

Note: For R/W Data & Guard Rail, see R/Wy. Plans.

Note: Use Type B1 Approach Gutters at both ends of Bridge. For Details, see Dwg. Nos. 20105 & 20117

LITTLE MISSOURI RIVER RELIEF

DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		24	82
						JOB NO. 3979		
						6347 LAYOUT	30720	

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 1988 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, 1983 with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

MATERIALS AND STRENGTHS:
 Class 5 Concrete (superstructure) f'c = 4,000 psi
 Class 5 Concrete (substructure) f'c = 3,500 psi
 Reinforcing Steel (A615 or A617, GR. 60) Fy = 60,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

STEEL PILING: Piling shall be HP10x42 and shall be driven with an approved air, steam or diesel hammer to a minimum safe bearing capacity of 55 tons per pile and to a minimum penetration of 15' below natural ground. Piling in and bents shall be driven after embankment to bottom of cap is in place. Lengths of and bent piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. Drive one 35' test pile in Bent Nos. 1, 6, 11 and 16.

PILE ENCASEMENT: Pile encasement for Bents 2 thru 17 shall extend 3' into the ground and to the bottom of cap or column. See Drawing Number 1495A for additional information.

BRIDGE DECK: The concrete bridge deck shall be given a line finish as specified for final finishing in subsection 802.20 for Class 5 Bridge Roadway Surface Finish.

BOILED LINED OIL: Boiled lined oil treatment shall be applied to the roadway surface and to the face and top of the concrete parapet rail.

DETAIL DRAWINGS: Bents 25'-0" RODG Spans
 30721
 30722 & 30723

EXISTING BRIDGE: The existing bridge No. 3104 is 24' wide and 418' long (22 spans) and consists of a precast concrete superstructure supported by timber pile bents with concrete caps.

REMOVAL AND SALVAGE: The existing bridge (3104) shall be removed in accordance with section 205 of the Standard Specifications. All material from the existing bridge shall become the property of the contractor.

TEMPORARY BRIDGE: Construct a 125' long temporary bridge approximately 48' downstream. The temporary bridge shall have a minimum roadway width of 20', a minimum live load capacity of H15 and a minimum deck elevation of 249.0. See section 603 of the Standard Specifications. See drawing numbers 2391, 2391A and 2392 for standard temporary bridge details. If timber piling and pine timber are used on this temporary bridge structure, the materials shall be treated with a preservative according to the standard specifications. See roadway plans for actual detour grade and alignment.

Predrilling may be required to obtain minimum pile penetration. Size and depth of predrilling shall be approved by the engineer. Any cost for predrilling shall be included in the cost for steel piling.

ALT. NO. 1
 LAYOUT OF BRIDGE OVER
 LITTLE MISSOURI RIVER RELIEF
 PIKE CO. LINE-HWY. 29 BRS. & APPRS.
 NEVADA COUNTY
 ROUTE 19 SEC. 5
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: *SA* DATE: 5-1-87
 CHECKED BY: *SA* DATE: 3-15-87
 DESIGNED BY: *SA* DATE: 5-1-87
 BRIDGE NO. 6347 DRAWING NO. 30720

Excavate Channel as shown Approx. 220 Cu Yds. of Channel Excavation

18.15' 14.40' 12.04'
 C.P.S. at C.P.G. at E.P. at E.P. at E.P.

