10

Revised Plan Sheet No. 1
TO ACCOMP... CHANGE
Request No. 2 8/9/33

FISCAL YEAR	JOB NO.	SHEET NO.	TOTAL SHEETS
1931	3161	1	9

Revised 8-9-33

FED. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	E-274B	1931	1	9

INDEX OF SHEETS

Sheet No.	Drwg No.	
1	3207	Title Sheet
2	3208	Layout of Bridge No. 1029
3	3209	Details of Piers for Bridge No. 1029
4	2273	Details of Std 30'-0" R.C.D.Gir. Span, 4 Girder Type, 4 Pile Bent, 20'-0" Clear Roadway.
5	2419	Details of Std 110'-0" Low Truss Span, 20'-0" Clear Roadway.
6	3210	Partial Layout of Bridge No. 1623.
7	3211	Partial Layout of Bridge No. 1623 and Layout of Bridge No. 1622.
8	F.S.1	Typical Section of Earth Approaches
9	FPM 2	Federal Aid Project Markers.

STATE OF ARKANSAS

STATE HIGHWAY COMMISSION

PLAN OF PROPOSED BRIDGES
ON
MURFREESBORO-NASHVILLE ROAD
PIKE COUNTY

ROUTE 27 SEC. 4

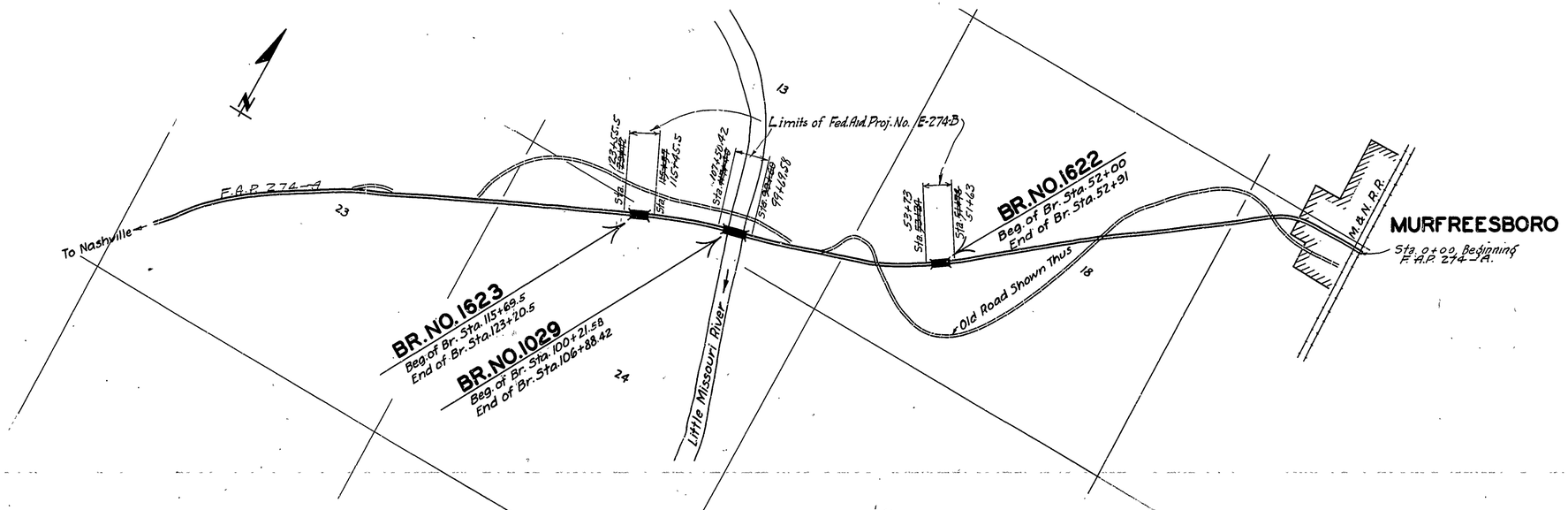
JOB Nº 3161

FEDERAL AID PROJECT No. E-274-B

QUANTITIES

Item No.	S.P. §	12:		
			Earth Excavation	5400 Cu. Yds.
"	"	13	Dry Excavation for Structures	457. Cu. Yds.
"	"	13	Wet Excavation for Structures.	816. Cu. Yds.
"	"	13	Solid Rock Excavation for Structures.	100. Cu. Yds.
"	"	54	Class "A" Concrete	426.71 Cu. Yds.
"	"	54	Class "S" Concrete	153 7.60 Cu. Yds.
"	"	55	Reinforcing Steel	420896. Lbs.
"	"	66	Structural Steel (Truss Bridges)	315,100. Lbs.
"	"	SP.§ 68	Precast Concrete Piling.	401 6. Lin.ft.
"	"	SP.§ 69	Rip Rap 1 foot thick.	450. Cu. Yds.
"	"	74	Concrete Railing for Structures	2420. Lin.ft.
"	"	S.P.	Removal of Existing Structures.	Lump Sum.

