	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	KANSAS			1	8

Bridge Only

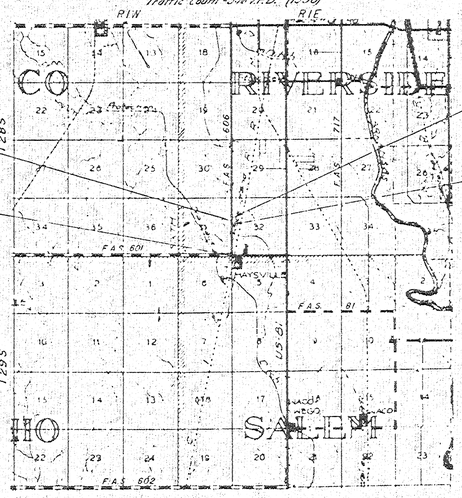
SEDGWICK COUNTY HIGHWAY DEPARTMENT



INDEX OF SHEETS

SHEET NO.	TITLE SHEET
" 2	Topography
" 3	Plan & Profile
" 4	Construction Layout
" 5	General Details
" 6	Auxiliary Details
" 7	Reinforcing Detail
" 8	Piling Detail

Traffic Count 536 I.P.D. (1950)



Note: See Letter DH 7 Jan, 1932 concerning County rip-rap (Parcel A) F.1a

CONVENTIONAL SIGNS

COUNTY LINE
SECTION LINE
WIRE FENCE
HEDGE ROW
RAILROADS
SURVEY LINE
RIGHT OF WAY
TELEPHONE POLE
POWER POLE
TRAVELED WAY

NET LENGTH OF PROJECT	532.75	FT.	.10 MILES
NET LENGTH OF BRIDGES	532.75	FT.	.10 MILES
NET LENGTH OF ROAD		FT.	MILES
EXCEPTIONS		FT.	MILES
ADDITONS		FT.	MILES
GROSS LENGTH OF PROJECT	532.75	FT.	.10 MILES

PLANS PREPARED BY

Merle E. Schrub

County Design Engineer

DATE

APPROVED

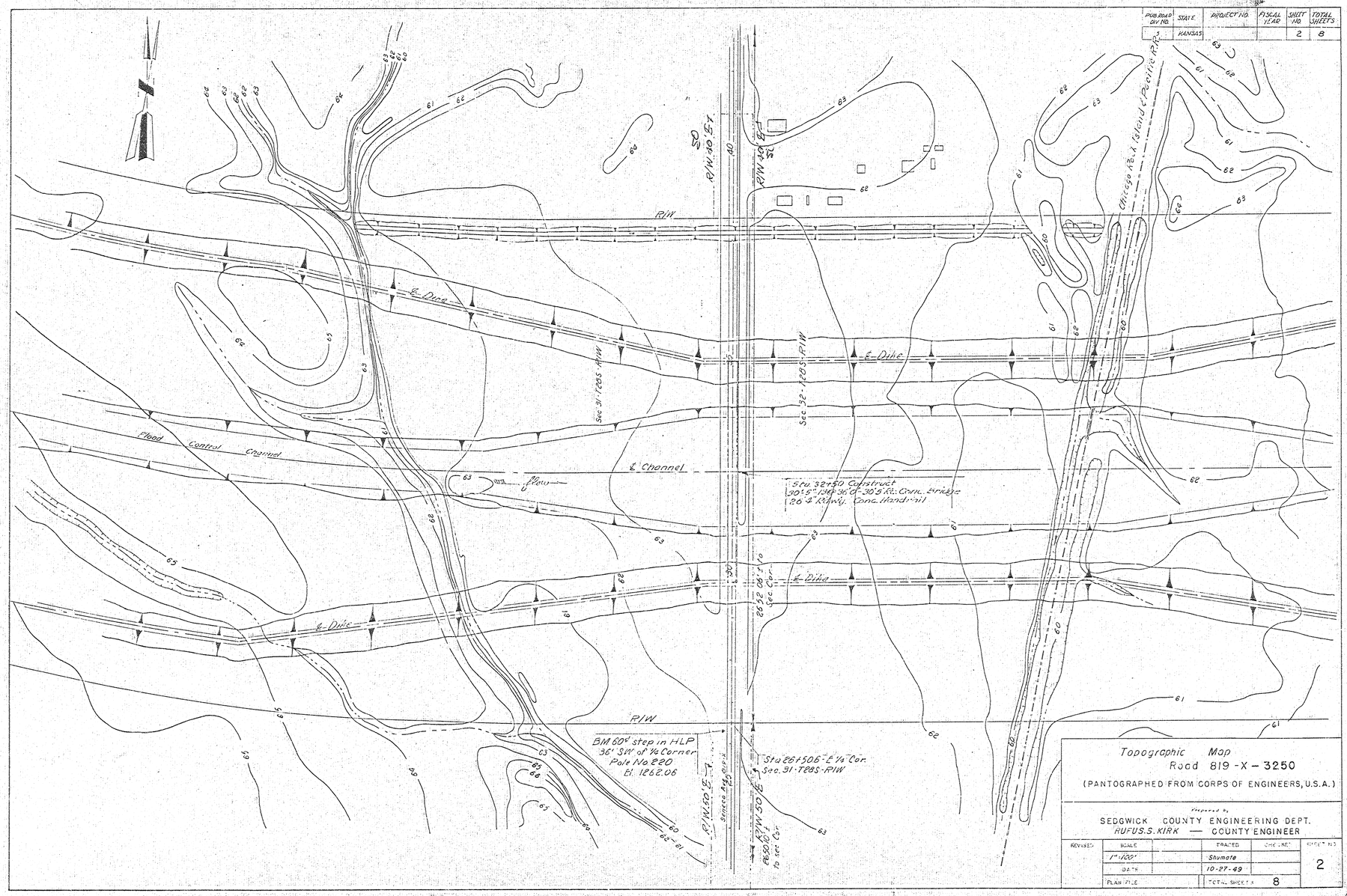
COUNTY ENGINEER

DATE

APPROVED DATE

APPROVED DATE

PUB ROAD DIV NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	KANSAS			2	8



Topographic Map
Road 819-X-3250
(PANTOGRAPHED FROM CORPS OF ENGINEERS, U.S.A.)

Prepared by
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	TRACED	CHECKED	SHEET NO.
	1"=100'	Shumate		2
	DATE	10-27-49		
	PLAN FILE	TOTAL SHEETS	8	

PLAN	DRAWN	TRACED	CHECKED
	PLOTTED		
	HORIZ. SCALE	VERT. SCALE	NO. OF MAPS CHECKED

PROFILE	DRAWN	TRACED	CHECKED
	PLOTTED		
	HORIZ. SCALE	VERT. SCALE	NO. OF MAPS CHECKED

FEDERAL DIV. No.	STATE	PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
5	KANSAS		1960	3	8

Sec. 31 - 28S - R1E

Note: Grading & Surfacing is to be done by Sedgwick County and is not to be considered as a part of the project.

