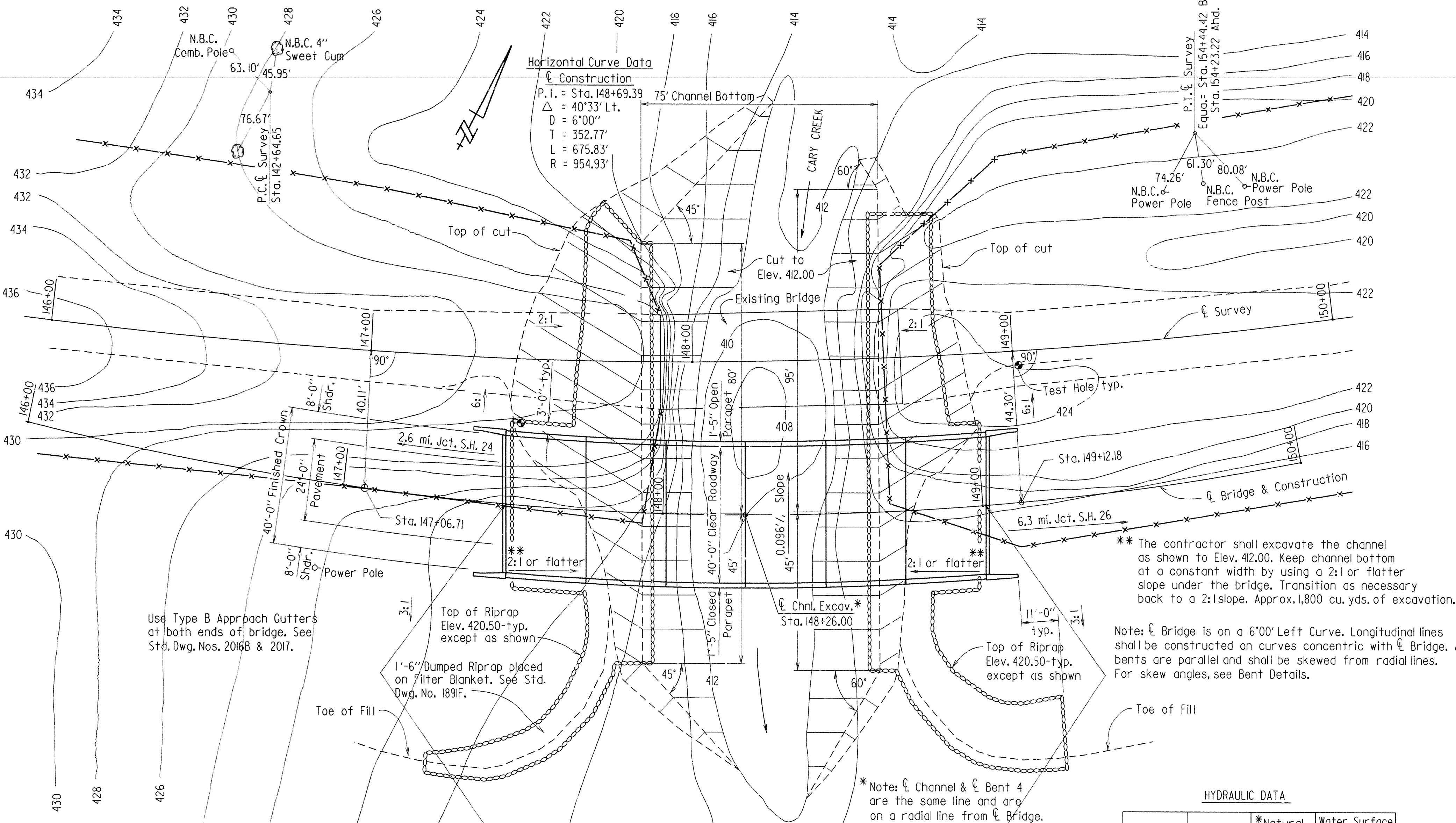


For R/W Data & Temporary Construction Easement, See Rdwy. Plans

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.		R30014	59	248
				① 6418 - LAYOUT - 32148				

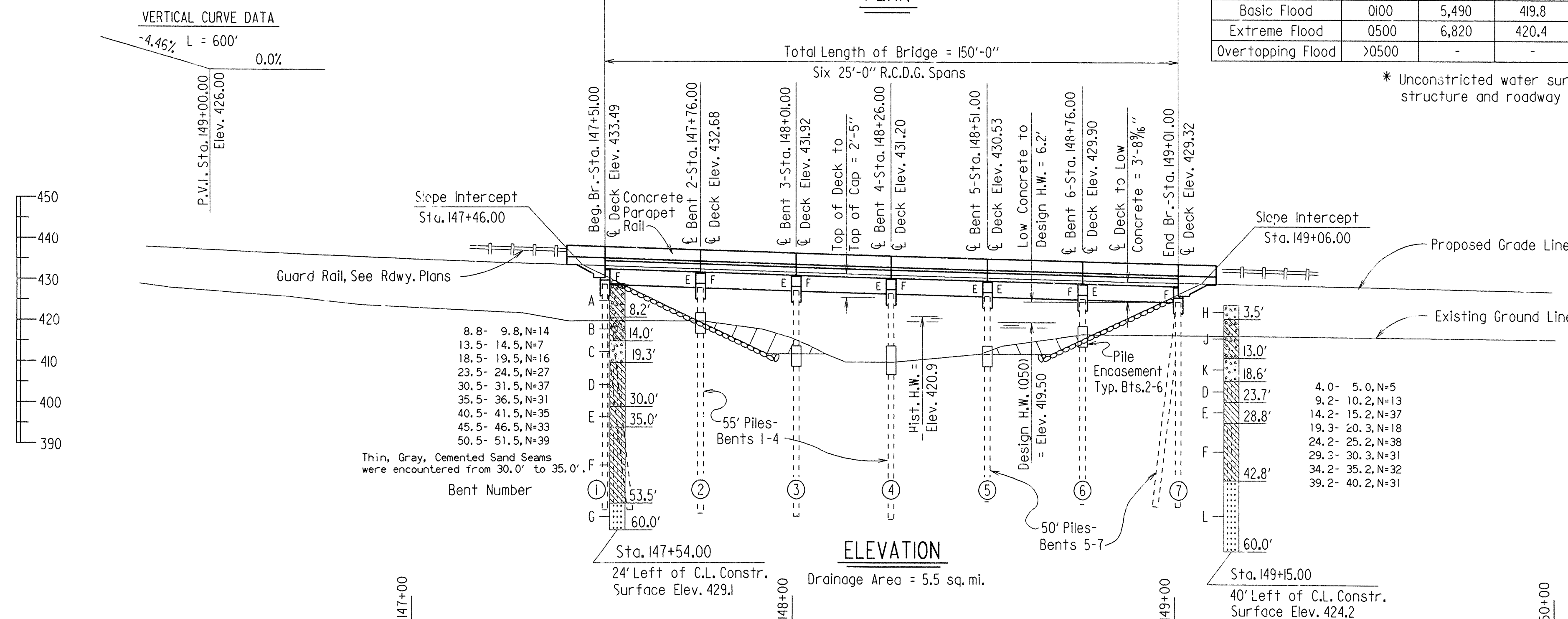


PLAN

HYDRAULIC DATA

Frequency	Discharge c.f.s.	*Natural Water Surface Elevation	Water Surface Elevation with Backwater
Design Flood	050	495.0	419.5
Basic Flood	0100	5,490	419.8
Extreme Flood	0500	6,820	420.4
Overtopping Flood	>0500	-	-

* Unconstricted water surface without structure and roadway approaches.



ELEVATION

GENERAL NOTES

BENCH MARK: Square cut on S.W. corner of left wheel guard of existing bridge, 15' left of C.L. Survey Sta. 147+91, Elev. 426.69.

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, 1989 with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor
SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:
Superstructure Concrete (Class S(AE)) $f'_c = 4,000$ psi
Substructure Concrete (Class S) $f'_c = 3,500$ psi
Reinforcing Steel (A615 or A617, GR. 60) $F_y = 60,000$ psi
Structural Steel (A36) $F_y = 36,000$ psi

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

STEEL PILING: Piling in Bents 1 and 7 shall be HP 10x42(A36) and shall have a minimum penetration of 10' below natural ground. Piling in Bents 2 - 6 shall be HP 14x73(A572-Gr. 50) and shall have a minimum penetration of 25' below the excavated channel bottom.

All piling shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 55 tons per pile and into the material designated as cemented sand and gravel on the boring legend. Piling in Bents 1 and 7 shall be driven after embankment to bottom of cap is in place.

Lengths of piling shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications.

PILE ENCASEMENT: Pile encasements for bents 2 - 6 shall extend 3' below the ground or water line. See Dwg. 32151 for additional information.

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

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

DETAIL DRAWINGS:
DRAWING NO.
End Bents 32149 & 32150
Intermediate Bents 32151
25'-0" R.C.D.G. Spans 32152 - 32155
Wing & Rails 32156 & 32157
Steel Piling 32151
Type C Bridge Name Plate 2389A
Embankment Construction 1888A
Dumped Riprap and Filter Blanket 1891F
Type B Approach Gutters 2016B & 2017

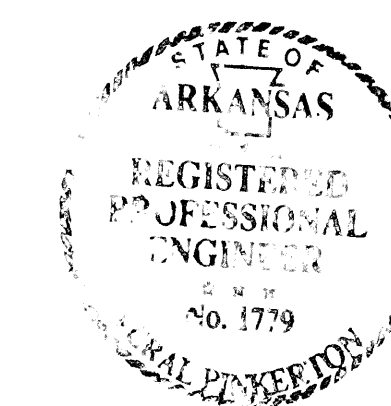
EXISTING BRIDGE: The existing bridge No. 2897 (log mile 0.68) is 31.5' wide and 75' long and consists of a concrete superstructure supported by steel pile trestle substructure. The existing bridge is located approximately 45 feet upstream from the proposed new bridge.

REMOVAL AND SALVAGE: After the new bridge is opened to traffic, the existing bridge (No. 2897) 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.

Boring Legend

A-Moist, Medium Stiff, Brown and Gray, Sandy Clay with Gravel.
B-Moist, Stiff, Brown and Gray, Sandy, Silty Clay with Gravel.
C-Wet, Medium Dense, Brown Sand and Gravel.
D-Moist, Very Stiff, Gray Clay with Silt and Sand Lenses.
E-Moist, Hard, Gray Clay with Sand Seams.
F-Moist, Hard, Gray Clay with Silt and Sand Lenses.
G-Hard, Brown Gray, Cemented Sand and Gravel.
H-Moist, Medium Dense, Brown Sand and Gravel.
J-Moist, Medium Stiff to Stiff, Brown, Sandy Clay with Gravel.
K-Wet, Dense, Brown Sand and Gravel.
L-Hard, Gray, Cemented Sand and Gravel.

Note: Cemented sand seams and cemented sand and gravel conglomerate layers were encountered in the borings and may be encountered in greater amounts at other locations within the project area.



LAYOUT OF BRIDGE OVER
CARY CREEK
NASHVILLE - PIKE COUNTY LINE
HEMPSTEAD COUNTY

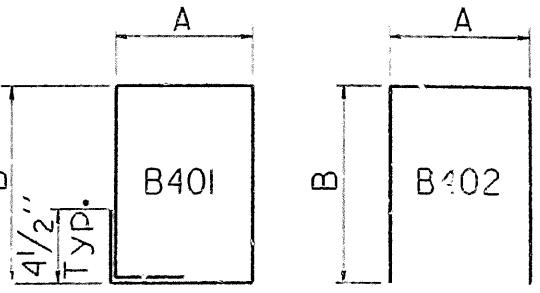
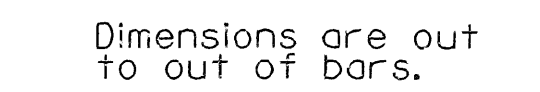
ROUTE 27 SEC. 3
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