Fed. Aid Bronze markers: of approved design, are to be furnished by the State: One project marker will be placed by the contractor at each of the following stations: to wit: ~~51+76~~, ~~53+73~~, ~~99+60~~, ~~107+40~~, ~~115+57~~, ~~123+42~~. 51+63, 53+73
99+69.58, 107+50.42, 115+55.5, 123+55.5



LAYOUT
Scale: 1" = 1000'

1800.84
LENGTH OF F.A.P. E-274-B = ~~1211-0"~~ - 0.~~334~~ Miles. 0.341 Miles
LENGTH OF BRIDGES = 1508'-10" 0.285 "
LENGTH OF EMBANKMENT = ~~202'-2"~~ 292' 0.055 "
LENGTH OF JOB = ~~1711-0"~~ 0.340 "
1800.84

Specifications approved by Chief, Bureau of Public Roads, September 28, 1925, and adopted by State Highway Commission May 30, 1925 with revisions and Special Provisions as follows:

REVISIONS

Pamphlet	A	Revised Sept. 1st, 1928	Approved June 1st, 1929
"	B	Revised Nov. 1st, 1928	
"	C	" July 1st, 1930	
"	D	Revised July 1st, 1928	Approved Nov. 24th, 1928
"	E	Revised Jan. 1st, 1930	
"	F	Revised Aug. 1st, 1929	
"	G	Revised June 1st, 1929	
"	H	Revised Jan. 1st, 1930	
"	I	" May 30th, 1925	
"	J	Revised Jan. 1st, 1929	Approved June 1st, 1929
"	K	" May 30th, 1925	
"	L	Revised Jan. 1st 1929	Approved June 1st, 1929
"	M	" Mch. 1st, 1931	

SPECIAL PROVISIONS

Item	No. of Sheets
Rip Rap	1
Pamphlet M	51
Earth Excavation	3
Concrete Aggregate	2
Precast Concrete Piling	3
Field Engineers Office	1
Aluminum Paint	1
Section 8.2	1
Structural Steel	1
Contractor Furnish All Material	1
Removal of Existing Structures	1
Relating to all types of work	4
" " Compl. of labor	3
" " classification of labor	3
Revision + amendment to art. 9.7 of spec.	1

