FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	183-E	1925	1	22

S.L. Frail, R.A. Cody, Lee Co. Ark. Dr. 2-24

STATE OF ARKANSAS

STATE HIGHWAY DEPARTMENT

PLAN OF PROPOSED BRIDGE OVER ST FRANCIS RIVER AT CODY, LEE CO., ARK.

LEE COUNTY BRIDGE DISTRICT No. 2

FEDERAL AID PROJECT No. 183-E

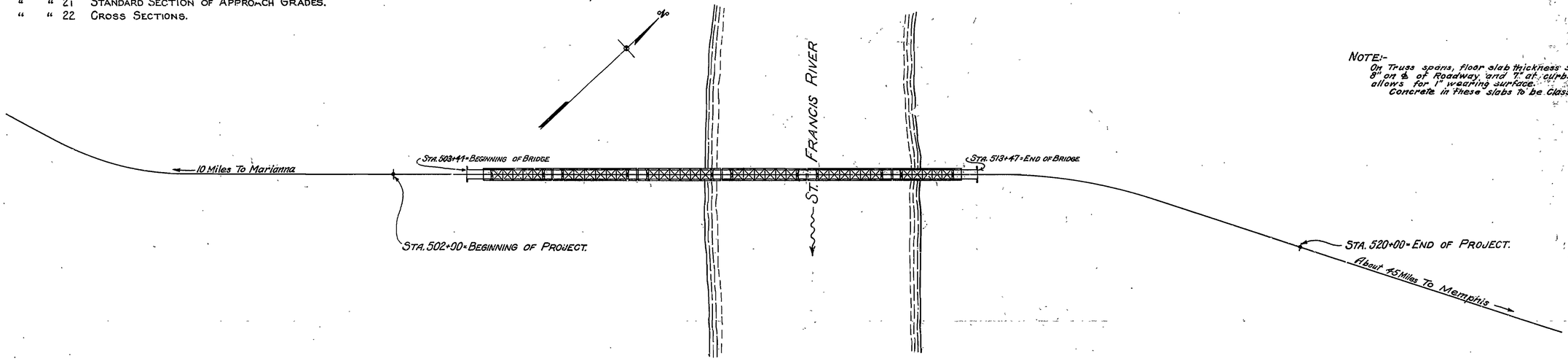
INDEX OF SHEETS

QUANTITIES

Item No.	56	Structural Steel.	1,252,495. Lbs.
" "	55*1	Reinforcing Steel.	130733. Lbs.
"	~	Machinery	52,500. Lbs.
" "	54	Concrete, Class "S" (1:2:3 Mix)	514.2 Cu. Yds.
" "	54*3	" Class "B" (1:2½:5 Mix + 10% Extra Cement) Seal	920.7 Cu. Yds.
" "	54	" " "A" (1:2:4 Mix) Above Seal.	1713.2 Cu. Yds.
" "	54*2	" " " " Counter Wts.	138. Cu. Yds.
" "	74*1	" Railing for Structures. (1:3 Mix.)	130. Lin. Ft.
" "	66	Untreated Timber Piling.	17870. Lin. Ft.
" "	13	Dry Excavation for Structures	1644. Cu. Yds.
" "	13	Wet " " "	2848. Cu. Yds.
" "	12	Earth Excavation.	9900. Cu. Yds.
" "	37	Gravel Surface Course. (0-1 Mile Haul)	354. Cu. Yds.
"	~	Gas Engine and Accessories.	~ Complete

NOTE:-
*1 Reinforcing Steel in Hand rail on Approach Spans is not included in Item No 55 but is to be covered in unit price bid on Item No 74.
*2 Wire mesh reinforcing in counter weights is to be included in unit price bid on Item No 54, Counter Weight Concrete.
*3 Volume of encased pile heads is not included in this quantity.

NOTE:-
On Truss spans, floor slab thickness should be 8" on ℄ of Roadway, and 7" at curbs, which allows for 1" wearing surface. Concrete in these slabs to be Class "S" (1:2:3 Mix)



LAYOUT

Scale: 1" = 100'

GROSS LENGTH OF PROJECT = 1800 FT. = .340 - MILES
NET LENGTH OF PROJECT = 1800 FT. = .340 - MILES

Specifications approved by Chief, Bureau of Public Roads September 29, 1925, and adopted by State Highway Commission May 30, 1925, and special provisions.

Revised Oct. 20, 1926 by W.R.M.
" Jan. 25, 1927 " "

APPROVED
[redacted]
COMMISSIONER, STATE LANDS, HIGHWAYS AND IMPROVEMENTS

APPROVED
[redacted]
STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL
[redacted]
DISTRICT ENGINEER-U. S. BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL
[redacted]
CHIEF ENGINEER-U. S. BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL
[redacted]
STATE HIGHWAY BRIDGE ENGINEER.

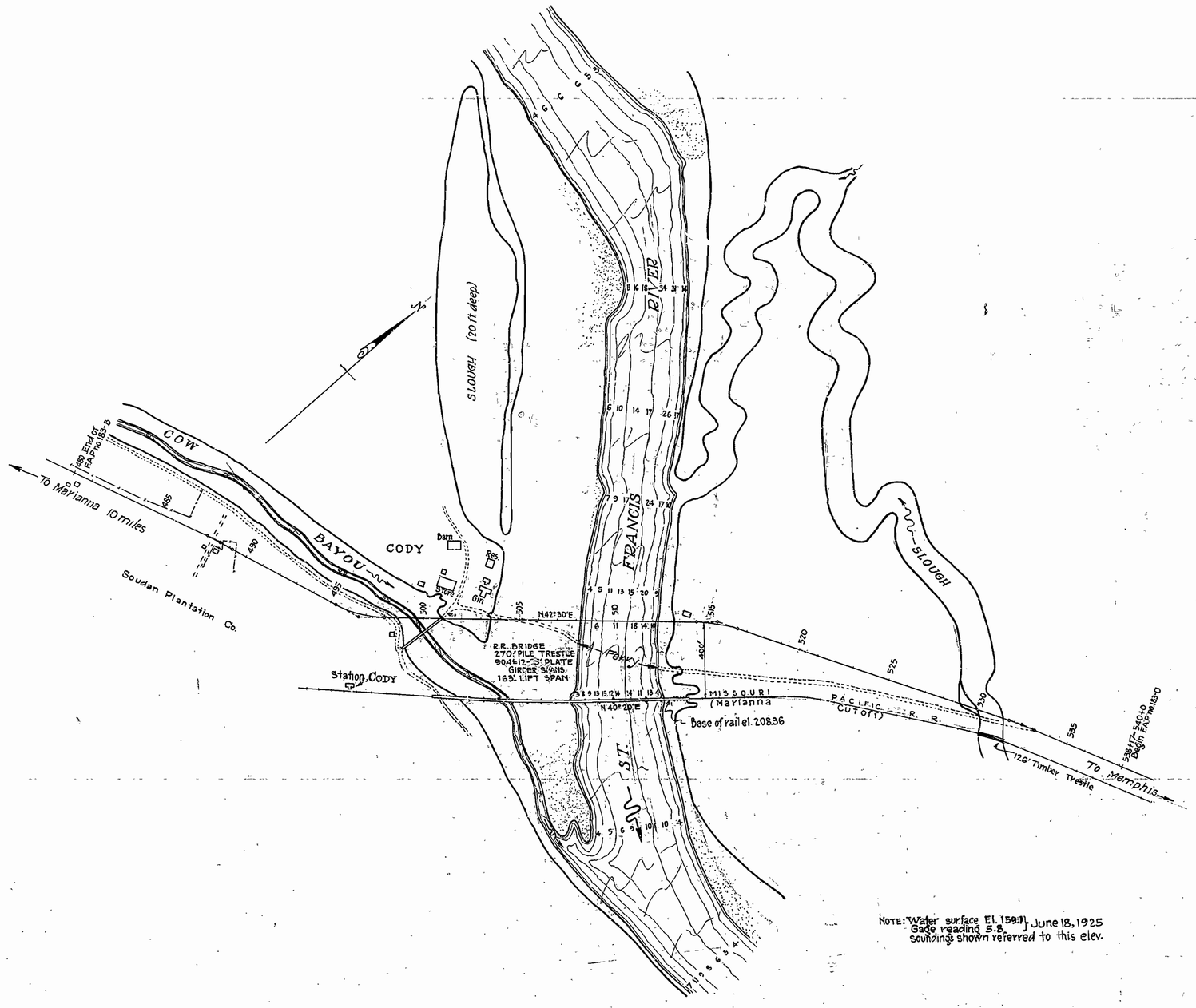
APPROVED
[redacted]
DIRECTOR-U. S. BUREAU OF PUBLIC ROADS

Drawing No. 224

115

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	183-E	1925	2	22

ST. FRAN. R. PROJ. 9 E. SITE LEE CO. DR. 245



NOTE: Water surface El. 159.1 } June 18, 1925
Gage reading 5.8 }
Soundings shown referred to this elev.

Scale: 1 in = 300 ft.

Arkansas State Highway Dept.
Little Rock Ark. July 1925.
Map showing
SECTION OF ST. FRANCIS RIVER
with
PROPOSED BRIDGE SITE
on
STATE HIGHWAY NO. 8-19. FED. AID PROJ.
LEE COUNTY.

Drawn by	R.C.G.
Traced by	R.C.G.
Checked by	

Drawing No. 245

FED. ROAD DIST. NO.	STATE	FED. AID DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	183-E	1925	3	22

PROPS. BR. ST. OVER ST. FRAN. R. LEE CO. DR. # 246

PRINT CONTRACT
JOB NO. 13-53(1)

T.C. Connel General Store

Seed House

Gin

Shack

Oil Tanks

Sta. 502+00 Beginning of Project

Sta. 503+41 Beginning of Bridge

Old Road To Ferry

Ferry

COW BAYOU

ST. FRANCIS RIVER

Sta. 513+47 End of Bridge

N. 42° 30' E.

N. 40° 20' E.

Depot

U.S.B.M. El. 199.9 M.G.L. "X" on down stream point of west pier of railroad bridge

Sta. 502+00 Beginning of Project
El. Subgrade 207.5

Sta. 503+41 Beginning of Bridge

Sta. 513+47 End of Bridge

Sta. 514+50 P.C.
El. Subgrade 207.5

250' V.C.

1003'-0"

136'-6" | 135'-0" | 167'-0" | 165'-0" | 167'-0" | 165'-0" | 167'-1" | 165'-0" | 167'-10" | 165'-0" | 136'-7" | 135'-0"

Deck El. 209.0

0.0 %

0.0 %

Low Steel El. 204.28

H.W. El. 200.1

Low Water El. 189.1

Natural Ground Surface

Exp. End | Fixed End | Exp. End | Fixed End | Exp. End | Fixed End | Exp. End | Fixed End | Exp. End

Sand | Blue Clay | Fine Gray Sand | Sand & Clay | Gumbo

El. 154.00 | El. 150.22 | El. 144.22 | El. 139.22 | El. 141.6 | El. 128.18 | El. 140.22

Test Hole #1-Sta. 498+39

Test Hole #2-Sta. 500+65

Test Hole #3-Sta. 504+35

Test Hole #4-Sta. 512+80

ARKANSAS STATE HIGHWAY DEPARTMENT
LAYOUT OF PROPOSED BRIDGE
OVER
ST. FRANCIS RIVER
AT CODY, LEE COUNTY, ARK.

LITTLE ROCK, ARK. JAN. 1926

ROUTE NO. 79
SEC. 16

Drawn by	W.R.M.
Traced by	W.R.M.
Checked by	
Revised by	W.R.M. 1/30/26

BRIDGE NO. 270

Drawing No. 246

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK	183-E	1925	4	22

AID. SYS. ST. FRAN. - S. LEE CO. DR. # 247

Top to have metal covers. Cut 3" gas pipe and open.

DRAIN FORMS

El. 208.0 Crown of Rdwy.

SIDE ELEVATION

SECTION AT ℄

PIERS "A" & "I"

PILING FOR PIER "B"

PIERS "B" & "H"

PILING FOR PIER "H"

SECTION "B-B"

SECTION "A-A"

PILING FOR PIERS "A" & "I"

SECTION AT TOP OF CAP

Expansion Device

Note:-
Reinforcing steel in Rail & Rail posts is not included in total weight of steel but is to be covered in unit price bid on Hand Railing.
All concrete above pier & bent caps, except Hand-railing to be Class "S" (1:2:3) mix.

Reinforcing Steel
2 Approach Spans.

Bar	No	Size	Length	Stirrup	Location
"aa"	128	⅝	7'-4"	Str.	Rail
"ab"	32	⅝	2'-6"	"	"
"ac"	96	⅝	4'-4"	"	Rail post.
"ad"	38	¾" sq.	21'-3"	Str.	Slab
"ae"	60	¾"	20'-11"	"	top slab
"af"	60	⅝	22'-0"	"	bot slab.
"ag"	30	⅝	24'-2"	Str.	slab
"ah"	32	1"	24'-3"	"	girder
"ai"	16	1"	28'-6"	Str.	"
"aj"	16	1"	31'-0"	"	"
"ak"	208	⅝	6'-10"	"	"
"al"	32	¾"	8'-6"	Str.	Girder haunch
"am"	32	¾"	11'-0"	"	" "
"an"	16	¾"	8'-6"	"	Col. "
"ao"	16	⅝	17'-3"	"	Wall over pier
"ap"	72	½"	7'-0"	"	" " "
"ar"	14	1"	34'-8"	6 bent	bent Cap.
"at"	16	⅝	18'-2"	Str.	Wall over bent
"au"	16	⅝	11'-6"	Str.	Wing Wall
"av"	64	⅝	7'-8"	"	" "
"aw"	16	⅝	6'-4"	av.	" "
"aw"	8	⅝	17'-6"	"	Web Wall
"Ax"	8	1"	18'-6"	"	bent cap
		2 SPANS "A" + "I"			
"Ra"	24	1"	22'-6"	str.	Col.
"Ab"	24	1"	25'-0"	"	Col.
"Rd"	60	⅝	8'-8"	ov.	Col. hoops.
"Re"	56	⅝	9'-6"	"	" "
"Rf"	14	¾" sq.	16'-9"	str.	strut.
"Rg"	32	¾" sq.	7'-2"	"	"
"Rh"	16	½"	6'-2"	"	" hoops
"Rk"	24	1"	7'-4"	str.	dowells.
"Rm"	32	¾" sq.	4'-8"	"	Footing
"Rn"	24	¾" sq.	6'-2"	"	"

Reinforcing Steel
Pier "B"

Bar	No	Size	Length	Stirrup	Location
"Ba"	4	¾" sq.	41'-0"	Str.	cap
"Bb"	4	¾" sq.	24'-4"	"	"
"Bc"	10	¾" sq.	41'-0"	"	"
"Bd"	16	1"	22'-10"	"	col.
"Be"	16	1"	22'6"	"	"
"Bg"	58	½"	14'-11" sq.	bt.	hoops.
"Bh"	54	¾"	20'-6"	Str.	web wall
"Bi"	24	⅝	20'-4"	"	" "
"Bj"	24	⅝	22'6"	"	" "
"Bl"	16	1"	8'-4"	"	Col. dowell
"Bm"	24	¾" sq.	6'-9"	"	web "
"Bn"	12	¾" sq.	6'-2"	"	Footing
"Bo"	4	¾" sq.	27'-8"	"	"
"Bp"	22	¾" sq.	7'-3"	"	Col. foot.
"Br"	10	¾" sq.	4'-0"	"	web. foot.
					Pier "H"
"Ha"	4	¾" sq.	41'-0"	Str.	cap
"Hb"	4	¾" sq.	24'-4"	"	"
"Hc"	10	¾" sq.	41'0"	"	"
"Hd"	32	1"	26'-6"	"	Col.
"Hg"	66	⅝	15'-6" ov.	bt.	hoops
"Hh"	66	⅝	20'-6"	Str.	web wall
"Hi"	24	⅝	24'-10"	"	" "
"Hj"	24	⅝	26'-6"	"	" "
"Hl"	16	1"	8'-4"	"	col. dowell
"Hm"	24	¾" sq.	6'-8"	"	web "
"Hn"	12	¾" sq.	6'-10"	"	footing
"Ho"	4	¾" sq.	30'2"	"	"
"Hp"	22	¾" sq.	7'-10"	"	col. foot.
"Hr"	10	¾" sq.	4'-0"	"	web "

Specifications: Arkansas State Highway Dept. date May 30, 1925
Concrete: Class "A" 1:2:4 mix. 1½" max Agg. Class "S" 1:2:3 mix. 1" max. Agg. Class B: 1:2½:5 Mix
Concrete hand rail: 1:3 mix ¾" max. Agg. (+10% Additional Cement) Max. Agg. 2½"
Chamfer: ¾" chamfer on all exposed corners except as noted.
Reinforcing steel: To be deformed bars, structural or intermediate grade.
Piling: To carry 15 Ton load.
Concentrated live load, 2-15 Ton trucks.
From Class B (Seal) concrete is deducted volume of encased pile heads. All Class "A" Concrete to be poured in the dry

Quantities

Piers		"A"	"B"	"H"	"I"	
Class "B" concrete (Seal course)	Cu. Yd.	—	—	75.4	—	75.4
Class "A" concrete (above seal)	Cu. Yd.	44.9	166.9	180.5	44.9	437.2
Reinforcing steel	lbs.	3214	5912	6863	3214	19203
Untreated piling	lin. ft.	350	1120	1596	350	3416
Struct. Excavation (dry)	Cu. Yds.	211	426	523	224	1384
Struct. Excavation (wet)	Cu. Yd.	56	153	396	56	661
Approach Spans (2)						
Concrete Hand Rail	lin. ft.		130			130
Class "S" concrete	Cu. Yd.		70.4			70.4
Reinforcing Steel	lb.		14750			14750
Structural Steel (Exp. Devices)	lb.		2130			2130

ARKANSAS STATE HIGHWAY DEPARTMENT
APPROACH SPANS
FOR BRIDGE OVER
ST. FRANCIS RIVER
AT
CODY, LEE COUNTY, ARK.
Little Rock Ark. Jan. 1926

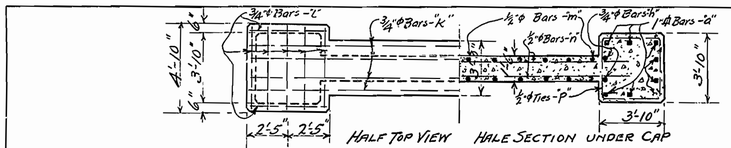
Drawn by	R.A.
Traced by	R.A.
Checked by	

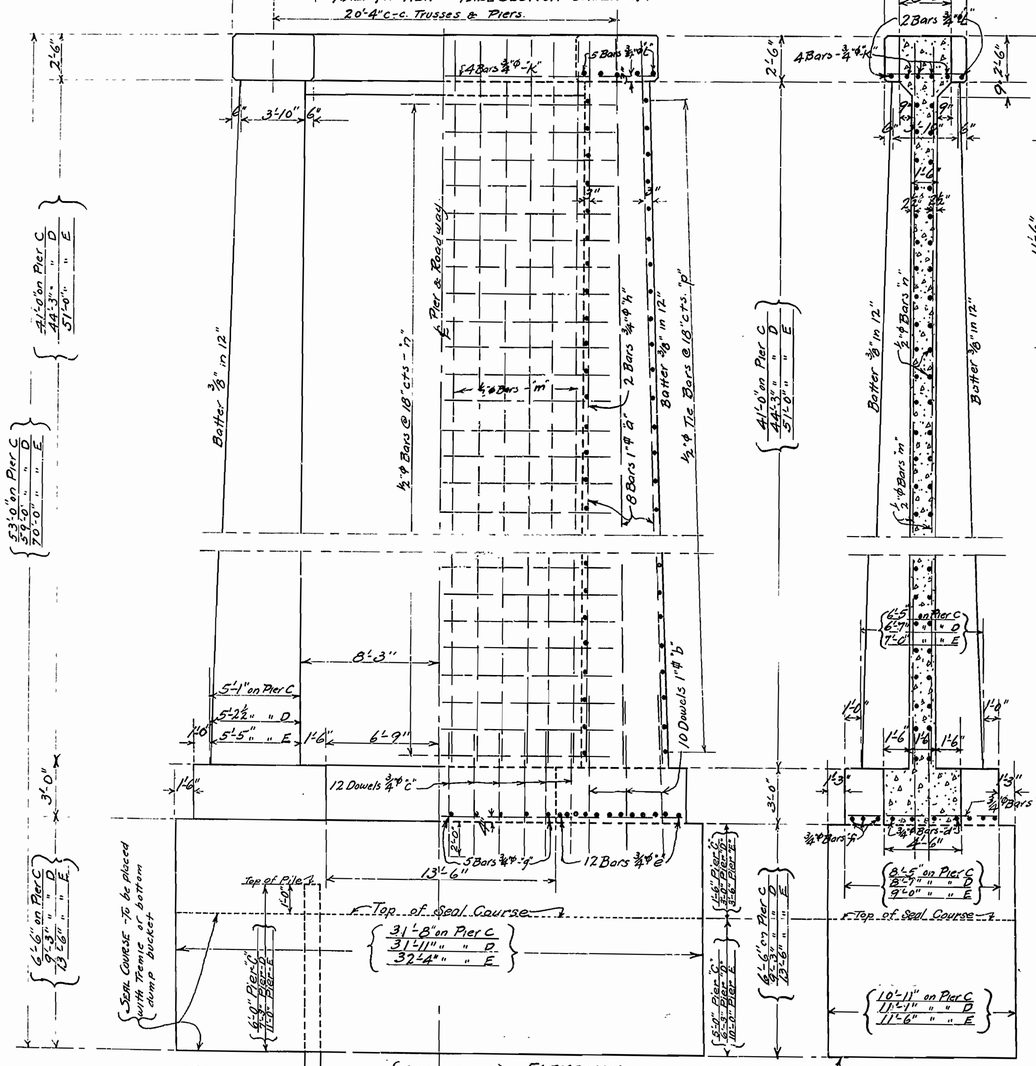
Revised by W.R.M. Oct. 20, 1926; Jan. 25, 1927

