

STATE OF ARKANSAS
STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	240-A	1925	1	20

PLAN OF PROPOSED BRIDGE
OVER

WHITE RIVER
AT BATESVILLE, INDEPENDENCE CO., ARK.
INDEPENDENCE COUNTY BRIDGE DISTRICT No. 1
FEDERAL AID PROJECT No. 240-A

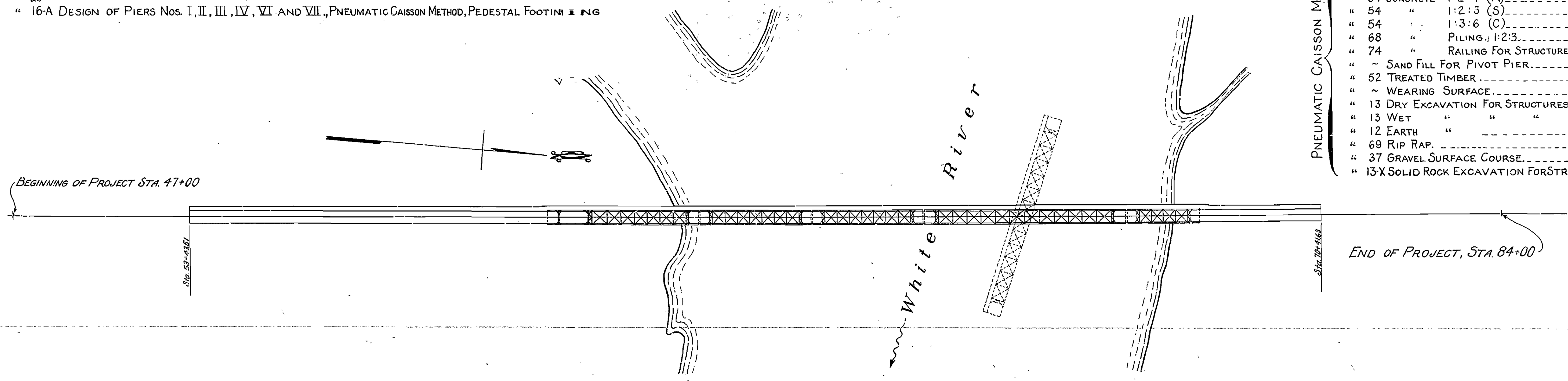
QUANTITIES

INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET AND TABULATION OF QUANTITIES.
2	MAP OF VICINITY.
3	LAYOUT AND EXCAVATION QUANTITIES.
4	FOUNDATION DATA.
5	DESIGN OF 110' STEEL TRUSS SPAN - LIGHT TRUSS.
6	" " 110' " " - HEAVY "
7	" " 173'-3" " " - LIGHT "
8	" " 173'-3" " " - HEAVY "
9	" " 316'-10 1/2" " SWING "
10	" " 316'-10 1/2" " " "
11	" " 316'-10 1/2" " " "
12	DETAILS " 316'-10 1/2" " " "
13	LAYOUT " MACHINERY FOR " "
14	DESIGN " 37' CONCRETE APPROACH SPANS AND CONCRETE PILE.
15	" " PIVOT PIER (No. V), PNEUMATIC CAISSON METHOD.
16	" " PIERS Nos. I, II, III, IV, VI AND VII, PNEUMATIC CAISSON METHOD, SOLID FOOTING
17	PLAN AND PROFILE SHEET.
18	STANDARD SECTIONS OF APPROACH GRADES AND HAUL DIAGRAM.
19	CROSS SECTIONS.
20	" " " " " "
16-A	DESIGN OF PIERS Nos. I, II, III, IV, VI AND VII, PNEUMATIC CAISSON METHOD, PEDESTAL FOOTING

-NOTE-
Reinforcing Steel in Hand Railing, is to be covered in unit price bid on Item No. 74.
Wire mesh reinforcing in Counter weight, to be listed as and paid for at unit price bid on Item No. 55.
Reinforcing Steel in Concrete piling, is to be covered in unit price bid on Item No. 68.
Drain Pipes, Cast Iron Drain Boxes and Copper Water Stops are to be covered in unit price bid on Item No. 54(S).
Zinc plates between Expansion plates are to be figured as same weight of steel, and paid for at unit price bid on Item No. 56.
Nail tie bolts, Hook bolts and washers used in fastening railers to steel are to be listed with and paid for at unit price bid on Item No. 56.
All nails in floor to be covered in unit price bid on Item No. 52.
Nail lines of footing are to be used in figuring excavation quantities.

ITEM	DESCRIPTION	QUANTITY	UNIT
56	STRUCTURAL STEEL	1522,885	Lbs.
	- MACHINERY	42,000	"
55	REINFORCING STEEL	312,179	"
54	CONCRETE 1:2:4 (A)	2,2068	Cu. Yds.
54	" 1:2:3 (S)	1,3489	"
68	PILING, 1:2:3	4,500	Lin. Ft.
74	RAILING FOR STRUCTURES, 1:3	1,489	"
	- SAND FILL IN PIVOT PIER	221	Cu. Yds.
52	TREATED TIMBER	55,467	Ft. B.M.
	- WEARING SURFACE	712	Sq. Yds.
13	DRY EXCAVATION FOR STRUCTURES	267	Cu. Yds.
13	WET " " "	3,422	"
12	EARTH " " "	30,834	"
69	RIP RAP	1,150	Sq. Yds.
37	GRAVEL SURFACE COURSE	912	Cu. Yds.
56	STRUCTURAL STEEL	1522,885	Lbs.
	- MACHINERY	42,000	"
55	REINFORCING STEEL	296,690	"
54	CONCRETE 1:2:4 (A)	15397	Cu. Yds.
54	" 1:2:3 (S)	1,3489	"
54	" 1:3:6 (C)	1,2026	"
68	PILING, 1:2:3	4,500	Lin. Ft.
74	RAILING FOR STRUCTURES, 1:3	1,489	"
	- SAND FILL FOR PIVOT PIER	151	Cu. Yds.
52	TREATED TIMBER	55,467	Ft. B.M.
	- WEARING SURFACE	712	Sq. Yds.
13	DRY EXCAVATION FOR STRUCTURES	281	Cu. Yds.
13	WET " " "	1,994	"
12	EARTH " " "	30,834	"
69	RIP RAP	1,150	Sq. Yds.
37	GRAVEL SURFACE COURSE	912	Cu. Yds.
	13X SOLID ROCK EXCAVATION FOR STRUCTURES	501	"



LAYOUT
Scale: 1" = 80'-0"

GROSS LENGTH OF PROJECT = 3700 FT. = .070076 MILES
NET LENGTH OF PROJECT = 3700 FT. = .070076 MILES

Specifically approved
by Chief Engineer, State Highway Department
September 1925
by State Highway Commission
May 20, 1926.

APPROVED

COMMISSIONER, STATE LANDS, HIGHWAYS AND IMPROVEMENTS

APPROVED

STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL

DISTRICT ENGINEER - U. S. BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL

CHIEF ENGINEER - U. S. BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL

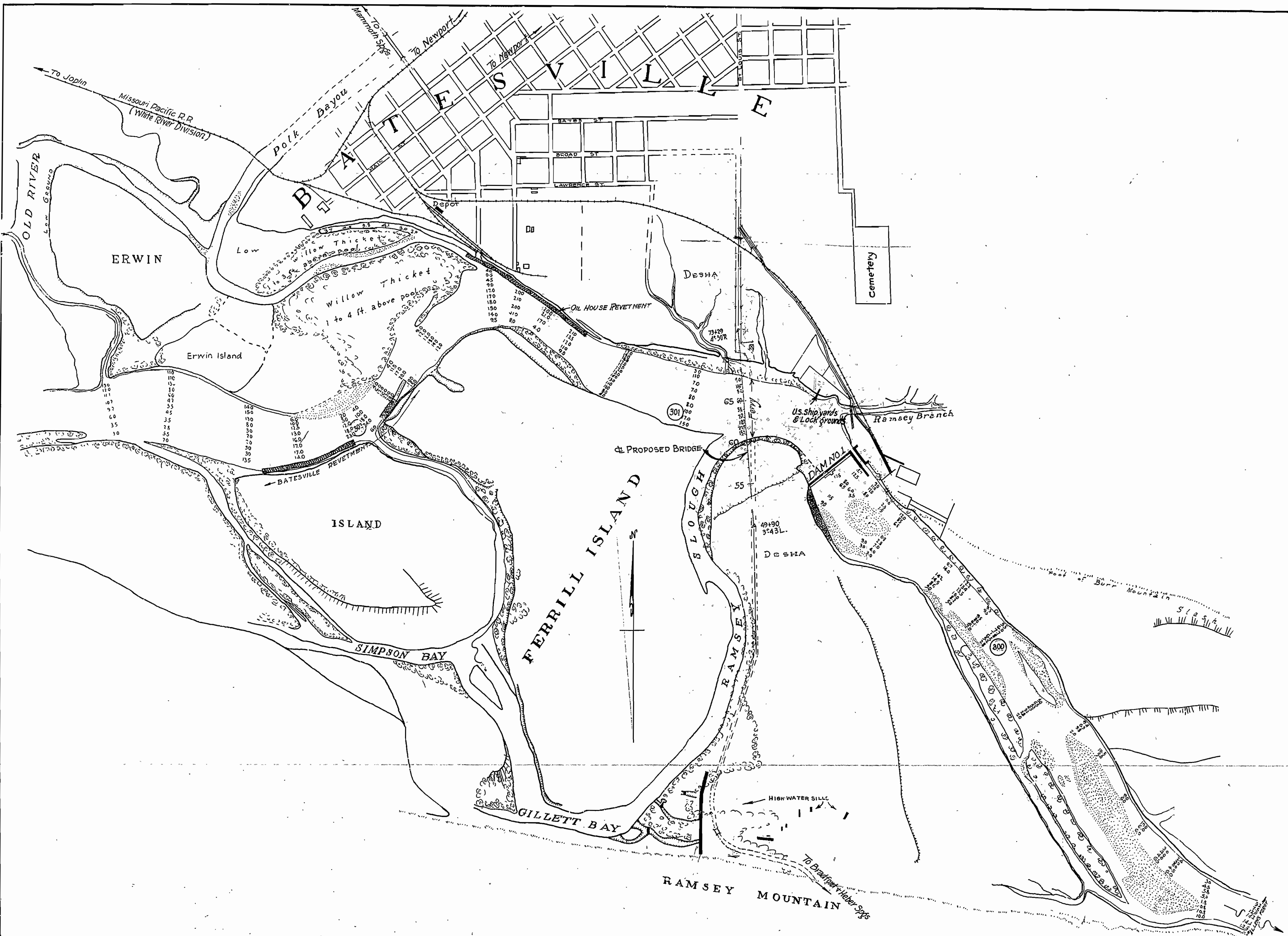
STATE HIGHWAY BRIDGE ENGINEER

DIRECTOR - U. S. BUREAU OF PUBLIC ROADS

1849

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	Z40-H	1925	2	20

W. R. L. V. C. E. D. E. D. D. D. 1850

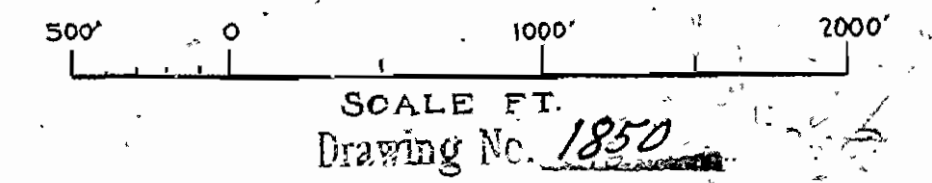


ARKANSAS STATE HIGHWAY DEPARTMENT
MAP OF
WHITE RIVER
IN THE VICINITY OF BATESVILLE
SHOWING PROPOSED
BRIDGE SITE
INDEPENDENCE CO. ARK. FED. AID PROJ. NO.
STATE HIGHWAY B-11
Little Rock, Ark. July-1925.

Topography taken from maps in U.S. Engineers office at Batesville, dated June, July, 1913. Soundings referred to Water Surface at Upper mitre sill gage, 6.7 Lower " " " " 7.7

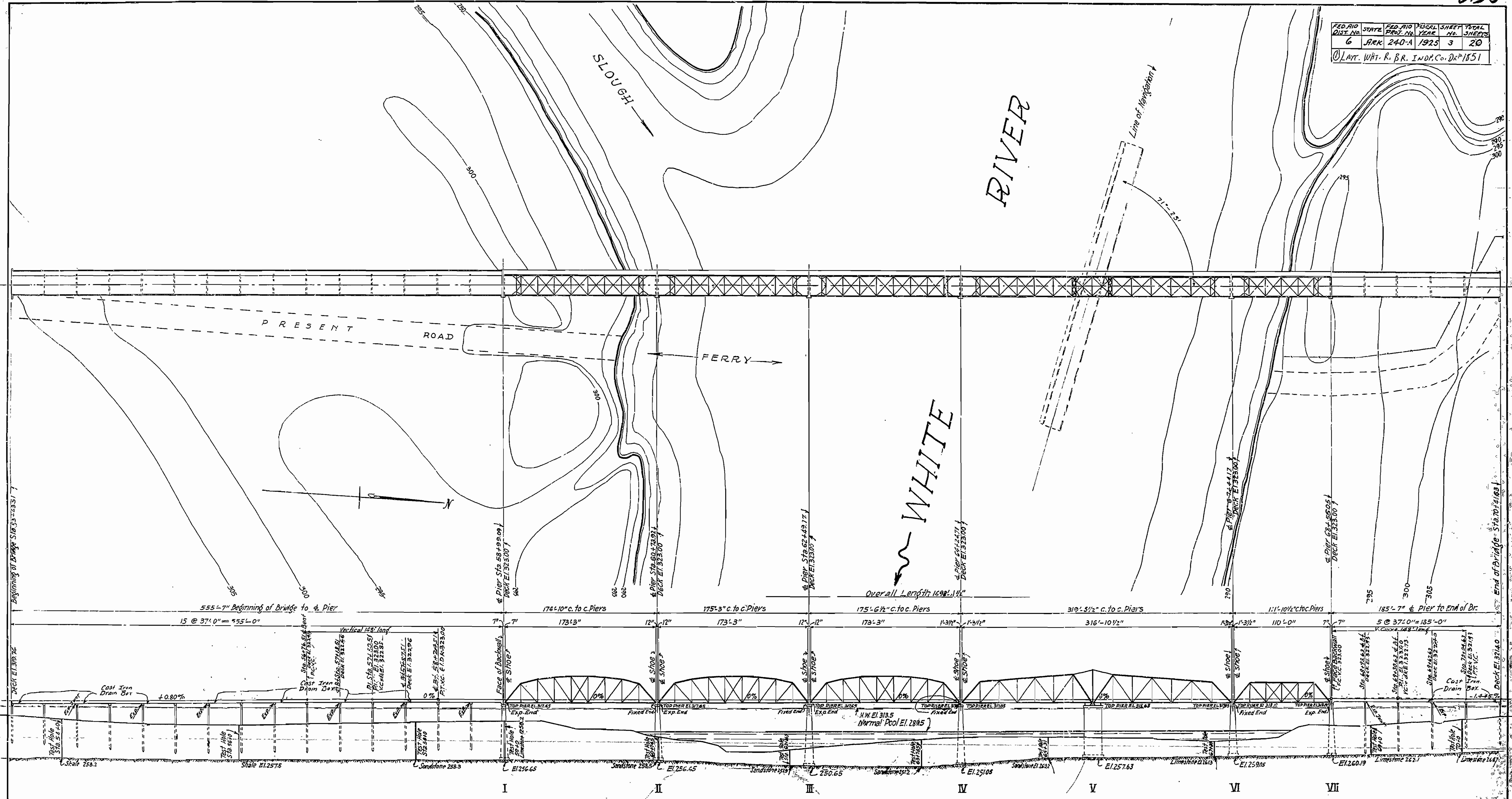
NOTE: Elevation of zero of upper mitre sill gage - 282.0
" " " " " " " " " " " " 265.2
" " " " " " " " " " " " highwater Feb 1st 1916 = 313.5

Designed by _____
Checked by _____
Traced by RCG



FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	240-A	1925	3	20

© LAY. W. H. R. IND. CO. DES. 1851



SCALE 1" = 50'

PNEUMATIC CAISSON		
EXCAVATION QUANTITIES (Solid Footings)		
ITEM	WET EXCAV.	DRY EXCAV. / ROCK EXCAV.
PIER I	365 Cu. Yds.	189 Cu. Yds. / 36 Cu. Yds.
" II	318 "	26 "
" III	156 "	117 "
" IV	276 "	124 "
" V	364 "	87 "
" VI	241 "	41 "
" VII	276 "	92 Cu. Yds. / 70 "
TOTAL	1994 Cu. Yds.	281 Cu. Yds. / 501 "

NOTE: - Neat lines of footings are to be used in figures and excavation quantities.

