

Prof. Bridge No. 1230			
FISCAL YEAR	Job No	SHEET NO	TOTAL SHEETS
1929	7108	1	20
Hy. & Br. Impr. Proj.			

STATE OF ARKANSAS
STATE HIGHWAY COMMISSION

PLAN OF PROPOSED BRIDGE
OVER
OUACHITA RIVER
UNION-CALHOUN COUNTIES

ROUTE ¹⁵⁷ SEC. 2 & 3
JOB NO 7108

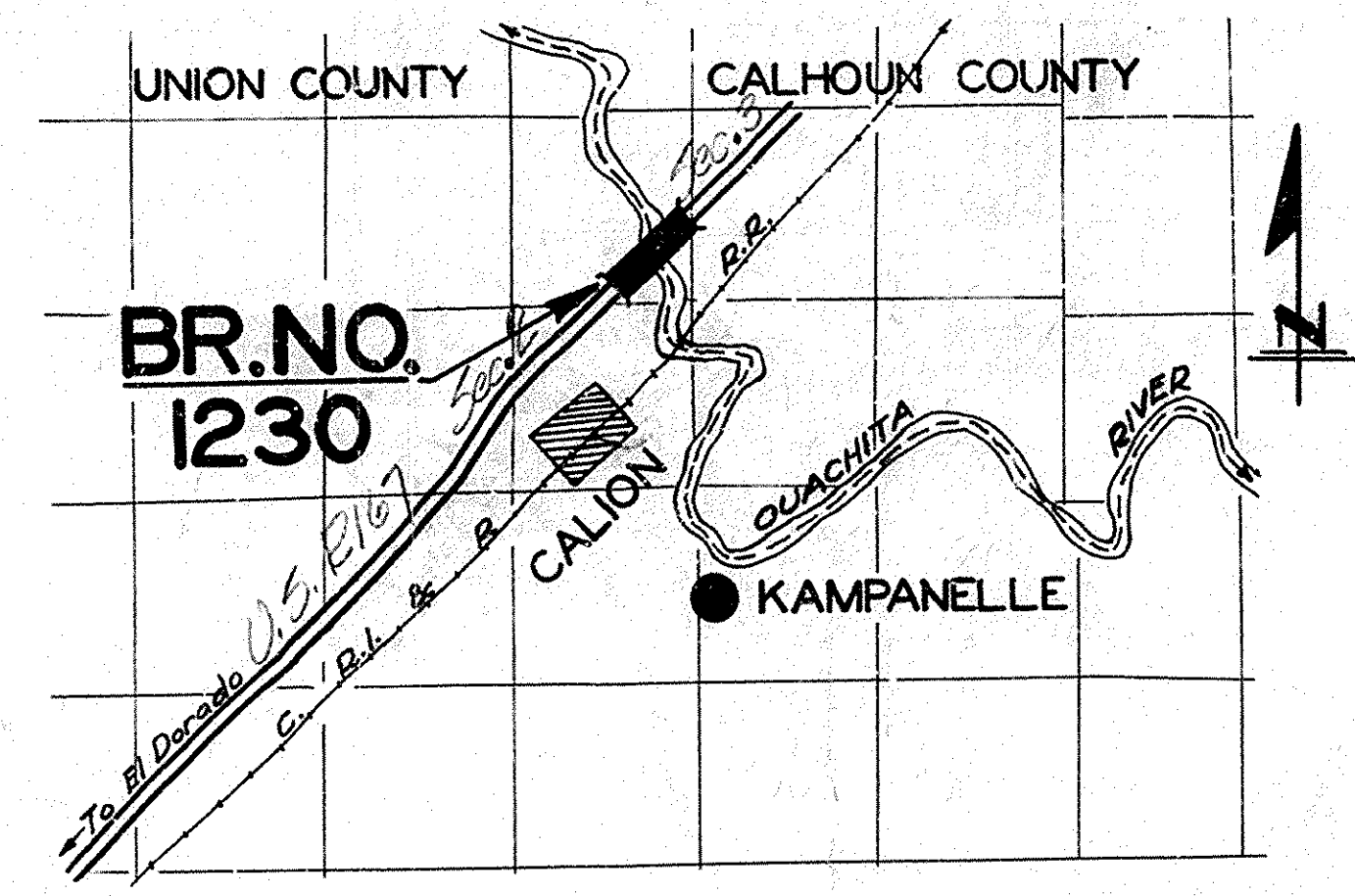
QUANTITIES

ITEM No	13	DRY EXCAV. FOR STRUCTURES	1959 Cu Yds
"	13	WET " " " " " "	4223 " "
"	54	CLASS "A" CONCRETE	3871 " "
"	54	" " " " " "	2546 " "
"	54	SEAL CONCRETE (CLASS "A")	753 " "
"	55	REINFORCING STEEL	813,404 LBS.
"	56	STRUCTURAL STEEL	1,575,000 LBS.
"	66	UNTREATED TIMBER PILING	9,177 Lin. Ft.
"	68	PRECAST CONCRETE PILING	13,110 " "
"	74	CONG. RAILING FOR STRUCTS.	4693 " "

INDEX OF SHEETS

SHEET No	1	Dwg. No. 1692	TITLE SHEET
"	2	" " " 1693	BORING DATA & MAP OF VICINITY
"	3	" " " 1694	GENERAL LAYOUT OF BRIDGE
"	4	" " " 1695	LAYOUT OF CONCRETE APPROACH
"	5	" " " 1696	LAYOUT OF STEEL TRUSS SPANS
"	6	" " " 1697	DETAILS OF END BENTS & INT. BENTS
"	7	" " " 1698	DETAILS OF 45'-0" R.C.D. GIRDER SPANS
"	8	" " " 1699	DETAILS OF 22'-0" R.C.D. GIRDER SPANS & TOWERS
"	9	" " " 1700	DETAILS OF PIERS 1, 2, 7 & 8
"	10	" " " 1701	DETAILS OF PIERS 3 & 6
"	11	" " " 1702	DETAILS OF PIERS 4 & 5
"	12	" " " 1703	DETAILS OF 140'-0" DECK TRUSS FOR SPANS 1, 2, & 6 & 7
"	13	" " " 1704	DETAILS OF TRUSS SPANS 1, 2, 6 & 7 AND STEEL BENTS
"	14	" " " 1705	ERECTION DIAGRAMS, STRESS DIAGRAMS & DETAILS FOR SPANS 3, 4 & 5
"	15	" " " 1706	DETAILS OF 140'-0" DECK TRUSS FOR SPANS 3 & 5
"	16	" " " 1707	DETAILS OF TRUSS SPANS 3, 4 & 5
"	17	" " " 1708	DETAILS OF MAIN TRUSS SPAN 16-4
"	18	" " " 1709	DETAILS OF TRUSS SPANS 3, 4 & 5
"	19	" " " 1710	BENDING DIAGRAMS & MINOR DETAILS
"	20	" " " 1710-A	DETAILS OF NAME PLATES

Item No	FINAL QUANTITIES	
12	Earth Excavation	314 Cu Yds
13	Dry Excavation For Str.	1959 " "
13	Wet " " " " " "	4319.84 " "
54	Class "A" Concrete	3745.80 " "
54	" " " " " "	2536.08 " "
54	Seal Concrete (Class "A")	847.3 " "
55	Reinforcing Steel	837,573 Lbs.
56	Structural Steel	1,651,929 " "
66	Untreated Timber Piling	6752 Lin. Ft.
66	Untreated Timber Piling (By App.)	11,640 " "
68	Precast Concrete Piling	15,946.4 " "
69	Rip Rap (By Agreement)	436.0 Cu Yds
74	Concrete Railing	4531.0 Lin. Ft.
S.P.	Unt. Timber Pile Cut Offs	2423.0 " "
S.P.	Concrete Pile Cut Offs	964.6 " "
	Clearing (By Agreement)	5,544 Acres
	Steel Sheet Piling (By App.)	112.92 Tons



The Specifications adopted by the State Highway Commission, May 30th, 1925 apply with subsequent revisions and Special Provisions noted apply to this Project.

Pamphlet A Revised Sept. 1st, 1928
" B
" C
" D Revised July 1st, 1928
" E
" F
" G
" H Revised Oct. 1st, 1928
" I
" J Revised Jan. 1st, 1929
" K
" L Revised Jan. 1st, 1929

SPECIAL PROVISIONS

Item	No. of Sheets
Concrete Piling	3
Engineer's Office	1
Seal Concrete	2
Concrete	1

LAYOUT

Scale: 1" = 1 Mi.
LENGTH OF PROJECT = 2500'-1 3/8"
LENGTH OF BRIDGES = 2500'-1 3/8"
LENGTH OF EMBANKMENT = 0

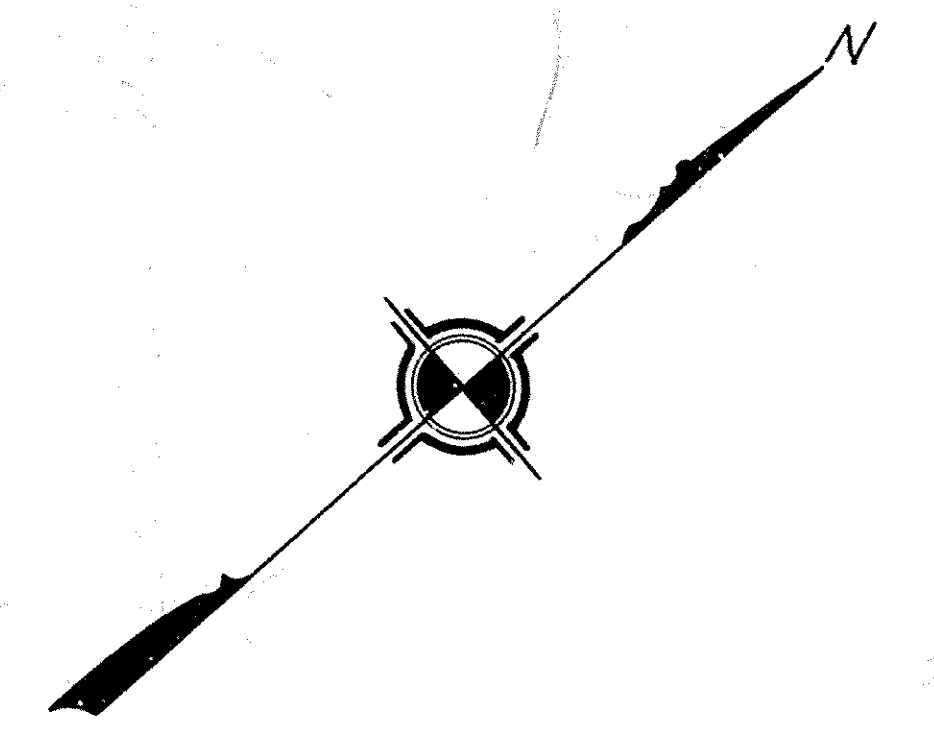
M.B. Garner
BRIDGE ENGINEER

BRIDGES No. 1230

APPROVED
CHAIRMAN - STATE HIGHWAY COMMISSION

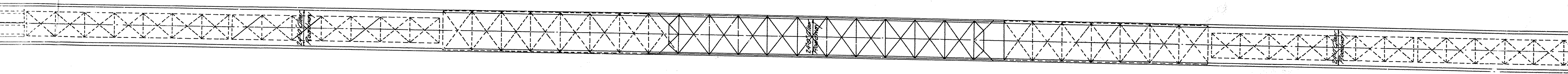
APPROVED
STATE HIGHWAY ENGINEER

DRAWING No. 1692

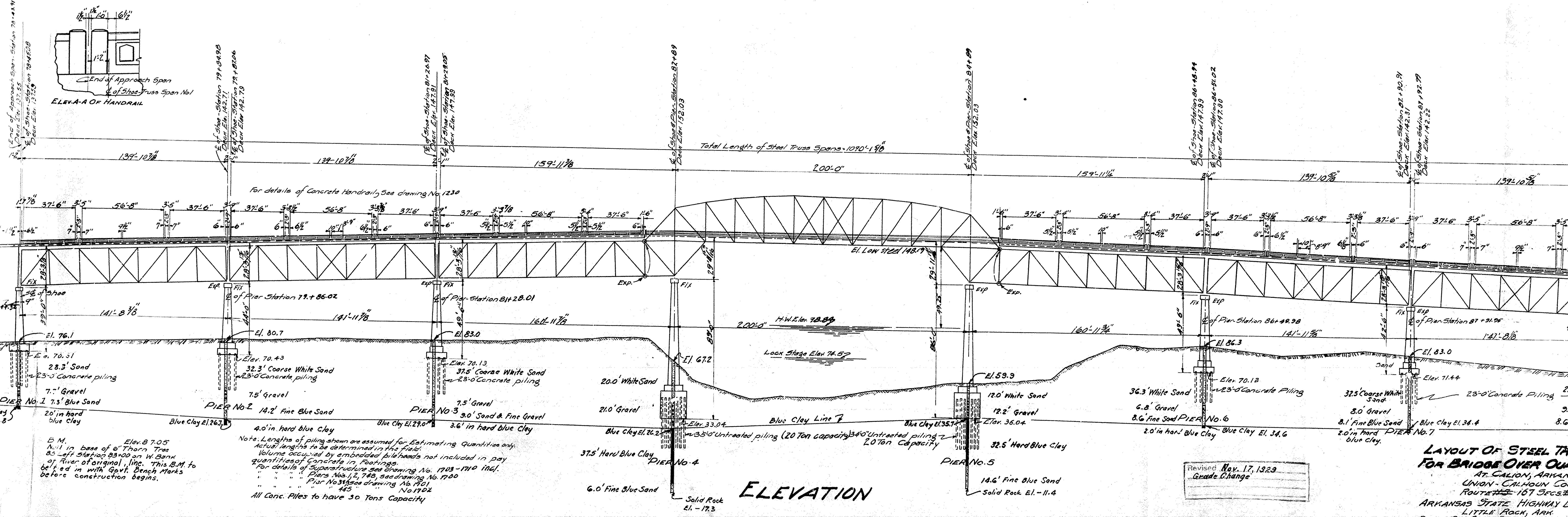


QUANCHA RIVER

PLAN

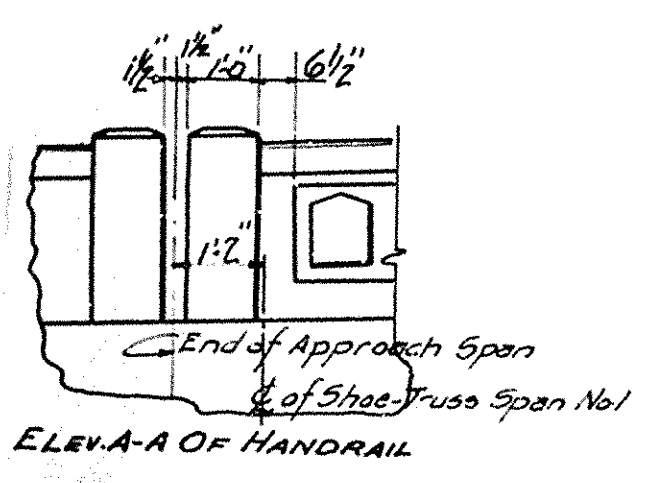


Total Length of Steel Truss Spans - 1090'-1 9/16"



ELEVATION

End of Approach Span - Station 78+83.91
Elev. 76.15
Elev. 76.15
Elev. 76.15



For details of Concrete Handrail, See drawing No. 1230

PIER No. 1 7.3' Blue Sand
20' in hard blue clay

PIER No. 2 14.2' Fine Blue Sand
4.0' in. hard blue clay

PIER No. 3 9.0' Sand & Fine Gravel
3.6' in. hard blue clay

PIER No. 4
Solid Rock
El. -17.3

PIER No. 5
14.6' Fine Blue Sand
Solid Rock El. -11.4

PIER No. 6
8.6' Fine Sand
2.0' in. hard blue clay

PIER No. 7
8.6' Fine Sand
2.0' in. hard blue clay

B.M. Elev. 70.5
Nail in base of 6" Thorn Tree
85' left Station 83+00 on W. Bank
of River of original line. This B.M. to
be tied in with Govt. Bench Marks
before construction begins.

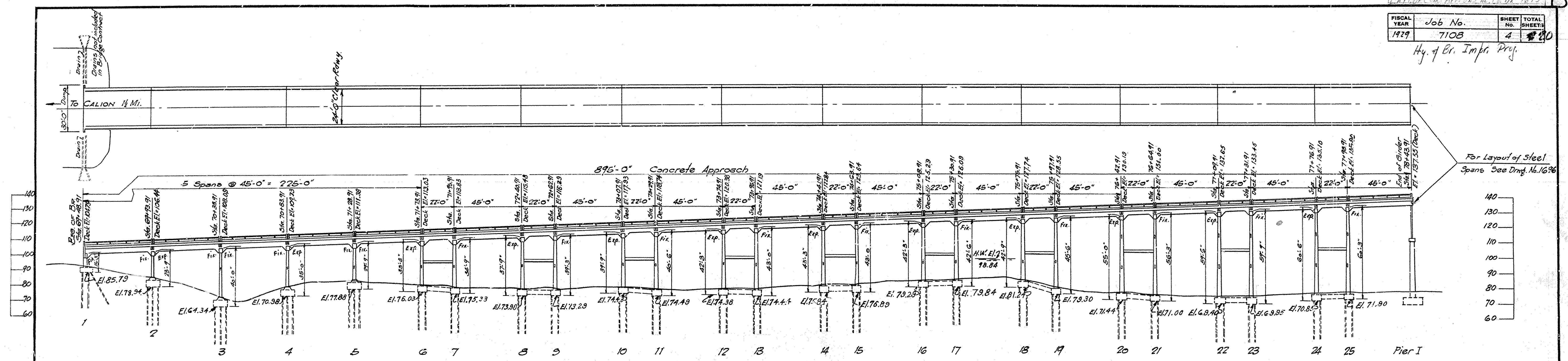
Note: Lengths of piling shown are assumed for Estimating Quantities only.
Actual lengths to be determined in the field.
Volume occupied by embedded pileheads not included in pay
quantities of concrete in footings.
For details of Superstructure see drawing No. 1703-1710 incl.
" " " " Piers Nos. 1, 2, 7 & 8, see drawing No. 1700
" " " " Pier No. 3, see drawing No. 1701
" " " " 445 No. 1702
All Conc. Piles to have 30 Tons Capacity

Revised Nov. 17, 1929
Grade Change

**LAYOUT OF STEEL TRUSS
FOR BRIDGE OVER QUANCHA
AT CALION, ARKANSAS
UNION - CALHOUN COUNTY
ROUTE 167 SECS. 30
ARKANSAS STATE HIGHWAY DE
LITTLE ROCK, ARK.
DRAWN BY J.B. DATE 6-27-29
CHECKED BY L.R.C. DATE 7-13-29**

W.B. Gamm
BRIDGE ENGINEER

BRIDGE NO. 1230 DRAWING

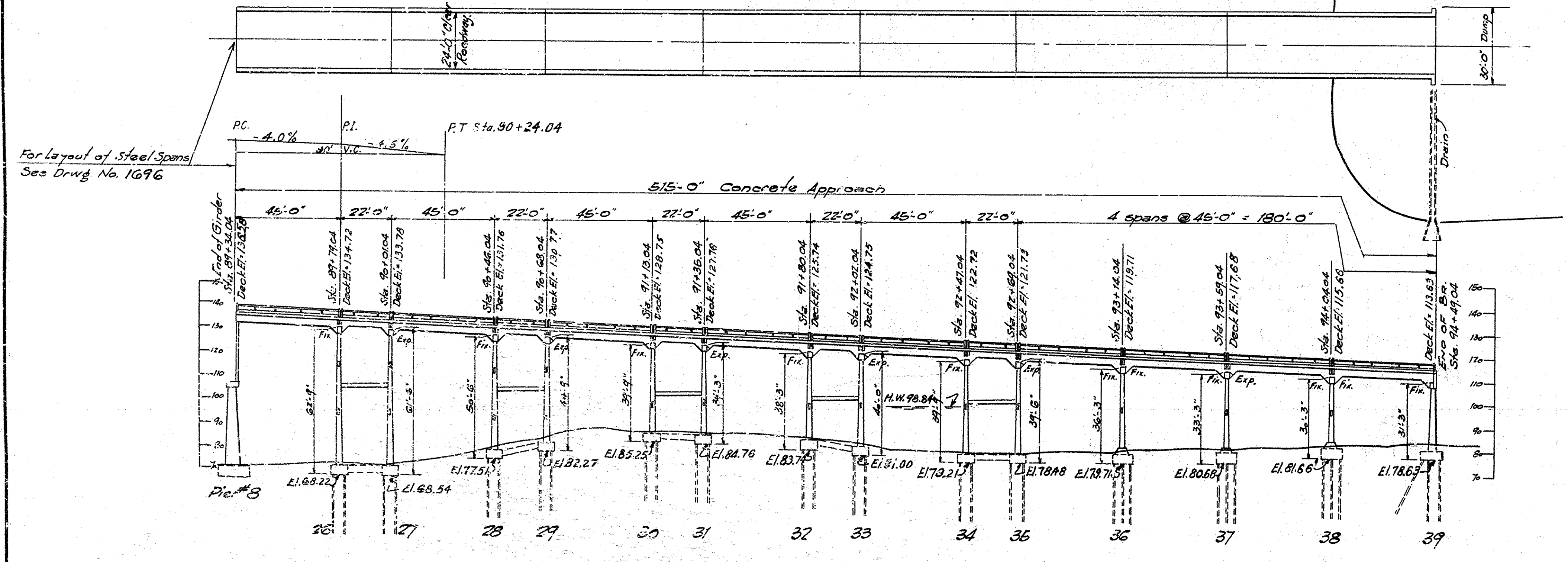


SOUTH-WEST APPROACH

B.M. El. 87.05 Nail in base of 6" Thorn Tree
 85' Left of Sta. 83+00 on Original Line
 This B.M. to be tied in with Govt. Bench Marks before
 construction begins.

Note: Lengths of piling shown are assumed for estimating
 quantities only. Actual lengths to be determined in the field.
 All piling estimated 25'-0" long in approaches.

General Notes:-
 All Concrete piles to have 30 Tons Capacity
 All exposed corners to have 3/8" chamfer unless otherwise
 noted.
 Concrete Handrail to be Class-D, Max. Agg. 3/4"
 Reinforcing steel to be deformed bars of Structural or Intermediate
 Grade. Shop List and Bending Diagrams of Reinforcing Steel must be
 submitted by the Contractor before fabrication is begun.
 Roadway Drains and Expansion Devices on Concrete Approaches
 to be paid for at Unit Price Bid for Reinforcing Steel.
 All Concrete above top of Column Caps, except Handrail, to be
 Class S Concrete. All Concrete below top of Column Caps to be Cl. A Conc.
 All Concrete to be poured in the dry, except seal.
 Volume occupied by imbedded pile heads not included in pay quantities
 of Concrete in Footings.
 Specifications: Arkansas Standard Road and Bridge Specifications
 adopted May 30, 1925 and Revised.



NORTH-EAST APPROACH

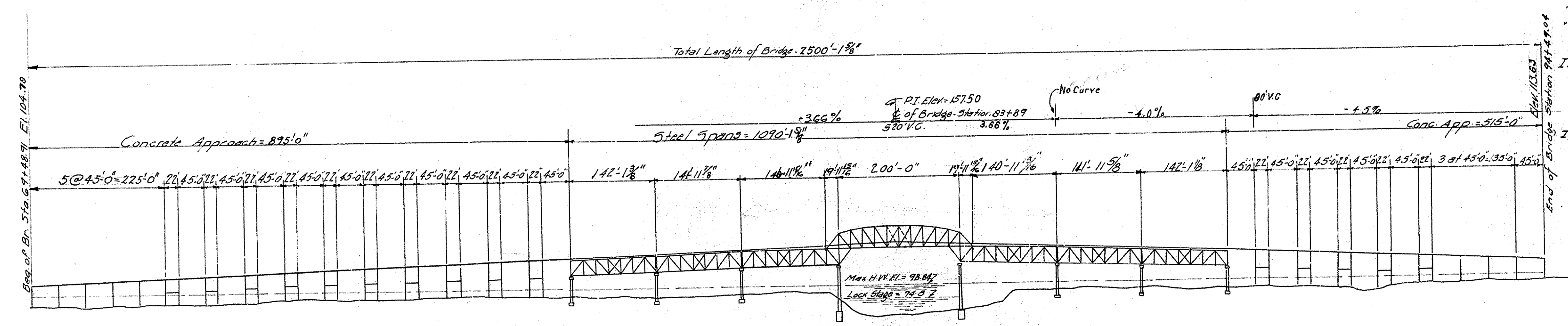
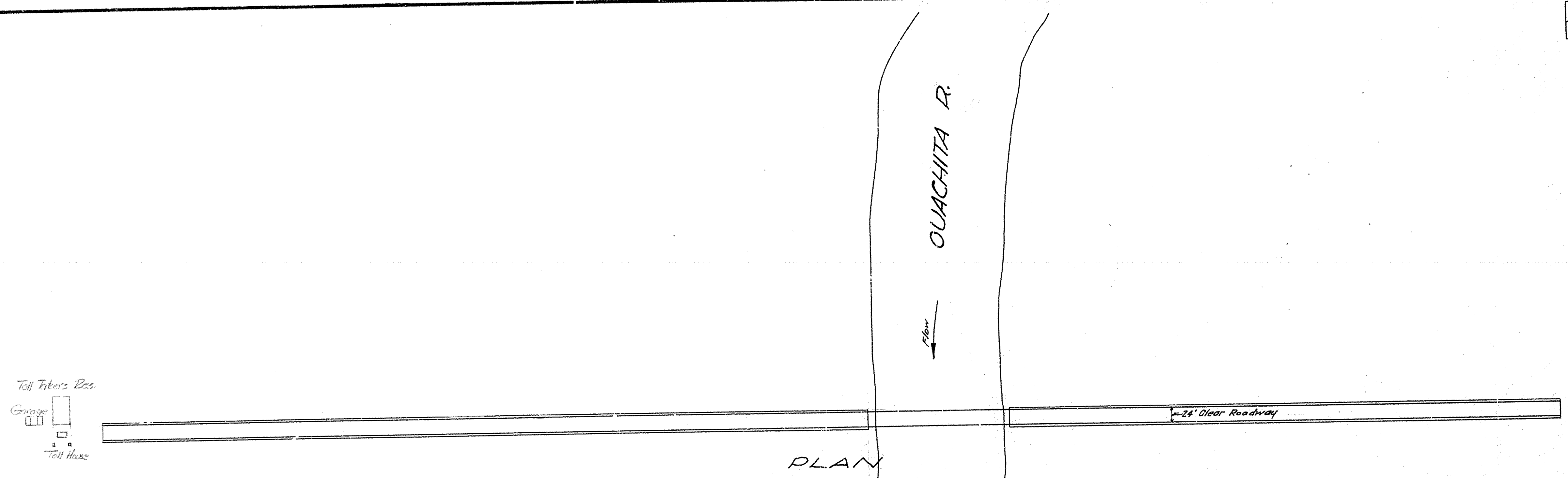
For details of Bents & Piling see Drwg. No. 1697.
 " " " 22'-0" Spans & Towers see " " 1699.
 " " " 45'-0" R.C.O.G. Spans " " " 1698.

Revised - Nov. 17, 1929
 Grade Change

LAYOUT OF CONCRETE APPROACH
CALION BRIDGE OVER OUACHITA RIVER
 UNION - CALHOUN COUNTIES
 ROUTE #15 SEC. #2 & 3
 167
ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.
 Drawn By: Duns Date: 7-29-29
 Traced By: Duns Date: 7-29-29
 Checked By: L.P.C. Date: 8/10/29
 BRIDGE NO. 1230 SCALE: 1 in. = 30 ft.
DRAWING NO. 1695

N.B. Gaver
 BRIDGE ENGINEER

GEN. LAY. OF BR. OVER CALHOUN CO. DISTRICT		SHEET TOTAL	
FISCAL YEAR	Job No.	No.	SHEETS
1929	708	3	10
Hy. & Br. Impr. Proj.			



