

SUMMARY OF QUANTITIES - JOB NUMBER 6721

BRIDGE NAME PLATE TITLE	BRIDGE No.	CODE NO.	ITEM No.	801	801	SP & 802	SP & 802	803	804	SP & 805	SP & 806	SP & 806	SP & 806	812
			UNIT OF BRIDGE	Common Excavation for Structures	Rock Excavation for Structures	Class A Concrete	Class S Concrete	Reinforcing Steel	Steel Bearing Piling 12 BP53	Aluminum Bridge Railing	Structural Steel in Beam Spans	Structural Steel in Plate Girder Spans (Carbon Steel)	Structural Steel in Plate Girder Spans (Low Alloy)	Bridge Nails Plates (Type C)
			UNIT	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Lb.	Lin. Ft.	Lin. Ft.	Lb.	Lb.	Lb.	Plate
OUACHITA RIVER	3424A	X031	End Bents 1 & 4	66			26.02	3,550	550		1,464			1
			Bents 2 & 3				12.28	2,350	390					
			Piers 1 & 6	598	34	160.70		11,718						
			Piers 2, 3, 4, & 5	145	85	414.70		27,636						
			Spans 1, 2, 8, & 9				129.20	26,132		320	91,906			
			Spans 3, 4, 5, 6, & 7				459.90	97,454		1,100		79,880	395,160	
			Total Bridge No. 3424A	809	119	575.40	627.40	168,540	940	1,420	93,370	79,880	395,160	1
			End Bents 1 & 4	66			26.02	3,550	550		1,464			1
	3424B	X031	Bents 2 & 3				12.28	2,050	390					
			Piers 1 & 6	598	34	160.70		11,718						
			Piers 2, 3, 4, & 5	145	85	414.70		27,636						
			Spans 1, 2, 8, & 9				129.20	26,132		320	91,906			
			Spans 3, 4, 5, 6, & 7				459.90	97,454		1,100		79,880	395,160	
			Total Bridge No. 3424B	809	119	575.40	627.40	168,540	940	1,420	93,370	79,880	395,160	1
			Total Job 6721	1,618	238	1,150.80	1,254.80	337,080	1,880	2,840	186,740	159,760	790,320	2

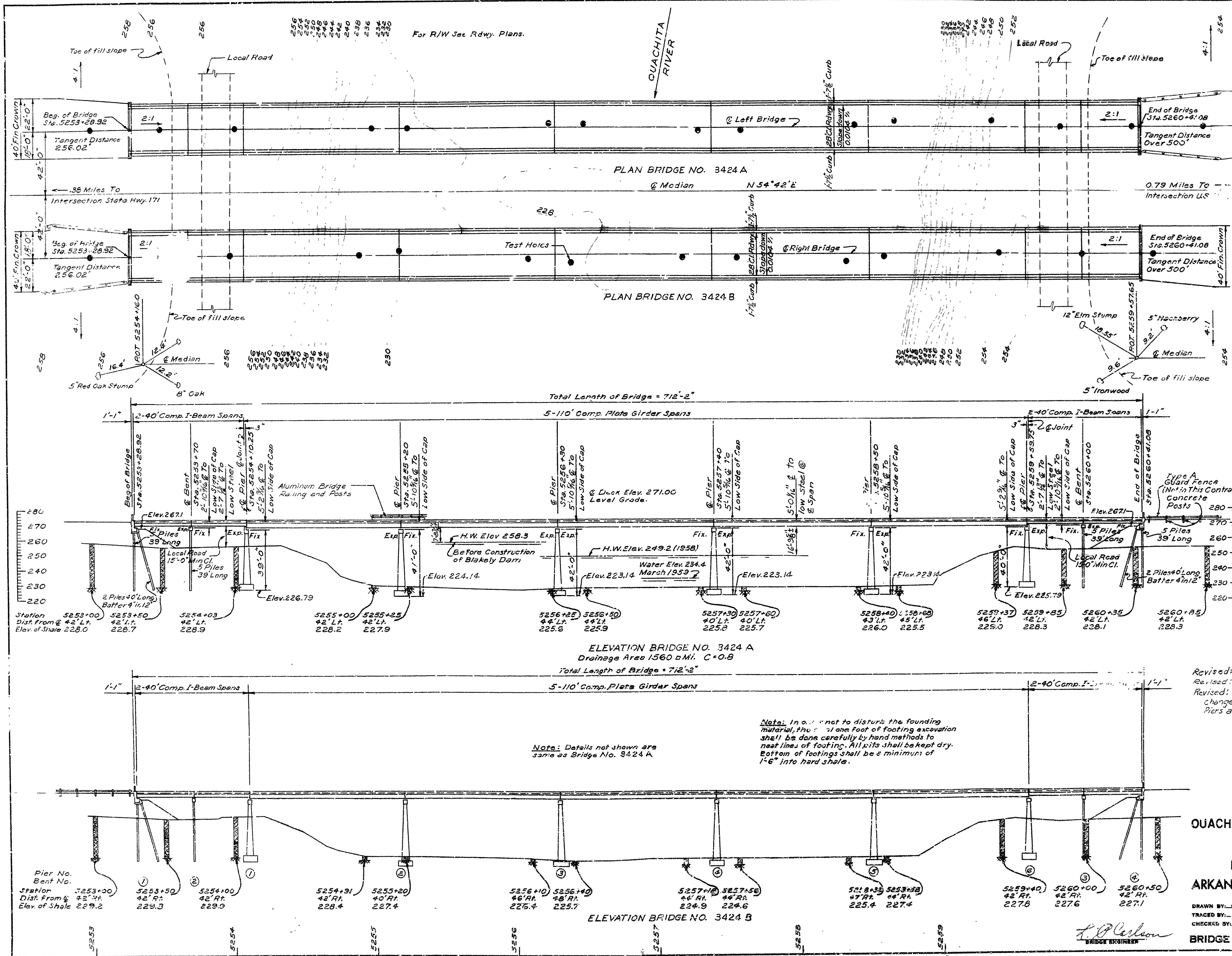
Revised due to change in pier height.
11-17-61. FAH. Chk. GNR

SUMMARY OF BRIDGE QUANTITIES
OUACHITA RIVER BRIDGE AND APPROACHES
HOT SPRING COUNTY

INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: C.E.V. DATE: 6-5-61
TRACED BY: DATE: SCALE:
CHECKED BY: E.R.P. DATE: 2-26-61
BRIDGE NO. 3424 A & B DRAWING NO. 11203 A

BRIDGE ENGINEER



GENERAL NOTES

8M-RR Spike in 8" Stump 30' Lt. Sta. 5254+00 Elev. 258.67.

For Details of Superstructure See Drwg. Nos. 5462, 5477, & 11215.

For Details of Substructure See Drwg. Nos. 5411A & 11214.

All piling shall be 12 BP 53 steel bearing pile, driven to refusal or to a minimum depth of two feet into the material designated as hard shale on the boring logs with a minimum bearing capacity of 36 tons per pile.

Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. Order lengths shown. Cut-off or build-up, if necessary, to be paid for in accordance with Sect. 204 of the Specifications. All piling to be driven with a steam hammer after submergence is in place.

Loading: H20-S16 AASHO 1951 and Special Interstate Loading of 2-24,000*Axles 4' on Centers.

Stresses: Class A Concrete (f_c=15) 840 psi
Class B Concrete (f_c=10) 1200 psi
Reinforcing Steel 20,000 psi
Structural Steel (ASTM-A7) 18,000 psi
(ASTM-A242) 3/4" & under 27,000 psi
over 3/4" to 1 1/2" incl. 24,000 psi
over 1 1/2" to 1 3/4" incl. 22,000 psi

Foundation Pressure: 6500 p.s.f. DL + LL

Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction, Adopted Dec. 9, 1959.

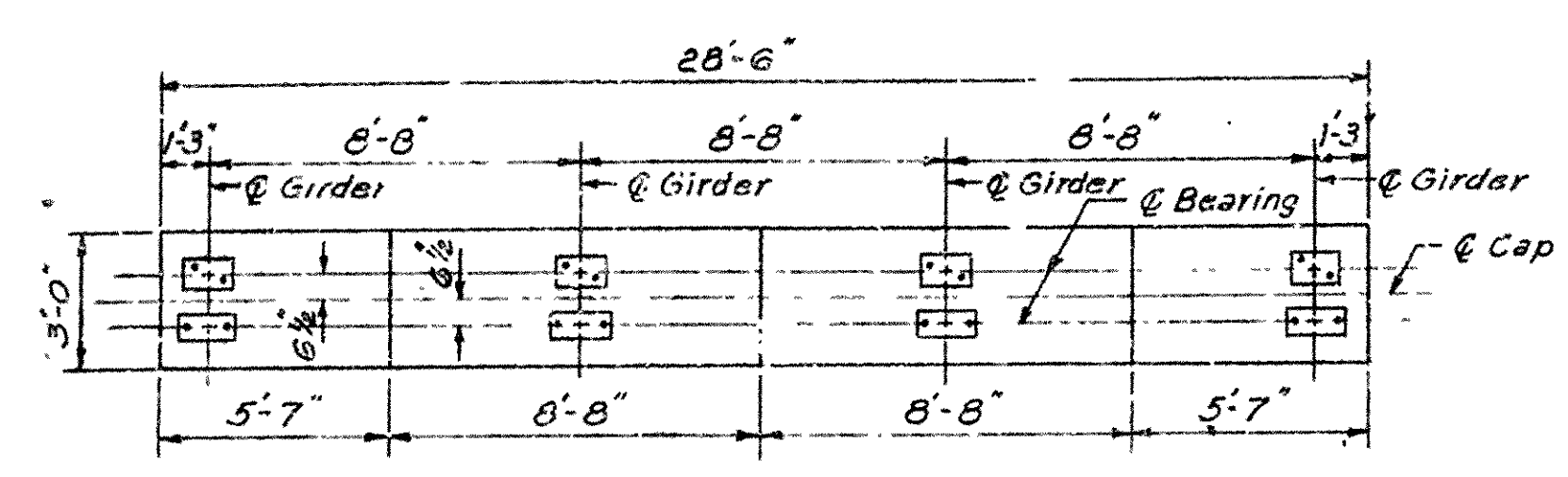
SOIL LEGEND

- Sandy Clay and Gravel with Boulders or Thin Layers of Rock
- Gravel and Boulders
- Sandy Clay
- Hard Shale

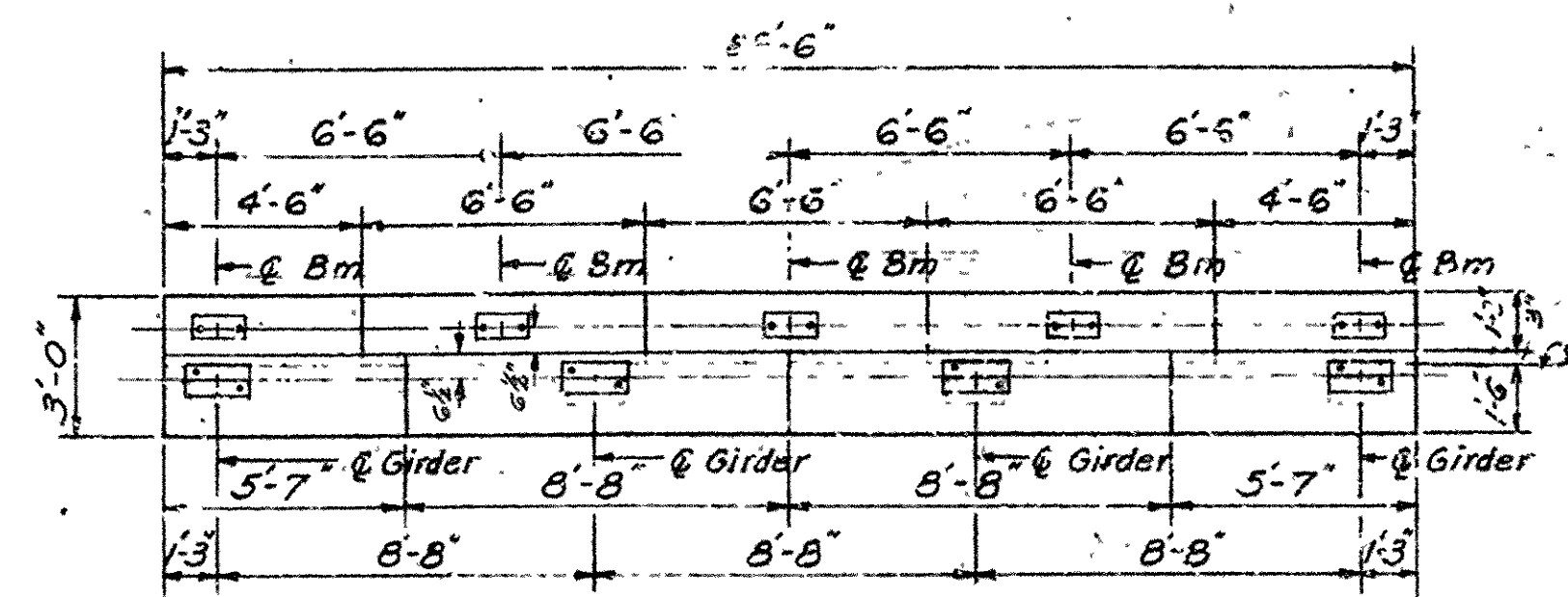
Revised: Guard Fence. W.E.W. 4-20-60
Revised: Bridge Railing C.S.V. 10-8-60
Revised: Dimension E to low side of cap changed to agree with details. Height of Piers and elevation of footing altered. F.M.H. 11-16-61, J.H.C. 11-16-61

LAYOUT OF BRIDGE
OVER OUACHITA RIVER
OUACHITA RIVER BRIDGE & APPROACHES
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: L.H.T. DATE: 4-30-59
CHECKED BY: J.M. DATE: 6 MAY 59
BRIDGE NO. 3424 A&B DRAWING NO. 11205

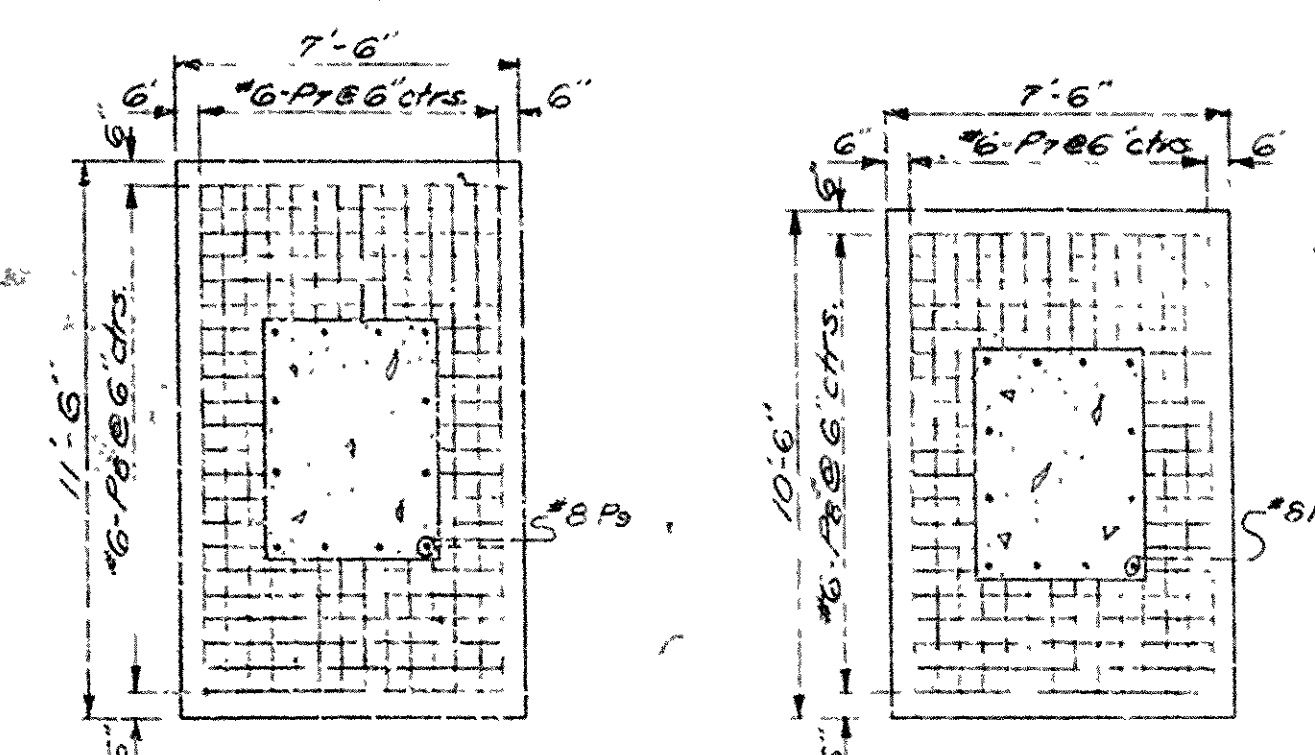
FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	330-2(56)B6	6	44
JOB NO.	6721			



