

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
6	ARK.	ER-59		1	13	
STATE JOB NO. 9213					1	13

STATE OF ARKANSAS
STATE HIGHWAY COMMISSION

PLAN OF PROPOSED BRIDGE
OVER WHITE RIVER
BEAVER ARKANSAS

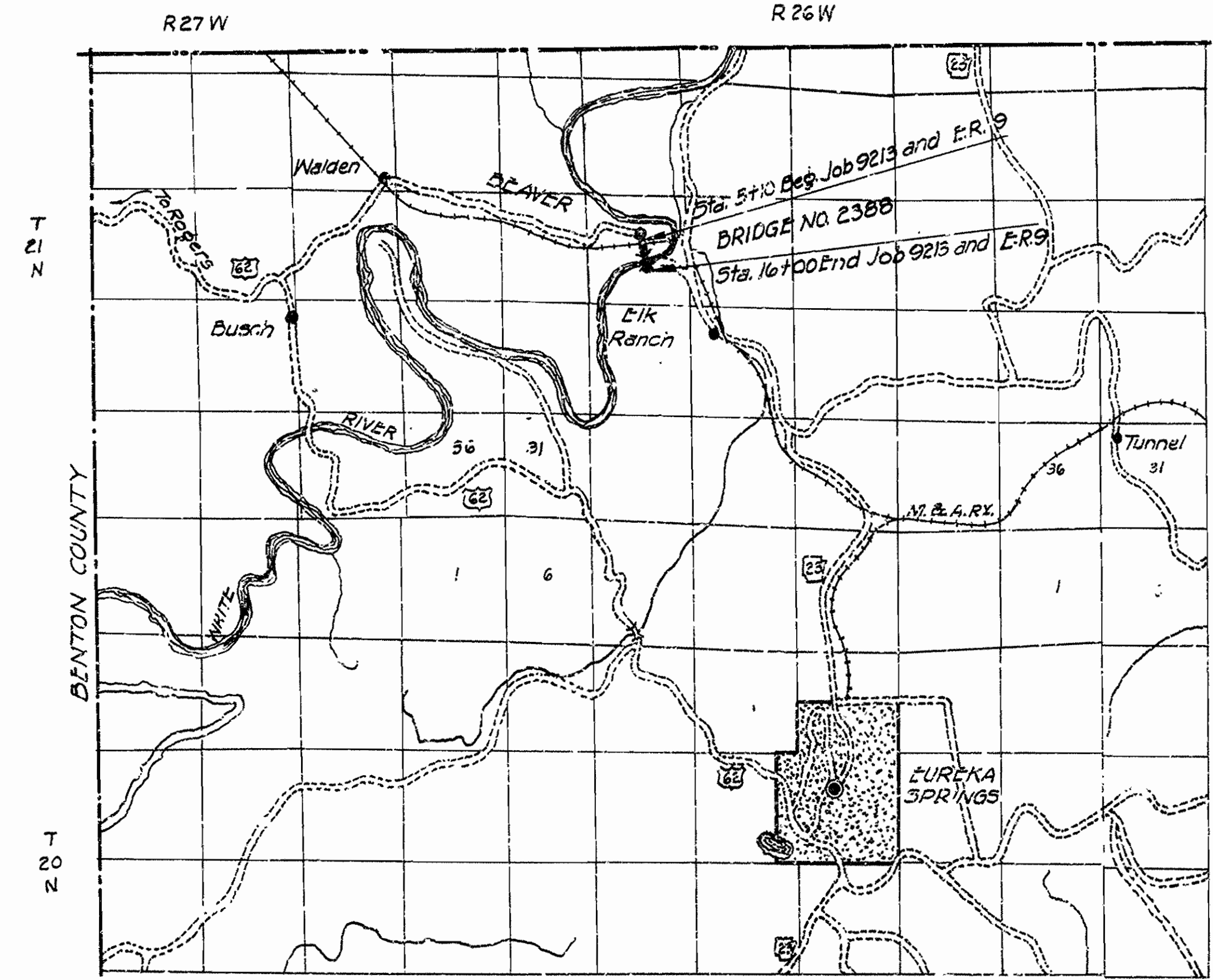
CARROLL COUNTY
ROUTE SEC.
JOB NO 9213
E R-59

INDEX OF SHEETS

SHEET No.	DRAWING No.	Title
1	6504-A	Title Sheet Job 9213
2	6505-A	Quantity Sheet Job 9213
3	6506-A	Layout of Bridge No. 2388
4	6507-A	Details of Piers
5	6508-A	Details of Anchorages
6	6509-A	Details of Bulkheads
7	6510-A	Details of Timber Approach
8	6511-A	Details of Tower
9-11	6512-A to 6514-A	Details of Suspension Spans
12	6515-A	Plan and Profile
13	6233	Typical Sections of Grading
14	F-PC7 Rev.	Pipe Culverts and Headwalls
15	1891	Basis for Computing Excavation for Structures
16	1888	Embankment Construction at Bridge Ends
17-18	6516-A, 6517-A	Cross Sections
16-A	1896	Standard Barricade, Warning and Signs

SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
ADOPTED MARCH 1, 1940 WITH THE SPECIAL PROVISIONS LISTED BELOW

PAMPHLETS		SPECIAL PROVISIONS	
DIVISION	PART	TITLE	No. SHEETS
I			
II	1, 4, 8a, 8b, 8c, 9		
III			
IV			
No.			
2-1		Required Contract Provisions	8
2-2		Revision of Article 2.11 (Approved E-R-4)	2
2-4		Equipment List Required	1
4-1		State License for Contractors	1
4-1		Revision of Article 4.3	1
5-3		Emergency Relief Projects off State Highway System	1
8-3		Special Provisions Pertaining to the Required Contract Provisions for Federal Aid Projects	2
9-5		Partial Payments	1
104-27		Embankment Material	2
803-3		Revision of Article 803.21	1
807-4		Revision of Article 807.29	1
807-5		Revision of Article 807.29 (e)	1
850-1		Engineers Field Office	1
853-1		Machine Mixing	1
902-2		Reinforcing Steel	1
Job 9213		2 1/2" Galvanized Steel Bridge Cable	2
Job 9213		Structural Steel, Revision of Article 807.50	1
Job 9213		Removal and Disposal of Existing Bridge Construction on M & A R/W	1



LAYOUT

Scale: 1" = 1 MILE Final Length

LENGTH OF PROJECT = 1090.00 Feet = 0.206 Mile
 LENGTH OF BRIDGES = 554.34 Feet = 0.105 Mile
 LENGTH OF EMBANKMENT = 335.66 Feet = 0.101 Mile
 LENGTH OF JOB = 1090 Feet = 0.206 Mile

APPROVED
CHIEF ENGINEER - STATE HIGHWAY COMMISSION

APPROVED
COMMISSIONER - STATE HIGHWAY COMMISSION

APPROVED FOR APPROVAL
DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

APPROVED
DIVISION ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

N. O. Lanier
PRINCIPAL HIGHWAY ENGINEER (111073)

BRIDGE No. 2388

DRAWING No. 6504-A

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	ERS 9		2	18
STATE JOB NO. 9213					2

SUMMARY OF BRIDGE QUANTITIES
CODE NO. X037

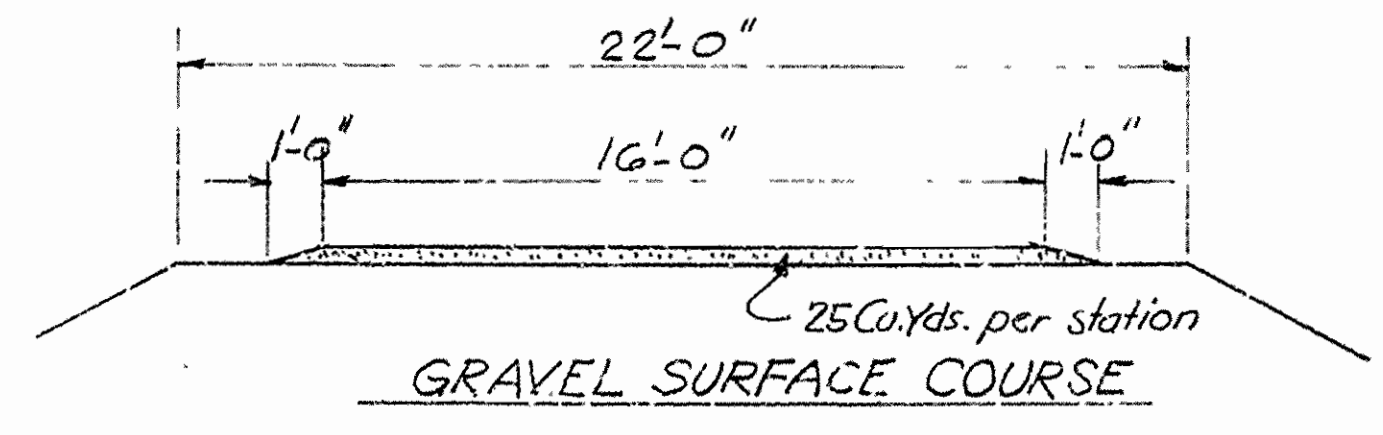
ITEM NO.	ITEM	UNIT	ANCHORS	BENT	PIER	PIER	BENT	BENT	BENT	SPANS	SPAN	SPAN	SPAN	TOTAL
			No. 1 & 2	No. 1 & 2	No. 1	No. 2	No. 2	No. 3	No. 2 & 3	No. 1 & 2	No. 2	No. 4	No. 5	
103	DRY EXCAVATION FOR STRUCTURES	CU.YD.	386'		12'	60'								458'
103	WET EXCAVATION FOR STRUCTURES	CU.YD.			86'	67'								153'
103	SOLID ROCK EXCAV. FOR STRUCTURES	CU.YD.	16'		15'	10'								41'
SP&802	CLASS A CONCRETE FOR BRIDGES	CU.YD.	137.36'		87.98'	81.66'								307.00'
SP&803	REINFORCING STEEL	LB.	8,672'		5,078'	5,750'								20,500'
SP&807	STRUCTURAL STEEL	LB.	7,200'		10,250'	10,250'				44,616'	6,784'			134,100'
809	UNTREATED BRIDGE TIMBER	MFBM		0.041'				0.042'	7.590'	11.232'	0.540'	0.570'		20.015'
809	TREATED BRIDGE TIMBER	MFBM		3.560'			0.494'	0.248'	3.923'	11.597'	17.210'	0.967'	1.027'	39.026'
810	TREATED TIMBER PILING	LIN.FT.		200'			160'	108'	150'					618'
810	TREATED TIMBER PILE CUT OFF	LIN.FT.		16'			8'	6'	10'					40'
909	RIPRAP	CU.YD.		82'										82'
SP	2 1/2" GALVANIZED STEEL BRIDGE CABLE	LIN.FT.												2,394'
SP	REMOVAL AND DISPOSAL OF EXISTING BRIDGE	COMPLETE ITEM												100%

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY
102	UNCLASSIFIED EXCAVATION	CU.YD.	263
103	DRY EXCAVATION FOR STRUCTURES	CU.YD.	490
103	WET EXCAVATION FOR STRUCTURES	CU.YD.	153
103	SOLID ROCK EXCAVATION FOR STRUCTURES	CU.YD.	41
SP104-27	EMBANKMENT MATERIAL	CU.YD.	2,837
115	FENCE MOVED AND RECONSTRUCTED	ROD	32
404	GRAVEL SURFACE COURSE (CLASS 5, 2, 3, 4, 5, 6)	CU.YD.	133
SP&802	CLASS A CONCRETE FOR BRIDGES	CU.YD.	307.00
SP&803	REINFORCING STEEL	LB.	20,500
SP&807	STRUCTURAL STEEL	LB.	134,100
809	UNTREATED BRIDGE TIMBER	MFBM	20.015
809	TREATED BRIDGE TIMBER	MFBM	39.026
810	TREATED TIMBER PILING	LIN.FT.	618
810	TREATED TIMBER PILE CUT OFF	LIN.FT.	40
901	CLASS B CONCRETE	CU.YD.	166
SP&902	REINFORCING STEEL	LB.	61
907	RELAYING CULVERT PIPE	LIN.FT.	28
909	RIPRAP	CU.YD.	82
SP	2 1/2" GALVANIZED STEEL BRIDGE CABLE	LIN.FT.	2,394
SP	REMOVAL AND DISPOSAL OF EXISTING BRIDGE	COMPLETE ITEM	100%

ROADWAY QUANTITIES CODE NO. 2010

EARTHWORK						FENCE MOVED AND RECONSTRUCTED			GRAVEL SURFACE COURSE		
STA.	STA.	NORMAL CU.YD.	OUTLETS CU.YD.	TOTAL CU.YD.	EMBANKMENT MATERIAL CU.YDS.	STA.	STA.	RODS	STA.	STA.	CU.YDS.
5+10	7+15.83	243	25	268	532	12+20LT.	15+00LT.	17'	5+10	7+15.83	51'
12+70.17	16+00				2305	12+50RT.	15+00RT.	15'	12+70.17	16+00	82'
TOTAL				268	2837	TOTAL		32'	TOTAL		133'



PIPE STRUCTURES

STA.	DESCRIPTION	RELAYING CULVERT PIPE LIN.FT.	CLASS B CONCRETE CU.YD.	REINFORCING STEEL LB.	DRY EXC. FOR STRUCTURES CU.YD.	REMARKS
6+20	RELAY 18" C.M. PIPE	28	1.66	61	12	STR. HEADWALL RT. L. HEADWALL LT.

