

ARKANSAS STATE HIGHWAY COMMISSION

DWIGHT H. BLACKWOOD

CHAIRMAN

JUSTIN MATTHEWS

J. LAN WILLIAMS

J. S. PARKS

SAM J. WILSON

COMMISSIONERS

HIGHWAY BRIDGE OVER WHITE RIVER

AT

NEWPORT, ARKANSAS

(JACKSON COUNTY)

C. S. CHRISTIAN
HIGHWAY ENGINEER

JOB NO. 5104

IRA G. HEDRICK, INC.

N. B. GARVER
BRIDGE ENGINEER

U.S.R. 67 S-16 & 17

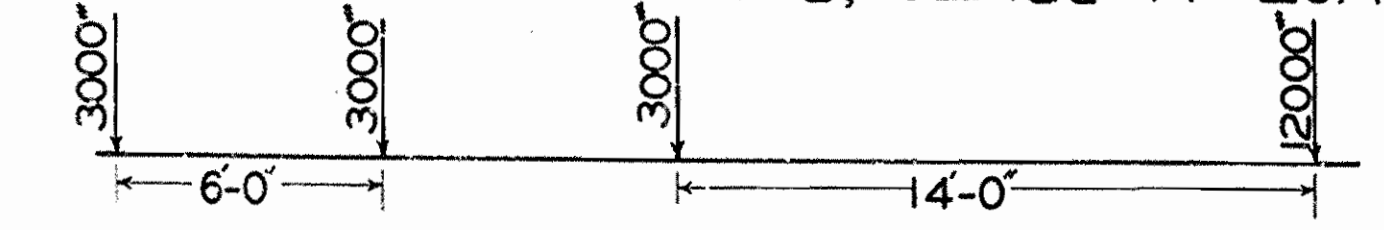
CONSULTING ENGINEERS
HOT SPRINGS, ARKANSAS

REVISED MAIN RIVER BRIDGE

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WHEEL CONCENTRATIONS, CLASS A LOADING



2 - 15 TON TRUCKS

EQUIVALENT UNIFORM LIVE LOADS	SPAN LENGTH		LOAD
	0 TO 50'	50 TO 100'	150# PER SQ. FT.
IMPACT	25% - CONCRETE	100' TO 200'	80" " " "
	100	200' AND OVER	64" " " "
		L+300 - STEEL	

GENERAL NOTES

All hooks on reinforcing bars to have a radius of 4d and a return of 12d where d = diameter of round bar or side of square bar. Lengths of hooked bars are given to starting point of hook thus: $\overline{\text{---}}$ All bends such as on girder bars must have a radius of not less than 12d. Centers of bars in floor slabs to be not less than 1 1/2" from face of concrete. Centers of bars to be 4" from face of concrete on piers and abutment shafts, and 3" on girders and columns unless otherwise noted. Chamfers to be 2" throughout unless otherwise noted.

CONSTANTS

	CONCRETE 1-2 MIX	STEEL
FLOOR SLABS, CROSS GIRDERS, GIRDERS, ETC.	975# PER SQ. IN.	
BEAMS CONTINUOUS OVER SUPPORTS:		
AT CENTER OF BEAMS	975" " " "	
OVER SUPPORTS	1125" " " "	
BOND FOR STEEL IN CONCRETE	150" " " "	
COLUMNS IN DIRECT COMPRESSION	900- $\frac{22.5}{d}$ " " " "	
NOTE: FOR 1-2-4 CONCRETE DECREASE ABOVE STRESSES 33 1/3%		
TENSION, NET SECTION		16000# PER SQ. IN.
COMP. IN COLS. & OTHER COMP. MEMBERS, FIXED ENDS	900- $\frac{22.5}{d}$ " " " "	
MODULUS OF ELASTICITY, STEEL		30000000 " " " "
	CONCRETE 1-2-4	2000000 " " " "
	1-1-2	3000000 " " " "
VARIATION IN TEMPERATURE		±50°
COEFFICIENT OF EXPANSION		.0000055
		.0000067

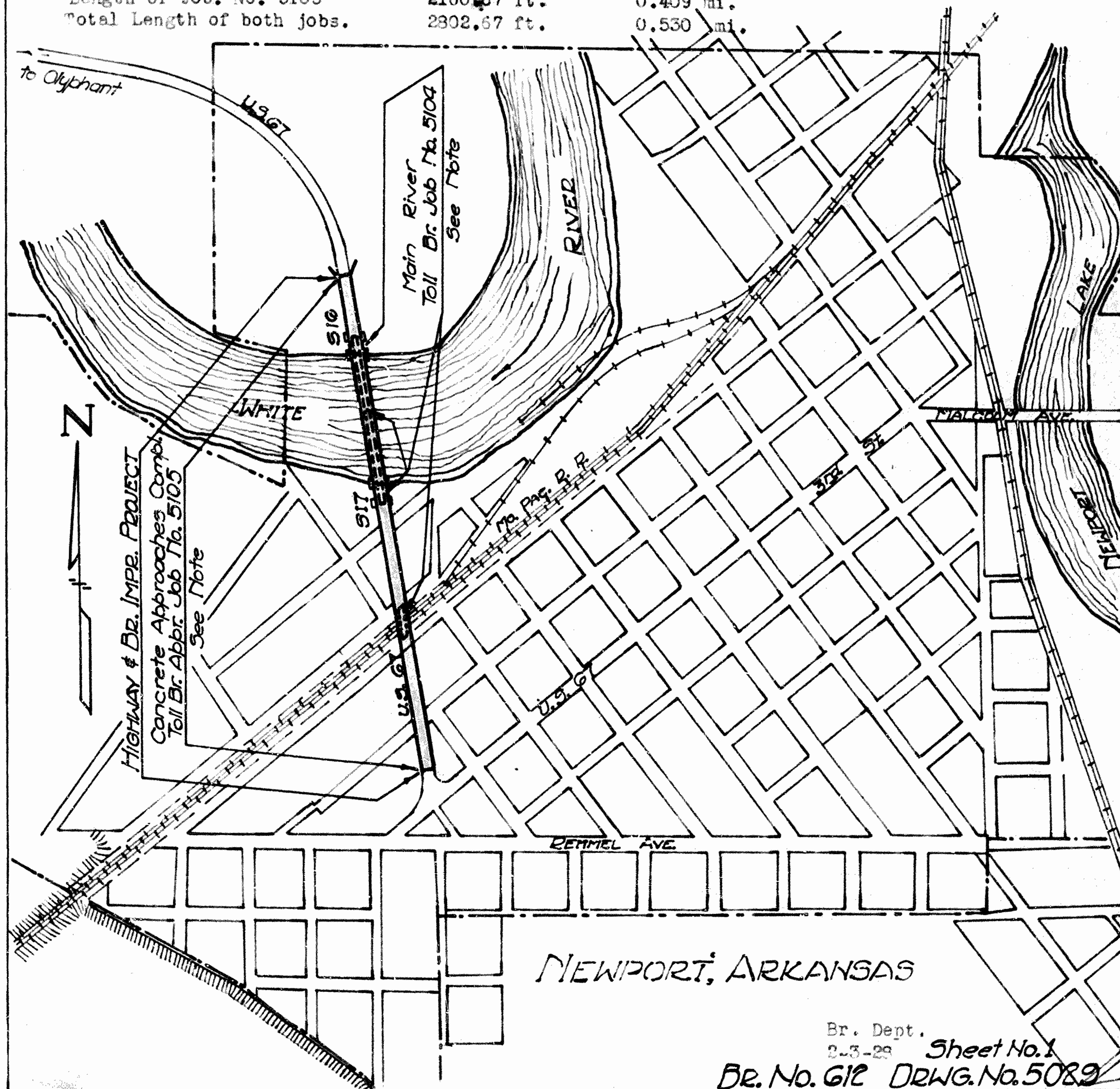
STATE OF ARKANSAS
 ARKANSAS STATE HIGHWAY COMMISSION
 LAYOUT SHOWING
 TOLL BRIDGE IMPROVEMENT ACROSS WHITE RIVER
 AT
 NEWPORT ARKANSAS
 U. S. Route 37 Jackson County 3-16-17
 Scale: 1" = 500'-0"

NOTE:

MAIN RIVER TOLL BR. JOB NO. 5104 includes two main piers No. 2 & 3, two anchor piers, and all structural steel and anchorages in 600' main span and 86'-4" track span.
 Length of Job No. 5104 642.00 ft. 0.121 mi.

CONCRETE APPROACHES COMPLETE JOB NO. 5105 includes all work necessary to complete both approaches except structural steel in 86'-4" track span in south approach and all concrete in floor system for entire structure.

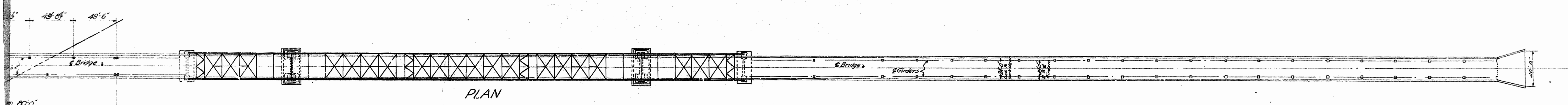
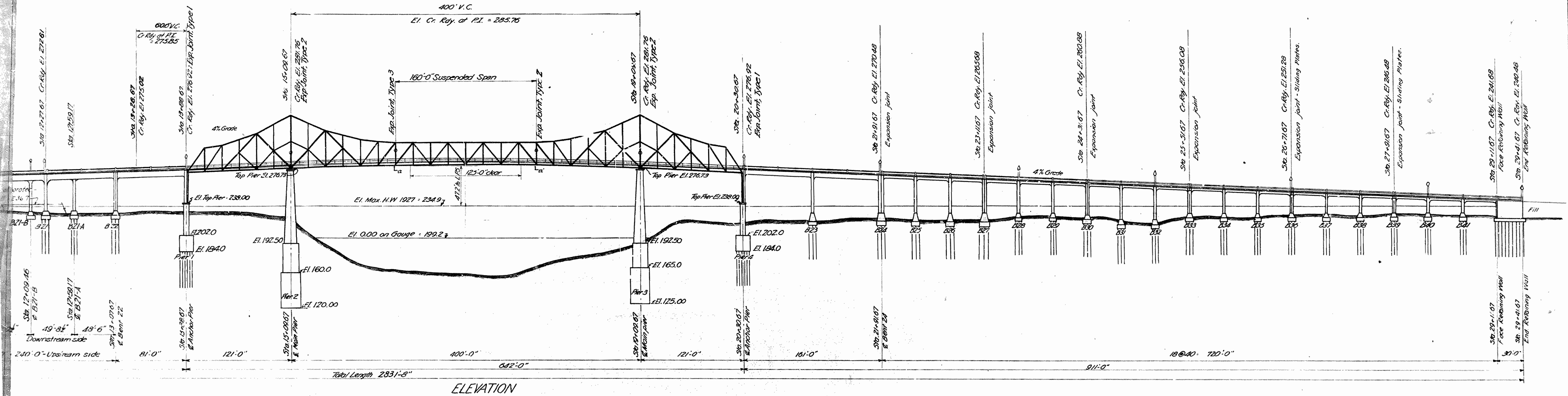
Length of Job. No. 5105 2160.67 ft. 0.409 mi.
 Total Length of both jobs. 2802.67 ft. 0.530 mi.



Br. Dept.
 3-3-28 Sheet No. 1
 Br. No. 612 DRWG. No. 5082

By 10612

DN 5029



Note: Elevations of tops of footing caps

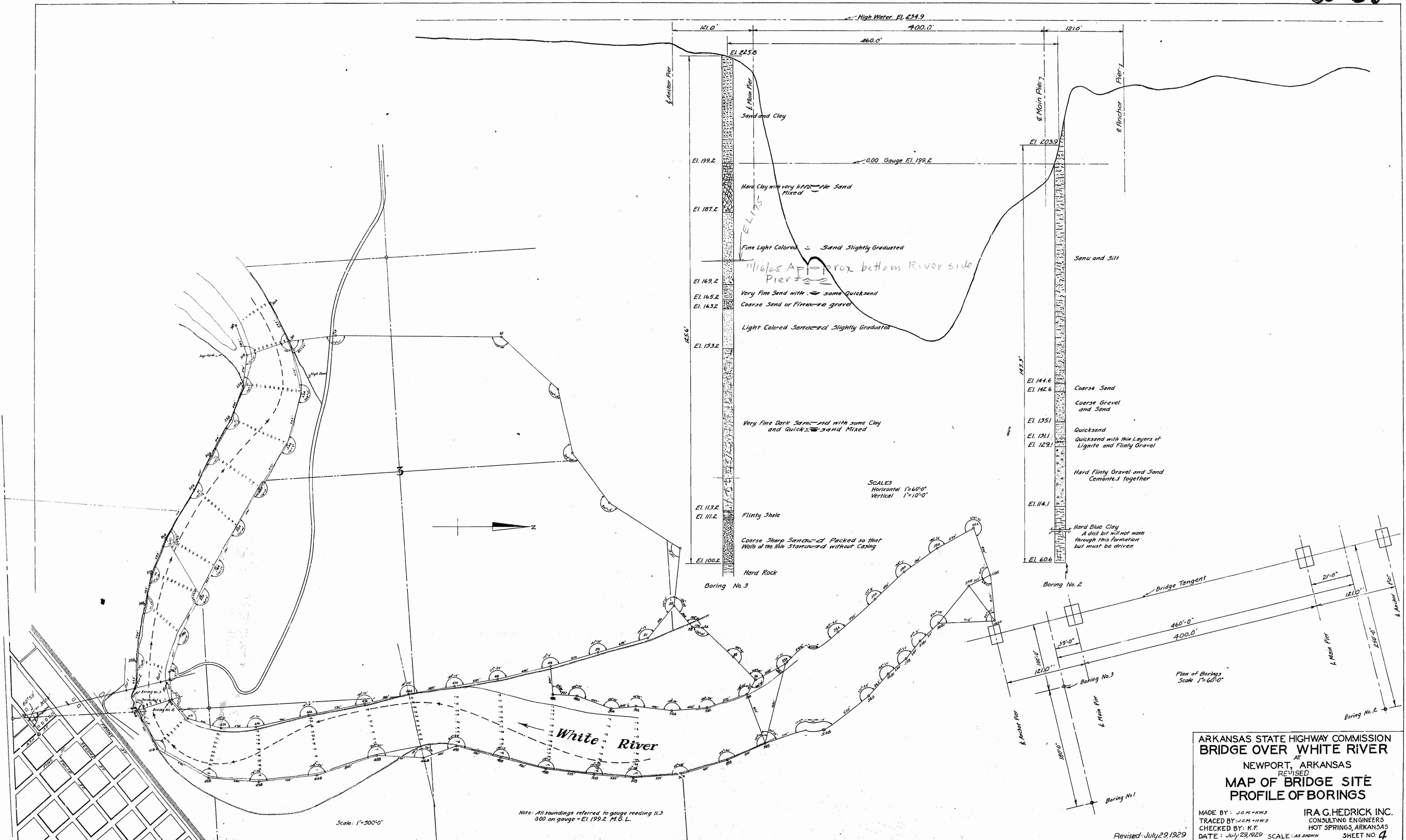
Bents 1 to 15, incl.	El. 229.50
Bent 16	El. 233.20
Bent 17	El. 232.60
Bents 18 to 22, incl.	El. 232.00
Bents 23 to 29, incl.	El. 230.00
Bent 30	El. 225.00
Bents 31 & 32	El. 220.00
Bents 33 to 41, incl.	El. 228.00

ARKANSAS STATE HIGHWAY COMMISSION
 BRIDGE OVER WHITE RIVER
 AT
 NEWPORT, ARKANSAS
 REVISED
 GENERAL PLAN & PROFILE
 ROUTE No. 67 SEC. 16