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

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

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

APPROVED
[redacted]
CHAIRMAN - STATE HIGHWAY COMMISSION

APPROVED
[redacted]
STATE HIGHWAY ENGINEER

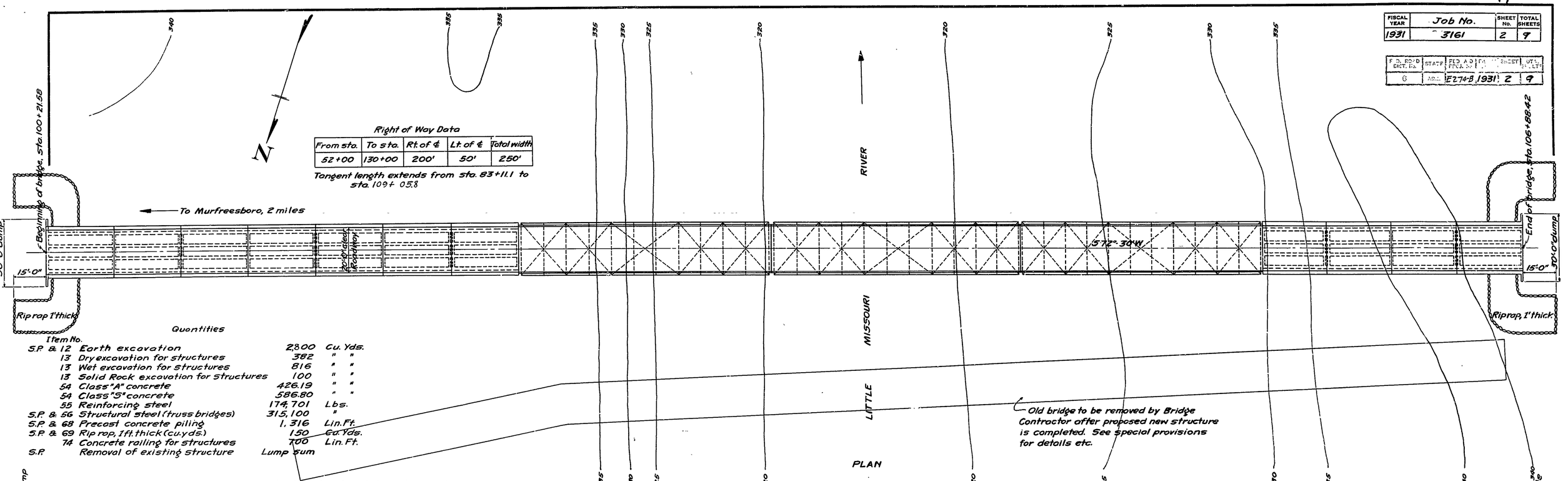
W. B. Gowin
BRIDGE ENGINEER

BRIDGES NO. 1622, 1623 & 1029

DRAWING NO. 3207

FISCAL YEAR	Job No.	SHEET No.	TOTAL SHEETS
1931	3161	2	9

F. D. ROAD DIST. No.	STATE	FED. AID PROJ. No.	TOTAL SHEET	TOTAL SHEETS
6	ARK.	E274-B 1931	2	9



Quantities

Item No.			
S.P. & 12	Earth excavation	2,800	Cu. Yds.
13	Dry excavation for structures	382	" "
13	Wet excavation for structures	816	" "
13	Solid Rock excavation for Structures	100	" "
54	Class "A" concrete	426.19	" "
54	Class "S" concrete	586.80	" "
55	Reinforcing steel	174,701	Lbs.
S.P. & 56	Structural steel (truss bridges)	315,100	"
S.P. & 68	Precast concrete piling	1,316	Lin. Ft.
S.P. & 69	Rip rap, 1 ft. thick (cu. yds.)	150	Cu. Yds.
74	Concrete railing for structures	700	Lin. Ft.
S.P.	Removal of existing structure	Lump Sum	

General Notes

All concrete to be placed in the dry.
All concrete in substructure to be Class "A" unless otherwise noted.
For general notes on concrete, piling and steel, see superstructure detail sheets.
Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field.
Structural steel to be given two field coats of aluminum paint (see special provisions).
Expansion joints to be constructed as shown on layout sheet.
Volume occupied by embedded pile heads not to be included in pay quantities of concrete in cops.
For details of substructure, see Drwg. No. 3209.
For details of superstructure, see Drwg. Nos. 2273 & 2419.
Specifications: Arkansas Standard Road and Bridge Specifications, adopted May 30, 1925 and revised.