Designed by _____
 Checked by _____
 Traced by RCG
 Revised by _____

ARKANSAS STATE HIGHWAY DEPARTMENT.
LAYOUT
 FOR
 BRIDGE OVER WHITE RIVER.
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926.
 BR. No. 281 DRAWING NO. 1851

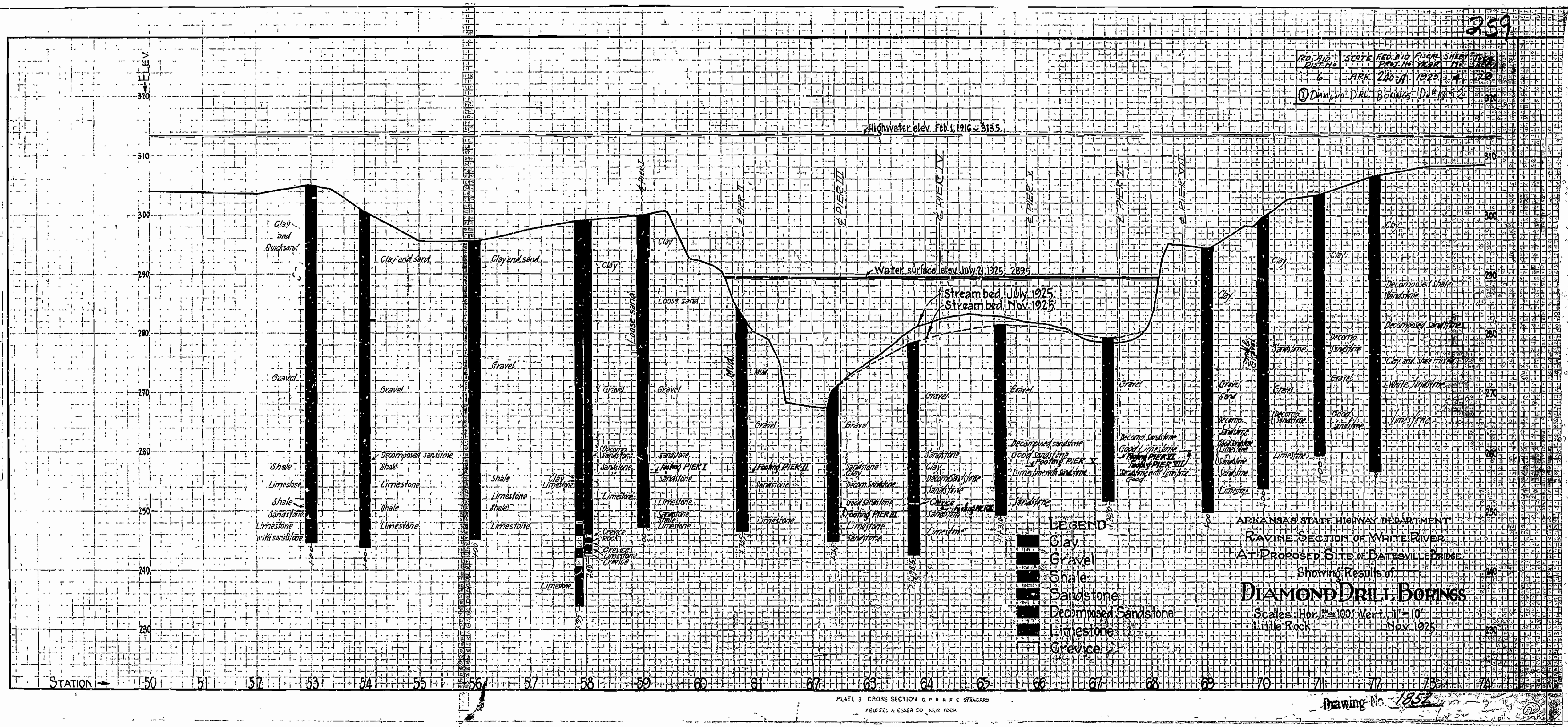
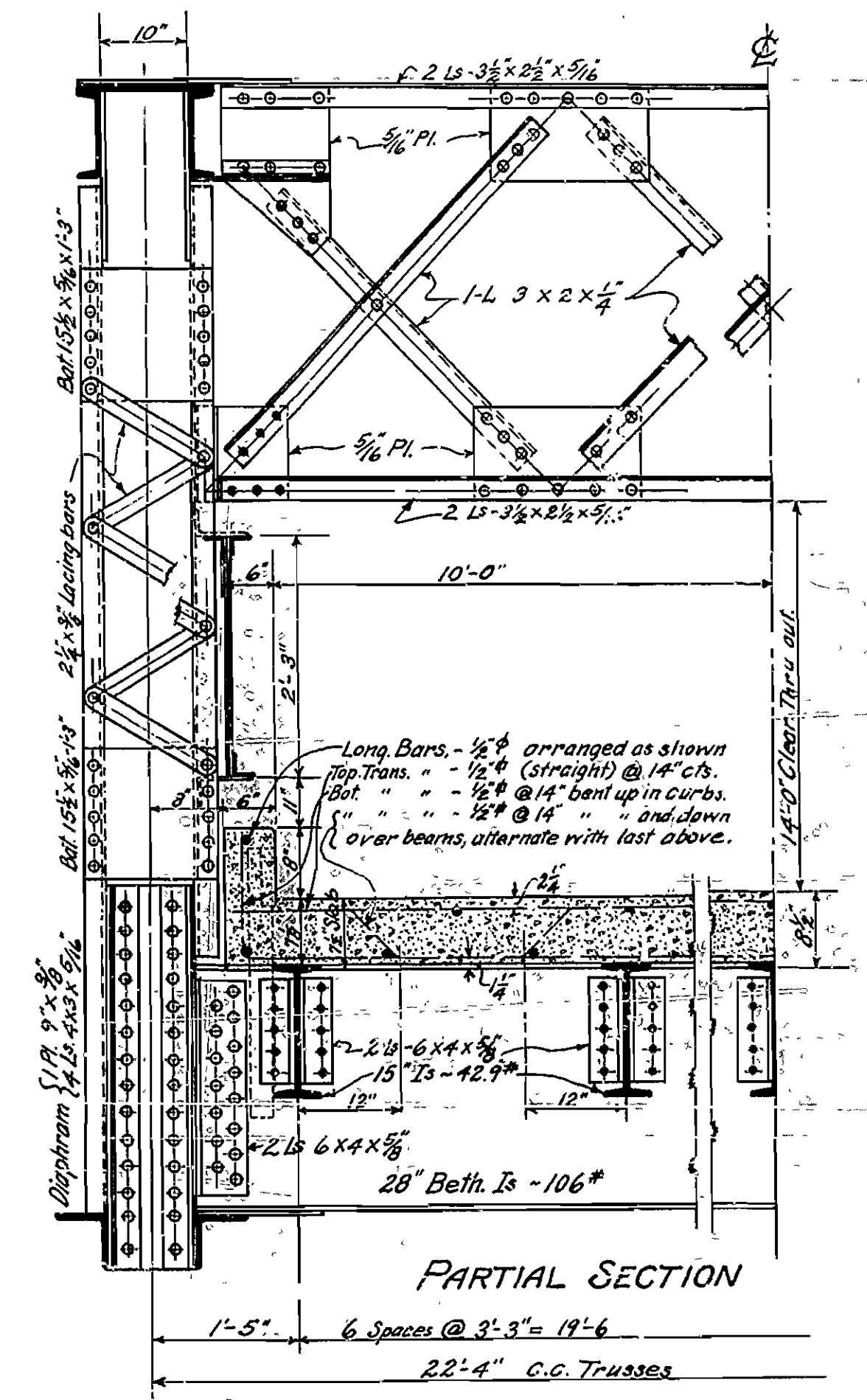
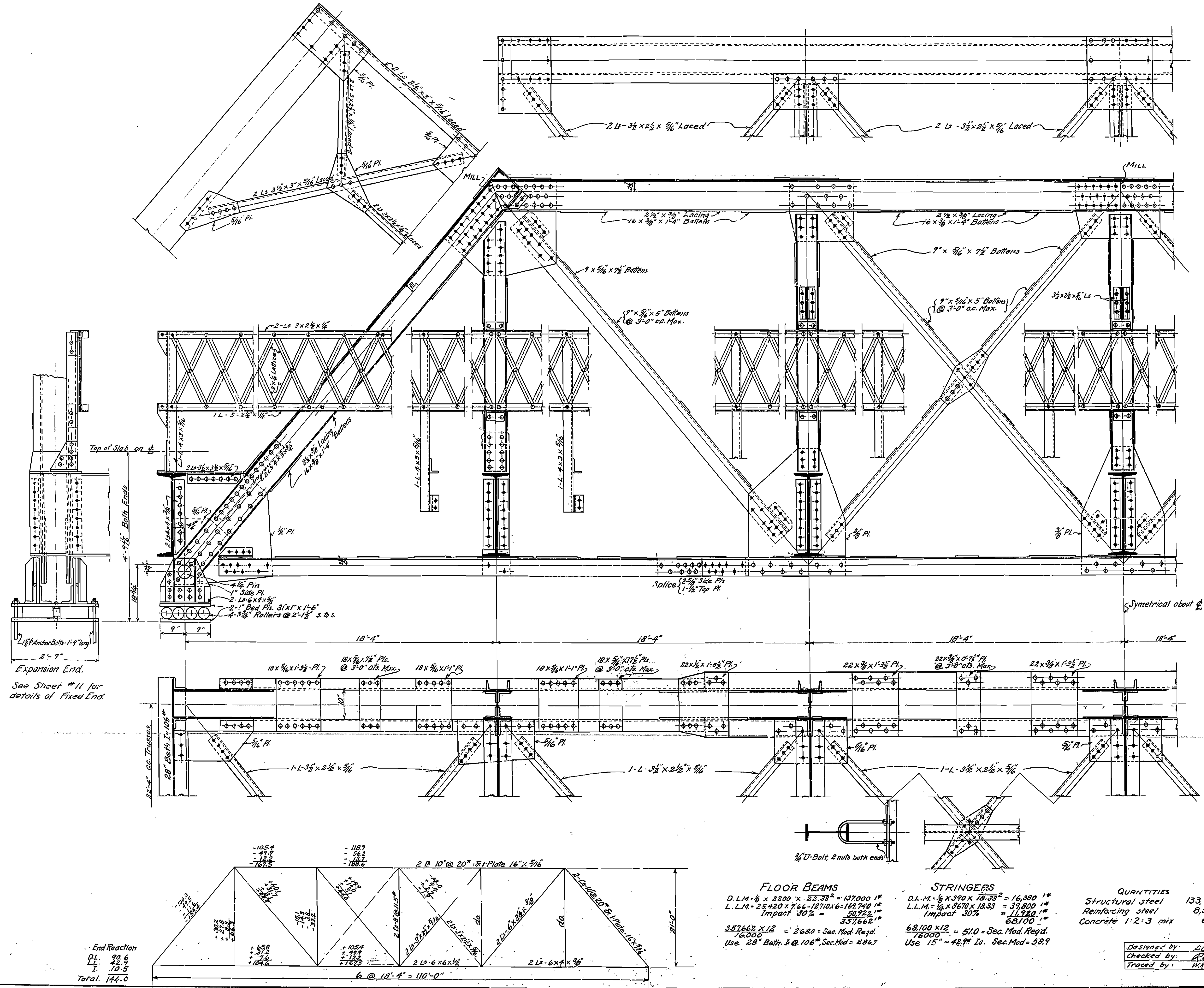


PLATE 3 CROSS SECTION O.P. & R.E. GRAVING
PEUPEL, A. ESSER CO., LITTLE ROCK

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	2A-D-1	1925	5	20
17247 TRS FOR 110' S. C. SPAN 1925					



SPECIFICATIONS
 Live Load: - Uniform, 75 lbs per square foot of Roadway.
 Concentrated, 2-15 Ton Trucks as shown.

Impact = $\frac{100 S}{L+300}$

Unit Stresses: - See Arkansas State Highway Department Specifications.
 Rivets: - 3/4" diam. - Open Holes: - 1/2" diam.
 All field connections riveted. Rivet holes in tension members are to be so spaced that not more than one hole is deducted from area of cross-section of each angle at point of maximum stress.
 Shop Paint: - One coat of red lead and raw linseed oil.
 Field Paint: - Two coats of different colors as approved by the engineer.
 Gasket Plates spaced not over 3'-0" c.c. on tension members.
 Concrete to be class 3'. Extra slab thickness is shown on roadway for wear.
 Reinforcing Steel: To be of structural or intermediate grade. Bars to be securely wired in place before concrete is poured.
 Live load on walk: 65 lbs per sq ft plus 15 lbs per sq foot impact, per sq ft. of floor.

ARKANSAS STATE HIGHWAY DEPARTMENT.
 DESIGN OF
LIGHT TRUSS FOR 110 FT. STEEL SPAN
 20 FT. ROADWAY, 5 FT. SIDEWALK, CONCRETE FLOOR
 FOR
 BRIDGE OVER WHITE RIVER
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1. FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926.
 Drawing No. 1853

FLOOR BEAMS		STRINGERS		QUANTITIES	
D.L.M. 1/2 x 2200 x 22.33	= 137,000 lb*	D.L.M. 1/2 x 390 x 15.33	= 16,300 lb*	Structural steel	133,600 lbs
L.L.M. 25,420 x 9.66 - 127,101.6	= 169,740 lb*	L.L.M. 1/4 x 8670 x 12.33	= 39,800 lb*	Reinforcing steel	8,586 lbs
Impact 30% = 30,722 lb*		Impact 30% = 11,920 lb*		Concrete 1:2:3 mix	69.9 c.y.
357,662 x 12 = 26,200 = Sec. Mod. Reqd.		68,100 x 12 = 51.0 = Sec. Mod. Reqd.			
Use 28" Beth. Is @ 106" Sec. Mod. = 284.7		Use 15" - 42.7" Is. Sec. Mod. = 58.9			

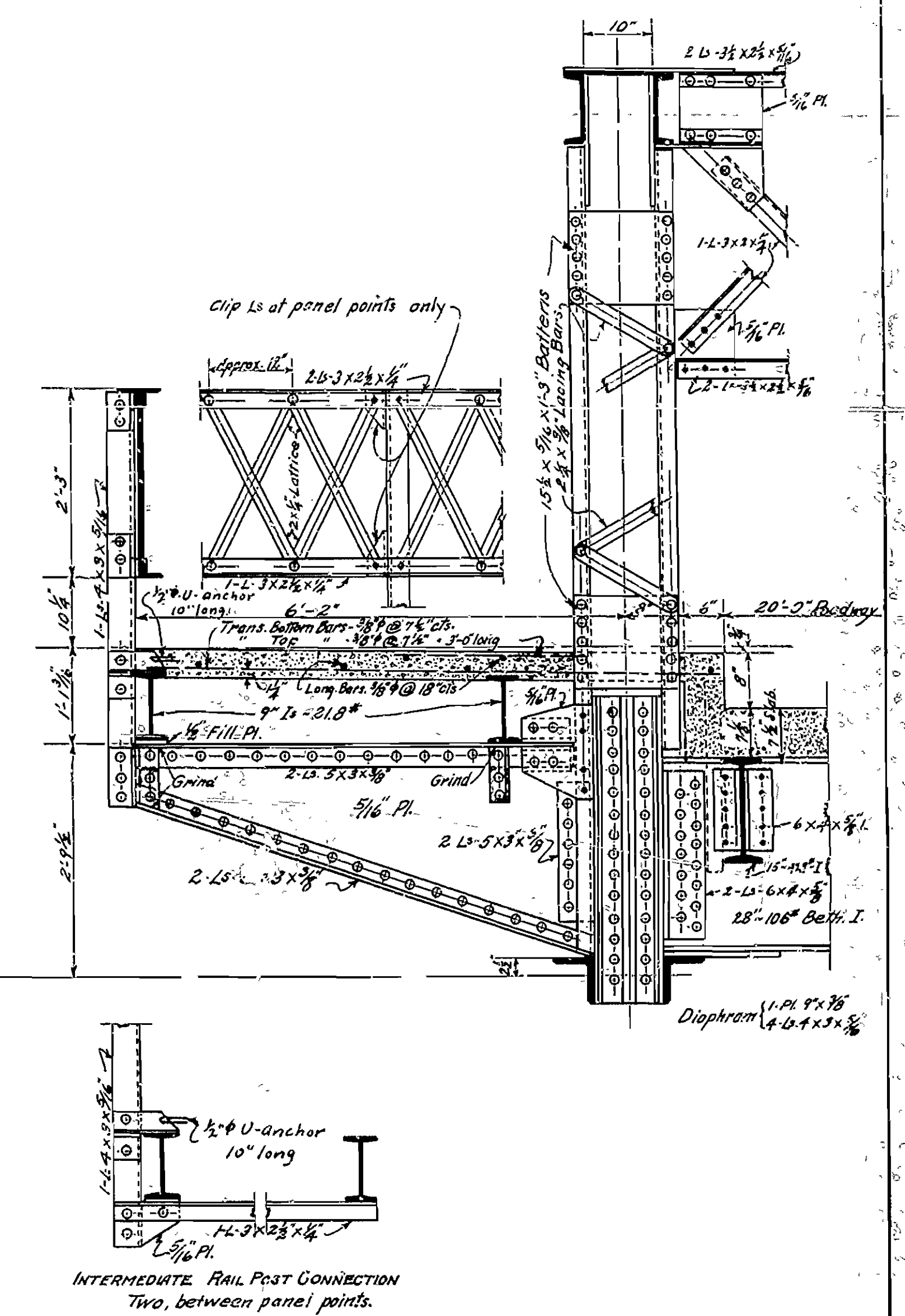
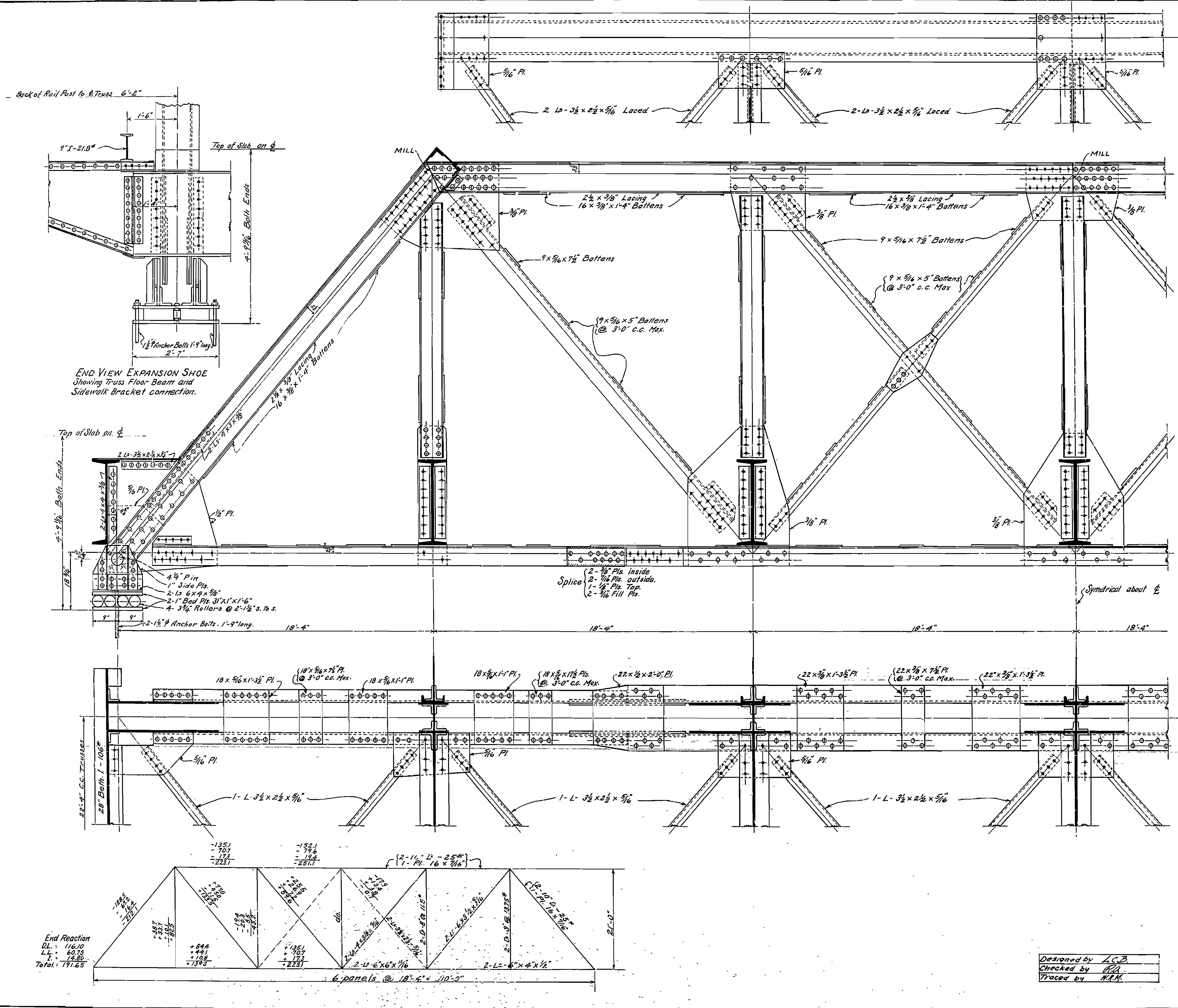
Designed by: LCB
 Checked by: LCB
 Traced by: MCH

Expansion End.
 See Sheet #11 for details of Fixed End.