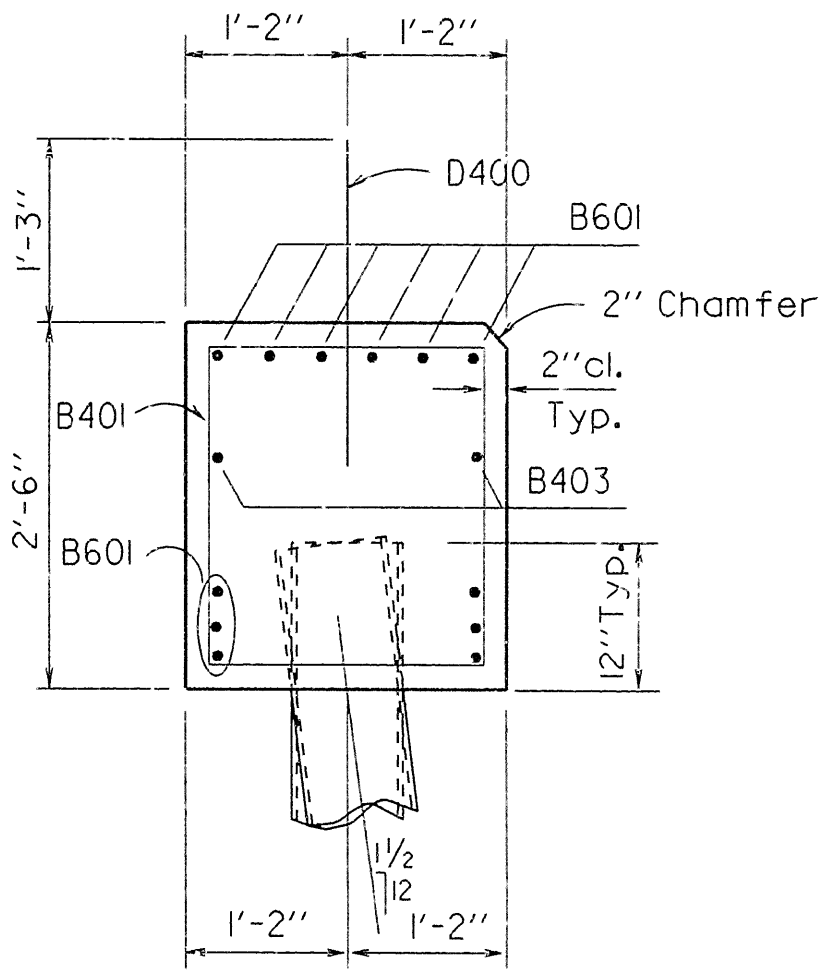
DRAWN BY: KDH DATE: 20 MAR 90
CHECKED BY: C.J.F. DATE: 8-14-91 SCALE: 1" = 20'
DESIGNED BY: L.F.L. DATE: 7-20-90
BRIDGE NO. 6418 DRAWING NO. 32148

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.		R30014	60	248
				6418 - END BENTS - 32149				

BAR LIST-PER BENT

Mark	No. Req'd.	Length	A	B	Pin Dia.	Bending Diagrams
B401	54	8'-8"	2'-0"	2'-2"	2"	
B402	15	6'-2"	2'-0"	2'-2"	2"	
B403	2	39'-8"			Str.	
D400	26	2'-6"			Str.	
B601	12	39'-8"			Str.	

Dimensions are out to out of bars.



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

GENERAL NOTES

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

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

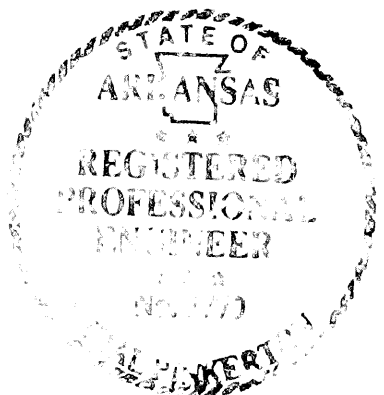
ALL PILING SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 55 TONS PER PILE. PILING SHALL BE HP 10x42 STEEL PILING (A36).

PREFORMED ASPHALT JOINT FILLER SHALL BE MEASURED AND PAID FOR AS CLASS S(AE) CONCRETE.

LIVE LOAD: HS20

METHOD OF DESIGN: LOAD FACTOR

SEE LAYOUT FOR ADDITIONAL NOTES.

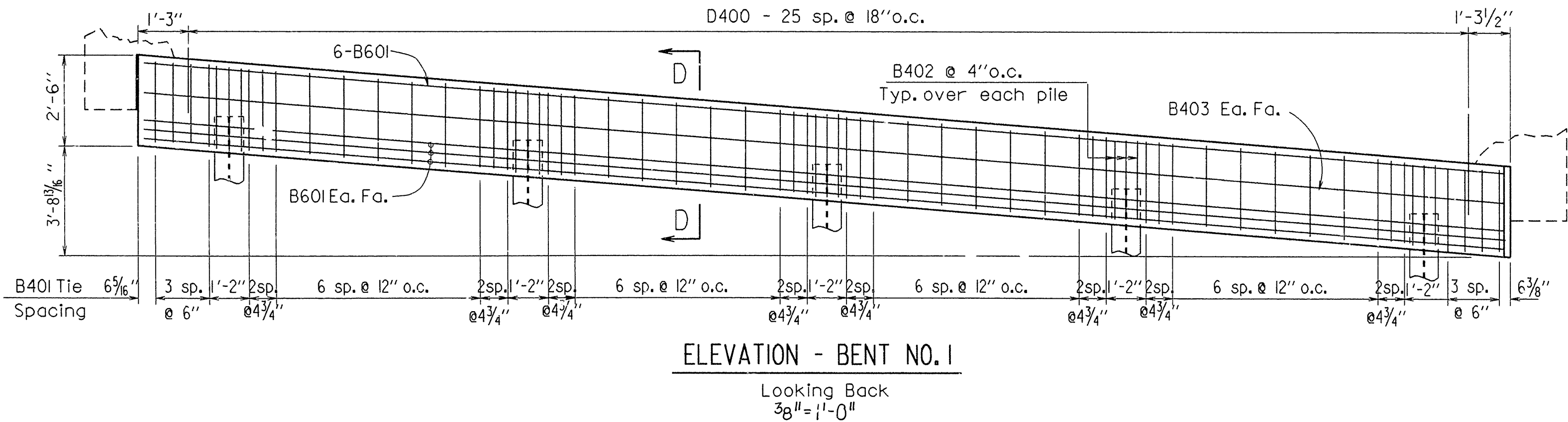
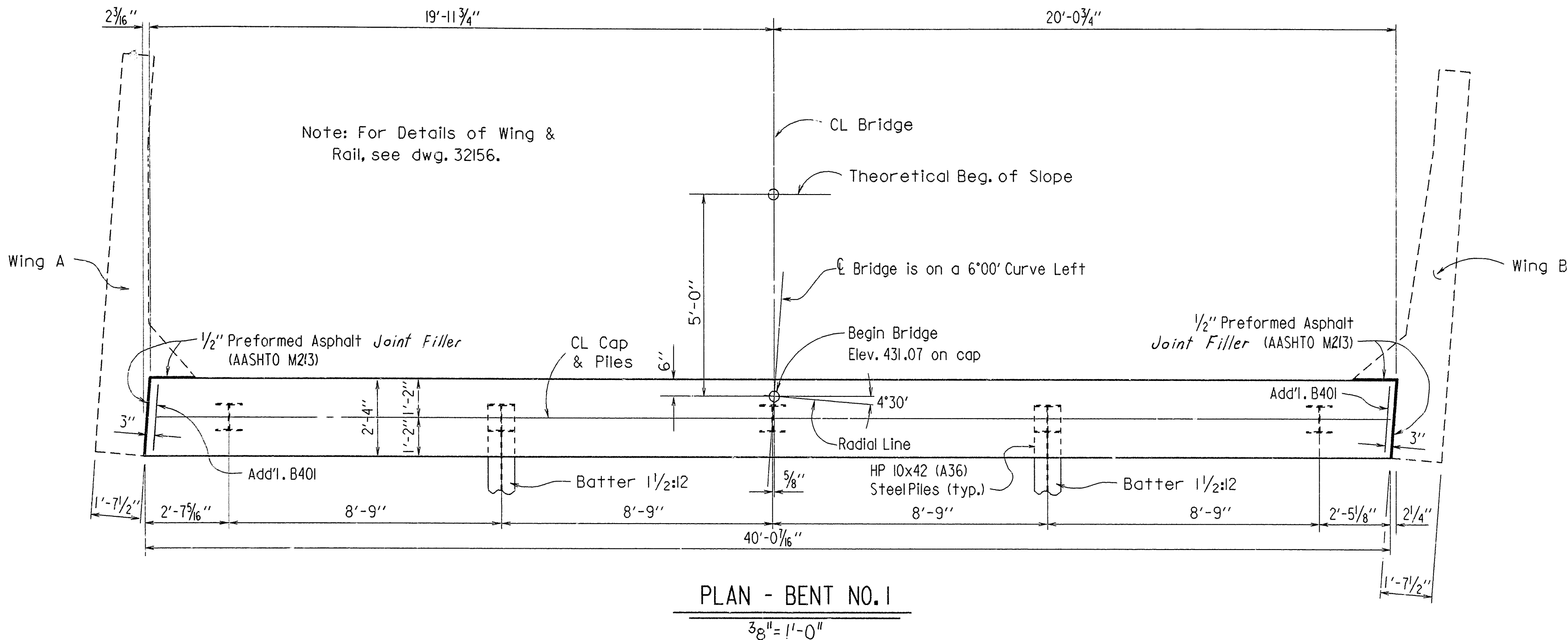


BRIDGE ENGINEER

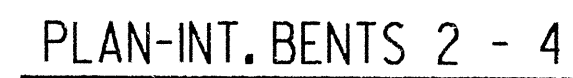
DETAILS OF BENT NO. 1
CARY CREEK

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

DRAWN BY: KDH DATE: 5 JUL 91
CHECKED BY: MJC DATE: 8-13-91 SCALE: AS NOTED
DESIGNED BY: CJE DATE: 7-5-91
BRIDGE NO. 6418 DRAWING NO. 32149

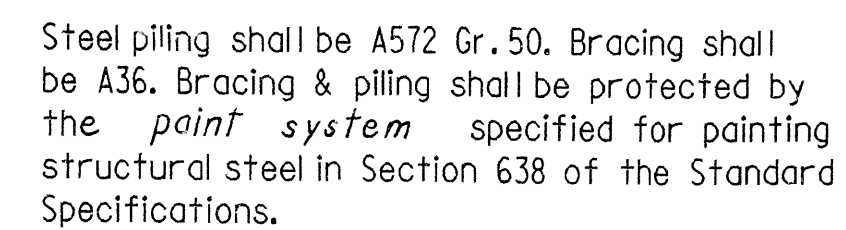


6418 - INT. BENTS - 32151


$$3_8^{11} = 1^1 - 0^{11}$$

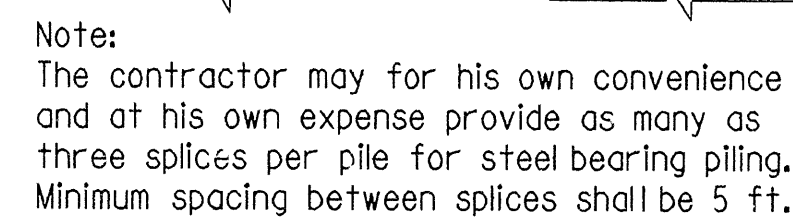
$$\underline{3_8'' = 1' - 0''}$$


Looking Ahead
38" = 1'-0"



Note:
All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment shall be made under the item "Structural Steel in Berits (A36)."

No Scale



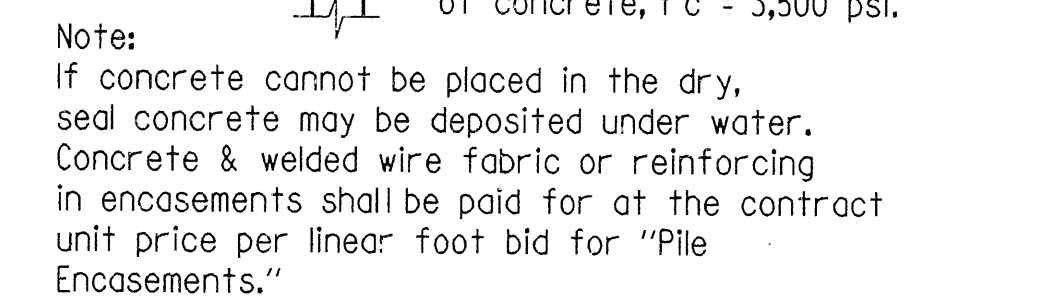
PILE SPLICE DETAIL

No Scale

4" #3 ties @ 12" ctrs.



No Scale



No Scale


$$\frac{3}{4}'' = 1' - 0''$$

CARY CREEK

ROUTE	SEC.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
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88	88
89	89
90	90
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96	96
97	97
98	98
99	99
100	100

LITTLE ROCK, ARK.