Test Hole 1
160' downstream from ℄ of bridge
Surface el. = 331.88
Sand and silt to el. 322.88
Coarse packed gravel to el. 320.38
Hard clay or soap stone to el. 299.88
Soft rock to el. 294.88

Test Hole 2
160' downstream from ℄ of bridge
Surface elev. 326.58
Coarse packed gravel to el. 316.58
Hard clay or soapstone to el. 292.58
Solid rock el. 292.58

Maximum soil pressure at piers = 3500 lbs. per sq. ft.
Maximum designed pile load = 26 tons.

Nearest bench mark elev. = 343.51 Top of anchor bolt downstream caisson - north end main span - Little Mo. River Br.
Drainage area for bridges 1029, 1622 & 1623 = 400 sq. mi. mtns.

N. B. Garver
BRIDGE ENGINEER

LAYOUT
BR. OVER LITTLE MISSOURI RIVER
MURFREESBORO - NASHVILLE ROAD
PIKE CO.
ROUTE 27 SEC. 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: Noe Date: 5-5-31
Traced By: H.W.H. Date: 5-7-31
Checked By: Date:
Scale: 1 In. = 20 Ft.

BRIDGE No. 1029 DRAWING No. 3208

FISCAL YEAR	Dist No	State	FAP	SHEET NO.	TOTAL SHEETS
1931	6	Ark	E[illegible]-B	2	7

Extend Slab into Recess at Fixed End. (4 wide)

Steel Span to Concrete Approach

Steel Span to Steel Span

EXPANSION DEVICES

Anchor Bolt Plan

Section A-A

The open side of Top Chord and End Post to have End Stay Pls. 15"x⅜"x1'-6", Double Lacing 2½"x⅜"

Milled Joint

Stay Plates for Diagonals Pl. 9"x⅞"x10"

Detail of Lateral Hanger.

Bottom Chord Bracing All Laterals L 4"x3½"x⅜" (long leg vert'l)

Hole for 3½" ϕ Pin.

Minimum Clearance

Pin Pl., Gusset Pl. and Channel to be held together by shop weld as shown.

Stay Pls. 15"x⅜"x1'-6"

Splice this side of ℄ only.

Total for one splice.

Cast Steel Shoe. Fixed End.

Cast Steel Rocker & Masonry Plate. Expansion End.

Floor Beam Bracket

Sec. at Center of Panel

TRUSS MAKE-UP

STRESS DIAGRAM

Summetrical

Cross Bars spaced 1'-0" c.c. S9 in bottom of Slab. S10 " top " "

ESTIMATED QUANTITIES
Concrete, Class "S" 68.6 Cu. Yds.
Reinforcing Steel 13,950 Lbs.
Structural Steel 103,700 "
Note: Expansion Devices not included.

Notes

Rivets ¾". Open holes ⅞".
All holes in truss connections to be sub-punched 9/16" and reamed to size while truss is assembled; this applies to field as well as shop rivets.
Floor beam connections to be sub-punched ⅝" and reamed to a metal templet.
All field connections shall be riveted.
Shop paint: After being completely assembled and shop work finished, all pieces shall be given one coat of red lead and raw linseed oil before shipment.
Field paint: Apply two coats of different colors as specified by the engineer.
Floor Slab: Concrete to be Class "S". One inch has been added for wear.
All floor beams to be milled to exact length after riveting framing angles.
Shapes of equal or greater strength may be substituted for shapes shown, but payment will be made in accordance with sizes shown on this plan.
This drawing shows general features of design only.
Shop drawings shall be made in compliance with specifications, submitted and approved before fabrication is begun.
Specifications: Ark. Standard Road & Bridge Specifications, adopted May 30th, 1925 & Revised.

Unit Stresses
Concrete 750 # per sq.in.
Reinforcing Steel 16,000 # " " "
Structural Steel 16,000 # " " "
Live Load
His Loading

STANDARD PLAN
110' LOW TRUSS SPAN
20' CLEAR ROADWAY

~~ROUTE~~ ~~SEC.~~

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: A Date: 4-20-30
Traced By: A.A. Date: 4-26-30
Checked By: Date:
Scale: In. = Ft.

