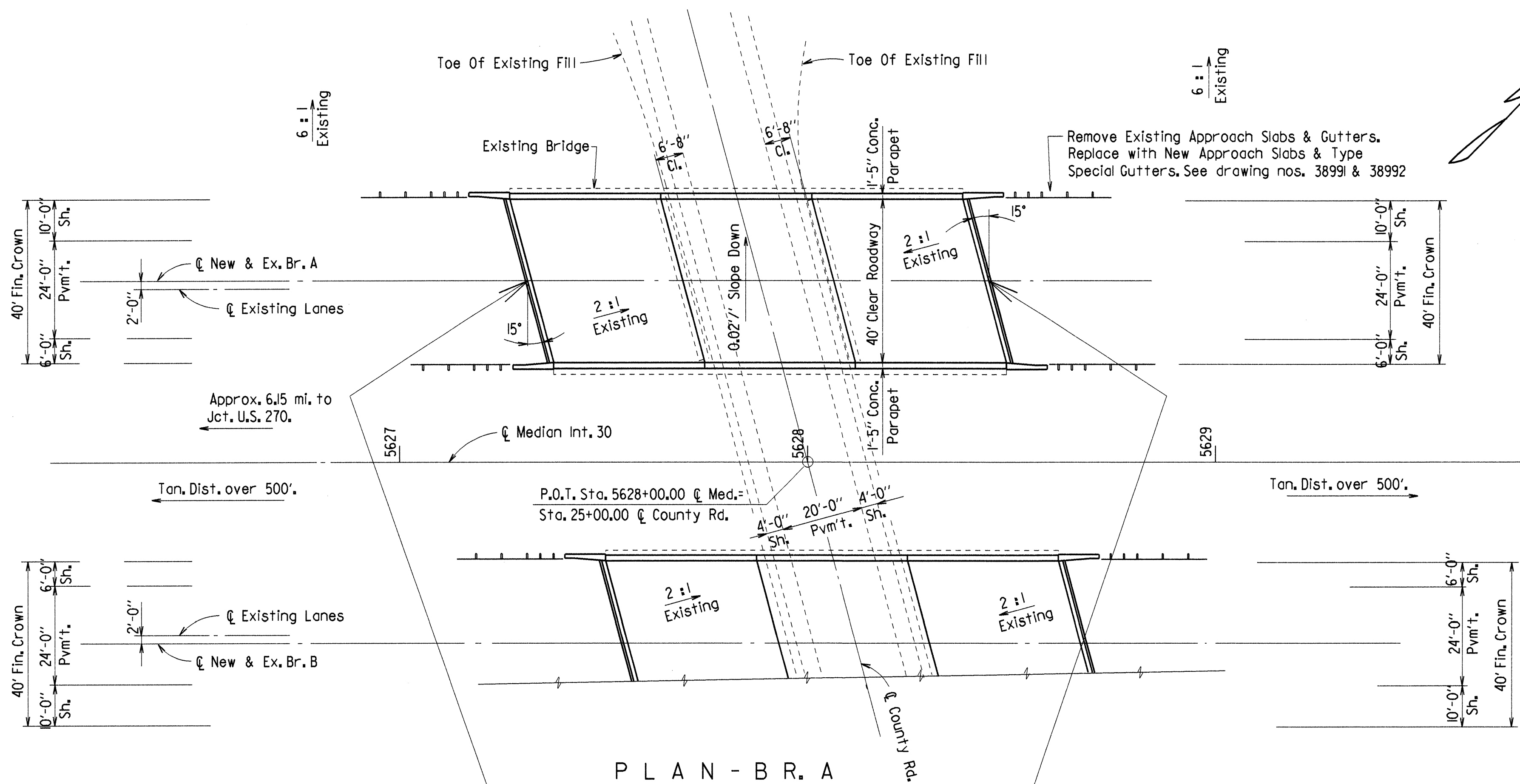


For R/W Data-See Rdwy.Plans

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.	060591		81	146
				A&B 3431	LAYOUT		38982	



PLAN - BR. A

Note: Elevations shown are on ℓ Bridge.

* ℓ Deck & ℓ Bent to New Low Pedestal

Total Length Of Bridge = 113'-3"

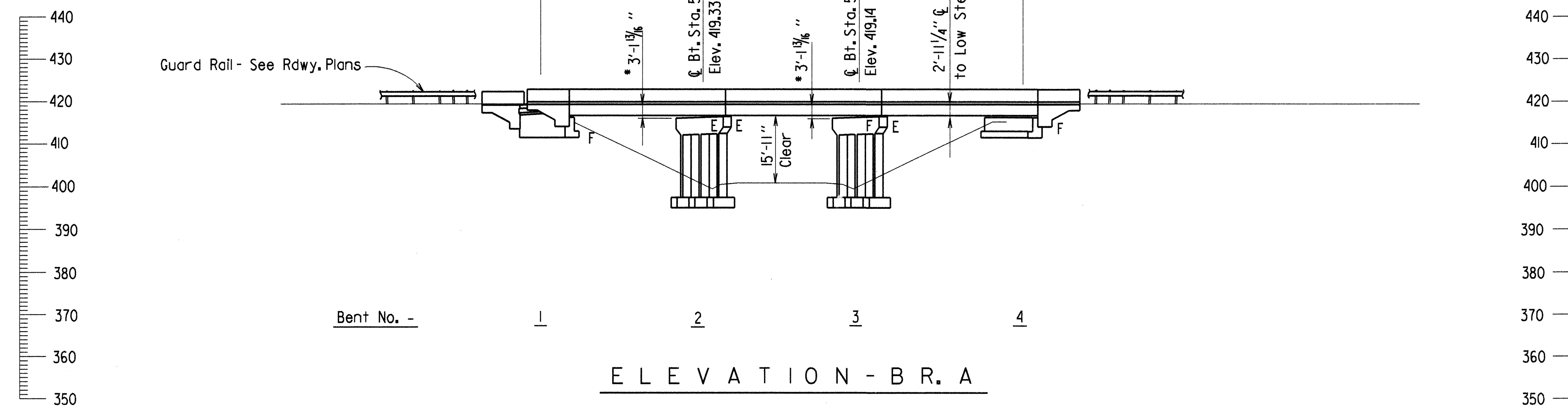
3 - 37'-0" Composite W-Beam Spans (Regular)

2" Preform. Jt.

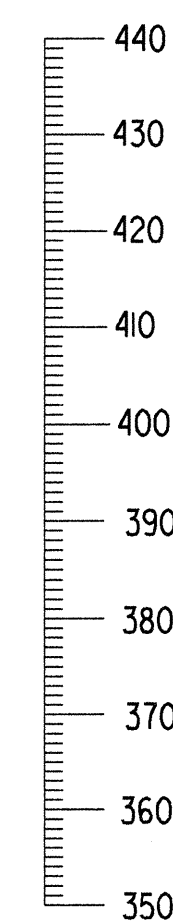
2" Preform. Jt.

Beg. Bridge Sta. 5627+31.60
Elev. 419.48

End Bridge Sta. 5628+44.85
Elev. 418.88



ELEVATION - BR. A



MICROFILMED
MAR 05 1998

GENERAL NOTES

BENCH MARKS: See Roadway Plans.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 1996 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges, 1996 with current interim specifications.

LIVE LOADING: HS20 METHOD OF DESIGN: Load Factor

SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:
Class (SAE) Concrete (superstructure) $f'_c = 4,000$ psi
Class S Concrete (substructure) $f'_c = 3,500$ psi
Reinforcing Steel (AASHTO M31 or M53, GR. 60) $F_y = 60,000$ psi
Structural Steel (AASHTO M270, GR. 36) $F_y = 36,000$ psi
Structural Steel (AASHTO M270, GR. 50W) $F_y = 50,000$ psi

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

BRIDGE DECK: The concrete bridge deck shall be given a fine finish as specified for final finishing in subsection 802.19 for Class 5 Bridge Roadway Surface Finish.

CLASS I PROTECTIVE SURFACE TREATMENT: Baled 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.

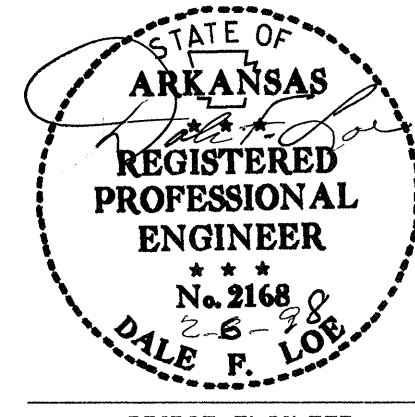
Substructure 38985 - 38988

37' Comp. W-Beam Spans 38989, 38990 & 14990H

THE PROPOSED WORK CONSISTS OF: Raising the Existing Bridges; removing and replacing the existing bridge decks, railing, existing diaphragms and struts and expansion devices; removing and replacing all existing beams; removing and replacing existing shoes with bearings as shown on plans and repairing existing bents and constructing new bent additions as shown on plans.

VERIFICATION: Components of Existing Bridges are to be retained and joined to the proposed work. The Contractor is to strictly adhere to the requirements for verification of the geometry of the Existing Bridges and its relationship to the proposed work described in Article 821.02 of the Standard Specifications.

REMOVAL AND SALVAGE: All material removed from the Existing Bridges under Item 821 shall be disposed of according to Section 205 of the Standard Specifications, except the Aluminum Bridge Rails and Posts shall remain property of the State. The Bridge Rail and Post shall be delivered by the Contractor to the Hot Springs County Maintenance Headquarters in Malvern.

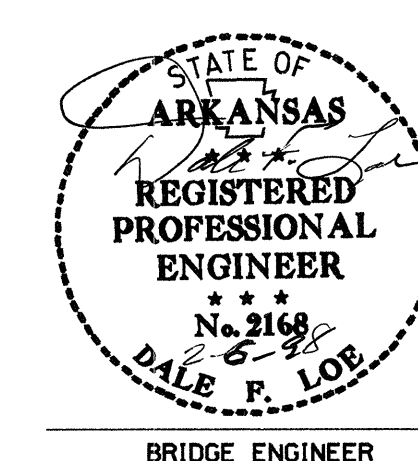
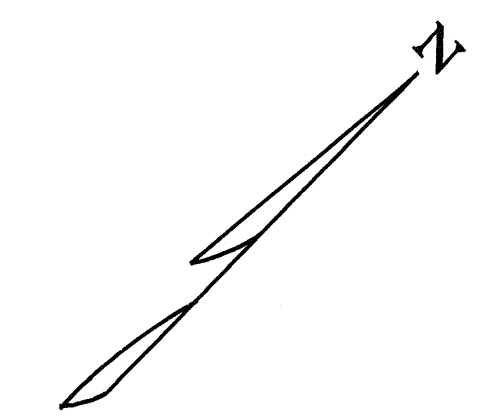


BRIDGE ENGINEER

DRAWN BY: W.M.A.J. DATE: 12-1-97
CHECKED BY: GVA DATE: 2-6-98 SCALE: 1" = 20'
DESIGNED BY: ARW DATE: Nov-97
BRIDGE NO. A&B 3431 DRAWING NO. 38982

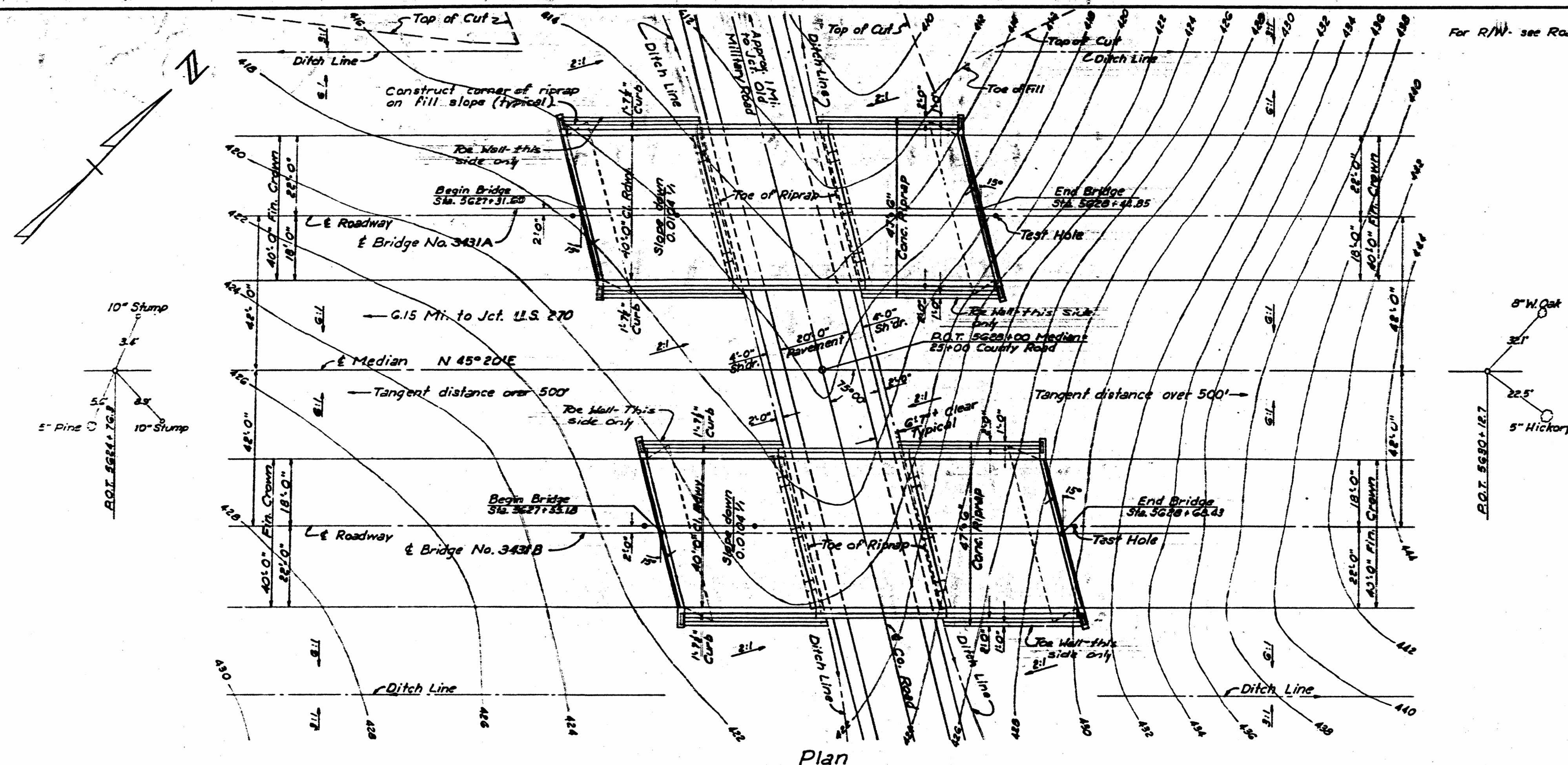
1, 550, 3001, 060591, RWME548, B060591X1, LOI

①



I, 550, 300I, 06059I, RWME548, B06059IXI.LOI

STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
ARK.			83	146
JOB No.	060591			



General Notes

T.B.M. Nail in 7" Pine 70' left Sta. 5623+30, El. 410.92.
For details of superstructure see Drwg. No. 11230, 11239 & 5462.
For details of substructure see Drwg. No. 11236 & 11237.
For details of concrete riprap see Drwg. No. 11203.
Place drains in spans 1 and 3 only.

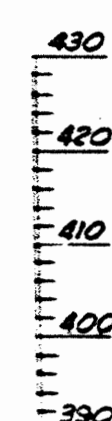
Specifications: Arkansas State Highway Commission Standard
Specifications for Highway Construction, adopted Dec. 9, 1959.

Design Loading: A.A.S.H.O. 1957, H20-S16 and special
interstate loading of 2-24000 pound axles 4' on centers.

Unit Stresses: Class A Concrete (n=15) 340 p.s.i.
Class B Concrete (n=10) 1800 p.s.i.
Reinforcing Steel 20,000 p.s.i.
Structural Steel 18,000 p.s.i.

Foundation Pressure: 4500 p.s.f. DL+LL.

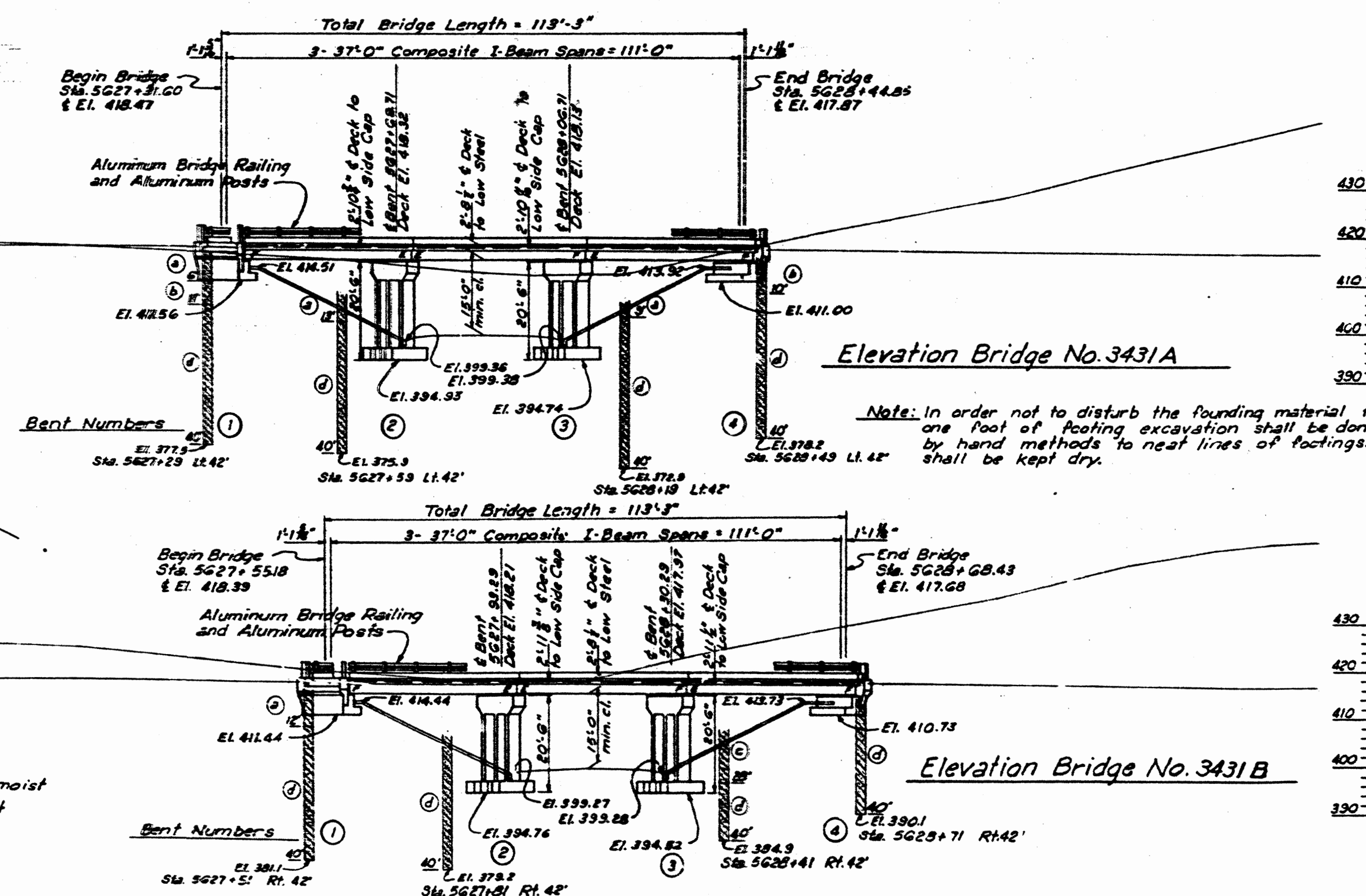
Note: Sole plates of shoes of Span 2
at Bent 3 and Masonry Plates
of shoes of Span 1 at Bent
are to be thicker than standard.
(Both Bridges)



Vertical Curve Data
1.94%
1200' V.C.
V.P.I. Sta. 5628+00
Elevations refer to fin. & Br. grade.

Boring Data

- ② Firm brown sandy clay-moist
- ③ Firm brown sandy clay and gravel-moist
- ④ Firm light brown sandy clay-moist
- ⑤ Firm light gray sandy clay-moist



Note: In order not to disturb the founding material the final
one foot of footing excavation shall be done carefully
by hand methods to neat lines of footings. All pits
shall be kept dry.

Revised: Specifications Note. B.V. 4-20-60
Revised Elevations C.E.V. 7-26-60

FOR INFORMATION ONLY
LAYOUT OF OVERPASSES
AT COUNTY ROAD STA. 5628+00
OUACHITA RIVER-NINE MILE CREEK
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

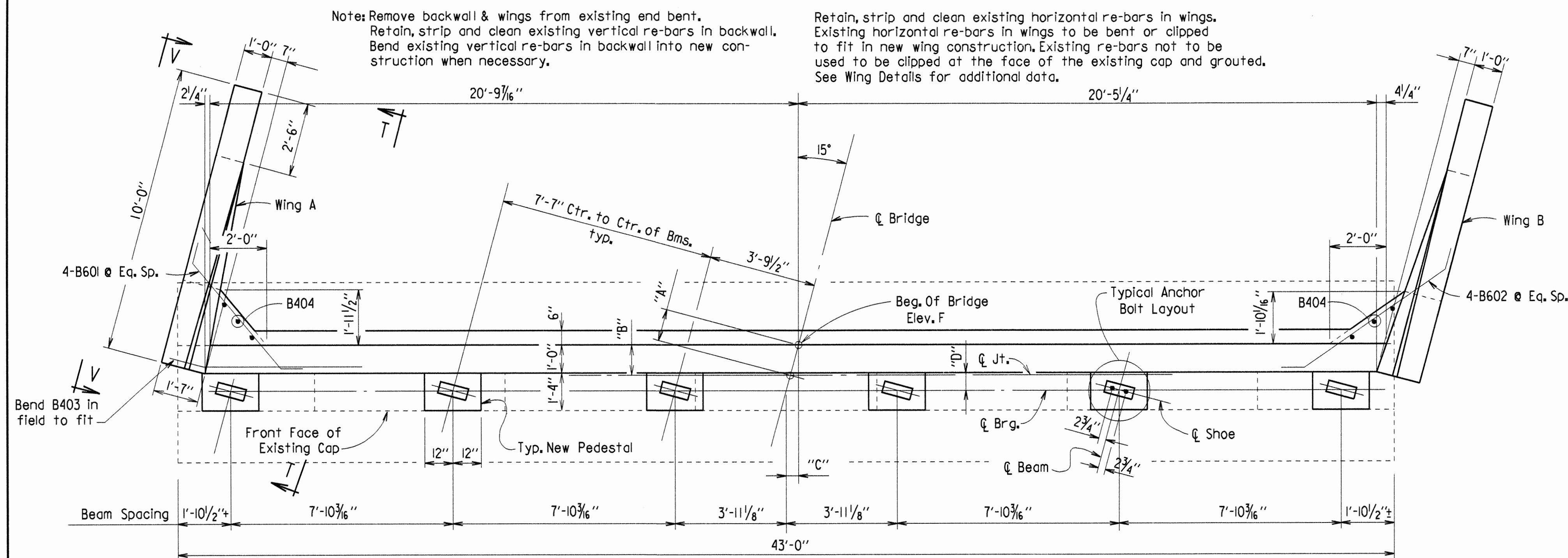
DRAWN BY: R.L.C. DATE: 7-16-59
CHECKED BY: E.R.B. DATE: 7-20-59
BRIDGE NO. 3431 A & B DRAWING NO. 38984

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.		060591	84	146
				A&B 3431		END BENT	38985	

BAR LIST (ONE END B.T.)