MADE BY J.G.M.
 TRACED BY J.G.M.
 CHECKED BY K.F.
 DATE: JULY 29, 1929

IRA G. HEDRICK, INC.
 CONSULTING ENGINEERS
 HOT SPRINGS, ARKANSAS
 SCALE: 1" = 50'-0" SHEET NO. 3

Revised Jan. 27, 1930
 Revised Oct. 22, 1929
 Revised Aug. 31, 1929



Scale: 1" = 500.0'

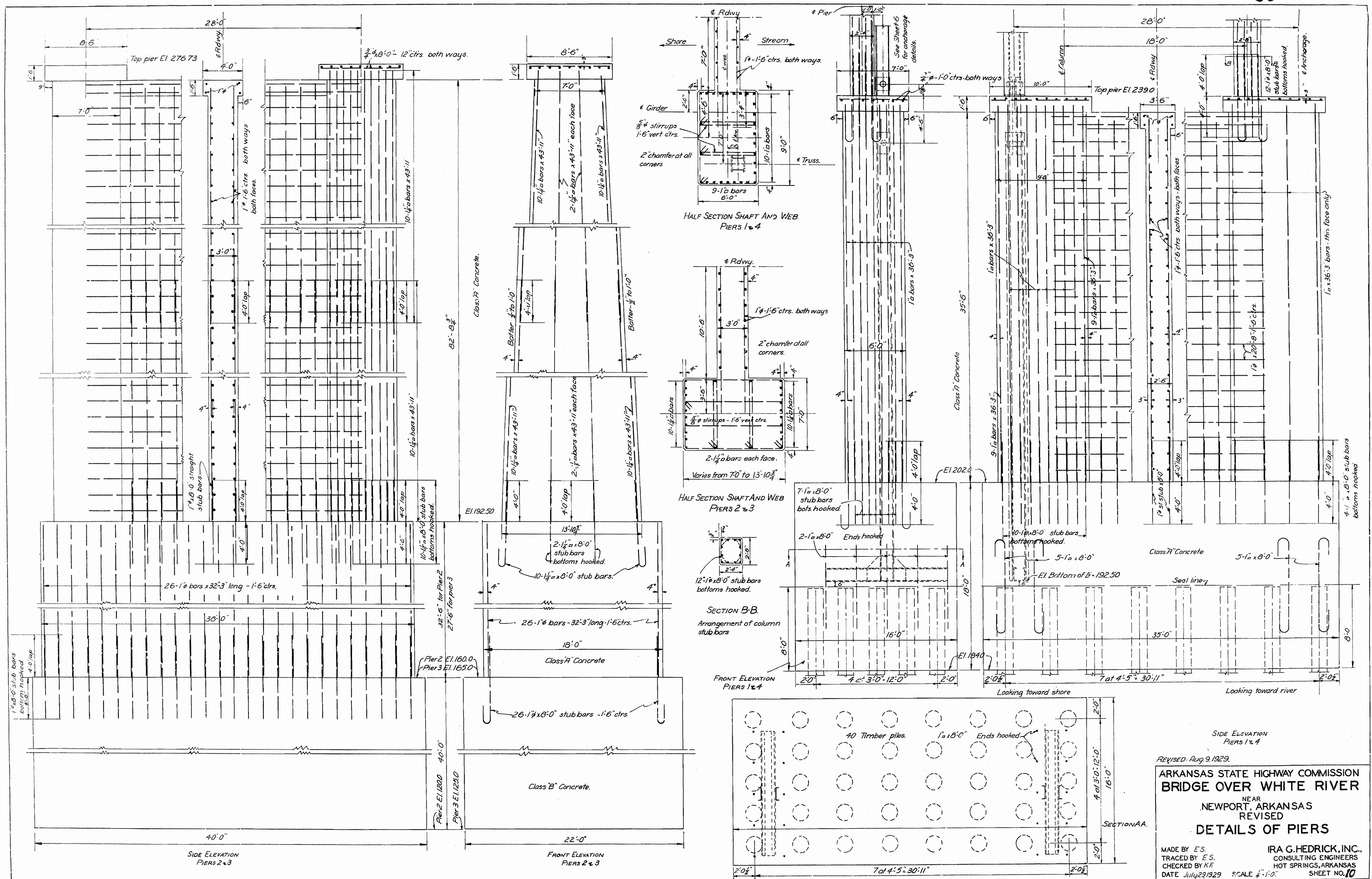
Note: All soundings referred to gauge reading 11.3 0.00 on gauge = El. 199.2 M.G.L.

ARKANSAS STATE HIGHWAY COMMISSION
 BRIDGE OVER WHITE RIVER
 AT
 NEWPORT, ARKANSAS
 REVISED
 MAP OF BRIDGE SITE
 PROFILE OF BORINGS

MADE BY: J.G.M.-HWS
 TRACED BY: J.G.M.-HWS
 CHECKED BY: K.F.
 DATE: July 29, 1929 SCALE: AS SHOWN SHEET NO. 4

IRA G. HEDRICK INC.
 CONSULTING ENGINEERS
 HOT SPRINGS, ARKANSAS

Revised July 29, 1929

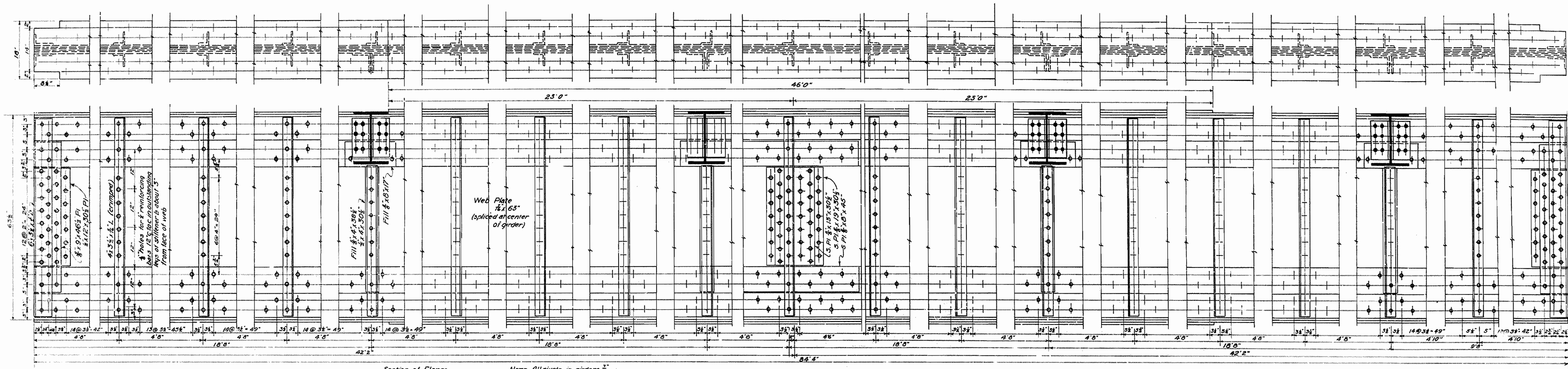


REVISED: Aug. 9, 1929.

ARKANSAS STATE HIGHWAY COMMISSION
 BRIDGE OVER WHITE RIVER
 NEAR
 NEWPORT, ARKANSAS
 REVISED
 DETAILS OF PIERS

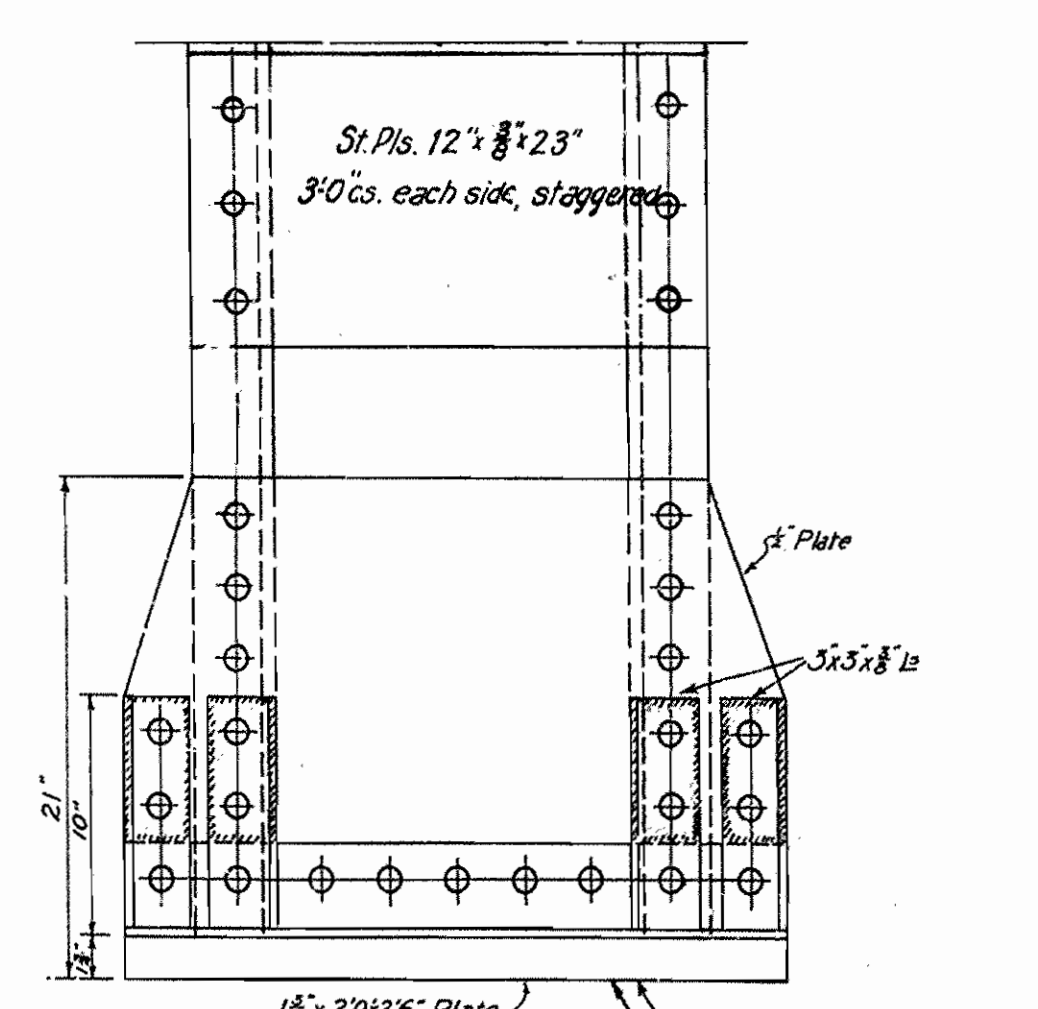
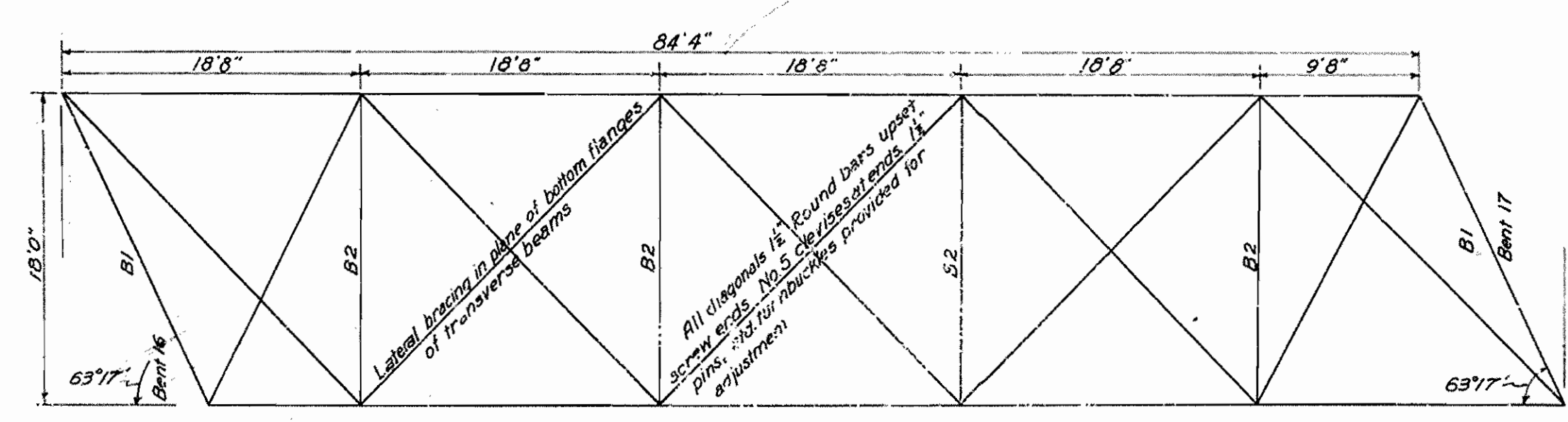
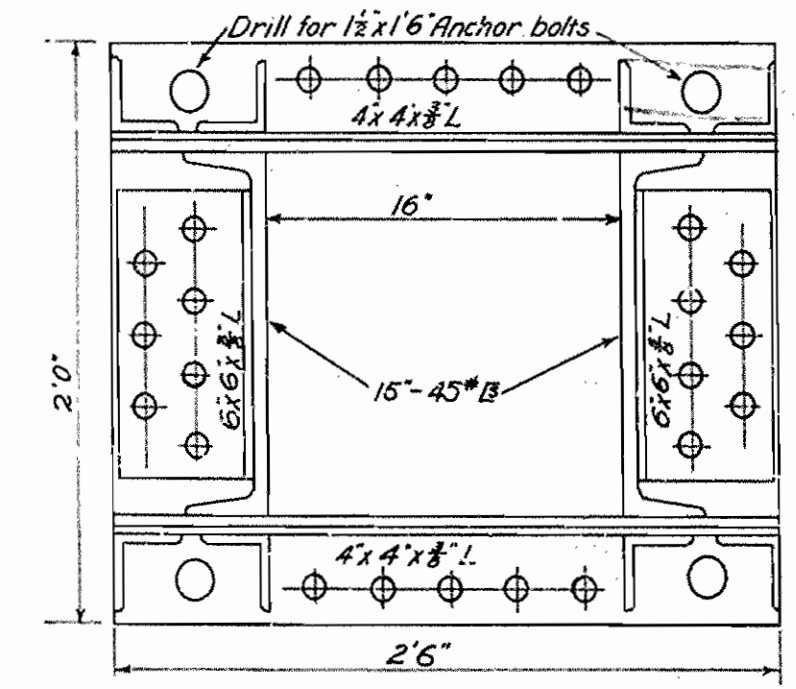
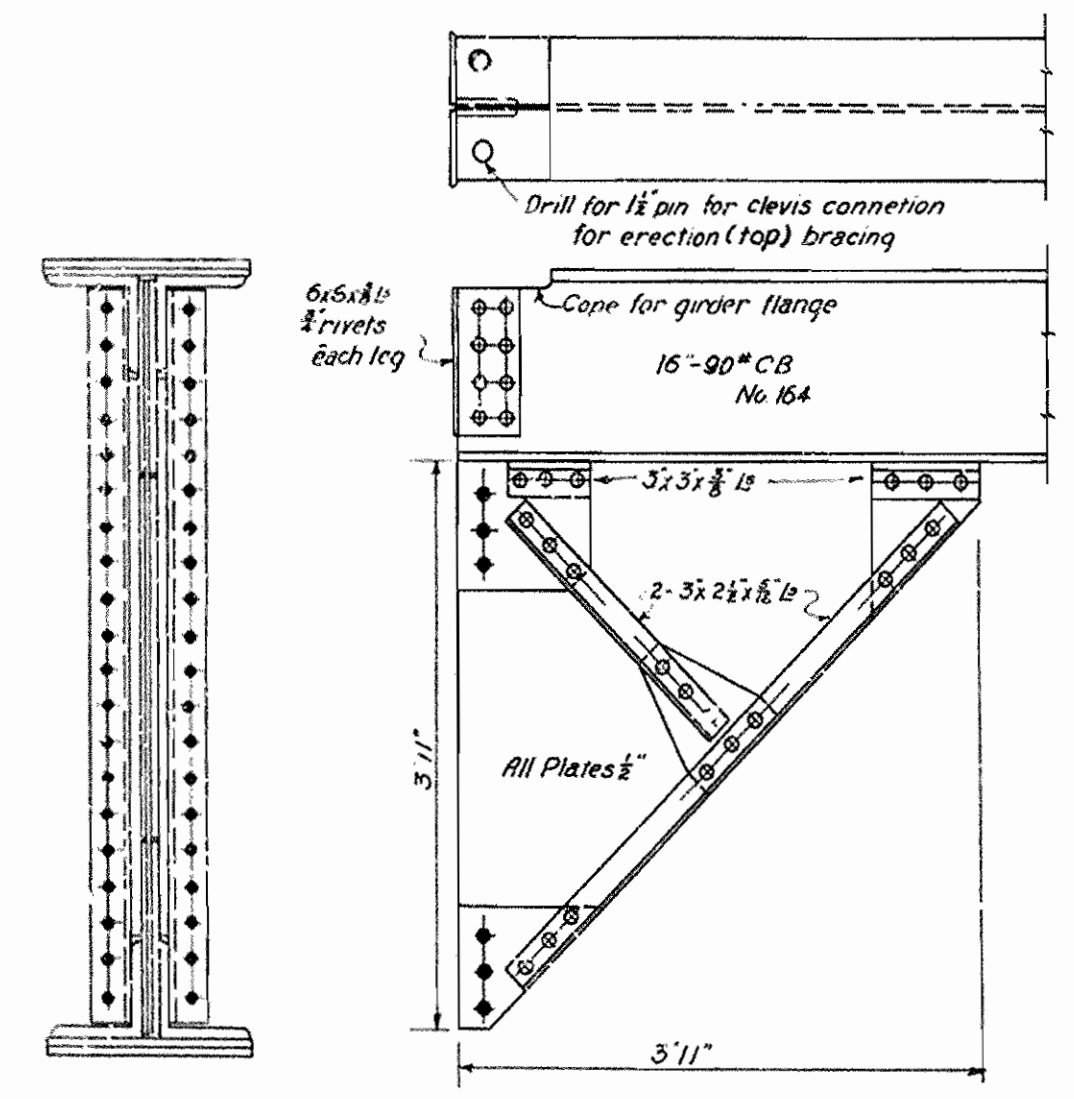
MADE BY E.S.
 TRACED BY E.S.
 CHECKED BY K.F.
 DATE July 29, 1929