BRIDGE NO. [redacted] DRAWING NO. 2419

H. G. Shaver
BRIDGE ENGINEER

Br. No. 1671 Widened & relocated on St. Hy. No. Russellville as Br. St. 64 Job 8530

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.	E 27 B	1931	4	9

FISCAL YEAR	Job No.	SHEET No.	TOTAL SHEETS
[redacted]	[redacted]	[redacted]	[redacted]

	Mark	Size	Length	Bending Diagram
SLAB	S1	5/8"φ	23'-0"	21'-0"
SLAB	S2	5/8"φ	24'-0"	22'-6"
SLAB	S3	5/8"φ	23'-3"	22'-6"
GIRDER	G1	1"□	Varies	1 1/2"R; 29'-8" on Int. Sp.; 30'-2" on End
GIRDER	G2	1"□	32'-2"	22'-0" G2
GIRDER	G3	1"□	27'-2"	17'-0" G3
GIRDER	G4	1/2"φ	6'-2"	Square Bends
BENT	P2	3/4"φ	40'-6"	18'-0"
BENT	P3	1/2"φ	8'-0"	1'-10" P3
BENT	P4	3/4"φ	5'-6"	1'-10" P4
BENT	P8	3/4"φ	5'-6"	4'-0"
Girder	G1a	1"□	Varies	29'-2" Int. bent; 29'-8" End bent

Revised size exp. pl. 11-12-30
Exp. Joint 10-25-32
Water Stop

PILE DIMENSIONS & REINF'G					
L	D	d	P	Vert. Bars	Spiral
0' to 35'	16"	8"	8"	8-3/4"φ	#4 Wire
36' to 45'	16"	8"	9"	8-7/8"φ	#4 Wire

General Notes

All exposed corners to have 3/4" chamfer unless otherwise noted.

Precast concrete handrail to be 1:1:2 mix. Max. aggregate is 5/8".

All concrete, except handrail, to be Class "S".

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

Shop list and bending diagrams must be submitted by Contractor before fabrication is begun.

Roadway drains and expansion devices to be paid for at unit price bid for reinforcing steel.

Specifications: Arkansas Standard Road & Bridge Specifications, adopted May 30, 1925 and revised.

Unit Stresses: $f_s = 16{,}000$ #/□", $f_c = 750$ #/□", $n = 15$

Loading H15

G1 bars 9-30-30 by Noe

DETAIL OF STANDARD 30' R.C.D. GIRDER 4 GIRDER TYPE-4 PILE BENT 20'0" CLEAR ROADWAY

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

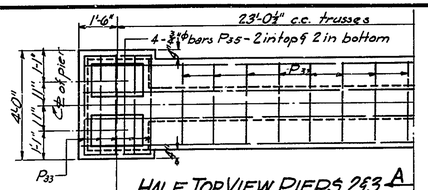
Drawn By E.A.W. Date 3-7-30
Traced By ___ Date 3-12-30
Checked By ___ Date ___