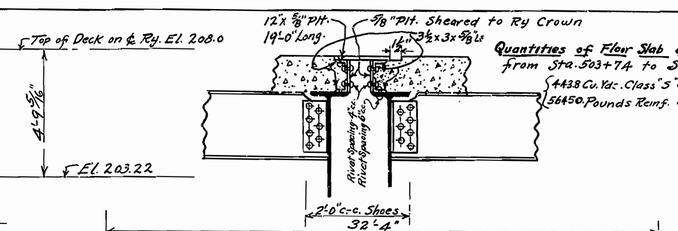
247

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	183-E	1925	7	22

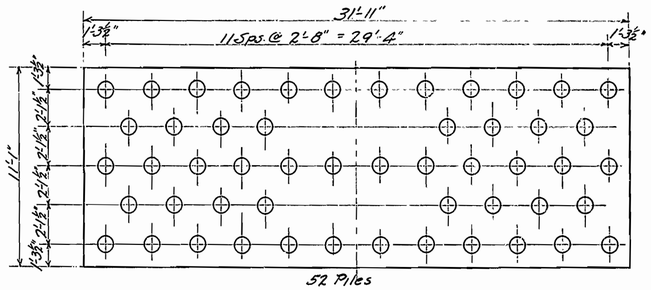
PIERS-BRIDGE-ST. FRANCIS R. LEE CO. DR E 248



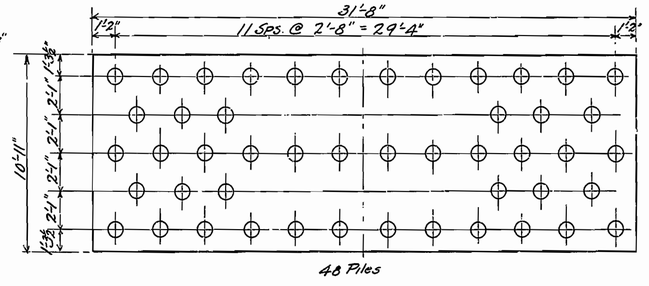




PILING DIAGRAM FOR PIER "E"



PILING DIAGRAM FOR PIER "D"



PILING DIAGRAM FOR PIER "C"

Quantities of Floor Slab on Steel Spans from Sta. 503+74 to Sta. 515+17

4438 Cu. Yds. Class "S" Concrete (1:2:3 Mix)
56450 Pounds Reinf. Steel.

LIST OF REINFORCING FOR PIER "C"

Bar	No.	Size	Length	Str. or Bent.	Location
Ca	32	1" sq.	23'-3"	Str.	Pier Shaft
Cb	20	1" sq.	8'-4"	"	Pier Shaft Dowels
Cc	24	¾" φ	7'-6"	"	Footing Dowels
Cd	4	¾" φ	28'-4"	"	Bottom of Footing
Ce	24	¾" φ	8'-0"	"	" " "
Cf	12	¾" φ	7'-2"	"	" " "
Cg	10	¾" φ	4'-2"	"	" " "
Ch	8	¾" φ	23'-0"	"	Pier Shaft
CK	4	¾" φ	24'-10"	"	Pier Cap
Cl	14	¾" φ	4'-6"	"	" "
Cm	48	½" φ	22'-8"	"	Web Wall (Vert.)
Cn	54	½" φ	20'-6"	"	" " (Horz.)
Cp	54	½" φ	18'-6" (av.)	Bt.	Pier Shaft Ties

LIST OF REINFORCING FOR PIER "D"

Bar	No.	Size	Length	Str. or Bent.	Location
Da	32	1" sq.	25'-0"	Str.	Pier Shaft
Db	20	1" sq.	8'-4"	"	Pier Shaft Dowels
Dc	24	¾" φ	7'-6"	"	Footing Dowels
Dd	4	¾" φ	28'-6"	"	Bottom of Footing
De	24	¾" φ	8'-2"	"	" " "
Df	12	¾" φ	7'-4"	"	" " "
Dg	10	¾" φ	4'-2"	"	" " "
Dh	8	¾" φ	24'-6"	"	Pier Shaft
Dk	4	¾" φ	24'-10"	"	Pier Cap
Dl	14	¾" φ	4'-6"	"	" "
Dm	72	½" φ	17'-0"	"	Web Wall (Vert.)
Dn	60	½" φ	20'-6"	"	" " (Horz.)
Dp	60	½" φ	18'-9" (av.)	Bt.	Pier Shaft Ties

LIST OF REINFORCING FOR PIER "E"

Bar	No.	Size	Length	Str. or Bent.	Location
Ea	48	1" sq.	20'-0"	Str.	Pier Shaft
Eb	20	1" sq.	8'-4"	"	Pier Shaft Dowels
Ec	24	¾" φ	7'-6"	"	Footing Dowels
Ed	4	¾" φ	29'-0"	"	Bottom of Footing
Ee	24	¾" φ	8'-8"	"	" " "
Ef	12	¾" φ	7'-6"	"	" " "
Eg	10	¾" φ	4'-2"	"	" " "
Eh	12	¾" φ	19'-5"	"	Pier Shaft
EK	4	¾" φ	24'-10"	"	Pier Cap
El	14	¾" φ	4'-6"	"	" "
Em	72	½" φ	19'-3"	"	Web Wall (Vert.)
En	68	½" φ	20'-6"	"	" " (Horz.)
Ep	68	½" φ	19'-5" (av.)	Bt.	Pier Shaft Ties.

TABULATION OF APPROXIMATE QUANTITIES

ITEM	PIER C	PIER D	PIER E
Structural Excavation (Dry) Cu. Yds.	196.0	64.0	0.0
Structural Excavation (Wet) Cu. Yds.	246.0	360.0	470.0
Concrete: Seal Course, Class "B" Cu. Yds.	57.3	73.3	135.1
Concrete: Above Seal Course, Class "A" Cu. Yds.	157.26	188.82	312.50
Reinforcing Steel Pounds	6490	7162	8138
Piling Lin. Ft.	1728	1937	2419
Structural Steel (Exp. Devices) Pounds	1255	1255	1255

SPECIFICATIONS

SPECIFICATIONS:- Arkansas Highway Department dated May 30, 1925
CONCRETE:- Class "A" - 1:2:4 Mix., Max. Agg. 1½"; Class "B" 1:2½:5 Mix. (+10% Extra Cement), Max. Agg. 2½"
CHAMFER:- All exposed edges 1½"
REINFORCING STEEL:- To be deformed bars, Structural or intermediate grade. Square twisted bars not considered deformed. Bars to be securely wired in place before concrete is poured.
PILING:- To carry 15 Ton Load.

NOTE.

All Structural Excavation below El. 164.00 considered as wet excavation in estimate, but actual quantities of wet excavation to be determined in field at time of construction. From quantity of Class "B" (Seal) Concrete is deducted volume of encased pile heads.

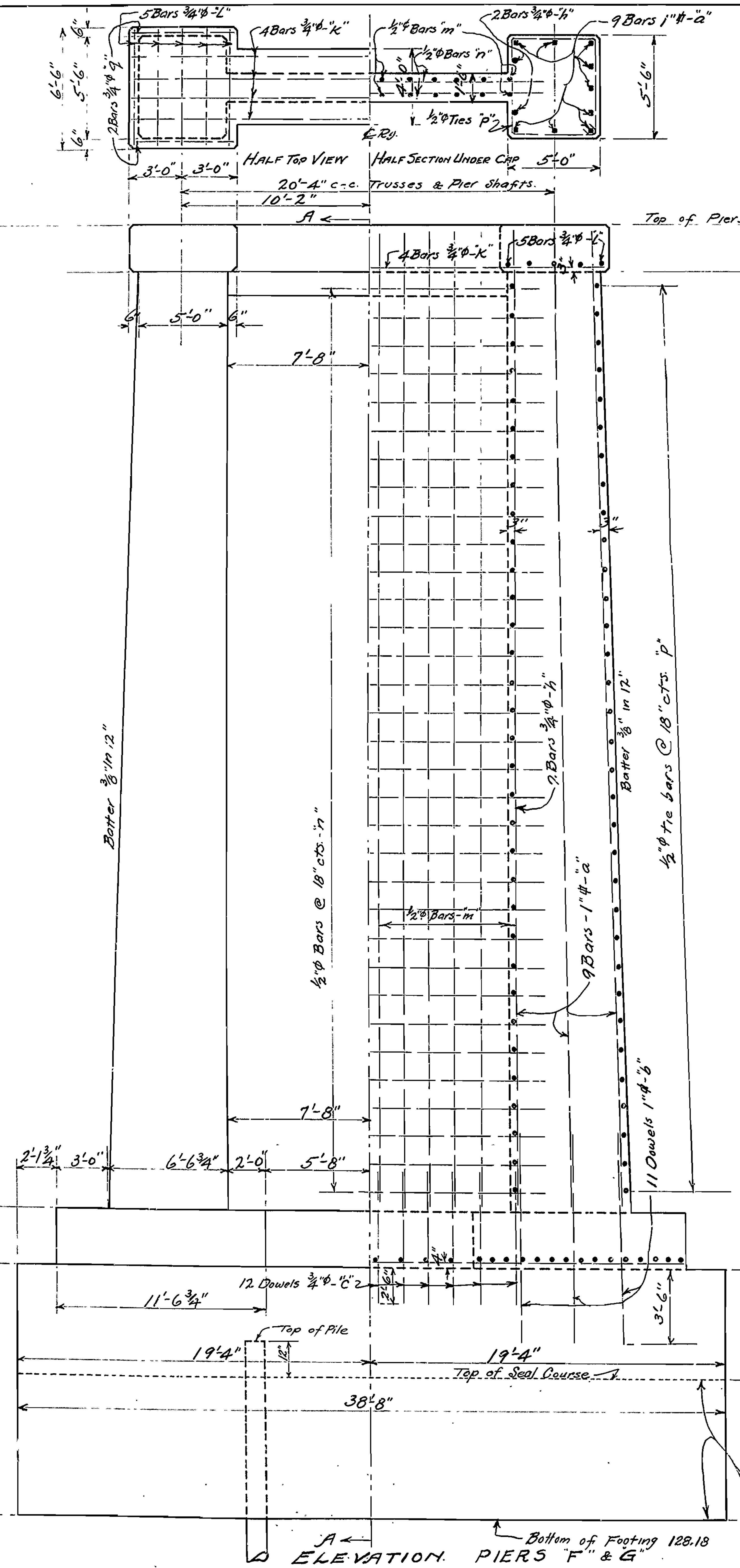
DESIGN OF PIERS FOR BRIDGE OVER ST. FRANCIS RIVER AT CODY - LEE COUNTY - ARKANSAS

ARKANSAS STATE HIGHWAY DEPARTMENT
LITTLE ROCK - ARKANSAS - JAN - 1926

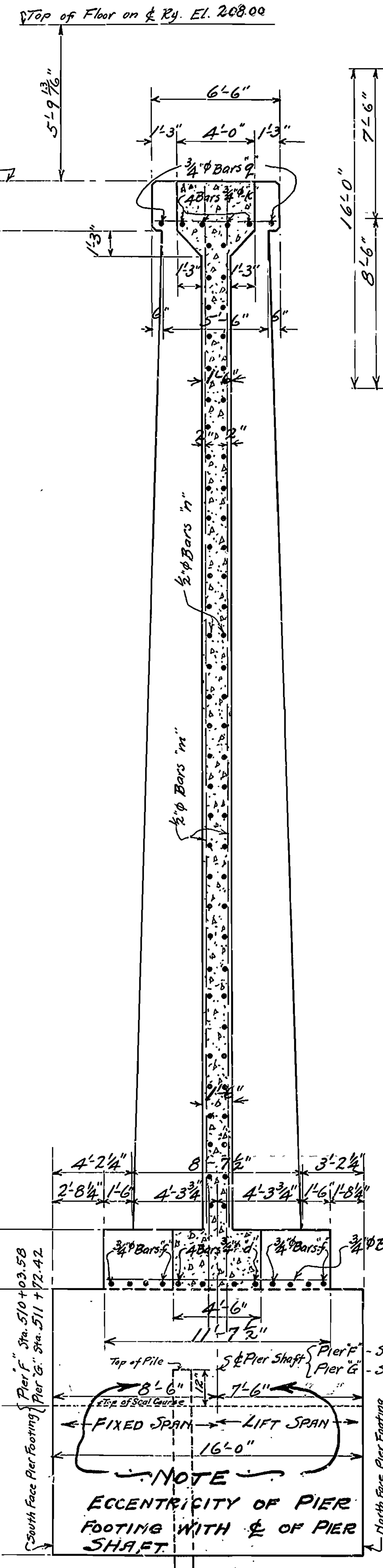
Revised by H.V.H. Oct. 20, 1926.
" " " Jan. 25, 1927

No. 248

PIERS UND. LT. SPAN-ST. FRANC.R. DR. No 249					
FED. AID DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK	183-E	1925	8	22



ELEVATION PIERS "F" & "G"



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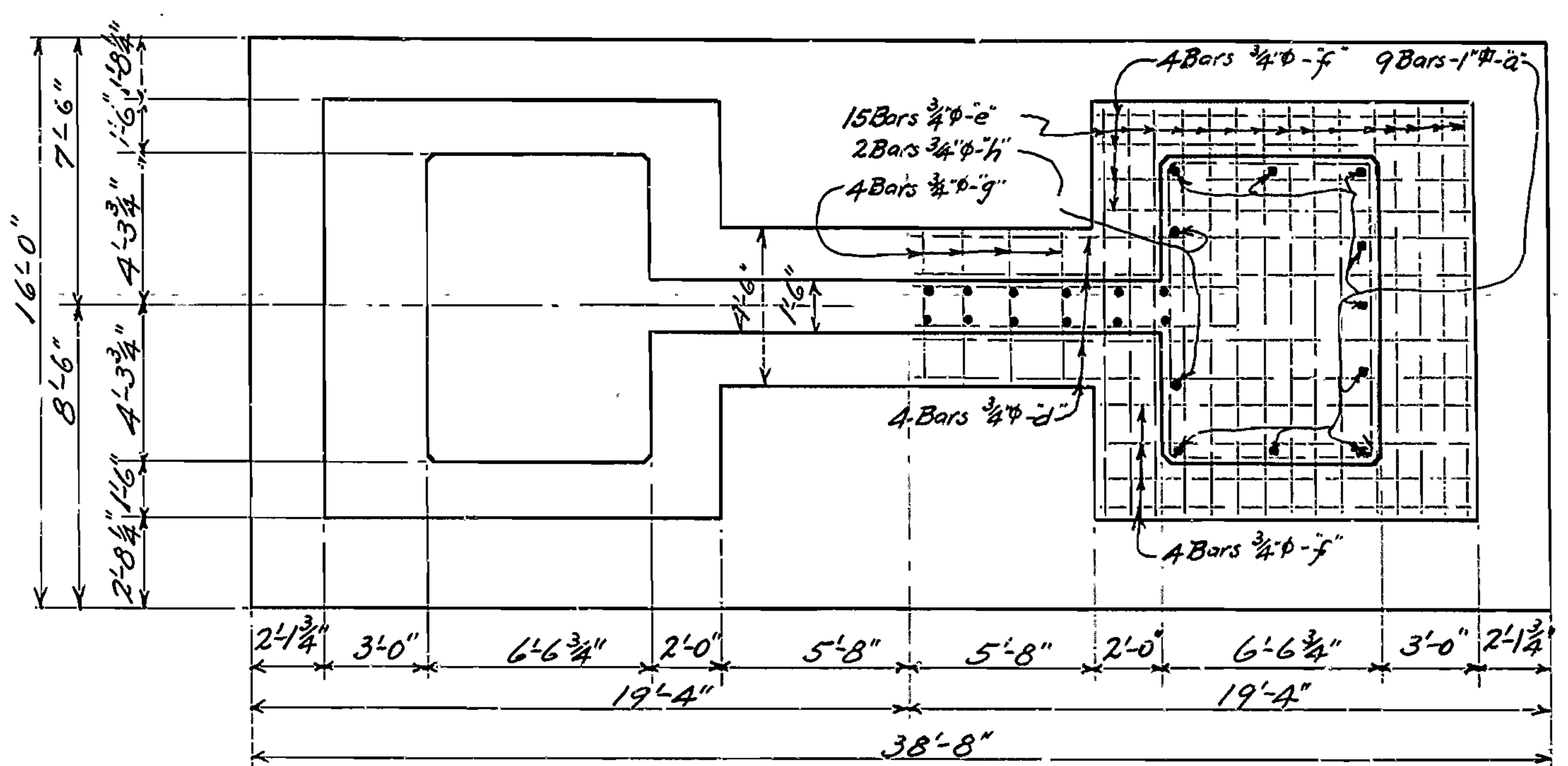
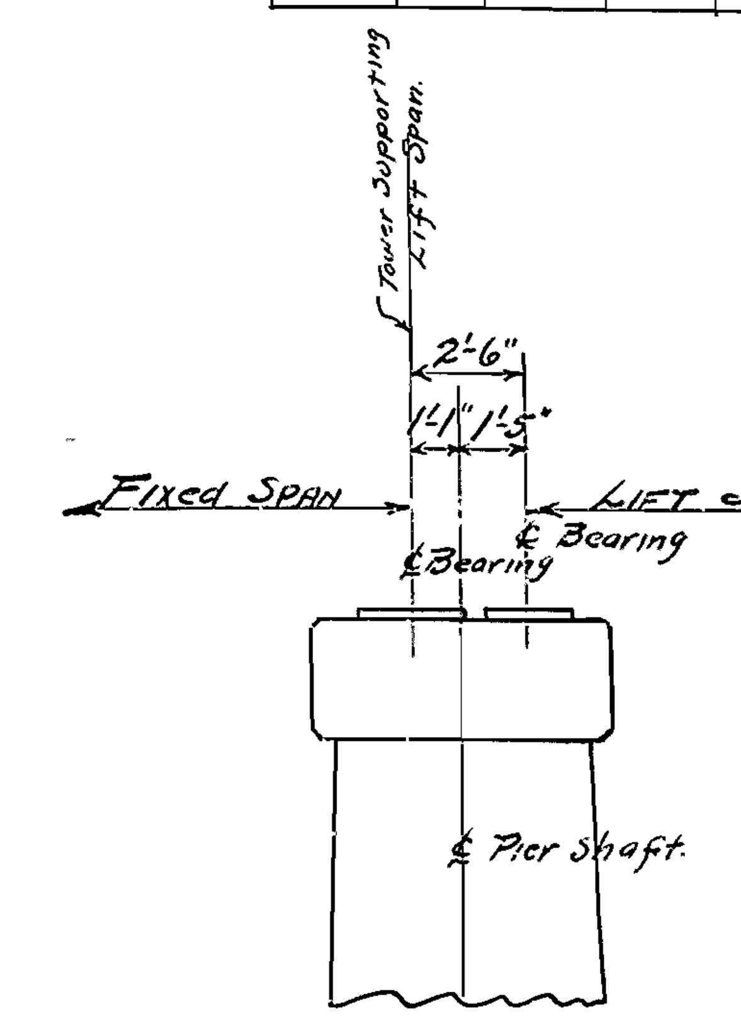
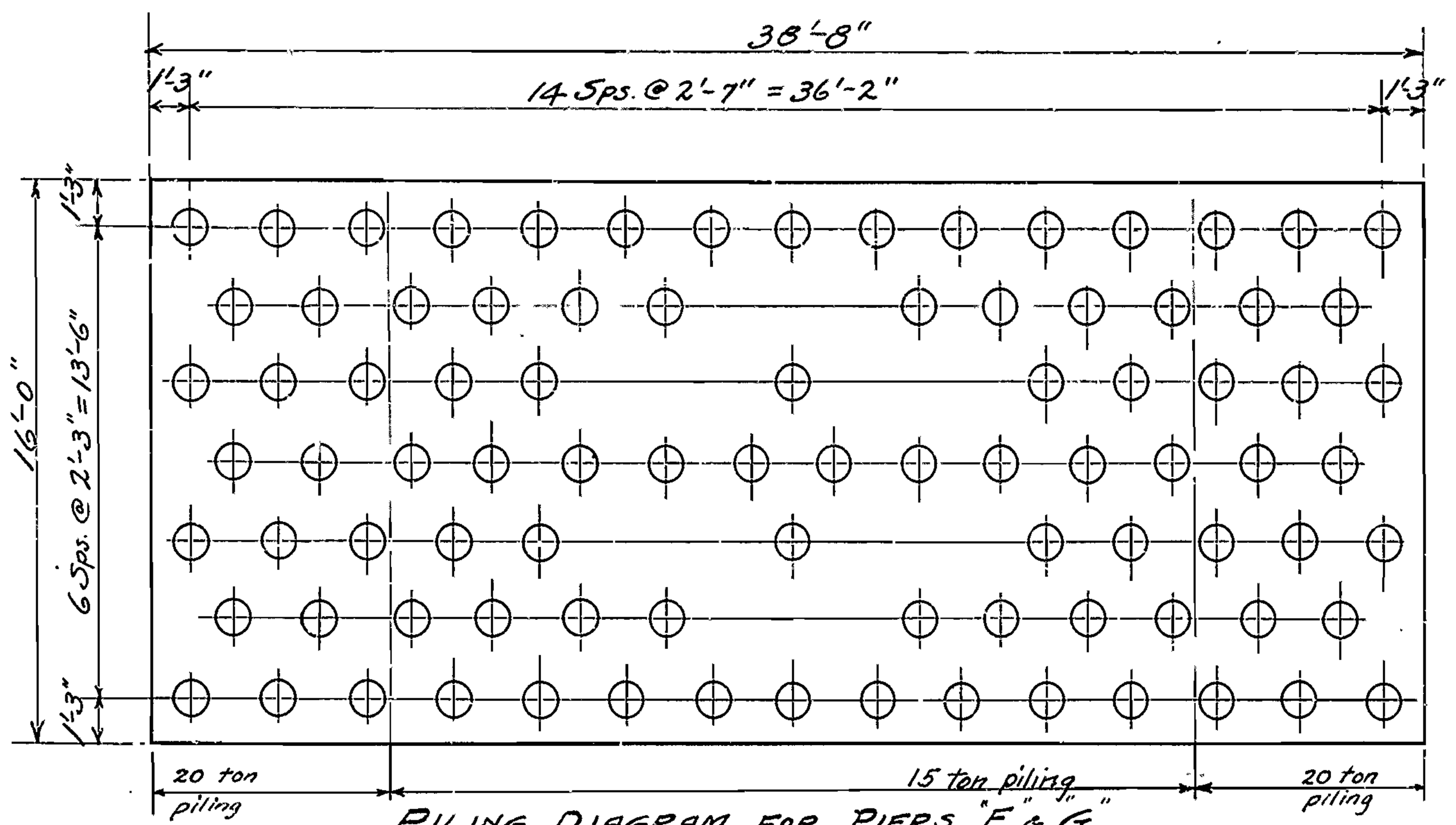


PLAN OF FOOTINGS FOR PIERS "F" & "G"





PILING DIAGRAM FOR PIERS "F" & "G"
90 Piles

SPECIFICATIONS:-
Arkansas State Highway Department dated May 30-1925

CONCRETE:-
1:2:4 Mix. Class "A", Max. Agg. 1½"
1:2½:5 Mix (+10% Extra Cement) Class "B", Max. Agg. 2½"

CHAMFER:-
All exposed edges 1½"

REINFORCING STEEL:-
To be deformed bars, structural or intermediate grade. Square twisted Bars not to be considered deformed. Bars to be securely wired in place before concrete is poured.