QUANTITIES (ORIG)

APPROACH SPANS

ITEM No 13 DRY EXCAV. FOR STR 1391 CUYD. " " 13 WET " " " 608 " " 54 CLASS 2 CONCRETE 1838.2 " " 54 CLASS 3 CONCRETE 1837.9 " " 55 REINF. STEEL 602,478 LBS " " 68 PRECAST CONC. PILING 8050 LBS " " 74 CONC. RAIL FOR STRUT 3003 " "

SUPERSTRUCTURE-TRUSS SPANS

ITEM No 54 CLASS 3 CONG. 7081 CU YD. " " 55 REINF. STEEL 50926 LBS " " 56 STR. STEEL (TRUSSES) 515000 LBS

SUBSTRUCTURE-TRUSS SPANS

ITEM No 13 DRY EXCAV. FOR STR 568 CUYD. " " 13 WET " " " 3615 " " 54 CLASS 2 CONG. 2032.8 " " 54 SEAL CONG. 753 " " 55 REINF. STEEL 112,000 LBS " " 66 UNLT. TIMBER PILING 3177 LBS " " 68 PRECAST CONC. PILING 5060 LBS " " 74 CONC. RAIL FOR STR. 1690 " "

River Stages

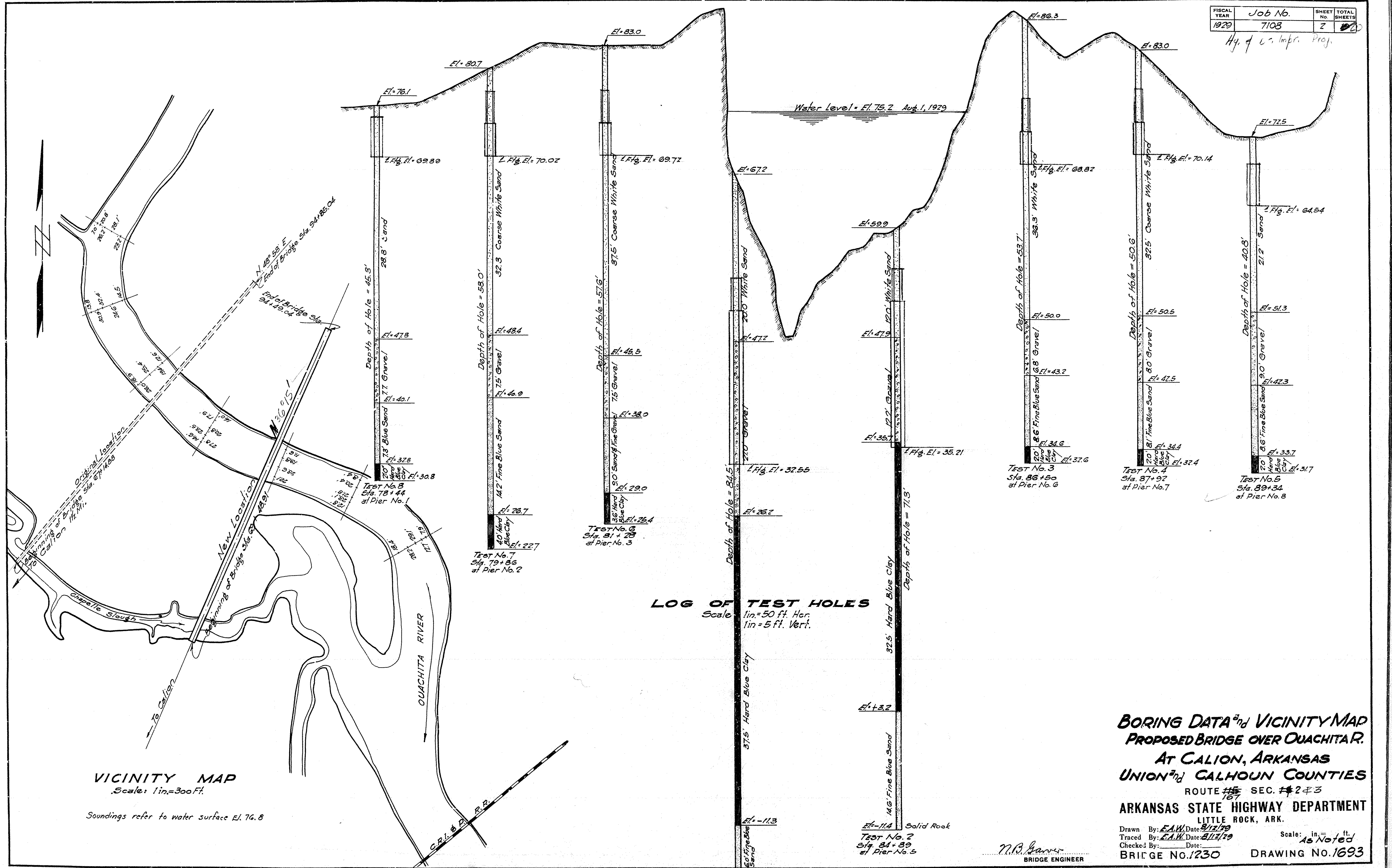
YEAR	No. of days at or above		
	E1.81	E1.86	E1.91
1928	39.0	3.0	0.0
1927	138.0	40.0	12.5
1926	39.5	2.5	0.0
1925	5.5	0.0	0.0
1924	2.0	0.0	0.0
1923	74.0	11.5	0.0
1922	63.0	12.5	0.0
1921	61.0	6.0	0.0
1920	73.0	13.0	0.0
1919	90.0	15.0	0.0
1918	19.5	0.0	0.0
1917	10.0	0.0	0.0
1916	32.0	11.5	2.0
1915	42.0	2.0	0.0
1914	48.0	10.5	0.0
1913	48.0	3.0	0.0
1912	73.0	24.0	0.0
1911	22.0	11.0	0.0
1910	22.0	0.0	0.0
1909	21.0	0.0	0.0

Revised Nov. 17, 1929
Grade Change

GENERAL LAYOUT OF BRIDGE OVER
OUACHITA RIVER
AT CALION, ARKANSAS
UNION- CALHOUN COUNTIES
ROUTE ~~15~~ SEC. ~~2~~ & 3
107
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

W.B. Barner
BRIDGE ENGINEER

Drawn By: *Age* Date: _____
Traced By: *Age* Date: 6-22-29
Checked By: *W.B.C.* Date: 7-27-29
BRIDGE NO. 1230
Scale: 1/4" = 100 ft.
DRAWING NO. 1494



**BORING DATA AND VICINITY MAP
PROPOSED BRIDGE OVER OUACHITA R.
AT CALION, ARKANSAS
UNION AND CALHOUN COUNTIES
ROUTE #167 SEC. #2 & 3
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.**

Drawn By: E.A.W. Date: 8/15/29
Traced By: E.A.W. Date: 8/17/29
Checked By: _____ Date: _____
Scale: in. = _____ ft.
As Noted

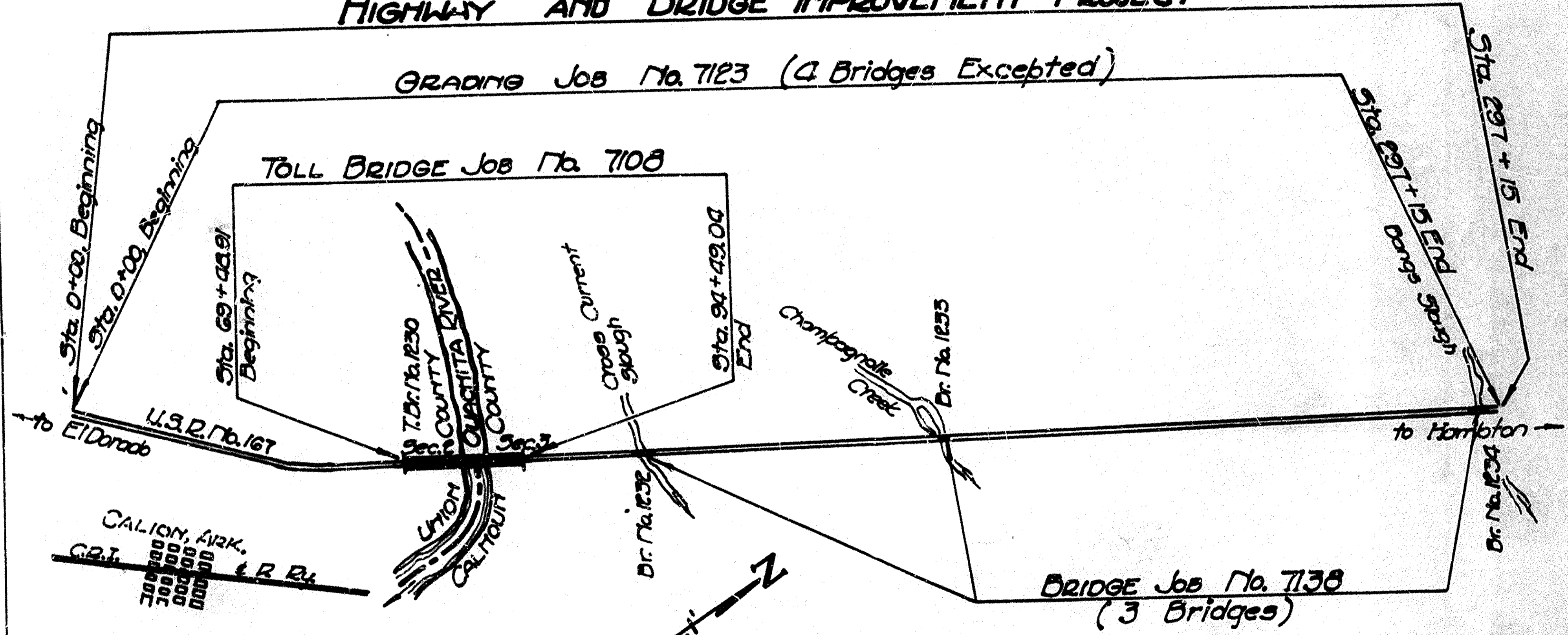
BRIDGE NO. 1230 DRAWING NO. 1693

M.B. Garver
BRIDGE ENGINEER

STATE OF ARKANSAS
 ARKANSAS STATE HIGHWAY COMMISSION
 LAYOUT SHOWING

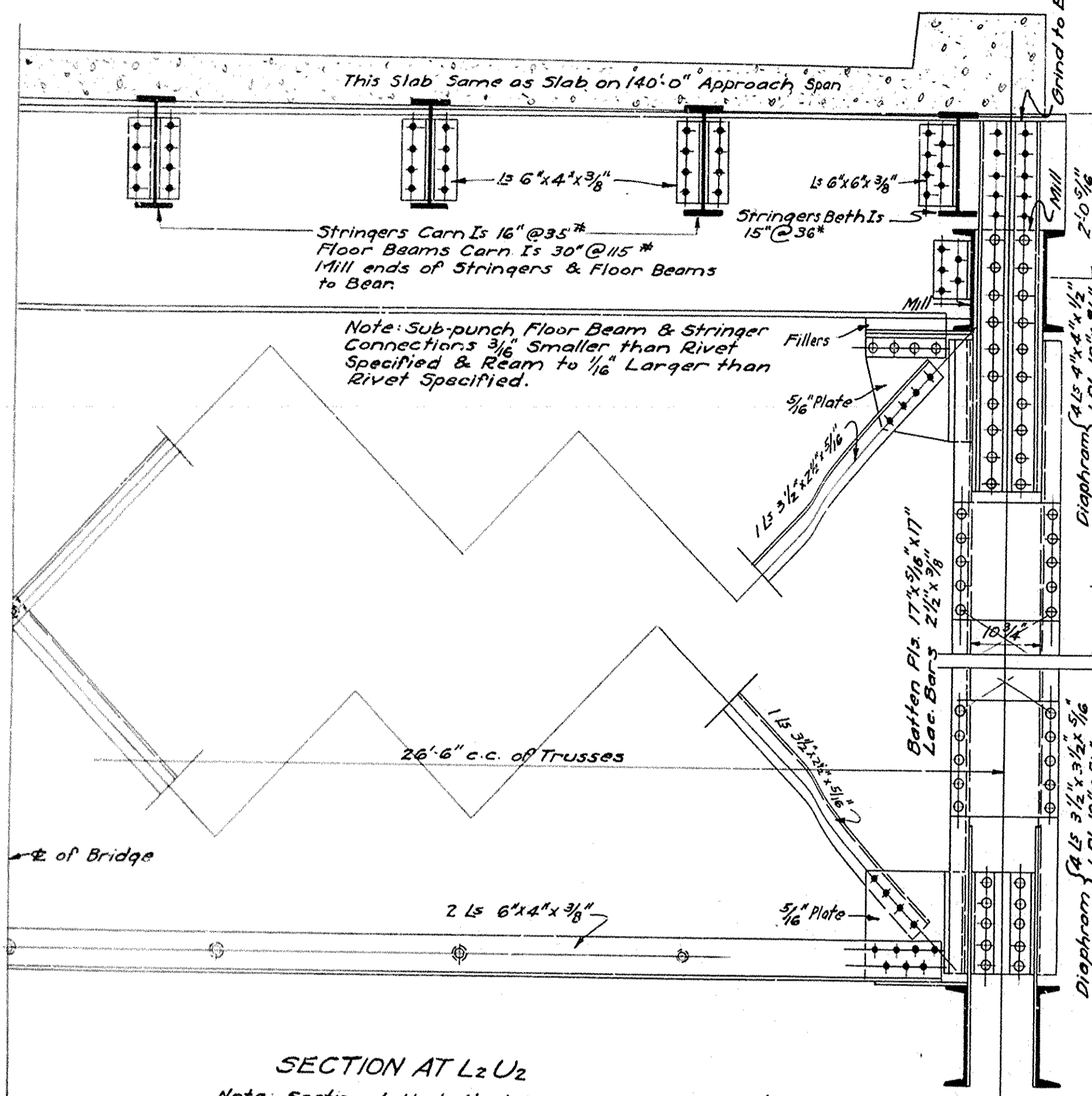
HIGHWAY & BRIDGE IMPROVEMENT
 ACROSS
 OVERFLOW SECTION OF OUACHITA RIVER BOTTOM
 U. S. Route 167 Union & Calhoun Co. S-2 & 3
 Scale; 1"=3000'-0"

HIGHWAY AND BRIDGE IMPROVEMENT PROJECT

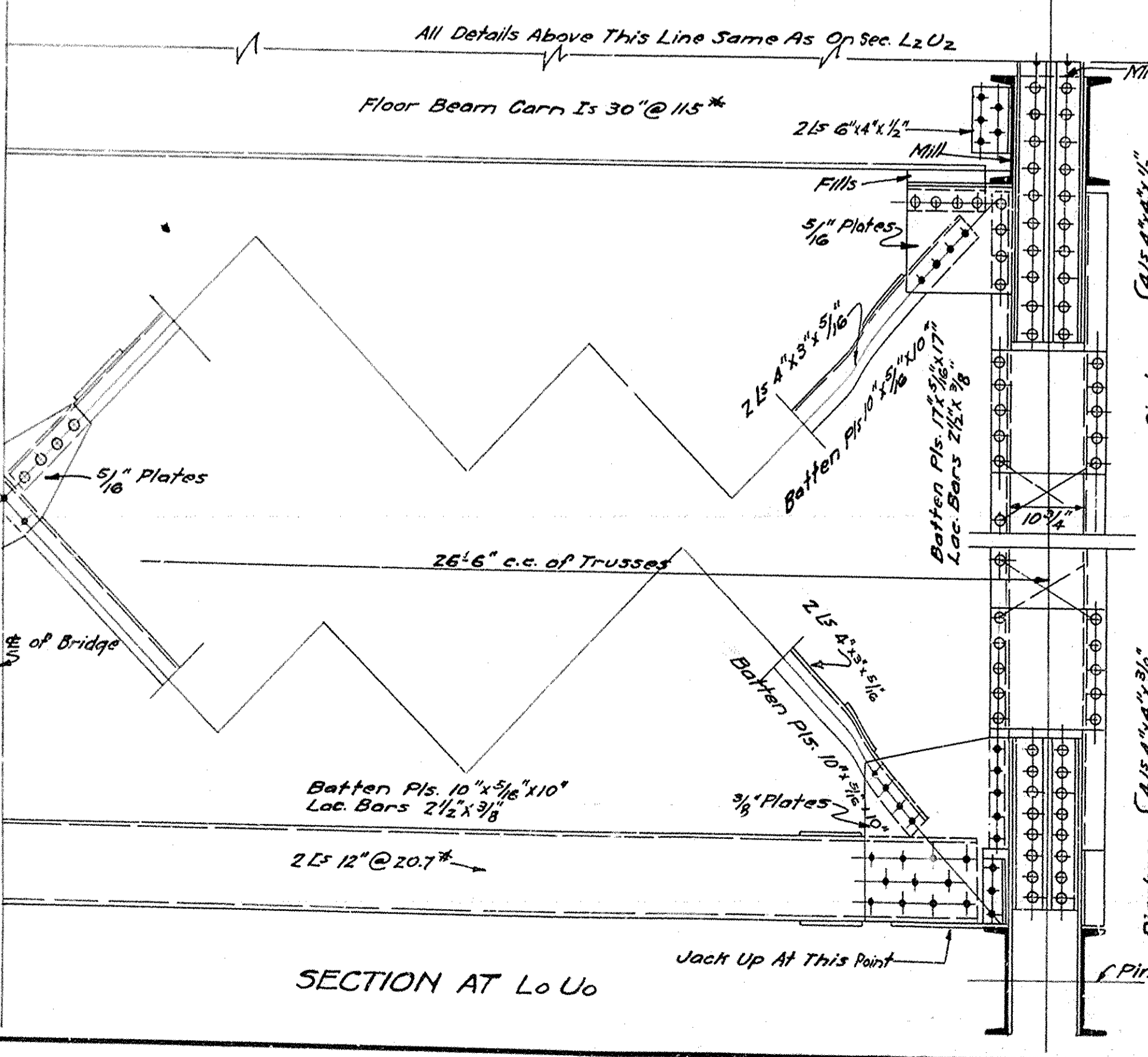


Job 7123	26,336.87 ft.	4.988 mi.
Job 7108	2,500.13	0.473
Job 7138	878.00	0.166
Total Length	29,715.00 ft.	5.627 mi.

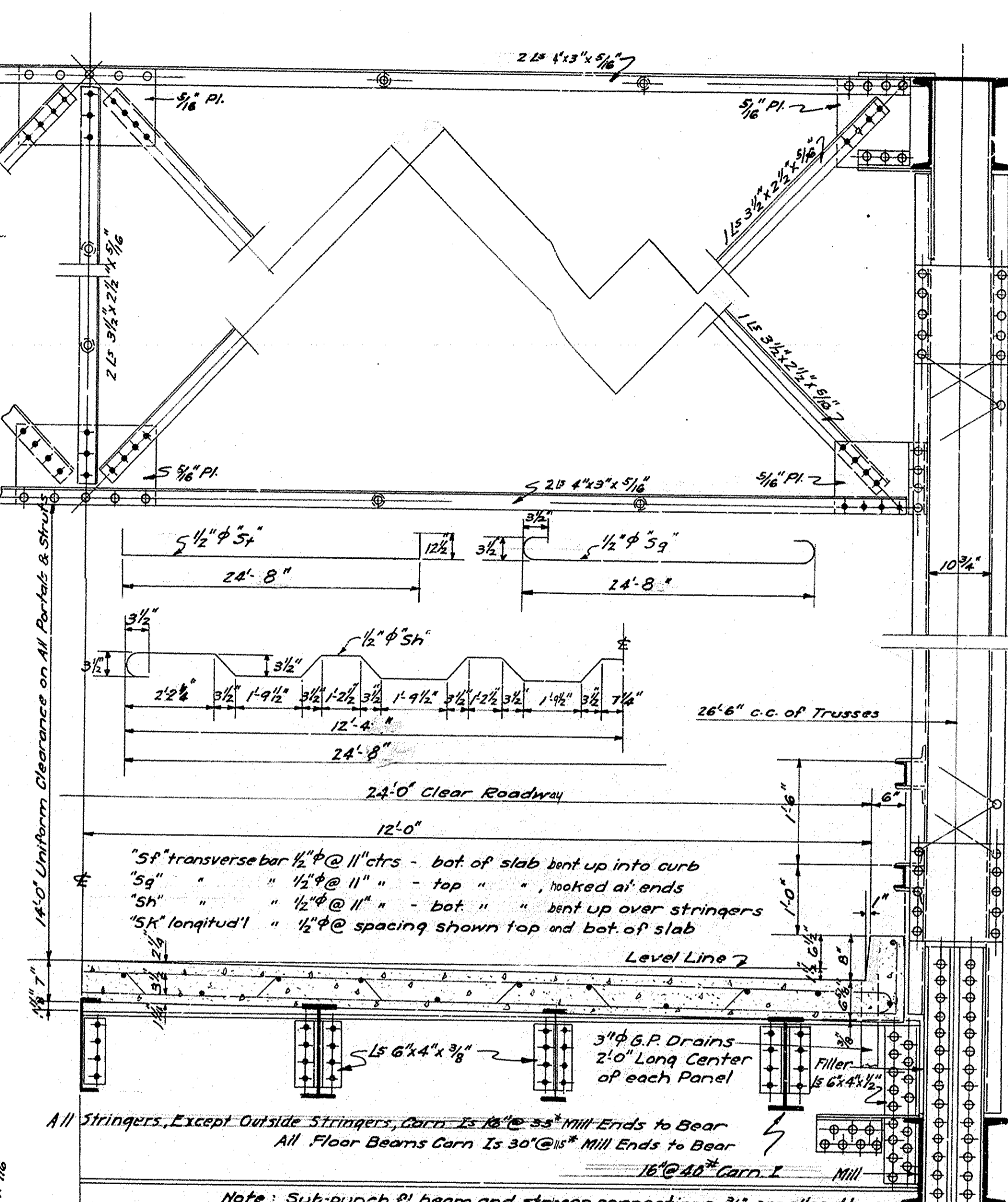
Br. Dept.
 12-30-37
 Sheet No. 4
 DR. No. 1230 DRWG. No. 5015



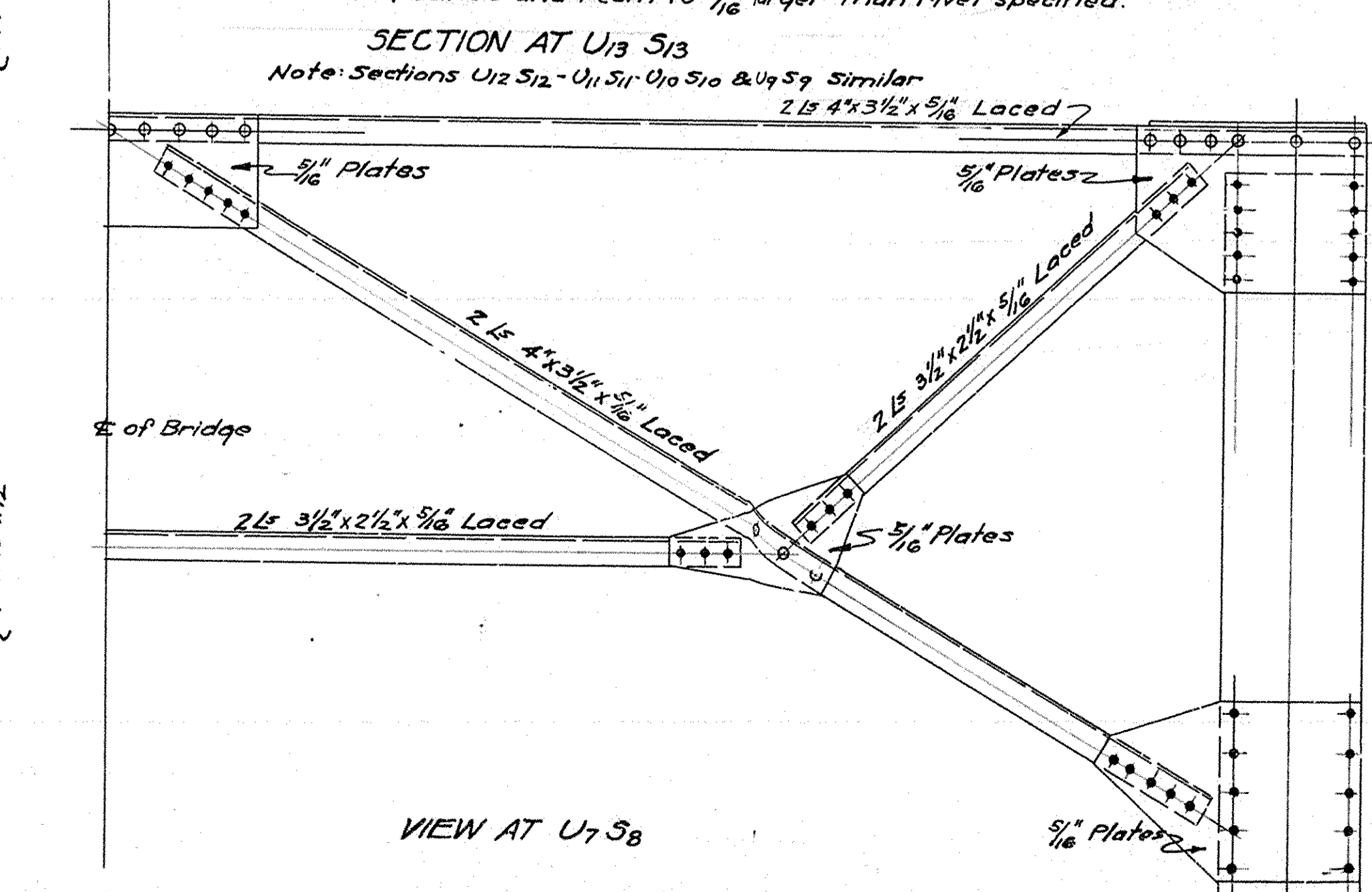
SECTION AT L2 U2
 Note: Sections L1 U1, L3 U3, L4 U4, L5 U5 & L6 U6 Similar



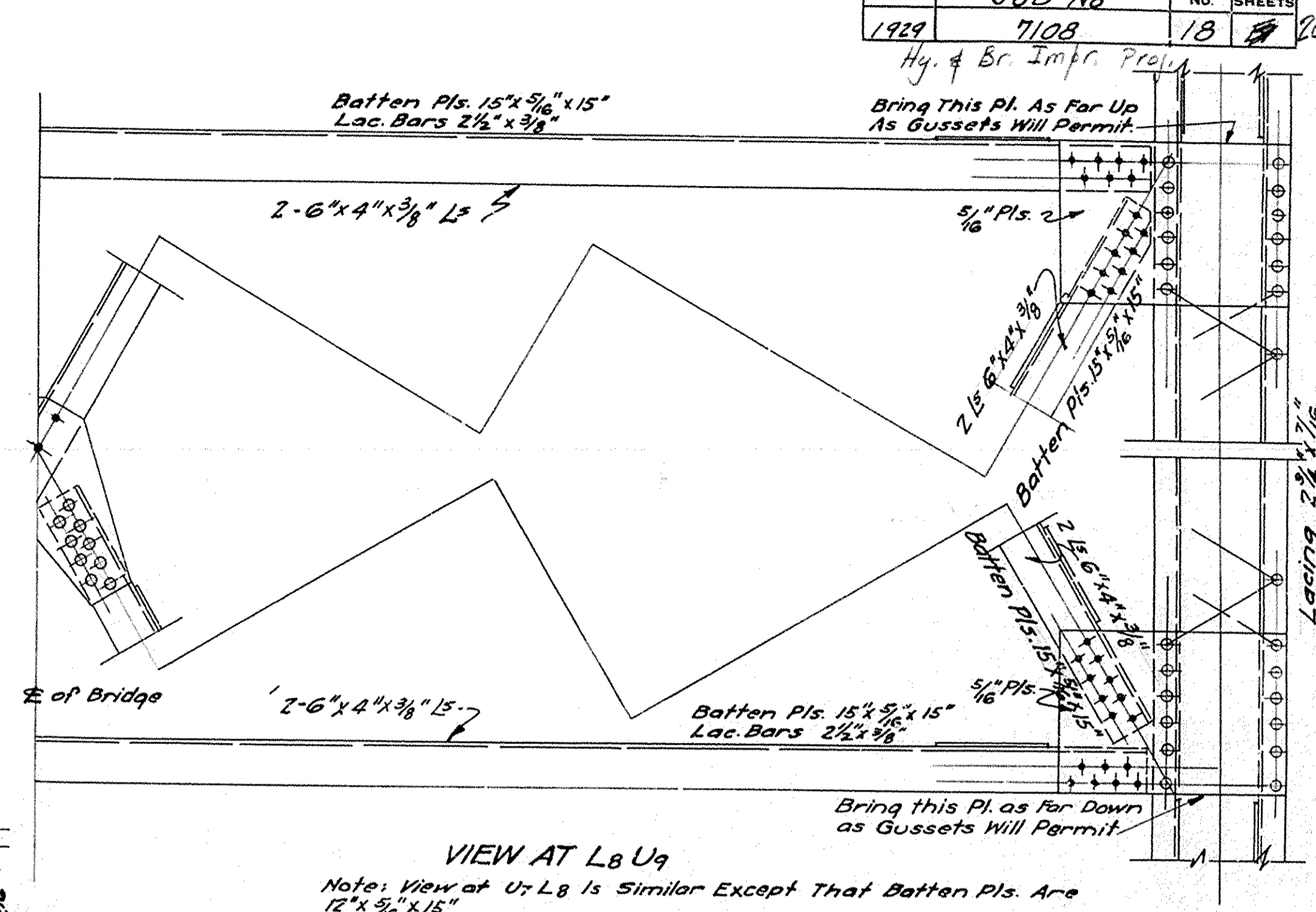
SECTION AT L0 U0



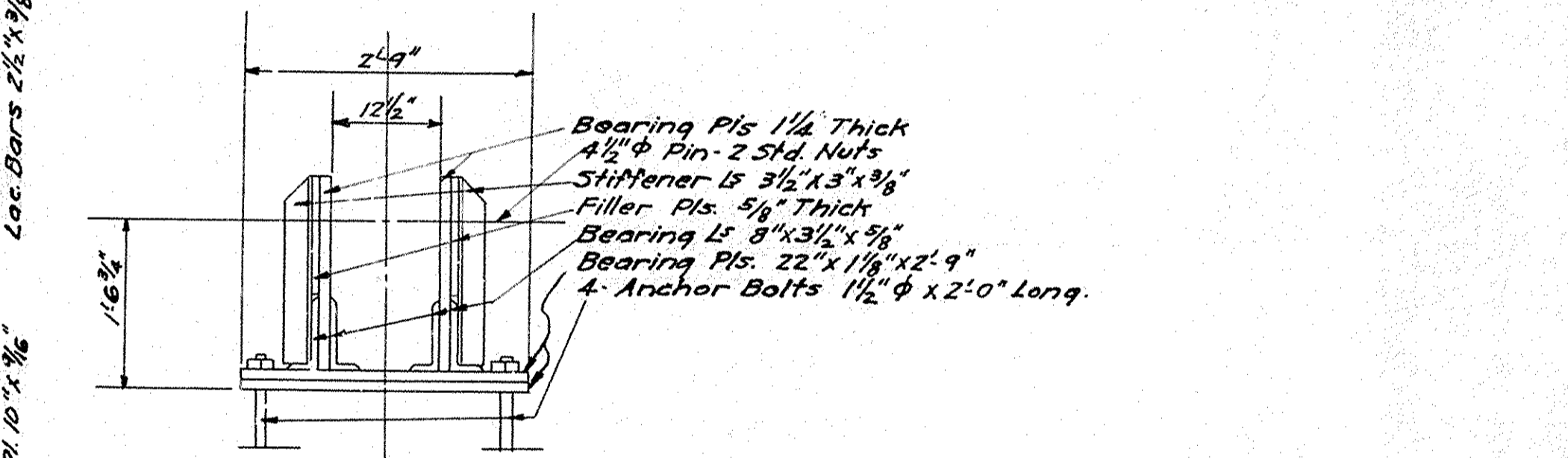
SECTION AT U13 S13
 Note: Sections U12 S12, U11 S11, U10 S10 & U9 S9 Similar



VIEW AT U7 S8



VIEW AT L8 U9
 Note: View at U7 L8 Is Similar Except That Batten Pls. Are 12" x 9 1/2" x 1/2"



END VIEW OF FIXED SHOES ON PIERS 3 & 6

STEEL NOTES
 Specifications: Ark. State Highway Department Specifications, Adopted May 30, 1925 & Revised.
 These drawings are general only. Shop drawings must be submitted and approved before fabrication begins.
 Members of equal or greater strength may be used in place of members shown, but payment will be made in accordance with sizes shown on these plans.