Scale: in. = ft. As noted

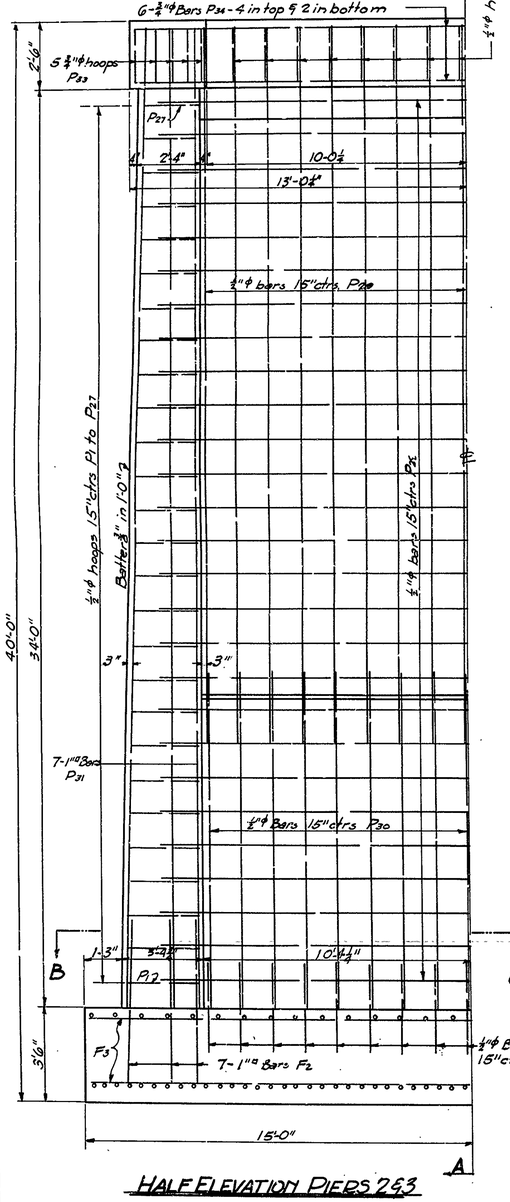
BRIDGE ENGINEER

BRIDGE NO. ___ DRAWING NO. 2273

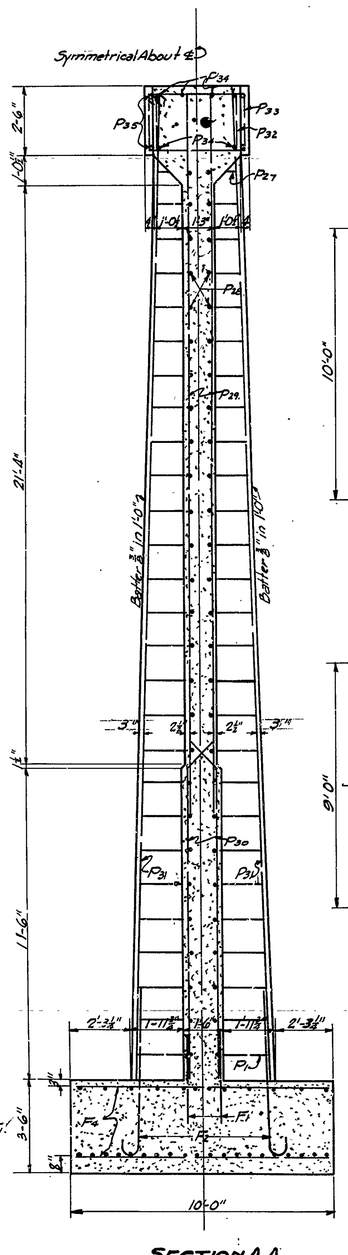
FLD. ROAD DIST. No.	STATE	FED. AID PROJ. No.	SHEET No.	TOTAL SHEETS	FISCAL YEAR	JOB NO.	SHEET No.	TOTAL SHEETS
8	ARK.	E-274B	1931	3	7	1931	3161	3	7