End Reaction
 D.L. 22.5
 I. 10.5
 Total 144.0

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	240-A	1925	6	20

HEAVY TRUSS 110'S - SPAN 110'-0"



End Reaction

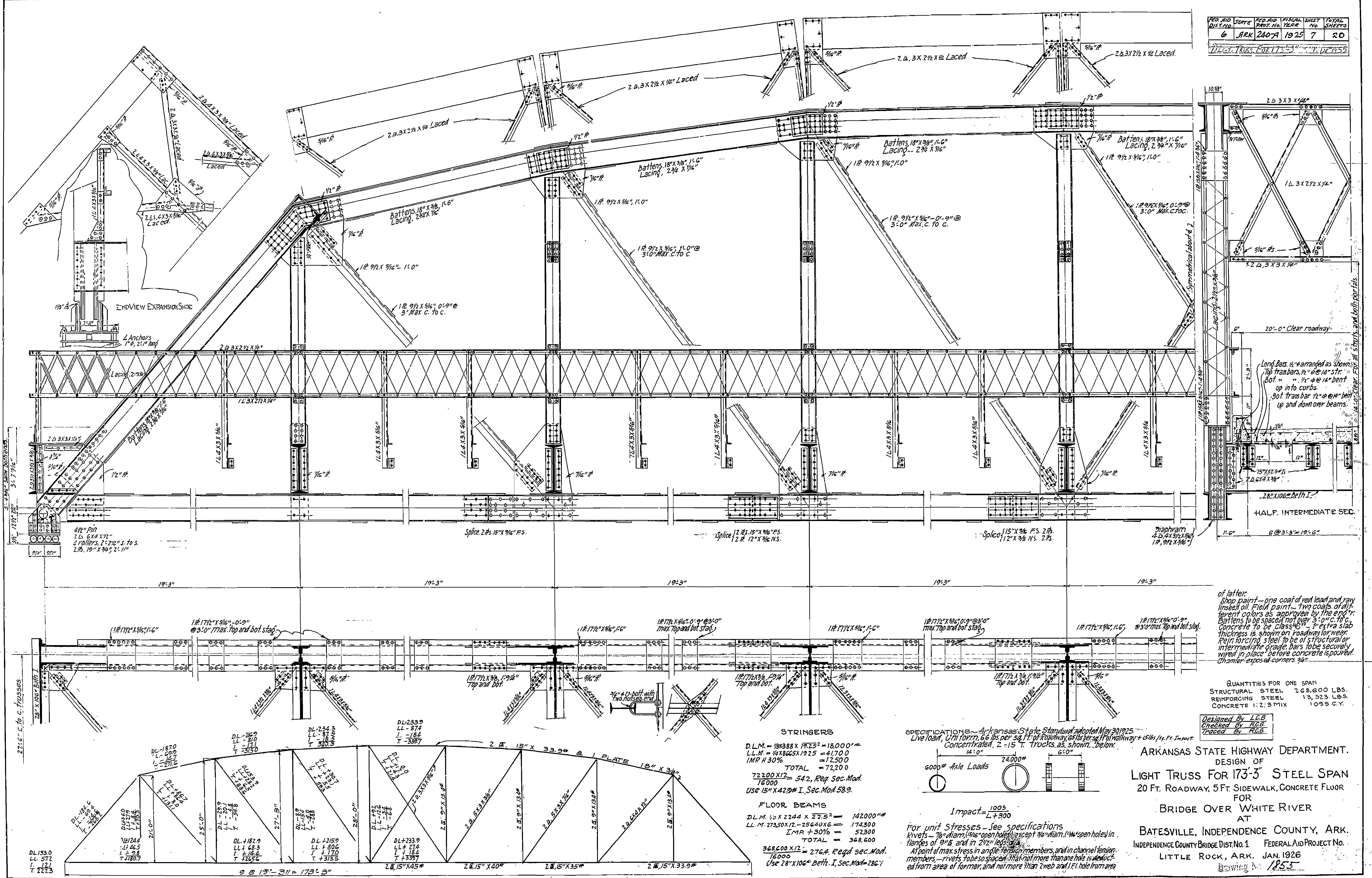
DL	116.10
L.L.	60.75
T.	14.80
Total	191.65

-135.1	-152.1	-173	-223.7
-83.7	-101	-122.7	-155.1
-44.4	-54.4	-70.7	-91.4
+13.8	+17.3	+22.3	+28.7
+8.4	+10.7	+14.0	+18.2
+3.8	+4.8	+6.3	+8.1

Designed by L.C.B.
 Checked by P.H.
 Traced by H.M.

ARKANSAS STATE HIGHWAY DEPARTMENT.
 DESIGN OF
 HEAVY TRUSS FOR 110 FT. STEEL SPAN
 20 FT. ROADWAY, 5 FT. SIDEWALK, CONCRETE FLOOR
 FOR
 BRIDGE OVER WHITE RIVER
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926
 DRAWING NO. 1854

PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	7	20



20'-0" Clear roadway

Long Bars 1/4" arranged as shown. 100 transverse, 7/8" @ 12" str. Bot. " " 1/4" @ 12" bent up into curbs. Bot. transverse 1/4" @ 12" bent up and down over beams.

HALF INTERMEDIATE SEC.

of latter
Shop paint - one coat of red lead and raw linseed oil. Field paint - two coats of different colors as approved by the Eng'r. Battens to be spaced not over 3'-0" c. to c. Concrete to be class 35 - 1" extra slab thickness is shown on roadway wear. Reinforcing steel to be of structural or intermediate grade. Bars to be securely wired in place before concrete is poured. Chamfer exposed corners 1/4".

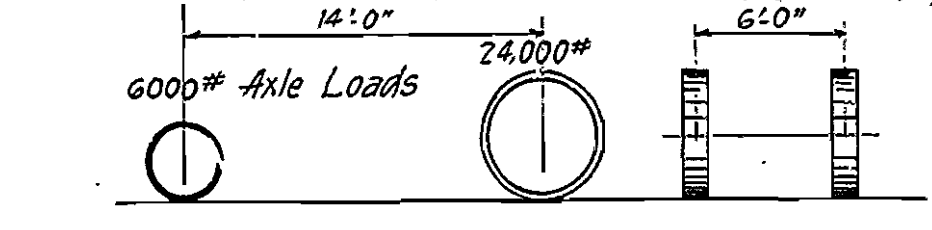
QUANTITIES FOR ONE SPAN
STRUCTURAL STEEL 268,600 LBS.
REINFORCING STEEL 13,523 LBS.
CONCRETE 1:2.3 MIX 1095 C.Y.

Designed by L.C.B.
Checked by R.G.G.
Traced by R.G.G.

STRINGERS
D.L.M. = 19388 X 1835 = 18,000^{##}
L.L.M. = 14 X 865 X 125 = 4,170
I.M.R. + 30% = 12,500
TOTAL = 72,200
72200 X 12 = 54.2, Req. Sec. Mod. 16000
Use 15" X 42# I. Sec. Mod. 53.9.

FLOOR BEAMS
D.L.M. = 15 X 2244 X 275 = 142,000^{##}
L.L.M. = 27350 X 12 = 256,406 = 174,300
I.M.R. + 30% = 52,300
TOTAL = 368,600
368600 X 12 = 276.4, Req'd sec. Mod. 16000
Use 28" X 106# Beth. I. Sec. Mod. = 286.7

SPECIFICATIONS - Arkansas State Standard adopted May 30, 1925.
Live load, 100 lbs. per sq. ft. of roadway and 15 lbs. per sq. ft. of sidewalk + 15 lbs. per sq. ft. impact concentrated, 2-15' trucks as shown below.



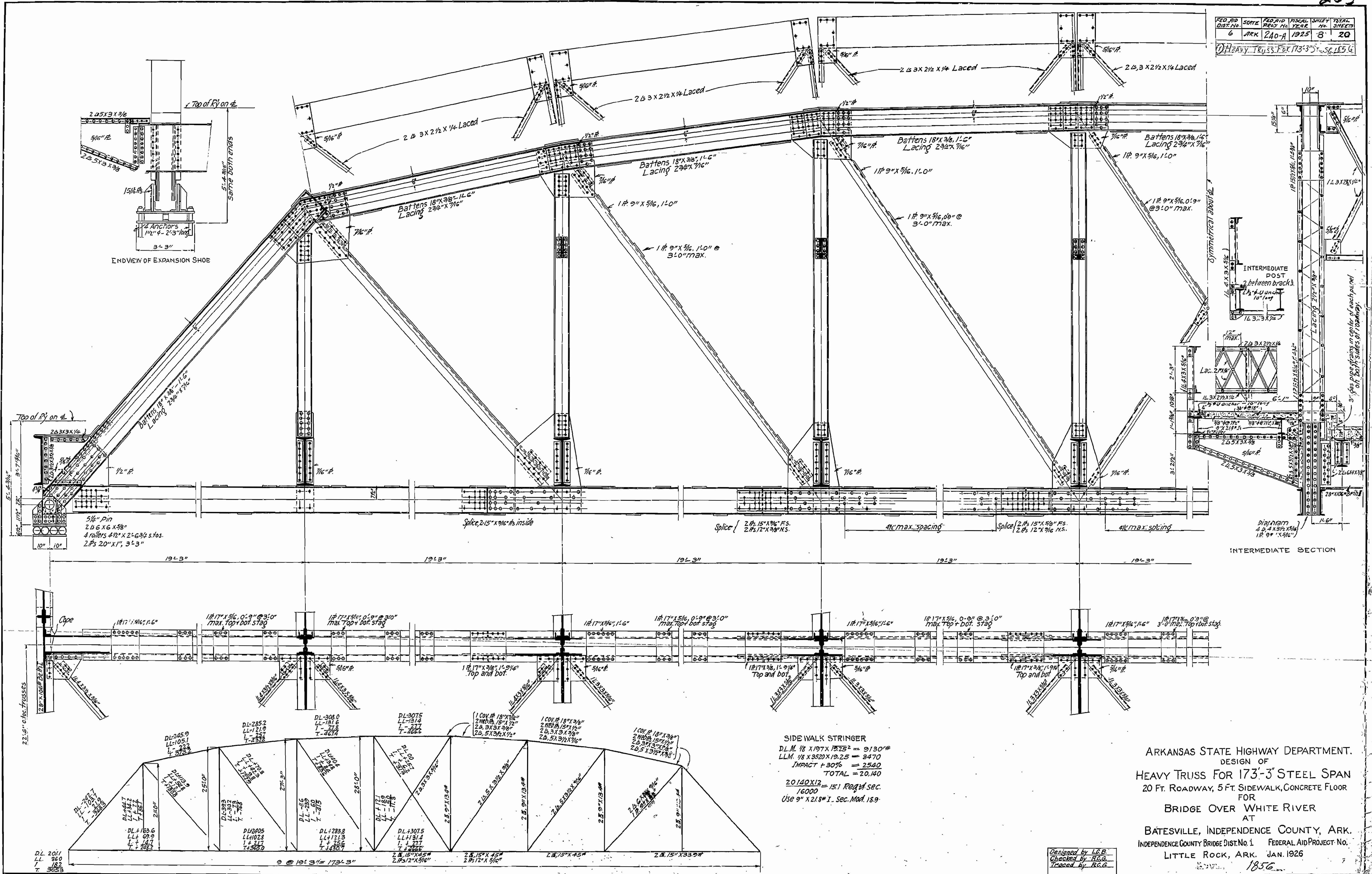
Impact = 1005 / L + 300

For unit stresses - see specifications
Rivets - 3/8" diam. (1/16" open holes) except 3/4" diam. (1/4" open holes) in flanges of 9" and in 2 1/2" legs of gusset.
At point of max. stress in angle tension members and in channel tension members - rivets to be so spaced that not more than one hole is developed from area of former, and not more than two and 1/2" hole from area

ARKANSAS STATE HIGHWAY DEPARTMENT.
DESIGN OF
LIGHT TRUSS FOR 173'-3" STEEL SPAN
20 FT. ROADWAY, 5 FT. SIDEWALK, CONCRETE FLOOR FOR
BRIDGE OVER WHITE RIVER
AT
BATESVILLE, INDEPENDENCE COUNTY, ARK.
INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO.
LITTLE ROCK, ARK. JAN. 1926
Drawing No. 1855

FED. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	2A0-A	1925	8	20

HEAVY TRUSS FOR 173'-3" SPAN

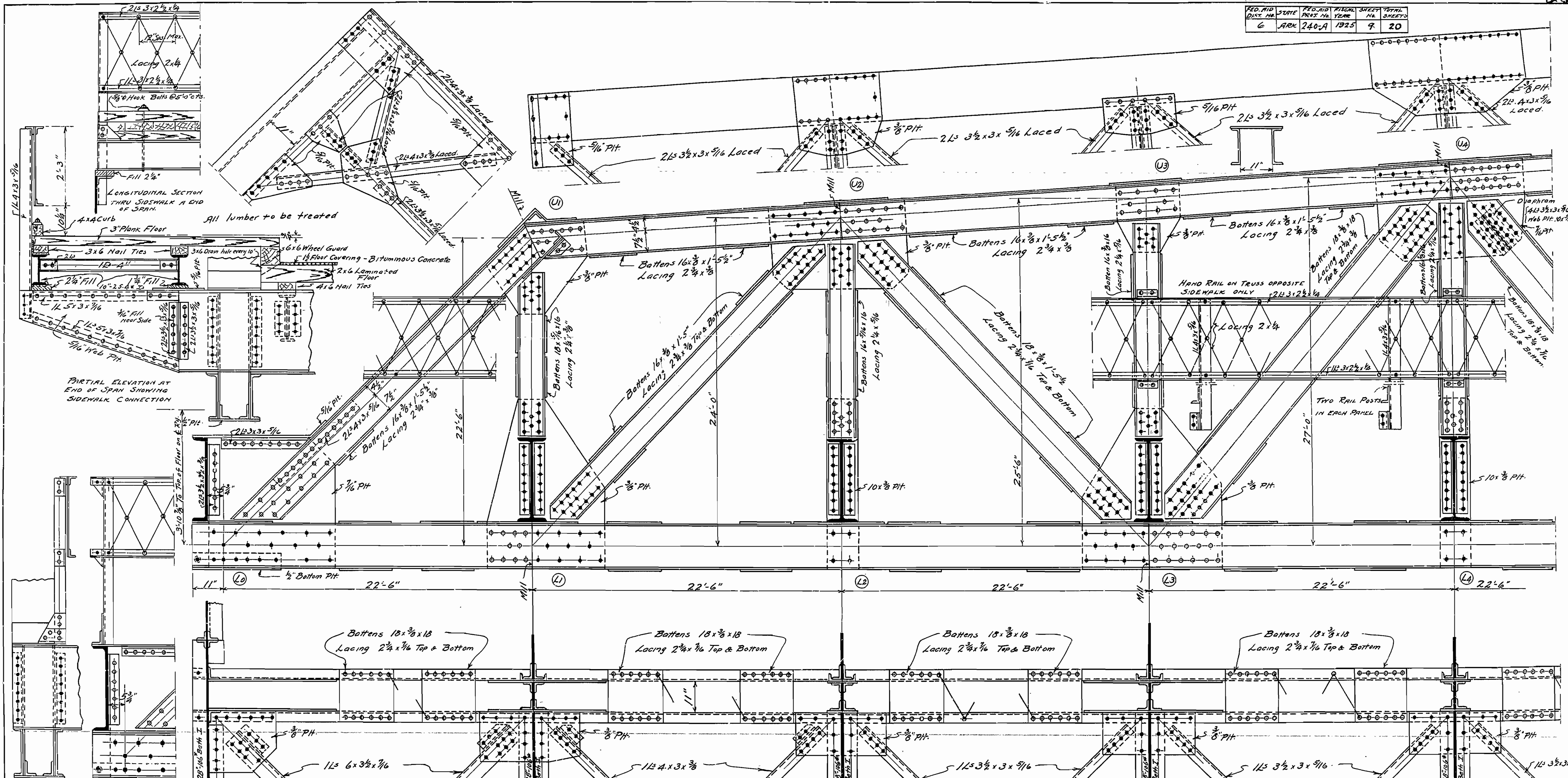


SIDEWALK STRINGER
 D.L.M. 1/8 X 197 X 1825 = 9130#
 L.L.M. 1/8 X 3520 X 19.25 = 9470
 IMPACT + 30% = 2540
 TOTAL = 20,140
 20,140 X 12 = 151 Req'd sec.
 16000
 Use 9" X 21.8" I. Sec. Mod. 18.9

ARKANSAS STATE HIGHWAY DEPARTMENT.
 DESIGN OF
HEAVY TRUSS FOR 173'-3" STEEL SPAN
 20 FT. ROADWAY, 5 FT. SIDEWALK, CONCRETE FLOOR
 FOR
BRIDGE OVER WHITE RIVER
 AT
BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926

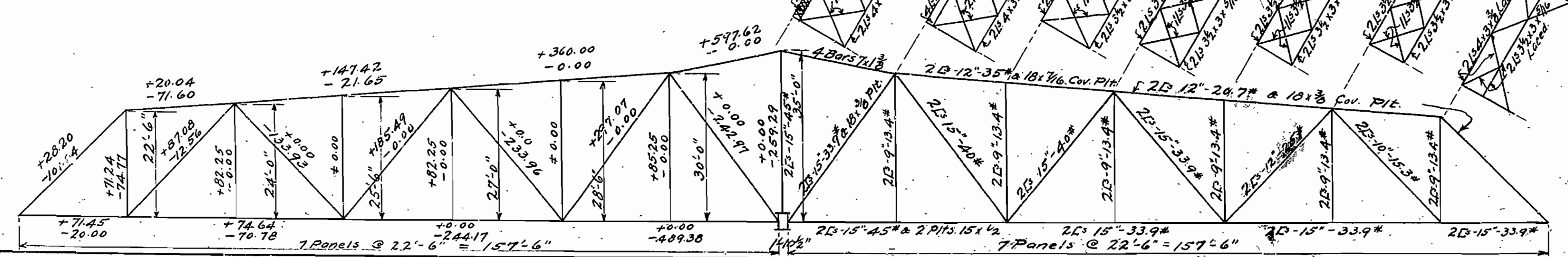
Designed by L.C.B.
 Checked by R.G.G.
 Traced by R.G.G.