Unit Stresses:
 Concrete = 1:2:3 - 810 lbs. per sq. in.
 Struct Steel = 18,000 " " "
 Reinf'g = 18,000 " " "

Rivets to be 7/8" diameter except in top and bot laterals, sway bracing and in flanges of channels smaller than 12". Rivets in the above named members shall be 3/4" in diameter.
Rivet holes - Sub-punch both shop and field holes in all main truss connections 3/8" smaller than rivet specified and ream to 1/8" larger than rivet specified during shop assembly.
Members shall be match-marked and a suitable diagram furnished for erection.
All field connections to be riveted.
Rivet holes in tension angles so spaced that only 1 hole is deducted from each angle at point of maximum stress.
Shop paint 1 coat red lead and raw linseed oil. Field paint two coats of different colors as approved by the engineer.
Batten plates shall be spaced not over 3'0" c.c. on tension members.
Concrete floor slab to be Class "S" Extra 1" added for wear.
Stringers & pl. beams to be milled to exact length.

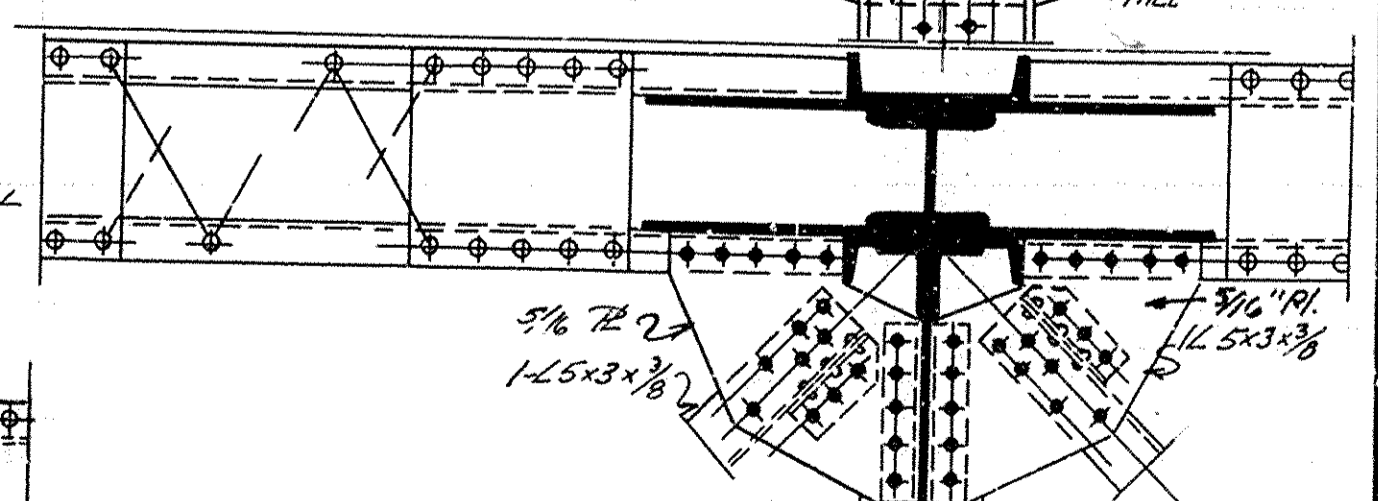
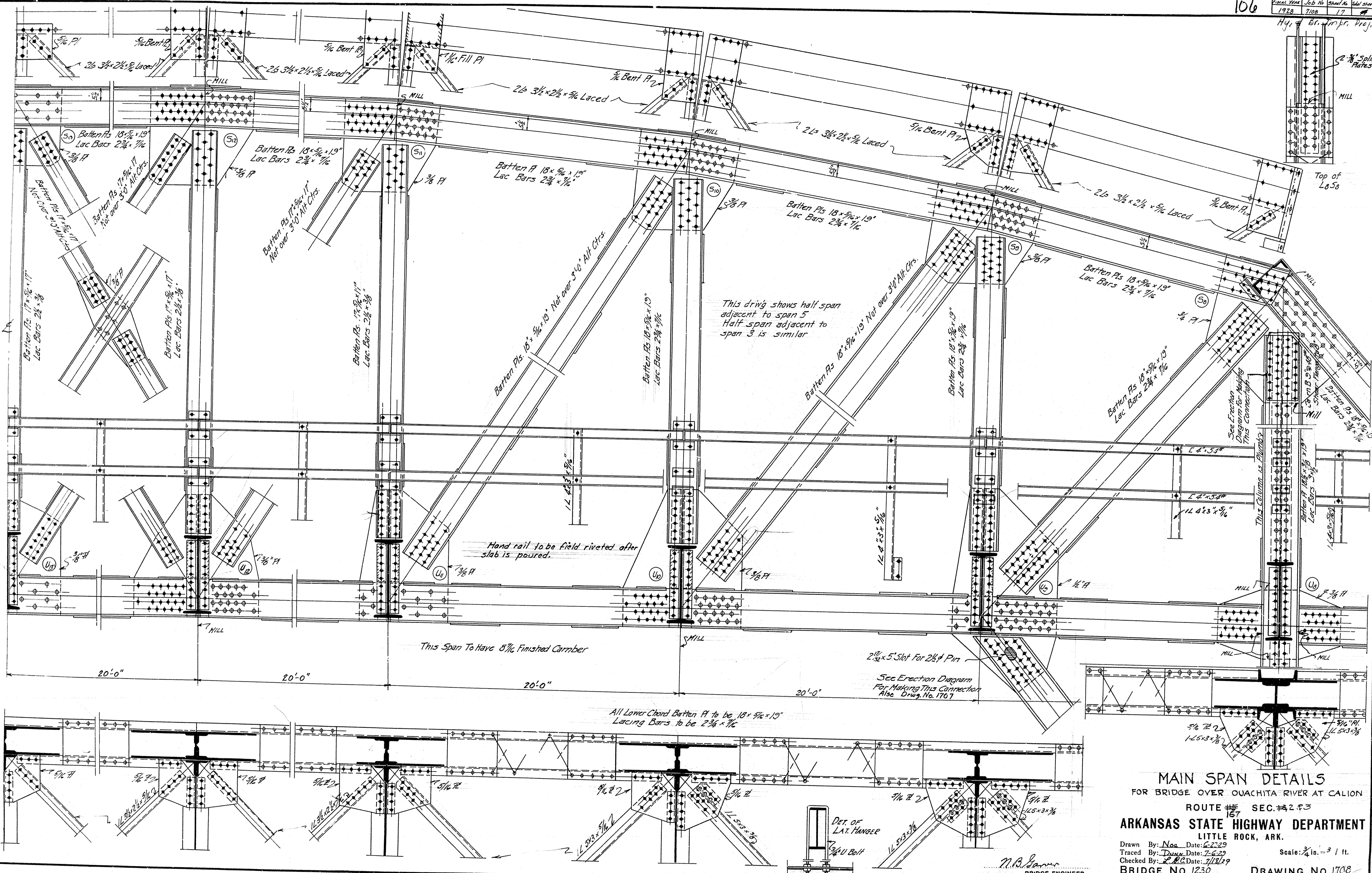
Typical Floor Beam Data
 D.L.M. = 60,087 x 26.5 x 15 = 2,307,743 **
 L.L.M. = (24,340 x 125 - 18,900 x 6) x 12 = 2,722,200 **
 Imp. @ 30% = 816,600 **
 Tot. Mom. = 5,926,603 **
 Sec Mod. Req'd = 5,926,603 / 8 = 327,220
 " " Carr. I 30" @ 15% = 332.35

DETAILS OF SPANS 3 & 5 FOR BRIDGE OVER OUACHITA RIVER AT CALION, ARK., UNION-CALHOUN COUNTIES ROUTE #5 SEC. #2 & 3

ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.

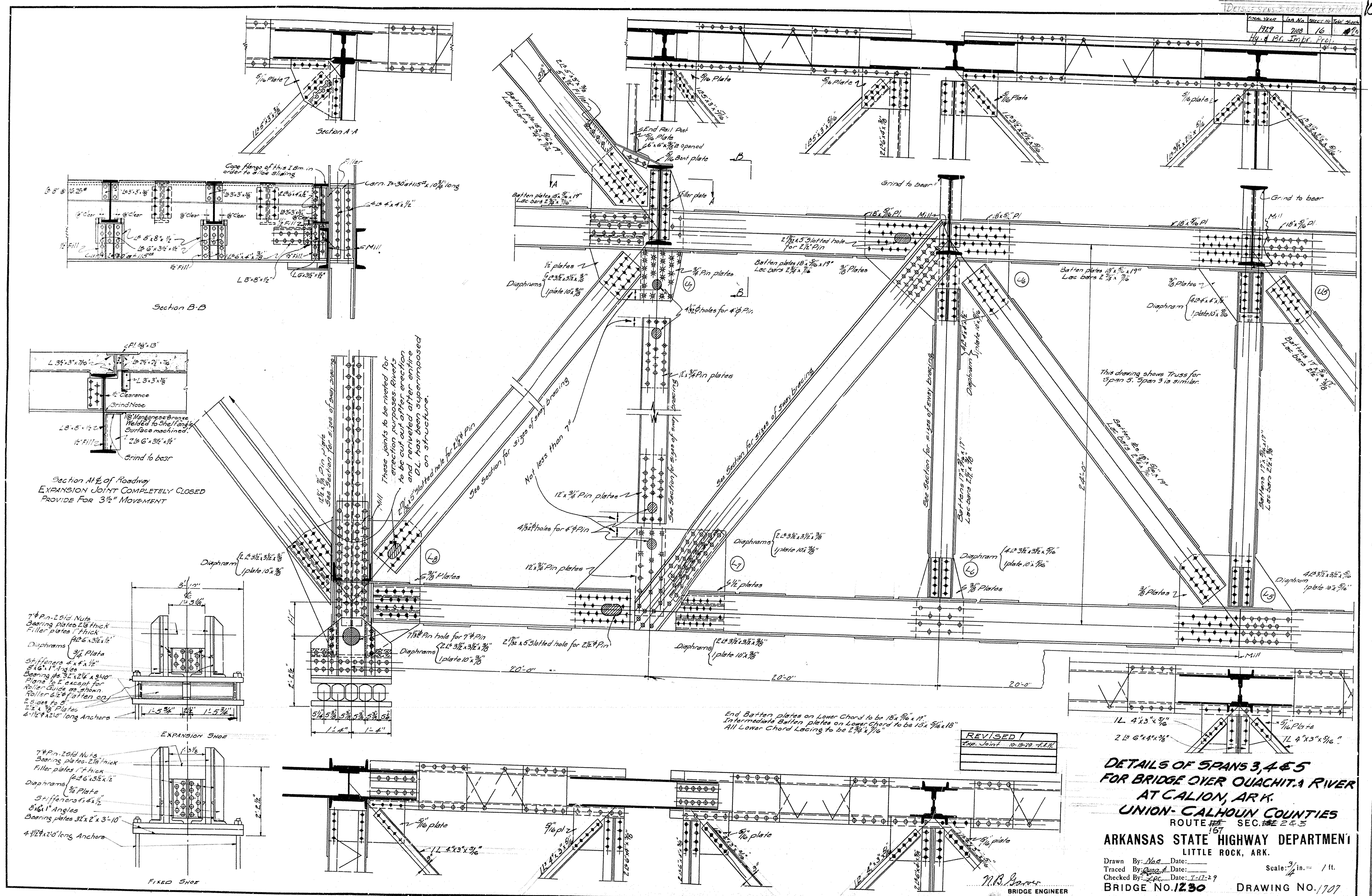
Drawn By: *Ne* Date: 6-26-29
 Traced By: *Ed* Date: 7-1-29
 Checked By: *McC* Date: 7-13-29
 Scale: 3/4" = 1 ft.
 BRIDGE NO. 1230 DRAWING NO. 1704

N.B. Lewis
 BRIDGE ENGINEER



MAIN SPAN DETAILS
 FOR BRIDGE OVER OUACHITA RIVER AT CALION
 ROUTE 167 SEC. 2 & 3
ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.
 Drawn By: Noe Date: 6-22-29
 Traced By: Dunn Date: 7-6-29
 Checked By: L.R.C. Date: 7/18/29
 Scale: 3/4 in. = 3 ft.
 BRIDGE NO. 1230 DRAWING NO. 1708

N.B. Jacobs
 BRIDGE ENGINEER



**DETAILS OF SPANS 3, 4 & 5
 FOR BRIDGE OVER OUACHITA RIVER
 AT CALION, ARK.
 UNION-CALHOUN COUNTIES
 ROUTE #2 SEC. #22 & 23
 ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.**

Drawn By: *Joe* Date: _____
 Traced By: *Joe* Date: _____
 Checked By: *Joe* Date: 7-17-29
BRIDGE NO. 1230 DRAWING NO. 1707

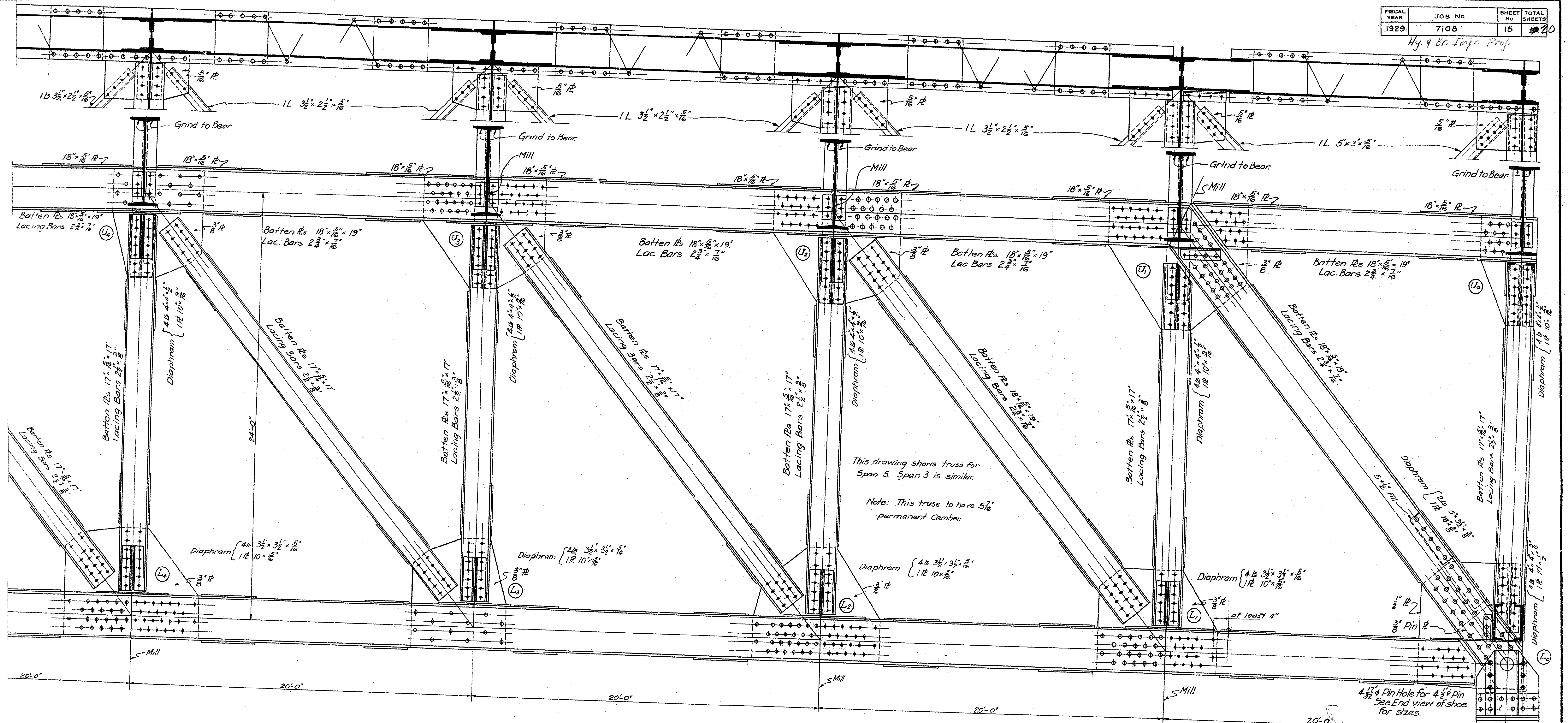
Scale: 3/16" = 1 ft.

REVISED!
 Exp. Joint 10-15-29 J.H.K.

N.B. Parsons
 BRIDGE ENGINEER

FISCAL YEAR	JOB NO.	SHEET NO.	TOTAL SHEETS
1929	7108	15	20

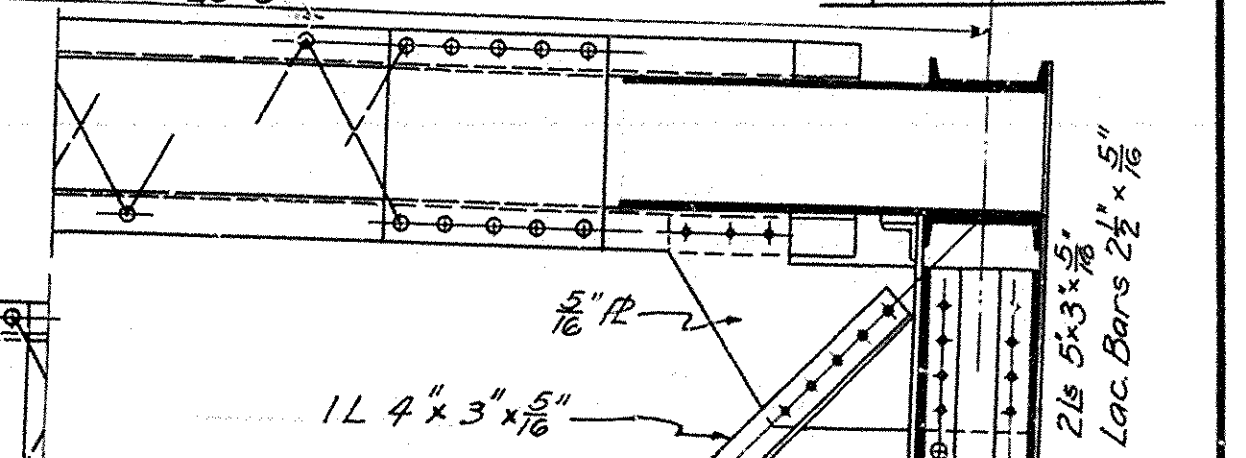
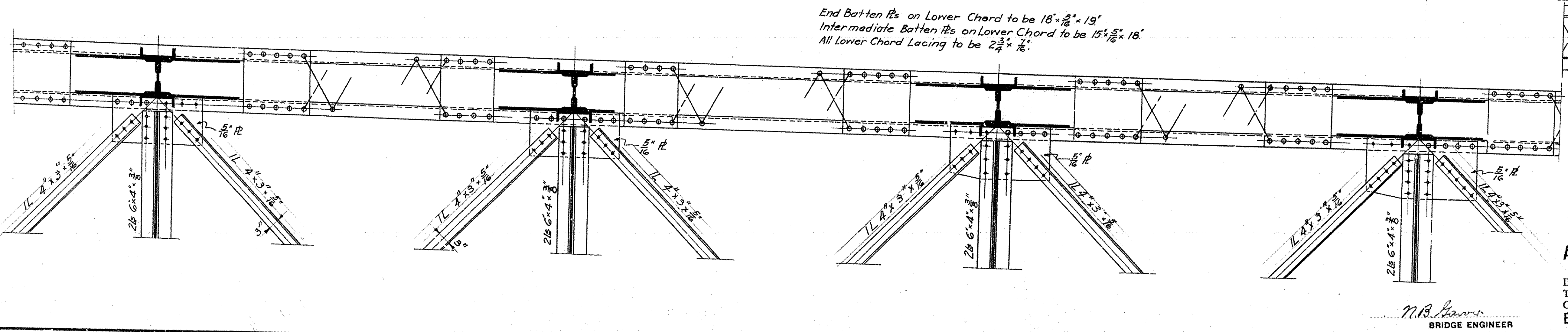
Hy. & Br. Impr. Proj.



This drawing shows truss for Span 5. Span 3 is similar.

Note: This truss to have 5/16" permanent Camber.

End Batten Pls on Lower Chord to be 18" x 19"
 Intermediate Batten Pls on Lower Chord to be 15" x 18"
 All Lower Chord Lacing to be 2 3/4" x 7/8"



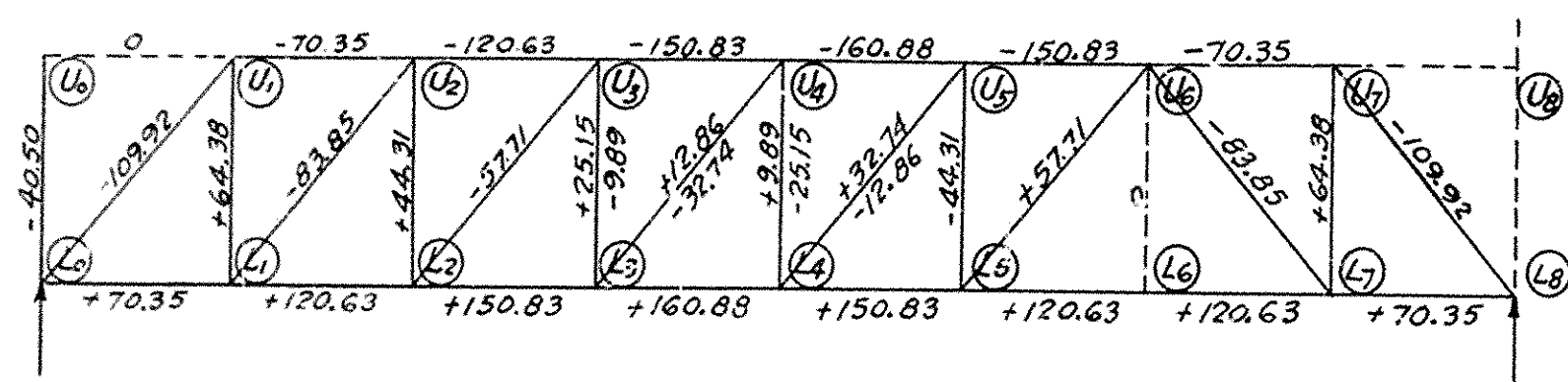
DETAILS OF 140-0 DECK TRUSS
FOR SPANS 3 & 5
 FOR BRIDGE OVER QUACHITA RIVER
 AT CALION, ARK.
 UNION-CALHOUN, CO.
 ROUTE 167 SEC. 2 & 3
ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.