4'x4'x36" R.C.B.C.

836

ALFALFA

WHEAT

PASTURE

WHEAT

+15 Field Ent.

+39 Field Ent. P.I. 5°30' Rt. C.

R/W 50' E.

0+00 (Iron pin)
23.6' S.W. to E. post of R.C.B.C.
37.9' N.W. " W. " " " "
38.8' S.E. " 3" in blrd. Cwd.
38.5' S.W. " " " guy pole
42.8' N.E. " cor. fence post

NCAD

30"x36" C.M.P.

Fruit Trees 30" ±.

YARD

16"x20" C.M.P.

GENERAL NOTES: All easements, channel changes, borrow pit locations & R/W for construction of this project to be furnished by Sedgwick County.

All encroachments, such as fences, telegraph, telephone and power lines, shall be moved beyond the limits of construction by owners or Sedgwick County.

All Stop, Curve & Directional signs to be installed by Sedgwick County.

WHEAT

Sec. 32 - 28S - R1E

+60 Rise Ent.

YARD

YARD

Grapes

+75 Rise Ent. 15°20' C.M.P.

TURNIPS

+90 3-18"x4'x30' W.P.B. Remove & Construct 32'x18' C.T.C.

ALFALFA

R/W 50' E.

+60 Rise Ent. 15°20' C.M.P.

B.M. No. 1 On headwall of R.C.B.B. 13'S & 37' W. of Section corner Elev. 1263.00

B.M. No. 2 60d in H.L.P. No. 220 36' S.W. of 1/4 corner El. 1262.06

In the interest of public safety, all gas, gasoline, oil and water lines shall be moved beyond the limits of the roadbed unless special provision for their retention has been noted. Operational devices for any and all lines, which are permitted to remain in place, shall be adjusted to conform with lines and grade of proposed improvement.

SCALES

Plan	Profile
Long. 1" = 100'	Horiz. 1" = 100'
Lat. 1" = 100'	Vert. 1" = 10'

0 40 80 120 200

400' V.C.

P.C. 16.50 = 76.25

P.I. 76.25 = 63.50

P.T. 63.50

200'

0.0%

+2.39%

-0.15%

1275

1265

1255

E 1263.50

12"ø Dish S.C.&L.

E6460 E6477 E6587 E6701 E6908 E7147 E7396 E7665 E7625

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

Sec. 31 - 28S - R1E

26+50.6 (2"x2" Hub)
43.3' E. to 60d in hdg. tree
35.9' W. " 3" in blrd. hdg. post
36.0' S.W. to 60d in H.L.P. 220
C.L. of hdg. E.

Crowded Rock & Heavy Riprap to be Installed by Sedgwick County

WHEAT

Sta. 32+50 Construct 30'S-15 @ 36'-30'S" R.C.B.

R/W 40'

+69 Rise Ent. 18"x20' C.M.P.

GARDEN

+89 Rise Ent. 18"x20' C.M.P.

BARN YARD

HOG PEN

CORN STUBBLE

53+05.4 (Iron pin)
39.0' N.W. to steel cor. post
30.0' S.W. " cor. fence post
39.0' E. to 3" in T.P.
25.5' E. " line of T.Pts. 11, 22.0' S. " " " W.

E.C.D.

Bldg. ±600'

+42 Rise Ent. 18"x18"x60' W.B.C.

YARD

WHEAT

YAFIR CORN

Bldg. ±30'

31°30' Rt. 100' 14 C.T.C.

YARD

+81 Rise Ent. 18"x20' C.M.P.

YARD

WHEAT

B.M. No. 3 90d in H.L.P. 32' S.W. of Sec. corner El. 1264.40

Sec. 32 - 28S - R1E

16.50 = 76.25

P.C.

P.I.

P.T.

200' V.C.

400' V.C.

63.50

0.0%

-2.55%

+0.17%

1285

1275

1265

1255

E 1260.50

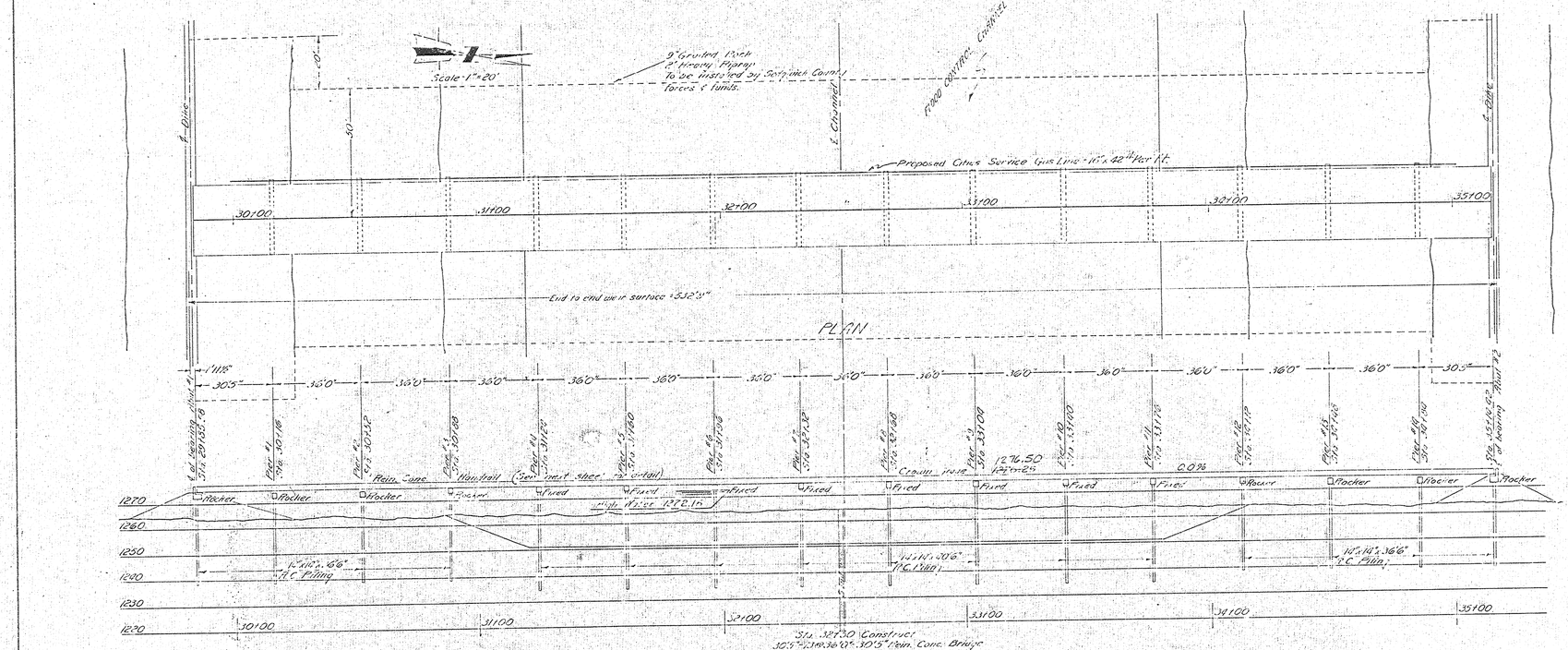
300' 200' 100' 0 100' 200' 300'