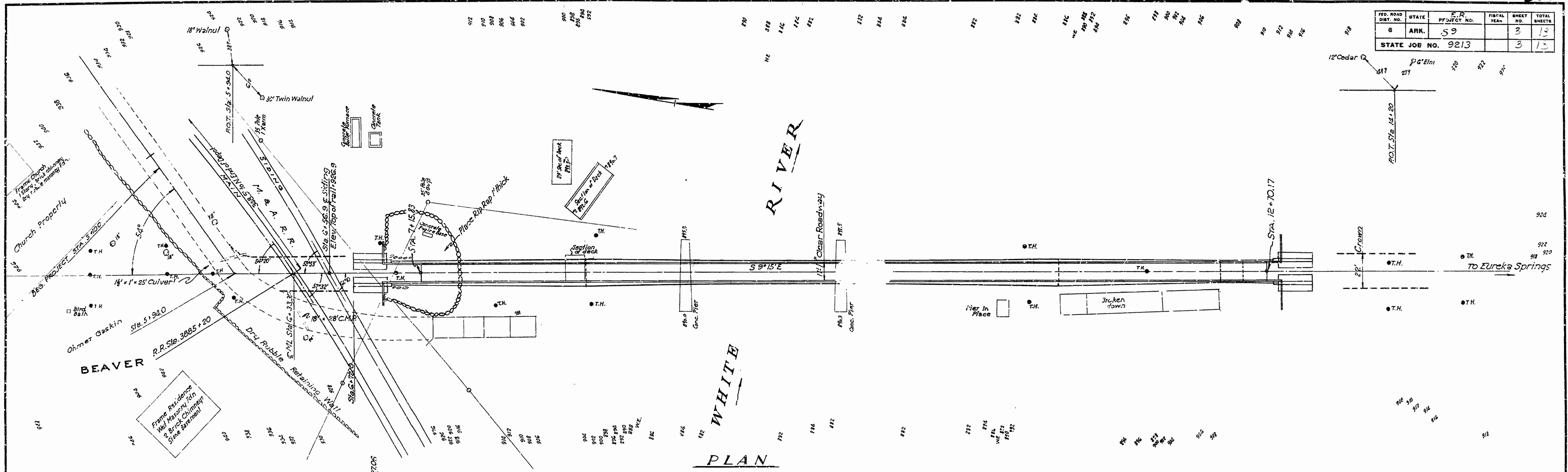
MOVING MINOR OBSTRUCTIONS

STA.	DESCRIPTION
5+80	1 1/2' x 1' ROCK CULVERT

SUMMARY OF QUANTITIES
BRIDGE OVER WHITE RIVER
BEAVER, ARKANSAS
COUNTY ROAD
CARROLL COUNTY
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
Drawn By: L.P.C. Date: 10-21-47

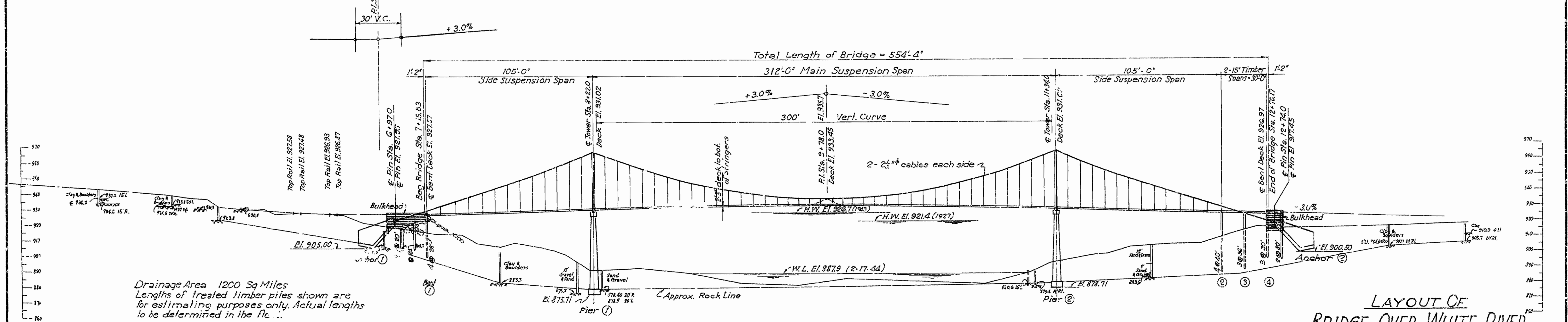
M.O. Garvey
BRIDGE ENGINEER

FED. ROAD DIST. NO.	STATE	F. R. PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	59		3	13
STATE JOB NO. 9213				3	13



Note: Portions of old structure to be removed or broken up so as to cause no hazard to new structure. See Special Provisions.

End of Project = Sta. 16 + 00



Drainage Area 1200 Sq Miles
Lengths of treated timber piles shown are for estimating purposes only. Actual lengths to be determined in the field.

LOADING H10
Stresses:
Structural Steel 18000# / in.²
Reinforcing Steel 18000# / in.²
Class A Concrete 700# / in.² x 15
Timber 1400# / in.²
2 1/2" Bridge Cables (Breaking Strength) 228 Tons
Anchors to be becketilled before cables are attached.

BM Spike in roof of 30' twin Walnut 38' R.L. Sta. G+33 El. 926.64

BM 0.1 Mi. West of R.R. Station at Highway Bridge over White River 1' from N. end of bridge in Handrail, Stamped Q-5-1930 El. 926.37

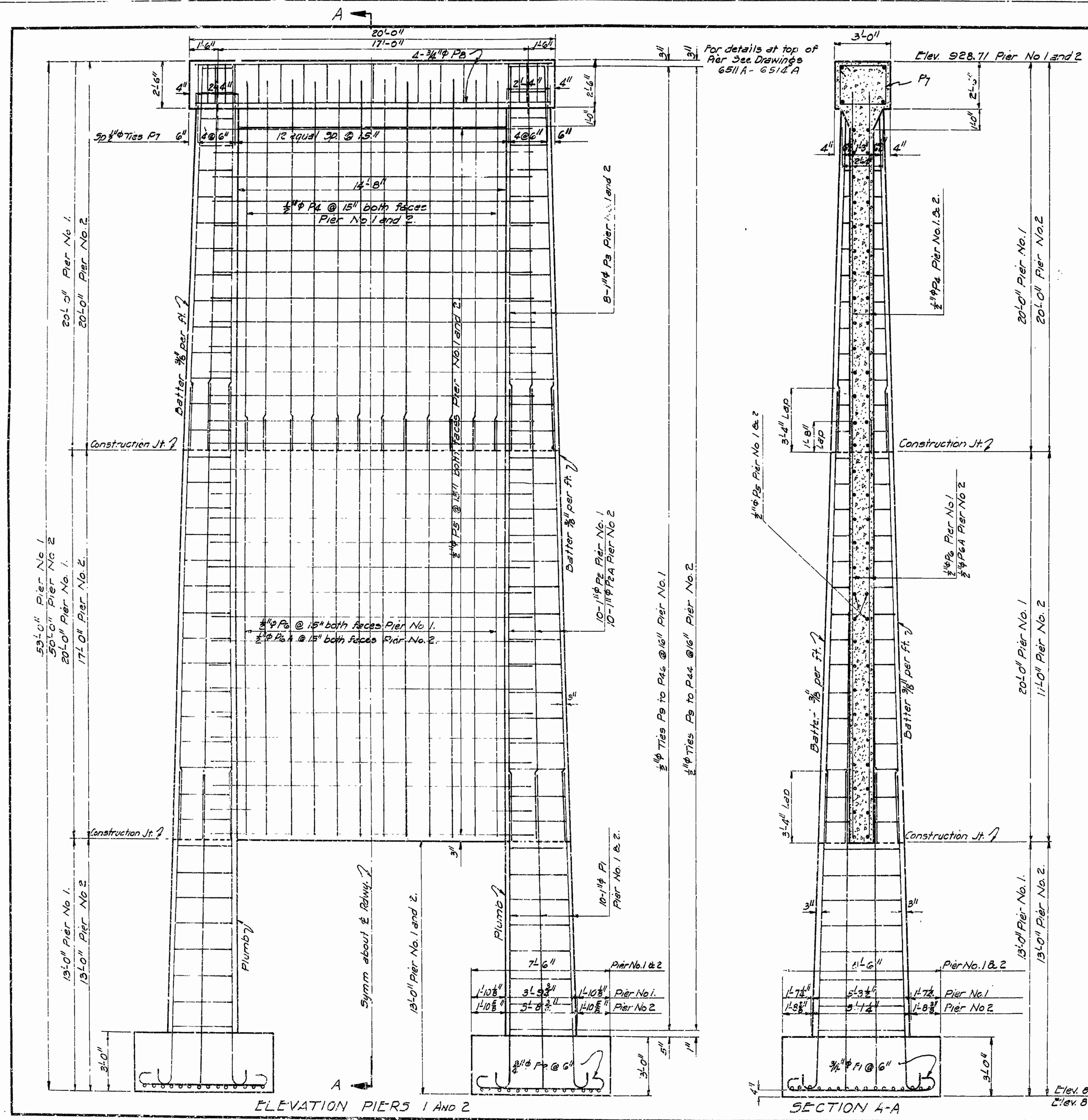
LAYOUT OF
BRIDGE OVER WHITE RIVER
AT BEAVER, ARKANSAS
CARROLL COUNTY

REVISED 10-29-45
Add Side Suspension Spans
Rev. 10-14-47

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
Scale: 1 in. = 30 ft.
Drawn By: L.P.C. Date: 3-1-44
Traced By: F.A.W. Date: 3-2-44
Checked By: Date:
BRIDGE NO. 2388 DRAWING NO. G506-A

W.B. Lewis
PRINCIPAL HIGHWAY ENGINEER (BRIDGE)

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	E-651		4	8
STATE JOB NO. 7213					



LIST OF BENT BARS

Mark	Size	Length	A	B	C	D	Bending Diagram
F1	3/4"	9'-6"	8'-0"	6"			
F2	3/4"	8'-6"	7'-3"	6"			
P1	1 1/4"	17'-0"	16'-0"	8"			
P7	1/2"	10'-3"	2'-7 1/2"	2'-12"			
P9 to P46	1/4"	Ave. 12'-10 1/2"	Varies 12'-10 1/2" to 12'-5 1/2"	Varies 12'-10 1/2" to 12'-11"		Pier No. 1.	
P9 to P44	1/4"	Ave. 12'-7 1/2"	Varies 12'-7 1/2" to 12'-3 1/2"	Varies 12'-10" to 12'-9"		Pier No. 2.	