Drawn By: *Noc* Date: _____
 Traced By: *M.O.D.* Date: 7-5-29
 Checked By: *L.P.C.* Date: 7/12/29

Scale: 3/8" = 1' ft.
BRIDGE NO. 1230 DRAWING NO. 1706

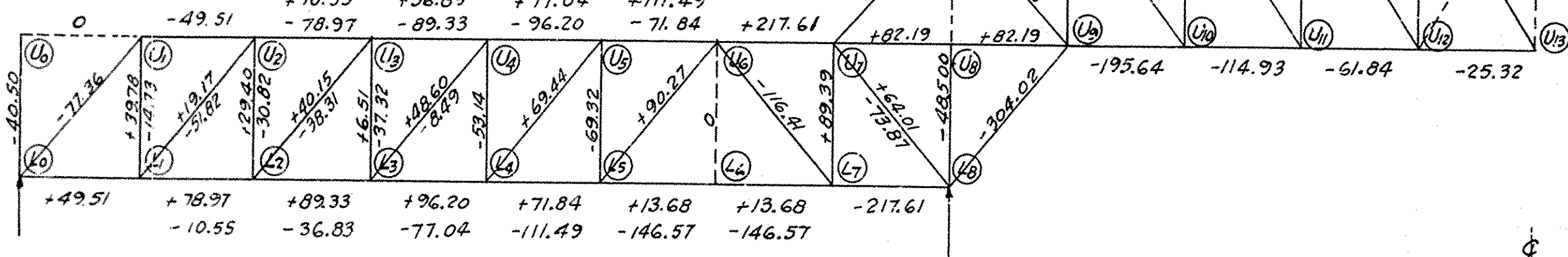
N.R. Harris
 BRIDGE ENGINEER

ERECTION STRESSES- SIMPLE SPAN



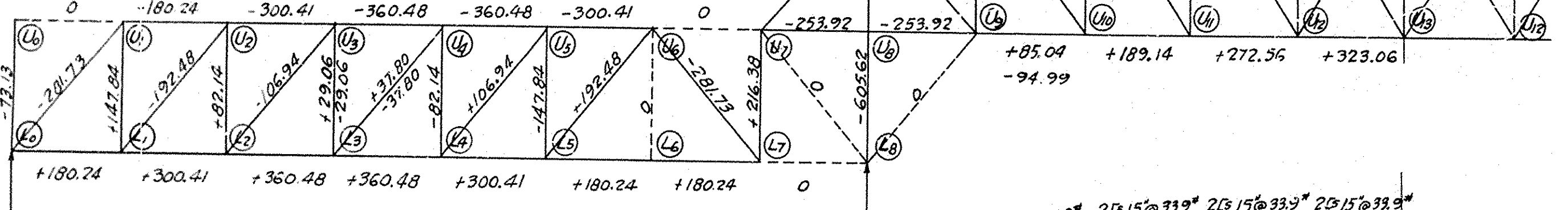
Note: Erection Traveler Estimated To Weigh 25 Tons

CANTILEVER ERECTION STRESSES

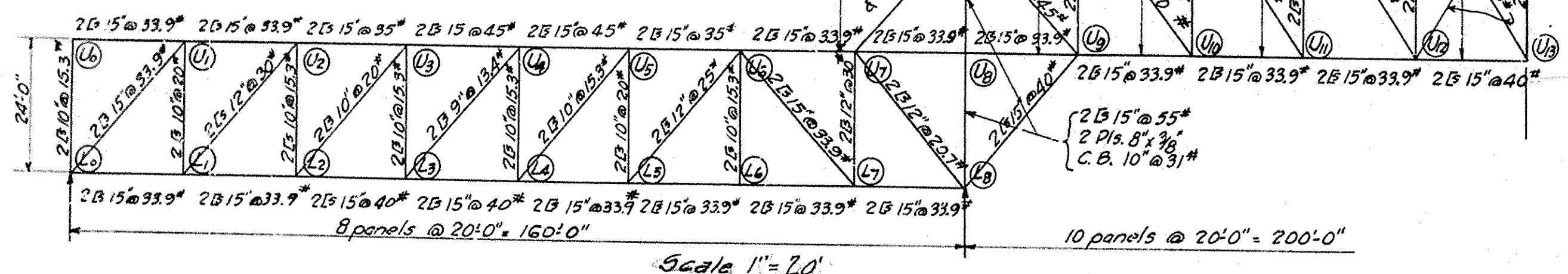


STRESSES IN FINISHED STRUCTURE

Including Dead Load, Live Load & Impact

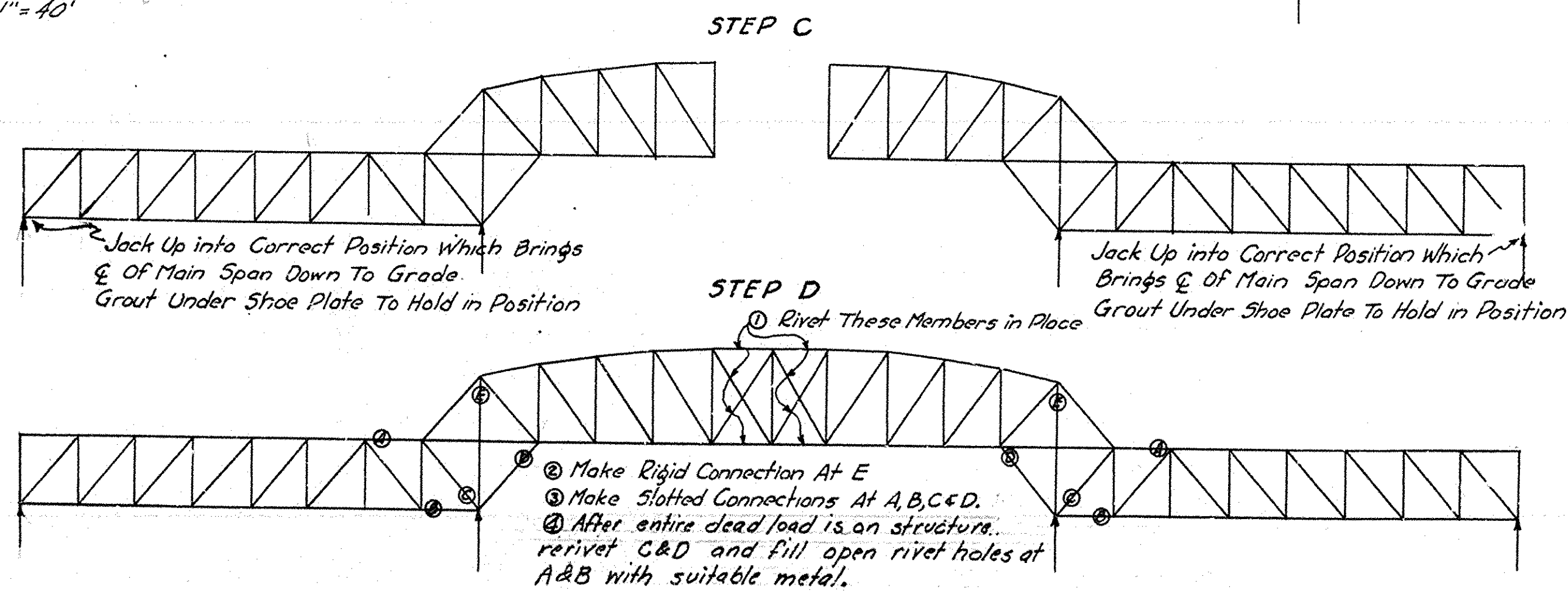
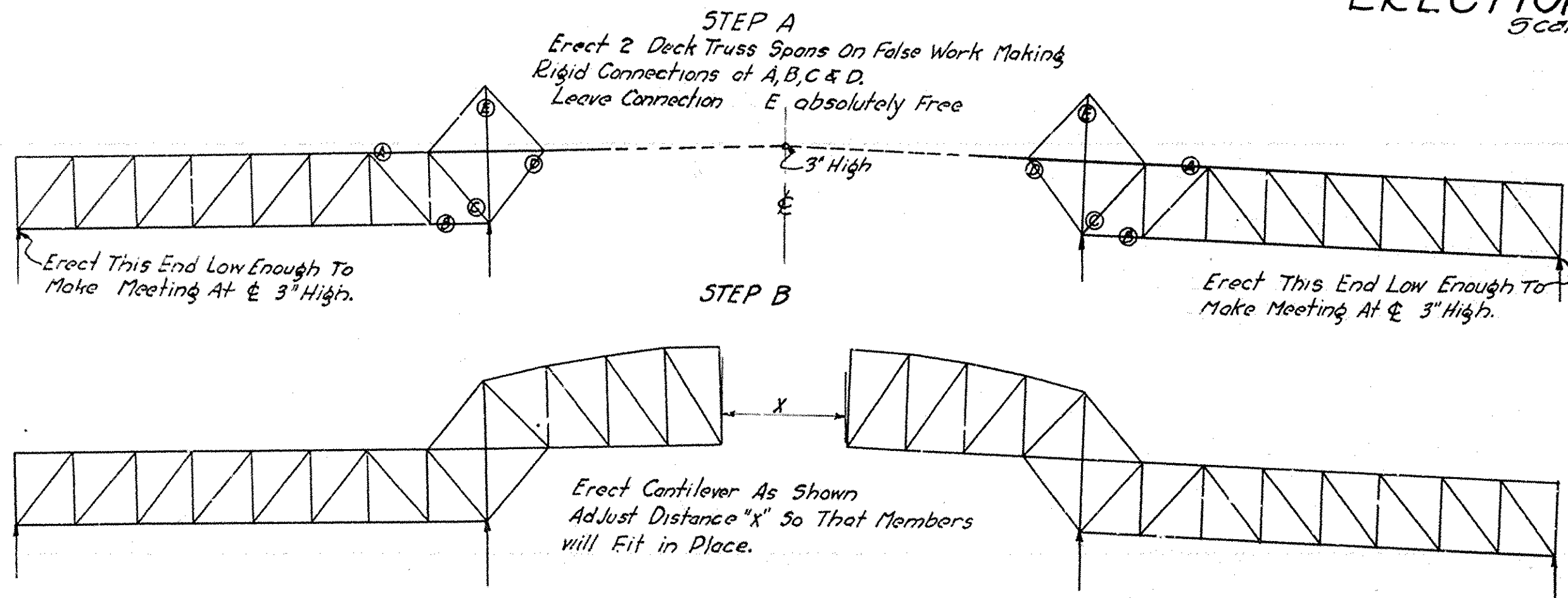


SELECTION OF MEMBERS

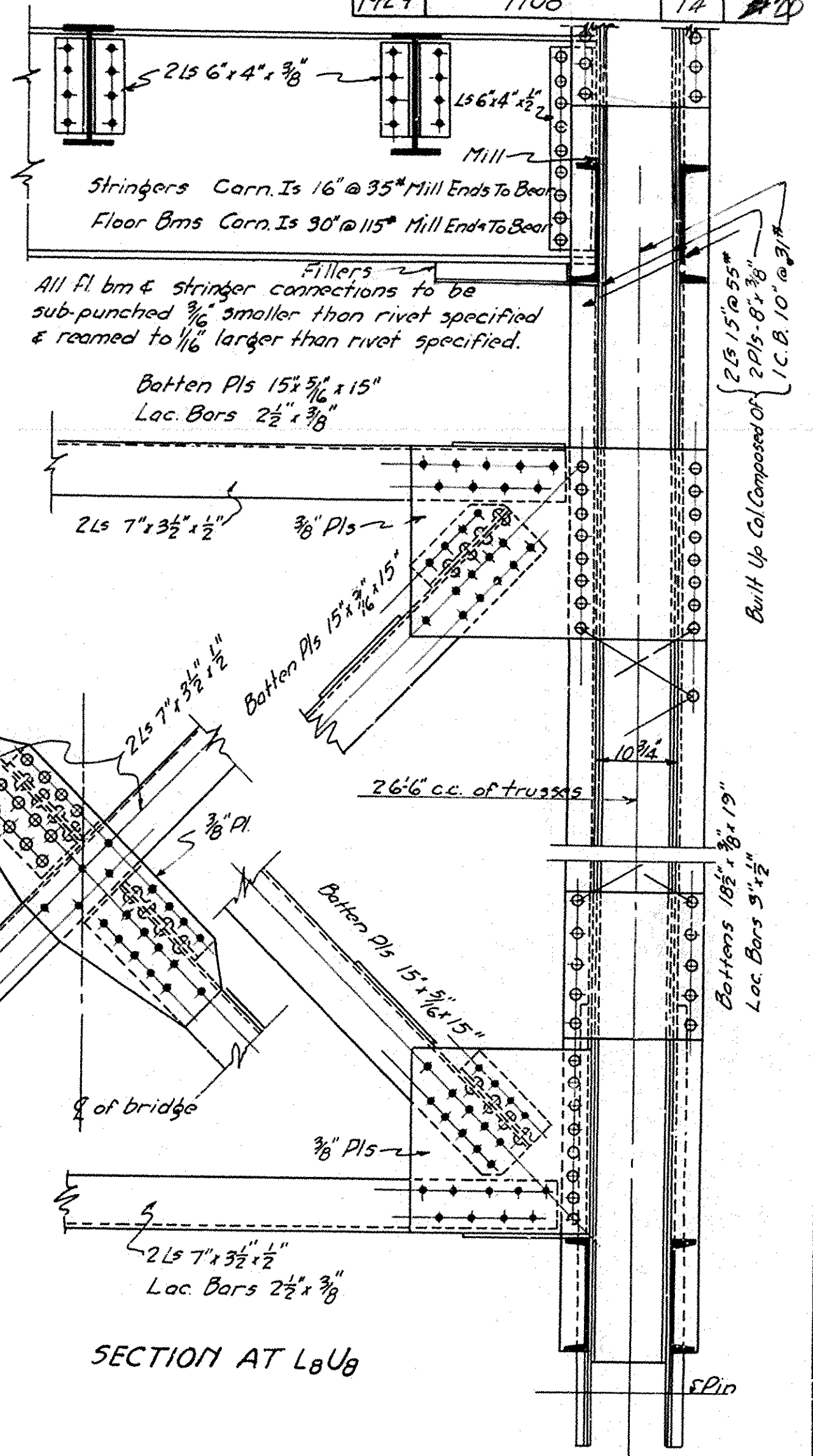
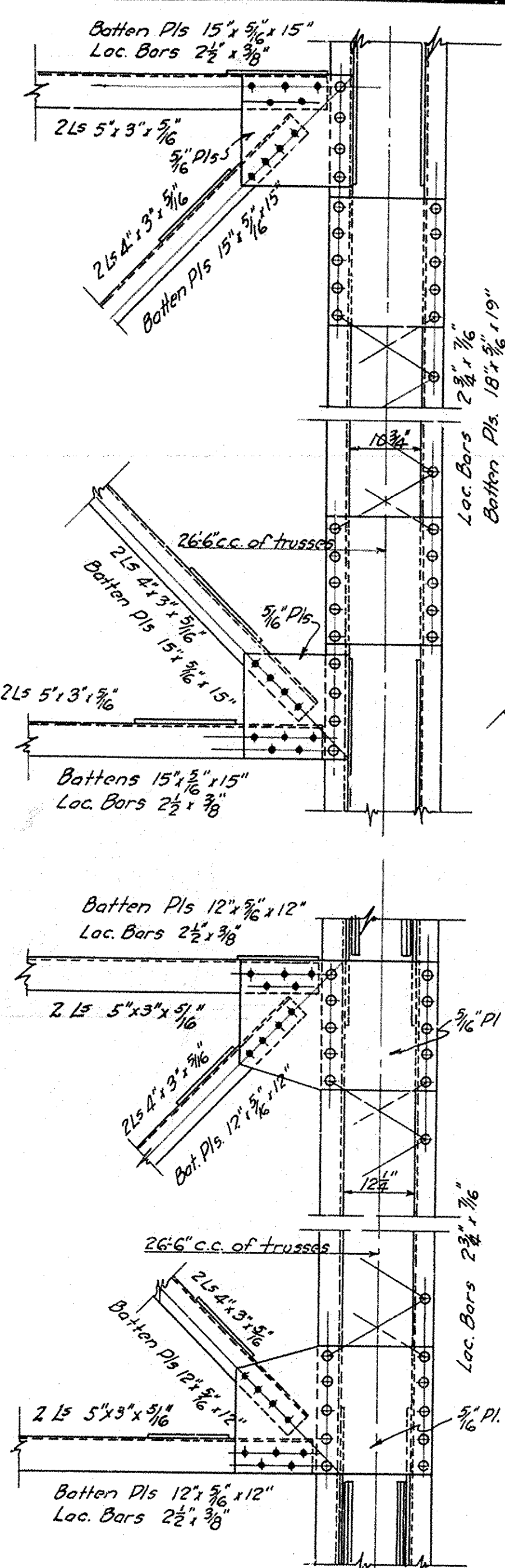


ERECTION SCHEDULE

Scale 1" = 40'



1. Make Rigid Connection At E
2. Make Slotted Connections At A, B, C & D.
3. After entire dead load is on structure, rivet C & D and fill open rivet holes at A & B with suitable metal.



ERECTION DIAGRAMS, STRESS DIAGRAMS AND DETAILS FOR SPANS 3, 4 & 5 FOR BRIDGE OVER OUACHITA RIVER AT CALION, ARK. UNION-CALHOUN CO. ROUTE 167 SEC. 2 & 3

ARKANSAS STATE HIGHWAY DEPARTMENT LITTLE ROCK, ARK. Drawn By: M.C.E. Date: 6-26-29 Traced By: H.P. Date: 6-29-29 Checked By: J.P.C. Date: 7-12-29 BRIDGE NO. 1230 DRAWING NO. 1705

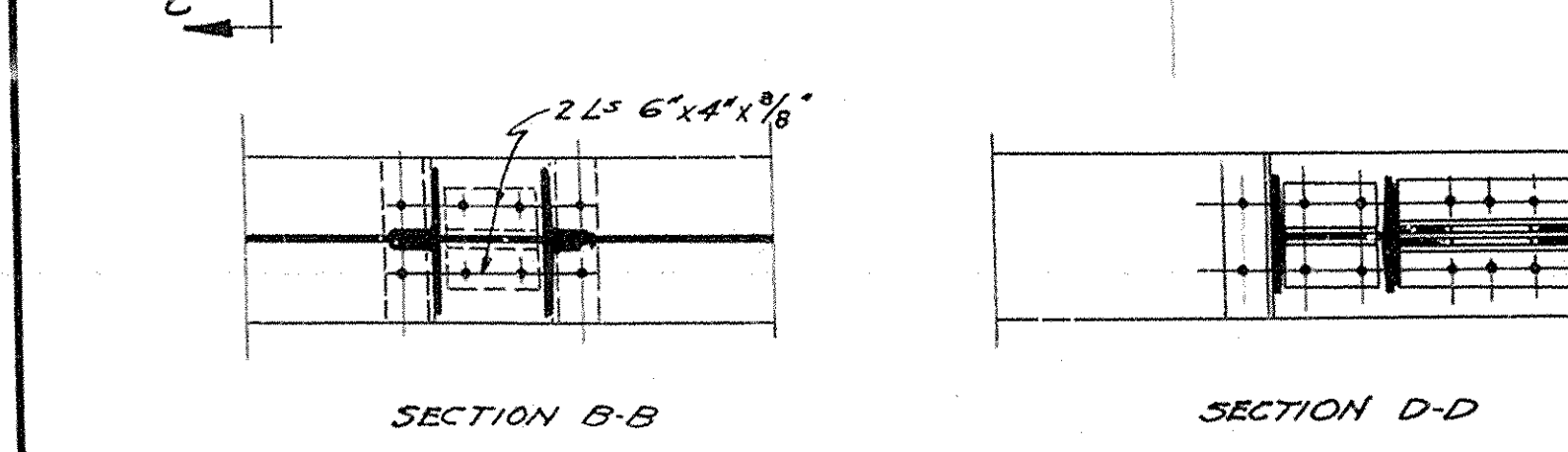
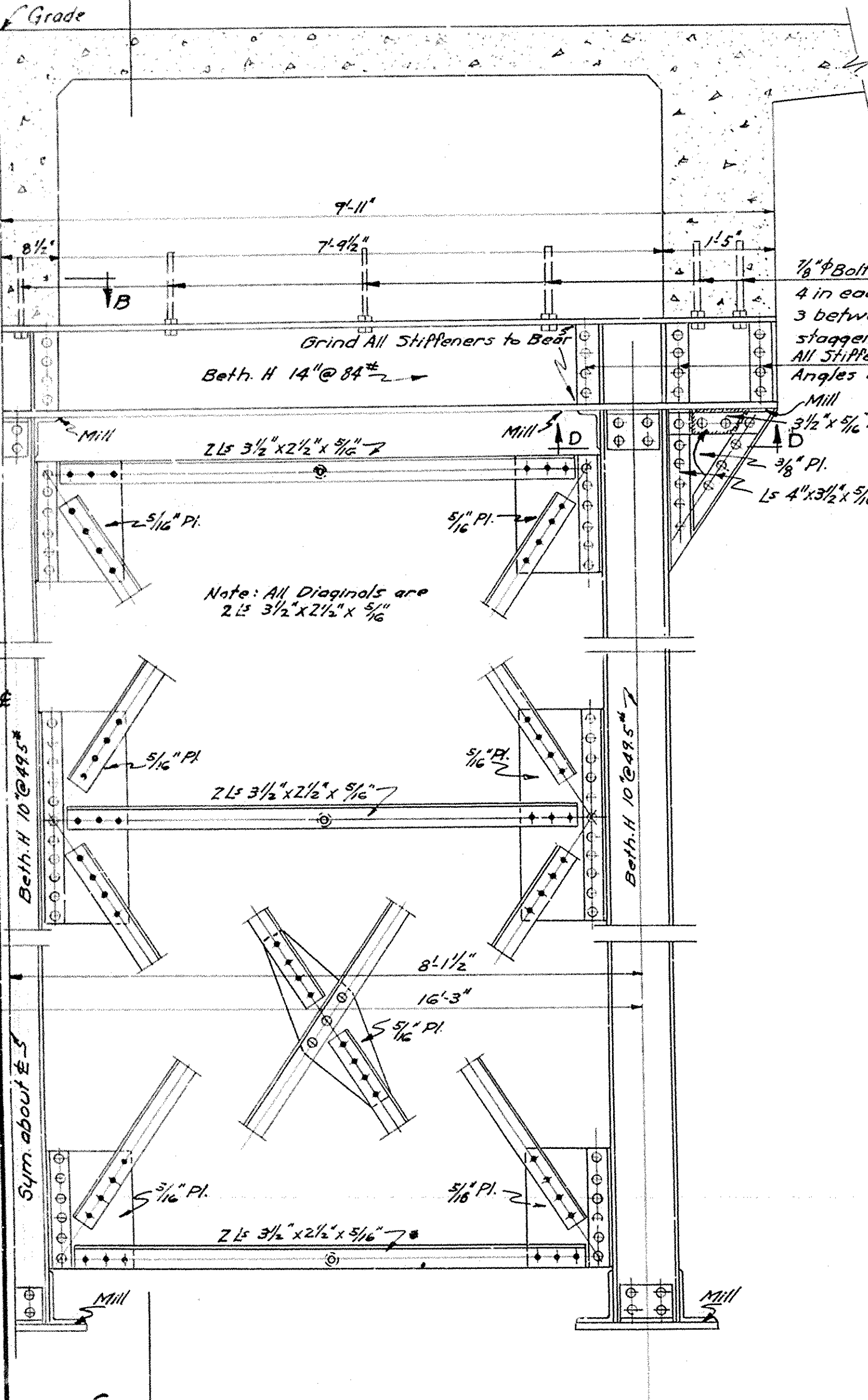
M.B. Garner
 BRIDGE ENGINEER

Scale: 1/2" = 1 ft. Except as noted

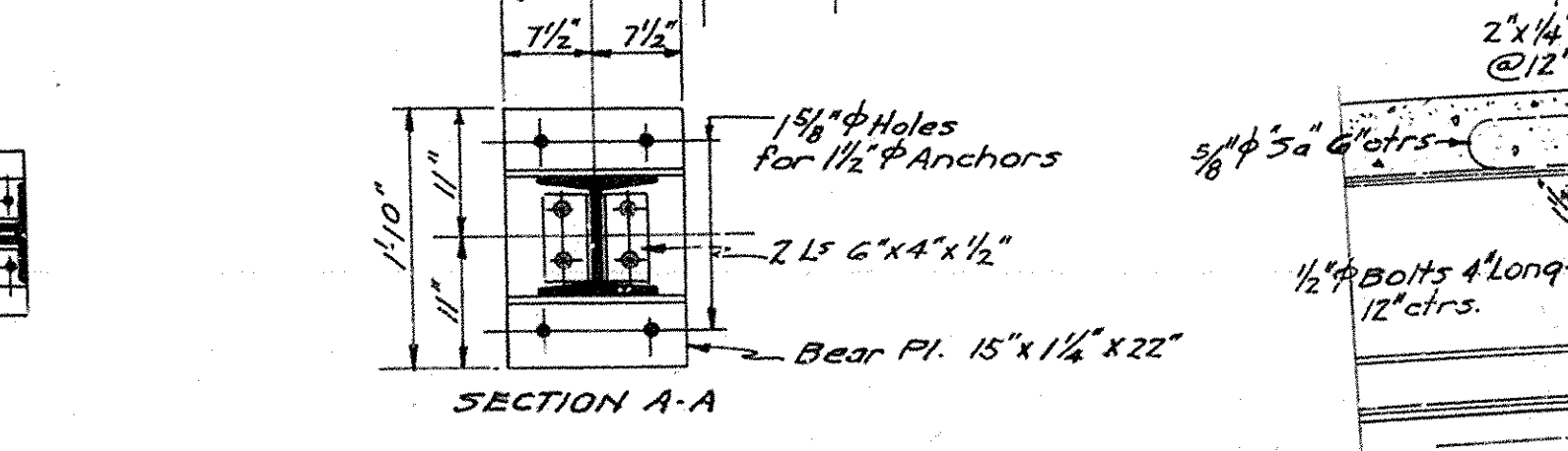
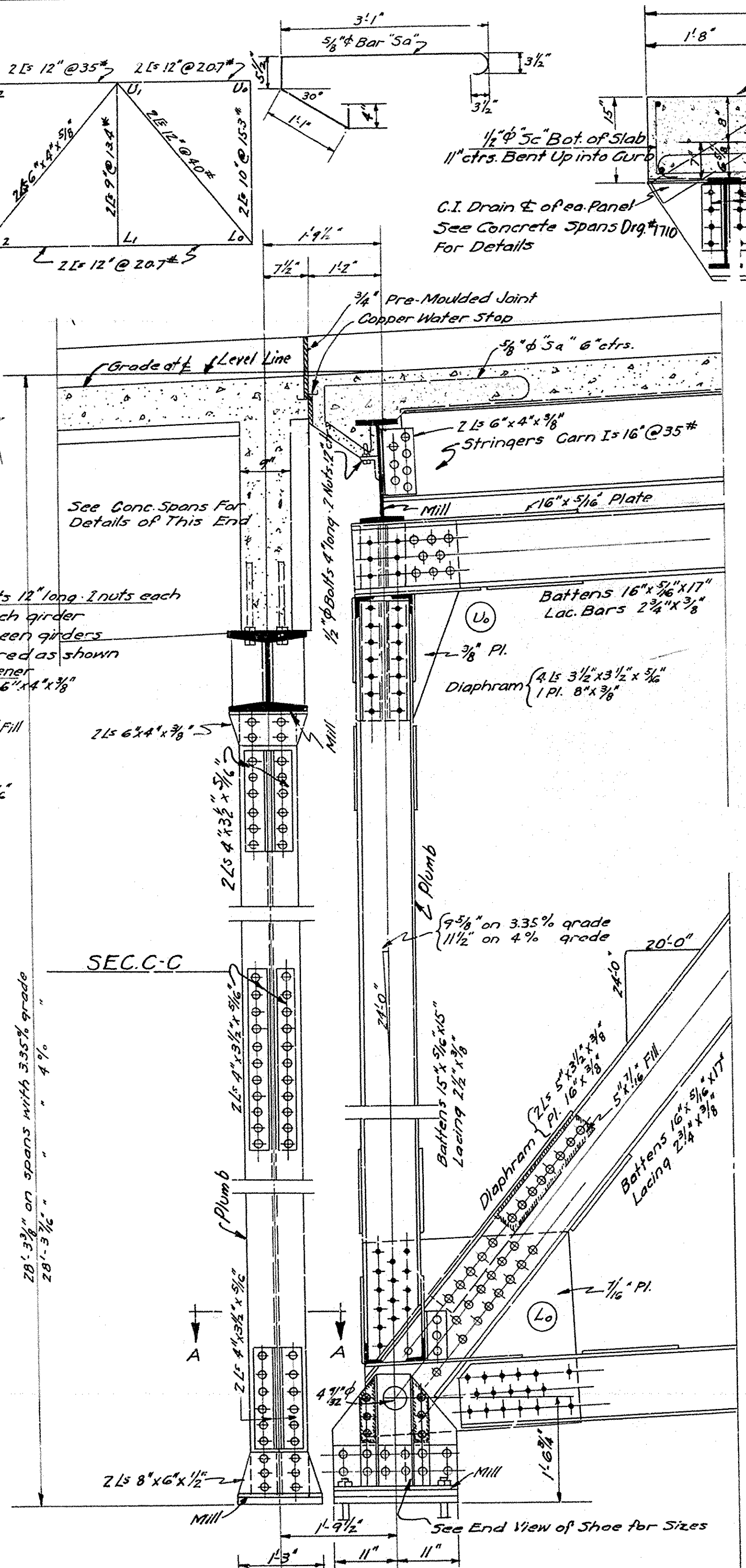
FISCAL YEAR	Job No.	SHEET	TOTAL SHEETS
1929	7108	13	20
Hy. & Br. Imp. Proj.			

