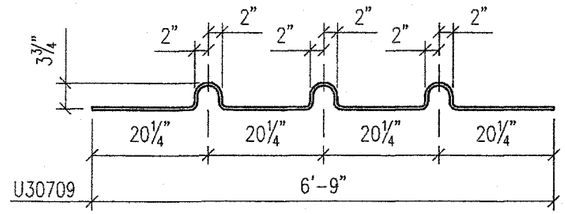
Contractors responsibility is in no way relieved by this review.

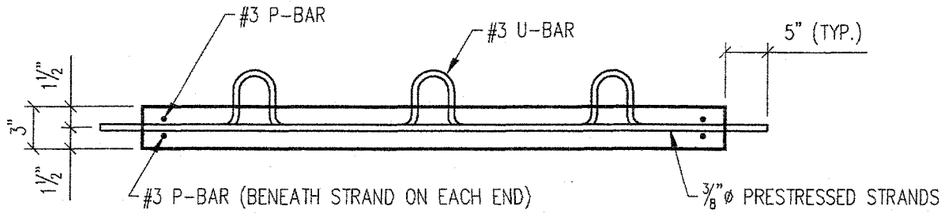
DATE 08/19/03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES

#4 P-BARS*	QUAN.
P40101	1





SECTION A-A

NOTE: U-BARS USED AS LIFTING LOOPS.

NOTE: SPECIAL STRAND CUT
** EPOXY COATED*

FOR FILES

WBS ELEMENT PS120

CAST IN PARTS		
DESCRIPTION	REQ'D	TOT
*U30709	2	16

FINISH –	⅛" RAKE
REINF. STEEL GRADE –	60
STRAND TYPE –	LOW RELAX
STRAND –	14 - ⅜" ø 270 KSI
STRAND INITIAL TENSION –	17.2 K
CONC. @ 28 DAY –	6000 PSI
CONC. @ RELEASE –	3500 PSI
VOL. – 0.30 cu.yds	WT. – 1,226 lbs.

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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MO
BRIDGE NO. A30521
JOB NO. J9S0500
PROJECT NO. F.A.F-1053(6)

RM JOB#	QUANTITY
PLE 04-070	8

DRAWN BY:	CHK'D BY:	DATE:	MARK
RAA	ACF	8-5-03	DP7

#3P BARS*	QTY.
P30100	8
P30110	8
P30209	128
P30302	8
P30310	16
P30311	8
P30400	8
P30401	8
P30402	8
P30403	8
P30404	8
P30405	8
P30406	8
P30407	8
P30408	8
P30409	8
P30410	40
P30411	32
P30500	16
P30501	16
P30502	16
P30503	16
P30504	16
P30505	16
P30506	16
P30507	16
P30508	16
P30509	16
P30510	80
P30511	32
P30709	1600

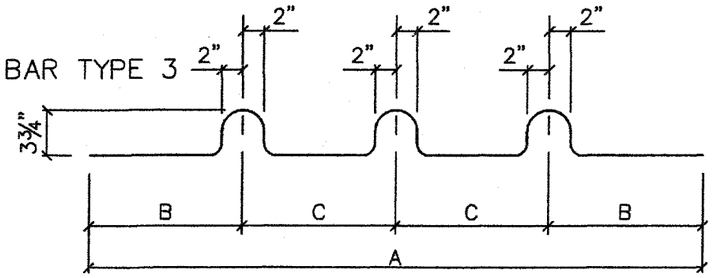
#4P BARS*	QTY.
P40101	8

U3 BARS*	TYPE	LENGTH	A	B	C	QTY.
U30704	3	7'-4"	6'-4"	1'-7"	1'-7"	16
U30706	3	7'-6"	6'-6"	1'-7.5"	1'-7.5"	16
U30708	3	7'-8"	6'-8"	1'-8"	1'-8"	72
U30709	3	7'-9"	6'-9"	1'-8.25"	1'-8.25"	288

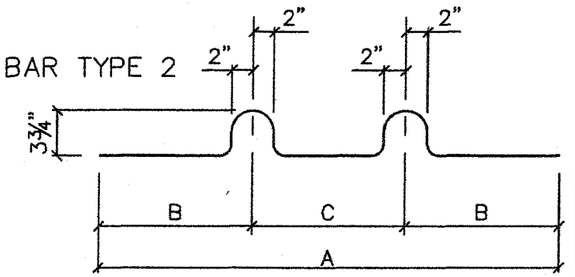
TOTAL BAR LENGTHS

DESCRIPTION	NUMBER	FEET	LBS.
#3, GR. 60, EPOXY, FAB	1164155	3022 FT.	1137 LBS.
#4, GR. 60, EPOXY, FAB	1164152	X	X
#5, GR. 60, EPOXY, FAB	1164133	X	X
#3, GR. 60, EPOXY	1014207	15110 FT.	5682 LBS.
#4, GR. 60, EPOXY	1014208	9 FT.	7 LBS.

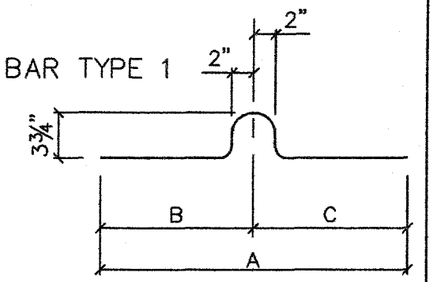
#3–U BAR TYPE 3



#3–U BAR TYPE 2



#3–U BAR TYPE 1



BENDING DIAGRAM FOR U BARS

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 08/19/03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION
  MoDOT - BRIDGES

FOR BRIDGE FILES

*EPOXY COATED

EPOXY BAR QUANTITIES SUMMARY
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
PULASKI COUNTY, MISSOURI
BRIDGE NO.A30521
PROJECT NO. F.A.F.–1053(6)
JOB NO. J9S0500

Rinker MATERIALS™
MARSHALL, MISSOURI
(660)886-3306 HWY 20 WEST

DRAWN BY:	CHECKED:	DATE:
RAA	ACF	8-5-03

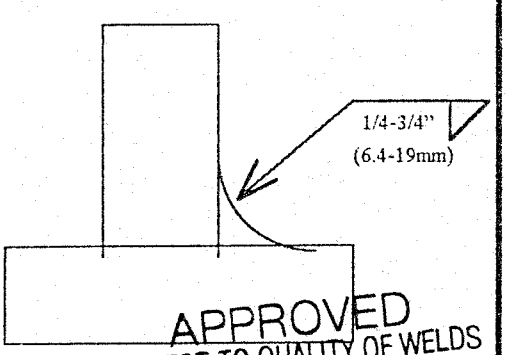
RM JOB NUMBER PLE 04–070

(1) (2)

AFCO STEEL
VAN BUREN BRIDGE
PLATTE RIVER STEEL
ANSI/AASHTO/AWS D1.5
SHOP WELDING PROCEDURE

- * MATERIAL SPECIFICATION: ASTM A709-36, 50 & 50W
- PROCESS: SAW TYPE: Automatic
- POSITION: 2F Horizontal
- FILLER METAL SPECIFICATION: A5.17
- FILLER METAL CLASSIFICATION: F7A2-EM12K
- FLUX: F7A2 SHIELDING GAS: n/a
- SINGLE OR MULTIPLE ARC: Single
- SINGLE OR MULTIPLE PASS: Multiple
- CURRENT: DC POLARITY: Straight(EN)
- WELDING PROGRESSION: n/a
- ROOT TREATMENT: Clean foreign materials from area to be welded prior to welding
- PREHEAT AND INTERPASS TEMPERATURE: Noted in Table 4.4 of AWS D1.5 and above. Max. interpass=450F(230C).
- POSTHEAT TREATMENT: n/a

JOINT DETAIL



Lincoln L61-960 (wire/flux)

APPROVED
SUBJECT TO QUALITY OF WELDS
JAN 16 1997
MISSOURI DEPARTMENT
OF TRANSPORTATION

PREHEAT & INTERPASS MIN. TEMPERATURE
Through 3/4": 50°F(10C) >1 1/2" to 2 1/2" : 150°F(65C)
>3/4" to 1 1/2": 70°F(20C) >2 1/2" : 225°F(110C)

Pass No.	Electrode Size	Welding Current Amps	Welding Current Volts	Travel Speed (ipm/mm)	Actual Heat Input (kJ/in/mm)
<5/16"(8mm)singl	3/32"(2.4mm)	420	29	11.0-16.0/279-406	45.7-66.4/1.8-2.6
>5/16"(8mm)multi		450	32	12.0-17.5/304-444	49.4-72.0/1.7-2.8
		480	32.5	13.6-20.0/345-508	46.8-68.8/1.8-2.7

PQR Calculated Heat Input (Para.5.12.3.1)	43.4-72.4 kJ/in.- 1.71-2.85 kJ/mm
Electrode Electrical Stickout	1 1/4"/31.7mm
Wire Feed Speed	180-250ipm(4572-6350mm)

This procedure has been designed around the requirements of AWS D1.5-95, Paragraph 5.12, and the essential variables listed in 5.12.3.

PROCEDURE NO.	REVISION NO.	PQR NO.	PREPARED BY:	DATE:
2-960	0	A-12		5Nov96

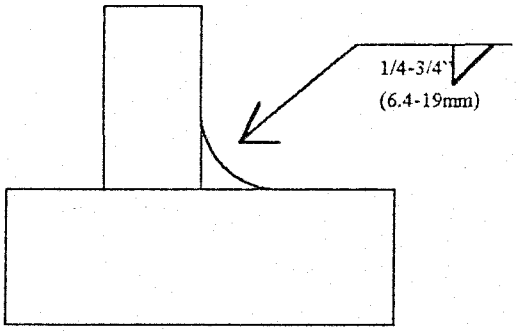
BASED ON D15-WPRO.DOT

*For welding A709-50W steels, weld electrode noted is limited to applications of single pass (max. 5/16"(8mm) size) or steels to be painted.

(3)

AFCO STEEL
VAN BUREN BRIDGE
PLATTE RIVER STEEL
ANSI/AASHTO/AWS D1.5
SHOP WELDING PROCEDURE

JOINT DETAIL



Lincoln LH70

- * MATERIAL SPECIFICATION: ASTM A709-36, 50 & 50W
- PROCESS: SMAW TYPE: Manual
- POSITION: 2F Horizontal
- FILLER METAL SPECIFICATION: A5.1
- FILLER METAL CLASSIFICATION: E7018
- FLUX: N/A SHIELDING GAS: n/a
- SINGLE OR MULTIPLE ARC: Single
- SINGLE OR MULTIPLE PASS: Multiple
- CURRENT: AC POLARITY: N/A
- WELDING PROGRESSION: n/a
- ROOT TREATMENT: Clean foreign materials from area to be welded prior to welding
- PREHEAT AND INTERPASS TEMPERATURE: Noted in Table 4.4 of AWS D1.5 and above. Max. interpass = 450F(230C).
- POSTHEAT TREATMENT: n/a

PREHEAT & INTERPASS MIN. TEMPERATURE
Through 3/4": 50°F(10C) >1 1/2" to 2 1/2" : 150°F(65C)
>3/4" to 1 1/2": 70°F(20C) >2 1/2" : 225°F(110C)

Pass No.	Electrode Size	Welding Current Amps	Welding Current Volts	Travel Speed (ipm))
<5/16"(8mm)sgl. pass	5/32"(4mm)	140-220	20-25	N/A
>5/16"(8mm)multi pass				

Calculated Heat Input (Para.5.12.3.1)	N/A kJ/in.
Electrode Electrical Stickout	N/A"
Wire Feed Speed	N/A

APPROVED
SUBJECT TO QUALITY OF WELDS
JAN 16 1997
MISSOURI DEPARTMENT OF TRANSPORTATION

This procedure has been designed around the requirements of AWS D1.5-95, Paragraph 5.11.

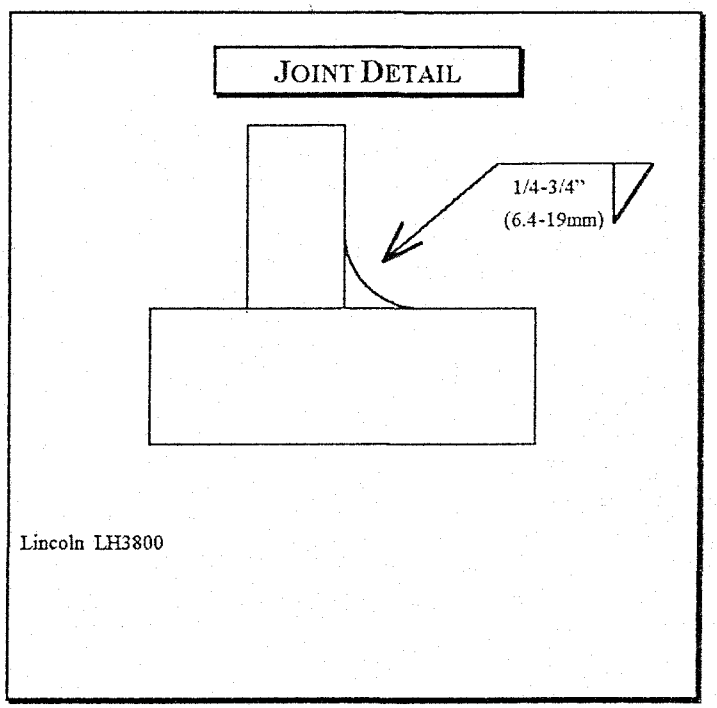
PROCEDURE NO.	REVISION NO.	PQR NO.	PREPARED BY:	DATE:
4-18	0	N/A		5 Nov 96

BASED ON D15-WPRO.DOT

*For welding A709-50W steels, weld electrode noted is limited to applications of single pass (max. 1/4" (6.4mm)size) or steels to be painted.

(3)

AFCO STEEL
VAN BUREN BRIDGE
PLATTE RIVER STEEL
ANSI/AASHTO/AWS D1.5
SHOP WELDING PROCEDURE



- * MATERIAL SPECIFICATION: ASTM A709-36, 50 & 50W
- PROCESS: SMAW TYPE: Manual
- POSITION: 2F Horizontal
- FILLER METAL SPECIFICATION: A5.1
- FILLER METAL CLASSIFICATION: E7028
- FLUX: N/A SHIELDING GAS: n/a
- SINGLE OR MULTIPLE ARC: Single
- SINGLE OR MULTIPLE PASS: Multiple
- CURRENT: AC POLARITY: N/A
- WELDING PROGRESSION: n/a
- ROOT TREATMENT: Clean foreign materials from area to be welded prior to welding
- PREHEAT AND INTERPASS TEMPERATURE: Noted in Table 4.4 of AWS D1.5 and above. Max. interpass=450F(230C).
- POSTHEAT TREATMENT: n/a

PREHEAT & INTERPASS MIN. TEMPERATURE
Through 3/4": 50°F (10C) >1 1/2" to 2 1/2" : 150°F (65C)
>3/4" to 1 1/2": 70°F(20C) >2 1/2" : 225°F(110C)

Pass No.	Electrode Size	Welding Current		Travel Speed (ipm))
		Amps	Volts	
<5/16"(8mm)Sgl. pass	3/16"(4.8mm)	240-330	30-33	N/A
>5/16"(8mm)multi pass				

Calculated Heat Input (Para.5.12.3.1)	N/A kJ/in.
Electrode Electrical Stickout	N/A"
Wire Feed Speed	N/A

APPROVED
SUBJECT TO QUALITY OF WELDS
JAN 16 1997
MISSOURI DEPARTMENT OF TRANSPORTATION

This procedure has been designed around the requirements of AWS D1.5-95, Paragraph 5.11.,.

PROCEDURE NO.	REVISION NO.	PQR NO.	PREPARED BY:	DATE:
4-28	0	N/A		5Nov96

BASED ON D15-WPRO.DOT

*For welding A709-50W steels, weld electrode noted is limited to applications of single pass (max. 1/4"(6.4mm) size) or steels to be painted.

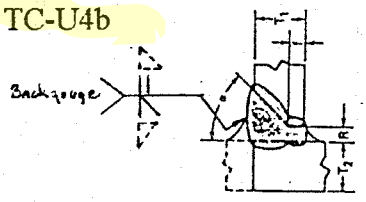
(4)

AFCO STEEL
VAN BUREN BRIDGE
PLATTE RIVER STEEL
ANSI/AASHTO/AWS D1.5
SHOP WELDING PROCEDURE

- * MATERIAL SPECIFICATION: ASTM A709-36, 50 & 50W
- PROCESS: SMAW TYPE: Manual
- POSITION: 2G Horizontal
- FILLER METAL SPECIFICATION: A5.1
- FILLER METAL CLASSIFICATION: E7018
- FLUX: N/A SHIELDING GAS: n/a
- SINGLE OR MULTIPLE ARC: Single
- SINGLE OR MULTIPLE PASS: Multiple
- CURRENT: AC POLARITY: N/A
- WELDING PROGRESSION: n/a
- ROOT TREATMENT: Back gouge to sound material prior to welding from second side.
- PREHEAT AND INTERPASS TEMPERATURE: Noted in Table 4.4 of AWS D1.5 and above. Max. interpass=450F(230C).
- POSTHEAT TREATMENT: n/a

JOINT DETAIL

Lincoln LH7018
TC-U4b



Base metal thickness (U = unlimited)		Groove preparation		
		Root opening Root face Groove angle	Tolerances As detailed (see 2.9.1)	 As fit up (see 3.3.4)
T_1	T_2			
U	U	R = 0 to 1/8 f = 0 to 1/8 α = 45°	+1/16, –0 +1/16, –0 +10°, –0°	+1/16, –1/8 Not limited +10°, –5°
U	U	R = 0 to 3 f = 0 to 3 α = 45°	+2, –0 +2, –0 +10°, –0°	+2, –3 Not limited 10°, –5°

PREHEAT & INTERPASS MIN. TEMPERATURE

Through 3/4": 50°F (10C) >1 1/2" to 2 1/2" : 150°F(65C)
>3/4" to 1 1/2": 70°F(20C) >2 1/2" : 225°F(110C)

Pass No.	Electrode Size	Welding Current Amps	Welding Current Volts	Travel Speed (ipm))
All	5/32"(8mm)	135-225	21-25	N/A

Calculated Heat Input (Para.5.12.3.1)	N/A kJ/in.
Electrode Electrical Stickout	N/A"
Wire Feed Speed	N/A

APPROVED
SUBJECT TO QUALITY OF WELDS
NOV 5 1998
MISSOURI DEPARTMENT OF TRANSPORTATION

This procedure has been designed around the requirements of AWS D1.5-95, Paragraph 5.11.,.

PROCEDURE NO.	REVISION NO.	PQR NO.	PREPARED BY:	DATE:
7-18A	0	N/A		5Jun 97

BASED ON D15-WPRO.DOT

* For welding A709-50W steel, weld electrode noted is limited to steels which will be painted.

(4)

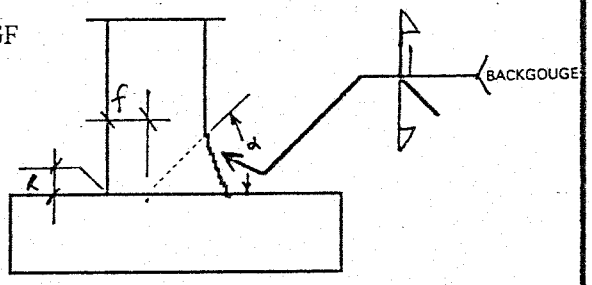
AFCO STEEL
VAN BUREN BRIDGE
PLATTE RIVER STEEL
ANSI/AASHTO/AWS D1.5
SHOP WELDING PROCEDURE

- MATERIAL SPECIFICATION: A709M-Gr.250,345&345W
- PROCESS: FCAW-S TYPE: Semi-automatic
- POSITION: 2G Horizontal
- FILLER METAL SPECIFICATION: A5.29
- FILLER METAL CLASSIFICATION: E71T8-Ni1%
- FLUX: N/A SHIELDING GAS: N/A
- SINGLE OR MULTIPLE ARC: Single
- SINGLE OR MULTIPLE PASS: Multiple
- CURRENT: DC POLARITY: Straight (EN)
- WELDING PROGRESSION: n/a
- ROOT TREATMENT: Bockgouge to sound metal prior to welding from the second side.
- PREHEAT AND INTERPASS TEMPERATURE: Noted in Table 4.4 of AWS D1.5 and above. Max. interpass temp.= 450F(230C).
- POSTHEAT TREATMENT: None

JOINT DETAIL

Lincoln NR203-Ni1%

TC-U4-GF



Base metal thickness (U = unlimited)		Groove preparation		
		Root opening Root face Groove angle	Tolerances As detailed (see 2.9.1)	 As fit up (see 3.3.4)
T_1	T_2			
U	U	R = 0 to 1/8 f = 0 to 1/8 α = 45°	+1/16,–0 +1/16,–0 +10°,–0°	+1/16,–1/8 Not limited +10°,–5°
U	U	R = 0 to 3 f = 0 to 3 α = 45°	+2, –0 +2, –0 +10°, –0°	+2, –3 Not limited 10°, –5°

PREHEAT & INTERPASS MIN. TEMPERATURE
Through 3/4"(20mm): 50°F(10C)
>3/4" to 1 1/2"(>40to60mm): 70°F(20C)
>1 1/2" to 2 1/2" (>20to40mm): 150°F(65C)
>2 1/2" (>60mm): 225°F(110C)

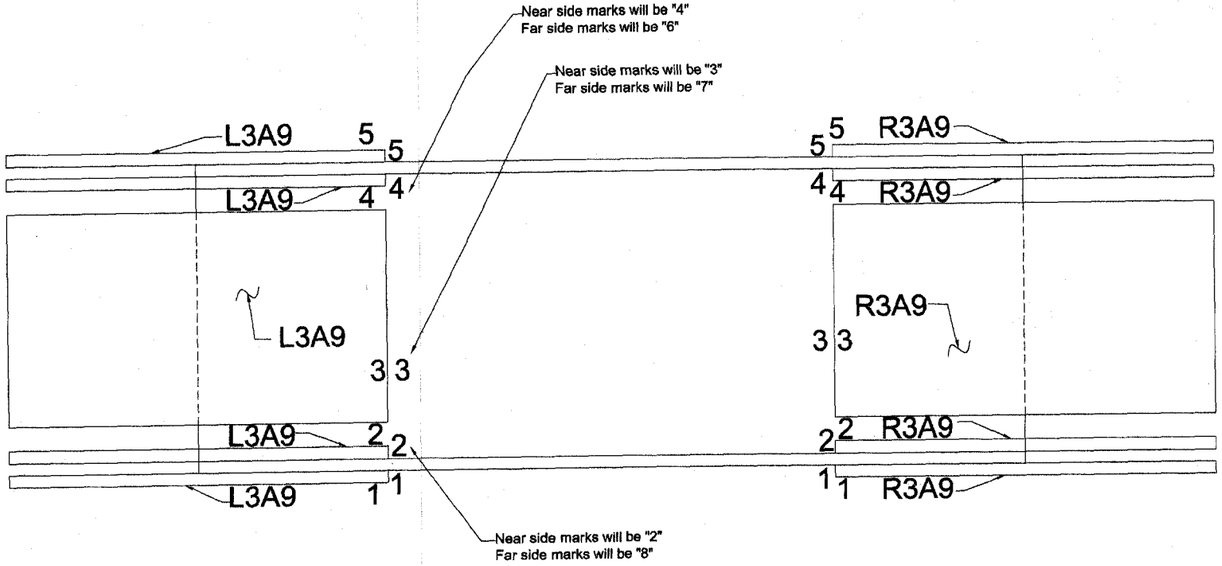
Pass Size	Electrode Size	Welding Current Amps	Welding Current Volts	Travel Speed (ipm/mmpm)	Actual Heat Input (kJ/in/kJ/mm)
All	3/32"(2mm)	270	19.5	6.3-7.7(158-193)	41.0-50.1/1.6-2.0
		300	20.0	6.3-7.7(158-193)	46.8-57.1/1.9-2.3
		310	20.5	6.6-7.7/165-193	49.5-57.8/2.0-2.3
PQR Calculated Heat Input(70 to 110% of PQR)		37.8-59.4/1.5-2.4 kJ/in/kJ/mm *(Table 5.3)*			
Electrode Electrical Stickout		3/4"/19mm			
Wire Feed Speed		90/2250 ipm/mmpm, approx.			

This procedure may vary due to fabrication sequience, fit-up, pass size, etc., within the limitation of variables given in paragraph 5.13 and Table 5.3 of AWS D1.5-95.

Procedure No.	Revision No.	PQR No.	Prepared By	Date
4-T8	0	F-25		1Mar97

APPROVED
SUBJECT TO QUALITY OF WELDS
NOV 5 1998
MISSOURI DEPARTMENT OF TRANSPORTATION

BASED ON D15SWPRO.DOT



MATCH MARKING SCHEME

All beams and splice plates have been drilled while completely assembled in a shop assembly. Pieces have been stenciled with match marks as shown above to assure proper re-assembly in the field in the same positions as they were drilled.

Splice plate marks consist of:

*An "L" or "R", to indicate whether the plate occurs on the left or right end of the beam as it is pictured on shop drawings.
*The erection mark of the beam.
*A sequential number from one to eight, to show where in the joint each plate occurs. The splice plate must be attached to the beam so this number matches the identical number stenciled into the flange or web of the beam at the point where they attach.

ERECTOR MUST REASSEMBLE SPLICE PLATES TO MEMBERS SO PLATES ARE ON THE LEFT OR RIGHT ENDS OF BEAMS IN THE POSITIONS SHOWN, AND SO MATCH MARKS ON SPLICE PLATES MATCH THE CORRESPONDING MATCH MARKS ON BEAM. FAILURE TO FOLLOW THESE MATCH MARKS WILL INCREASE FIELD COSTS!!!

Above is an example for a girder mark "3A9".

DRIFT PINS AND BOLT-UP SEQUENCE

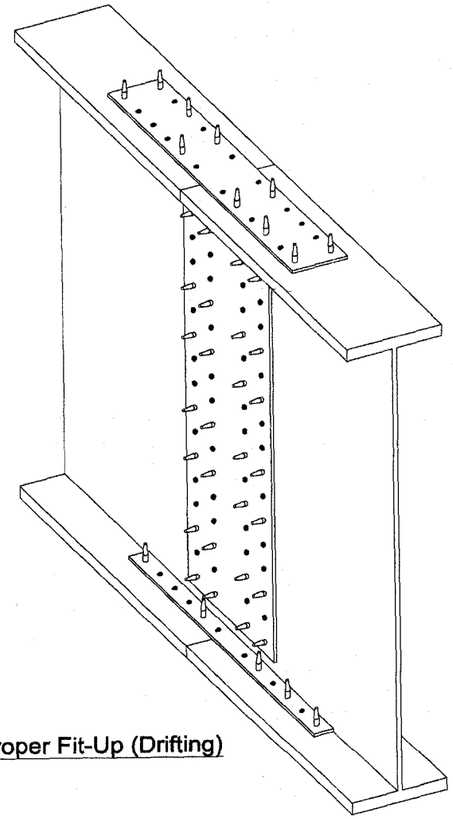
TO PROPERLY REALIGN MEMBERS TO THE REQUIRED CAMBER AND STRAIGHTNESS OR SWEEP, ERECTOR MUST USE TAPERED DRIFT PINS IN HOLES IN TOP FLANGE, WEB, AND BOTTOM FLANGE SPLICES.

THE FOLLOWING WORDING IS TAKEN FROM THE KDOT "BRIDGE CONSTRUCTION MANUAL". OTHER DOTs HAVE SIMILAR LANGUAGE.

FIT-UP IS THE ALIGNING OF THE MEMBERS AND THE PLIES BY USING DRIFT-PINS, SUPPLEMENTED WITH ERECTION PINS, ERECTION BOLTS OR "FIT-UP" (NON-PRODUCTION) BOLTS TO REPRODUCE THE FABRICATED SHAPE. DRIFT-PINS ARE STEEL PINS THAT ARE TAPERED ON BOTH ENDS AND CYLINDRICAL IN THE MIDDLE. THE CYLINDRICAL PORTION HAS THE SAME NOMINAL DIAMETER AS THE OPEN HOLE. THESE PINS ARE DRIVEN INTO THE SPLICE THROUGH ALL THE PLIES AT THE CORNERS OF THE WEB PLATES TO ALIGN THE PIECES VERTICALLY. THE FLANGES ARE DRIFTED INTO CORRECT HORIZONTAL ALIGNMENT BY DRIVING DRIFT-PINS INSTALLED IN A UNIFORM PATTERN. FOR PROPER ALIGNMENT ONLY LIGHT DRIFTING IS ALLOWED; HEAVY DRIFTING, WHICH WOULD DEFORM THE BOLT HOLES, IS NOT ALLOWED. USUALLY, THE PIECES ARE SUSPENDED FROM A CRANE. LIGHT DRIFTING OF THE CORNERS IN THE WEB PLATES FIRST WILL PROPERLY ALIGN THE MEMBERS VERTICALLY. LIGHT DRIFTING OF THE CORNERS OF THE FLANGE PLATES WILL ALIGN THE MEMBERS HORIZONTALLY.

CURVED GIRDERS CAN BE EXPECTED TO BE MORE DEMANDING AS TO USE OF DRIFT PINS, AS CAN BEAMS OR GIRDERS BOLTED UP ON THE GROUND.

CROSS-FRAMES AND DIAPHRAGMS SHOULD BE PINNED AND BOLTED TO A SNUG CONDITION AND NOT FULLY TIGHTENED UNTIL ALL THE FRAMING LINES ARE COMPLETED. THIS WILL PROVIDE STABILITY AND ADJUSTMENT. IF ALL THE TOLERANCES AND ADJUSTMENTS ARE "USED UP" IN THE FIRST COUPLE OF BAYS THEN GREAT DIFFICULTIES CAN DEVELOP IN THE REST OF THE FRAMING LINES.



Proper Fit-Up (Drifting)

Drift Pin Diameter = Hole Diameter



Drift Pin

JOINING THE MEMBERS

If members are joined in the air, all drift pins should be installed while the added member is still supported in its approximate proper position by the crane. If members are joined on the ground, to be lifted as a unit, AFCO's "Blocking Diagram" should be used to ensure proper vertical curve.

USE OF DRIFT PINS

During fit-up, the Contractor should fill all the corner holes plus 25 % of the other holes with drift pins (as a minimum) in an even distribution throughout the splice plate. Before any drift pins are removed, 25 % of the holes in the splice should be filled with high strength bolts, fully tightened.

Pins in the flange plates should be driven first, for proper fit-up. This ensures proper horizontal alignment. Then pins in web holes are driven, which ensures proper vertical alignment. Following the above instructions will help avoid deformation of holes during drifting and bolting.

PRODUCTION BOLT TIGHTENING

Install bolts and tighten to "snug tight" in a pattern, starting at the center of the splice and working toward the edge. On larger plates this may have to be done twice, as the center bolts will become loose as the plates are "ironed" out.

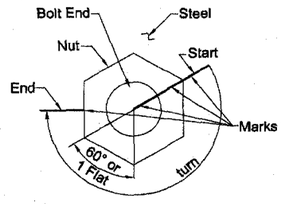
Mark the nut, bolt, and plate with a start mark and an end mark, according to the table below.

Line up a line on the socket with the start mark on the plate and turn the socket until lines up with the end mark, while holding the element not to be turned (usually the bolt head).

Visually inspect the marks to be sure the required turn has been achieved.

Required Rotation

3/4" Bolt	Through 3"	1/3 turn
3/4" Bolt	Over 3" thru 6"	1/2 turn
3/4" Bolt	Over 6" thru 9"	2/3 turn
7/8" Bolt	Through 3½"	1/3 turn
7/8" Bolt	Over 3½" thru 7"	1/2 turn
7/8" Bolt	Over 7" thru 10½"	2/3 turn



MARKING DETAIL
(shows calibrated turn = 3½" flats)

Reviewed for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
McDOT - BRIDGES

(Adapted from Kansas DOT "Steel Erection, Fit-Up and Bolting Procedure")

FOR BRIDGE FILES

REV. NO.	DATE	REVISION DESCRIPTION	BY	CHK	APPROVAL	SHOP	FIELD
0						JUL - 2 2003	

DESCRIPTION STANDARD ERECTION INFO SQUAD NOERNBERG 2/24/03
REF. DWG. CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-8200 / Little Rock, Arkansas 72203

BOLTS	EXC. NOTED	CUSTOMER EMERY SAPP & SONS	DRAWING NO. E1
HOLES	EXC. NOTED	JOB TITLE MoDOT JOB NO. J9S0500	
END DIST.	EXC. NOTED	STRUCTURE BRIDGE # A30521 Route H	CONTRACT NO. 3173
CLEAN SPEC.		LOCATION PULASKI CO., MO	
PAINT		ARCH. OR ENGR. MoDOT F.A.S.-1053-(6)	
		DRAWN MDB DATE 4/8/03 CHKD. DATE	
DRY MIL THICKNESS		STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.
ELECTRODE CLASS			

MoDOT STANDARD GENERAL NOTES 4/24/02

These Missouri DOT Standard General Notes apply to all Missouri Department of Transportation projects unless noted otherwise in the "Exceptions" column at far right. Also note that any "Special Provisions" applicable to this contract are noted in the column at right.

I. GOVERNING SPECIFICATIONS

A. "Missouri Standard Specifications for Highway Construction", 1999 Edition, including applicable special provisions.

B. ANSI/AASHTO/AWS D1.5-95: "Bridge Welding Code - Steel", as amended by the 1999 Missouri Standard Specifications.

II. MATERIAL SPECIFICATIONS

A. Material specifications will be shown on approved shop drawings.

B. Material billed out on the shop drawings with "T2" following the material specification shall be ordered to meet longitudinal Charpy V-notch requirements.

III. MATERIAL TRACEABILITY AND IDENTIFICATION

A. Heat number shall be stenciled with paint at the mill.

B. Color codes applied by the mill shall be accordance with AASHTO M160 (ASTM A6).

C. Color codes shall be applied to each subdivided piece in the shop.

D. Heat numbers shall be painted in the shop onto all beams, flange plates, web plates, splice plates, bearings, bearing stiffeners, load bearing members of end diaphragms, pin plates, and hanger plates, U.N.O. **Heat numbers are NOT to be steel stenciled into the material.**

E. Steel stenciling of erection marks, match marks, ect., shall be applied only to the end 1 **1/2"** of flange plates and flange splice plates, the middle third of web plates, and the outside edge of middle third of web splice plates.
See Main Material Marking Scheme, Section XII.

F. Store raw materials stair stepped to facilitate MoDOTs verification of identification for invoicing purposes.
Complete MoDOT raw material verification form for signature by MoDOT inspector.

IV. MATERIAL PREPARATION AND FITTING

A. Holes for secondary members such as lateral, longitudinal, and sway bracing, bracing bars, stay plates, and diaphragms, may be punched full size.

B. Sub punched holes for bolt diameters greater than 3/4 inch shall be punched 3/16 inch smaller than the nominal diameter of the bolt. For bolt diameters of 3/4 inch, holes shall be punched 11/16 inch in diameter. For bolt diameters less than 3/4 inch, the holes shall be punched full size and spear reamed.

C. The bearing ends of bearing stiffeners, including those to be fillet welded to flanges, shall be flush and square with the web and shall have at least 75% of this area in contact with the inner surface of the flanges. The remaining 25% of the area of the bearing stiffener shall be within 0.010 inches of the inner surface of the flanges. The included angle between web and flange shall not exceed 90 degrees in the bearing length.

D. Milling of surfaces to be shop welded shall be performed after welding is complete, where practical.

E. Cold bent plates shall be bent such that the bend lines are perpendicular to the direction of mill rolling. Minimum radii for cold bent plates are:

61 to 90 degrees----------1.0 x PL thickness
91 to 120 degrees----------1.5 x PL thickness
121 to 150 degrees----------2.0 x PL thickness

V. STRAIGHTENING, CAMBERING AND CURVING

Straightening

A. The straightening of plates and angles or other shapes shall be done by mechanical or heating methods which will not produce fracture or other injury. The metal shall not be heated to a temperature higher than 1100 degrees F as determined by indicating crayons or equivalent. After heating, the metal shall be allowed to cool as slowly as possible.

B. If heat is used, materials shall not be artificially cooled, except by forced air, until after the metal has cooled to 600°F. Below 600°F the material may be cooled by forced air or mist, but may not be submerged in liquid or sprayed with fluid.

C. Following the straightening of a bend or buckle, the surface of the metal shall be carefully inspected for evidence of fracture.

Cambering

A. Design camber shall be produced in rolled beams by mechanical methods and/or the controlled application of heat. The size, number, shape and placement of heating patterns shall be such that distortion is minimal and that bucking is kept within the minimum standard rolling tolerances for out-of-flatness of beam webs. The vertical cambering operation shall be concluded in such a manner that the temperature of the steel does not exceed 1100°F as measured by indicating crayons or the equivalent. Beams and girders shall be allowed to cool as slowly as possible.

Curving

A. If heat curving is performed, it shall be performed per requirements in Missouri Standard Specifications for Highway Construction, 1996 edition, and applicable special provisions.

VI. SHOP ASSEMBLY

A. Field splices of main members shall be assembled in the shop and matchmarked as shown on erection drawings. Holes for connections of main members shall be subpunched or subdrilled and reamed while assembled, or may be drilled from the solid with all main members assembled. Reaming or drilling full size from the solid shall be done while the truss, girder, or continuous WF is assembled and properly adjusted for camber and sweep, and after all connecting parts have been firmly fastened together. Record the serial number of the inspection tape on the laydown report. AFCO is to inspect the laydown reports before calling for MoDOT inspection.

B. If high strength bolts are tightened by the turn-of-the-nut method, mark bolts and nuts so as to display the rotation.

C. Bolts through flanges shall be installed such that nuts are on the inside of the flanges.

VII. TOLERANCES

A. Permissible variations in length of assembled beams or girders between the centerlines of bearing devices shall not exceed ±3/8 for any two or more spans of an assembled unit.

B. The actual centerline of any bearing device shall be within the thickness of the bearing stiffener.

C. The maximum permissible variation from specified width for rolled or burned flange plates shall be - 1/8 inch to +3/8 inch.

VIII. WELDING

A. All welding shall be in accordance with ANSI/AASHTO/AWS D1.5-95, as amended by the following.

B. All primary shop welds shall be made approved automatic feed and travel welding processes. This requirement shall be shown on the shop drawings at each applicable joint.

C. Prior to welding, all mill scale shall be removed from the adjoining surfaces of flange-to-web welds.

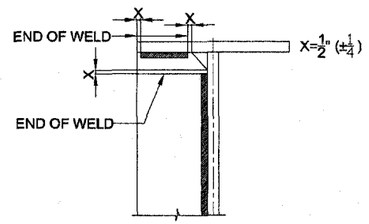
D. Imperfections in top and bottom surfaces of flange and truss plates may be repaired in accordance with ASTM A6 except welding repairs must be approved in advance by the engineer.

E. Missouri DOT shall be notified at least one week prior to start of stud welding. Stud welding procedures and operations shall be qualified for each diameter of stud to be used, in the presence of Mo DOT. Stud welding shall not be done when base metal temperatures drop below 35°F nor when the surface is wet or exposed to rain or snow.

F. Stud Welding. Inspection Requirements of the Bridge Welding Code shall be expanded to include the following:

Ten studs of each 100 (25 of each 100 on expansion devices where studs are not detailed to be bent) shall be tested by being struck with a hammer and bent 30 degrees off vertical. Additionally, any stud that by visual inspection does not show a full 360 degree weld, has been repaired by welding, or has an abnormal reduction in height due to welding shall be tested in the same manner. The direction of bending shall be opposite to the lack of weld. Studs that crack either in the weld or the shank after re-bending shall be replaced. The remaining studs not subjected to the bend test shall be struck forcibly with a hammer. Any stud that does not yield a solid ringing sound shall be tested in accordance with the above prescribed procedure. The QCI shall test one stud in each 100 by bending 15 degrees off vertical. Studs which have the least amount of fillet weld around the base shall be chosen to be tested.

G.



STIFFENER WELD TERMINATION DETAIL

H. Use only welding procedures issued by the AFCO Quality Assurance Department.

IX. INSPECTION

A. AFCO shall, at its own expense, provide an approved inspection service for radiographic and magnetic particle testing. A floating center punch mark that will show on radiographs shall be used. Stencil radiograph identification mark on the inside of the flange and to the near side of web. Stencil web splices on near side. Use low stress stencils.

B. Radiographic inspection of butt welds shall be as follows:

1. Flange splices: 100% of splice of rolled beams and girders, evaluated to AWS tension standards.

2. Web splices: 100% of 1/6 of web depth at each flange, as well as 25% of the remainder of the web depth, evaluated to AWS tension standards.

C. Mo DOT shall be notified sufficiently in advance of radiography, ultrasonic testing or magnetic particle testing to enable MoDOT Inspector to witness testing.

D. Ultrasonic inspection may be used in lieu of radiography only when approved in writing by Mo DOT. If approved, the extent of testing shall be the same as required for radiographic testing.

E. All full penetration welds at bearing stiffeners shall be ultrasonically tested.

F. Magnetic particle testing shall be as follows:

1. 10% of each size and type of fillet weld joining flanges and webs of all built-up members, including weld at the end of each girder.

2. At least 10% of each size and type of fillet weld joining cover plates and flanges, including ends of cover plates.

3. At least 10% of each size and type of fillet weld joining bearing stiffeners and webs, including the welds at the top and bottom of each stiffener.

4. At least 10% of each size and type of fillet weld joining bearing devices to bridge members.

G. The inspection service shall report the extent of inspection performed (in lineal feet), location of defects (if any), and furnish a certification that all tests were performed in accordance with the Missouri Standard Specifications.

H. Bolt tension calibration devices shall have been calibrated within one year before usage.

I. Camber tolerance is plus 3/4" or minus 0 inch other than bearings, where abutment tolerance is zero and intermediate bearings tolerance is plus or minus 1/8 inch, as taken from the Code.

J. Afco Quality Control shall verify, record, and sign laydown records, and submit to MoDOT Inspector for his signature.

K. Give paint data reports to MoDOT Inspector for approval prior to his witnessing of AFCO's sampling.

L. If galvanized fasteners are furnished, provide MoDOT QCI with a letter from the galvanizer certifying conformance to the galvanizing specification.

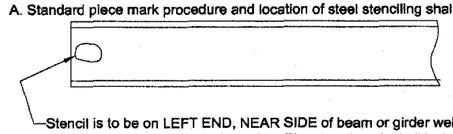
M. All MoDOT - required forms or reports must display the project number, FAP number, route number, county, bridge number, phase number, AFCO contract number, and AFCO shop.

N. In general, all work to be inspected by MoDOT Inspector must be completed, must be inspected by AFCO, and AFCO's paperwork must be completed and reviewed by the MoDOT inspector before he will physically inspect our work. This includes mill test review, paint, bolt, stud, or other sampling; weld inspection, laydown inspection, or fabrication final inspection.

O. Any discrepancies or problems require a written inquiry to the MoDOT inspector, with a proposed resolution, with sketches included where appropriate.

X. MAIN MEMBER MARKING SCHEME

A. Standard piece mark procedure and location of steel stenciling shall be as follows:



Stencil is to be on LEFT END, NEAR SIDE of beam or girder web, in the middle 1/3 of the web depth and 3'-0" from end of member. The stencil mark shall include:
*Piece mark and AFCO contract number
*Weight in lbs if greater than 3 tons

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

CONTINUED ON SHEET GN2

EXCEPTIONS FOR THIS CONTRACT

I. APPLICABLE SPECIAL PROVISIONS/SUPPLEMENTS

A. SP / STRUCTURAL STEEL

II. PAINT

A. PAINTED STEEL, PAINT TO BE INORGANIC ZINC, CARBOLINE CZ11-HS (GRAY), 3.0 MILS MIN. TO 6.0 MILS MAX. DFT UNLESS NOTED OTHERWISE, CLEANED SSPC-SP10.

FOR BRIDGE FILES

REV. NO.	DATE	REVISION DESCRIPTION	BY	CHK	APPROVAL	SHOP	FIELD
0		~		X			

DESCRIPTION GENERAL NOTES SHEET
REF. DWG.
SQUAD NOERNBERG 4/24/02
CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-6200 / Little Rock, Arkansas 72203

BOLTS	EXC. NOTED	CUSTOMER EMERY SAPP & SONS	DRAWING NO. GN1
HOLES	EXC. NOTED	JOB TITLE MoDOT JOB NO. J9S0500 Route H	
END DIST.	EXC. NOTED	STRUCTURE BRIDGE # A30521 F.A.S.-1053(6)	CONTRACT NO. 3173
CLEAN SPEC.		LOCATION PULASKI CO., MO	
PAINT		ARCH. OR ENGR. MoDOT	
DRY MIL THICKNESS		DRAWN MDB DATE 4/9/03 CHKD. DATE	
ELECTRODE CLASS		STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE: ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE, DIRECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

X1. CLEANING AND PAINTING

A. Unpainted beams and girders require blasting to SSPC-SP6, Commercial Blast Cleaning. Contact surfaces at field bolted connections on unpainted beams and girders need NOT be blasted. Any areas ground after blasting must be reblasted, to allow uniform rusting.

B. Contact surfaces on beams and girders to be painted, including contact surfaces at stiffener connection angles, shall be blasted. All fill plates and splice plates on the top of the top flange shall be blasted and painted on all surfaces.

C. Surface Preparation. Surfaces to be painted shall be scrubbed with an approved solvent to remove all grease and oil prior to blast cleaning. Surfaces to be painted shall be blast cleaned with abrasives producing a height of producing a height of profile 1.5 mil minimum 3.0 mils maximum for all systems. The blast cleaned surfaces shall be completely free of all oil, grease, dirt, rust, mill scale, weld spatter, and other foreign matter. Surfaces cleaned to meet Steel Structures Painting Council Specification SSPC-SP10 will be acceptable.

D. After blast cleaning, the surfaces shall be brushed with clean brushes, blown off with compressed air, or cleaned by vacuum to remove any trace of blast products, dust, or dirt from the surface, and also for the removal of abrasives from pockets and corners. Compressors shall be equipped with moisture and oil separators and traps to maintain a clean, dry, oil-free air supply at the end of hose. The blast cleaned surfaces shall be given a prime coat of paint as soon as practicable, but in any case within 24 hours after cleaning.

E. Extreme care shall be exercised to ensure the blasted steel remains free of grease and oil during handling. Clean gloves should be used if it is necessary to handle the blasted steel.

F. All structural steel shall be painted as shown on shop drawings with Carboline CZ-11, H.S. (High Solids)

G. The inside surfaces of holes within areas to be painted shall be painted.

H. If additional coating is required to provide the specified total thickness, it shall be applied as soon as possible but within 24 hours of the initial application of the first coat.

I. Paint shall not be applied when the temperature of the metal and the ambient temperature is less than 34°F or greater than 110°F during application. Inorganic zinc coatings shall not be applied when the relative humidity is less than 30 % nor more than 90%.

J. If successive coats of paint of the same color are specified, alternate coats of paint shall be sufficiently tinted to produce enough contrast in wet film to indicate complete surface coverage. If the first coat of paint is to be approximately the color the cleaned steel, the paint shall be tinted.

K. The inorganic zinc coating shall be applied in accordance with the manufacturer's current published, written specifications, but shall be compatible with the following requirements.

1. After initial mixing, the paint shall be strained through a metal screen not coarser than 30 mesh nor finer than 60 mesh.

2. For materials where the paint manufacturer's written published specifications establish a pot life after mixing, the coating shall be applied in the specified time or be discarded.

3. After the initial mixing and until application of the inorganic zinc coating, the mixture shall be kept under constant agitation.

4. When paint is spray applied, all runs and sags shall be brushed out immediately. Blind sides of bolts and other areas inaccessible to the spray gun shall be painted by brush, daubers, or sheepskins prior to spray painting.