PLAN OF CAP-PIERS 2-5



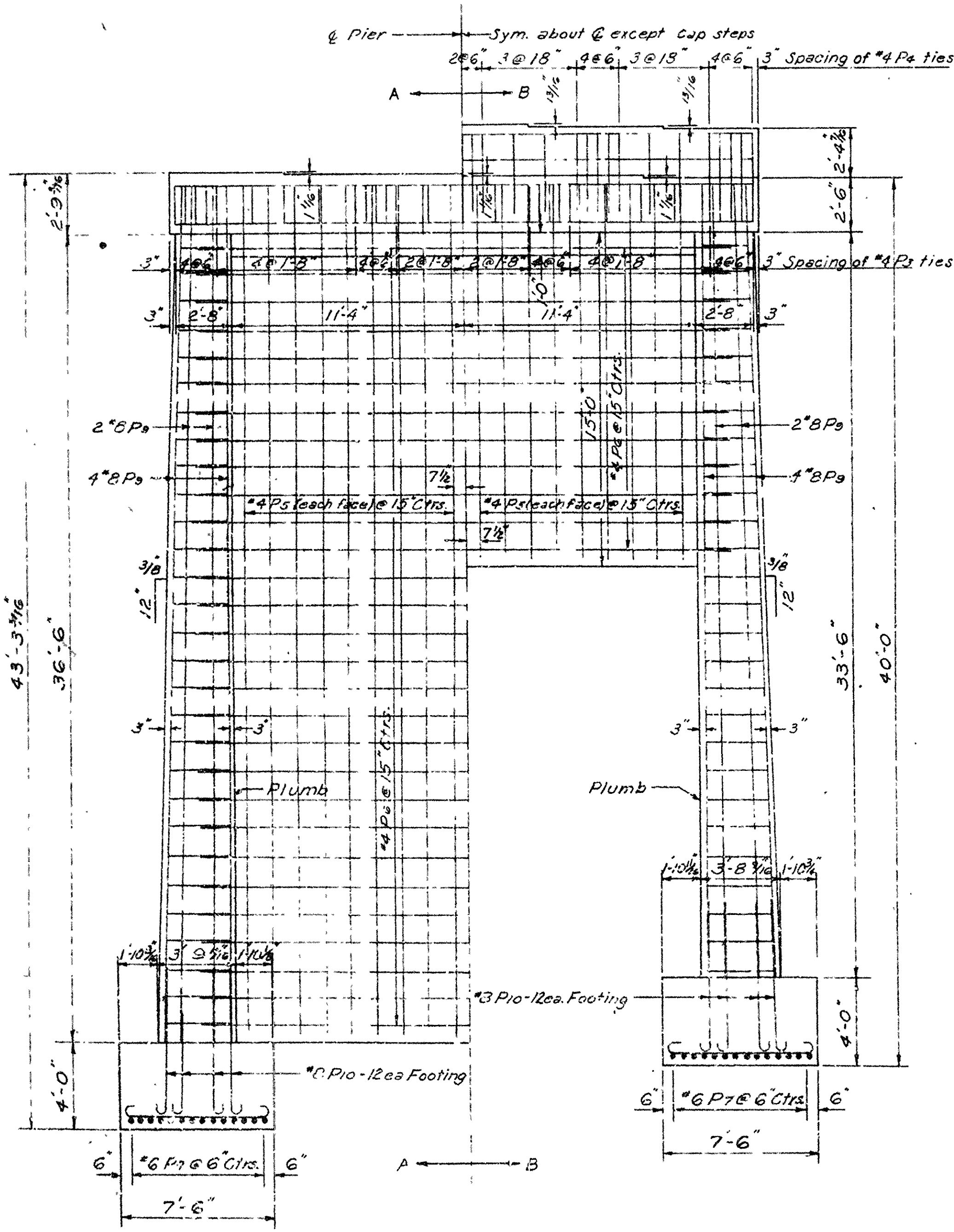
PLAN OF CAP-PIERS 1&6



PIERS No. 2-5

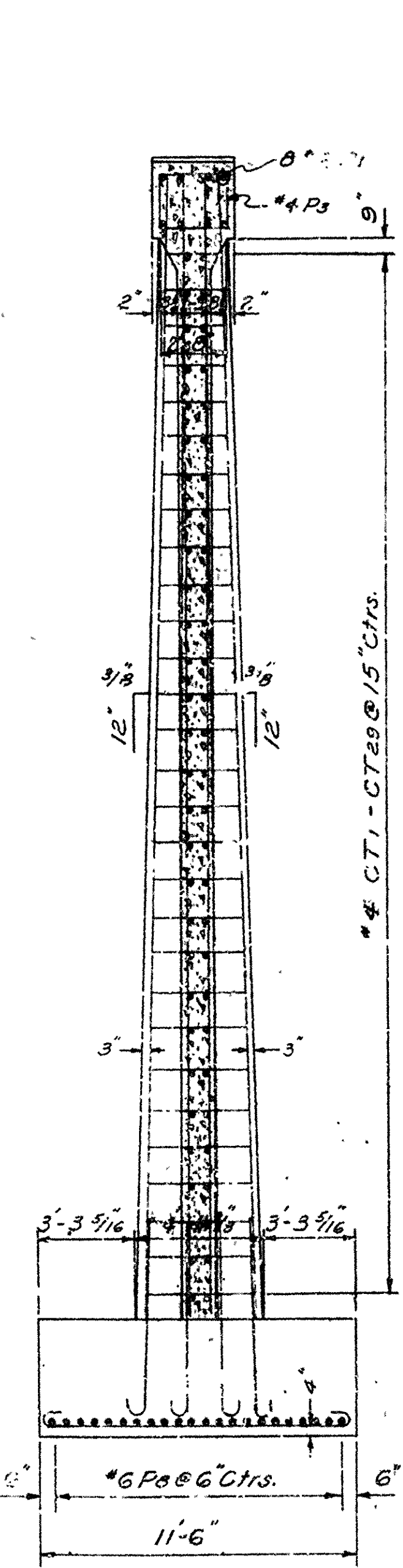
PIERS No. 1&6

PLAN OF FOOTINGS

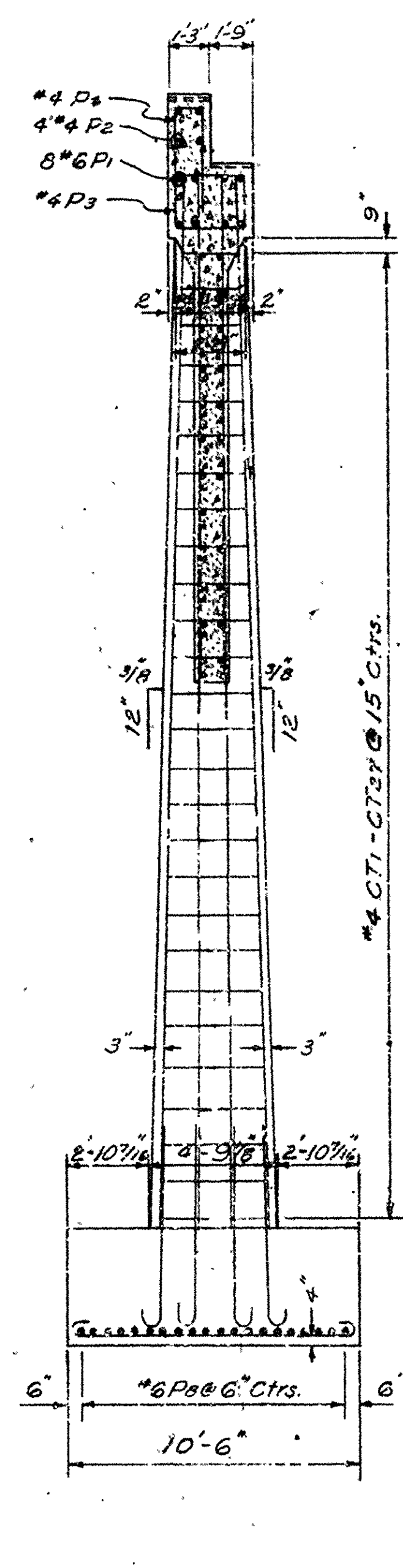


HALF ELEVATION PIERS 2-5

HALF ELEVATION PIERS 1&6



SECTION A-A



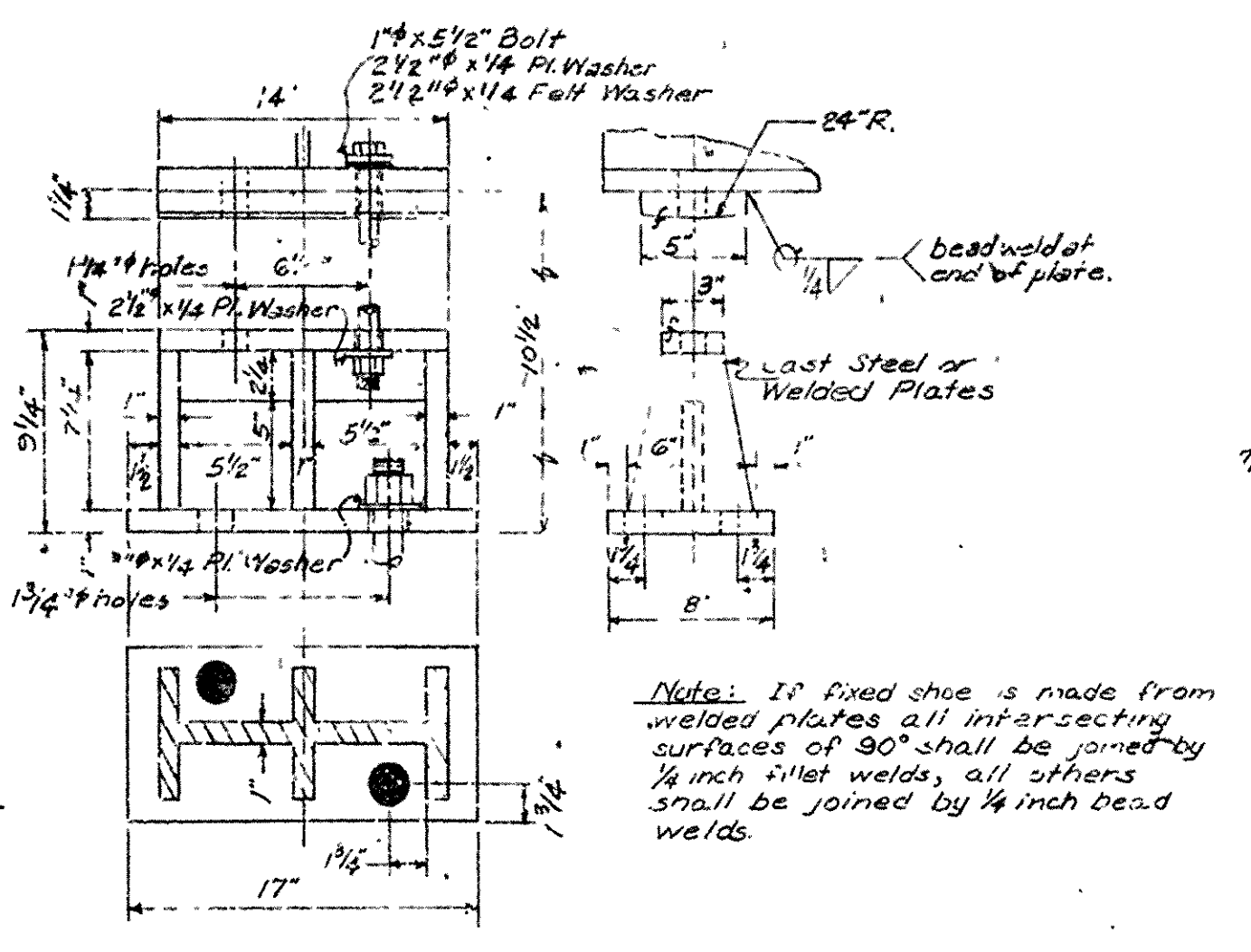
SECTION B-B

BAR LIST-ONE PIER

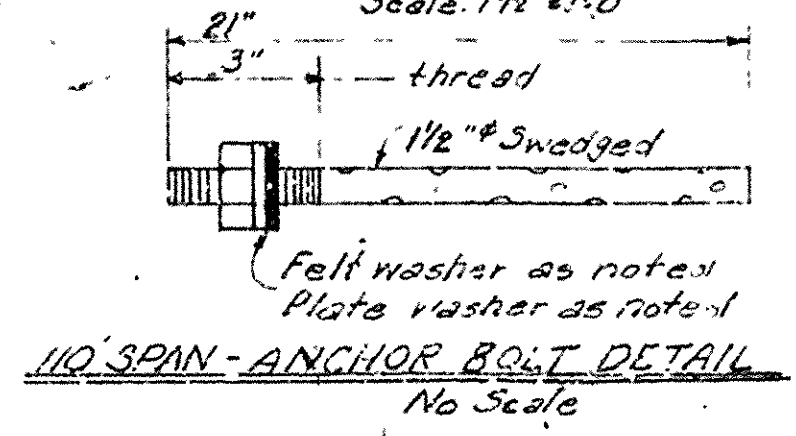
MARK	SIZE	NUMBER	LENGTH	A	B	PIN DIA
CT-29	#4	2	12'-11"	11'-0"	6"	1 1/2"
CT-29	#4	2	16'-2"	4'-5"	3'-4"	1 1/2"
CT-29	#4	2	16'-5"	4'-6"	3'-5"	1 1/2"
P1	#6	8	28'-2"	-	-	Str.
P2	#4	4	28'-2"	-	-	Str.
P3	#4	29	10'-1"	2'-7 1/2"	2'-1 1/2"	1 1/2"
P4	#4	33	8'-6"	3'-10"	10'-6"	1 1/2"
P5	#4	36	38'-7"	-	-	Str.
P6	#4	36	17'-1"	-	-	Str.
P7	#4	24	26'-0"	-	-	Str.
P8	#6	28	12'-5"	11'-0"	6"	4 1/2"
P9	#6	28	11'-5"	10'-0"	6"	4 1/2"
P10	#6	44	8'-5"	7'-0"	6"	4 1/2"
P11	#6	40	8'-5"	7'-0"	6"	4 1/2"
P12	#8	24	38'-9"	-	-	Str.
P13	#8	24	35'-9"	-	-	Str.
P14	#8	24	8'-1"	6'-1 1/2"	9"	8"

All dimensions are C to C of bars.