D=0 L=0 I=0 T=0	D=-196.57 L=-73.60 I=-17.52 T=-287.71	D=-235.91 L=-88.31 I=-21.02 T=-345.24
D=+23.60 L=-36.92 I=-11.08 T=-71.60	D=-44.40 L=-37.87 I=-9.47 T=-141.74	D=-472.0 L=-36.92 I=-11.08 T=-95.20
D=+117.95 L=+44.16 I=+10.51 T=+172.62	D=+196.57 L=+73.60 I=+17.52 T=+287.71	D=+235.91 L=+88.31 I=+21.02 T=+345.24

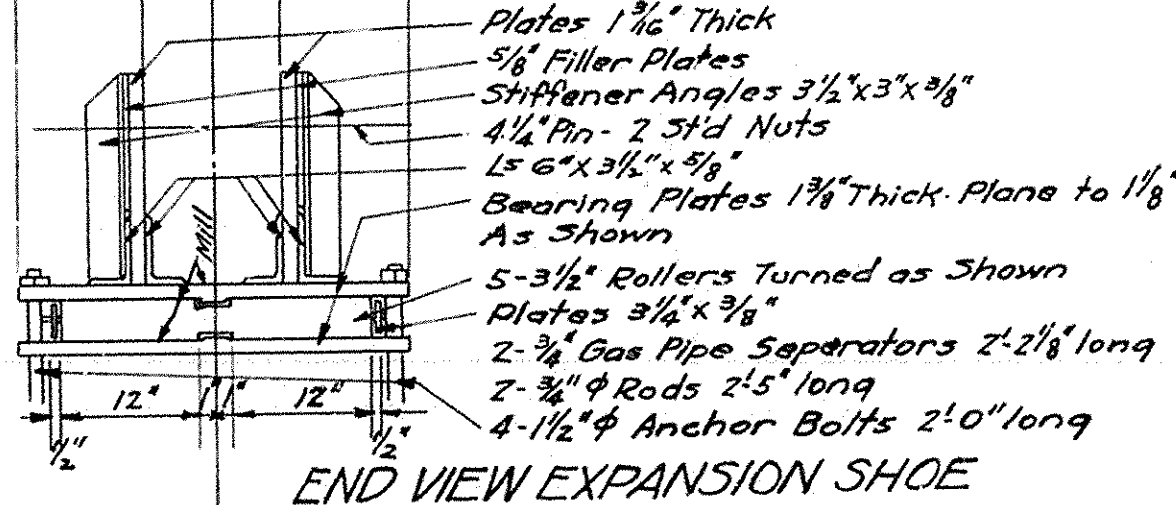
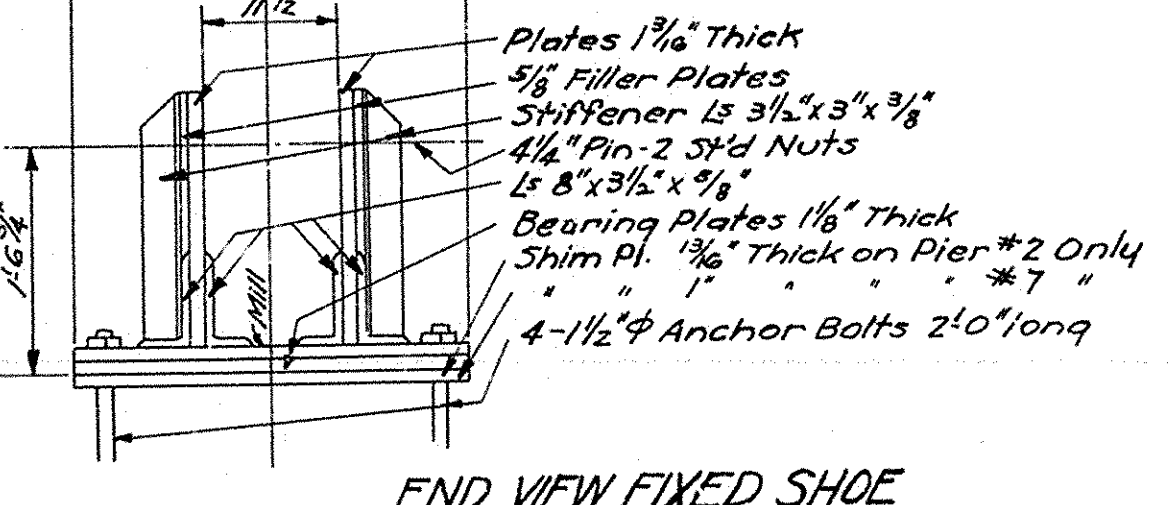
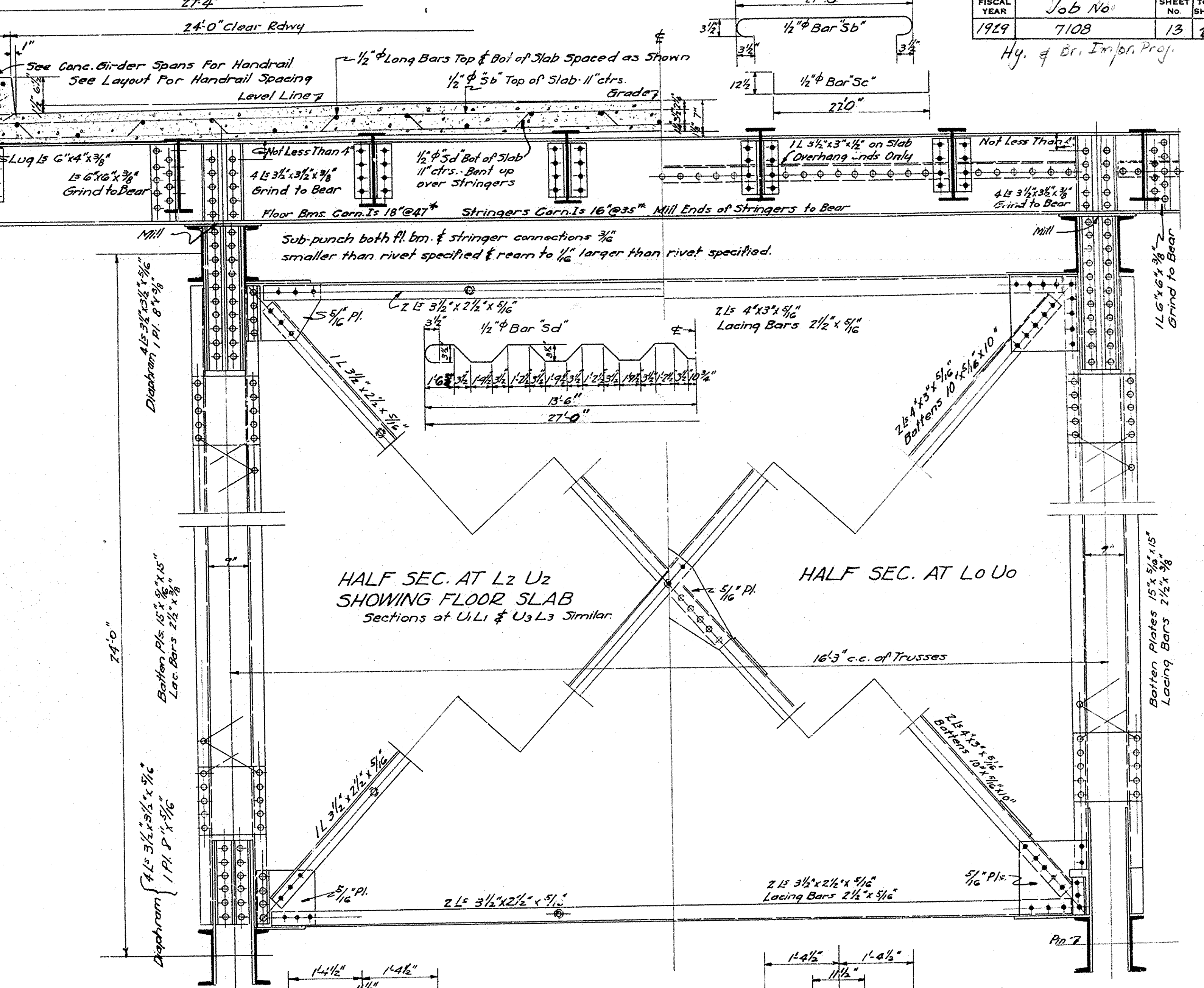
MAXIMUM STRESSES & SELECTION OF MEMBERS



DETAIL OF STEEL BENT
Use 3/8" Rivets for All Connections



DETAILS OF EXPANSION JOINTS - PIER 2 & 7
Note: Expansion Joints at Piers 3 & 6 Similar



Stringer Data

D.L. Mom.	= 7860 x 20 x 1.5 = 235,800 *"
L.L. Mom.	= 9556 x 20 x 3 = 573,360 *"
Impact	= 30% = 172,008 *"
Tot. Mom.	= 981,168 *"
Sec. Mod. Req'd.	= 981,168 / 18,000 = 54.51
" of Conn. Is	16" @ 35" = 54.68

Floor Beam Data

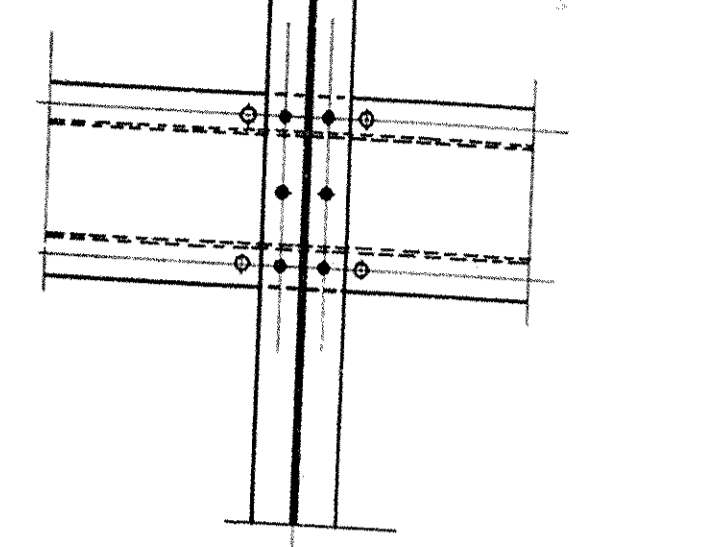
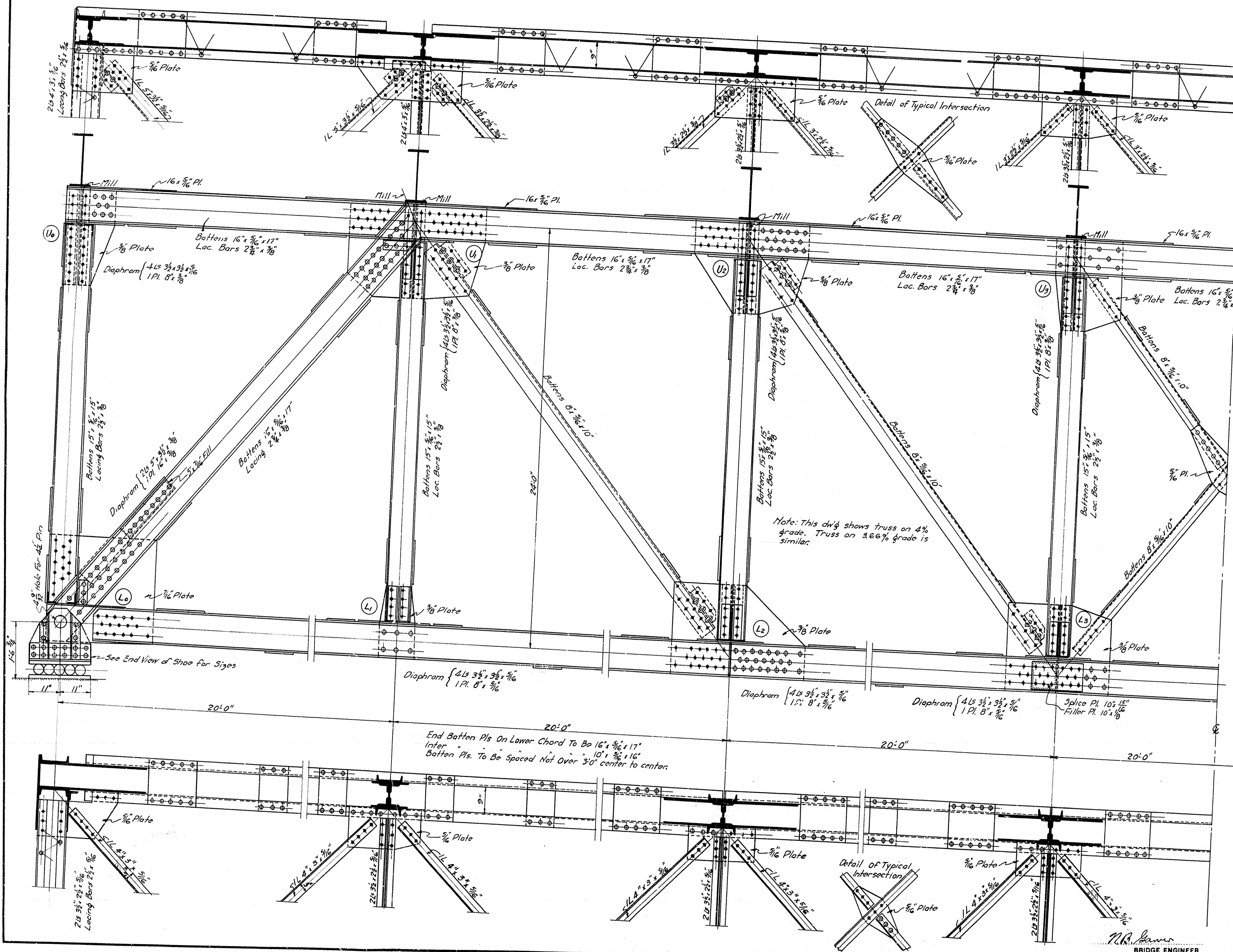
D.L. Mom. At Support	= 72,835 *"
L.L. Mom. "	= 14,250 x 2.875 = 40,969 *"
Impact	= 30% = 12,291 *"
Tot. Mom.	= 126,095 *"
Sec. Mod. Req'd.	= 126,095 x 12 / 18,000 = 84.06
" of Conn. Is	18" @ 47" = 85.4

DETAILS OF SPANS 1, 2, 6 & 7 CONTINUED & STEEL BENTS BRIDGE OVER QUACHITA RIVER, CALION, ARK. UNION-CALHOUN COUNTIES

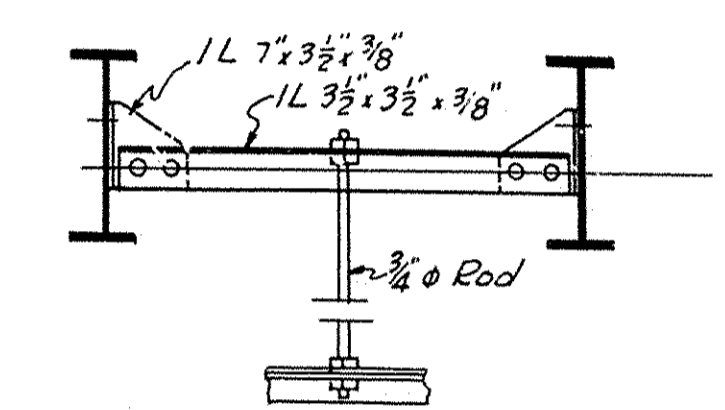
ROUTE 157 SEC. 2 & 3
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

Drawn By: Noe Date: 6-17-29
Traced By: J.C. Date: 6-28-29
Checked By: J.C. Date: 7-11-29
Scale: 3/4" = 1 ft.
BRIDGE NO. 1230 DRAWING NO. 1704

J.B. Evans
BRIDGE ENGINEER



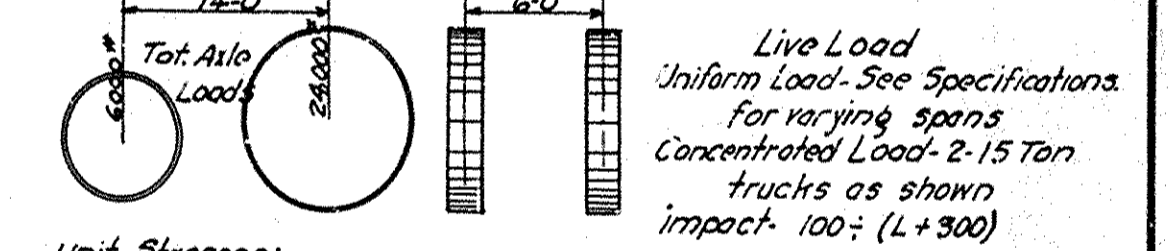
Detail of Typical Floor Beam Connection



Detail of Top Lateral Hanger

STEEL NOTES

Specifications - Arkansas State Highway Department Specifications adopted May 30, 1925 & revised. These drawings are general only. Shop drawings must be made in compliance with specifications, must be submitted and approved before fabrication begins. Members of equal or greater strength may be used in place of members shown, but payment will be made in accordance with sizes shown on these plans.



Unit Stresses:
 Concrete - 1:2:3 - 810 lbs per sq. in.
 Structural Steel - 18,000 " " " "
 Reinforcing Steel - 18,000 " " " "