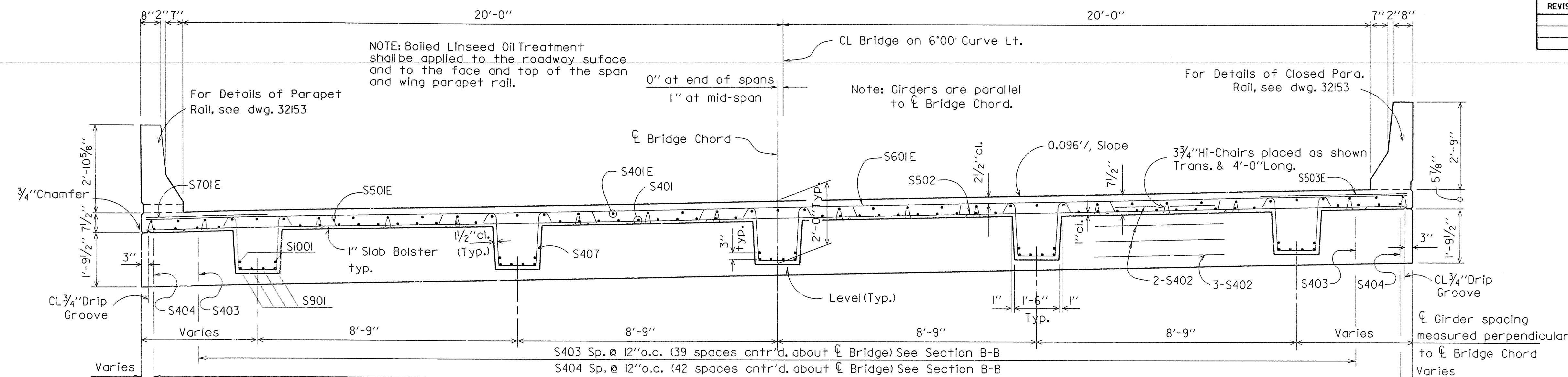
SCALE: AS NOTED

BRIDGE NO. 6418 DRAWING NO. 32151

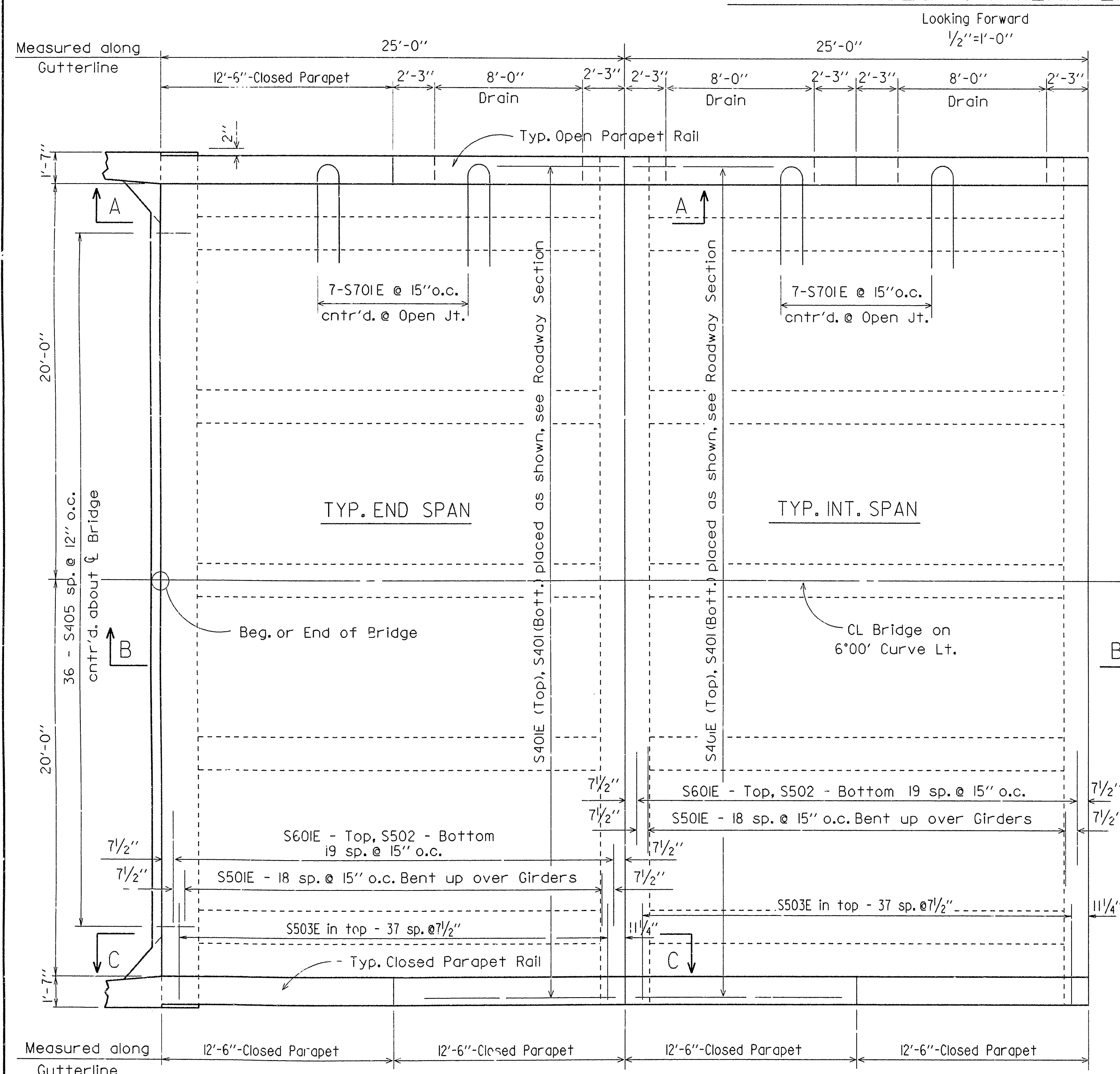
DRAWING NO. 32151

KDHE514 1, 550, 3001, R30014 BR30014XI.B2

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.		R30014	63	248
① 6418 - R.C.D.G. SPANS - 32152								

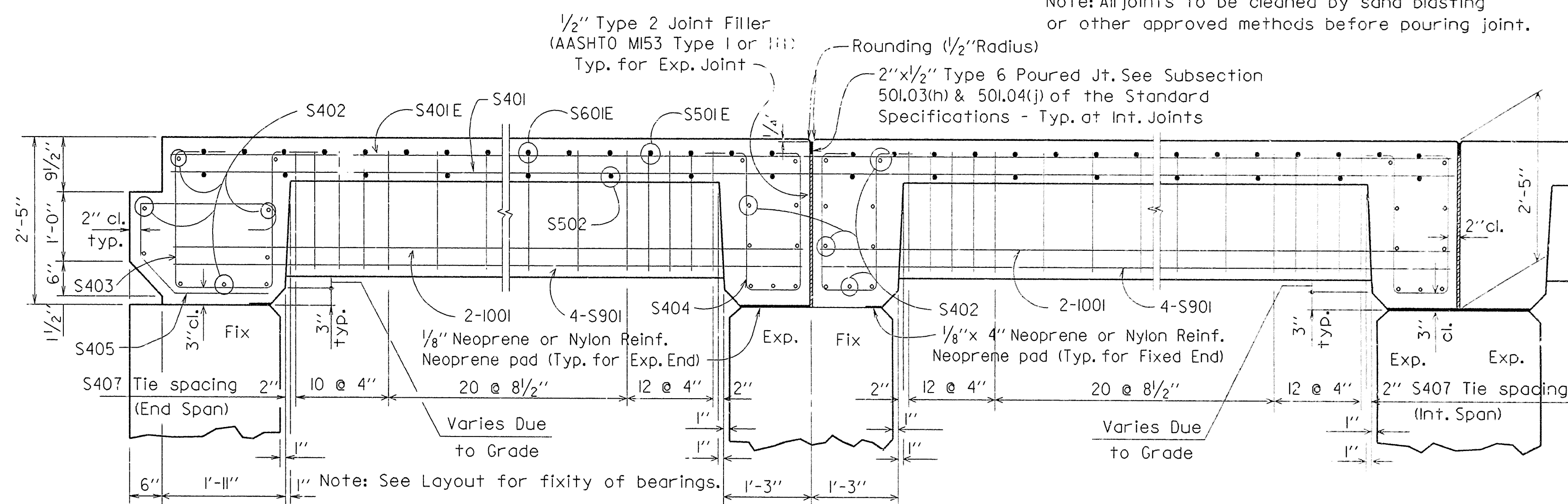


ROADWAY SECTION NEAR END STRUTS



REINFORCING PLAN

Note: All transverse reinforcing bars are placed parallel to joints. All longitudinal reinforcing bars in slab are placed parallel to girders.



SECTION B-B

3/4"=1'-0"

GENERAL NOTES

ALL CONCRETE SHALL BE CLASS (S)AEI. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

THE CONCRETE IN THE GIRDERS, END DIAPHRAGMS, AND DECK SHALL BE PLACED IN ONE CONTINUOUS POUR FOR INTERIOR SPANS. THE CONCRETE IN THE GIRDERS, DECK, END DIAPHRAGMS, AND WINGS SHALL BE PLACED IN ONE CONTINUOUS POUR FOR END SPANS.

REINFORCING STEEL TO BE ASTM A615 OR A617, GRADE 60.

BAR SUPPORTS FOR REINFORCING BARS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO THE ITEM 'REINFORCING STEEL'.

NEOPRENE PAD, TYPE 2 JOINT FILLER, TYPE 6 POURED JOINT, AND STRUCTURAL STEEL SHALL BE MEASURED AND PAID FOR AS CLASS (S)AEI CONCRETE. NEOPRENE MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 808.02 OF THE STANDARD SPECIFICATIONS AND SHALL BE IN ONE PIECE FOR THE FULL WIDTH AND LENGTH OF THE BEARING.

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1991 EDITION AND APPLICABLE SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

DESIGN SPECIFICATIONS: AASHTO 1989 EDITION AND CURRENT INTERIMS.

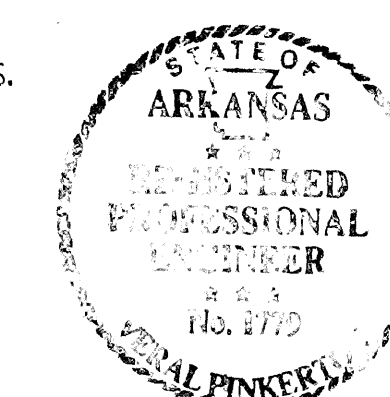
DESIGN LIVE LOADING: HS20

METHOD OF DESIGN: LOAD FACTOR

DEAD LOAD: 1522 PLF (INCLUDES 219 PLF FUTURE WEARING SURFACE).