Side Road Profile Sta. 53+

E6425 E6276 E6275 E6273 E6271 E6268 E6266 E6264 E6264 E6263

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55

SHEET 3 OF 8 SHEETS



FLOODWAY DATA

Top of left bank elevation 1278.23 — 1276.29 } 6/4/52
Top of right bank elevation 1278.23 — 1275.29
Bottom of channel elevation 1250.52
Highwater elevation 1272.16
Width of channel at bottom 260'
Side slopes of channel 1 on 2.5
Side slopes of levees 1 on 3
~~Elevation of levee crown 1278.23~~ 1279.23 } 6/4/52
Width at floodway center to center of levee 535'
Estimated flow 26,500 c.f.s.
Estimated velocity 9 ft/sec.

GENERAL NOTES

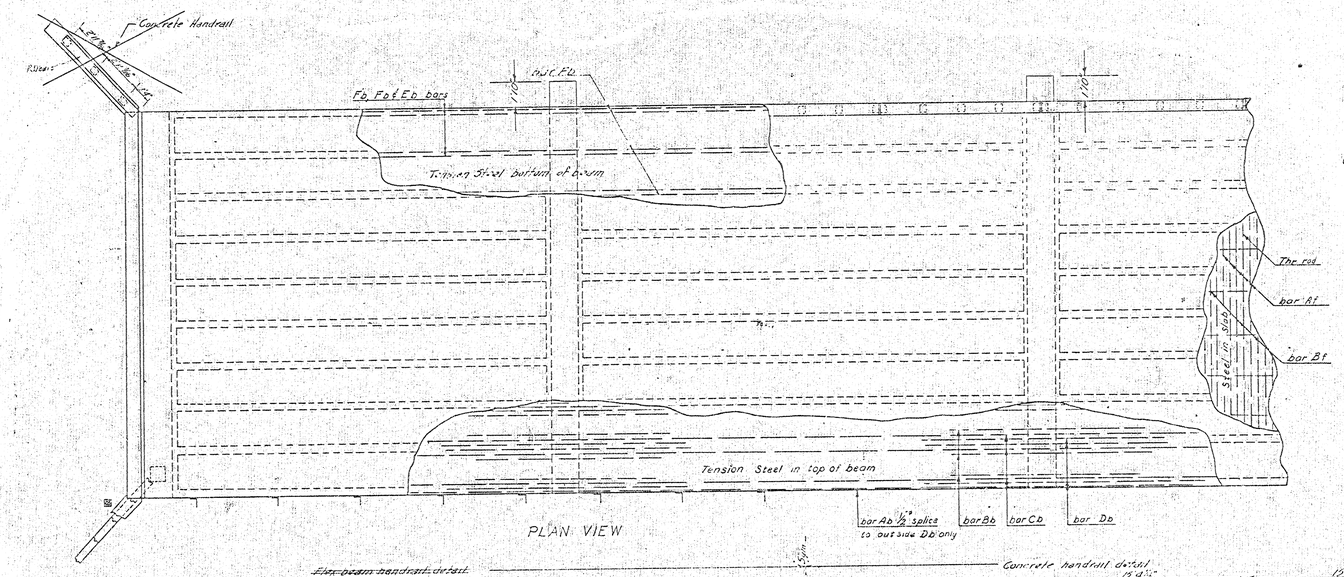
Design: According to A.A.S.H.O. Specifications, edition of 1931 "H-20-S16 loading"; fs = 20,000 psi; fc = 1,000 psi.
Soundness: Tested by Sedgwick County with 4/8 jet.
Piling: Concrete piling to be driven to a computed resistance of 28 tons per pile.
Concrete: Use Class "A(AE)" concrete throughout. Bevel all exposed edges with 3/4" triangular moulding.
Forms: Contractor shall use preformed metal forms owned by Sedgwick County.
Embankment: To be constructed by Sedgwick County or others. No earthwork is to be considered a part of this project.

CONSTRUCTION LAYOUT
BRIDGE NO. 819-X-3250

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	1"=20'	M.E.S.	L.W.H.		4
	DATE				
	PLANFILE		TOTAL SHEETS	8	

Pub. Rd. Div. No.	State	Project No.	Fiscal Year	Sheet No.	Total Sheets
5	Kansas			5	8



GENERAL NOTES

Design: Designed for H-20-44 loading AASHO specifications. f_s = 20,000 psi, f_c = 1,000 psi.
Soundings: To be taken by Sedgwick County.
Piling: Concrete piling to be driven to a Calculated resistance of 28 ton.
Old Struct: To be removed by Sedgwick County.
Concrete: Class K (AE) concrete used throughout. Bevel all exposed edges with a ¾" Δ molding unless otherwise noted. Forms shall be preformed steel "pans" used as directed by the Engineer in charge.
Guardrail: To be of reinforced flint-bearing concrete as shown on Construction Layout. Concrete rail to be constructed after the removal of deck forms.



Note: PA bars to be placed immediately after slab screeding

Section AA

Section BB

Summary of Quantities

Concrete Handrail

One End Span 48 feet — Class A (AE) Conc. 1.5 cu.yd.

Bar	Size	Length	No.
Aa	½"	16'0"	2
Ab	"	13'0"	8
Ac		5'0"	8
PA	"	2'6"	72

Total Weight 302 lb.

One Int. Span — Class A (AE) Conc. 1.8 cu.yd.