IRA G. HEDRICK, INC.
 CONSULTING ENGINEERS
 HOT SPRINGS, ARKANSAS
 SHEET NO. 10

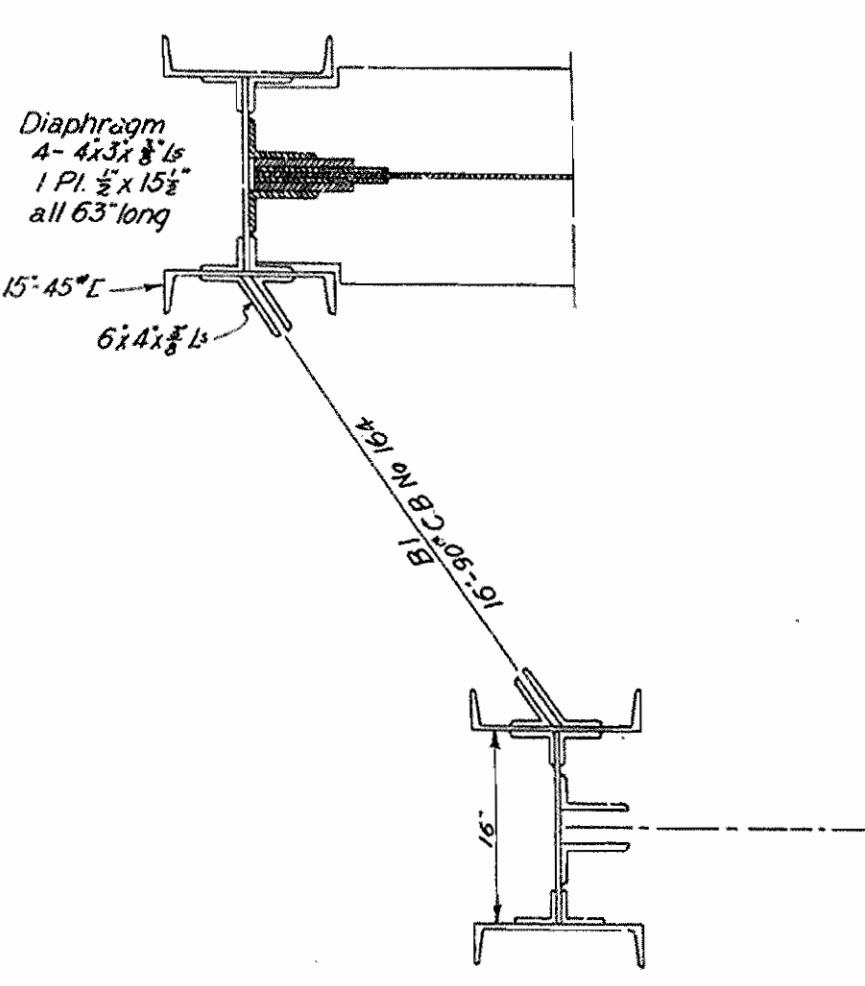


Section of Flange
 2-8x8 1/2" L - 84' 4"
 2-side pl 3x16" - 84' 4"
 1-C.P. 1/2"x10" - 84' 4"
 1-C.P. 1/2"x10" - 45' 0"

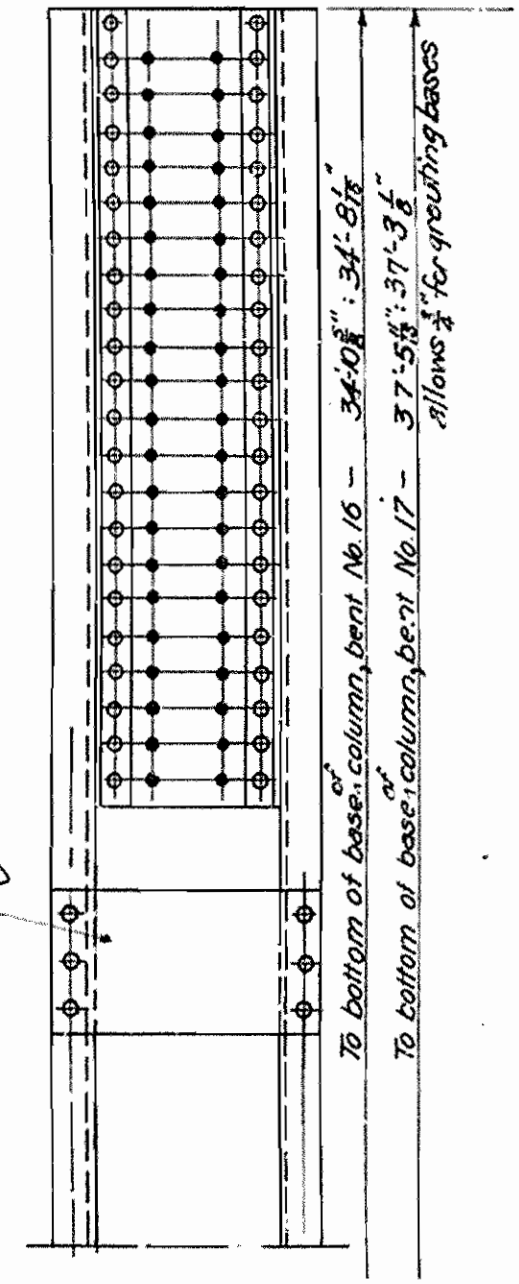
NOTE: All rivets in girders 3/4" except as noted.



BASE OF COLUMNS
 SCALE: 1 1/2"=1'-0"



COLUMN DETAILS
 SCALE: 3/4"=1'-0"



COLUMNS DETAILS
 SCALE: 3/4"=1'-0"

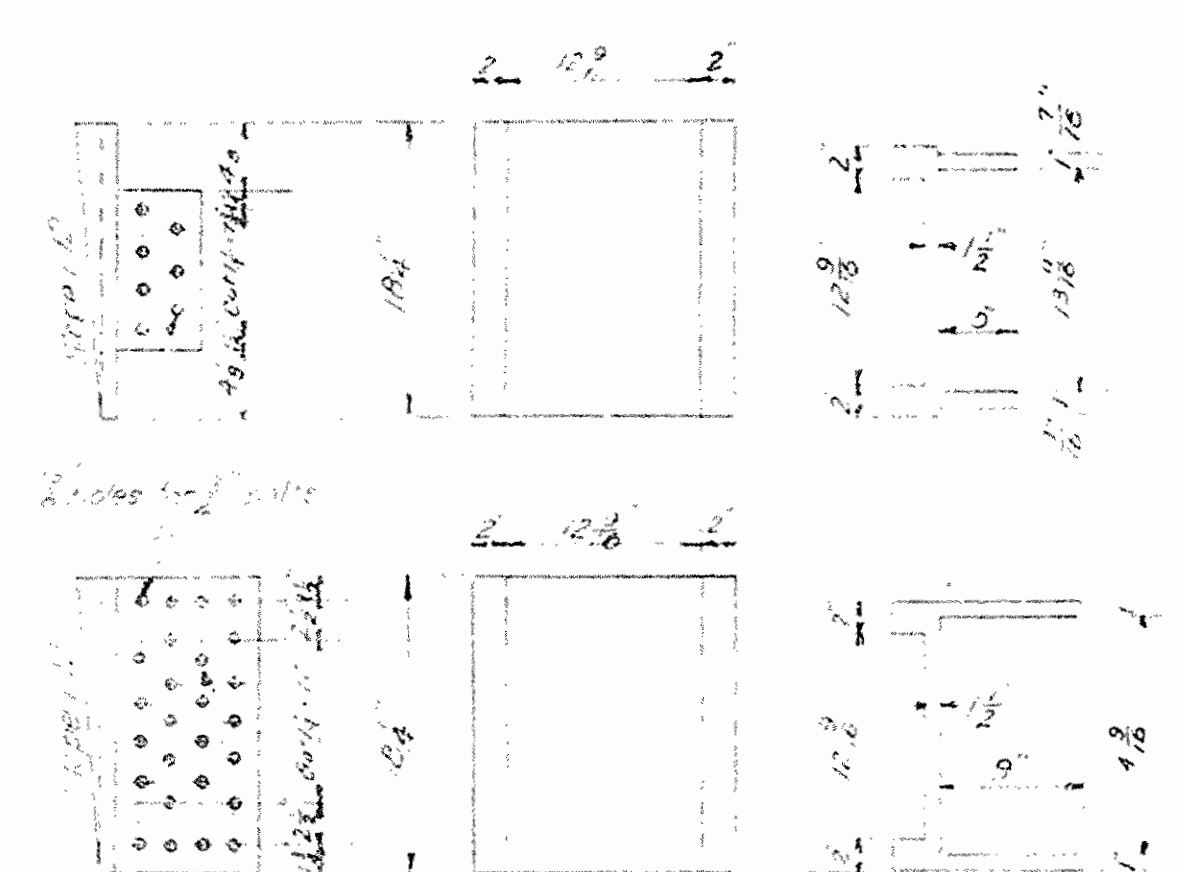
GENERAL NOTES
 Shop rivets 3/4" Field rivets 3/8", except as noted
 Mill edges of web at splice to true length
 All stiffeners milled at both ends for bearing on flanges.
 Crimp all intermediate stiffeners
 Fill under stiffeners at transverse beams
 No steel shown on this sheet to be painted
 Rivet holes punched 1/8" less than nominal diameter of rivet and reamed to 1/8" over, except in lateral bracing punch full size.

ARKANSAS STATE HIGHWAY COMMISSION
 BRIDGE OVER WHITE RIVER
 AT NEWPORT, ARKANSAS
 REVISED
 PLATE GIRDER SPAN

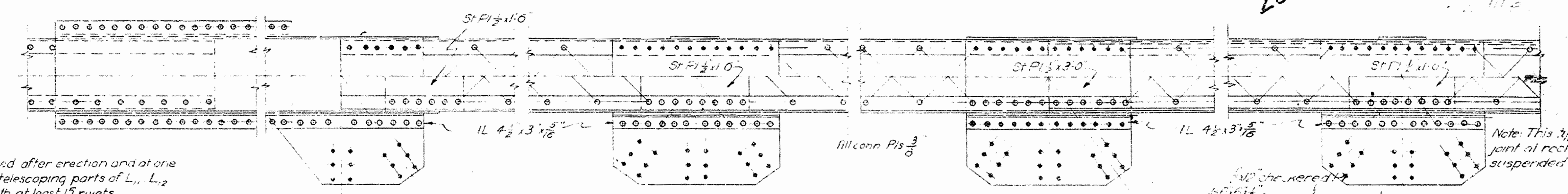
Revised Oct. 7, 1929
 Revised July 29, 1929.

MADE BY I.D.
 TRACED BY I.D.
 CHECKED BY J.S.W.
 DATE: JULY 29, 1929

IRAG HEDRICK, INC.
 CONSULTING ENGINEERS,
 HOT SPRINGS, ARK.
 SCALE: AS SHOWN SHEET NO. 11

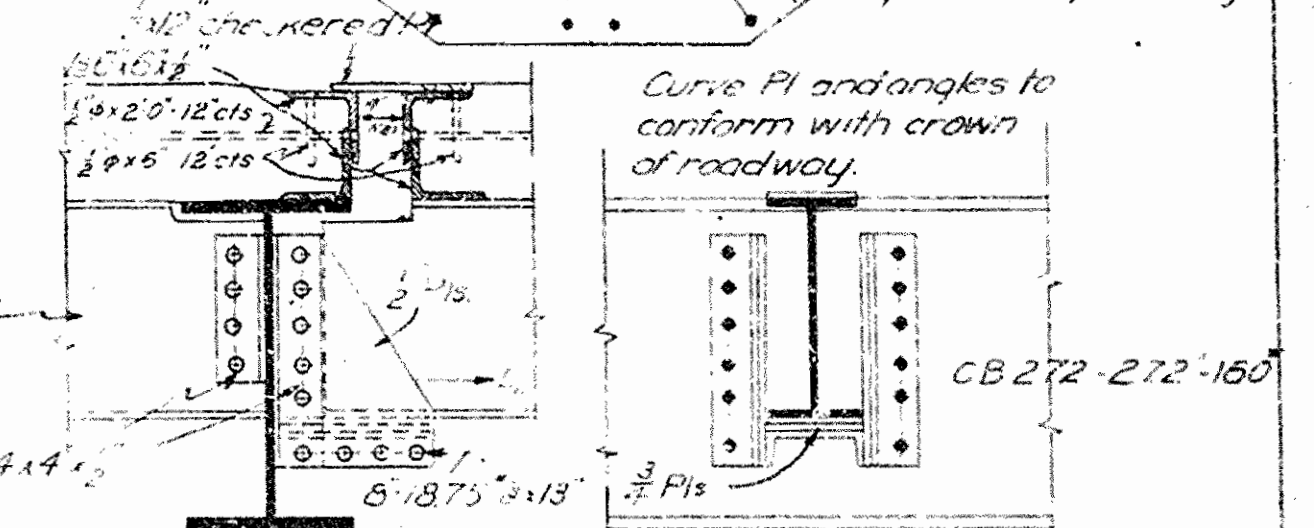


Note: Wedges to be removed after erection and at one end of suspended span, telescoping parts of L_{11} , L_{12} to be riveted together with at least 15 rivets. Incompressible parts of these members to be saturated with asphaltic paint before assembling.