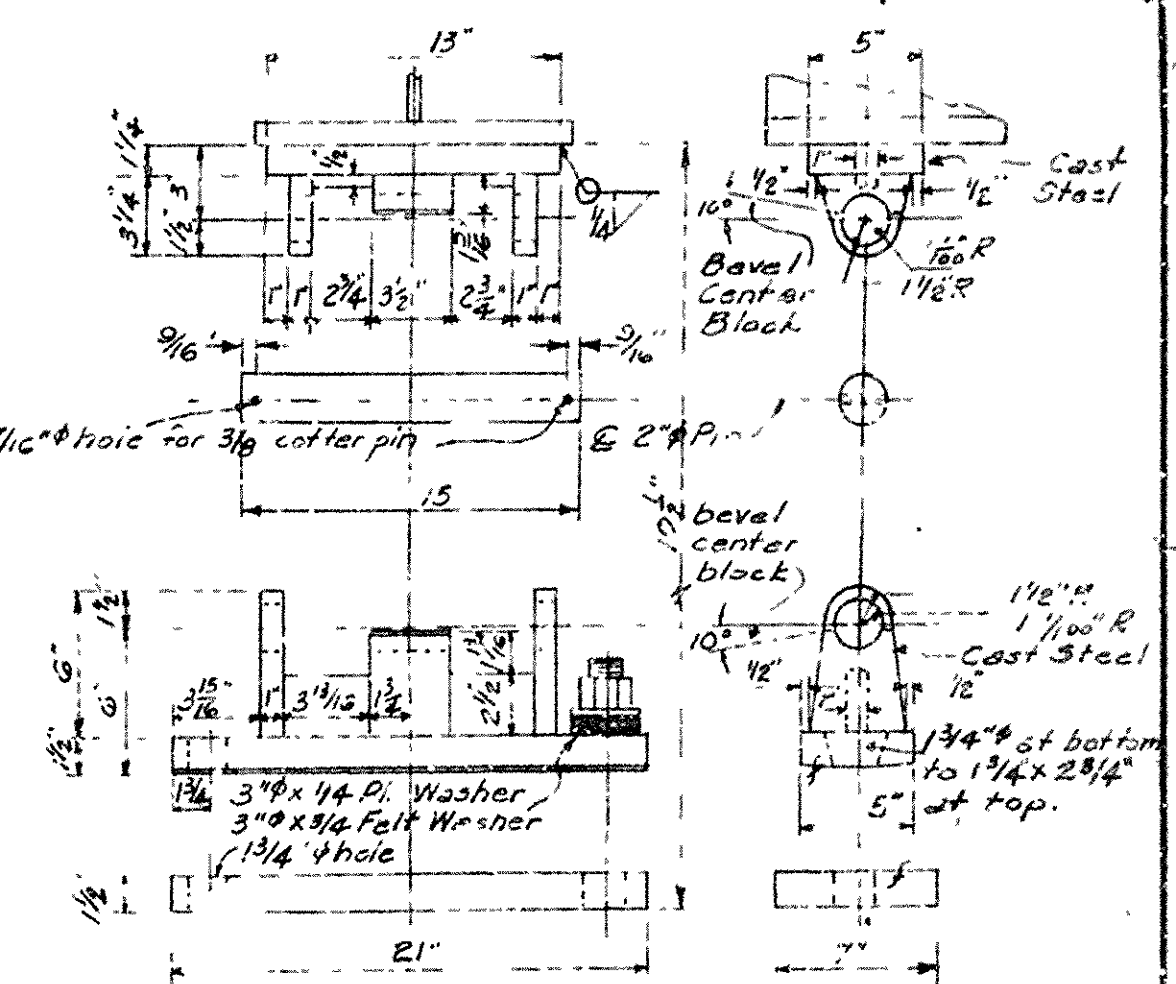
110' SPAN FIXED SHOE-PIERS 1&6
Scale: 1/2"=1'-0"



110' SPAN - FIXED SHOE-PIERS 2-5



110' SPAN - ANCHOR BOLT DETAIL



110' SPAN - EXPANSION SHOE

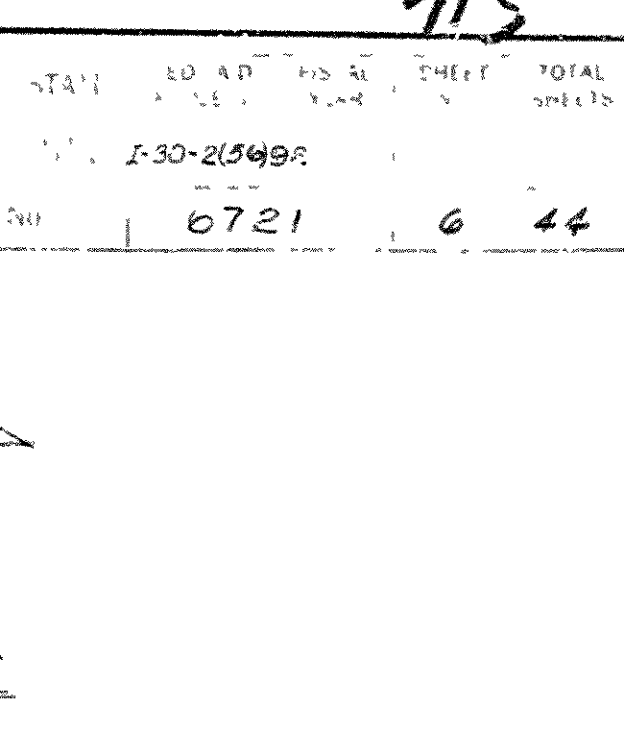
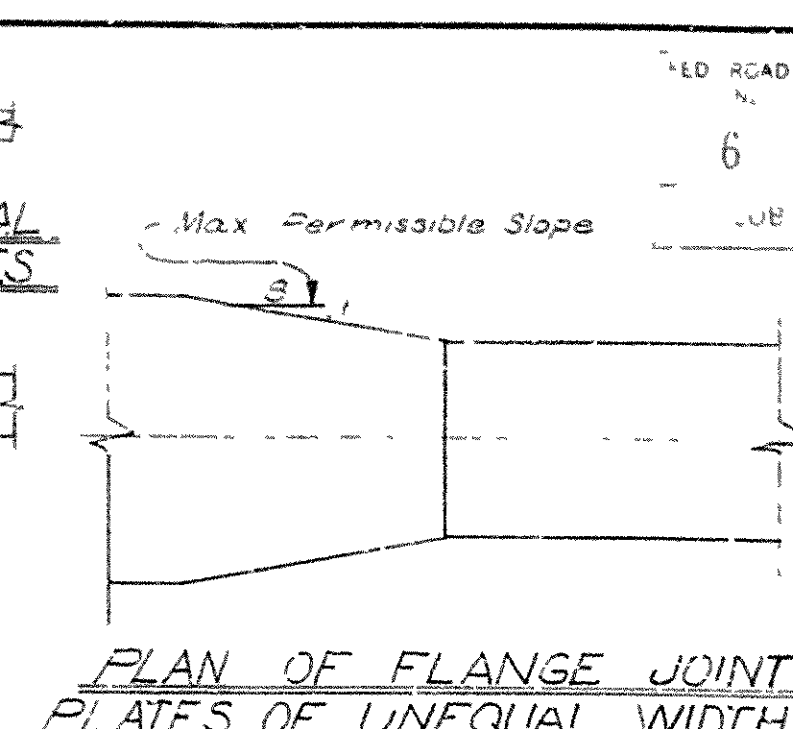
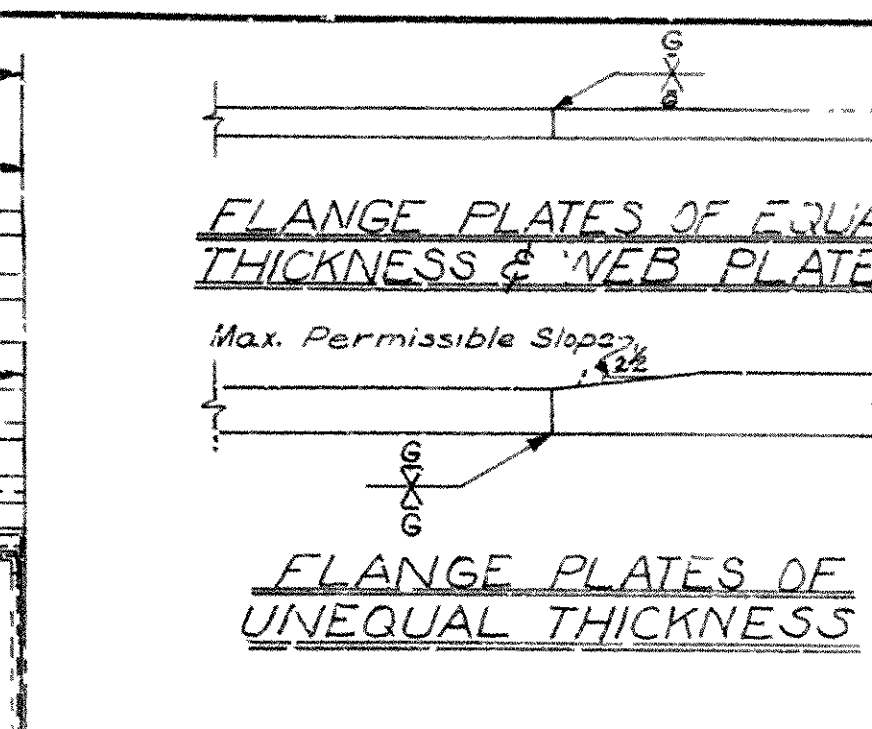
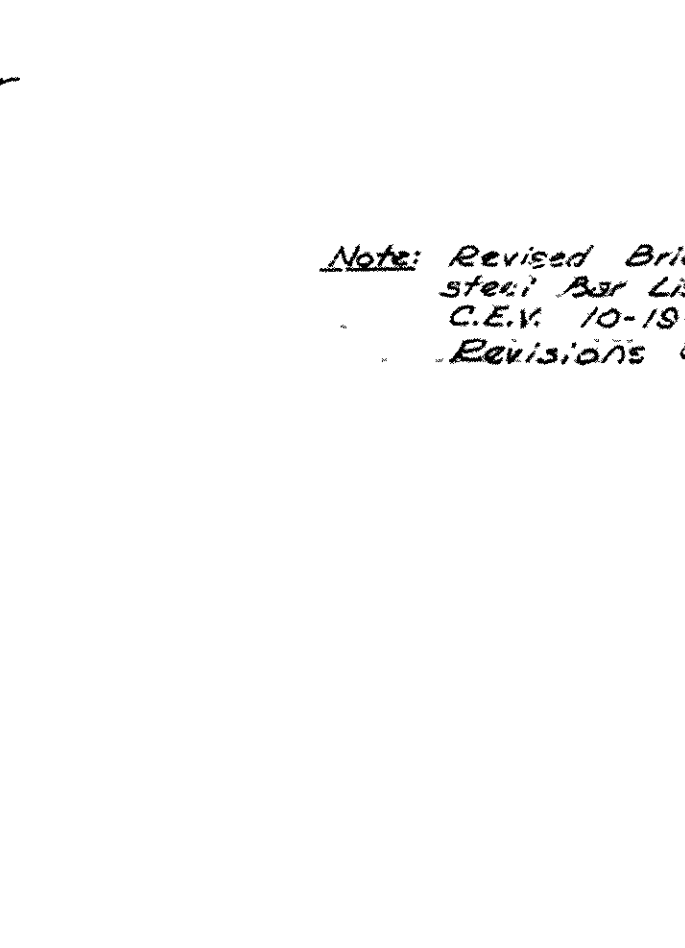