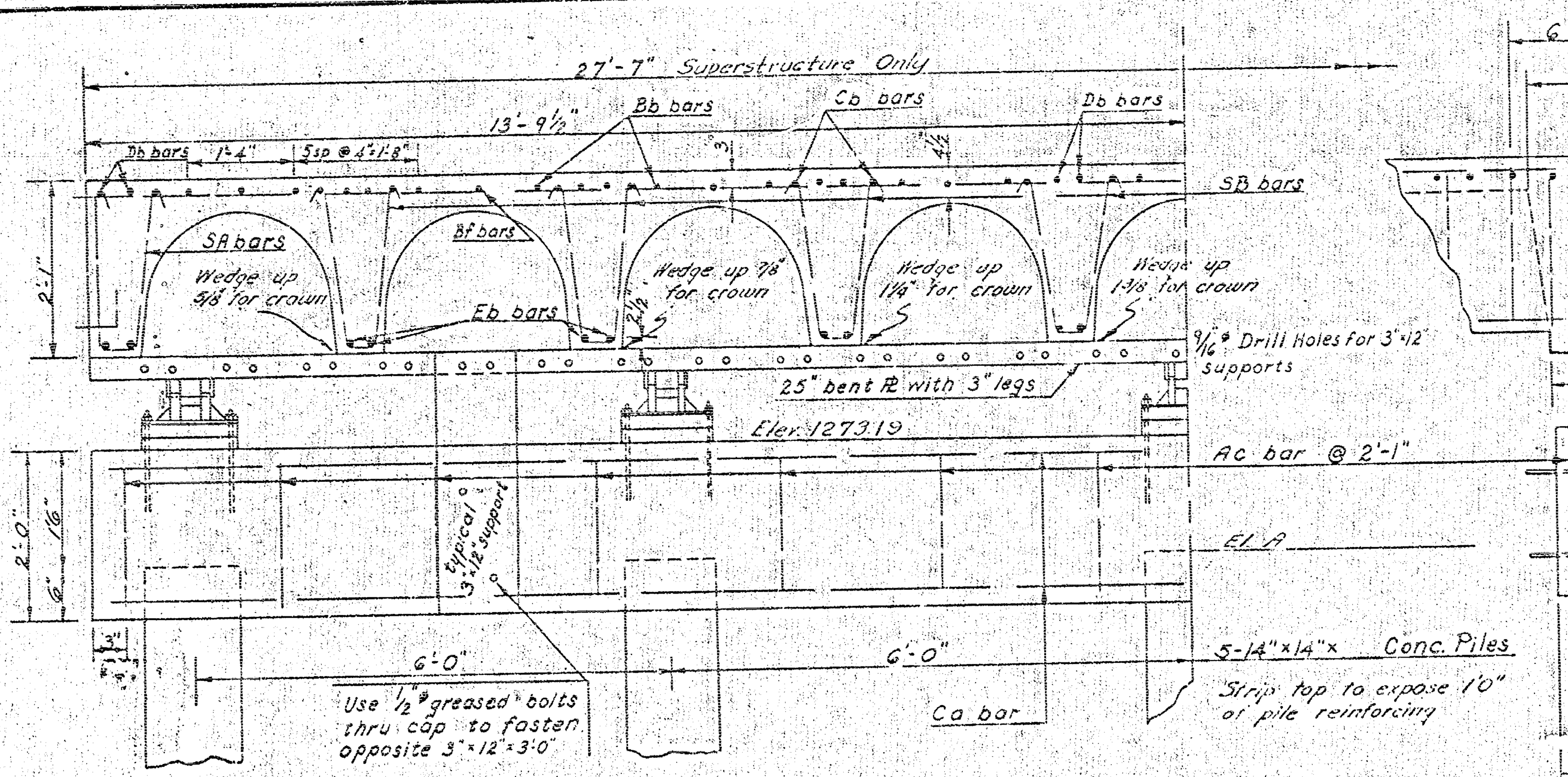
Bar	Size	Length	No.
BC	½"	11'8"	20
PA	"	2'0"	40

Total Weight 357 lb.

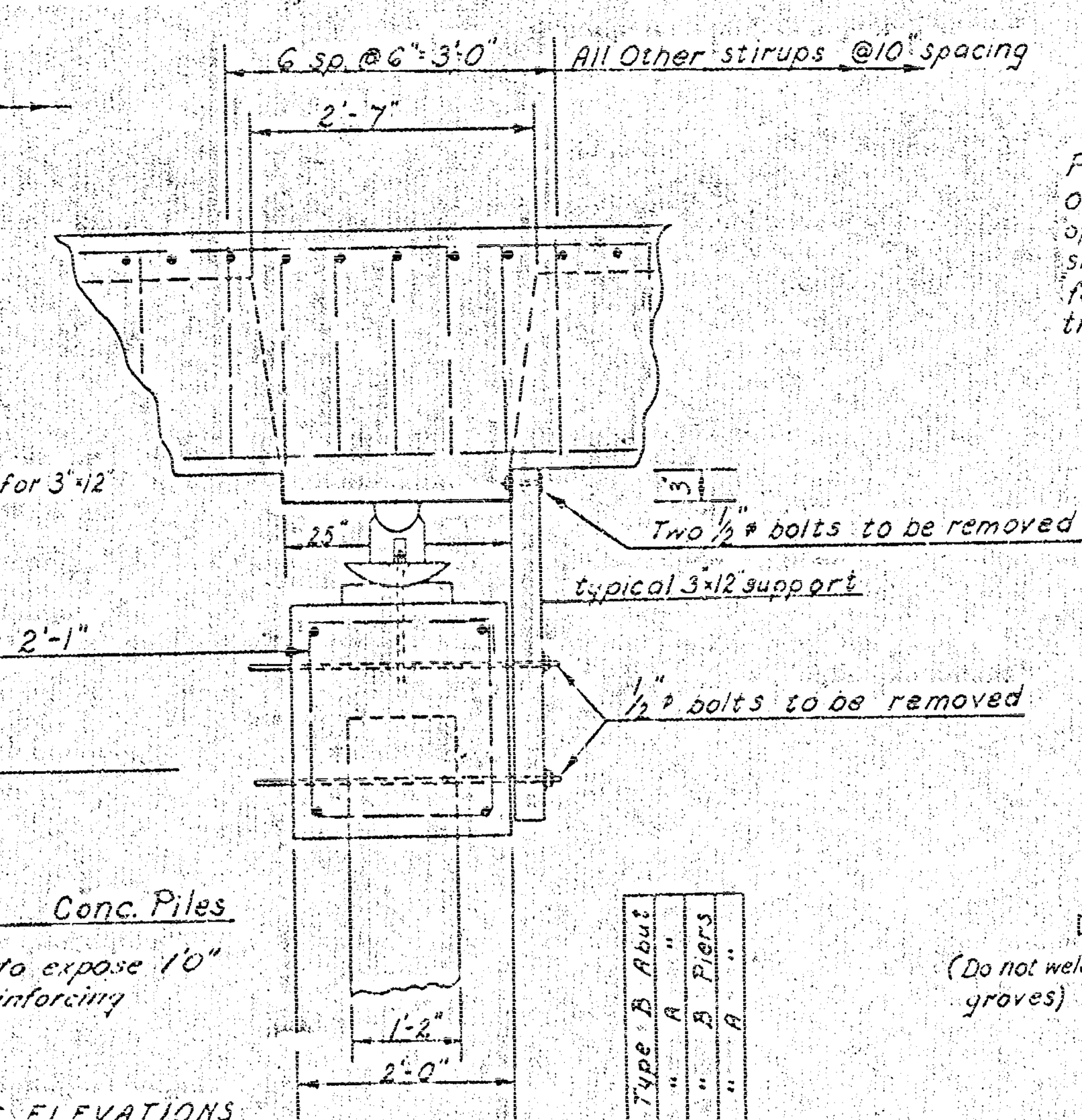
RE. CONC. MODIFIED T-BEAM BRIDGE
BRIDGE NO. 819-X-3250