1856



VIEW OF END CONNECTION OF TRUSS CARRYING HAND RAIL

REACTIONS
 Reaction on Center Casting - Span open - - - - 104000#
 Reaction of Dead Load on End Wedges - Span closed - 20000#



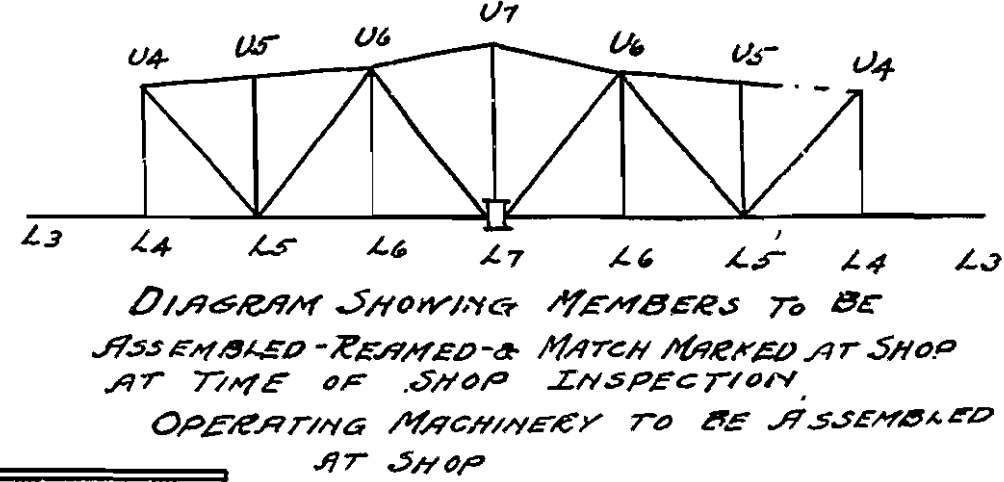
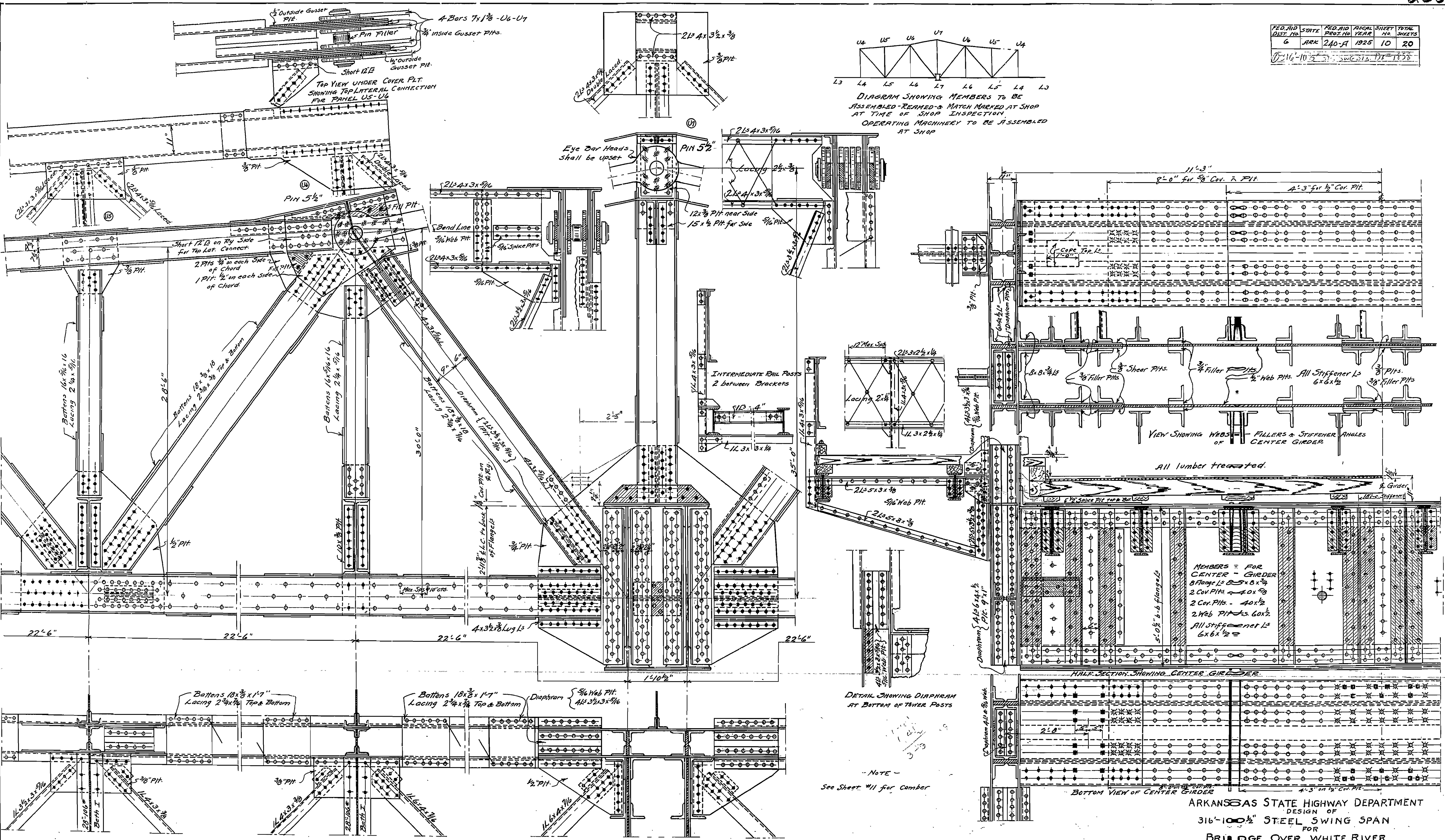
242200 120100
 LIVE LOAD REACTIONS ON WEDGES UNDER CENTER GIRDER
 NOTE
 See Sheet #11 for Camber

ARKANSAS STATE HIGHWAY DEPARTMENT
 DESIGN OF
 316'-10 1/2" STEEL SWING SPAN
 FOR
 20 FT. ROADWAY, 5 FT. SIDEWALK, WOOD FLOOR
 BRIDGE OVER WHITE RIVER
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926
 Drawing No. 1857

Designed by L.C.B.
 Traced by J.W.B.
 Checked by J.W.B.
 Revised by H.C.P.M. 4/17/26

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	240-A	1925	10	20

216-1055 SWE. STA. DIST. 1925



MEMBERS FOR CENTER GIRDER
 8 Flange Ls 2 1/2 x 6 x 3/4
 2 Cor. Pits - 40 x 1/2
 2 Web Pits - 60 x 1/2
 All stiffener Ls 6 x 6 x 1/2

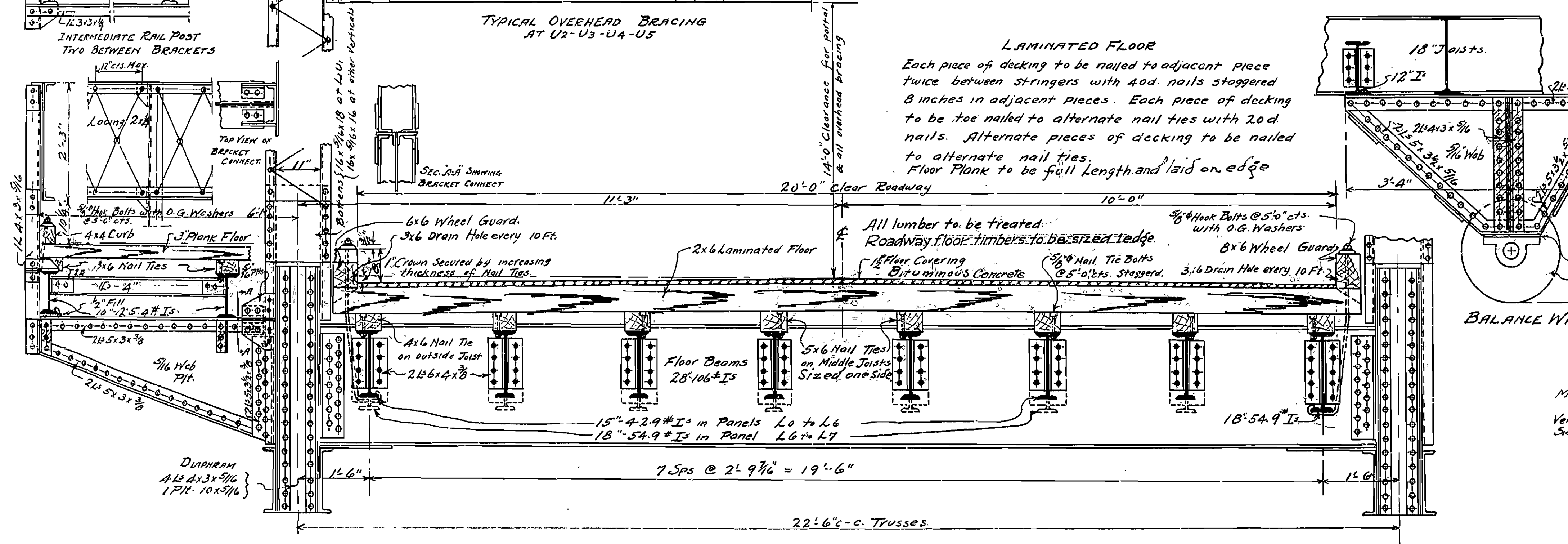
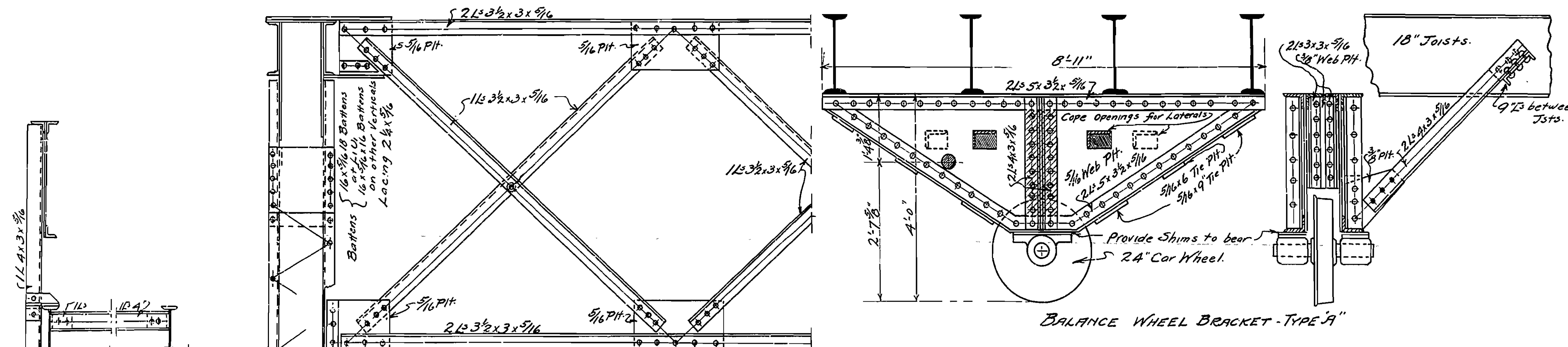
DETAIL SHOWING DIAPHRAM AT BOTTOM OF TOWER POSTS

NOTE
 See Sheet #11 for Camber

Designed by L.C.B.
 Revised by L.C.B.
 Checked by L.C.B.
 Revised by W.M. 8/11/24

ARKANSAS STATE HIGHWAY DEPARTMENT
 DESIGN OF
 316'-100 1/2" STEEL SWING SPAN
 FOR
 BRIDGE OVER WHITE RIVER
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926

FED. AID DIST. NO.	STATE	FED. AID DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK	240-A	1925	11	20
11316-10 1/2 STEEL SWING SPAN BRIDGE AT WHITE RIVER					



SPECIFICATIONS

Specifications: - Arkansas Highway Department dated May 30, 1925 Machinery Specifications Special.

LIVE LOADING

Vehicle Roadway: - Uniform 69 lbs. per sq. ft. Roadway. Concentrated - 2-15 Ton Trucks.
Sidewalk Roadway: - Uniform 65 lbs. per sq. ft. Walkway Plus 15 lbs. per sq. ft. impact.

6000# Axle Loads
24000#
14'-0" 6'-0"

Impact = $\frac{100 \times 6}{2 + 300}$

Rivets: - 3/8" except in flange of 9/16" & in Sidewalk Bracket. Use 3/4" Open Holes: 1/2" Diam. for 3/8" Rivets - 3/16" Diam. for 3/4" Rivets.

Field Connections: All connections to be riveted except castings. Rivet holes in tension members to be so spaced as to deduct a minimum cross section at points of maximum stress.

Shop Paint: One coat of red lead & raw linseed oil.

Field Paint: Two coats of different colors as approved by the engineer.

Floor Covering: to be covered in Special Specifications.

Lumber: All lumber to be treated.

Camber: Swing Span to be fabricated with such camber that floor will be level thruout when span is closed and end wedges driven to secure 20,000 lbs. per ft.

NOTE!

Quantities of Lumber listed and to be paid for based on actual amount of Lumber in completed structure, without making allowance for standard lengths, waste or under run

Nail tie bolts - hook bolts - washers used in fastening floor to steel to be listed with and paid for as structural steel.

Wire Mesh Reinforcing to be listed with and paid for as Reinforcing Steel

All nails in floor to be furnished with lumber and covered in unit price bid for treated lumber.

FLOOR BEAMS

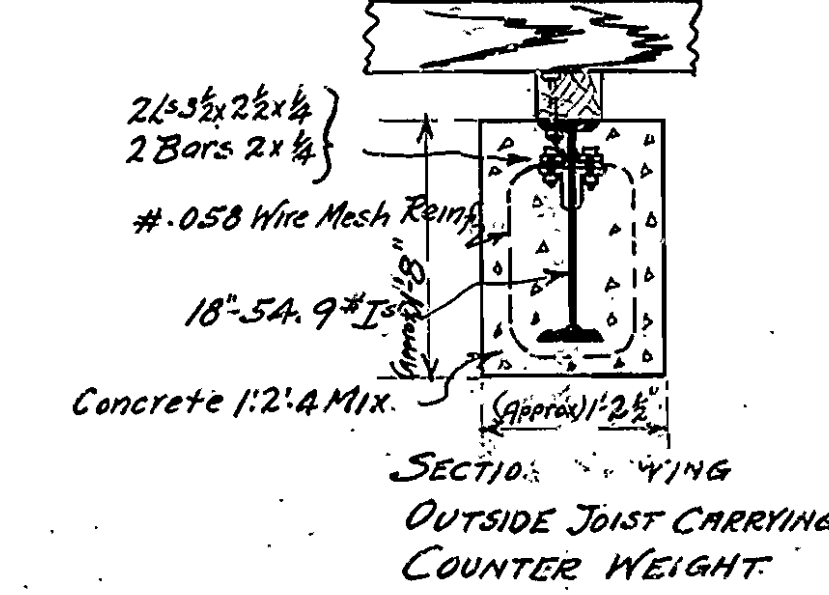
D.L.M. = $\frac{1}{8} \times 1570 \times 22.5 \times 22.5 = 99351 \text{#}$
 L.L.M. = $26270 \times 9.75 - 13035 \times 16 = 177323 \text{#}$
 Impact = 30% L.L. = 53197#
 ΣM = 329871#
 $\frac{329871 \times 12}{1600} = 247.5 = \text{Reqd. Sect. Mod.}$
 Use 28"-106# Beth I - Sec. Mod. = 268.7

JOISTS

D.L.M. = $\frac{1}{8} \times 172 \times 22.5 \times 22.5 = 10900 \text{#}$
 L.L.M. = $\frac{1}{4} \times 8300 \times 22.5 = 47200 \text{#}$
 Impact = 30% L.L. = 14160#
 ΣM = 72260#
 $\frac{72260 \times 12}{1600} = 54.2 = \text{Reqd. Sect. Mod.}$
 Use 15"-42.9# I - Sec. Mod. = 58.9

TABULATION OF QUANTITIES FOR 316'-10 1/2" SWING SPAN

Structural Steel	574,545 Pounds
Machinery	42000 Pounds
Reinforcing Steel (Wire Mesh)	500 Pounds
Treated Lumber	55,471 M.B.M.
Floor Covering	712.50 Yds.
Concrete (Counter Weight)	24.20 Cu. Yds.