Excavating Bt. No. 3104

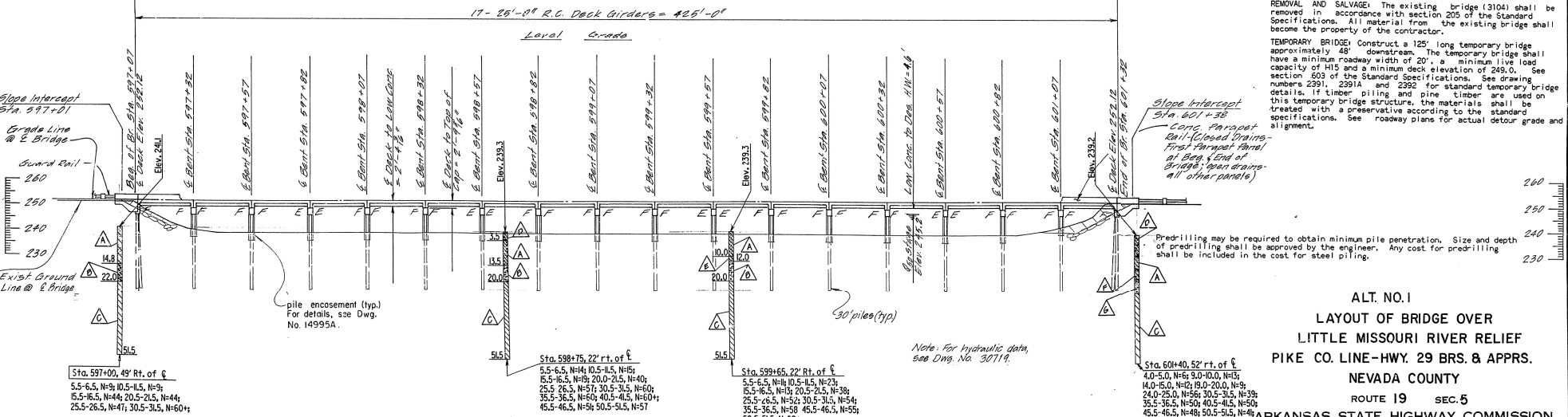
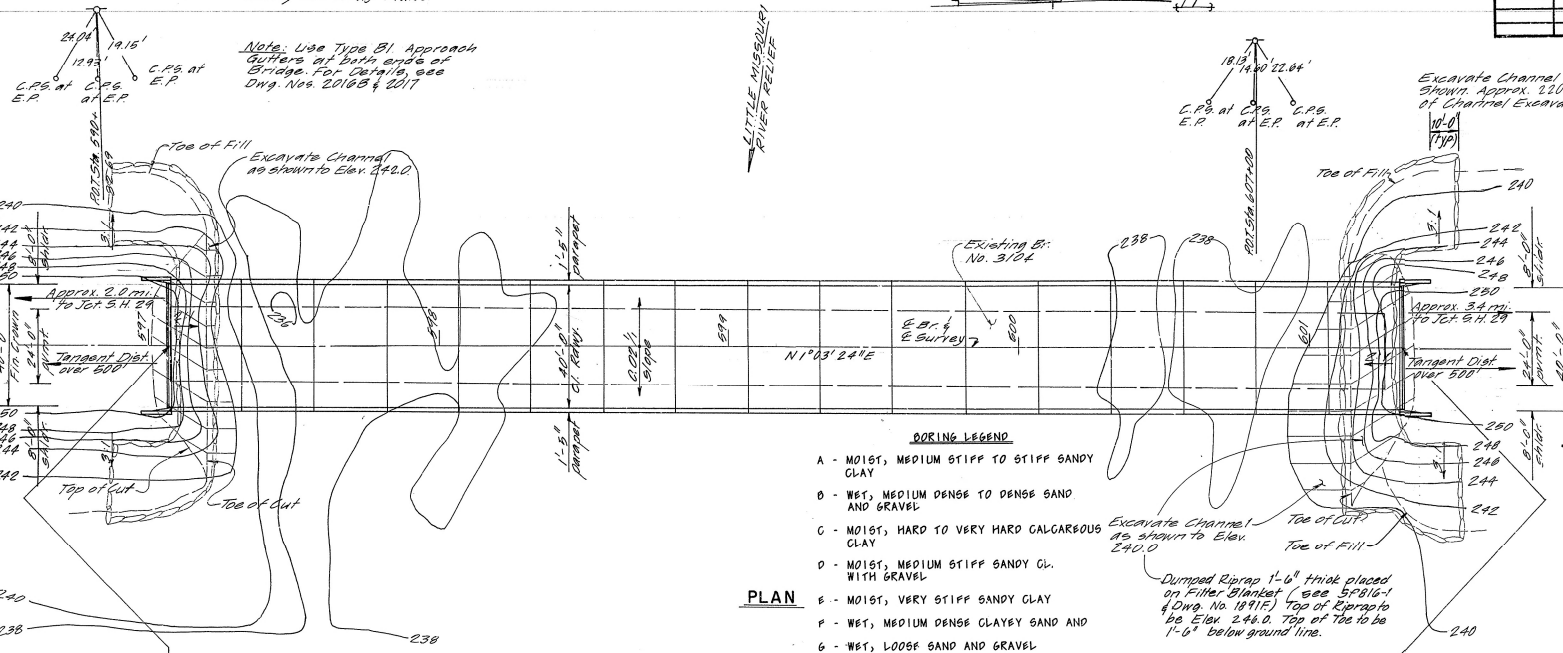
- BORING LEGEND**
- A - MOIST, MEDIUM STIFF TO STIFF SANDY CLAY
 - B - WET, MEDIUM DENSE TO DENSE SAND AND GRAVEL
 - C - MOIST, HARD TO VERY HARD CALCAREOUS CLAY
 - D - MOIST, MEDIUM STIFF SANDY CL. WITH GRAVEL
 - E - MOIST, VERY STIFF SANDY CLAY
 - F - WET, MEDIUM DENSE CLAYEY SAND AND
 - G - WET, LOOSE SAND AND GRAVEL