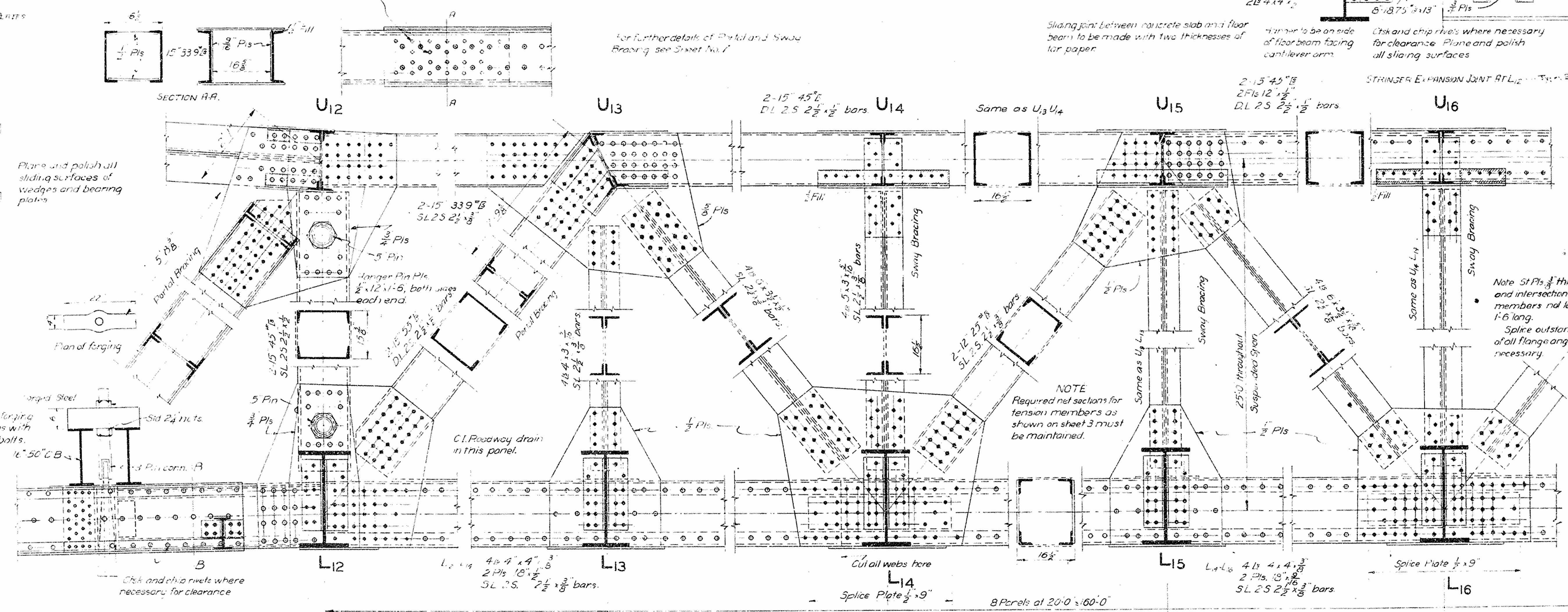
All longitudinal struts: 2B 5 x 2 1/2 x 1/8, SL 2 1/8

All diagonals and transverse struts: 4B 3 x 2 1/2 x 1/8, St. Pl. 1/2 x 10, SL 2 1/8



Slang joint between concrete slab and floor beam to be on side of floor beam facing cantilever arm.

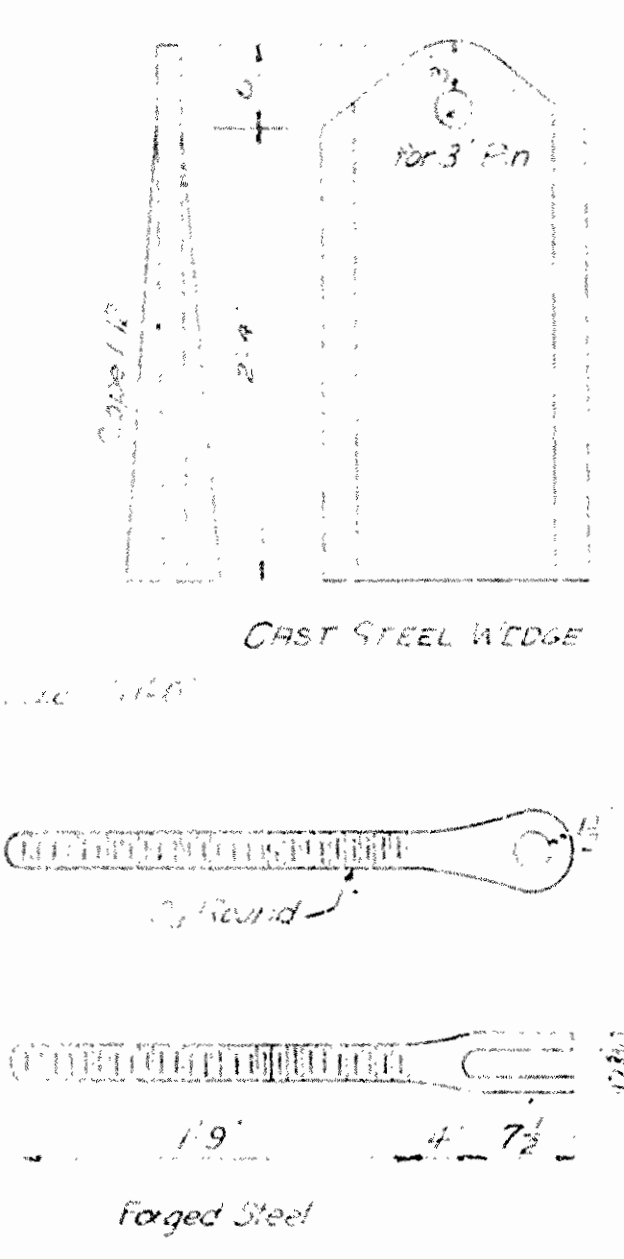
Check and chip rivets where necessary for clearance. Plane and polish all sliding surfaces.



Plane and polish all sliding surfaces of wedges and bearing plates.

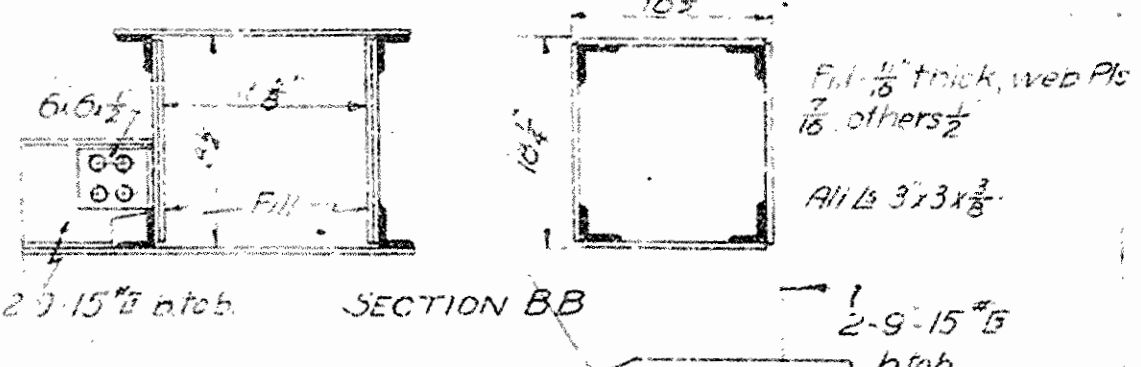
NOTE: Required net sections for tension members as shown on sheet 3 must be maintained.

Note: St. Pls 1/2 thick at ends and intersections of web members not less than 1'-6" long. Splice outstanding legs of all flange angles where necessary.