GENERAL NOTES

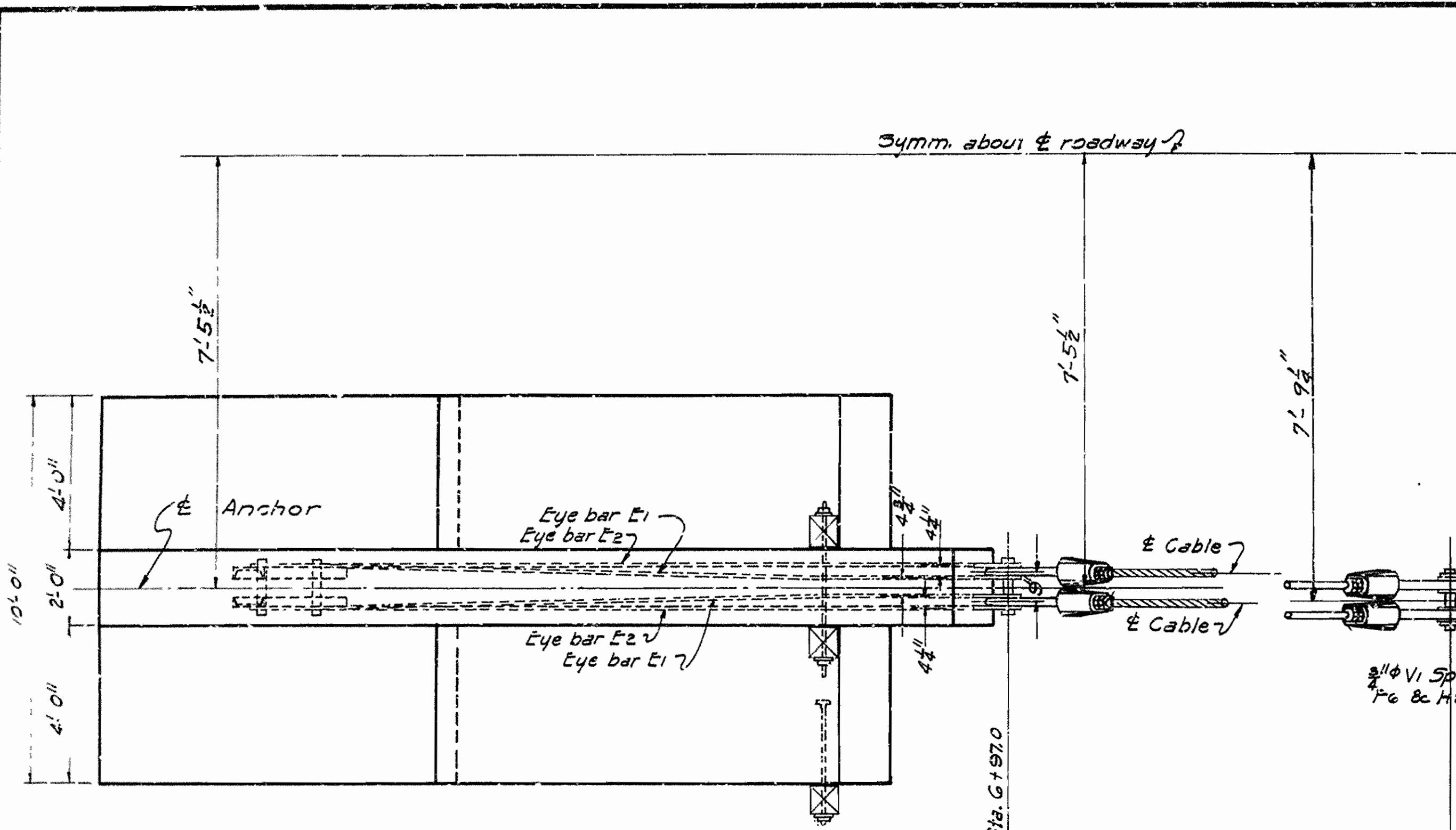
All concrete to be Class "A" All exposed corners to be chamfered 3/4". All concrete to be poured in the dry.
 Construction joints where permitted shall be provided with keys 3" high and shall be horizontal. Key in walls to be continuous and occupy the middle third of the width. Keys in columns to occupy the middle third of each dimension.
 All dimensions relating to reinforcing steel are to centers of bars. Shop lists and bending diagrams shall be submitted by contractor and shall be approved before fabrication is begun.
 Specifications: Arkansas State Highway Commission Standard Specifications for Road and Bridge Construction adopted March 1, 1940
 Loading H-10
 Maximum bearing on footings 6000#/ft²

DETAILS OF PIERS
 BRIDGE OVER WHITE RIVER
 BEAVER ARKANSAS
 CARROLL COUNTY

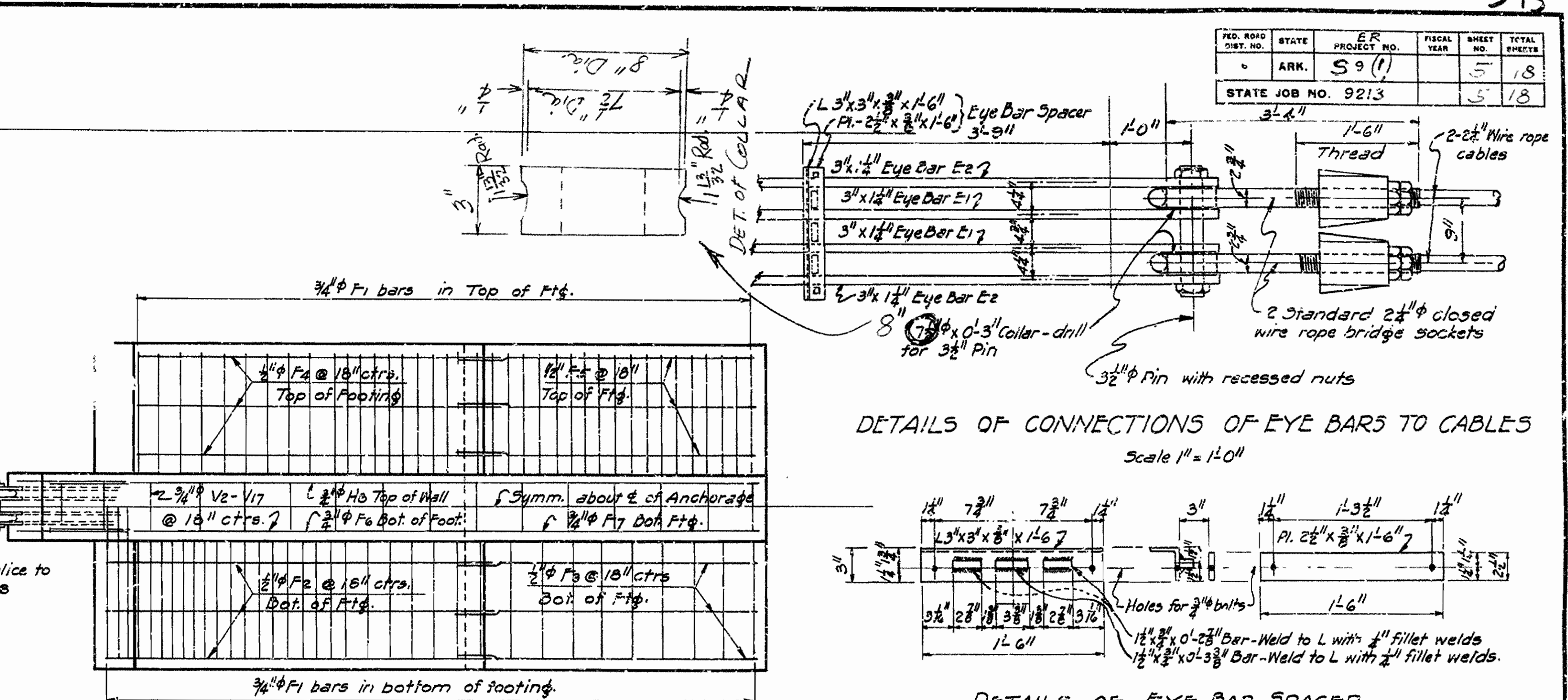
ROUTE SEC.
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 Drawn By: L.A.M.S. Date: 3-6-44
 Traced By: L.A.M.S. Date: 3-7-44
 Checked By: Date:
 Bridge No. 2388 DRAWING NO. 6507A

N.B. Carter
 PRINCIPAL HIGHWAY ENGINEER (BRIDGE)

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	ARK.	59 (1)		5	18
STATE JOB NO. 9213				5	18