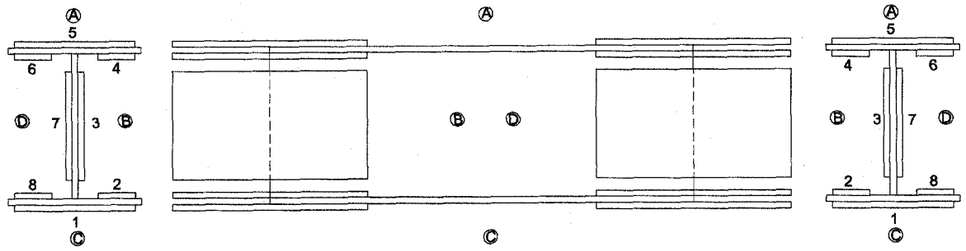
L. Erection marks and match marks shall be painted upon surface areas after application of the shop coat in locations as shown below. Material shall not be loaded for shipment until this paint is dry.

X1I. SHIPPING

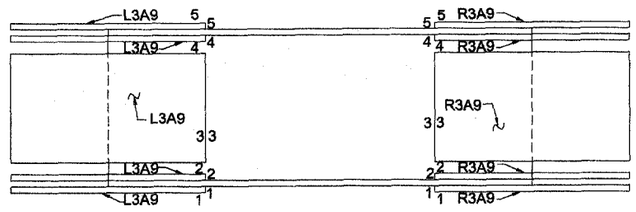
A. Fabrication material shall not be shipped until a "Fabrication Inspection Shipment Release" is issued by the Missouri Inspector.

MATCH MARKING SCHEME

At field splices, splice plate positions are numbered 1 through 8 consecutively around the beams starting with face Ⓒ then Ⓑ Ⓐ and Ⓓ as shown:



Match marks are to be steel stenciled into each splice plate and each beam as shown on the sketch below.
(L = Left end of beam, R= Right end of beam; 1, 2, 3.....8 indicates splice plate position number)



EXAMPLE FOR BEAM 3A9

Drill beams and splice plates while assembled in position in a shop laydown.

FOR BRIDGE FILES

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

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Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

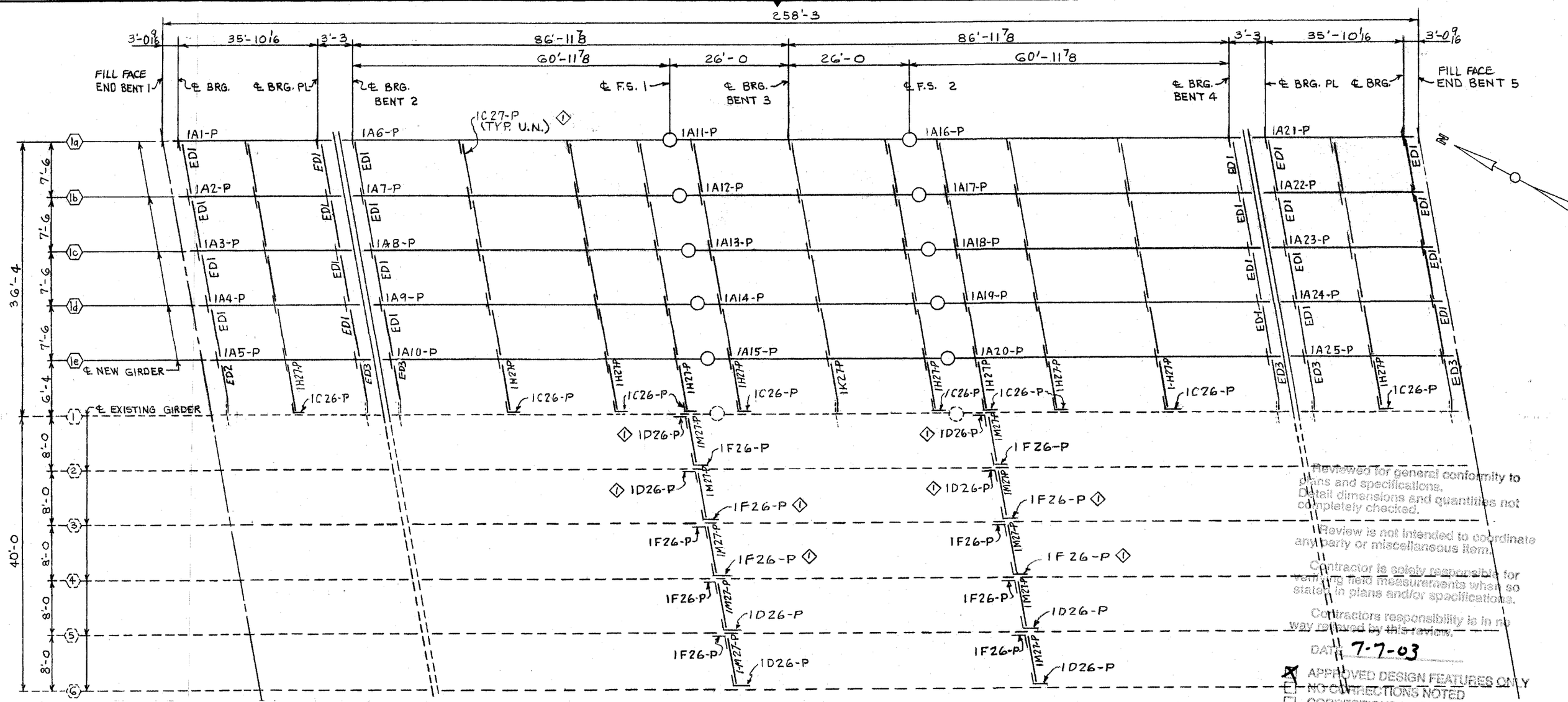
CONTINUED FROM SHEET GN1

REV. NO.	DATE	REVISION DESCRIPTION	BY CHK	APPROVAL	SHOP	FIELD
0						JUL - 2 20

DESCRIPTION GENERAL NOTES SHEET | SQUAD NOERNBERG | 4/24/02
REF. DWG. | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-6200 / Little Rock, Arkansas 72203

BOLTS EXC. NOTED	CUSTOMER EMERY SAPP & SONS		DRAWING NO.
HOLES EXC. NOTED	JOB TITLE MoDOT JOB NO. J9S0500 Route H		GN2
END DIST. EXC. NOTED	STRUCTURE BRIDGE # A30521 F.A.S.-1053(6)		
CLEAN SPEC.	LOCATION PULASKI CO., MO		CONTRACT NO. 3173
PAINT	ARCH. OR ENGR. MoDOT		
DRY MIL THICKNESS	DRAWN MDB DATE 4/8/03	CHKD. DATE	
ELECTRODE CLASS	STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LE END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.	



ERECTION PLAN

NOTE:

FOR DETAILS SHOWING INSTALLATION OF NEW MATERIALS TO EXISTING GIRDERS, SEE SHEET 1/E2.

FOR BRIDGE FILES

END DIAPHRAGM SHIPPING MARKS		
LOCATION	UPPER DIAPHRAGM	LOWER DIAPHRAGM
ED1	1A27-P	1B27-P
ED2	1D27-P	1P27-P
ED3	1F27-P	1S27-P

① NOTE:

Bolts on intermediate diaphragms and cross frames that connect girders under different construction stage slab pours shall be installed snug tight, then tightened after both adjacent slab pours are completed.

① AASHTO M164-1 MECH. GALV. FIELD BOLTS			
NO. PER CONNECTION	SIZE	HDN. WASH. PER BOLT	LOCATION
36	7/8 x 2 1/2	1	WEB SPLICE
36	7/8 x 4	1	TOP FLANGE SPLICE
48	7/8 x 5	1	BOTTOM FLANGE SPLICE
12	7/8 x 4	1	PIN PLATES TO GIRDER
7	3/4 x 2 1/2	2	W16 DIAPHRAGM TO NEW GIRDER
3	3/4 x 2 1/2	2	ANGLE DIAPHRAGM TO NEW GIRDER
5	3/4 x 2 1/2	2	BENT ℄ DIAPHRAGM @ BENT NO. 3
5	3/4 x 2 1/4	2	INTERMEDIATE DIAPHRAGM TO GIRDER
7	3/4 x 2 1/4	2	W16 DIAPHRAGM TO EXISTING GIRDER
3	3/4 x 2 1/4	2	ANGLE DIAPHRAGM TO EXISTING GIRDER
5	3/4 x 2 1/2	2	BENT ℄ CONNECTION TO EXISTING GIRDER
2	3/4 x 2 1/2	2	1H26-P TO BENT ℄ @ EXISTING GIRDER
2	3/4 x 2 1/2	2	1H26-P TO 3/4" FLG. ℄ @ EXISTING GIRDER
2	3/4 x 2 3/4	2	1H26-P TO 1" FLG. ℄ @ EXISTING GIRDER
2	3/4 x 3	2	1H26-P TO 1 1/4" FLG. ℄ @ EXISTING GIRDER
9	7/8 x 2 3/4	1	END BENT STIFFENERS @ EXISTING GIRDER

Reviewed for general conformity to plans and specifications.
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DATE 7-7-03
☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

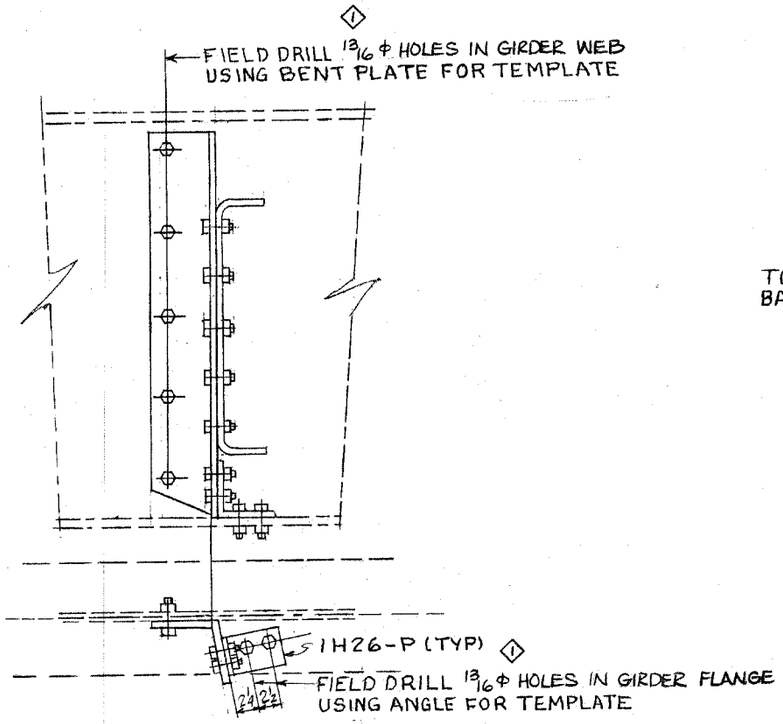
REV NO	DATE	REVISION DESCRIPTION	BY	CHK	APP'L	SHOP	FIELD
◇							
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①	6/26/03	PER FINAL DRAWING ROOM REVIEW	GDS/H		X		
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DESCRIPTION ERECTION PLAN
SQUAD DN.
REF. DWG
CUSTOMER P.O. NO.

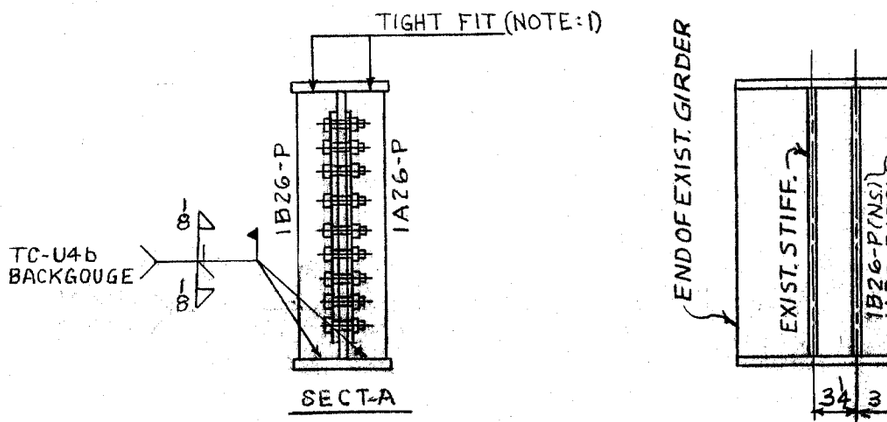
AFCO STEEL

1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-6200 / Little Rock, Arkansas 72203

BOLTS	EXC. NOTED	CUSTOMER EMERY SAPP & SONS, INC.	DRAWING NO. 1 / E1
HOLES	EXC. NOTED	JOB TITLE FAP#FAS-1053(6)~J9S0500	
END DIST	EXC. NOTED	STRUCTURE BR. # A30521, ROUTE H	CONTRACT NO. 3173
CLEAN SPEC.		LOCATION PULASKI CO., MO.	
PAINT		ARCH OR ENGR. MODOT	
DRY MIL THICKNESS		DRAWN SDC DATE 4/03 CHKD H DATE 4/03	
ELECTRODE CLASS		STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON ( ) END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



INSTALLATION OF NEW DIAPHRAGM CONNECTION MATERIAL TO EXISTING GIRDERS.



STIFFENER AT END BENTS FOR EXISTING GIRDERS

NOTE 1: CUT AND/OR GRIND END OF NEW ANGLE FOR TIGHT FIT AS SHOWN.

Reviewed for general conformity to plans and specifications.
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DATE 7-7-03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES

FOR BRIDGE FILES

REV NO.	DATE	REVISION DESCRIPTION	BY/CHK	APPL.	SHOP	FIELD
1	6/26/03	PER FINAL DRAWING ROOM REVIEW		JUN - 2 2003	X	X
0						

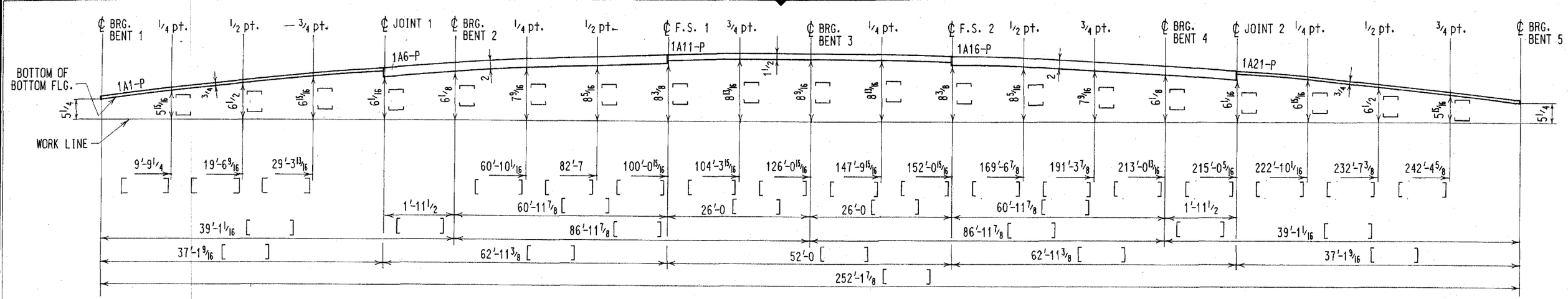
JUL - 1 2003

DESCRIPTION: ERECTION DETAILS
SCALE: ON.
REF. DWG
CUSTOMER P.O. NO.

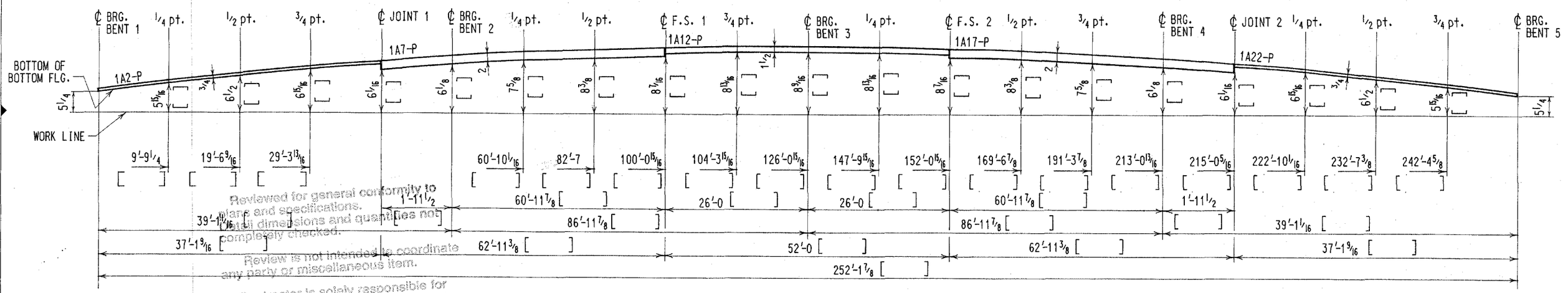
AFCO STEEL

1423 EAST SIXTH STREET / POST OFFICE BOX 231 / AREA CODE 501-340-6200 / LITTLE ROCK, ARKANSAS 72203

BOLTS: NOTED EXC. NOTED	CUSTOMER: EMERY SAPP & SONS, INC.		DRAWING NO. 1/E2
HOLES: NOTED EXC. NOTED	JOB TITLE: FAP # FAS-1053(6)~J950500		
END DIST. EXC. NOTED	STRUCTURE: BRIDGE NO. A30521, ROUTE H		
CLEAN SPEC.	LOCATION: PULASKI CO., MISSOURI		CONTRACT NO. 3173
PAINT	APPR. OF ENGR: MODOT		
DRY MIL THICKNESS	DRAWN: SDC DATE 4/03	CHKD H DATE 4/03	
ELECTRODE CLASS	STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.	



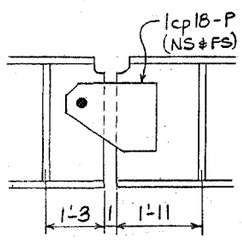
BLOCKING DIAGRAM @ LINE 1a



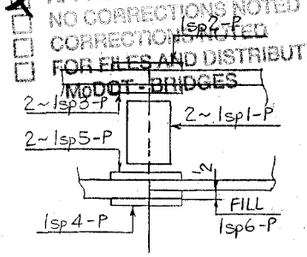
BLOCKING DIAGRAM @ LINE 1b

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Shall dimensions and quantities not completely checked.
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☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

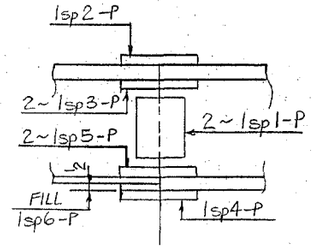
FOR BRIDGE FILES



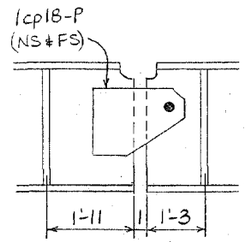
DETAIL @ JOINT 1



SPLICE PLATES @ F.S. 1



SPLICE PLATES @ F.S. 2



DETAIL @ JOINT 2

NOTE:

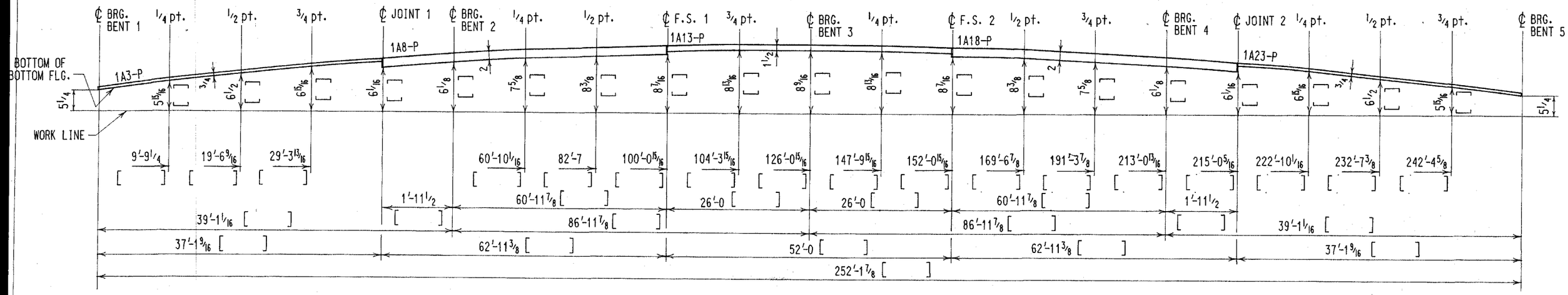
1. BLOCKING DIMENSIONS ARE TO BOTTOM OF BOTTOM FLANGE.
2. VERTICAL BLOCKING DIMENSIONS AT FIELD SPLICES ARE MEASURED TO THE BOTTOM OF THE THICKER FLANGE.
3. [ ] DENOTES "AS FABRICATED" DIMENSION.
4. FIELD SPLICE PLATES AND PIN PLATES SHALL BE MATCH-MARKED AFTER REAMING AND PRIOR TO DISASSEMBLY.
5. FOR GENERAL NOTES, SEE DRAWING GN1.

REV. NO.	DATE	REVISION DESCRIPTION	BY/CHK	APPL	SHOP	FIELD
1	7/2/03	PER FINAL DRAWING ROOM REVIEW		X		JUL - 3 2003
0				JUN - 2 2003	X	X

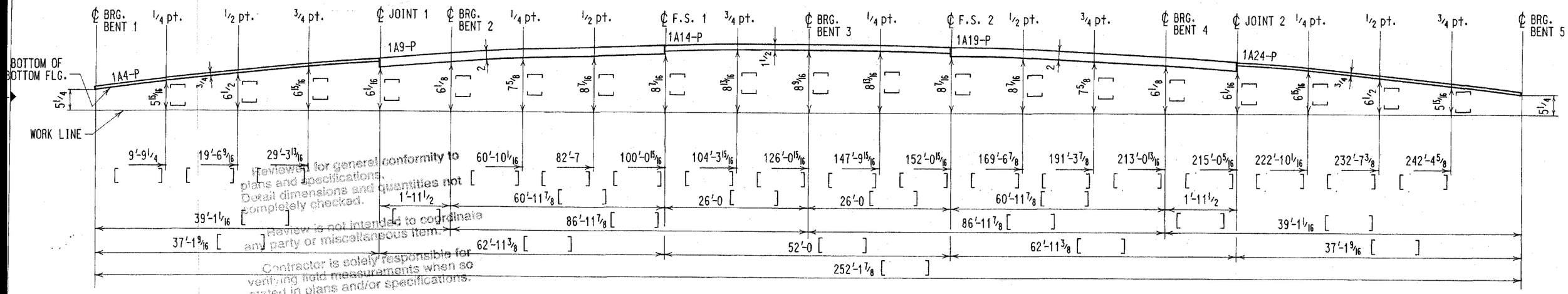
DESCRIPTION: BLOCKING DIAGRAMS
SCALE: DN
REF. DWG
CUSTOMER P.O. NO.

AFCO STEEL
1423 EAST SIXTH STREET / POST OFFICE BOX 231 / AREA CODE 501-340-6300 / LITTLE ROCK, ARKANSAS 72203

BOLTS	EXC. NOTED	CUSTOMER: EMERY SAPP & SONS, INC.	DRAWING NO. 1 / BD1
HOLES	EXC. NOTED	JOB TITLE: FAP # FAS-1053(6)~J950500	
END DIST.	EXC. NOTED	STRUCTURE: BRIDGE NO. A30521, ROUTE H	
CLEAN SPEC.		LOCATION: PULASKI CO., MISSOURI	CONTRACT NO. 3173
PAINT		APPR. OR DIR.: MODOT	
DRY MIL THICKNESS		DRAWN: SDC DATE 4/03	CHKD: H DATE 4/03
ELECTRODE CLASS		STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

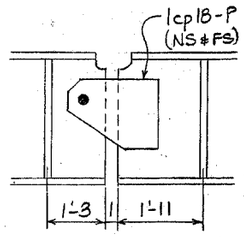


BLOCKING DIAGRAM @ LINE 1c

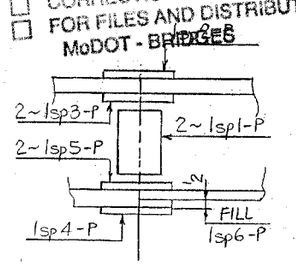


BLOCKING DIAGRAM @ LINE 1d

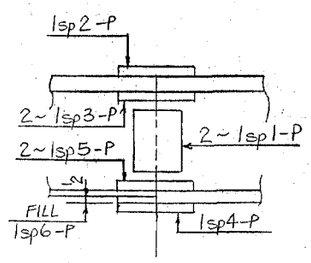
Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.
Review is not intended to coordinate any party or miscellaneous item.
Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.
Contractors responsibility is in no way relieved by this review.
DATE 7-7-03
X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES



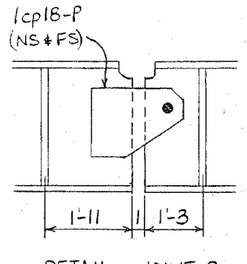
DETAIL @ JOINT 1
①



SPLICE PLATES @ F.S. 1



SPLICE PLATES @ F.S. 2



DETAIL @ JOINT 2
①

NOTE:

1. BLOCKING DIMENSIONS ARE TO BOTTOM OF BOTTOM FLANGE.
2. VERTICAL BLOCKING DIMENSIONS AT FIELD SPLICES ARE MEASURED TO THE BOTTOM OF THE THICKER FLANGE.
3. [ ] DENOTES "AS FABRICATED" DIMENSION.
4. FIELD SPLICE PLATES AND PIN PLATES SHALL BE MATCH-MARKED AFTER REAMING AND PRIOR TO DISASSEMBLY.
5. FOR GENERAL NOTES, SEE DRAWING GN1.

FOR BRIDGE FILES

REV NO.	DATE	REVISION DESCRIPTION	BY/CK	APPL	SHOP	FIELD
1	7/7/03	PER FINAL DRAWING ROOM REVIEW	BK/	X	X	X
0			JWK	JUL - 2 2003		

DESCRIPTION BLOCKING DIAGRAMS
SHEET DN
REF. DWG
CUSTOMER P.O. NO.

AFCO STEEL
1423 EAST SIXTH STREET / POST OFFICE BOX 231 / AREA CODE 501-340-6200 / LITTLE ROCK, ARKANSAS 72203

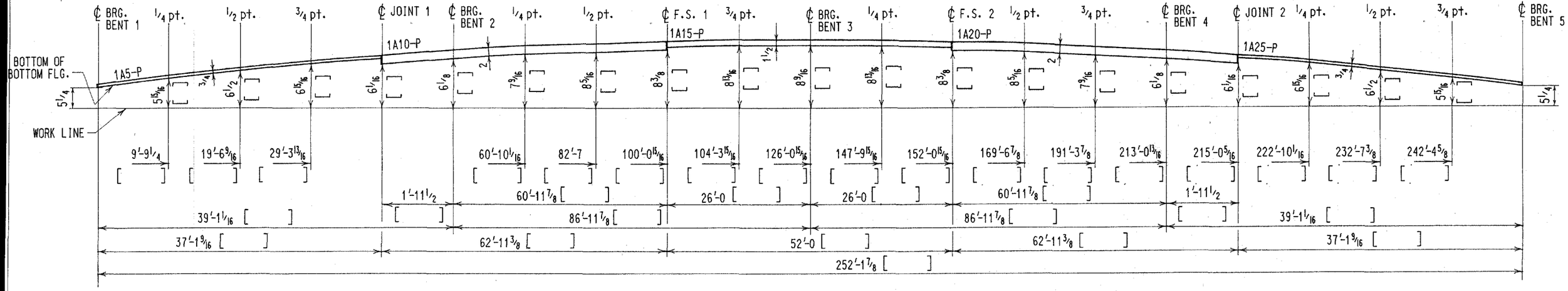
BOLTS	EXC. NOTED	CUSTOMER	EMERY SAPP & SONS, INC.
NUTS	EXC. NOTED	JOB TITLE	FAP # FAS-1053(6)~J9S0500
END DIST.	EXC. NOTED	STRUCTURE	BRIDGE NO. A30521, ROUTE H
CLEAN SPEC		LOCATION	PULASKI CO., MISSOURI
PAINT		APPR. OR ENGR.	MODOT
		DRAWN	SDC DATE 4/03
		CHKD	H DATE 4/03

DRAWING NO. 1 / BD2
CONTRACT NO. 3173

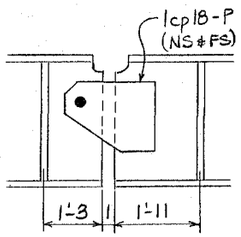
PAINT THICKNESS
ELECTRODE CLASS

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

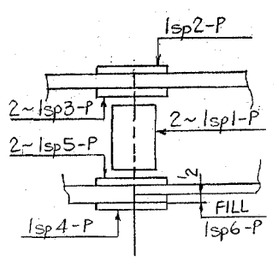
PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



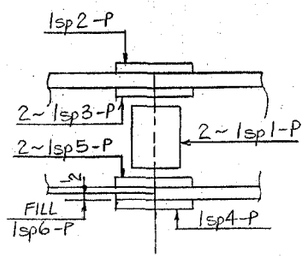
BLOCKING DIAGRAM @ LINE 1e



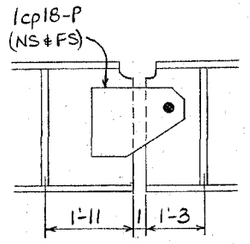
DETAIL @ JOINT 1



SPLICE PLATES @ F.S. 1



SPLICE PLATES @ F.S. 2



DETAIL @ JOINT 2

NOTE:

1. BLOCKING DIMENSIONS ARE TO BOTTOM OF BOTTOM FLANGE.
2. VERTICAL BLOCKING DIMENSIONS AT FIELD SPLICES ARE MEASURED TO THE BOTTOM OF THE THICKER FLANGE.
3. [ ] DENOTES "AS FABRICATED" DIMENSION.
4. FIELD SPLICE PLATES AND PIN PLATES SHALL BE MATCH-MARKED AFTER REAMING AND PRIOR TO DISASSEMBLY.
5. FOR GENERAL NOTES, SEE DRAWING GN1.

FOR BRIDGE FILES

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

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Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION MoDOT - BRIDGES

REV NO.	DATE	REVISION DESCRIPTION	BY	CH'K	APP'L	SHOP	FIELD
1	4/30/03	PER FINAL DRAWING ROOM REVIEW	SW	X			JUL -1 2003
0		~		JUN 6 2003		X	X

DESCRIPTION BLOCKING DIAGRAMS
SQUAD DN
REF. DWG
CUSTOMER P.O. NO.

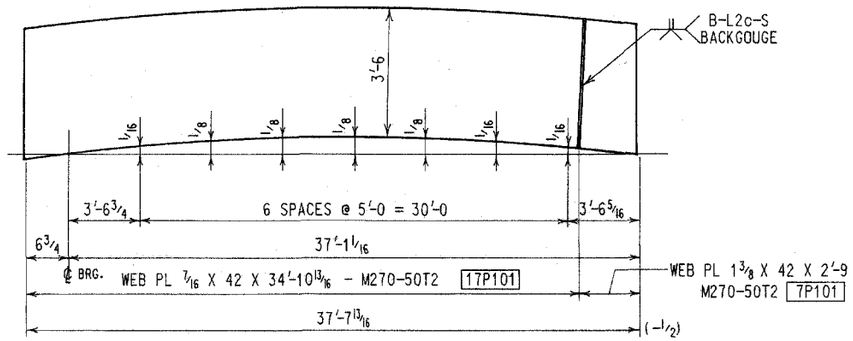
AFCO STEEL

1423 EAST SIXTH STREET / POST OFFICE BOX 231 / AREA CODE 501-340-8200 / LITTLE ROCK, ARKANSAS 72203

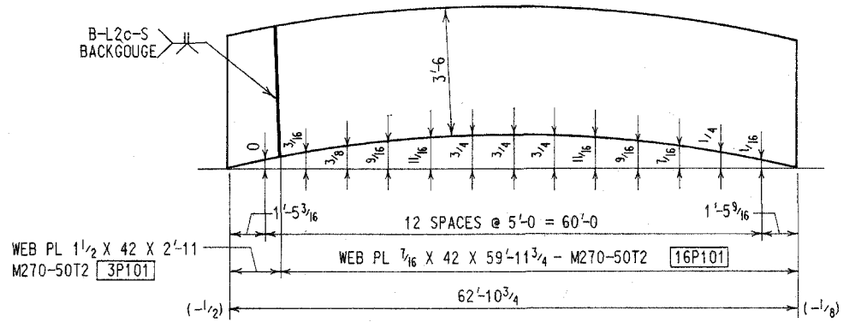
BOLTS	EXC. NOTED
HOLES	EXC. NOTED
END DIST.	EXC. NOTED
CLEAN SPEC.	
PAINT	
DFT MIL THICKNESS	
ELECTRODE CLASS	

CUSTOMER EMERY SAPP & SONS, INC.
JOB TITLE FAP # FAS-1053(6)~J9S0500
STRUCTURE BRIDGE NO. A30521, ROUTE H
LOCATION PULASKI CO., MISSOURI
ARCH. OR ENGR. MODOT
DRAWN SDC DATE 4/03
CH'D H DATE 4/03
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.
PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

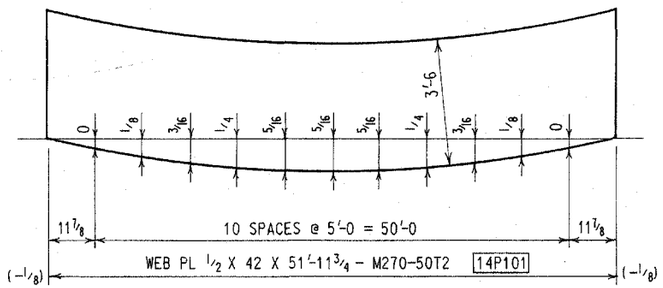
DRAWING NO. 1 / BD3
CONTRACT NO. 3173



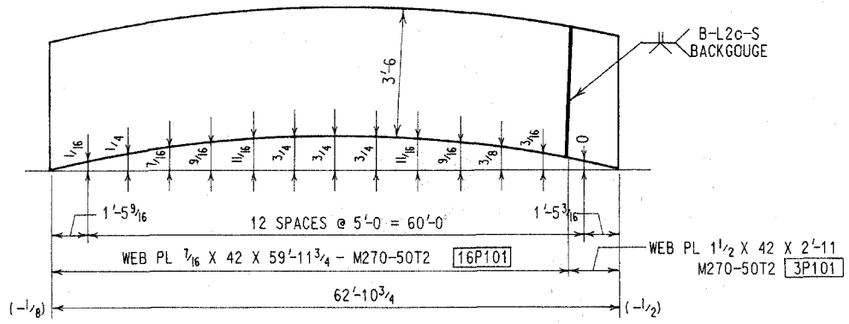
GIRDERS 1A1-P, 1A2-P, 1A3-P, 1A4-P, & 1A5-P



GIRDERS 1A6-P, 1A7-P, 1A8-P, 1A9-P, & 1A10-P



GIRDERS 1A11-P, 1A12-P, 1A13-P, 1A14-P, & 1A15-P



GIRDERS 1A16-P, 1A17-P, 1A18-P, 1A19-P, & 1A20-P

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

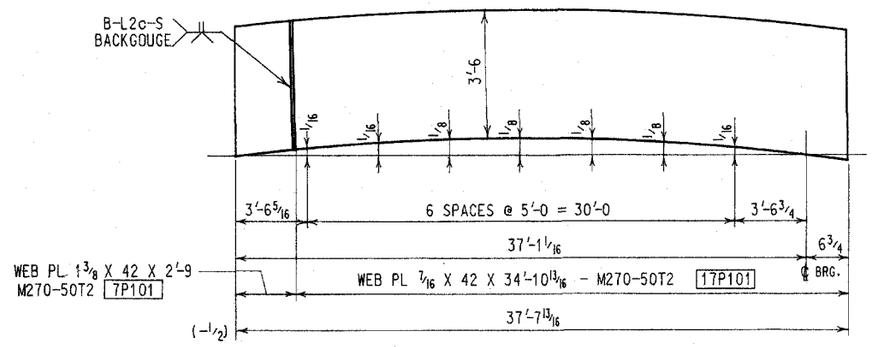
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DATE 7-7-03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES



GIRDERS 1A21-P, 1A22-P, 1A23-P, 1A24-P, & 1A25-P

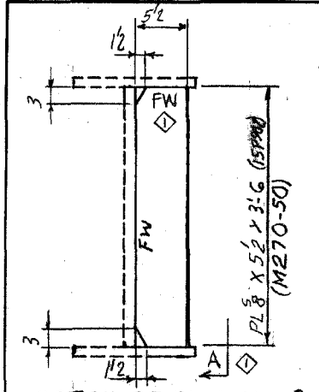
FOR BRIDGE FILES

REV NO.	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D	SHOP	FIELD
0		~				JUL - 3 2003	

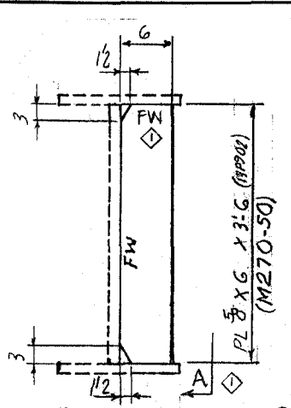
DESCRIPTION WEB CUTTING DIAGRAMS
SDMD DN
REF. DWG
CUSTOMER P.O. NO.

AFCO STEEL
1423 EAST SIXTH STREET / POST OFFICE BOX 231 / AREA CODE 501-340-6200 / LITTLE ROCK, ARKANSAS 72203

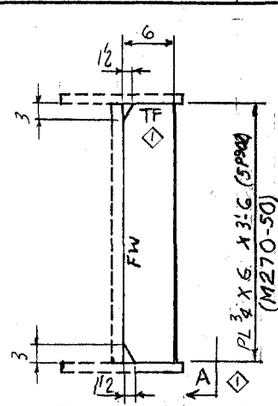
BOLTS	EXC. NOTED	CUSTOMER EMERY SAPP & SONS, INC.	DRAWING NO. 1 C1
HOLES	EXC. NOTED	JOB TITLE FAP # FAS-1053(6) ~ J9S0500	
END DIST.	EXC. NOTED	STRUCTURE BRIDGE NO. A30521, ROUTE H	
CLEAN SPEC.		LOCATION PULASKI CO., MISSOURI	CONTRACT NO. 3173
PAINT		WORK OR ENGR. MODOT	
QTY. MK. THICKNESS		DRAWN SDC. DATE 4/03 CHK'D H DATE 4/03	
ELECTRODE CLASS		STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR QUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE, ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



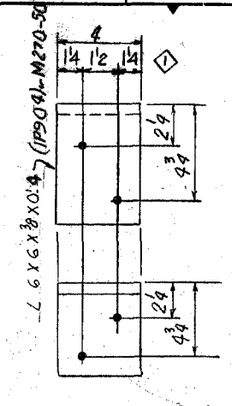
DETAIL OF PL 1CP1 -P
(2 -Req'd.)



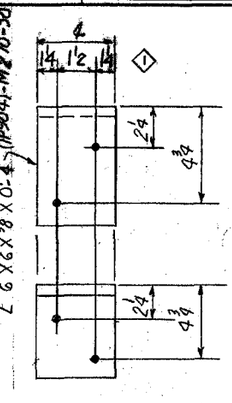
DETAIL OF PL 1CP2 -P
(4 -Req'd.)



DETAIL OF PL 1CP3 -P
(1 -Req'd.)

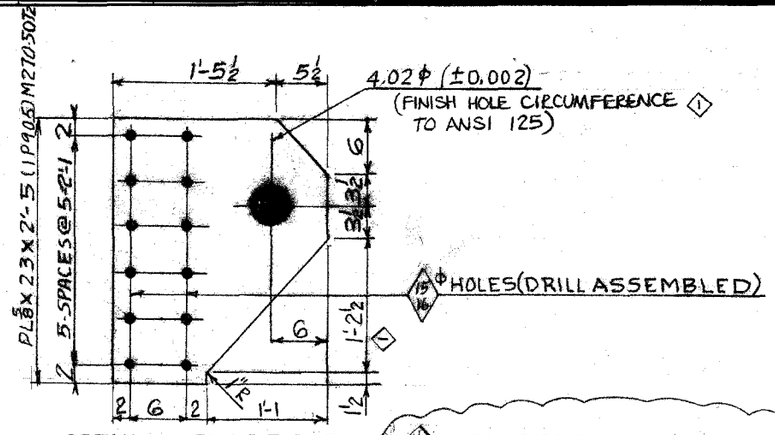


1CP16-P (52 REQ'D.)



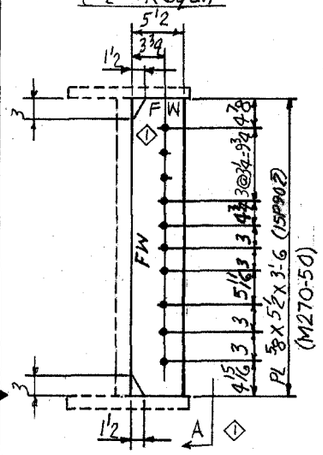
1CP17-P (47 REQ'D.)

FLANGE TAB ANGLES

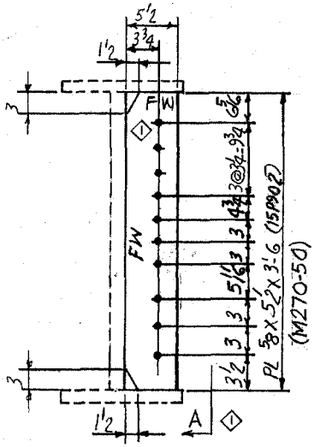


DETAIL OF PL 1CP18-P
(20 ~ REQ'D)

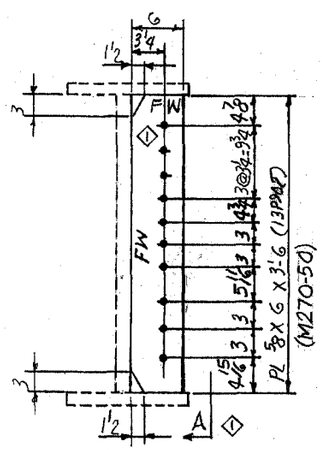
1 MODOT APPROVED SUBSTITUTIONS
APPLICABLE TO ITEMS BILLED ON THIS DRAWING
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50



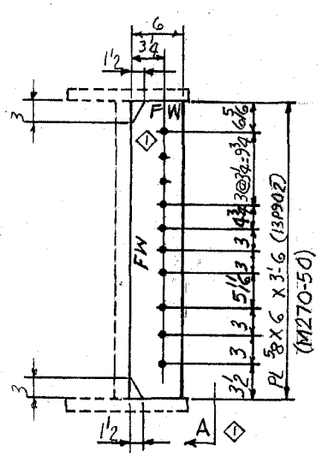
DETAIL OF PL 1CP4 -P
(10 -Req'd.)



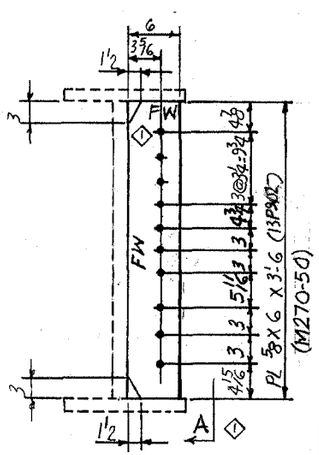
DETAIL OF PL 1CP5 -P
(8 -Req'd.)



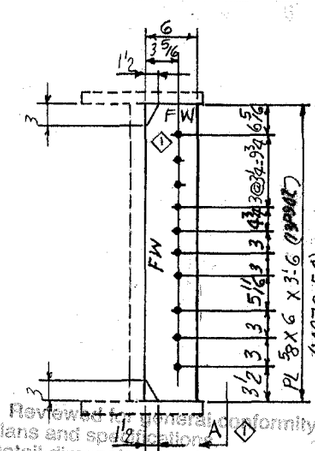
DETAIL OF PL 1CP6 -P
(10 -Req'd.)



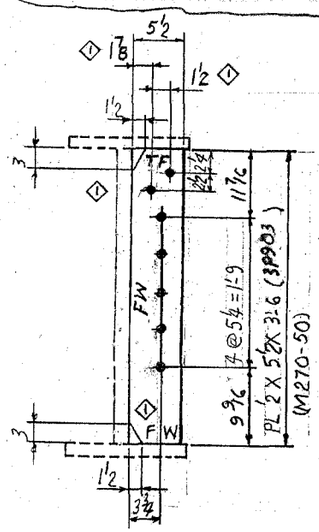
DETAIL OF PL 1CP7 -P
(8 -Req'd.)



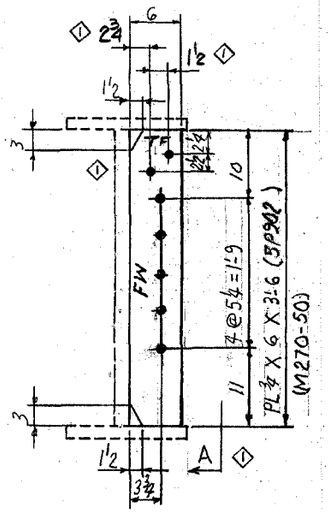
DETAIL OF PL 1CP8 -P
(10 -Req'd.)



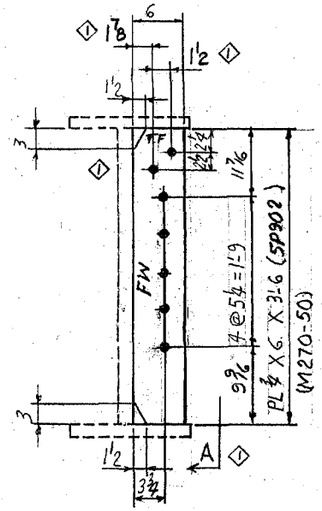
DETAIL OF PL 1CP9 -P
(8 -Req'd.)



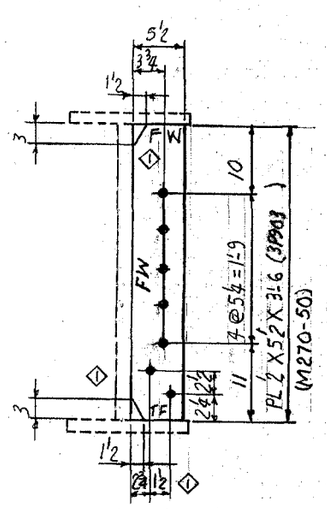
DETAIL OF 1CP15 -P
(8 -Req'd.)



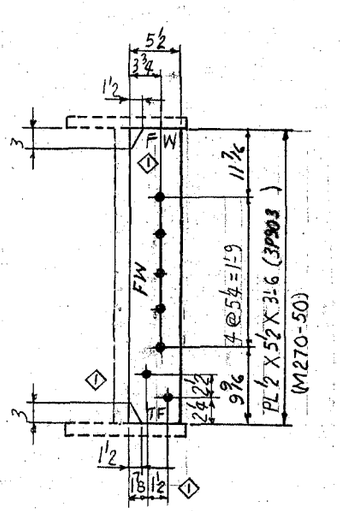
DETAIL OF 1CP10 -P
(5 -Req'd.)



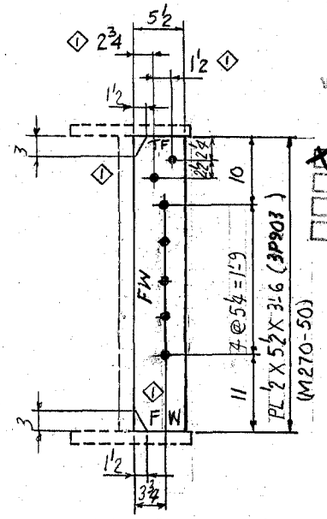
DETAIL OF PL 1CP11 -P
(4 -Req'd.)



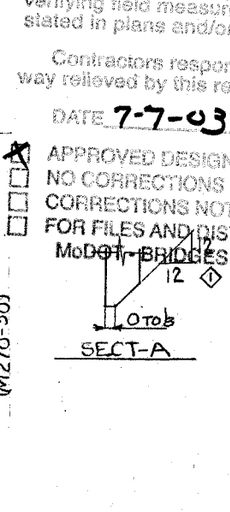
DETAIL OF PL 1CP12 -P
(40 -Req'd.)