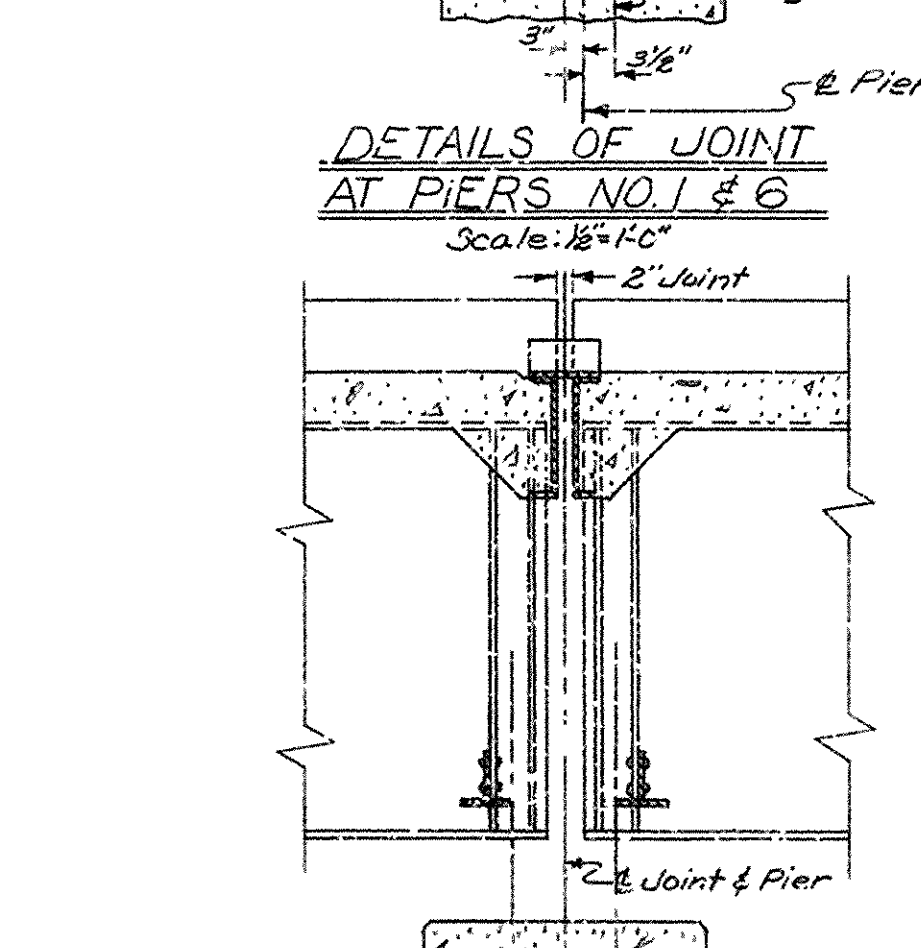
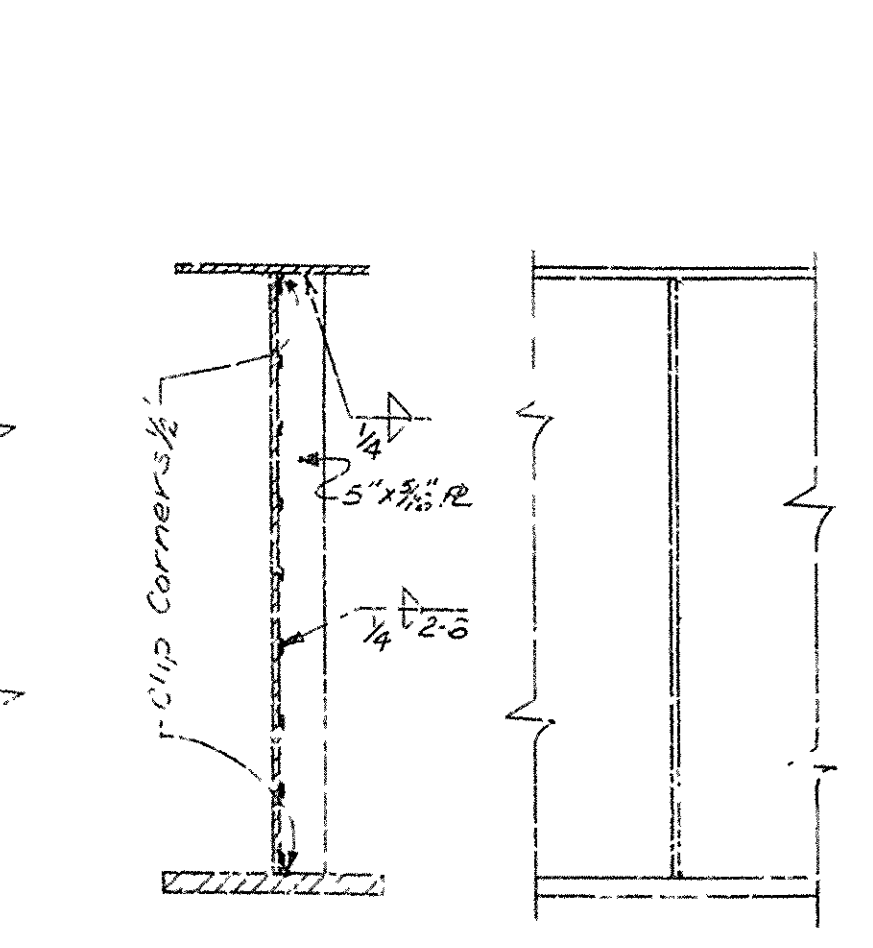
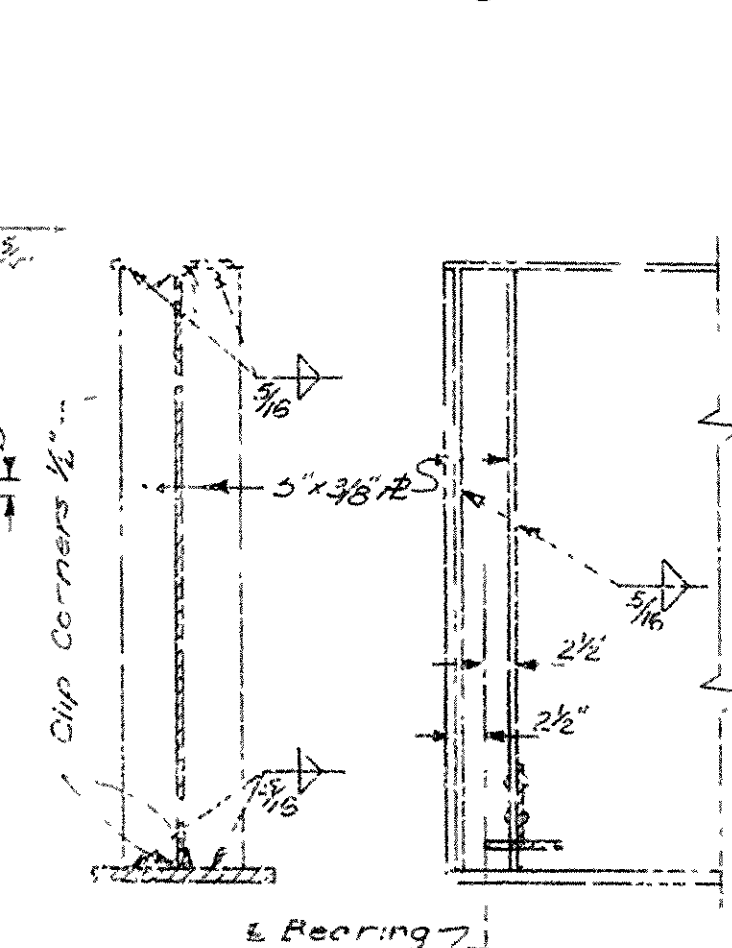
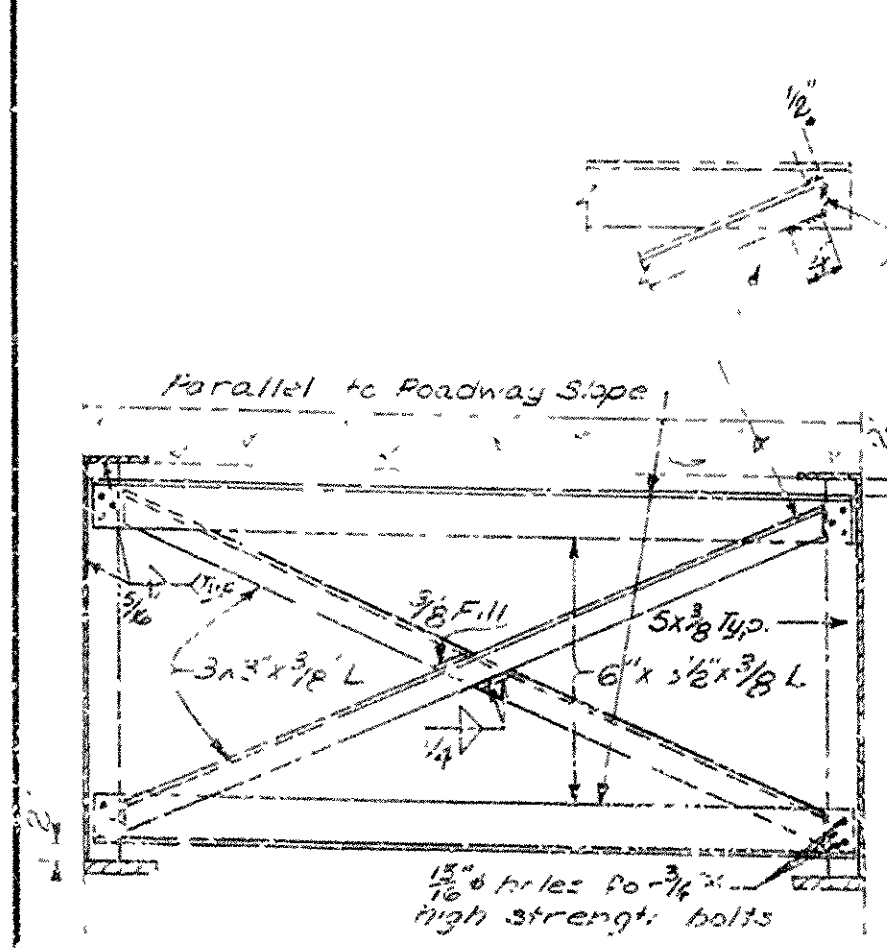
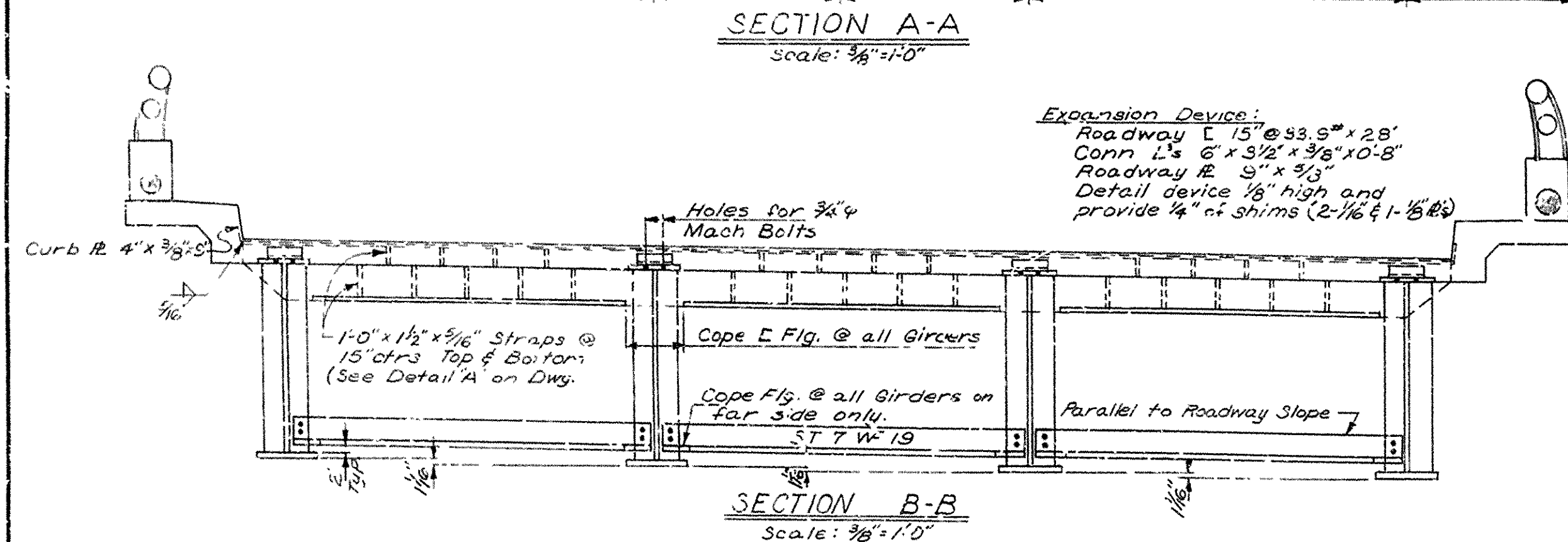
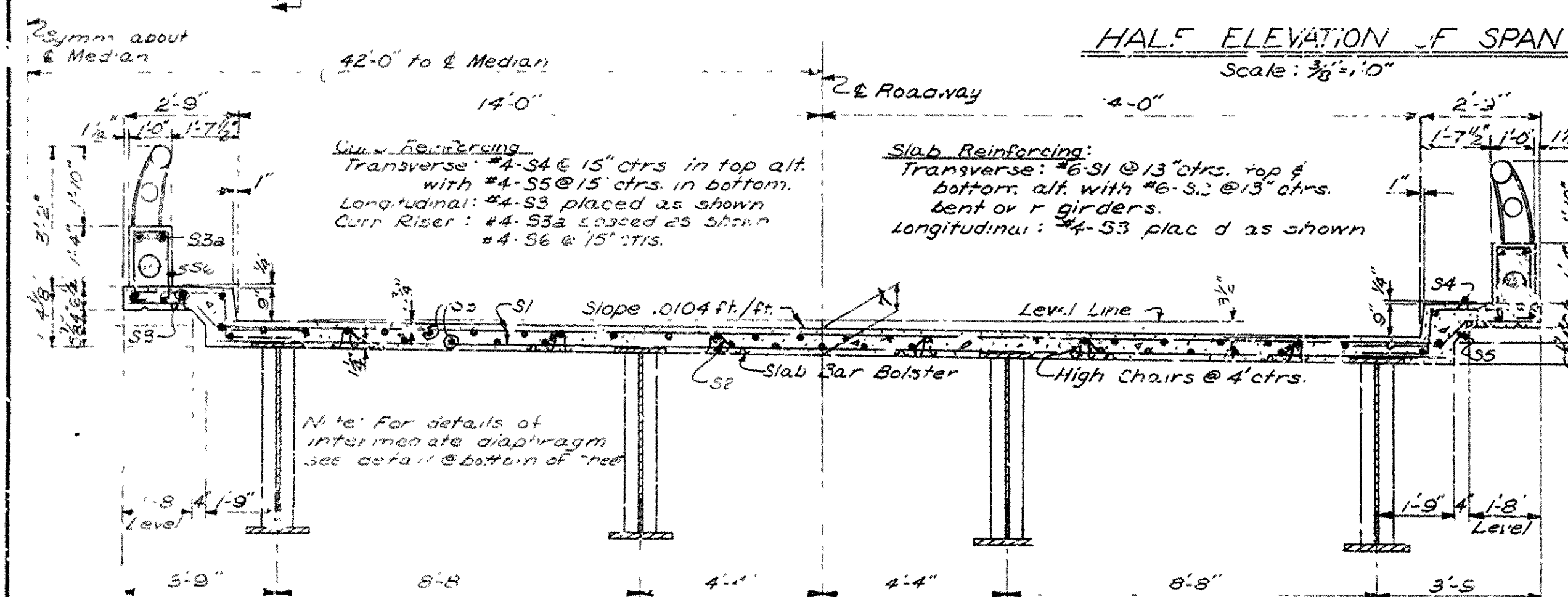
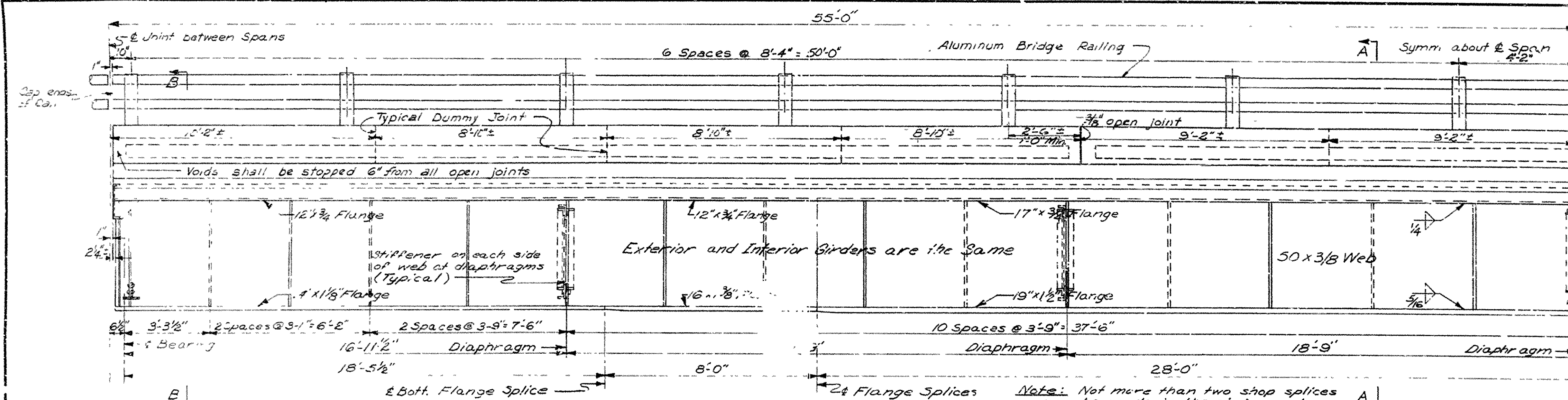
DETAILS OF PIERS
BRIDGE OVER OUACHITA RIVER
OUACHITA RIVER BRIDGE & APPROACHES

HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: L.H.T. DATE: 7-6-59
TRACED BY: DATE: 7-24-59
CHECKED BY: E.R.B. DATE: 7-24-59
BRIDGE NO. 3424 A&B DRAWING NO. 11214

L.P. Carlson
BRIDGE DESIGN ENGINEER

Do NOT DESTROY



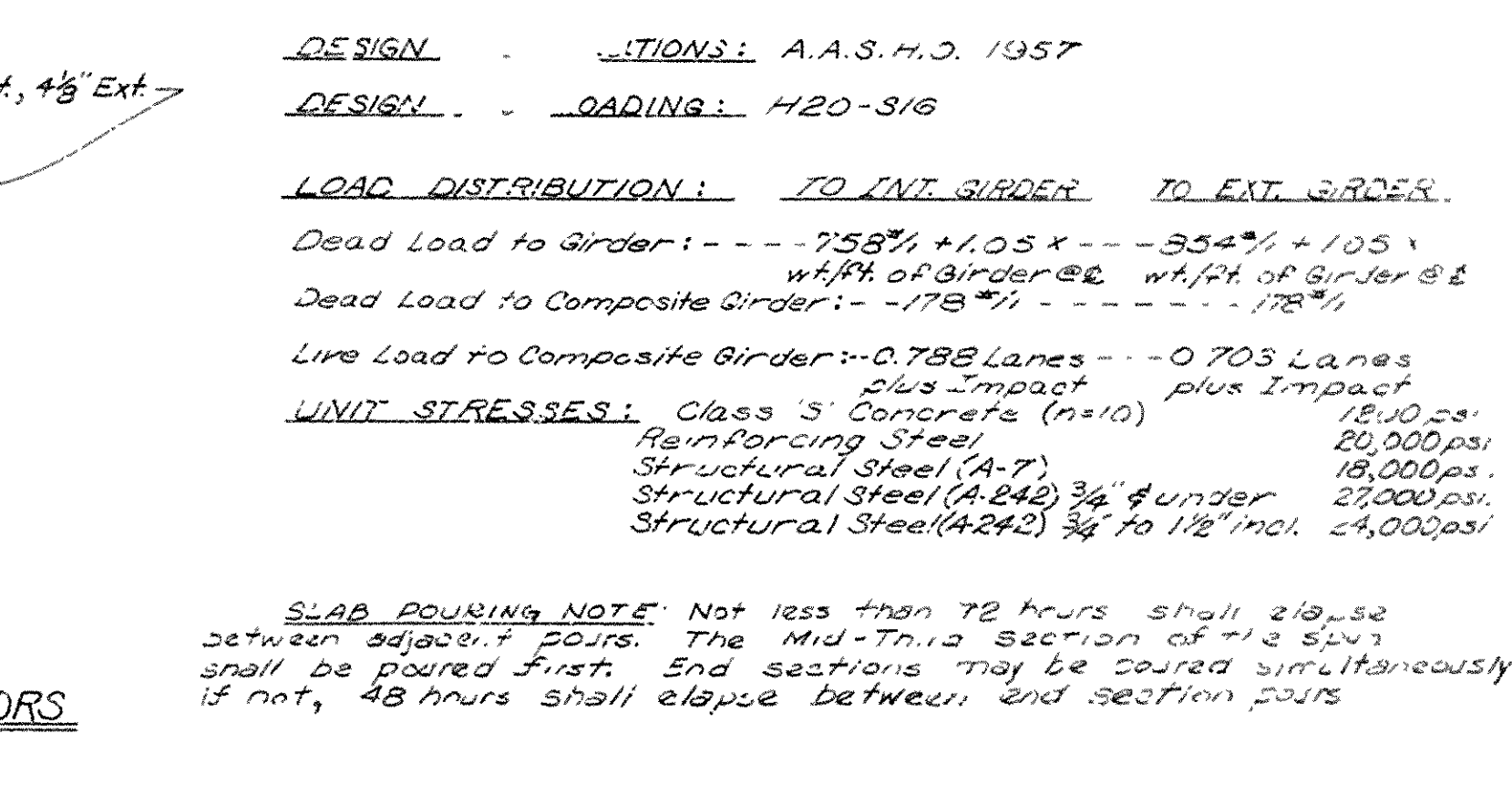
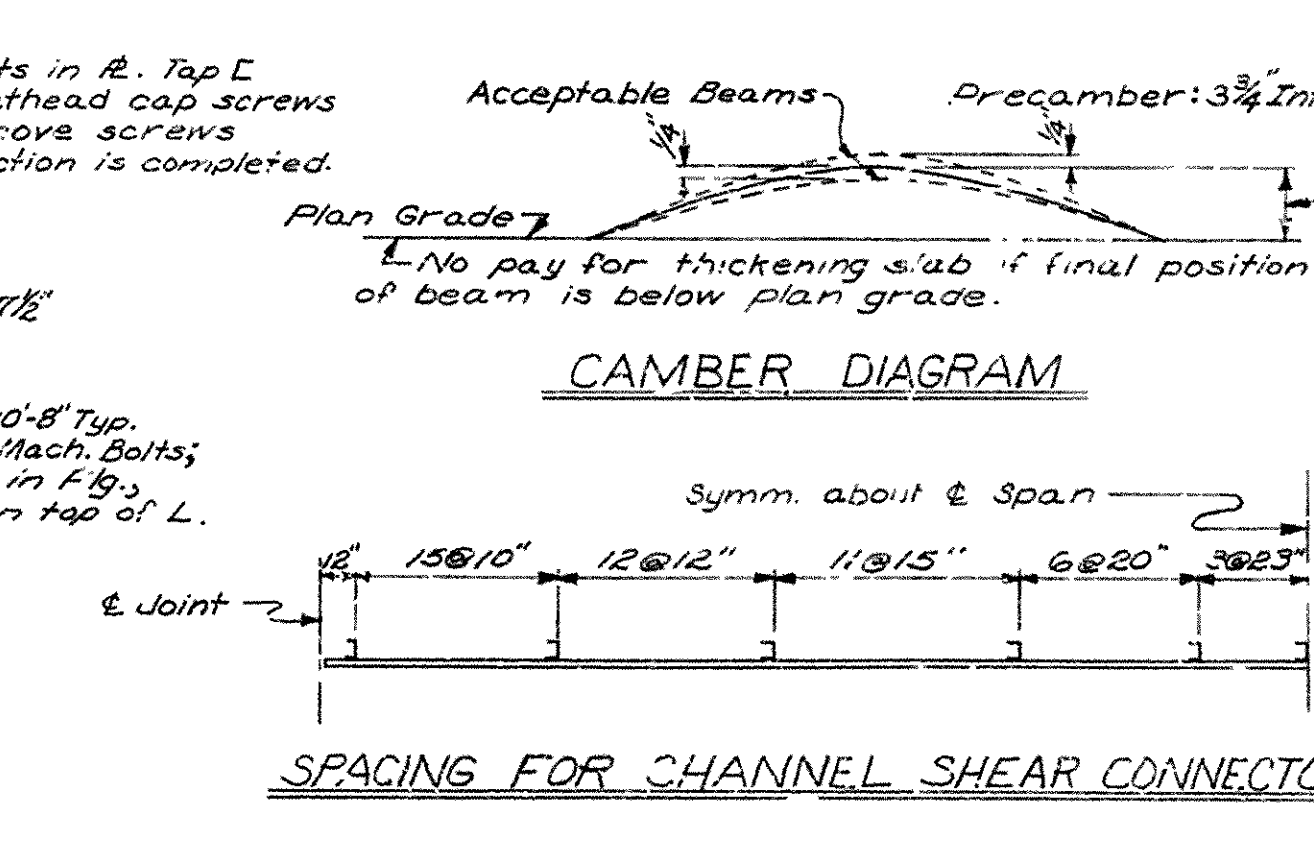
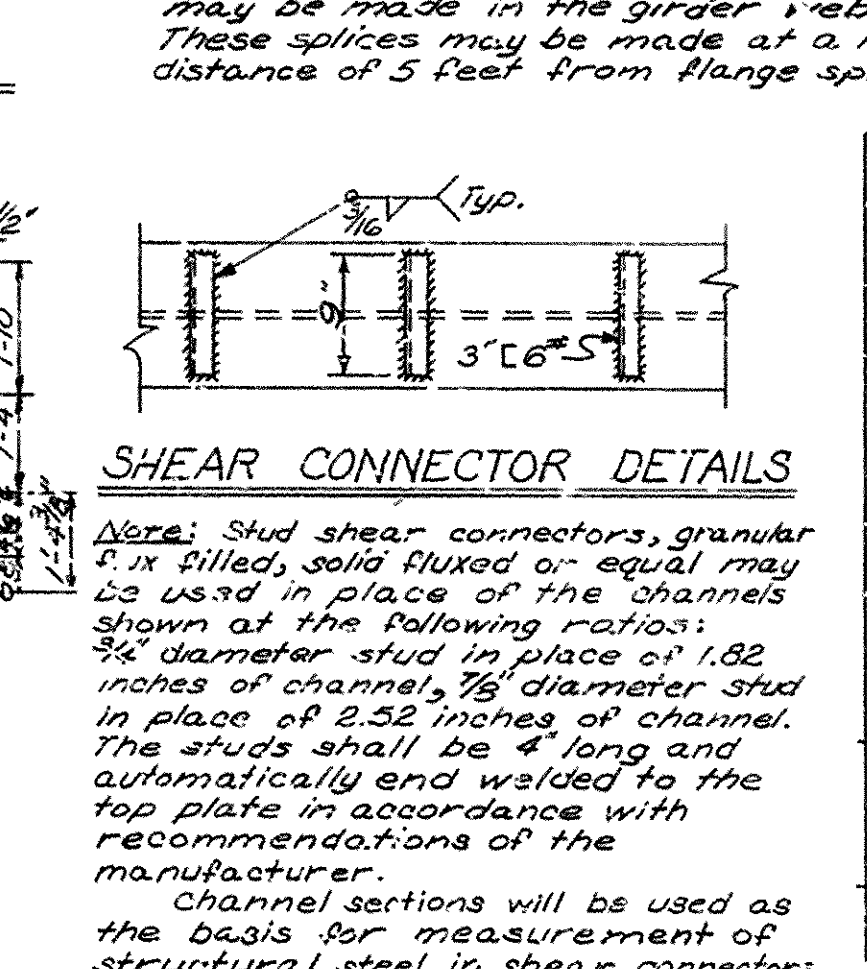
Minimum
lice.