PLAN NORTH ANCHORAGE SHOWING CABLE ANCHOR
South Anchorage same detail

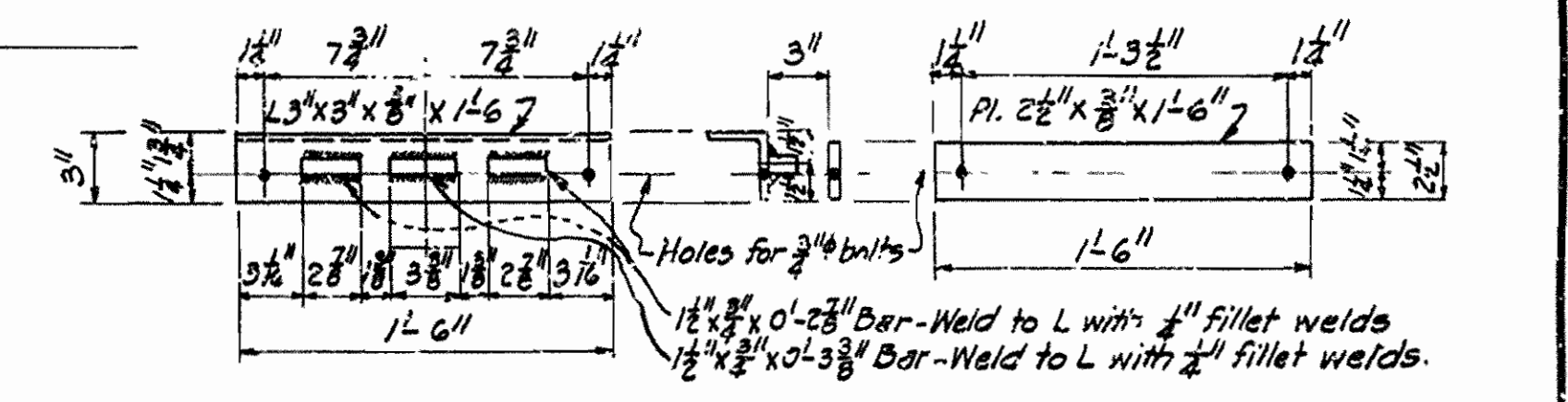


DETAILS OF CONNECTIONS OF EYE BARS TO CABLES
Scale 1\"/>

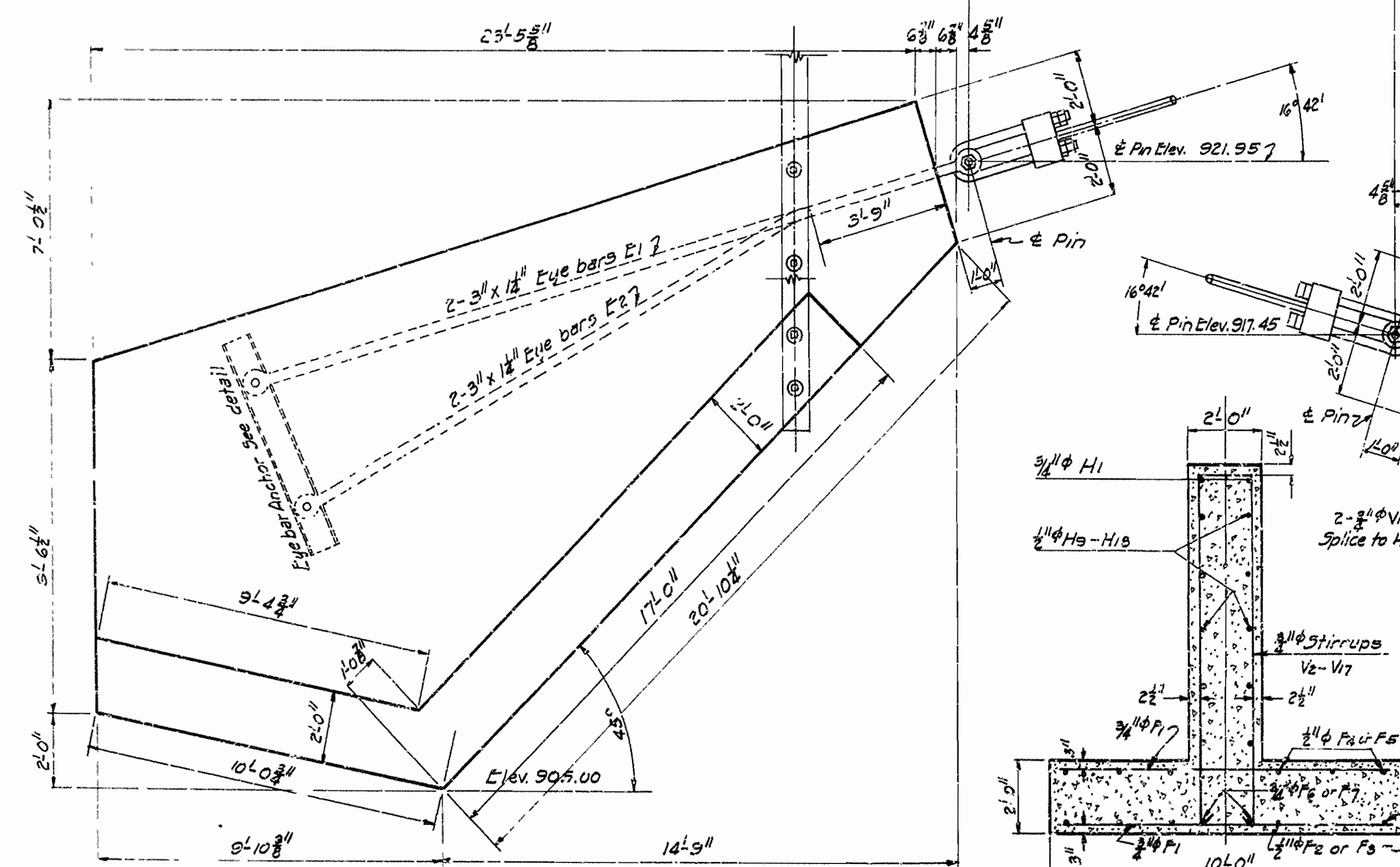


PLAN OF SOUTH ANCHORAGE SHOWING REINF.
North Anchorage Same Detail

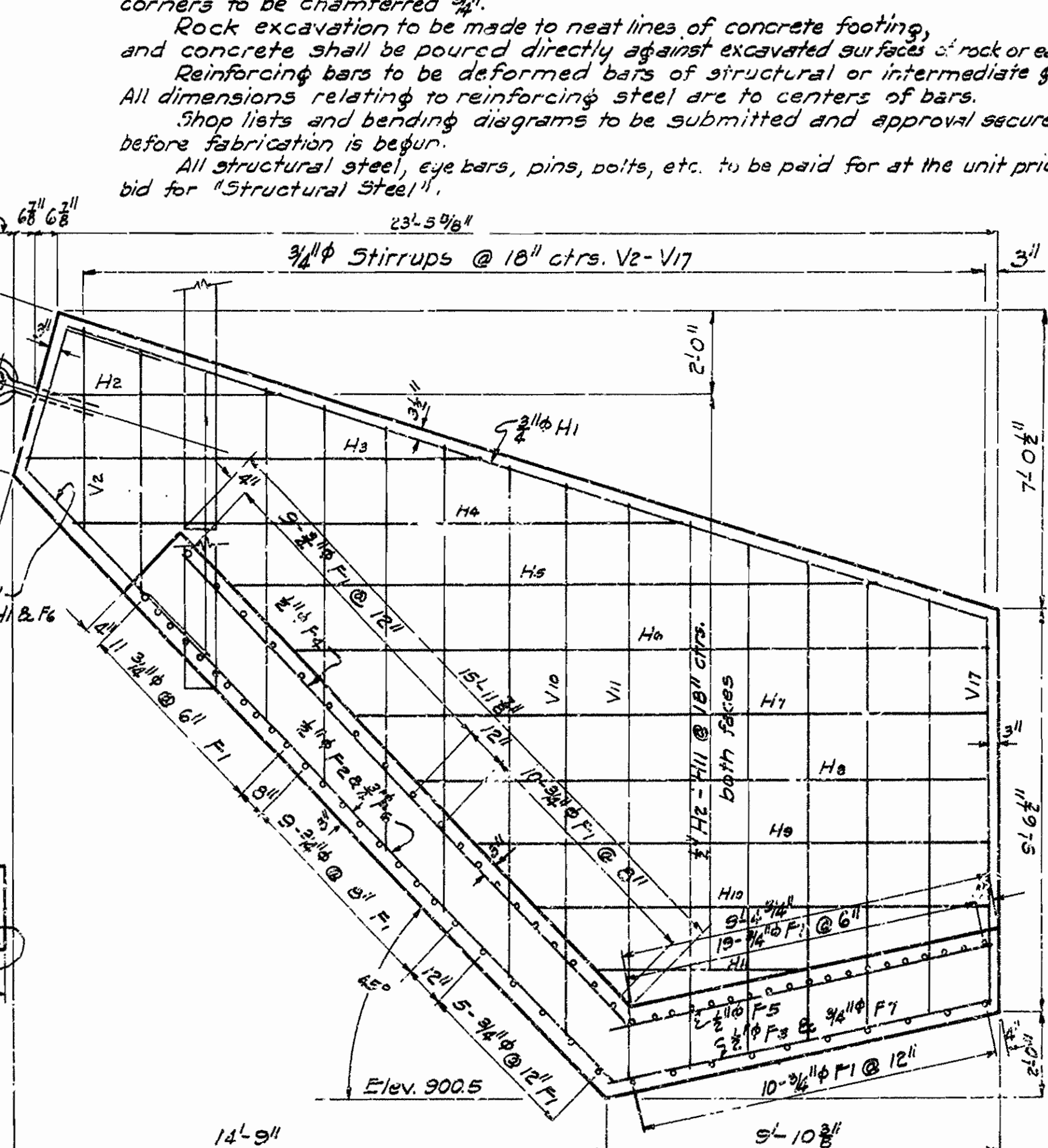
GENERAL NOTES:
All concrete to be Class 40 and to be poured in the dry. Exposed corners to be chamfered 3/4\"/>
Rock excavation to be made to neat lines of concrete footing, and concrete shall be poured directly against excavated surfaces of rock or earth.
Reinforcing bars to be deformed bars of structural or intermediate grade.
All dimensions relating to reinforcing steel are to centers of bars.
Shop lists and bending diagrams to be submitted and approval secured before fabrication is begun.
All structural steel, eye bars, pins, bolts, etc. to be paid for at the unit price bid for "Structural Steel".



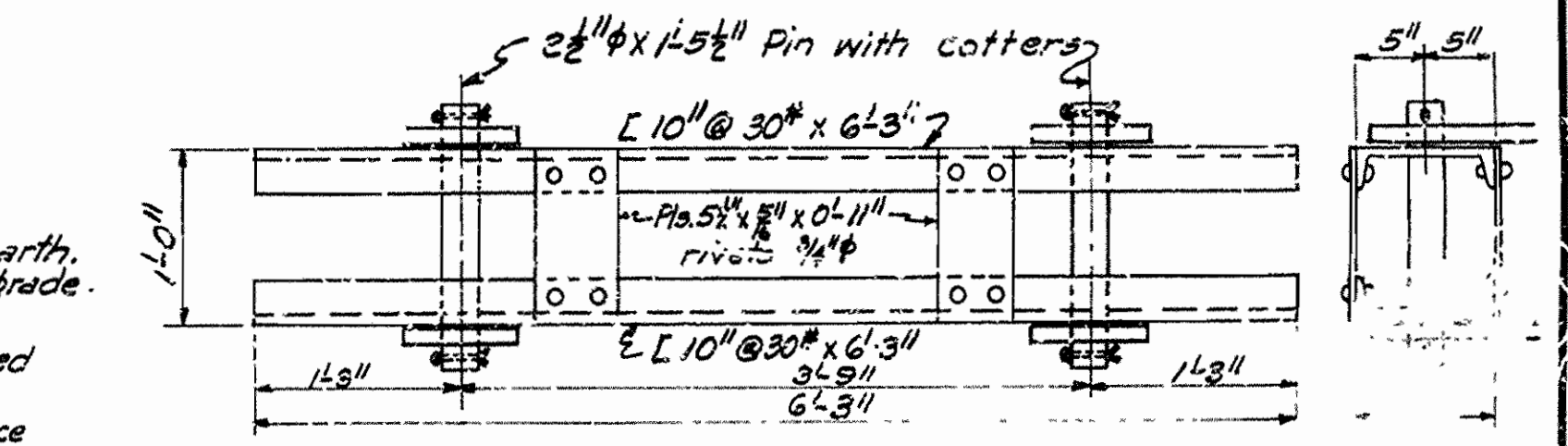
DETAILS OF EYE BAR SPACER
Scale 1 1/2\"/>



ELEVATION NORTH ANCHORAGE SHOWING CABLE ANCHOR
South Anchorage Same Detail



TYPICAL SECTION



DETAIL OF EYE BAR ANCHOR
Scale 1\"/>

LIST OF BENT BARS (ONE ANCHORAGE)

Mark	Size	No.	Length	Diagram
V1	3/4" φ	2	12'-6"	V1
V2-V10	3/4" φ	9	Varies 12'-4 1/2" to 28'-4"	V2-V10
V11-V17	3/4" φ	7	Varies 20'-10" to 29'-10"	V11-V17

LIST OF STRAIGHT BARS (ONE ANCHORAGE)

Mark	Size	No.	Length
F1	3/4" φ	73	9'-8"
F2	1/2" φ	6	16'-6"
F3	1/2" φ	6	9'-2"
F4	1/2" φ	6	16'-0"
F5	1/2" φ	6	10'-0"
F6	3/4" φ	2	16'-6"
F7	3/4" φ	2	9'-2"
H2	1/2" φ	2	6'-0"
H3	1/2" φ	2	11'-2"
H4	1/2" φ	2	12'-5 1/2"
H5	1/2" φ	2	16'-3"
H6	1/2" φ	2	17'-3"
H7	1/2" φ	2	15'-5 1/2"
H8	1/2" φ	2	14'-3"
H9	1/2" φ	2	12'-9"
H10	1/2" φ	2	11'-3"
H11	1/2" φ	2	5'-0"
H1	3/4" φ	2	24'-3"

Rev. 2-9-48 Eyebars Collar.

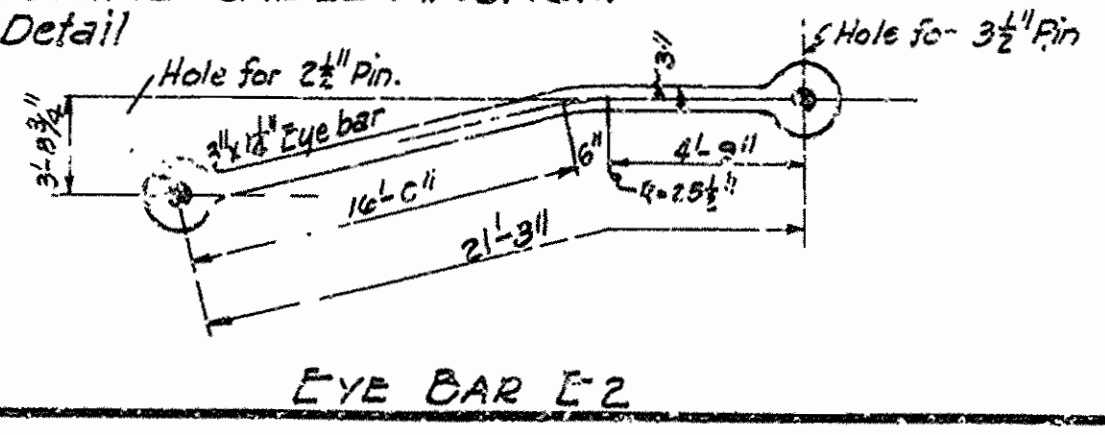
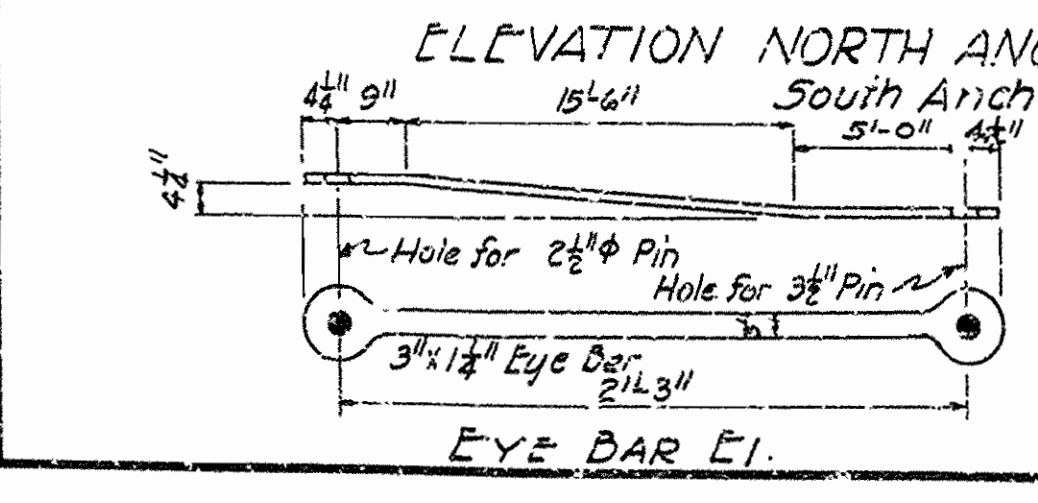
DETAILS OF ANCHORAGES
BRIDGE OVER WHITE RIVER
AT BEAVER ARKANSAS
CARROLL COUNTY
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