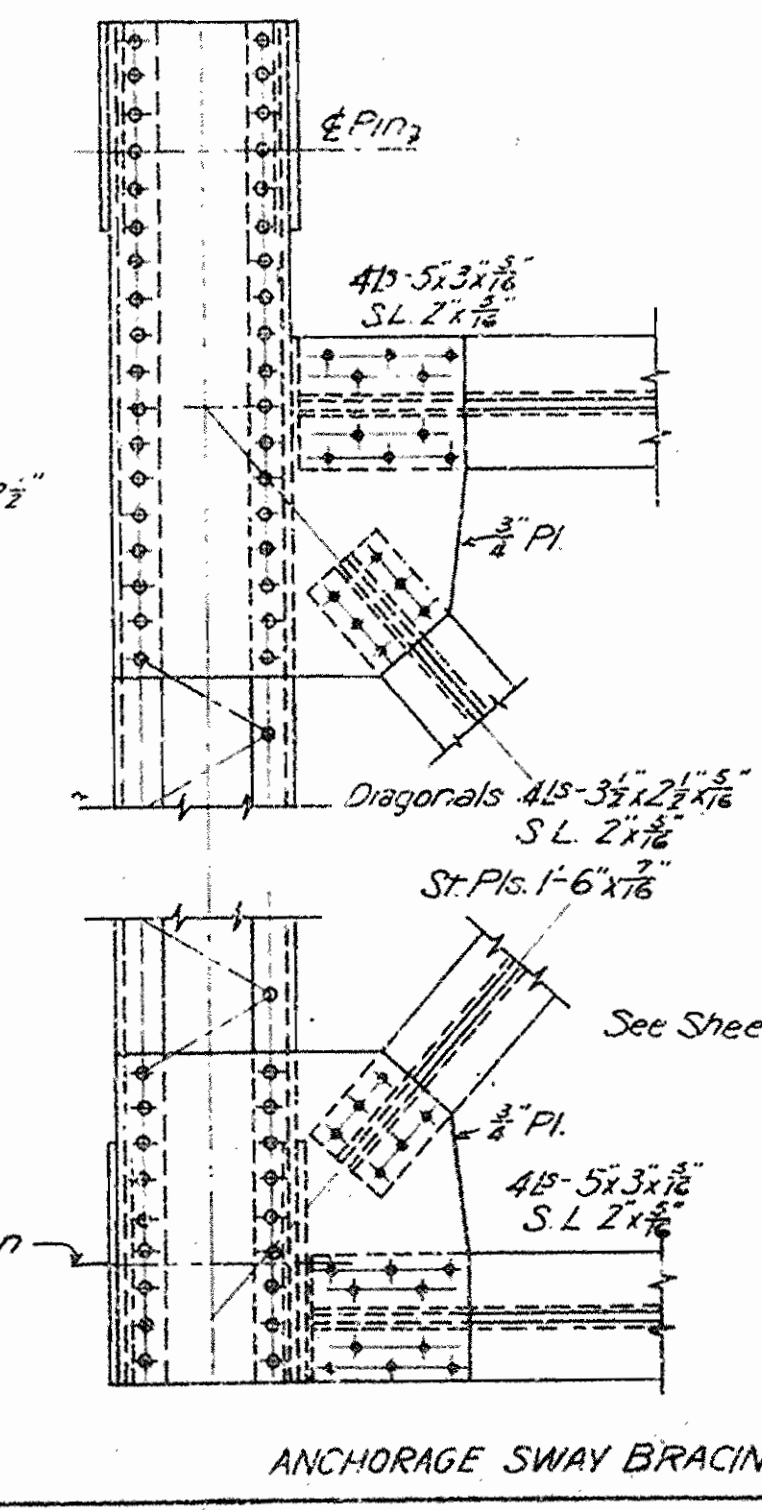
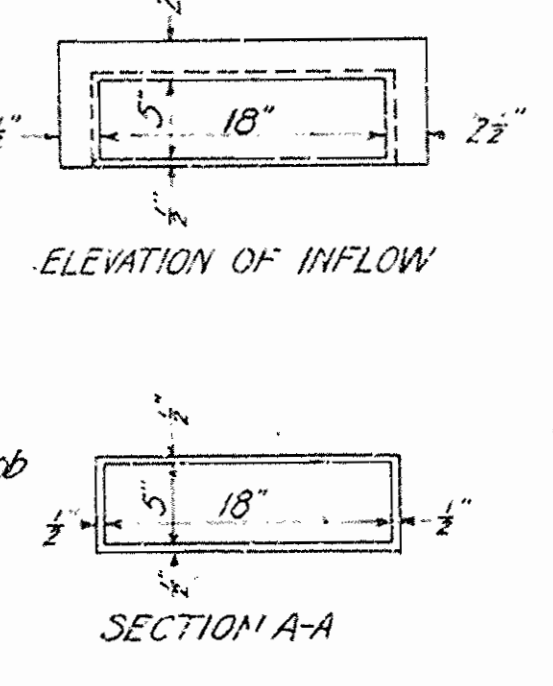
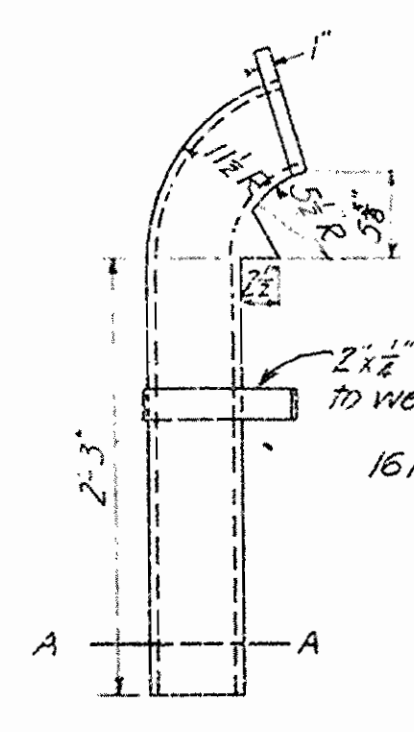
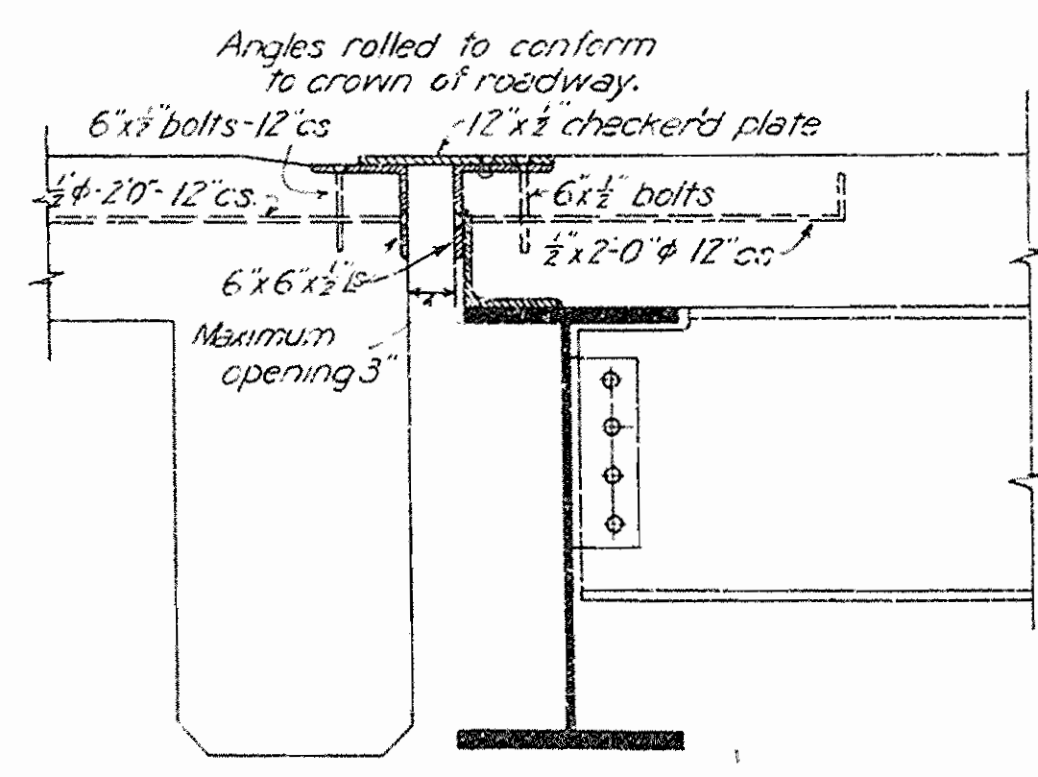
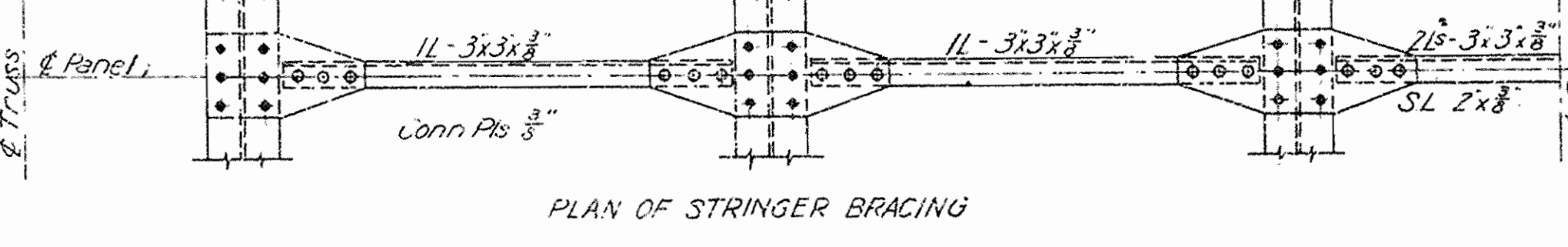
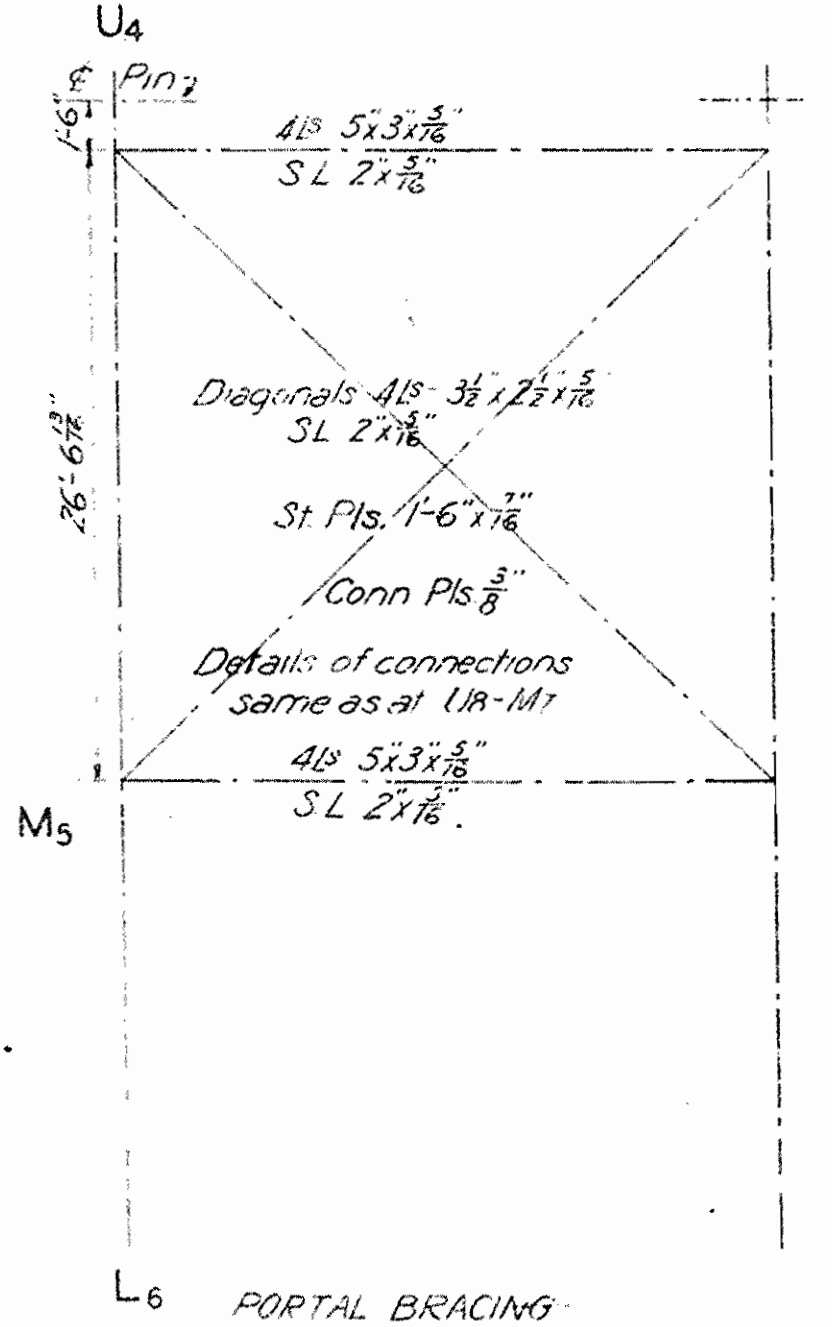
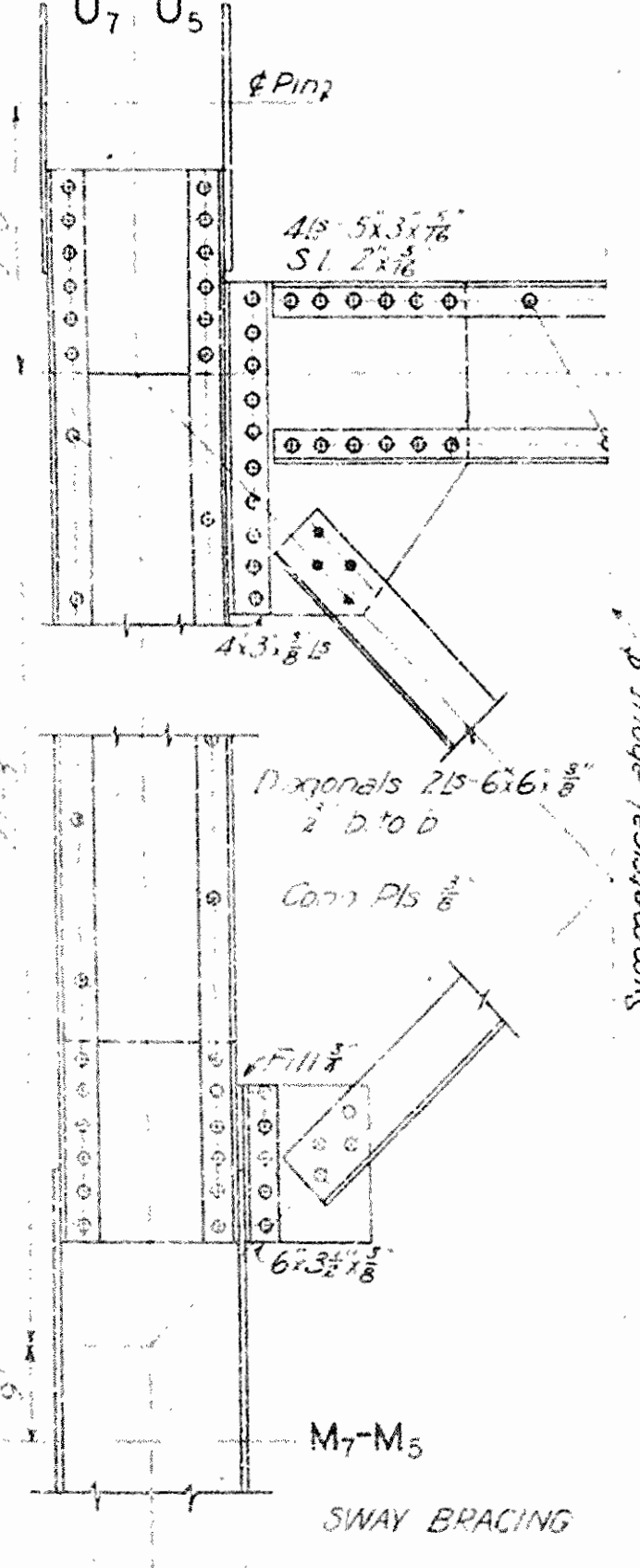
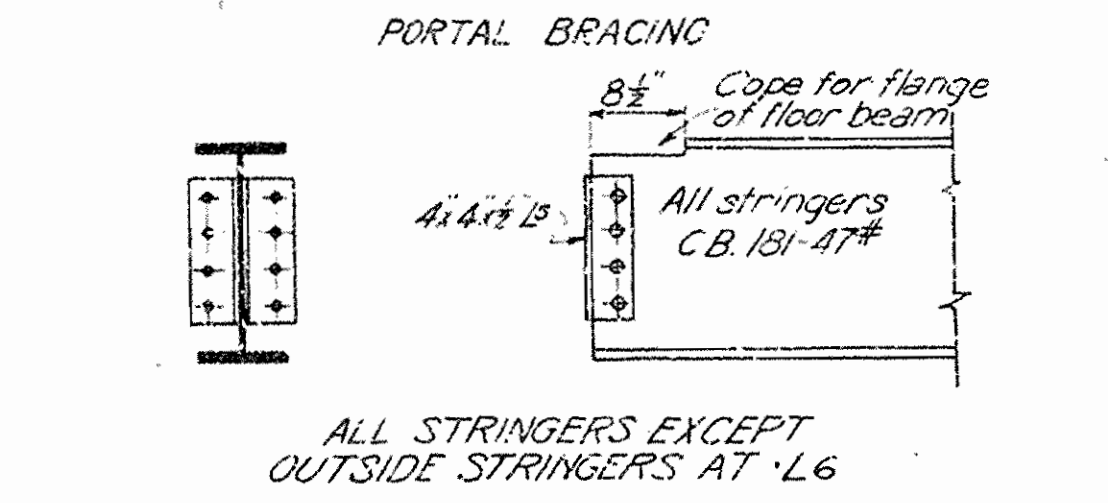
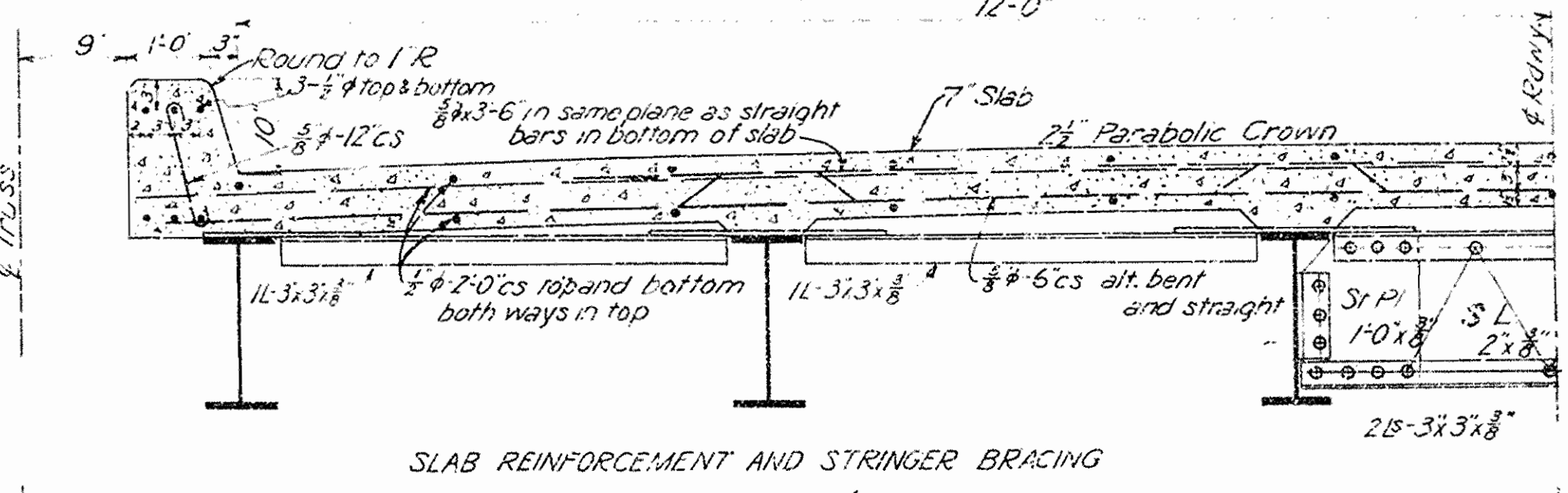
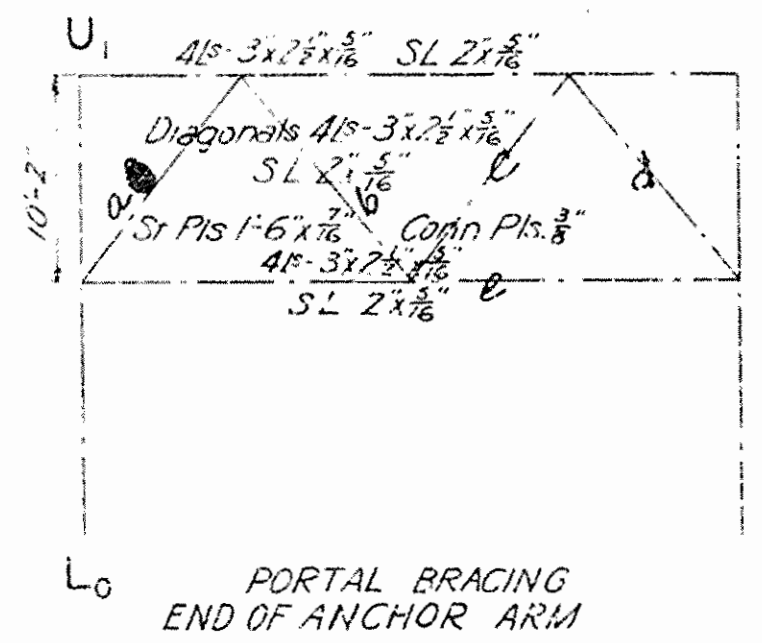
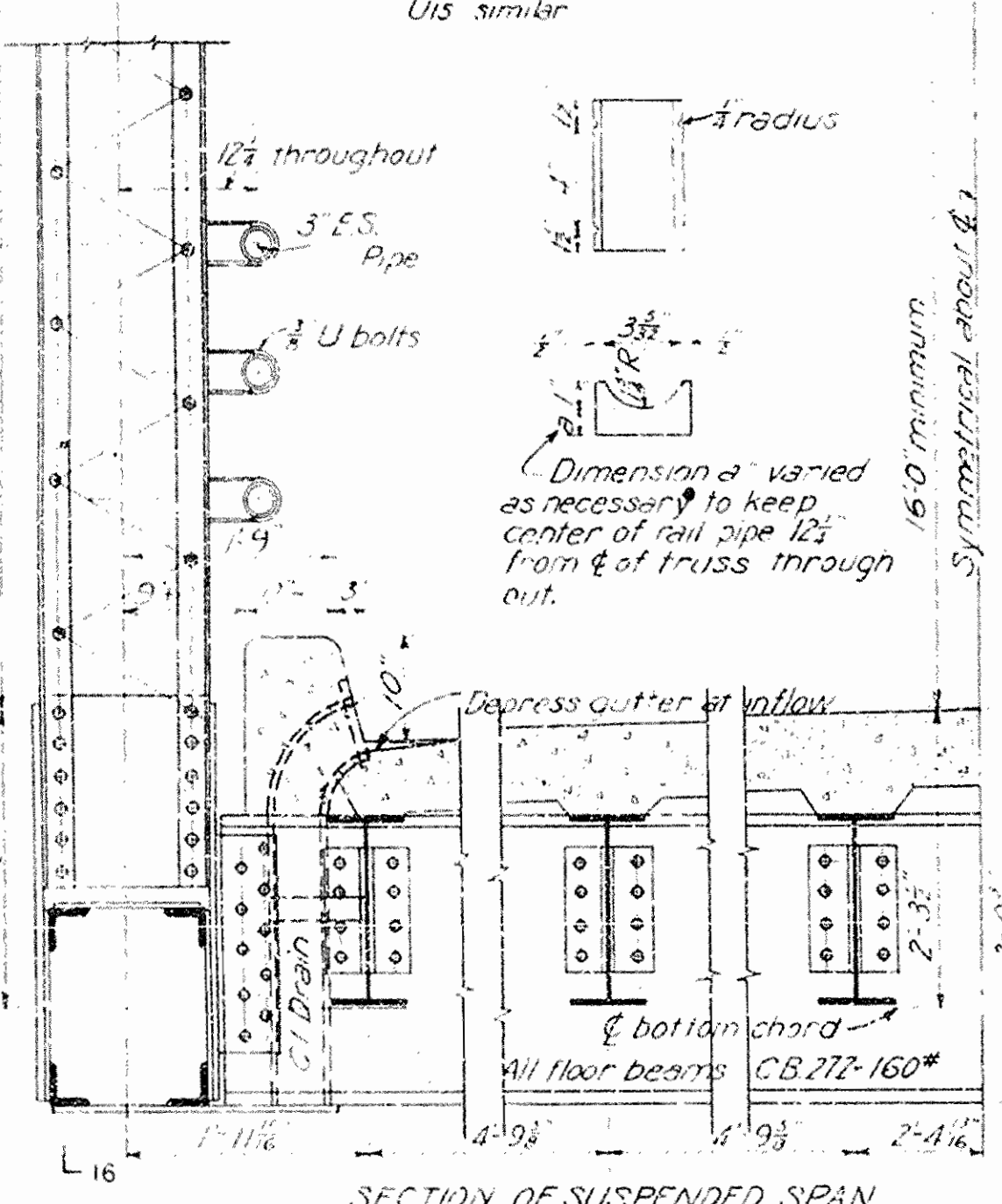