Mark	Size	Length	No.	P.in Dia.
S1	#6	29'-2"	204	Str.
S2	#6	29'-10"	101	2 1/4"
S3	#4	37'-8"	159	Str.
S4	#4	5'-3"	176	1 1/2"
S5	#4	4'-3"	174	1 1/2"
S3a	#4	36'-1"	12	Str.
S6	#4	5'-4"	176	1 1/2"

BENDING DIAGRAM

Sym. about C.S.

Dimensions are to centers of bars.



Note: For details of shoes see drawing 11214. For typical details not shown and for additional General Notes see drawing S462.
For Layout see dwg 11205.

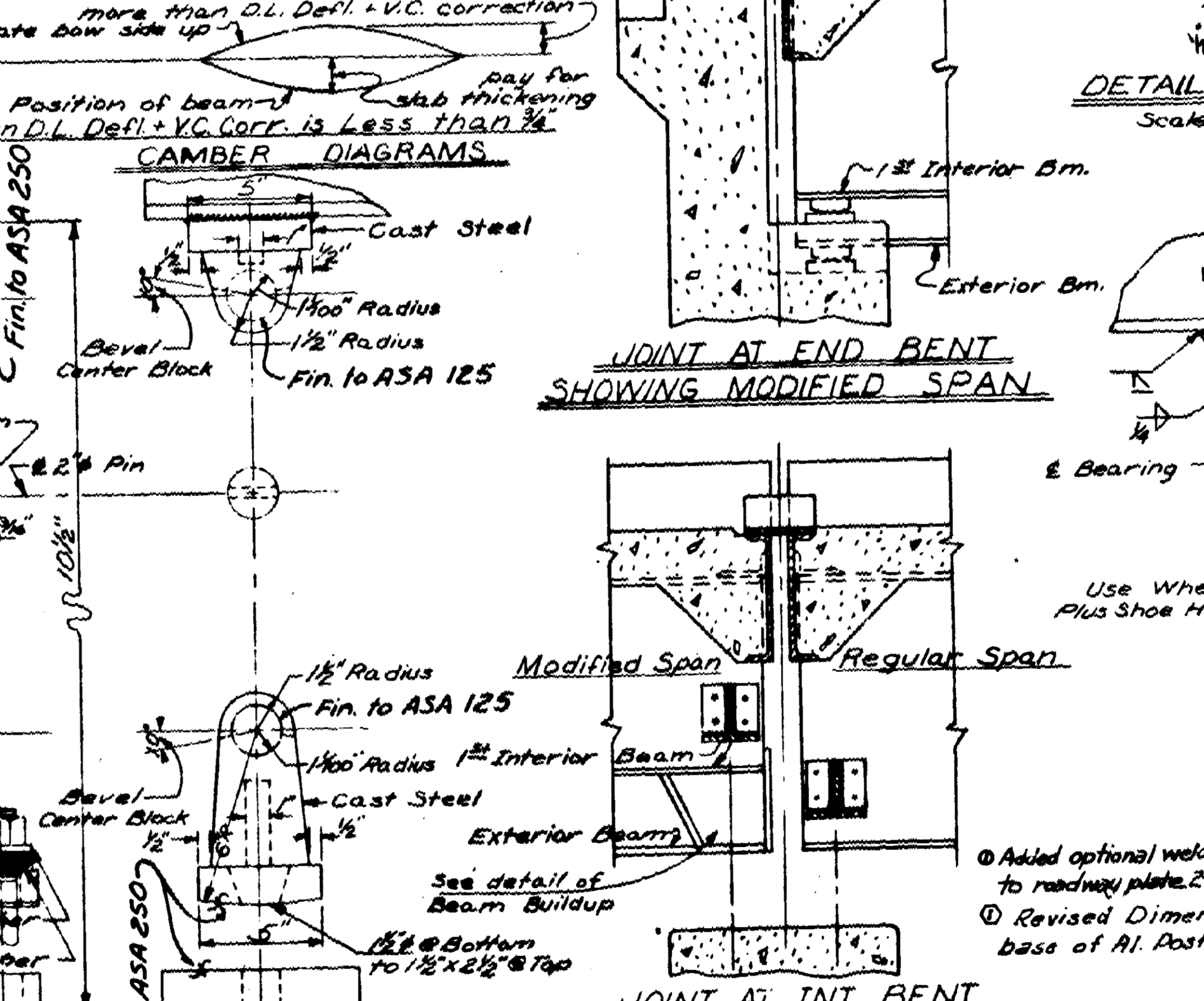
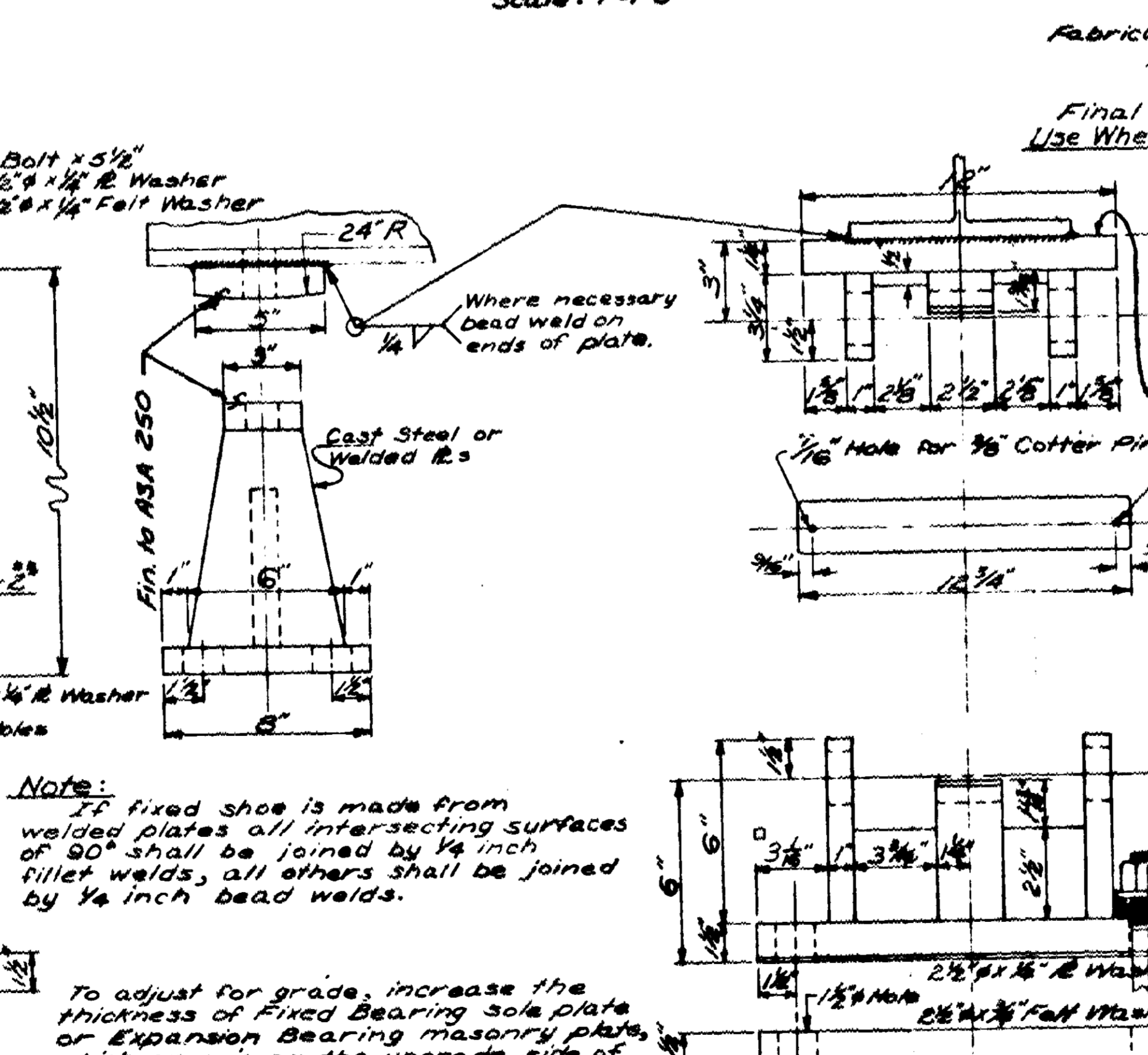
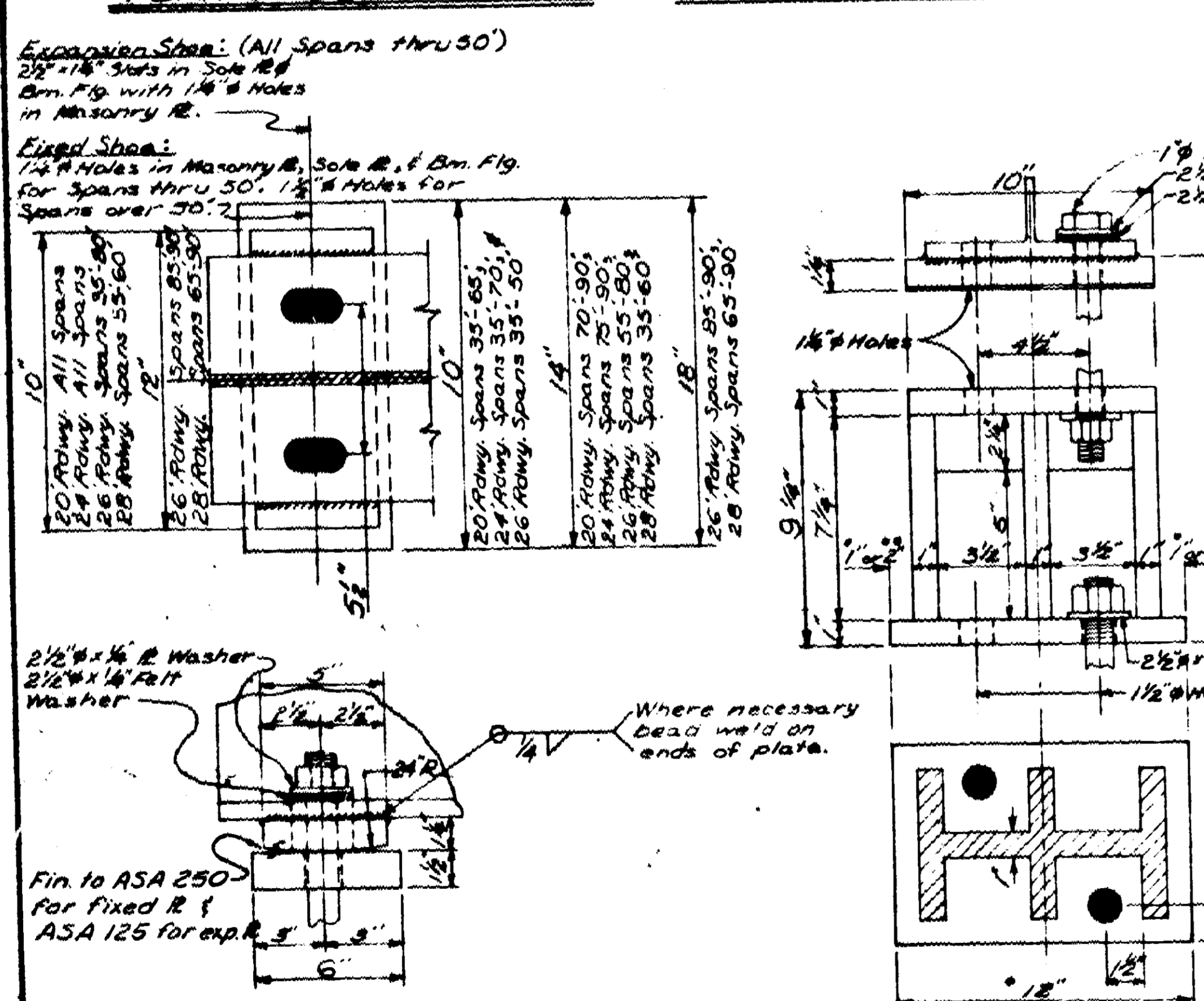
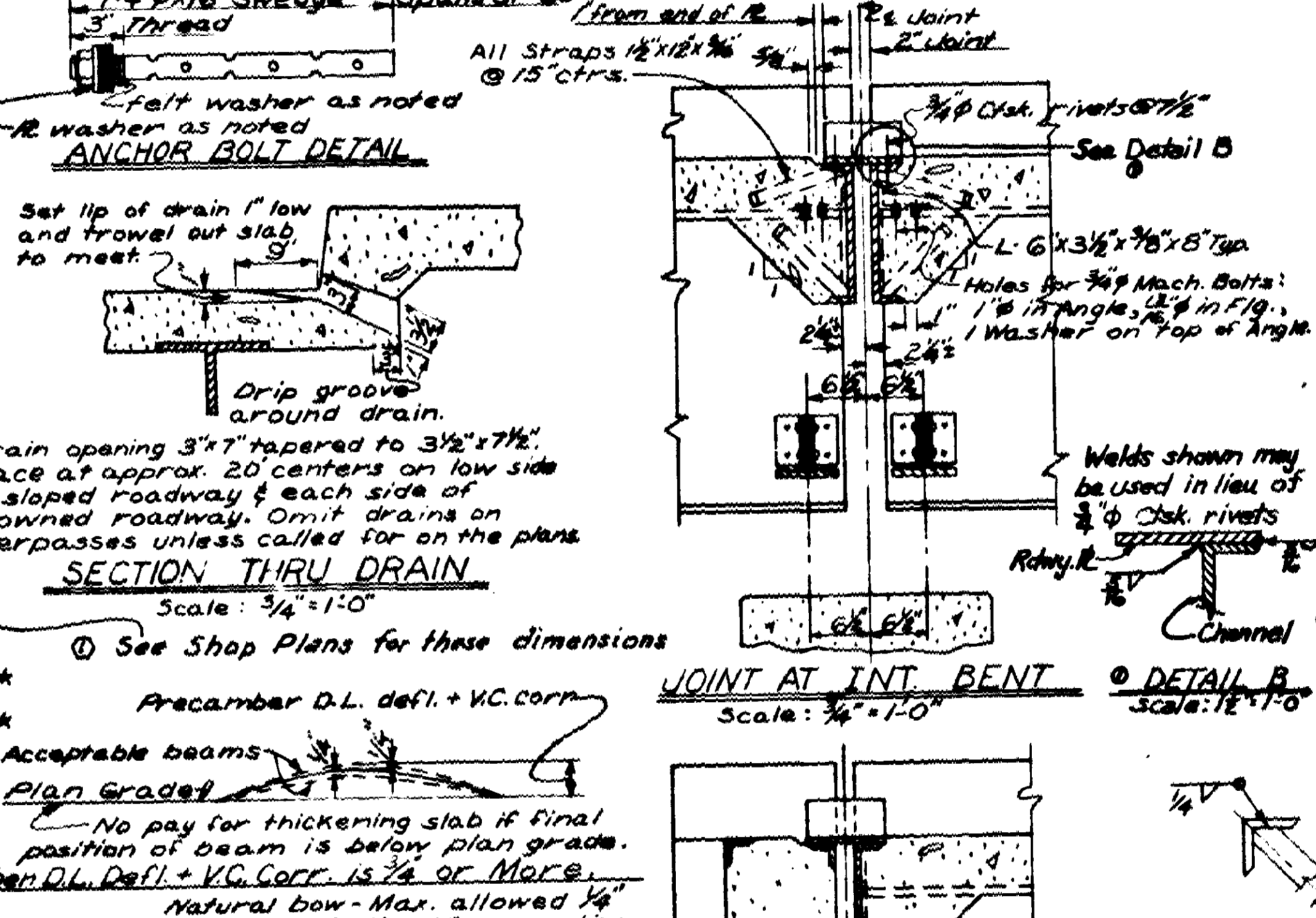
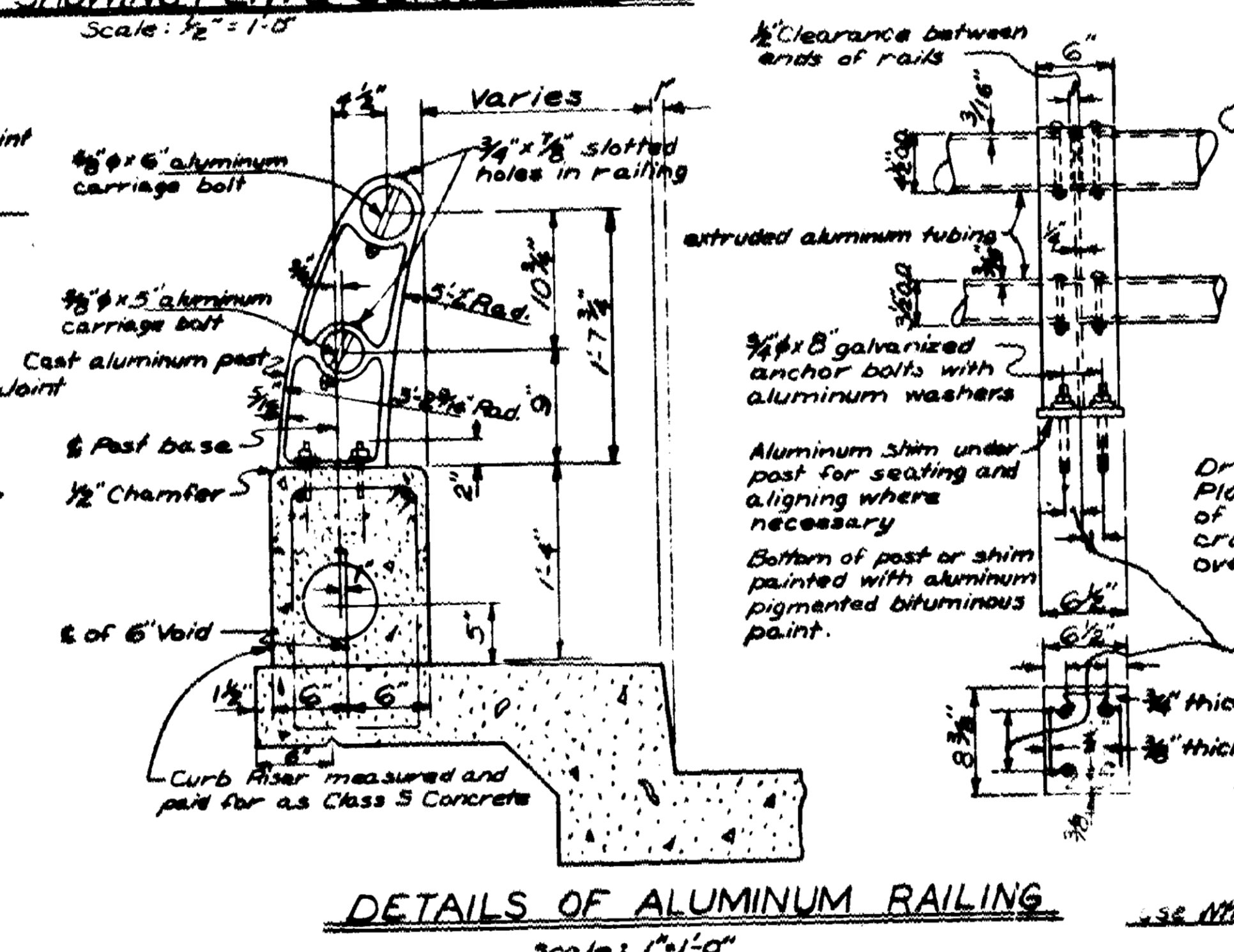
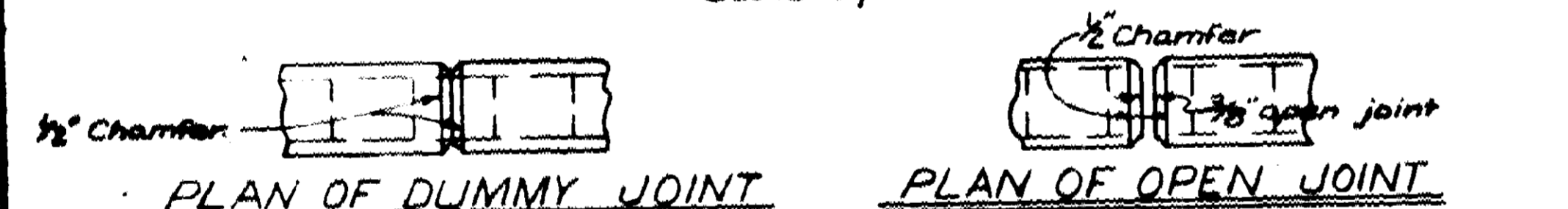
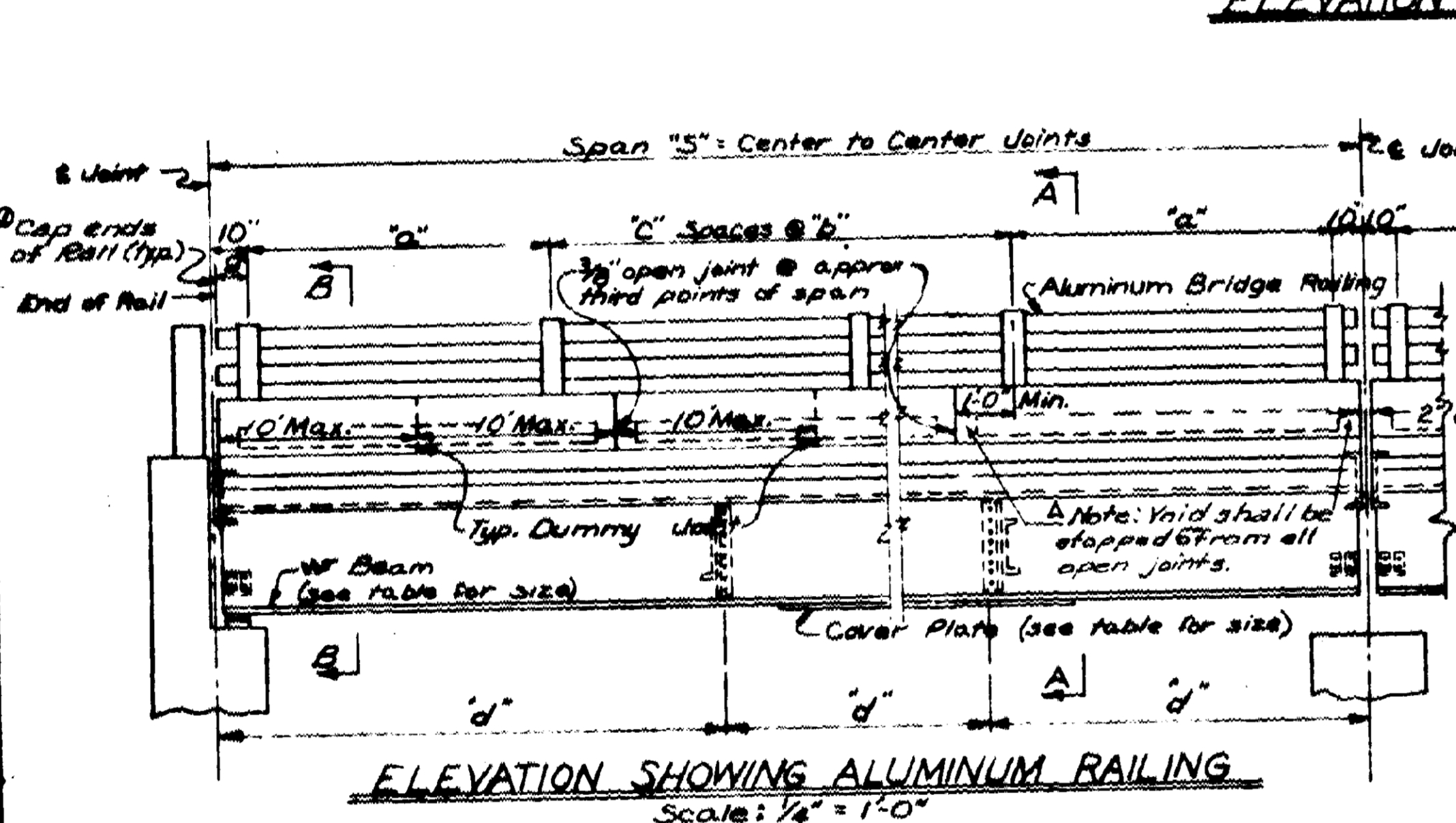
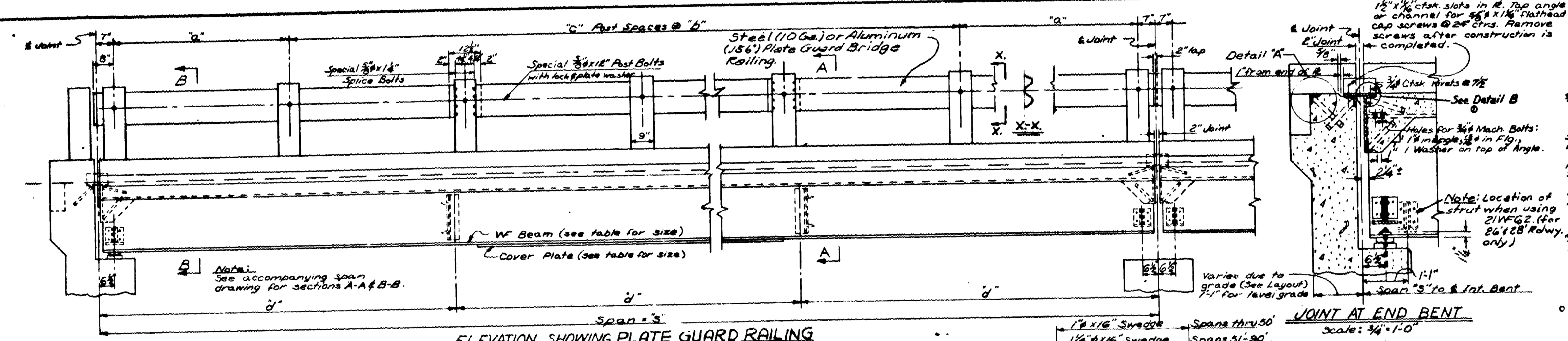
DETAILS OF
110' PLATE GIRDER SPANS
BRIDGE OVER OUACHITA RIVER
OUACHITA RIVER BRIDGE & APPROACHES
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.
DRAWN BY: S.W.P. DATE: 8/16/58
TRACED BY: _____ DATE: _____
CHECKED BY: G.R.B. DATE: 7-22-59 SCALE: As Shown

S. P. Carlson
BRIDGE ENGINEER

BRIDGE NO. 3424 A8 B DRAWING NO. 11215

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FED. AID FUND	SHEET NO.	TOTAL SHEETS
6	ARK				
JOB NO.					



GENERAL NOTES

All concrete to be Class S. All exposed corners to be chamfered unless otherwise noted.

Field connections to be riveted or bolted with high strength bolts. Rivets: 3/4" Open holes 3/4" except where noted otherwise.

Structural shapes of equal or greater strength may be substituted for shapes shown, but payment will be made on the basis of shapes shown or those actually used, whichever is less.

All welded connections to be 3/4" fillet shop welds except as noted.

All welding shall conform to the American Welding Society, Standard Specifications for Welded Highway and Railway Bridges, 5th Edition.

Shop Paint: All structural steel except surfaces in contact with concrete shall be given one coat of red lead and two coats of zinc chromate before shipment.

Field Paint: First coat - red lead tinted with lamp black. Second coat - aluminum paint.

All bearing plates and roadway expansion devices to be paid for as "Structural Steel in Beam Spans". Bearings shall be finally seated in a manner set forth in the Specifications. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans" and will not be paid for directly.

This drawing shows general features of design only. Shop drawings shall be made in accordance with the Specifications, submitted and approved secured before fabrication is begun.

Anchor bolts shall be galvanized to conform to ASTM Specification, Designation A 153.

Reinforcing steel to be deformed bars of intermediate or hard grade. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel chairs or supports sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item of "Reinforcing Steel".

Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approved secured before fabrication is begun.

All chamfers on concrete piers for rail are to be 1/4".

Shop drawings showing details of railing shall be submitted and approved secured before fabrication is begun.

The aluminum bridge railing, including posts and fasteners, shall be paid for at the unit price bid per linear foot for "Aluminum Bridge Railing".