LIVE LOAD: 1.458 WHEELS + IMPACT

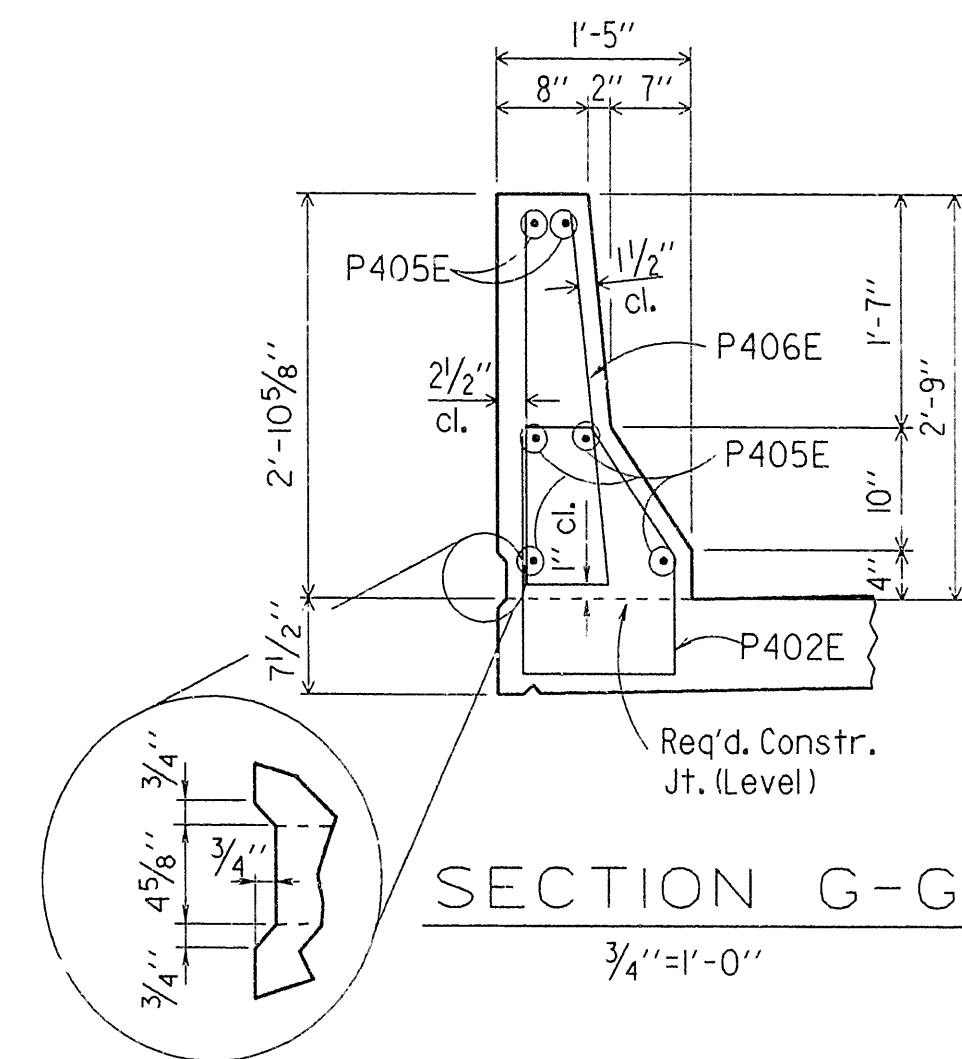
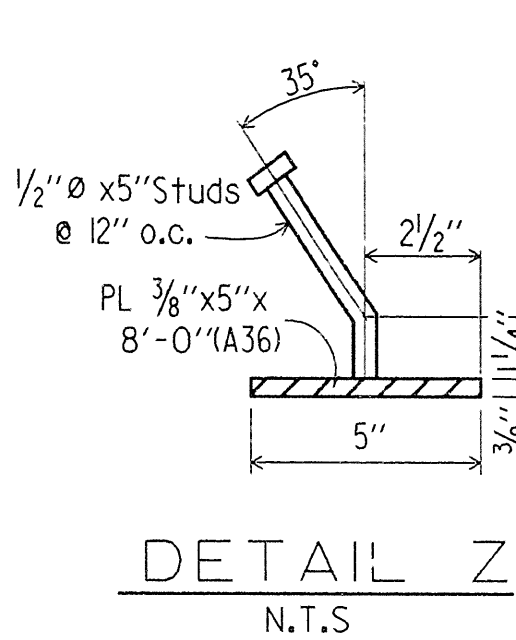
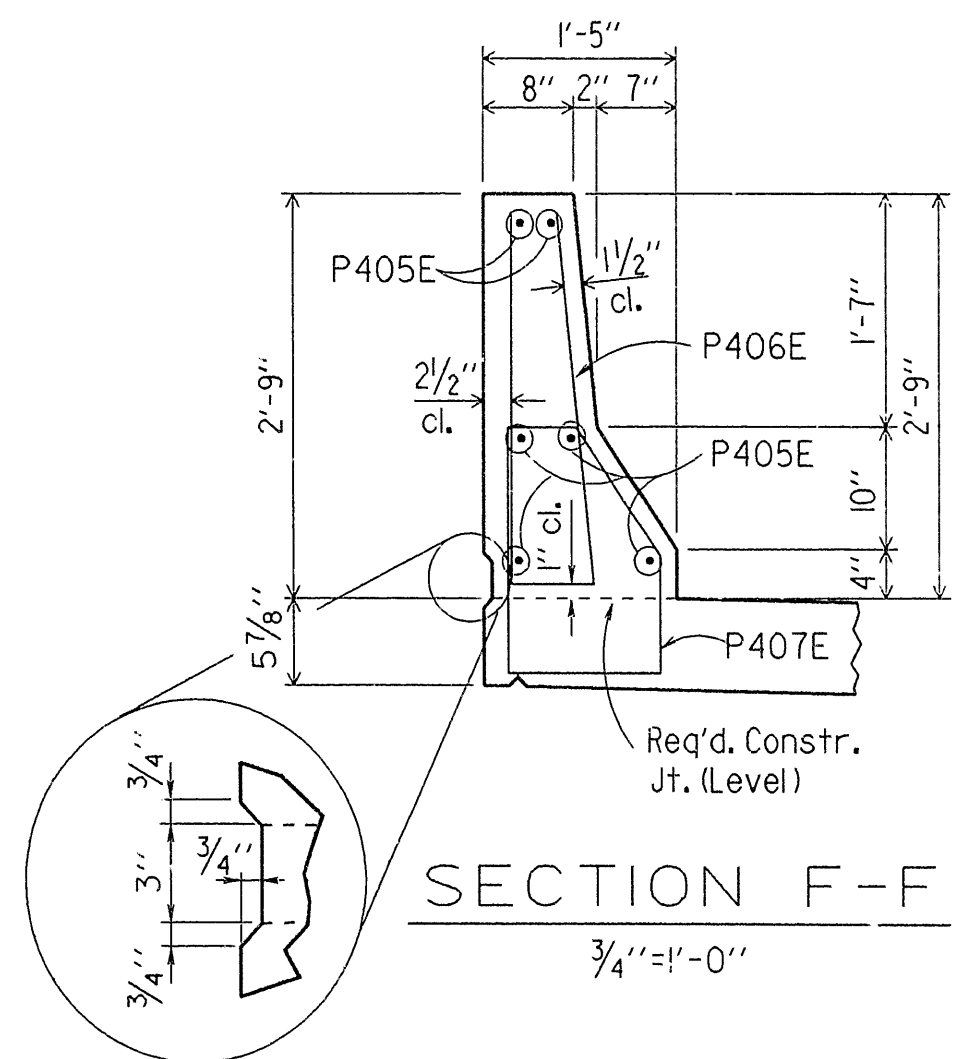
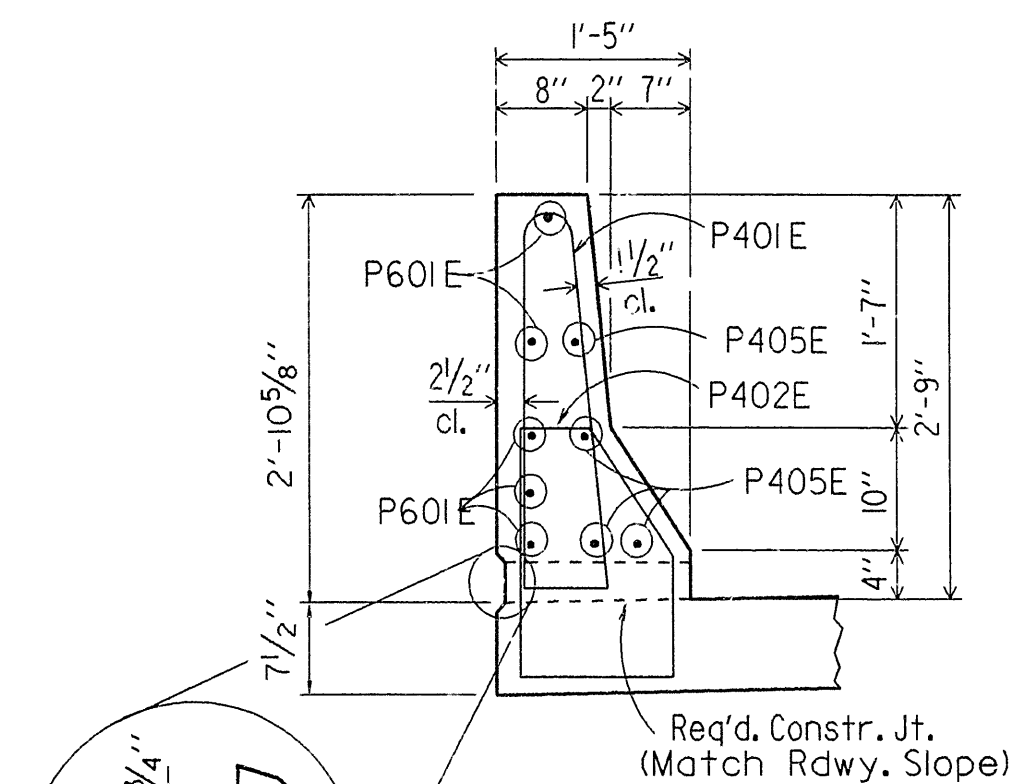
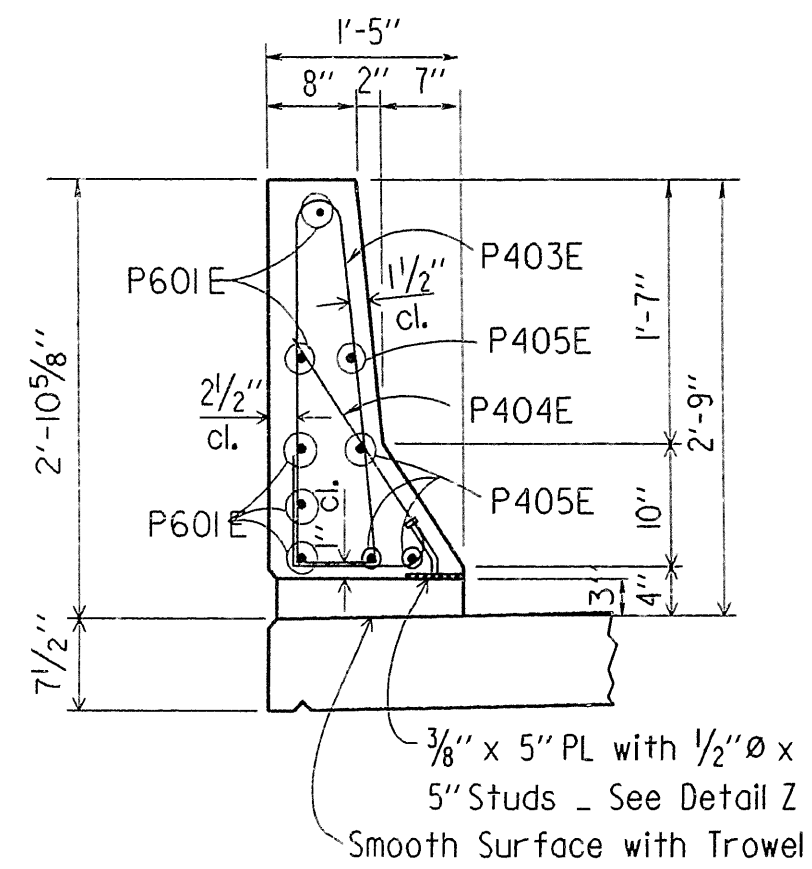
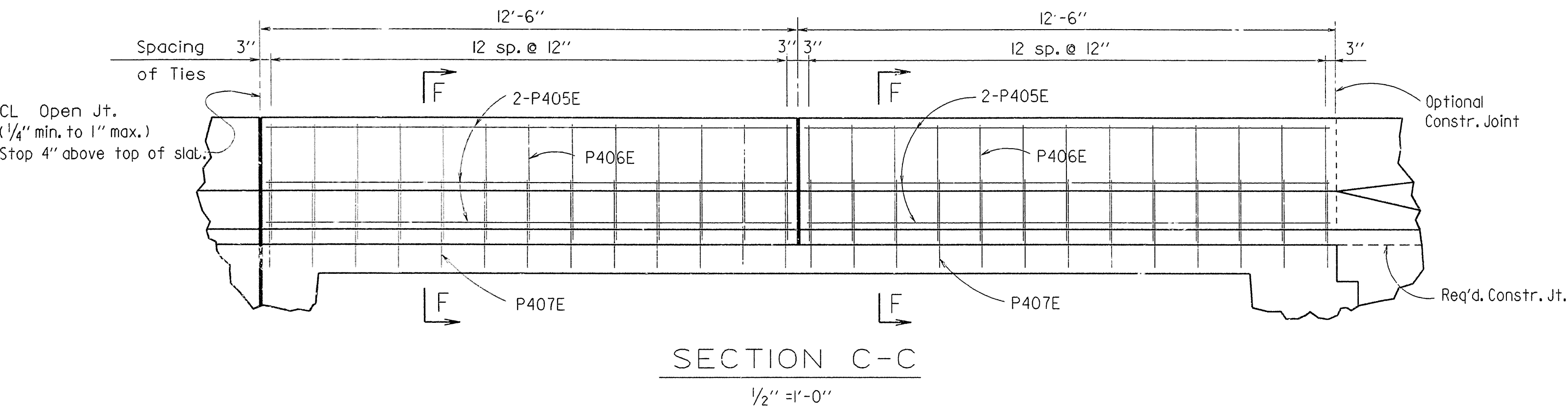
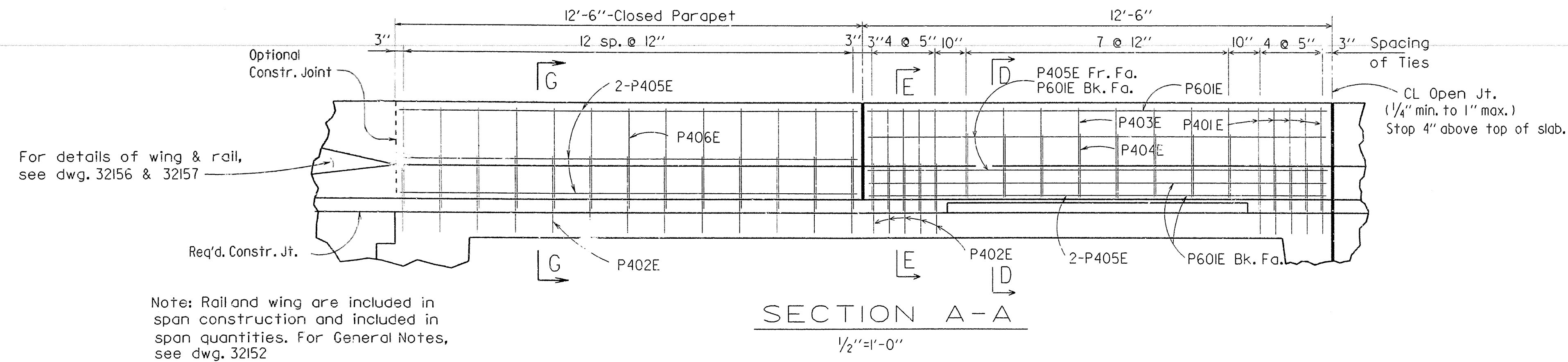
MATERIAL STRENGTHS: 28 DAY COMPRESSIVE STRENGTH OF CLASS (S)AEI CONCRETE = 3500 PSI. YIELD STRENGTH OF REINFORCING STEEL = 60,000 PSI.