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	1/4" = 1'	R.R.J.	C.D.H.		5
	DATE	9-50	9-18-50		
	PLANFILE		TOTAL SHEETS	8	



Section At Pier Type A - Cap Detail for East Side only
Use at Pier No's. 1-2-13-14



GENERAL NOTES

Bevel all exposed edges with ¾" molding

PAINT:- All parts of the Metal Handrail shall receive one shop coat of red lead paint. All exposed surfaces of Structural Steel, Bearing Devices and Metal Handrail shall receive one coat of tinted aluminum paint followed by one coat of aluminum paint after erection.

Reinforcing Steel

Note: Quantities shown on this sheet are for computation only. Actual structure quantities are shown on following sheet.

27'-7" Slab ABUTMENT QUANTITIES	
A TYPE	B TYPE
~~backwall boards~~	backwall boards
Five bearing piling	Five bearing piling
~~Eight sheet piling~~	Eight sheet piling
83 cu yd concrete	78 cu yd concrete
599 lbs. reinforcing	579 lbs. reinforcing steel
Five bearing devices	Five bearing plates
One bent plate	One bent plate

Bar	No	Length	Size	Bar	No	Length	Size
Aa	41	4'-8"	½"φ	A'a	41	4'-0"	½"φ
Ar	5	27'-0"	"	Ar	5	27'-0"	
Ba	14	9'-8"	"	Ba	14	9'-8"	"
Ca	4	27'-0"	1"φ	Ca	4	27'-0"	1"φ

(B TYPE crossed out)

27'-7" Slab PIER QUANTITIES	
A TYPE	B TYPE
Five bearing piling	Five bearing piling
44 cu yd concrete	44 cu yd concrete
384 lbs. reinforcing steel	424 lbs. reinforcing steel
5 bearing devices	
One bent plate	

Bar	No.	Length	Size	Bar	No.	Length	Size
Ac	15	7'-8"	½"φ	A'c	15	11'-8"	½"φ
Ca	4	28'10"	1"φ	Ca	4	28'10"	1"φ

27'-7" Slab. SPAN QUANITITIES*	
ONE END SPAN	ONE INT. SPAN
36.4 cu yd conc.	39.6 cu yd conc.
8590 lbs. reinforcing steel	8868 lbs reinforcing steel
~~10 h'nar'l posts (steel)~~	~~12 hndr'l posts~~
~~65' flex beam~~	~~65' flex beam~~
1-expansion device	
~~2 Concrete Posts~~	

Bar	No	Length	Size	Bar	No	Length	Size
SA	83	5'-2"	½"φ	SA	92	5'-2"	½"φ
SB	332	5'-2"	"	SB	368	5'-2"	"
Fb	20	23'-6"	1"φ	Db	20	23'-6"	⅞"φ
				E'b	20	38'-4"	1"φ
Eb	20	33'-4"	1"φ	A'b	2	22'-0"	½"φ
Ab	2	25'-0"	½"φ	Ka	12	0'-11"	¾"φ
Af	59	27'-0"	"	Af	66	27'-0"	½"φ
Bf	9	33'-0"	"	B'f	9	38'-0"	"
Ka	10	0'-11"	¾"φ	Cb	18	38'-0"	⅞"φ
Cb	18	33'-0"	⅞"φ	Bb	18	14'-0"	
Bb	9	14'-0"	"	thr.rd	6	28'-0"	¾"φ
thr.rd	5	28'-0"	¾"φ	Ga	20	18'-0"	⅞"φ

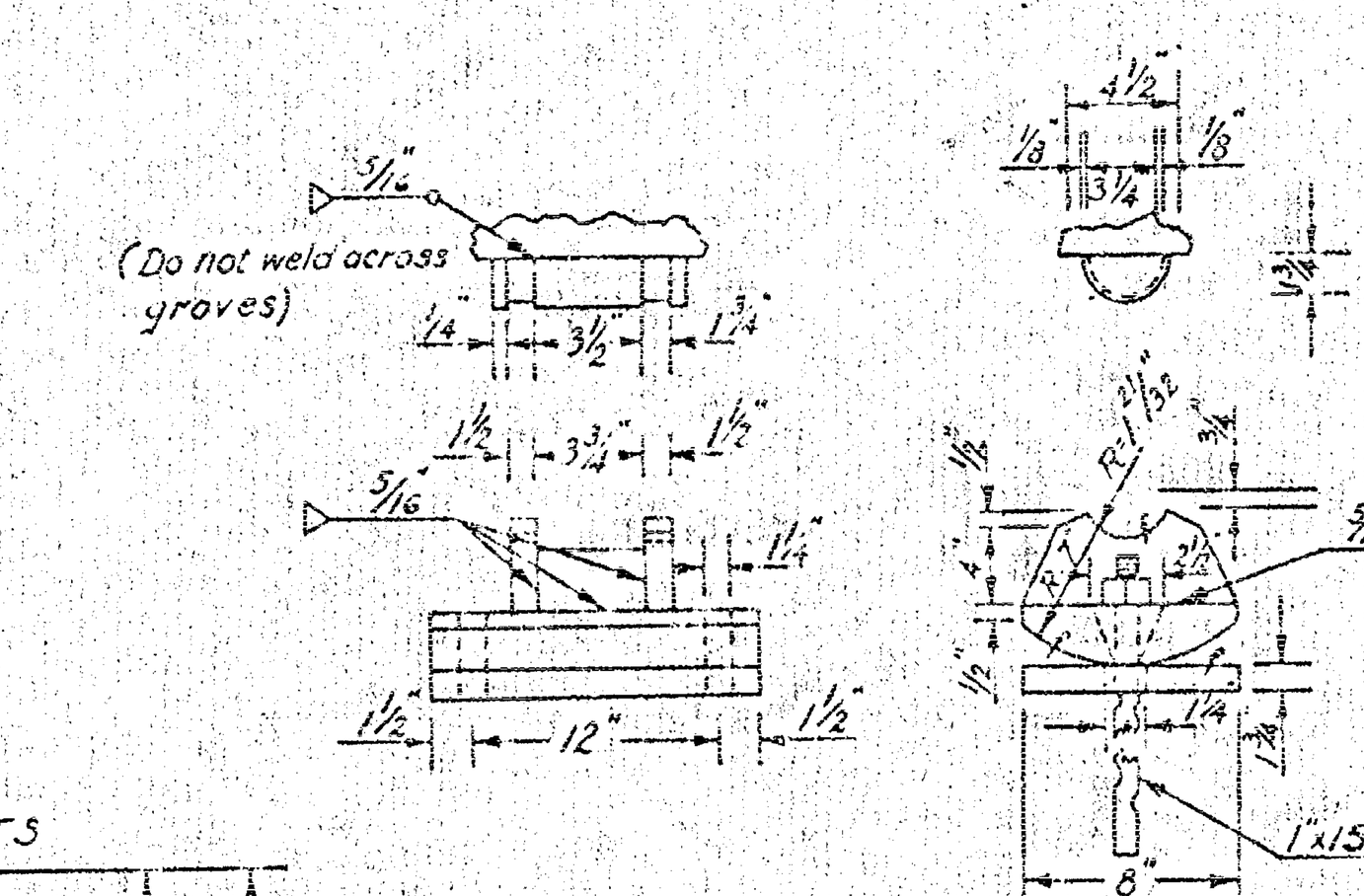
* Due to overlapping & duplication quantities shown are not necessarily actual bar numbers, but are factors to be multiplied by the number of each span involved to give total structure quantities
† Multiply by number of piers.