DETAIL OF PL 1CP13 -P
(32 -Req'd.)



DETAIL OF 1CP14 -P
(10 -Req'd.)



STIFFENER END & WEB FIT LEGEND
FW = FILLET WELD
TF = TIGHT FIT

Review is for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.
Review does not relieve Fabricator to coordinate any party or miscellaneous item.
Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.
Contractors responsibility is in no way relieved by this review.
DATE 7-7-03
APPROVED DESIGN FEATURES ONLY
NO CORRECTIONS NOTED
CORRECTIONS NOTED
FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

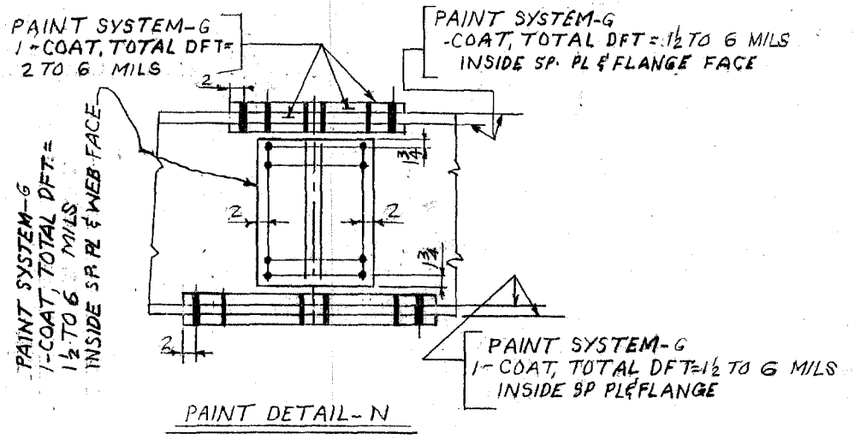
FOR BRIDGE FI

REV. NO.	DATE	REVISION DESCRIPTION	BY	CHK.	APP'L	SHOP	FIELD
1	6/26/03	PER APPROVAL & FINAL DRAWING FROM REVIEW	SDC	H	X		
0		~				X	X

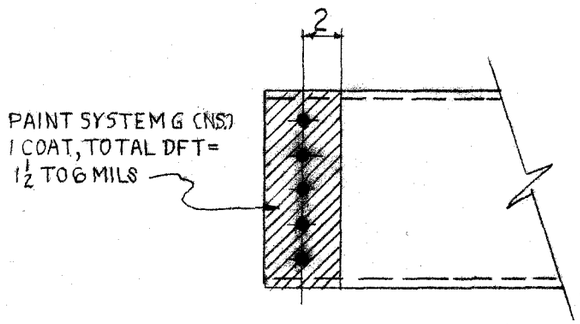
DESCRIPTION STIFF. & ANGLE DETAILS | SQUAD
REF. DWG | CUSTOMER P. O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-6200 / Little Rock, Arkansas 72203

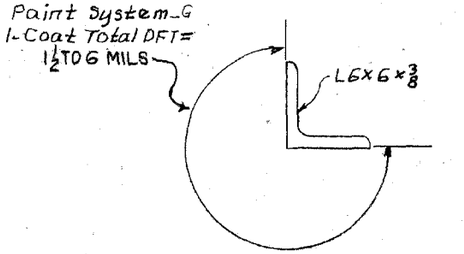
BOLTS	¾ EXC. NOTED	CUSTOMER EMERY SAPP & SONS, INC.	DRAWING NO. 1 of 1
HOLES	13/16 EXC. NOTED	JOB TYLE FAP # FAS-1053(G) & JOS 0500	
END DIST	EXC. NOTED	STRUCTURE BRIDGE NO A30521, ROUTE H	CONTRACT NO. 3173
CLEAN SPEC.		LOCATION PULASKI CO. MO.	
PAINT		ARCH OR ENGR MODOT	
DRY MIL THICKNESS		DRAWN SDC DATE 5/03 CHKD. H DATE 5/03	
ELECTRODE CLASS		STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



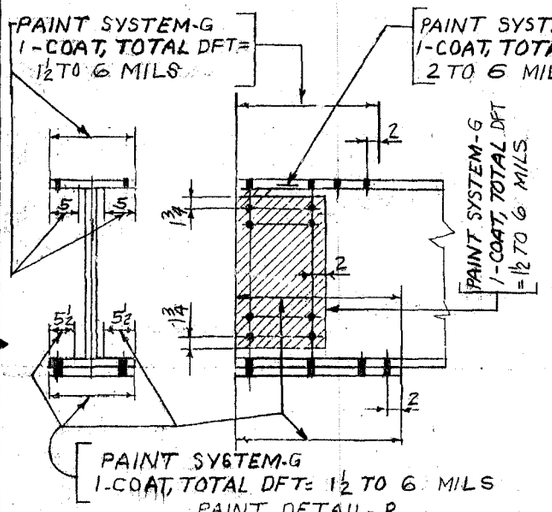
PAINT DETAIL-N



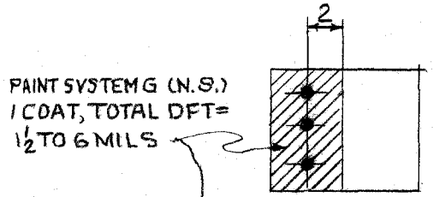
PAINT DETAIL M
(SEE DETAIL A) ①



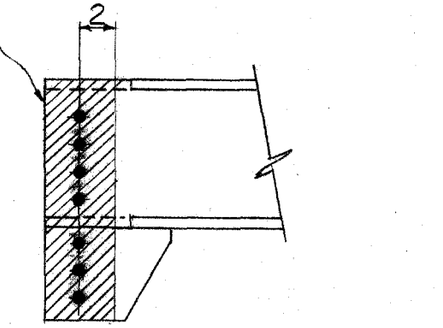
PAINT DETAIL-K



PAINT DETAIL-P



PAINT DETAIL B (SEE DETAIL C) ①



PAINT DETAIL G (SEE DETAIL C) ①

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

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Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

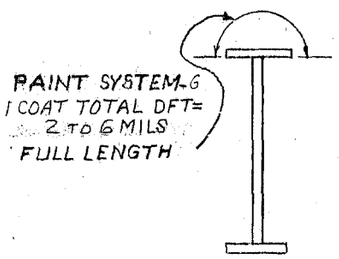
- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES

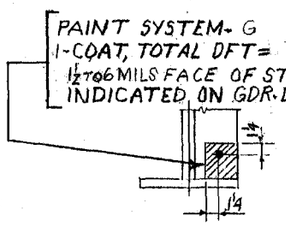
PAINT NOTES:

1. ALL PAINT FOR THIS JOB SHALL BE SYSTEM "G" MINIMUM D.F.T.= 3 MILS MIN TO 6 MILS MAX. UNLESS NOTED OTHERWISE. PAINT IN ACCORDANCE WITH JOB SPECIAL PROVISIONS.
2. DETAILS SHOWN ARE STANDARD DETAILS AND MAY NOT BE PICTORIALLY CORRECT AND ARE INTENDED ONLY TO SHOW THE GENERAL PAINTING APPLICATIONS.
3. SYSTEM "G" PAINT SHALL BE CARBOLINE CZ11-HS, INORGANIC ZINC PRIMER.

①

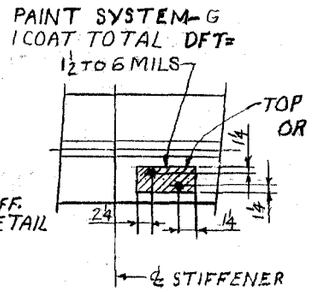


PAINT DETAIL-D

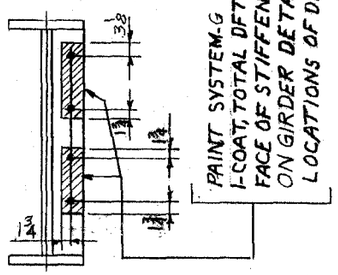


PAINT DETAIL-E

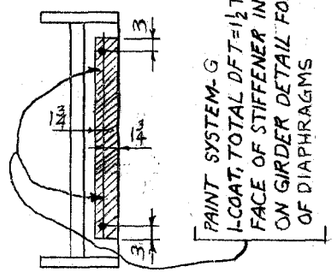
TOP OR BOTT. STIFFENER



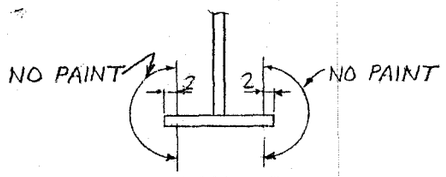
PAINT DETAIL-H



PAINT DETAIL-C ①



PAINT DETAIL A ①



DETAIL F

FOR BRIDGE FILES

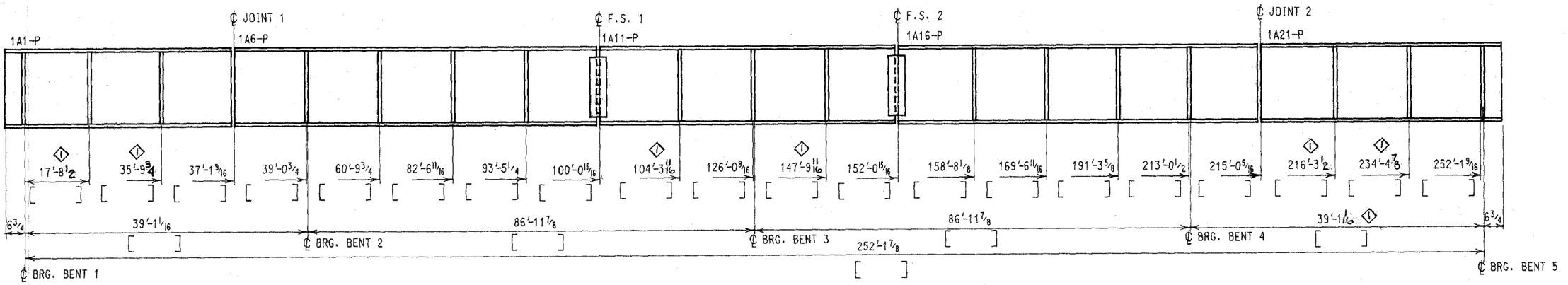
REV NO.	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	SS/H	X		
0		~	JUN 2 2003	X		X

DESCRIPTION PAINT DETAILS
REF. DWG.
SQUAD DN
CUSTOMER P.O. NO.

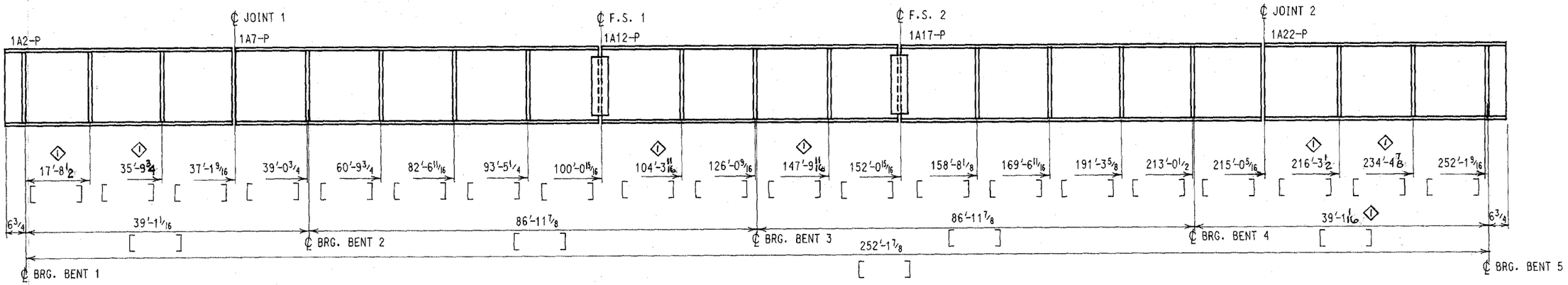
AFCO STEEL

1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-8200 / Little Rock, Arkansas 72203

BOLTS EXC. NOTED	CUSTOMER EMERY SAPP & SONS, INC.		DRAWING NO. P1
HOLES EXC. NOTED	JOB TITLE FAP* FAS-1053(6)~J980500		
END DIST. EXC. NOTED	STRUCTURE BRIDGE NO. A30521, ROUTE H		CONTRACT NO. 3173
CLEAN SPEC SSPC-SP10	LOCATION PULASKI CO. MO		
PAINT SYSTEM G	ARCH OR ENGR. MO DOT		
	DRAWN SDC DATE 4/03	CHKD H DATE 4/03	
DRY MIL THICKNESS SEE NOTES	STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.	
ELECTRODE CLASS			



SUPEREXTENDED DIMENSIONS @ LINE 1a



SUPEREXTENDED DIMENSIONS @ LINE 1b

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

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Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

- [X] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION
  MoDOT - BRIDGES

FOR BRIDGE FILES

NOTE: ALL DIMENSIONS ARE ALONG ℄ OF GIRDER AT BOTTOM OF WEB.
SUPEREXTENDED DIMENSIONS ARE SHOWN AT ℄ BEARINGS, DIAPHRAGM CONNECTION PLATES, & ℄ FIELD SPLICES.
[ ] INDICATES AS-BUILT DIMENSION.

REV NO	DATE	REVISION DESCRIPTION	BY	APPL	SHOP	FIELD
1	6/9/03	PER FINAL DRAWING ROOM REVIEW	SDC	X		X
0		~	SDC	X	X	X

DESCRIPTION SUPEREXTENDED DIMENSIONS
DRAWN DN
REF. DWG
CUSTOMER P.O. NO.

AFCO STEEL

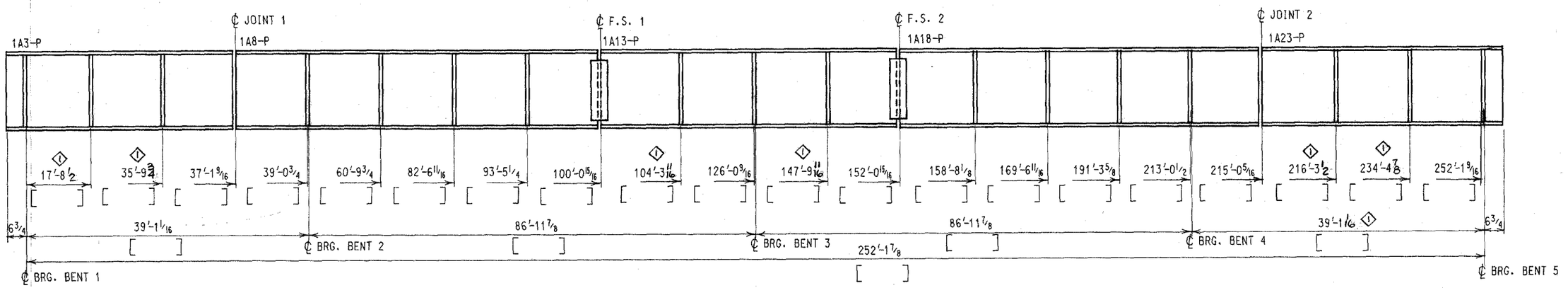
1423 EAST SIXTH STREET / POST OFFICE BOX 231 / AREA CODE 501-340-6200 / LITTLE ROCK, ARKANSAS 72203

BOLTS	EXC. NOTED	CUSTOMER	EMERY SAPP & SONS, INC.
HOLES	EXC. NOTED	JOB TITLE	FAP # FAS-1053(6) ~ J1S0500
END DIST.	EXC. NOTED	STRUCTURE	BRIDGE NO. A30521, ROUTE H
CLEAN SPEC.		LOCATION	PULASKI CO., MISSOURI
PAINT		ARCH. OR ENGR.	MODOT
DRY MIL THICKNESS		DRAWN	SDC DATE 4/03
ELECTRODE CLASS		CHKD	H DATE 4/03

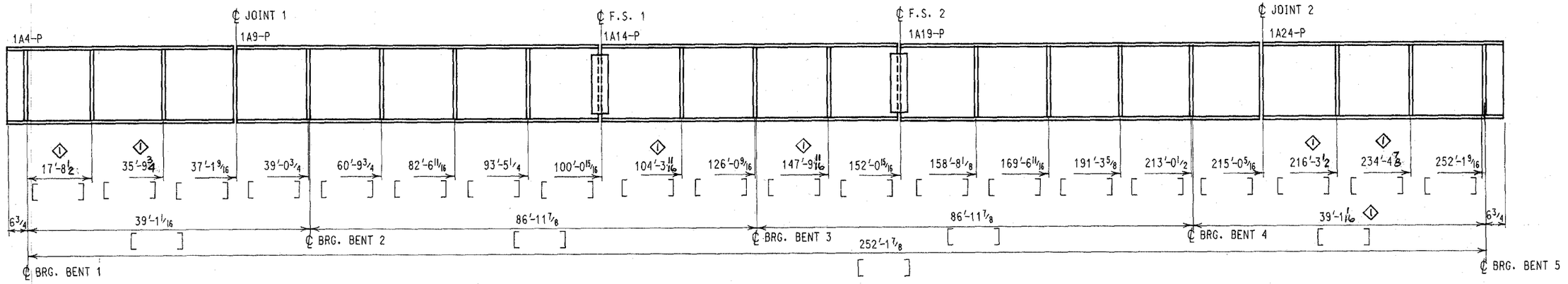
DRAWING NO. 1 SE1
CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



SUPEREXTENDED DIMENSIONS @ LINE 1c



SUPEREXTENDED DIMENSIONS @ LINE 1d

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DATE 7-7-03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES

NOTE: ALL DIMENSIONS ARE ALONG ℄ OF GIRDER AT BOTTOM OF WEB.
SUPEREXTENDED DIMENSIONS ARE SHOWN AT ℄ BEARINGS, DIAPHRAGM CONNECTION PLATES, & ℄ FIELD SPLICES.
[ ] INDICATES AS-BUILT DIMENSION.

FOR BRIDGE FILES

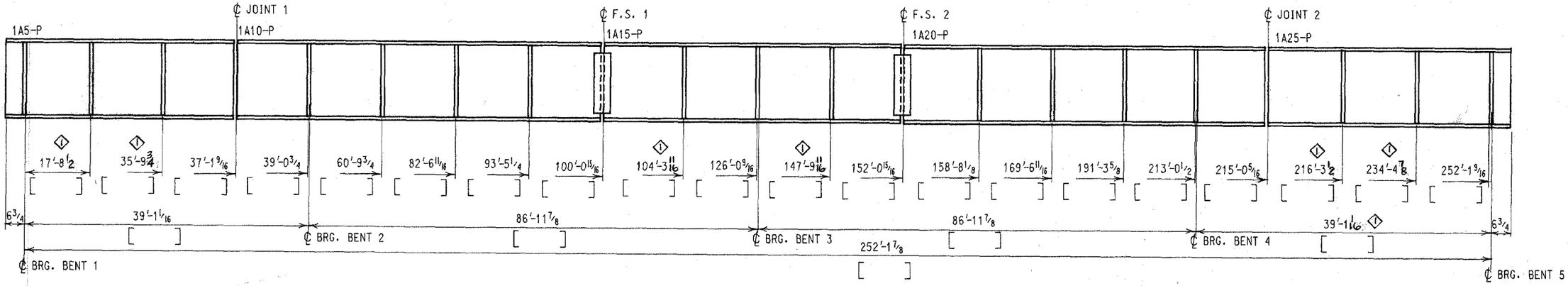
REV. NO.	DATE	REVISION DESCRIPTION	BY/CK	APP'L	SHOP	FIELD
1	6/26/03	PER FINAL DRAWING ROOM REVIEW	BM/ JN	X		AUG. - 3 2003
0		~	JUN - 8 2003		X	X

DESCRIPTION SUPEREXTENDED DIMENSIONS
SOLD DN
CUSTOMER P.O. NO.
REF. DWG

AFCO STEEL

1423 EAST SIXTH STREET / POST OFFICE BOX 231 / AREA CODE 501-340-6200 / LITTLE ROCK, ARKANSAS 72203

BOLTS	EXC. NOTED	CUSTOMER EMERY SAPP & SONS, INC.	DRAWING NO. 1 / SE2
HOLES	EXC. NOTED	JOB TITLE FAP # FAS-1053(6)~J9S0500	
END DIST.	EXC. NOTED	STRUCTURE BRIDGE NO. A30521, ROUTE H	
CLEAN SPEC.		LOCATION PULASKI CO., MISSOURI	CONTRACT NO. 3173
PAINT		ARCH. OR ENGR. MODOT	
PAINT WT. THICKNESS		DRAWN SDC DATE 4/03 CHKD H DATE 4/03	
ELECTRODE CLASS		STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



SUPEREXTENDED DIMENSIONS @ LINE 1e

FOR BRIDGE FILES

NOTE: ALL DIMENSIONS ARE ALONG ℄ OF GIRDER AT BOTTOM OF WEB.

SUPEREXTENDED DIMENSIONS ARE SHOWN AT ℄ BEARINGS, DIAPHRAGM CONNECTION PLATES, & ℄ FIELD SPLICES.

[ ] INDICATES AS-BUILT DIMENSION.

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DATE 7-7-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

REV NO	DATE	REVISION DESCRIPTION	BY/CK	APPL	SHOP	FIELD
1	4/24/03	PER FINAL DRAWING ROOM REVIEW	BH	X		
0		~		JUN - 2 2003	X	X

DESCRIPTION SUPEREXTENDED DIMENSIONS | SQUAD DN | CUSTOMER P.O. NO. | REF. DWG

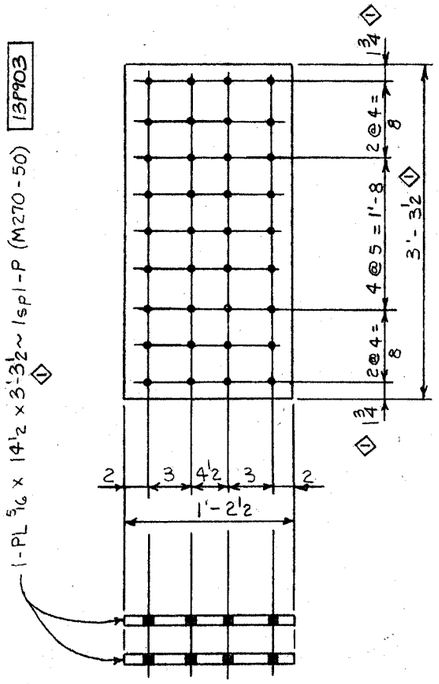
AFCO STEEL

1423 EAST SIXTH STREET / POST OFFICE BOX 231 / AREA CODE 501-240-6200 / LITTLE ROCK, ARKANSAS 72203

BOLTS	EXC NOTED	CUSTOMER EMERY SAPP & SONS, INC.	DRAWING NO. 1 / SE3
WELDS	EXC NOTED	JOB TITLE FAP # FAS-1053(6) ~ J950500	
END DRIL	EXC NOTED	STRUCTURE BRIDGE NO. A 30521, ROUTE H	
CLEAN SPEC.		LOCATION PULASKI CO., MISSOURI	CONTRACT NO. 3173
PAINT		APPR. OR ENGR. MODOT	
DRY MIL THICKNESS		DRAWN SDC DATE 4/03 CHKD H DATE 4/03	

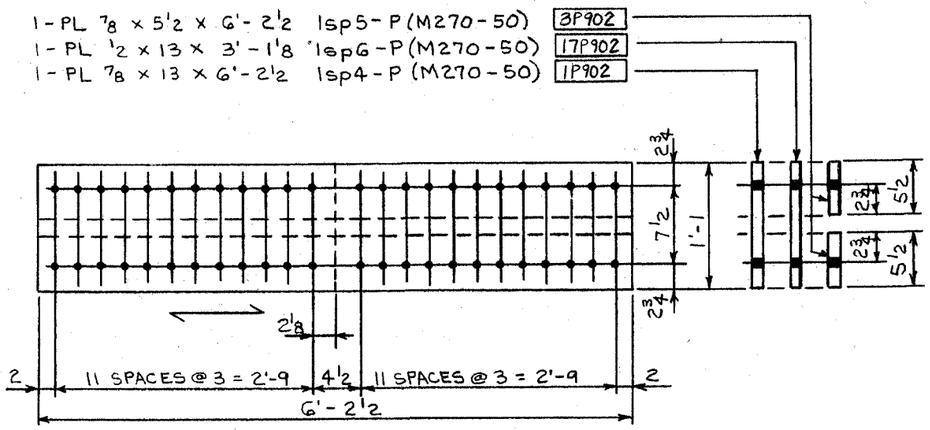
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE ERECT WITH MARK AT SAME END AS



20- SPLICE PLATES Isp1-P

MAKE - 10 - SETS

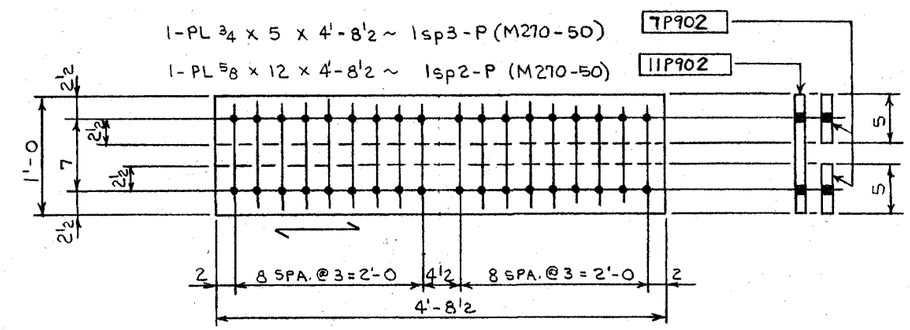


10 - SPLICE PLATES Isp4-P

20 - SPLICE PLATES Isp5-P

10 - SPLICE PLATES Isp6-P

MAKE - 10 - SETS



10 - SPLICE PLATES Isp2-P

20 - SPLICE PLATES Isp3-P

MAKE - 10 - SETS

① MODOT APPROVED SUBSTITUTIONS
APPLICABLE TO ITEMS BILLED ON THIS DRAWING

~~Sub. 7/8" PL M270-50W for 7/8" PL M270-50~~
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
~~Sub. 5/8" PL M270-50W for 5/8" PL M270-50~~
Sub. 1/2" PL M270-50W for 1/2" PL M270-50
Sub. 5/16" PL M270-50W for 5/16" PL M270-50 ②

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DATE 8-21-03

- [X] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

McDOT - BRIDGES

FOR BRIDGE FILES

INDICATES ROLL DIRECTION

REV NO	DATE	REVISION DESCRIPTION	BY	CHK	APPL	SHOP	FIELD
②	8/15/03	Revised Sub Material	MG		X	AUG - 9 2003	AUG 19 2003
①	6/26/03	PER FINAL DRAWING ROOM REVIEW	MG		X	JUL - 2 2003	JUL - 1 2003
0		~	JCS		JUN - 2 2003	X	X

DESCRIPTION FIELD SPLICE PLATES
SQUAD DN
Seq 14
REF DWG
CUSTOMER P.O. NO.

AFCO STEEL

1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-5200 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST EXC. NOTED
CLEAN SPEC.
PAINT
DRY MIL THICKNESS
ELECTRODE CLASS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP*FAS-1053(6) ~ J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR MODOT
DRAWN SDC DATE 4/03
CHKD H DATE 4/03

DRAWING NO. 1 / SP1
CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

ASTM DESIGNATION
AISC COLOR CODE
AFCO PIECE MARK SUFFIX

A36-NONE; A242-BLUE (A); A441-YELLOW (D); A283 (GRADE D) ORANGE (B); A588 BLUE & YELLOW (C); A514-RED (F); A529-BLACK (H); A572 (GRADE 42) GREEN & WHITE (K); A572 (GRADE 45) GREEN & BLACK (M); A572 (GRADE 50) GREEN & YELLOW (P); A572 (GRADE 55) GREEN & BROWN (S5); A572 (GRADE 60) GREEN & GRAY (T); A572 (GRADE 65) GREEN & BLUE (W)

WELDING SYMBOLS

LINEAL INCHES OF WELD — WELD SIZE 1/4 20 / 5/16 2-6 — NOTE: C.C. DIM LENGTH EACH WELD

FULL PENETRATION-W/BACKING BAR — ROOT OPN'G. 3/8 — 30° GROOVE ANGLE — ARROW POINTS TO MEMBER TO BE BEVELLED

FULL PENETRATION-W/BACKGOUGE — BACKGOUGE — ROOT OPN'G. — 45° GROOVE ANGLE — ARROW POINTS TO MEMBER TO BE BEVELLED

PARTIAL PENETRATION — DEPTH OF BEVEL 3/4 (5/8) — EFFECTIVE THROAT — ROOT OPN'G. — 45° GROOVE ANGLE — ARROW POINTS TO MEMBER TO BE BEVELLED

NOTE ON DOUBLE MEMBERS WHERE F.S. MEMBER IS NOT SHOWN, WELD SAME AS N.S. MEMBER NOTED.

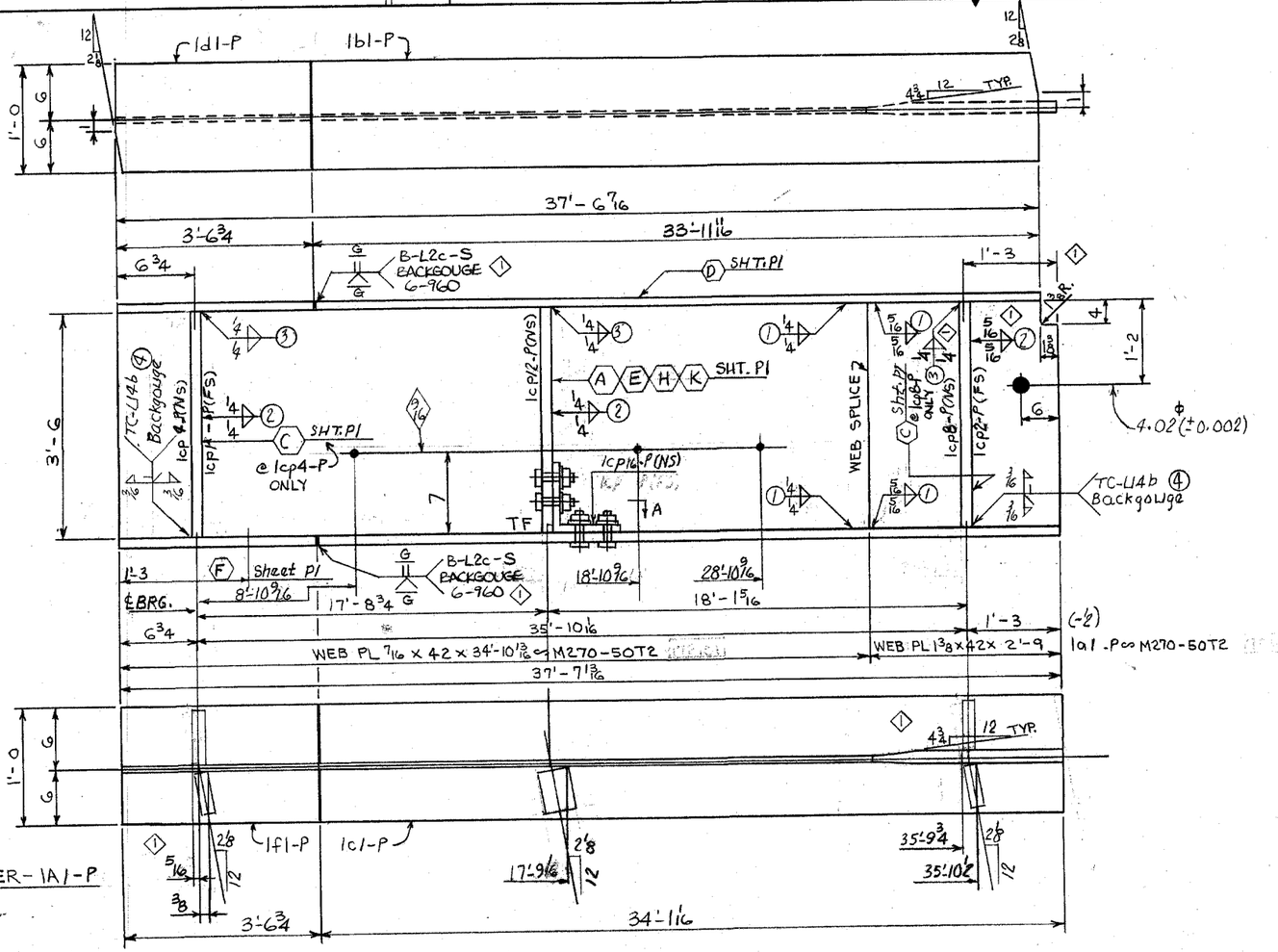
FIELD WELD

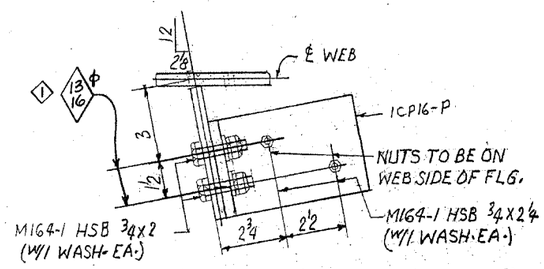
ASE-002 10/89

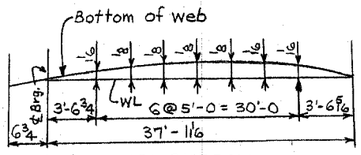
TESTING SYMBOLS: ULTRASONIC (UT) RADIOGRAPHIC (RT) DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) LEAK (LT) VISUAL (VT)

DETAIL PIECE MARKS

SHIPPING PIECE MARKS







FOR BRIDGE FILES

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Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125. ①
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING
Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.
① 2-960
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-0261
Little Rock, Arkansas 72203

BILL OF MATERIALS
SHOP ORDER NUMBER 168-173
SHOP S V
DRAWING NO. 1/1
CONTRACT NO. 3173

PIECE MARK	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (3748)			1A1-P		
2	1	PL 7/16 x 42	34	10 13/16		17P101	M270-50T2
3	1	PL 1 3/8 x 42	2	9	1a1-P	7P101	
4	1	PL 3/4 x 12	33	11 11/16	1b1-P	12P101	
5	1	PL 3/4 x 12	34	7 1/16	1c1-P	12P101	M270-50T2
6	1	PL 5/8 x 5 1/2	3	6	1cp1-P	15P902	M270-50
7	1	PL 1/2 x 5 1/2	3	6	1cp12-P	3P903	
8	1	PL 5/8 x 6	3	6	1cp2-P	13P902	
9	1	L 6x6x3/8	0	4	1cp16-P	1P904	M270-50
10	1	PL 5/8 x 6	3	6	1cp8-P	13P902	M270-50
11	1	PL 5/8 x 5 1/2	3	6	1cp8-P	15P902	M270-50
12	1	PL 3/4 x 12	3	6 3/4	1d1-P	13P101	M270-50T2
13	1	PL 3/4 x 12	3	6 3/4	1f1-P	13P101	M270-50T2
14	2	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	2	M164-1 Bolts 3/4	0	24	N/A	5P105	Mech. Galv.
16	4	Hard Wash 3/4			N/A	1P106	Mech. Galv. (F436)

REV NO.	DATE	REVISION DESCRIPTION	BY	APPL	SHOP	FIELD
1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	SSH	X		JUL - 1 2003
0			SSH	JUN - 2 2003	X	X

DESCRIPTION GIRDER — SQUAD DN
REF DWG. 1/E1 — CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-0261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED — CUSTOMER EMERY SAPP & SONS INC.
HOLES 15/16 EXC. NOTED — JOB TITLE FAP # FAS 1053(6) in J9S0500
END DIST. EXC. NOTED — STRUCTURE BR. # A30521 ROUTE H
CLEAN SPEC. SSPC-SP10 — LOCATION PULASKI CO., MO.
PAINT SEE SHEET-P1 — ARCH OR ENGR MODOT
DRY MIL THICKNESS — DRAWN SDC DATE 4/03 — CHKD. H DATE 4/03
ELECTRODE CLASS See WPS

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE, ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

DRAWING NO. 1/1
CONTRACT NO. 3173

Cad-Burning 80707 Form 11671

ASTM DESIGNATION	AISC COLOR CODE	AFCO PIECE MARK SUFFIX
A36-NONE	A242-BLUE (A)	A283 (GRADE D) ORANGE (B)
	A441-YELLOW (D)	A588 BLUE & YELLOW (C)
		A514-RED (F)
		A529-BLACK (H)
		A572 (GRADE 42) GREEN & WHITE (K)
		A572 (GRADE 45) GREEN & BLACK (M)
		A572 (GRADE 50) GREEN & YELLOW (P)
		A572 (GRADE 55) GREEN & BROWN (SS)
		A572 (GRADE 60) GREEN & GRAY (T)
		A572 (GRADE 65) GREEN & BLUE (WW)

WELDING SYMBOLS

LINEAR INCHES OF WELD — WELD SIZE — 1/4 — 5/16 — 2-8 — 20 — NOTE — C-C DIM — LENGTH EACH WELD

FULL PENETRATION-W/BACKING BAR — ROOT OPN'G. — 3/8 — 30° — GROOVE ANGLE

FULL PENETRATION-W/BACKGOUGE — BACKGOUGE — MEMBER TO BE BEVELED — ROOT OPN'G. — 45° — GROOVE ANGLE

PARTIAL PENETRATION — BEVEL — 3/4 (5/8) — EFFECTIVE THROAT — ROOT OPN'G. — 45° — GROOVE ANGLE

NOTE ON DOUBLE BEVELS WHERE F.S. MEMBER IS NOT SHOWN, WELD SAME AS N.S. MEMBER NOTED.

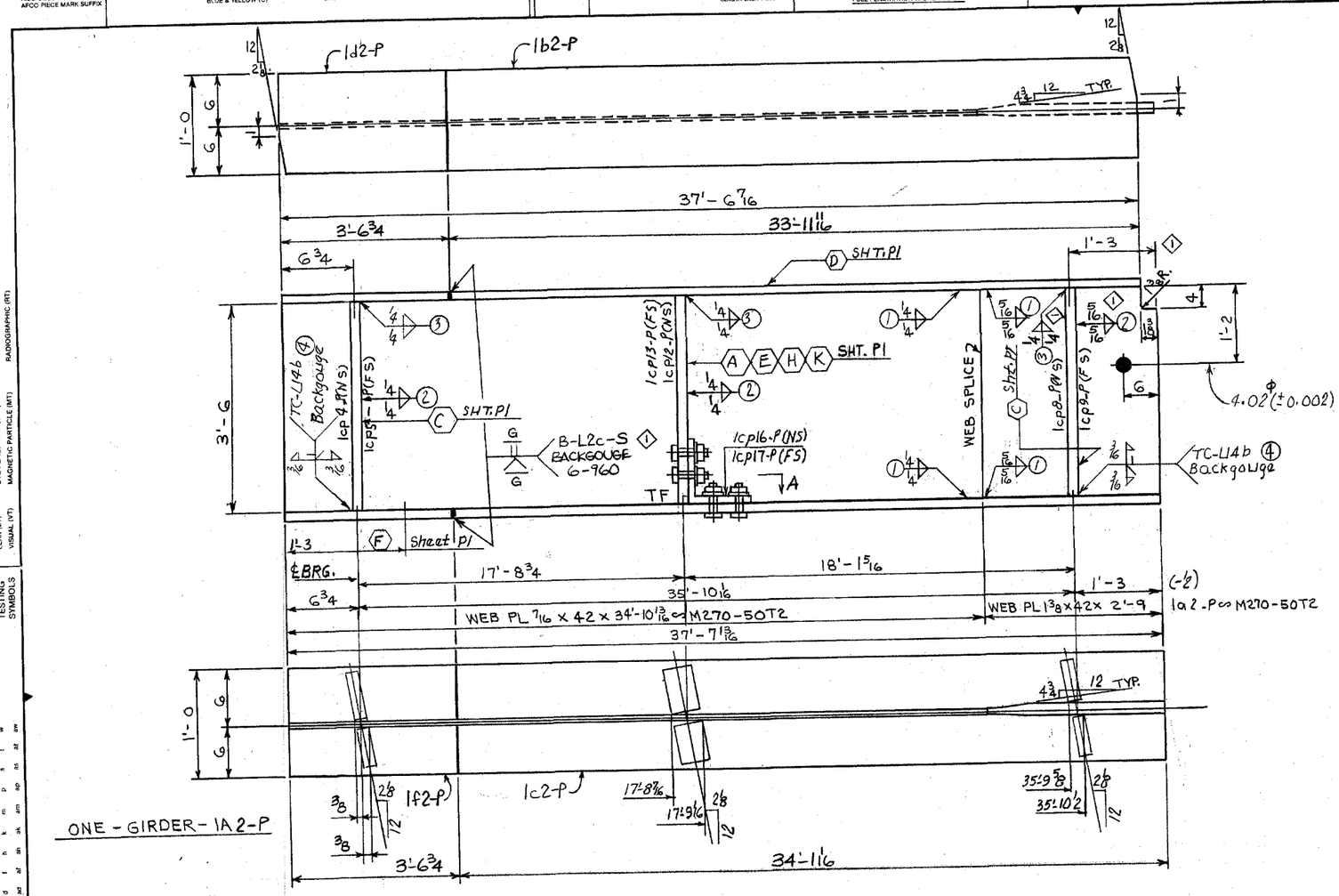
FIELD WELD

ASE-002 10/89

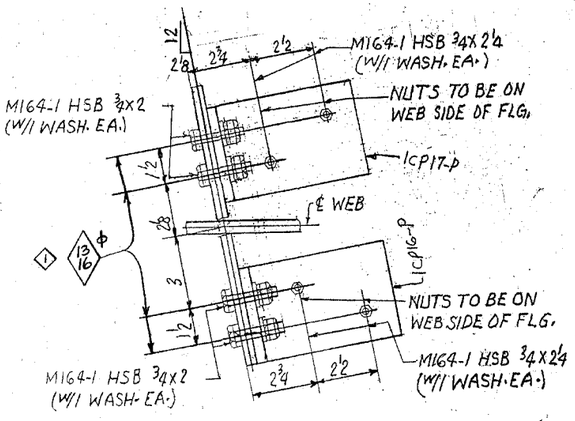
TESTING SYMBOLS: LEAK (LT) VISUAL (VT) — DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) — ULTRASONIC (UT) RADIOGRAPHIC (RT)

DETAIL PIECE MARKS

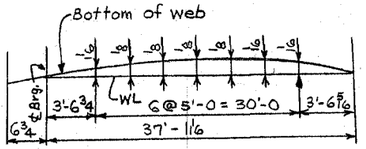
SHIPPING PIECE MARKS



ONE - GIRDER - 1A2-P



SECTION A



CAMBER DIAGRAM

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50

Sub. 3/4" PL M270-50W for 3/4" PL M270-50

Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

① 2-960
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

Reviewed for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

- [X] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

McDOT - BRIDGES

FOR BRIDGE FILES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:

   TF = Tight Fit
1. 5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173

SHOP V

DRAWING NO. 1/2

CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
					1A2-P		
1	1	GIRDER (37.8)	34	10 13/16		17P101	M270-50T2
2	1	PL 7/16 x 42	2	9	1a2-P	7P101	
3	1	PL 13/8 x 42	33	11 11/16	1b2-P	12P101	
4	1	PL 3/4 x 12	34	1 1/16	1c2-P	12P101	M270-50T2
5	1	PL 3/4 x 12	3	6	1cp4-P	15P902	M270-50
6	1	PL 5/8 x 5 1/2	3	6	1cp12-P	3P903	
7	1	PL 1/2 x 5 1/2	3	6	1cp8-P	13P902	
8	1	PL 5/8 x 6	3	6	1cp16-P	1P904	M270-50
9	1	L 6x6x3/8	0	4	1cp17-P	1P904	M270-50
10	1	PL 5/8 X 6	3	6	1cp9-P	13P902	M270-50
11	1	PL 5/8 X 5 1/2	3	6	1cp5-P	15P302	M270-50
12	1	L 6X6X3/8	0	4	1cp17-P	1P904	M270-50
13	1	PL 1/2 X 5 1/2	3	6	1cp13-P	3P903	M270-50
14	4	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	4	M164-1 Bolts 3/4	0	24	N/A	5P105	Mech. Galv.
16	8	Hard Wash 3/4			N/A	1P106	Mech. Galv. (F436)
② 17	1	PL 3/4 x 12	3	6 3/4	1d2-P	13P101	M270-50T2
② 18	1	PL 3/4 x 12	3	6 3/4	1f2-P	13P101	M270-50T2

REV NO.	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
1	6/26/03	PBR APPROVAL & FINAL DRAWING FROM REVIEW	JLH	X		
0			JLH		X	X

DESCRIPTION GIRDER — SQUAD DN — CUSTOMER P.O. NO.