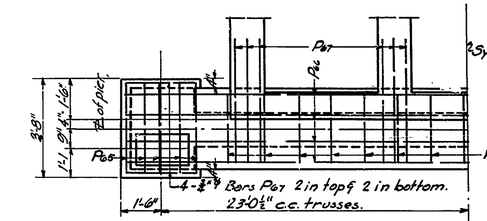
HALF TOP VIEW PIERS 2&3 - A



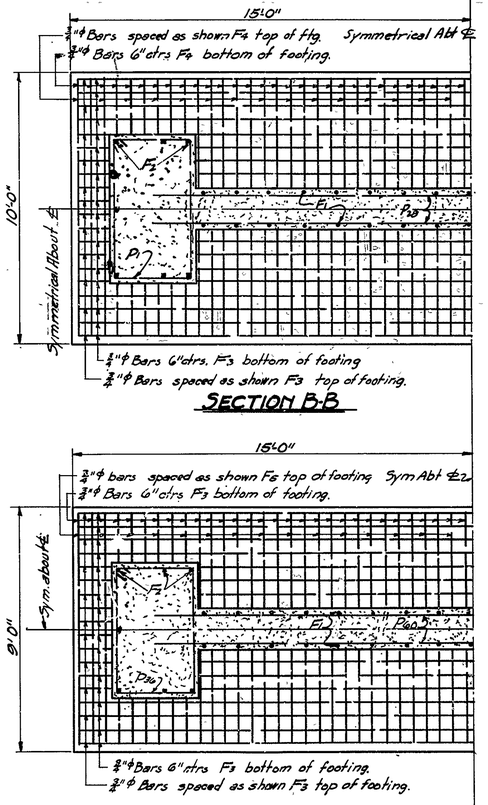
HALF ELEVATION PIERS 2&3



SECTION A-A



HALF TOP VIEW PIER 1&4



SECTION B-B

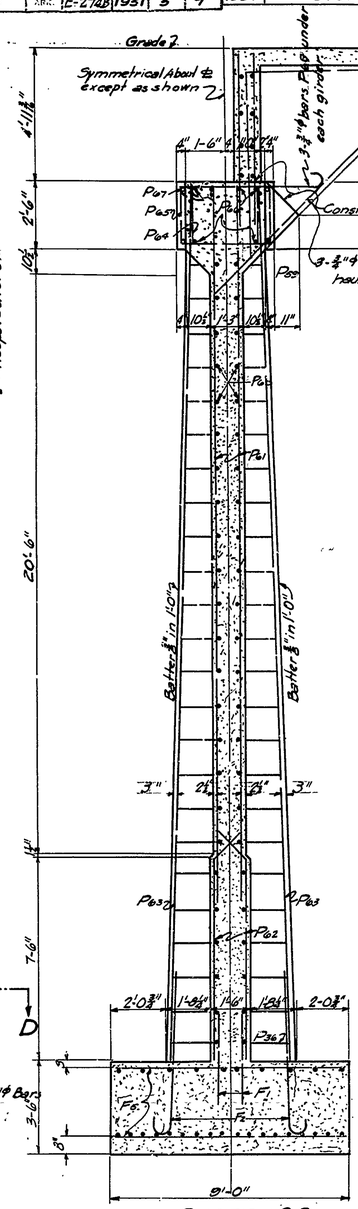
SECTION D-D

Location	Bar	Size	Length	Bending Diagram
All Piers	F2	1"ϕ	7'-2"	6'-2"
Piers 2&3	P30	½"ϕ	13'-0"	
Piers 1&4	P02	½"ϕ	9'-0"	on P30 11'-6"; on P67 7'-6"

				A	B
Piers 2&3	P-27	½"ϕ	Varies	Varies	Varies
"	P32	½"ϕ	11'-1"	3'-0⅝"	2'-2½"
"	P33	¾"ϕ	12'-6"	3'-8⅛"	2'-2½"
Pier 1&4	P2-39	½"ϕ	Varies	Varies	Varies
"	P04	½"ϕ	101.5"	2'-8½"	2'-2½"
"	P05	¾"ϕ	11'-10"	3'-4½"	2'-2½"
Piers 1&4	P09	¾"ϕ	61'-6"		

P200	¾"ϕ	8'-9"	

HALF ELEVATION PIER 1&4



SECTION C-C

DETAILS OF PIERS
FOR BRIDGE OVER LITTLE MISSOURI RIVER
ON MURFREESBORO-NASHVILLE ROAD
PIKE COUNTY
ROUTE 27 SEC. 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

W. G. Garver
BRIDGE ENGINEER

Drawn By: Nat Date: 5-6-31
Traced By: Austin Date: 5-8-31
Checked By: Date:

Scale: ⅜ in. = 1 ft.

BRIDGE NO. 1029 DRAWING NO. 3209