TABLE of ELEVATIONS
El. A = 1271.65
El. B = 1272.65
El. C = ____
Length of piling = ____
*See Construction Layout

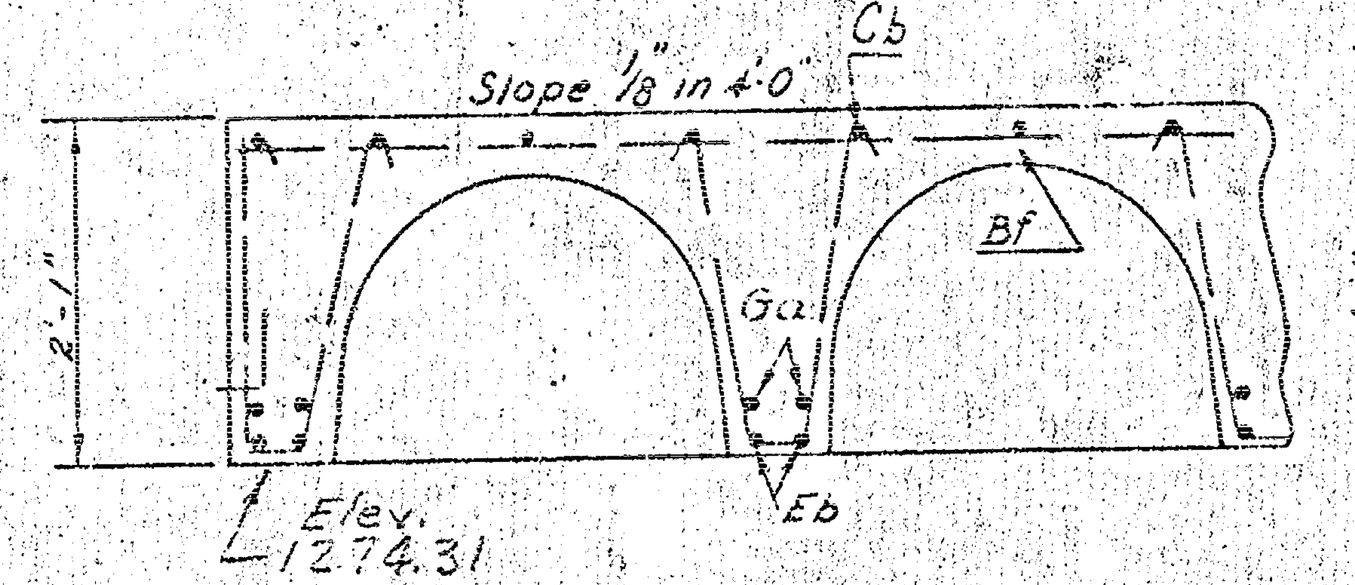
	Type B Abut	" B Piers	" A
2 Span Bridge	2		1
3 "	2		2
4 "		2	3
5 "	2	2	2

TABLE of PIERS & ABUTMENTS

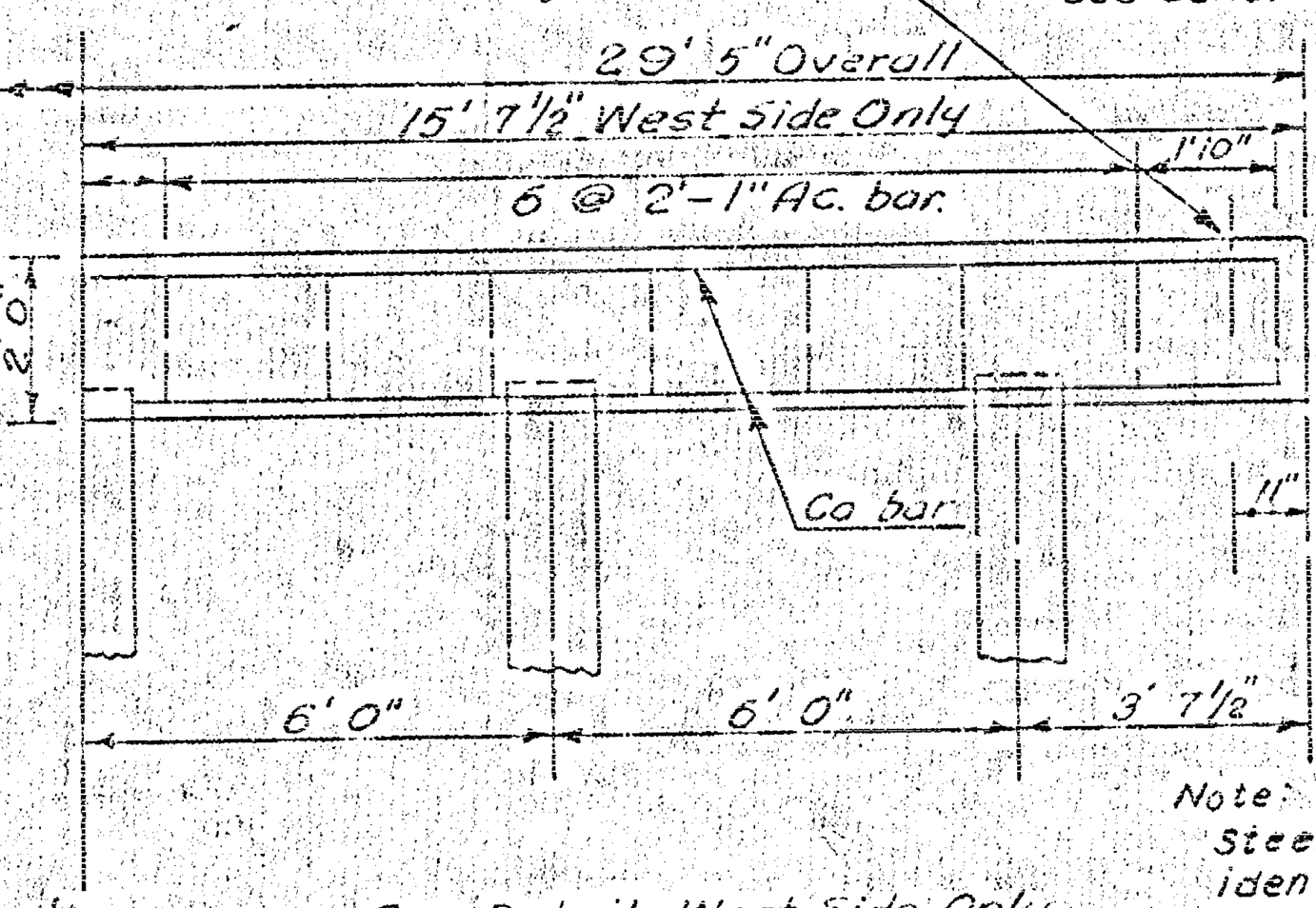
Gas line bracket to be furnished by Gas Company - Installed by Contractor