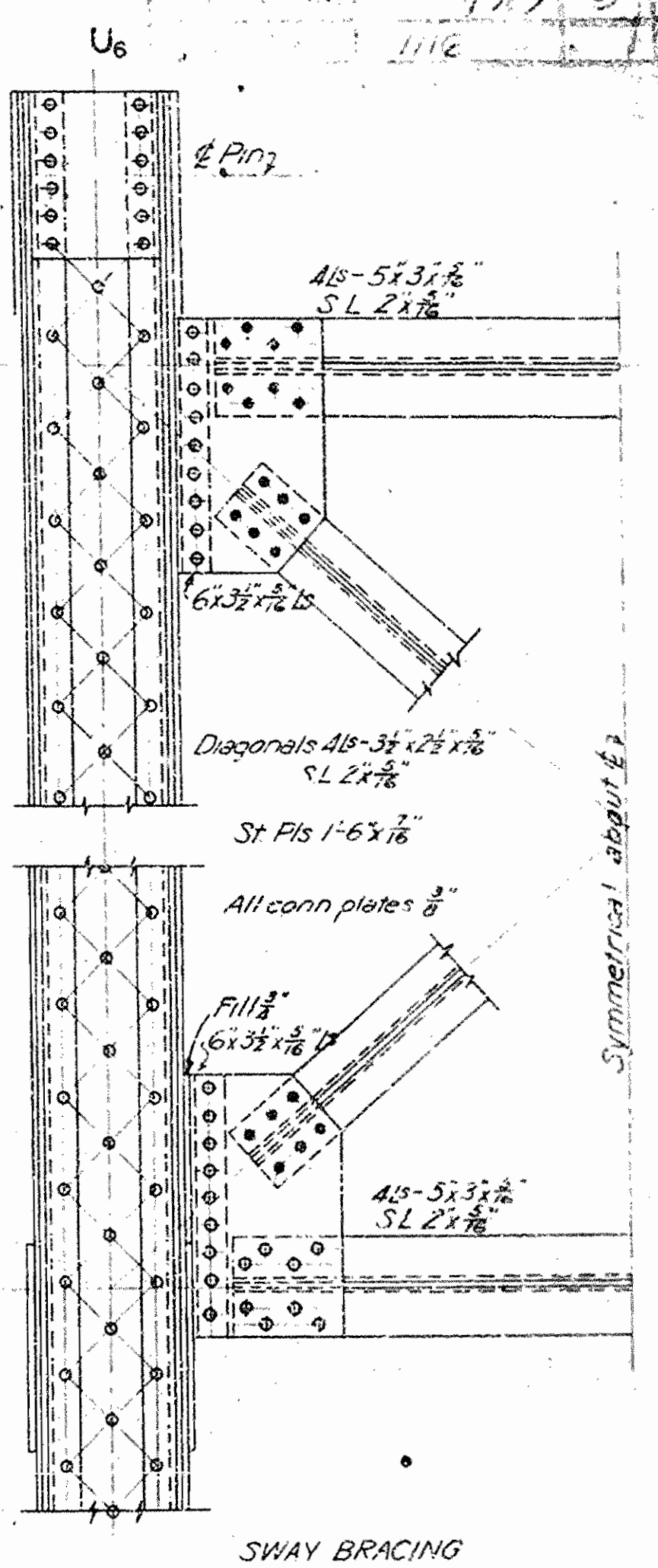
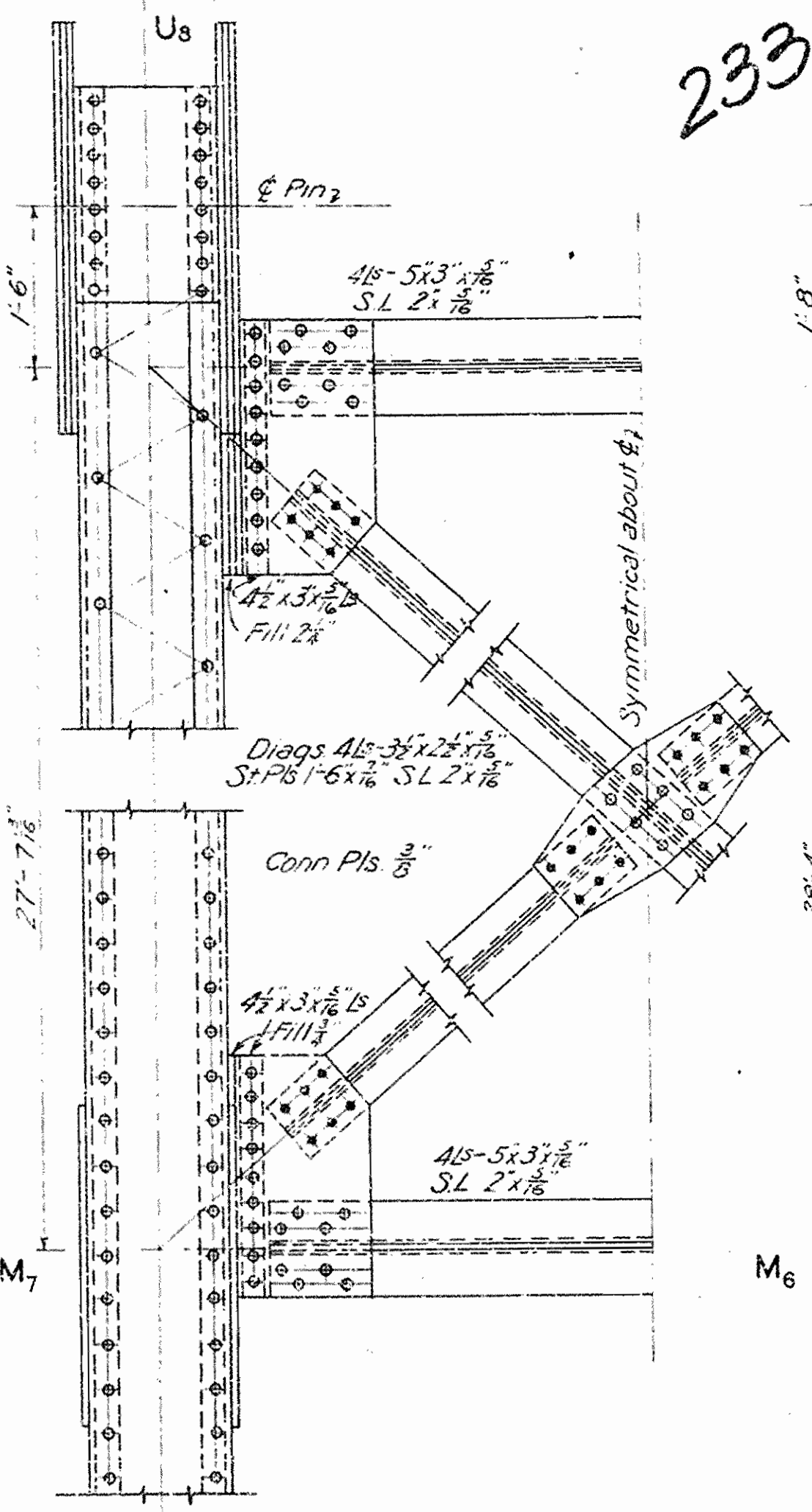
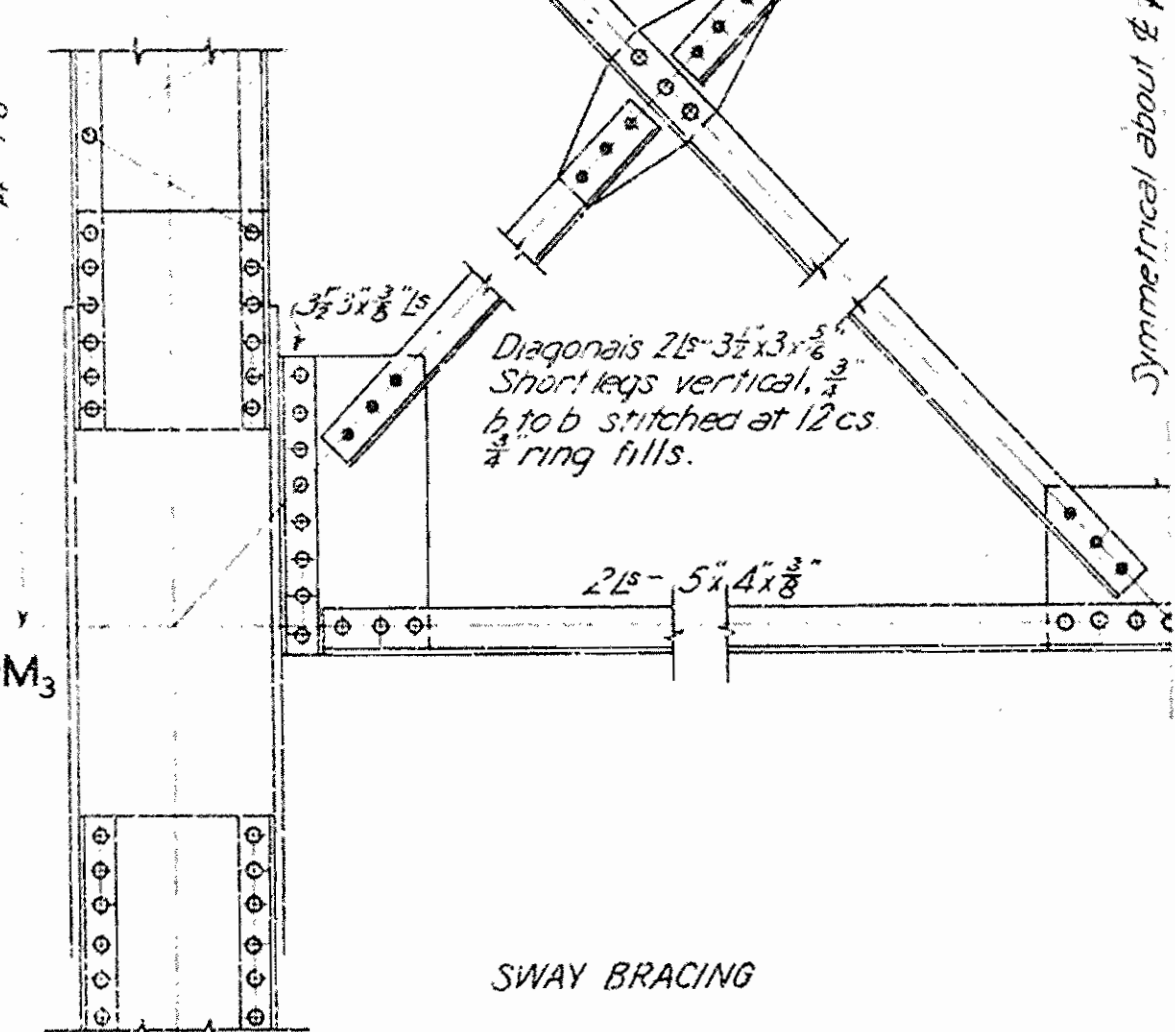
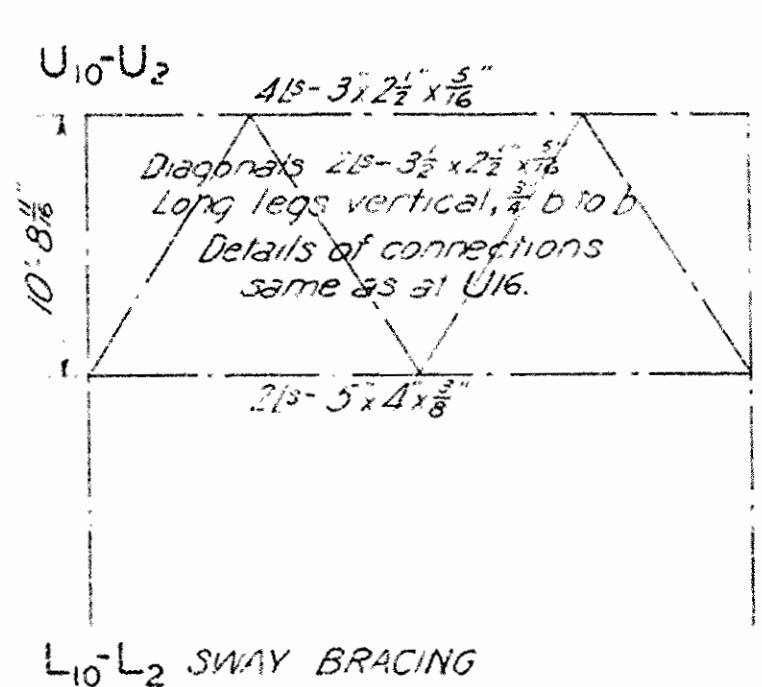
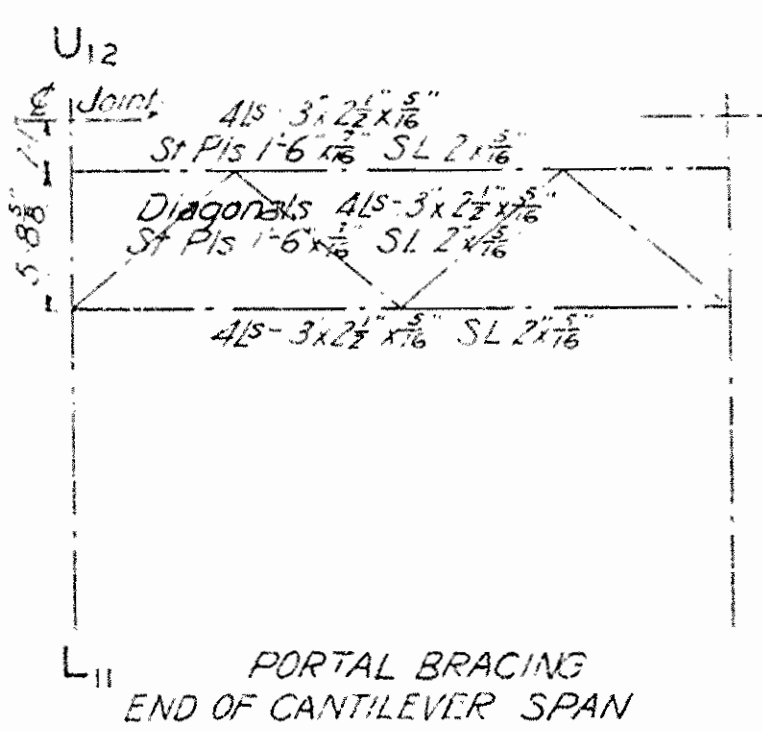
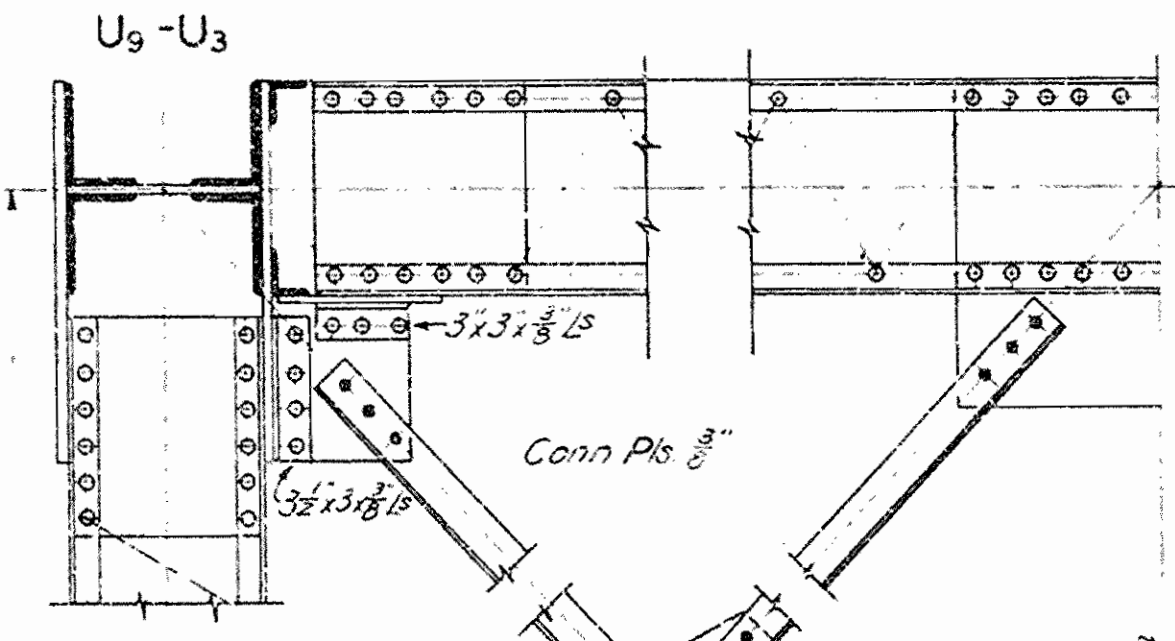
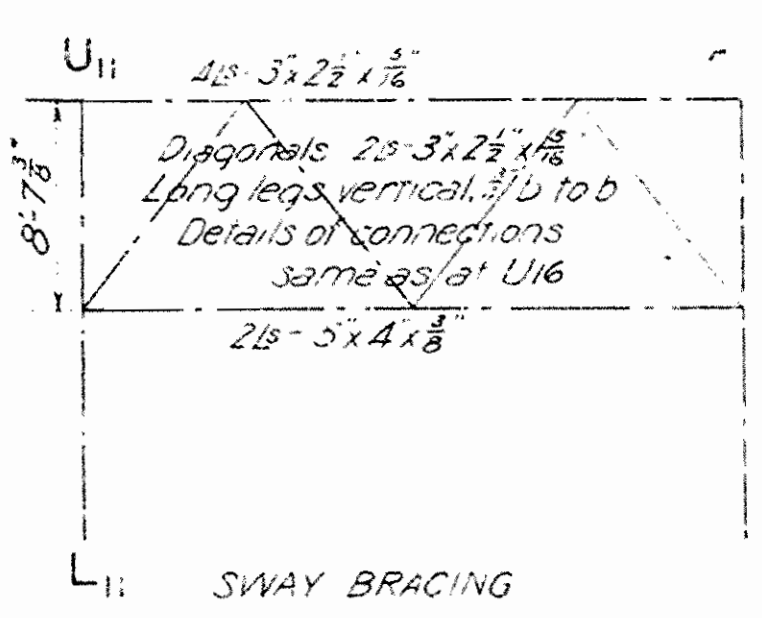
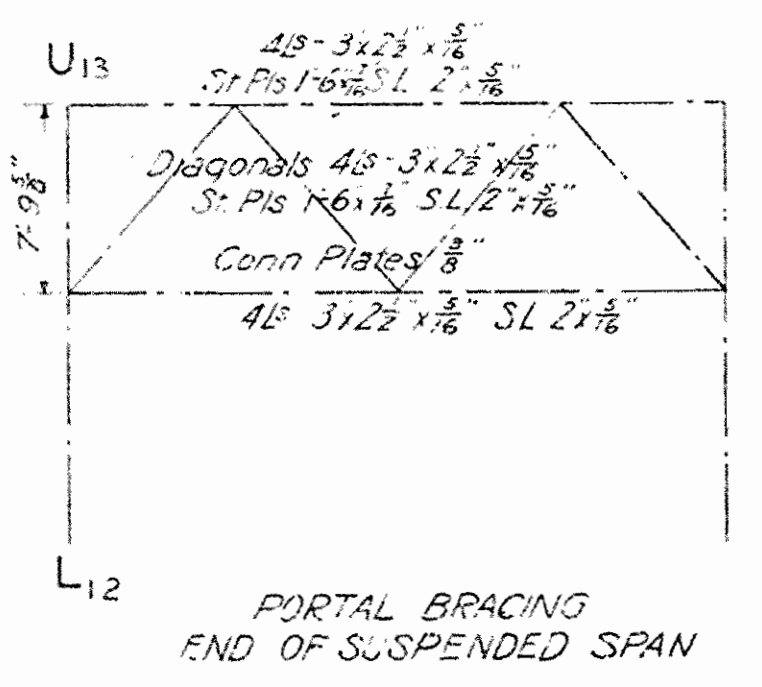
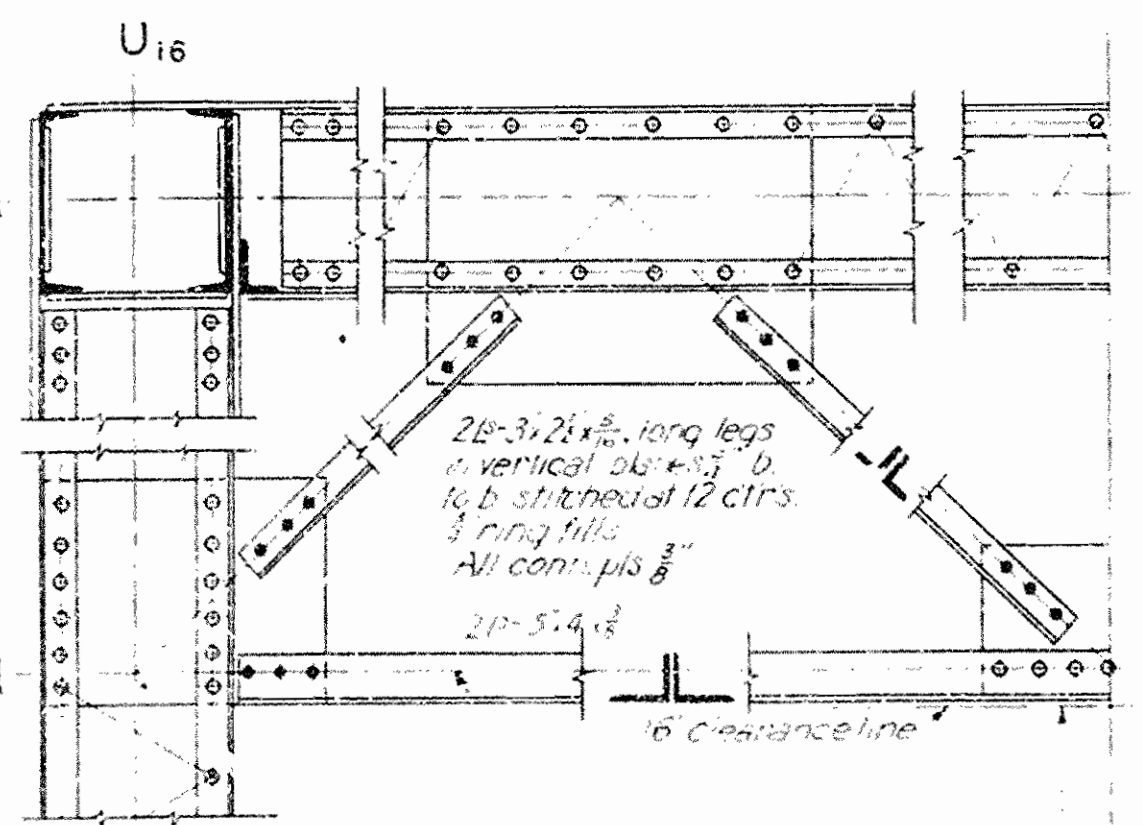
Fasten forging to beams with 4 to U-bolts.