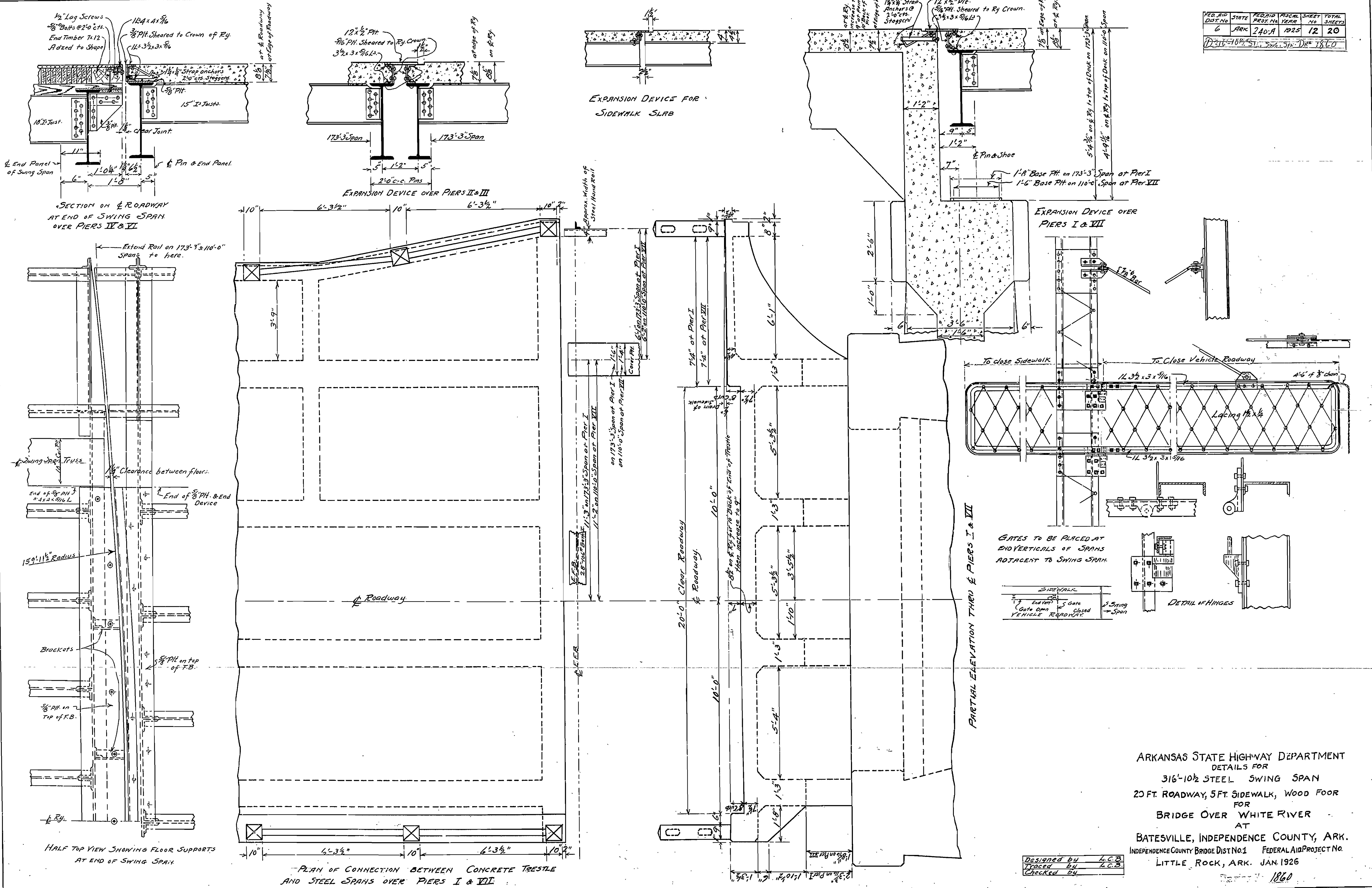
ARKANSAS STATE HIGHWAY DEPARTMENT
 DESIGN OF
 316'-10 1/2" STEEL SWING SPAN
 20 FT. ROADWAY, 5 FT. SIDEWALK, WOOD FLOOR
 FOR
 BRIDGE OVER WHITE RIVER
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926.

Designed by G.C.B.
 Drawn by G.C.B.
 Checked by W.H.M.
 Revised by W.H.M. 1/1/26

Drawing No. 1859

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	PSCL. YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	240-A	1925	12	20

DATE: 10/14/25 DRAWN: S.W. DR. 1860

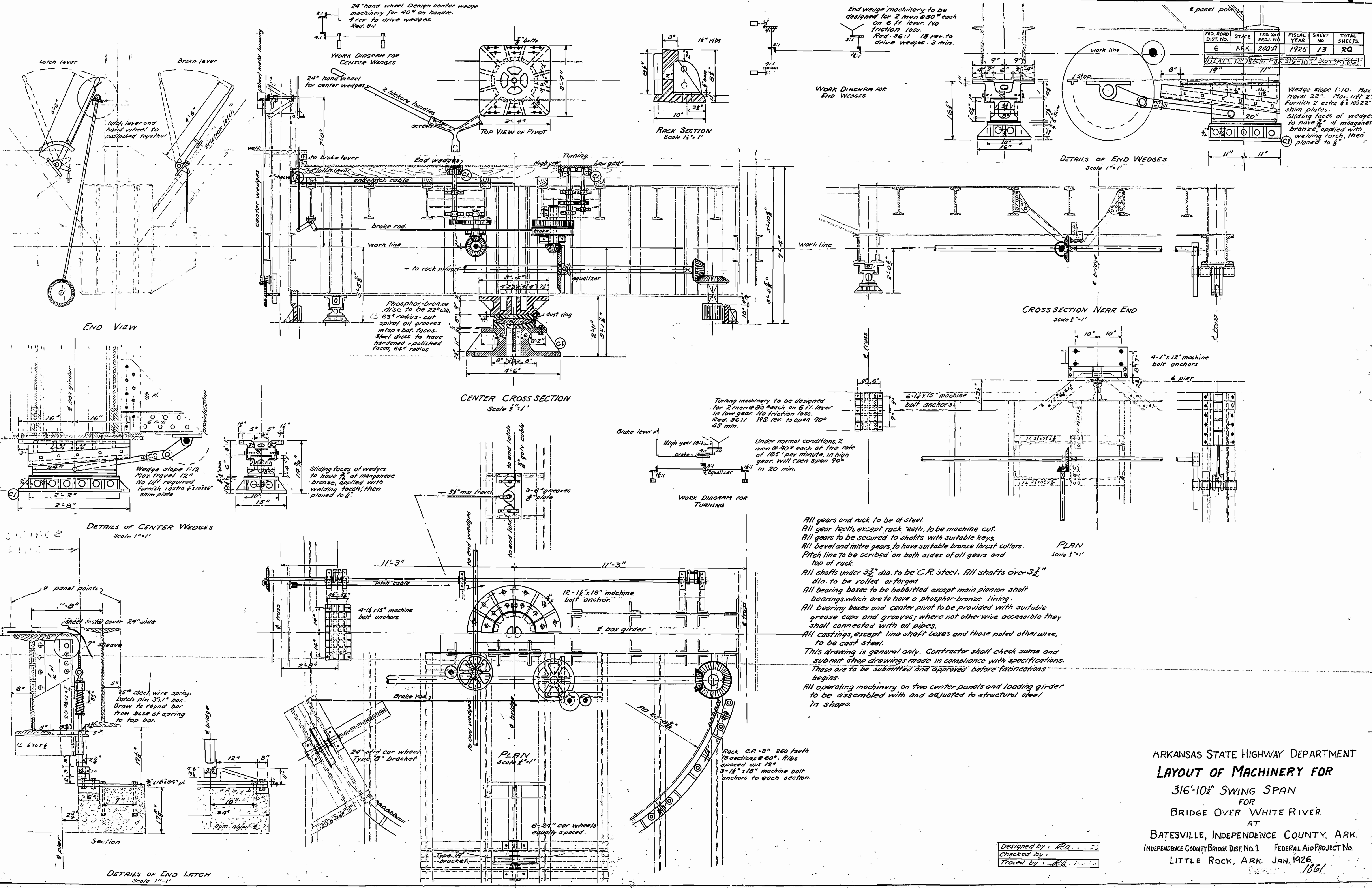


ARKANSAS STATE HIGHWAY DEPARTMENT
 DETAILS FOR
 316'-10 1/2" STEEL SWING SPAN
 20 FT. ROADWAY, 5 FT. SIDEWALK, WOOD FLOOR
 FOR
 BRIDGE OVER WHITE RIVER
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST NO. 1 FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926

Designed by L.C.B.
 Traced by L.C.B.
 Checked by

1860

FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	2407	1925	13	20



24" hand wheel. Design center wedge machinery for 40° as handle. 4 rev. to drive wedges. Ref. B-1

End wedge machinery to be designed for 2 men @ 80° each on 6 ft. lever. No friction loss. Ref. 36-1. 18 rev. to drive wedges. 3 min.

WORK DIAGRAM FOR CENTER WEDGES

WORK DIAGRAM FOR END WEDGES

DETAILS OF END WEDGES Scale 1" = 1"

CENTER CROSS SECTION Scale 3/4" = 1"

WORK DIAGRAM FOR TURNING

PLAN Scale 5/8" = 1"

DETAILS OF CENTER WEDGES Scale 1" = 1"

DETAILS OF END LATCH Scale 1" = 1"