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
B401	84	3'-6"	Str.	
B402	39	3'-8"	2"	
B403	16	23'-0"	Str.	
B404	6	3'-6"	Str.	
B601	4	6'-10"	4 1/2"	
B602	4	8'-0"	4 1/2"	
P401	12	1'-8"	Str.	
P402	18	2'-11"	2"	

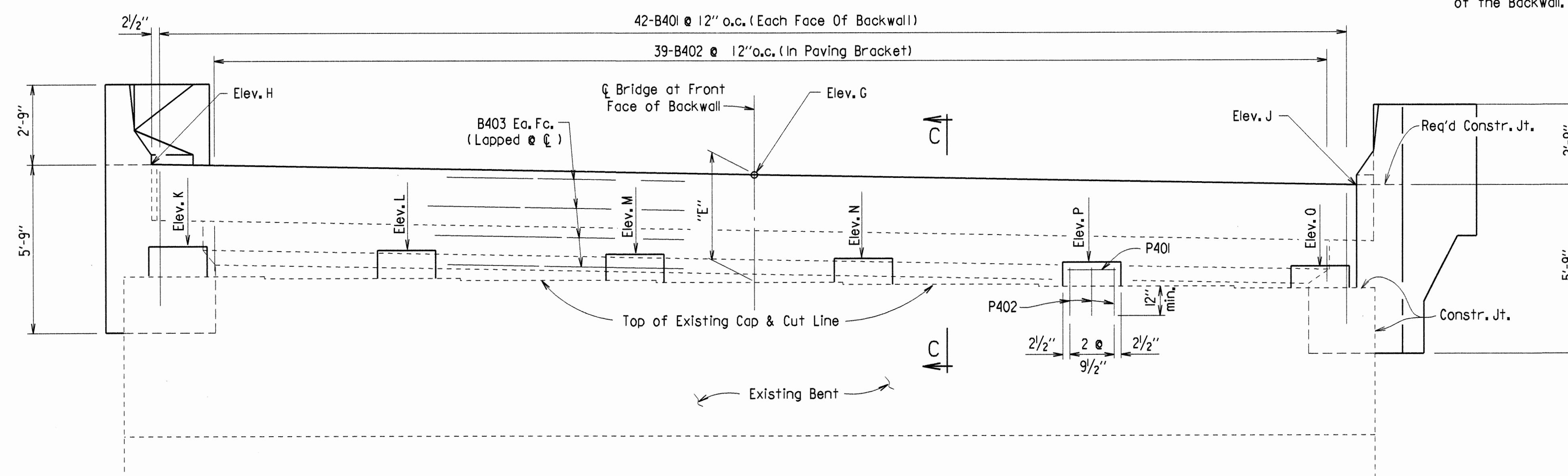
Note: For bar list and bending diagrams for wing, see dwg. no.



PLAN

(Bent No. 1, Bridge A)
(Bent No. 4, Bridge B)

Note: Class I Protective Surface Treatment shall be applied to the Rdwy. Face and Top of End Bent Rail, and to the Top of the Backwall.

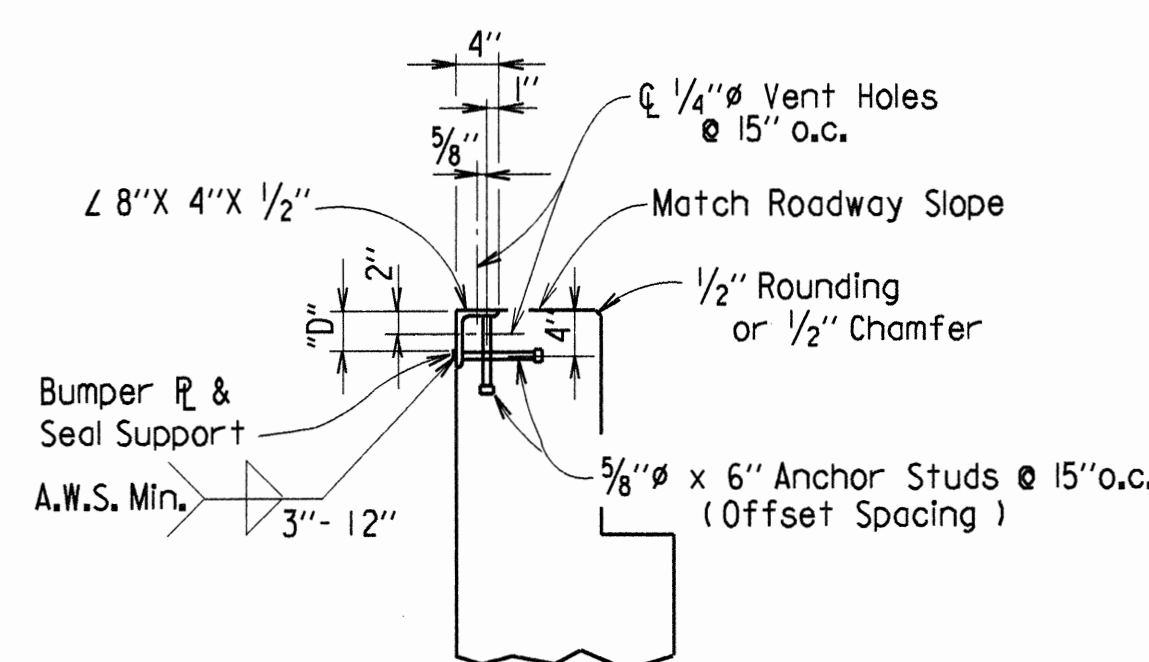


ELEVATION

(Bent No. 1, Bridge A - Looking Back)
(Bent No. 4, Bridge B - Looking Forward)

TABLE OF VARIABLES

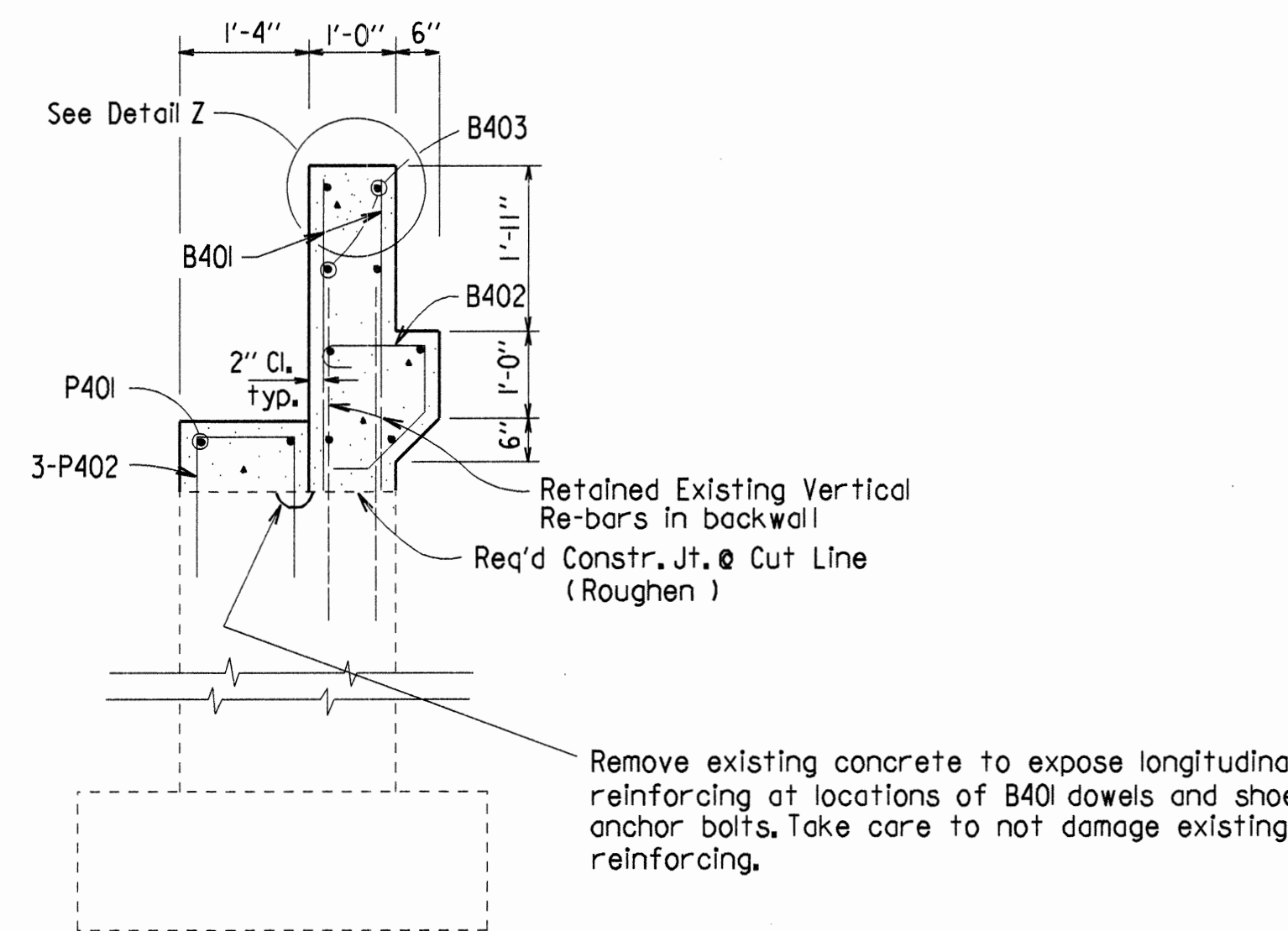
Location	A	B	C	D	E	F	G	H	J	K	L	M	N	P	O
Bt. No. 1 Br. No. A3431	1'-1 5/8"	1'-0 7/8"	5 3/8"	7 3/8"	3'-8 1/8"	419.48	419.47	419.86	419.09	417.04	416.89	416.75	416.60	416.46	416.31
Bt. No. 4 Br. No. B3431	1'-1 1/8"	1'-1 1/4"	5 5/8"	7 3/4"	3'-8 1/8"	418.69	418.70	419.14	418.25	416.33	416.16	415.99	415.82	415.65	415.48



Note: For Joint Support Details & Dimension "D" see dwg. no. 38990.

DETAIL Z

3/4" = 1'-0"



SECTION C-C

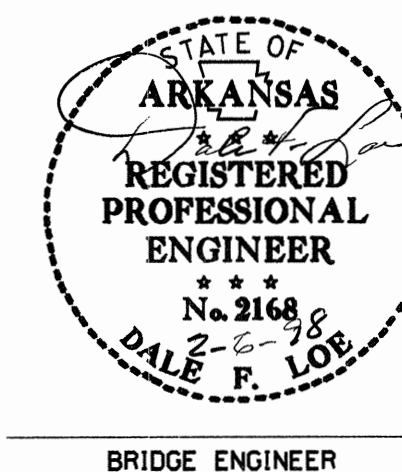
1/2" = 1'-0"

The grout used in the drilled holes for the P401 dowels or shoe anchor bolts shall be an approved non-shrink grout or an epoxy grout listed on the OPL. When using epoxy grout, the diameter of the holes in the cap and the installation procedure shall be as recommended by the grout Manufacturer. For non-shrink grout use 1 1/4" dia. drilled holes for the P401 dowels and use 2" dia. holes for the shoe anchor bolts.

(SHEET 1 OF 3)

DETAILS OF END BENTS
OVERPASSES AT CO. RD. STA. 5628+00
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: WJAL DATE: 1-15-98
CHECKED BY: GVA DATE: 2-6-98 SCALE: 3/8" = 1'-0" or as shown
DESIGNED BY: AKW DATE: Dec-97
BRIDGE NO. A&B 3431 DRAWING NO. 38985

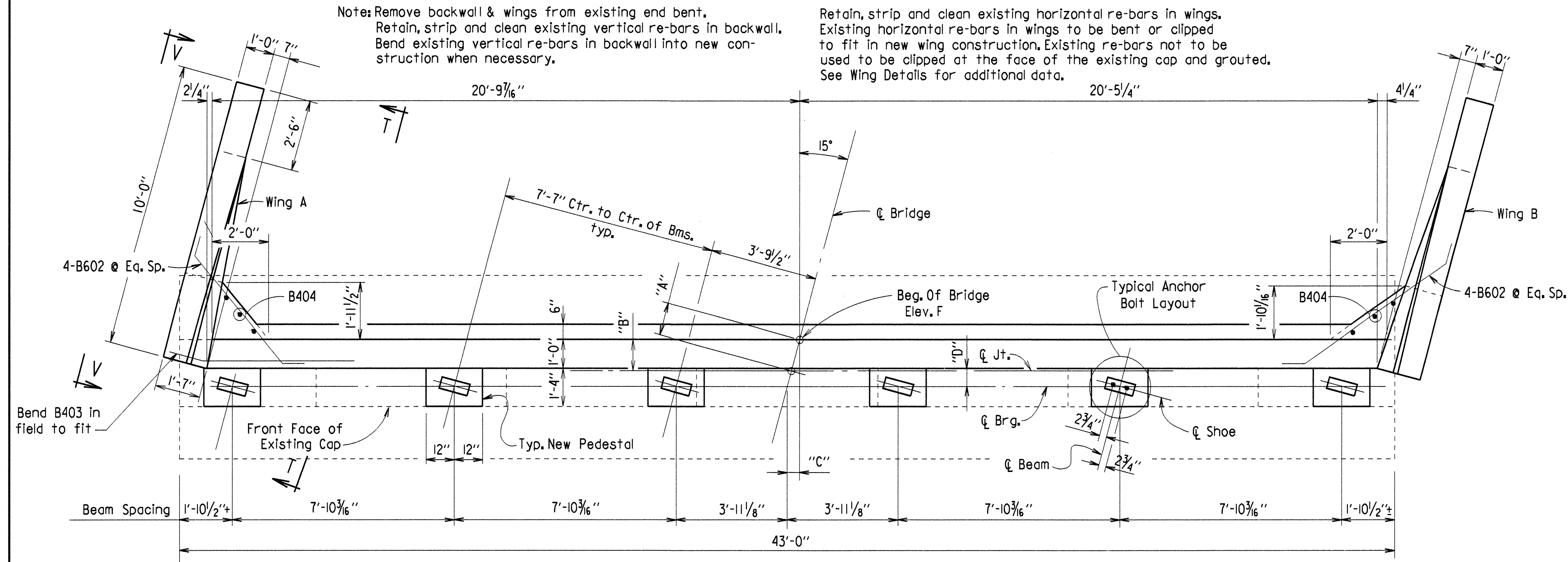


BRIDGE ENGINEER

b060591x2.b01

MICROFILMED
MAR 05 1998

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	SHEETS
				6	ARK.			
				JOB NO.		060591	85	146
				A&B 3431		END BENT		38986

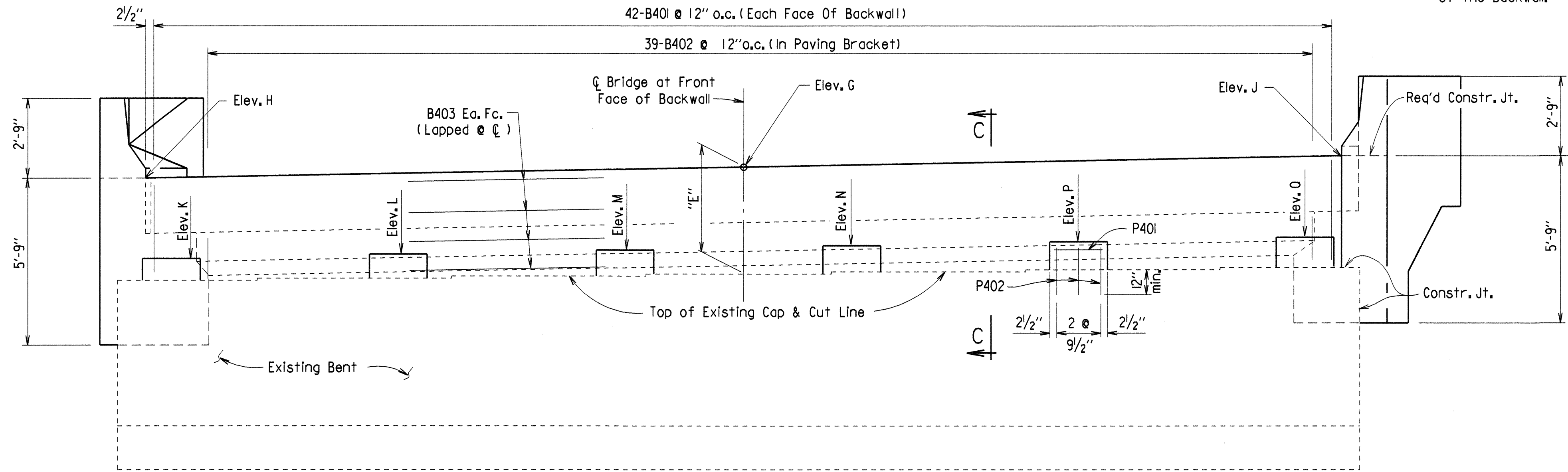


PLAN
(Bent No. 1, Bridge B)
(Bent No. 4, Bridge A)

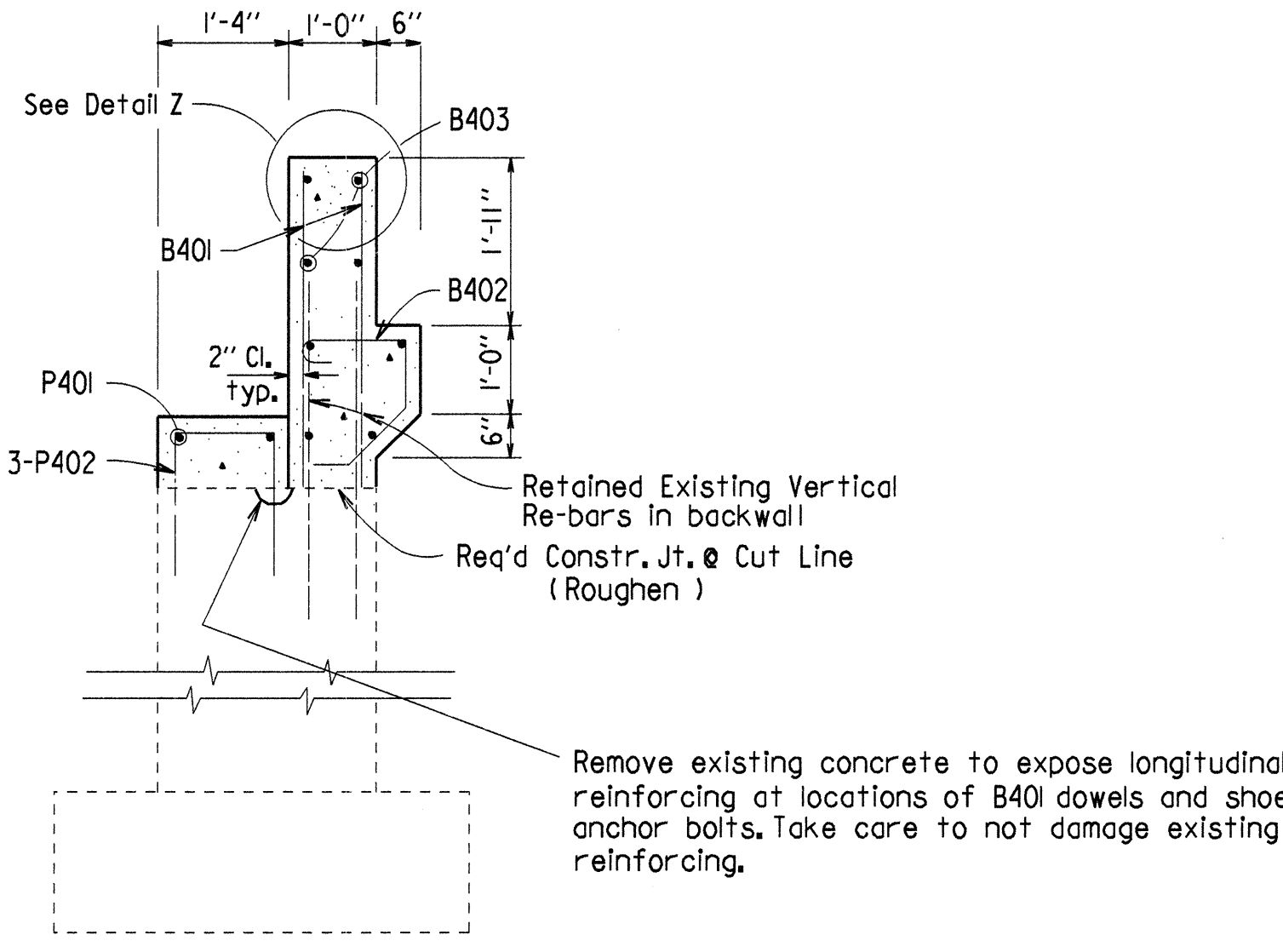
BAR LIST (ONE END B.T.)

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
B401	84	3'-6"	Str.	
B402	39	3'-8"	2"	
B403	16	23'-0"	Str.	
B404	6	3'-6"	Str.	
B601	4	6'-10"	4 1/2"	
B602	4	8'-0"	4 1/2"	
P401	12	1'-8"	Str.	
P402	18	2'-11"	2"	

Note: For bar list and bending diagrams for wing, see dwg. no.



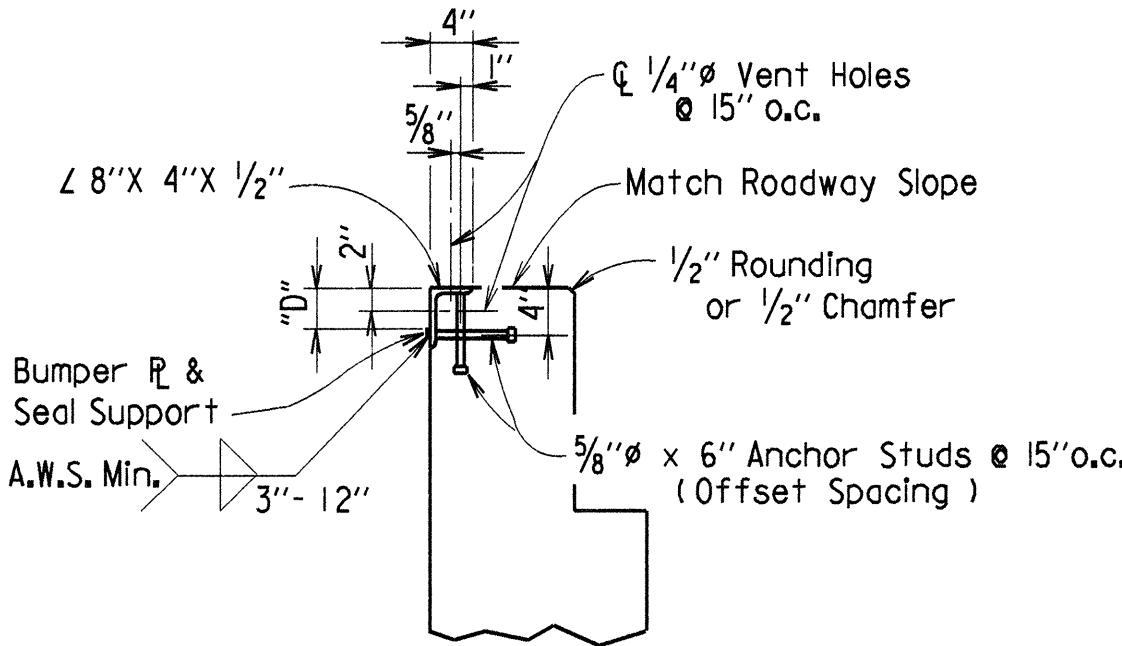
ELEVATION
(Bent No. 1, Bridge B - Looking Back)
(Bent No. 4, Bridge A - Looking Forward)



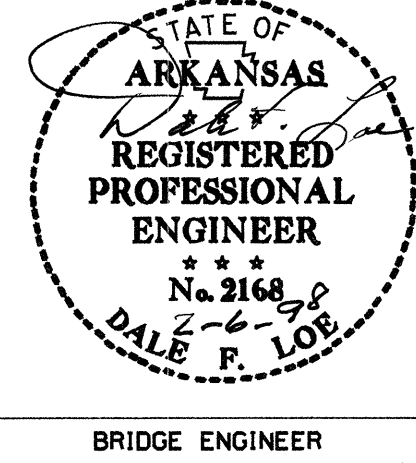
SECTION C-C
1/2" = 1'-0"

TABLE OF VARIABLES

Location	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
Bt. No. 1 Br. No. B3431	1'-1 5/8"	1'-0 7/8"	5 3/8"	7 3/8"	3'-8 1/4"	419.39	419.39	418.97	419.81	416.19	416.35	416.51	416.67	416.83	416.99
Bt. No. 4 Br. No. A3431	1'-1 1/8"	1'-1 1/4"	5 5/8"	7 3/4"	3'-8 1/4"	418.88	418.89	418.53	419.25	415.75	415.89	416.03	416.16	416.30	416.44