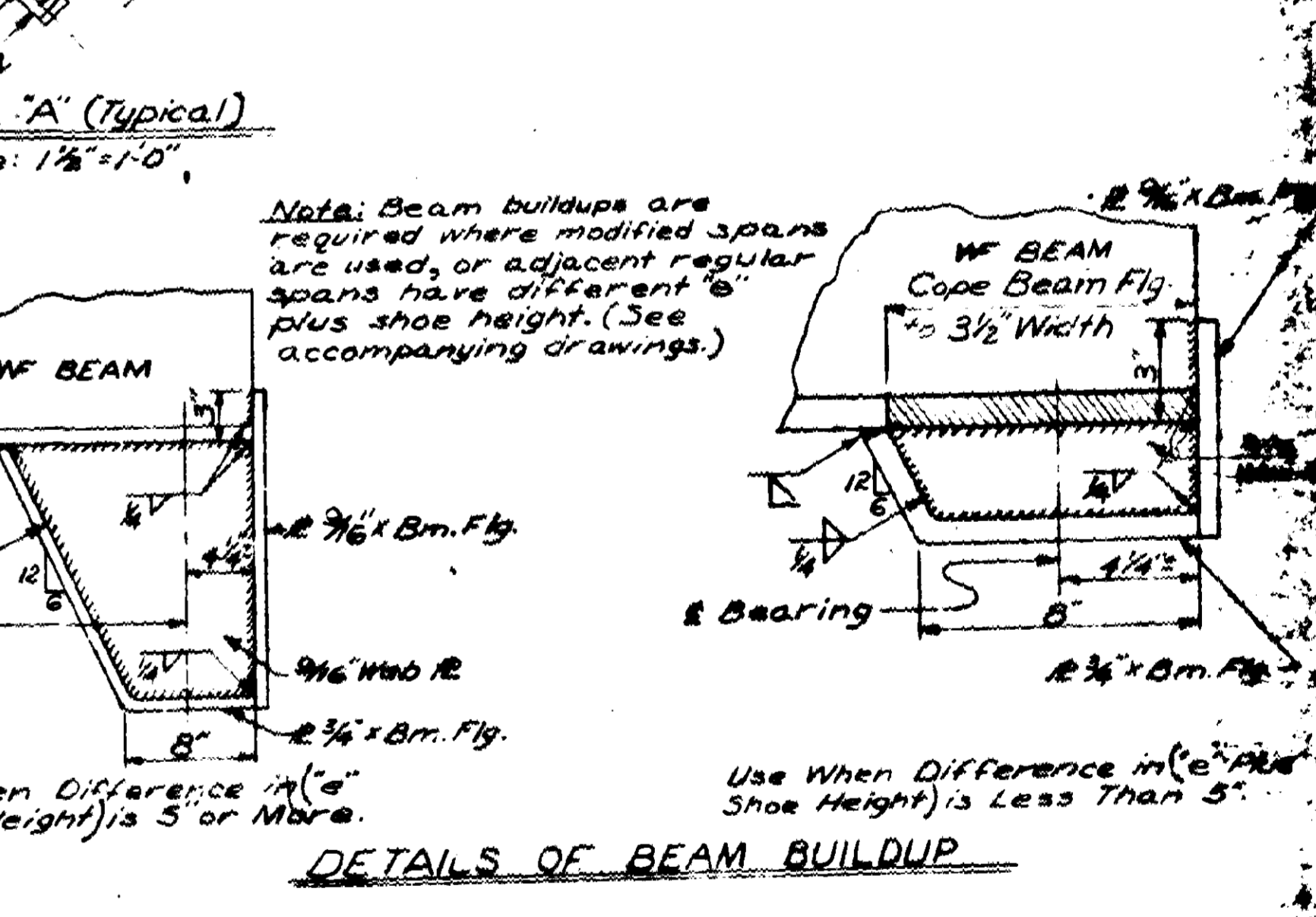
A rail connection utilizing self-screws is an acceptable alternative and may be supplied at the Contractor's option.

Flanges of cast aluminum posts shall be given a No. 220 grit belt finish after which all exposed surfaces of posts shall receive one coat of clear lacquer.

If aluminum plate guard bridge railing is used it shall be the type shown or an equivalent rigid type as approved by the Engineer.

The rail including posts and fasteners shall be paid for at the unit price bid per linear foot for "Steel or Aluminum Bridge Railing".

Concrete may be poured in one continuous operation with a vibrator extending over the whole span length, or may be poured in increments with the center one-third span length poured first. After the center section is poured not less than 12 hours shall elapse before pouring the end sections. The end sections may be poured simultaneously, if not poured simultaneously, 48 hours shall elapse between end section pours.

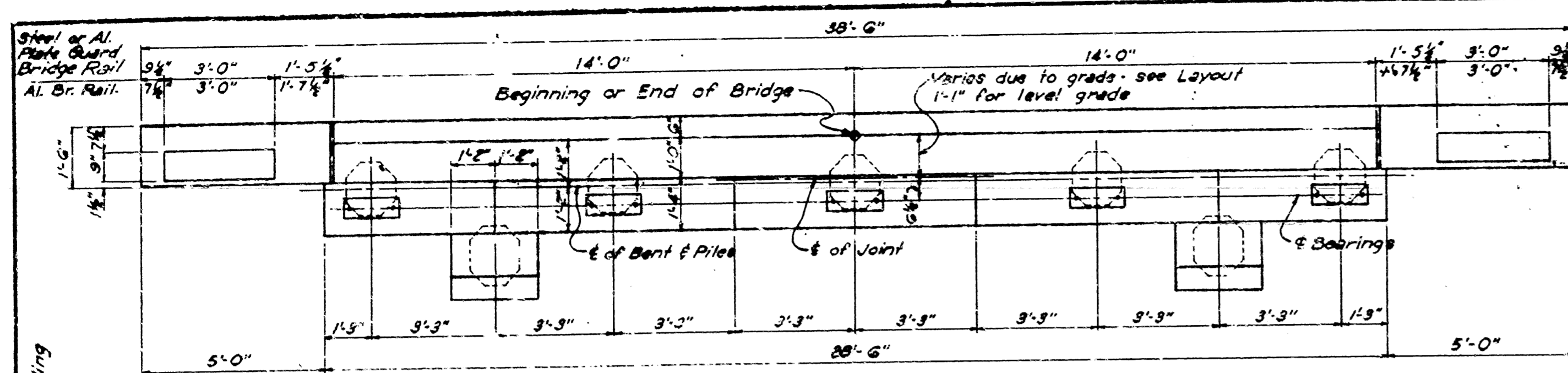


DETAILS COMMON TO STANDARD 35'-50' COMPOSITE I-BEAM SPANS

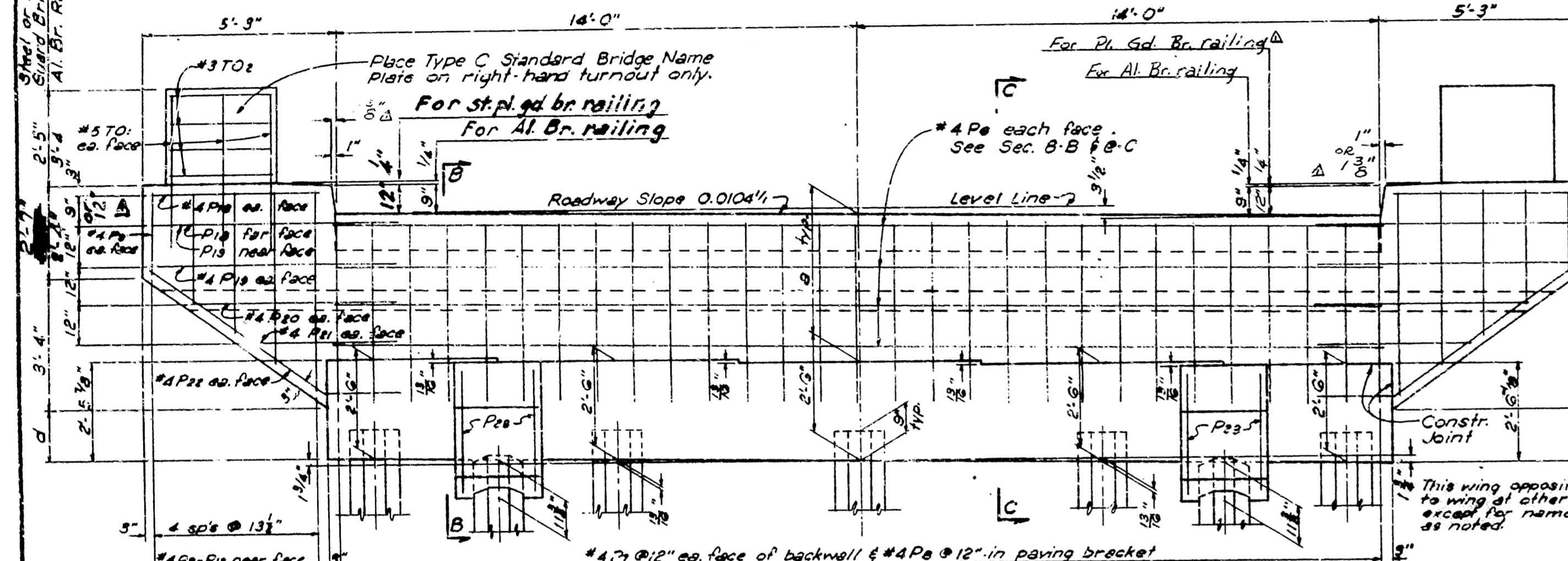
20', 24', 26', AND 28' ROADWAYS

ARIZONA STATE HIGHWAY COMMISSION

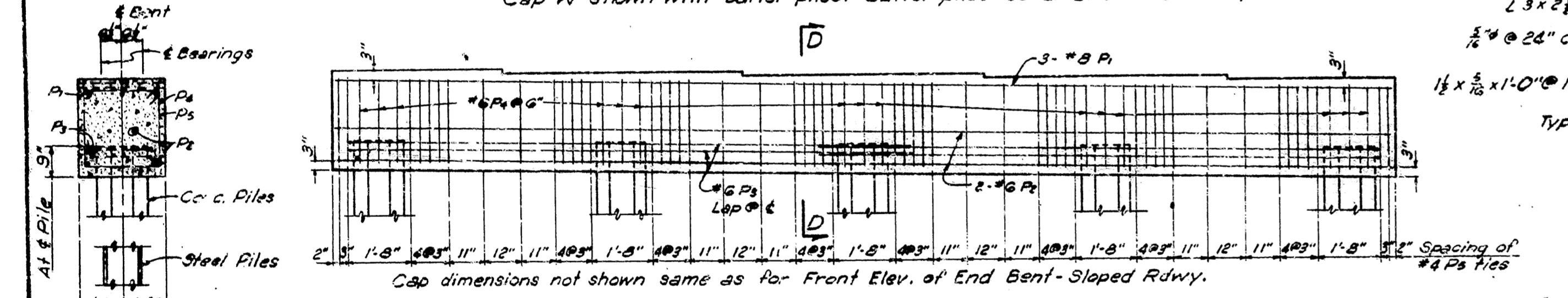
BRIDGE NO. 5462



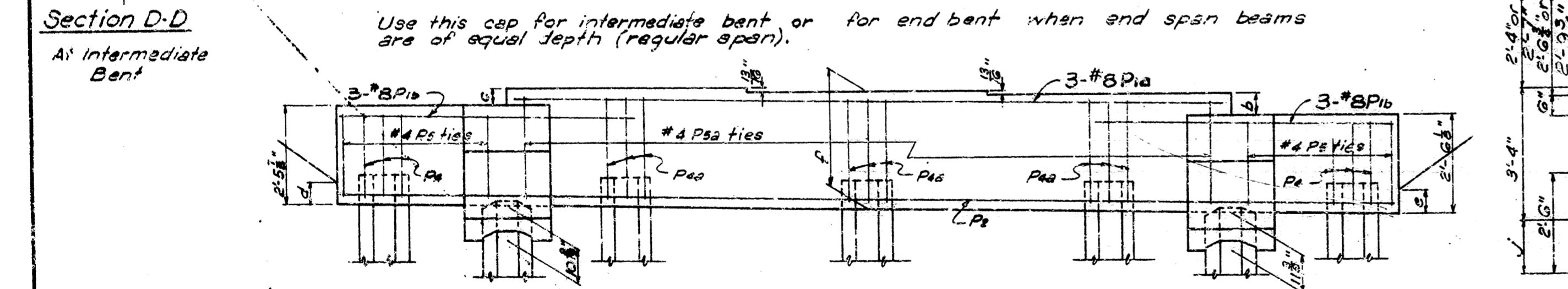
Plan of End Bent
Sloped or Crowned Roadway



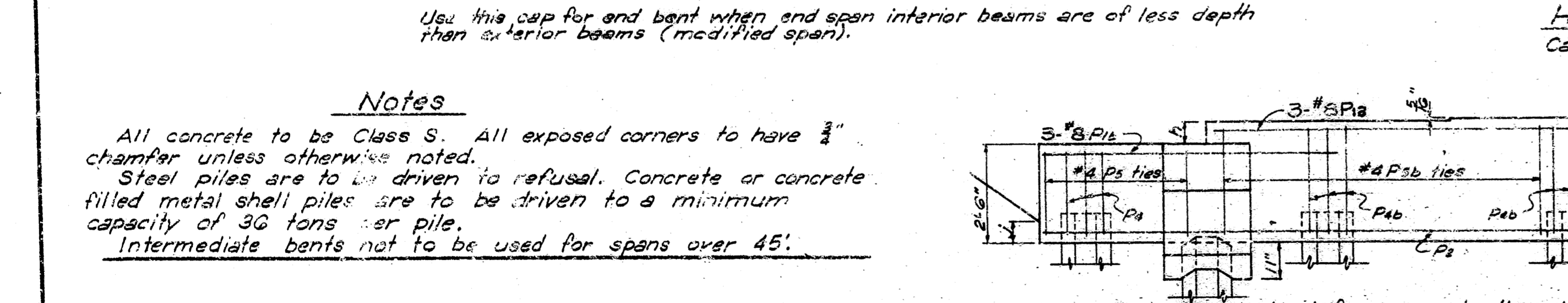
Front Elevation of End Bent - Sloped Roadway
Cap W shown with batter piles. Batter piles occur at end bents only



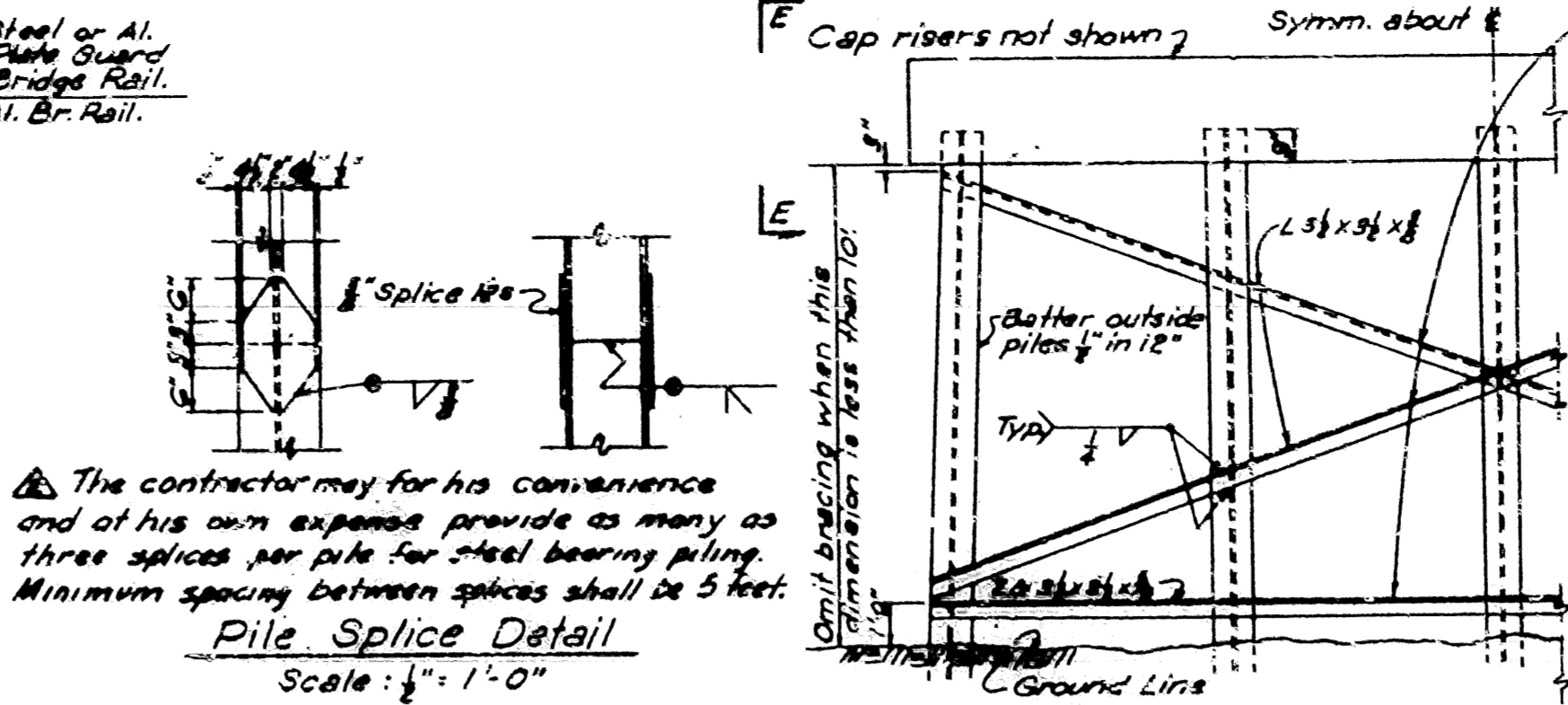
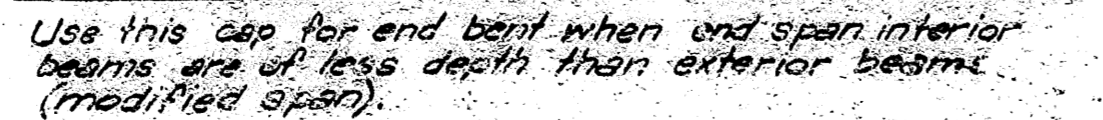
Elevation of Cap W - Sloped Roadway