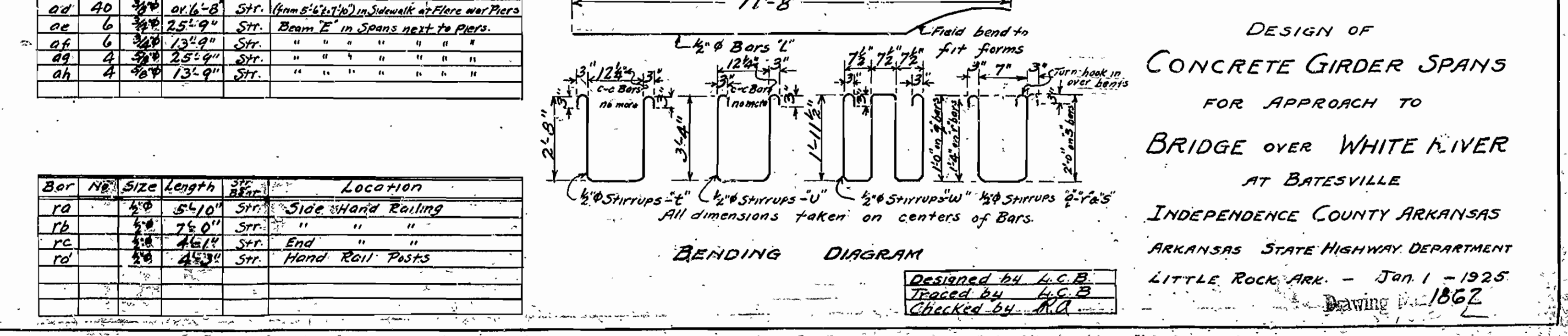
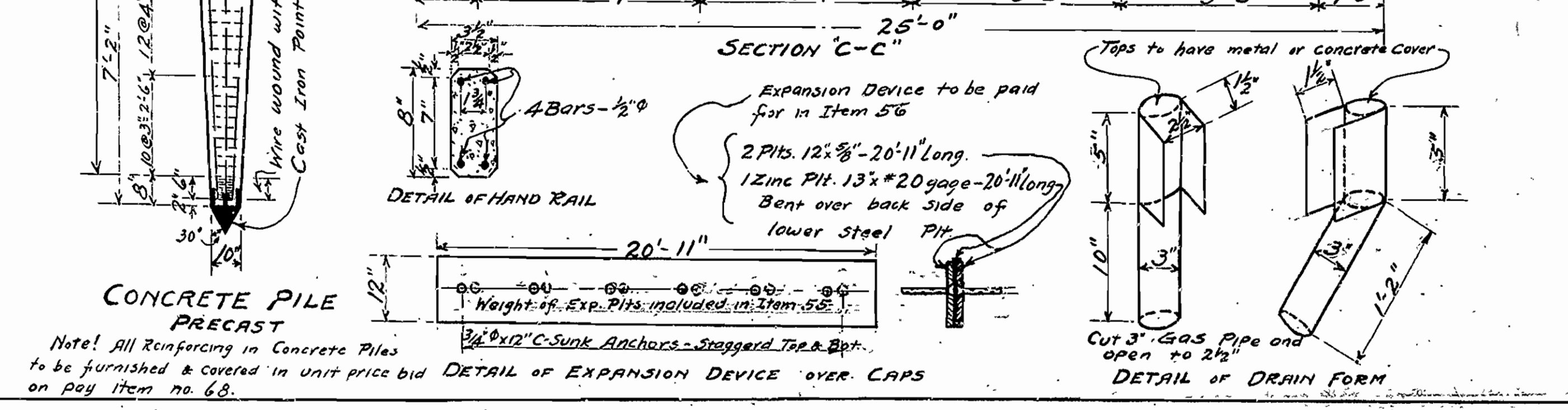
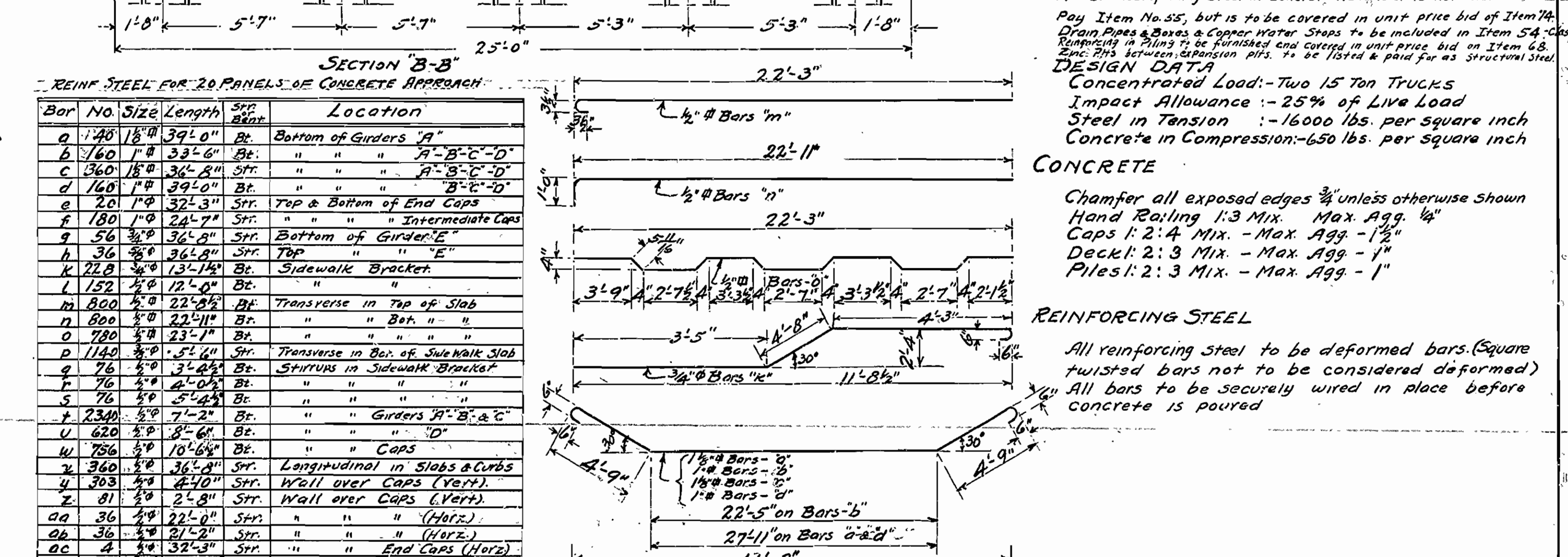
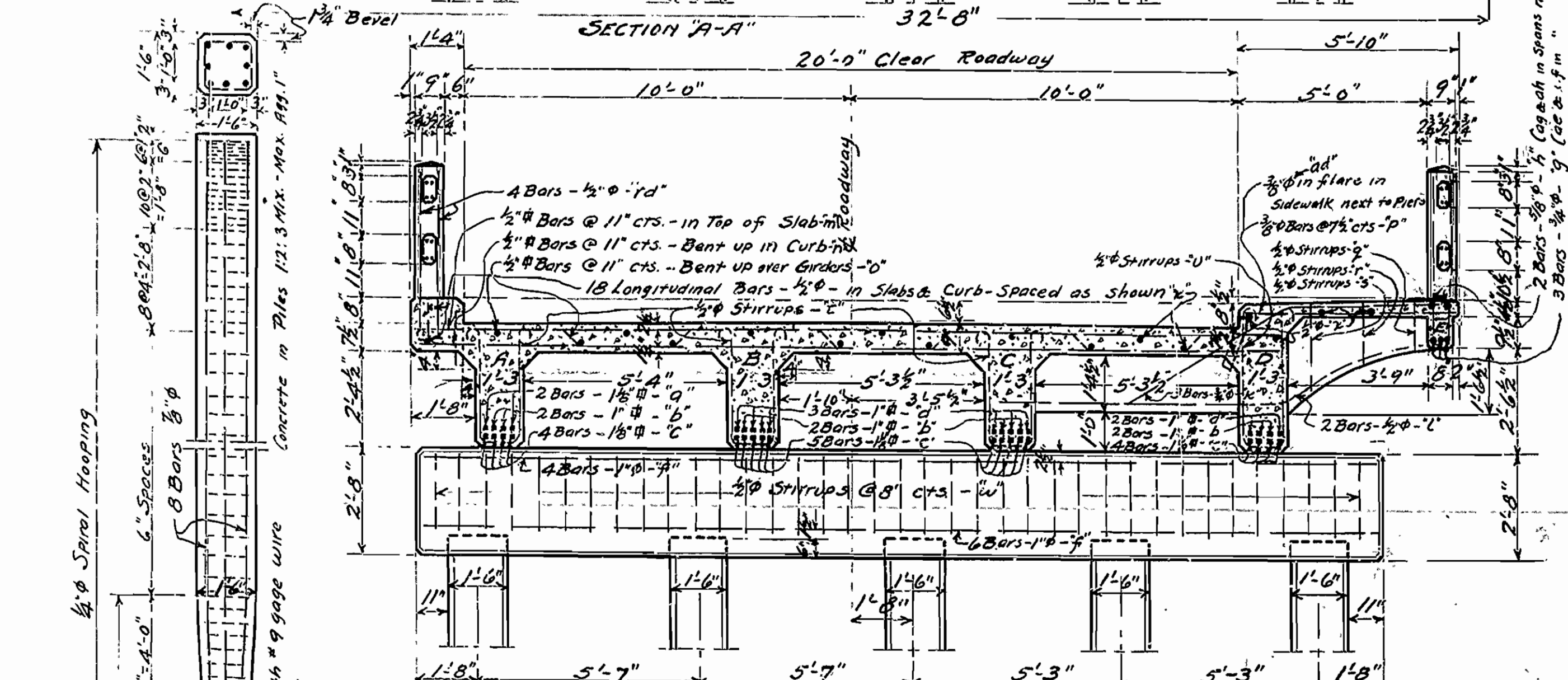
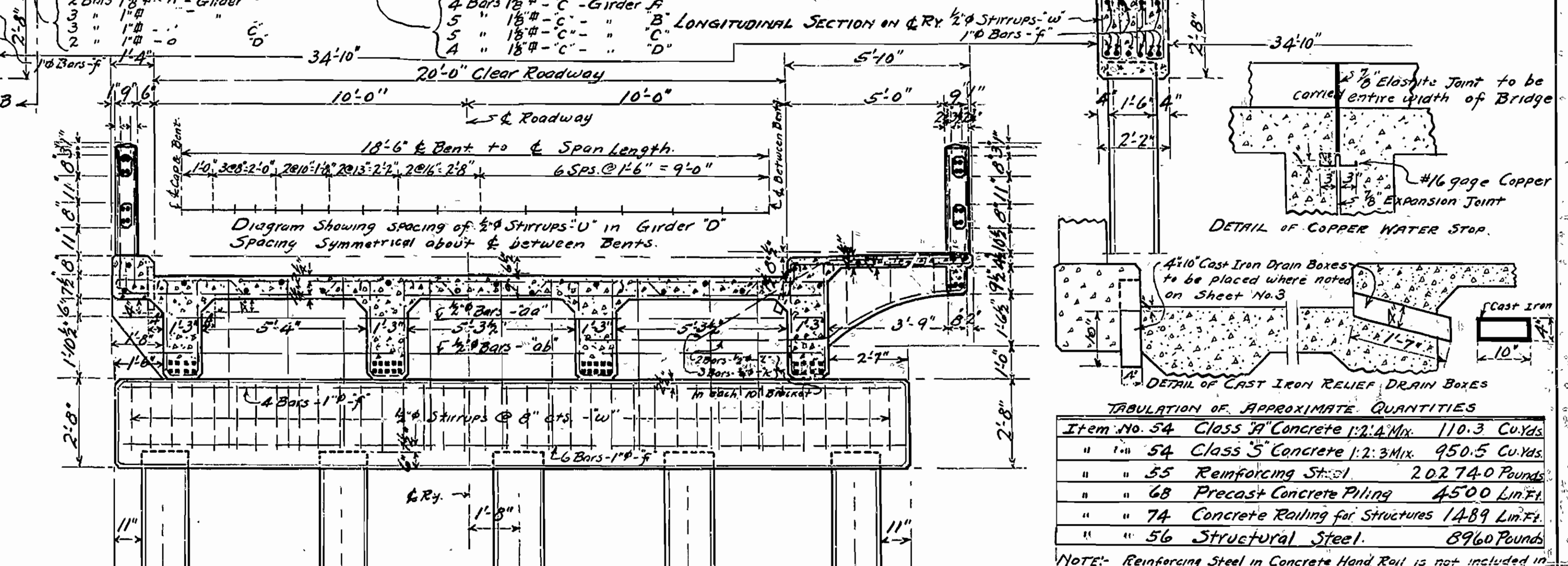
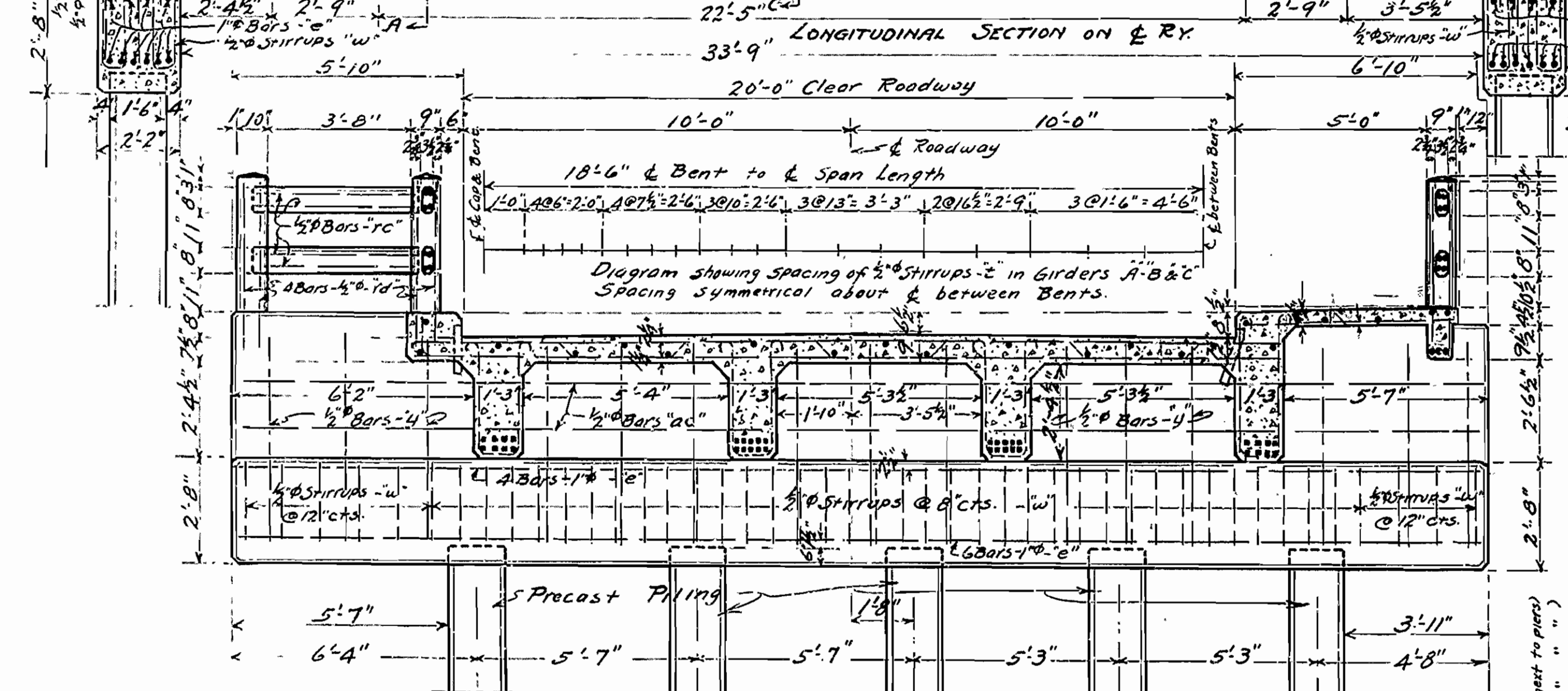
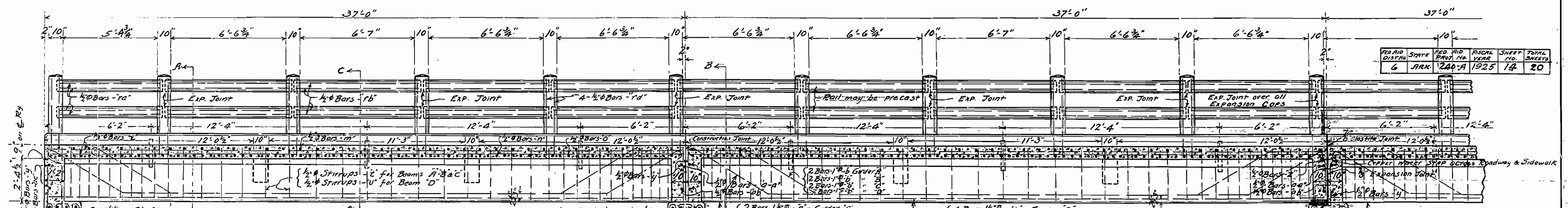
All gears and rack to be of steel.
 All gear teeth, except rack teeth, to be machine cut.
 All gears to be secured to shafts with suitable keys.
 All bevel and mitre gears, to have suitable bronze thrust collars.
 Pitch line to be scribed on both sides of all gears and top of rack.
 All shafts under 3 1/2" dia. to be C.R. steel. All shafts over 3 1/2" dia. to be rolled or forged.
 All bearing boxes to be babitted except main pinion shaft bearings which are to have a phosphor-bronze lining.
 All bearing boxes and center pivot to be provided with suitable grease cups and grooves; where not otherwise accessible they shall be connected with oil pipes.
 All castings, except line shaft boxes and those noted otherwise, to be cast steel.
 This drawing is general only. Contractor shall check same and submit shop drawings made in compliance with specifications. These are to be submitted and approved before fabrications begin.
 All operating machinery on two center panels and loading girder to be assembled with and adjusted to structural steel in shops.

ARKANSAS STATE HIGHWAY DEPARTMENT
LAYOUT OF MACHINERY FOR
 316'-10 1/2" SWING SPAN
 FOR
 BRIDGE OVER WHITE RIVER
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK.
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO.
 LITTLE ROCK, ARK. JAN. 1926.

Designed by: R.A.
 Checked by:
 Traced by: R.A.

1861

RD. DIST.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	240-A	14	20



CONCRETE PILE PRECAST
 Note! All Reinforcing in Concrete Piles to be furnished & covered in unit price bid on pay item no. 68.

DETAIL OF EXPANSION DEVICE OVER CAPS
 Expansion Device to be paid for in Item 56
 2 Pits 12x8x20-11 Long
 12 Zinc Pits 13x20 gage-20-11 Long Bent over back side of lower steel pit

DETAIL OF DRAIN FORM
 Cut 3" Gas Pipe and open to 2 1/2"

REIN. STEEL FOR 20 PANELS OF CONCRETE APPROACH

Bor	No.	Size	Length	Sp. Bent	Location
a	140	1/2"	39'-0"	Bt.	Bottom of Girders A
b	160	1"	33'-6"	Bt.	" " " A-B-C-D
c	360	1/2"	34'-8"	Str.	" " " A-B-C-D
d	160	1"	39'-0"	Bt.	" " " B-C-D
e	20	1"	32'-3"	Str.	Top & Bottom of End Caps
f	180	1"	24'-7"	Str.	Intermediate Caps
g	56	3/8"	36'-8"	Str.	Bottom of Girder E
h	36	3/8"	36'-8"	Str.	Top " " E
i	152	3/8"	13'-1 1/2"	Bt.	Sidewalk Bracket
j	800	3/8"	22'-8"	Bt.	Transverse in Top of Slab
k	800	3/8"	22'-11"	Bt.	" " Bot " "
l	720	3/8"	23'-1"	Bt.	" " " " "
m	1140	3/8"	5'-1 1/2"	Str.	Transverse in Bot. of Sidewalk Slab
n	76	3/8"	3'-4 1/2"	Str.	STIRRUPS in Sidewalk Bracket
o	76	3/8"	5'-0 1/2"	Bt.	" " " " "
p	76	3/8"	5'-0 1/2"	Bt.	" " " " "
q	2320	3/8"	7'-2"	Bt.	" " Girders B-C & C
r	620	3/8"	8'-6"	Bt.	" " " D
s	756	3/8"	10'-6 1/2"	Bt.	" " Caps
t	360	3/8"	36'-4"	Str.	Longitudinal in Slabs & Curbs
u	303	3/8"	4'-0"	Str.	Wall over Caps (Vert.)
v	81	3/8"	2'-8"	Str.	Wall over Caps (Vert.)
va	36	3/8"	2'-0"	Str.	" " " (Horiz.)
vb	36	3/8"	2'-0"	Str.	" " " (Horiz.)
vc	4	3/8"	32'-3"	Str.	" " End Caps (Horiz.)
vd	40	3/8"	21'-7 1/2"	Str.	(Horns 4x7 1/2) in sidewalk at Piers over Piers
ve	6	3/8"	25'-9"	Str.	Beam E in Spans next to Piers
vf	4	3/8"	13'-9"	Str.	" " " " " " "
vg	4	3/8"	13'-9"	Str.	" " " " " " "
vh	4	3/8"	13'-9"	Str.	" " " " " " "

Bor	No.	Size	Length	Sp.	Location
ra	40	1/2"	5'-10"	Str.	Side Hand Railing
rb	40	1/2"	7'-0"	Str.	" " " " "
rc	40	1/2"	4'-6 1/2"	Str.	End " " " "
rd	4	1/2"	4'-3 1/2"	Str.	Hand Rail Posts

TABULATION OF APPROXIMATE QUANTITIES

Item No. 54	Class 9 Concrete 1:2:4 Mix	110.3	Cu Yds.
" 55	Class 5 Concrete 1:2:3 Mix	950.5	Cu Yds.
" 56	Reinforcing Steel	20274.0	Pounds
" 68	Precast Concrete Piling	4500	Lin. Ft.
" 74	Concrete Railing for Structures	1489	Lin. Ft.
" 56	Structural Steel	8960	Pounds

DESIGN DATA
 Concentrated Load: -Two 15 Ton Trucks
 Impact Allowance: -25% of Live Load
 Steel in Tension: -16000 lbs. per square inch
 Concrete in Compression: -6500 lbs. per square inch