PILING:-
To carry 15 Tons, except as noted

NOTE:- From quantity of Class "B" (Seal) Concrete, is deducted volume of encased pile heads.

LIST OF REINFORCING STEEL FOR ONE PIER - ONE LIST FOR PIER "F" - ONE LIST FOR PIER "G"

Bar	No.	Size	Length	Str. or Bent	Location
a	54	1"#	19'-7"	Str.	Pier Shaft
b	22	1"#	10'-0"	"	Pier Shaft Dowels
c	24	3/4"φ	8'-0"	"	Footing Dowels
d	4	3/4"φ	34'-0"	"	Bottom of Footing
e	30	3/4"φ	11'-3"	"	" " "
f	16	3/4"φ	11'-0"	"	" " "
g	8	3/4"φ	4'-2"	"	" " "
h	12	3/4"φ	19'-0"	"	Pier Shaft
k	4	3/4"φ	26'-0"	"	Pier Cap
l	10	3/4"φ	6'-2"	"	" "
m	72	1/2"φ	18'-9"	"	Web Wall (Vert.)
n	66	1/2"φ	19'-4"	"	Web Wall (Horz.)
p	66	1/2"φ	av. 25'-2"	Bt.	Pier Shaft Ties.
q	4	3/4"φ	4'-8"	Str.	Pier Cap

TABULATION OF APPROXIMATE QUANTITIES

ITEM		PIER "F"	PIER "G"	BOTH PIERS
Structural Excavation (Dry)	Cu.Yds.			
Structural Excavation (Wet)	Cu.Yds.	564.	547.	1111.
Concrete: Seal Course Class "B"	Cu.Yds.	289.8	289.8	579.6
Concrete: Above Seal Course Class "A"	Cu.Yds.	358.68	358.68	717.36
Reinforcing Steel	Pounds	9170	9170	18340
Piling	Lin.Ft.	4185.	4185.	8370.

Revised by W.R.M. Oct. 20, 1926
" " " Jan. 25, 1927.

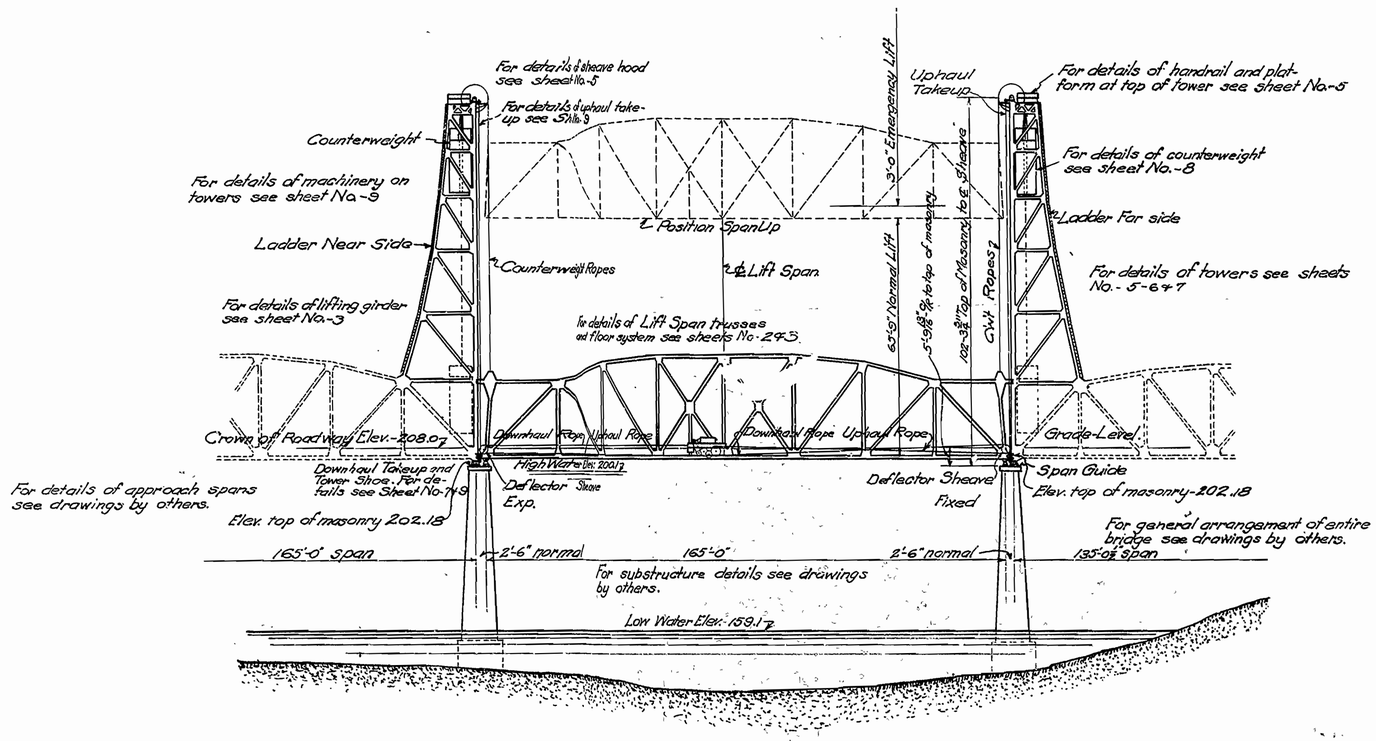
DESIGN OF PIERS
UNDER VERTICAL LIFT SPAN
FOR
BRIDGE OVER ST. FRANCIS RIVER
AT
CODY - LEE COUNTY - ARKANSAS

ARKANSAS STATE HIGHWAY DEPARTMENT

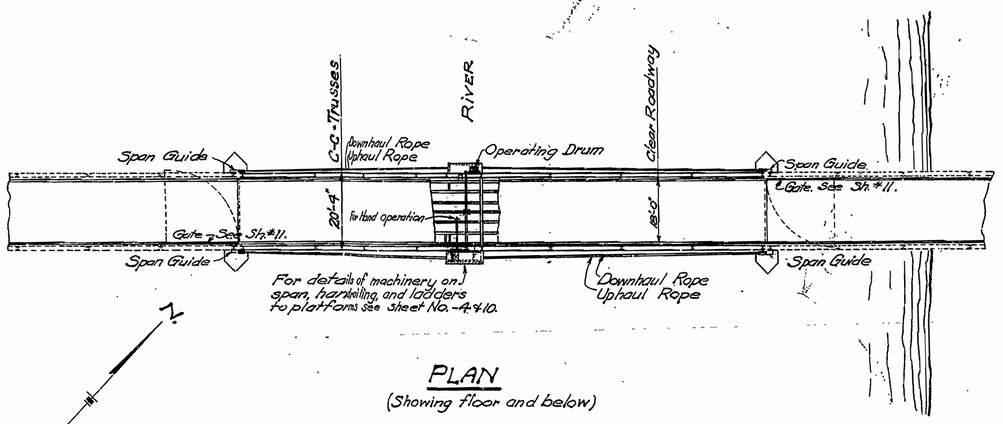
LITTLE ROCK - ARKANSAS - APRIL 1926 249

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	ESCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK	183-E	1925	9	22

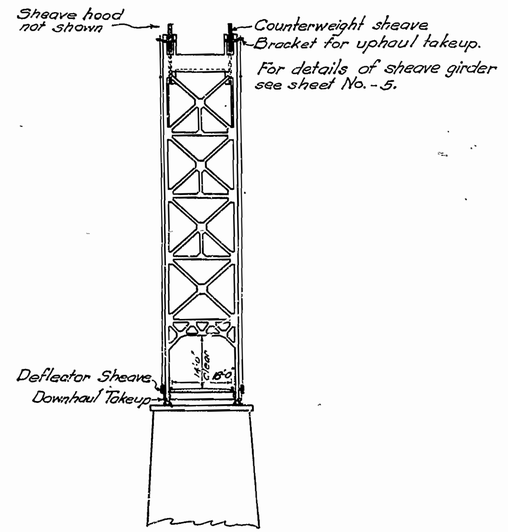
BR. OVER ST. FRANCIS R. LEE Co. ARK. 25J.



ELEVATION



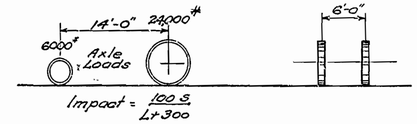
PLAN
(Showing floor and below)



VIEW OF FRONT OF TOWER

LOADING

Live Load Trusses. - 73# per sq. ft. of Roadway
Live Load Floor System - 2-15 ton trucks as shown below.



SPECIFICATIONS

Structural - Arkansas State Highway Department Specifications Dated May 30-1925.
Machinery - Harrington Howard and Ash.

Provide bronze patent plate about 10"x16" Other details and location will be furnished by Harrington, Howard and Ash.

LIFT BRIDGE DESIGNED BY
HARRINGTON HOWARD AND ASH
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
PATENTED IN U.S. 8-24-09, 5-22-10, 3-29-10 9-19-11, 5-28-12, 5-28-12, 1-7-13, 7-8-13, 7-17-17 4-2-18, 11-26-18, 2-24-20, 12-13-25, Others Pending. In CANADA 2-1-10, 3-8-10, 9-7-12, 9-7-12.

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER AT CODY, LEE COUNTY, ARKANSAS

GENERAL LAYOUT-LIFT SPAN AND TOWERS

SCALE: 1"=20'-0"
MADE BY H.J.W. DATE 3-27-26
TRACED BY EHL DATE 6-1-26
HARRINGTON, HOWARD AND ASH CONSULTING ENGINEERS

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	SHEET No.	TOTAL SHEETS
6	ARK.	183-E	10	22

Br. Over St. Fran. R. Less 3 Left Str. 257

Half Lower Flange View

Half Upper Flange View

1-⅜ Pl.

2-L 3½×2½×7/16 60°S.L. 2¾×5/16 End tie pls. 8×5/16

Mill to bear

℄ Truss

1-⅝ Pl.

2-L 3½×2½×7/16 60°S.L. 2¾×5/16 End tie pls. 8×5/16

1-⅝ Pl.

U2

2-⅝" Splice pls. - Fills. as Req'd.

2-12"B @ 25# Cov. Pl. 16×⅜ End tie pls. 16×⅜×1'-6" 60° S.L. 2½×⅜

Pl. 7½×5/16

2-L 5×3½×7/16

Pl. 6×⅝ - 3'-0" Max. Spacing

2-8"B @ 11.5#

2-L 3×3×5/16

24'-0"

Holes for ¾" ϕ bolts

1-L 5×3×5/16

4"℄ @ 5.4#

4"℄ @ 5.4#

Pl. 6×5/16 3'-0" c.c.

Pl. 7½×5/16

2-L 5×3½×7/16

20'-7½"

2-12"B @ 20.7#

2-Splice Pls. 12×½ - F.S.

L2

2-12"B @ 30#

2-Splice Pls. 12×½ F.S.

2-Splice Pls. 10×⅜ N.S.

L3

20'-7½"

U3

2-½" Splice Pls.

2-12"B @ 30# Cov. Pl. 16×⅜ End tie pls. 16×⅜×1'-6" 60° S.L. 2½×⅜

Note: All main gusset plates ⅜" thick.

2-8"B @ 11.5#

2-L 3×3×5/16

28'-0"

For special handrail Conn. in this panel See Sh. #4

M4

1-Post: L 4×3×5/16 at center of each panel

Stringer

A

A

2-L 3½×2½×7/16

2-L 3½×2½×7/16 End tie pls. 12×5/16

10'-3⅜"

2-12"B @ 35#

L4

2-Reinf. Pls. 10×⅜ @ L4 L5 only

L5

10'-3⅜"

U5

2-12"B @ 30# Cov. Pl. 16×⅜ End tie pls. 16×⅜×1'-6" 60° S.L. 2½×⅜

Pl. 7½×5/16

2-L 3½×2½×7/16

Pl. 6×⅝ - 3'-0" Max. Spacing

2-8"B @ 11.5#

2-L 3×3×5/16

2-L 3½×2½×7/16

Pl. 6×5/16 3'-0" c.c.

Pl. 7½×5/16

2-L 5×3½×7/16

Note: Member M4 L4 west side of ℄ Span only

4-L 3½×2½×7/16

For L5 L6 use top and bottom tie plate.

No top tie pls. here

Slots 9½×⅞ for Machinery tie

2-L 3½×2½×7/16

Diaphragm Pl. 8×5/16 4-L 4×3×5/16

℄ Span

Trusses are symm. about ℄ span except as affected by machinery supports in panel L3 L5 and as noted

9½"

5/16" Ring fills 12" c.c.

2-L 5 3½×2½×5/16

1-⅝" Pl.

1-⅝" Pl.

Pl. 15×⅝

1-L 3½×2½×¼

1-⅝ Pl.

5/16" Ring fills 12" c.c.

1-⅝ Pl

⅝" rivets in flanges of 8" ℄

2-L 5 3½×2½×5/16

6"

9'-0" (1" Slope)

℄ Bridge

60° S.L. 2¾×⅜

Pl. 15×⅝

14'-0" clear from crown of roadway to lowest parts of partial end sway bracings

21-Long. Bars ¾" ϕ top and bottom

3" Gas Pipe Drain in Center of Each Panel

1'-6"

1'-4"

8"

¾" Sq. bars @ 12" ctrs at bottom bent into curbs.

½" Sq. bars @ 14" ctrs at top

½" Sq. bars 14" ctrs. bent over top of beam 2'-11½" in top of slab over supports and in bottom of slab at center of spans.

Crown of roadway El. 208.0

2'-6"

8"

7½"

Slab

Top of floor beams and stringers

2-L 6×4×⅜ 8 Shop rivets to web of stringer

11"

11"

15I @ 42.9#

2-L 6×4×⅜

241 @ 115#

℄ El. ℄ Bot. chord 204.83

1'-5"

3 @ 2'-11" = 8'-9"

10'-2"

2-Splice Pls. 16×⅜

End tie pls. 16×⅜

Intermediate tie pls. 9×5/16

3'-0" Max. Stag. Top & Bottom

22"

1-⅝ Pl.

1-L 3½×2½×5/16

1-L 3½×2½×5/16

1-⅝ Pl.

¾" ϕ U-Bolt

1-⅝ Pl.

1-L 3½×2½×5/16

1-L 3½×2½×5/16

1-⅝ Pl.

1-L 3½×2½×5/16

℄ Stringer

Post 1-L 4×3×5/16

℄ Truss

1-L 5×3×5/16

Stringer, 15I 42.9

1-Pl. 6×5/16

1-L 3×3×5/16

9'

8"

1'-5"

VIEW A-A

D-182.0 L-69.9 I-15.0 T-266.9

D-196.0 L-74.3 I-16.0 T-286.3

D-157.9 L-60.7 I-13.5 T-230.2

D+10.0

U0 U1 U2 U3 U4 U5 U6 U7 U8 U9

D-140.0 L+35.0 I-17.50

D+106.0 L+49.3 I+9.3 T+158.6

D+153.0 L+60.9 I+12.7 T+225.9

D+165.5

Bending M = 19.15 ft lbs.

26'-0"

28'-0"

21'-0"

L0 L1 L2 L3 L4 L5 L6 L7 L8 L9

8 Panels @ 20'-7½" = 165'-0"

+ Indicates tension

- " " compression.

STRESS DIAGRAM

General Notes:-

All rivets ¾" ϕ except as noted.

Shop paint one coat of red lead & raw linseed oil.

Field paint two coats of different colors as approved by the State Highway Engineer

Concrete roadway slab to have 1:2:3 mix. Chamfer exposed corners ¾"

Reinforcing steel to be deformed bars of structural or intermediate grade.

Camber trusses so that bottom chord will be straight under full dead load plus live load without impact.

Maximum rivet pitch 6", minimum 2½".

For punching, reaming and other shop practice see specifications, Arkansas State Standard Highway and Bridge, dated May 30, 1925.

Rivet holes in tension members are to be so spaced that not more than one hole to be deducted from area of each angle at point of maximum stress.

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER

AT

CODY, LEE COUNTY, ARKANSAS

LIFT SPAN-FLOOR SYSTEM TRUSSES-BRACING

SCALE: ¾"=1'-0"

MADE BY B.G. DATE 3-22-26

TRACED BY K.S.H. DATE 6-1-26

CHECKED BY W.T.J. DATE 4-13-26

HARRINGTON, HOWARD AND ASH CONSULTING ENGINEERS

SHEET NO. 2 = 10 of Set.

Drawing No. 257

FED. ROAD DIST. No.	STATE	PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
8	ARK.	189-E	1925	11	22

ST. FRAN. R. BR. - LIFTING GIRDER - END OF LIFT SPAN TRUSSES

PLAN SHOWING BREAK IN FLOOR

VIEW SHOWING CIRCULAR BOSS ON SPAN SHOES

PLAN VIEW - SHOE BASE

SPAN GUIDE AT U_0 BOTH ENDS

SECTION A-A

SECTION B-B Below Pin Plates

SECTION F-F

LIFTING GIRDER

SECTION C-C

AT L_0 - FIXED END

AT L_0 - EXPANSION END

SPAN GUIDE CASTINGS

Drill holes in field to match guide brackets

SECTION D-D

PORTAL FRAMING

TOP LATERALS

Note:- For General Notes see Sheet No. 2.

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER AT CODY, LEE COUNTY, ARKANSAS

LIFTING GIRDER - END OF LIFT SPAN TRUSSES

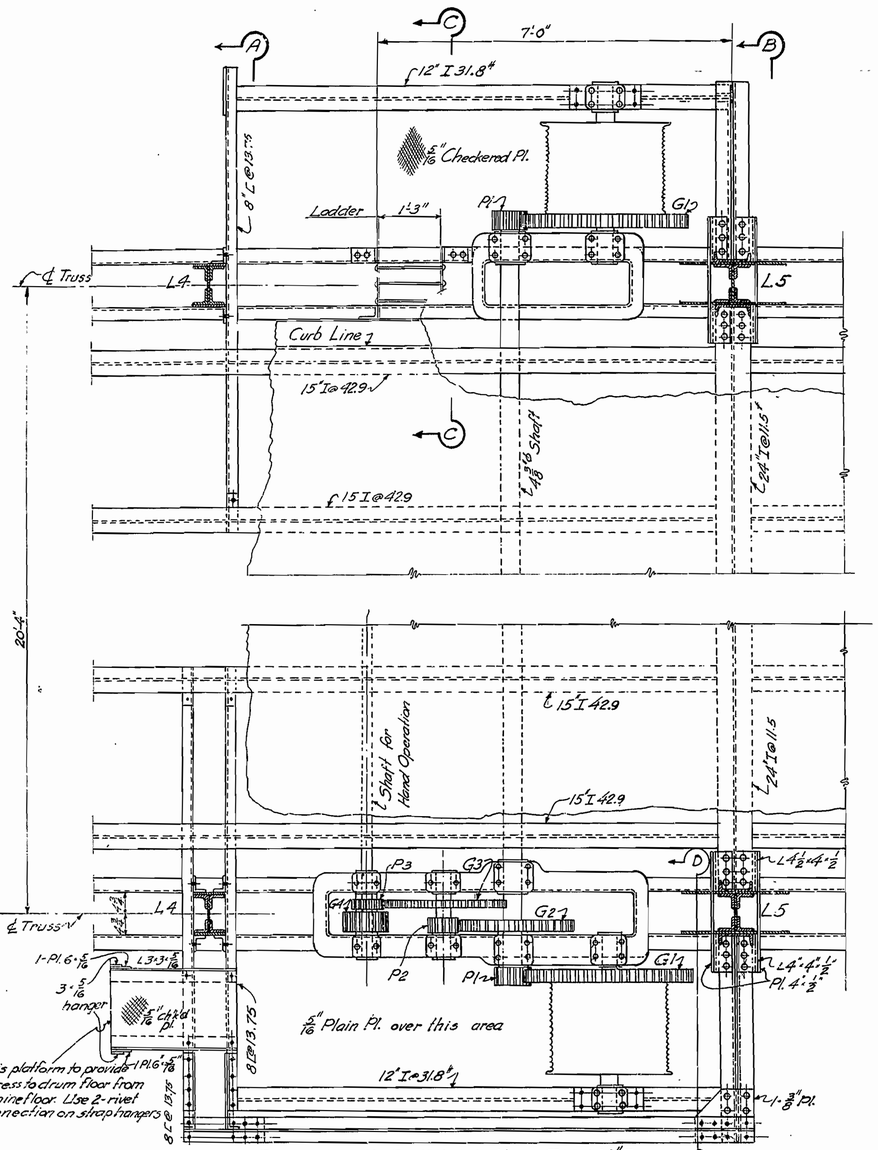
SCALE: 3/4"=1'-0"