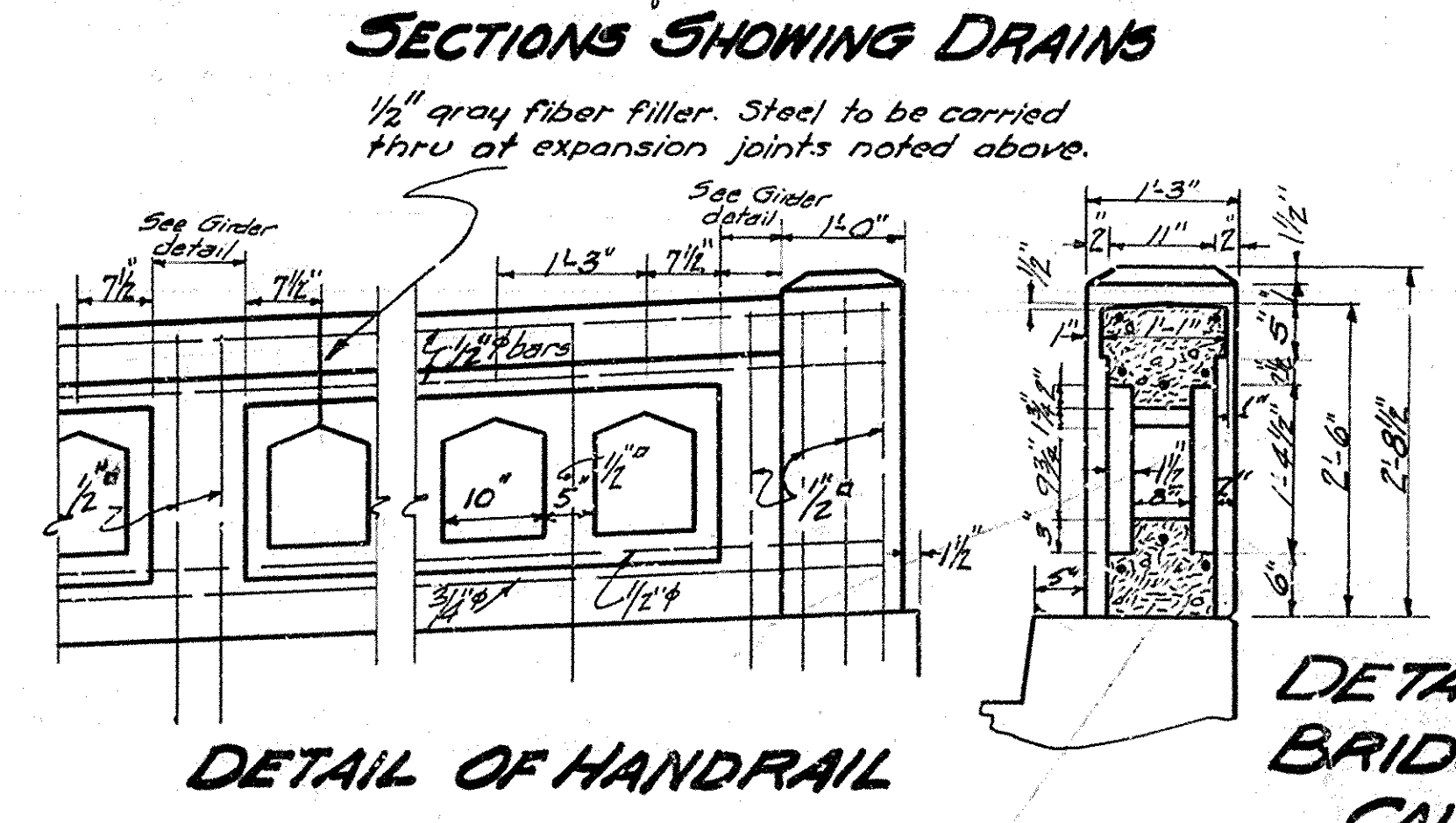
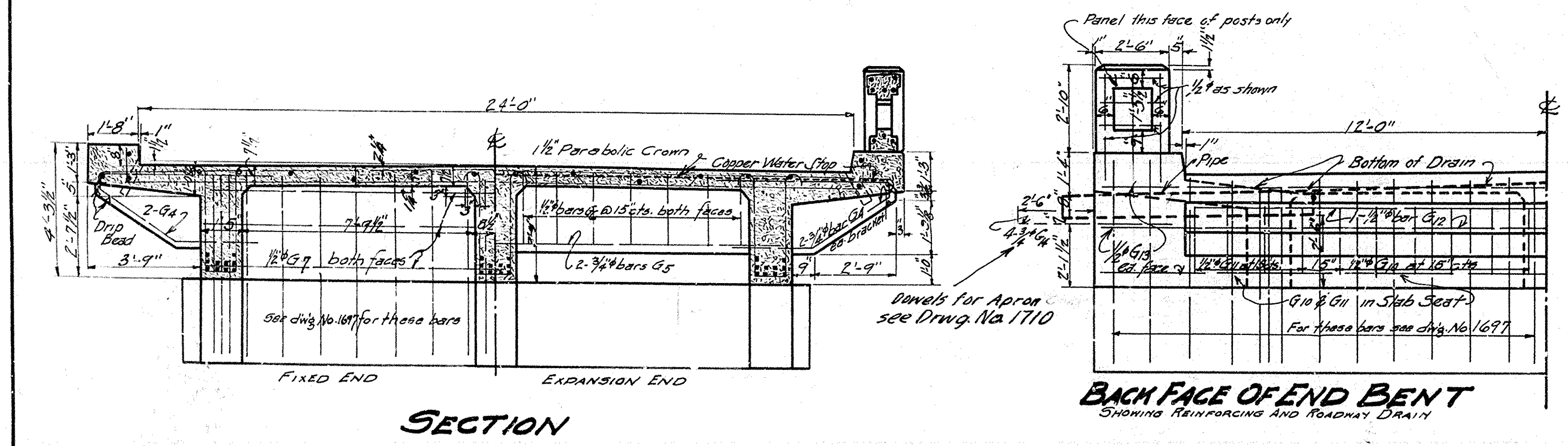
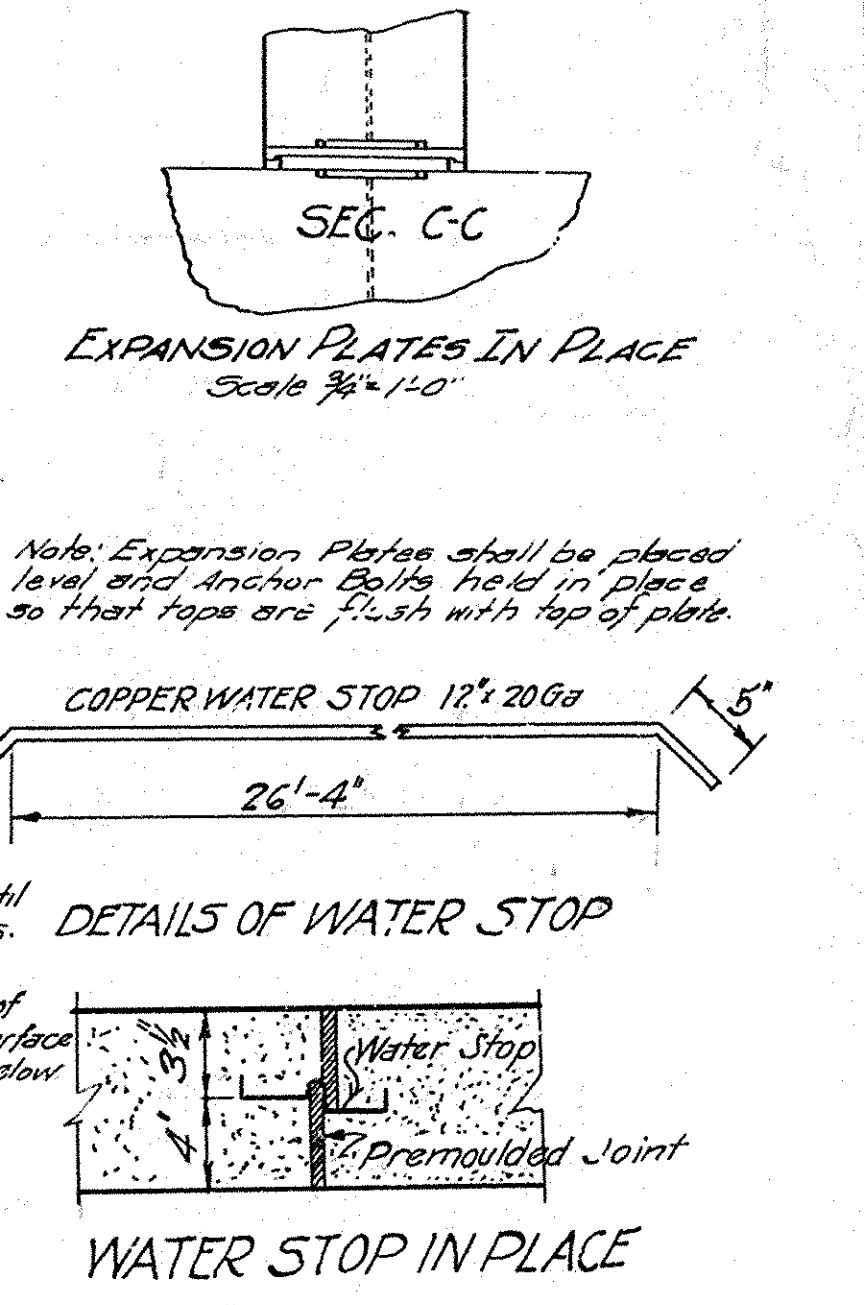
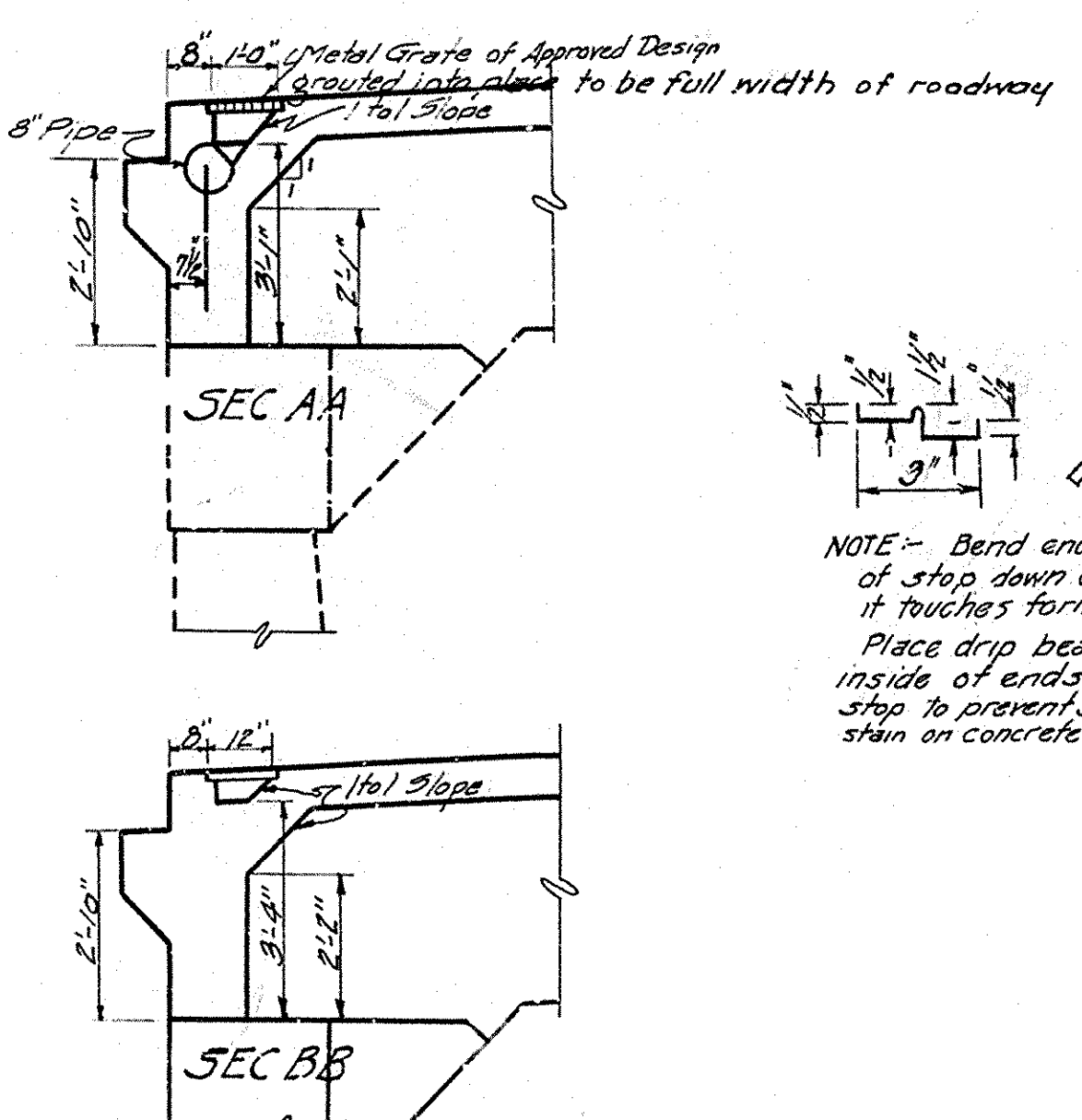
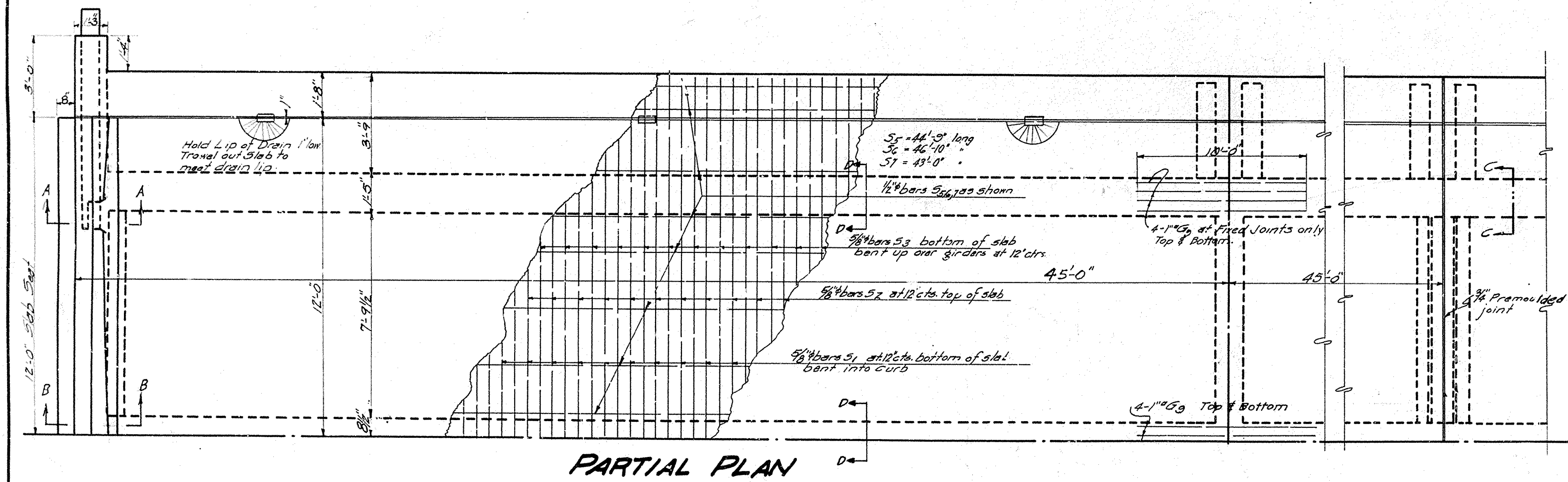
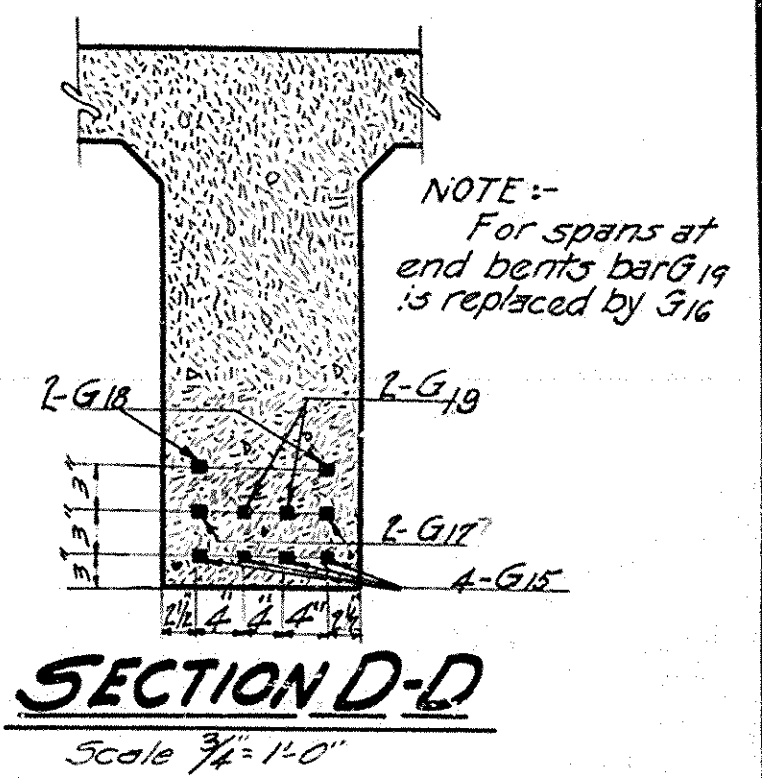
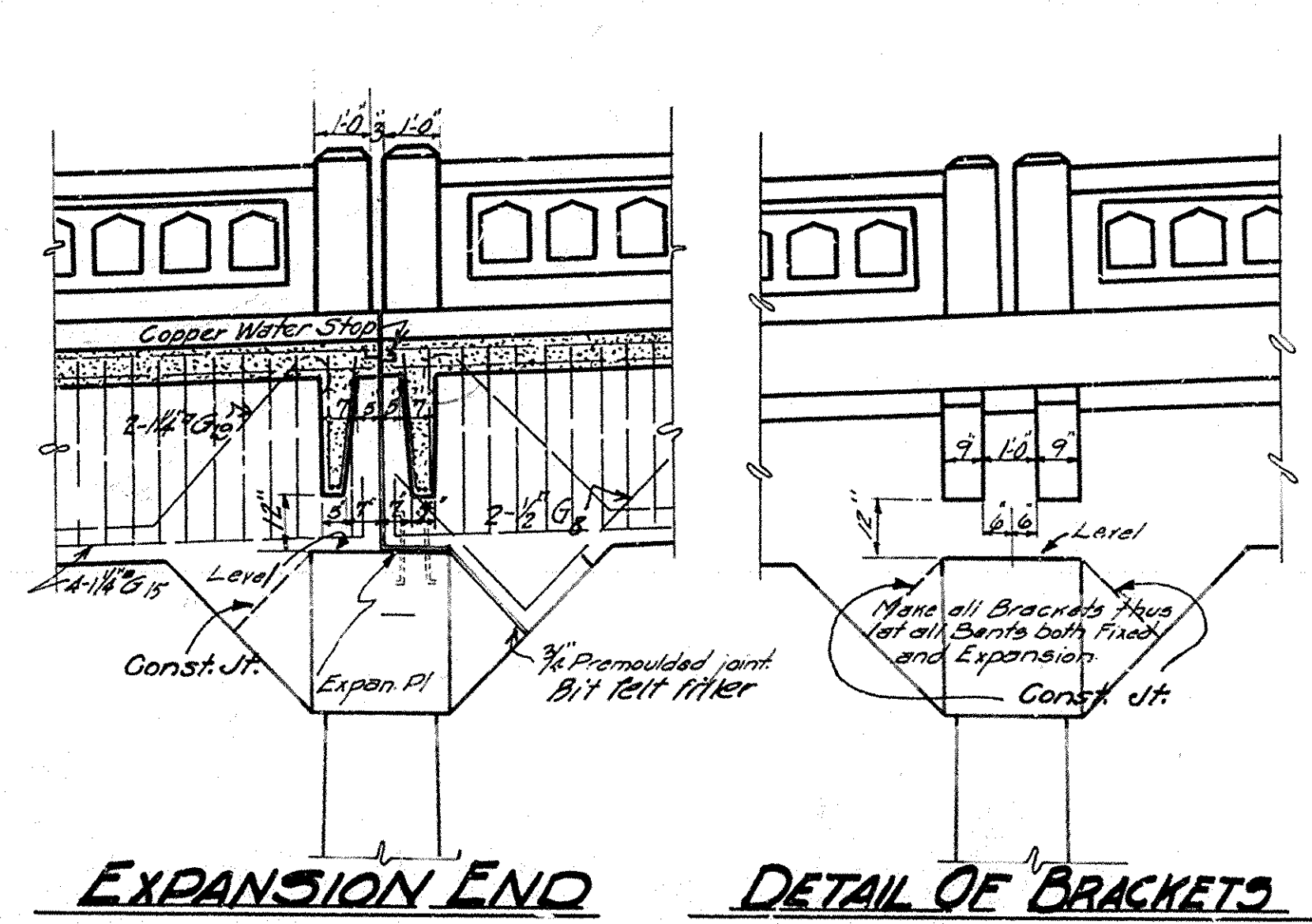
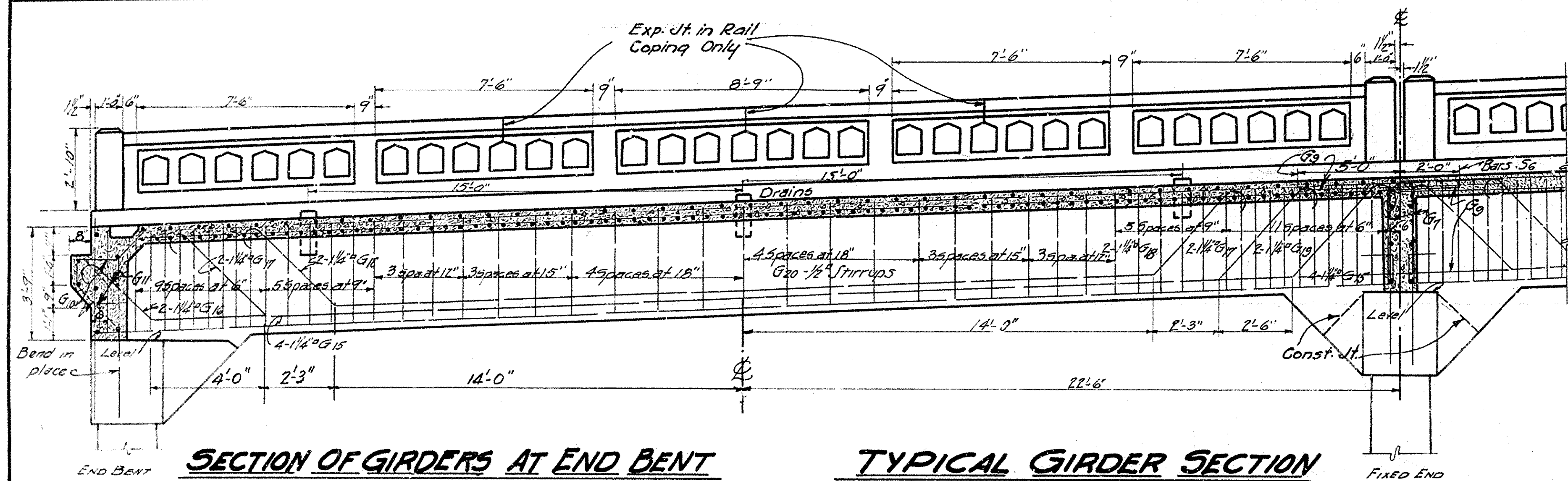
Rivets to be 3/4 diameter except in top & bot laterals, sway bracing & in flanges of channels smaller than 12". Rivets in the above named members shall be 3/4" in diameter. Rivet holes - Sub-punch both shop & field holes in all main truss connections 3/16 smaller than rivet specified and ream to 1/8 larger than rivet specified during shop assembly. Members shall be match-marked and a suitable diagram furnished for erection. All field connections to be riveted. Rivet holes in tension angles so spaced that only 1 hole is deducted from each angle at point of max. stress. Shop paint 1 coat red lead & row linseed oil. Field paint two coats of different colors as approved by the engineer. Batten Pls. shall be spaced not over 30" c.c. on tens. members. Conc. floor slab to be Class 3". Extra 1" added for wear. Stringers & floor beams to be milled to exact length. Handrail to be field riveted after floor is poured.

**DETAILS OF
 140'-0" DECK TRUSS FOR SPANS 1, 2, 6 & 7
 FOR BRIDGE OVER OUACHITA RIVER
 AT CALION, ARK.
 UNION-CALHOUN CO.**

ROUTE 157 SEC. 2 & 3
ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.
 Drawn By: NOE Date: 6-15-29
 Traced By: HS Date: 6-27-29
 Checked By: J.C.C. Date: 7-16-29
 Scale: 3/4 in. = 1 ft.
BRIDGE NO. 1230 DRAWING NO. 1703

N.B. James
 BRIDGE ENGINEER

FISCAL YEAR	Job No	SHEET	TOTAL SHEETS
1919	7103	7	10
Hy. & Br. Impri. Proj.			



FOR GENERAL NOTES
SEE DRAWING No. 1695
For Bending Diagrams see Drwg. No. 1710

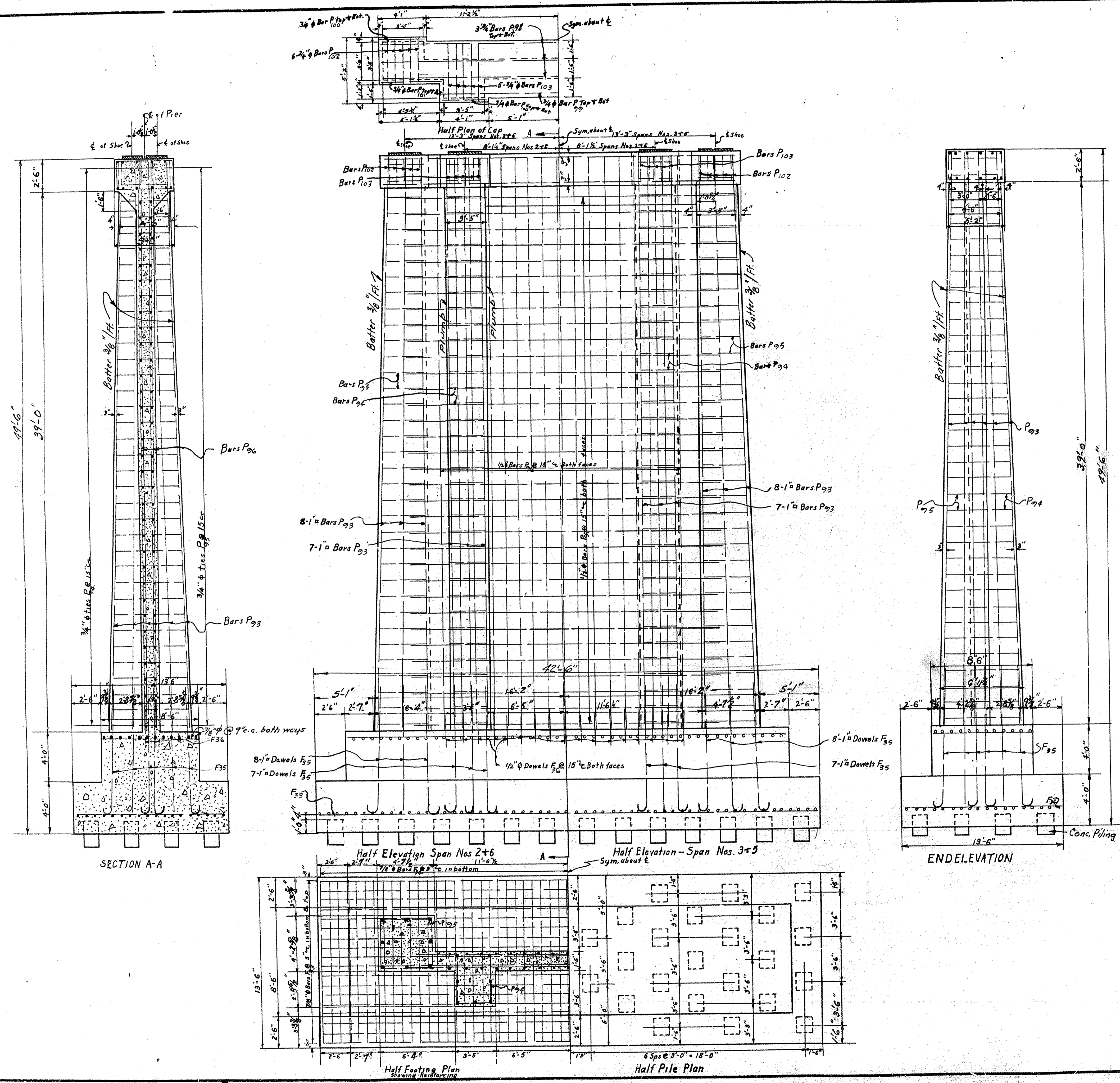
**DETAILS OF 45' R.C.D. GIRDER
BRIDGE OVER OUACHITA RIVER
CALHOUN-UNION COUNTIES**
ROUTE 167 SEC. 243
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

Drawn By: C.A.D. Date: 6-21-19
Traced By: [Signature] Date: 7-1-19
Checked By: [Signature] Date: 7-1-19

Scale: 3/8 in. = 1 ft.

BRIDGE NO. 1230 DRAWING NO. 1698

N.B. Gamm
BRIDGE ENGINEER

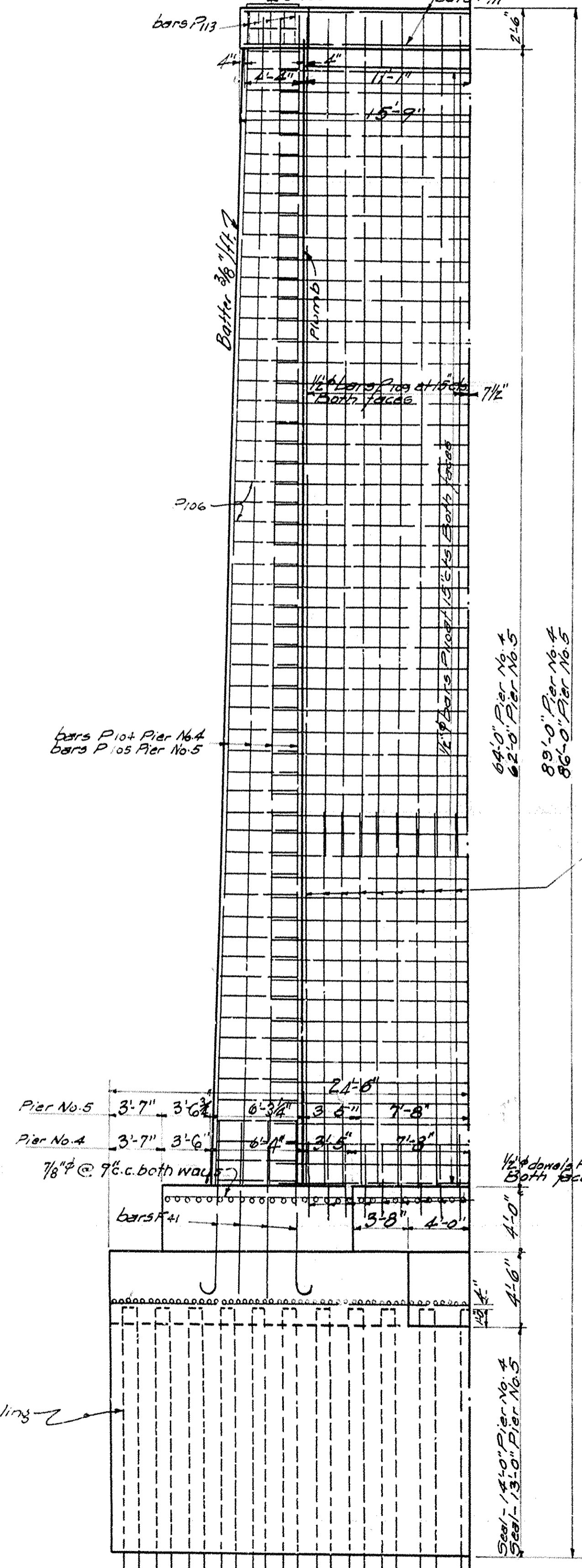
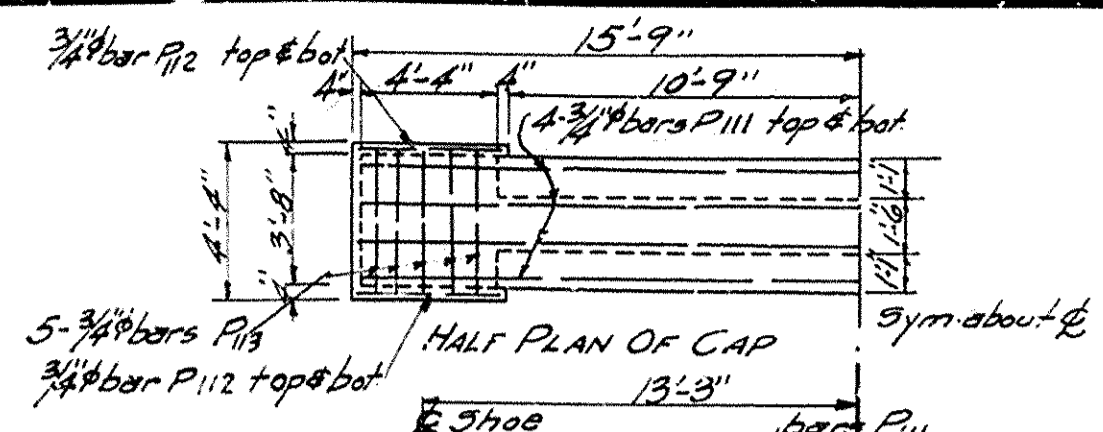


Bars on this sheet: F₃₃-F₃₆ incl.; P₉₃-P₁₀₃ incl.
 For Bending Diagrams, See Dwg No. 1710
 " General Notes " " " 1695

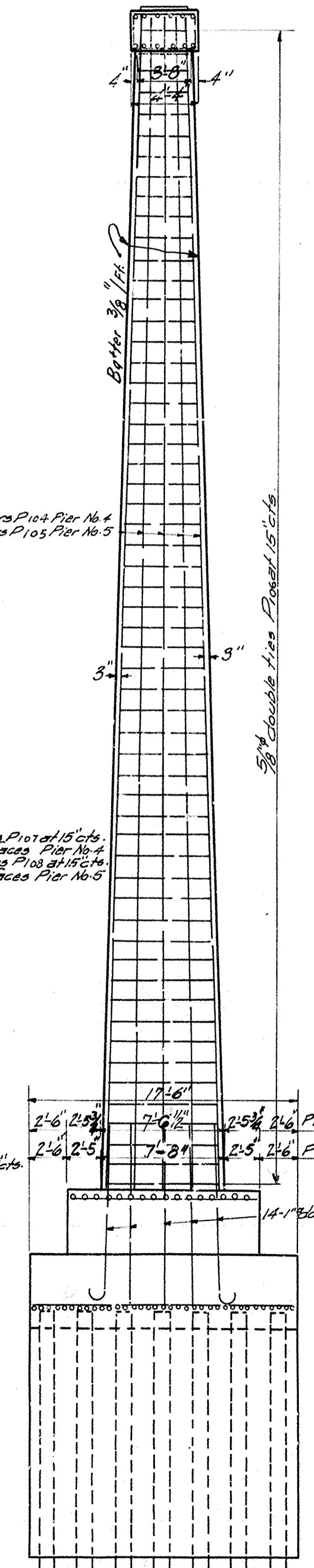
**DETAILS OF
 PIERS Nos 3 & 6
 FOR BRIDGE OVER OUACHITA RIVER
 AT CALION, ARK.
 UNION-CALHOUN CO.
 ROUTE 167 SEC. 2 & 3
 ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.**

Drawn By: *H.B.* Date: 6-17-29
 Traced By: *Clark* Date: 8/13/29
 Checked By: *Z.P.C.* Date: 8/13/29
 Scale: 1/4" = 1 ft.
 BRIDGE NO. 1230 DRAWING NO. 1701

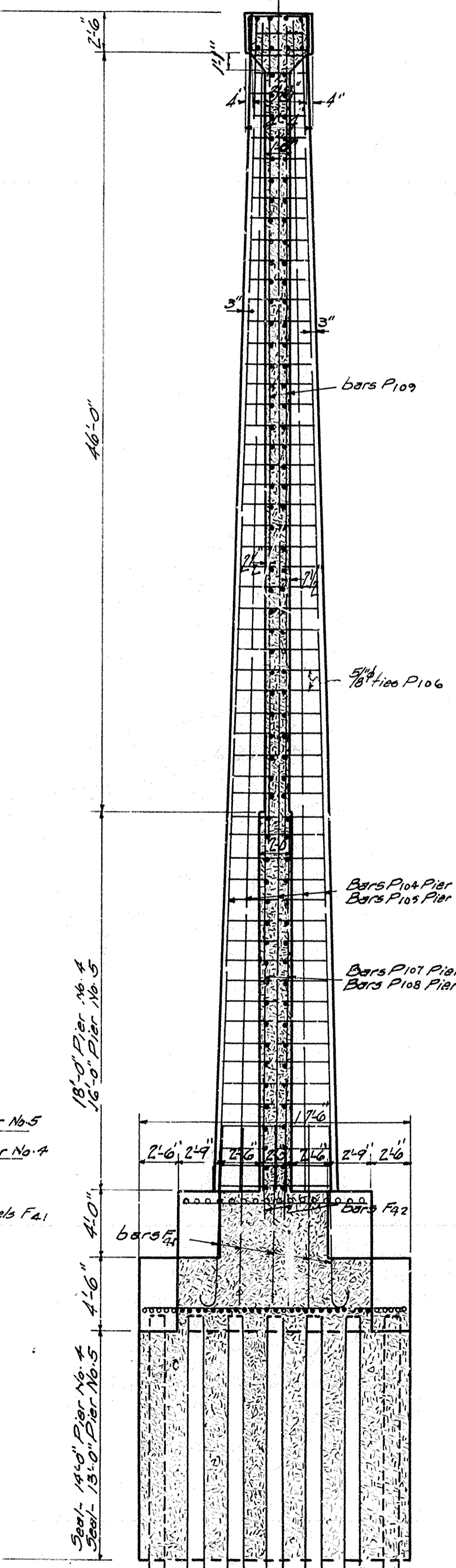
N.B. Garner
 BRIDGE ENGINEER



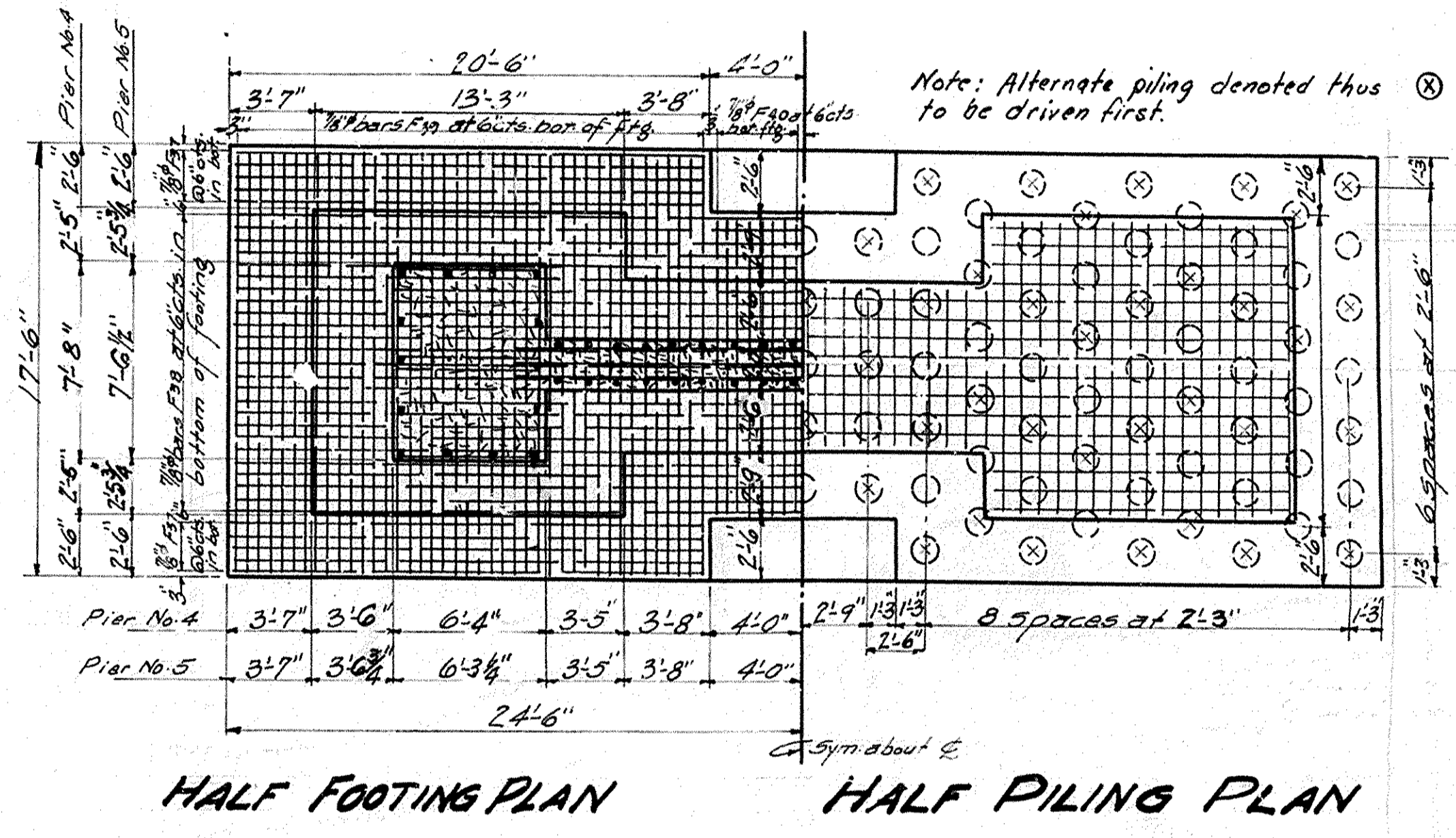
HALF SIDE ELEVATION



END ELEVATION



SECTION ON C-C



HALF FOOTINGS PLAN HALF PILING PLAN

Bars on this sheet F37 to F42 incl; P104 to P113 incl.
 For Banding diagrams see dwg. No. 1710
 " General Notes " " " 1695

**DETAILS OF PIERS NOS. 4 & 5
 FOR BRIDGE OVER OUCHITA RIVER
 AT CALION, ARK**
 ROUTE # 167 SEC 5 # 27

ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK.