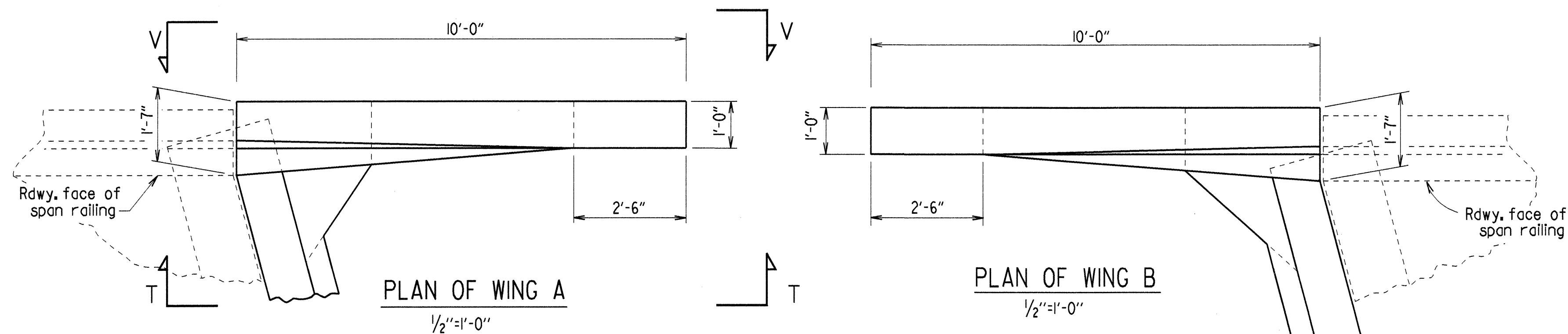
DETAIL Z
3/4" = 1'-0"



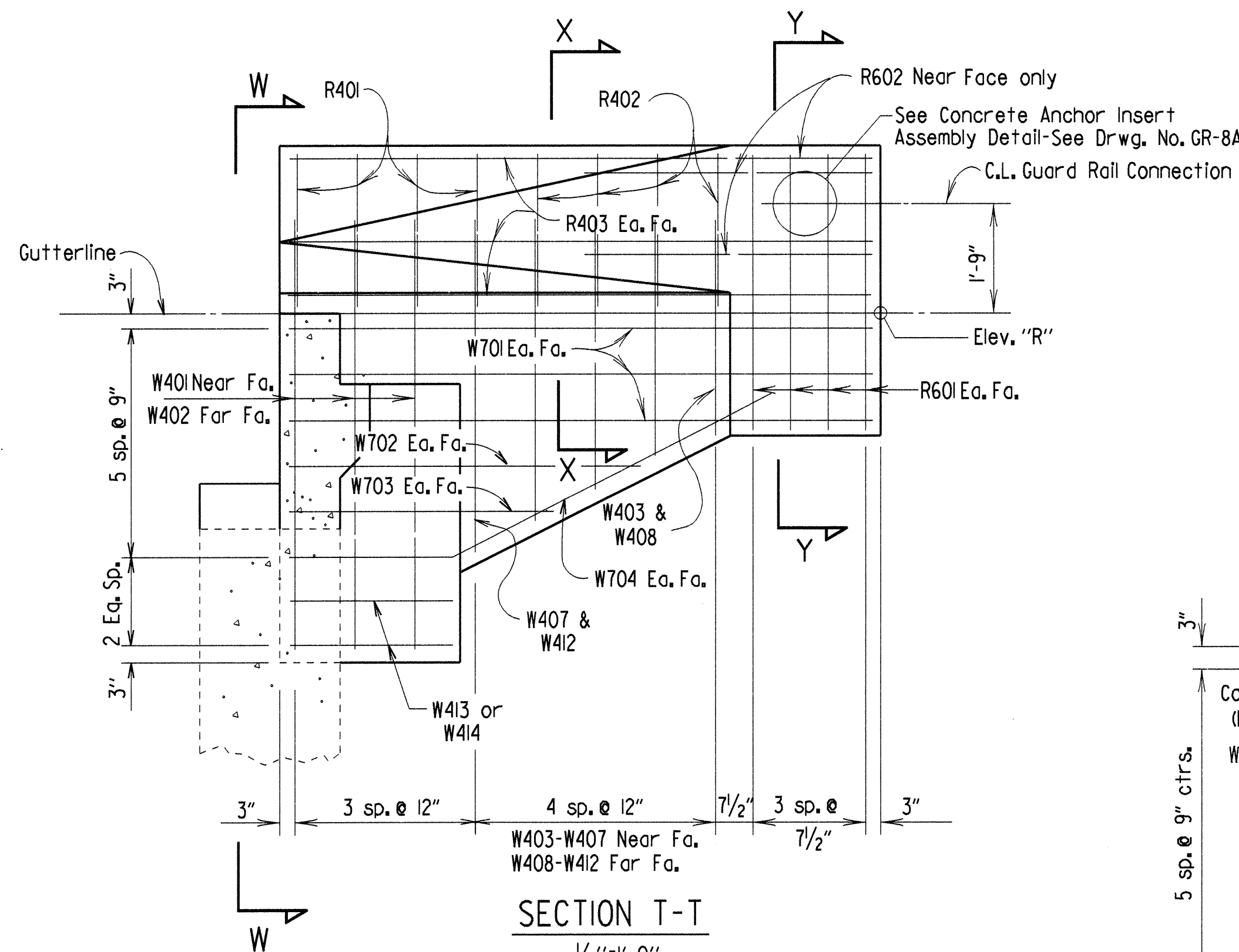
(SHEET 2 OF 3)
DETAILS OF END BENTS
OVERPASSES AT CO. RD. STA. 5628+00
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: WMAJ. DATE: 1-15-98
CHECKED BY: GVA DATE: 2-6-98
DESIGNED BY: ARW DATE: Dec-97
BRIDGE NO. A&B 3431 DRAWING NO. 38986

MICROFILMED
MAR 05 1998

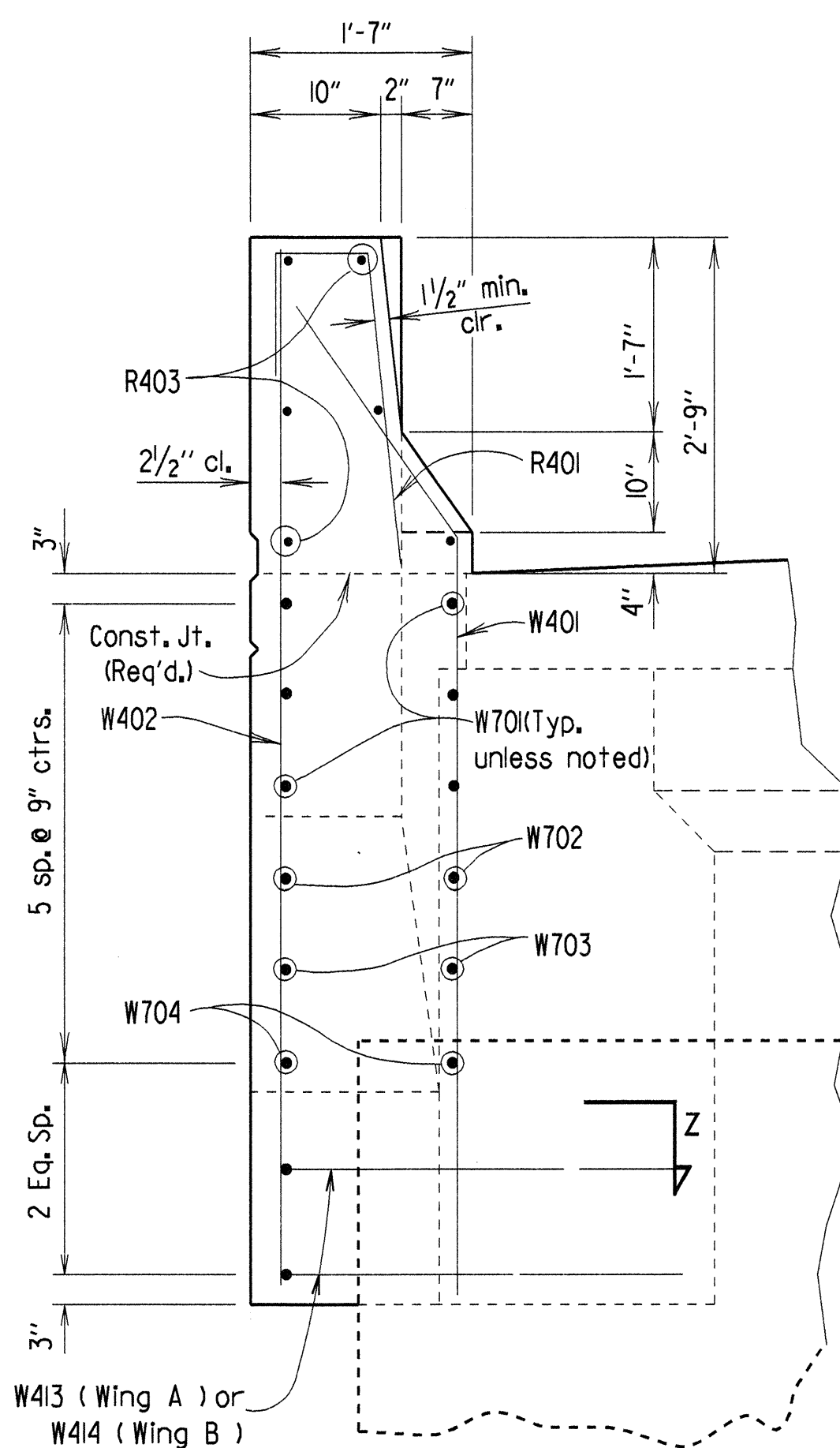
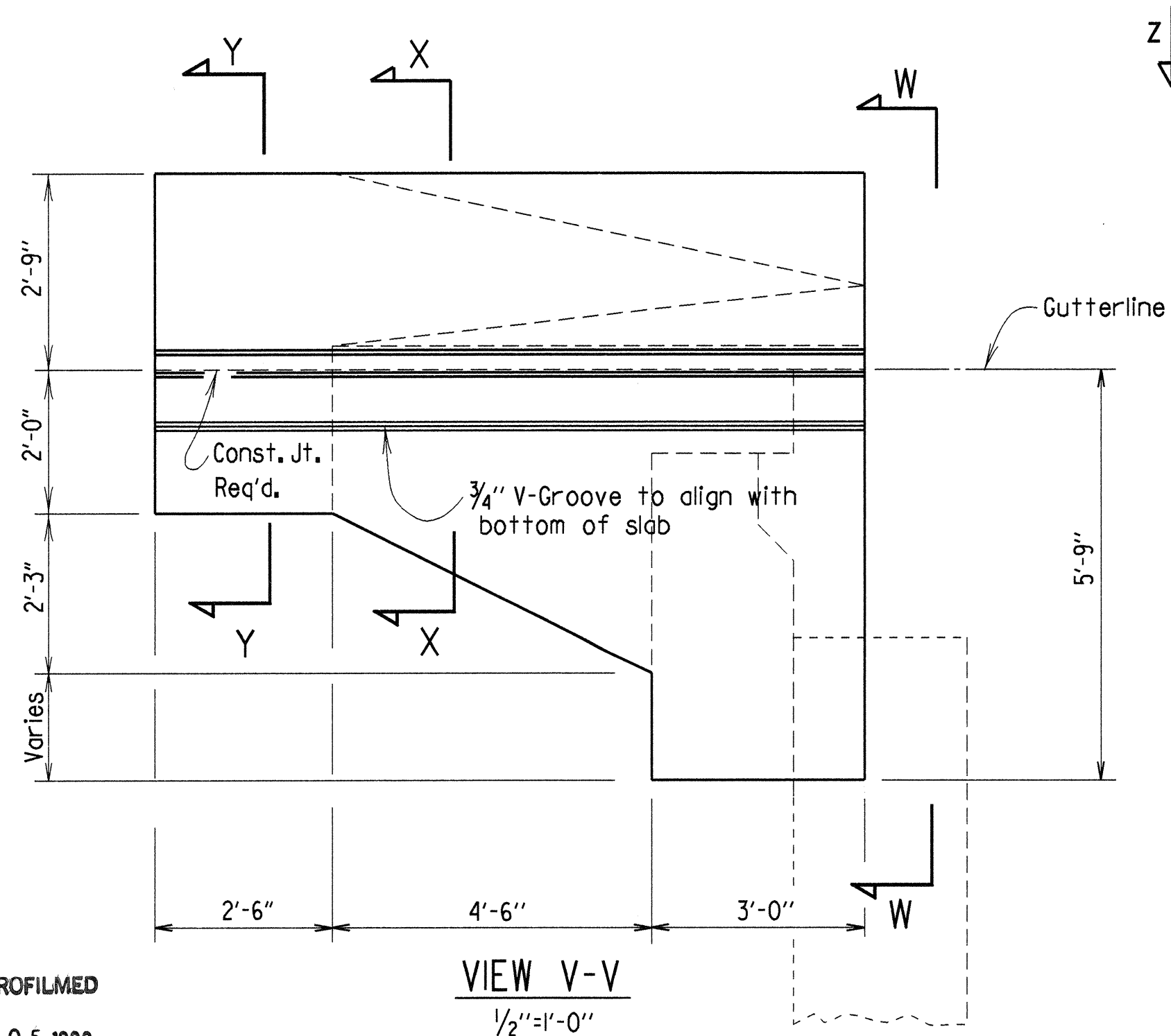
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060591	86	146
				A&B 3431		END BENT		38987



Note:
Remove existing concrete riprap as required for construction of new end bent wingwalls. After completion of wingwall construction replace and extend portion of riprap removed to new wingwalls, see dwg. no. 14995A. Material and work required to remove and replace existing concrete riprap will not be paid for directly but shall be considered subsidiary to other payment items.



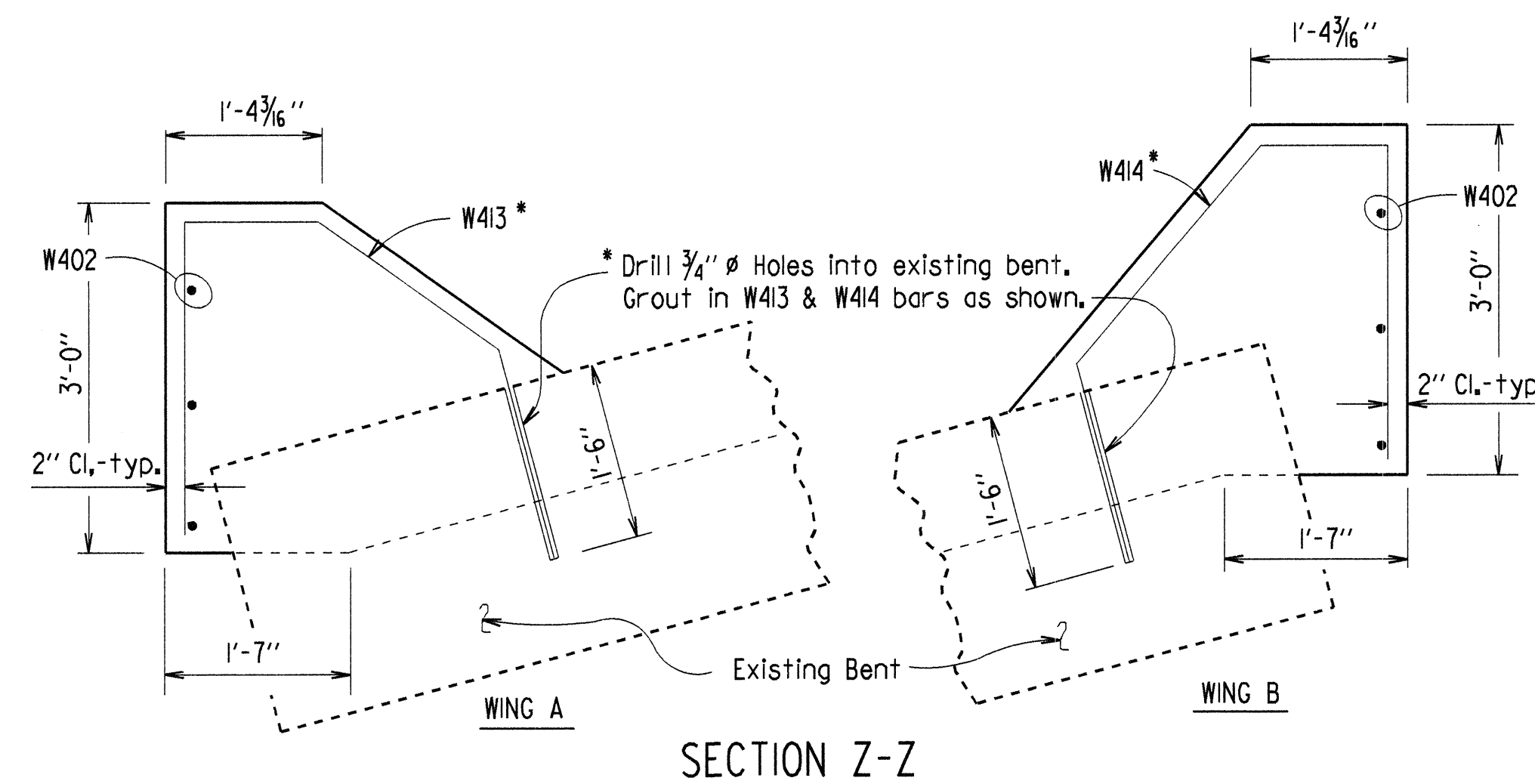
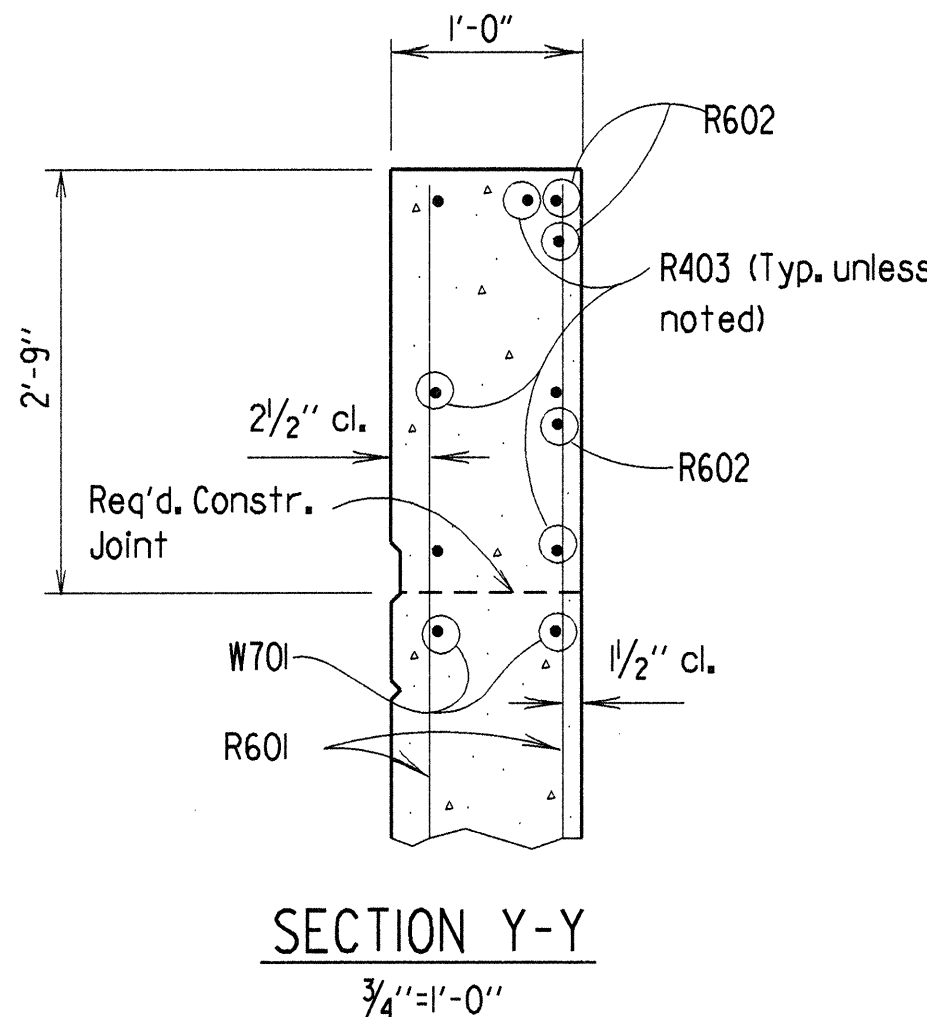
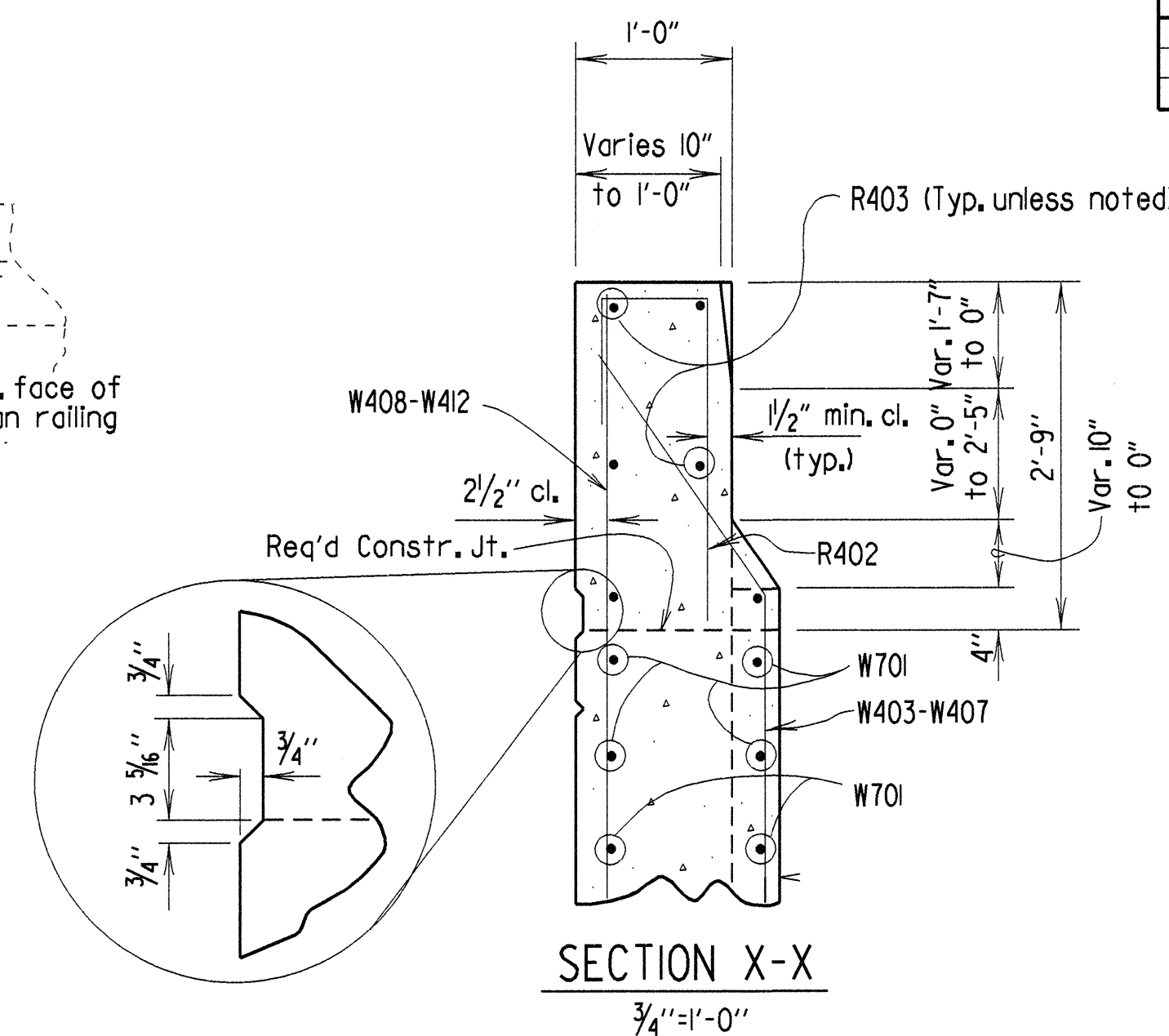
Note: New wing re-bars to be clipped to fit as existing cap restricts proper placement.