PLAN

17-25'-0" R.C. Deck Girders = 425'-0"

Level Grade

Excavate Channel as shown to Elev. 240.0
 Dumped Riprap 1'-6" thick placed on Filler Blanket (see 57816-1 & Dwg. No. 1991F) Top of Riprap to be Elev. 244.0. Top of Toe to be 1'-6" below ground line.



Note: For Hydraulic Data, see Dwg. No.

Note: For hydraulic data, see Dwg. No. 30714.

Sta. 604+40, 52' rt. of C
 4.0-5.0, N=6; 9.0-10.0, N=3;
 14.0-15.0, N=2; 19.0-20.0, N=9;
 24.0-25.0, N=56; 30.5-31.5, N=39;
 35.5-36.5, N=50; 40.5-41.5, N=50;
 45.5-46.5, N=48; 50.5-51.5, N=48

Sta. 598+75, 22' rt. of C
 5.5-6.5, N=14; 10.5-11.5, N=5;
 15.5-16.5, N=19; 20.0-21.5, N=40;
 25.5-26.5, N=57; 30.5-31.5, N=60;
 35.5-36.5, N=60; 40.5-41.5, N=60;
 45.5-46.5, N=34; 50.5-51.5, N=51

ELEVATION

BENT NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	35.5-36.5, N=60+; 40.5-41.5, N=60+; 45.5-46.5, N=60+; 50.5-51.5, N=60+																	

Kesal Pankh
 BRIDGE ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		3979	14	82
① 6345, 6346, & 6347 QUANTITY 30717								