GENERAL NOTES:
 All metal medium steel unless otherwise noted.
 All steel bolts 3/8 or All field rivets 3/4 C.
 Rivet heads punches 1/8 in diameter and heads 1/2 in greater except in laterals and heavy bracing where punch full size.
 Metal over 1/2 thick to be drilled.
 Maintain thickness of metal 1/8.
 Meeting ends of all compression members filed.
 Gaps to be assembled in shop and field holes reamed to perfect match.
 All metal to receive one coat of paint in shop. Single coat 60°, Double coat 45°, and riveted at intersections.



See sheet No 7 for details of stringer connections and bracing.

Scales: Skeleton 1/4" = 1'-0", Details 1/2" = 1'-0"



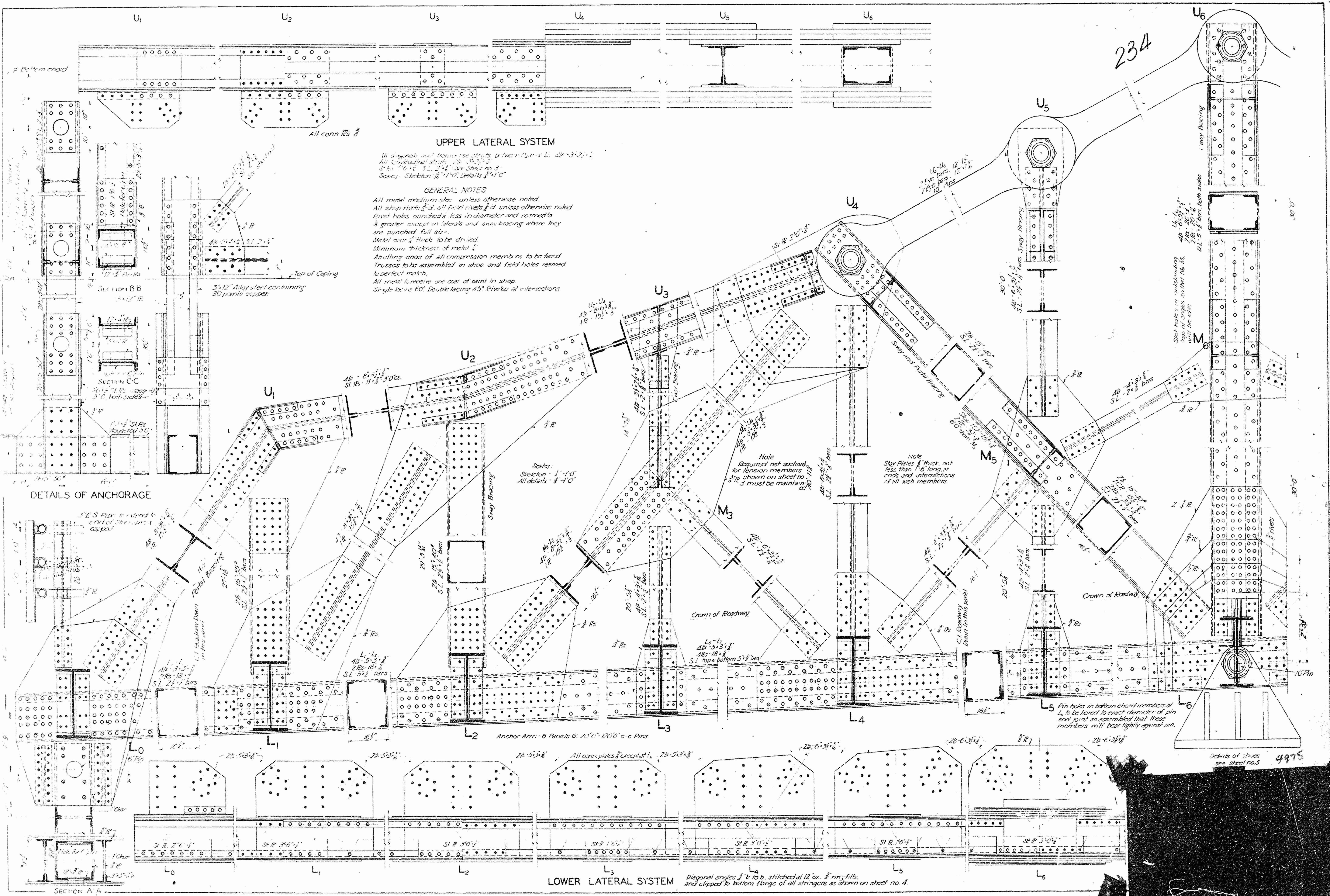
GENERAL NOTES.
 All metal medium steel unless otherwise noted
 All shop rivets 3/4\" d All field rivets 5/8\" d
 Rivets holes punched 1/8\" less in diameter and reamed to fit
 greater, except in laterals and sway bracing where
 punch fullsize. Metal over 1/2\" thick to be drilled.
 Minimum thickness of metal 1/4\"
 Anchor bolts soft steel, fixed ends.
 Abutting ends of all compression members laced.
 Truss to be assembled in shop and field holes reamed
 to perfect match.
 All metal to receive one coat of paint in shop
 Single lacing 60°. Double lacing 45° and riveted at
 intersections.