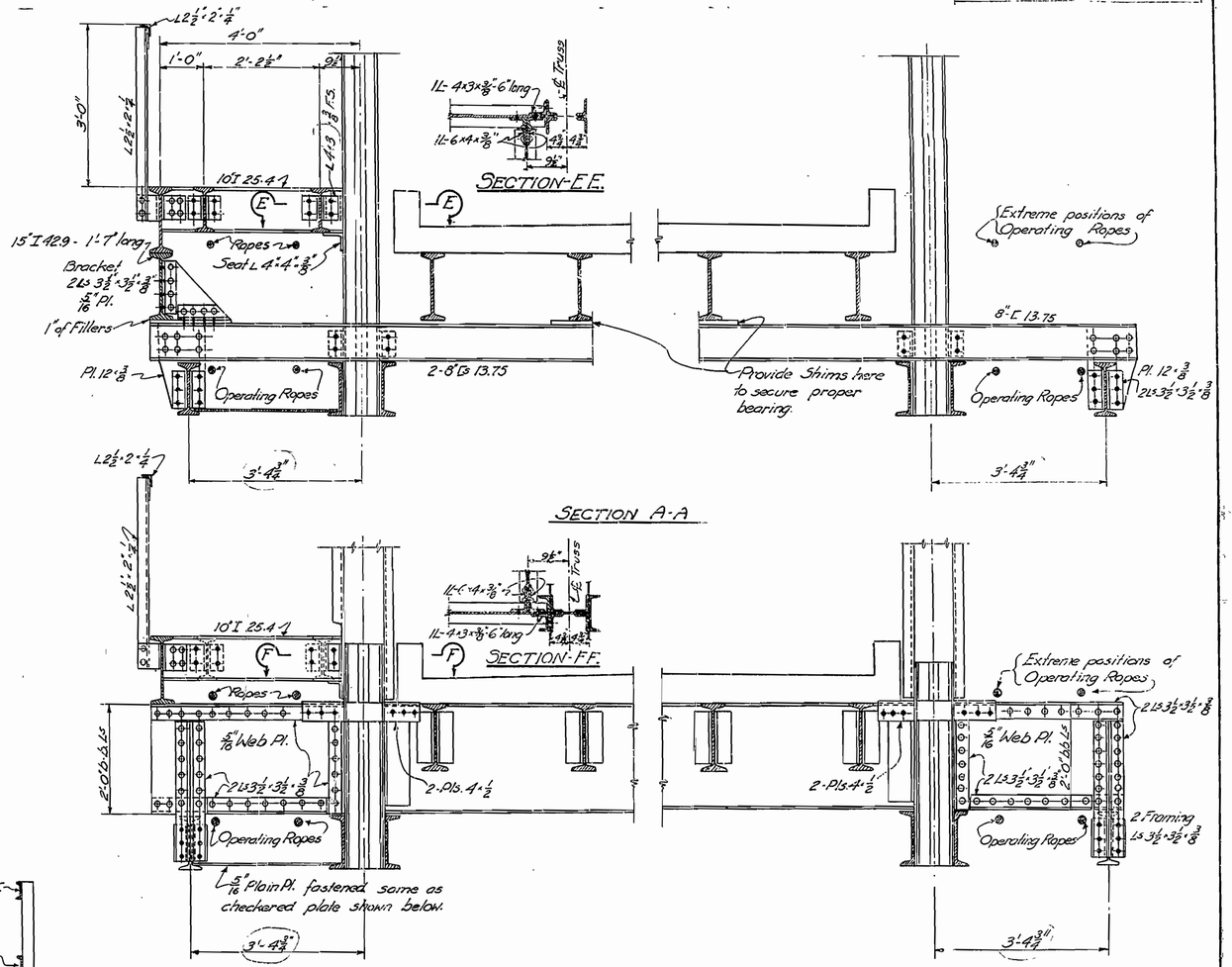
MADE BY B.C. DATE 3-26-26 TRACED BY P.H.C. DATE 6-2-26

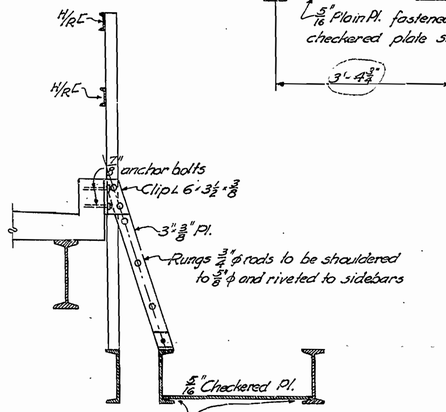
HARRINGTON, HOWARD AND ASH CONSULTING ENGINEERS

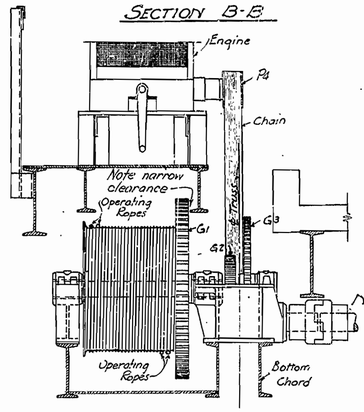
Kansas City, Mo.

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	183-E	1925	12	22









Provide removable #10 Ga. metal housing to protect engine and gears from rain.

NOTE:-
Rivets ¾", unless noted.
For general structural notes see sheet No 2.
Machinery to be assembled on supporting steel Work in shop as stated on sheet No. 10

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER AT CODY, LEE COUNTY, ARKANSAS

MACHINERY SUPPORTS

SCALE: ¾" = 1'-0" HARRINGTON, HOWARD AND ASH CONSULTING ENGINEERS
MADE BY B.G. DATE 9-24-26
TRACED BY M.W. DATE 6-1-26
CHECKED BY E.W.H. DATE 4-13-26 SHEET NO. 4 = 12 of Set.

Sec. EE+FF added-E.W.H. 7-28-26 and dimensions rev. O
Sec. DD added-W.W.H. 7-27-26

STATE	DIST. NO.		SHEET NO.	TOTAL SHEETS
ARK.	3	183-E 1925	13	22

BRIDGE APPROVAL DATE: D. E. 2-24

Note: Cap pls. of tower cols. & sub-posts to be milled together in one operation after shop assembly.

Half top chord view

Drain holes abt. 1'0" ctrs.

Bottom chord view

1-L 4 x 3 x 5/16

Clearance for rope

Half Bottom chord view

℄ Bridge

℄ Sheave

1¾" Hole

℄ Uphaul rope conn.

Holes for 1⅛" turned bolts to be drilled from steel template detailed on sheet #9

Column Cap
a. Pl. 24 x ⅞ x 2'-1¼ planed to ¾"
b. 2 ls 6 x 4 x
c. 2 ls 6 x 4 x
d. 1 L 8 x 6 x
e. 1-L 4 x 4 x
f. 2 ls 6 x 3½ x
g. 2 ls 5 x 3½ x
h. 1 pl. 12 x
Fills as reqd.

℄ Tower Col. ℄ Bearing ℄ Sheave ℄ Sheave ℄ Sheave ℄ Bearing

Do not rivet this L until tower is fully loaded

7"L @ 12.25#

SUB-POST & STIFFENER
1 pl. 15 x ⅞ x 1'-9" planed to ⅞"
2 ls 6 x 4 x
8 ls 5 x 3½ x ½
4 pls ⅜"

Notch Plate for Sheave

Sheave hood conn. ls

2 ls 6 x 6 x ½

¾" pl. ¾" pl.

1-L 3 x 3 x 5/16

2-⅞" Fills.

2 ls 6 x 6 x ½

Mill to bear

2 ls 4 x 3 x 5/16

2 l. ⅜" Pl.

2 L 4 x 4 x 5/16

Span Guide 2 ls 6 x 4 x ⅜ plane

Cwt. Guide 1 L 4 x 4 x ⅜

Cwt. Guide 1 L 4 x 4 x ⅜

13'-6" to top of masonry

102'-3¾" to top of masonry

Span guide L

8'-0" to top of span guide L

4'-6½" to bot. of shoe

11'

4'-3"

3'-4"

17'-3"

Plane 7

10½"

10½"

0'-7"/16

20'-4" c-c Columns.

COLUMN
4 ls 7
1 pl. 10 x

COLUMN SECTION
4 ls 7 x 3½ x
1 pl. 10 x

SPLICE MATERIAL
K. 2 pls. 2
m. 2 pls. 9 x
n. 4 pls. 5½ x

3-3½ x ⅜ curb L

6-3½ x ⅜ lug L

5 x 3 x 5/16 curb L

SECTION "FF"

Conn. for 7"@12.25# platform support same as for Sec. CC

2 ls 3½ x 2½ x

1 L do.

1 L 2½ x 2½ x 5/16

⅜" pl.

5/16 pl.

2 ls 3½ x 2½ x ⅜

Mill stiffener ℄ to beam

2 ls 5 x 3½ x ½

⅜" pl.

SECTION B-B

7'-6"

¼" pl.

1 L 2½ x 2½ x ¼

8"L@13.75#

7"L@12.25 6 x 3½ x ⅜

2 5/16 pl.

5/16 pl.

Lug L

6 x 3½ x ⅜

2 L 2½ x 2½ x 5/16

4'-3"

10'-5¾"

1'-5 x 3½ x ½

SECTION HH

2 ls 3½ x 2½ x 5/16

8"

1¼"

Ladder on one post only

Conn. 4 ls 5 x 3½ x ⅜ - 5'-0" c-c

Rungs to be shouldered to ⅜" and riveted to side bars.

SECTION AA

40° S. Lacing 2¼ x 5/16

5/12 x 5/16 Tie Pls.

Tie plates and lacing for all longitudinal bracing as shown.

For general notes see Sheet No 6.

Ladder at this corner only.

Handrail Posts 1 L 2½ x 2½ x ¼

Sym. abt. ℄ except for ladder

Channels supporting platform

Grating

H.R. Post

℄ Tower Column

℄ Sheave

Sub Post

PLAN OF FLOOR AT TOP OF TOWER.
Scale ½" = 1'-0"

Sheave hood

Grating

2 L 6 x 3½ x ⅜

VIEW C-C

3'-0"

Grating

7"L@12.25#

2 ls 6 x 3½ x ⅜

2'-9"

VIEW D D

⅝" sq bars. 2" ctrs.

1" x 4" x ⅜" strap @ 3'-0" ctrs.

bolt

Make in suitable lengths as req'd

1½" ℄s

3½ x 3 x ¼ Curb ls

ENLARGED VIEW OF FLOOR GRATING.

℄ Bridge

2 ls 4 x 3 x 5/16

1 L do.

15/16" pl.

1 L 2½ x 2½ x 5/16

2 ls 4 x 3 x 5/16

5/16" pl.

2 ls 3½ x 2½ x ⅜

1 L 5 x 3 x ⅜

40° Single lacing bars 2¼ x 5/16

VIEW - G - G.

1'-6"

Use ⅞" rivets @ 6" pitch

Sheet Steel U.S. gage #11.

VIEW EE

2 ls 5 x 3 x 5/16

1/4" Pl.

4'-3" Rad.

2 ls 2 x 2 x ¼

℄ Bearing

1'-6"

2 ls 2½ x 2 x ¼

¼" Pl. J

1 L 3 x 2½ x ⅜

5 x 3 x 5/16

SHEAVE HOOD

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER

AT

CODY, LEE COUNTY, ARKANSAS

TOWERS TOP SECTION

SCALE: ½" = 1'-0"

MADE BY P.W.C. DATE 3-29-26

TRACED BY O.E. DATE 6-2-26

CHECKED BY W.T.T. DATE 4-13-26

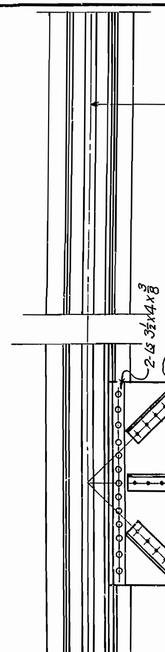
HARRINGTON, HOWARD AND ASH
CONSULTING ENGINEERS

SHEET NO. 5 of 13 of Set.

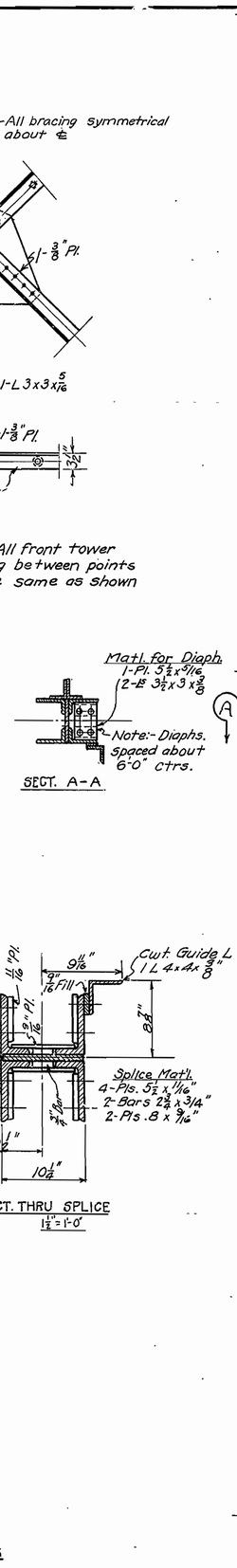
Drawing No. 254

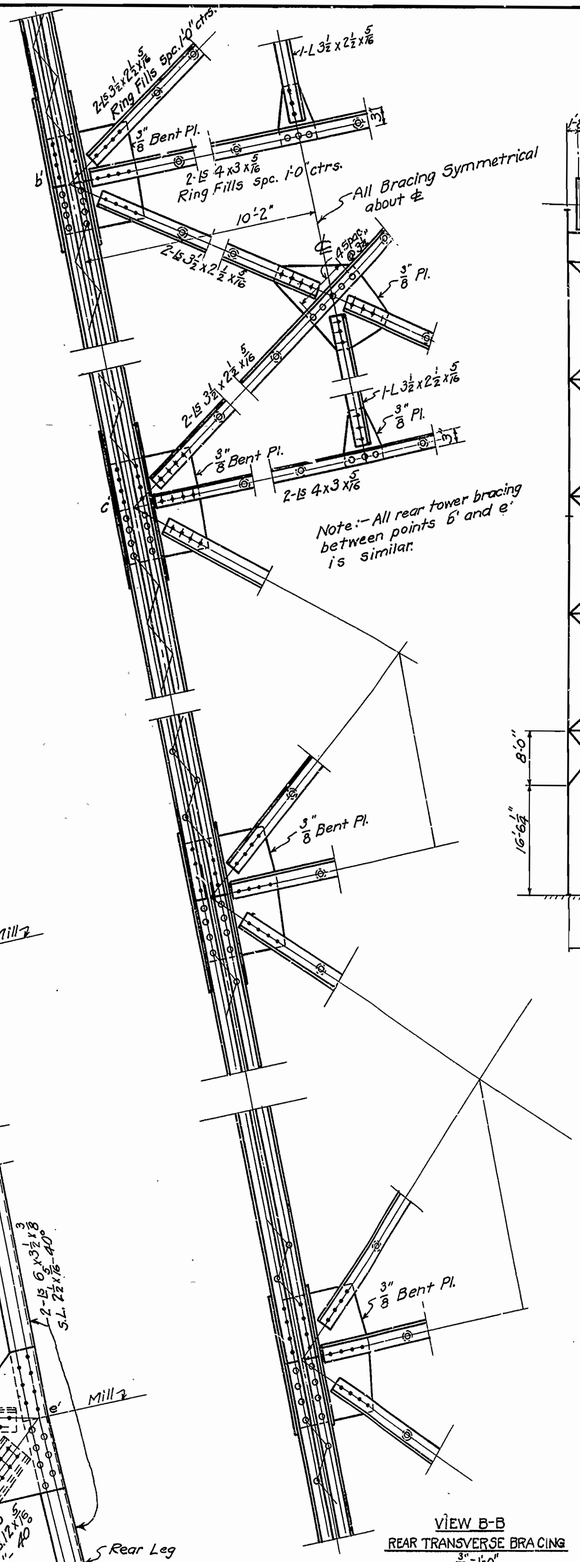
FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	SHEET No.	TOTAL SHEETS
8	ARK.	183-E 1925	14	22

CONTRACT No. 235

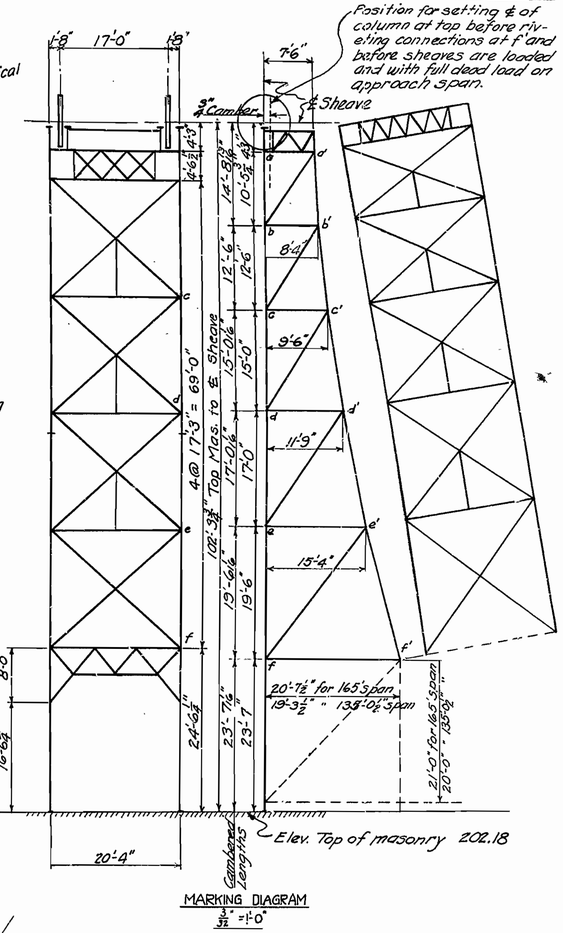


Note:- All front tower bracing between points c and e same as shown above.



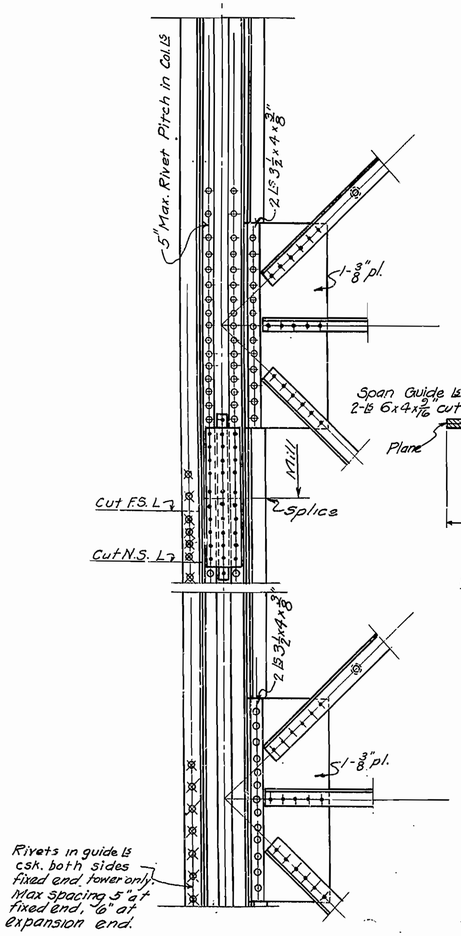


Note:- All rear tower bracing between points b' and e' is similar.

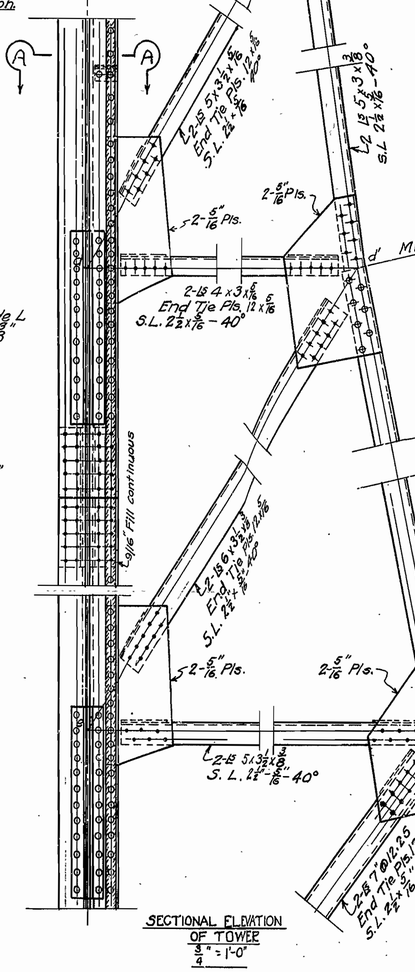


MARKING DIAGRAM
3/32" = 1'-0"

Towers to be cambered so that front columns will be vertical under full load of lift span and counterweight.



FRONT TRANSVERSE BRACING
3/32" = 1'-0"



SECTIONAL ELEVATION OF TOWER
3/4" = 1'-0"

VIEW B-B
REAR TRANSVERSE BRACING
3/4" = 1'-0"

General Notes:-
1. Rivets ⅞" ø except as noted.
2. Minimum rivet spacing 2½" For ls with one guage line, maximum spacing 6", with two guage lines 12" on each line.
3. Tie plates shall be placed as close to the ends of members as possible.
4. All members consisting of two angles to be stitch riveted 12" centers.
5. Angle given on lacing is the angle lacing bar makes with horizontal axis of member.
6. For punching, reaming and other shop practice see Arkansas State Highway Dept. specifications.