ALT. NO. 2
SCHEDULE OF BRIDGE QUANTITIES-JOB 3979

BRIDGE NO.	JOB NO.	NAME PLATE	UNIT OF STRUCTURE	ITEM NO.	*205	603	801	SS & 802	SS & 802	803	SS & 804	SS & 804	SS & 805	SS & 805	805	812	816	816	
				ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	TEMPORARY BRIDGE STRUCTURE (20' ROADWAY WIDTH)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE	CLASS S(AE) CONCRETE	BOILED LINSEED OIL	REINFORCING STEEL (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL PILING (HP 10X42)	TEST PILES (HP 10x42)	PILE ENCASEMENT	BRIDGE NAME PLATE (TYPE C)	FILTER BLANKET	DUMPED RIPRAP	
					UNIT	LUMP SUM	LIN. FT.	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	SQ. YD.	CU. YD.
6345	X021	NUMBER ONE BAYOU	End Bent Nos. 1 & 8				2	35.14		0.6	5,160		250			1	470	235	
			Int. Bent Nos. 2 thru 7					50.56			7,514		745	65	300				
			7 - 30'-4" Pan Formed Deck Girders					392.50	22.4	58,556	34,510								
			Site No. 2		1.0														
			TOTALS FOR BR. NO. 6345		1.0	120	2	85.70	392.50	23.0	71,230	34,510	995	65	300	1	470	235	
6346	X021	MIDDLE CREEK	End Bent Nos. 1 & 4				29	35.14		0.6	5,160		250			1	440	220	
			Int. Bent Nos. 2 & 3					16.86			2,600		225	30	100				
			3 - 30'-4" Pan Formed Deck Girders					168.20	9.6	25,090	14,790								
			Site No. 3		1.0														
			TOTALS FOR BR. NO. 6346		1.0		29	52.00	168.20	10.2	32,850	14,790	475	30	100	1	440	220	
6347	X021	LITTLE MISSOURI RELIEF	End Bent Nos. 1 & 15				6	35.14		0.6	5,160		300			1	700	350	
			Int. Bent Nos. 2 thru 14					109.56			16,329		1,860	105	780				
			14 - 30'-4" Pan Formed Deck Girders					785.00	44.8	117,101	69,010								
			Site No. 6		1.0														
			TOTALS FOR BR. NO. 6347		1.0	125	6	144.70	785.00	45.4	138,590	69,010	2,160	105	780	1	700	350	
TOTALS FOR JOB 3979						245	37	282.40	1,345.70	78.6	242,670	118,310	3,630	200	1,180	3	1,610	805	

*See Roadway Plans for
Removal of Existing Bridge
Structures, Sites 1, 4 & 5.

GARY ASHLEY
DESIGN SECTION SUPERVISOR

ALT. NO. 2
SCHEDULE OF BRIDGE QUANTITIES
PIKE CO. LINE - HWY. 29 STRS. & APPRS.
NEVADA COUNTY

ROUTE 19 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

David Pinkerton
BRIDGE ENGINEER

DRAWN BY: EJK DATE: 9-7-89
CHECKED BY: GVA DATE: 9-14-89
DESIGNED BY: DATE:
BRIDGE NO. 6345, 6346, & 6347 DRAWING NO. 30717

JK#553, 03979XXXX, 012, 1, 550, 3001, 3979

Wing A

Note: For Details of Wing & Rail, see dwg.

Then, Begin of Slope

Bridge

Begin or End Bridge

6" Cop & Piles

2" Batter 1 1/2" x 12

HP 10" x 42 Pile (typ)

2" Batter 1 1/2" x 12

1/4" Type 2 Joint Filler (AASHTO M193 Type I or III)

1/4" Type 2 Joint Filler (AASHTO M193 Type I or III)

Wing B

Note: For Standard Details of Wing and Rail, See DWG. No. 30723.

Scale: $3_R'' = 1'-0''$

Technical drawing of a pile cap cross-section and plan view. The cross-section shows a rectangular pile cap with a width of 2'-6" and a height of 1'-2 1/2". It is reinforced with B403 #4 bars at 18" o.c. and B401 bars. The plan view shows a grid of reinforcement bars with dimensions: 3' @ 5", 1'-6" @ 2", 5 sp @ 12", 2' @ 6", 1'-6" @ 2", 5 sp @ 12", 2' @ 6", 1'-6" @ 2", 5 sp @ 12", 2' @ 6", 1'-6" @ 2", 5 sp @ 12", 2' @ 6", 1'-6" @ 2", 3' @ 5". Labels include 'B402 Tie', 'B403 #4', 'B401 Ea Fa', and 'B403 Ea Fa'.

Scale: $3_8^k = 1^1 \cdot 0^k$

Plan view of bridge piers and piles. The diagram shows a horizontal arrangement of bridge piers and piles. The top pier is labeled "Bridge". The bottom pier is labeled "Capit Piles". The distance between the piers is 21'-9". The distance from the left pier to the first pile is 4'-3". The distance between the first and second piles is 8'-9". The distance between the second and third piles is 8'-9". The distance between the third and fourth piles is 8'-9". The distance from the fourth pile to the right pier is 4'-3". The total length of the pile field is 36'-0". The piles are labeled "HP 10 x 42 Steel Piles".