SCALES
 All details - 1/4\"=1'-0\"
 except as noted

4974

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1979 9 12



UPPER LATERAL SYSTEM

All diagonals and transverse struts, unless otherwise noted, 4" x 3" x 1/2"
 All longitudinal struts, 2" x 2" x 1/2"
 Scales: Skeleton 1/4" = 1'-0", Details 1/8" = 1'-0"

GENERAL NOTES

All metal medium steel, unless otherwise noted.
 All shop rivets 3/4", all field rivets 5/8" unless otherwise noted.
 Rivet holes punched 1/8" less in diameter and reamed to 1/8" greater, except in laterals and sway bracing where they are punched full size.
 Metal over 1/2" thick to be drilled.
 Minimum thickness of metal 1/2".
 Abutting ends of all compression members to be faced.
 Trusses to be assembled in shop and field holes reamed to perfect match.
 All metal to receive one coat of paint in shop.
 Struts to be 60° Double lacing 45° rivets at intersections.

Scales:
 Skeleton 1/4" = 1'-0"
 All details 1/8" = 1'-0"

Note:
 Required net sections for tension members shown on sheet no. 3 must be maintained.

Note:
 Stay Plates 1/2" thick, not less than 1'6" long, at ends and intersections of all web members.

Pin holes in bottom chord members at L₁ to be bored to exact diameter of pin and joint so assembled that these members will bear lightly against pin.

Details of ends see sheet no. 5 4915

Anchor Arm: 6 Panels @ 20'0" = 120'0" c-c Pins

LOWER LATERAL SYSTEM

Diagonal angles 1/2" x 10" b, stitched at 12" c/s. 1/2" ring fills, and clipped to bottom flange of all stringers as shown on sheet no. 4.

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DETAILS OF ANCHORAGE

SECTION A-A

All conn. R₃ 3/8"

Top of Coping

3" x 12" Alloy steel containing 30 parts copper

SECTION C-C

SECTION B-B

SECTION A-A

SECTION A-A

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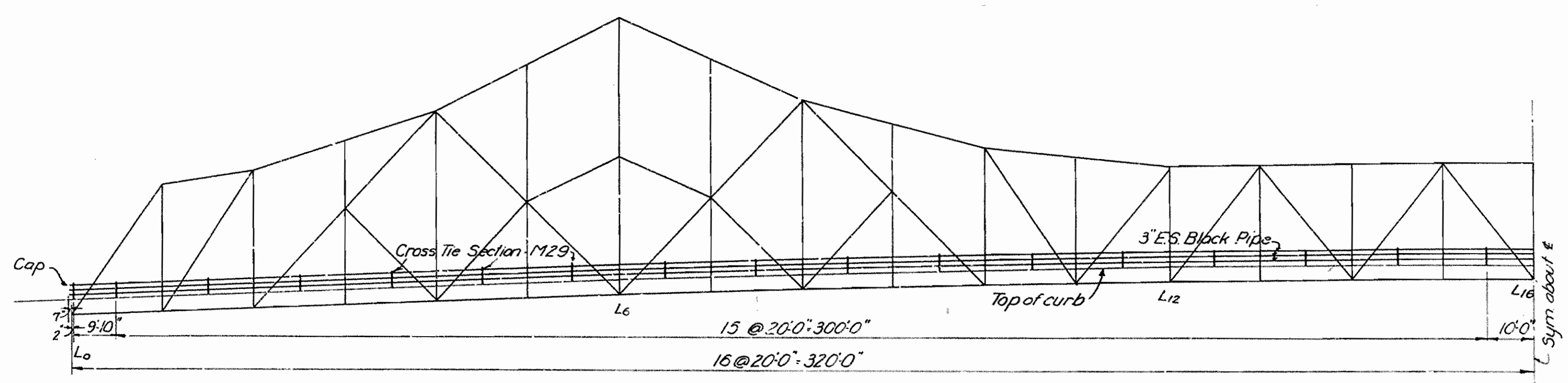
10'0"

10'0"

10'0"

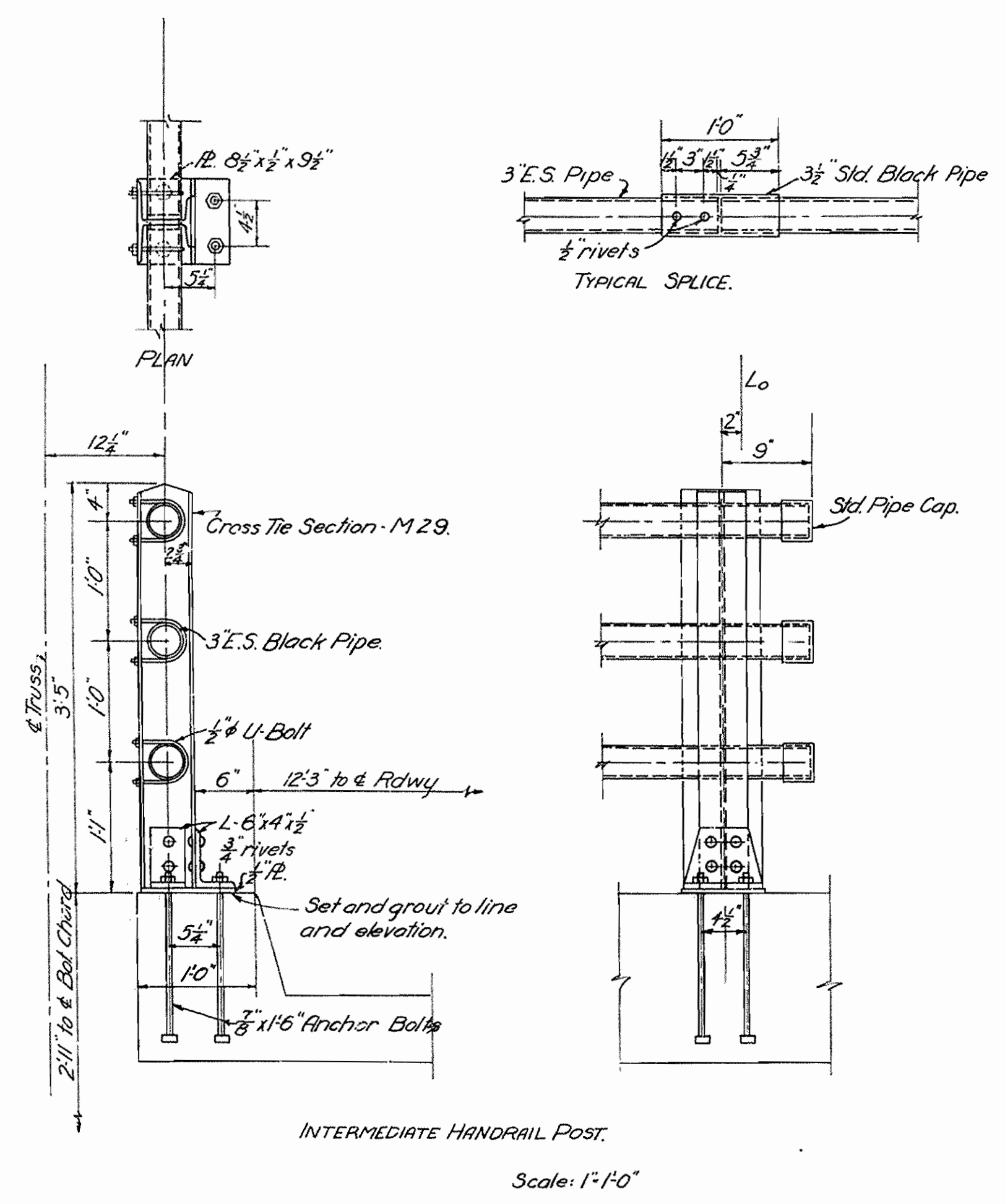
10'0

TO ROAD DIST. NO.	STATE	PROJ. NO.	LOCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.		1929	11	12
JOB No.		111C			

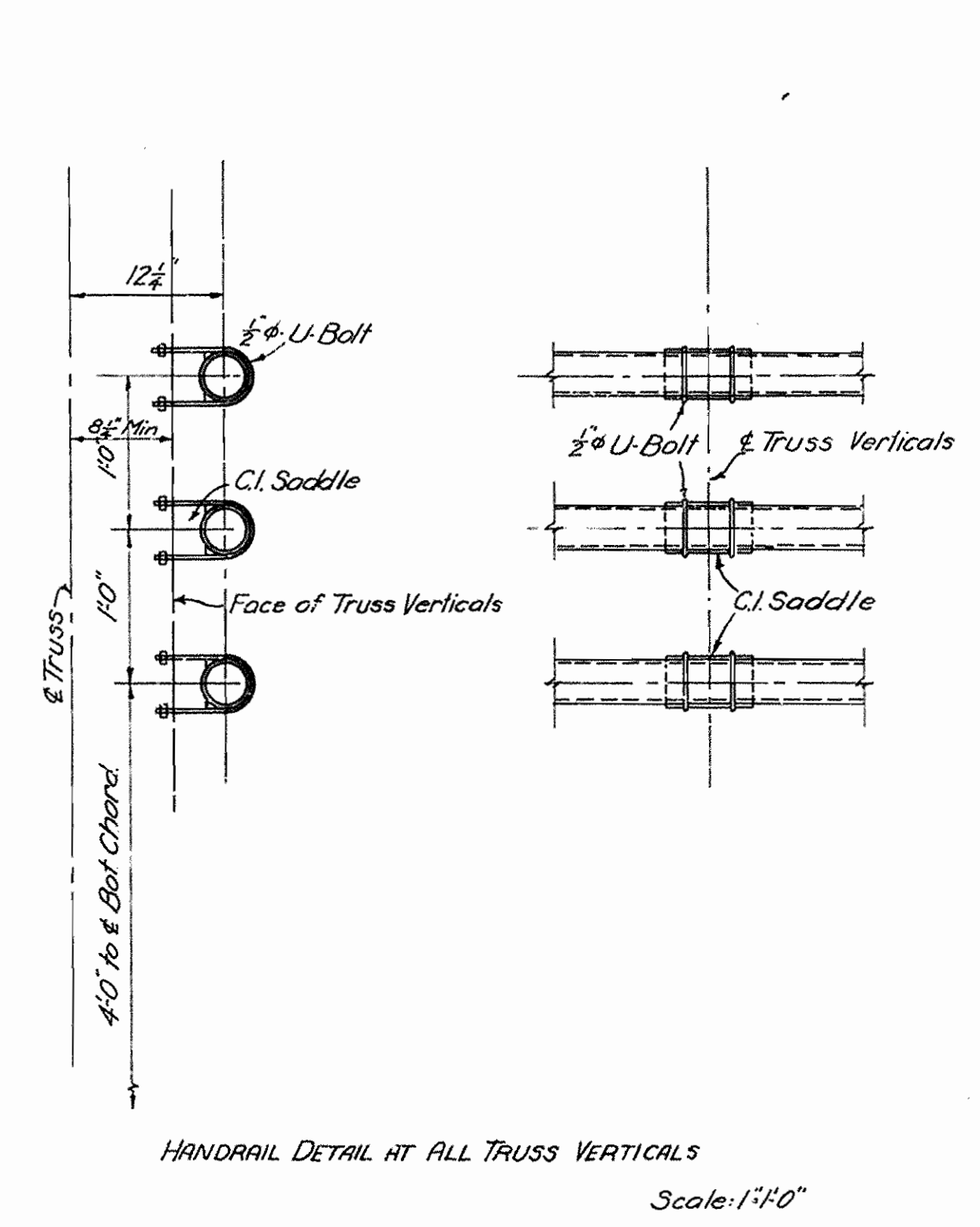


Note: Use random lengths of pipe with plain ends. Keep splices clear of all vertical posts. Cap pipe at end of structure.

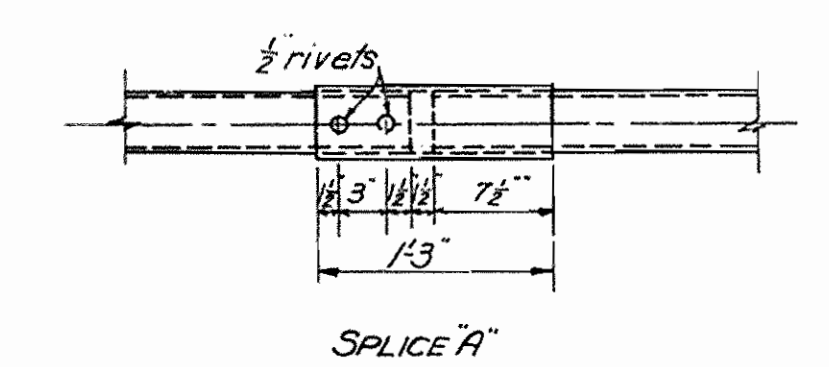
ARRANGEMENT OF INTERMEDIATE HANDRAIL POSTS.
Scale: 1"=20'0"



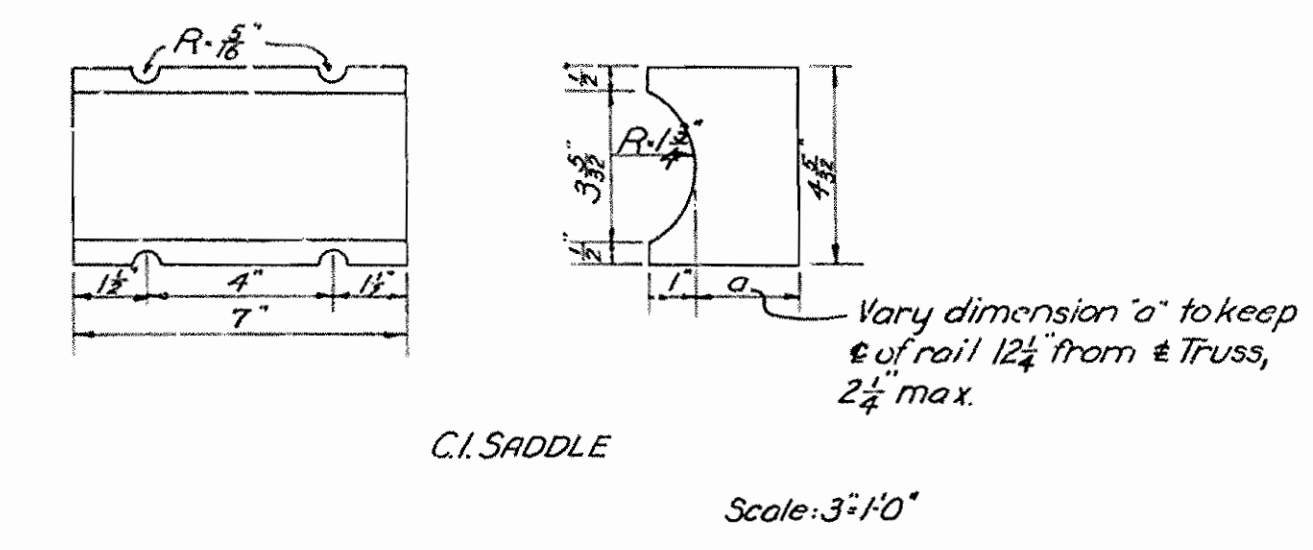
INTERMEDIATE HANDRAIL POST.
Scale: 1"=1'0"



HANDRAIL DETAIL AT ALL TRUSS VERTICALS
Scale: 1"=1'0"



Note: To be used only in Panel L₁₁-L₁₂ adjoining rocker end of suspended span. Splice all pipe in this panel.



C.I. SADDLE
Scale: 3"=1'0"

ARKANSAS STATE HIGHWAY COMMISSION
BRIDGES OVER WHITE RIVER
NEAR
AUGUSTA & NEWPORT, ARKANSAS

HANDRAIL DETAILS

MADE BY: E.S.
TRACED BY: E.S.
CHECKED BY: K.F.
DATE: Oct. 22, 1929

IRA G. HEDRICK, INC.,
CONSULTING ENGINEERS,
HOT SPRINGS, ARKANSAS

SCALE: AS SHOWN SHEET NO. 11

DR. No. 613
DRWG. No. 4978