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER AT CODY, LEE COUNTY, ARKANSAS

TOWERS MIDDLE SECTION

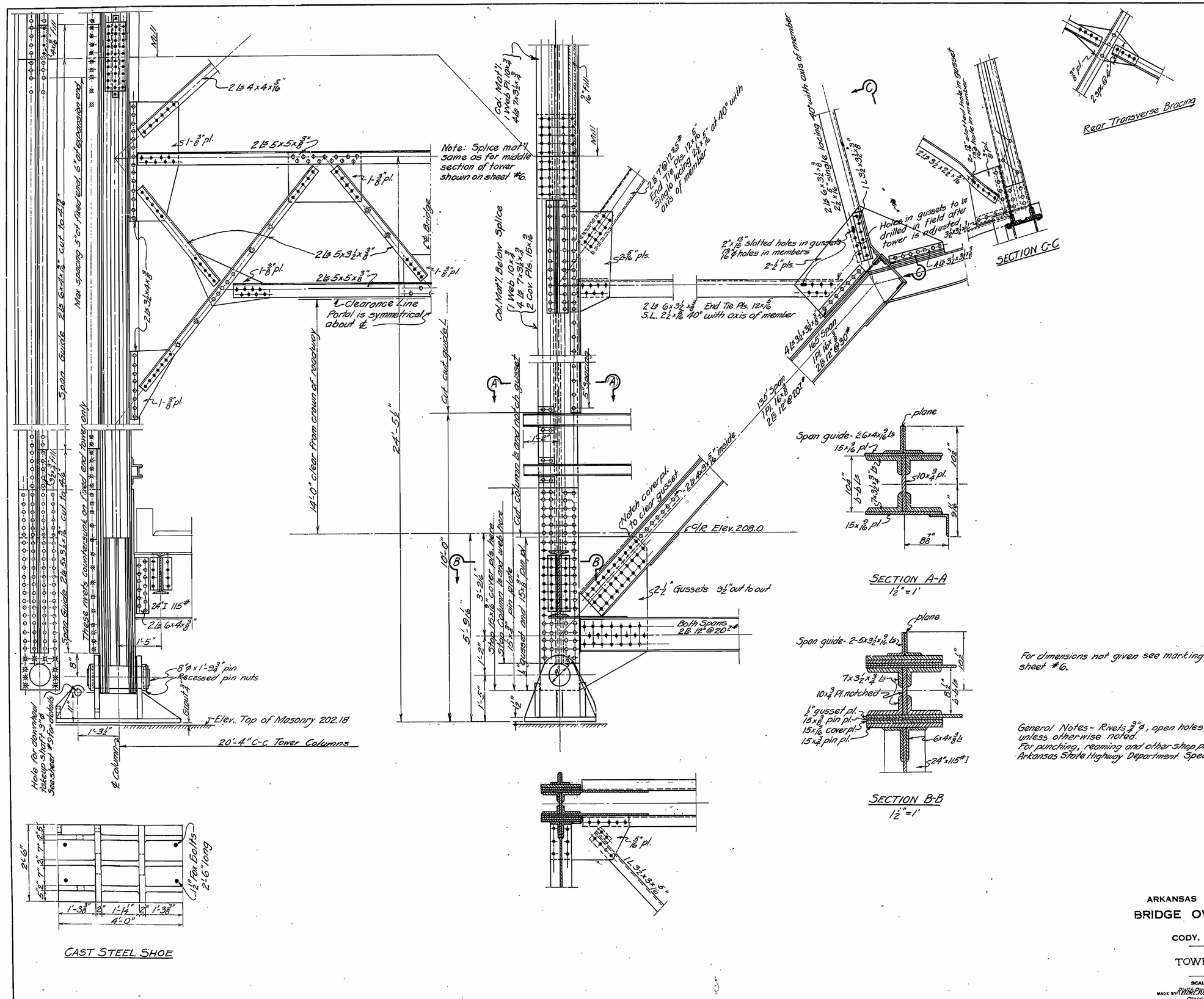
SCALE: as noted
MADE BY R.W.H. DATE 3-5-26
TRACED BY E.H.H. DATE 6-1-26
CHECKED BY W.T.T. DATE 4-13-26

HARRINGTON, HOWARD AND ASH CONSULTING ENGINEERS

SHEET NO. 6 = 14 of Set.

FED. ROAD DIST. No.	STATE	JOB No.	FED. AID PROJ. No.	SHEET No.	TOTAL SHEETS
6	ARK	183-E	1925	15	22

Br. Dist. 5 - Ark. Trunk No. 1 - U.S. Rt. #256



For dimensions not given see marking diagram sheet #6.

General Notes - Rivets 3/4" ø, open holes 13/16" ø unless otherwise noted.
For punching, reaming and other shop practice see Arkansas State Highway Department Specifications.

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER AT CODY, LEE COUNTY, ARKANSAS

TOWERS-BOTTOM SECTION

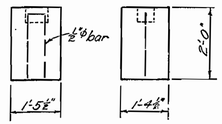
SCALE: 3/4" = 1'-0"

MADE BY R.W.H. & P.W.C. DATE 3-26-26
TRACED BY P.W.C. DATE 6-1-26
CHECKED BY W.T.T. DATE 4-13-26

HARRINGTON, HOWARD AND AVE
CONSULTING ENGINEERS

SHEET NO. 7=15 of Set.

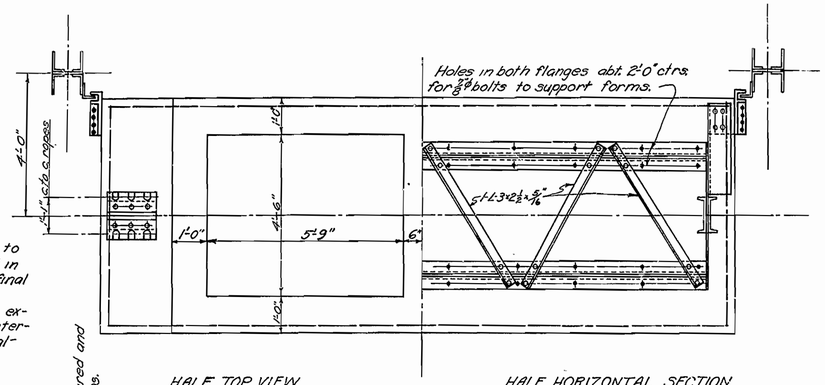
DIST.			SHEET
8	183-E	1925	16	22



BALANCE BLOCK.

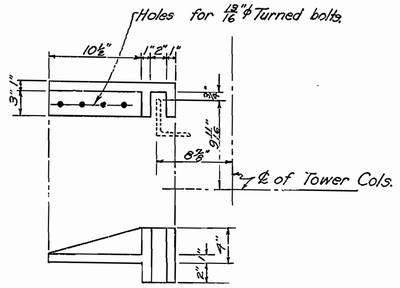
Pockets provide space for blocks enough to balance 10% of the total load to lift. This is to care for small variations in load to be lifted and in weight of counterweight concrete from the final calculated values.

Furnish the number of blocks required to give exact balance. In any case the completed counterweight shall have at least 1% of its weight in balance blocks.



HALF TOP VIEW.

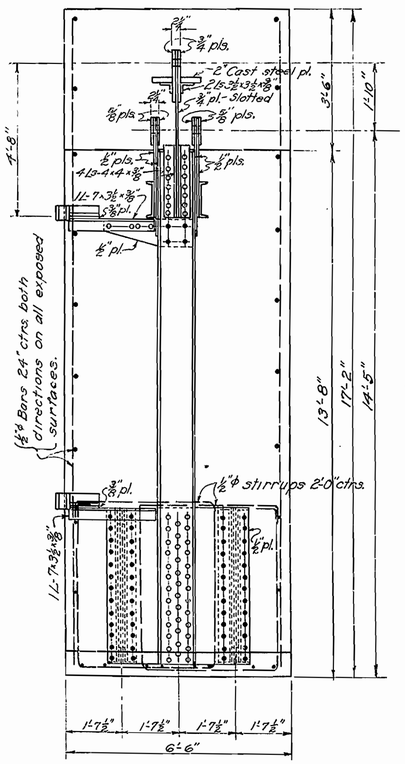
HALF HORIZONTAL SECTION.



CAST STEEL GUIDE CASTING

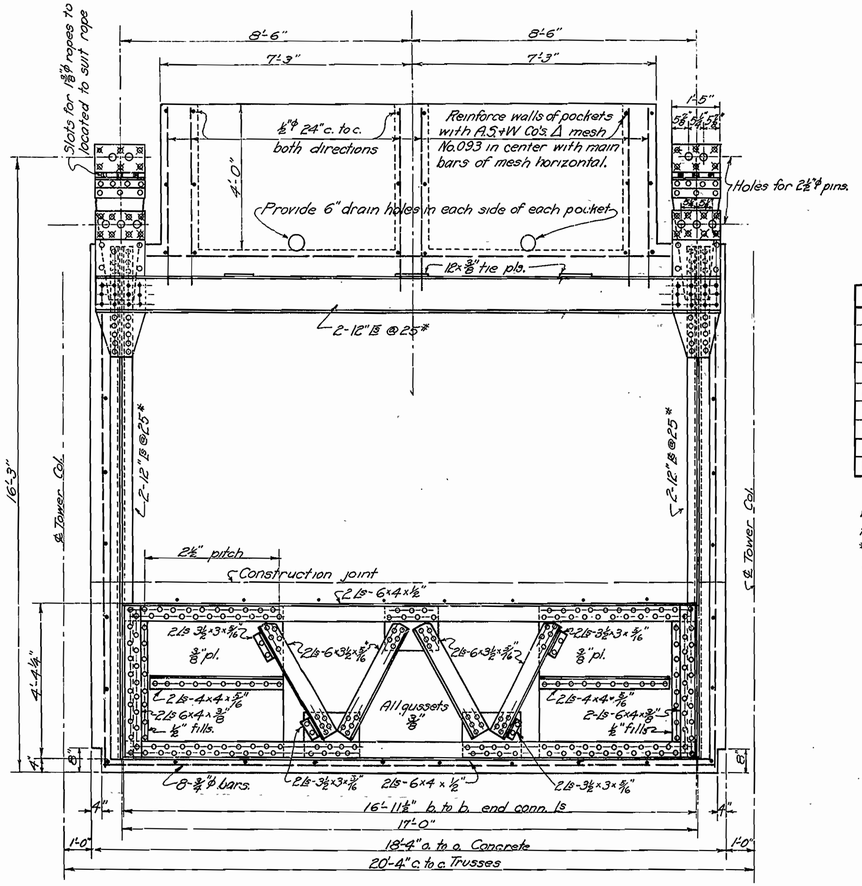
8 Required

1½" = 1'-0"



END ELEVATION.

Showing steel exposed.



SIDE ELEVATION

Showing steel exposed.

½" = 1'-0"

TABLE OF WEIGHTS (Subject to revision.)		
Load to Lift		560000
Ropes, Rope Clamps + Sockets, Span side		7,000
Total Load, 2 Counterweights		567000
Ropes, Rope Clamps + Sockets Counterweight side	7000	
Counterweight metal 24,700 Effective	*17300	
Total deduction		24300
Remaining weight to be balanced		542,700
Weight of concrete @ 147* per cu. ft. (3500 cu. ft.)		515,000
Weight of balance blocks (188 cu. ft.)		27,700

Weight to be balanced, shall be checked against the scale weights of steel and test weights of other materials before the counterweights are constructed.

*Weight of counterweight metal minus weight of equal volume of concrete.

GENERAL NOTES:-

All rivets ¾"ϕ

Concrete 1-2-4 mixture, weighing approximately 147* per cu. ft.

No oil or paint shall be used on steel embedded in concrete. All other steel painted according to Arkansas State Highway Commission Specifications, May 30, 1925.

In constructing counterweights, forms may be supported from steel girder. The bottom section of counterweight 5'-0" deep can be poured in forms suspended from the steel girders. This section shall set two weeks or longer if Engineer so requires, then the remainder of concrete may be poured.

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER

AT

CODY, LEE COUNTY, ARKANSAS

COUNTERWEIGHT

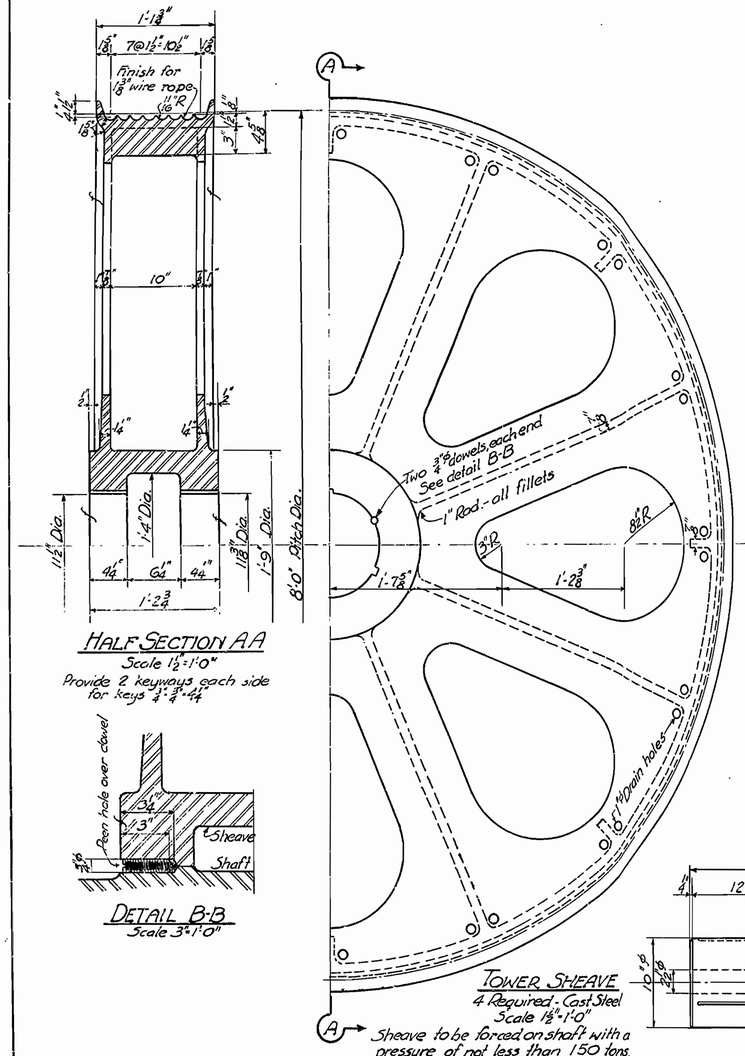
SCALE: ½" = 1'-0" HARRINGTON, HOWARD AND ASH CONSULTING ENGINEERS

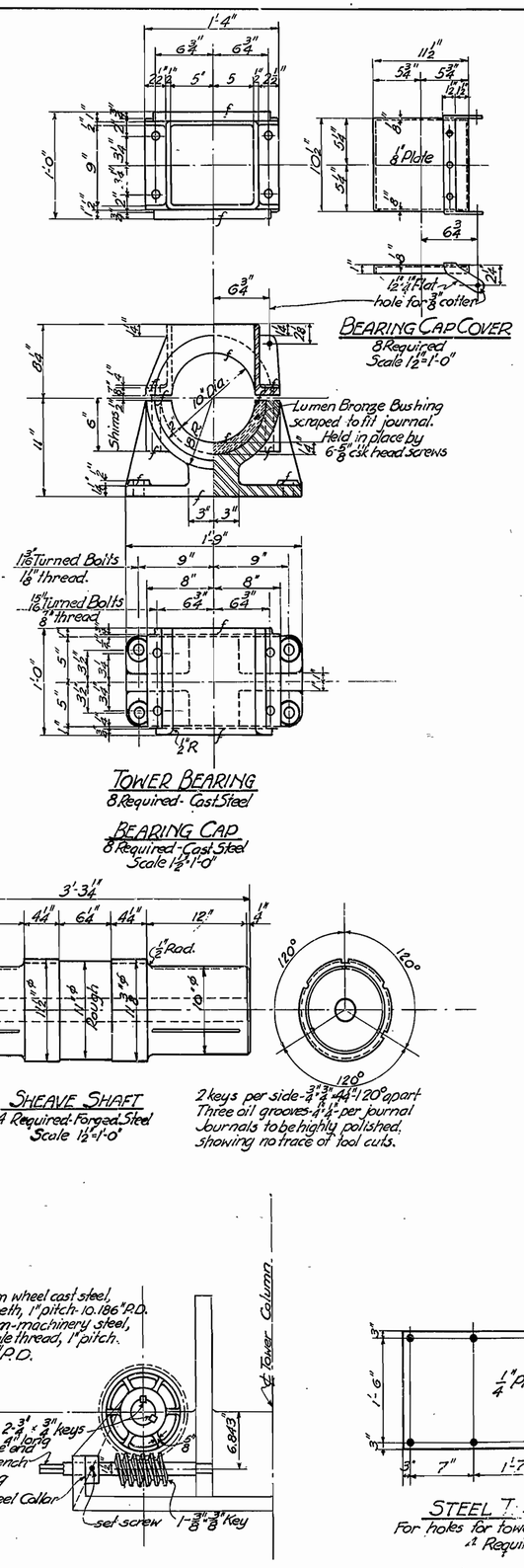
MADE BY A.T.D. DATE 3-19-26

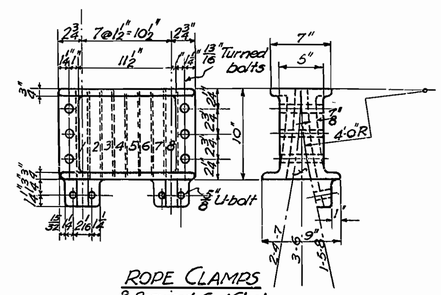
TRACED BY E.W.H. DATE 5-22-26

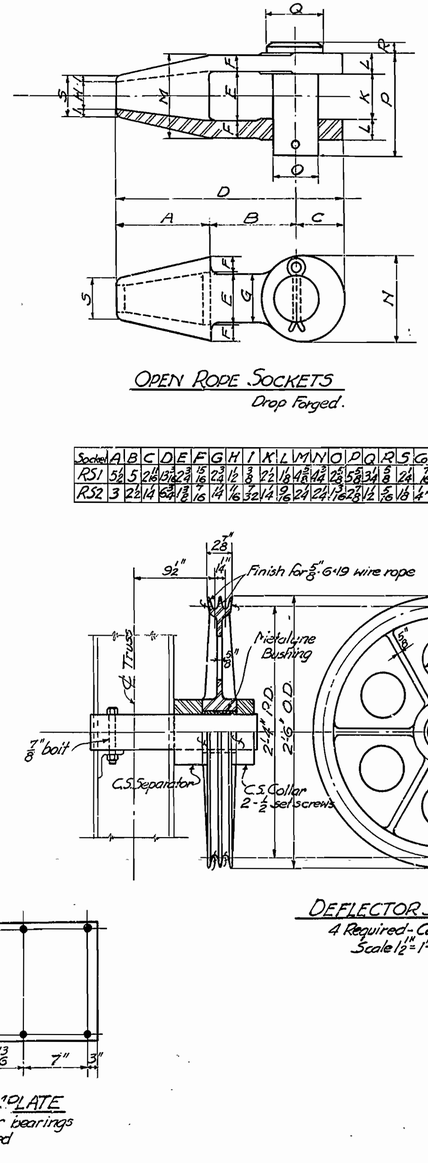
CHECKED BY W.T.I. DATE 4-13-26 SHEET NO. 8 = 16 of Set.