Scale: $z_A^k = 1 - 0^k$

[illegible]Scale: $3_A'' = 1'-0''$

MARK	NUMBER REQUIRED		LENGTH	A	B	P.D.
	END BT.	INT. BT.				
B401	2		39'-7"			Str.
B402	40	50	8'-8"	2'-0"	2'-2"	2"
B403	15	15	6'-2"	2'-0"	2'-2"	2"
B404		4	22'-5"			Str.
D401	26	4	2'-6"			Str.
B601	6		40'-11"	30'-7"	6"	4 1/2"
B602		6	34'-6"	43'-2"	6"	4 1/2"
B603	6		39'-7"			5 1/2"
B604	6	6	45'-2"			5 1/2"

Dimensions are out to out of bars

** 56 Reqd. For Fix-Fix
0 Reqd. For Exp-Exp;
28 Reqd. For Fix-Exp.*

SECTION A-A
Scale: 3/4" = 1'-0"

SECTION B-B
Scale: 3/4" = 1'-0"

GENERAL NOTES

CONCRETE: ALL CONCRETE SHALL BE CLASS "S" WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH f'_c = 3500 PSI. ALL CONCRETE SHALL BE POURED IN THE DRY. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615 OR A617, GRADE 60, (YIELD STRENGTH = 60,000 PSI).

ALL PILING SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 55 TONS PER PILE.
PILING SHALL BE HP 10X42 STEEL PILES.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1988 AND APPLICABLE SPECIAL PROVISIONS.

LIVE LOAD: HS20

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES,
1983 WITH CURRENT INTERIMS.

METHOD OF DESIGN: LOAD FACTOR

△ Revised Concrete + Reinforcing
steel quantities + Joints - E/PK-3-12-90

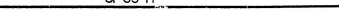
DETAILS OF STD. PILE BENTS
FOR 25'-0" R.C.D.G. SPANS
40'-0" CL. RDWY. - 16" CONC. PILES

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

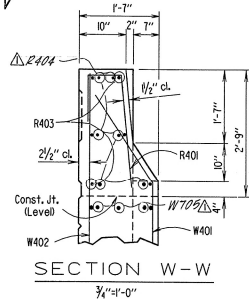
ALTERED BY EJk DATE 8-3-89
 CHECKED BY ARH DATE 8-4-89 SCALE: AS NOTED

CHECKED BY: 4/16 DATE: 4/16 SCALE: 1"=10'
 DESIGNED BY: 4/16 DATE: 4/16
Vincent Pinkerton
 BRIDGE ENGINEER
 BRIDGE NO. 6345, 6346 & 6347 DRAWING NO. 30721

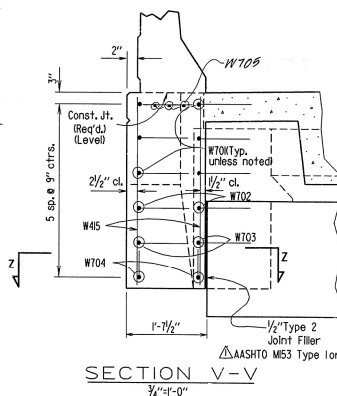
BENT QUANTITIES			
BENT	CLASS 90° CONCRETE	REINFORCING STEEL	
END	860 CU YD	1160	LB.
INTERIOR	940 CU YD	EXP. FIX	1248 LBS
		EXP. EXP.	1201 LBS
		FIX FIX	1236 LBS



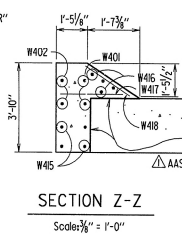
BRIDGE NO. 8 6347 DRAWING NO. 30722



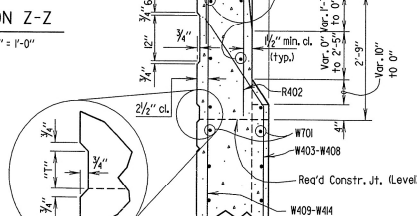
Note: 1/2" Type 2 Joint Filler shall be measured and paid for as Class S(AE) Concrete.