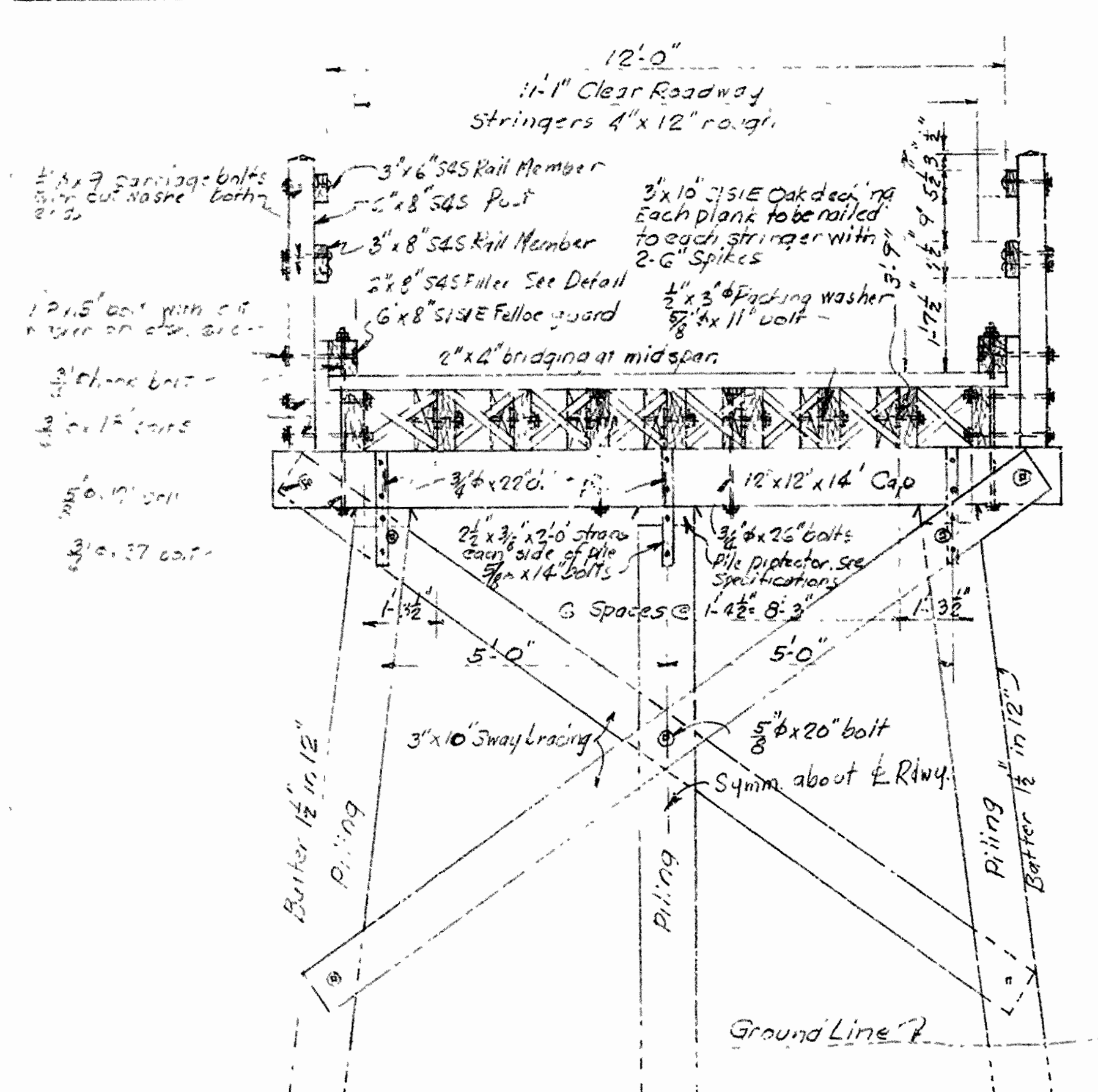
Drawn By: E.A.W. Date: 3-11-44
Traced By: L.S.M. Date: 2-14-44
Checked By: _____ Date: _____
BRIDGE NO. 2388 DRAWING NO. 6308-A

M.O. Laver
PRINCIPAL HIGHWAY ENGINEER (BRIDGE)

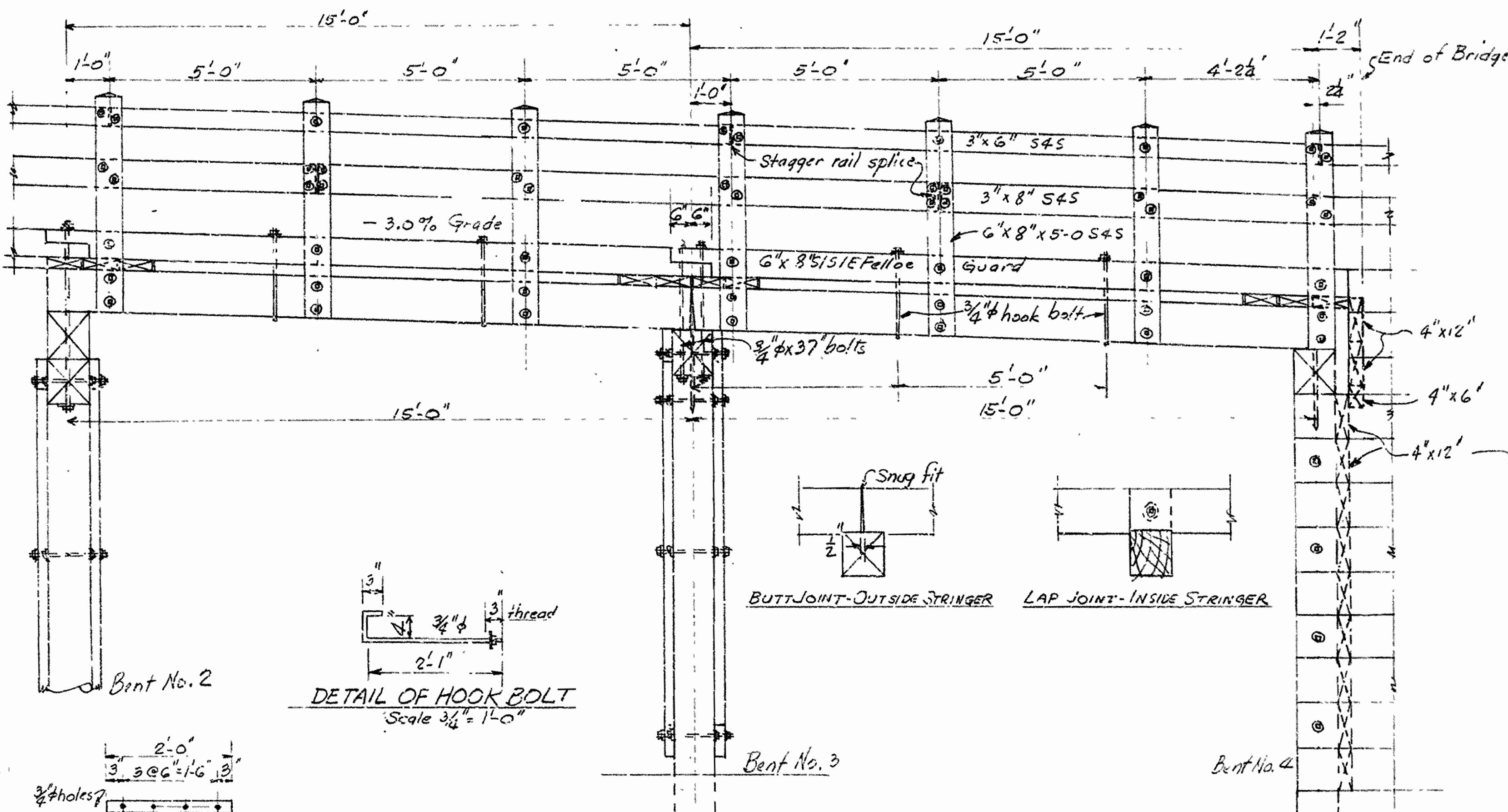
ELEVATION OF SOUTH ANCHORAGE SHOWING REINF.
North Anchorage Same detail



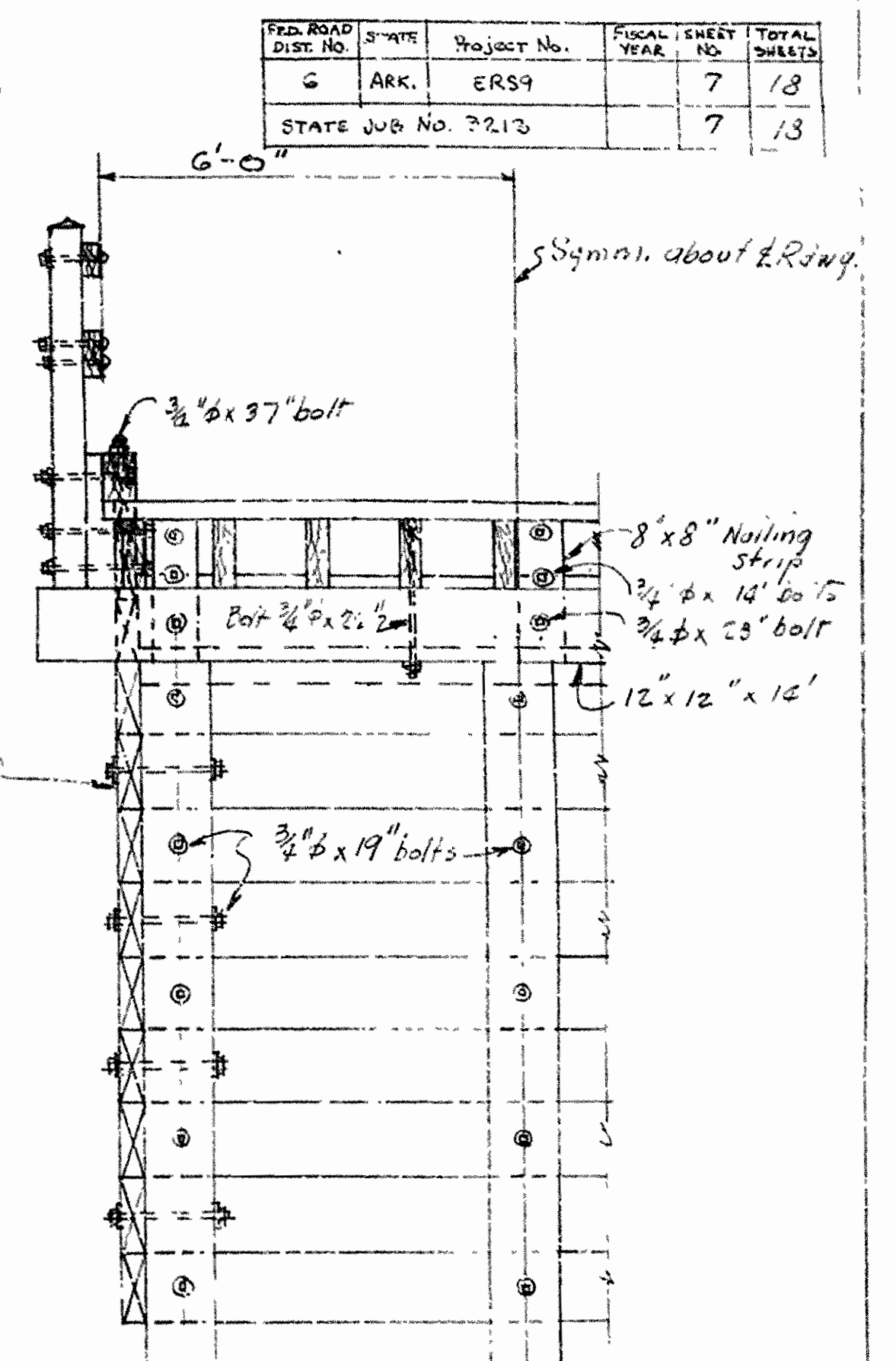
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
6	ARK.	ERS9		7	13	
STATE JOB NO. 7213					7	13