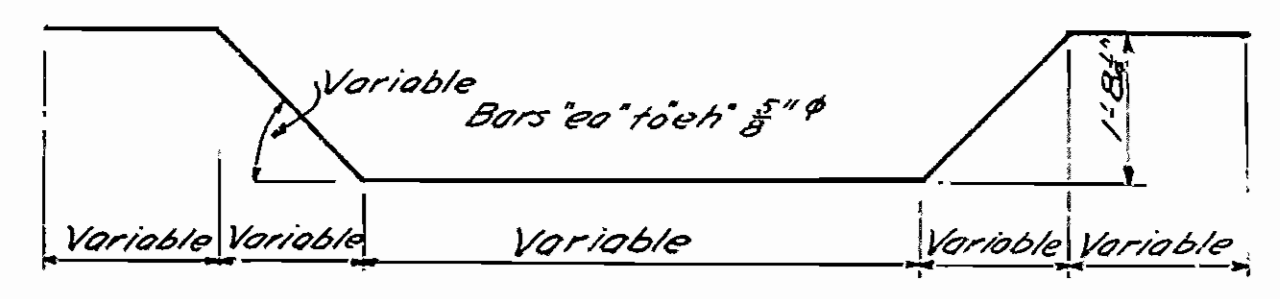
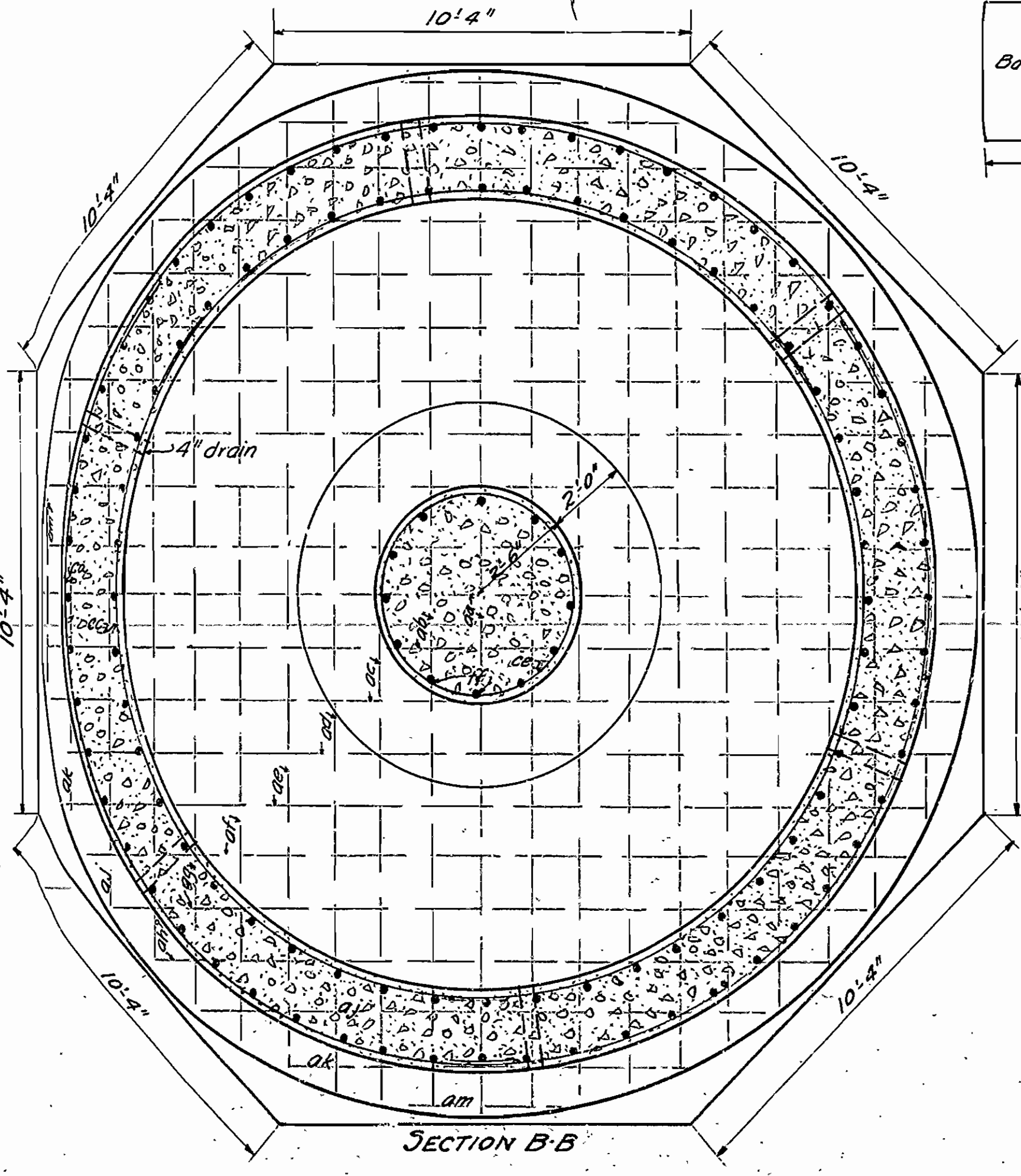
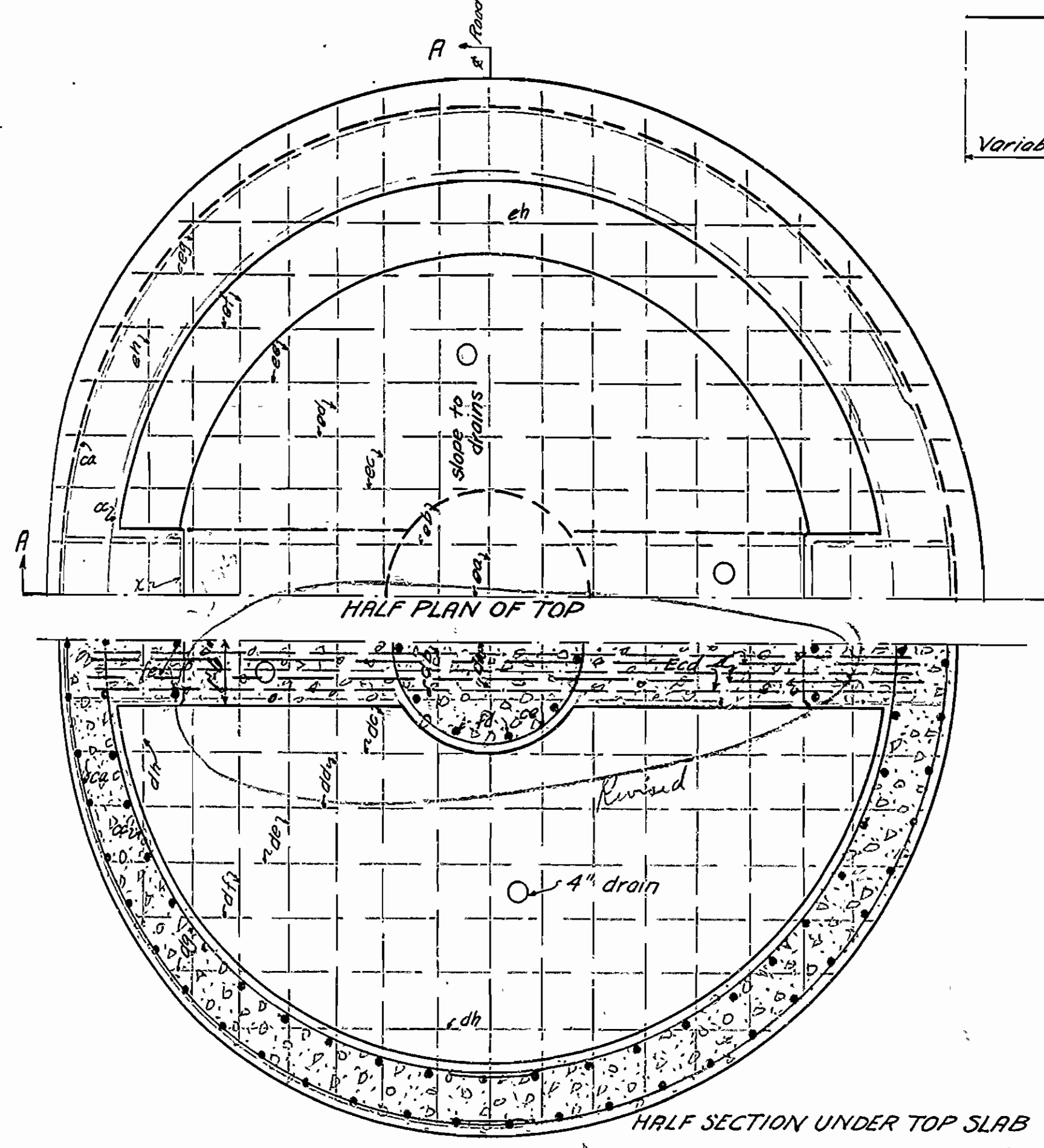
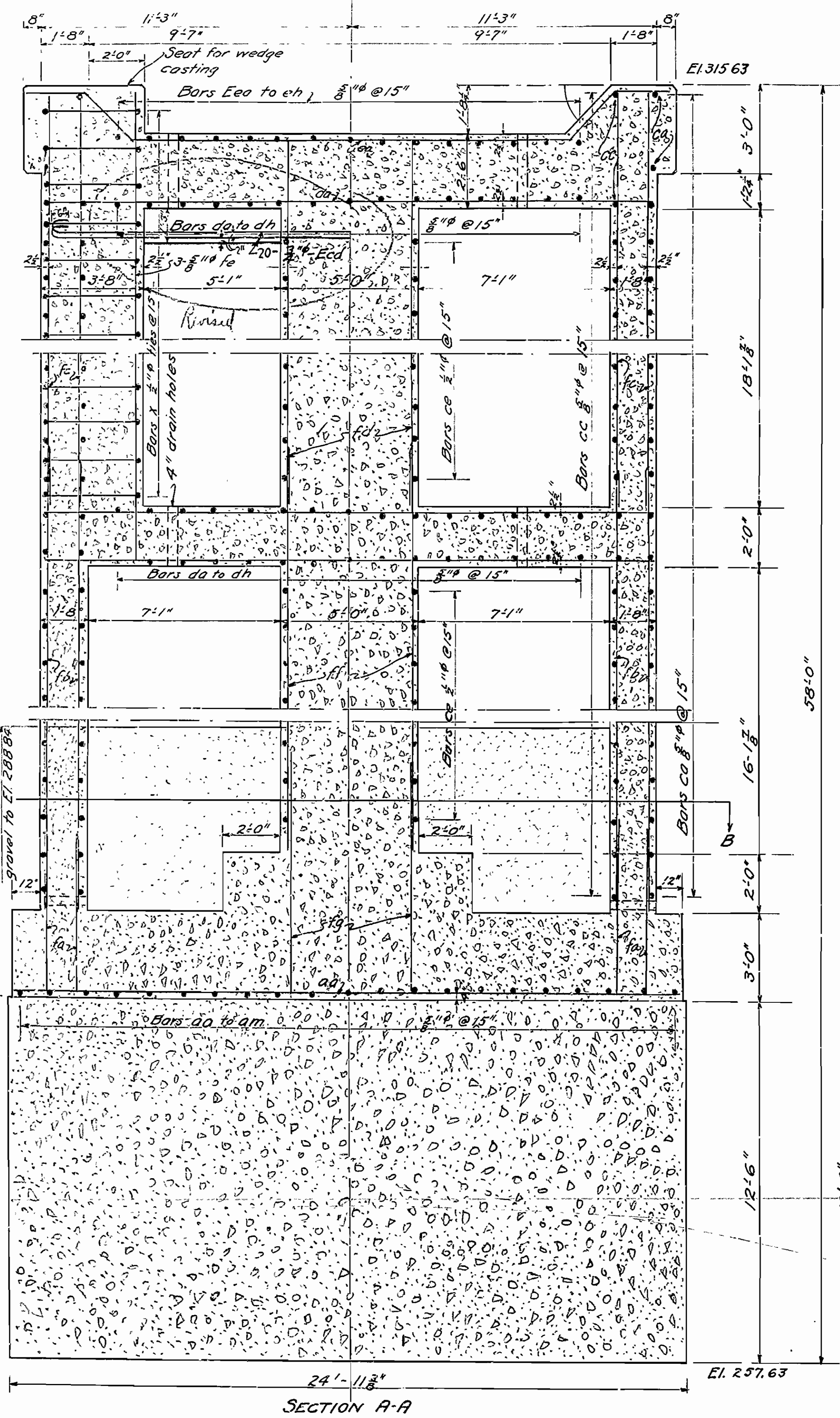
CONCRETE
 Chamfer all exposed edges 3/4" unless otherwise shown
 Hand Railing: 1:3 Mix - Max. Agg. 1/4"
 Caps: 1:2:4 Mix - Max. Agg. 1/2"
 Deck: 2:3 Mix - Max. Agg. 1"
 Piles: 2:3 Mix - Max. Agg. 1"

REINFORCING STEEL
 All reinforcing steel to be deformed bars (Square twisted bars not to be considered deformed)
 All bars to be securely wired in place before concrete is poured

DESIGN OF CONCRETE GIRDER SPANS FOR APPROACH TO BRIDGE OVER WHITE RIVER AT BATESVILLE INDEPENDENCE COUNTY ARKANSAS
 ARKANSAS STATE HIGHWAY DEPARTMENT
 LITTLE ROCK, ARK. - JUN 1 - 1925
 Drawing 186Z
 Designed by L.C.B.
 Traced by L.C.B.
 Checked by A.M.

FED. DIST. NO.	STRA.	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	Ark	240A	1925	25	20

Drawn by P. H. W. H. R. B. R. 1925



BAR No.	SIZE	LENGTH	STR. OR BT.	LOCATION			
Eob	2 # 3/8"	24'-2"	STR.	Horizontal bars in bottom of footing.			
Eob	4 # 3/8"	24'-0"	"				
Eoc	4 # 3/8"	23'-8"	"				
Eod	4 # 3/8"	23'-2"	"				
Eoe	4 # 3/8"	22'-4"	"				
Eof	4 # 3/8"	21'-0"	"				
Eog	4 # 3/8"	19'-4"	"				
Eoh	4 # 3/8"	17'-4"	"				
Eoi	4 # 3/8"	14'-8"	"				
Eoj	4 # 3/8"	10'-8"	"				
Eok	4 # 3/8"	4'-8"	"	Horizontal bars in top & bottom of diaphragm slab and bottom of cap slab.			
Eol	4 # 3/8"	22'-2"	"				
Eom	10 # 3/8"	22'-0"	"				
Eon	10 # 3/8"	21'-8"	"				
Eoo	10 # 3/8"	21'-0"	"				
Eop	10 # 3/8"	20'-0"	"				
Eoq	10 # 3/8"	18'-8"	"				
Eor	10 # 3/8"	16'-8"	"				
Eos	10 # 3/8"	12'-0"	"				
Eot	2 # 3/8"	24'-10"	BENT		Top of cap slab.		
Eob	4 # 3/8"	24'-8"	"				
Eoc	4 # 3/8"	24'-4"	"				
Eod	4 # 3/8"	23'-8"	"				
Eoe	4 # 3/8"	22'-8"	"				
Eof	4 # 3/8"	21'-4"	"				
Eog	4 # 3/8"	19'-8"	"				
Eoh	4 # 3/8"	17'-4"	"				
Eoi	103 # 3/8"	5'-0"	STR.	Dowels in footing.			
Eof	14 # 3/8"	7'-0"	"				
Efb	106 # 3/8"	22'-2"	STR.		Dowels in core.		
Efc	106 # 3/8"	22'-2"	STR.				
Efd	12 # 3/8"	20'-5"	"				
Efe	6 # 3/8"	24'-1"	"				
Eca	102 # 3/8"	25'-2"	Curved			Verticals in lower part.	
Ecc	93 # 3/8"	23'-8"	"				
Ecd	24 # 1/2"	16'-3"	"				
Ex	33 # 1/2"	13'-0"	BENT				Verticals in upper part.
Eff	12 # 3/8"	20'-2"	STR.				
Eed	20 # 3/8"	22'-4"	STR.	Verticals in core.			
Eef	6 # 3/8"	24'-1"	"				
Eca	102 # 3/8"	25'-2"	Curved		Verticals in col. for cast.		
Ecc	93 # 3/8"	23'-8"	"				
Ecd	24 # 1/2"	16'-3"	"				
Ex	33 # 1/2"	13'-0"	BENT			Circumferential in shell.	
Eff	12 # 3/8"	20'-2"	STR.				
Eed	20 # 3/8"	22'-4"	STR.				
Eef	6 # 3/8"	24'-1"	"				
Eca	102 # 3/8"	25'-2"	Curved				Verticals in core.
Ecc	93 # 3/8"	23'-8"	"				
Ecd	24 # 1/2"	16'-3"	"				
Ex	33 # 1/2"	13'-0"	BENT	Girder under cap.			
Eff	12 # 3/8"	20'-2"	STR.				
Eed	20 # 3/8"	22'-4"	STR.				
Eef	6 # 3/8"	24'-1"	"				

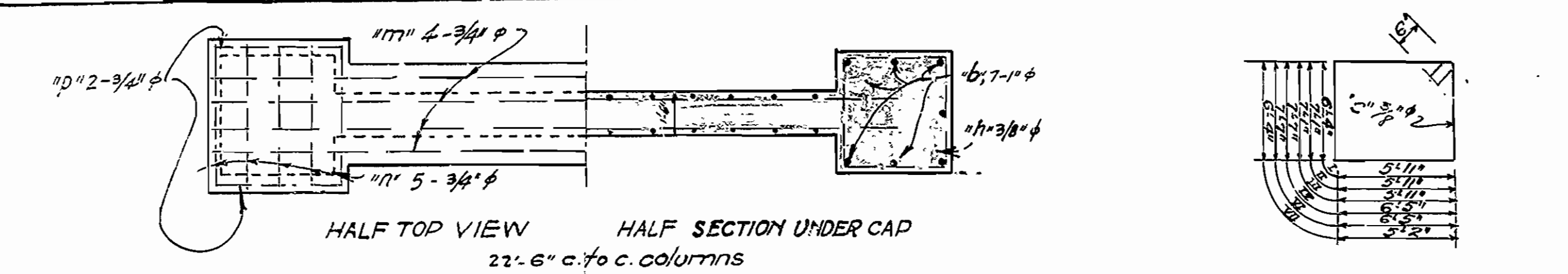
QUANTITIES

Class 'C' Conc. 1:3:6	2364 c.y.
Class 'A' Conc. 1:2:4	318.6 c.y.
Reinforcing Steel	15075 lbs
Sand fill in Pier	157 c.y.

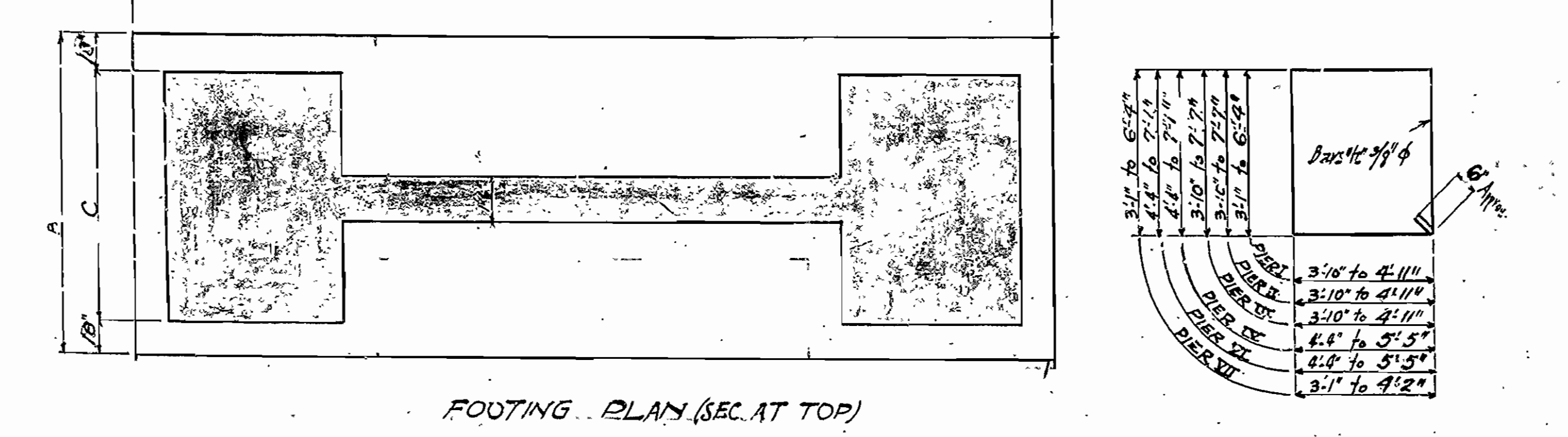
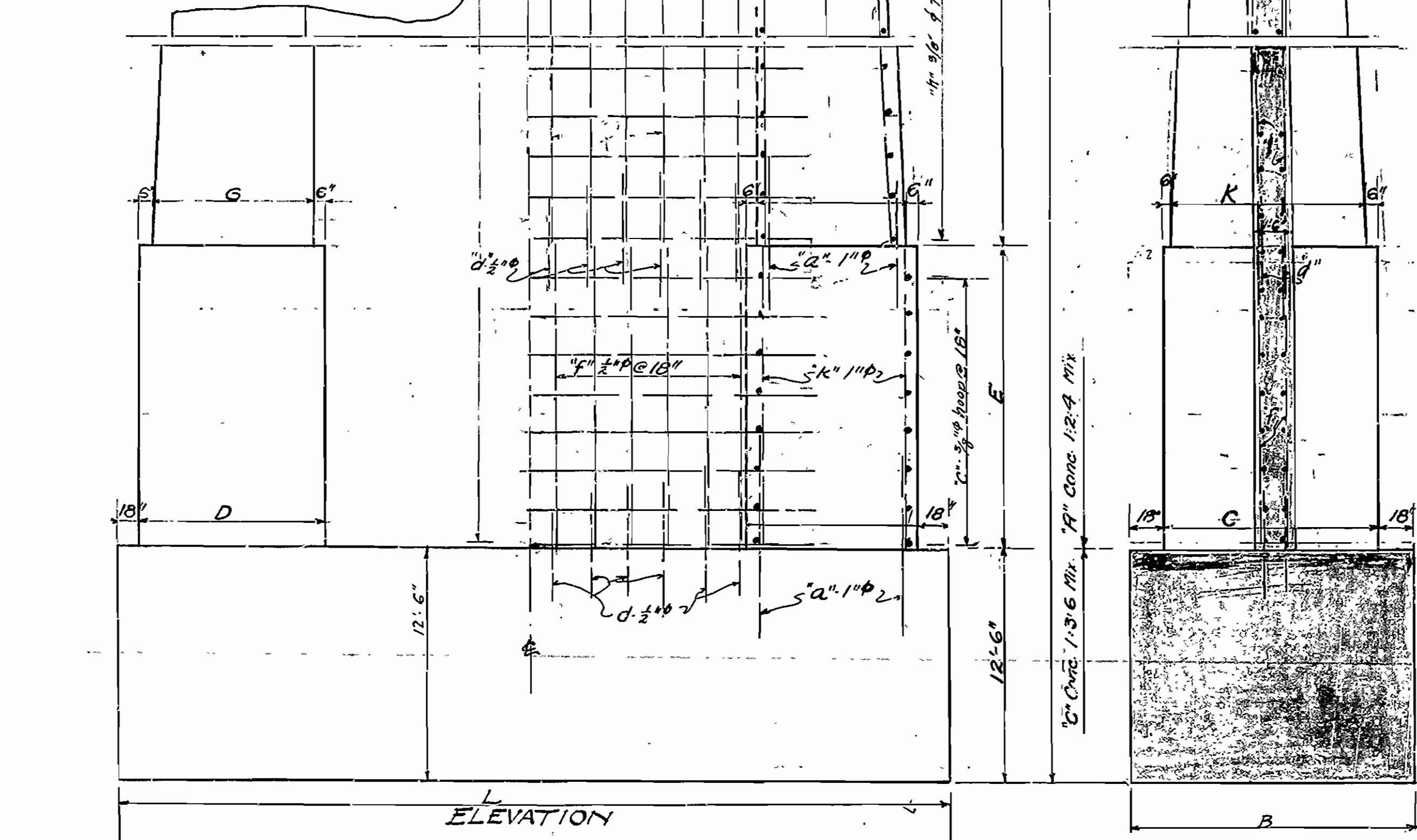
Specifications: Arkansas State Highway and Bridge Specifications approved 5-30-25
 Class 'C' Concrete to be 1:3:6 mix; max aggregate 2 1/2"
 Class 'A' Concrete to be 1:2:4 mix; max aggregate 1 1/2"
 Chamfer exposed corners 1/2"
 Reinforcing steel to be deformed bars of structural or intermediate grade.
 Bars to be securely wired in place before concrete is poured.
 All concrete to be placed in the dry.