REF DWG 1/E1

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED — HOLES 15/16 EXC. NOTED — END DIST. EXC. NOTED — CLEAN SPEC. SSPC-SP10 — PAINT SEE SHEET-P1 — DRY MIL THICKNESS — ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS 1053(6) in 7950500
STRUCTURE BR. # A30521 ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR MODOT
DRAWN SDC DATE 4/03 — CHKD H DATE 4/03

DRAWING NO. 1/2 — CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR OUT AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE, ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

Form 11671

ASTM DESIGNATION
AISC COLOR CODE
AFCO PIECE MARK SUFFIX

A36-NONE
A242-BLUE (A)
A441-YELLOW (D)
A283 (GRADE D) ORANGE (B)
A588 BLUE & YELLOW (C)
A514-RED (F)
A529-BLACK (H)
A572 (GRADE 42) GREEN & WHITE (K)
A572 (GRADE 45) GREEN & BLACK (M)
A572 (GRADE 50) GREEN & YELLOW (P)
A572 (GRADE 55) GREEN & BROWN (SS)
A572 (GRADE 60) GREEN & GRAY (T)
A572 (GRADE 65) GREEN & BLUE (WW)

WELDING SYMBOLS

WELD SIZE — 1/4 — 5/16 — 20 — 2-8 — C-C DIM — LENGTH EACH WELD — NOTE

ROOT OPN'G. — 3/8 — 30° — GROOVE ANGLE
FULL PENETRATION-W/BACKING BAR

ROOT OPN'G. — 45° — GROOVE ANGLE
FULL PENETRATION-W/BACKGOUGE

THROAT — ROOT OPN'G. — GROOVE ANGLE
PARTIAL PENETRATION

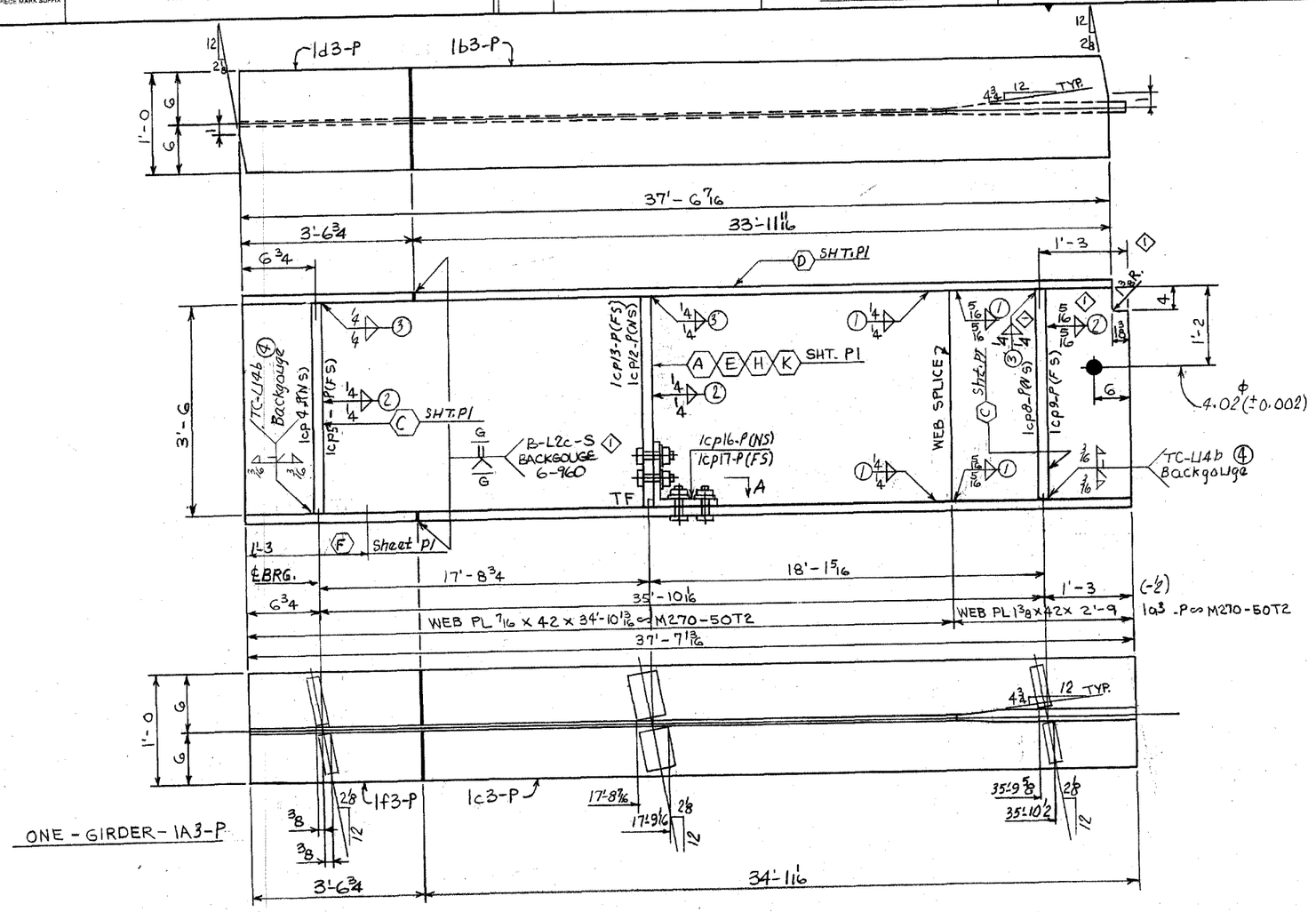
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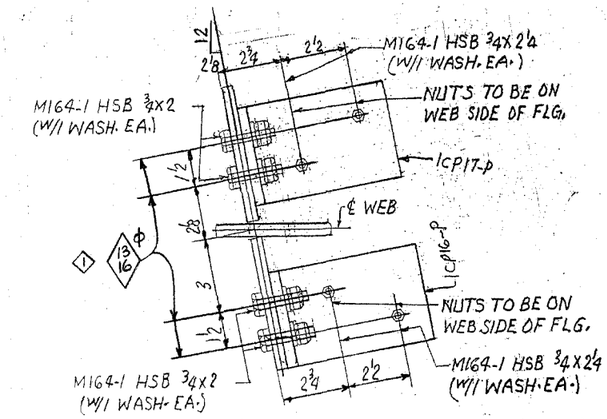
ASE-002 10/89

TESTING SYMBOLS
LEAK (LT) VISUAL (VT)
DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT)
ULTRASONIC (UT) RADIOGRAPHIC (RT)

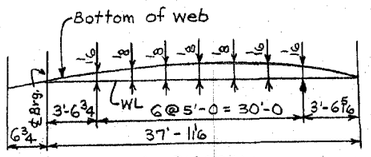
DETAIL PIECE MARKS

SHIPPING PIECE MARKS





SECTION A



CAMBER DIAGRAM

⚠1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

① 2-960
② 2-960
③ 4-18 OR 4-28 ⚠1
④ 7-18A OR 4T8

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION MoDOT - BRIDGES

FOR BRIDGE FILES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ⚠1 Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 SHOP ✕ V

DRAWING NO. 1/3

CONTRACT NO. 3173

PC. NO.	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (3778)			1A3-P		
2	1	PL 1/16 x 42	34	10 13/16		17P101	M270-50T2
3	1	PL 13/8 x 42	2	9	1a3-P	7P101	
4	1	PL 3/4 x 12	33	11 11/16	1b3-P	12P101	
⚠1 ⚠2 5	1	PL 3/4 x 12	34	1 1/16	1c3-P	12P101	M270-50T2
6	1	PL 5/8 x 5 1/2	3	6	1cp4-P	15P902	M270-50
7	1	PL 1/2 x 5 1/2	3	6	1cp12-P	3P903	
8	1	PL 5/8 x 6	3	6	1cp8-P	13P902	
9	1	L 6x6x3/8	0	4	1cp16-P	1P904	M270-50
10	1	PL 5/8 x 6	3	6	1cp9-P	13P902	M270-50
11	1	PL 5/8 x 5 1/2	3	6	1cp5-P	15P902	M270-50
12	1	L 6x6x3/8	0	4	1cp17-P	1P904	M270-50
13	1	PL 1/2 x 5 1/2	3	6	1cp13-P	3P903	M270-50
14	4	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	4	M164-1 Bolts 3/4	0	24	N/A	5P105	Mech. Galv.
16	8	Hard Wash. 3/4			N/A	1P106	Mech. Galv. (F436)
⚠1 ⚠2 17	1	PL 3/4 x 12	3	6 3/4	1d3-P	13P101	M270-50T2
⚠1 ⚠2 18	1	PL 3/4 x 12	3	6 3/4	1f3-P	13P101	M270-50T2

REV NO.	DATE	REVISION DESCRIPTION	BY	APP'L	SHOP	FIELD
⚠1	6/26/03	PRE APPROVAL & FINAL DRAWING ROOM REVIEW	CHK H	✕		JUL - 1 2003
0			JUL - 1 2003	✕	✕	

DESCRIPTION GIRDER
SQUAD DN
REF. DWG. 1/E1
CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 78 EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST. EXC. NOTED
CLEAN SPEC. SSPC-SP10
PAINT SEE SHEET-P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS 1053(6) in J950500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03 CHKD. H DATE 4/03

DRAWING NO. 1/3
CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

Oce-Bruning 8070 Form 11871

ASTM DESIGNATION
AISC COLOR CODE
AFCO PIECE MARK SUFFIX

A36-NONE | A242-BLUE (A) A441-YELLOW (D) | A283 (GRADE D) ORANGE (B) A588 BLUE & YELLOW (C) | A514-RED (F) | A529-BLACK (H) | A572 (GRADE 42) GREEN & WHITE (K) | A572 (GRADE 45) GREEN & BLACK (M) | A572 (GRADE 50) GREEN & YELLOW (P) | A572 (GRADE 55) GREEN & BROWN (SS) | A572 (GRADE 60) GREEN & GRAY (T) | A572 (GRADE 65) GREEN & BLUE (WW)

WELDING SYMBOLS

LINEAL INCHES OF WELD — WELD SIZE 1/4 5/16 — 20 2-9 — NOTE: C-C DIM. LENGTH EACH WELD

FULL PENETRATION-W/BACKING BAR — ROOT OPN'G. 3/8 — 30° GROOVE ANGLE — ARROW POINTS TO MEMBER TO BE BEVELLED

FULL PENETRATION-W/BACKGOUGE — BACKGOUGE — ROOT OPN'G. — 45° GROOVE ANGLE — ARROW POINTS TO MEMBER TO BE BEVELLED

PARTIAL PENETRATION — BEVEL — 3/4 (5/8) — EFFECTIVE THROAT — ROOT OPN'G. — 45° GROOVE ANGLE — MEMBER TO BE BEVELLED

NOTE ON DOUBLE MEMBERS WHERE F.S. MEMBER IS NOT SHOWN, WELD SAME AS N.S. MEMBER NOTED.

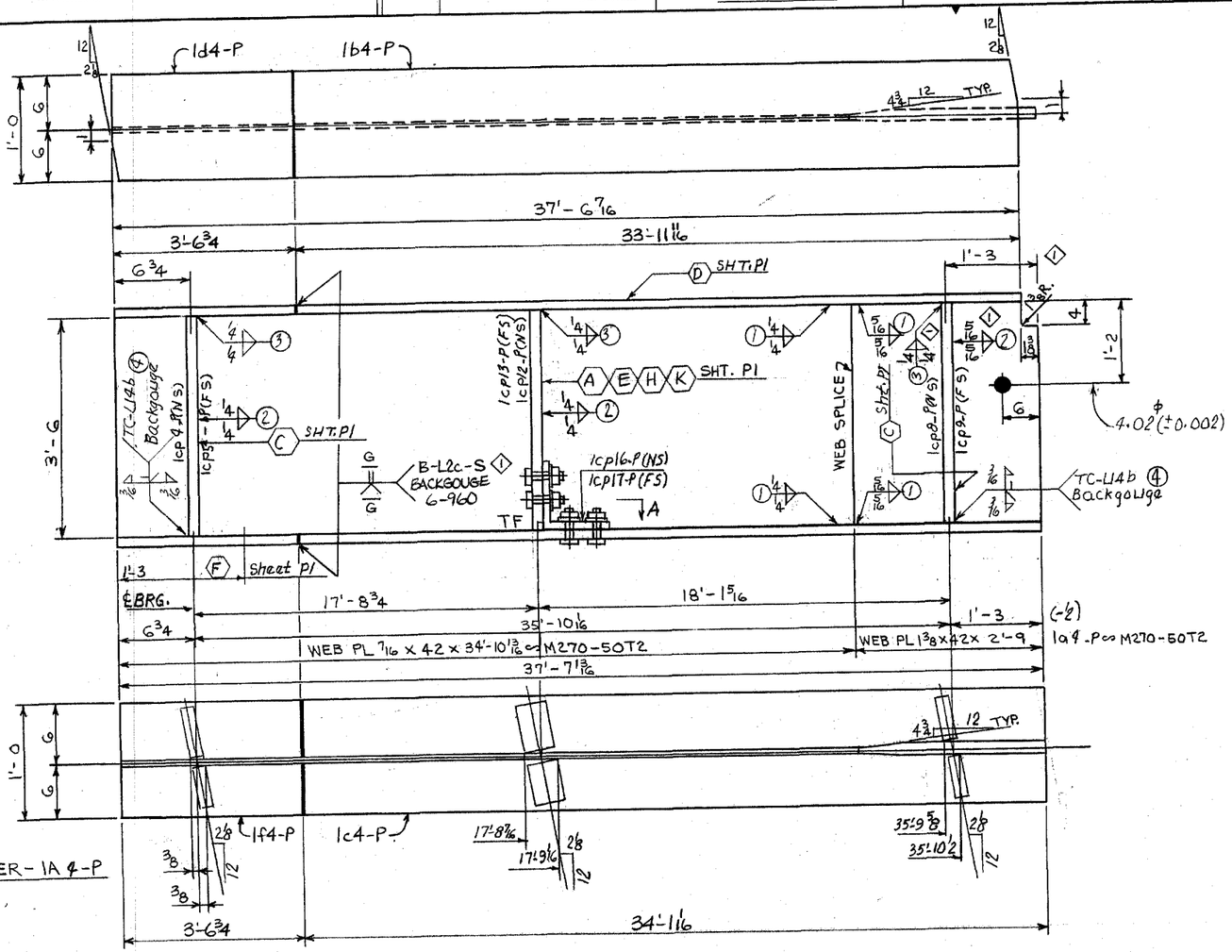
FIELD WELD

ASE-002 10/89

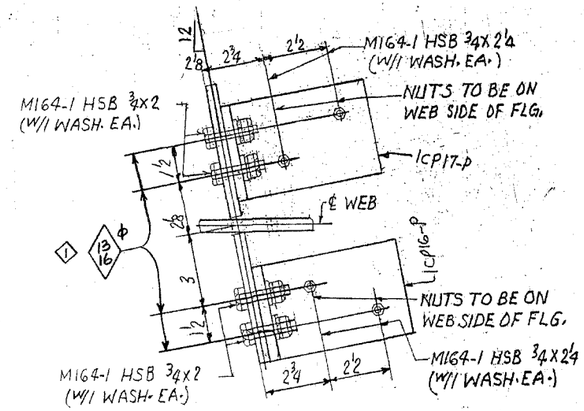
TESTING SYMBOLS: ULTRASONIC (UT) RADIOGRAPHIC (RT) | DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) | LEAK (LT) VISUAL (VT)

DETAIL PIECE MARKS

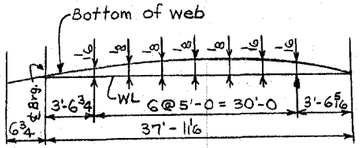
SHIPPING PIECE MARKS



ONE - GIRDER - 1A 4-P



SECTION A



CAMBER DIAGRAM

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING
Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.
① 2-960
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES

FOR BRIDGE FILES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ① Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 | SHOP ✓V | DRAWING NO. 1/4 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
					1A4 -P		
1	1	GIRDER (37-8)					
2	1	PL 7/16 X 42	34	10 13/16		17P101	M270-50T2
3	1	PL 1 3/8 X 42	2	9	1g4 -P	7P101	
4	1	PL 3/4 X 12	33	11 11/16	1b4 -P	12P101	
5	1	PL 3/4 X 12	34	1 1/16	1c4 -P	12P101	M270-50T2
6	1	PL 5/8 X 5 1/2	3	6	1cp4 -P	15P902	M270-50
7	1	PL 1/2 X 5 1/2	3	6	1cp12 -P	3P903	
8	1	PL 5/8 X 6	3	6	1cp8 -P	13P902	
9	1	L 6X6X3/8	0	4	1cp16 -P	1P904	M270-50
10	1	PL 5/8 X 6	3	6	1cp9 -P	13P902	M270-50
11	1	PL 5/8 X 5 1/2	3	6	1cp5 -P	15P902	M270-50
12	1	L 6X6X3/8	0	4	1cp17 -P	1P904	M270-50
13	1	PL 1/2 X 5 1/2	3	6	1cp13 -P	3P903	M270-50
14	4	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	4	M164-1 Bolts 3/4	0	2 4	N/A	5P105	Mech. Galv.
16	8	Hard Wash 3/4			N/A	1P106	Mech. Galv. (F436)
17	1	PL 3/4 X 12	3	6 3/4	1d4-P	13P101	M270-50T2
18	1	PL 3/4 X 12	3	6 3/4	1f4-P	13P101	M270-50T2

REV. NO.	DATE	REVISION DESCRIPTION	BY CHK.	APP'D.	SHOP	FIELD
1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	SH			
0						

DESCRIPTION GIRDER | SQ/AD DN | CUSTOMER P.O. NO. | REF. DWG. 1/E1

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED	CUSTOMER EMERY SAPP & SONS INC.	DRAWING NO. 1/4
HOLES 15/16 EXC. NOTED	JOB TITLE FAP # FAS 1053(6) in J950500	
END DIST. EXC. NOTED	STRUCTURE BR. # A30521, ROUTE H	CONTRACT NO. 3173
CLEAN SPEC. SSPC-SP10	LOCATION PULASKI CO., MO.	
PAINT SEE SHEET-P1	ARCH OR ENGR. MODOT	
DRY MIL THICKNESS	DRAWN SDC DATE 4/03 CHK'D. H DATE 4/03	
ELECTRODE CLASS See WPS	STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

ASTM DESIGNATION
AISC COLOR CODE
AFCO PIECE MARK SUFFIX

A36-NONE | A242-BLUE (A) A441-YELLOW (D) | A283 (GRADE D) ORANGE (B) A588 BLUE & YELLOW (C) | A514-RED (F) A529-BLACK (H) | A572 (GRADE 42) GREEN & WHITE (K) A572 (GRADE 45) GREEN & BLACK (M) | A572 (GRADE 50) GREEN & YELLOW (P) A572 (GRADE 55) GREEN & BROWN (SS) | A572 (GRADE 60) GREEN & GRAY (T) A572 (GRADE 65) GREEN & BLUE (WW)

WELDING SYMBOLS

LINEAL INCHES OF WELD — WELD SIZE 1/4 20 5/16 2-9 NOTE C-C DIM LENGTH EACH WELD

ROOT OPN'G. 3/8 30° ARROW POINTS TO MEMBER TO BE BEVELLED GROOVE ANGLE — FULL PENETRATION-W/BACKING BAR

BACKGOUGE ROOT OPN'G. 0 45° ARROW POINTS TO MEMBER TO BE BEVELLED GROOVE ANGLE — FULL PENETRATION-W/BACKGOUGE

BEVEL 3/4 (1/8) EFFECTIVE THROAT ROOT OPN'G. 0 45° MEMBER TO BE BEVELLED GROOVE ANGLE — PARTIAL PENETRATION

NOTE ON DOUBLE MEMBERS WHERE F.S. MEMBER IS NOT SHOWN. WELD SAME AS N.S. MEMBER NOTED.

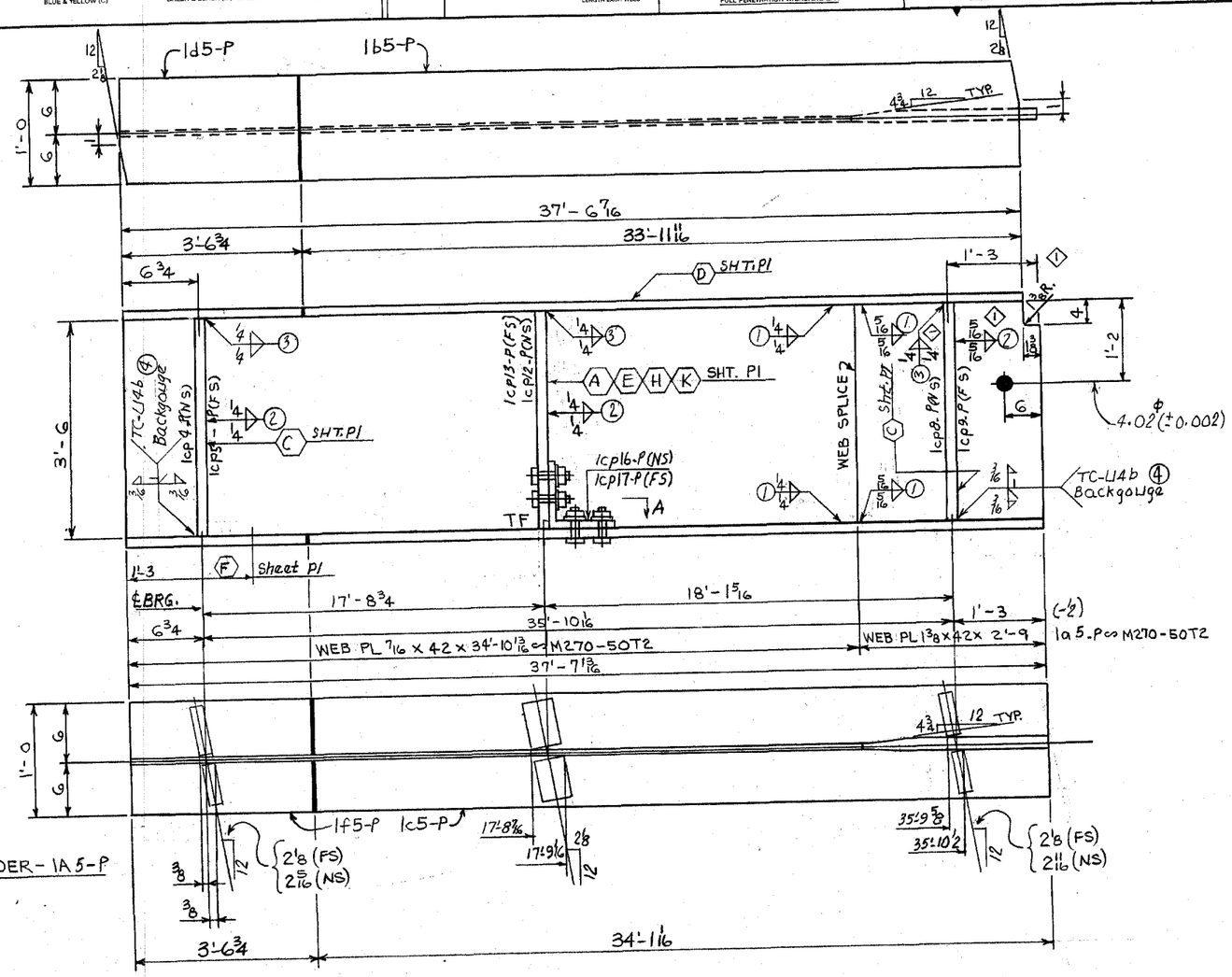
FIELD WELD

ASE-002 10/89

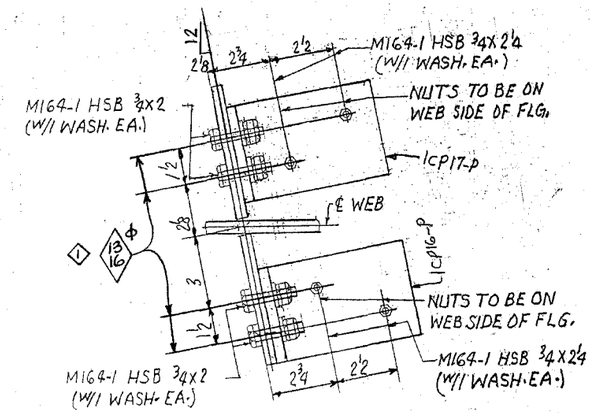
ULTRASONIC (UT) RADIOGRAPHIC (RT) DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) LEAK (LT) VISUAL (VT) TESTING SYMBOLS

DETAIL PIECE MARKS

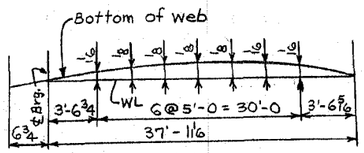
SHIPPING PIECE MARKS



ONE - GIRDER - 1A5-P



SECTION A



CAMBER DIAGRAM

◇1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
~~Sub. 7/8" PL M270-50W for 7/8" PL M270-50~~
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
~~Sub. 5/8" PL M270-50W for 5/8" PL M270-50~~
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

① 2-960
② 2-960
③ 4-18 OR 4-28 ◇1
④ 7-18A OR 4T8

Reviewed for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

☒ APPROVED DESIGN FEATURES ONLY ◇1
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

FOR BRIDGE FILES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS
SHOP ORDER NUMBER 168-173
SHOP A V
DRAWING NO. 1/5
CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (37.8)			1A5-P		
2	1	PL 7/16 X 42	34	10 1/16		17P101	M270-50T2
3	1	PL 1 3/8 X 42	2	9	1a5-P	17P101	
4	1	PL ¾ X 12	33	11 11/16	1b5-P	12P101	
5	1	PL ¾ X 12	34	11 11/16	1c5-P	12P101	M270-50T2
6	1	PL 5/8 X 5½	3	6	1cp4-P	15P902	M270-50
7	1	PL ½ X 5½	3	6	1cp12-P	3P903	
8	1	PL 5/8 X 6	3	6	1cp8-P	13P902	
9	1	L 6x6x 3/8	0	4	1CP16-P	1P904	M270-50
10	1	PL 5/8 X 6	3	6	1CP9-P	13P902	M270-50
11	1	PL 5/8 X 5½	3	6	1CP8-P	13P902	M270-50
12	1	L 6X6X 3/8	0	4	1CP17-P	1P904	M270-50
13	1	PL ½ X 5½	3	6	1CP13-P	3P903	M270-50
14	4	M164-1 Bolts ¾	0	2	N/A	7P105	Mech. Galv.
15	4	M164-1 Bolts ¾	0	2¼	N/A	5P105	Mech. Galv.
16	8	Hard Wash ¾			N/A	1P106	Mech. Galv. (F436)
17	1	PL ¾ x 12	3	6¾	1d5-P	13P101	M270-50T2
18	1	PL ¾ x 12	3	6¾	1f5-P	13P101	M270-50T2
19–48							

Oxo-Brunning 60787 Form 11871

REV NO.	DATE	REVISION DESCRIPTION	BY	CHK'D	SHOP	FIELD
◇1	6/26/03	PER APPROVAL & FINAL DRAWING FROM REVIEW	DN	H	X	
0						

JUL - 1 2003

DESCRIPTION GIRDER
REF. DWG. 1/E1
SQUAD DN
CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST. EXC. NOTED
CLEAN. SPEC. SSPC-SP10
PAINT SEE SHEET- P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS 1053(6) or J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MoDOT
DRAWN SDC DATE 4/03
CHK'D H DATE 4/03

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE, ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

DRAWING NO. 1/5
CONTRACT NO. 3173

11

ASTM DESIGNATION | A36-NONE | A242-BLUE (A) A441-YELLOW (D) | A283 (GRADE D) ORANGE (B) A588 BLUE & YELLOW (C) | A514-RED (F) A829-BLACK (H) | A572 (GRADE 42) GREEN & WHITE (K) A572 (GRADE 45) GREEN & BLACK (M) | A572 (GRADE 50) GREEN & YELLOW (P) A572 (GRADE 55) GREEN & BROWN (SS) | A572 (GRADE 60) GREEN & GRAY (T) A572 (GRADE 65) GREEN & BLUE (WW)

AISC COLOR CODE
AFCO PIECE MARK SUFFIX

WELDING SYMBOLS

UNEQUAL INCHES OF WELD — WELD SIZE 1/4 5/16 — 2-8 — 20 — NOTE — O.C. DIM — LENGTH EACH WELD

ARROW POINTS TO MEMBER TO BE BEVELLED — ROOT OPN'G. — 3/8 — 30° — GROOVE ANGLE
FULL PENETRATION-W/BACKING BAR

BACKGOUGE — ARROW POINTS TO MEMBER TO BE BEVELLED — ROOT OPN'G. — 45° — GROOVE ANGLE
FULL PENETRATION-W/BACKGOUGE

DEPTH OF BEVEL — 3/4 (SB) — EFFECTIVE THROAT — ARROW POINTS TO MEMBER TO BE BEVELLED — ROOT OPN'G. — 45° — GROOVE ANGLE
PARTIAL PENETRATION

NOTE: ON DOUBLE MEMBERS WHERE F.S. MEMBER IS NOT SHOWN, WELD SAME AS N.S. MEMBER NOTED.

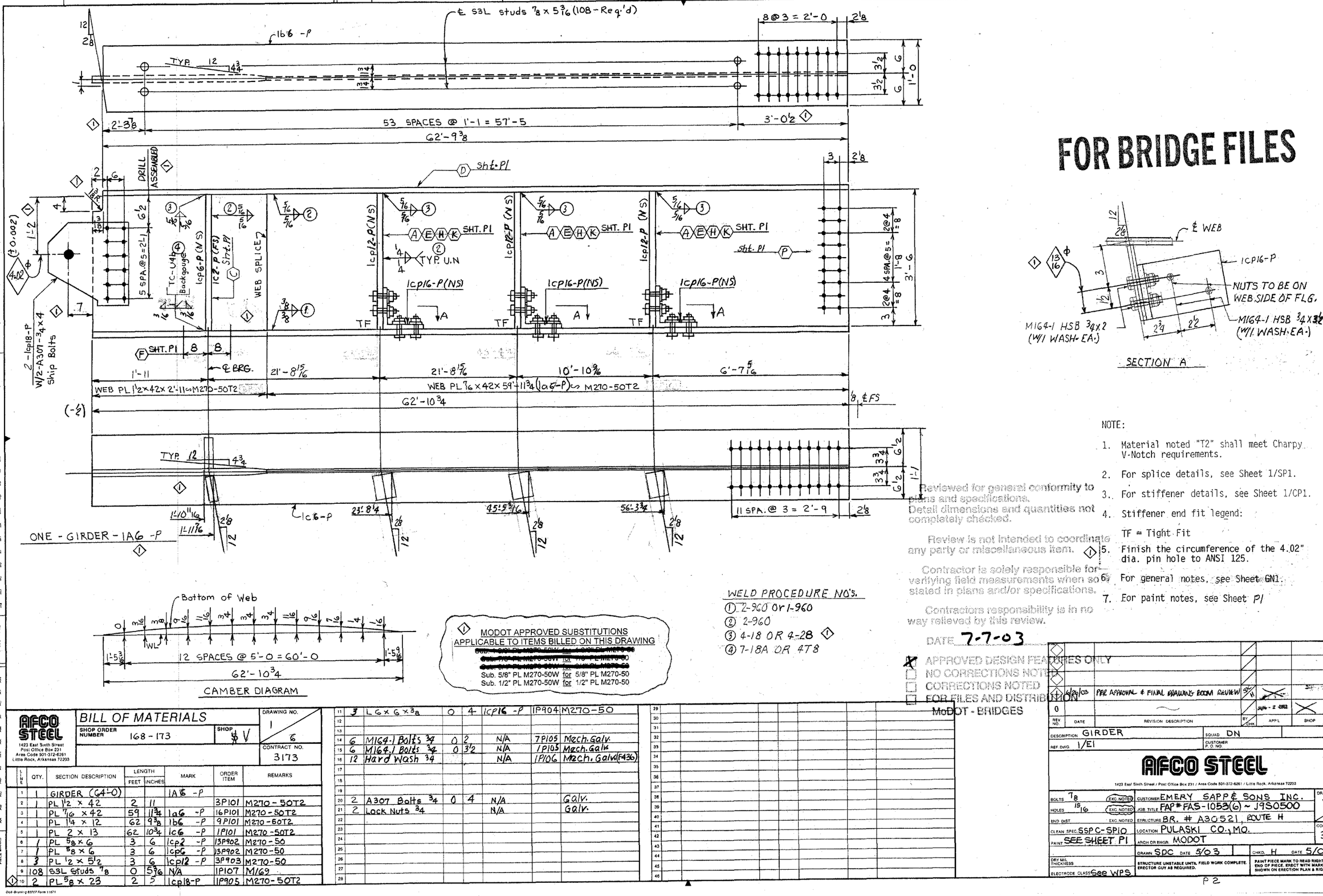
FIELD WELD

ASE-002 10/69

TESTING SYMBOLS: ULTRASONIC (UT) RADIOGRAPHIC (RT) DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) LEAK (LT) VISUAL (VT)

DETAIL PIECE MARKS

SHIPPING PIECE MARKS



FOR BRIDGE FILES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

WELD PROCEDURE NO'S.
① 2-960 OR 1-960
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING
~~Sub. 1 PL M270-50W for 1 PL M270-50~~
~~Sub. 7/8 PL M270-50W for 7/8 PL M270-50~~
~~Sub. 5/8 PL M270-50W for 5/8 PL M270-50~~
Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.
Review is not intended to coordinate any party or miscellaneous item. ①
Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.
Contractors responsibility is in no way relieved by this review.
DATE 7-7-03
X APPROVED DESIGN FEATURES ONLY
NO CORRECTIONS NOTED
CORRECTIONS NOTED
FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 | SHOP $V | DRAWING NO. 1/6 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (G4-0)			1A6 -P		
2	1	PL 1/2 x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11 3/4	1a6 -P	16P101	M270-50T2
4	1	PL 1/4 x 12	62	9 3/8	1b6 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10 3/4	1c6 -P	1P101	M270-50T2
6	1	PL 5/8 x 6	3	6	1cp2 -P	13P902	M270-50
7	1	PL 5/8 x 6	3	6	1cp6 -P	13P902	M270-50
8	3	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	M270-50
9	108	S3L STUDS 7/8	0	5 3/16	N/A	1P107	M169
① 10	2	PL 5/8 x 23	2	3	1cp18-P	1P905	M270-50T2
11	3	L6 x 6 x 3/8	0	4	1cP16 -P	1P904	M270-50
14	6	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	6	M164-1 Bolts 3/4	0	3 1/2	N/A	1P105	Mech. Galv.
16	12	Hard Wash 3/4			N/A	1P106	Mech. Galv. (F436)
20	2	A307 Bolts 3/4	0	4	N/A		Galv.
21	2	Lock Nuts 3/4			N/A		Galv.

REV. NO.	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
	6/26/03	PRE APPROVAL & FINAL DRAWING ROOM REVIEW	SV	X		
0	~			JUN - 2 2003	X	X

DESCRIPTION GIRDER | SQUAD DN
REF. DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED | HOLES 15/16 EXC. NOTED | END DIST. EXC. NOTED | CLEAN. SPEC. SSPC-SP10 | PAINT SEE SHEET P1 | DRY MIL THICKNESS | ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS-1053(6) ~ J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 5/03 | CHKD. H DATE 5/03

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

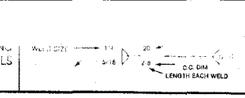
DRAWING NO. 1/6 | CONTRACT NO. 3173

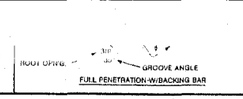
Ozd-Bruning 80707 Form 11671

AISC COLOR CODE — AFCO PIECE MARK SUFFIX

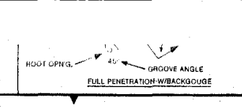
A441 (1X) (WT) A588 BLUE & YELLOW (C) | A709 GR 50 (3) A572 (GRADE 46) GREEN & BLACK (M) | A572 (GRADE 55) GREEN & BROWN (BS) | A572 (GRADE 65) GREEN & BLUE (BW)

WELDING SYMBOLS

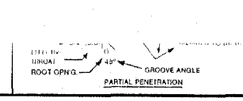




FULL PENETRATION-W/BACKING BAR



FULL PENETRATION-W/BACKGOUGE



PARTIAL PENETRATION

NOTE: ON DOUBLE MEMBERS W-SHAPE'S MEMBER IS NOT SHOWN, WELD SAME AS N.S. MEMBER NOTED.

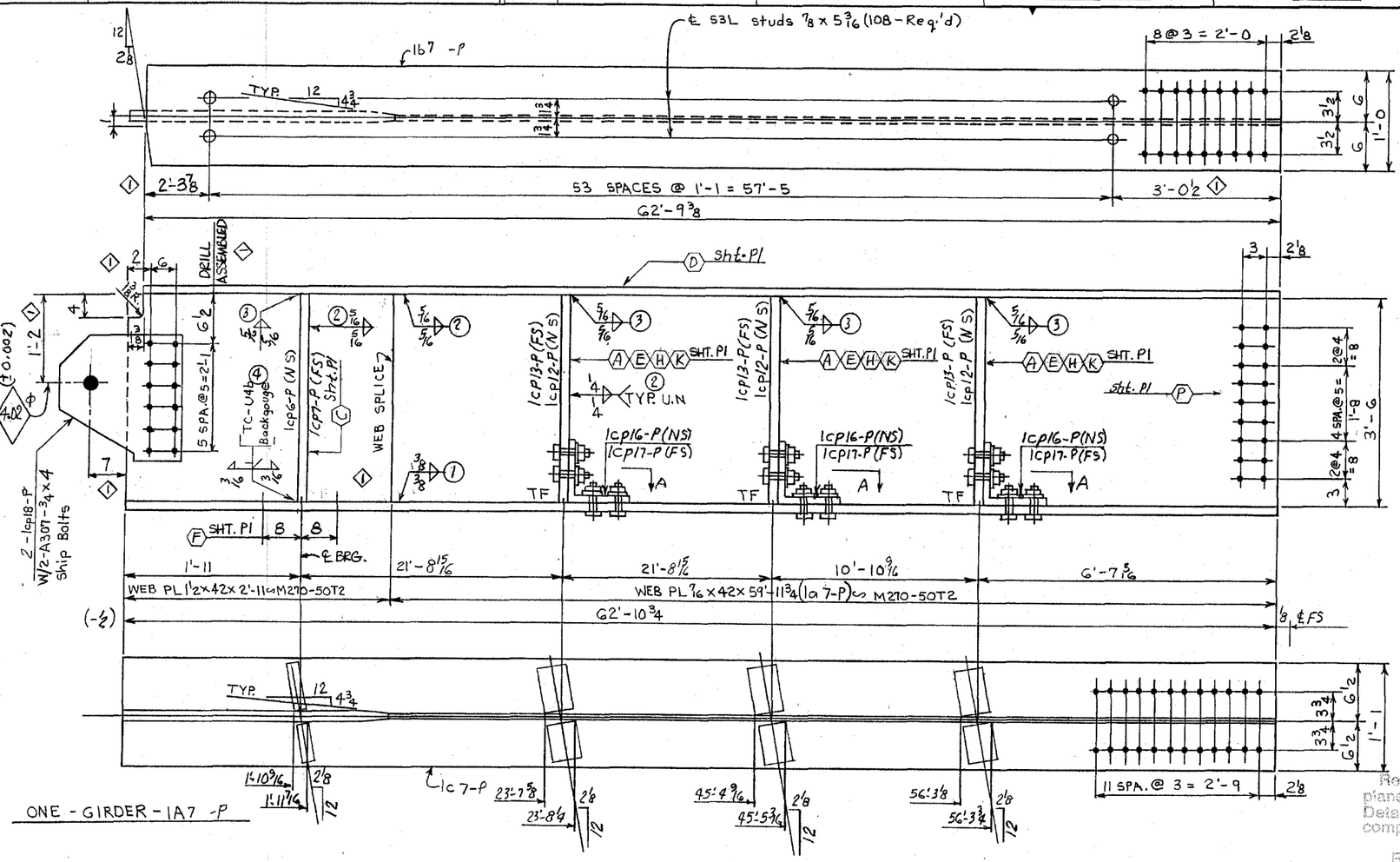
FIELD WELD

ASE-002 10/89

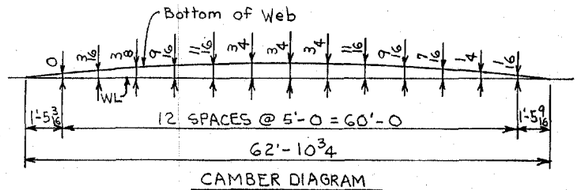
TESTING SYMBOLS: ULTRASONIC (UT) RADIOGRAPHIC (RT) | DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) | LEAK (LT) VISUAL (VT)

DETAIL PIECE MARKS

SHIPPING PIECE MARKS



ONE - GIRDER - 1A7 -P



CAMBER DIAGRAM

1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

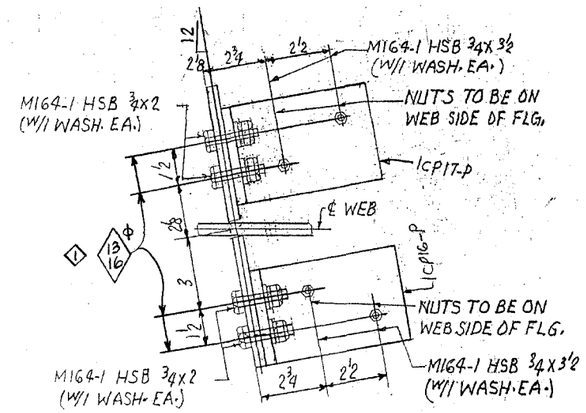
[redacted]

Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

1. 2-960 or 1-960
2. 2-960
3. 4-18 OR 4-28 1
4. 7-18A OR 4T8

FOR BRIDGE FILES



SECTION A

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 | SHOP ✓ | DRAWING NO. 1/7 | CONTRACT NO. 3173

ITEM NO.	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (G4-0)			1A7 -P		
2	1	PL 1 1/2 x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11 3/4	1a7 -P	16P101	M270-50T2
4	1	PL 1/4 x 12	62	9 3/8	1b7 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10 3/4	1c7 -P	1P101	M270-50T2
6	1	PL 5/8 x 6	3	6	1cp6 -P	13P902	M270-50
7	1	PL 5/8 x 6	3	6	1cp7 -P	13P902	M270-50
8	3	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	M270-50
9	108	53L Studs 7/8	0	5 3/16	N/A	1P107	M164
10	2	PL 5/8 x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L 6 x 6 x 3/8	0	4	1cp16 -P	1P904	M270-50
12	3	PL 2 x 5 1/2	3	6	1cp13-P	3P903	M270-50
13	3	L 6 x 6 x 3/8	0	4	1cp17- P	1P904	M270-50
14	12	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	12	M164-1 Bolts 3/4	0	3 1/2	N/A	1P105	Mech. Galv.
16	24	Hard Wash 3/4			N/A	1P106	Mech. Galv. (F436)
17							
18							
19							
20	2	A307 Bolts 3/4	0	4	N/A		Galv.
21	2	Lock Nuts 3/4			N/A		Galv.
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NO.	DATE	REVISION DESCRIPTION	BY CHK'D	APP'L	SHOP	FIELD
0						
1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	JM	X		
					X	X

JUN - 2 2003

DESCRIPTION GIRDER | SQUAD DN
REF. DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED | CUSTOMER EMERY SAPPÉ SONS INC.
HOLES 15/16 EXC. NOTED | JOB TITLE FAP*FAS-1053(6) ~ J9S0500
END DIST. EXC. NOTED | STRUCTURE BR. # A30521, ROUTE H
CLEAN. SPEC SSPC-SP10 | LOCATION PULASKI CO., MO.
PAINT SEE SHEET P1 | ARCH OR ENGR. MODOT
DRAWN SDC DATE 5/03 | CHK'D. H DATE 5/03
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

DRAWING NO. 1/7 | CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR BUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

ASTM DESIGNATION / AISC COLOR CODE / AFCO PIECE MARK SUFFIX	A36-NONE	A242-BLUE (A)	A441-YELLOW (D)	A588 (OPT'L D) ORANGE (B)	A588 BLUE & YELLOW (C)	A514-RED (H)	A529-BLACK (H)	A572 (GRADE 42) GREEN & WHITE (K)	A572 (GRADE 45) GREEN & BLACK (M)	A572 (GRADE 50) GREEN & YELLOW (P)	A572 (GRADE 55) GREEN & BROWN (S5)	A572 (GRADE 60) GREEN & GRAY (T)	A572 (GRADE 65) GREEN & BLUE (WW)

WELDING SYMBOLS

LINEAL INCHES OF WELD — WELD SIZE 1/4 → 20; 5/16 → 2-8; C-C DIM; NOTE: LENGTH EACH WELD

FULL PENETRATION-W/BACKING BAR — ROOT OPN'G. 3/8; ARROW POINTS TO MEMBER TO BE BEVELLED; 30° GROOVE ANGLE

FULL PENETRATION-W/BACKGOUGE — BACKGOUGE; ROOT OPN'G. 0; ARROW POINTS TO MEMBER TO BE BEVELLED; 45° GROOVE ANGLE

PARTIAL PENETRATION — DEPTH OF BEVEL → 3/4 (5/8); EFFECTIVE THROAT; ROOT OPN'G. 0; ARROW POINTS TO MEMBER TO BE BEVELLED; 45° GROOVE ANGLE

NOTE ON DOUBLE MEMBERS WHERE F.S. MEMBER IS NOT SHOWN. WELD SAME AS N.S. MEMBER NOTED.

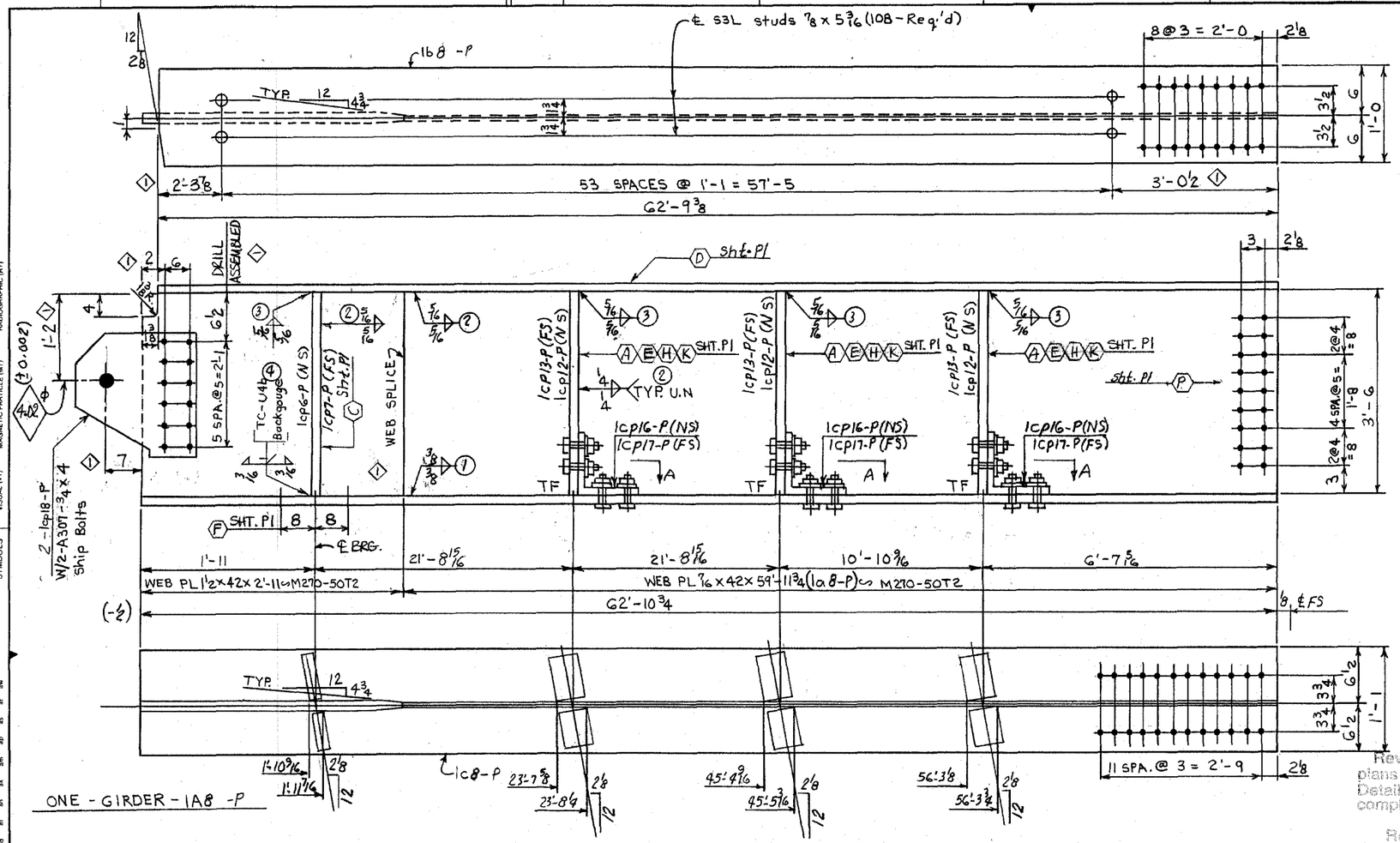
FIELD WELD

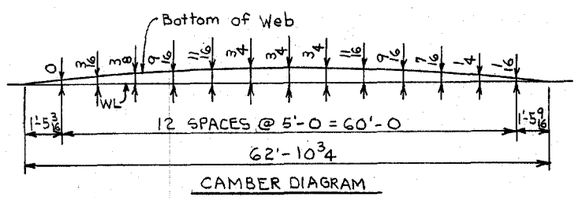
ASE-002 10/89

TESTING SYMBOLS: ULTRASONIC (UT) · RADIOGRAPHIC (RT) · DYE PENETRANT (DPT) · MAGNETIC PARTICLE (MT) · LEAK (LT) · VISUAL (VT)

DETAIL PIECE MARKS: a b c d e f g h k m p s t w · aa ab ac ad ae af ag ah ak am ap as at aw

SHIPPING PIECE MARKS: A B C D F H K M P S T W · AA AB AC AD AE AF AG AH AK AM AP AS AT AW





CAMBER DIAGRAM

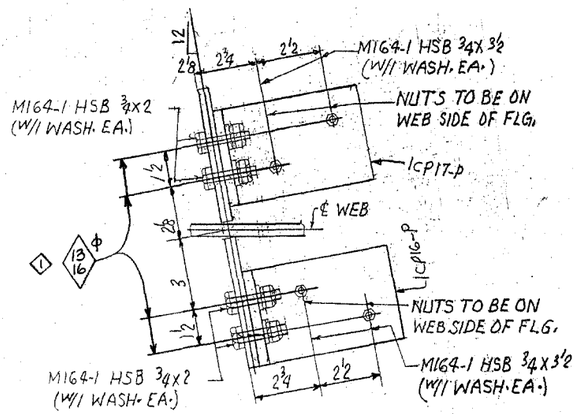
1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

1. 2-960 OR 1-960
2. 2-960
3. 4-18 OR 4-28 1
4. 7-18A OR 4T8

FOR BRIDGE FILES



SECTION A

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

Reviewed for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

- [X] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION MoDOT - BRIDGES

NO	DATE	REVISION DESCRIPTION	BY	APPL	SHOP	FIELD
1	6/26/03	PEL APPROVAL & FINAL DRAWING ROOM REVIEW	CHK H	X		
0			JDW		X	X

DESCRIPTION GIRDER — SQUAD DN — REF. DWG. 1/E1 — CUSTOMER P.O. NO.