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

TABLE OF VARIABLES

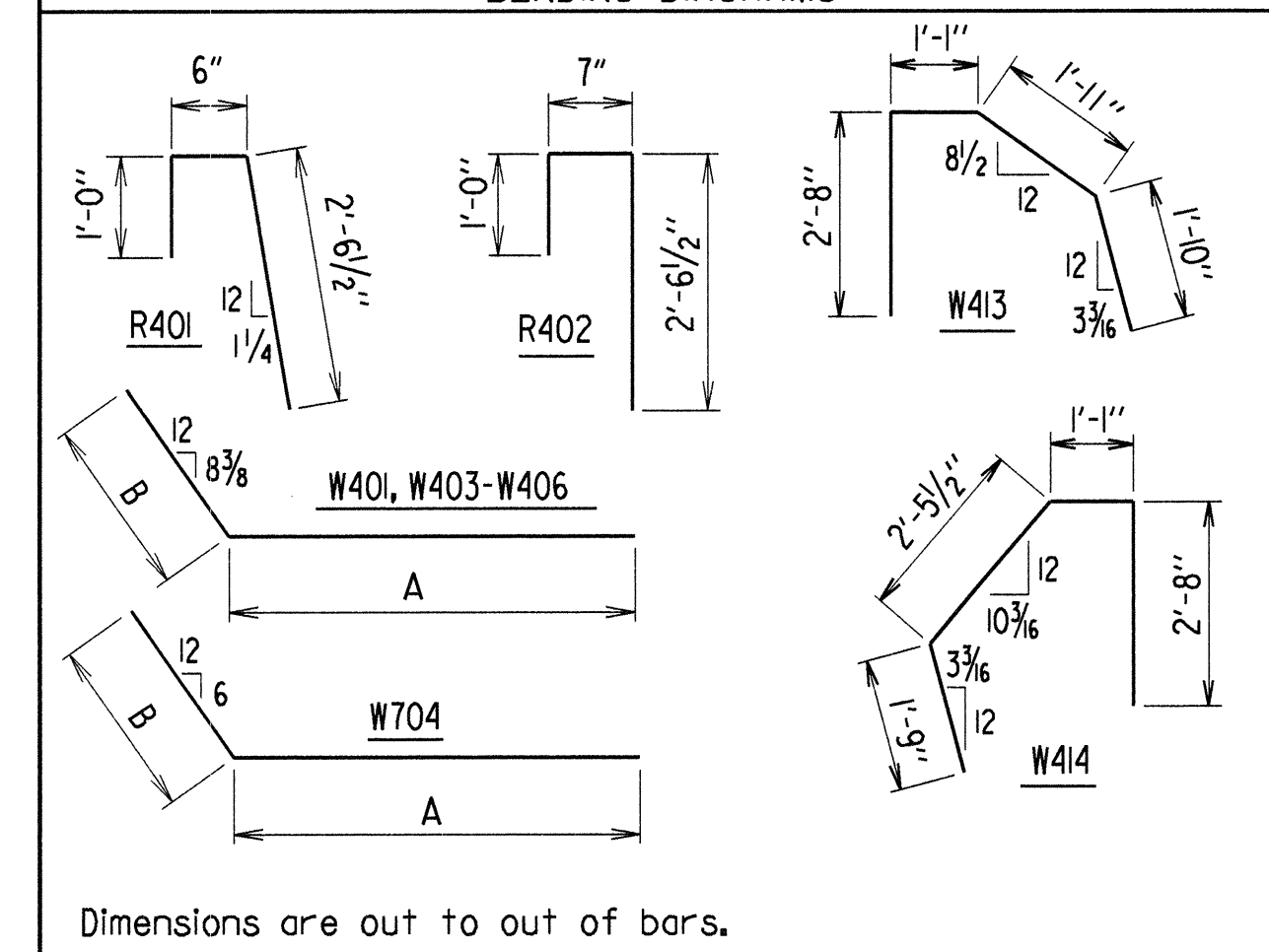
Br. No.	Bent	Elev. "R"
A3431	Bent No. 1	Wing A 419.89
		Wing B 419.12
	Bent No. 4	Wing A 418.45
		Wing B 419.17
B3431	Bent No. 1	Wing A 419.01
		Wing B 419.85
	Bent No. 4	Wing A 419.06
		Wing B 418.16



WING & RAIL BAR LIST (ONE BENT)

MARK	NO. REQ'D.	LENGTH	A	B	PIN DIA.
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.
W401	6	7'-0"	5'-10"	1'-2"	2"
W402	6	8'-2"			Str.
W403-W407	2 of each	Var. 3'-5" to 5'-5"	Var. 2'-3" to 4'-3"	1'-2"	2"
W408-W412	2 of each	Var. 4'-6" to 6'-6"			Str.
W413	2	7'-4"	See Bending Diagram		2"
W414	2	7'-9"	See Bending Diagram		2"
W701	12	9'-8"			Str.
W702	4	6'-0"			Str.
W703	4	4'-6"			Str.
W704	4	8'-4"	5'-6"	2'-10"	5 1/4"

BENDING DIAGRAMS

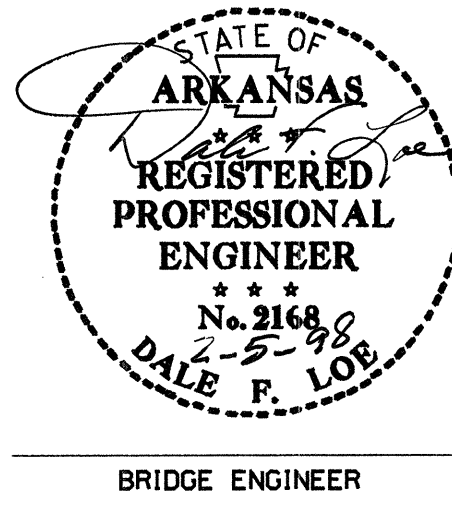


Dimensions are out to out of bars.

(SHEET 3 OF 3)

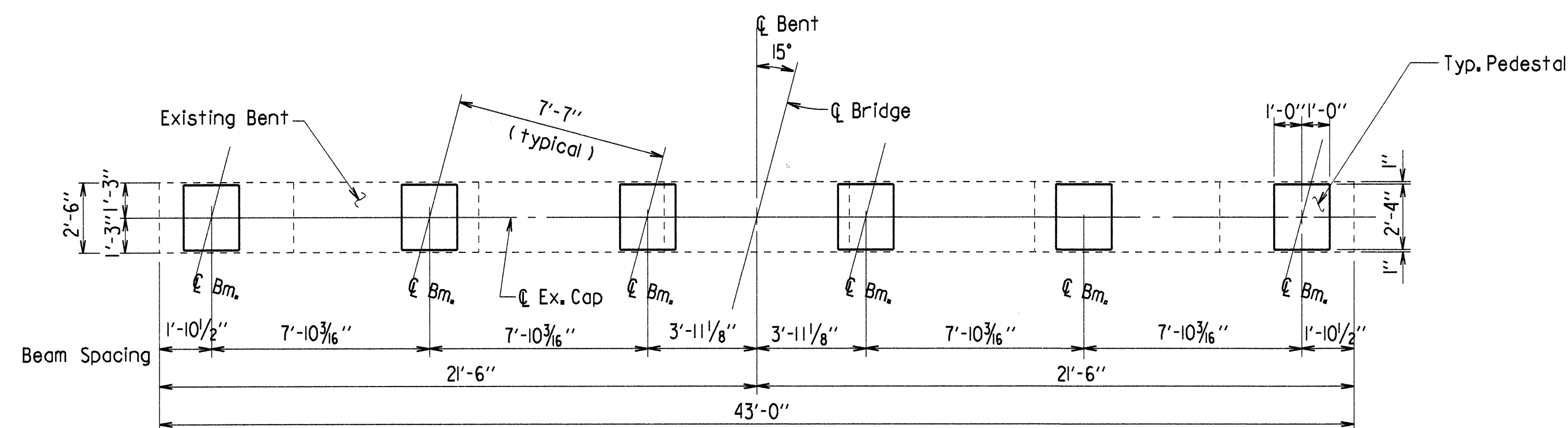
DETAILS OF END BENTS
OVERPASSES AT CO. RD. STA. 5628+00
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: W.M.A. DATE: 1-14-98
CHECKED BY: G.V.A. DATE: 2-3-98
DESIGNED BY: J.R.W. DATE: Dec-97
BRIDGE NO. A&B 3431 DRAWING NO. 38987

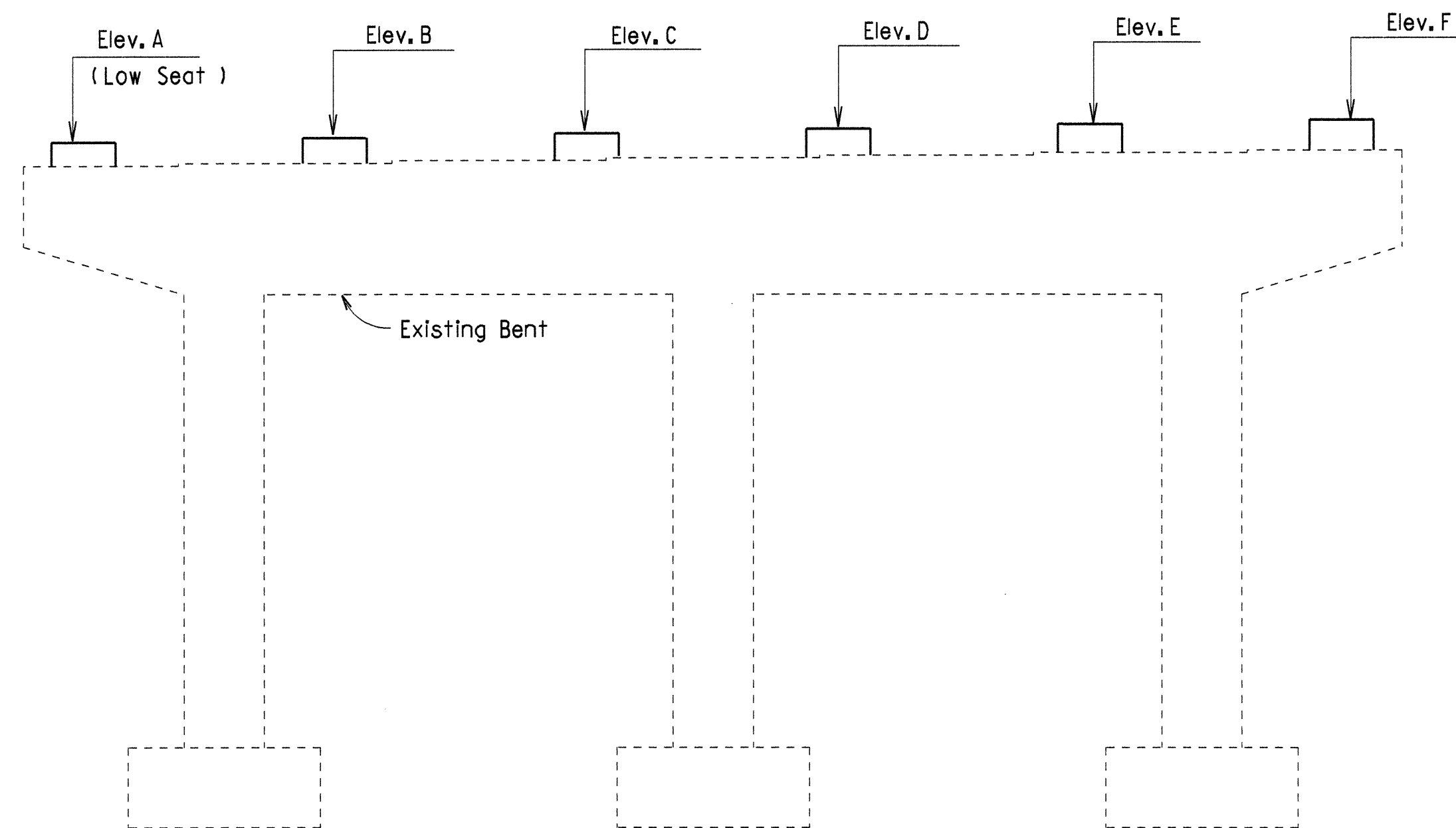


Note: For details of guard rail connections, see dwg. nos. GR-8 and GR-8A.

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.		060591	87	146
				1 A&B 3431	BENT		38988	



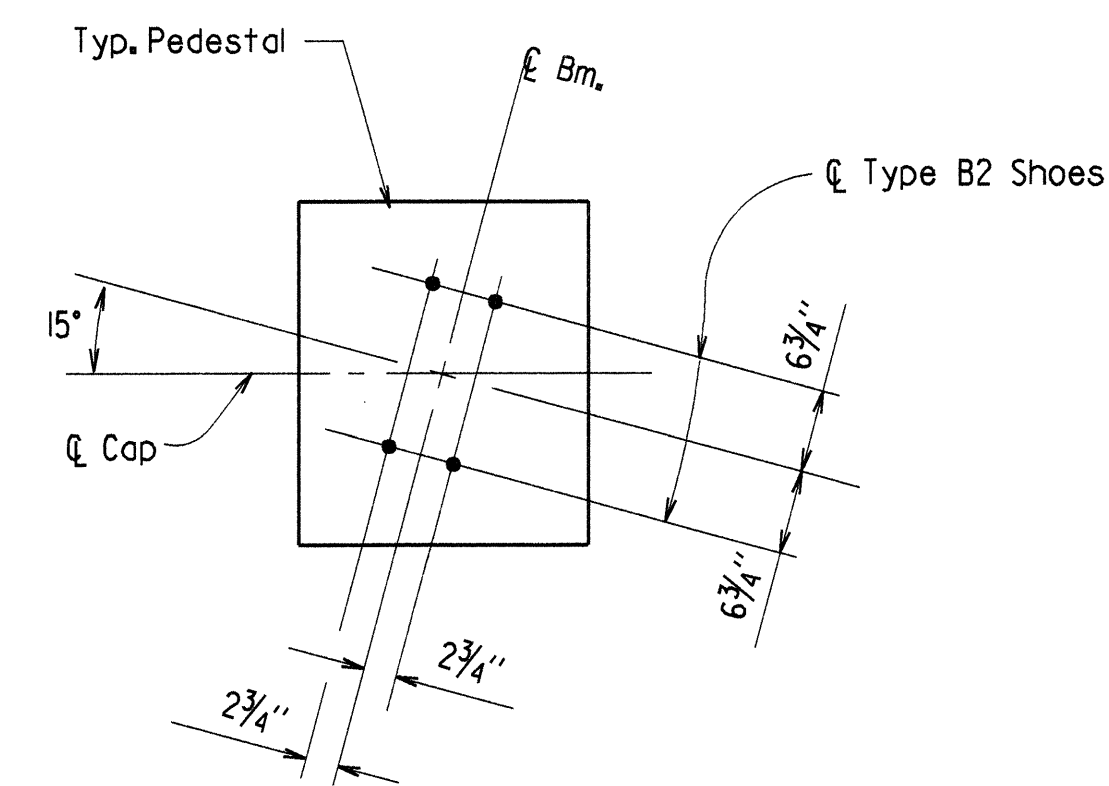
PLAN OF PEDESTAL CONSTRUCTION ON EXISTING BENT



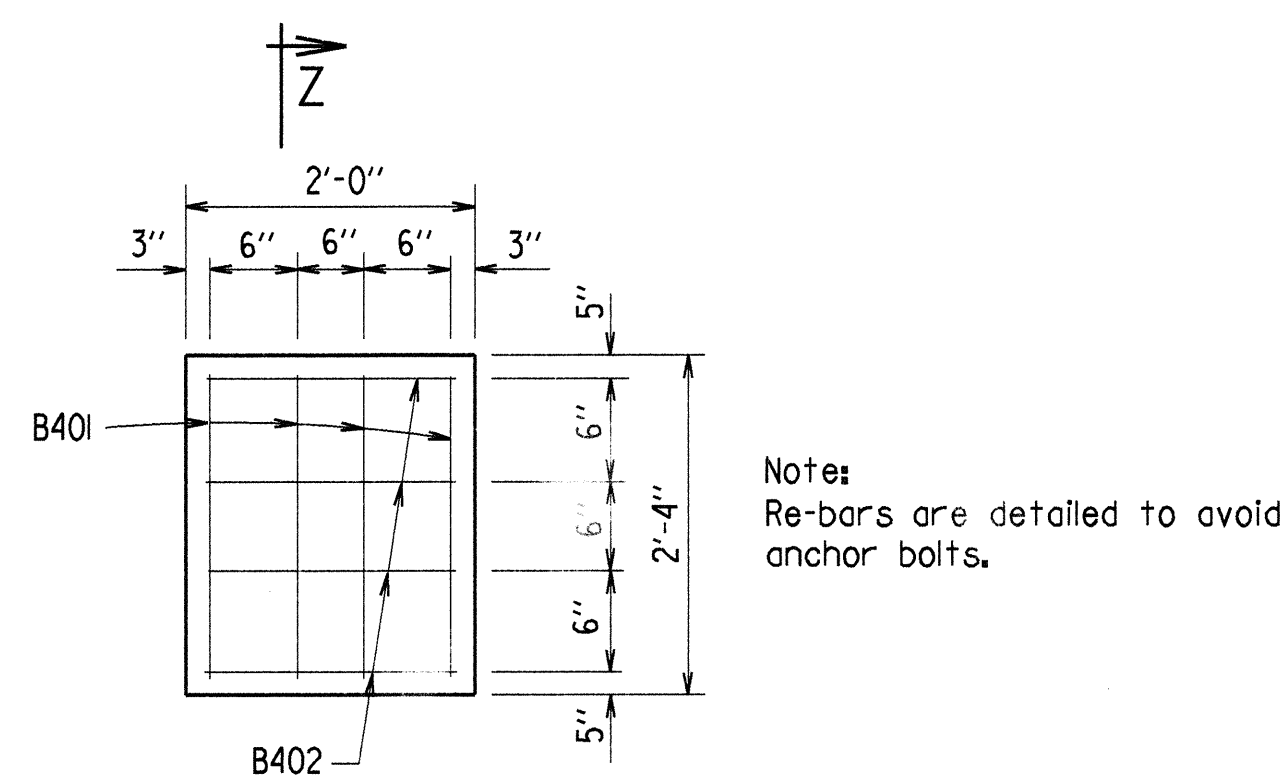
ELEVATION
Looking Fwd. - Bridge A
Looking Bk. - Bridge B

TABLE OF VARIABLES

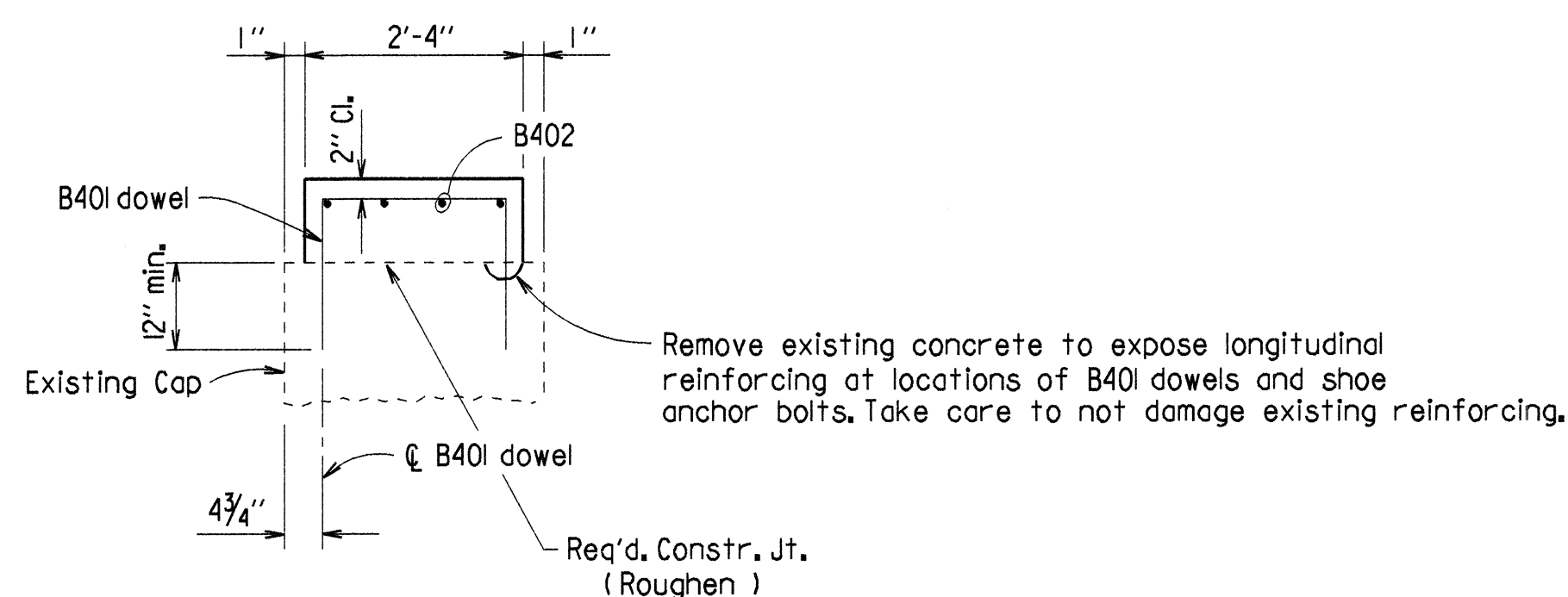
Bridge No.	Bent No.	Elev. A	Elev. B	Elev. C	Elev. D	Elev. E	Elev. F	
A3431	2	416.8	416.32	416.46	416.61	416.75	416.89	
	3	415.99	416.13	416.27	416.41	416.55	416.69	
B3431	2	416.01	416.17	416.33	416.50	416.66	416.82	
	3	415.77	415.94	416.10	416.27	416.43	416.60	



TYP. ANCHOR BOLT LAYOUT
N.T.S.



PLAN OF TYPICAL
PEDESTAL REINFORCING
N.T.S.



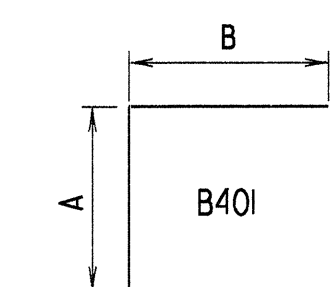
SECTION Z-Z
N.T.S.

The grout used in the drilled holes for the P401 dowels or shoe anchor bolts shall be an approved non-shrink grout or an epoxy grout listed on the OPL. When using epoxy grout, the diameter of the holes in the cap and the installation procedure shall be as recommended by the grout Manufacturer. For non-shrink grout use 1 1/4" dia. drilled holes for the P401 dowels and use 2" dia. holes for the shoe anchor bolts.

BAR LIST

MK	No. Req'd.	Length	A	B	Pin Dia.
B401	48	3'-6"	2'-0"	1'-7"	2"
B402	24	1'-8"			Str.

Bending Diagram



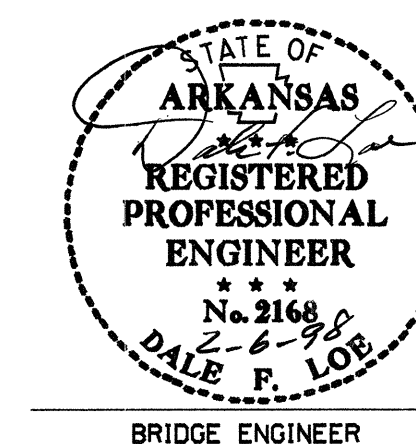
Dimensions are out to out of bars

GENERAL NOTES

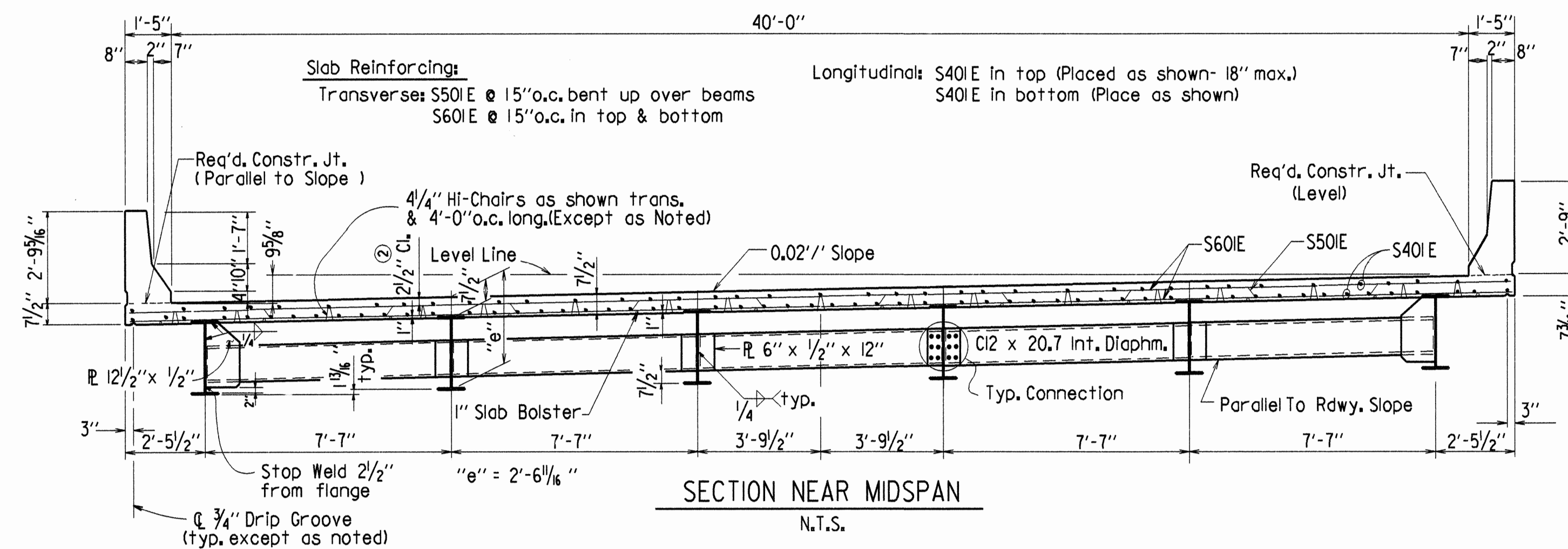
Concrete shall be Class S with a minimum 28 day compressive strength $f'_c = 3500$ psi.
Concrete shall be poured in the dry and all corners shall be chamfered 3/4" unless otherwise noted.
All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.)
For additional notes, see bridge layout.