SHEET 1 OF 4
DETAILS OF 25'-0" R.C.D.G. SPANS
CARY CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 27 JUN 91
CHECKED BY: M.E.C. DATE: 8-16-91
DESIGNED BY: C.J.F. DATE: 6-27-91
BRIDGE NO. 6418 DRAWING NO. 32152

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.		R30014	64	248
						6418 - R.C.D.G. SPANS - 32153		



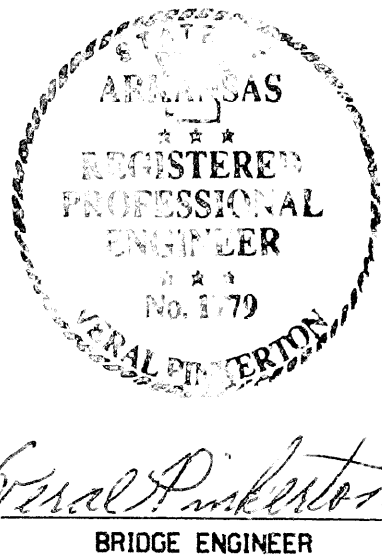
BAR LIST-PER SPAN

MARK	No. Req'd.		Length	Pin Dia.	Bending Diagrams
	End	Int.			
S100I	10	10	24'-8"	Str.	
S90I	20	20	24'-8"	Str.	
S60IE	20	20	42'-6"	Str.	
S501E	19	19	43'-2"	3"	
S502	20	20	42'-6"	Str.	
S503E	38	38	6'-0"	Str.	
S401E	41	41	24'-8"	Str.	
S401	48	48	24'-8"	Str.	
S402	36	36	22'-1"	Str.	
S403	40		5'-7"	2"	
S404	43	86	4'-11"	2"	
S405	36		5'-6"	2"	
S407	215	225	5'-3"	2"	
P401E	10	20	6'-4"	2"	
P402E	23	20	5'-6"	2"	
P403E	8	16	5'-10"	2"	
P404E	8	16	3'-2"	2"	
P405E	22	20	12'-1"	Str.	
P406E	39	26	5'-6"	2"	
P407E	26	26	5'-9"	2"	
S70IE	7	7	12'-4"	7"	
P601E	5	10	12'-1"	Str.	

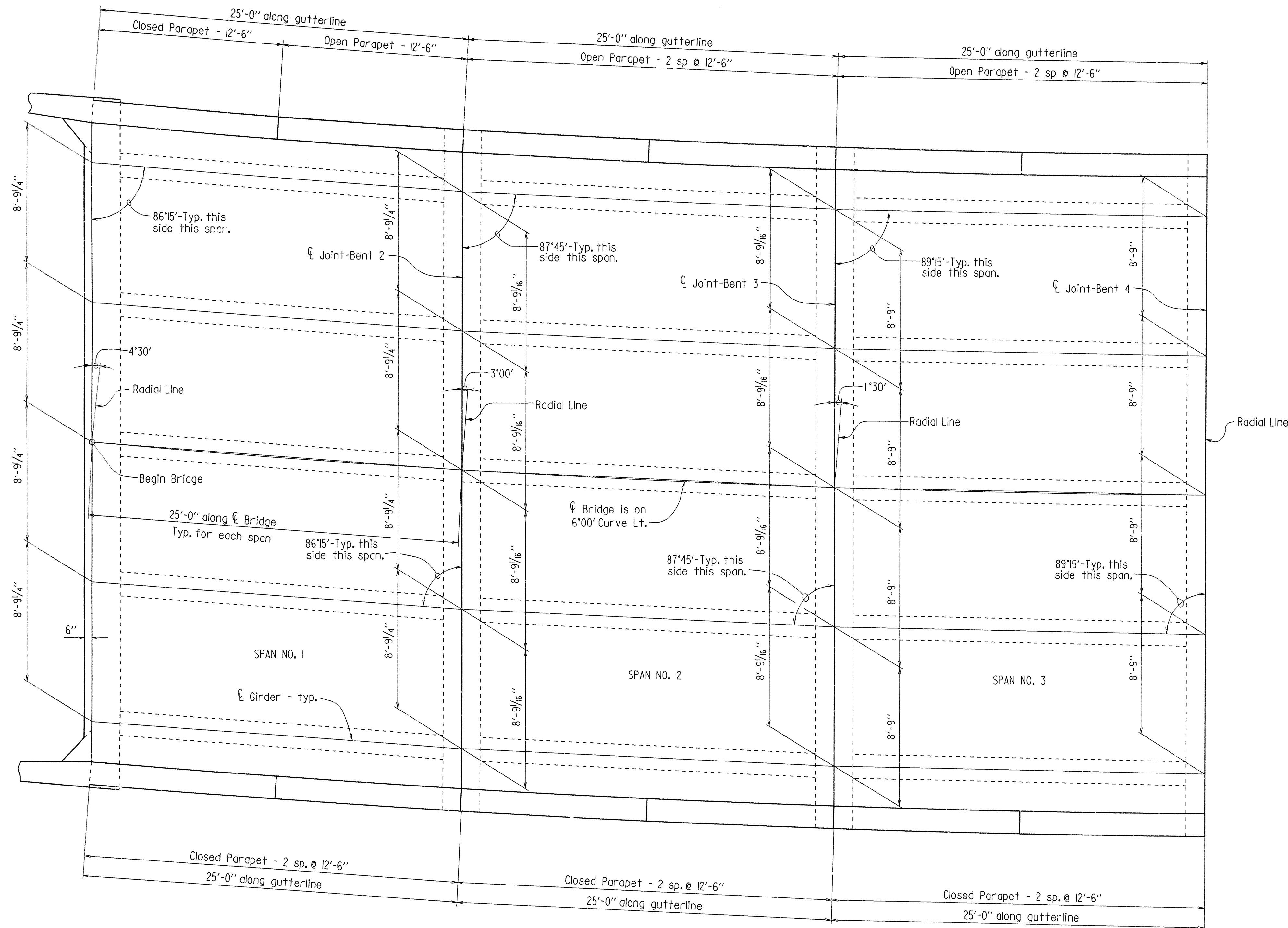
Dimensions are out to out of bars.

① 1/2" Overtolerance; no undertolerance

SHEET 2 OF 4
DETAILS OF 25'-0" R.C.D.G. SPANS
CARY CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: KDH DATE: 28 JUN 91
CHECKED BY: MCC DATE: 8-16-91 SCALE: AS NOTED
DESIGNED BY: C.J.F. DATE: 6-28-91
BRIDGE NO. 6418 DRAWING NO. 32153



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.		R30014	65	248
(1) 6418 - R.C.D.G. SPANS - 32154								



Note:

Joint at Bent No. 4 is on a radial line.
All other joints are parallel to Joint at Bent No. 4.

Girder 3 in any span is along Bridge Chord. All other girders within that span are parallel to Girder 3.
Gutterlines and rail lines are concentric arcs with Bridge.

Joints, open joints at parapets, and drains turn at radial lines at gutterlines.

FRAMING PLAN

Scale: 1/4" = 1'-0"

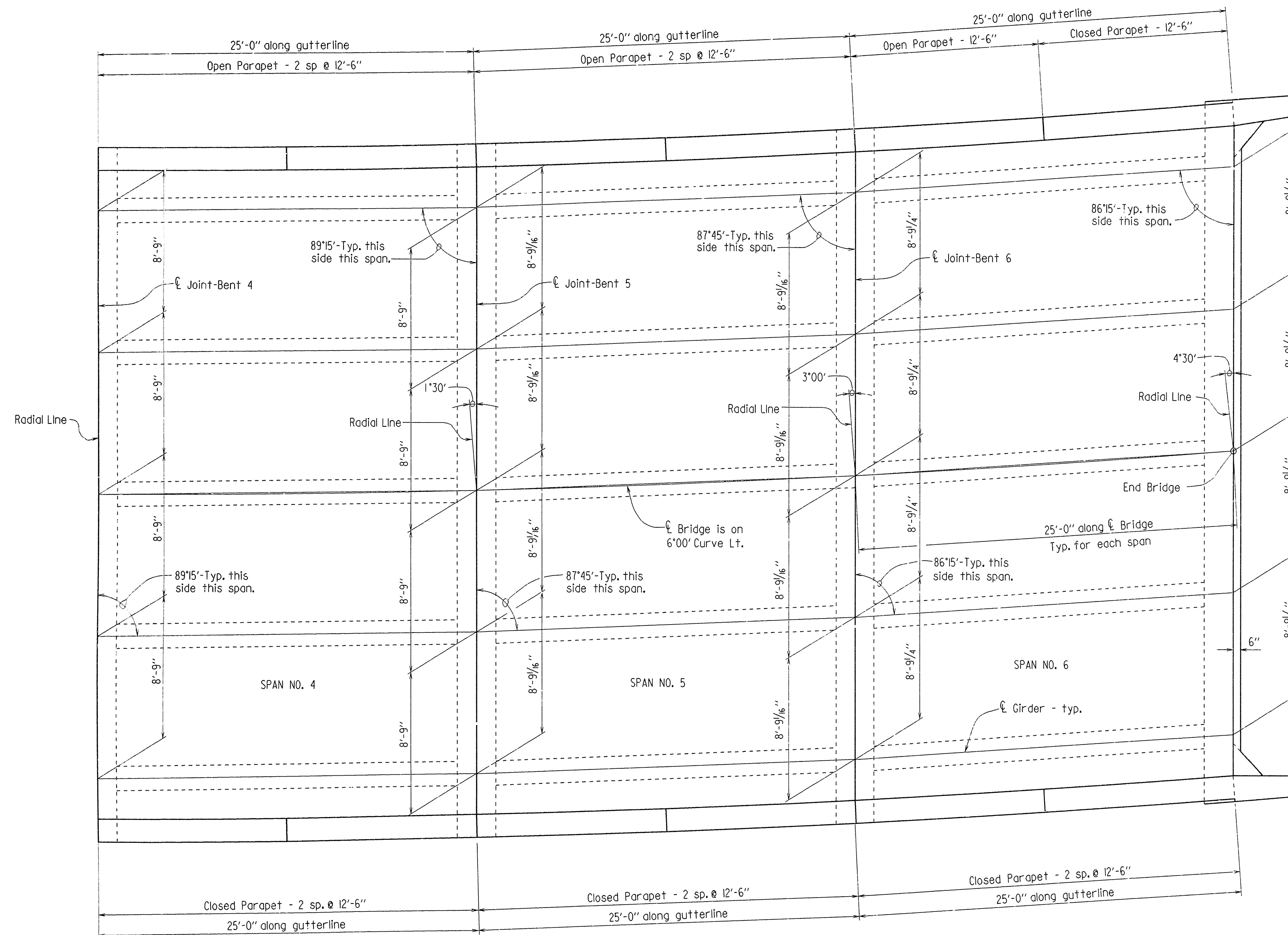


BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF 25'-0" R.C.D.G. SPANS
CARY CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: KDH DATE: 28 JUN 91
CHECKED BY: MCC DATE: 8-16-91
DESIGNED BY: C J F DATE: 6-28-91
BRIDGE NO. 6418
DRAWING NO. 32154
SCALE: AS NOTED

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.		R30014	66	248

6418 - R.C.D.G. SPANS - 32155



FRAMING PLAN

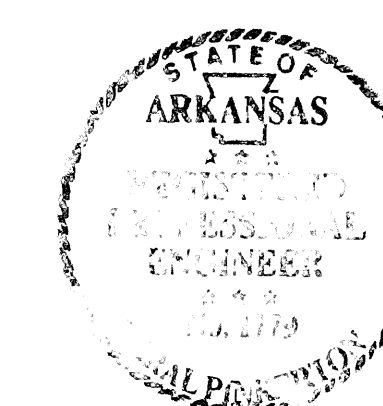
Scale: 1/4" = 1'-0"

Note:

Joint at Bent No. 4 is on a radial line. All other joints are parallel to Joint at Bent No. 4.

Girder 3 in any span is along Bridge Chord. All other girders within that span are parallel to Girder 3. Gutterlines and rail lines are concentric arcs with Bridge.

Joints, open joints at parapets, and drains turn at radial lines at gutterlines.