AFCO STEEL — 1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED — HOLES 15/16 EXC. NOTED — END DIST. EXC. NOTED — CLEAN SPEC SSPC-SP10 — PAINT SEE SHEET P1 — DRY MIL THICKNESS — ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC. — JOB TITLE FAP # FAS-1053(6) ~ J9S0500 — STRUCTURE BR. # A30521, ROUTE H — LOCATION PULASKI CO., MO. — ARCH OR ENGR. MODOT — DRAWN SDC DATE 5/03 — CHKD. H DATE 5/03

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE, EXCEPT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

DRAWING NO. 1/8 — CONTRACT NO. 3173

AFCO STEEL — 1423 East Sixth Street, Post Office Box 231, Area Code 501-372-6261, Little Rock, Arkansas 72203

BILL OF MATERIALS — SHOP ORDER NUMBER 168 - 173 — SHOP $V — DRAWING NO. 1/8 — CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (G4'-0)			1A8 -P		
2	1	PL 1/2 x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11 3/4	1a8 -P	16P101	M270-50T2
4	1	PL 1/4 x 12	62	9 3/8	1b8 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10 3/4	1c8 -P	1P101	M270-50T2
6	1	PL 5/8 x 6	3	6	1cp6 -P	13P902	M270-50
7	1	PL 5/8 x 6	3	6	1cp7 -P	13P902	M270-50
8	3	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	M270-50
9	108	63L Studs 7/8	0	5 3/16	N/A	1P107	M/69
1 10	2	PL 5/8 x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L 6x6x3/8	0	4	1CP16 -P	1P904	M270-50
12	3	PL 1/2 x 5 1/2	3	6	1CP13-P	3P903	M270-50
2 13	3	L 6x6x3/8	0	4	1CP17- P	1P904	M270-50
14	12	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	12	M164-1 Bolts 3/4	0	3 1/2	N/A	1P105	Mech. Galv.
16	24	Hard Wash 3/4			N/A	1P106	Mech. Galv (F436)
17							
18							
19							
20	2	A307 Bolts 3/4	0	4	N/A		Galv.
21	2	Lock Nuts 3/4			N/A		Galv.
22							
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Dak-Brunning 60107 Form 11871

ASTM DESIGNATION | A36-NONE | A242-BLUE (A) A441-YELLOW (D) | A283 (GRADE D) ORANGE (B) A588 BLUE & YELLOW (C) | A514 RED (F) A529-BLACK (H) | A572 (GRADE 42) GREEN & WHITE (K) A572 (GRADE 45) GREEN & BLACK (M) | A572 (GRADE 50) GREEN & YELLOW (F) A572 (GRADE 55) GREEN & BROWN (SS) | A572 (GRADE 60) GREEN & GRAY (T) A572 (GRADE 65) GREEN & BLUE (WW)

AISC COLOR CODE

AFCO PIECE MARK SUFFIX

WELDING SYMBOLS

LINEAL INCHES OF WELD — WELD SIZE 1/4 20 | 5/16 2-8 | NOTE: C.C. DIM LENGTH EACH WELD

ROOT OPN'G. 3/8 30° ARROW POINTS TO MEMBER TO BE BEVELLED GROOVE ANGLE — FULL PENETRATION-W/BACKING BAR

BACKGOUGE ROOT OPN'G. 45° ARROW POINTS TO MEMBER TO BE BEVELLED GROOVE ANGLE — FULL PENETRATION-W/BACKGOUGE

DEPTH OF BEVEL 3/4 (5/8) EFFECTIVE THROAT ROOT OPN'G. 0 45° ARROW POINTS TO MEMBER TO BE BEVELLED GROOVE ANGLE — PARTIAL PENETRATION

NOTE ON DOUBLE MEMBERS WHERE P.S. MEMBER IS NOT SHOWN, WELD SAME AS N.S. MEMBER NOTED.

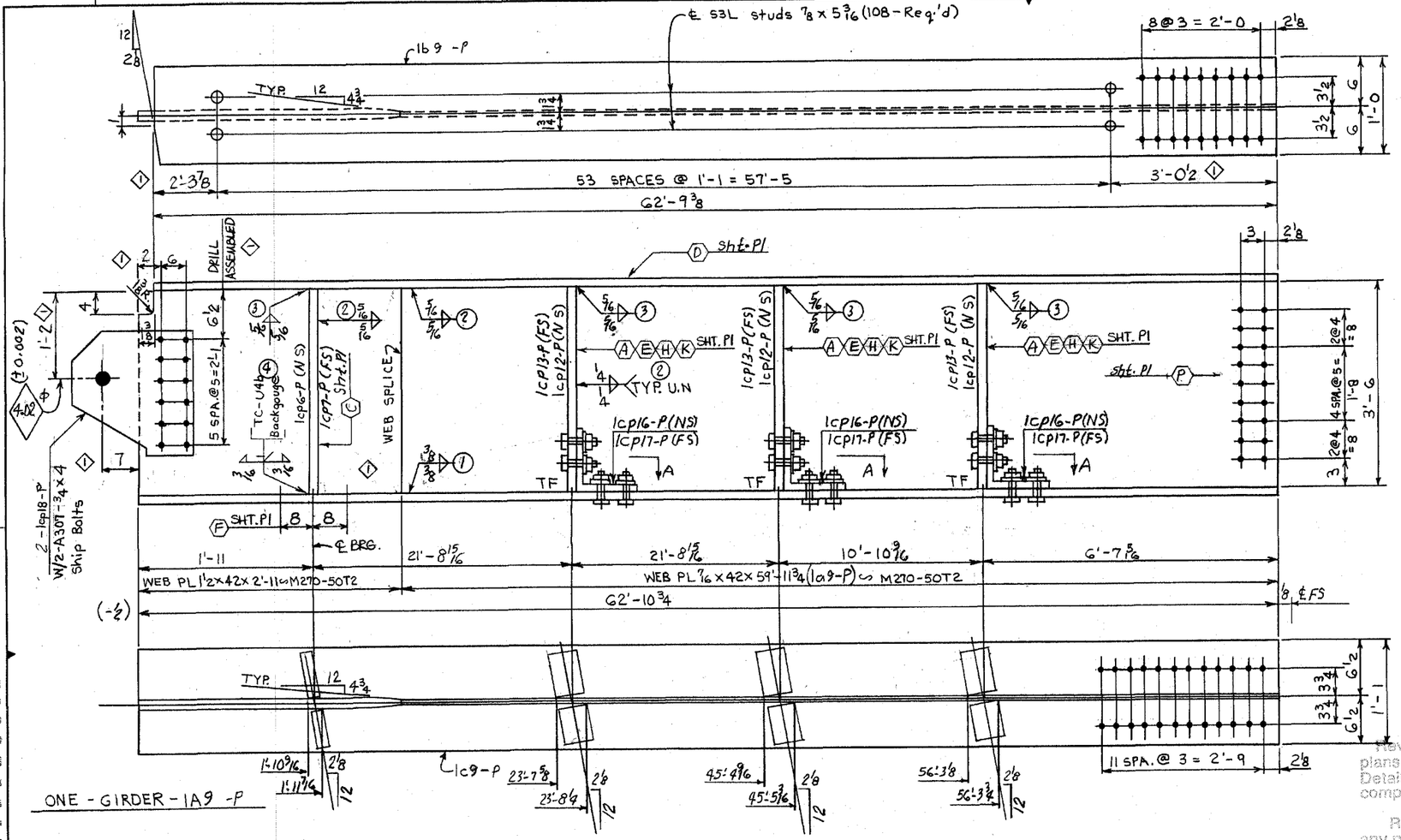
FIELD WELD

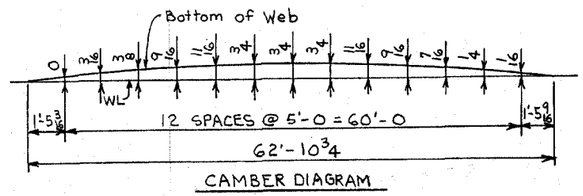
ASE-002 10/89

TESTING SYMBOLS: LEAK (LT) VISUAL (VT) | DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) | ULTRASONIC (UT) RADIOGRAPHIC (RT)

DETAIL PIECE MARKS

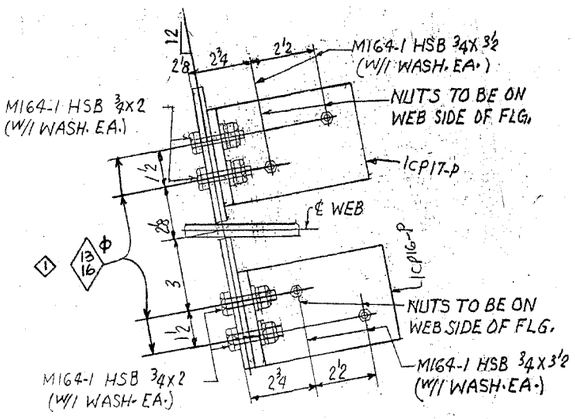
SHIPPING PIECE MARKS





CAMBER DIAGRAM

FOR BRIDGE FILES



SECTION A

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

WELD PROCEDURE NO'S.

① 2-960 OR 1-960
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

[redacted]

Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MODOT - BRIDGES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 | SHOP ℄V | DRAWING NO. 1/9 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (G4'-0)			1A9 -P		
2	1	PL 1 1/2 x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11 3/4	1a9 -P	16P101	M270-50T2
4	1	PL 1/4 x 12	62	9 3/8	1b9 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10 3/4	1c9 -P	1P101	M270-50T2
6	1	PL 5/8 x 6	3	6	1cp6 -P	13P902	M270-50
7	1	PL 5/8 x 6	3	6	1cp7 -P	13P902	M270-50
8	3	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	M270-50
9	108	63L Studs 7/8	0	5 3/16	N/A	1P107	M169
① 10	2	PL 5/8 x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L 6 x 6 x 3/8	0	4	1cp16 -P	1P904	M270-50
12	3	PL 1/2 x 5 1/2	3	6	1cp13-P	3P903	M270-50
① 13	3	L 6 x 6 x 3/8	0	4	1cp17- P	1P904	M270-50
14	12	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	12	M164-1 Bolts 3/4	0	3 1/2	N/A	1P105	Mech. Galv.
16	24	Hard Wash 3/4			N/A	1P106	Mech. Galv. (F436)
17							
18							
19							
20	2	A307 Bolts 3/4	0	4	N/A		Galv.
21	2	Lock Nuts 3/4			N/A		Galv.
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REV. NO.	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	CHK	X		JUL - 1 2003
		~	JWH		X	X

DESCRIPTION GIRDER | SQUAD DN | REF. DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED | HOLES 15/16 EXC. NOTED | END DIST. EXC. NOTED | CLEAN SPEC: SSPC-SP10 | PAINT SEE SHEET P1 | DRY MIL THICKNESS | ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS-1053(6) ~ J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SPC DATE 5/03 | CHKD. H DATE 5/03

DRAWING NO. 1/9 | CONTRACT NO. 3173

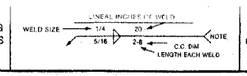
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

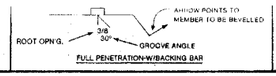
PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

Ced-Bruning 80707 Form 11671

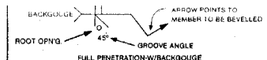
ASTM DESIGNATION	A36 NONE	A242-BLUE (A) A441-YELLOW (D)	A283 (GRADE D) ORANGE (B) A588 BLUE & YELLOW (C)	A514 YELD (F) A529-BLACK (H)	A572 (GRADE 42) GREEN & WHITE (K) A572 (GRADE 45) GREEN & BLACK (M)	A572 (GRADE 50) GREEN & YELLOW (P) A572 (GRADE 55) GREEN & BROWN (SS)	A572 (GRADE 60) GREEN & GRAY (T) A572 (GRADE 65) GREEN & BLUE (WW)
AISC COLOR CODE							
AFCO PIECE MARK SUFFIX							

WELDING SYMBOLS

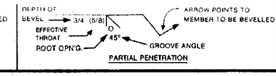




FULL PENETRATION-W/BACKING BAR



FULL PENETRATION-W/BACKGOUGE



PARTIAL PENETRATION

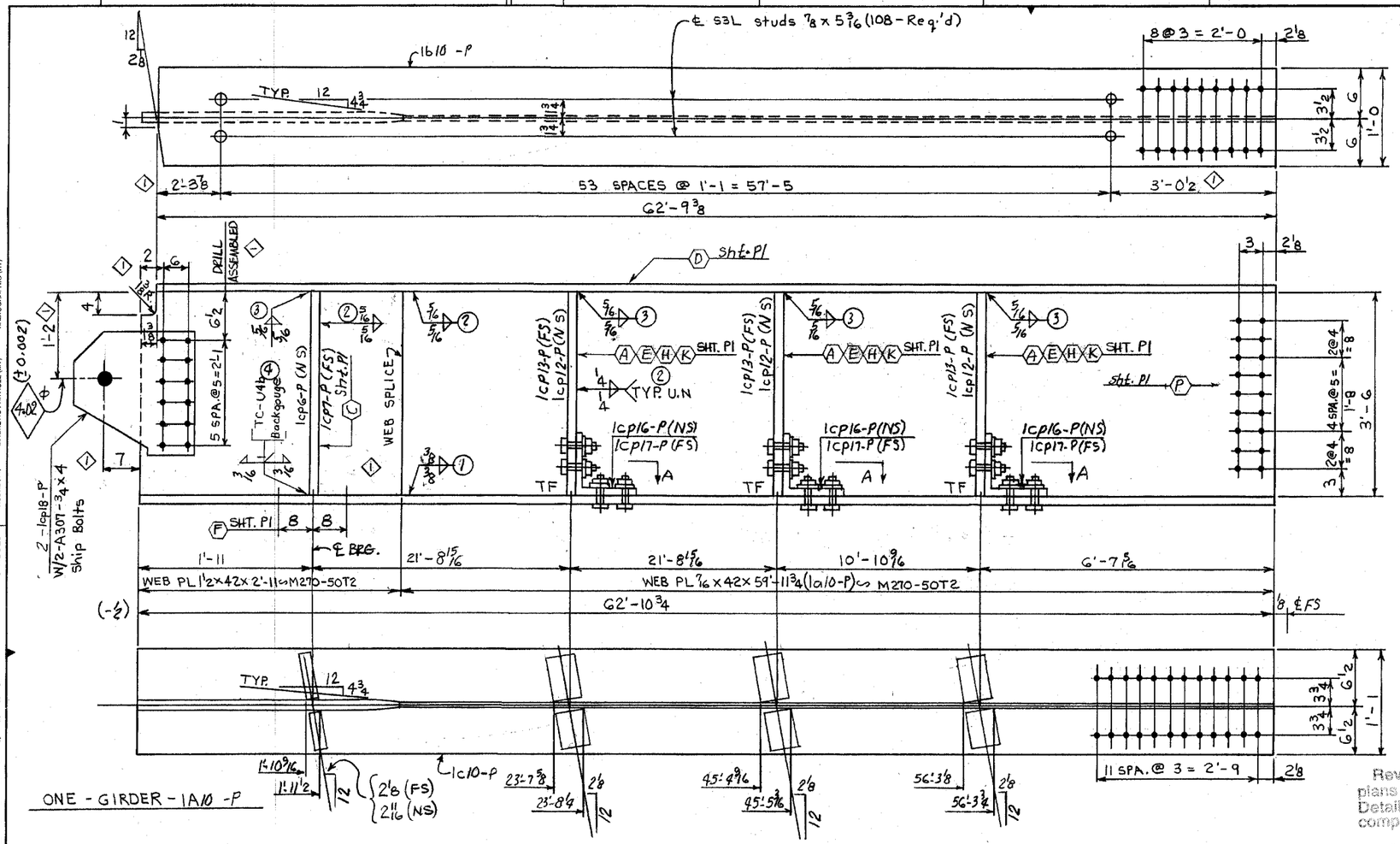
NOTE ON DOUBLE MEMBERS WHERE F.S. MEMBER IS NOT SHOWN, WELD SAME AS N.S. MEMBER NOTED.

FIELD WELD

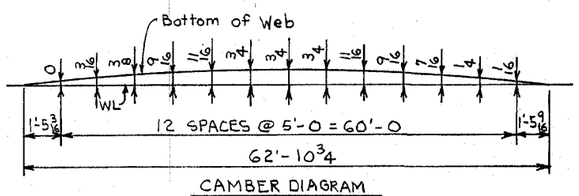
ASE-002 10/89

TESTING SYMBOLS: LEAK (LT) VISUAL (VT) | DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) | ULTRASONIC (UT) RADIOGRAPHY (RT)

DETAIL PIECE MARKS | SHIPPING PIECE MARKS



ONE - GIRDER - 1A10 -P



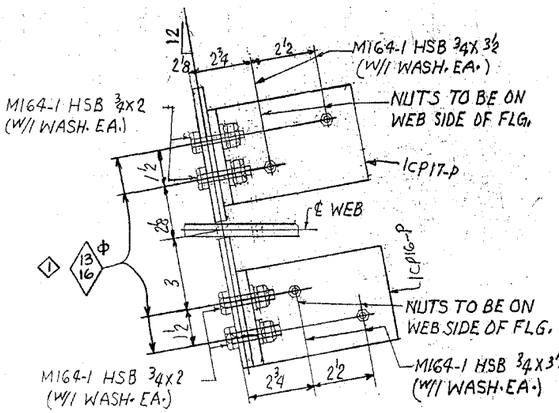
CAMBER DIAGRAM

1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

~~PL 5/8" x 12" M270-50W for PL 5/8" x 12" M270-50~~
~~PL 1/2" x 12" M270-50W for PL 1/2" x 12" M270-50~~
Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.
1. 2-960 OR 1-960
2. 2-960
3. 4-18 OR 4-28 1
4. 7-18A OR 4T8

FOR BRIDGE FILES



SECTION A

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
1 5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

Reviewed for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 | SHOP ✗ V | DRAWING NO. 1 / 10 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (G4'-0)			1A10 -P		
2	1	PL 1 1/2 x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11 3/4	1a10 -P	16P101	M270-50T2
4	1	PL 1/4 x 12	62	9 3/8	1b10 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10 3/4	1c10 -P	1P101	M270-50T2
6	1	PL 5/8 x 6	3	6	1cp6 -P	13P902	M270-50
7	1	PL 5/8 x 6	3	6	1cp7 -P	13P902	M270-50
8	3	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	M270-50
9	108	63L Studs 7/8	0	5 3/16	N/A	1P107	M/69
1 10	2	PL 5/8 x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L 6 x 6 x 3/8	0	4	1CP16 -P	1P904	M270-50
12	3	PL 2 x 5 1/2	3	6	1CP13-P	3P903	M270-50
13	3	L 6 x 6 x 3/8	0	4	1CP17- P	1P904	M270-50
14	12	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
15	12	M164-1 Bolts 3/4	0	3 1/2	N/A	1P105	Mech. Galv.
16	24	Hard Wash 3/4			N/A	1P106	Mech. Galv. (F436)
17							
18							
19							
20	2	A307 Bolts 3/4	0	4	N/A		Galv.
21	2	Lock Nuts 3/4			N/A		Galv.
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NO	DATE	REVISION DESCRIPTION	BY / CHK	APP'L	SHOP	FIELD
0						
1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	SPC / H	✗		JUL - 1 2003

DESCRIPTION GIRDER | SQUAD DN | REF. DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED | HOLES 13/16 EXC. NOTED | END DIST. EXC. NOTED | CLEAN SPEC. SSPC-SP10 | PAINT SEE SHEET P1 | DRY MIL THICKNESS | ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS-1053(6) ~ J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT

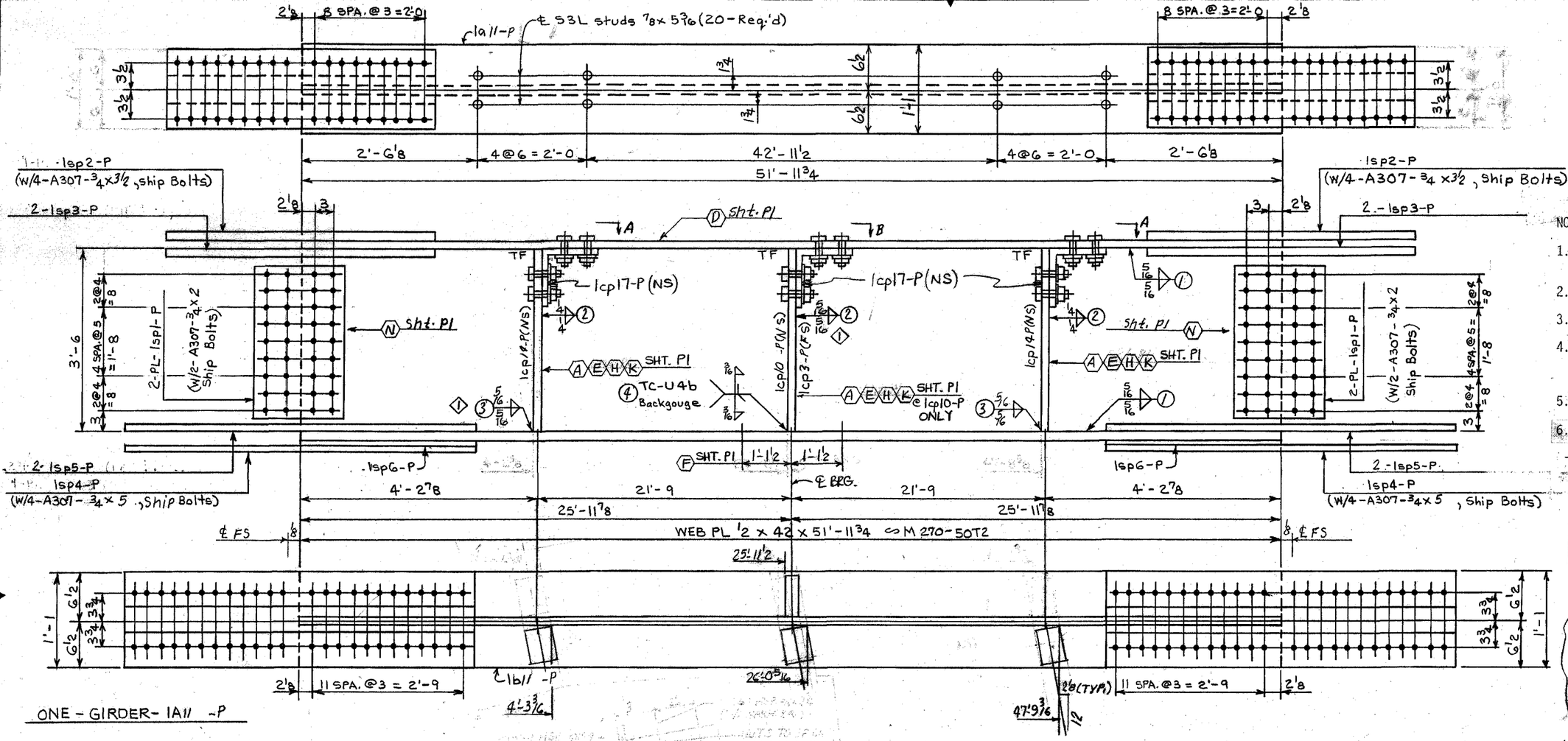
DRAWING NO. 1 / 10 | CONTRACT NO. 3173

DRAWN SPC DATE 5/03 | CHKD. H DATE 5/03

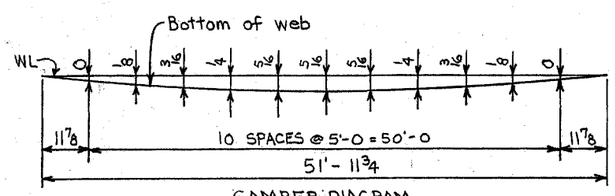
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

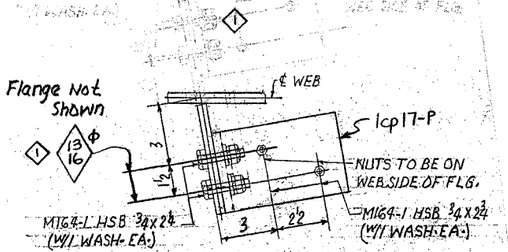
Oct-Bruning 8370 Form 11671



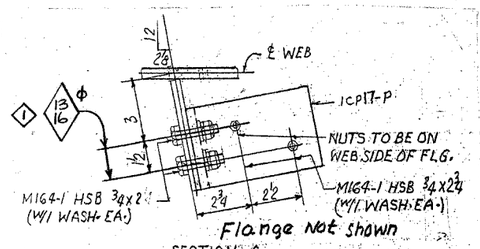
ONE - GIRDER - 1A11 -P



CAMBER DIAGRAM



SECTION-B



SECTION A

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 8-21-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION

NOTE: MoDOT - BRIDGES

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ** denotes roll direction "L".
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

FOR BRIDGE FILES

1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING
~~Sub. 5/8" PL M270-50W for 5/8" PL M270-50~~
Sub. 7/8" PL M270-50W for 7/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
~~Sub. 5/8" PL M270-50W for 5/8" PL M270-50~~
Sub. 1/2" PL M270-50W for 1/2" PL M270-50
Sub. 5/16" PL M270-50W for 5/16" PL M270-50
2

WELD PROCEDURE NO'S.
1. 2-960
2. 2-960
3. 4-18 OR 4-28 1
4. 7-18A OR 4T8

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 | SHOP V | DRAWING NO. 1/11 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (58-3)			1A11 -P		
2	1	PL 1/2 x 42	51	11 3/4		14P101	M270-50T2
3	1	PL 1/4 x 13	51	11 3/4	1a11 -P	10P101	M270-50T2
4	1	PL 1/2 x 13	51	11 3/4	1b11 -P	5P101	M270-50T2
5	1	PL 3/4 x 6	3	6	1cp3 -P	5P902	M270-50
6	1	PL 3/4 x 6	3	6	1cp10 -P	5P902	M270-50
7	2	PL 1/2 x 5 1/2	3	6	1cp14 -P	3P903	M270-50
8							
9	4	PL 5/16 x 14 1/2	3	3 1/2	1sp1-P	13P903	M270-50
10	2	PL 5/8 x 12	4	8 1/2	1sp2-P	11P902	M270-50 **
11	4	PL 3/4 x 5	4	8 1/2	1sp3-P	7P902	M270-50 **
12	2	PL 7/8 x 13	6	2 1/2	1sp4-P	1P902	M270-50 **
13	4	PL 7/8 x 5 1/2	6	2 1/2	1sp5-P	3P902	M270-50 **
14	2	PL 1/2 x 13	3	1 1/8	1sp6-P	17P902	M270-50
15	20	S3L Studs 7/8	0	5 3/16	N/A	1P107	M169
16							
17							
18	4	A307 Bolts 3/4	0	2 1/2	N/A		GALV.
19	8	A307 Bolts 3/4	0	3 1/2	N/A		
20	8	A307 Bolts 3/4	0	5	N/A		
21	20	Lock Nuts 3/4			N/A		GALV.
22	3	L6x6x3/8	0	4	1CP17 -P	1P904	M270-50
23							
24	2	M164-1 Bolts 3/4	0	2 3/4	N/A	5P105	Mech. Galv.
25	6	M164-1 Bolts 3/4	0	2 3/4	N/A	3P105	
26	12	Hard Wash. 3/4			N/A	1P106	(F436)
27	4	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
28							
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REV. NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'L	SHOP	FIELD
2	8/15/03	Revised Sub Material	JLH	AMH	X	AUG 19 2003	AUG 19 2003
1	6/26/03	PER FINAL DRAWING ROOM REVIEW	SDC	H		JUL - 3 2003	JUL - 1 2003
0		~			X	X	X

DESCRIPTION GIRDER | SQUAD DN | SEQ 1A
REF. DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

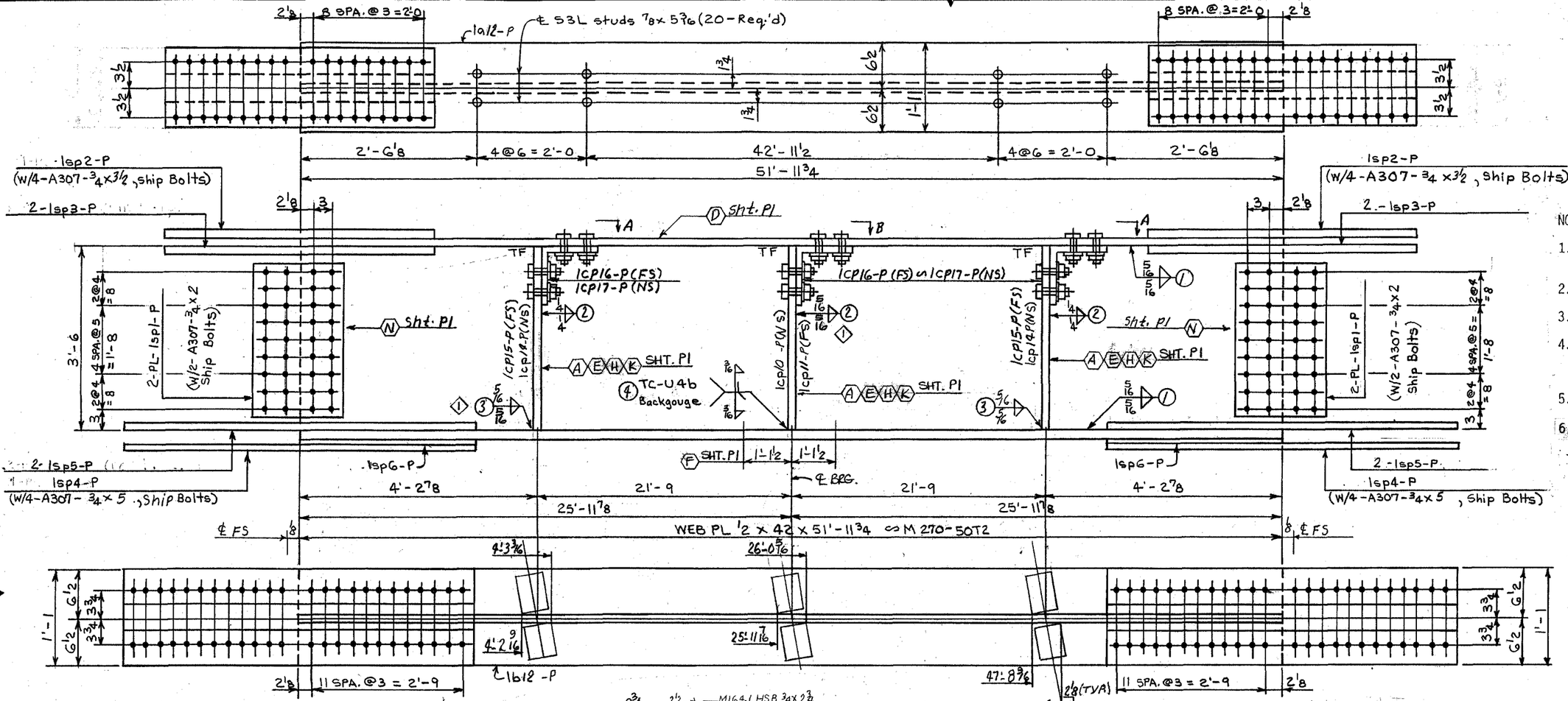
BOLTS 7/8 EXC. NOTED | HOLES 15/16 EXC. NOTED | END DIST. EXC. NOTED | CLEAN. SPEC. SSPC-SP10 | PAINT SEE SHEET P1 | DRY MIL THICKNESS | ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP #FAS 1053(6) J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03 | CHKD. H DATE 4/03

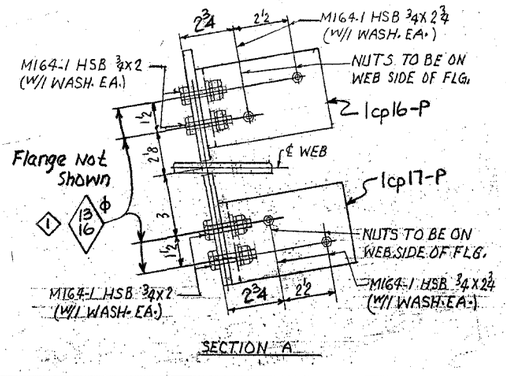
DRAWING NO. 1/11 | CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

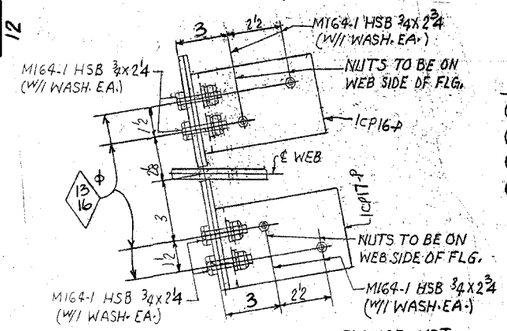
PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



ONE - GIRDER - 1A12 - P

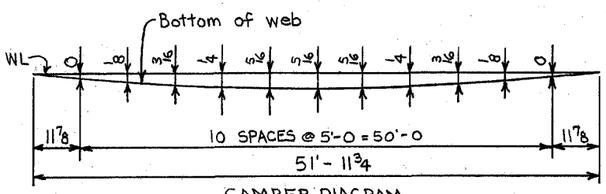


SECTION A



1 SECTION B

FLANGE NOT SHOWN



CAMBER DIAGRAM

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ** denotes roll direction "L".
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 8-21-03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☒ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

FOR BRIDGE FILES

1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

Sub. 7/8" PL M270-50W for 7/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50
Sub. 5/16" PL M270-50W for 5/16" PL M270-50

WELD PROCEDURE NO'S.

1. 2-960
2. 2-960
3. 4-18 OR 4-28
4. 7-18A OR 4T8

AFCO STEEL
1423 East Sixth Street
Post Office Box 251
Area Code 501-372-8261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 SHOP V

DRAWING NO. 1/12 CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (58'-3)			1A12 -P		
2	1	PL 1/2 x 42	51	11 3/4		14P101	M270-50T2
3	1	PL 1/4 x 13	51	11 3/4	1a12 -P	10P101	M270-50T2
4	1	PL 1/2 x 13	51	11 3/4	1b12 -P	5P101	M270-50T2
5	1	PL 3/4 x 6	3	6	1cp10 -P	5P902	M270-50
6	1	PL 3/4 x 6	3	6	1cp11 -P	5P902	M270-50
7	2	PL 1/2 x 5 1/2	3	6	1cp14 -P	3P903	M270-50
8	2	PL 1/2 x 5 1/2	3	6	1cp15 -P	3P903	M270-50
9	4	PL 5/16 x 14 1/2	3	3 1/2	1sp1-P	13P903	M270-50
10	2	PL 5/8 x 12	4	8 1/2	1sp2-P	11P902	M270-50 **
11	4	PL 3/4 x 5	4	8 1/2	1sp3-P	7P902	M270-50 **
12	2	PL 7/8 x 13	6	2 1/2	1sp4-P	1P902	M270-50 **
13	4	PL 7/8 x 5 1/2	6	2 1/2	1sp5-P	3P902	M270-50 **
14	2	PL 1/2 x 13	3	1 1/8	1sp6-P	17P902	M270-50
15	20	53L Studs 7/8	0	5 3/16	N/A	1P107	M169
16							
17							
18	9	A307 Bolts 3/4	0	2 1/2	N/A		GALV.
19	8	A307 Bolts 3/4	0	3 1/2	N/A		
20	8	A307 Bolts 3/4	0	5	N/A		
21	20	Lock Nuts 3/4			N/A		GALV.
22	3	L6x6x3/8	0	4	1CP16 -P	1P904	M270-50
23	3	L6X6X3/8	0	4	1CP17-P	1P904	M270-50
24	4	M164-1 Bolts 3/4	0	2 3/4	N/A	5P105	Mech. Galv.
25	12	M164-1 Bolts 3/4	0	2 3/4	N/A	3P105	
26	24	Hard Wash. 3/4			N/A	1P106	(F436)
27	8	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
28							
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46							

REV. NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'L	SHOP	FIELD
2	8/15/03	Revised Sub. Material	MK		X	AUG 19 2003	AUG 19 2003
1	6/26/03	PER FINAL DRAWING ROOM REVIEW	SH	H	X	JUL 2 2003	JUL 1 2003
0		~			X	X	

DESCRIPTION GIRDER SQUAD DN Sea 1A
REF. DWG. 1/E1 CUSTOMER P. O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 251 / Area Code 501-372-8261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST. EXC. NOTED
CLEAN SPEC. SSPC-SP10
PAINT SEE SHEET P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP #FAS 1053(6) J950500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03 CHKD. H DATE 4/03

DRAWING NO. 1/12 CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON END OF PIECE. ERECT WITH MARK AT BACK / ENG. NO. SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 8-21-03

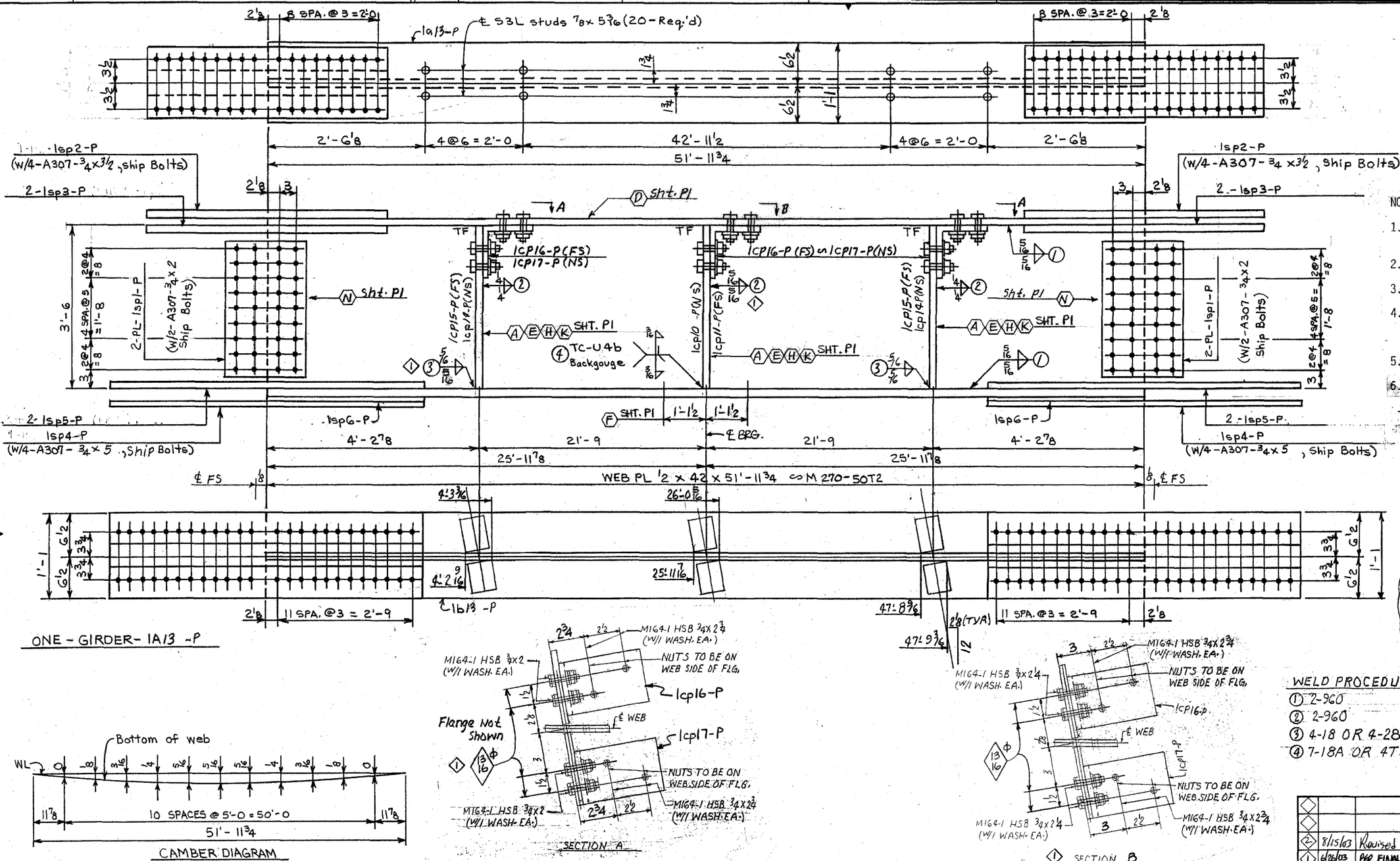
☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ** denotes roll direction "L".
6. For general notes, see Sheet GN1.

For paint notes, see Sheet P1.

FOR BRIDGE FILES



ONE - GIRDER - 1A13 -P

CAMBER DIAGRAM

WELD PROCEDURE NO'S.

① 2-960
② 2-960
③ 4-18 OR 4-28 ◇1
④ 7-18A OR 4T8

◇1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

~~5/16 PL M270-50W~~
Sub. 7/8" PL M270-50W for 7/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
~~1/2" PL M270-50W~~
Sub. 1/2" PL M270-50W for 1/2" PL M270-50
Sub. 5/16" PL M270-50W for 5/16" PL M270-50 ◇2

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 | SHOP V | DRAWING NO. 1/13 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (58'-3)			1A13 -P		
2	1	PL 1/2 x 42	51	11 3/4		14P101	M270-50T2
3	1	PL 1/4 x 13	51	11 3/4	1a13 -P	10P101	M270-50T2
4	1	PL 1/2 x 13	51	11 3/4	1b13 -P	5P101	M270-50T2
5	1	PL 3/4 x 6	3	6	1cp10 -P	5P902	M270-50
6	1	PL 3/4 x 6	3	6	1cp11 -P	5P902	M270-50
7	2	PL 1/2 x 5 1/2	3	6	1cp14 -P	3P903	M270-50
8	2	PL 1/2 x 5 1/2	3	6	1cp15 -P	3P903	M270-50
9	4	PL 5/16 x 14 1/2	3	3 1/2	1sp1-P	13P903	M270-50
10	2	PL 5/8 x 12	4	8 1/2	1sp2-P	11P902	M270-50 **
◇1 ◇2 11	4	PL 3/4 x 5	4	8 1/2	1sp3-P	7P902	M270-50 **
◇1 ◇2 12	2	PL 7/8 x 13	6	2 1/2	1sp4-P	1P902	M270-50 **
◇1 ◇2 13	4	PL 7/8 x 5 1/2	6	2 1/2	1sp5-P	3P902	M270-50 **
14	2	PL 1/2 x 13	3	1 1/8	1sp6-P	17P902	M270-50
15	20	SSL Studs 7/8	0	5 3/16	N/A	1P107	M169
16							
17							
18	4	A307 Bolts 3/4	0	2	N/A		GALV.
19	8	A307 Bolts 3/4	0	3 1/2	N/A		
20	8	A307 Bolts 3/4	0	5	N/A		
21	20	Lock Nuts 3/4			N/A		GALV.
22	3	L6x6x3/8	0	4	1CP16-P	1P904	M270-50
23	3	L6x6x3/8	0	4	1CP17-P	1P904	M270-50
24	4	M164-1 Bolts 3/4	0	2 3/4	N/A	5P105	Mech. Galv.
25	12	M164-1 Bolts 3/4	0	2 3/4	N/A	3P105	
26	24	Hard Wash. 3/4			N/A	1P106	(F436)
27	8	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
28							
29							
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48							

REV NO.	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
◇2	8/15/03	Revised Sub. Material	MB	X	AUG 19 2003	AUG 19 2003
◇1	6/26/03	PER FINAL DRAWING ROOM REVIEW	MB	X	JUL - 3 2003	JUL - 8 2003
0		~		X	X	

DESCRIPTION GIRDER | SQUAD DN | See 1A
REF. DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

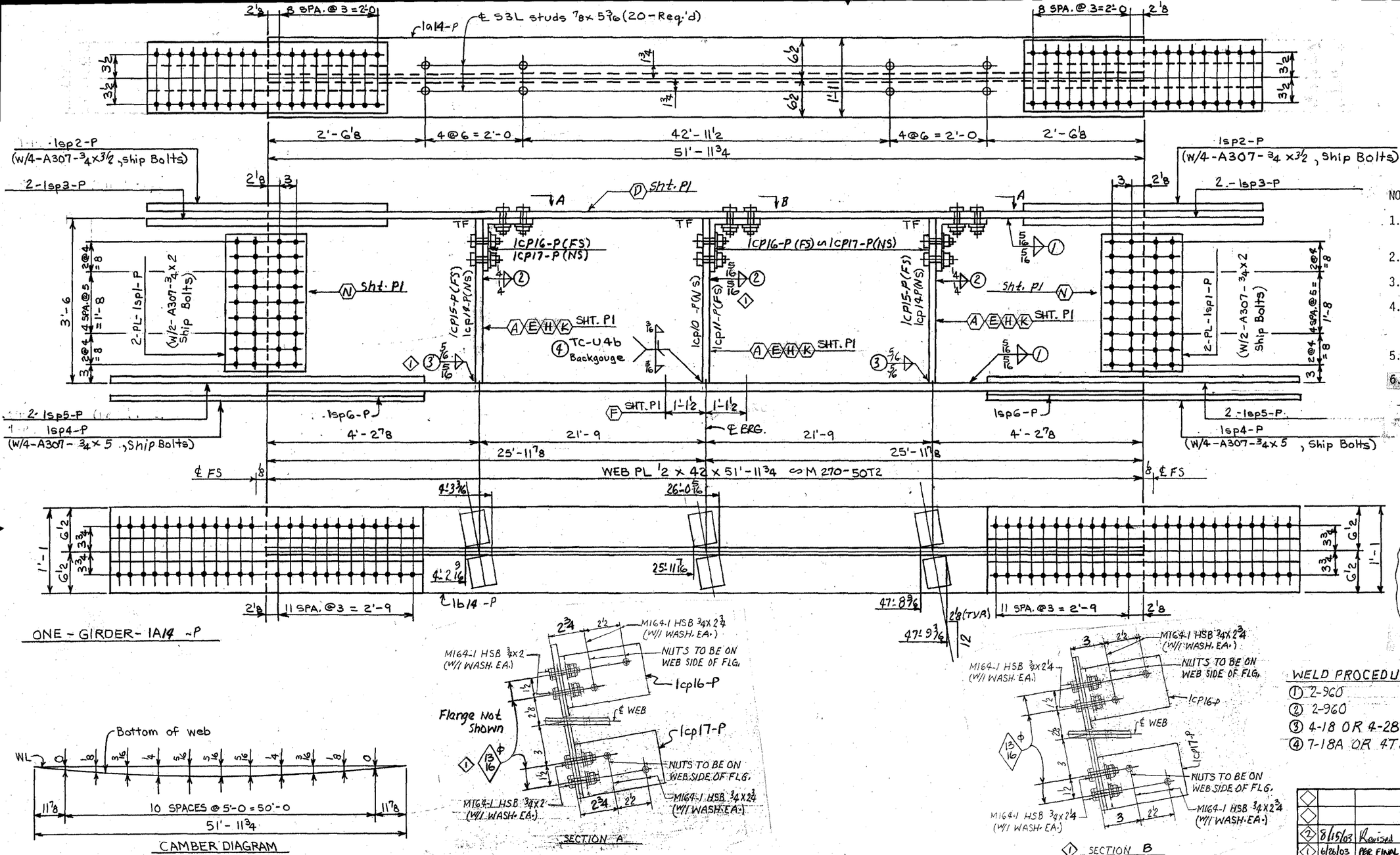
BOLTS 7/8 EXC. NOTED | 15/16 EXC. NOTED
HOLES EXC. NOTED
END DIST. EXC. NOTED
CLEAN SPEC. SSPC-SP10
PAINT SEE SHEET P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP**FAS 1053(6) J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03 | CHKD. H DATE 4/03

DRAWING NO. 1/13
CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



ONE - GIRDER - 1A14 -P

CAMBER DIAGRAM

1 SECTION B

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ** denotes roll direction "L".
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

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Contractors responsibility is in no way relieved by this review.