DETAILS OF INT. BENTS
OVERPASSES AT COUNTY RD. STA. 5628+00
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

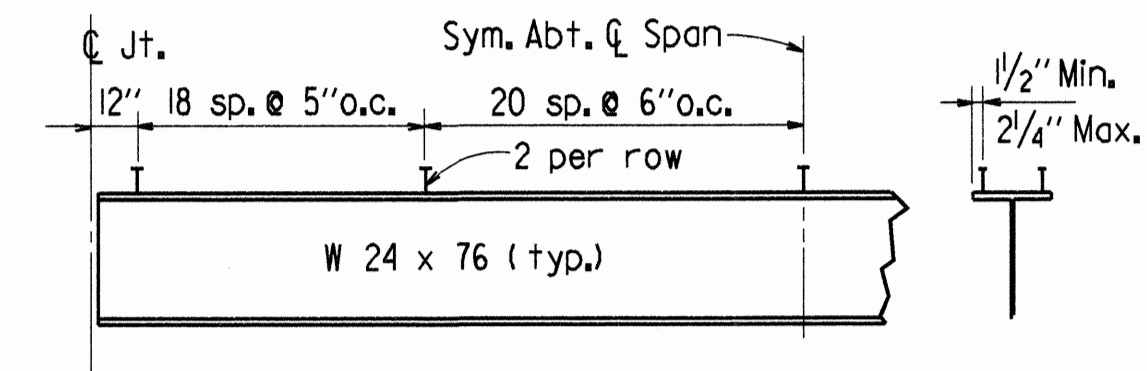
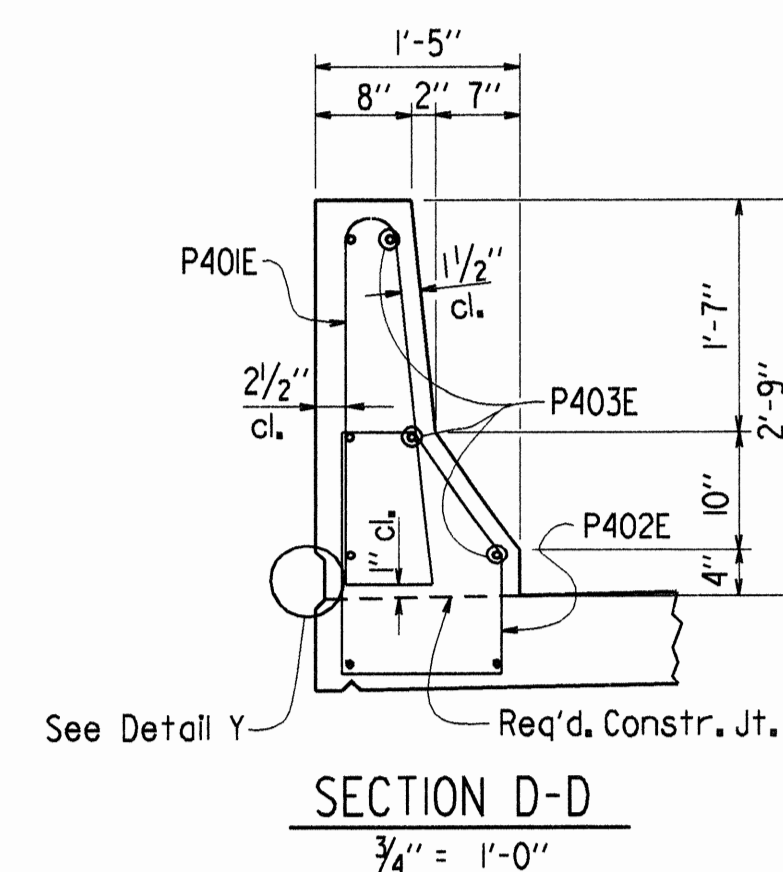
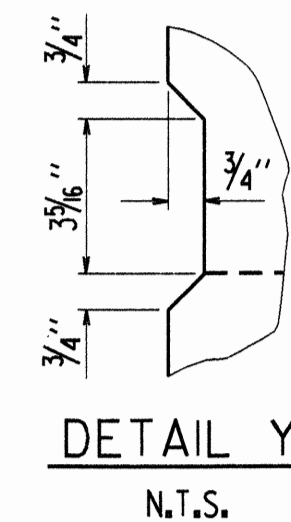
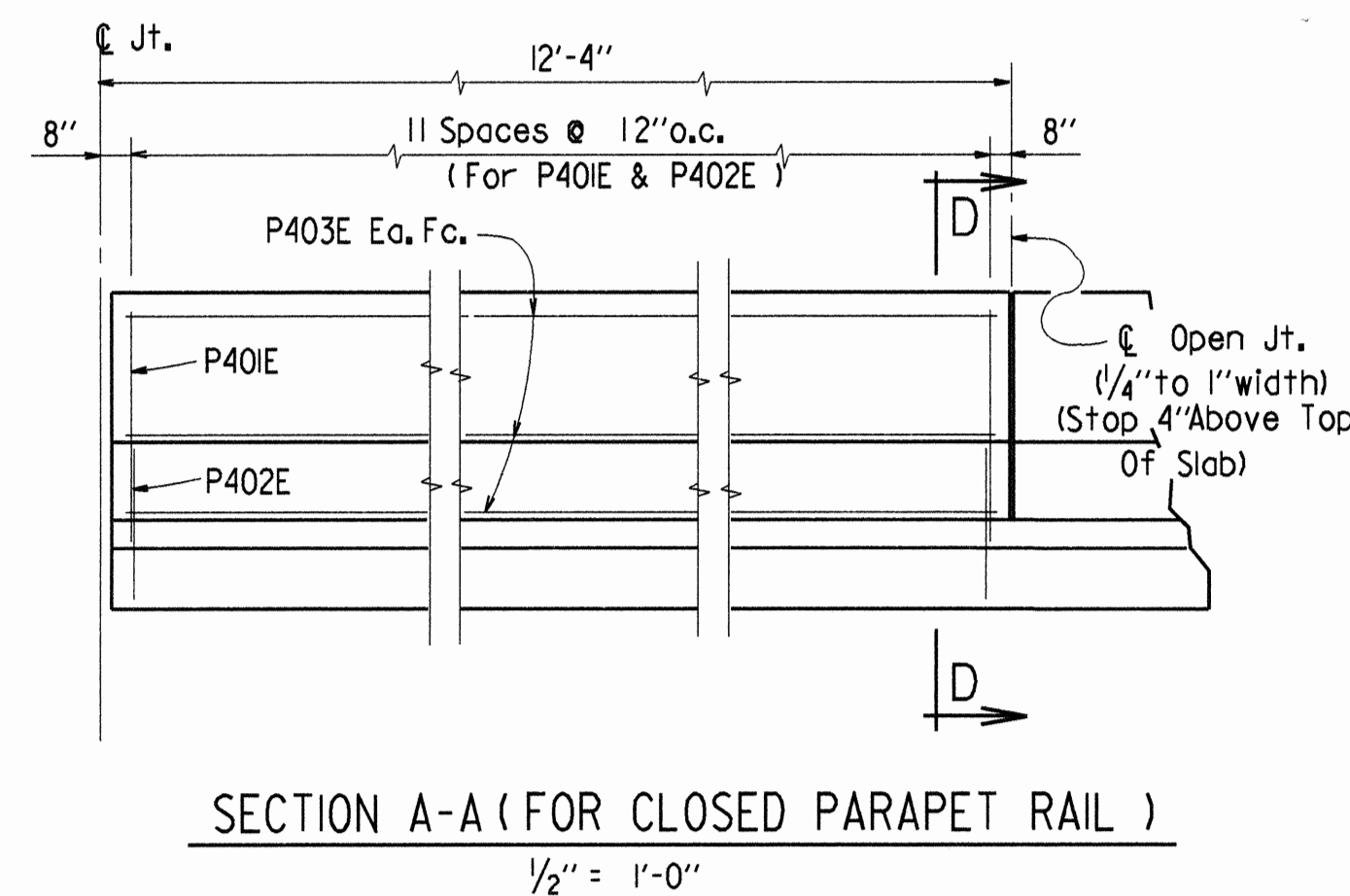
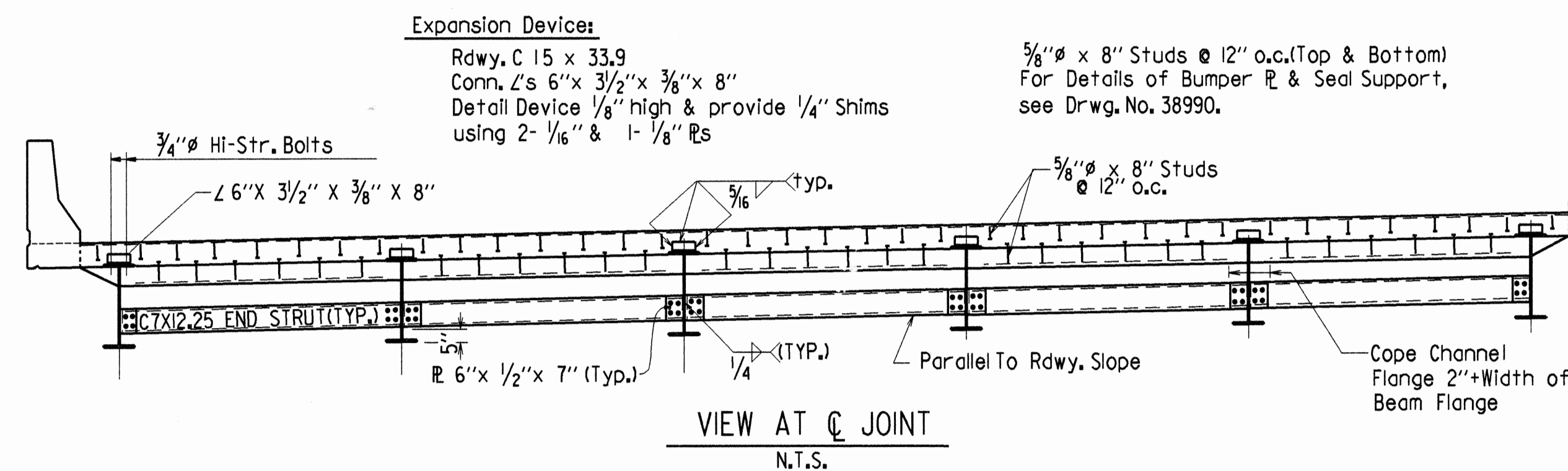
DRAWN BY: WJAL DATE: 1-8-98
CHECKED BY: GVA DATE: 2-6-98
DESIGNED BY: FRW DATE: Dec-97
BRIDGE NO. A&B 3431 DRAWING NO. 38988



Note: One epoxy coated #5 bar in the top and bottom may be substituted for each bar S501E. Payment will be based on the weight of bar S501E.



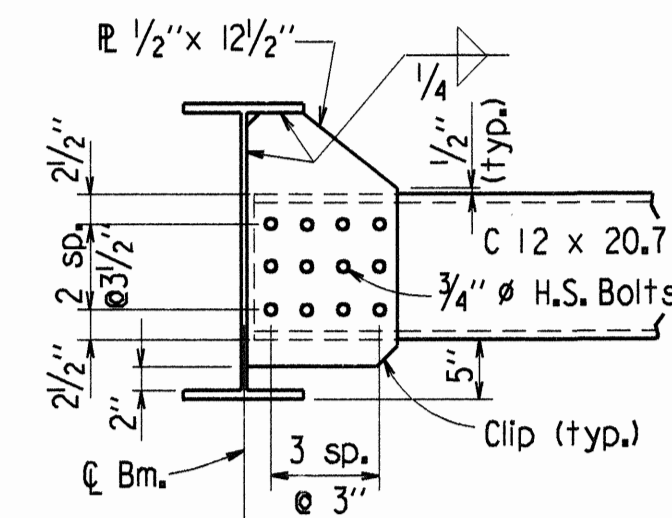
②Tolerance: Minus = $\frac{1}{4}''$
 Plus: Equal to amount of slab thickening
 used to meet slab thickness toler-
 ance-See Detail A on dwg. no. I4990H.



SPACING FOR $\frac{7}{8}$ " STUD SHEAR
CONNECTORS & DIAPHRAGMS

N.T.S.

Note: Stud Shear Connectors shall be 4" long. $\frac{3}{4}$ " ϕ Studs may be used in place of the $\frac{1}{8}$ " ϕ Studs shown, at the ratio of 1,361 - $\frac{3}{4}$ " ϕ Studs in place of one $\frac{1}{8}$ " ϕ Stud. $\frac{1}{8}$ " ϕ Studs will be used as basis for measurement of structural steel in shear connectors. Maximum Stud spacing = 24".



Note: Bolts in Diaphragm Connections shall be properly installed and tightened in accordance with Subsection 807.71 of the Standard Specifications.

DIAPHRAGM CONNECTIONS AT EXTERIOR BEAMS

N.T.S.

DEAD LOAD DEFLECTIONS

Span Length	Load No.	Loading	Location			
			Int. Beam		Ext. Beam	
			1/4 Pt.	1/2 Pt.	1/4 Pt.	1/2 Pt.
37'-0"	1	Bm. & Diaph.	1/16"	1/16"	7/16"	1/16"
	2	1 & Slab	3/8"	1/2"	5/16"	7/16"
	3	2 & Parapet	3/8"	9/16"	5/16"	7/16"

GENERAL NOTES

ALL Structural Steel shall be ASSHTO M270, Gr. 50W unless otherwise noted and shall be paid for at the unit price per pound bid for "Structural Steel in Beam Spans (M270, Gr. 50W)". M270, Gr. 50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with Subsection 807.84(e) of the Standard Specifications. Structural steel completely embedded in concrete may be AASHTO M270, Gr. 36.

Beams and cover plates are considered main load carrying members and shall meet the longitudinal Charpy V-Notch test specified in Section 807.05.

Design Specifications: AASHTO 1996 with Interim Specifications

Live loading: HS20

Method of Design: Load Factor

Dead Load:	Interior Beam	Exterior Beam
A. To W-Beam	722 plf + 1.3 (Wt./Ft. of W-Beam)	580 plf + 1.3 (Wt./Ft. of W-Beam)

B. To Composite Beam
Open Parapets
Closed Parapets

1.379 wheels + impact 1.286 wheels + impact

* Includes 160 plf future wearing surface

Material Strengths:	
Class S(AE) Concrete (N=8)	$f'_c = 4,000 \text{ p.s.i.}$
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	$f_y = 60,000 \text{ p.s.i.}$
Structural Steel (AASHTO M270, Gr. 36)	$f_y = 36,000 \text{ p.s.i.}$
Structural Steel (AASHTO M270, Gr. 50W)	$f_y = 50,000 \text{ p.s.i.}$

For additional notes see Std. Drawing No. 14990H

SHEET 1 OF 2

DETAILS FOR

37'-0" COMP. W-BEAM SPANS

OVERPASSES AT COUNTY RD. STA. 5628+00

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

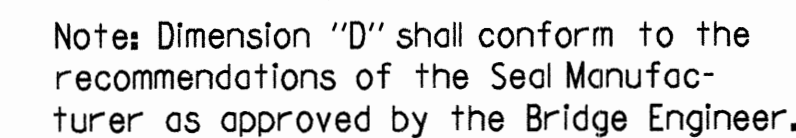
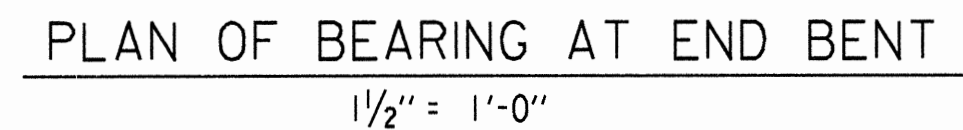
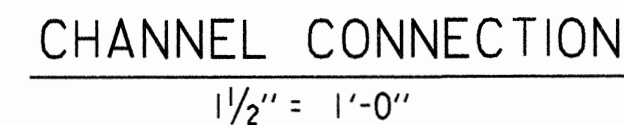
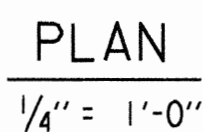
LITTLE ROCK, ARK.

DRAWN BY: W.MAJ. DATE: 1-6-98
 CHECKED BY: GVA DATE: 2-3-98 SCALE: As Shown
 DESIGNED BY: ARW DATE: Dec-97
 BRIDGE NO. A&B 3431 DRAWING NO. 38989

MICROFILMED
MAR 03 1998

I. 550. 300|6. RWME548. B06059|x2.s0|

①



N.T.S.

SEAL DATA

Installation is limited to 40° F. min. and 80° F. max.



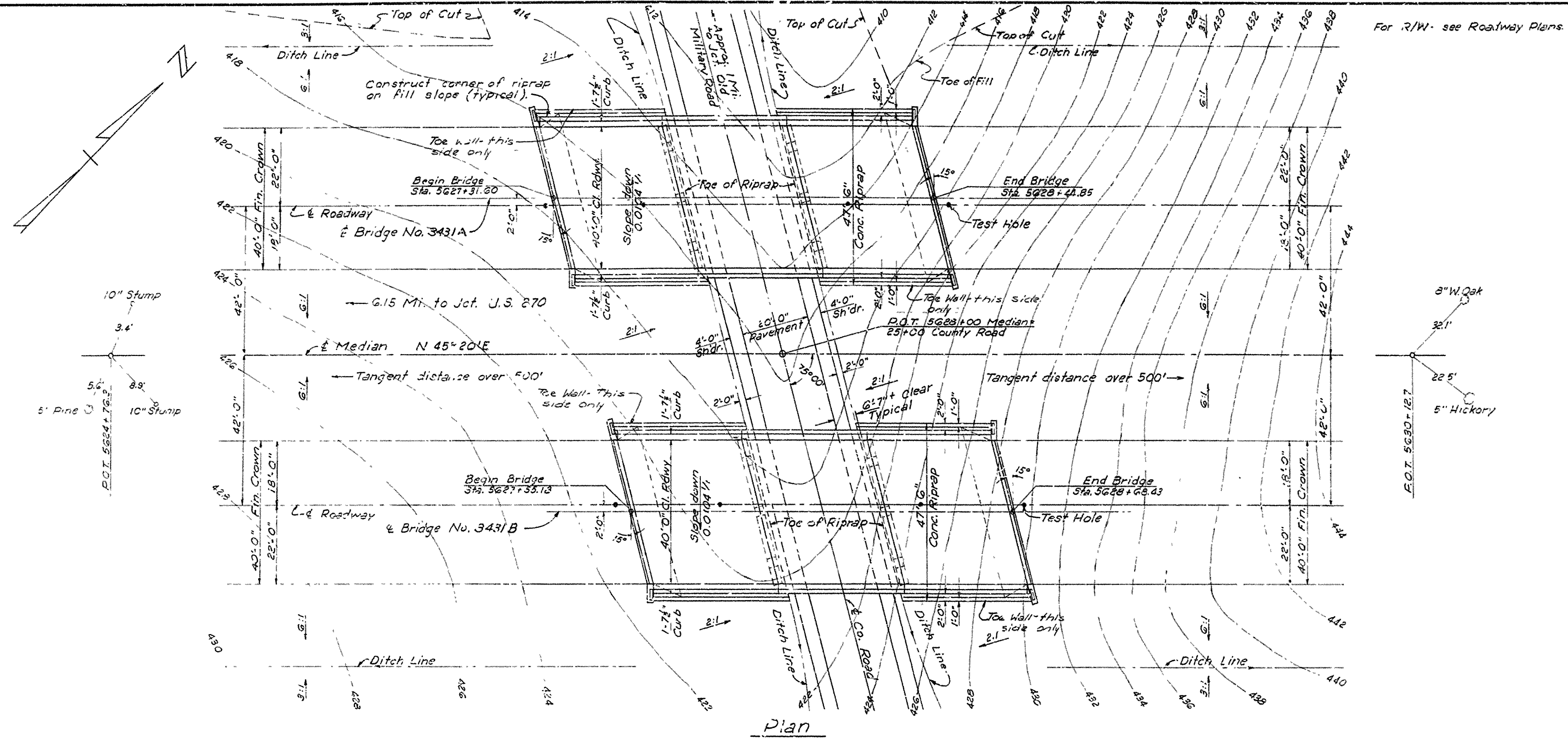
MK	No. Req'd.	Length	Pin Dia.	Bending Diagrams Dimensions are out to out of bars.
S401E	95	36'-6"	Str.	<p>**1/2" Overtolerance, No Undertolerance.</p>
S501E	20	43'-4"	3 3/4"	
S601E	21	42'-6"	Str.	
S602E	4	43'-11"	Str.	
S603E to S618E	4 Ea.	5'-5" to 40'-5"	Str.	
S619E	4	4'-6"	Str.	
P401E	72	6'-4"	2"	
P402E	72	5'-6"	2"	
P403E	36	11'-10"	Str.	

STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 2168
2-5-78
DALE F. LOE

BRIDGE ENGINEER

DRAWN BY: W.MAJ. DATE: 1-6-98
 CHECKED BY: GVA DATE: 2-3-98 SCALE: As Shown
 DESIGNED BY: AKW DATE: Dec-97
 BRIDGE NO. A&B 3431 DRAWING NO. 38990

FED. ROAD No.	STATE	FED AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	1-50-2(44)97		17	302
JOB No.		6685			



General Notes

TBM Nail in 7" Pine 70' left Sta. 5623+30, El. 410.94.
 For details of superstructure see Drwg. No. 11239, 11239 & 5462.
 For details of substructure see Drwg. No. 11236 & 11237.
 For details of concrete riprap see Drwg. No. 11203.
 Place drains in spans 1 and 3 only.