ST. FRAN. R. BR. MACHRY TOWERS, ARK. 258					
FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS	
3	Ark.	183-E	1925	17	22

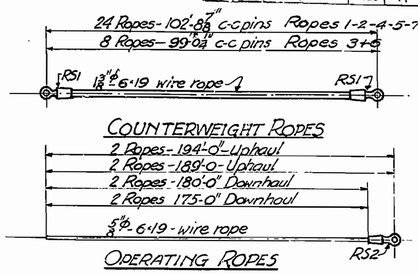


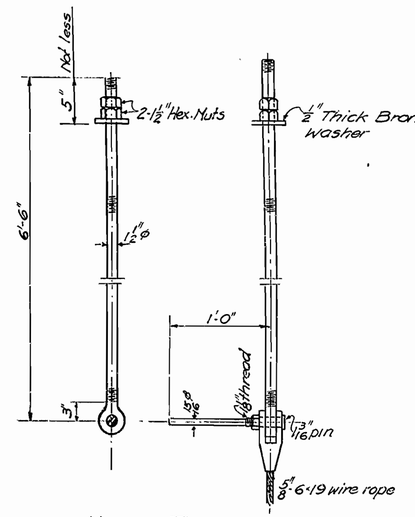


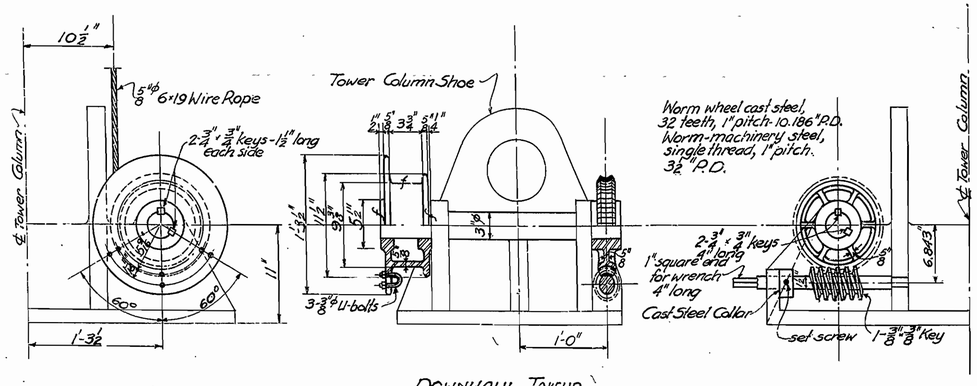




Socket	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	Q	R	S	Cotter	No. Req'd
RS1	5 1/2	5	2 1/8	6 1/2	2 3/8	3/16	2 3/8	1/2	3 1/4	1/8	4 1/8	4 1/2	14	2 5/8	5 3/8	3/4	3/8	2 1/4	7/16	64
RS2	3	2 1/2	1/4	6 3/4	1 3/8	1/16	1/4	1/16	3 2 1/4	1/16	2 1/4	2 1/2	9 1/4	2 1/2	2 3/4	1/2	1/16	1/16	4"-1 3/4"	4







For general notes, see sheet 10

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER

A3

CODY, LEE COUNTY, ARKANSAS

MACHINERY ON TOWERS

SCALE: As noted

MADE BY G.F.N. DATE 3-9-26

TRACED BY M.W. DATE 6-2-26

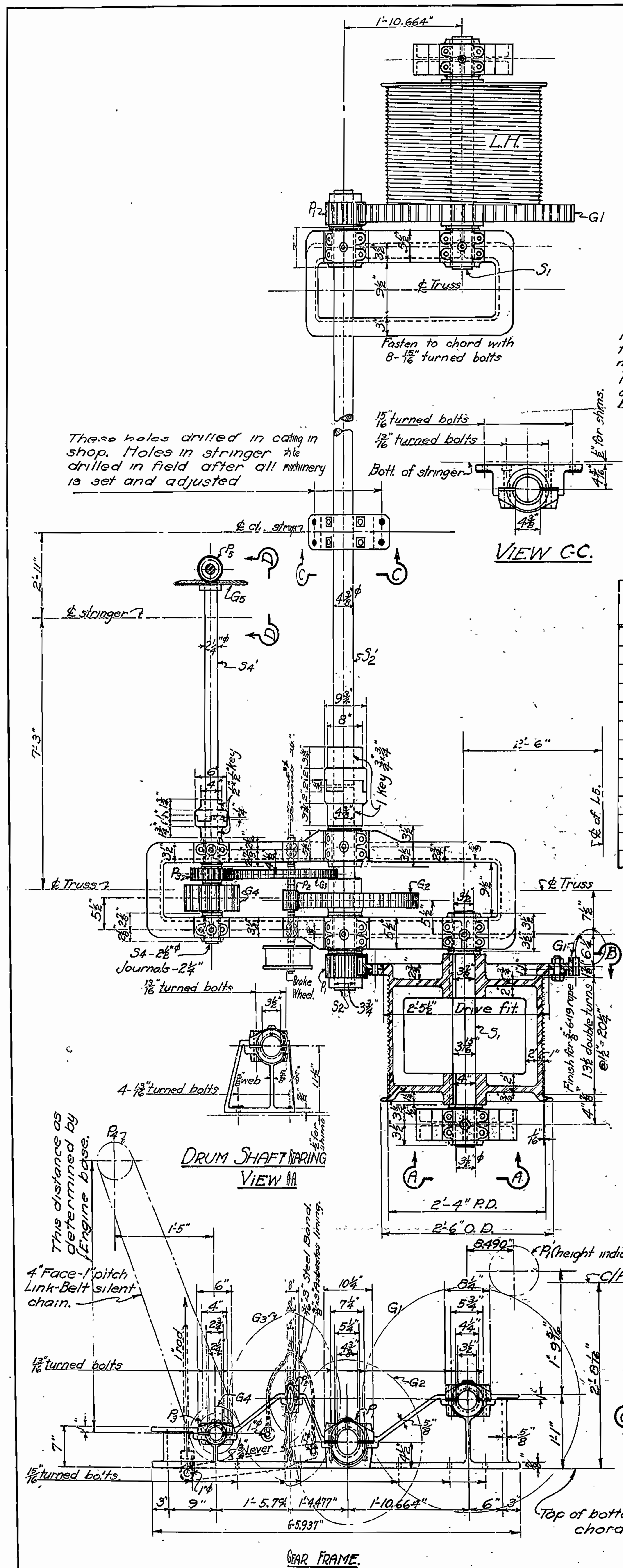
CHECKED BY C.E.D. DATE 4-12-26

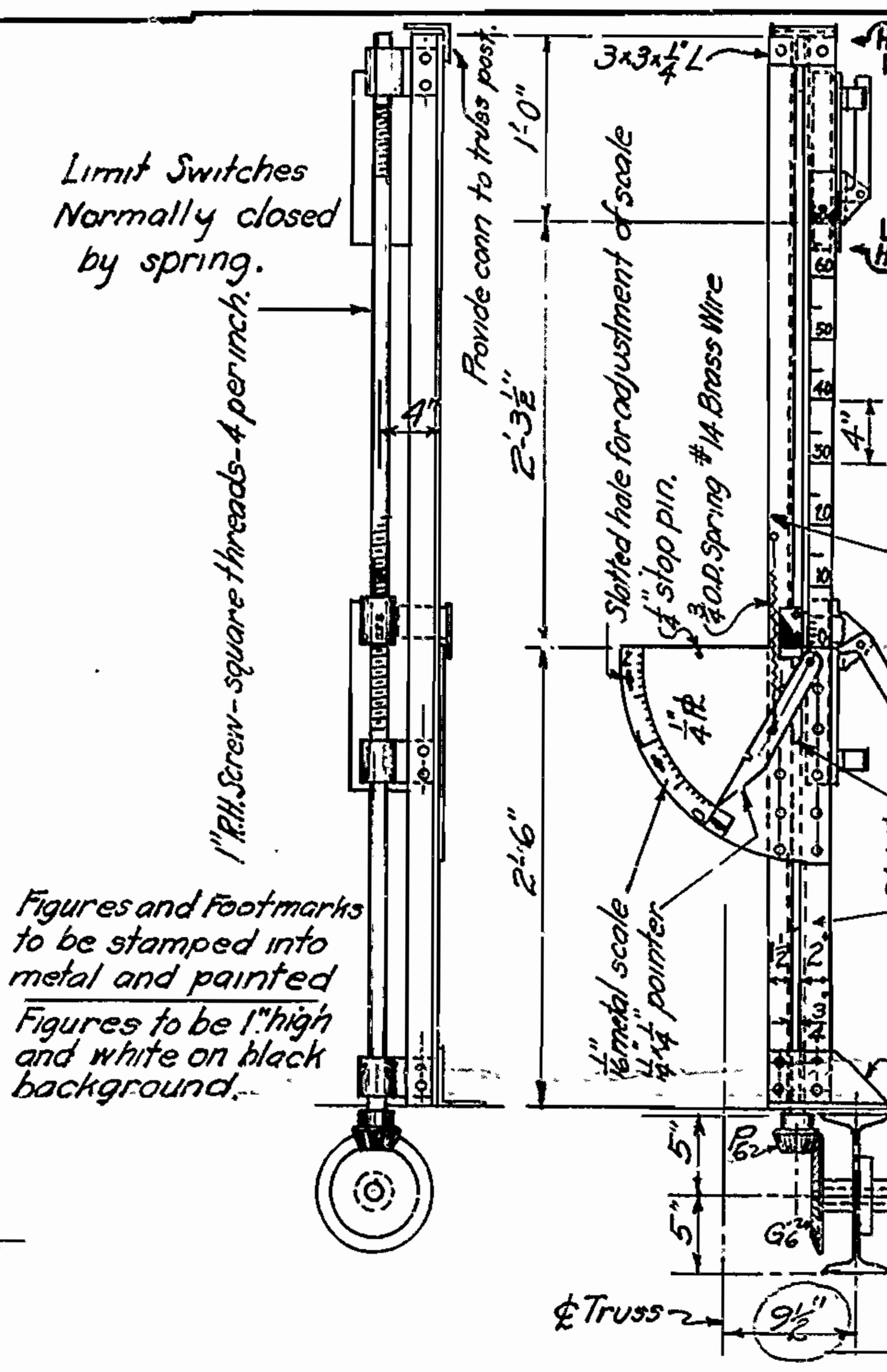
HARRINGTON, HOWARD AND ASH
CONSULTING ENGINEERS

SHEET NO. 9 = 17 of Set.

FED. ROAD DIST. No.	STATE			SHEET No.	TOTAL SHEETS
6	ARK	183-E	1925	18	22

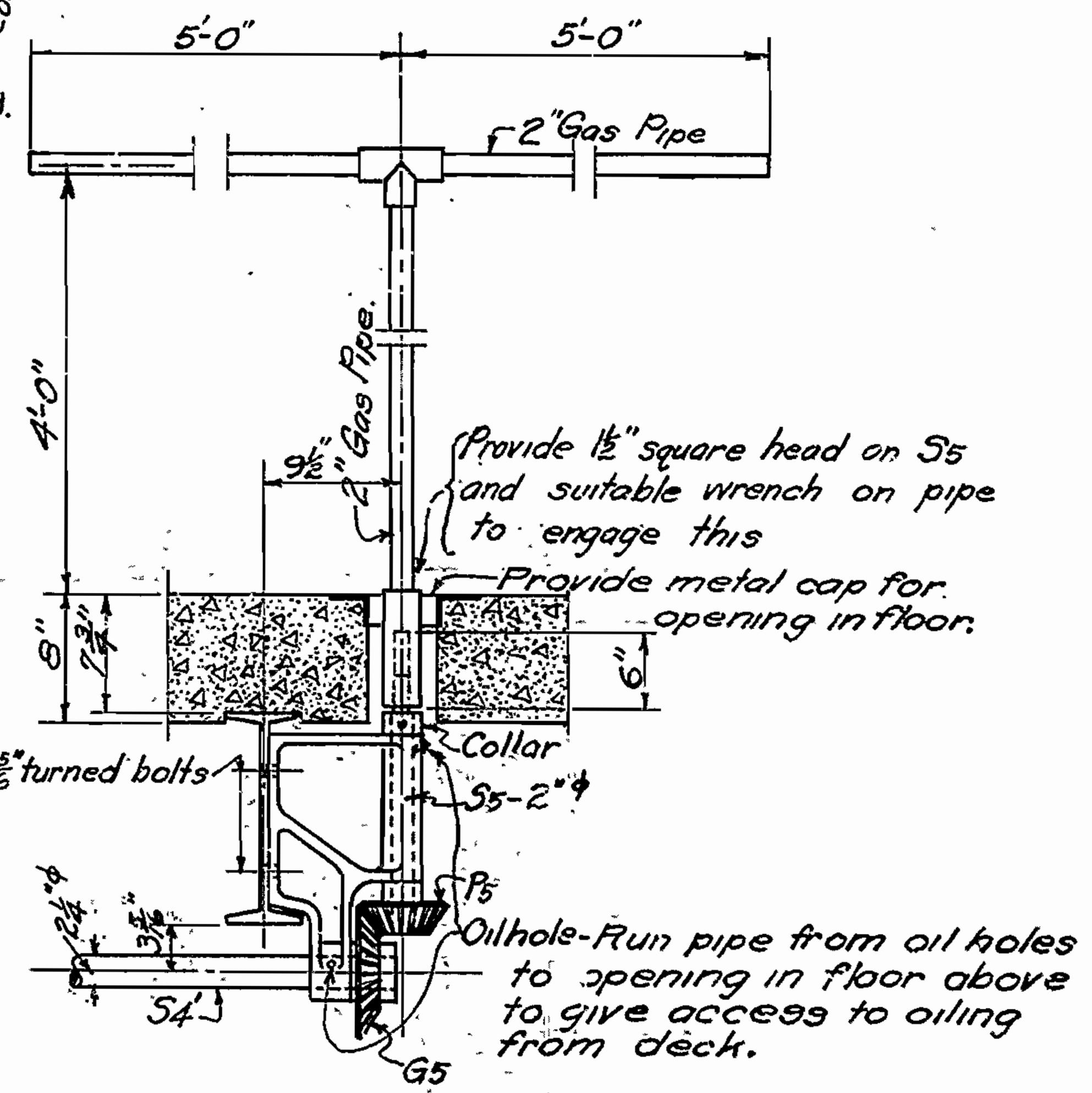
BR. OVER ST. F. [illegible] DR. # 259





HEIGHT INDICATOR

For location, see sheet no. 4.
To be fastened to H/R and to posts.



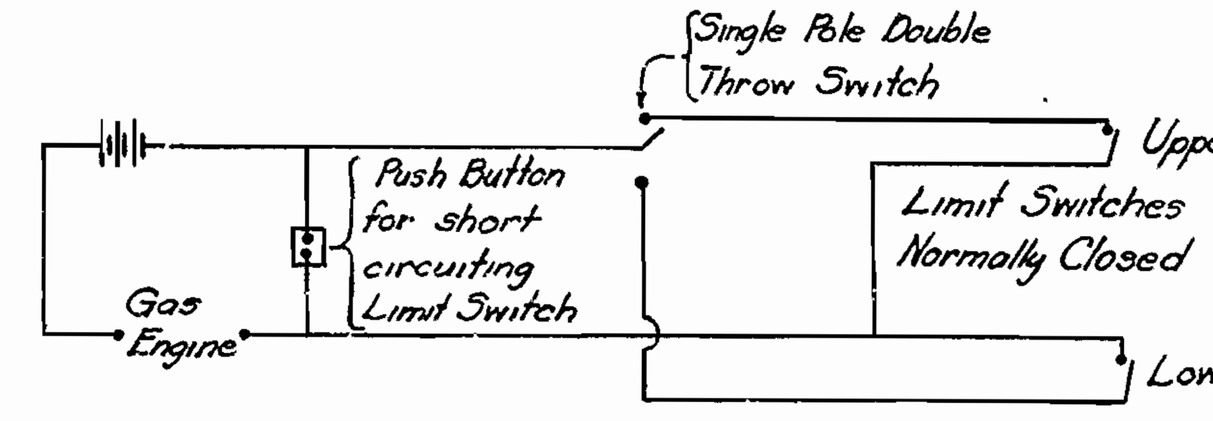
VIEW D-D

Showing hand operation

GEAR TABLE.

Gear	No. Teeth	Circ. Pitch	Pitch Dia.	Face	Keys No.	Keys Size
P1	18	1½"	8.594"	4"	1	¾×¾×6"
G1	82	1½"	39.152"	3"	—	
P2	19	1¼"	7.560	3½	1	⅝×¾×8"
G2	72	1¼	28.648	2½	2	¾×¾×6"
P3	23	1	7.321	2	1	½×⅜×8"
G3	95	1	30.239	1½	See P2	
P4	19	1	6.100	4¾	1	½×⅜×5½"
G4	30	1	9.60	4¾	See P3	
P5	16	1¼	6.366	2½	2	⅜×⅜×3¼"
G5	24	1¼	9.549	2½	2	½×½×2½"
G6	49	½"	7.799	1	1	¼×¼×1½"
P6	19	½"	3.024	1	1	¼×¼×2½"
P1'	18	1½"	8.594	2	1	¼×¼×3½"

G4 and P4 to fit Link-Belt Silent Chain. G4 to have plate flanges.



WIRING DIAGRAM FOR LIMIT SWITCHES.

GENERAL NOTES.

Holes for bolts connecting machinery to steel work to be drilled for turned bolts, driving fit, the holes in supporting steel being drilled while machinery is temporarily assembled in shop. Holes for engine may be drilled in the field.

All castings, unless otherwise noted, are steel castings. All steel castings to be thoroughly annealed.

All bolts to have finished hexagonal nuts. All keys are straight. Keys and keyways not to extend past hub.

Gears and couplings to have recessed set screws for all keys. Furnish 2 socket wrench for each size of setscrew.

All shafts are rolled steel. All gears to have 20° involute machine cut teeth with pitch circles scribed on both sides of teeth.

All contact surfaces finished, all journals polished, and all bushings scraped to fit journals.

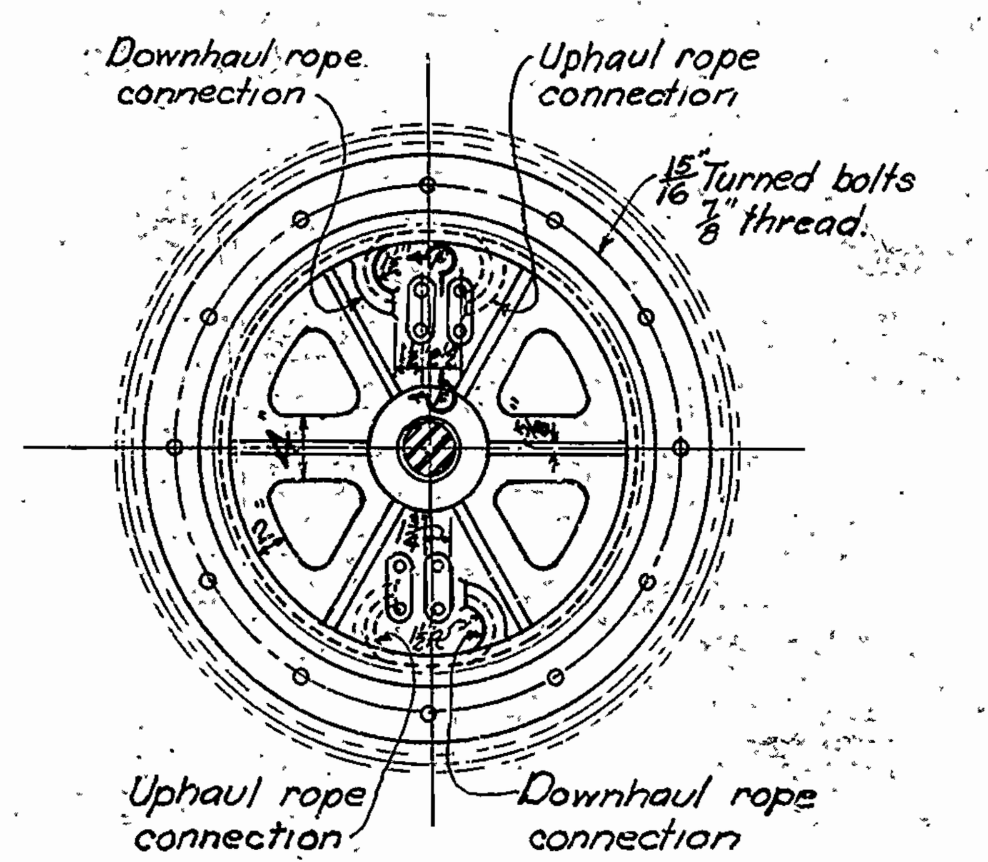
All bearings to have "Marine" type Lunkenheimer grease cups, except as shown and noted.

All bushings are phosphor bronze.

Diameter of hubs 1.8 bore.

Gears and couplings to have driving fit on shafts.

Thickness of metal in castings ⅝", unless noted.



SECTION B-B

"Span down" position
One drum req'd with R.H. grooves for S. side.
" " " " L.H. " " N. ".
Key drum to shaft with 1-¾×¾×6" key each end.

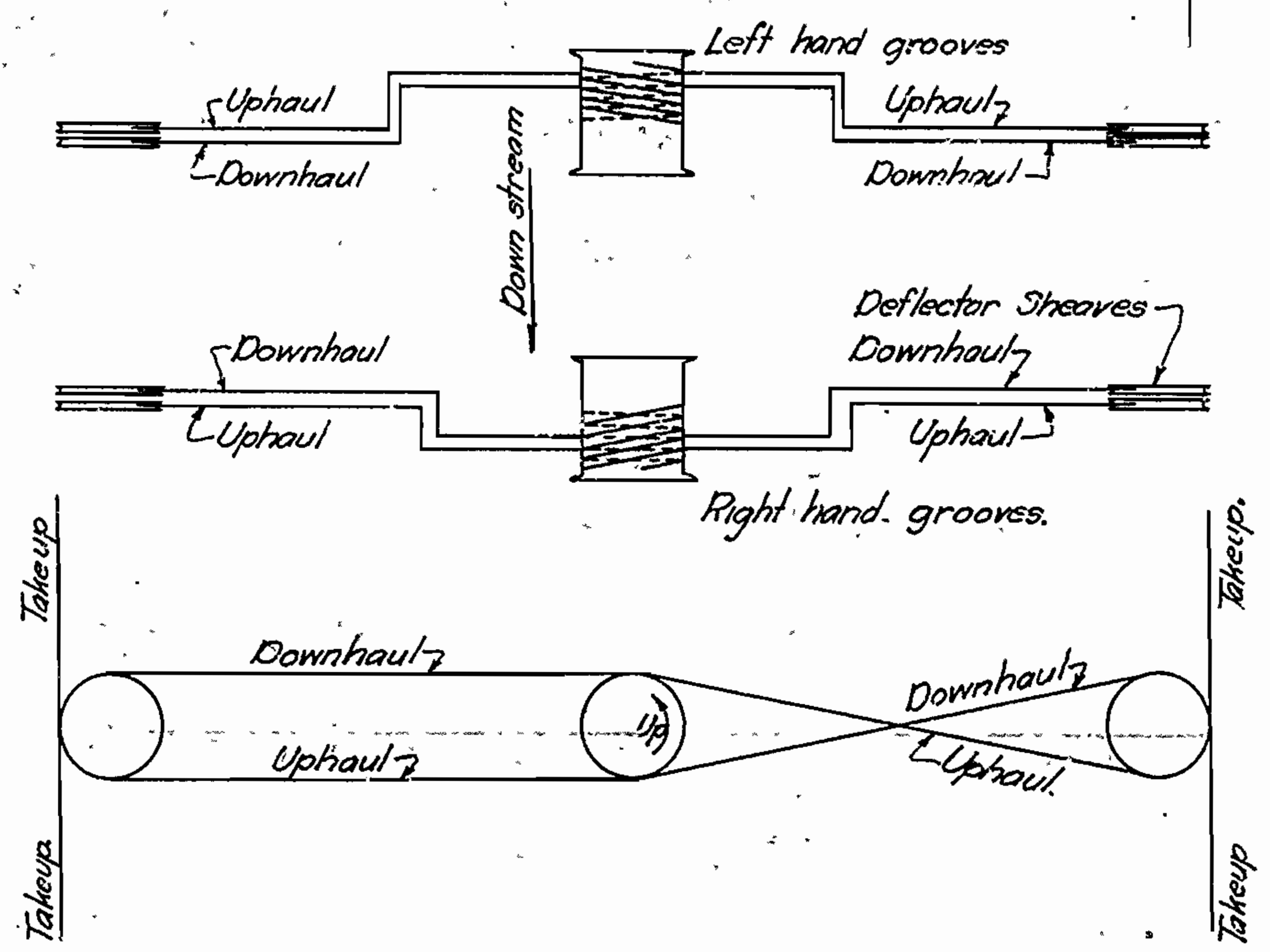
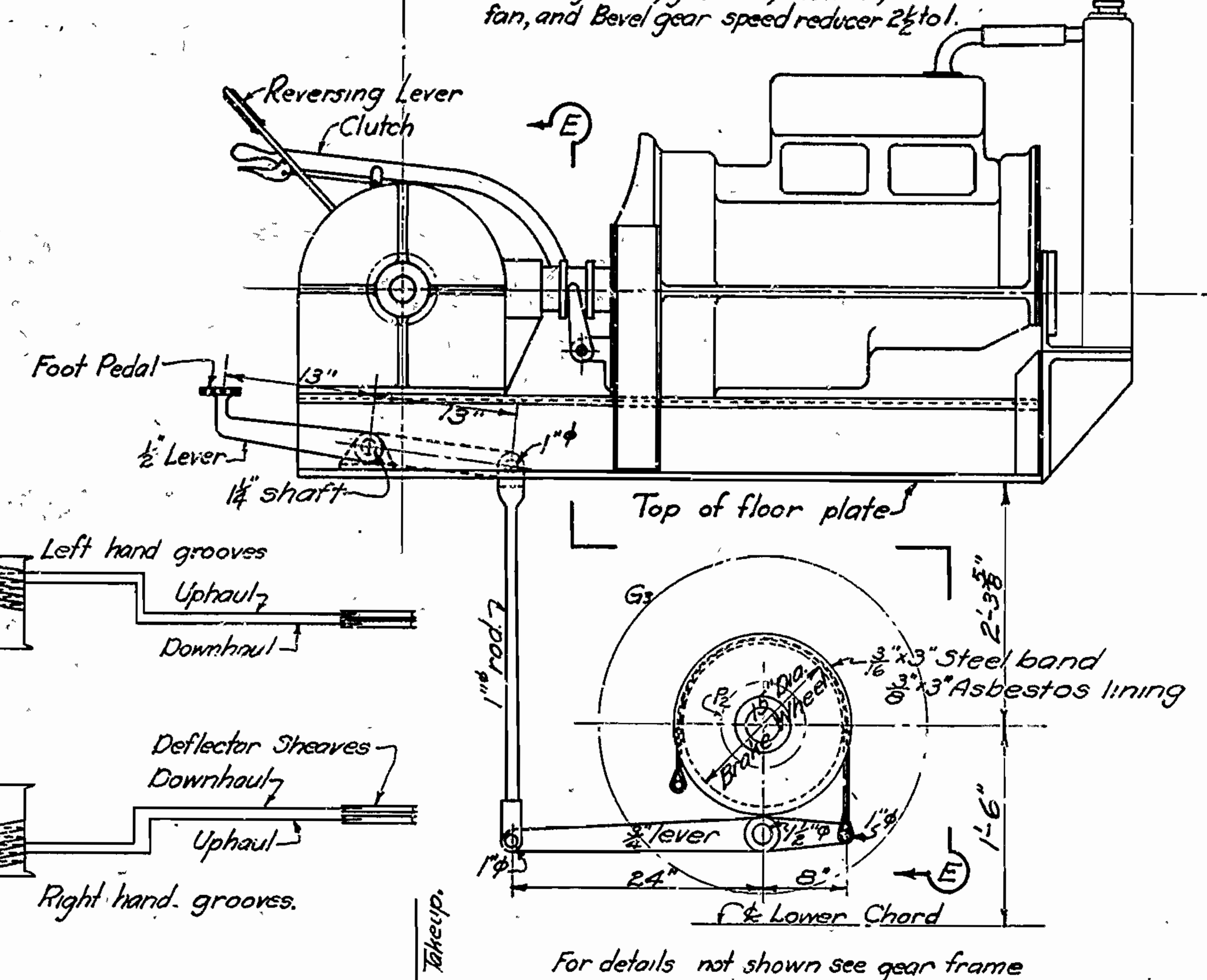