DATE 8-21-03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES

FOR BRIDGE FILES

1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

Sub. 7/8" PL M270-50W for 7/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50
Sub. 5/16" PL M270-50W for 5/16" PL M270-50

2

WELD PROCEDURE NO'S.

1. 2-960
2. 2-960
3. 4-18 OR 4-28 1
4. 7-18A OR 4T8

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 SHOP ✱ V

DRAWING NO. 1/14

CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (58:3)			1A14 -P		
2	1	PL ½ x 42	51	11¾		14P101	M270-50T2
3	1	PL ¼ x 13	51	11¾	1a14 -P	10P101	M270-50T2
4	1	PL ½ x 13	51	11¾	1b14 -P	5P101	M270-50T2
5	1	PL ¾ x 6	3	6	lcp10 -P	5P902	M270-50
6	1	PL ¾ x 6	3	6	lcp11 -P	5P902	M270-50
7	2	PL ½ x 5½	3	6	lcp14 -P	3P903	M270-50
8	2	PL ½ x 5½	3	6	lcp15 -P	3P903	M270-50
9	4	PL 5/16 x 14½	3	3½	lsp1-P	13P903	M270-50
10	2	PL ⅝ x 12	4	8½	lsp2-P	11P902	M270-50 **
11	4	PL ¾ x 5	4	8½	lsp3-P	7P902	M270-50 **
12	2	PL ⅞ x 13	6	2½	lsp4-P	1P902	M270-50 **
13	4	PL ⅞ x 5½	6	2½	lsp5-P	3P902	M270-50 **
14	2	PL ½ x 13	3	1⅛	lsp6-P	17P902	M270-50
15	20	S3L Studs ⅞	0	5 3/16	N/A	1P107	M169
16							
17							
18	9	A307 Bolts ¾	0	2	N/A		GALV.
19	8	A307 Bolts ¾	0	3½	N/A		
20	8	A307 Bolts ¾	0	5	N/A		
21	20	Lock Nuts ¾			N/A		GALV.
22	3	L6x6x⅜	0	4	lcp16-P	1P904	M270-50
23	3	L6x6x⅜	0	4	lcp17-P	1P904	M270-50
24	4	M164-1 Bolts ¾	0	2¾	N/A	5P105	Mech. Galv.
25	12	M164-1 Bolts ¾	0	2¾	N/A	3P105	
26	24	Hard Wash. ¾			N/A	1P106	(F436)
27	8	M164-1 Bolts ¾	0	2	N/A	7P105	Mech. Galv.
28							
29							
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REV. NO.	DATE	REVISION DESCRIPTION	BY/CHK	APP'L	SHOP	FIELD
2	8/15/03	Revised Sub. Material	KM	X	AUG 19 2003	AUG 19 2003
1	6/26/03	PER FINAL DRAWING ROOM REVIEW	KM H	X	JUL - 8 2003	JUL - 1 2003
0		~		X	X	X

DESCRIPTION GIRDER — SQUAD DN — Sec 1A

REF. DWG. 1/E1 — CUSTOMER P. O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS ⅞ EXC. NOTED; HOLES 15/16 EXC. NOTED; END DIST. EXC. NOTED; CLEAN SPEC. SSPC-SP10; PAINT SEE SHEET P1; DRY MIL THICKNESS; ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS 1055(6) J7S0500
STRUCTURE B.R. # A30521 ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03 CHKD. H DATE 4/03

DRAWING NO. 1/14
CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

ASE-002 10/88

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

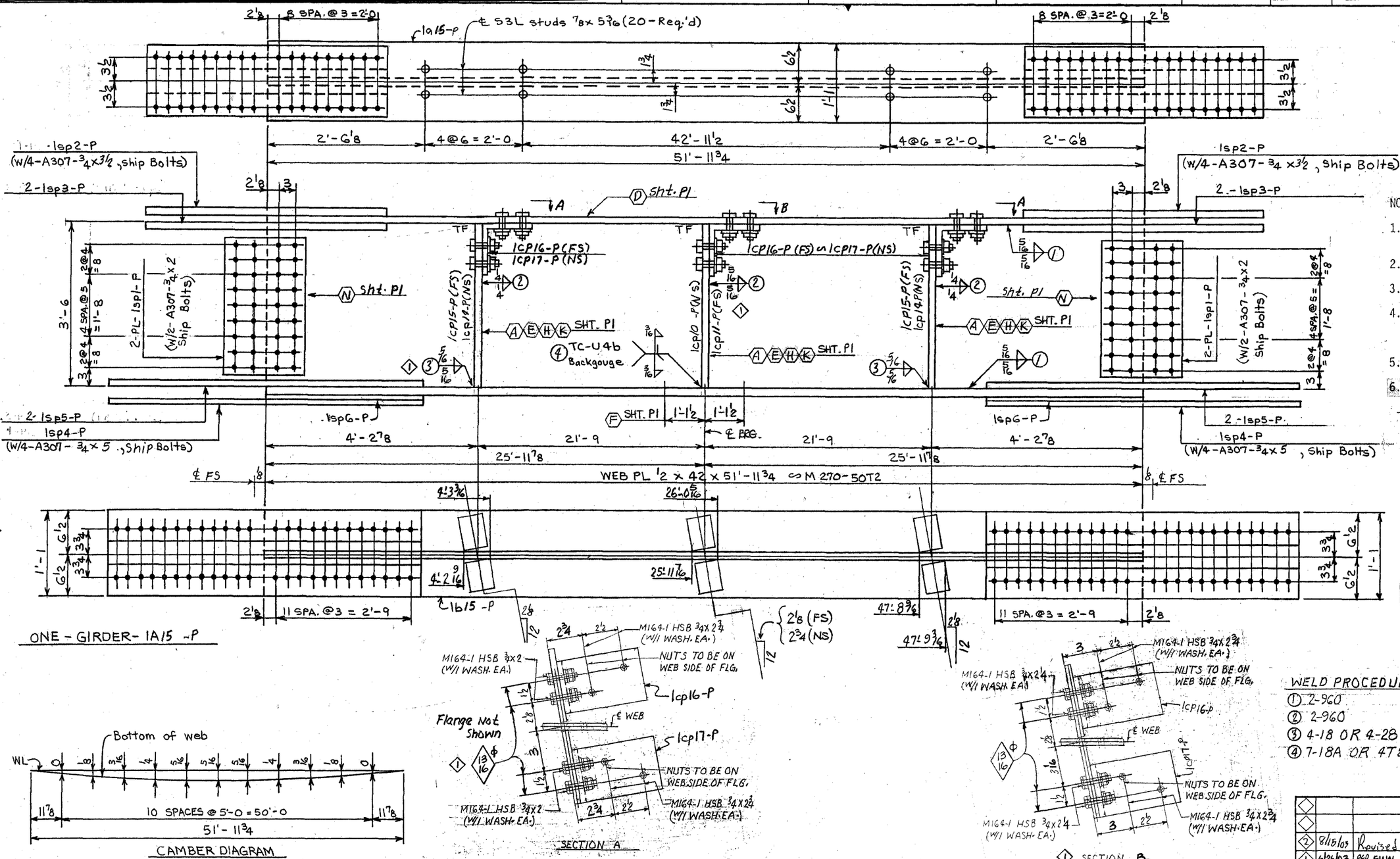
DATE 8-21-03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ** denotes roll direction "L".
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

FOR BRIDGE FILES



ONE - GIRDER - 1A15 -P

CAMBER DIAGRAM

MODOT APPROVED SUBSTITUTIONS
APPLICABLE TO ITEMS BILLED ON THIS DRAWING

~~Sub 7/8" PL M270-50W for 7/8" PL M270-50~~
Sub. 7/8" PL M270-50W for 7/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
~~Sub. 5/8" PL M270-50W for 5/8" PL M270-50~~
Sub. 1/2" PL M270-50W for 1/2" PL M270-50
Sub. 5/16" PL M270-50W for 5/16" PL M270-50

WELD PROCEDURE NO'S.

1. 2-960
2. 2-960
3. 4-18 OR 4-28 ◇1
4. 7-18A OR 4T8

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 | SHOP ✓ V | DRAWING NO. 1/15 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (58'-3)			1A15 -P		
2	1	PL 1/2 x 42	51	11 3/4		14P101	M270-50T2
3	1	PL 1 1/4 x 13	51	11 3/4	1a15 -P	10P101	M270-50T2
4	1	PL 1/2 x 13	51	11 3/4	1b15 -P	5P101	M270-50T2
5	1	PL 3/4 x 6	3	6	1cp10 -P	5P902	M270-50
6	1	PL 3/4 x 6	3	6	1cp11 -P	5P902	M270-50
7	2	PL 1/2 x 5 1/2	3	6	1cp14 -P	3P903	M270-50
8	2	PL 1/2 x 5 1/2	3	6	1cp15 -P	3P903	M270-50
9	4	PL 5/16 x 14 1/2	3	3 1/2	1sp1-P	13P903	M270-50
10	4	PL 3/4 x 5	4	8 1/2	1sp3-P	7P902	M270-50 **
11	2	PL 7/8 x 13	6	2 1/2	1sp4-P	1P902	M270-50 **
12	4	PL 7/8 x 5 1/2	6	2 1/2	1sp5-P	3P902	M270-50 **
13	2	PL 1/2 x 13	3	1 1/8	1sp6-P	17P902	M270-50
14	20	S3L Studs 7/8	0	5 3/16	N/A	1P107	M169
15							
16							
17	4	A307 Bolts 3/4	0	2	N/A		GALV.
18	8	A307 Bolts 3/4	0	3 1/2	N/A		
19	8	A307 Bolts 3/4	0	5	N/A		
20	20	Lock Nuts 3/4			N/A		GALV.
21	3	L6x6x3/8	0	4	1CP16 -P	1P904	M270-50
22	3	L6x6x3/8	0	4	1CP17-P	1P904	M270-50
23	4	M164-1 Bolts 3/4	0	2 3/4	N/A	5P105	Mech. Galv.
24	12	M164-1 Bolts 3/4	0	2 3/4	N/A	3P105	
25	24	Hard Wash. 3/4			N/A	1P106	(F436)
26	8	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
27							
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REV. NO.	DATE	REVISION DESCRIPTION	BY	CHK	APPR. SHOP	APPR. FIELD
◇						
◇						
◇						
2	8/18/03	Revised Sub. Material	LM	X	AUG 19 2003	AUG 19 2003
1	6/26/03	PER FINAL DRAWING ROOM REVIEW	LM	X	JUL - 2 2003	JUL - 2 2003
0		~			JUN - 2 2003	X

DESCRIPTION GIRDER | SQUAD DN | Spa 1A
REF. DWG. 1/E1 | CUSTOMER P. O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

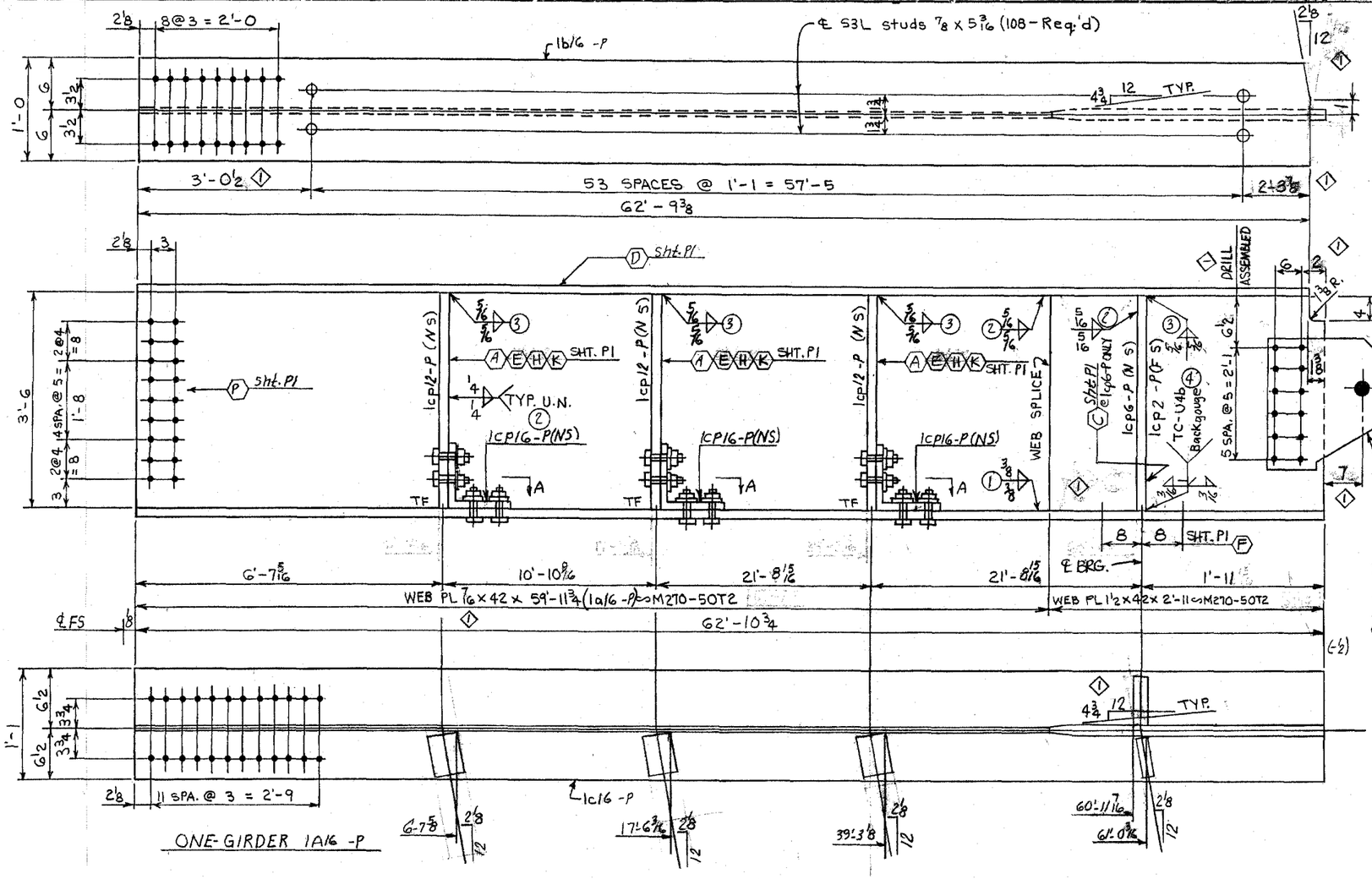
BOLTS 7/8 EXC. NOTED | HOLES 15/16 EXC. NOTED | END DIST. EXC. NOTED | CLEAN SPEC. SSPC-SP10 | PAINT SEE SHEET P1 | DRY MIL THICKNESS | ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP#FAS 1053(6) J1S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03 | CHKD H DATE 4/03

DRAWING NO. 1/15 | CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON END OF PIECE. ERECT WITH MARK AT BANK AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:

   TF = Tight Fit
5. ① Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

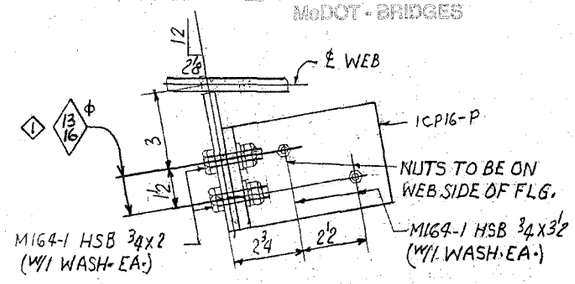
Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

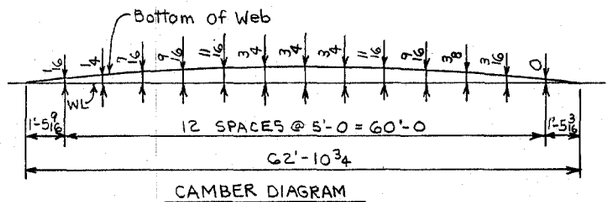
Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES



SECTION A



CAMBER DIAGRAM

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

~~Sub. 3/4" PL M270-50W for 3/4" PL M270-50~~
~~Sub. 3/8" PL M270-50W for 3/8" PL M270-50~~
~~Sub. 5/16" PL M270-50W for 5/16" PL M270-50~~
Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

① 2-960 OR 1-960 ①
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

FOR BRIDGE FILES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 | SHOP V | DRAWING NO. 1/16 | CONTRACT NO. 3173

PIECE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (64'-0)			1A16 -P		
2	1	PL 1½ x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11 3/4	1a16 -P	16P101	M270-50T2
4	1	PL 1¼ x 12	62	9 3/8	1b16 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10 3/4	1c16 -P	1P101	M270-50T2
6	1	PL 5/8 x 6	3	6	1cp6 -P	13P902	M270-50
7	1	PL 5/8 x 6	3	6	1cp2 -P	13P902	M270-50
8	3	PL 1½ x 5½	3	6	1cp12 -P	3P903	M270-50
9	108	63L Studs 7/8	0	5 3/16	N/A	1P107	M169
① 10	2	PL 5/8 x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L6 x 6 x 3/8	0	4	1CP16 -P	1P904	M270-50
14	6	M164-1 Bolts ¾	0	2½	N/A	7P105	Mech. Galv.
15	6	M164-1 Bolts ¾	0	3½	N/A	1P105	Mech. Galv.
16	12	Hard Wash. ¾			N/A	1P106	Mech. Galv. (F436)
20	2	A307 Bolts ¾	0	4	N/A		Galv.
21	2	Lock Nuts ¾			N/A		Galv.

Ozalid-Bruning 80707 Form 11871

REV NO.	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
①	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	JH	X		
0		~			X	X

DESCRIPTION GIRDER | SQUAD DN
REF. DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

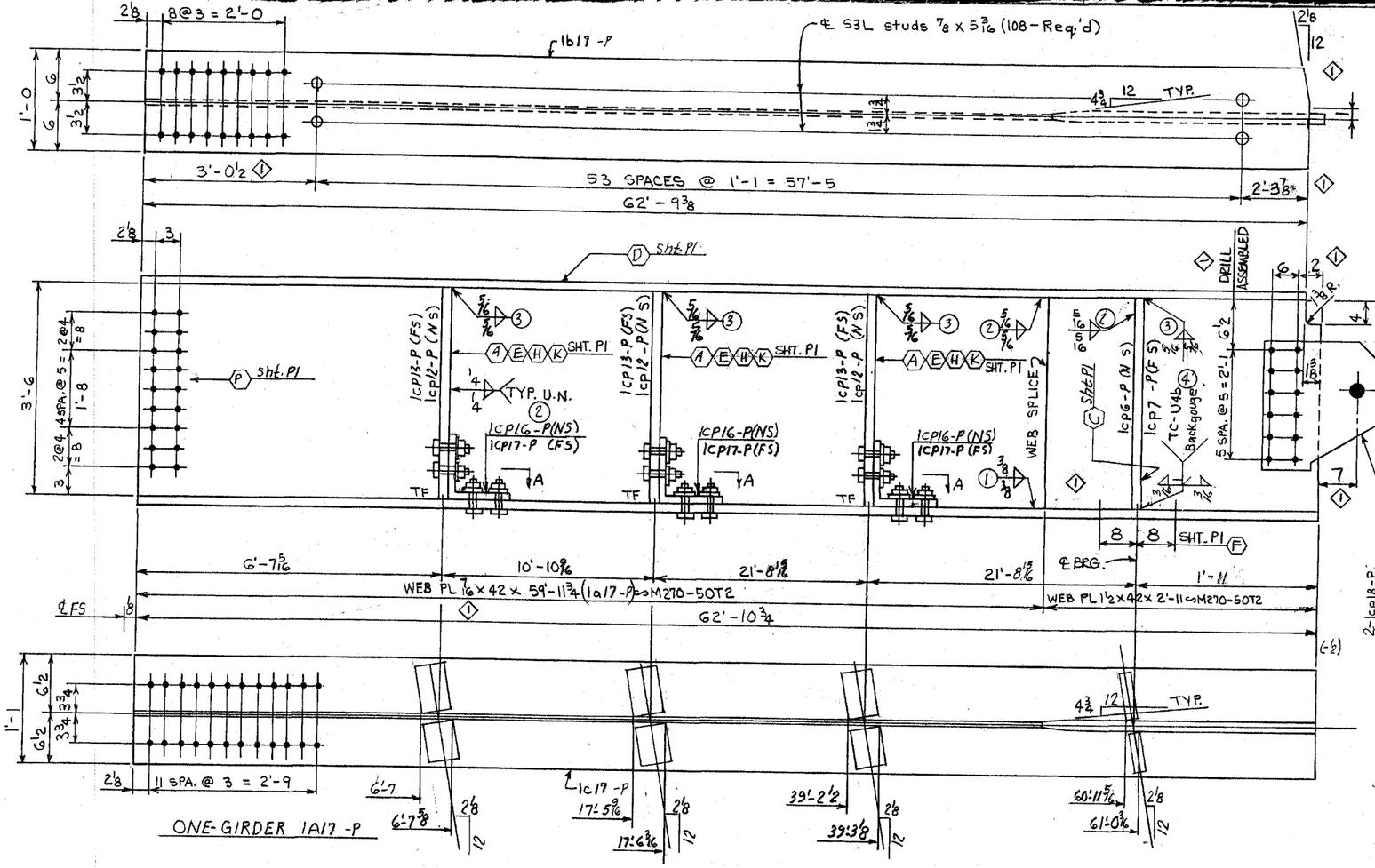
BOLTS 7/8 EXC. NOTED | HOLES 15/16 EXC. NOTED | END DIST. EXC. NOTED | CLEAN. SPEC. SSPC-SP10 | PAINT SEE SHEET P1 | DRY MIL THICKNESS | ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS-1053(6) ~ J950500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 5/03 | CHKD. H DATE 5/03

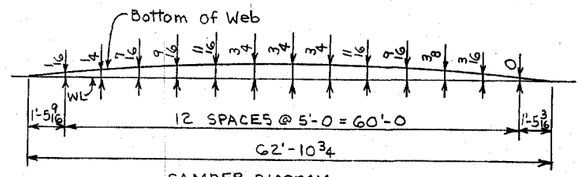
DRAWING NO. 1/16 | CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



ONE-GIRDER 1A17 -P



CAMBER DIAGRAM

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

[redacted]

Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

① 2-960 OR 1-960 ①
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
① 5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FIELD AND DISTRIBUTION
☐ REVISE AND RESUBMIT

FOR BRIDGE FILES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-9281
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 SHOP V

DRAWING NO. 1/17

CONTRACT NO. 3173

PIECE MARK	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (64'-0)			1A17 -P		
2	1	PL ½ x 42	2	11	3P101	M270-50T2	
3	1	PL 7/16 x 42	59	11¾	1a17 -P	16P101	M270-50T2
4	1	PL ¼ x 12	62	9⅜	1b17 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10¾	1c17 -P	1P101	M270-50T2
6	1	PL ⅝ x 6	3	6	1cp6 -P	13P902	M270-50
7	1	PL ⅝ x 6	3	6	1cp7 -P	13P902	M270-50
8	3	PL ½ x 5½	3	6	1cp12 -P	3P903	M270-50
9	108	⅞ L Studs	0	5 3/16	N/A	1P107	M169
10	2	PL ⅝ x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L 6 x 6 x ⅜	0	4	1CP16 -P	1P904	M270-50
12	3	L 6 x 6 x ⅜	0	4	1CP17-P	1P904	M270-50
13	3	PL ½ x 5½	3	6	1CP13-P	3P903	M270-50
14							
15	12	M164-1 Bolts ¾	0	2	N/A	7P105	Mech. Galv.
16	12	M164-1 Bolts ¾	0	3½	N/A	1P105	Mech. Galv.
17	24	HARD WASH ¾			N/A	1P106	Mech. Galv. (F436)
18							
19							
20	2	A307 Bolts ¾	0	4	N/A		Galv.
21	2	Lock Nuts ¾			N/A		Galv.
22							
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Ozalid-Blueprinting AD707 Form 11571

REV NO	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
1	6/26/03	PER APPROVAL & FINAL DRAWINGS- BCOM REVIEW	JDH	X		JUL - 1 2003
0			JDH	JUN - 2 2003	X	X

DESCRIPTION GIRDER
SQUAD DN
REF. DWG. 1/E1
CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-9281 / Little Rock, Arkansas 72203

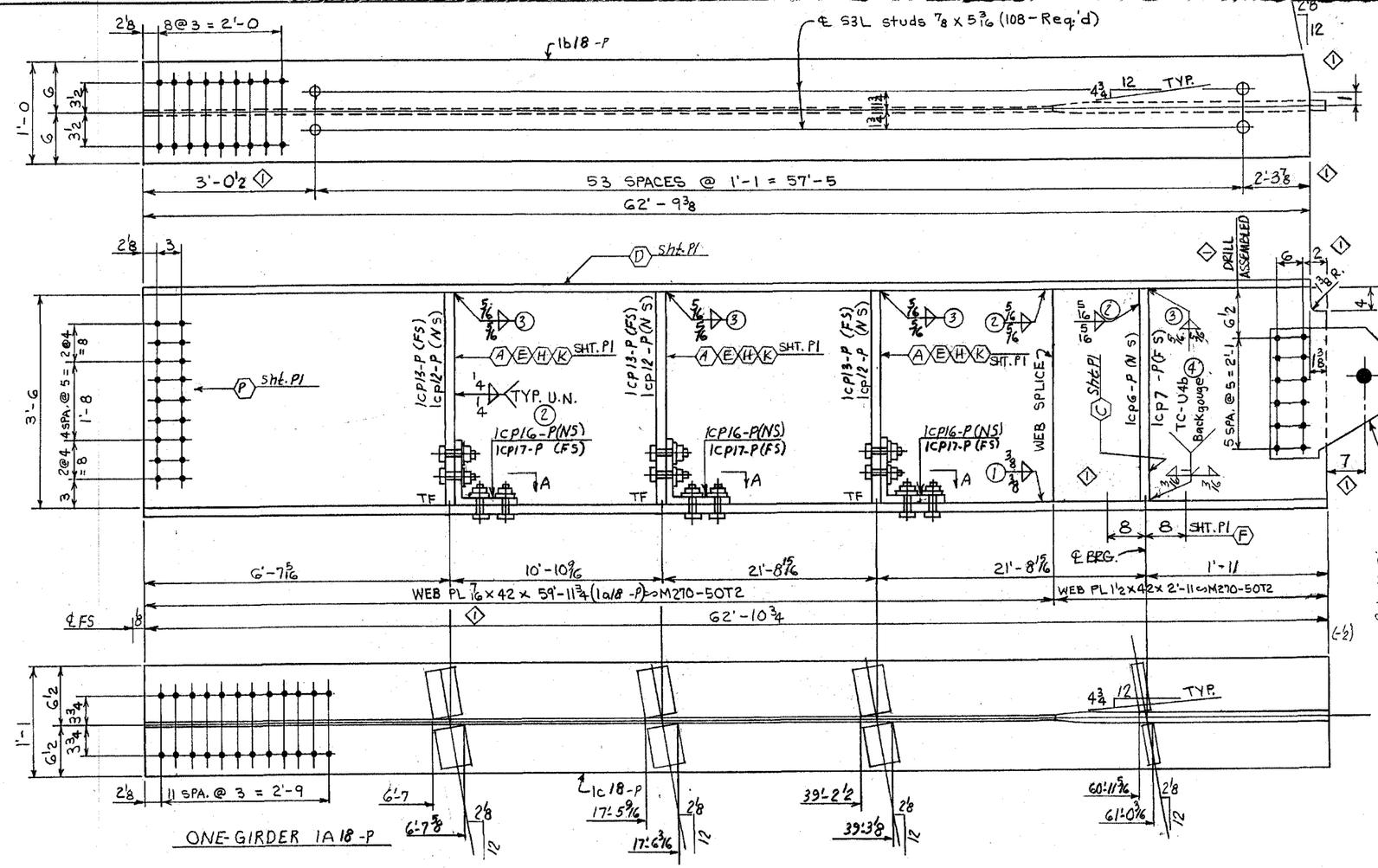
BOLTS ⅞ EXC. NOTED	CUSTOMER EMERY SAPP & SONS INC.	DRAWING NO.	1/17
HOLES 15/16 EXC. NOTED	JOB TITLE FAP#FAS-1053(6) ~ J9S0500		
END DIST. EXC. NOTED	STRUCTURE BR. # A30521, ROUTE H		
CLEAN. SPEC. SSPC-SP10	LOCATION PULASKI CO., MO.	CONTRACT NO.	3173
PAINT SEE SHEET P1	ARCH OR ENGR. MODOT		
DAY MIL THICKNESS	DRAWN SDC DATE 5/03 CHKD. H DATE 5/03		
ELECTRODE CLASS See WPS	STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.	

P1

TESTING SYMBOLS: LEAK (LT) VISUAL (VT) | DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) | ULTRASONIC (UT) RADIOGRAPHIC (RT)

DETAIL PIECE MARKS

SHIPPING PIECE MARKS



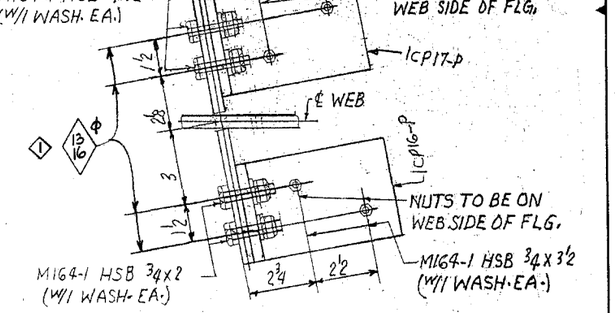
NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:

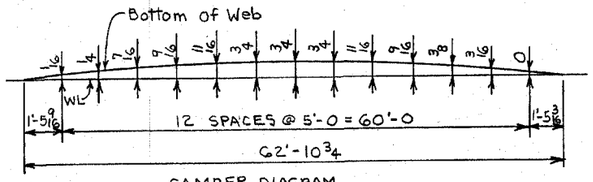
   TF = Tight Fit

Ⓘ 5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.

6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.



SECTION A



CAMBER DIAGRAM

Ⓘ MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

[redacted]

Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

① 2-960 or 1-960 Ⓘ
② 2-960
③ 4-18 OR 4-28 Ⓘ
④ 7-18A OR 4T8

FOR BRIDGE FILES

Reviewed for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ MAKE CORRECTIONS NOTED
☐ RESUBMIT FOR DISTRIBUTION
MoDOT - BRIDGES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 SHOP ✠ V

DRAWING NO. 1/18

CONTRACT NO. 3173

	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (G4'-0)			1A18 -P		
2	1	PL 1½ x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11¾	1a18 -P	16P101	M270-50T2
4	1	PL 1¼ x 12	62	9⅜	1b18 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10¾	1c18 -P	1P101	M270-50T2
6	1	PL ⅝ x 6	3	6	1cp6 -P	13P902	M270-50
7	1	PL ⅝ x 6	3	6	1cp7 -P	13P902	M270-50
8	3	PL ½ x 5½	3	6	1cp12 -P	3P903	M270-50
9	108	S3L Studs ⅞	0	5 9/16	N/A	1P107	M169
Ⓘ 10	2	PL ⅝ x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L 6 x 6 x ⅜	0	4	1CP16 -P	1P904	M270-50
12	3	L 6 x 6 x ⅜	0	4	1CP17-P	1P904	M270-50
13	3	PL ½ x 5½	3	6	1CP13-P	3P903	M270-50
14							
15	12	M164-1 Bolts ¾	0	2	N/A	7P105	Mech. Galv.
16	12	M164-1 Bolts ¾	0	3½	N/A	1P105	Mech. Galv.
17	24	HARD WASH ¾			N/A	1P106	Mech. Galv. (F436)
18							
19							
20	2	A307 Bolts ¾	0	4	N/A		Galv.
21	2	Lock Nuts ¾			N/A		Galv.
22							
23							
24							
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REV NO.	DATE	REVISION DESCRIPTION	BY / CHK	APPL	SHOP	FIELD
Ⓘ	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	BH	X		
0				X	X	X

DESCRIPTION GIRDER SQUAD DN
REF DWG 1/E1 CUSTOMER P.O NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS ⅞ EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST. EXC. NOTED
CLEAN SPEC SSPC-SP10
PAINT SEE SHEET P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

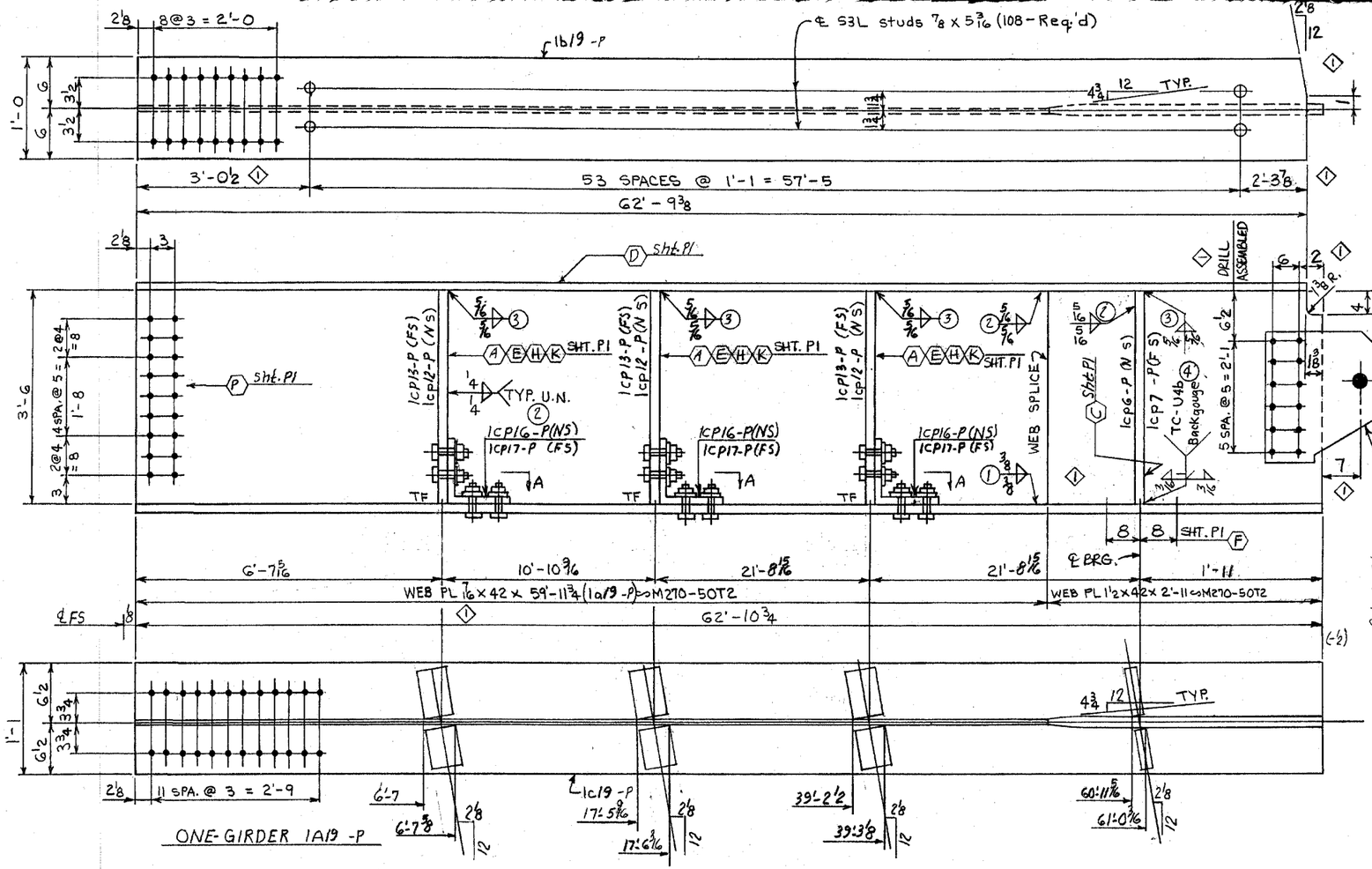
CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS-1053(6) ~ J950500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 5/03 CHKD H DATE 5/03

DRAWING NO. 1/18
CONTRACT NO. 3173

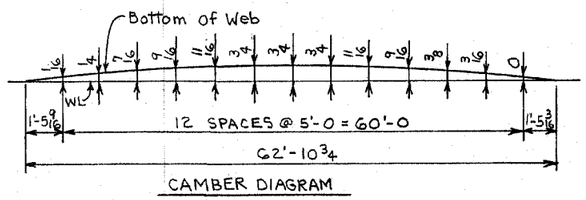
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

Oxy-Burning 60707 Form 11871



ONE-GIRDER 1A19 -P



CAMBER DIAGRAM

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

Reviewed for general conformity to plans and specifications.
Check dimensions and quantities not completely checked.
Review is not intended to coordinate any party or miscellaneous item.
Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.
Contractors responsibility is in no way relieved by this review.
DATE 7-7-03
☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MODOT - BRIDGES

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

~~[redacted]~~

Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.

① 2-960 or 1-960 ①
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

SECTION A

FOR BRIDGE FILES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 SHOP ✗ V

DRAWING NO. 1 / 19

CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (G4'-0)			1A19 -P		
2	1	PL 1 1/2 x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11 3/4	1a19 -P	16P101	M270-50T2
4	1	PL 1/4 x 12	62	9 3/8	16I9 -P	9P101	M270-50T2
5	1	PL 2 x 13	62	10 3/4	1c19 -P	1P101	M270-50T2
6	1	PL 5/8 x 6	3	6	1cp6 -P	13P902	M270-50
7	1	PL 5/8 x 6	3	6	1cp7 -P	13P902	M270-50
8	3	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	M270-50
9	108	63L Studs 7/8	0	5 5/16	N/A	1P107	M169
① 10	2	PL 5/8 x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L 6 x 6 x 3/8	0	4	1CP16 -P	1P904	M270-50
12	3	L 6 x 6 x 3/8	0	4	1CP17-P	1P904	M270-50
13	3	PL 1/2 x 5 1/2	3	6	1CP13-P	3P903	M270-50
14							
15	12	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
16	12	M164-1 Bolts 3/4	0	3 1/2	N/A	1P105	Mech. Galv.
17	24	HARD WASH 3/4			N/A	1P106	Mech. Galv. (F436)
18							
19							
20	2	A307 Bolts 3/4	0	4	N/A		Galv.
21	2	Lock Nuts 3/4			N/A		Galv.
22							
23							
24							
25							
26							
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Océ-Bruning 80767 Form 11671

REV. NO.	DATE	REVISION DESCRIPTION	BY / CHK	APP'L	SHOP	FIELD
1	6/26/03	PER APPROVAL & FINAL DRAWING FROM REVIEW				
0						

JUL - 1 2003

DESCRIPTION GIRDER SQUAD DN
REF. DWG. 1/E1 CUSTOMER P. O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST. EXC. NOTED
CLEAN. SPEC SSPC-SP10
PAINT SEE SHEET P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

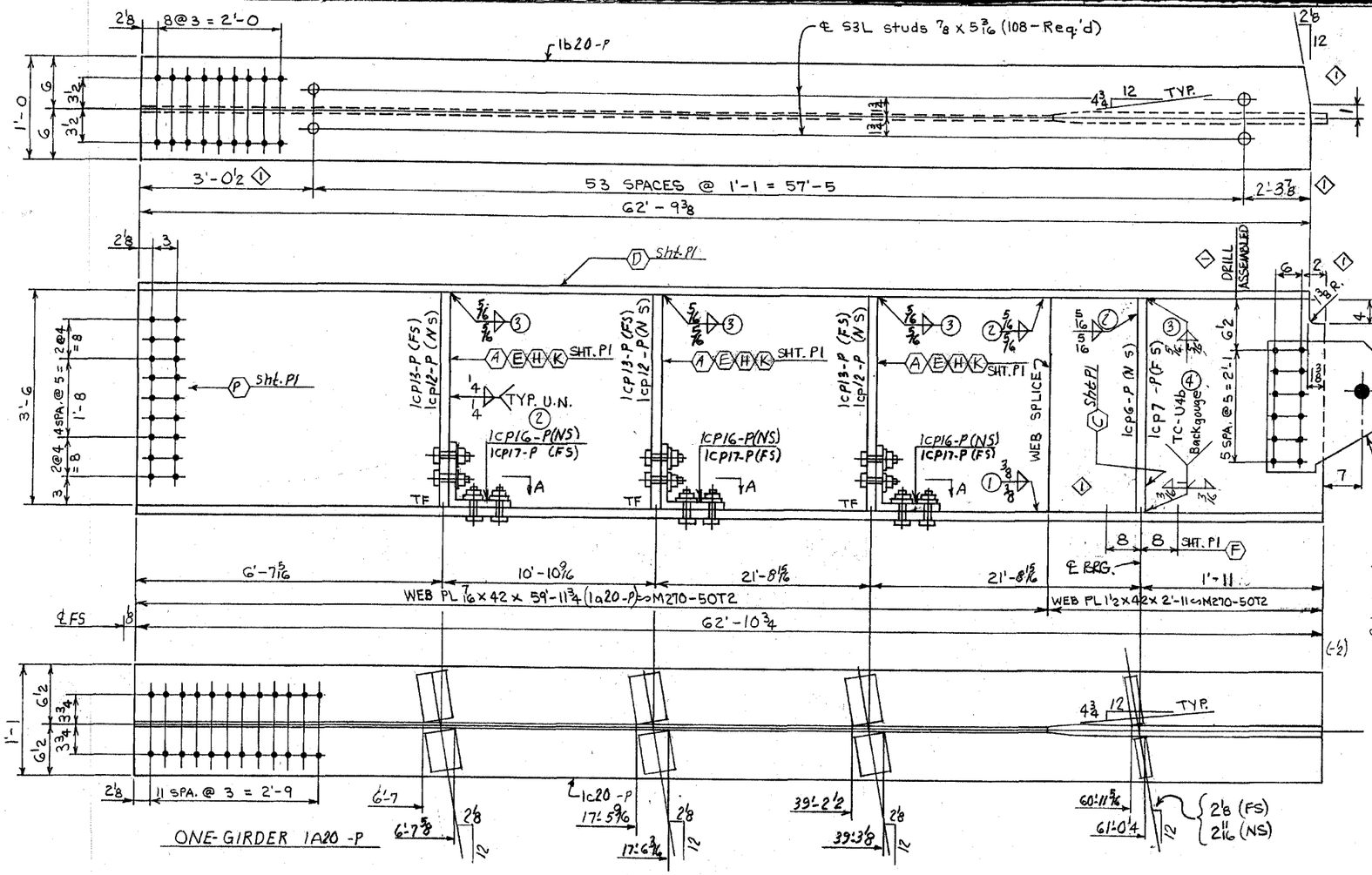
CUSTOMER EMERY SAPP & SONS INC.
JOB. TITLE FAP # FAS-1053(6) ~ J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT

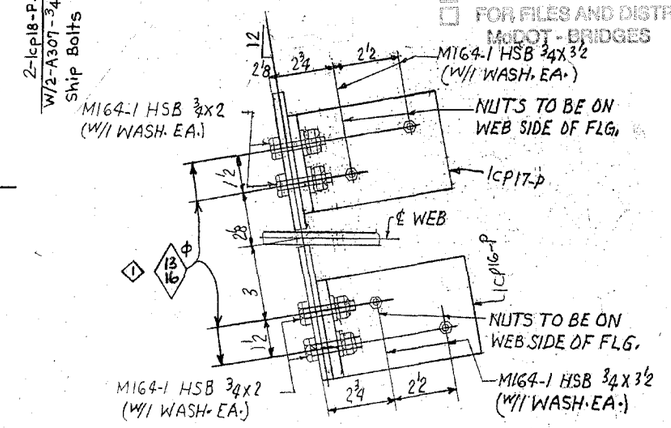
DRAWING NO. 1 / 19
CONTRACT NO. 3173

DRAWN SPC DATE 5/03 CHKD. H DATE 5/03

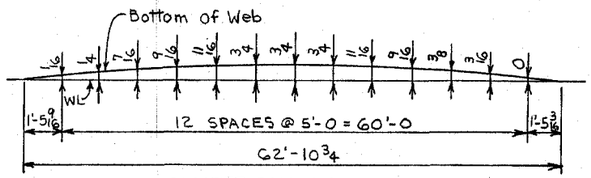
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.





SECTION A



CAMBER DIAGRAM

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ① Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

WELD PROCEDURE NO'S.

① 2-960 OR 1-960 ①
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

[redacted]

Sub. 5/8" PL M270-50W for 5/8" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.
Review is not intended to coordin any party or miscellaneous item.
Contractor is solely responsible fo verifying field measurements when s stated in plans and/or specifications
Contractors responsibility is in no way relieved by this review.
DATE 7-7-03
X APPROVED DESIGN FEATURES O
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

FOR BRIDGE FILES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 SHOP S V DRAWING NO. 1/20 CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (64'-6)			1A20-P		
2	1	PL 1/2 x 42	2	11		3P101	M270-50T2
3	1	PL 7/16 x 42	59	11 3/4	1a20-P	16P101	M270-50T2
4	1	PL 1/4 x 12	62	9 3/8	1b20-P	9P101	M270-50T2
5	1	PL 2 x 13	62	10 3/4	1c20-P	1P101	M270-50T2
6	1	PL 5/8 x 6	3	6	1cp6-P	13P902	M270-50
7	1	PL 5/8 x 6	3	6	1cp7-P	13P902	M270-50
8	3	PL 1/2 x 5 1/2	3	6	1cp12-P	3P903	M270-50
9	108	63L Studs 7/8	0	5 9/16	N/A	1P107	M169
① 10	2	PL 5/8 x 23	2	5	1cp18-P	1P905	M270-50T2
11	3	L 6 x 6 x 3/8	0	4	1CP16-P	1P904	M270-50
12	3	L 6 x 6 x 3/8	0	4	1CP17-P	1P904	M270-50
13	3	PL 2 x 5 1/2	3	6	1CP13-P	3P903	M270-50
14							
15	18	M164-1 Bolts 3/4	0	2	N/A	7P105	Mech. Galv.
16	18	M164-1 Bolts 3/4	0	3 1/2	N/A	1P105	Mech. Galv.
17	24	HARD WASH 3/4			N/A	1P106	Mech. Galv. (F436)
18							
19							
20	2	A307 Bolts 3/4	0	4	N/A		Galv.
21	2	Lock Nuts 3/4			N/A		Galv.
22							
23							
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REV. NO.	DATE	REVISION DESCRIPTION	BY/CHK	APPL	SHOP	FIELD
①	6/26/03	FOR APPROVAL & FINAL DRAWING ROOM REVIEW	GM/TA	X		
0		~			X	X

DESCRIPTION GIRDER SQUAD DN
REF. DWG. 1/E1 CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST. EXC. NOTED
CLEAN. SPEC SSPC-SP10
PAINT SEE SHEET P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP # FAS-1053(6) ~ J9S0500
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SPC DATE 5/03 CHKD. H DATE 5/03

DRAWING NO. 1/20
CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE, ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

TESTING SYMBOLS
LEAK (LT) VISUAL (VT) DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) ULTRASONIC (UT) RADIOGRAPHIC (RT)
DETAIL PIECE MARKS
SHIPPING PIECE MARKS

Plans and specifications.
Detail dimensions and quantities not completely checked.