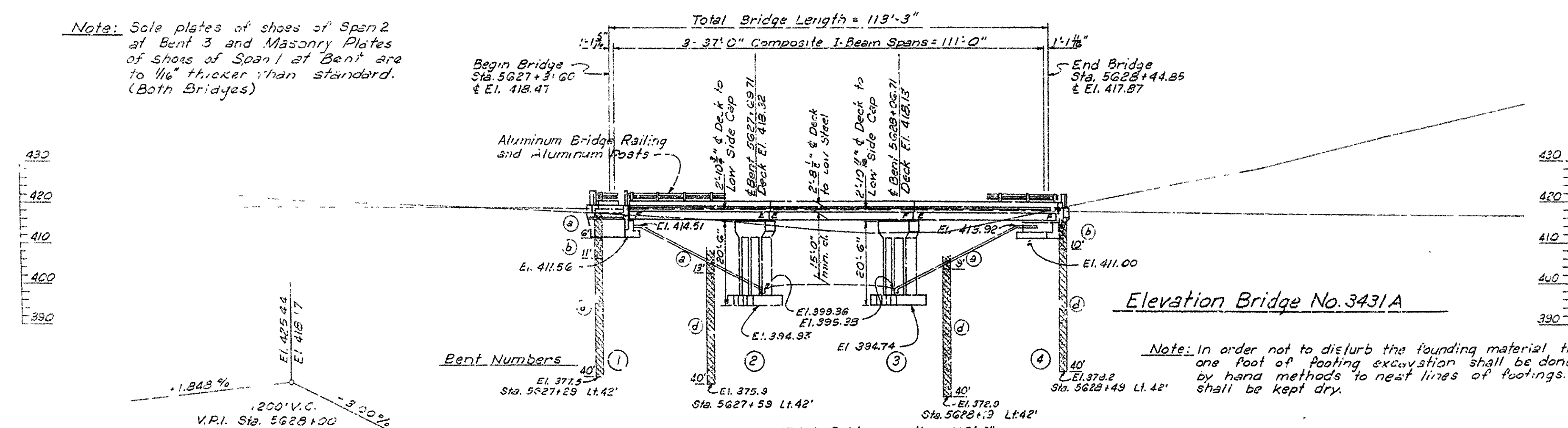
Specifications: Arkansas State Highway Commission Standard
 Specifications for Highway Construction, adopted Dec. 3, 1959

Design Loading: A.A.S.H.O. 1957, H20-S16 and special
 interstate loading of 2-24000 pound axles 4' on centers.

Unit Stresses: Class A Concrete (n=15) 340 p.s.i.
 Class B Concrete (n=10) 1800 p.s.i.
 Reinforcing Steel 20,000 p.s.i.
 Structural Steel 18,000 p.s.i.

Foundation Pressure: 4500 p.s.f. D.L. + L.L.

Note: Sole plates of shoes of Span 2
 at Bent 3 and Masonry Plates
 of shoes of Span 1 at Bent 1
 are to 1/16" thicker than standard.
 (Both Bridges)



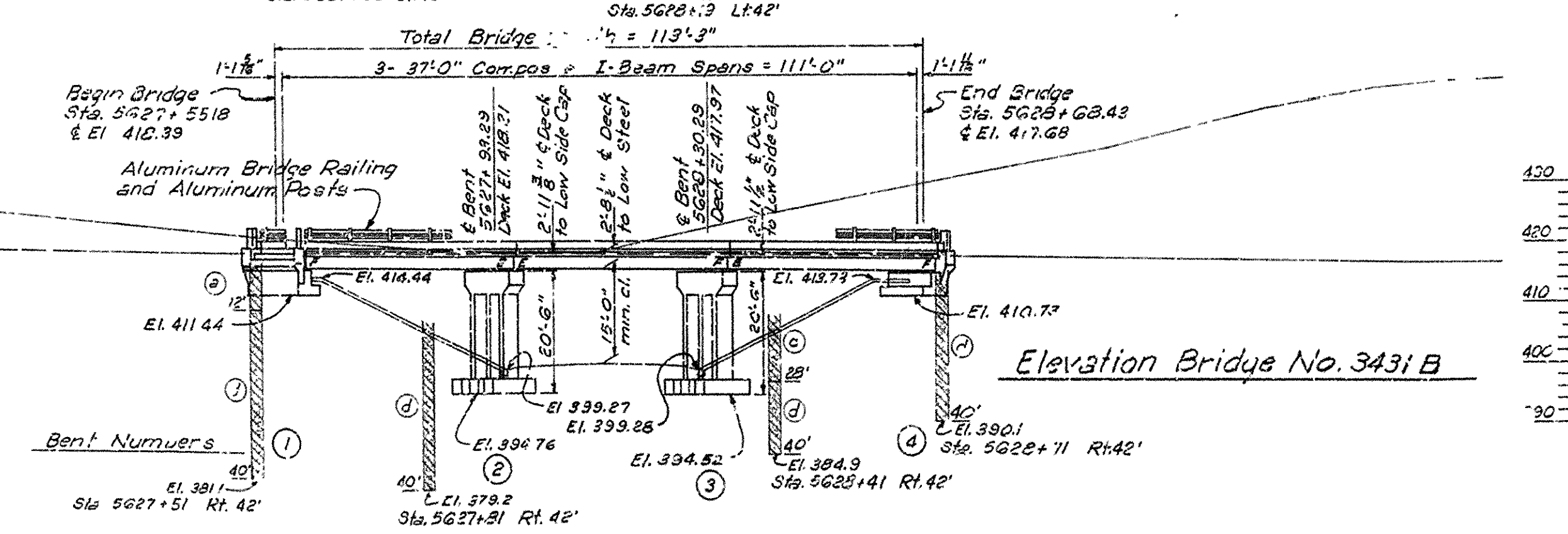
Elevation Bridge No. 343A

Note: In order not to disturb the founding material the final
 one foot of footing excavation shall be done carefully
 by hand methods to neat lines of footings. All pits
 shall be kept dry.

Vertical Curve Data



- Boring Data**
- (a) Firm brown sandy clay, moist
 - (b) Firm brown sandy clay and gravel, moist
 - (c) Firm light brown sandy clay, moist
 - (d) Firm light gray sandy clay, moist

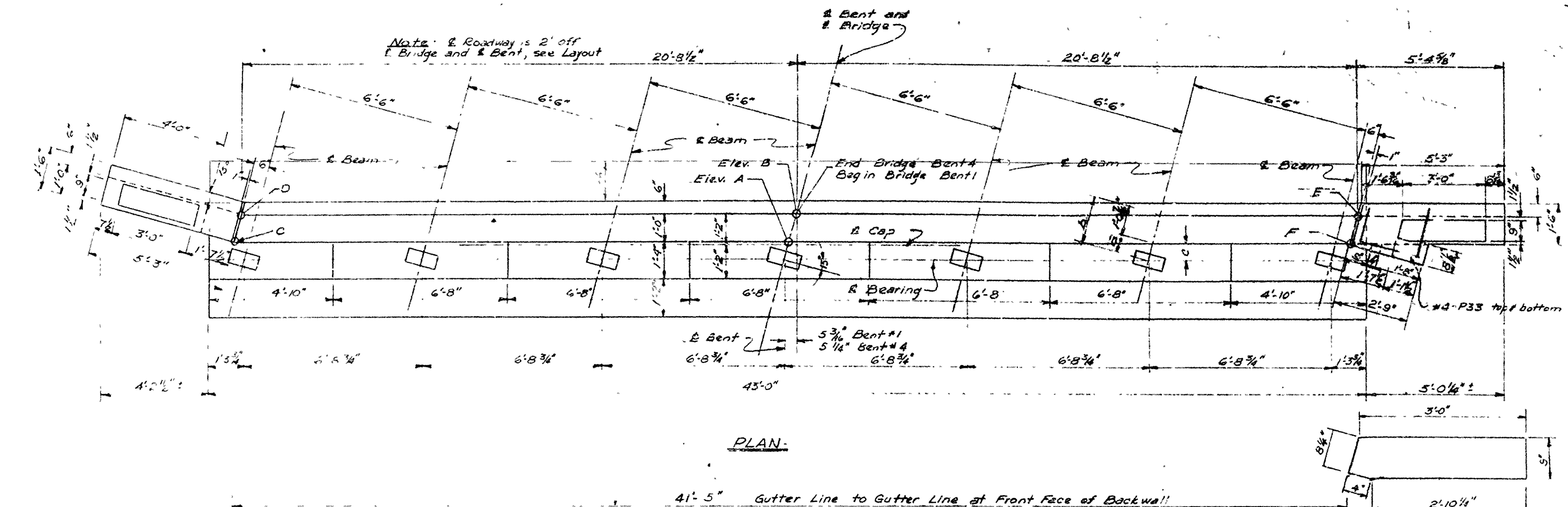


Elevation Bridge No. 343B

LAYOUT OF OVERPASSES
 AT COUNTY ROAD STA. 5628+00
 OUACHITA RIVER-NINE MILE CREEK
 HOT SPRING COUNTY
 INT. ROUTE 30 SEC. 2
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

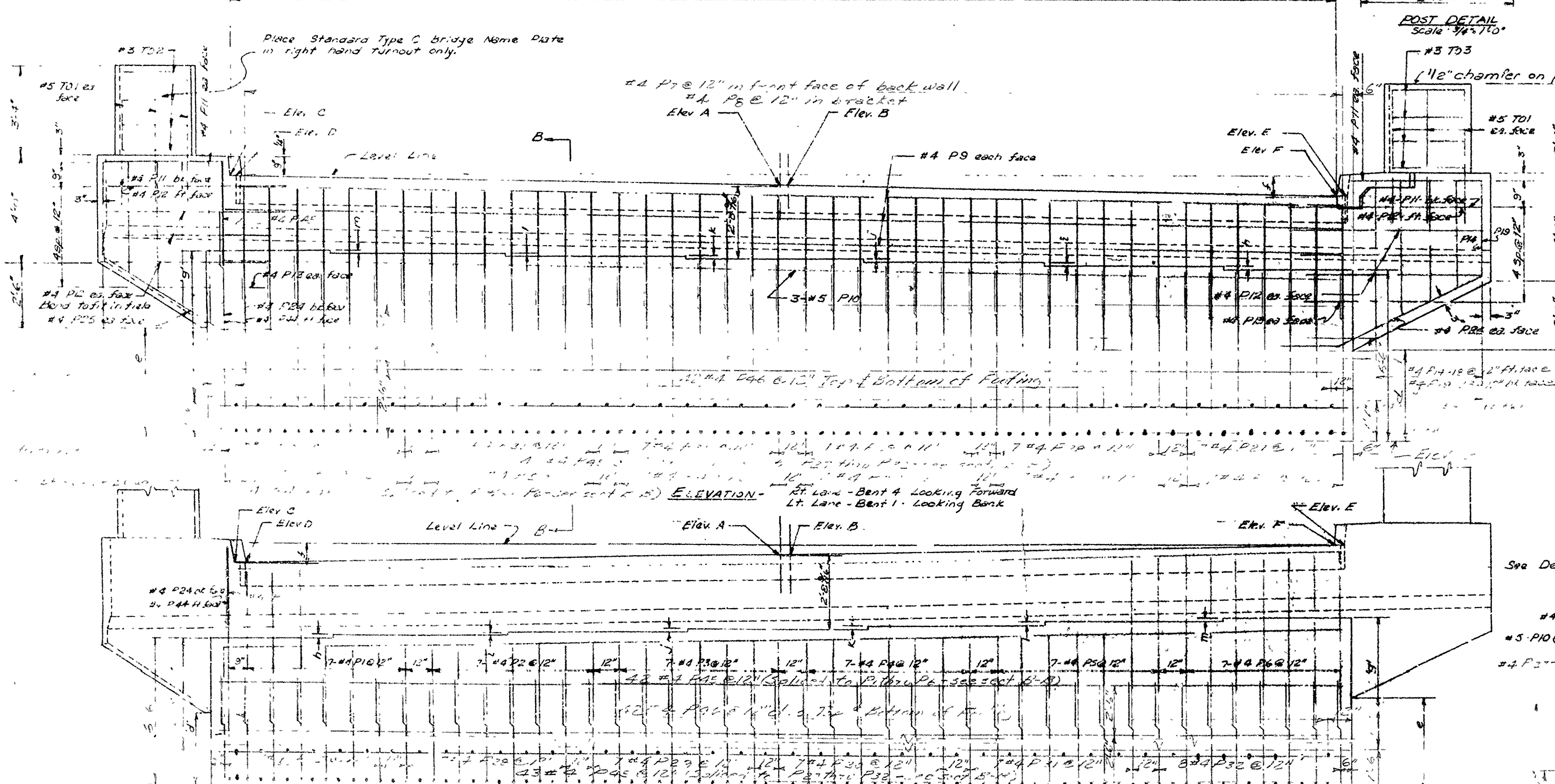
DRAWN BY: R.L.C. DATE: 7-16-59
 TRACED BY: DATE: SCALE: 1"=20'
 CHECKED BY: E.R.B. DATE: 7-20-59
 BRIDGE NO. 343A & B DRAWING NO. 11212

L.P. Carlson
 BRIDGE ENGINEER



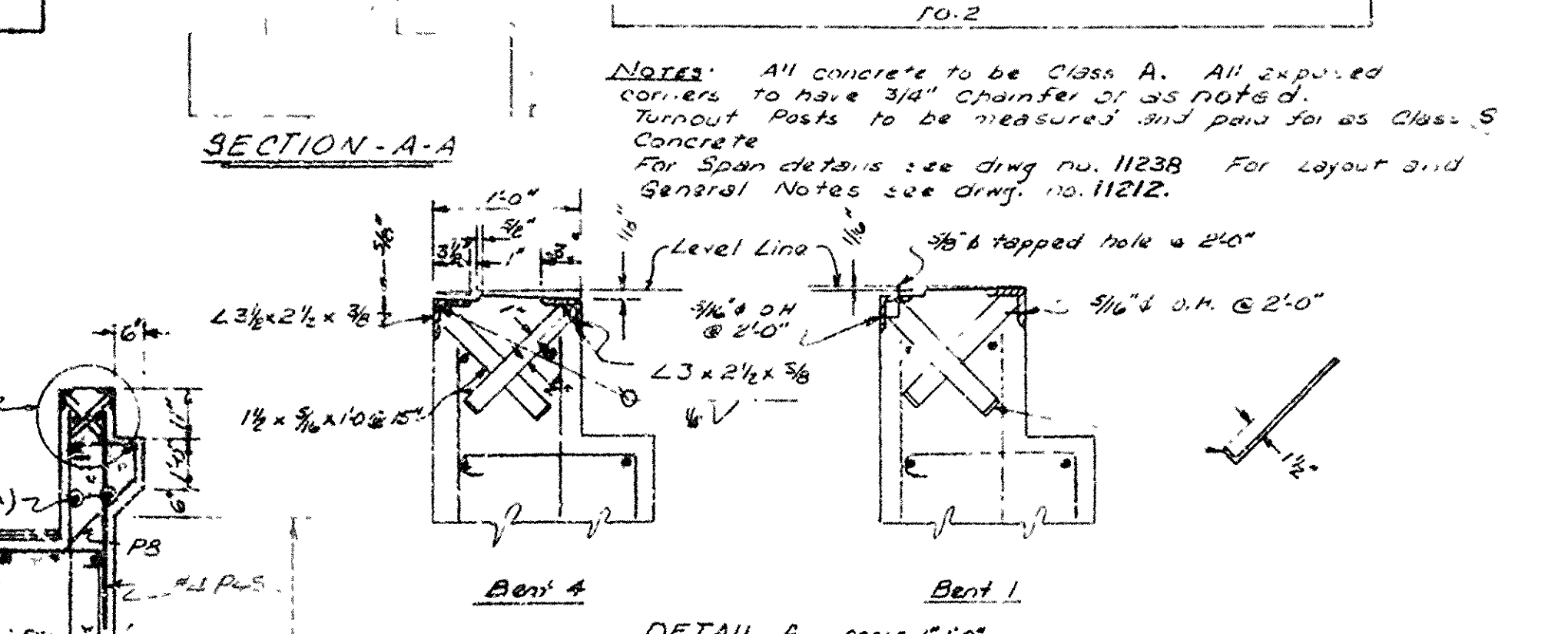
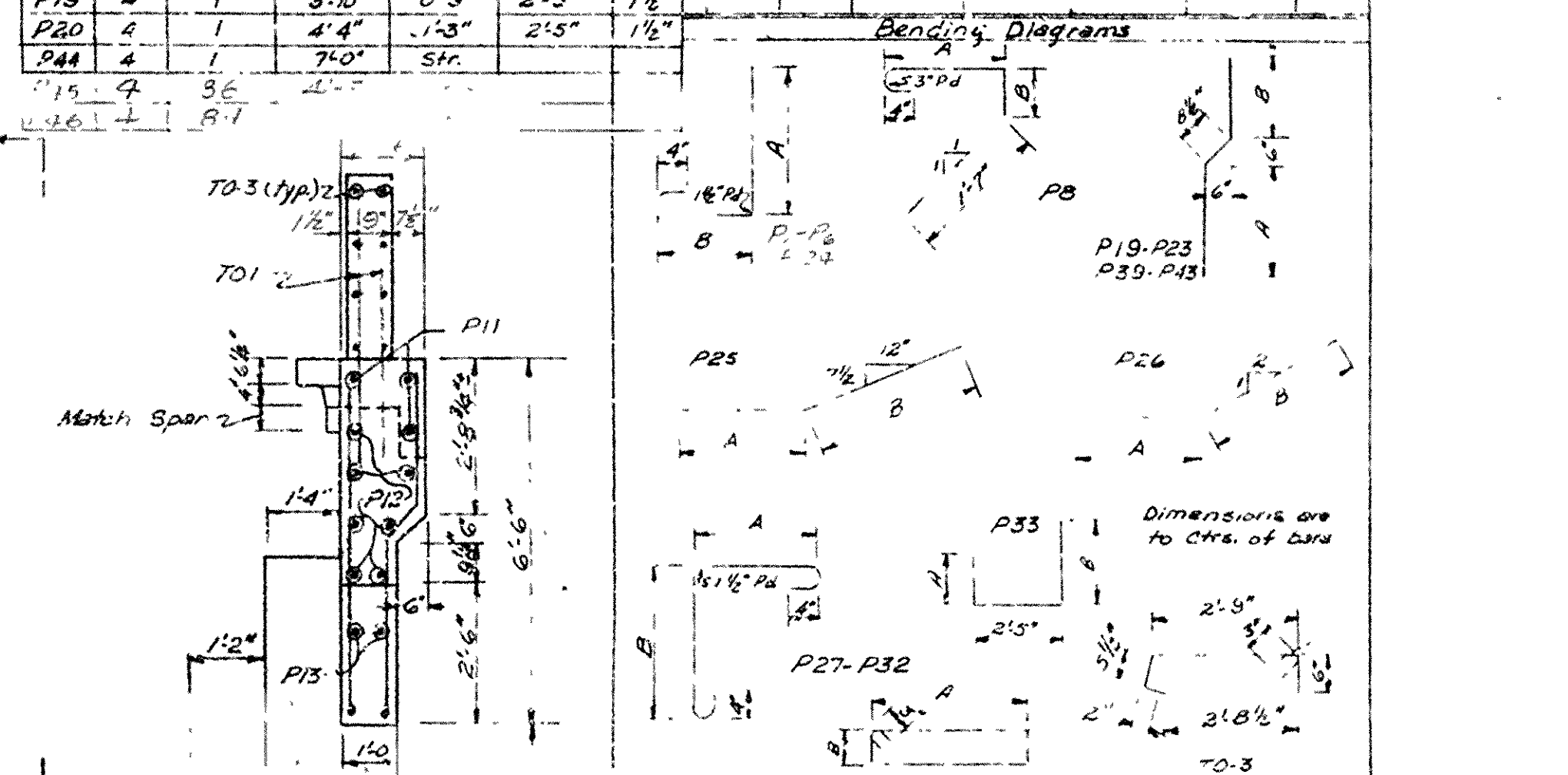
ADDITIONAL REINFORCING FOR ONE BENT

Bar	Size	No. Req'd	Length	A	B	P.D.	Bar	Size	No. Req'd	Length	A	B	P.D.
P1	4	7	8'-10"	6'-2"	3'-2"	3"	P21	4	1	4'-4"	1'-9"	2'-5"	1 1/2"
P2	4	7	9'-4"	6'-3"	3'-2"	3"	P22	4	1	5'-4"	2'-3"	2'-5"	1 1/2"
P3	4	7	10'-0"	6'-4"	3'-2"	3"	P23	4	1	5'-10"	2'-0"	2'-5"	1 1/2"
P4	4	7	10'-1"	6'-5"	3'-2"	3"	P24	4	1	10'-8"	7'-0"	3'-2"	3"
P5	4	7	10'-2"	6'-6"	3'-2"	3"	P25	4	2	6'-6"	2'-0"	4'-6"	1 1/2"
P6	4	7	10'-3"	6'-7"	3'-2"	3"	P26	4	2	7'-7"	2'-0"	5'-7"	1 1/2"
P7	4	43	5'-0"	Str.			P27	4	7	6'-7"	2'-0"	5'-7"	3"
P8	4	42	3'-11"	1'-2"	9"	1 1/2"	P28	4	7	6'-8"	2'-0"	3'-8"	3"
P9	4	12	2'-7"	Str.			P29	4	7	6'-9"	2'-0"	3'-9"	3"
P10	5	22	2'-11"	Str.			P30	4	7	6'-10"	2'-0"	3'-10"	3"
P11	4	6	4'-11"	Str.			P31	4	7	6'-11"	2'-0"	3'-11"	3"
P12	4	14	7'-0"	Str.			P32	4	0	7'-0"	2'-0"	4'-0"	3"
P13	4	4	5'-0"	Str.			P33	4	2	5'-7"	1'-4"	1'-11"	1 1/2"
P14	4	1	3'-8"	Str.			P34	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P15	4	1	4'-2"	Str.			P35	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P16	4	1	4'-8"	Str.			P36	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P17	4	1	5'-2"	Str.			P37	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P18	4	1	5'-8"	Str.			P38	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P19	4	1	3'-10"	0'-9"	2'-5"	1 1/2"	P39	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P20	4	1	4'-4"	1'-3"	2'-5"	1 1/2"	P40	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P41	4	1	7'-0"	Str.			P42	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	



BAR LIST FOR ONE END BENT

Bar	Size	No. Req'd	Length	A	B	P.D.	Bar	Size	No. Req'd	Length	A	B	P.D.
P1	4	7	8'-10"	6'-2"	3'-2"	3"	P21	4	1	4'-4"	1'-9"	2'-5"	1 1/2"
P2	4	7	9'-4"	6'-3"	3'-2"	3"	P22	4	1	5'-4"	2'-3"	2'-5"	1 1/2"
P3	4	7	10'-0"	6'-4"	3'-2"	3"	P23	4	1	5'-10"	2'-0"	2'-5"	1 1/2"
P4	4	7	10'-1"	6'-5"	3'-2"	3"	P24	4	1	10'-8"	7'-0"	3'-2"	3"
P5	4	7	10'-2"	6'-6"	3'-2"	3"	P25	4	2	6'-6"	2'-0"	4'-6"	1 1/2"
P6	4	7	10'-3"	6'-7"	3'-2"	3"	P26	4	2	7'-7"	2'-0"	5'-7"	1 1/2"
P7	4	43	5'-0"	Str.			P27	4	7	6'-7"	2'-0"	5'-7"	3"
P8	4	42	3'-11"	1'-2"	9"	1 1/2"	P28	4	7	6'-8"	2'-0"	3'-8"	3"
P9	4	12	2'-7"	Str.			P29	4	7	6'-9"	2'-0"	3'-9"	3"
P10	5	22	2'-11"	Str.			P30	4	7	6'-10"	2'-0"	3'-10"	3"
P11	4	6	4'-11"	Str.			P31	4	7	6'-11"	2'-0"	3'-11"	3"
P12	4	14	7'-0"	Str.			P32	4	0	7'-0"	2'-0"	4'-0"	3"
P13	4	4	5'-0"	Str.			P33	4	2	5'-7"	1'-4"	1'-11"	1 1/2"
P14	4	1	3'-8"	Str.			P34	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P15	4	1	4'-2"	Str.			P35	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P16	4	1	4'-8"	Str.			P36	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P17	4	1	5'-2"	Str.			P37	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P18	4	1	5'-8"	Str.			P38	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P19	4	1	3'-10"	0'-9"	2'-5"	1 1/2"	P39	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P20	4	1	4'-4"	1'-3"	2'-5"	1 1/2"	P40	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	
P41	4	1	7'-0"	Str.			P42	4	128	Varies by 2'-7 1/2"	Varies by 2'-7 1/2"	Str.	



NOTE: Reinforcing not shown is same as Elevation shown above.