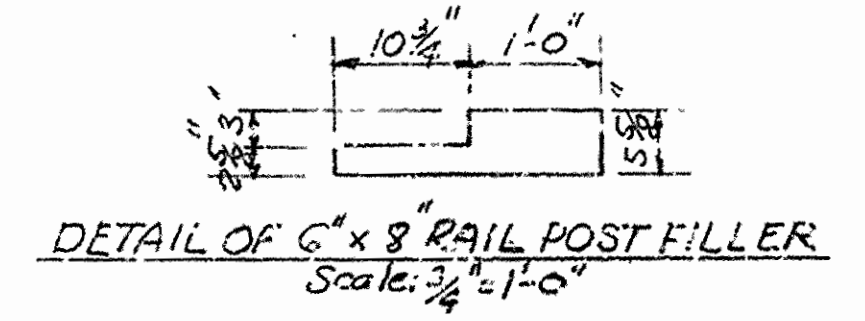
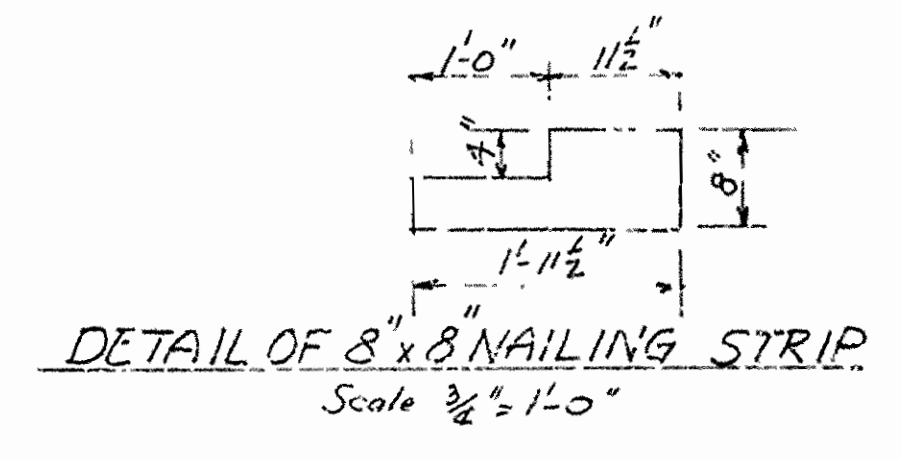
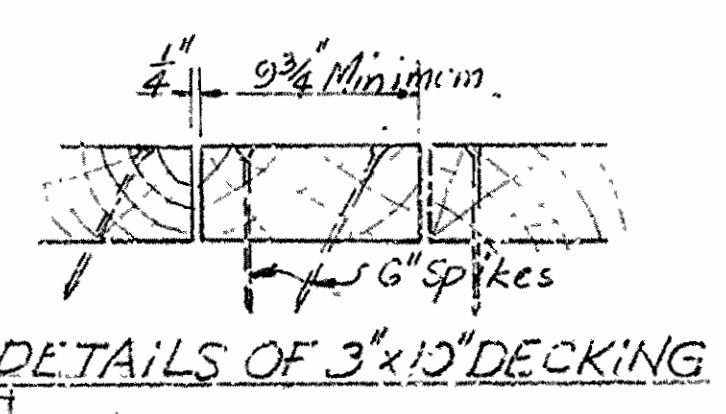
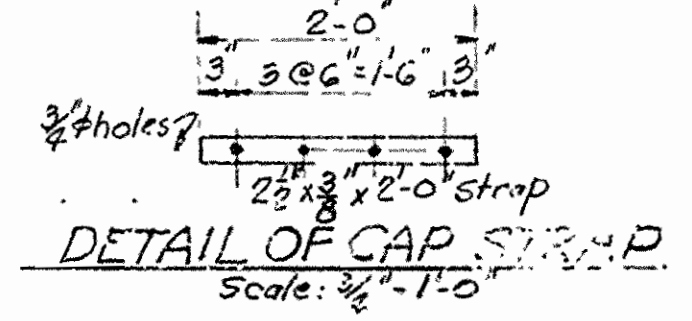
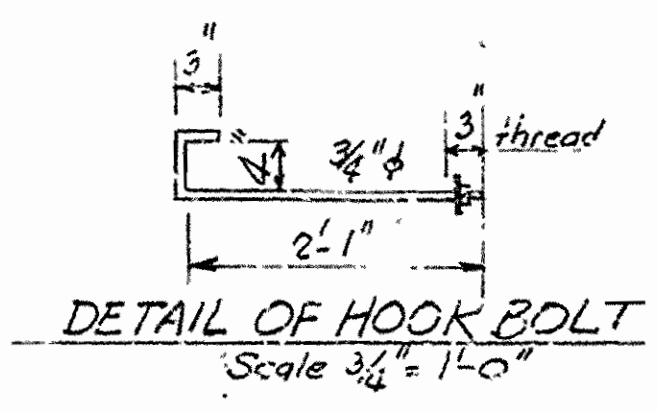
SECTION AT BENT NO. 3



SIDE ELEVATION

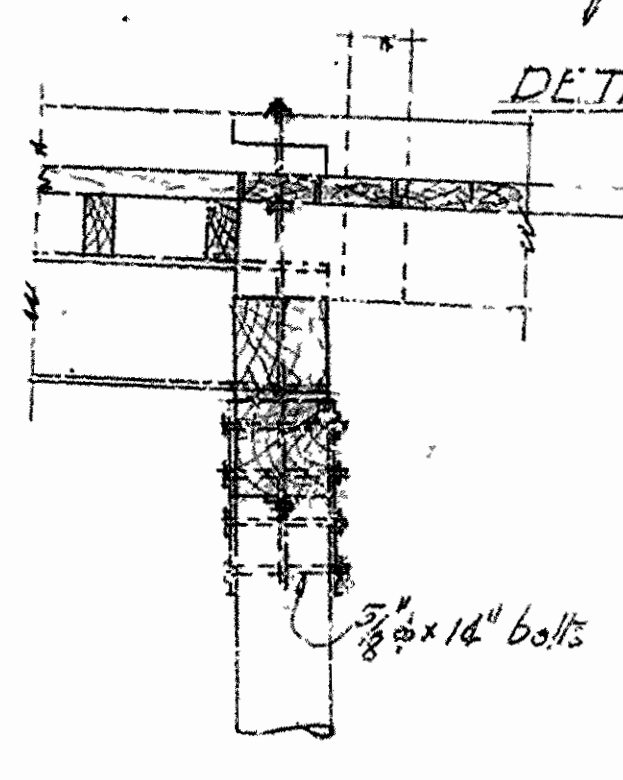


HALF ELEV. BENT NO. 4

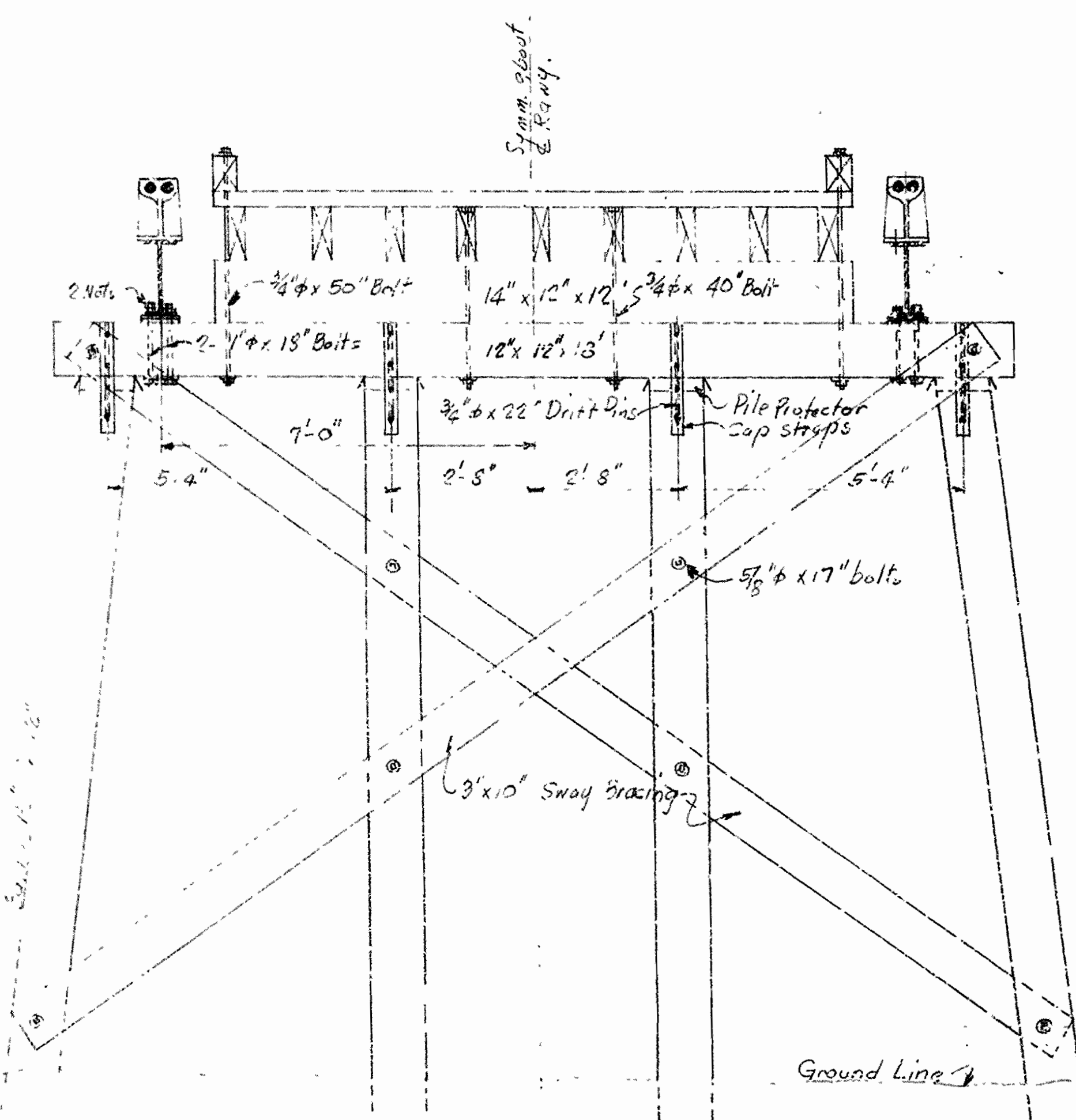


GENERAL NOTES (For additional notes see Drawg. 6510-A)
 All piling to be Southern Yellow Pine or Pacific Coast Douglas Fir with a twelve (12) pound treatment or creosote oil by the empty cell process.

- Treated Timber
 - Rail Posts 6" x 8" S4S
 - Rail Members 3" x 6", 3" x 8" S4S
 - Rail Post Fillers 6" x 8" S4S
 - Felloe Guard 6" x 8" S1E
 - Stringers 2 1/2" x 4" Rough
 - Bridging 2 1/2" x 4"
 - Caps 1 1/2" x 12" x 12"
 - Walling 4" x 6", 4" x 12"
 - Sway Bracing 3" x 10"
- Untreated Timber
 - Decking 3" x 10"



SECTION ON E



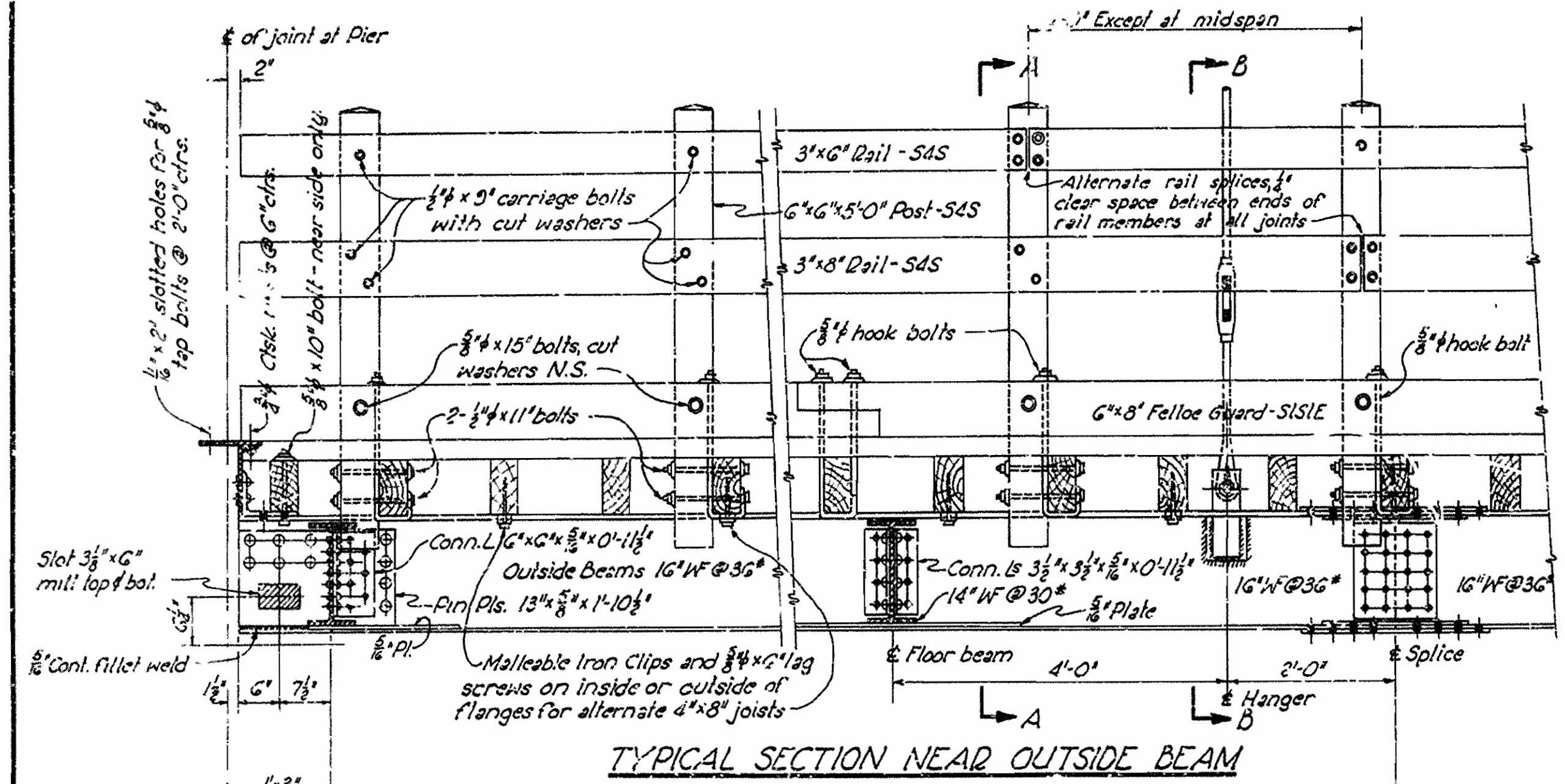
ELEVATION BENT NO. 2

DETAILS OF TIMBER APPROACH
 BRIDGE OVER WHITE RIVER
 AT BEAVER, ARKANSAS
 CARROLL COUNTY

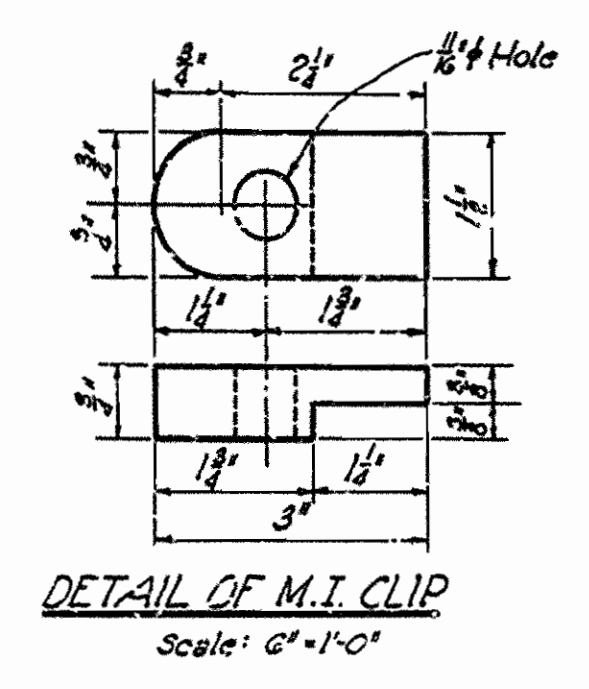
ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 Drawn By: L.P.C. Date 10-1-47 Scale: 1/2 in. = 1 ft. and as noted
 BRIDGE NO. 2388 DRAWING NO. 6510-A