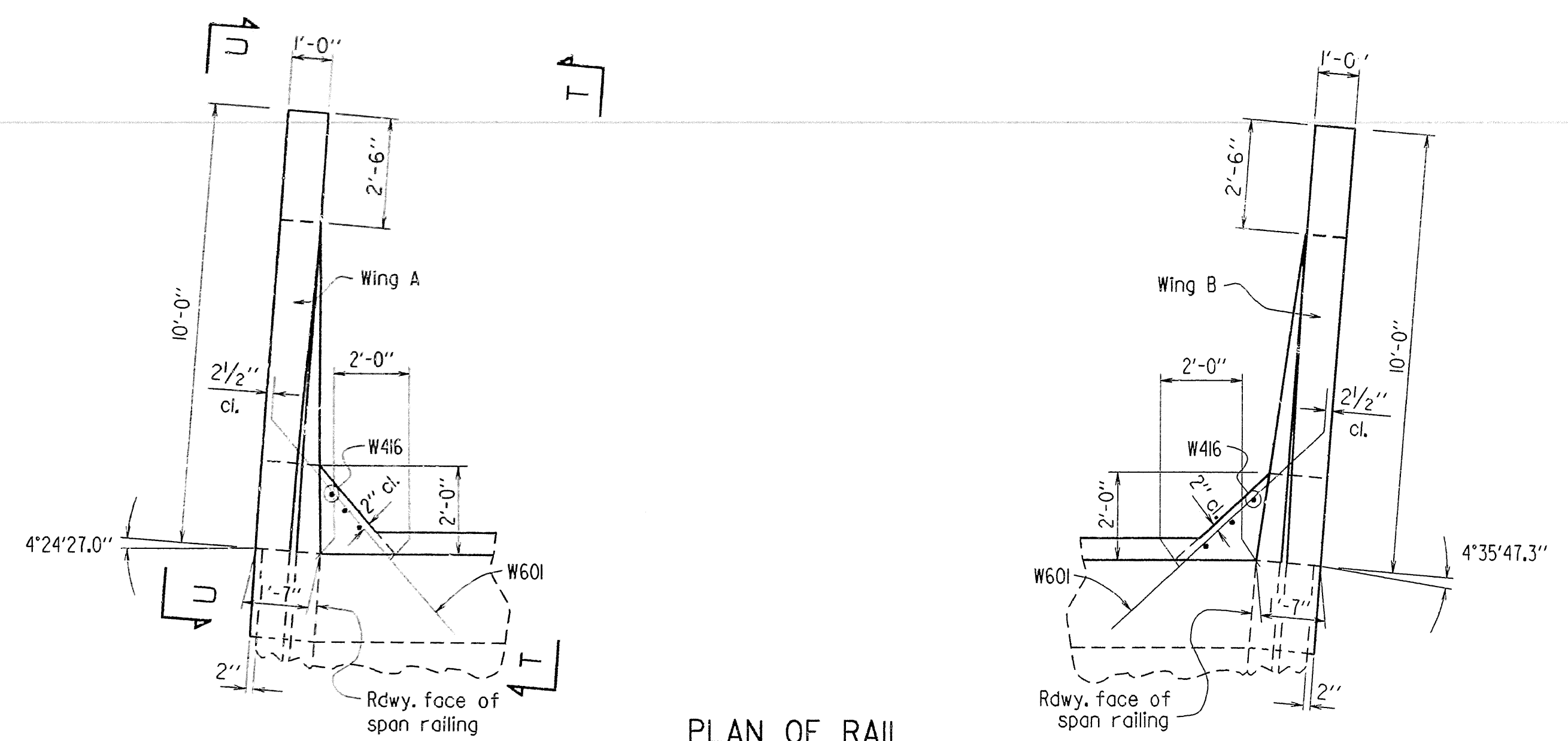
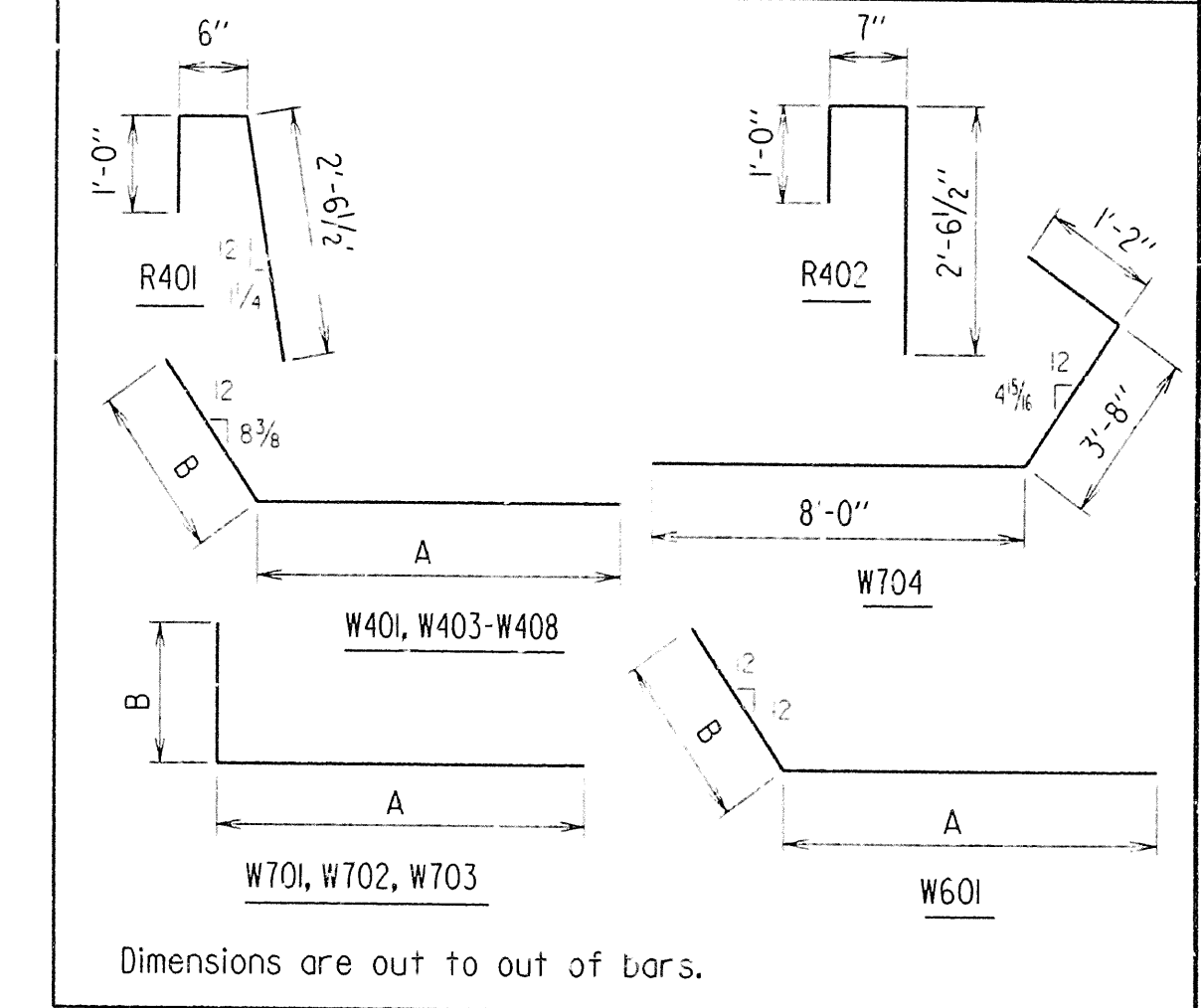
SHEET 4 OF 4
DETAILS OF 25'-0" R.C.D.G. SPANS
CARY CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1 JUL 91
CHECKED BY: MEC DATE: 8-16-91
DESIGNED BY: C J F DATE: 6-28-91
BRIDGE NO. 6418 DRAWING NO. 32155

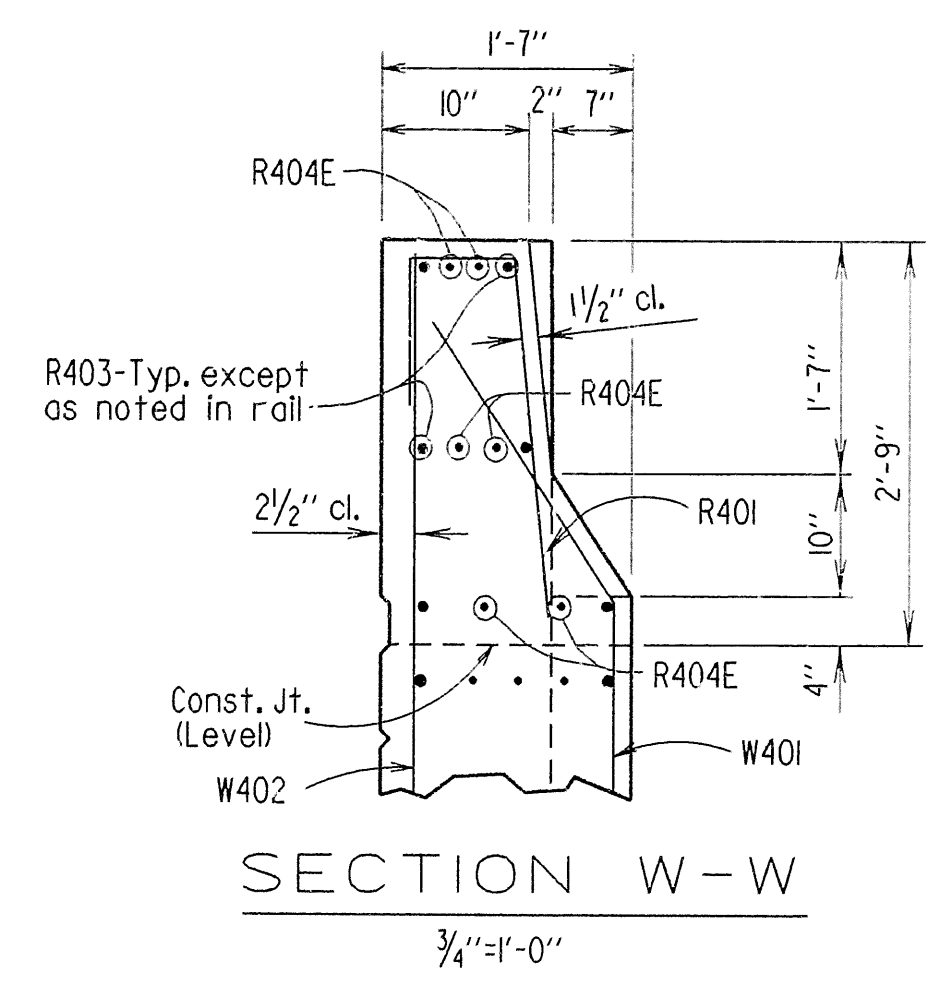
BAR LIST (WING & RAIL)

MARK	NO.	REQ'D.	LENGTH	A	B	PIN DIA.
R401	8		3'-11"			2"
R402	8		4'-0"			2"
R403	12		9'-8"			Str.
R404E	12		4'-0"			Str.
R601	16		4'-5"			Str.
R602	6		5'-0"			Str.
W401	4		5'-6"	4'-4"	1'-2"	2"
W402	4		6'-8"			Str.
W403-W408	2 of each		Var. 3'-5" to 5'-5"	Var. 2'-3" to 4'-3"	1'-2"	2"
W409-W414	2 of each		Var. 4'-6" to 6'-7"			Str.
W415	8		3'-11"			Str.
W416	8		3'-2"			Str.
W417	6		2'-7"			Str.
W601	8		7'-5"	6'-7"	1'-0"	4 1/2"
W701	12		12'-6"	11'-6"	1'-2"	5/4"
W702	4		8'-6"	7'-6"	1'-2"	5/4"
W703	4		6'-8"	5'-8"	1'-2"	5/4"
W704	4		12'-8"			5/4"
W705E	6		6'-0"			Str.