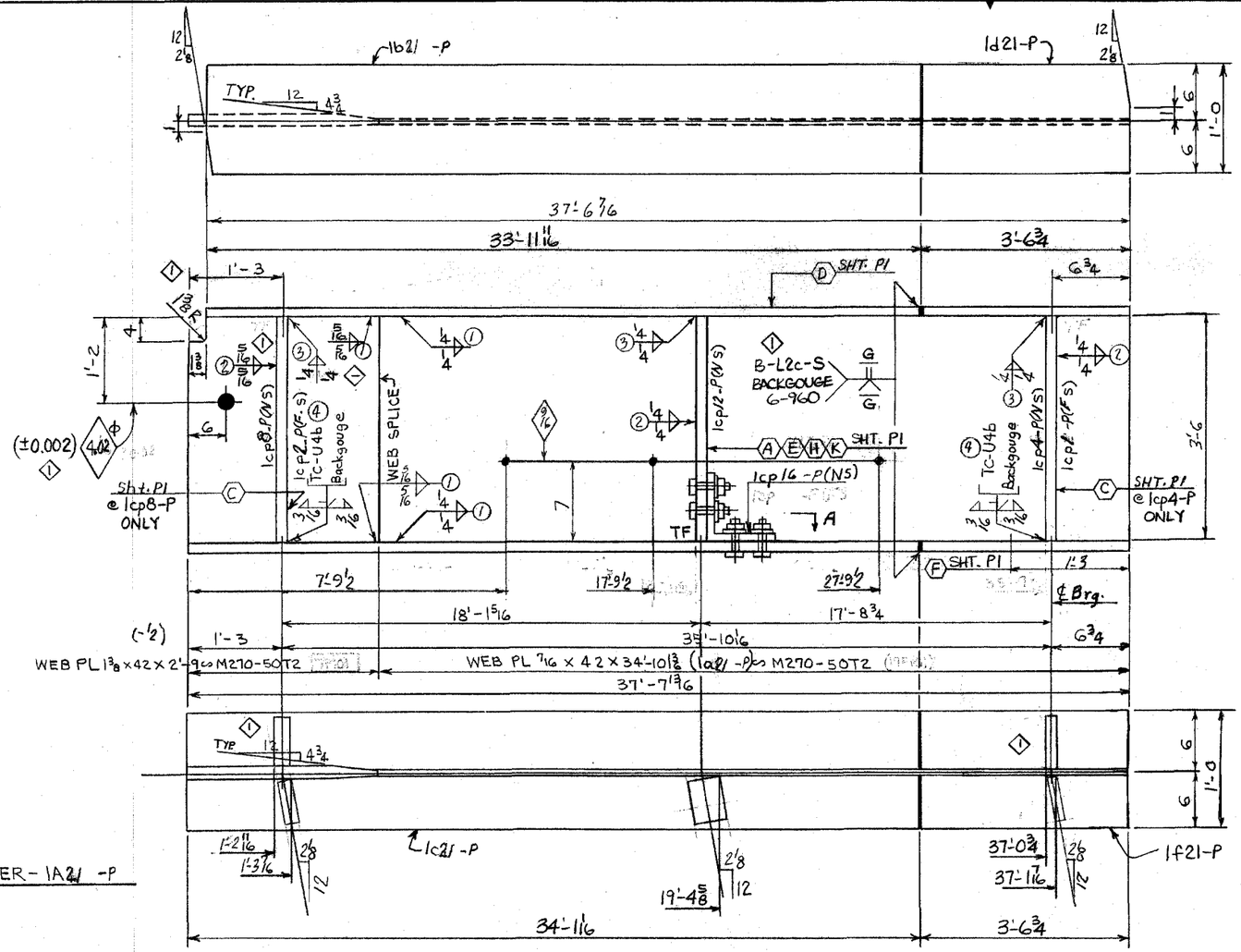
Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

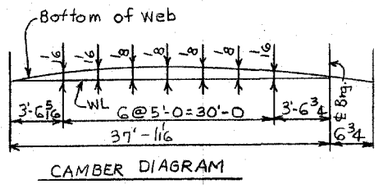
Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

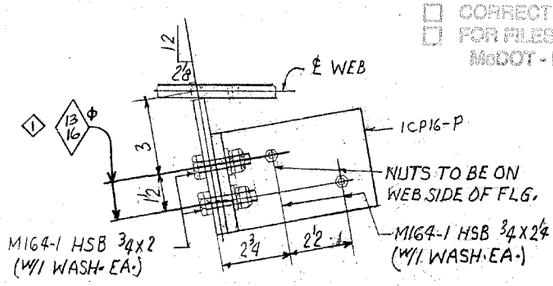
☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES



ONE - GIRDER - 1A21 -P



CAMBER DIAGRAM



FOR BRIDGE FILES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:

   TF = Tight Fit

◇1 5. Finish the circumference of the 4.02" dia. pin hole to ANSI 125.

6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

◇1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING
Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
~~Sub. 7/8" PL M270-50W for 7/8" PL M270-50~~
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
~~Sub. 5/8" PL M270-50W for 5/8" PL M270-50~~
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO's.
① 2-960
② 2-960
③ 4-18 OR 4-28 ◇1
④ 7-18A OR 4T8

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6281
Little Rock, Arkansas 72203

BILL OF MATERIALS
SHOP ORDER NUMBER 168-173
SHOP #V
DRAWING NO. 1/21
CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (37'-8)			1A21 -P		
2	1	PL 1 3/8 x 42	2	9		7P101	M270-50T2
◇3	1	PL 7/16 x 42	34	10 1/8	1a21 -P	17P101	
◇4	1	PL 3/4 x 12	33	11 11/16	1b21 -P	12P101	
◇5	1	PL 3/4 x 12	34	1 1/16	1c21 -P	12P101	M270-50T2
6	1	PL 5/8 x 5 1/2	3	6	1cp4 -P	15P902	M270-50
7	1	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	
8	1	PL 5/8 x 6	3	6	1cp8 -P	13P902	
9	1	L 6 x 6 x 3/8	0	4	1CP16 -P	1P904	M270-50
10	1	PL 5/8 x 6	3	6	1CP2-P	13P902	M270-50
11	1	PL 5/8 x 5 1/2	3	6	1cp1-P	15P902	M270-50
◇12	1	PL 3/4 x 12	3	6 3/4	1d21-P	13P101	M270-50T2
◇13	1	PL 3/4 x 12	3	6 3/4	1f21-P	13P101	M270-50T2
14	2	M164-1 Bolt 3/4	0	2	N/A	7P105	Mech. Galv.
15	2	M164-1 Bolt 3/4	0	2 1/4	N/A	5P105	Mech. Galv.
16	4	Hard Wash. 3/4			N/A	1P106	Mech. Galv. (F436)

REV. NO.	DATE	REVISION DESCRIPTION	BY CHK	APPV'L	SHOP	FIELD
◇1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	JJH	X		
0		~	JJH		X	X

DESCRIPTION GIRDER
REF. DWG. 1/E1
SQUAD DN
CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6281 / Little Rock, Arkansas 72203

BOLTS 7/8 (EXC. NOTED)
HOLES 15/16 (EXC. NOTED)
END DIST. EXC. NOTED
CLEAN. SPEC. SSPC-SP10
PAINT SEE SHEET P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

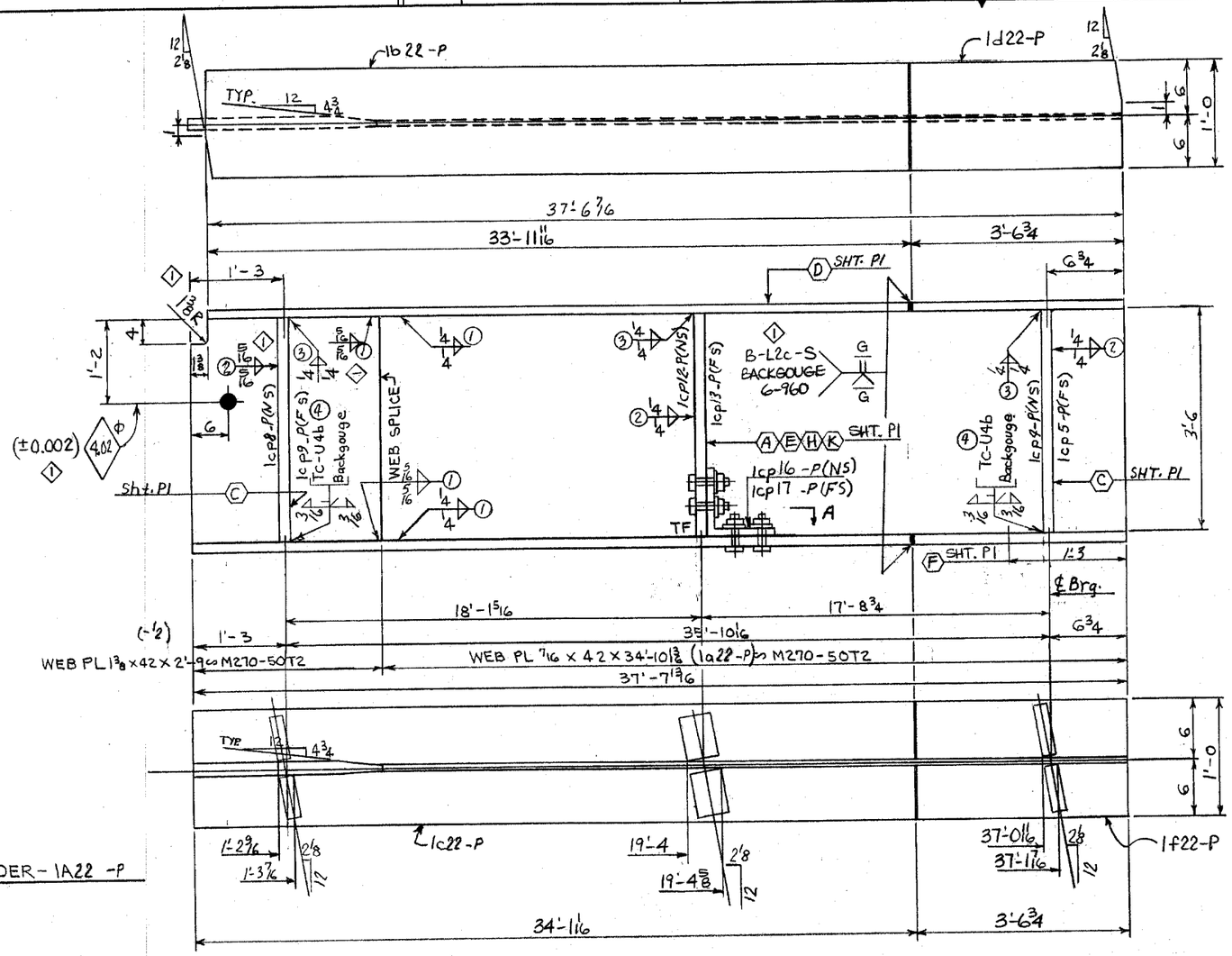
CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP#FAS 1053(6)J9S0506
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03
CHKD. H DATE 4/03

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

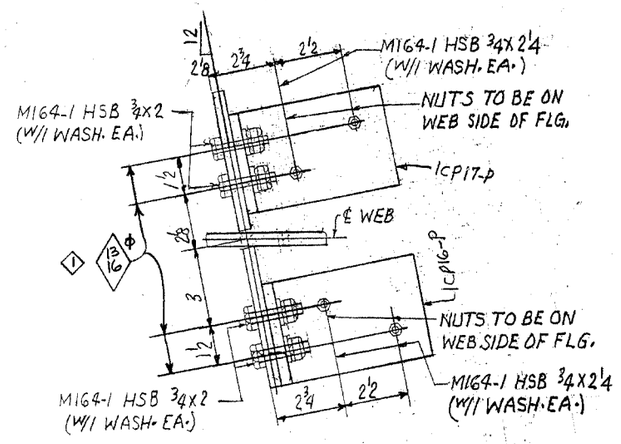
PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT BABK END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

DRAWING NO. 1/21
CONTRACT NO. 3173

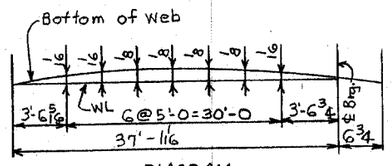
TESTING SYMBOLS: LEAK (LT) VISUAL (VT) · DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) · ULTRASONIC (UT) RADIOGRAPHIC (RT)
DETAIL PIECE MARKS
SHIPPING PIECE MARKS
Oce-Bruning 80707 Form 11671
ASE-002 10/89



ONE - GIRDER - 1A22 -P



SECTION A



CAMBER DIAGRAM

① MODOT APPROVED SUBSTITUTIONS
APPLICABLE TO ITEMS BILLED ON THIS DRAWING
Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.
① 2-960
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

- [X] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ① Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

FOR BRIDGE FILES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168-173 SHOP A V
DRAWING NO. 1/22
CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (37L8)			1A22 -P		
2	1	PL 1 3/8 x 42	2	9	7P101	M270-50T2	
3	1	PL 7/16 x 42	34	10 13/16	1a22 -P	17P101	
4	1	PL 3/4 x 12	33	11 11/16	1b22 -P	12P101	
5	1	PL 3/4 x 12	34	11 1/16	1c22 -P	12P101	M270-50T2
6	1	PL 5/8 x 5 1/2	3	6	1cp4 -P	15P902	M270-50
7	1	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	
8	1	PL 5/8 x 6	3	6	1cp8 -P	13P902	
9	1	L 6x6x3/8	0	4	1CP16 -P	1P904	M270-50
10	1	PL 5/8 x 6	3	6	1CP9 -P	13P902	M270-50
① 11	1	PL 5/8 x 5 1/2	3	6	1CP5 -P	15P902	M270-50
12	1	L 6x6x3/8	0	9	1CP17 -P	1P904	M270-50
13	1	PL 2x5 1/2	3	6	1CP13 -P	3P903	M270-50
14	4	M164-1 Bolt 3/4	0	2	N/A	7P105	Mech. Galv.
15	4	M164-1 Bolt 3/4	0	2 1/4	N/A	5P105	Mech. Galv.
16	8	Hard Wash. 3/4			N/A	1P106	Mech. Galv. (F436)
① 17	1	PL 3/4 x 12	3	6 3/4	1d22-P	12P101	M270-50T2
① 18	1	PL 3/4 x 12	3	6 3/4	1f22-P	12P101	M270-50T2
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REV NO.	DATE	REVISION DESCRIPTION	BY	CHK	APP'L	SHOP	FIELD
①	6/26/03	FOR APPROVAL & FINAL DRAWING ROOM REVIEW				X	X
0							

DESCRIPTION GIRDER SQUAD DN
REF. DWG. 1/E1 CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

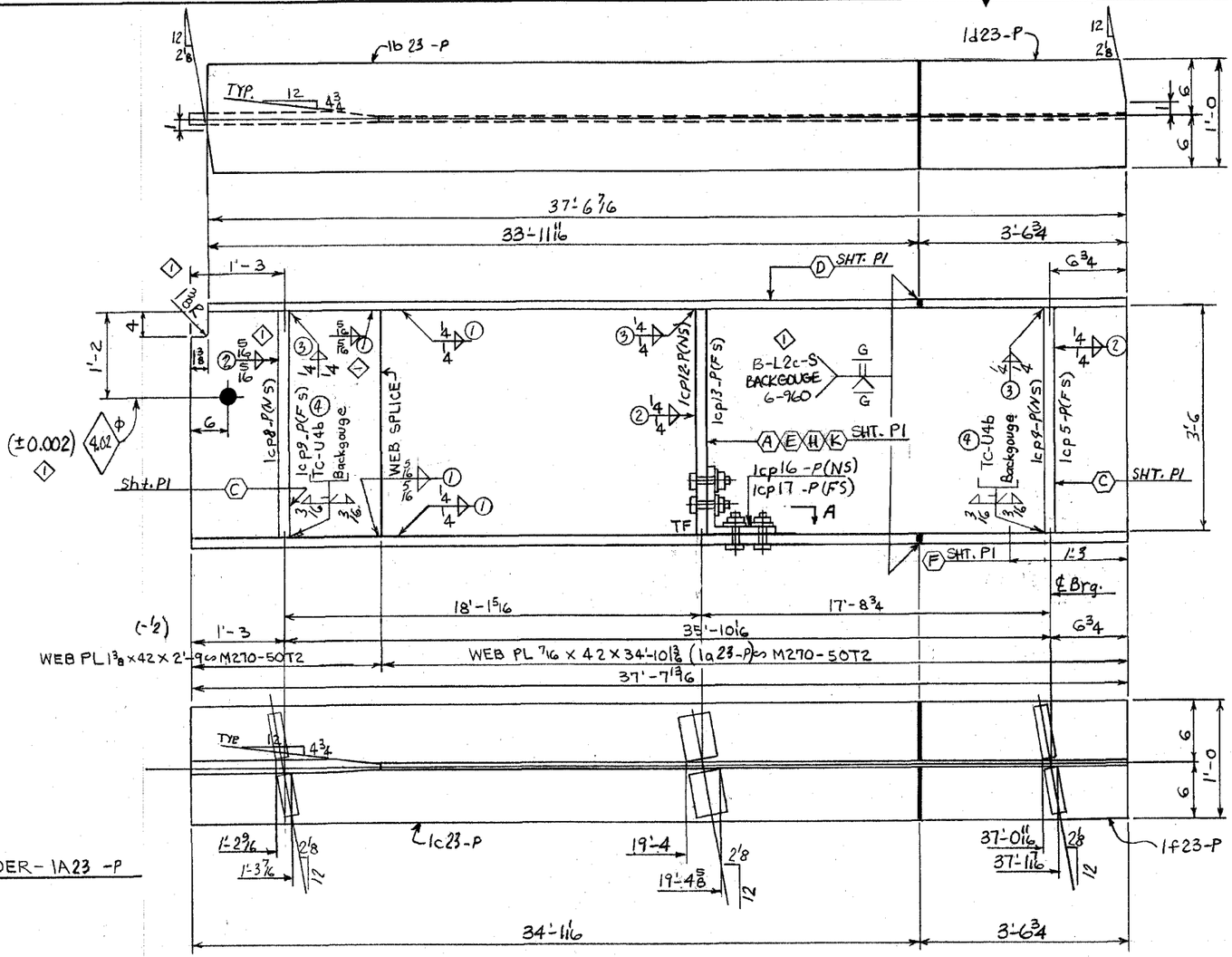
BOLTS 7/8 EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST. EXC. NOTED
CLEAN SPEC. SSPC-SP10
PAINT SEE SHEET P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP#FAS 1053(6)J9S0506
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03 CHKD. H DATE 4/03

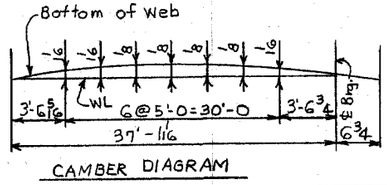
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

DRAWING NO. 1/22
CONTRACT NO. 3173

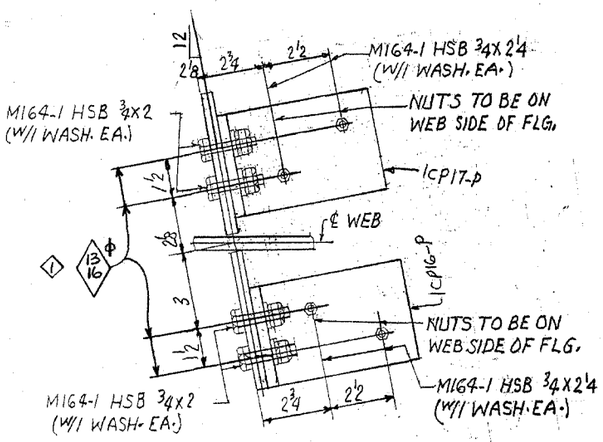


ONE - GIRDER - 1A23 -P



CAMBER DIAGRAM

FOR BRIDGE FILES



SECTION A

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ◇1 Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

◇1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING
Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
[illegible]
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
[illegible]
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO's.
① 2-960
② 2-960
③ 4-18 OR 4-28 ◇1
④ 7-18A OR 4T8

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-8261
Little Rock, Arkansas 72203

BILL OF MATERIALS — SHOP ORDER NUMBER 168-173 — SHOP V — DRAWING NO. 1/23 — CONTRACT NO. 3173

ITEM	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (37'-8)			1A23 -P		
2	1	PL 1 3/8 x 42	2	9		7P101	M270-50T2
3	1	PL 7/16 x 42	34	10 7/16	1a23 -P	17P101	
4	1	PL 3/4 x 12	33	11 11/16	1b23 -P	12P101	
◇1 ◇2 5	1	PL 3/4 x 12	34	1 1/16	1c23 -P	12P101	M270-50T2
6	1	PL 5/8 x 5 1/2	3	6	1cp4 -P	15P902	M270-50
7	1	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	
8	1	PL 5/8 x 6	3	6	1cp8 -P	13P902	
9	1	L 6x6x3/8	0	4	1CP16 -P	1P904	M270-50
10	1	PL 5/8 x 6	3	6	1CP9 -P	13P902	M270-50
◇1 11	1	PL 5/8 x 5 1/2	3	6	1CP5 -P	15P902	M270-50
12	1	L 6x6x3/8	0	9	1CP17 -P	1P904	M270-50
13	1	PL 1/2 x 5 1/2	3	6	1CP13-P	3P903	M270-50
14	4	M164-1 Bolt 3/4	0	2	N/A	7P105	Mech. Galv.
15	4	M164-1 Bolt 3/4	0	2 3/8	N/A	5P105	Mech. Galv.
16	8	Hard Wash. 3/4			N/A	1P106	Mech. Galv. (F436)
◇1 17	1	PL 3/4 x 12	3	6 3/4	1d23-P	13P101	M270-50T2
◇1 18	1	PL 3/4 x 12	3	6 3/4	1f23-P	13P101	M270-50T2
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REV NO.	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
◇1	6/26/03	FOR APPROVAL & FINAL DRAWING ROOM REVIEW	GK/M	X		
0		~	[illegible]		X	X

DESCRIPTION GIRDER — SQUAD DN — REF DWG 1/E1 — CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-8261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED — HOLES 15/16 EXC. NOTED — END DIST. EXC. NOTED — CLEAN SPEC. SSPC-SP10 — PAINT SEE SHEET P1 — DRY MIL THICKNESS — ELECTRODE CLASS See WPS

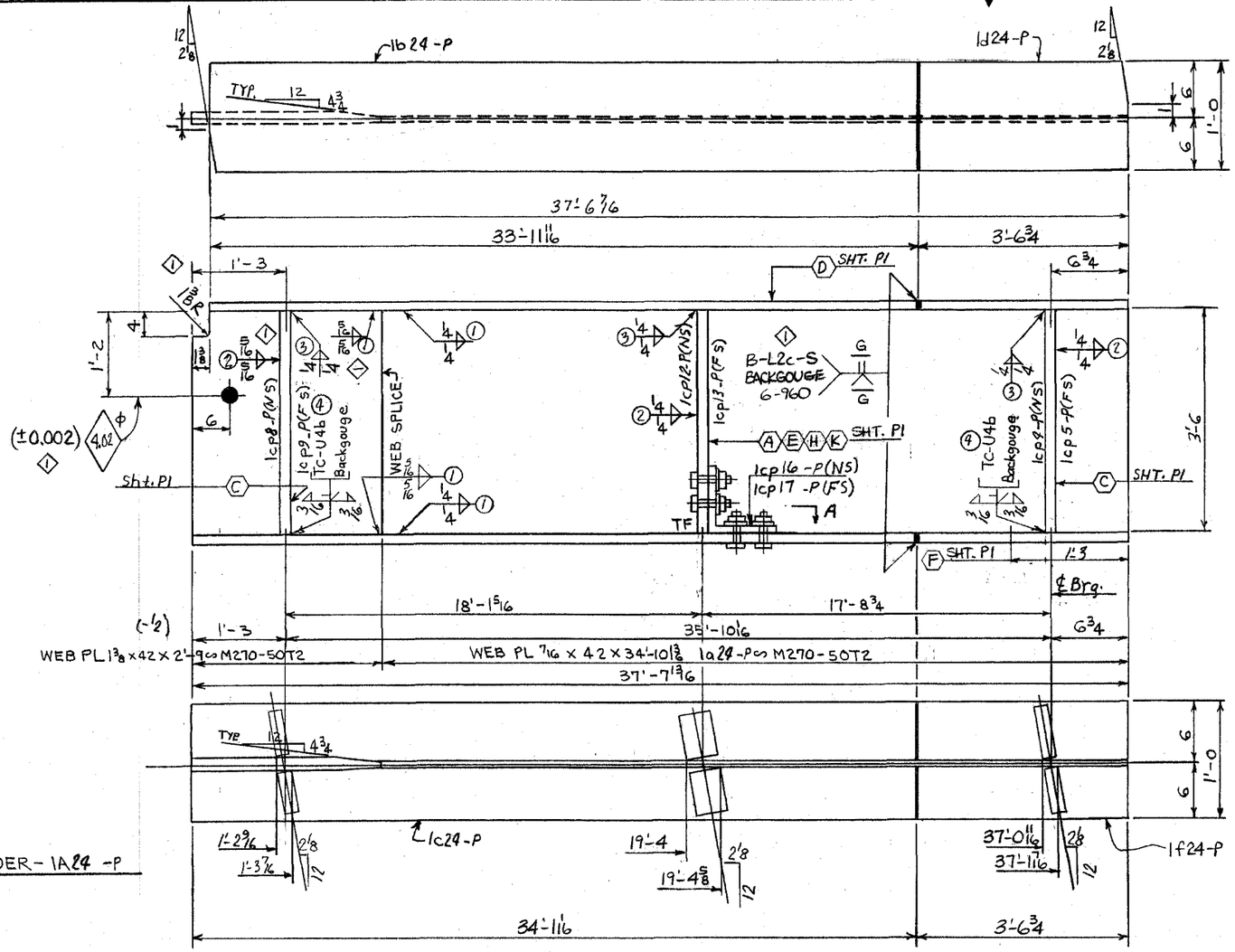
CUSTOMER EMERY SAPP & SONS INC. — JOB TITLE FAP#FAS1053(6)J950506 — STRUCTURE BR.# A30521, ROUTE H — LOCATION PULASKI CO., MO. — ARCH OR ENGR. MODOT — DRAWN SDC DATE 4/03 — CHKD. H DATE 4/03

DRAWING NO. 1/23 — CONTRACT NO. 3173

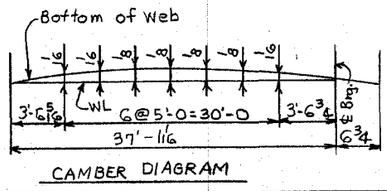
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

ULTRASONIC (UT) RADIOGRAPHIC (RT) DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) LEAK (LT) VISUAL (VT) TESTING SYMBOLS DETAIL PIECE MARKS SHIPPING PIECE MARKS
Ozk-Bruning 5070T Form 11821

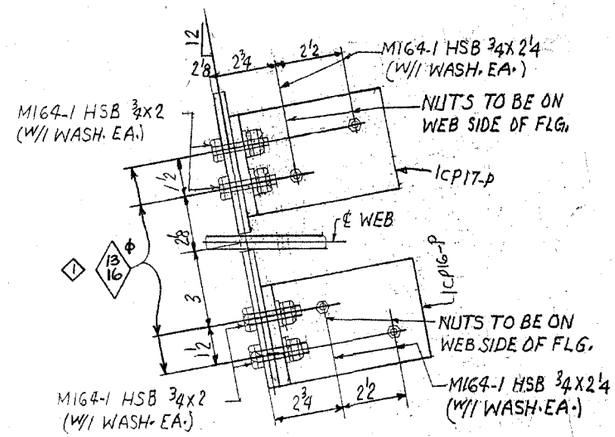


ONE - GIRDER - 1A24 -P



CAMBER DIAGRAM

FOR BRIDGE FILES



SECTION A

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements where not stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ◇1 Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1.

◇1 MODOT APPROVED SUBSTITUTIONS
APPLICABLE TO ITEMS BILLED ON THIS DRAWING
Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO'S.
① 2-960
② 2-960
③ 4-18 OR 4-28 ◇1
④ 7-18A OR 4T8

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS
SHOP ORDER NUMBER 168-173
SHOP ✱ V
DRAWING NO. 1 / 24
CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (37'-8)			1A24 -P		
2	1	PL 1 3/8 x 42	2	9	7P101	M270-50T2	
3	1	PL 7/16 x 42	34	10 13/16	1a24 -P	17P101	
4	1	PL 3/4 x 12	33	11 11/16	1b24 -P	12P101	
5	1	PL 3/4 x 12	34	1 1/16	1c24 -P	12P101	M270-50T2
6	1	PL 5/8 x 5 1/2	3	6	1cp4 -P	15P902	M270-50
7	1	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	
8	1	PL 5/8 x 6	3	6	1cp8 -P	13P902	
9	1	L 6x6x3/8	0	4	1CP16 -P	1P904	M270-50
10	1	PL 5/8 x 6	3	6	1CP9 -P	13P902	M270-50
◇1 11	1	PL 5/8 x 5 1/2	3	6	1CP5 -P	15P902	M270-50
12	1	L 6x6x3/8	0	9	1CP17 -P	1P904	M270-50
13	1	PL 1/2 x 5 1/2	3	6	1CP13 -P	3P903	M270-50
14	4	M164-1 Bolt 3/4	0	2	N/A	7P105	Mech. Galv.
15	4	M164-1 Bolt 3/4	0	2 1/4	N/A	5P105	Mech. Galv.
16	8	Hard Wash. 3/4			N/A	1P106	Mech. Galv. (F436)
◇1 17	1	PL 3/4 x 12	3	6 3/4	1d24-P	13P101	M270-50T2
◇1 18	1	PL 3/4 x 12	3	6 3/4	1f24-P	13P101	M270-50T2
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REV. NO.	DATE	REVISION DESCRIPTION	SHOP	FIELD
◇1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	X	
0			X	X

DESCRIPTION GIRDER
REF. DWG. 1/E1
SQUAD DN
CUSTOMER P. O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

BOLTS 7/8 EXC. NOTED
HOLES 15/16 EXC. NOTED
END DIST. EXC. NOTED
CLEAN SPEC. SSPC-SP10
PAINT SEE SHEET P1
DRY MIL THICKNESS
ELECTRODE CLASS See WPS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP#FAS1053(6)J9S0506
STRUCTURE BR.# A30521 ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03
CHKD. H DATE 4/03

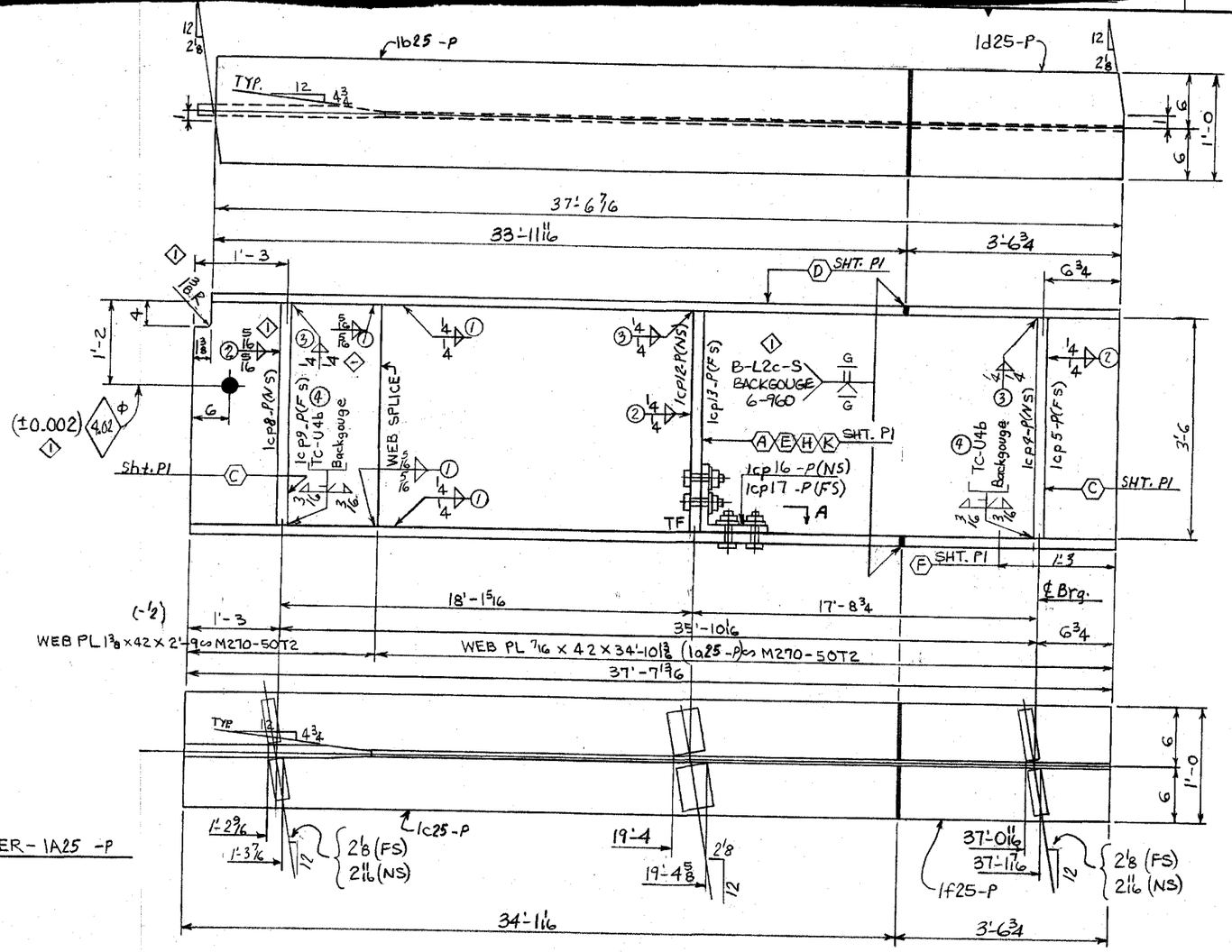
STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE, ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

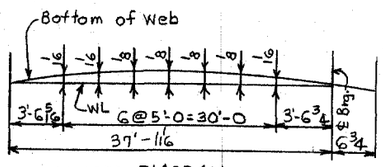
DRAWING NO. 1 / 24
CONTRACT NO. 3173

Oxo-Brunning 8/07 Form 11671

TESTING SYMBOLS
LEAK (LT) VISUAL (VT) | DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) | ULTRASONIC (UT) RADIOGRAPHIC (RT)
DETAIL PIECE MARKS
SHIPPING PIECE MARKS



ONE - GIRDER - 1A25 -P



CAMBER DIAGRAM

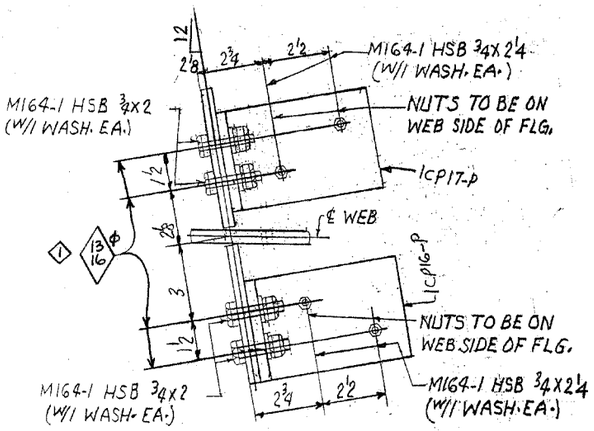
① MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING

Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50
~~Sub. 7/8" PL M270-50W for 7/8" PL M270-50~~
Sub. 3/4" PL M270-50W for 3/4" PL M270-50
~~Sub. 5/8" PL M270-50W for 5/8" PL M270-50~~
Sub. 1/2" PL M270-50W for 1/2" PL M270-50

WELD PROCEDURE NO's.

① 2-960
② 2-960
③ 4-18 OR 4-28 ①
④ 7-18A OR 4T8

FOR BRIDGE FILES



SECTION A

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.
Review is not intended to coordinate any party or miscellaneous item.
Contractor is solely responsible for verifying field measurements when stated in plans and/or specifications.
Contractors responsibility is in no way relieved by this review.
DATE 7-7-03
X APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

NOTE:

1. Material noted "T2" shall meet Charpy V-Notch requirements.
2. For splice details, see Sheet 1/SP1.
3. For stiffener details, see Sheet 1/CP1.
4. Stiffener end fit legend:
   TF = Tight Fit
5. ① Finish the circumference of the 4.02" dia. pin hole to ANSI 125.
6. For general notes, see Sheet GN1.
7. For paint notes, see Sheet P1

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-372-6261
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 168 - 173 | SHOP ~~V~~ | DRAWING NO. 1/25 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	1	GIRDER (37'-8)			1A25 -P		
2	1	PL 1 3/8 x 42	2	9		7P101	M270-50T2
3	1	PL 7/16 x 42	34	10 13/16	1a25 -P	17P101	
4	1	PL 3/4 x 12	33	11 11/16	1b25 -P	12P101	
5	1	PL 3/4 x 12	34	1 1/16	1c25 -P	12P101	M270-50T2
6	1	PL 5/8 x 5 1/2	3	6	1cp4 -P	15P902	M270-50
7	1	PL 1/2 x 5 1/2	3	6	1cp12 -P	3P903	
8	1	PL 5/8 x 6	3	6	1cp8 -P	13P902	
9	1	L 6x6 x 3/8	0	4	1cP16 -P	1P904	M270-50
10	1	PL 3/8 x 6	3	6	1CP9 -P	13P903	M270-50
11	1	PL 5/8 x 5 1/2	3	6	1CP5 -P	15P902	M270-50
12	1	L 6x6x 3/8	0	9	1CP17 -P	1P904	M270-50
13	1	PL 1/2 x 5 1/2	3	6	1CP13-P	3P903	M270-50
14	4	M164-1 Bolt 3/4	0	2	N/A	7P105	Mech. Galv.
15	4	M164-1 Bolt 3/4	0	2 1/4	N/A	5P105	Mech Galv.
16	8	Hard Wash. 3/4			N/A	1P106	Mech. Galv. (F436)
17	1	PL 3/4 x 12	3	6 3/4	1d25-P	12P101	M270-50T2
18	1	PL 3/4 x 12	3	6 3/4	1f25-P	12P101	M270-50T2

REV. NO.	DATE	REVISION DESCRIPTION	BY/CHK	APP'L	SHOP	FIELD
1	6/26/03	FOR APPROVAL & FINAL DRAWING ROOM REVIEW		JUL 2 2003		JUL 2 2003
0				JUN - 2 2003		

DESCRIPTION GIRDER | SQUAD DN | REF. DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-372-6261 / Little Rock, Arkansas 72203

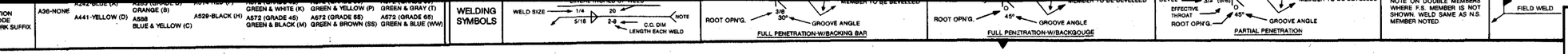
BOLTS 7/8 EXC. NOTED | HOLES 15/16 EXC. NOTED | END DIST. EXC. NOTED | CLEAN. SPEC SSPC-SP10 | PAINT SEE SHEET P1 | DRY MIL THICKNESS | ELECTRODE CLASS See WPS

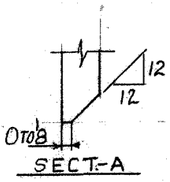
CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP#FAS1053(6)J9S0506
STRUCTURE BR. # A30521, ROUTE H
LOCATION PULASKI CO., MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03 | CHKD H DATE 4/03

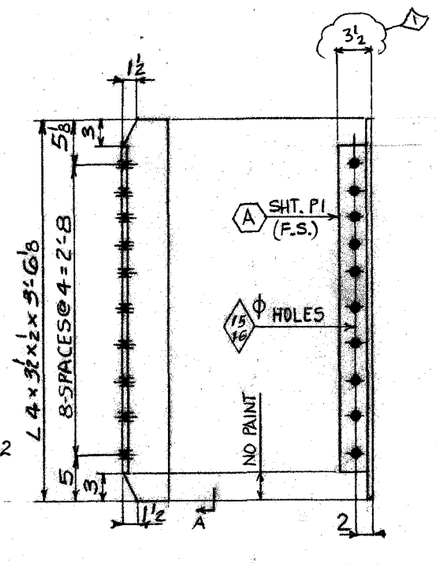
DRAWING NO. 1/25 | CONTRACT NO. 3173

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

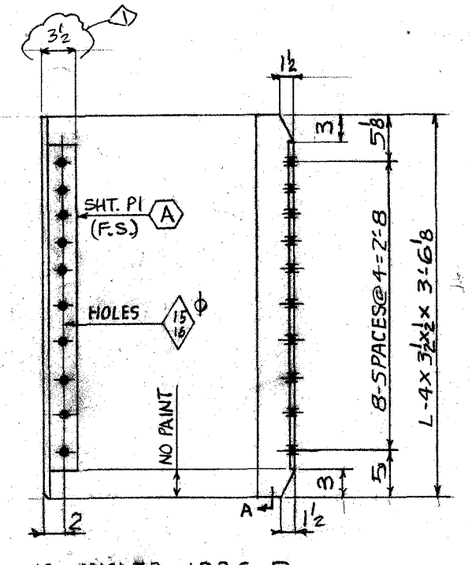
PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE, ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.



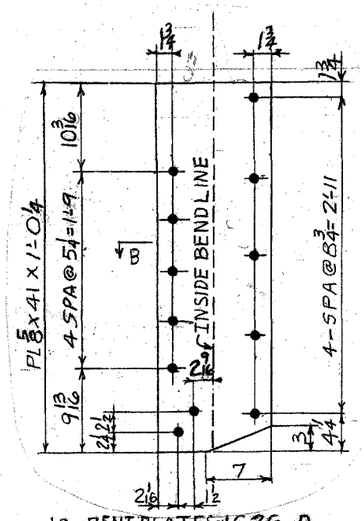




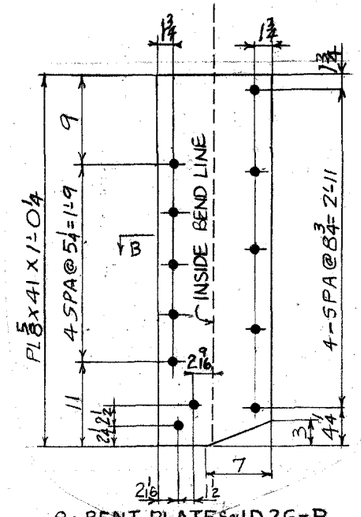
12~ANGLES~1A26-P



12~ANGLES~1B26-P



10~BENT PLATES~1C26-P
(DEVELOPED)
A SHT. PI (N.S.)



8~BENT PLATES~1D26-P
(DEVELOPED)
A SHT. PI (N.S.)

12~BENT PLATES~1F26-P
(DEVELOPED)
A SHT. PI (N.S.)

SECT.-B

30~ANGLES~1H26-P
K SHT. PI

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 8-21-03

- [x] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION
  MoDOT - BRIDGES

FOR BRIDGE FILES

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-340-9200
Little Rock, Arkansas 72203

BILL OF MATERIALS

SHOP ORDER NUMBER 198-173
SHOP T
DRAWING NO. 1/26
CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	12	ANGLES			1A26-P		
2	12	L 4X3 1/2X 1/2	3	6 1/8		3P904	M270-50
3							
4							
5	12	ANGLES			1B26-P		
6	12	L 4X3 1/2X 1/2	3	6 1/8		3P904	M270-50
7							
8							
9	10	BENT PLATES			1C26-P		
10	10	PL 5/8 X 41	1	0 1/4		9P902	M270-50
11							
12							
13	8	BENT PLATES			1D26-P		
14	8	PL 5/8 X 41	1	0 1/4		9P902	M270-50
15							
16							
17	12	BENT PLATES			1F26-P		
18	12	PL 5/8 X 41	1	0 1/4		9P902	M270-50
19							
20							
21	30	ANGLES			1H26-P		
22	30	L 6X6X3/8	0	4		1P904	M270-50
23							
24							
25							
26							
27							
28							
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46							

MODOT APPROVED SUBSTITUTIONS
APPLICABLE TO ITEMS BILLED ON THIS DRAWING
~~Sub. 1 3/8" PL M270-50W for 1 3/8" PL M270-50~~
~~Sub. 7/8" PL M270-50W for 7/8" PL M270-50~~
~~Sub. 3/4" PL M270-50W for 3/4" PL M270-50~~
Sub. 5/8" PL M270-50W for 5/8" PL M270-50
~~Sub. 1/2" PL M270-50W for 1/2" PL M270-50~~
~~Sub. 3/8" PL M270-50W for 3/8" PL M270-50~~
~~Sub. 5/16" PL M270-50W for 5/16" PL M270-50~~

REV. NO.	DATE	REVISION DESCRIPTION	BY CHK	APPL	SHOP	FIELD
2	8/19/03	ADDED MAT'L SUBSTITUTION NOTE	MM	[illegible]	AUG 19 2003	AUG 19 2003
1	7/14/03	ADDED LEG SIZE TO 1A26-P 1B26-P AS NOTED	MM	[illegible]	JUL 14 2003	JUL 14 2003
0		~	[illegible]	[illegible]	JUL 3 2003	JUL 1 2003

DESCRIPTION DIAPHRAGM CONNECTIONS
SQUAD DN
SEQ 14
REF. DWG 1/E1 & 1/E2
CUSTOMER P. O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-6200 / Little Rock, Arkansas 72203

BOLTS 3/4 EXC. NOTED
HOLES 13/16 EXC. NOTED
END DIST. EXC NOTED
CLEAN SPEC. SSPC-SP10
PAINT SEE SHT. P1
DRY MIL THICKNESS
ELECTRODE CLASS

CUSTOMER EMERY SAPP & SONS INC.
JOB TITLE FAP FAS-1053(6)~J9S0500
STRUCTURE BRIDGE NO. A30521, ROUTE H
LOCATION PULASKI CO. MO.
ARCH OR ENGR. MODOT
DRAWN SDC DATE 4/03
CHKD. H DATE 4/03

STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.

PAINT PIECE MARK TO READ RIGHT SIDE UP ON LAST END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.