ARKANSAS STATE HIGHWAY DEPARTMENT
PIVOT PIER
 FOR
 PNEUMATIC CAISSON METHOD
 FOR
 BRIDGE OVER WHITE RIVER
 AT
 BATESVILLE, INDEPENDENCE COUNTY, ARK
 INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJECT NO. 240A
 LITTLE ROCK, ARK. APR 1926
 1863

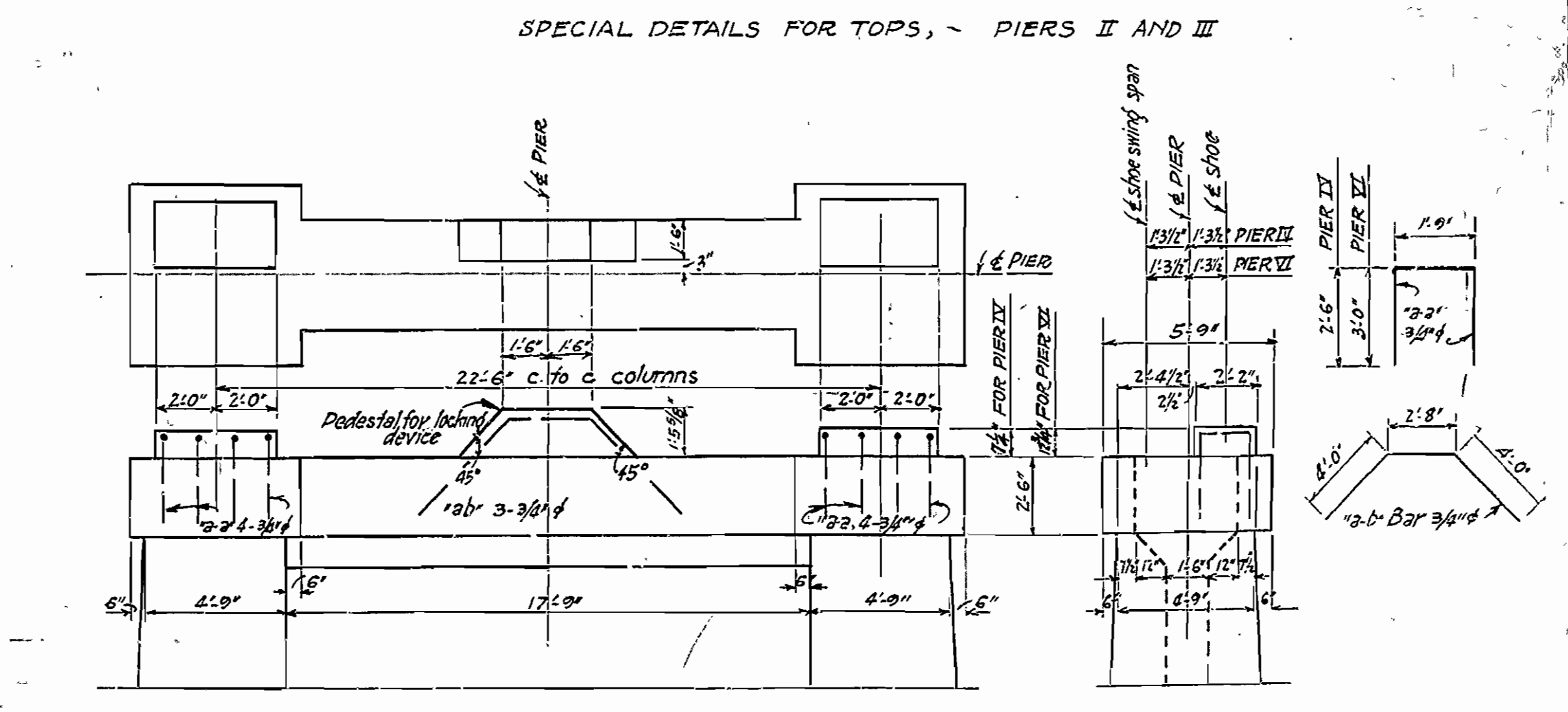
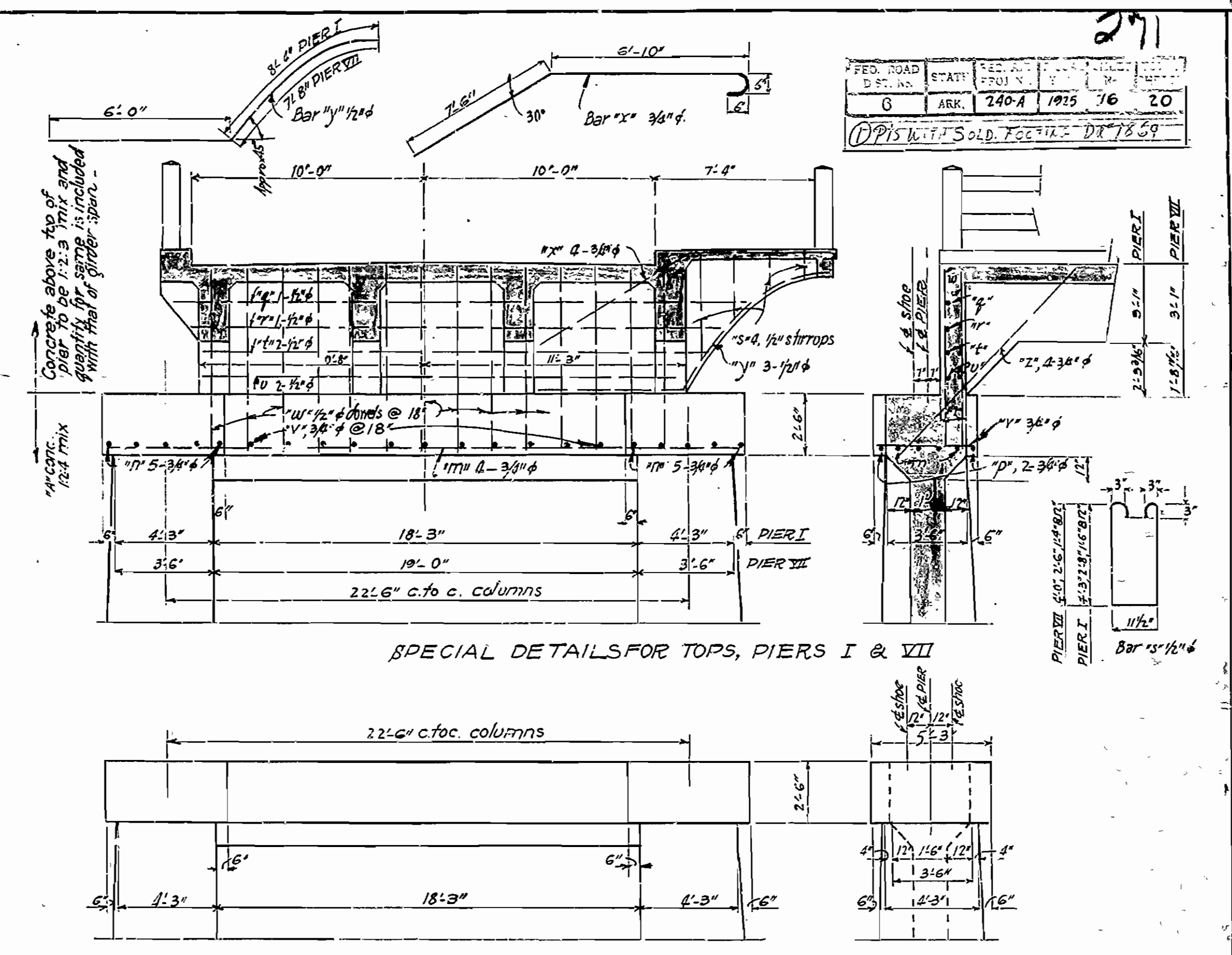
Drawn by
 Traced by
 Checked by
 Revised by
 Rechecked by



SPECIAL DIMENSIONS						
DIMENSION	PIER I	PIER II	PIER III	PIER IV	PIER VI	PIER VII
H	61'0"	61'0"	67'0"	66'0"	58'0"	58'0"
E	18'0"	18'0"	24'0"	23'0"	15'0"	15'0"
K	5'4"0"	6'7"	6'7"	7'1"	7'1"	5'10"
G	5'5"	5'5"	5'5"	5'11"	5'11"	4'8"
L	33'1"	33'1"	33'1"	33'7"	33'7"	32'4"
B	9'10"	10'7"	10'7"	11'1"	11'1"	9'10"
R	9'1/2"	9'1/2"	9'1/2"	8'10"	8'10"	9'6"
C	6'10"	7'7"	7'7"	8'1"	8'1"	6'10"
D	6'5"	6'5"	6'5"	6'11"	6'11"	5'8"



SCHEDULE OF STEEL BARS				
BAR NO	SIZE	LENGTH	STR	LOCATION
PIER I				
AB	28	1" φ	STR	Dowels in columns
AD	14	1" φ	STR	Vertical in columns
AE	14	1" φ	STR	Dowels in columns
AF	24	1/2" φ	STR	Vertical in webwall
AG	62	1/2" φ	STR	Horiz. in columns
AH	38	3/8" φ	BT	Ties in columns
AI	4	3/8" φ	STR	In coping
AM	10	3/8" φ	STR	In coping
AN	4	3/8" φ	STR	"
AO	1	1/2" φ	STR	Wall over pier
AP	1	1/2" φ	STR	"
AS	4	1/2" φ	STR	Stirrups in brackets
AT	2	1/2" φ	STR	Wall over pier
AU	2	1/2" φ	STR	"
AV	11	3/8" φ	STR	In coping
AW	28	1/2" φ	STR	Dowels in top of pier
AX	4	1/2" φ	STR	Top of brackets
AY	3	1/2" φ	STR	Bot "
AZ	16	3/8" φ	STR	End of brack.
BA	24	3/8" φ	STR	Vert. in web wall
BC	24	3/8" φ	STR	Hoops in str. shaft
BD	14	1" φ	STR	Vert. "
PIER VII				
Ga	28	1" φ	STR	Dowels in columns
Gb	14	1" φ	STR	Vertical in columns
Gc	32	1/2" φ	STR	Dowels in columns
Gd	26	1/2" φ	STR	Vertical in webwall
Ge	38	1/2" φ	STR	Horiz. in columns
Gf	38	3/8" φ	BT	Ties in columns
Gg	4	3/8" φ	STR	In coping
Gh	10	3/8" φ	STR	"
Gi	4	3/8" φ	STR	"
Gj	12	3/8" φ	STR	"
Gk	1	1/2" φ	STR	In wall over pier
Gl	1	1/2" φ	STR	"
Gm	2	1/2" φ	STR	"
Gn	2	1/2" φ	STR	"
Go	28	1/2" φ	STR	Dowels in top of pier
Gp	4	1/2" φ	STR	Stirrups in brack.
Gq	4	1/2" φ	STR	Top of bracket
Gr	3	1/2" φ	STR	Bot "
Gs	16	3/8" φ	STR	Girder "
Gt	26	1" φ	STR	Vert. web wall
Gv	20	3/8" φ	STR	Hoops in str. shaft
Gw	14	1" φ	STR	Vert. "
PIER II				
Ba	28	1" φ	STR	Dowels in columns
Bb	14	1" φ	STR	Vertical in columns
Bc	14	1" φ	STR	Dowels in columns
Bd	24	1/2" φ	STR	Vertical in webwall
Be	24	1/2" φ	STR	Vertical in webwall
Bf	62	1/2" φ	STR	Horiz. in webwall
Bg	38	3/8" φ	BT	Ties in columns
Bh	4	3/8" φ	STR	In coping
Bi	10	3/8" φ	STR	"
Bj	4	3/8" φ	STR	"
Bk	24	3/8" φ	STR	Vertical in web wall
Bc	24	3/8" φ	STR	Hoops in str. shaft
Bk	14	1" φ	STR	Vertical "
PIER III				
Ca	28	1" φ	STR	Dowels in columns
Cb	14	1" φ	STR	Vertical in columns
Cc	44	1/2" φ	STR	Dowels in footing
Cd	24	1/2" φ	STR	Vertical in webwall
Ce	70	1/2" φ	STR	Horiz. in columns
Cf	38	3/8" φ	BT	Ties in columns
Cg	4	3/8" φ	STR	In coping
Ch	10	3/8" φ	STR	"
CI	4	3/8" φ	STR	"
Cj	24	3/8" φ	STR	Vertical in web wall
Ck	32	3/8" φ	STR	Hoops in str. shaft
Ck	14	1" φ	STR	Vertical "
PIER IV				
Dd	28	1" φ	STR	Dowels in columns
Dd	14	1" φ	STR	Vertical in columns
Dd	44	1/2" φ	STR	Dowels in footing
De	24	1/2" φ	STR	Vertical in webwall
Df	68	1/2" φ	STR	Horiz. in columns
Dg	38	3/8" φ	BT	Ties in columns
Dh	4	3/8" φ	STR	In coping
Di	10	3/8" φ	STR	"
Dj	4	3/8" φ	STR	"
Dk	24	3/8" φ	STR	Vertical in web wall
Dl	32	3/8" φ	STR	Hoops in str. shaft
Dl	14	1" φ	STR	Vertical "
PIER V				
Ea	28	1" φ	STR	Dowels in columns
Ea	14	1" φ	STR	Vertical in columns
Ea	44	1/2" φ	STR	Dowels in footing
Eb	24	1/2" φ	STR	Vertical in webwall
Ec	70	1/2" φ	STR	Horiz. in columns
Ed	38	3/8" φ	BT	Ties in columns
Ee	4	3/8" φ	STR	In coping
Ef	10	3/8" φ	STR	"
Eg	4	3/8" φ	STR	"
Ek	24	3/8" φ	STR	Vertical in web wall
El	32	3/8" φ	STR	Hoops in str. shaft
El	14	1" φ	STR	Vertical "
PIER VI				
Fa	28	1" φ	STR	Dowels in columns
Fa	14	1" φ	STR	Vertical in columns
Fa	44	1/2" φ	STR	Dowels in footing
Fb	24	1/2" φ	STR	Vertical in webwall
Fc	70	1/2" φ	STR	Horiz. in columns
Fd	38	3/8" φ	BT	Ties in columns
Fe	4	3/8" φ	STR	In coping
Ff	10	3/8" φ	STR	"
Fg	4	3/8" φ	STR	"
Fh	24	3/8" φ	STR	Vertical in web wall
Fi	32	3/8" φ	STR	Hoops in str. shaft
Fi	14	1" φ	STR	Vertical "
PIER VII				
Ga	28	1" φ	STR	Dowels in columns
Ga	14	1" φ	STR	Vertical in columns
Ga	44	1/2" φ	STR	Dowels in footing
Gb	24	1/2" φ	STR	Vertical in webwall
Gc	70	1/2" φ	STR	Horiz. in columns
Gd	38	3/8" φ	BT	Ties in columns
Ge	4	3/8" φ	STR	In coping
Gf	10	3/8" φ	STR	"
Gg	4	3/8" φ	STR	"
Gh	24	3/8" φ	STR	Vertical in web wall
Gi	32	3/8" φ	STR	Hoops in str. shaft
Gi	14	1" φ	STR	Vertical "



QUANTITIES			
ITEM	Conc. A 1:2:4	Conc. C 1:3:6	Steel Reinf
PIER I	1621 cu	1505 cu	5867 lbs
PIER II	1766	1620	5227
PIER III	2040	1620	5749
PIER IV	2232	1723	5835
PIER V	1829	1723	5161
PIER VI	1328	1971	5628
TOTALS	10266	9662	33,467

ARIZONA STATE HIGHWAY DEPARTMENT
DESIGN OF
PIERS WITH
SOLID FOOTINGS
PNEUMATIC CAISSON METHOD
BRIDGE OVER WHITE RIVER
AT
BATESVILLE, INDEPENDENCE COUNTY, ARK.
INDEPENDENCE COUNTY BRIDGE DIST. NO. 1 FEDERAL AID PROJ. NO.
LITTLE ROCK, ARK. JAN. 1926
1864

Revised by W.H. 4/1/26