Drawn By: *LB* Date: 6-22-29
 Traced By: *LR* Date: 6-14-29
 Checked By: *LR* Date: 3/13/29
 Scale: 3/16" = 1 ft.
 BRIDGE NO. 1230 DRAWING NO. 1702

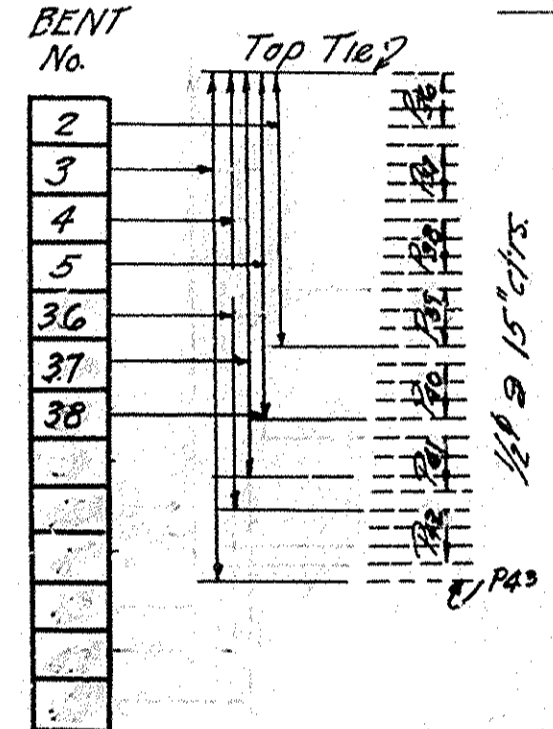
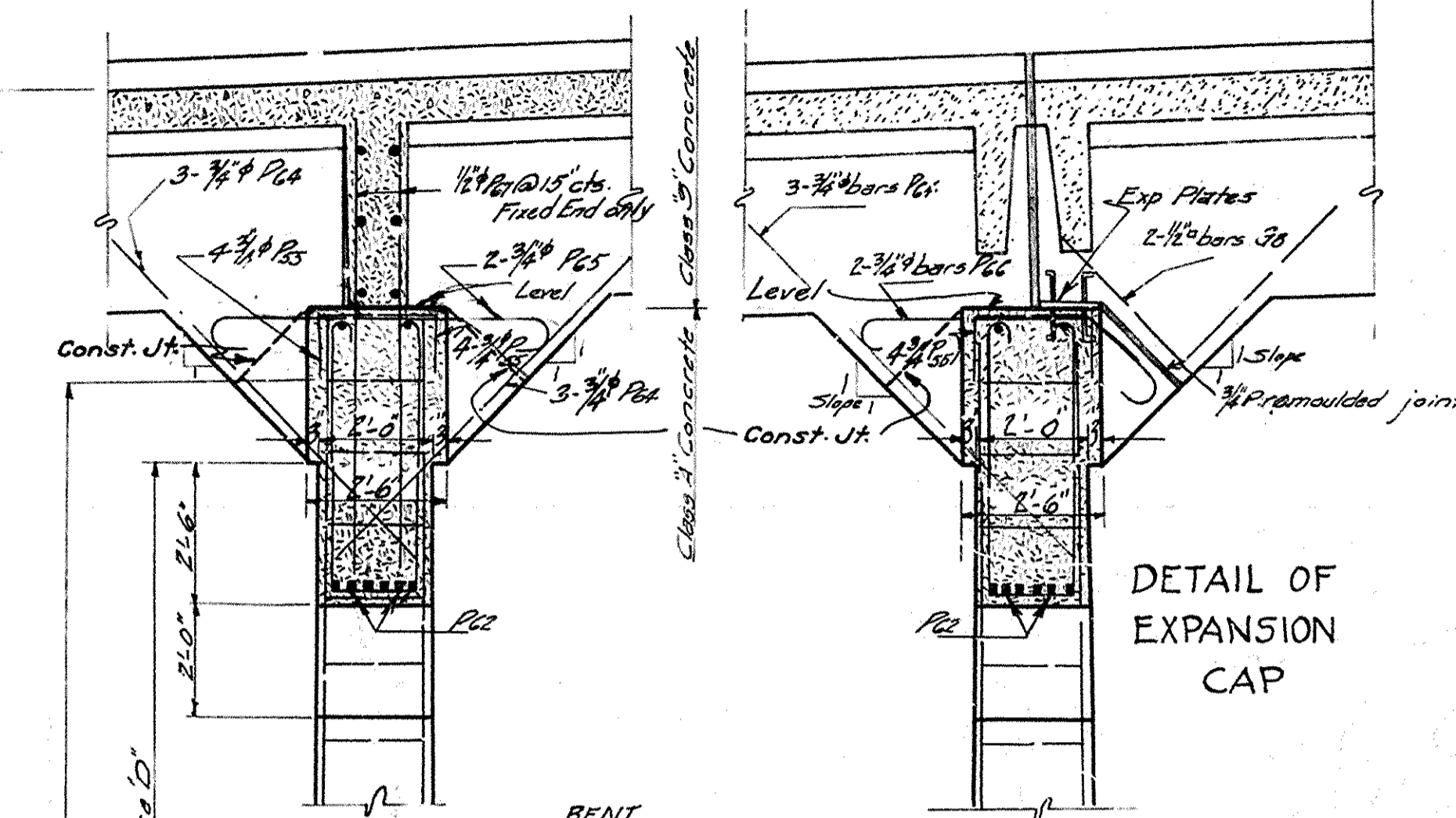
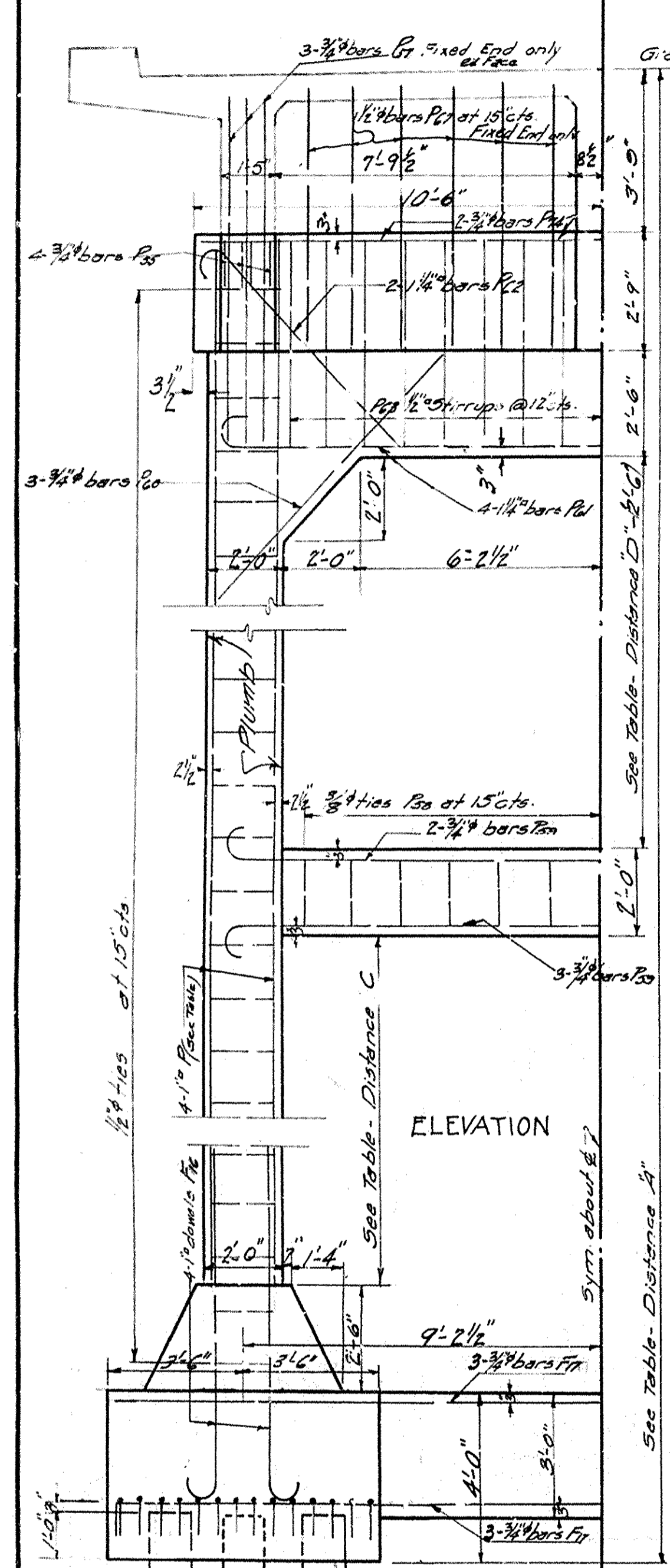
W.B. Larver
 BRIDGE ENGINEER

FISCAL YEAR	Job No.	SHEET No.	TOTAL SHEETS
1929	7108	6	30

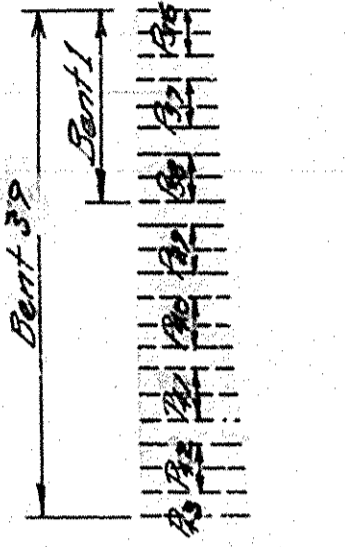
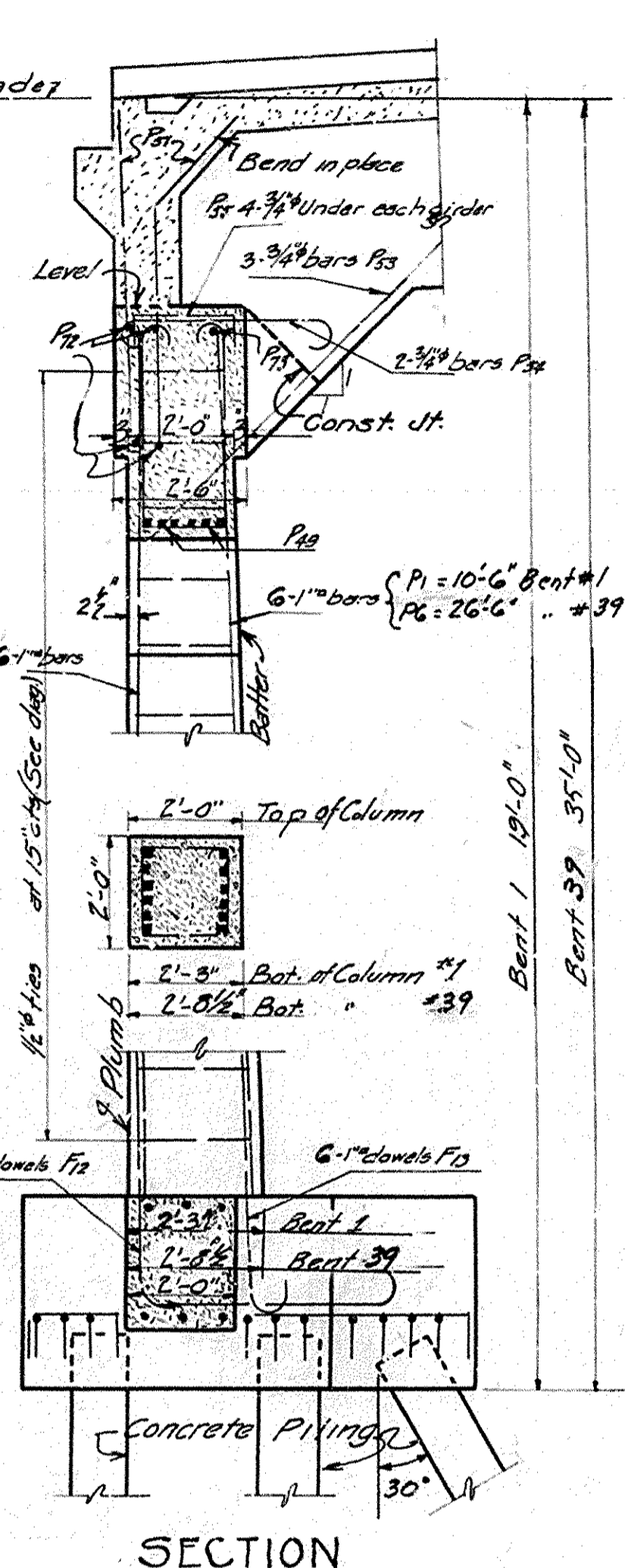
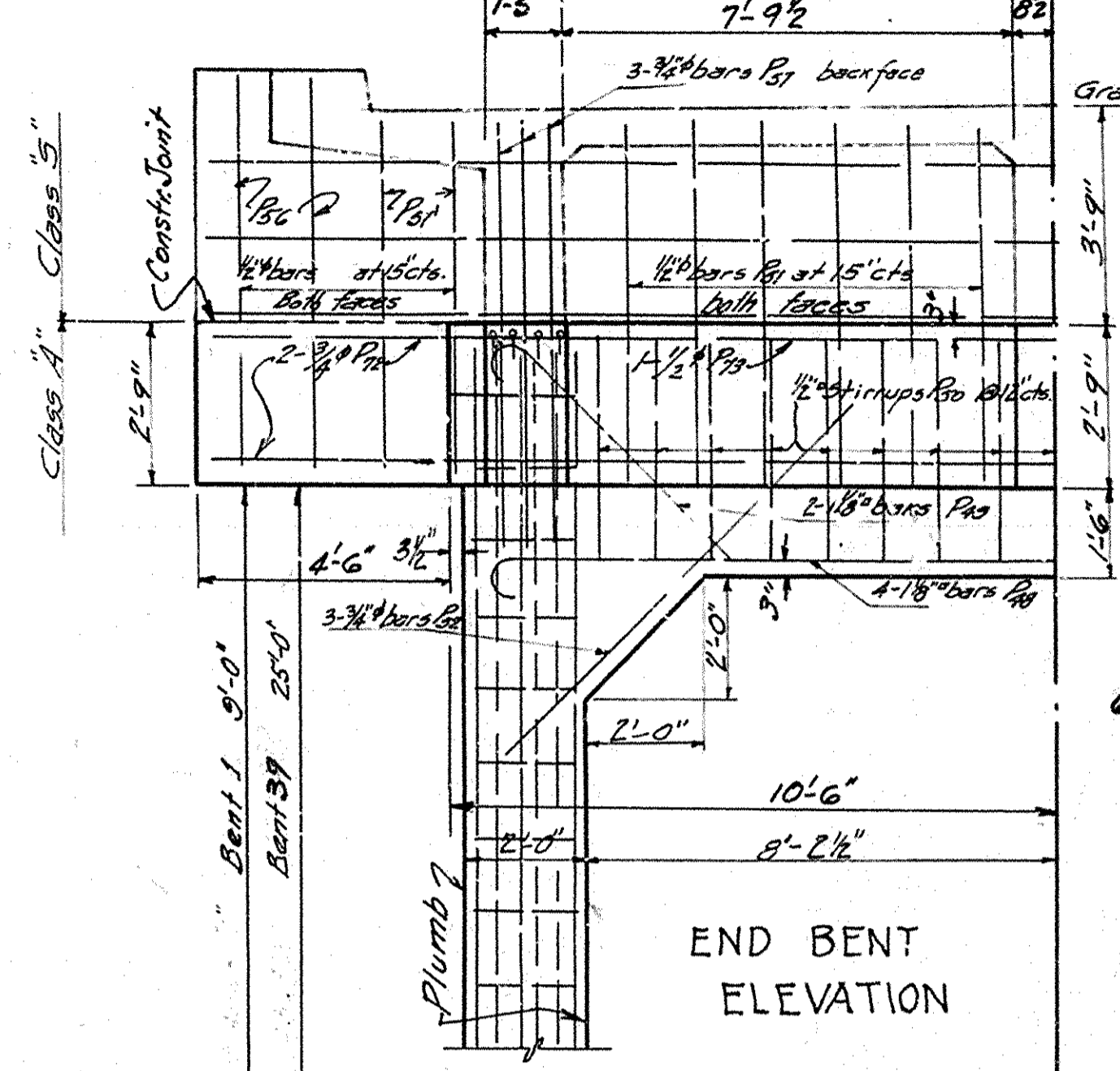
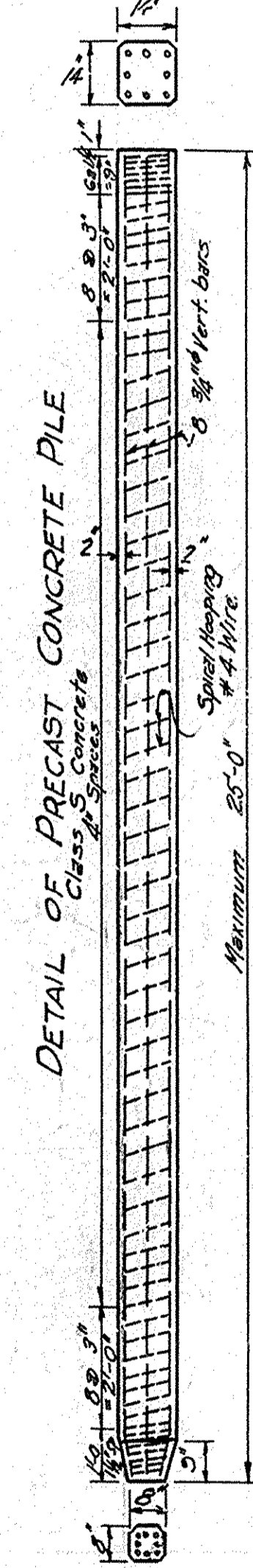
Hy. & Br. Impr. Proj.

For Detail of Superstructure see Drawing No 1698

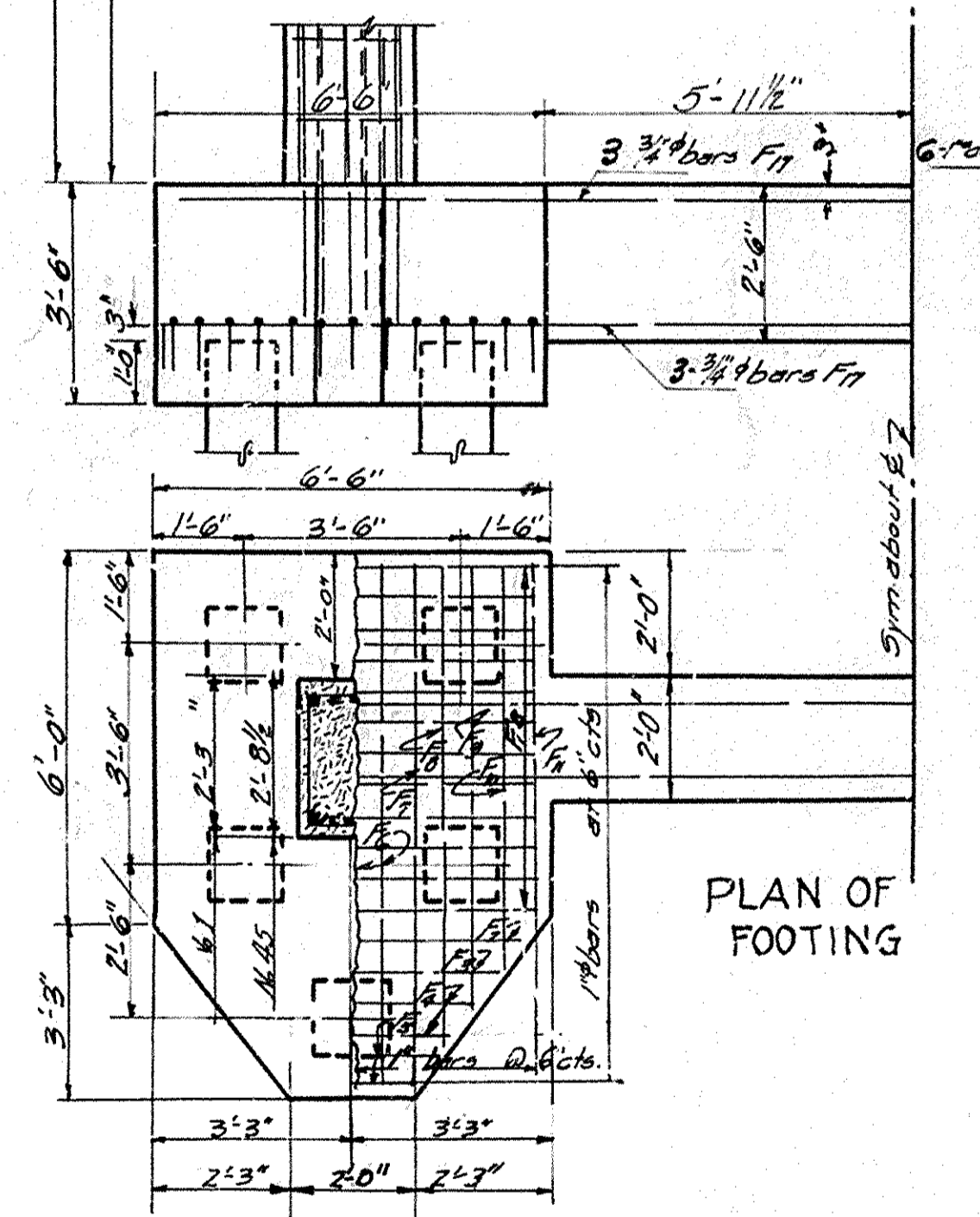
For Details of Superstructure see drawing No 1698



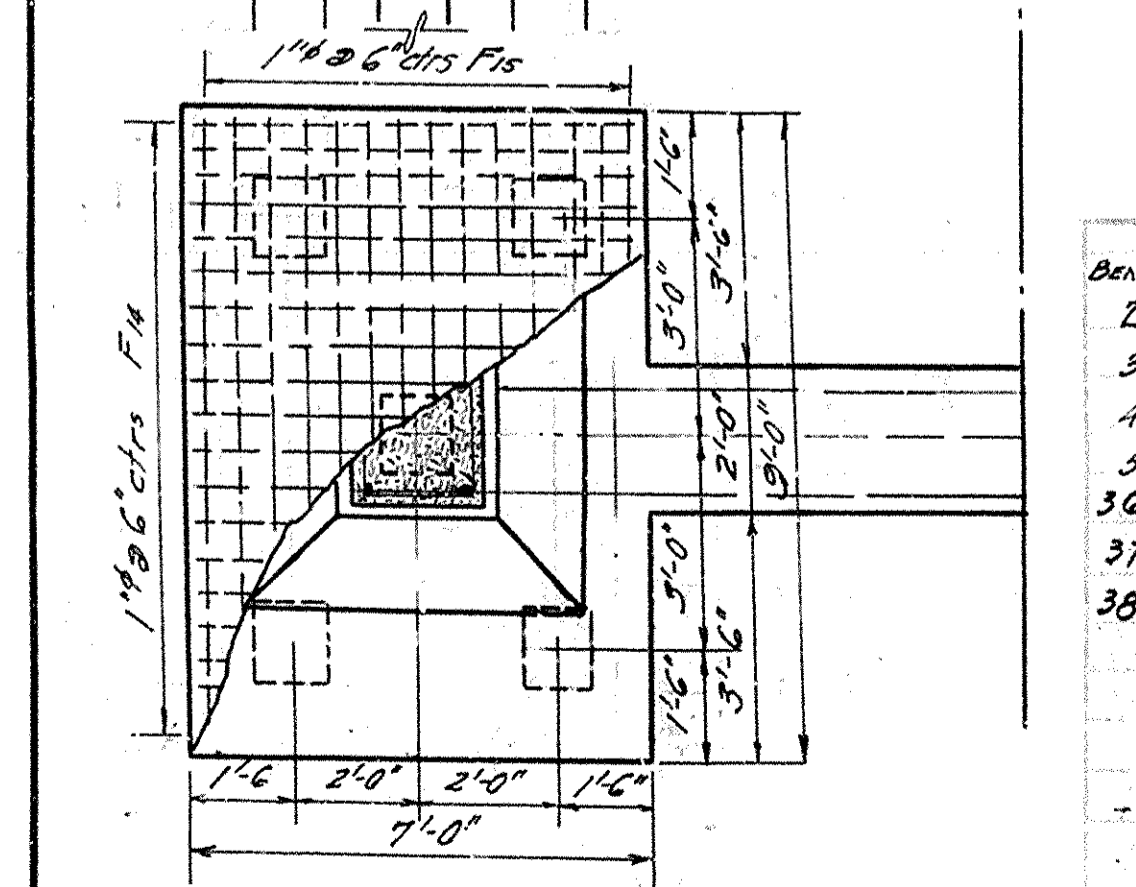
SCHEDULE For Column Ties



SCHEDULE For Column Ties Bents 1 & 39



PLAN OF FOOTING



PLAN OF FOOTING

Bent No.	Gr. Elev.	Top of Footing	A'	B'	C'	D'	Each Bent. Vertical No. Str. Column Bars
2	106.02	78.52	27'-6"	2'-3 3/8"			32 P2 = 16'-0"
3	107.67	63.92	43'-9"	2'-7 1/8"	17'-7"	11'-2"	58 P1 = 32'-3"
4	109.31	70.56	38'-9"	2'-6 3/8"	11'-5 3/8"	12'-3 3/8"	50 P7 = 27'-3"
5	110.96	77.46	33'-6"	2'-5 1/8"	5'-1 1/2"	13'-4 3/8"	40 P3 = 22'-0"
36	114.07	79.07	40'-0"	2'-6 3/8"	10'-4"	14'-8"	50 P9 = 28'-6"
37	112.06	80.06	37'-0"	2'-6"	8'-10 3/8"	13'-1 3/8"	46 P5 = 25'-6"
38	115.04	81.04	34'-0"	2'-5 1/2"	7'-5 1/2"	11'-6 1/2"	40 P4 = 22'-6"

NOTE:- Any variation in actual height of columns shall be taken up in 'C'

NOTE:-
For general notes see Drawing 1695
Bar P35 omitted
For Bending Diagrams see Drwg. No. 1710

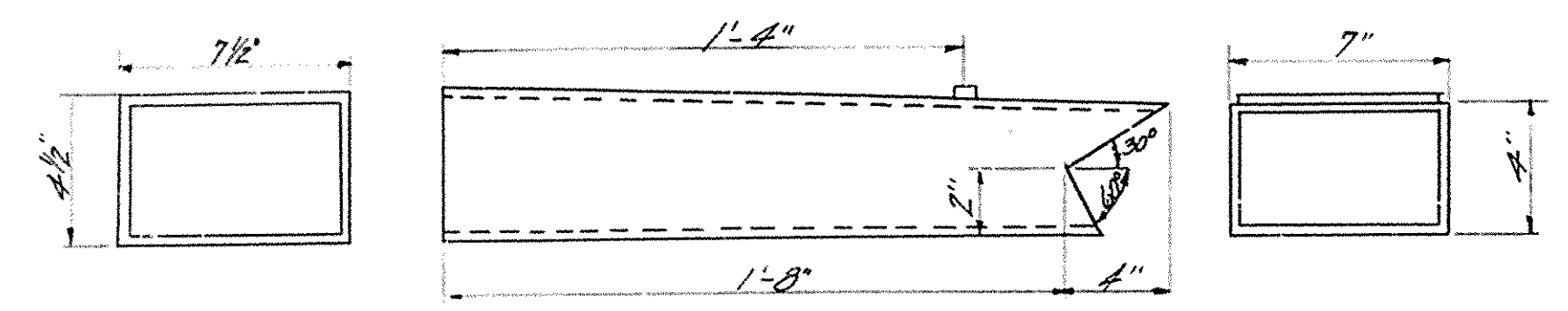
DETAILS OF END BENTS AND INTERMEDIATE BENTS & CONC. PILING FOR BRIDGE OVER QUACHITA RIVER CALHOUN-UNION COUNTIES

ROUTE 1230 SEC. 22 T. 3
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.