M.A. Barber
 CIVIL ENGINEER

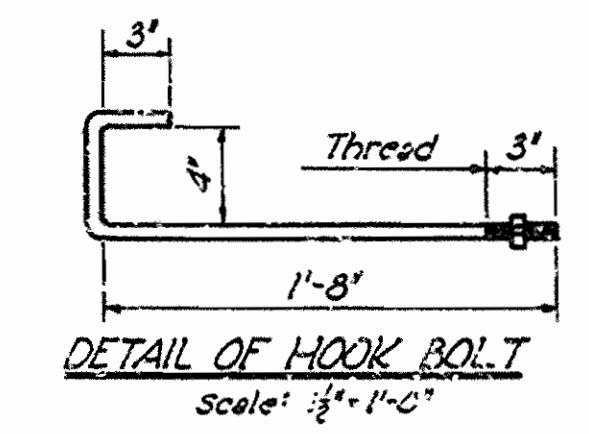
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.	ERSI		10	15
STATE JOB NO. 4213					10 18



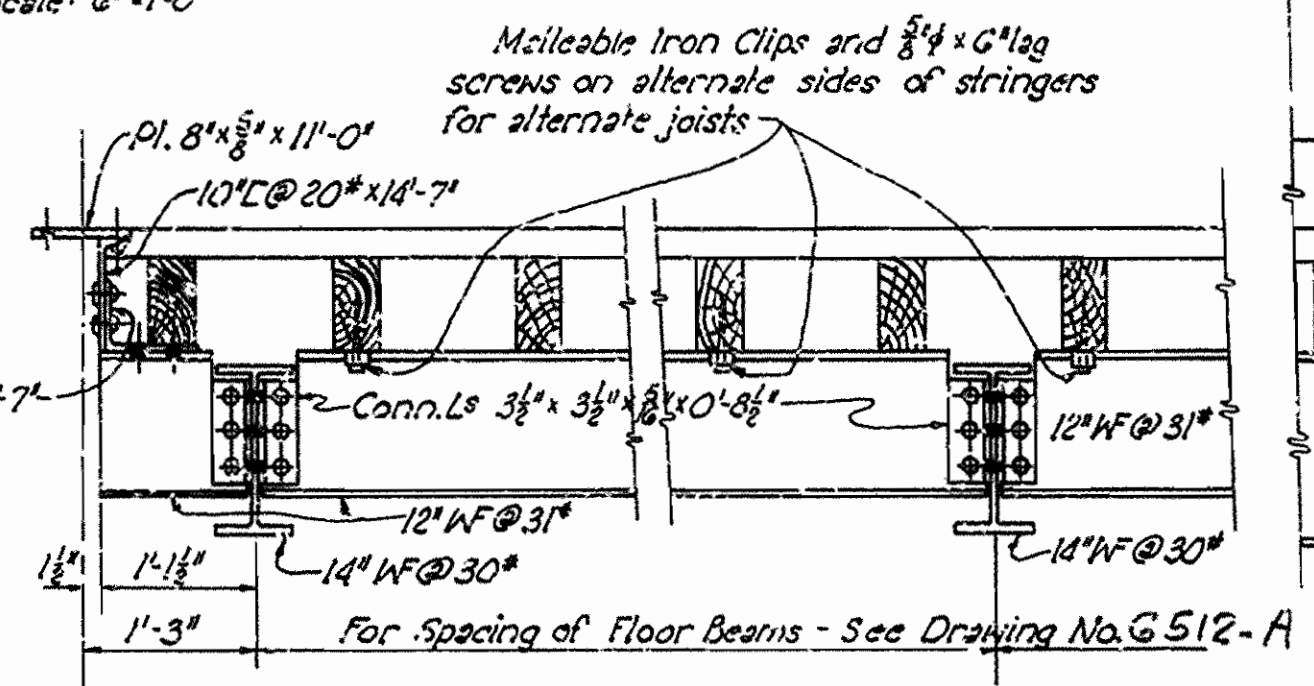
TYPICAL SECTION NEAR OUTSIDE BEAM



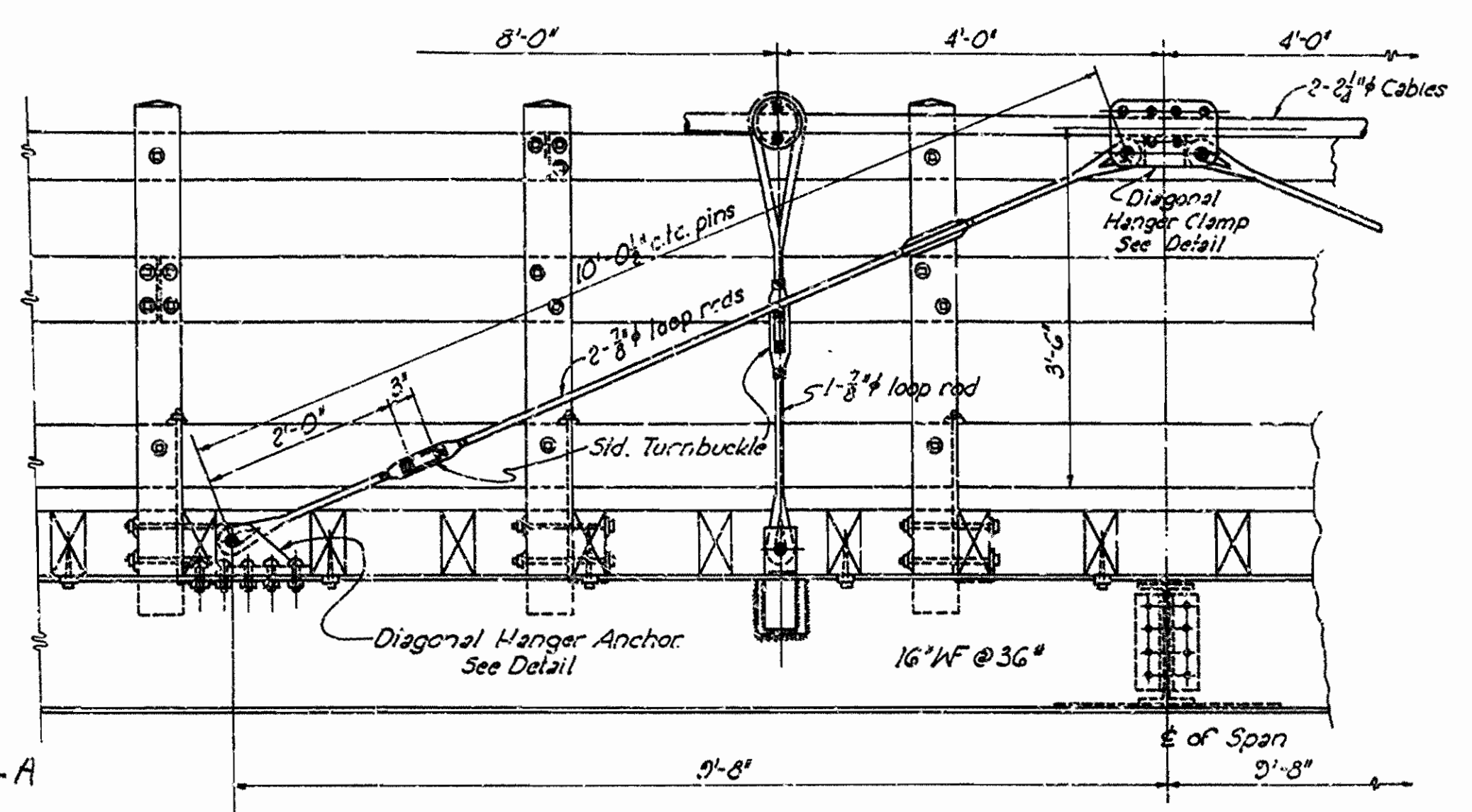
DETAIL OF M.I. CLIP
Scale: 2" = 1'-0"



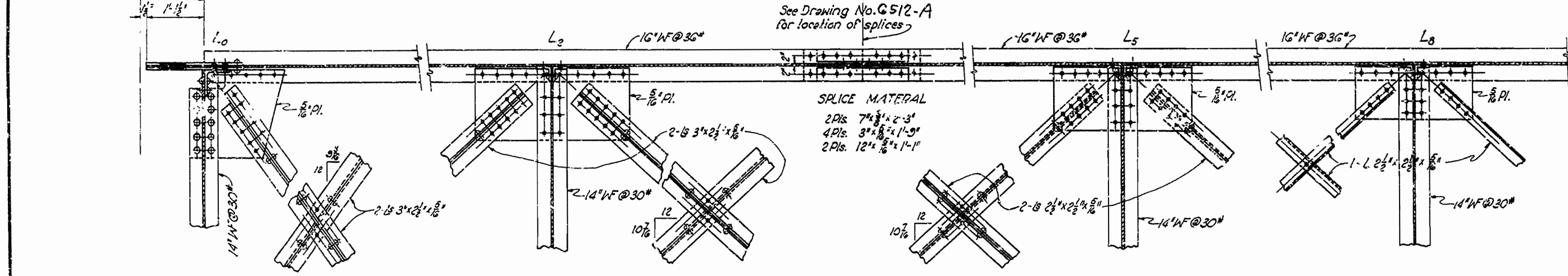
DETAIL OF HOOK BOLT
Scale: 3/4" = 1'-0"



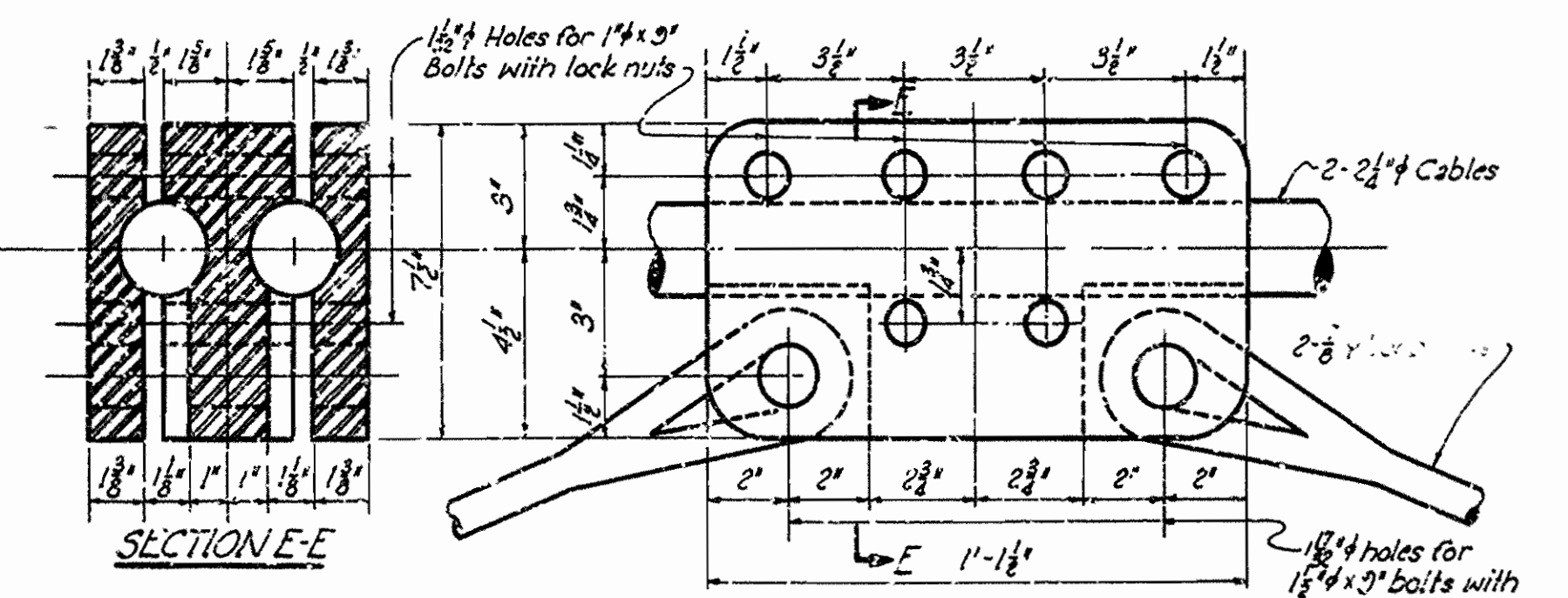
TYPICAL CONNECTION DETAILS FOR CENTER BEAMS
For Spacing of Floor Beams - See Drawing No. G512-A