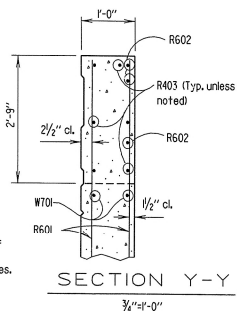
SECTION V-V
y"=0"



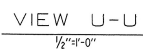
SECTION Z-Z



SECTION X-X



SECTION Y-Y
3/4"=1'-0"

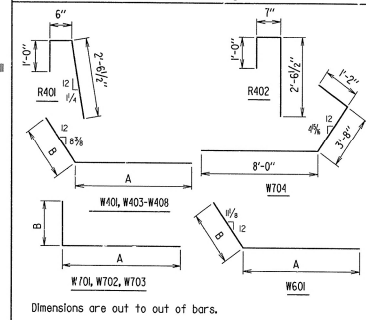


Note: Wing & Roll are part of span construction and included in span quantities. For General Notes, see dwg. no.

BAR LIST (WING & RAIL)

MARK	NO. REQ'D.	LENGTH	A	B	PIN DI
R401	8	3'-11"			2"
R402	8	4'-0"			2"
R403	12	9'-8"			Str.
R601	16	4'-5"			Str.
R602	6	5'-0"			Str.
R404	12	4'-0"			Str.
W401	4	5'-6"	4'-4"	1'-2"	2"
W402	4	6'-8"			Str.
W403-W408	2 of each	Var. 3'-4" to 5'-5"	Var. 2'-2" to 4'-3"	1'-2"	2"
W409-W413	2 of each	Var. 4'-6" to 6'-7"			Str.
W415	8	3'-11"			Str.
W416	8	3'-4"			Str.
W417	6	2'-7"			Str.
W418	4	1'-10"			Str.
W601	4	7'-5"	6'-7"	1'-0"	4 1/2"
W701	12	12'-6"	11'-6"	1'-2"	5 1/4"
W702	4	8'-6"	7'-6"	1'-2"	5 1/4"
W703	4	6'-8"	5'-8"	1'-2"	5 1/4"
W704	4	12'-6"			5 1/4"
W705	6	8'-0"			2 1/2"

BENDING DIAGRAMS



⚠ Revised joints and added reinforcing bars.

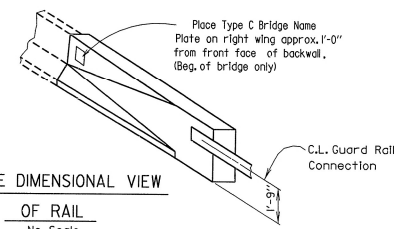
TABLE OF VARIABLES

			Elev. "R"	"4"	"K"	"T"	
Br. No. 6345	Bent No.	Wing A	248.22	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	I	Wing B	248.22	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	Bent No.	Wing A	248.22	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	10	Wing B	248.22	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
Br. No. 6346	Bent No.	Wing A	248.22	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	I	Wing B	248.22	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	Bent No.	Wing A	248.22	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	4	Wing B	248.22	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
Br. No. 6347	Bent No.	Wing A	251.72	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	I	Wing B	251.72	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	Bent No.	Wing A	251.72	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	
	18	Wing B	251.72	4'-3"	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3-12-90	3-14-90			6	ARK.			
				JOB NO.		3979	27	82

①

6315, 6346, 6347 STD. WING 30723



THREE DIMENSIONAL VIEW

OF RAIL
No Scale

Note: Concrete Insert Anchor Assembly will not be paid for directly, but will be considered subsidiary to the Item of Class S(AE) Concrete.

Note: For details of guard rail connections, see Drwg. No. GR-8 & GR-8A.

ALT. NO. 1
STANDARD DETAILS
FOR WING AND RAIL

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

ALTERED BY: EJK DATE: 8-15-89
CHECKED BY: _____ DATE: _____
DESIGNED BY: STD. DATE: _____
SCALE: As Shown
SHEET NO. 6345-6346-6347 DRAWING NO. 30723

BRIDGE NO. 6345-6346.6347 DRAWING NO. 30723