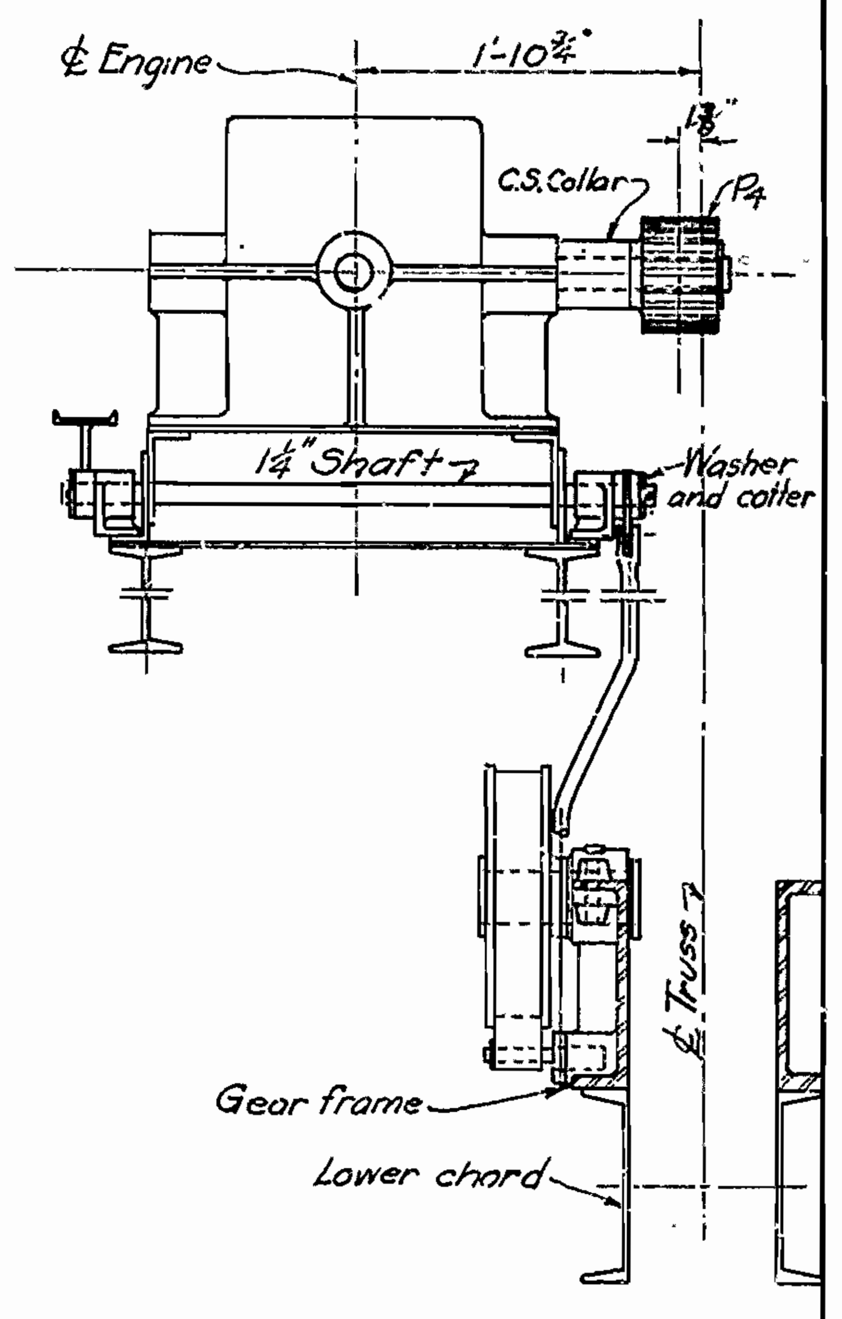
DIAGRAM OF OPERATING ROPES

Shown for "Span Down" position. 2 turns of uphaul ropes on drum and 11 turns of downhaul ropes on drum.

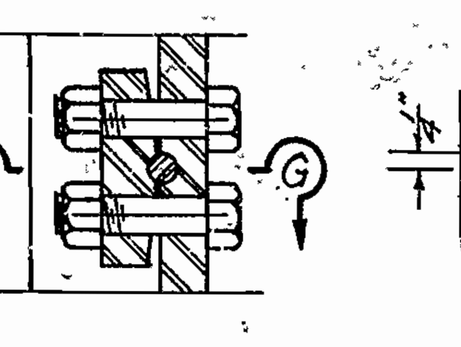
Norwood-Noonan Co's. Gas Engine Unit, No. 5-B-35 H.P. at 900 RPM. or equivalent. Furnish complete with clutch, reversing lever, gas tank, radiator, fan, and Bevel gear speed reducer 2½ to 1.



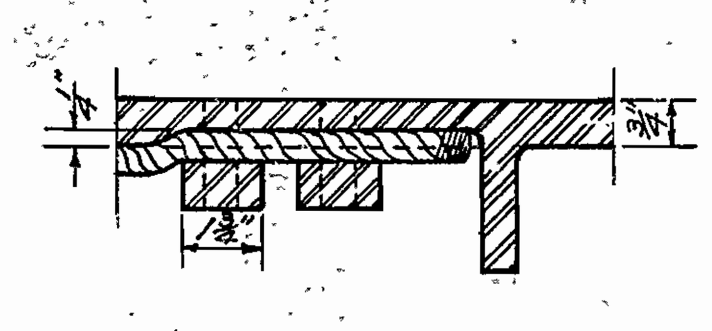
HAND BRAKE, ENGINE, and REVERSING GEARS



SECTION E-E.



SECTION F-F



SECTION G-G.

Note: For deflector sheaves see Sh. #9

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER AT CODY, LEE COUNTY, ARKANSAS

MACHINERY ON SPAN

SCALE: 1" = 1'-0"
MADE BY G.E.W. DATE 3-26-26
TRACED BY F.W.H. DATE 6-2-26
CHECKED BY E.E.P. DATE 4-13-26

HARRINGTON, HOWARD AND ASH CONSULTING ENGINEERS

SHEET NO. 10 = 18 of Set.

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
8	ARK				

165' Hwy. Br. 18' Rdwy. Conc. Flr. Dr. #17

2 L 3½ x 2½ x 5/16" Lac.

2 L 3½ x 2½ x ¼" Laced

2 L 3½ X 2½ X ¼" Laced

Battens 16 X 3/8"-1'-6" Lacing 2½ X 3/8"

Battens 16"x 3/8"-1'-6" Lacing 2½ X 3/8"

PL 7½ X 5/16 - 8 5/8"

18" C X 5/16" - 8 5/8" @ 3'-0" max.

Gas Pipe Fill

Top of Sy. Floor Slab.

2 L 3 X 3 X ½"

Battens 16 X 3/8"-1'-6" Lacing 2½ X 3/8"

2 L 4 X 3½ X 5/16"

Spl. 2 Pls 12" X ½" F.S.

Splice 2 Pls 12" X ½" F.S. 2 Pls 10" X 3/16" N.S.

Diaph. 1 Pl. 0" X 5/16" 4 L 4 X 3½ X 5/16"

2 L 3½ X 2½ X 5/16"

2 L 3½ X 2½ X ¼"

2 L 3½ X 2½ X 5/16"

Long. bars 2 L 2½"@ 2'-0" c. to c. Top and Bottom

Top trav. bars ½" @ 18" ctrs.

Bot " " ½" @ 18" bent up into curb.

Bot & top trav. bars ½" @ 18" bent up & down over beams

3" dr. vain in center of each panel. (Wearing Surface)

2 Pl. 6" X 4" X 3/8"

15" X 42.9 lb. I

2 Pl. 6" X 4" X ½"

24" X 115# I

9'-0"

1'-6"

1'-2"

Battens 16" X 3/8" - 1'-6" Lacing 2½ X 3/8"

1:5½

6 @ 2'-11" = 17'-6"

20'-4" c. to c. Trusses.

SECTION THROUGH TRUSS

2 Anchors 1¼" ø 2'-3" long

2'-6"

9"

9"

12½"

EXPANSION END

FIXED END

Top of Sy.

4'-8" c. to c. trusses

24" X 100# I

4" Pin. 2 Pl. 6" X 4" X ½" 2 Pls 18" X 1" - 2'-6" 3¾" ø Rollers 22½" c. to c.

1" ø

20'-7½"

20'-7½"

20'-7½"

20'-7½"

Pl. 16 X 5/16" - 1'-3½" Pls 9" X 5/16" - 1'-3½" 3'-0" Staggered top & bot.

Pl. 16 X 5/16" - 1'-3½" Pls 9" X 5/16" - 1'-3½" @ 3'-0" max. stag. top & bot.

Pls 16" X 5/16" - 1'-3½" Inter Pls 9" X 5/16" - 1'-3½" @ 3'-0" max. spac. - top & bot. Stag.

Pl. 16 X 5/16" - 1'-3½" Pls 9" X 5/16" - 1'-3½" @ 3'-0" max. top & bot. Stag.

1 L 3½ X 3 X 5/16"

1 L 3½ X 2½ X 5/16"

1 L 3½ X 2½ X 5/16"

1 L 3½ X 2½ X 5/16"

24" X 115# I

24" X 100# I

24" X 115# I

24" X 115# I

D. 132.0 L. 50.4 I. 10.8 T. 193.2

D-161.6 L. 61.7 I. 13.3 T. 236.6

D-183.2 L. 69.9 I. 15.0 T. 268.1

D-194.5 L. 74.3 I. 16.0 T. 284.8

D-194.5 L. 74.3 I. 16.0 T. 284.8

D-183.2 L. 69.9 I. 15.0 T. 268.1

D-161.6 L. 61.7 I. 13.3 T. 236.6

2 L 5 X 3½ X 5/16"

2 L 6 X 3½ X 5/16"

2 L 6 X 3½ X 7/16"

2 L 6 X 3½ X 7/16"

2 L 6 X 3½ X 5/16"

D+113.4 L+ 43.3 I+ 9.3 T+166.0

D+157.1 L+ 60.0 I+ 12.9 T+230.0

D+182.3 L+ 69.6 I+ 15.0 T+266.9

D+182.3 L+ 69.6 I+ 15.0 T+266.9

D+157.1 L+ 60.0 I+ 12.9 T+230.0

D+113.4 L+ 43.3 I+ 9.3 T+166.0

D-114.6 L-43.8 I-9.5 T-164.5

D-114.6 L-43.8 I-9.5 T-164.5

D-91.6 L-34.9 I-7.6 T-131.4

D-91.6 L-34.9 I-7.6 T-131.4

D+43.0 L+16.4 I+3.6 T+61.8

D+43.0 L+16.4 I+3.6 T+61.8

26'-0"

21'-0"

28'-0"

2 Pl. 12" X 35#

2 Pl. 12" X 30#

2 Pl. 12" X 20.7#

8 @ 20'-7½" = 165'-0"

ESTIMATED QUANTITIES

Structural Steel 188,200 #

Reinforcing Steel 10,016 #

Concrete 694.3 cy

Note: Above conc. quantity does not include 1" for wear.

SPECIFICATIONS: Arkansas State Standard Highway and Bridge specifications dated May 30, 1925.

Rivets ¾" diam. except flanges of 8" I. beam holes ⅞" diam. All connections riveted. Rivet holes in tension members are to be so spaced that not more than one hole is deducted from area of each angle at point of max. stress.

Shop Paint one coat of red lead & raw linseed oil.

Field Two coats of different colors as approved by the Engineer.

Concrete proportions 1:2:4, max. add. ½" - 1 bbl. if wear carries directly on floor. Slope to be not less than 1:2.5 min. and thickness of slab should be increased ½" at crown for exposed corners ¾".

Reinforcing steel to be deformed bars of structural or intermediate grade. Bars to be securely wired in place before concrete is poured.

FLOOR BEAMS

D.L.M. = 78 X 258 I X 2033 ft² = 133 344

L.L. M 2592 0 X 0.13 (2 Tracks) = 16 488

= 44 064

Imp. + 30% T = 324 288 #

324 288 X 1/2 / 16000 = 203. Req'd sec. mod.

1 I @ 20.7 #/ft = I. Sec. mod 245.

STRINGERS

D.L.M. = 78 X 380 X 20.6 ft² = 20,100

L.L.M = 36 P 3000 X 206 = 41 000

Imp. + 30% = 12 300

T = 73400

73400 1/2 / 16000 = 55. Req. Sec. mod.

Use 15" 42.9# I Sec. mod. 58.0

LOADING

Live load: Uniform, 68# per sq ft of sy.

Concentrated - 2-15-Ton trucks as shown below.

14'-0" 20000# 6'-0"

6000# Axle Loads

Impact = 100 S / L+300

STANDARD PLAN

165 Ft. STEEL HIGHWAY BRIDGE

18 FT. ROADWAY - CONCRETE FLOOR

ARKANSAS STATE HIGHWAY DEPARTMENT

Little Rock, Ark. Jan. 1926.

APPROVED _____ State Highway Commissioner

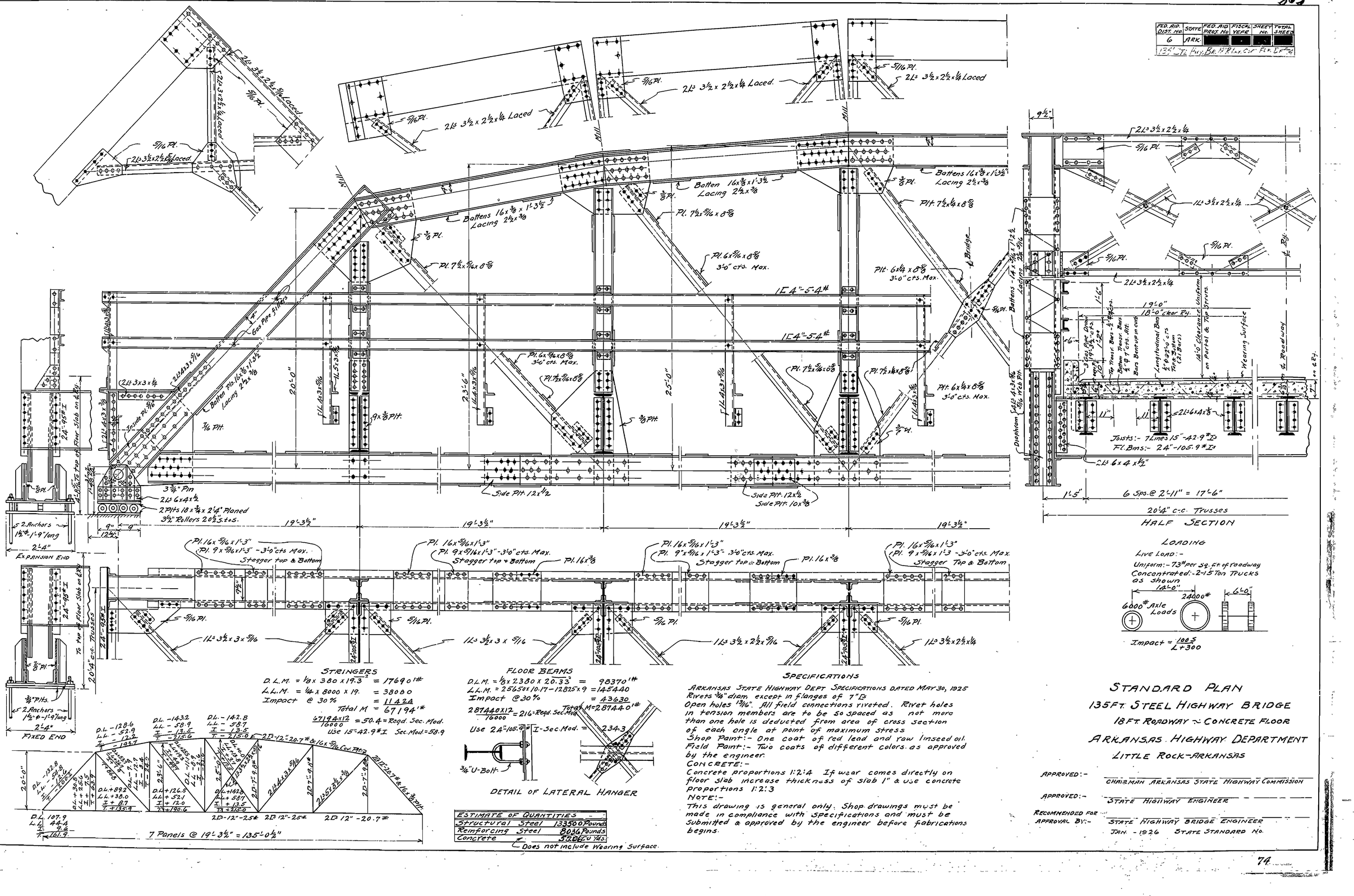
APPROVED _____ State Highway Engineer

REC. FOR APP. _____ State Bridge Engineer.

State Standard no. ____

FED. AID. DIST. NO.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.				

135'-7" Thru Br. 18'R'dway. Conc. Floor Design



ESTIMATE OF QUANTITIES	
Structural Steel	133500 Pounds
Reinforcing Steel	8036 Pounds
Concrete	512 Cu. Yds.

Does not include Wearing Surface.

SPECIFICATIONS

ARKANSAS STATE HIGHWAY DEPT. SPECIFICATIONS DATED MAY 30, 1925
Rivets ¾" diam. except in flanges of 7" Is
Open holes 13/16". All field connections riveted. Rivet holes in tension members are to be so spaced as 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.
CONCRETE:-
Concrete proportions 1:2:4 If wear comes directly on floor slab increase thickness of slab 1" & use concrete proportions 1:2:3
NOTE:-
This drawing is general only. Shop drawings must be made in compliance with specifications and must be submitted & approved by the engineer before fabrications begins.

STANDARD PLAN
135 FT. STEEL HIGHWAY BRIDGE
18 FT. ROADWAY :- CONCRETE FLOOR
ARKANSAS HIGHWAY DEPARTMENT
LITTLE ROCK-ARKANSAS

APPROVED:- _____ CHAIRMAN ARKANSAS STATE HIGHWAY COMMISSION

APPROVED:- _____ STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL BY:- _____ STATE HIGHWAY BRIDGE ENGINEER

JAN. - 1926 STATE STANDARD No.

130

FED. ROAD DIST. No.	STATE			SHEET NO.	SHEETS
6	ARK	183-E	1925	19	22

BR. OVER ST. FR. RIVER. STA. OF ℄ 26)

VIEW AA – 1½"=1'0" SCALE

Upper end Tie pl.