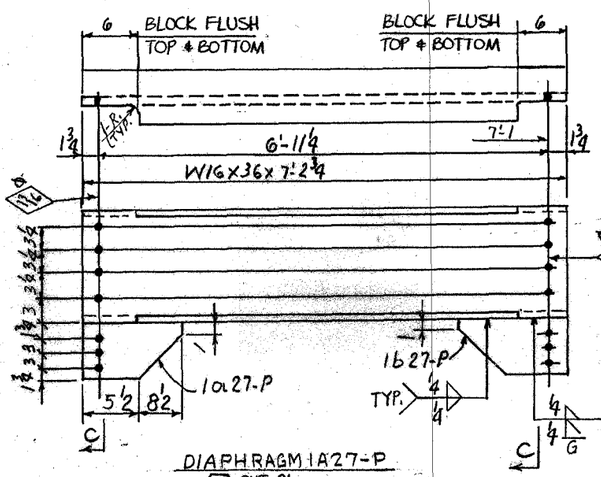
DRAWING NO. 1/26
CONTRACT NO. 3173

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-340-6200
Little Rock, Arkansas 72203

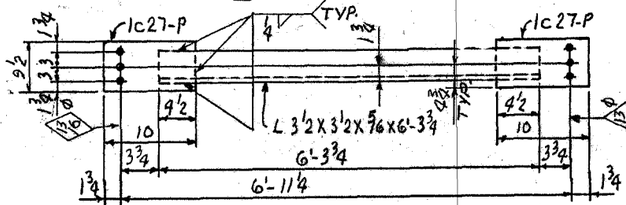
BILL OF MATERIALS

SHOP ORDER NUMBER 163-173 | SHOP T | 1/27 | CONTRACT NO. 3173

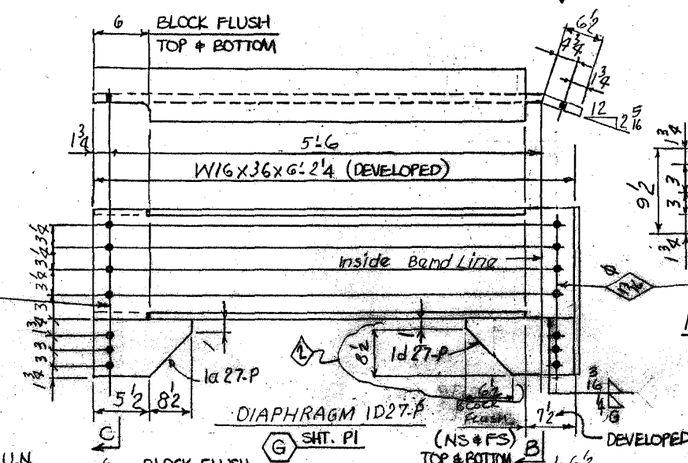
LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	24	DIAPHRAGM			1A27-P		
2	24	W16x36	7	2¾		1P901	M270-50
3	24	PL ½ x 9½	1	2	1a27-P	1P903	
4	24	PL ½ x 9½	1	2	1b27-P	1P903	
5							
6	24	DIAPHRAGM			1B27-P		
7	24	L3½ x 3½ x 5/16	6	3¾		5P904	
8	48	PL ⅜ x 9½	0	10	1c27-P	5P903	
9							
10	44	DIAPHRAGM			1C27-P		
11	44	PL 5/16 x 86¾	2	11		9P903	BENT
12							
13	1	DIAPHRAGM			1D27-P		
14	1	W16x36	6	2¼		2P901	
15	1	PL ½ x 9½	1	2	1a27-P	1P903	
16	1	PL ½ x 9½	1	2	1d27-P	1P903	BENT
17							
18	5	DIAPHRAGM			1F27-P		
19	5	W16x36	6	2 11/16		2P901	
20	5	PL ½ x 9½	1	2	1a27-P	1P903	
21	5	PL ½ x 9½	1	2	1f27-P	1P903	BENT
22							
23	10	DIAPHRAGM			1H27-P		
24	10	PL 5/16 x 71 7/16	2	11		11P903	BENT
25							
26	1	DIAPHRAGM			1K27-P		
27	1	PL 5/16 x 73⅛	2	11		11P903	BENT
28							
29	10	DIAPHRAGM			1M27-P		
30	10	PL 5/16 x 90 5/8	2	11		9P903	BENT
31							
32	1	DIAPHRAGM			1P27-P		
33	1	L3½ x 3½ x 5/16	5	1¼		6P904	
34	1	PL ⅜ x 9½	0	10	1c27-P	5P903	
35	1	PL ⅜ x 9½	1	0	1h27-P	5P903	BENT
36							
37	5	DIAPHRAGM			1S27-P		
38	5	L3½ x 3½ x 5/16	5	1 11/16		6P904	
39	5	PL ⅜ x 9½	0	10	1c27-P	5P903	
40	5	PL ⅜ x 9½	1	0	1k27-P	5P903	M270-50 BENT
41							
42							
43							
44							
45							
46							



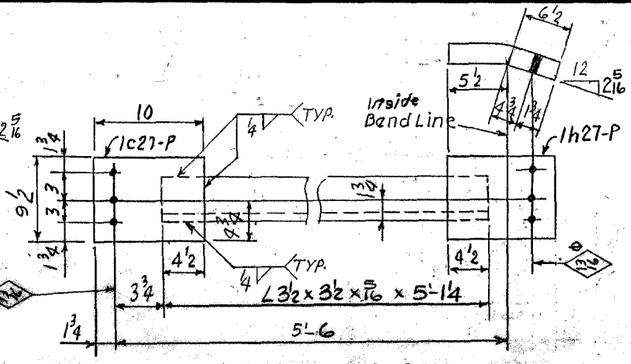
DIAPHRAGM 1A27-P
G SHT. P1



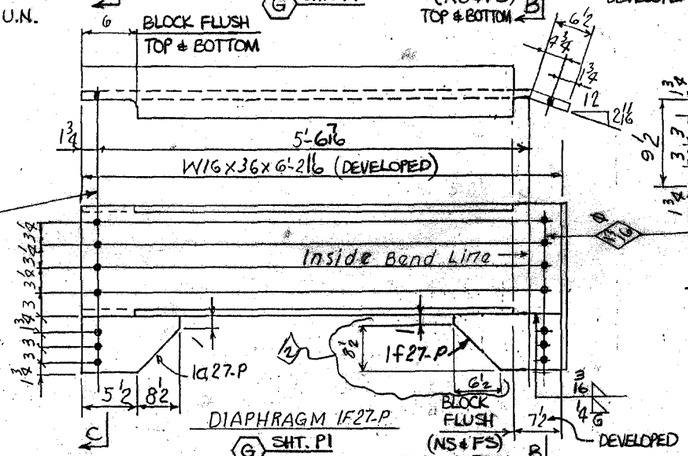
DIAPHRAGM 1B27-P
B SHT. P1



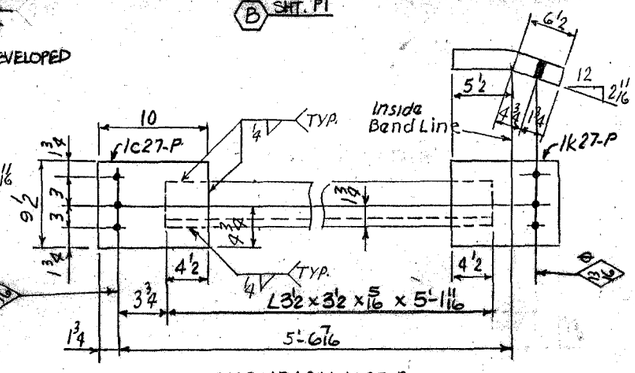
DIAPHRAGM 1D27-P
G SHT. P1



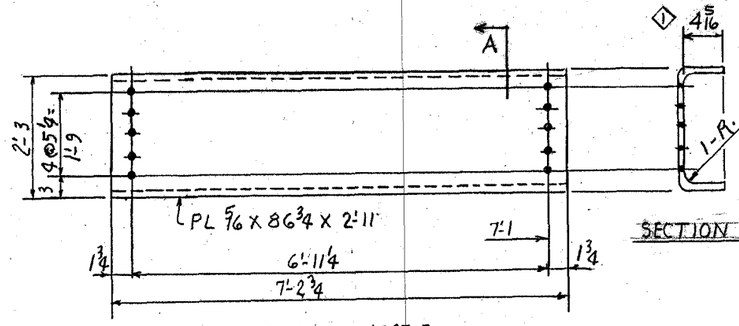
DIAPHRAGM 1P27-P
B SHT. P1



DIAPHRAGM 1F27-P
G SHT. P1

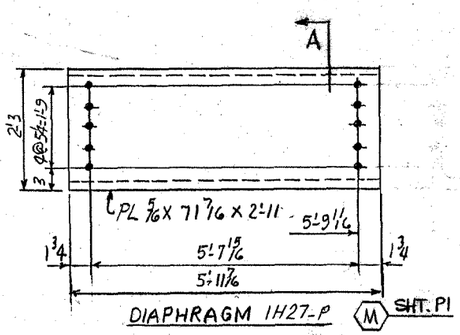


DIAPHRAGM 1S27-P
B SHT. P1

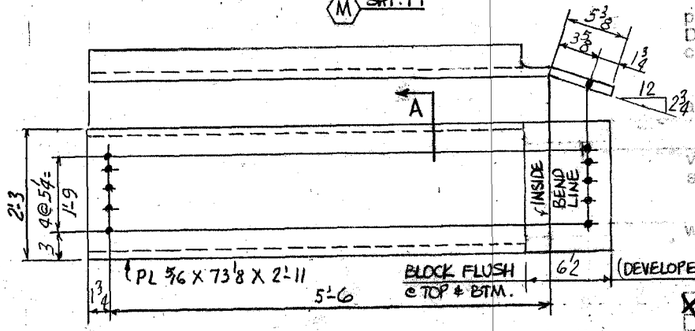


SECTION A

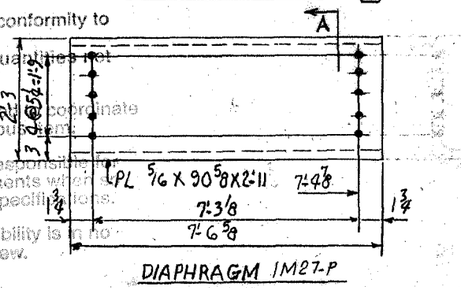
DIAPHRAGM 1C27-P
M SHT. P1



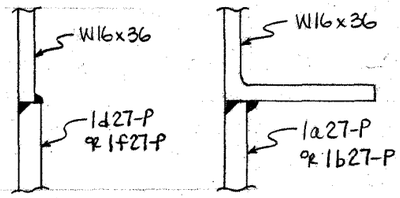
DIAPHRAGM 1H27-P
M SHT. P1



DIAPHRAGM 1K27-P
M SHT. P1



DIAPHRAGM 1M27-P
M SHT. P1



1 SECTION B

1 SECTION C

1 NOTE:
1. TYPICAL WELDING PROCEDURES FOR THIS SHEET ARE 4-T8 & 2-T8.
2. TYPICAL INSIDE BEND RADIUS = 1¼.

1 MODOT APPROVED SUBSTITUTIONS APPLICABLE TO ITEMS BILLED ON THIS DRAWING
Sub. 1/2" PL M270-50W for 1/2" PL M270-50
Sub. 3/8" PL M270-50W for 3/8" PL M270-50

FOR BRIDGE FILES

Reviewed for general conformity to plans and specifications. Detail dimensions and quantities not completely checked.
Review is not intended to coordinate any party or miscellaneous items.
Contractor is solely responsible for verifying field measurements which are not stated in plans and/or specifications.
Contractors responsibility is in no way relieved by this review.
DATE 7-17-03
APPROVED DESIGN FEATURES ONLY
NO CORRECTIONS NOTED
CORRECTIONS NOTED
FOR FILES AND DISTRIBUTION

REV. NO.	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
2	7/14/03	REVISED CLIPS ON RS 1d27-P & 1f27-P AS NTD.	JWK	JWK	JUL 14 2003	JUL 14 2003
1	6/26/03	PER APPROVAL & FINAL DRAWING ROOM REVIEW	SDC H	X	JUL - 3 2003	JUL - 3 2003
0		~		JUN - 2 2003	X	X

DESCRIPTION DIAPHRAGMS | SQUAD DN | See 14
REF. DWG. 1 EI | CUSTOMER P. O. NO.

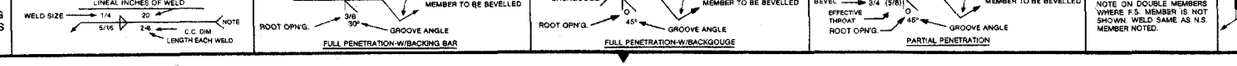
AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-6200 / Little Rock, Arkansas 72203

BOLTS 34 EXC. NOTED	CUSTOMER EMERY SAPP & SONS, INC.	DRAWING NO. 1/27
HOLES 15/16 EXC. NOTED	JOB TITLE FAP # FAS-1053(6) ~ J9S0500	
END DIST. EXC. NOTED	STRUCTURE BRIDGE NO. A30521, ROUTE H	
CLEAN SPEC. SSPC-SP10	LOCATION PULASKI CO., MO	CONTRACT NO. 3173
PAINT SEE SHEET P1	ARCH OR ENGR. MODOT	
DRY MIL THICKNESS	DRAWN SDC DATE 5/03 CHKD. H DATE 5/03	
ELECTRODE CLASS SEE WPS	STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT FIELD MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & MARKS SIDE UP.

ASTM DESIGNATION
AISC COLOR CODE
AFCO PIECE MARK SUFFIX

A36-NONE	A242-BLUE (A) A441-YELLOW (D)	A283 (GRADE D) ORANGE (B) A588 BLUE & YELLOW (C)	A514-RED (F) A529-BLACK (H)	A572 (GRADE 42) GREEN & WHITE (K) A572 (GRADE 45) GREEN & BLACK (M)	A572 (GRADE 50) GREEN & YELLOW (P) A572 (GRADE 55) GREEN & BROWN (S5)	A572 (GRADE 60) GREEN & GRAY (T) A572 (GRADE 65) GREEN & BLUE (WW)

WELDING SYMBOLS



NOTE ON DOUBLE MEMBERS WHERE P.S. MEMBER IS NOT SHOWN, WELD SAME AS N.S. MEMBER NOTED.

FIELD WELD

ASE-001 10/89

TESTING SYMBOLS
LEAK (LT) VISUAL (VT) | DYE PENETRANT (DPT) MAGNETIC PARTICLE (MT) | ULTRASONIC (UT) RADIOGRAPHIC (RT)

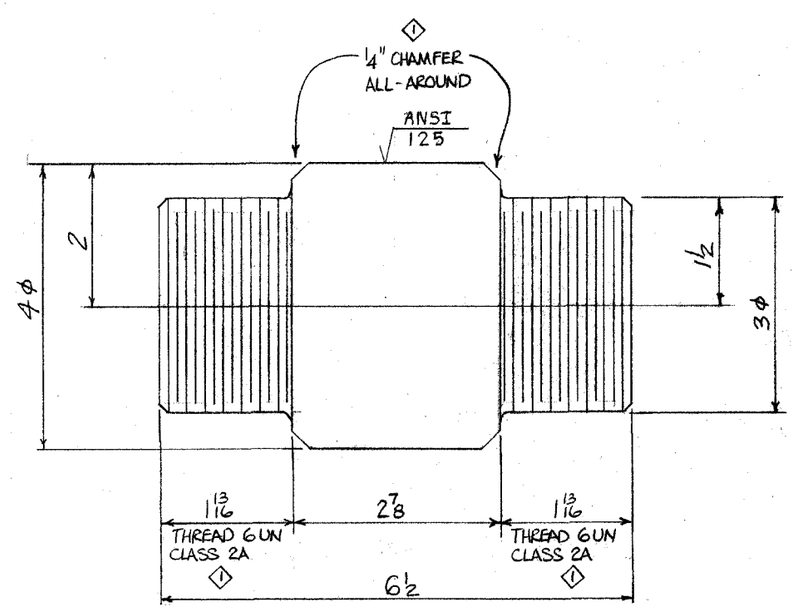
SHIPPING PIECE MARKS | DETAIL PIECE MARKS

AFCO STEEL
1423 East Sixth Street
Post Office Box 231
Area Code 501-340-6200
Little Rock, Arkansas 72203

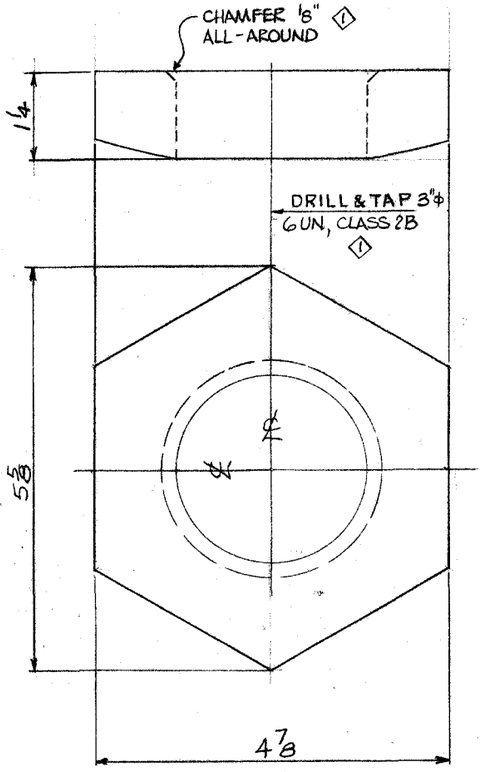
BILL OF MATERIALS

SHOP ORDER NUMBER 198-173 | SHOP T | DRAWING NO. 1/28 | CONTRACT NO. 3173

LINE	QTY.	SECTION DESCRIPTION	LENGTH FEET	LENGTH INCHES	MARK	ORDER ITEM	REMARKS
1	10	PINS			1A28		
2	10	ROD 4"Φ	0	6 1/2		1P102	NITRONIC60 ALLOY
3							
4	20	PIN NUTS			1B28		
5	20	PLATE 1/4 X 4 7/8	0	5 5/8		3P102	NITRONIC60 ALLOY
6							or 316 ALLOY
7	495	BOLT & NUT			1C28		
8	495	M164-1 BOLT 7/8	0	5		1P103	MECH. GALV.
9							
10	495	BOLT & NUT			1D28		
11	495	M164-1 BOLT 7/8	0	4		3P103	
12							
13	115	BOLT & NUT			1F28		
14	115	M164-1 BOLT 7/8	0	2 3/4		5P103	
15							
16	372	BOLT & NUT			1H28		
17	372	M164-1 BOLT 7/8	0	2 1/2		7P103	
18							
19	55	BOLT & NUT			1K28		
20	55	M164-1 BOLT 3/4	0	2 3/4		9P103	
21							
22	675	BOLT & NUT			1M28		
23	675	M164-1 BOLT 3/4	0	2 1/4		11P103	
24							
25	825	BOLT & NUT			1P28		
26	825	M164-1 BOLT 3/4	0	2 1/2		13P103	
27							
28	6	BOLT & NUT			1S28		
29	6	M164-1 BOLT 3/4	0	3		15P103	
30							
31	1480	HARD WASHER			1T28		
32	1480	HARD WASH 7/8				1P104	(F436)
33							
34	3130	HARD WASHER			1W28		
35	3130	HARD WASH 3/4				3P104	(F436)
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							



10 ~ PINS ~ 1A28



20 PIN NUTS ~ 1B28

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

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Contractors responsibility is in no way relieved by this review.

DATE 7-7-03

- [X] APPROVED DESIGN FEATURES ONLY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION
  MoDOT - BRIDGES

FOR BRIDGE FILES

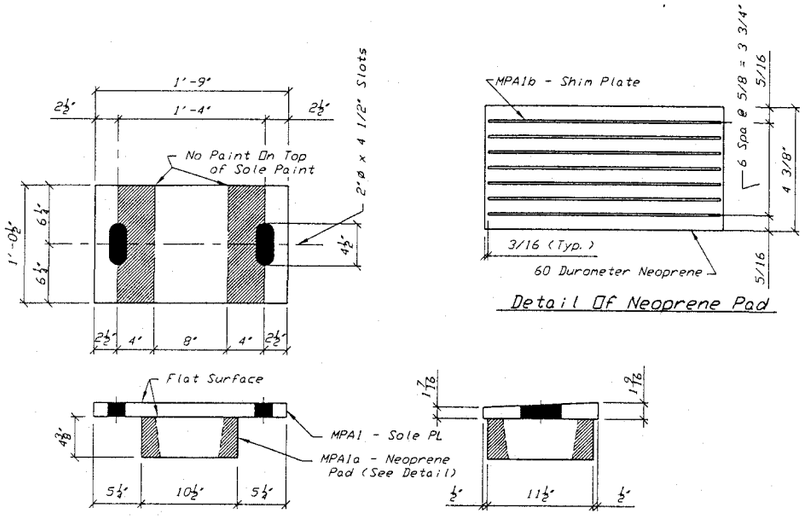
REV NO	DATE	REVISION DESCRIPTION	BY CHK	APP'L	SHOP	FIELD
1	6/26/03	PER FINAL DRAWING ROOM REVIEW	DK H	X		JUL - 1 2003
0		~			X	X

DESCRIPTION FIELD BOLTS & PINS | SQUAD DN
REF DWG. 1/E1 | CUSTOMER P.O. NO.

AFCO STEEL
1423 East Sixth Street / Post Office Box 231 / Area Code 501-340-6200 / Little Rock, Arkansas 72203

BOLTS EXC. NOTED	CUSTOMER EMERY SAPP & SONS, INC.	DRAWING NO. 1/28	
HOLES EXC. NOTED	JOB TITLE FAP-FAS-1053(6)-J7S0500		
END. DIST. EXC. NOTED	STRUCTURE BRIDGE NO. A80521, ROUTE H		
CLEAN. SPEC.	LOCATION PULASKI CO., MO	CONTRACT NO. 3173	
PAINT	ARCH OR ENGR. MODOT		
DRY MIL THICKNESS	DRAWN SDC DATE 4/03	CHKD. H DATE 4/03	
ELECTRODE CLASS	STRUCTURE UNSTABLE UNTIL FIELD WORK COMPLETE. ERECTOR GUY AS REQUIRED.	PAINT PIECE MARK TO READ RIGHT SIDE UP ON LEFT END OF PIECE. ERECT WITH MARK AT SAME END AS SHOWN ON ERECTION PLAN & RIGHT SIDE UP.	

813868



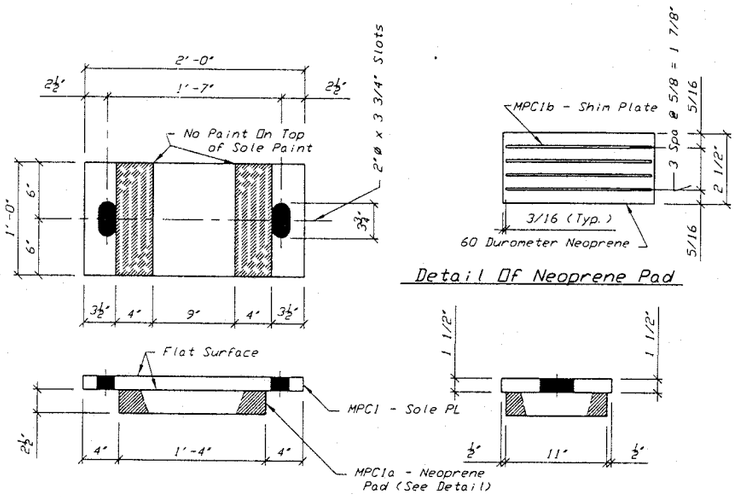
Detail Of Neoprene Pad

MAKE - 6 - MPA1 - EXPANSION BRG

@ Bent No. 1 & 5 @ Girder No. 1a, 1b & 1c

MATERIAL FOR ONE - MPA1 - EXPANSION BRG

ONE - MPA1 - SOLE PL 1'-0 1/2" x 1 9/16" x 1'-9"
ONE - MPA1a - Neoprene Pad 10 1/2" x 4 3/8" x 11 1/2"(60 Durometer)
7 - MPA1b - Shim PL 10 1/8" x 1/8 x 11 1/8" (A36)



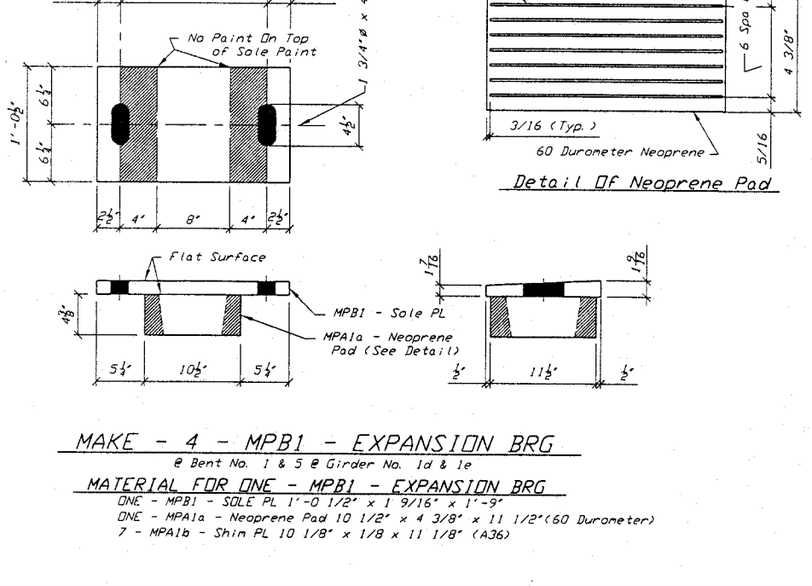
Detail Of Neoprene Pad

MAKE - 6 - MPC1 - EXPANSION BRG

@ Bent No. 2 & 4 @ Girder No. 1a, 1b & 1c

MATERIAL FOR ONE - MPC1 - EXPANSION BRG

ONE - MPC1 - SOLE PL 1'-0" x 1 1/2" x 2'-0"
ONE - MPC1a - Neoprene Pad 1'-4" x 2 1/2" x 11"(60 Durometer)
4 - MPC1b - Shim PL 1'-3 5/8" x 1/8 x 10 5/8" (A36)



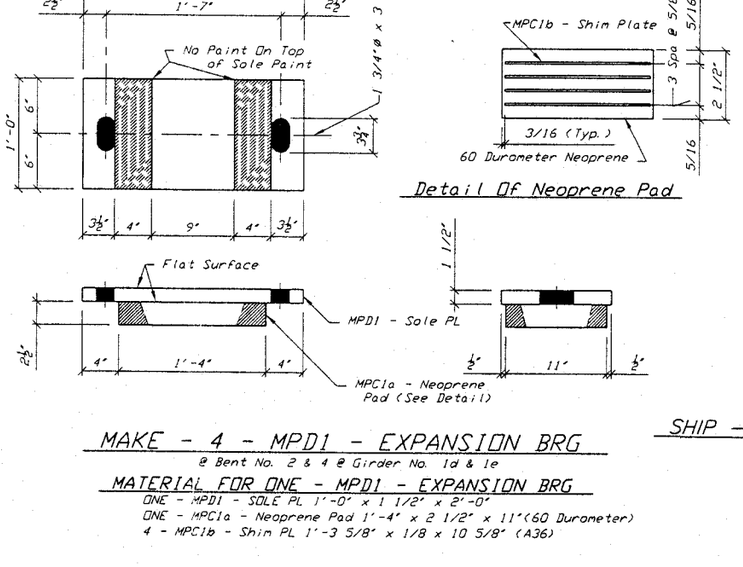
Detail Of Neoprene Pad

MAKE - 4 - MPB1 - EXPANSION BRG

@ Bent No. 1 & 5 @ Girder No. 1d & 1e

MATERIAL FOR ONE - MPB1 - EXPANSION BRG

ONE - MPB1 - SOLE PL 1'-0 1/2" x 1 9/16" x 1'-9"
ONE - MPA1a - Neoprene Pad 10 1/2" x 4 3/8" x 11 1/2"(60 Durometer)
7 - MPA1b - Shim PL 10 1/8" x 1/8 x 11 1/8" (A36)



Detail Of Neoprene Pad

MAKE - 4 - MPD1 - EXPANSION BRG

@ Bent No. 2 & 4 @ Girder No. 1d & 1e

MATERIAL FOR ONE - MPD1 - EXPANSION BRG

ONE - MPD1 - SOLE PL 1'-0" x 1 1/2" x 2'-0"
ONE - MPC1a - Neoprene Pad 1'-4" x 2 1/2" x 11"(60 Durometer)
4 - MPC1b - Shim PL 1'-3 5/8" x 1/8 x 10 5/8" (A36)

SHIP - One - MPF1 - 3/4 GALLON KIT of CWC 202, 2 PART EPOXY

BEARING NOTES:

1.) STEEL FOR BEARINGS SHALL BE A709-50, UNLESS NOTED
2.) ELASTOMER SHALL BE 100± VIRGIN CHLOROPRENE (NEOPRENE) COMPOUND DUROMETER GRADE NOTED ABOVE. (BOND TO SOLE PLATE).
3.) WHERE FLAT SURFACE IS NOTED, TOLERANCE SHALL BE 0.003 in/in IN ANY DIRECTION
4.) FIELD WELD SOLE PLATE TO STRINGER.
5.) BEARING TO BE PROOF LOADED TO COMPRESSION LOAD OF 1500 PSI. (SEE SPECIAL PROVISIONS)
6.) BOND NEOPRENE PAD TO BEARING SEAT WITH APPROVED EPOXY ADHESIVE.
7.) SOLE PLATES AND ANCHOR BOLTS SHALL BE PAINTED (2 COATS) 5 MILS MIN. - INORGANIC ZINC HS, UNLESS NOTED. (COLOR TO BE SIMILAR TO GRAY FIELD COAT)

FOR BRIDGE FILES

Reviewed for general conformity to plans and specifications.
Detail dimensions and quantities not completely checked.

Review is not intended to coordinate any party or miscellaneous item.

Contractor is solely responsible for verifying field measurements when so stated in plans and/or specifications.

Contractors responsibility is in no way relieved by this review.

DATE 06/30/03

☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL · BEAM CONN · BASE AND CAP PLATE H COL · PIPE COL

PAINT: INORGANIC ZINC HS

BOLTS
RIVETS NOTED UNLESS NTD
OPEN HLS. NOTED UNLESS NTD

PRINT RECORD

NO	FOR	DATE	NO	FOR	DATE

DeLONG'S INC.
DIAL: 573-635-6121 FAX: 573-635-9101
P.O. BOX 479 • 301 DIX ROAD
JEFFERSON CITY, MO. 65102

DETAILED BY:	DCS
DATE:	05/23/03
CHECKED BY:	G. W. W.
DATE:	5/27/03

REVISIONS

DATE	MK	BY	CK	REMARKS

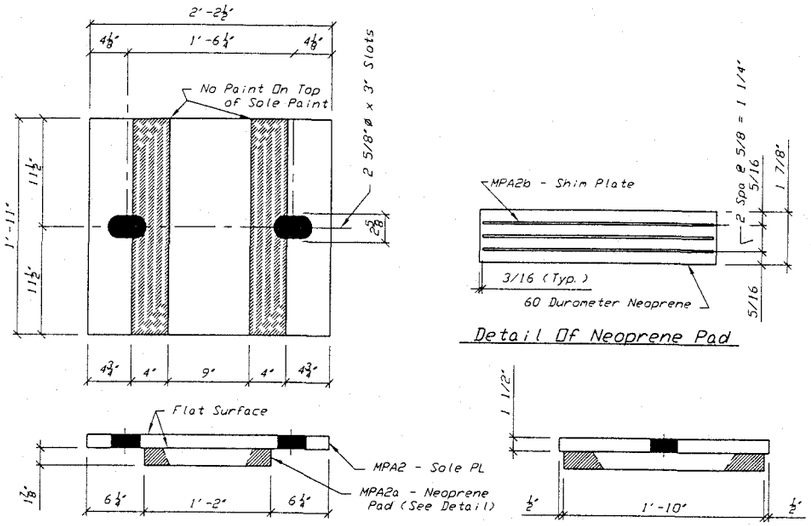
REPAIR TO BRIDGE : RTE H OVER I-44

Customer: EMERY SAPP & SONS
JOB J9S0500 Project F. A. S. -1053(6)
LOCATION PULASKI CO. MO
ARCH. -ENGR. MO. DOT

JOB No. 03-558
SHT. No. 1
OF 3

Rte. H
Sta. No. 32+06.12
Bridge No: A30521

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ



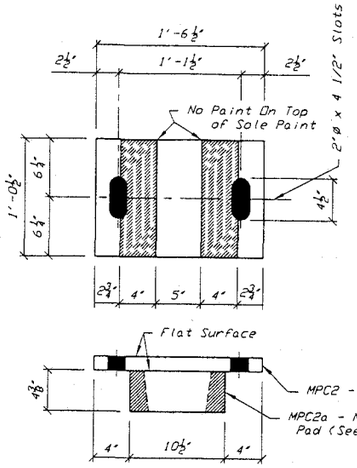
Detail Of Neoprene Pad

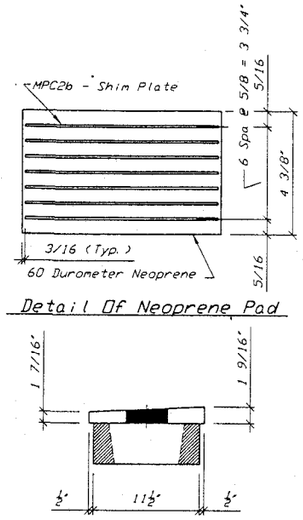
MAKE - 3 - MPA2 - FIXED BRG

@ Bent No. 3 @ Girder No. 1a, 1b, & 1c

MATERIAL FOR ONE - MPA2 - FIXED BRG

ONE - MPA2 - SOLE PL 1'-11" x 1 1/2" x 2'-2 1/2"
ONE - MPA2a - Neoprene Pad 1'-2" x 1 7/8" x 1'-10"(60 Durometer)
3 - MPA2b - Shim PL 1'-1 5/8" x 1/8 x 1'-9 5/8" (A36)





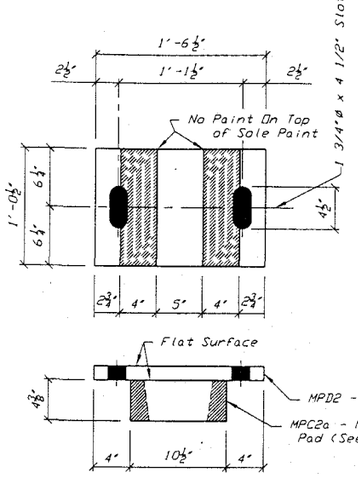
Detail Of Neoprene Pad

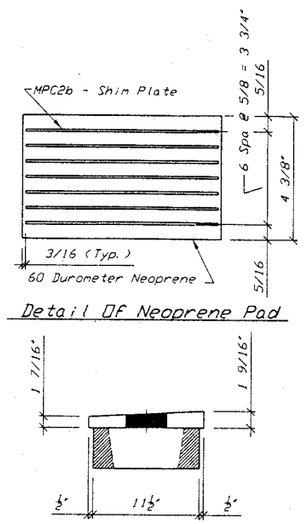
MAKE - 6 - MPC2 - EXPANSION BRG

@ Bent No 1 & 5 @ Girder No. 4, 5, 6

MATERIAL FOR ONE - MPC2 - EXPANSION BRG

ONE - MPC2 - SOLE PL 1'-0 1/2" x 1 9/16" x 1'-6 1/2"
ONE - MPC2a - Neoprene Pad 10 1/2" x 4 3/8" x 11 1/2"(60 Durometer)
7 - MPC2b - Shim PL 10 1/8" x 1/8 x 11 1/8" (A36)





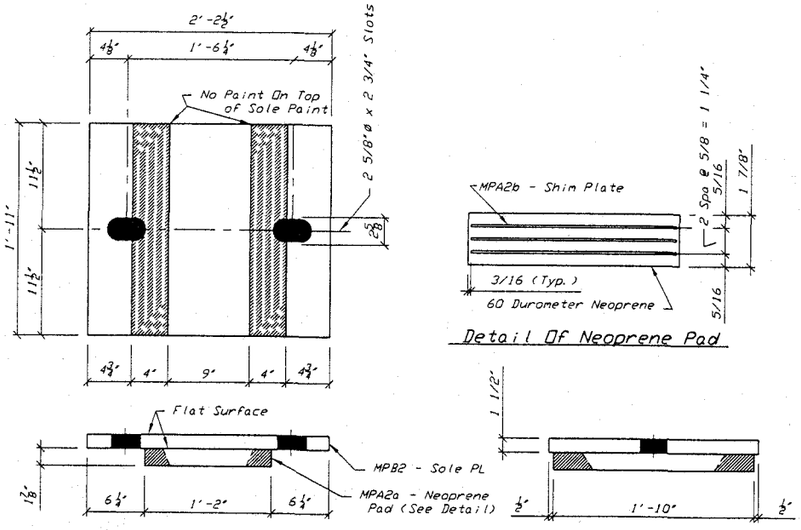
Detail Of Neoprene Pad

MAKE - 6 - MPD2 - EXPANSION BRG

@ Bent No 1 & 5 @ Girder No. 1, 2, & 3

MATERIAL FOR ONE - MPD2 - EXPANSION BRG

ONE - MPD2 - SOLE PL 1'-0 1/2" x 1 9/16" x 1'-6 1/2"
ONE - MPC2a - Neoprene Pad 10 1/2" x 4 3/8" x 11 1/2"(60 Durometer)
7 - MPC2b - Shim PL 10 1/8" x 1/8 x 11 1/8" (A36)



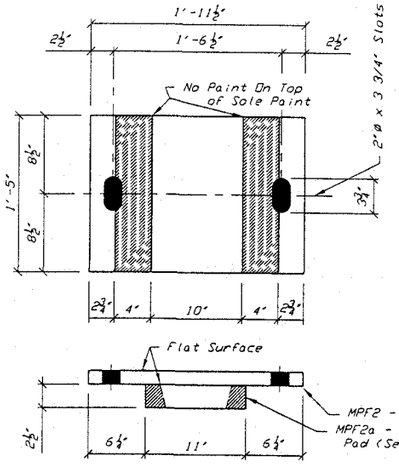
Detail Of Neoprene Pad

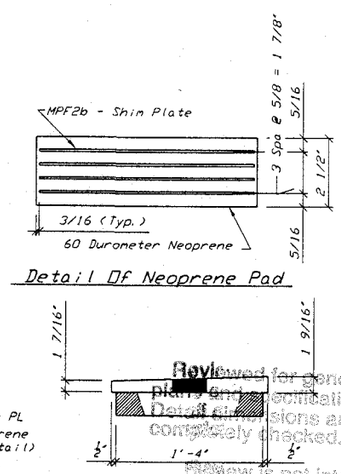
MAKE - 2 - MPB2 - FIXED BRG

@ Bent No. 3 @ Girder No. 1d & 1e

MATERIAL FOR ONE - MPB2 - FIXED BRG

ONE - MPB2 - SOLE PL 1'-11" x 1 1/2" x 2'-2 1/2"
ONE - MPA2a - Neoprene Pad 1'-2" x 1 7/8" x 1'-10"(60 Durometer)
3 - MPA2b - Shim PL 1'-1 5/8" x 1/8 x 1'-9 5/8" (A36)





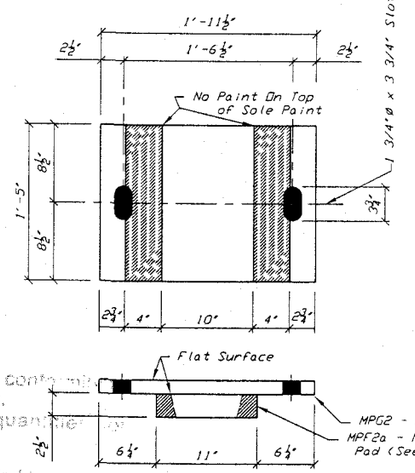
Detail Of Neoprene Pad

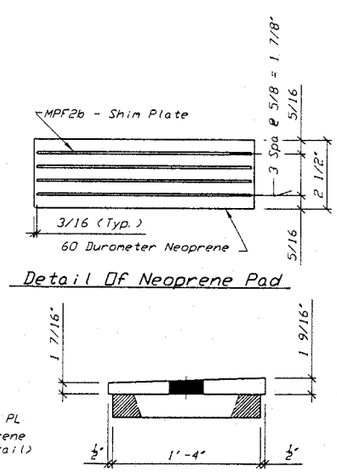
MAKE - 6 - MPF2 - EXPANSION BRG

@ Bent No. 2 & 4 @ GIRDER NO. 4, 5, & 6

MATERIAL FOR ONE - MPF2 - EXPANSION BRG

ONE - MPF2 - SOLE PL 1'-5" x 1 9/16" x 1'-11 1/2"
ONE - MPF2a - Neoprene Pad 11" x 2 1/2" x 1'-4"(60 Durometer)
4 - MPF2b - Shim PL 10 5/8" x 1/8 x 1'-3 5/8" (A36)





Detail Of Neoprene Pad

MAKE - 6 - MPG2 - EXPANSION BRG

@ Bent No. 2 & 4 @ GIRDER NO. 1, 2, & 3

MATERIAL FOR ONE - MPG2 - EXPANSION BRG

ONE - MPG2 - SOLE PL 1'-5" x 1 9/16" x 1'-11 1/2"
ONE - MPF2a - Neoprene Pad 11" x 2 1/2" x 1'-4"(60 Durometer)
4 - MPF2b - Shim PL 10 5/8" x 1/8 x 1'-3 5/8" (A36)

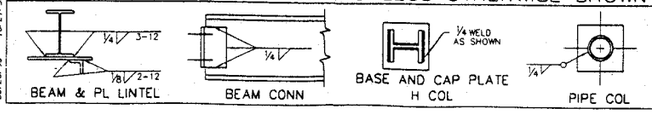
Reviewed for general conformance with plans and specifications. Details and dimensions and quantities completely checked.
Review is not intended to correct any petty or miscellaneous items.
Contractor is solely responsible for verifying field measurements and as stated in plans and/or specifications.
Contractors responsibility is in no way relieved by this review.
DATE 06/30/03
☒ APPROVED DESIGN FEATURES ONLY
☐ NO CORRECTIONS NOTED
☐ CORRECTIONS NOTED
☐ FOR FILES AND DISTRIBUTION
MoDOT - BRIDGES

FOR BRIDGE FILES

Rte. H
Sta. No. 32+06.12
Bridge No: A30521

REPAIR TO BRIDGE : RTE H OVER I-44

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN



PAINT: INORGANIC ZINC HS

BOLTS
RIVETS NOTED UNLESS NTD
OPEN HLS NOTED UNLESS NTD

PRINT RECORD

NO	FOR	DATE	NO	FOR	DATE

DeLONG'S INC.
DIAL: 573-635-6121 FAX: 573-635-9101
P.O. BOX 479 • 301 DIX ROAD
JEFFERSON CITY, MO. 65102

DETAILED BY: DCS
DATE: 05/23/03
CHECKED BY: G. W. W.
DATE: 5/27/03

REVISIONS

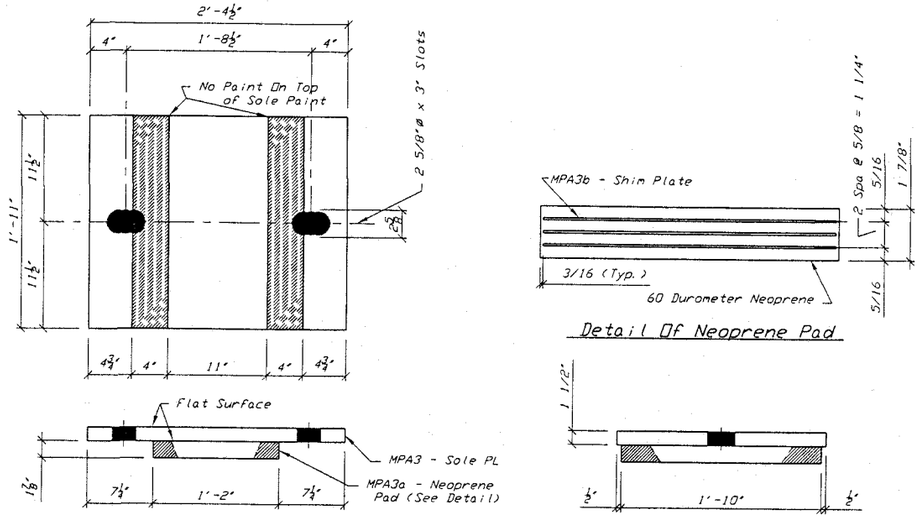
DATE	MK	BY	CK	REMARKS

Customer: EMERY SAPP & SONS
JOB J9S0500 Project F. A. S. -1053(6)
LOCATION PULASKI CO. MO
ARCH. -ENGR. MO. DOT

JOB No. 03-558
SHT. No. 2 OF 3

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ

10-21-2003 C:\DESIGN\J0S0500\02.DWG

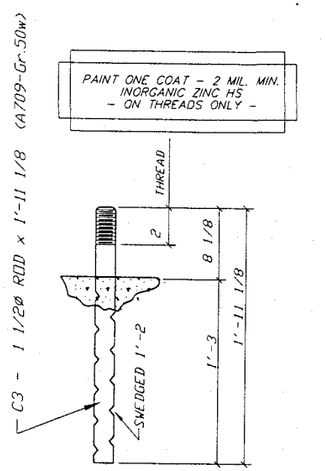


MAKE - 3 - MPA3 - FIXED BRG

@ BENT NO. 3 @ Girder No. 4, 5 & 6

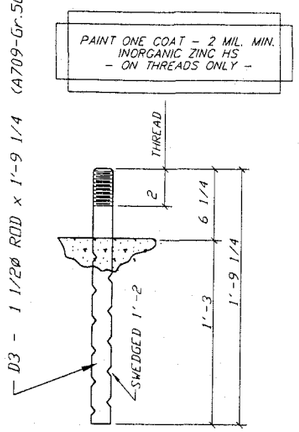
MATERIAL FOR ONE - MPA3 - FIXED BRG

ONE - MPA3 - SOLE PL 1'-11" x 1 1/2" x 2'-4 1/2"
ONE - MPA3a - Neoprene Pad 1'-2" x 1 7/8" x 1'-10"(60 Durometer)
3 - MPA3b - Shim PL 1'-1 5/8" x 1/8 x 1'-9 5/8" (A36)



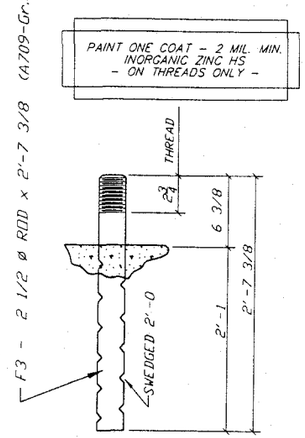
MAKE - 44 - C3

@ Bent NO. 1 & 5



MAKE - 44 - D3

@ Bent NO. 2 & 4



MAKE - 22 - F3

@ BENT NO. 3

FOR BRIDGE FILES

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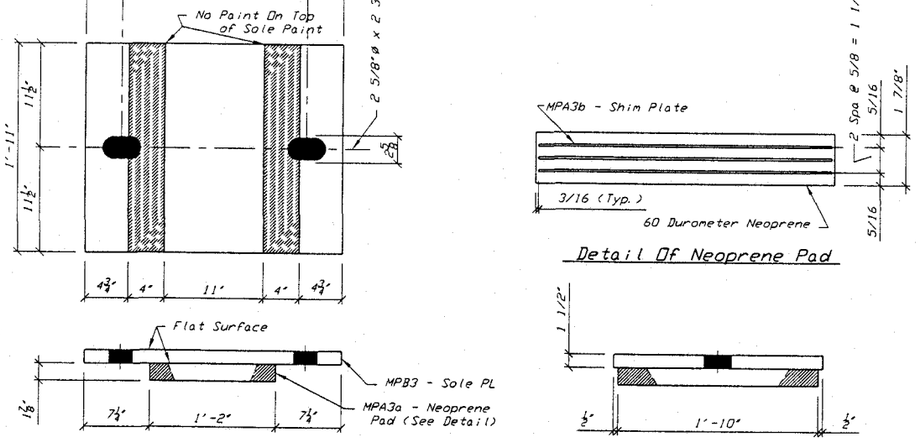
Contractor is solely responsible for verifying field measurements where not stated in plans and/or specifications.

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DATE 06/30/03

- [X] APPROVED DESIGN FEATURES COPY
- [ ] NO CORRECTIONS NOTED
- [ ] CORRECTIONS NOTED
- [ ] FOR FILES AND DISTRIBUTION

MoDOT - BRIDGES



MAKE - 3 - MPB3 - FIXED BRG

@ BENT NO. 3 @ Girder No. 1, 2 & 3

MATERIAL FOR ONE - MPB3 - FIXED BRG

ONE - MPB3 - SOLE PL 1'-11" x 1 1/2" x 2'-4 1/2"
ONE - MPA3a - Neoprene Pad 1'-2" x 1 7/8" x 1'-10"(60 Durometer)
3 - MPA3b - Shim PL 1'-1 5/8" x 1/8 x 1'-9 5/8" (A36)

Anchor Bolt NUT LIST

(ASTM A194-2, 2H, or A563-C, C3, D, DH, DH3 Heavy Hex. Nut)

88 - 1½ HEX NUT (PAINTED)
22 - 2½ HEX NUT (PAINTED)

Rte. H
Sta. No. 32+06.12
Bridge No: A30521

REPAIR TO BRIDGE : RTE H OVER I-44

STANDARD WELDING DETAILS UNLESS OTHERWISE SHOWN

BEAM & PL LINTEL (¼ 3-12, ⅛ 2-12) · BEAM CONN (¼) · BASE AND CAP PLATE H COL (¼ WELD AS SHOWN) · PIPE COL (¼)

PAINT: INORGANIC ZINC HS
BOLTS RIVETS NOTED UNLESS NTD
OPEN HLS NOTED UNLESS NTD

PRINT RECORD

NO	FOR	DATE	NO	FOR	DATE

DELONG'S INC.
DIAL: 573-635-6121 FAX: 573-635-9101
P.O. BOX 479 • 301 DIX ROAD
JEFFERSON CITY, MO. 65102

DETAILED BY: DCS
DATE: 05/23/03
CHECKED BY: G. W. W.
DATE: 5/27/03

REVISIONS

DATE	MK	BY	CK	REMARKS

Customer: EMERY SAPP & SONS
JOB J9S0500 Project F. A. S. -1053(6)
LOCATION PULASKI CO. MO
ARCH. -ENGR. MO. DOT

JOB No. 03-558
SHT. No. 3
OF 3

C:\03500\03558-03.DWG
10:21:43am
06/26/03

A B C D E F G H J K M N P S T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK AM AN AP AS AT AU AV AW AX AY AZ