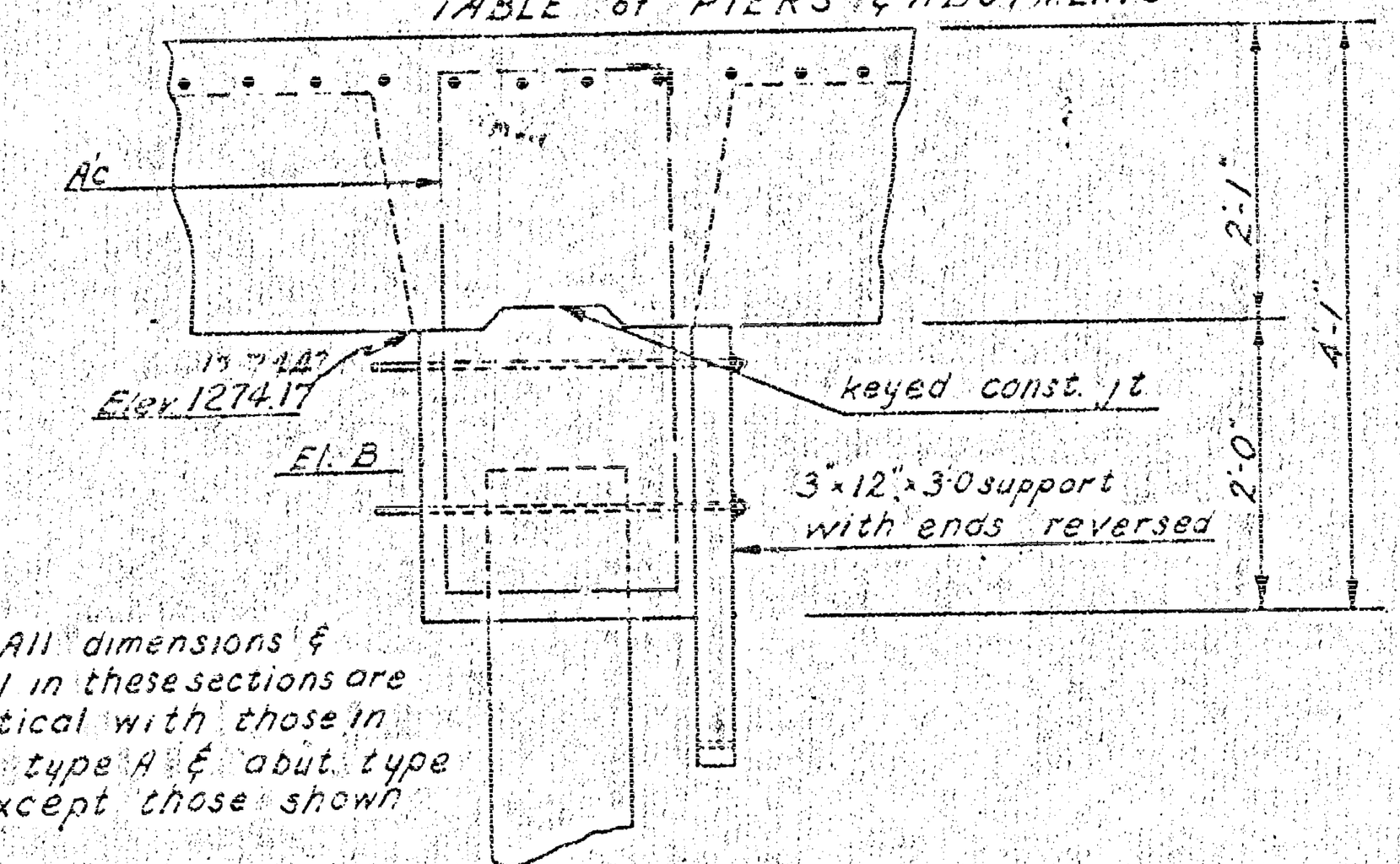
ROCKER DETAIL
40 Required



Section At Mid-Span

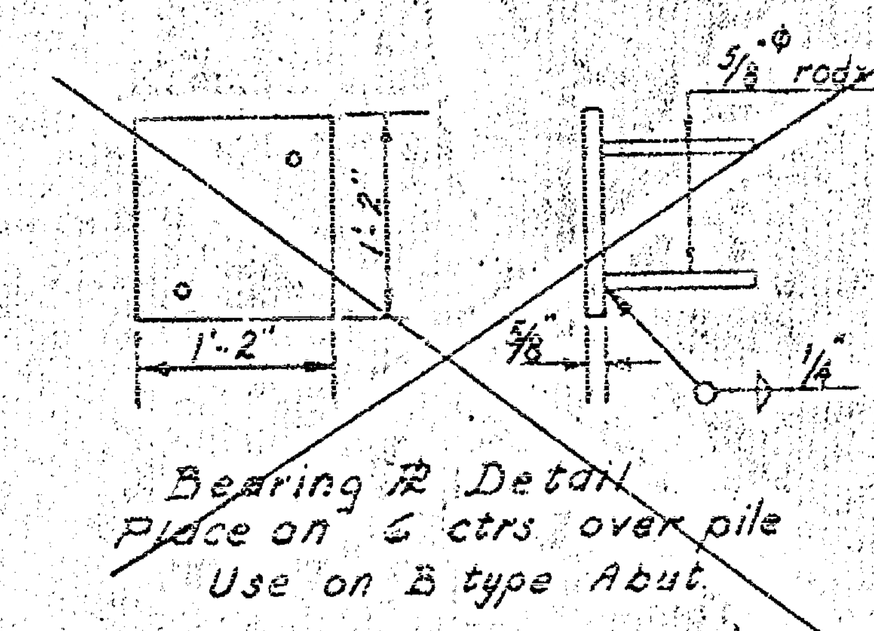


Cap Detail - West Side Only

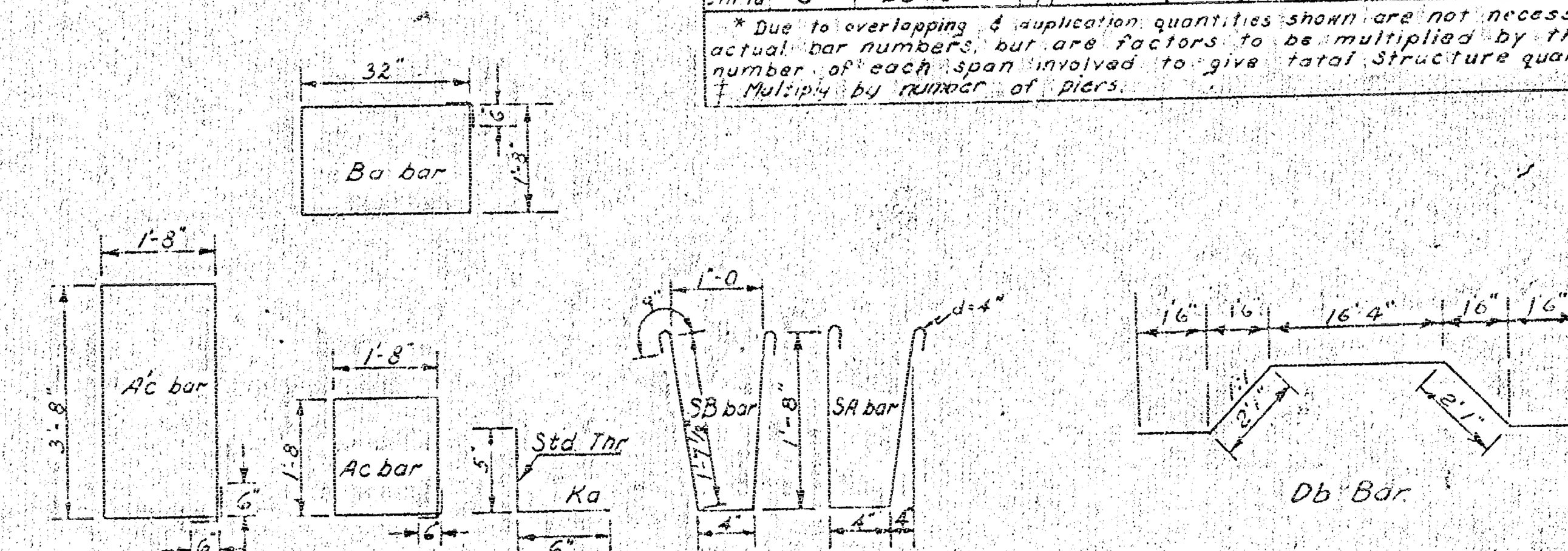