ELEVATION

Table of Vertical Dimensions

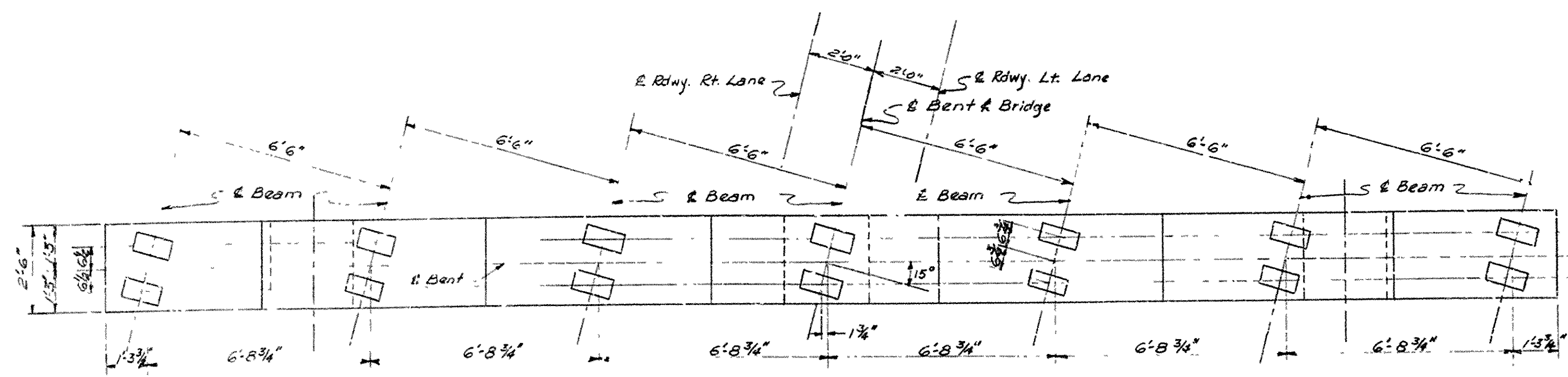
BENTS	3	4	5	6	7	8	9	10	11	12	13	14	15
Bent 1 Right Lane	7 3/8"	1'-8 1/2"	7 3/8"	5 1/2"	15 1/4"	7 5/8"	15 1/4"	7 5/8"	7 5/8"	7 5/8"	7 5/8"	7 5/8"	7 5/8"
Bent 4 Right Lane	8"	1'-8 1/2"	7 3/8"	5 1/2"	15 1/4"	7 5/8"	15 1/4"	7 5/8"	7 5/8"	7 5/8"	7 5/8"	7 5/8"	7 5/8"
Bent 1 Left Lane	7 3/8"	1'-8 1/2"	7 3/8"	5 1/2"	15 1/4"	7 5/8"	15 1/4"	7 5/8"	7 5/8"	7 5/8"	7 5/8"	7 5/8"	7 5/8"
Bent 4 Left Lane	8"	1'-8 1/2"	7 3/8"	5 1/2"	15 1/4"	7 5/8"	15 1/4"	7 5/8"	7 5/8"	7 5/8"	7 5/8"	7 5/8"	7 5/8"

ELEVATIONS

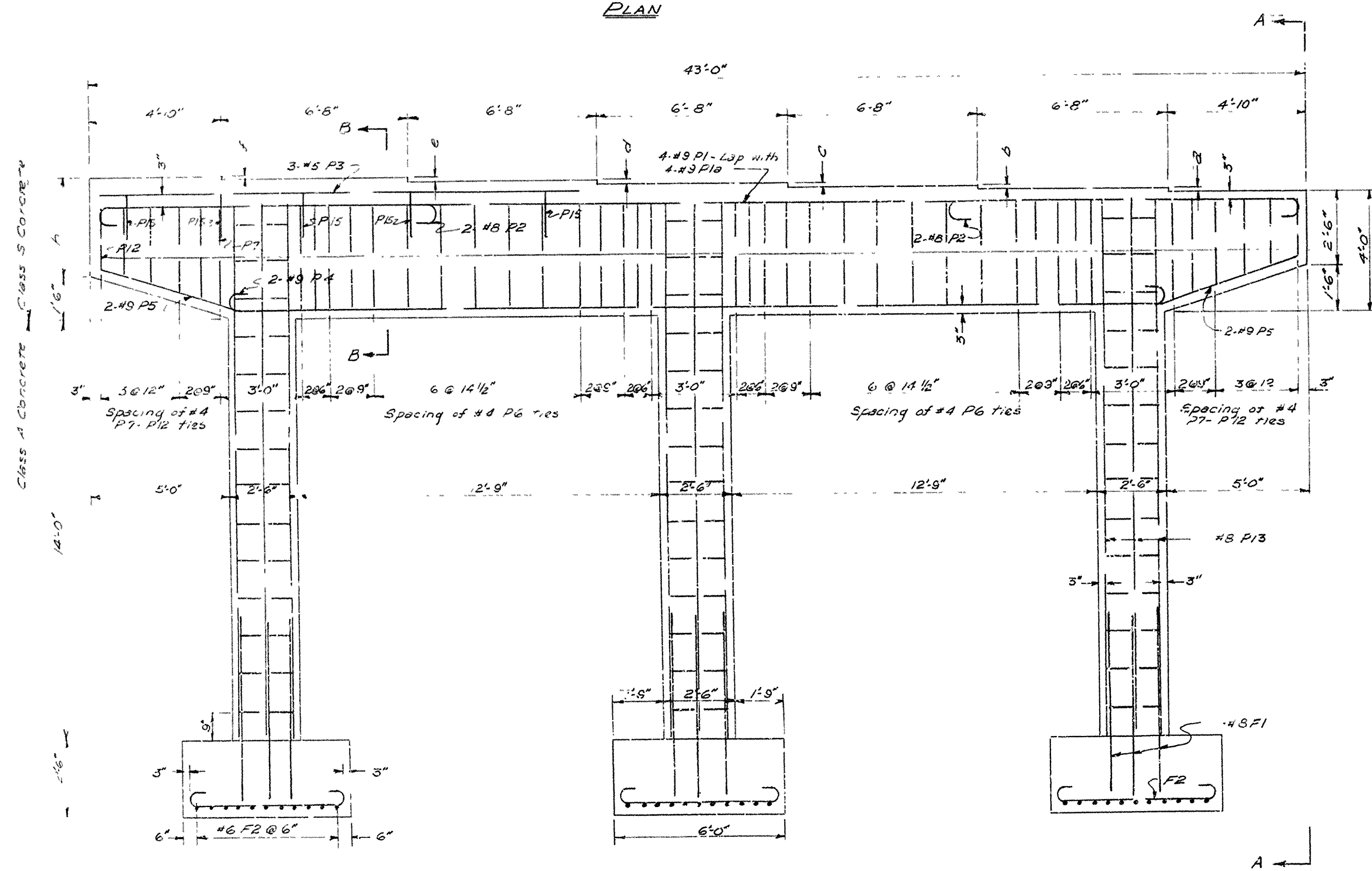
BENTS	A	B	C	D	E	F	G
Bent 1 RT	418.38	418.39	418.10	418.16	418.61	418.67	
Bent 4 RT	417.69	417.68	417.53	417.93	417.43	417.44	
Bent 1 LT	418.46	418.47	418.65	418.65	418.28	418.28	
Bent 4 LT	417.88	417.87	417.71	417.70	418.03	418.04	

DETAIL OF END BENTS FOR
OVERPASSES AT COUNTY ROAD STA. 5628+00
OUACHITA RIVER-NINE MILE CREEK
HOT SPRING COUNTY
IN ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DATE: 4/4/63
CHECKED BY: ERB DATE: 4/4/63
BRIDGE NO. 3431 A&B DRAWING NO. 11236



PLAN



ELEVATION

Right Lane Looking Forward
Left Lane Looking Back

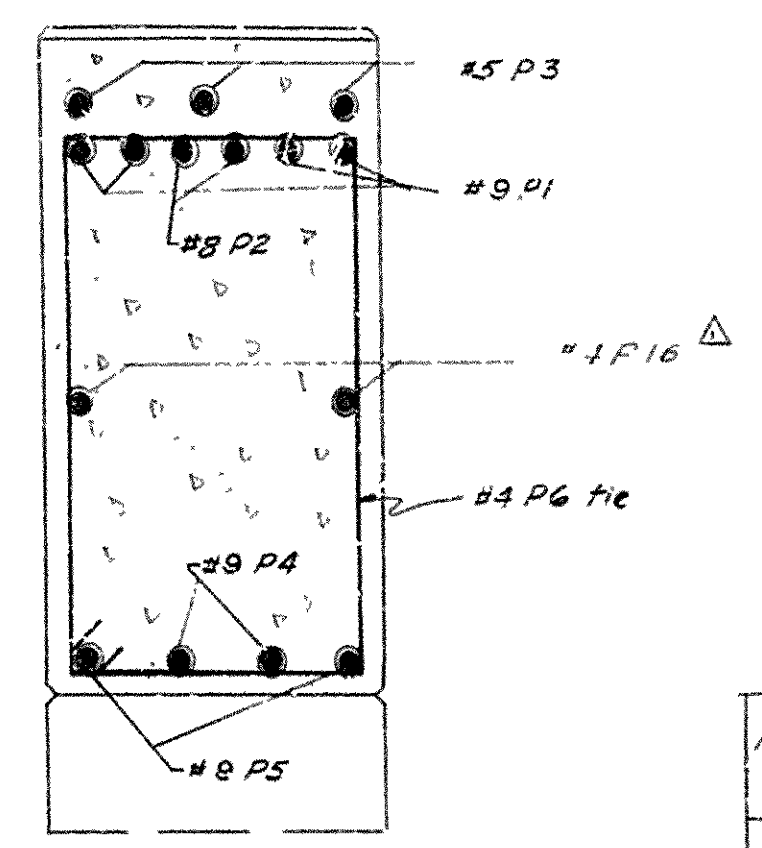
Table of Variable Dimensions

BENTS	a	b	c	d	e	f	h
Bent 2 Rt. Lane	15 1/16"	15 1/16"	15 1/16"	15 1/16"	15 1/16"	15 1/16"	2'-11 3/8"
Bent 3 Rt. Lane	1"	1"	15 1/16"	15 1/16"	15 1/16"	15 1/16"	2'-11 3/8"
Bent 2 Lt. Lane	2 1/4"	3 1/4"	3 1/4"	11 1/16"	11 1/16"	11 1/16"	2'-10 3/8"
Bent 3 Lt. Lane	11 1/16"	11 1/16"	11 1/16"	11 1/16"	11 1/16"	11 1/16"	2'-10 3/8"

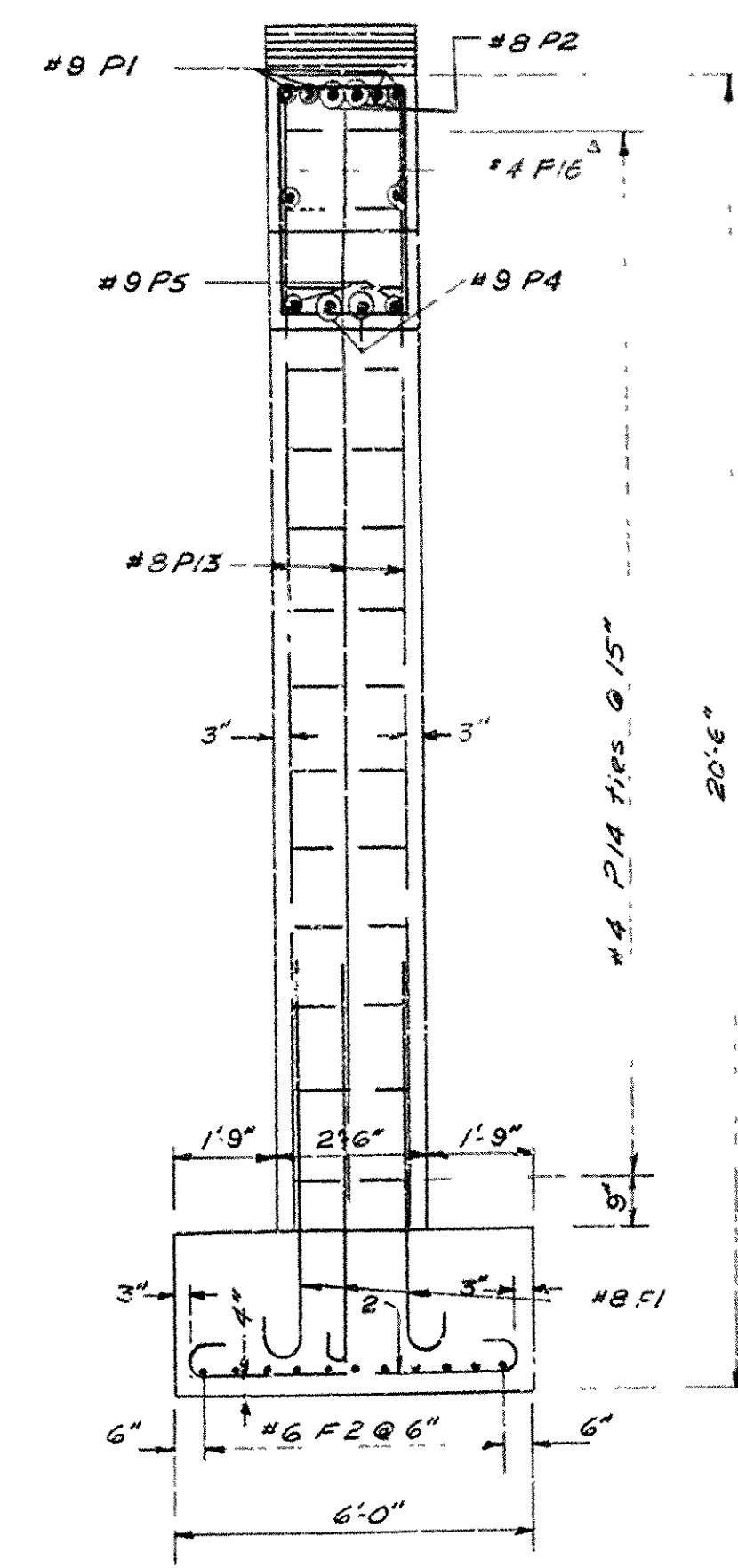
Footings Elevations

BENT	ELEV.
Bent 2 Rt. Lane	394.76
Bent 3 Rt. Lane	394.52
Bent 2 Lt. Lane	394.95
Bent 3 Lt. Lane	394.74

Note: For location of fixed and expansion shoes see layout.



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



SECTION A-A

Rev. 4-74 P16 3333 (2-11-62) JNS

BAR LIST

Mark	Size	No. Req'd	Length	A	B	Pin Dia	Bending Diagram (Dimensions are to ctrs of bars)
P1	9	4	31'-11"	30'-8"	10"	9"	[Diagram]
P2	8	4	14'-3"	12'-0"	9"	8"	
P3	5	3	17'-0"	5'11"			[Diagram]
P4	9	2	35'-6"	33'-0"	10"	9"	
P5	8	4	23'-5"	18'-5"	5'-0"	9"	[Diagram]
P6	4	30	12'-1"	2'-1 1/2"	3'-7 1/2"	1 1/2"	
P7	4	2	11'-11"	2'-1 1/2"	3'-6 1/2"	1 1/2"	[Diagram]
P8	4	2	11'-8"	2'-1 1/2"	3'-4"	1 1/2"	
P9	4	2	11'-0 1/2"	2'-1 1/2"	3'-1 1/4"	1 1/2"	[Diagram]
P10	4	2	10'-5"	2'-1 1/2"	2'-9 1/2"	1 1/2"	
P11	4	2	9'-10"	2'-1 1/2"	2'-6"	1 1/2"	[Diagram]
P12	4	2	9'-3"	2'-1 1/2"	2'-2 1/2"	1 1/2"	
P13	3	24	17'-8"	5'11"			[Diagram]
P14	4	42	9'-1"	2'-1 1/2"	2'-1 1/2"	1 1/2"	
F1	8	24	6'-8"	5'-6"	9"	5"	[Diagram]
F2	6	66	6'-11"	5'-6"	6"	4 1/2"	
P1a	9	4	16'-11"	15'-3"	10"	9"	[Diagram]
P15	4	5	5'-6"	2'-1 1/2"	1'-9"	1 1/2"	
P16	4	4	23'-2"	5'11"			

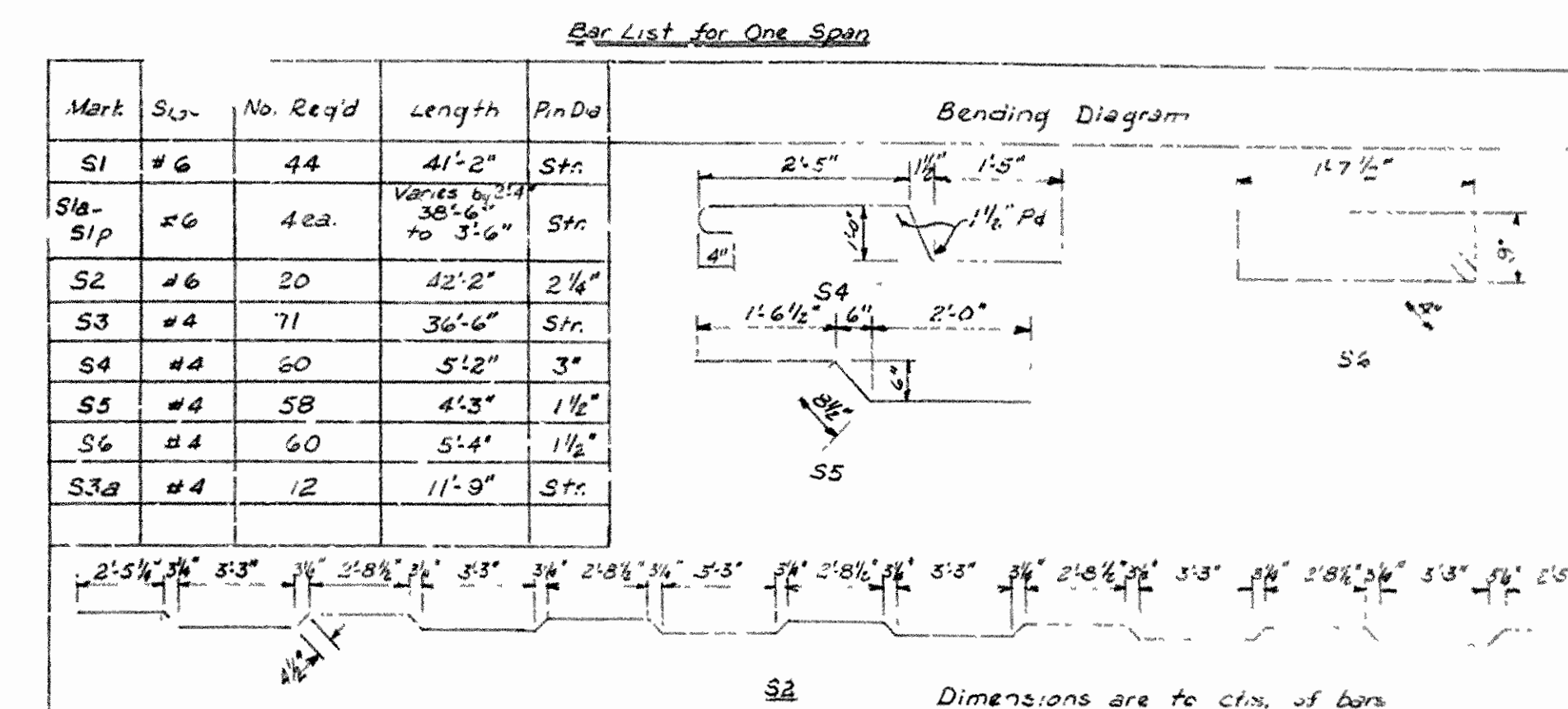
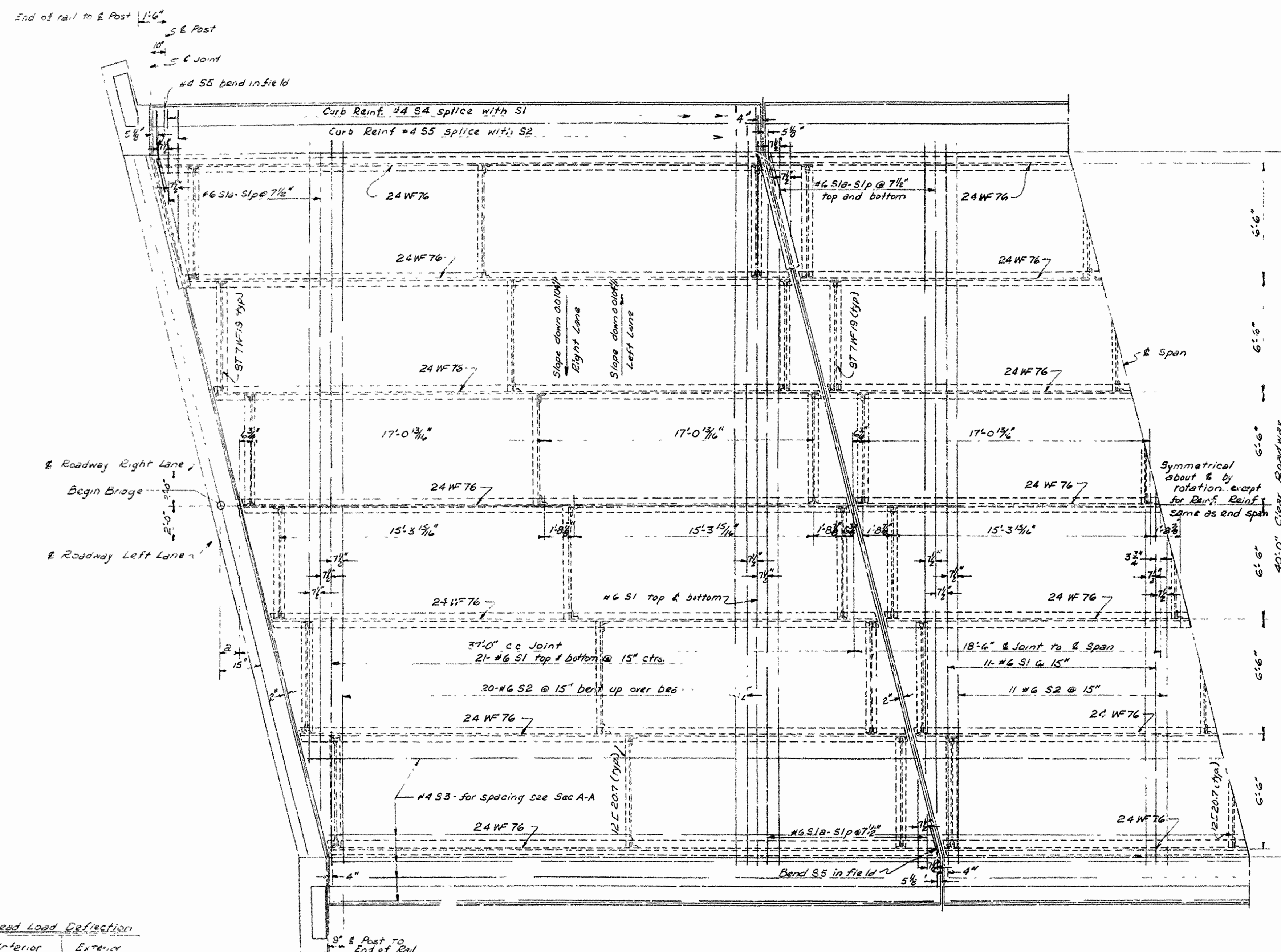
NOTES

All exposed corners to be chamfered 3/4".
Concrete in footings and columns to be Class A. Concrete in cap to be Class S.
For details of Superstructure see drawing no. 11238.
For Layout and General Notes see drawing no. 11212.