PART OUTSIDE ELEVATION - SHOWING DIAGONAL HANGER LOCATION

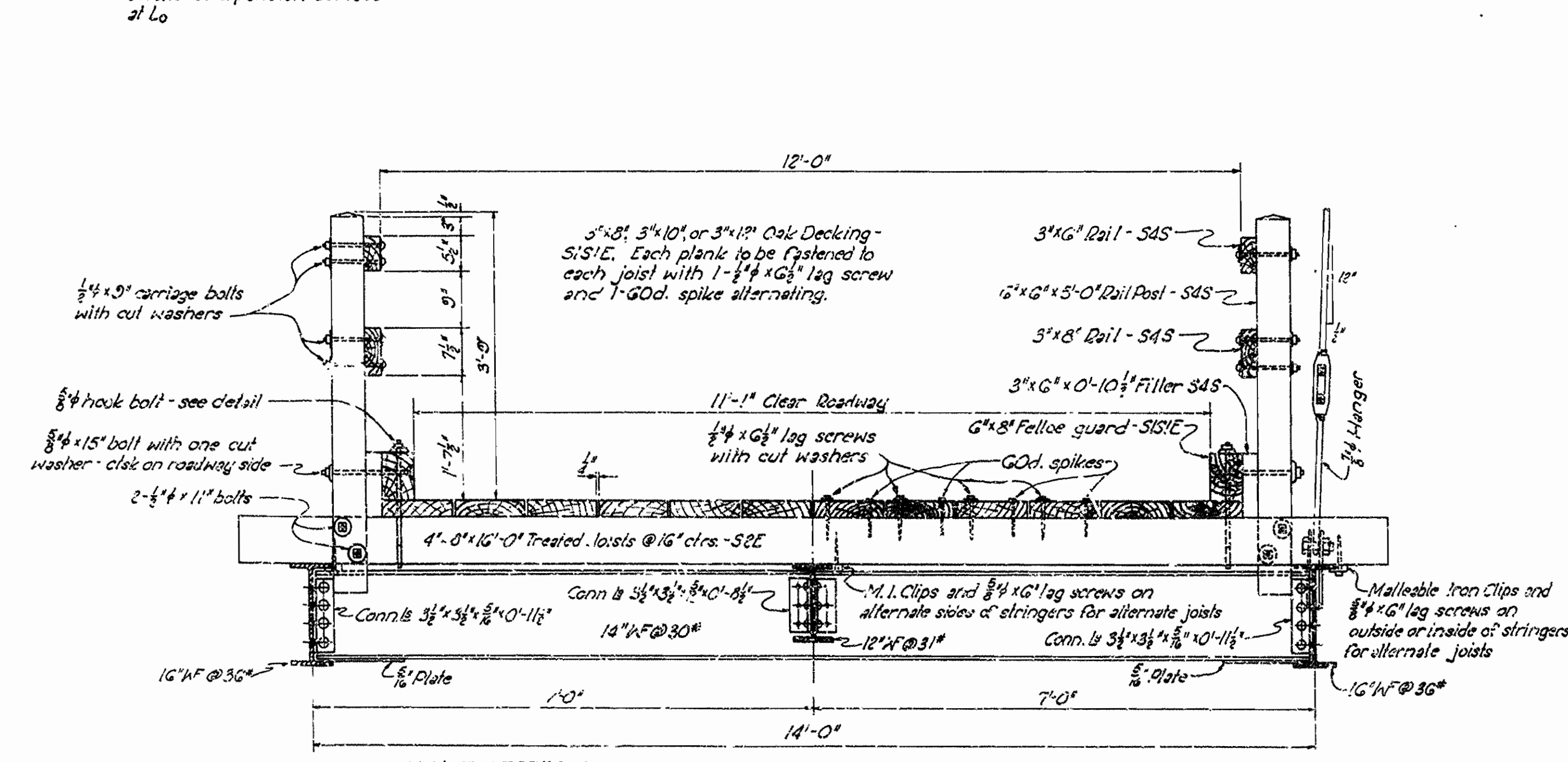


TYPICAL FLOOR BEAM AND LATERAL CONNECTIONS



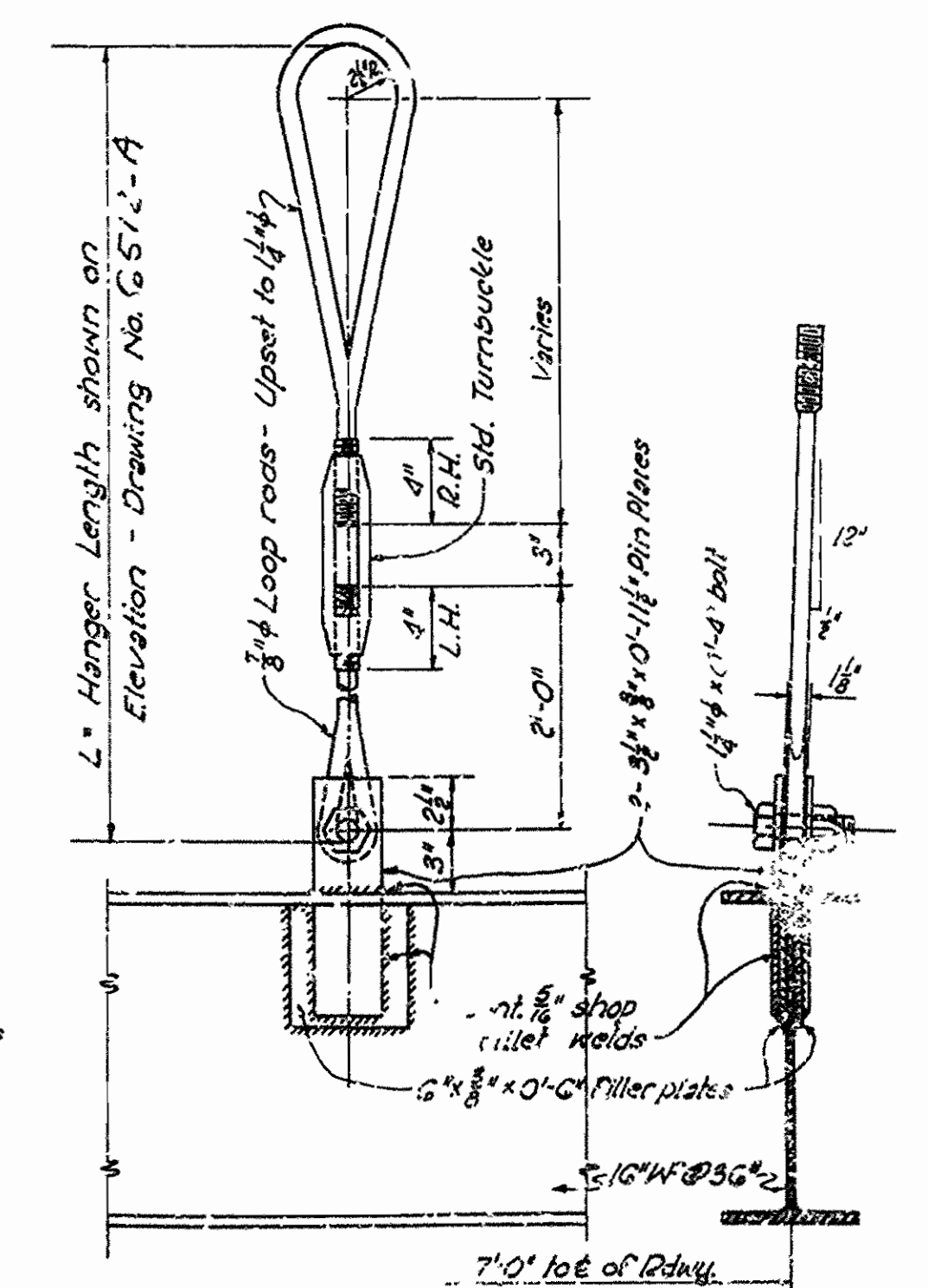
SECTION E-E
DETAIL OF CAST STEEL DIAGONAL HANGER CLAMP
Scale: 3" = 1'-0"

NOTE: See Details of Side Spans for details of expansion devices at L₀

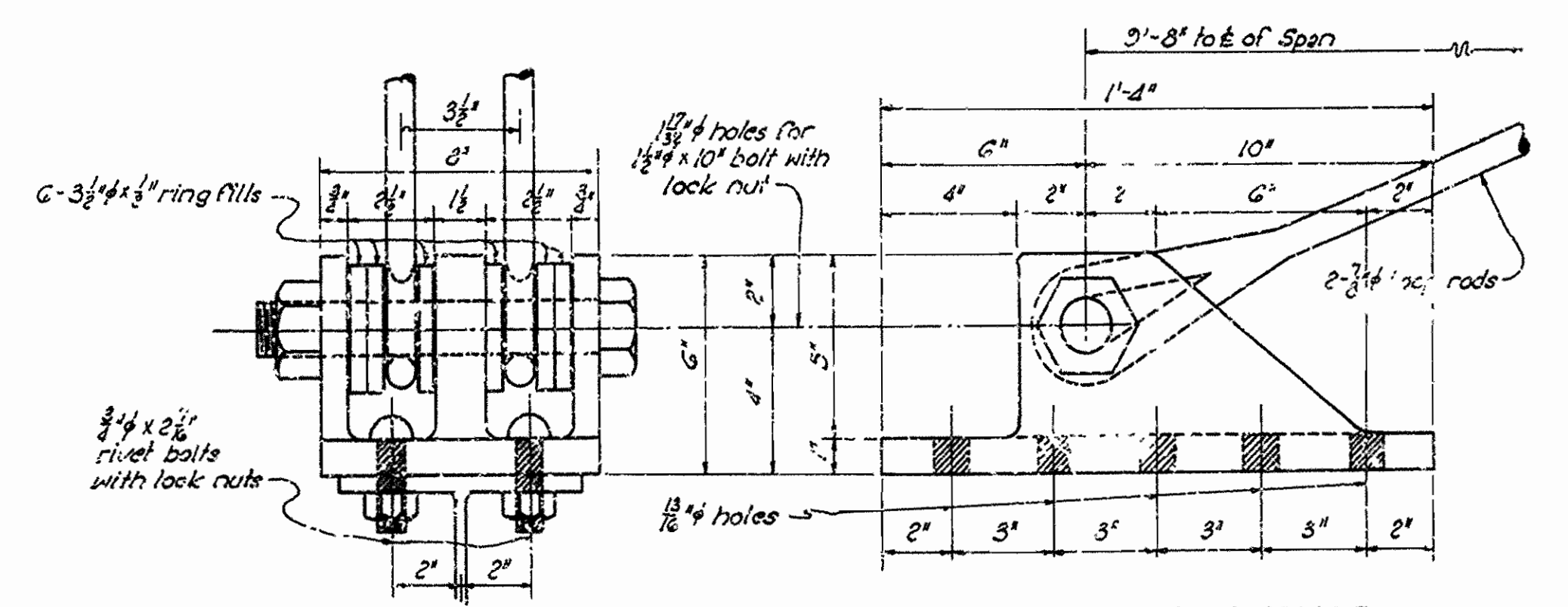


HALF SECTION A-A

HALF SECTION B-B



DETAIL OF LOWER HANGER CONNECTION
Scale: 1 1/2" = 1'-0"



DETAIL OF CAST STEEL DIAGONAL HANGER ANCHOR
Scale: 3" = 1'-0"

DETAILS OF
FLOOR SYSTEM AND DECK
FOR MAIN SUSPENSION SPAN
TIMBER DECK 11'-1" CLEAR ROADWAY

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

Drawn By: M.C.H. Date: 2-23-47
Traced By: E.F.S. Date: 10-15-47
Checked By: _____ Date: _____

Scale: 3/8" = 1' ft.
Clear as noted

BRIDGE NO. 2388 DRAWING NO. G513-A

M.C.H.
PRINCIPAL HIGHWAY ENGINEER (BRIDGE)

6	ARR.	ERS9	12	13
ST. 9213			12	13