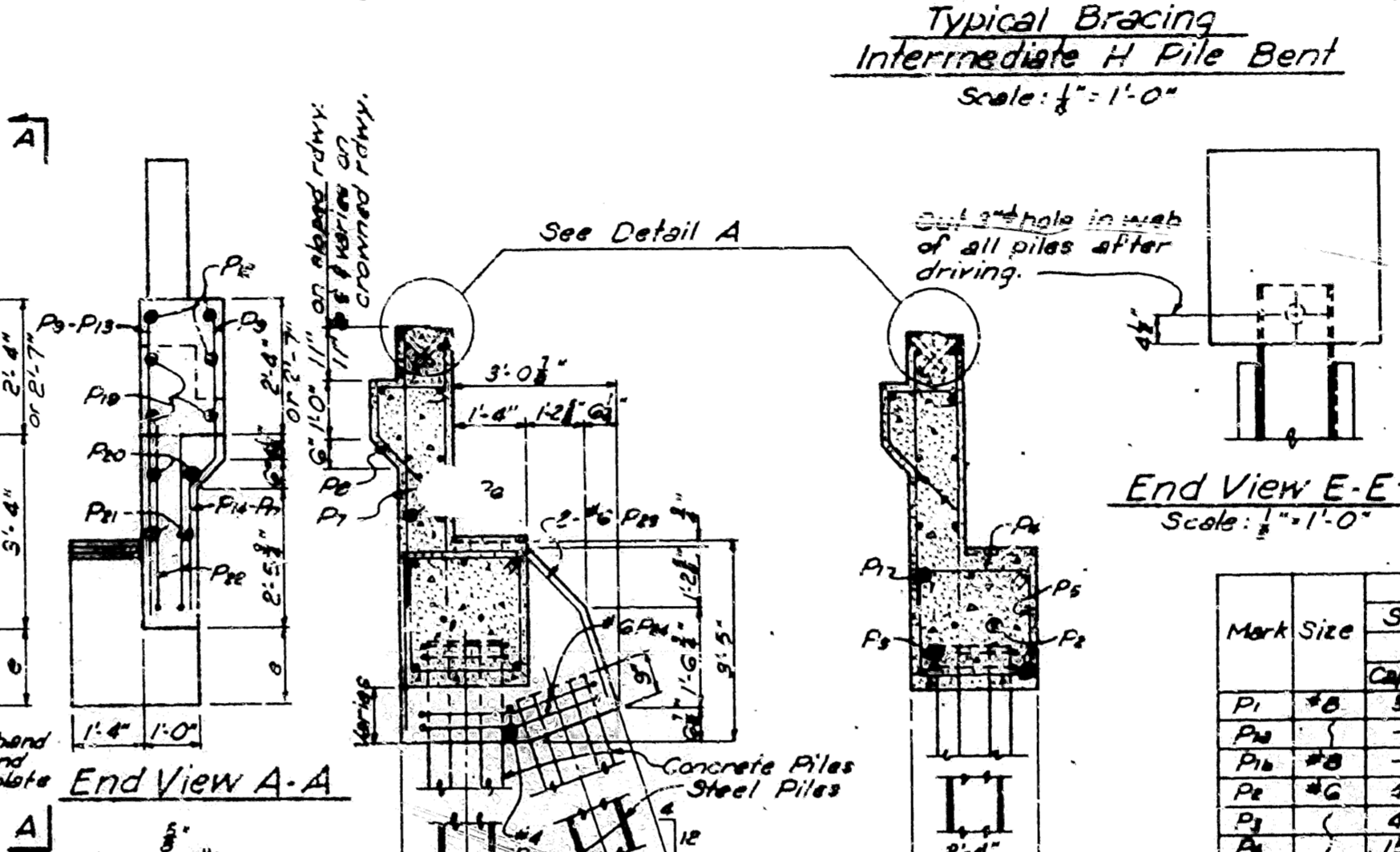
Elevation of Cap X - Sloped Roadway



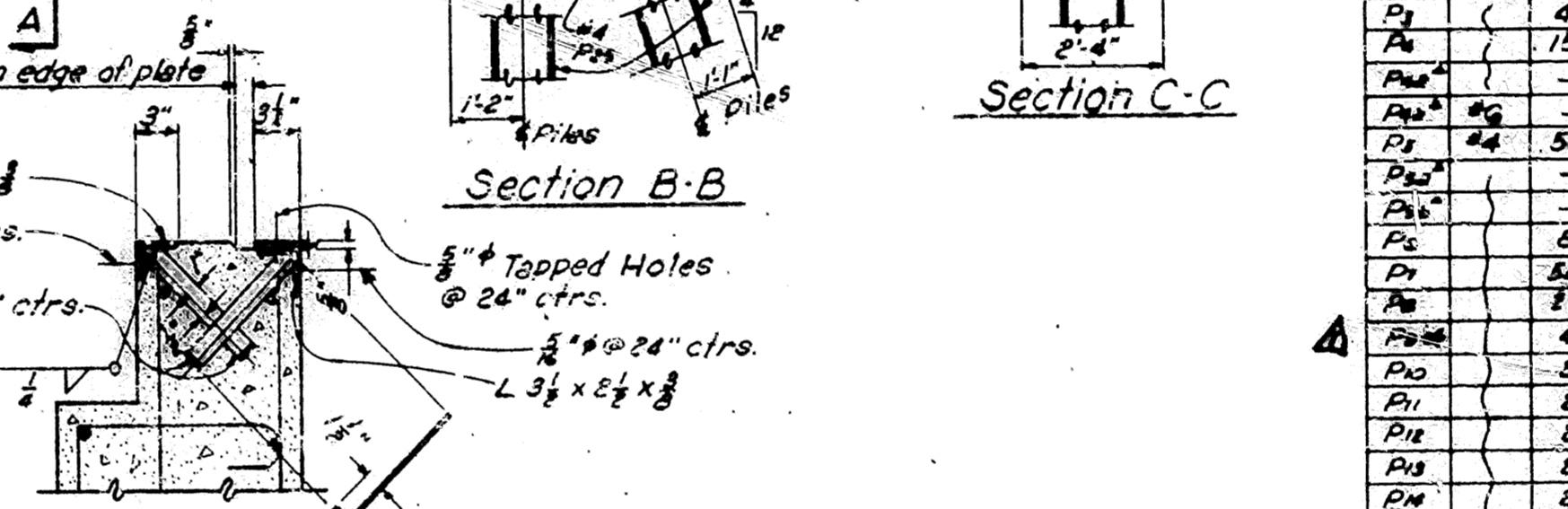
Half Elevation of Cap Z - Crowned Roadway



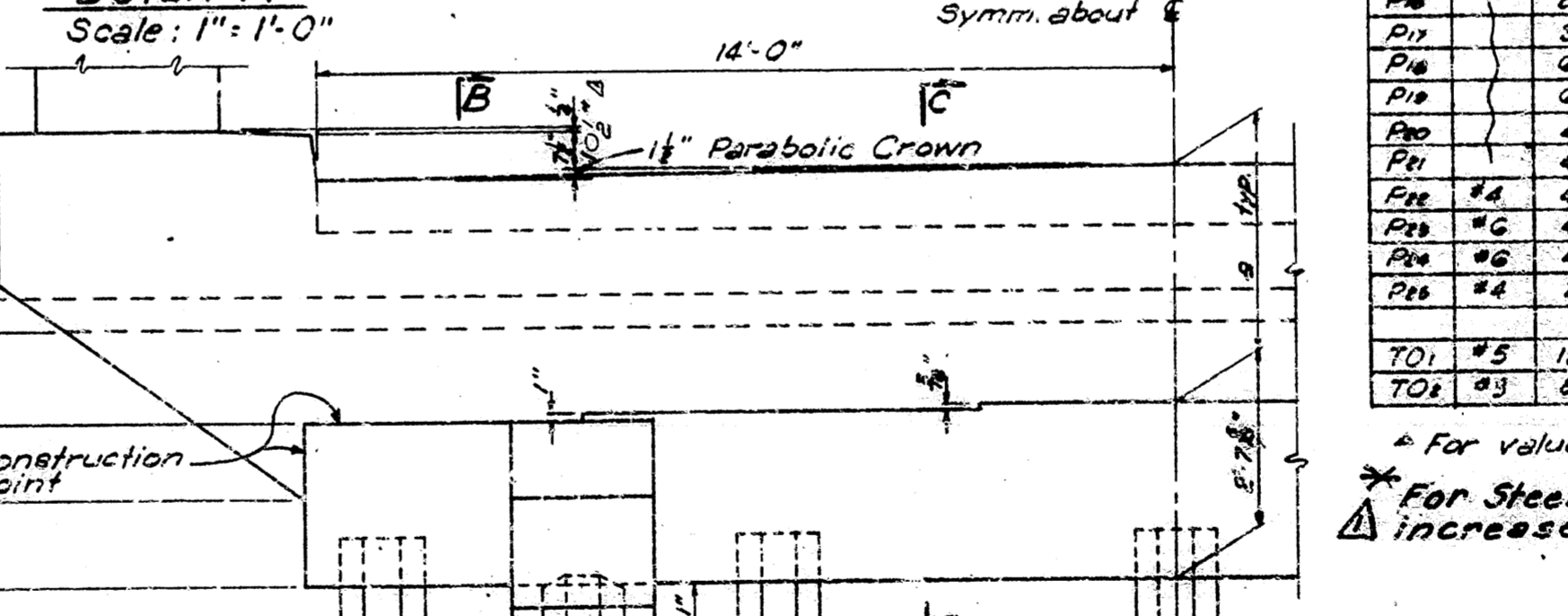
⚠ The contractor may for his convenience and at his own expense provide as many as three splices per pile for steel bearing piling. Minimum spacing between splices shall be 5 feet.



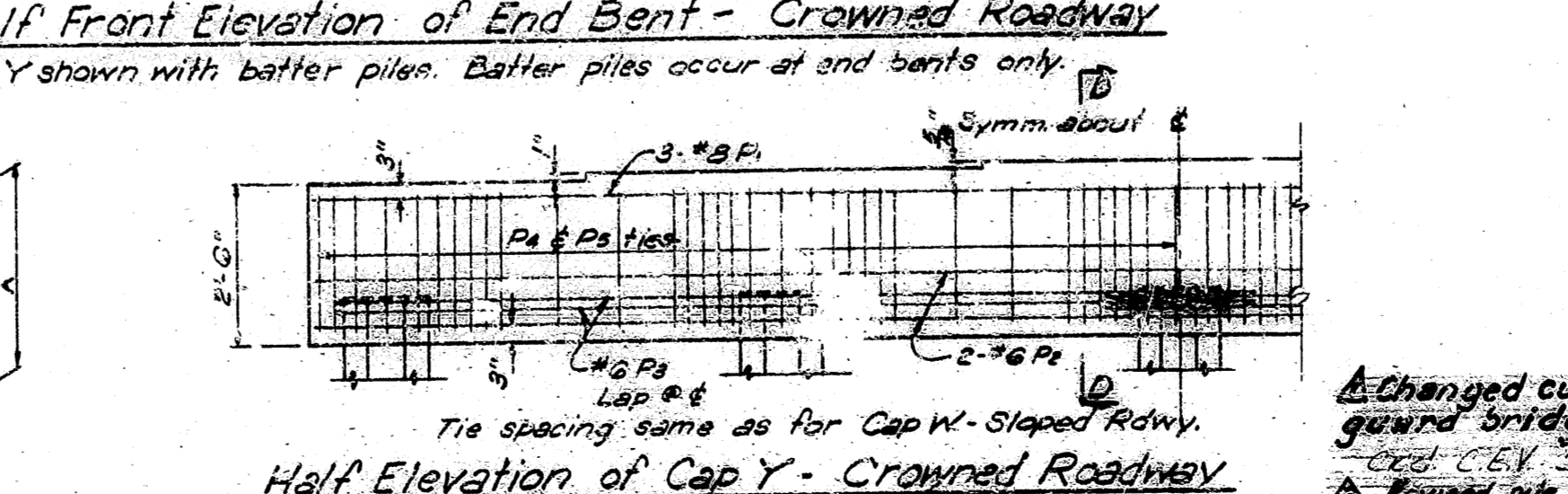
Note: End View A-A



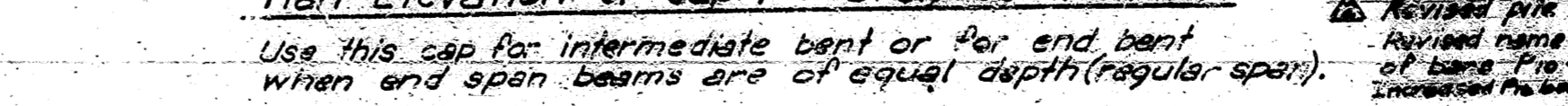
Detail A



For details not shown see Elev. End Bent - Sloped Roadway.



Half Elevation of Cap Y - Crowned Road



when end span beams are of equal depth (fig)

[illegible]

Scale: 1"=1'-0"

Bar List

Mark	Size	Number Bars Bent						Length	A	B	Min. Dia.
		Sloped Rwdy.			Crowned Rwdy.						
		End	Int.	End	Int.	End	Int.				
		CapW	CapX	CapY	CapZ	CapY	CapZ				
P1	#8	—	—	3	—	—	—	28'-2"			Str.
P1	#8	—	9	—	—	9	—	13'-2"			
P1	#8	—	6	—	—	6	—	8'-0"			
P1	#8	4	4	4	4	4	4	28'-8"			Str.
P1	#8	4	4	4	4	4	4	3'-11"	15'-0"	8'-1"	Str.
P1	#8	15	6	15	15	6	15	6'-11"	1'-11"	8'-11"	Str.
P1	#8	—	9	—	—	—	—	6'-11"	28'-2"	8'-11"	Str.
P1	#8	—	—	—	—	9	—	6'-11"	28'-2"	8'-11"	Str.
P1	#8	52	16	52	52	16	52	8'-3"	8'-3"	1'-11"	Str.
P1	#8	—	36	—	—	36	—	8'-3"	28'-2"	8'-11"	Str.
P1	#8	3	3	—	3	3	—	28'-0"	1'-11"	8'-11"	Str.
P1	#8	50	20	—	50	20	—	4'-7"			Str.
P1	#8	23	29	—	23	29	—	4'-0"			Str.
P1	#8	4	4	—	4	4	—	2'-0"			Str.
P1	#8	2	2	—	2	2	—	2'-9"			Str.
P1	#8	2	2	—	2	2	—	3'-6"			Str.
P1	#8	2	2	—	2	2	—	4'-9"			Str.
P1	#8	2	2	—	2	2	—	5'-0"			Str.
P1	#8	2	2	—	2	2	—	3'-11"	2'-6"	1'-11"	Str.
P1	#8	2	2	—	2	2	—	3'-10"	0'-9"		Str.
P1	#8	2	2	—	2	2	—	4'-7"	1'-6"		Str.
P1	#8	2	2	—	2	2	—	5'-4"	2'-6"	2'-9"	Str.
P1	#8	3	3	—	3	3	—	4'-11"			Str.
P1	#8	3	3	—	3	3	—	6'-9"			Str.
P1	#8	4	4	—	4	4	—	5'-9"			Str.
P1	#8	4	4	—	4	4	—	4'-2"			Str.
P1	#8	4	4	—	4	4	—	7'-9"			Str.
P1	#8	4	4	—	4	4	—	6'-0"			Str.
P1	#8	4	4	—	4	4	—	11'-4"			Str.
P1	#8	2	2	—	2	2	—	5'-1"	0'-5"	1'-10"	Str.

Bending Diagram

Dimensions are to ctrs. of bars.

* For Steel Plate Guard Bridge Railing add 3" to lengths of bars P9-P17 making Δ increase of P14 to P17 in dimension A.

DETAILS OF STANDARD PILE BENTS
FOR 35' TO 70' COMPOSITE I-BEAM SPANS
28' CLEAR ROADWAY 1'-6" OR 1'-7½" CURBS

Roadway: $1\frac{1}{2}$ " Parabolic Crown or 0.0104 % Slope

NEW
25-61 ARKANSAS STATE HIGHWAY COMMISSION

62
LITTLE ROCK, ARK.
DRAWN BY: R.L.C. DATE: 5-28-59 3 1/2" x 11 1/2"

8-72-60
 TRACED BY: _____ DATE: _____
 CHECKED BY: 627 DATE: 9 JUN 59
 SCALE: 0 - 10
and as noted

BRIDGE NO. DRAWING NO. 5477A