DETAILS OF INTERMEDIATE BENTS
OVERPASSES AT COUNTY ROAD STA. 5628+00
OJUCHITA RIVER - NINE MILE CREEK
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: CLKV DATE: 7-20-60
TRACED BY: CLKV DATE: 7-23-60
CHECKED BY: CLKV DATE: 7-23-60
SCALE: 3/8" = 1'-0" UNLESS NOTED
BRIDGE NO. 3431 A&B DRAWING NO. 11237

L.P. Carlson
BRIDGE DESIGN ENGINEER

FED. ROAD NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	7-30-2(44)187	6685	41	502

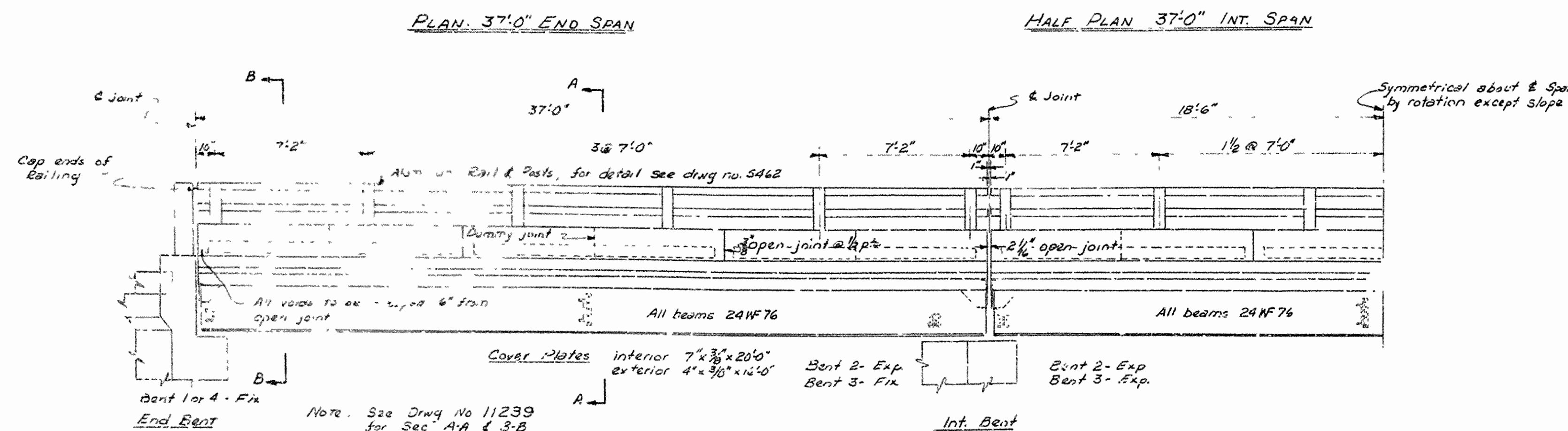


Dead Load Deflection

Interior Span	Exterior Span
5/16"	7/16"

Table of Variables

Bent	Δ
Bent 1	1'-1 3/16"
Bent 4	1'-1 3/16"
Bent 1	1'-1 3/16"
Bent 4	1'-1 3/16"



NOTES
For additional span details see drawing No. 11239. For General Notes and details of Aluminum Rail and Posts see drawing No. 5462. For Layout see drawing 11212.

Loading: H-20-S16 (A.A.S.H.O. 1957) and Special Interstate Loading - 2-24,000 lb axles spaced at 4'-0" cts.

Dead Load:
To WF Section: 526 + 11 (WF of WF) 123 #1
To Composite Beam: 123 #1

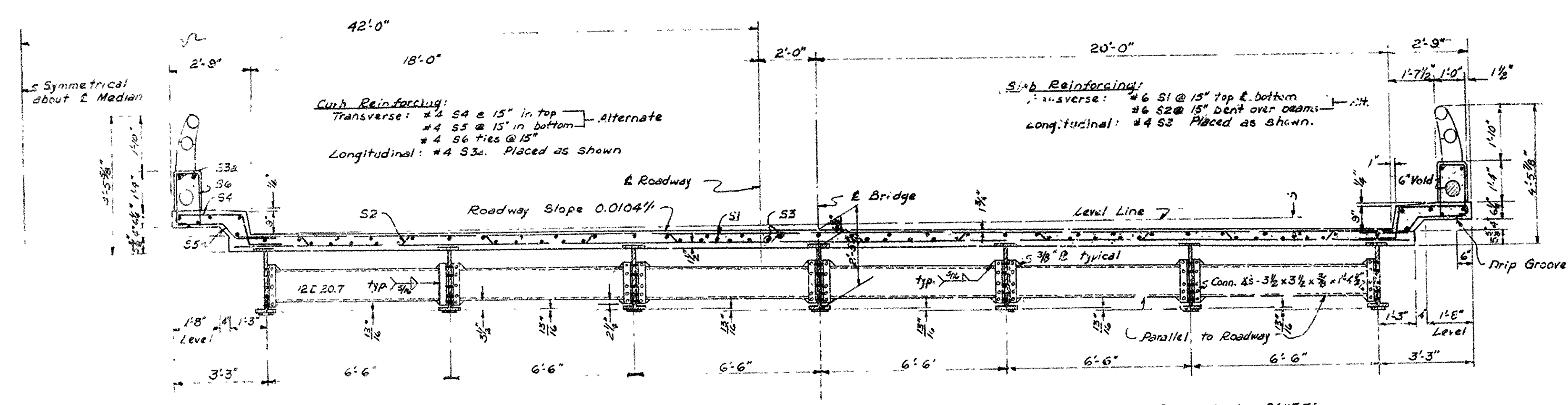
Live Load:
To each Composite Beam: 1182 Wheels - I
1150 #2010 + I

Unit Stresses:
Class 3 Concrete (in 10) 1200 p.s.i.
Structural Steel 18,000 p.s.i.
Reinforcing Steel 20,000 p.s.i.

SHEET 1
DETAILS OF SPANS FOR
OVERPASSES AT COUNTY ROAD STA. 5628+00
OUACHITA RIVER - NINE MILE CREEK
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: C.F.W. DATE: 7-29-60
TRACED BY: DATE: 8-2-60
CHECKED BY: E.R.B. DATE: 8-2-60
BRIDGE NO. 3431 A & B DRAWING NO. 11238

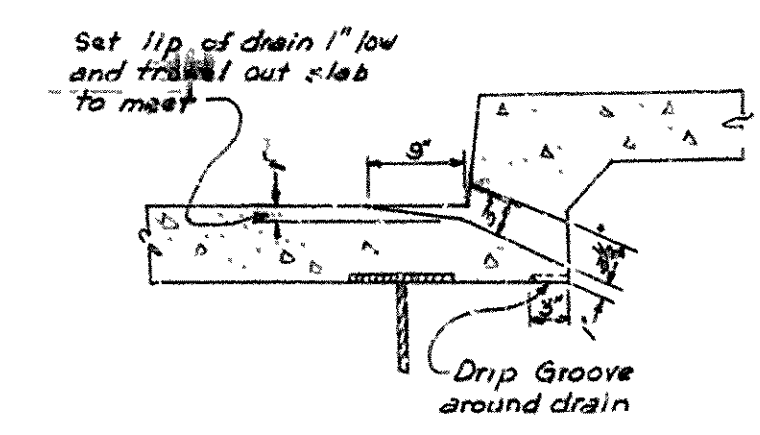
L.P. Carlson
BRIDGE DESIGN ENGINEER

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	1930-2(44)107	42	31
JOB NO.	6685			



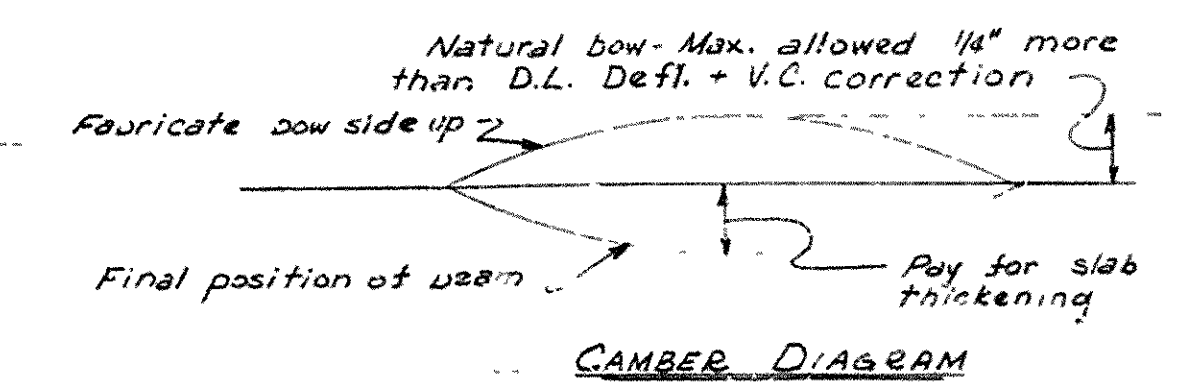
Note: Typical welds shown for conn. as may be used in lieu of rivets.

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

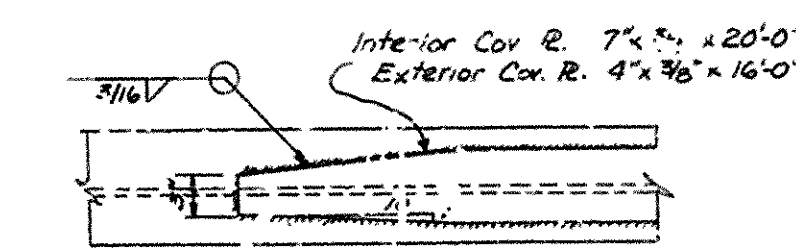


Drain opening 3" x 7" tapered to 3 1/2" x 7 1/2" Place on low side of roadway in spans 1 and 3 only at approximately midspan.

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

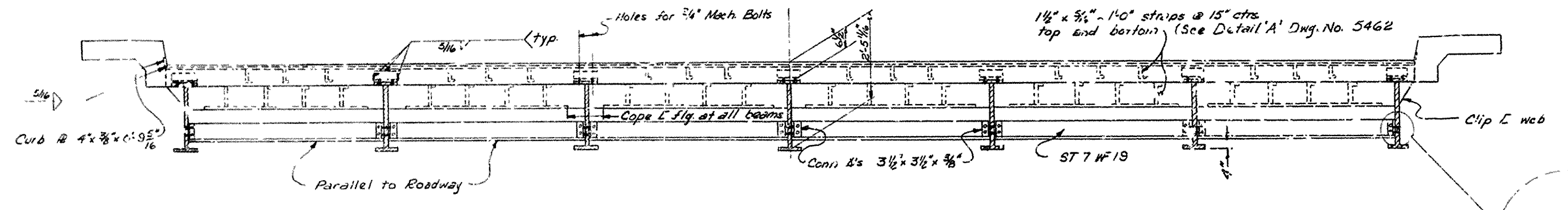


CAMBER DIAGRAM

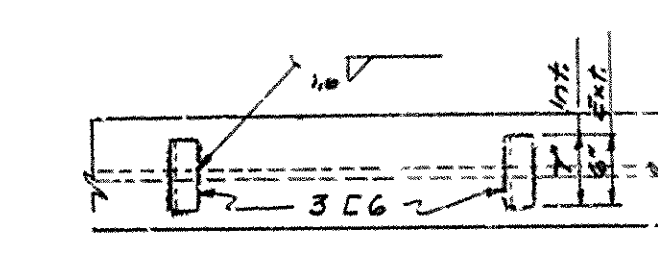


DETAIL OF COVER PLATES
Scale: 3/4" = 1'-0"

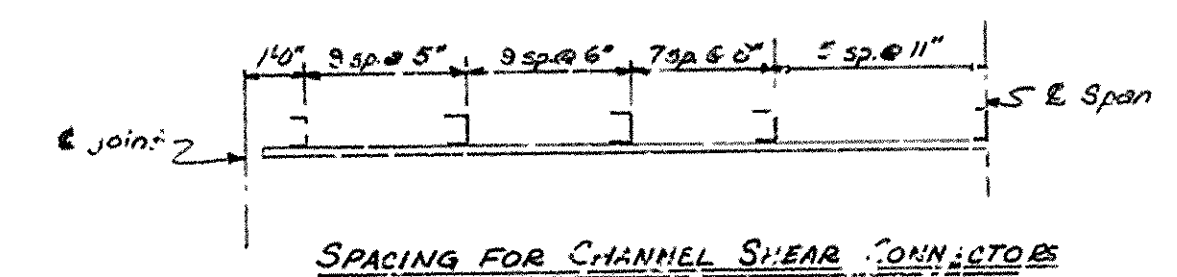
Expansion Device:
Roadway L 15' x 33.9" x 41' 5"
Conn. as 6" x 3 1/2" x 3/8" x 31' 8"
Roadway R 9' x 3/8" x 41' 5"
Detail device 1" high and provide 1/4" of shims using 2-1/8" R. and 1-1/8" R.



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



DETAIL OF SHEAR CONNECTORS
Scale: 3/4" = 1'-0"

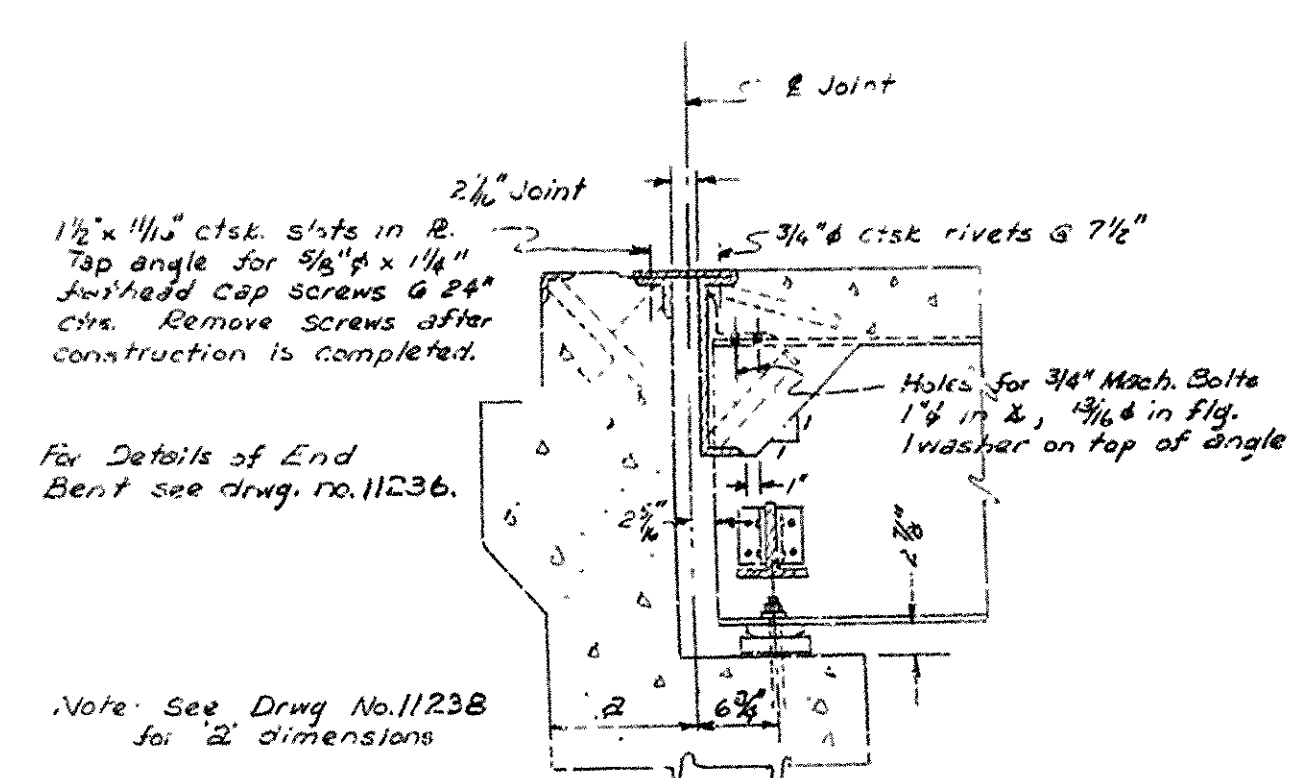


SPACING FOR CHANNEL SHEAR CONNECTORS

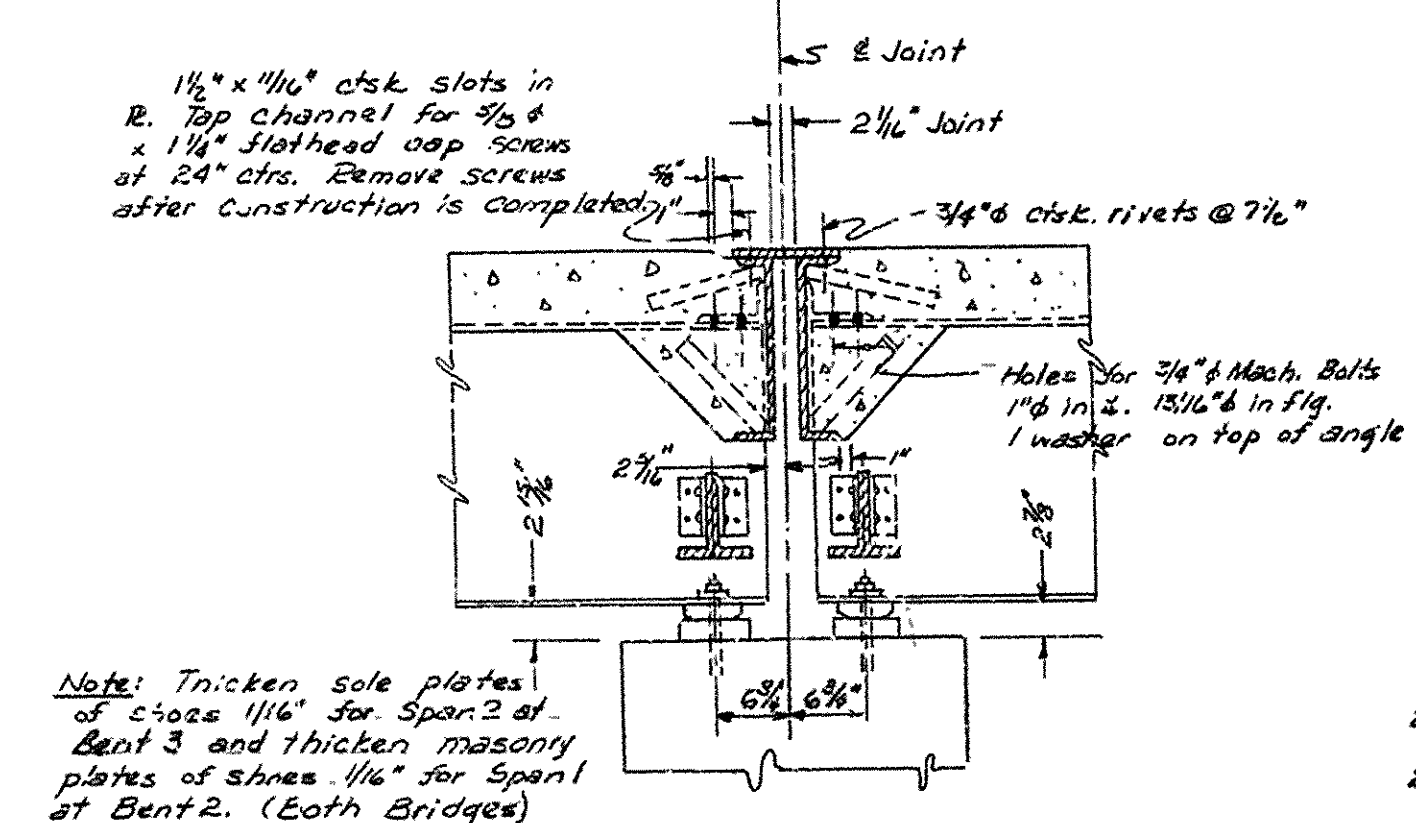
Note: Stud shear connectors, granular flux filled, solid fluxed or equal may be used in place of the channels shown at the following ratios: 3/4" diameter stud in place of 1.82 inches of channel; 7/8" diameter stud in place of 2.52 inches of channel. The studs shall be 4' long and automatically end welded to the beam flanges in accordance with recommendations of the manufacturer. Channel sections will be used as basis for measurement of structural steel in shear connectors.

GENERAL NOTES

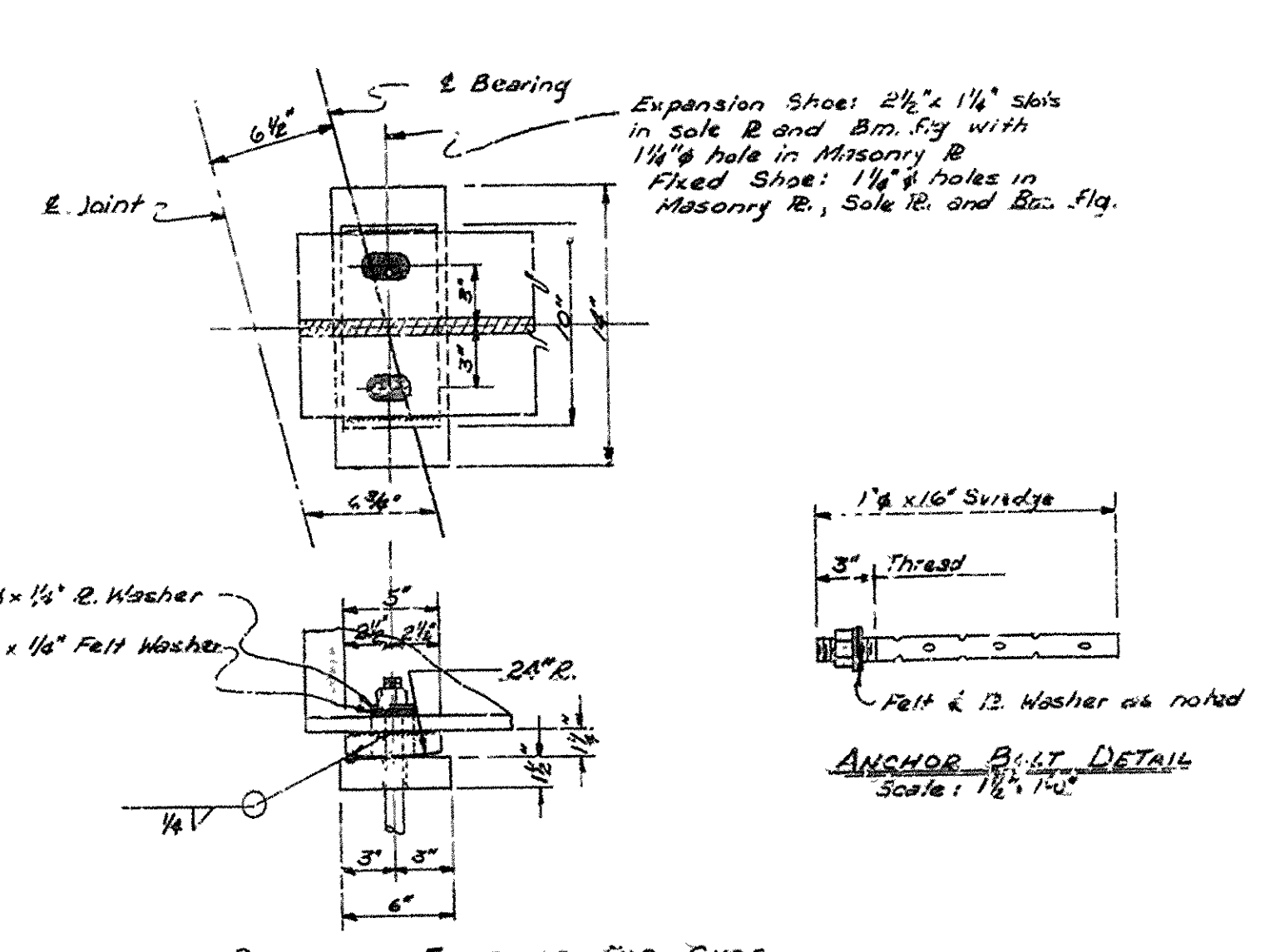
For Bar List, Plan View and Elevation of Spans see dwg. no. 11230.
For General Notes see dwg. no. 5462. For Layout see dwg. no. 11212.



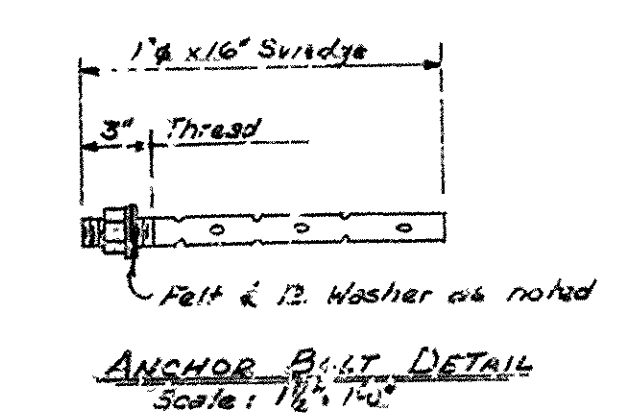
JOINT AT END BENT
Scale: 3/4" = 1'-0"



JOINT AT INT. BENT
Scale: 3/4" = 1'-0"



DETAIL OF FIXED OR EXP. SHOE
Scale: 1 1/4" = 1'-0"



ANCHOR BOLT DETAIL
Scale: 1 1/4" = 1'-0"

SHEET 2
DETAILS OF SPANS FOR
OVERPASSES AT COUNTY ROAD STA. 5628+00
OUACHITA RIVER - NINE MILE CREEK
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY C.E.V. DATE 7-3-50
CHECKED BY E.R.B. DATE 8-2-50
BRIDGE NO. 5431 ABB DRAWING NO. 11239

L.D. Carlson
BRIDGE DESIGN ENGINEER