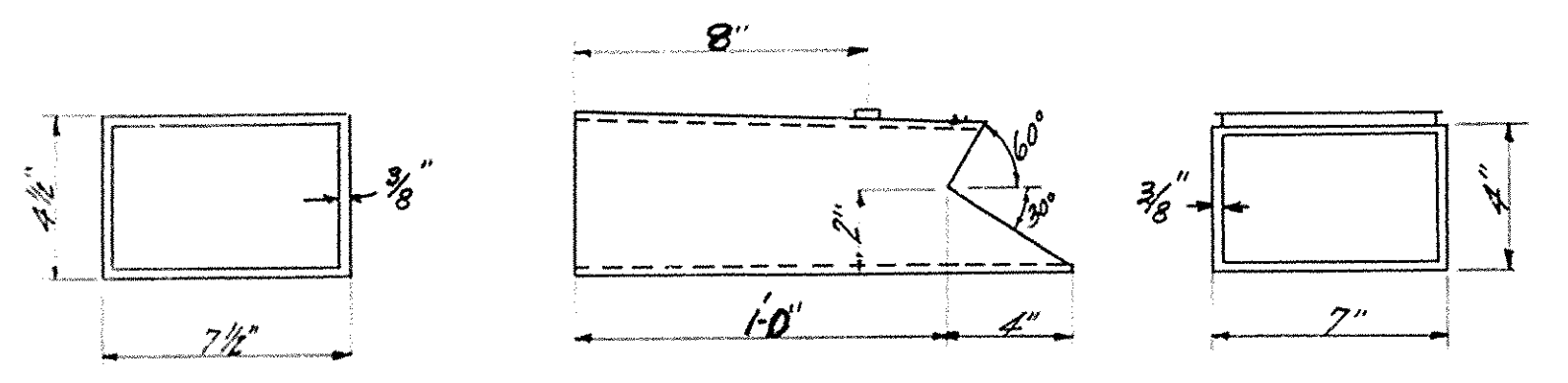
Drawn By: C.A.D. Date: _____
Traced By: W.C.M. Date: 6-13-29
Checked By: L.H.C. Date: 8/10/29
BRIDGE NO. 1230 DRAWING NO. 1697

M.B. Garrow
BRIDGE ENGINEER

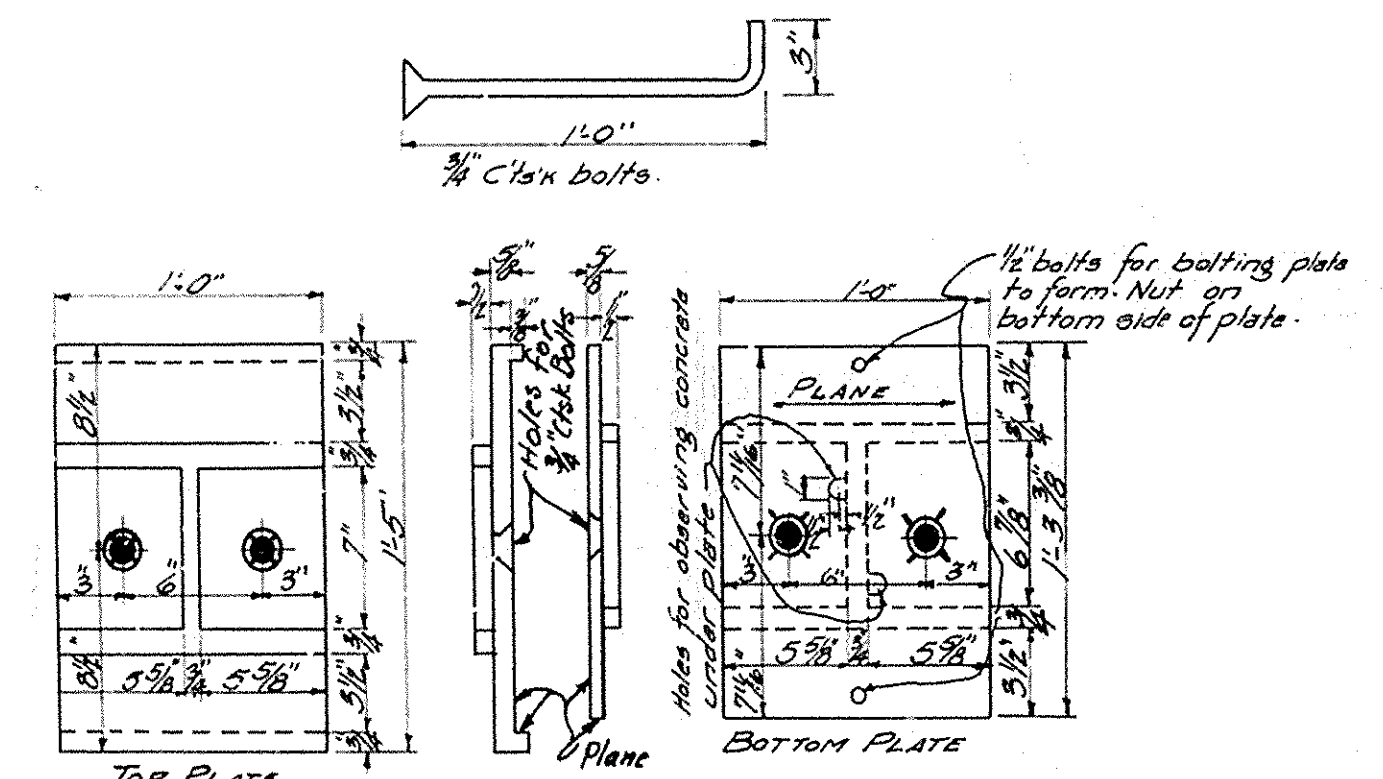
Scale: 3/16" = 1' ft.



DETAIL OF C.I. DRAINS FOR STEEL SPANS
These drains to be placed 60° with vertical



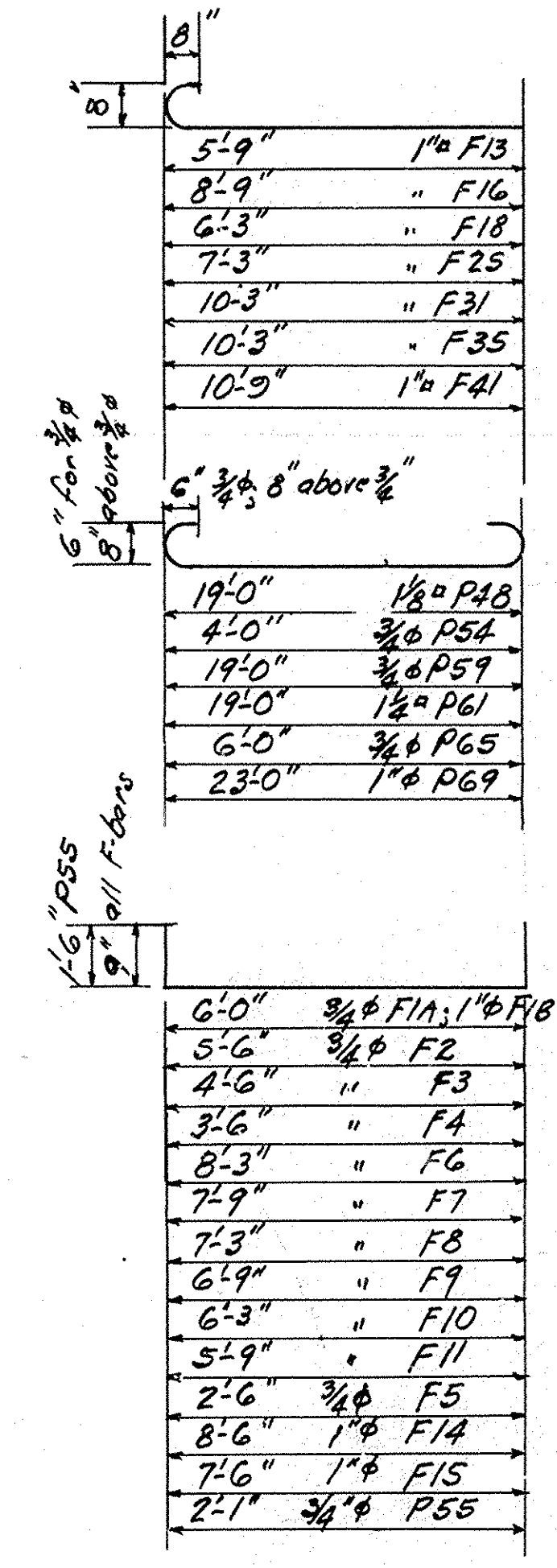
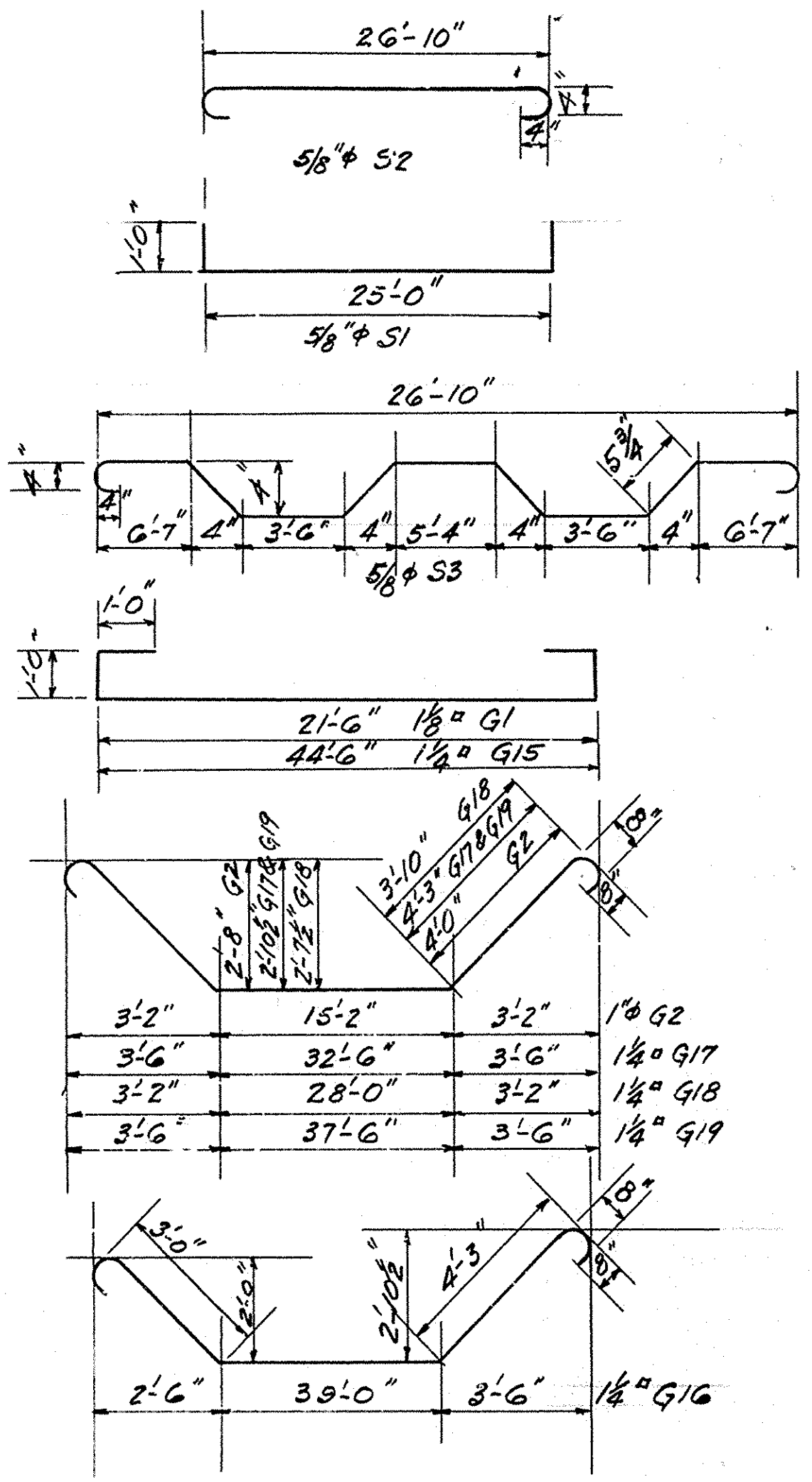
DETAIL OF C.I. DRAINS FOR CONCRETE SPANS
These drains to be placed 30° with vertical



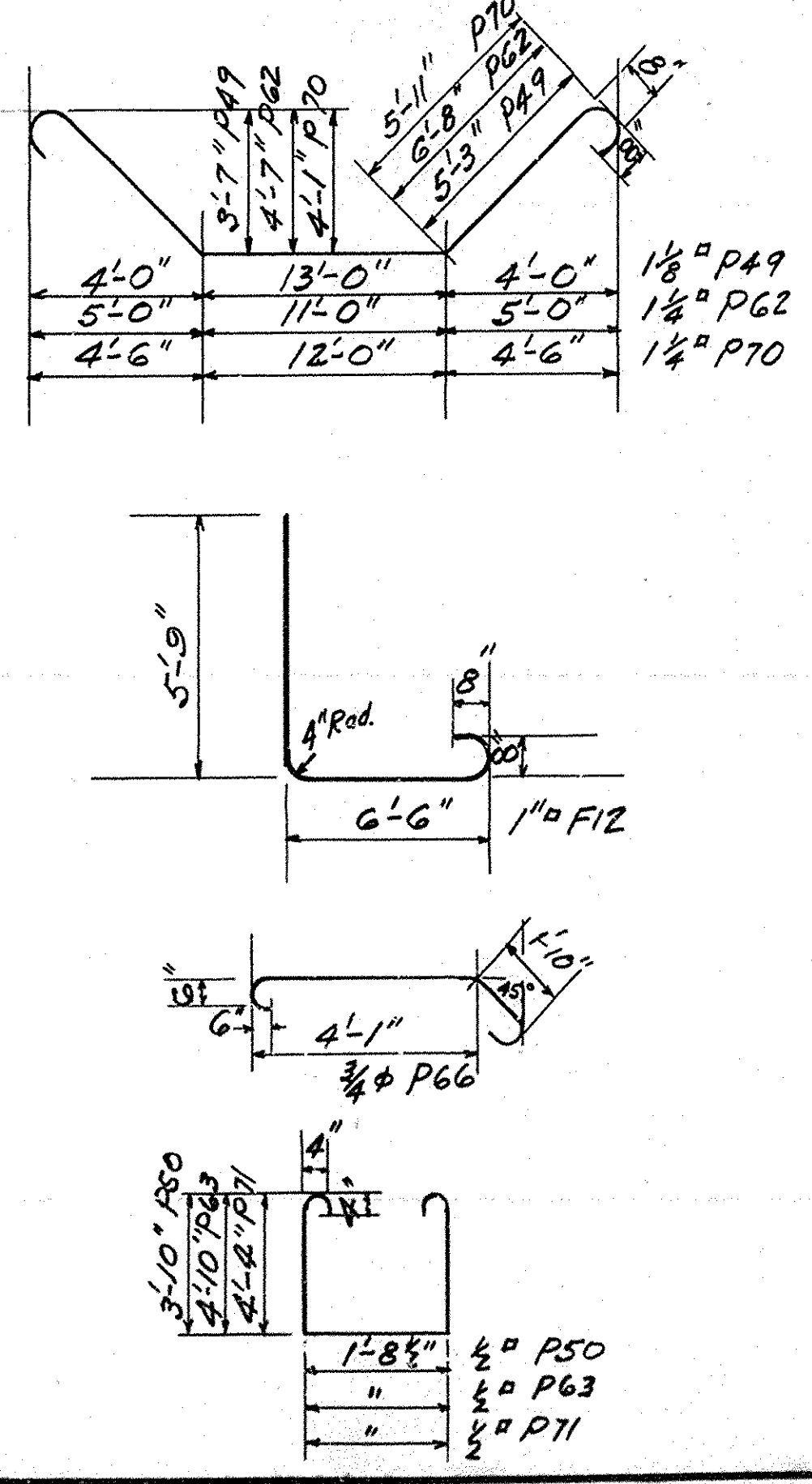
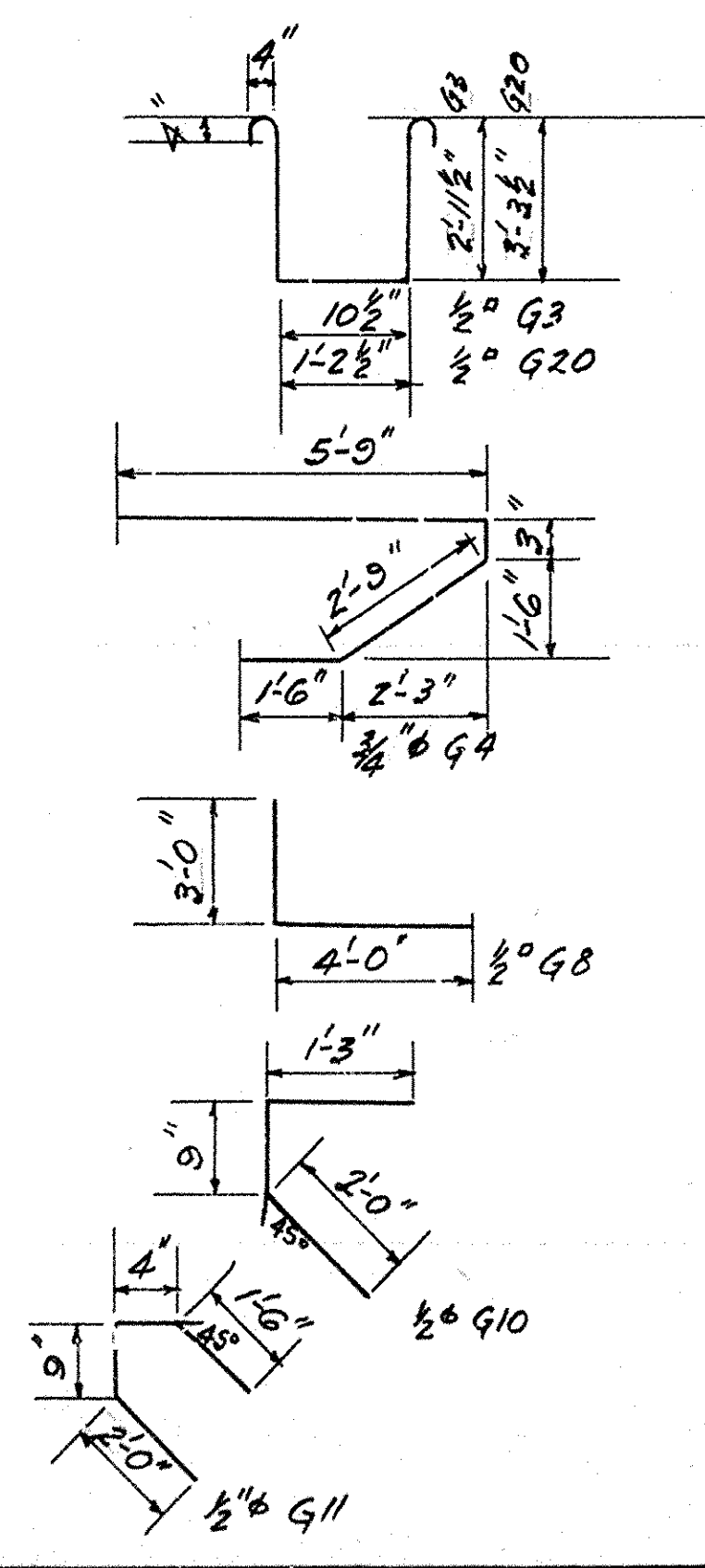
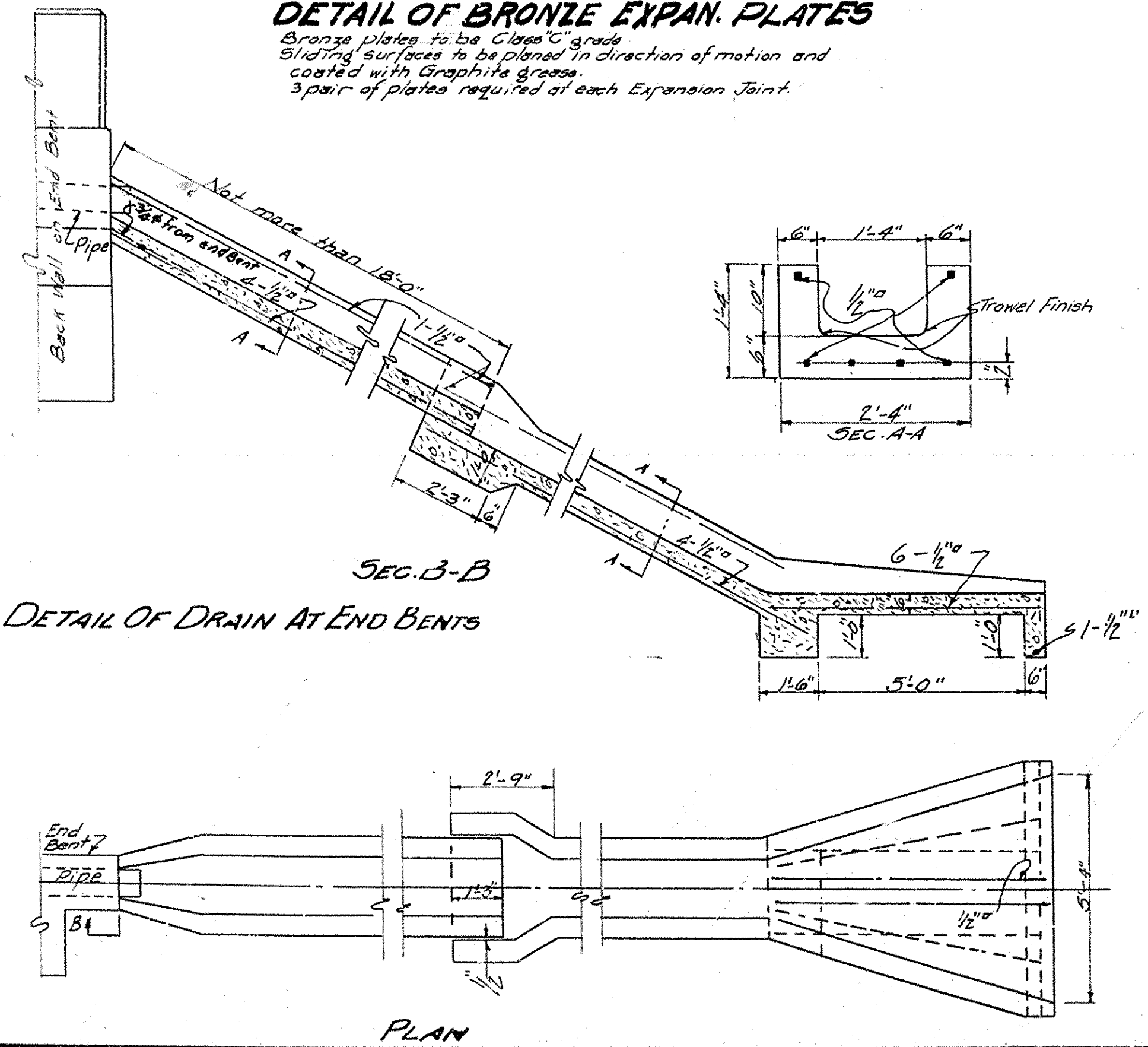
DETAIL OF BRONZE EXPAN. PLATES

Bronze plates to be Class C grade
Sliding surfaces to be planed in direction of motion and coated with Graphite grease.
3 pair of plates required at each Expansion Joint.

For Slab Steel on Truss Spans See Drawgs. 1704 & 1709



A	B	C	D	Size	Mark
1'-8 1/2"	1'-8 1/2"	3"	4 1/2"	1/2" #	P36
"	1'-9 1/2"	"	"	"	P37
"	1'-10 1/2"	"	"	"	P38
"	1'-11 1/2"	"	"	"	P39
"	2'-0 1/2"	"	"	"	P40
"	2'-1 1/2"	"	"	"	P41
"	2'-2 1/2"	"	"	"	P42
"	2'-3 1/2"	"	"	"	P43
"	2'-4 1/2"	"	"	"	P44
"	2'-5 1/2"	"	"	"	P45
"	2'-6 1/2"	"	"	"	P46
1'-8 1/2"	2'-7 1/2"	"	4 1/2"	1/2" #	P47
0'-10"	1'-7"	"	3 1/2"	3/8" #	P58
1'-1"	1'-7"	3"	3 1/2"	3/8" #	P68
3'-5 1/2" to 3'-8 1/2"	3'-0 1/2" to 3'-1 1/2"	4"	6"	3/4" #	P77 Pier #8
3'-5 1/2" to 3'-8 1/2"	3'-0 1/2" to 3'-1 1/2"	4"	6"	3/4" #	P77 Pier #1
2'-2"	4'-2"	"	"	3/4" #	P83
2'-1 1/2" to 3'-3"	3'-0 1/2" to 3'-1 1/2"	"	"	5/8" #	P86 Pier #7
2'-1 1/2" to 3'-3"	3'-0 1/2" to 3'-1 1/2"	"	"	5/8" #	P86 "#2
2'-2"	4'-10"	"	"	3/4" #	P92
2'-7 1/2" to 3'-1 1/2"	3'-1 1/2" to 3'-2 1/2"	"	"	"	P94
2'-7 1/2" to 3'-1 1/2"	3'-1 1/2" to 3'-2 1/2"	"	"	"	P95
2'-2"	3'-4"	"	"	"	P102
2'-2"	4'-6"	"	"	3/4" #	P103
1'-7 1/2" to 3'-1 1/2"	3'-1 1/2" to 3'-2 1/2"	"	"	5/8" #	P106 Pier #4
1'-7 1/2" to 3'-1 1/2"	3'-1 1/2" to 3'-2 1/2"	"	"	5/8" #	P106 "#5
3'-8"	3'-1 1/2" to 4'-1 1/2"	"	"	5/8" #	P106
2'-2"	4'-0"	"	"	3/4" #	P113



For General Notes see Drawg. No. 1695

BENDING DIAGRAMS & MINOR DETAILS
FOR BRIDGE OVER
OUACHITA RIVER
AT CALION, ARK.
UNION-CALHOUN COUNTIES
ROUTE 167 SEC. 2 & 3
ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK, ARK.
Drawn By: W.B. Weaver Date: 1/24/29 Scale: in. = ft.
Traced By: W.B.C. Date: 1/24/29 25 noted
Checked By: W.B.C. Date: 1/24/29
BRIDGE NO. 1250 DRAWING NO. 1710
W.B. Weaver
BRIDGE ENGINEER