2 Hex. Nuts.

1½" T bolt

℄ Truss

11 6×6×½

Turnbuckle

¾" ℄ Round

3a

a

2Ls 3×2½×7/16

9-⅞" PL.

6×½ PL.

2Ls 3×2½×⅞

3'0"

1⅜" ℄ bars 8" ℄ rivets

1'0"

2Ls 3×2½×7/16

Crown of Road.

Roadway Slab.

20'4"

DETAILS THIS END SAME FOR BOTH GATES

END DETAILS FOR GATE NO 1

VIEW BB

3-3½×3½×5/16 Stop L

⅞" bolt

⅞" bolt

3-3½×3½×½ L

2'-10"

6"×⅜" bar

22"×¼" bar

Handrail

END DETAILS FOR GATE NO 2

12"

11"

9-⅞" PL.

3"-fill-

11 5½×3½×⅞ L

"VIEW CC"

face of c'r'w't

1'0"

6"×⅜" bar

22"×¼" bar

#5 stop pin

11 6×6×⅞ L

⅞" bolt

Tower Col. 62'0" span

℄ Tower Col.

7 Wt guides

1'2"

11 6×4×⅝ L

CONDITION AT TOWER COLUMN GATE NO 1 – OPEN

8

curb

℄ Posts

⅝" PL.

6½

PLAN VIEW

2-6×⅜×½ PL.

PLAN VIEW

"VIEW DD"

face of c'r'w't

℄ Col.

Detail Same as for Gate #1

1'0"

1'2"

℄ Col. 135'0 span

11 3×2½×¼

CONDITION AT TOWER COLUMN GATE NO 2 – OPEN

℄ Truss

Handrail

10'2"

℄ Tower Cols.

CENTRE LINE OF BRIDGE ℄

N

GATE NO 1

GATE NO 2

℄ R.P. #1

℄ R.P. #1

℄ Truss

Handrail

℄ Truss

20'-7½"

LIFT SPAN

19'-3½"

165'0" SPAN

135'0" SPAN

Scale – ¼"=1'0"

LOCATION DIAGRAM FOR TRAFFIC GATES

NOTE: For general notes see sheet #2.

ARKANSAS STATE HIGHWAY DEPARTMENT

BRIDGE OVER ST. FRANCIS RIVER AT CODY, LEE COUNTY, ARKANSAS

TRAFFIC GATES

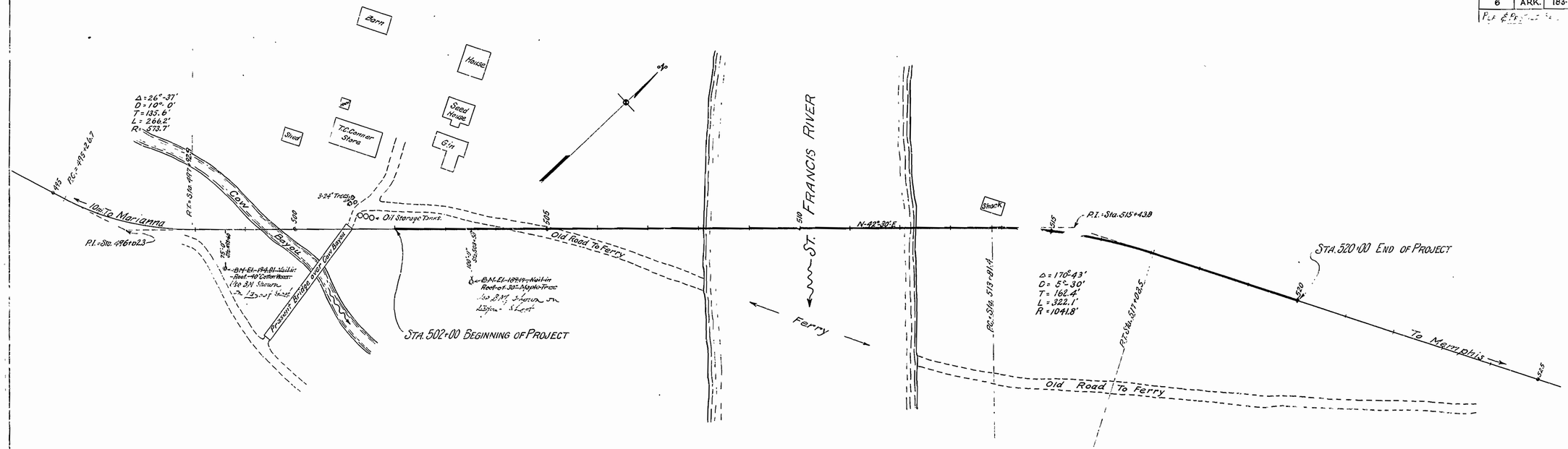
SCALE: ¾"=1'0"

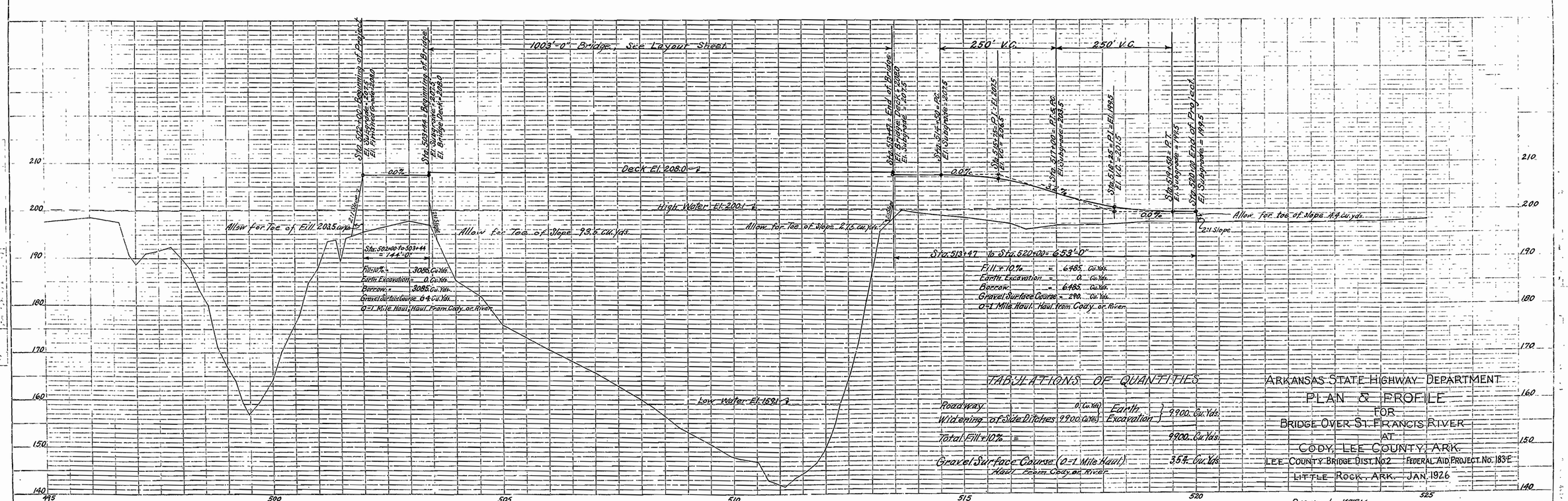
MADE BY: H.W.B. DATE: 4-21-26

HARRINGTON, HOWARD AND ASH CONSULTING ENGINEERS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	183-E	1925	20	22

PLAT & PROFILE — FINAL LOCATION





TABULATIONS OF QUANTITIES

Roadway	0 Cu. Yds.	Earth Excavation	9900 Cu. Yds.
Widening of Side Ditches	9900 Cu. Yds.		
Total Fill + 10% =			9900 Cu. Yds.
Gravel Surface Course (0-1 Mile Haul) Haul From Cody or River			35.4 Cu. Yds.

ARKANSAS STATE HIGHWAY DEPARTMENT

PLAN & PROFILE FOR BRIDGE OVER ST. FRANCIS RIVER AT CODY, LEE COUNTY, ARK.

LEE COUNTY BRIDGE DIST. NO. 2 — FEDERAL AID PROJECT NO. 183-E

LITTLE ROCK, ARK. JAN. 1926

Drawn by W.F.M.

Revised Jan. 26, 1927 by W.F.M.

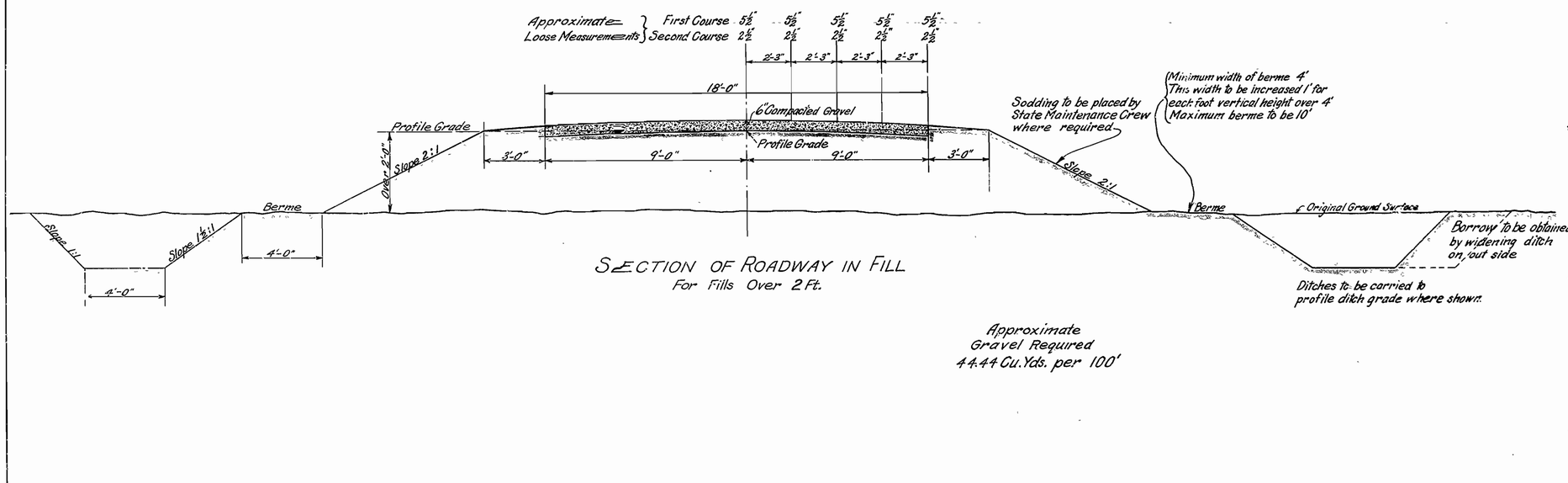
Drawing No. 261

PLATE I - PLAN-PROFILE

KEUFFEL & ESSER CO. NEW YORK

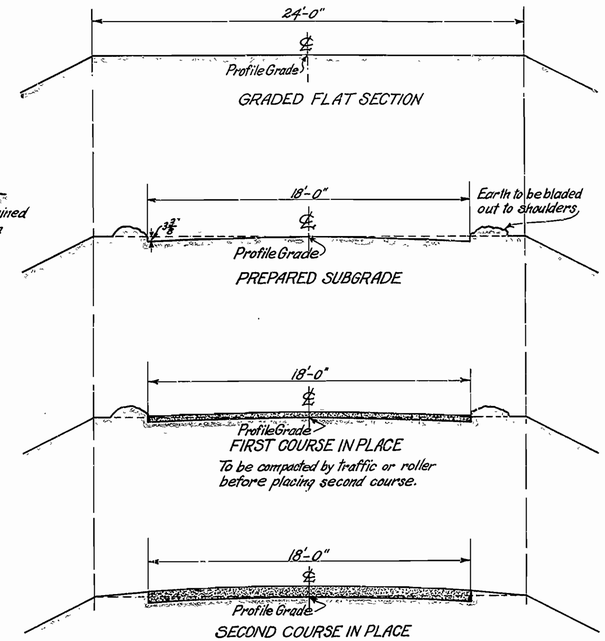
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	183-E	1925	21	22

STD. SEC. OF APP. GRD. BR. OVER ST. F. R. DR. 262



SECTION OF ROADWAY IN FILL
For Fills Over 2 Ft.

Approximate
Gravel Required
44.44 Cu. Yds. per 100'



Drawn by	W.R.M.
Traced by	W.R.M.
Checked by	

Revised by W.R.M. Jan. 26, 1927.

ARKANSAS STATE HIGHWAY DEPARTMENT
STANDARD SECTION OF APPROACH GRADES
FOR
BRIDGE OVER ST. FRANCIS RIVER
AT
CODY, LEE COUNTY, ARK.
LEE COUNTY BRIDGE DIST. No. 2 FEDERAL AID PROJECT No. 183-E
LITTLE ROCK, ARK. JAN. 1926

262

FED ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	183-E	1925	22	22

SEE "BREAK BACK" SHEET FOR 25+

30 20 10 0 10 20 30

AREA CUT FILL — VOLUME CUT FILL FILL+10%

513+47 End of Bridge — 0.0 390.1 — 207.5 198.9

513+37 = Toe of Slope under Bridge Approach — 0.0 25.0 27.5

503+60 = Toe of Slope under Bridge Approach — 0.0 85.0 93.5 880

503+44 = Beginning of Bridge — 0.0 603.0 — 207.5 199.0

503+00 — 0.0 433.2 — 207.12 199.7

502+00 — 0.0 ~~624.3~~ 487.0 — 207.5 199.6

proposed field change

Toe of Slope End of Fill — 0.0 185.0 203.5 1630

1650 1815.0 — 0.0 1958.3 2154.1

30 20 10 0 10 20 30

AREA CUT FILL — VOLUME CUT FILL FILL+10%

Toe of Slope End of Fill — 0.0 (4.0) 4.4

520+00 — 0.0 (65.8) — 207.9 199.5 199.2

519+00 — 0.0 (65.8) — 207.9 199.4

518+00 — 0.0 (28.0) — 200.5 196.9

0.0 (24.7) 268.1

0.0 (262.9) 314.8

0.0 (710.6) 781.7

517+00 — 0.0 255.7 — 203.5 198.7

0.0 792.0 871.2

516+35 — 0.0 402.3 — 205.3 195.9

0.0 505.8 556.3

516+00 — 0.0 378.0 — 206.1 197.1

0.0 1377.9 1515.7

515+00 — 0.0 366.1 — 207.8 198.5

0.0 1280.9 1409.0

514+00 — 0.0 325.6 — 201.5 199.4

0.0 423.5 465.9

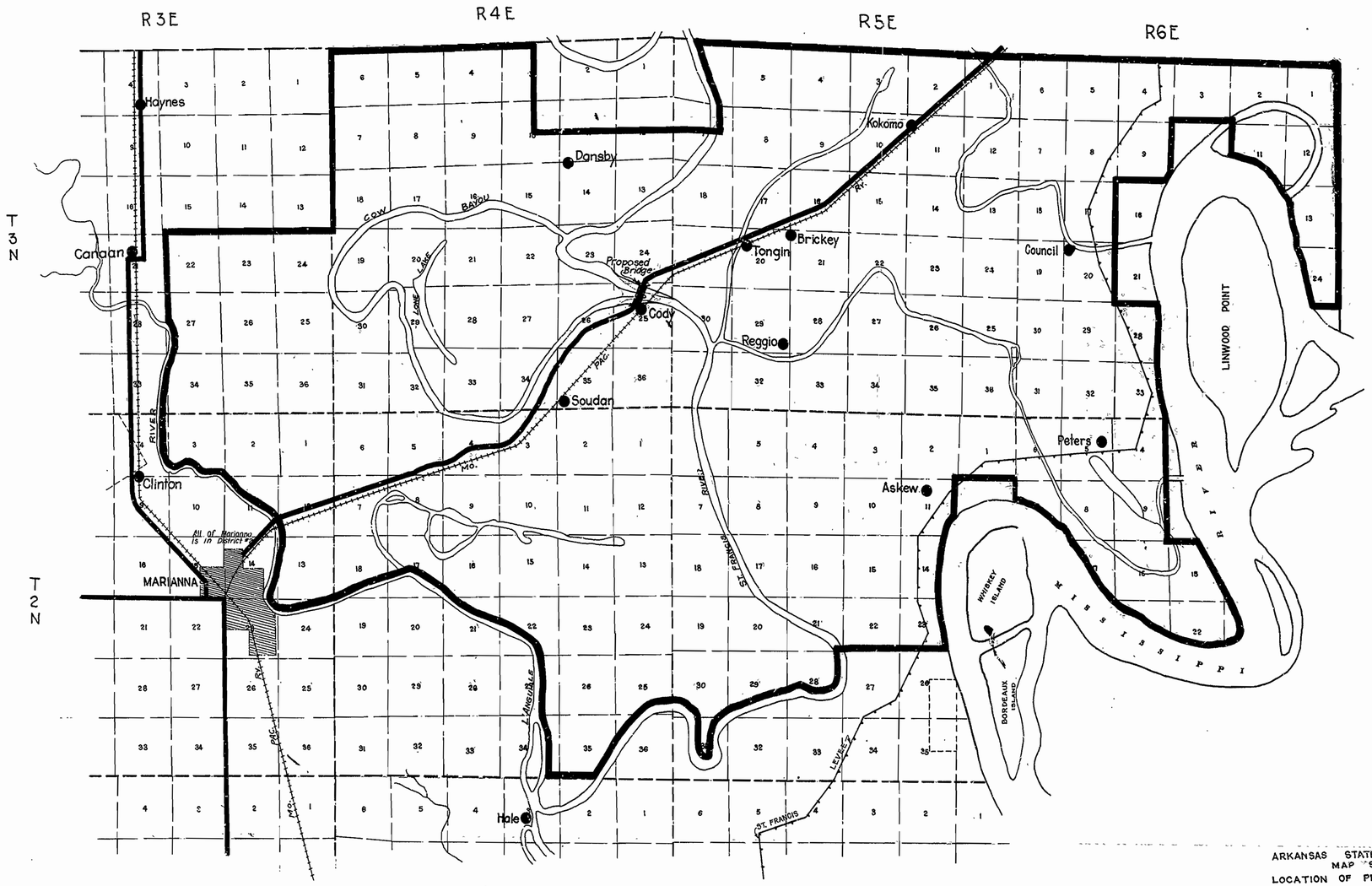
513+63 — 0.0 292.5 — 207.5 200.0

0.0 202.2 222.4

ARKANSAS STATE HIGHWAY DEPARTMENT
CROSS SECTIONS EMBANKMENT
FOR
BRIDGE OVER ST. FRANCIS RIVER
AT
CODY, LEE COUNTY, ARK.
Lee Co. Bridge, Dist. #2 - F.A.P. No. 183-E
Little Rock, Ark. Jan. 1926

Drawn By W.C.H.

Drawing No. 263

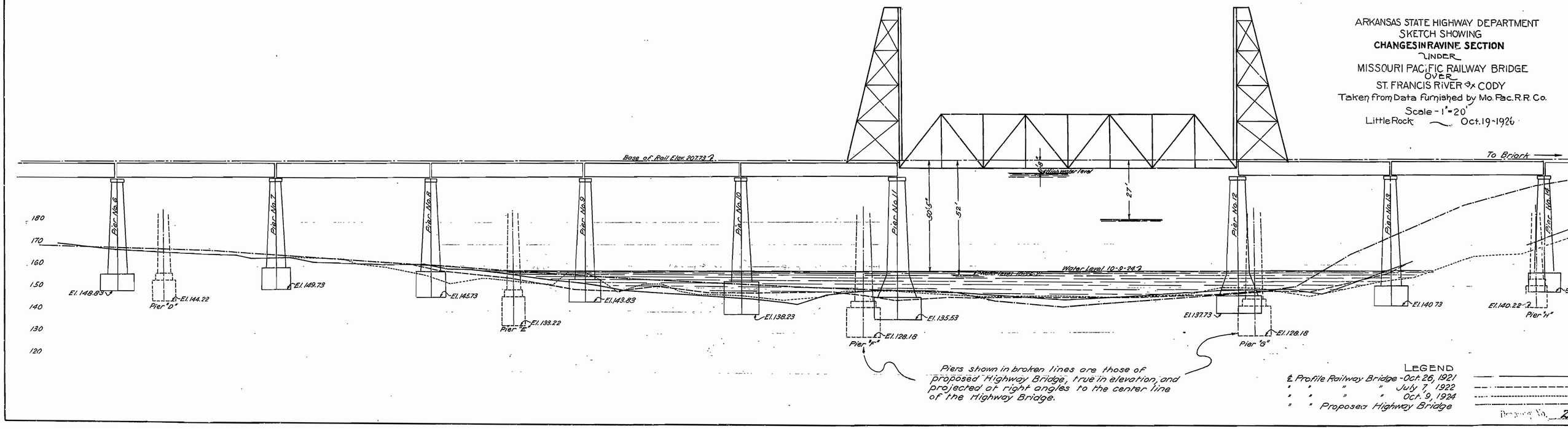


ARKANSAS STATE HIGHWAY DEP'T.
MAP SHOWING
LOCATION OF PROPOSED BRIDGE
OVER ST. FRANCIS RIVER NEAR CODY
AND R.I.D. № 2.
LEE COUNTY, ARK.

District Boundary--- RED

Drawing No. 264

ARKANSAS STATE HIGHWAY DEPARTMENT
SKETCH SHOWING
CHANGES IN RAVINE SECTION
UNDER
MISSOURI PACIFIC RAILWAY BRIDGE
OVER
ST. FRANCIS RIVER & CODY
Taken from Data furnished by Mo. Pac. R.R. Co.
Scale - 1" = 20'
Little Rock ~ Oct. 19-1926



Piers shown in broken lines are those of proposed Highway Bridge, true in elevation, and projected at right angles to the center line of the Highway Bridge.

LEGEND
℄ Profile Railway Bridge - Oct. 26, 1921
" " " " July 7, 1922
" " " " Oct. 9, 1924
" " Proposed Highway Bridge

Progress No. 26