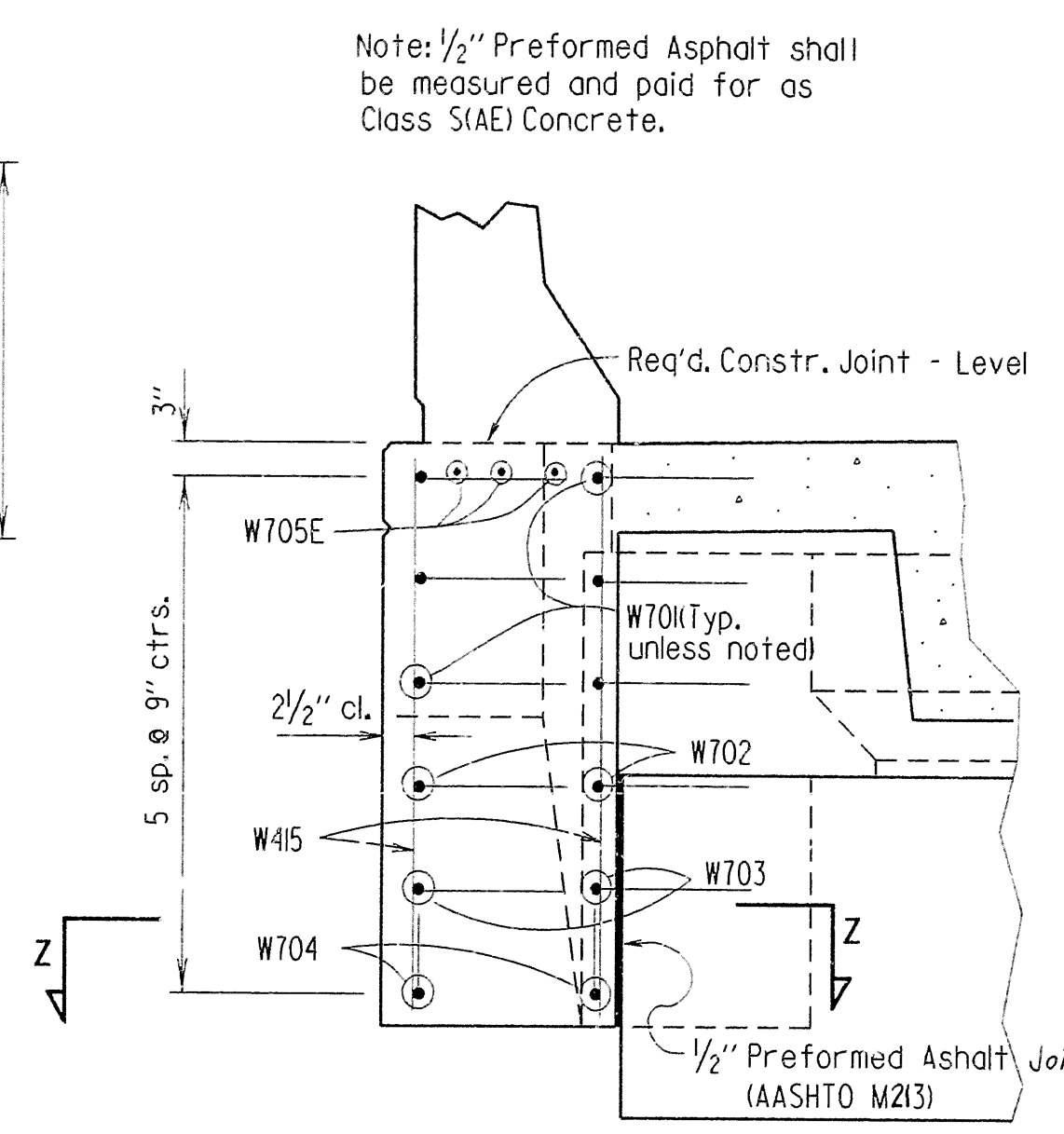
BENDING DIAGRAMS



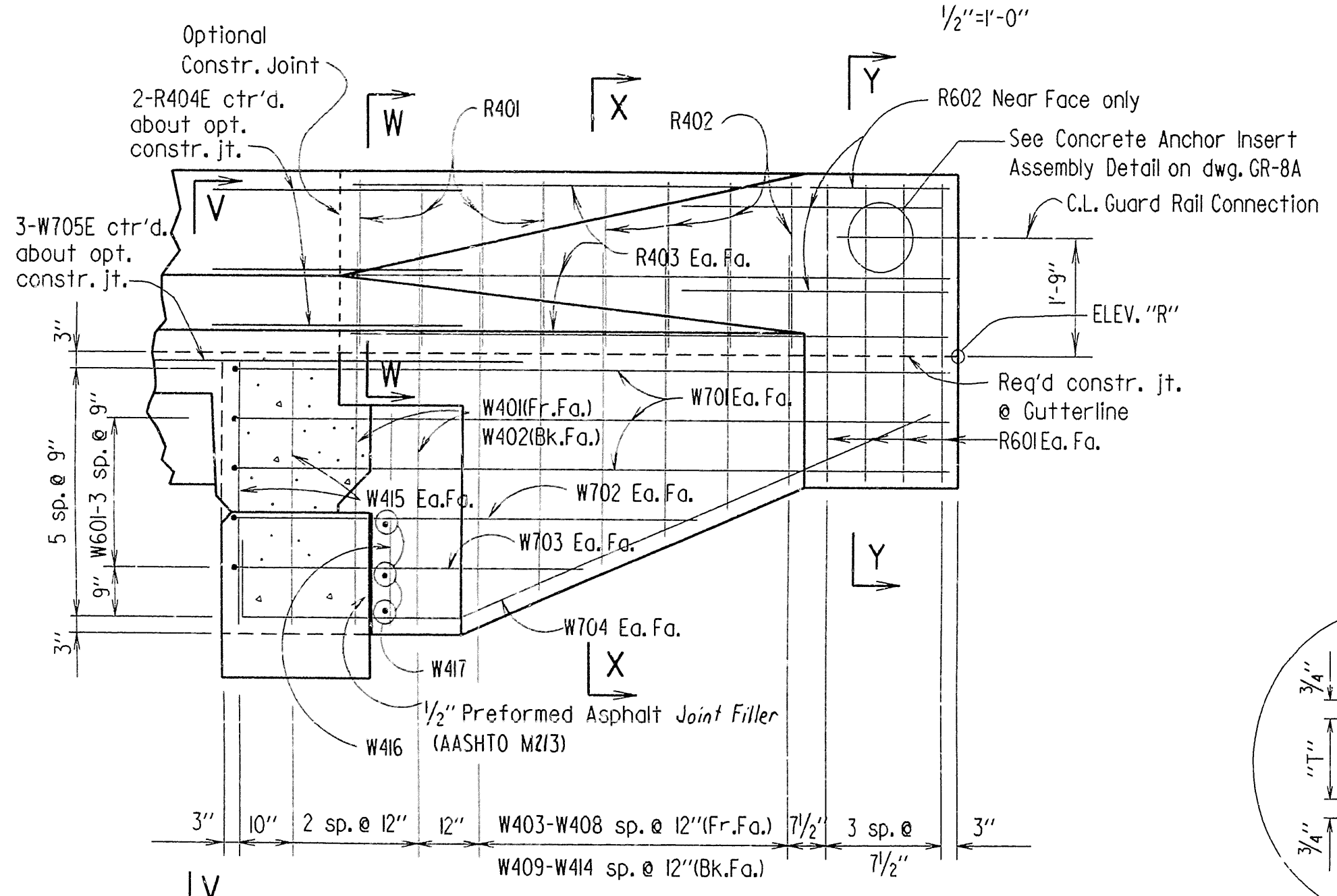
PLAN OF RAIL
1/2"=1'-0"



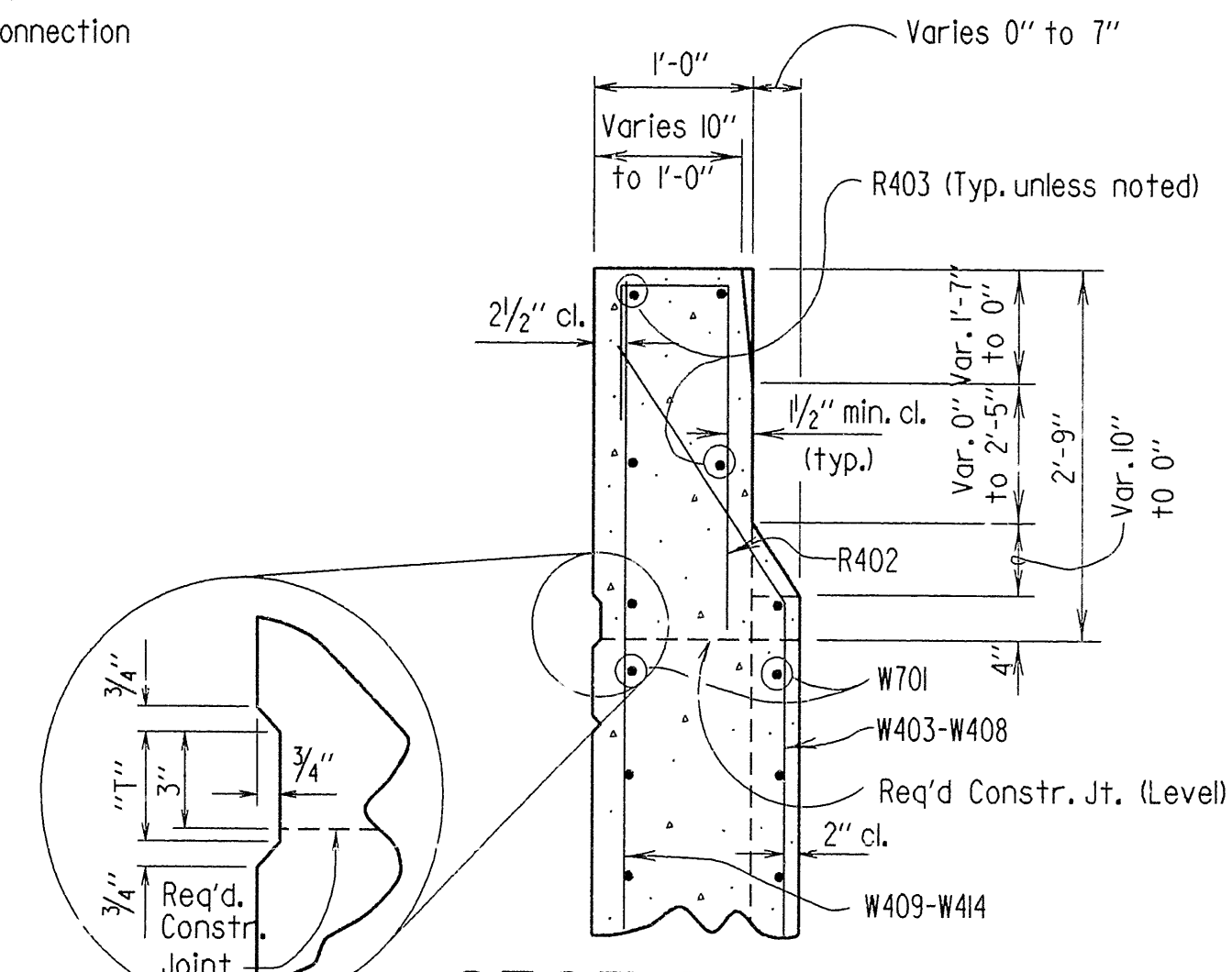
SECTION W-W
3/4"=1'-0"



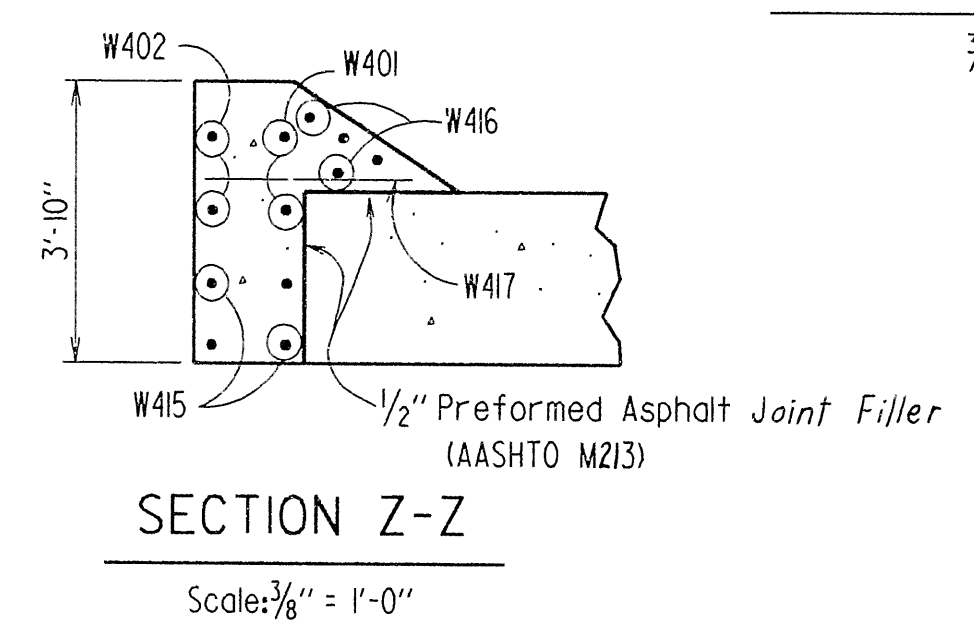
SECTION V-V
3/4"=1'-0"



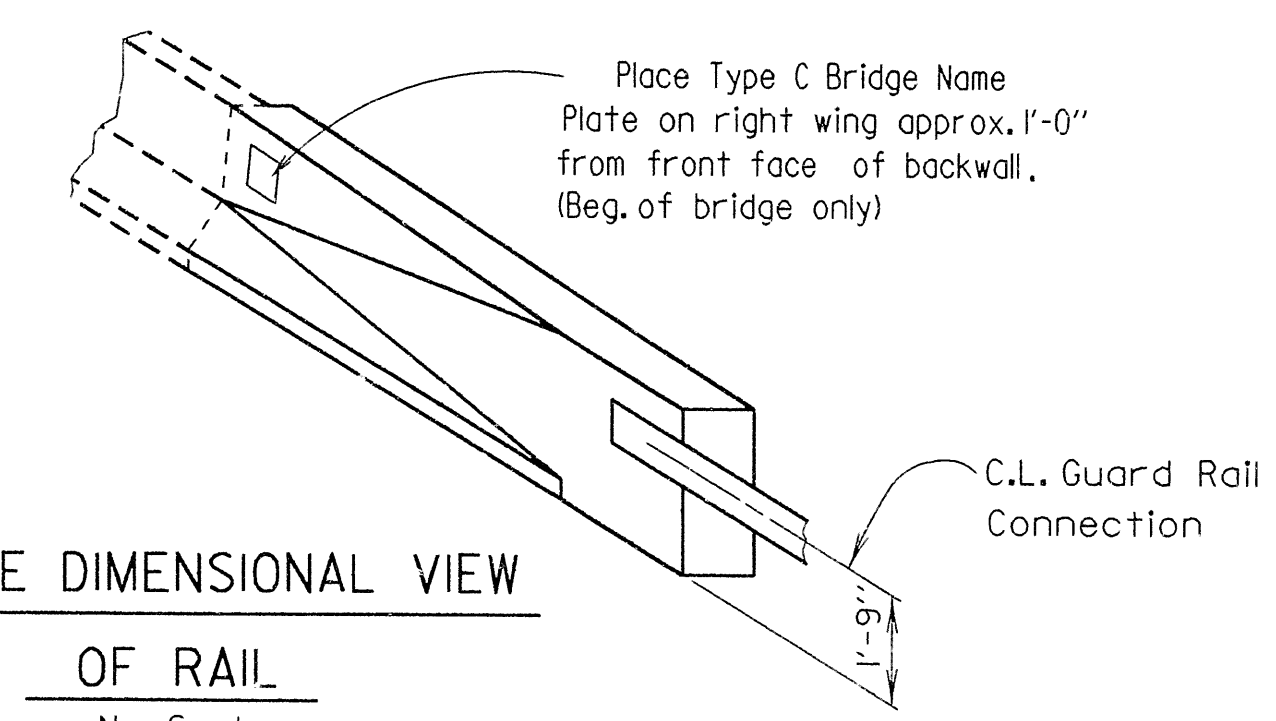
SECTION T-T
1/2"=1'-0"



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



SECTION Z-Z
Scale: 3/8"=1'-0"



THREE DIMENSIONAL VIEW
OF RAIL
No Scale

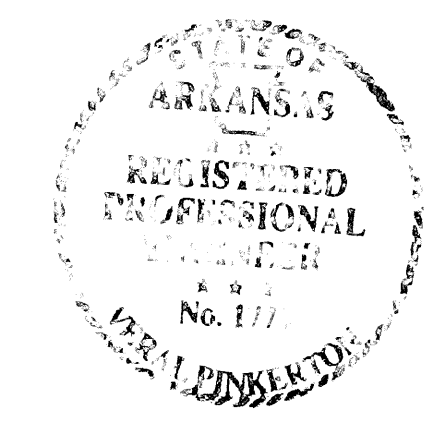
TABLE OF VARIABLES

Bent No.	Wing A	Elev. "R"	Elev. "S"	"K"	"T"	"H"
I	Wing B	435.69	435.36	1'-0"	3"	3'-10 5/8"
		431.97	431.63	1'-0 1/8"	4 5/8"	3'-10 1/8"

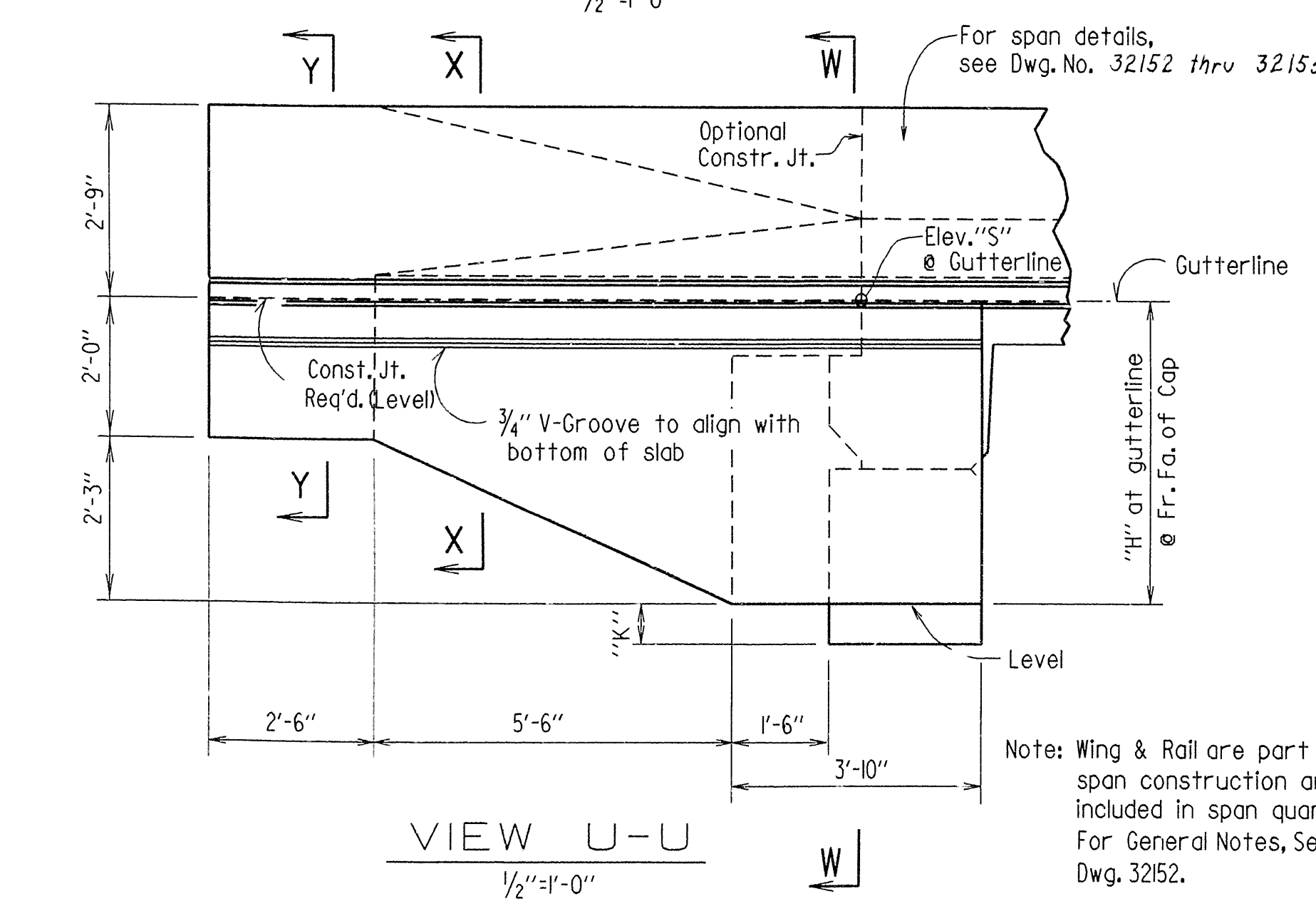
Tabular Data By: KDH Date: 2 JUL 91

Checked By: MEC Date: 8-13-91

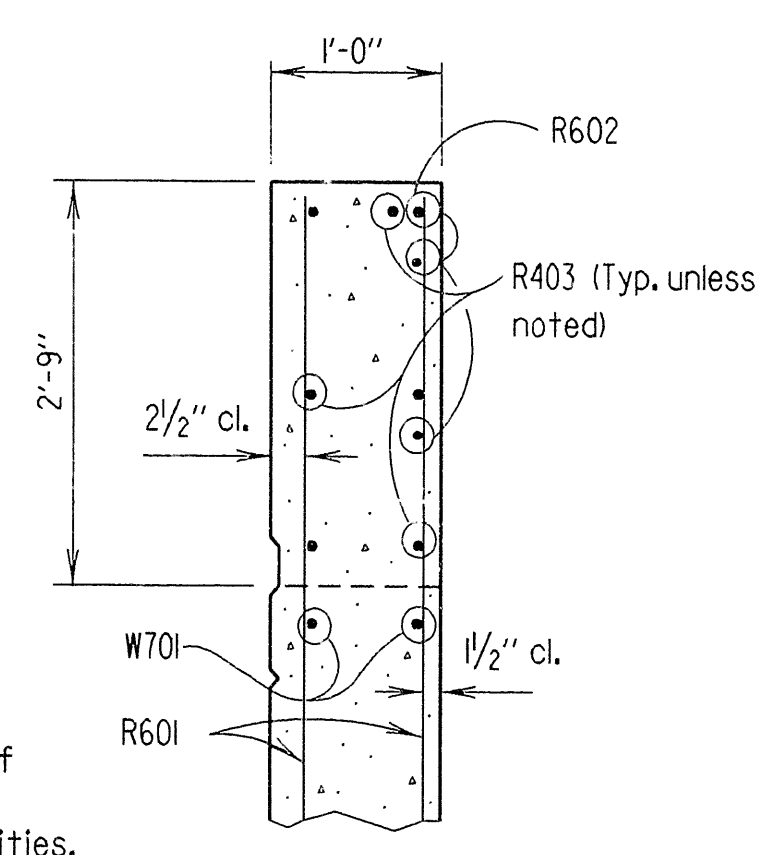
Note: For details of guard rail connections, see Drwg. No. GR-8 & GR-8A.



STANDARD DETAILS
FOR WING AND RAIL AT BENT NO. I
CARY CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
ALTERED BY: LM DATE: 11-4-87
CHECKED BY: MEC DATE: 8-13-91
DESIGNED BY: DATE:
BRIDGE NO. 6418 DRAWING NO. 32156



VIEW U-U
1/2"=1'-0"



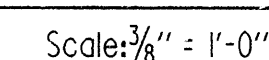
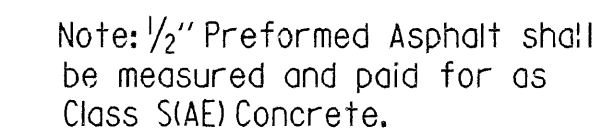
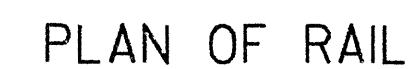
SECTION Y-Y
3/4"=1'-0"

①

MARK	NO. REQ'D.	LENGTH	A	B	PIN DIA.
R401	8	3'-11"			2"
R402	8	4'-0"			2"
R403	12	9'-8"			Str.
R404E	12	4'-C			Str.
R601	16	4'-5"			Str.
R602	6	5'-0"			Str.
W401	4	5'-6"	4'-4"	1'-2"	2"
W402	4	6'-8"			Str.
W403- W408	2 of each	Var. 3'-5" to 5'-5"	Var. 2'-3" to 4'-3"	1'-2"	2"
W409- W414	2 of each	Var. 4'-6" to 6'-7"			Str.
W415	8	3'-11"			Str.
W416	8	3'-2"			Str.
W417	6	2'-7"			Str.
W601	8	7'-5"	6'-7"	1'-0"	4 1/2"
W701	12	12'-6"	11'-6"	1'-2"	5/8"
W702	4	8'-6"	7'-6"	1'-2"	5/4"
W703	4	6'-8"	5'-8"	1'-2"	5/4"
W704	4	12'-8"			5/4"
W705E	6	6'-0"			Str.

Figure 1 shows the dimensions of various angles. The dimensions are as follows:

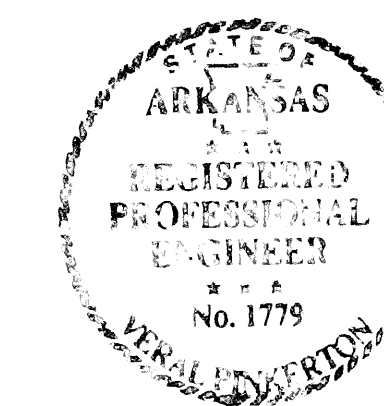
- R40I**: Top flange 6", web 1'-0", heel thickness 1/4", slope 1/2" on 9" - 2.
- R402**: Top flange 7", web 1'-0", heel thickness 1/4", slope 2'-6 1/2", heel thickness 1/4".
- W40I, W403-W408**: Slope 8 3/8", heel thickness 1/4", flange width A, web height B.
- W704**: Slope 8 3/8", heel thickness 1/4", flange width 8'-0", web height B.
- W70I, W702, W703**: Slope 8 3/8", heel thickness 1/4", flange width A, web height B.
- W60I**: Slope 8 3/8", heel thickness 1/4", flange width A, web height B.



OF RAIL
No Scale

		Elev. "R"	Elev. "S"	"K"	"T"	"H"
Bent No. 7	Wing A	427.15	427.36	5 $\frac{3}{8}$ "	4 $\frac{5}{8}$ "	4'-3 $\frac{1}{2}$
	Wing B	431.06	431.28	5 $\frac{3}{8}$ "	3"	4'-3 $\frac{1}{2}$

Checked By : MCC Date: 8-13-91



STANDARD DETAILS
FOR WING AND RAIL AT BENT NO. 7
CARY CREEK

ROUTE SEC.
STATE HIGHWAY
LITTLE ROCK, ARK.

ALTERED BY: LM DATE: 11-4-87
 CHECKED BY: MCC DATE: 8-13-91 SCALE: As Shown
 DESIGNED BY: _____
 BRIDGE NO. 6418 DRAWING NO. 32157