Note: All dimensions & Steel in these sections are identical with those in pier type A & abut. type A except those shown

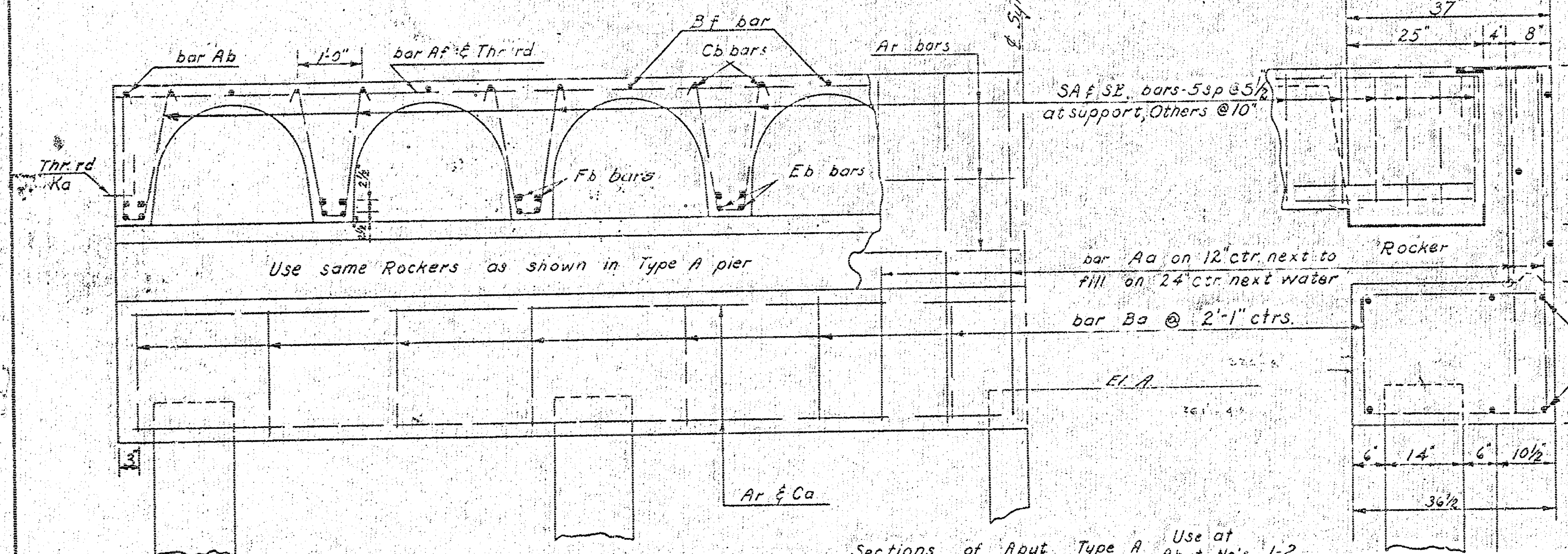
Section Pier Type B
Use at Pier No's.



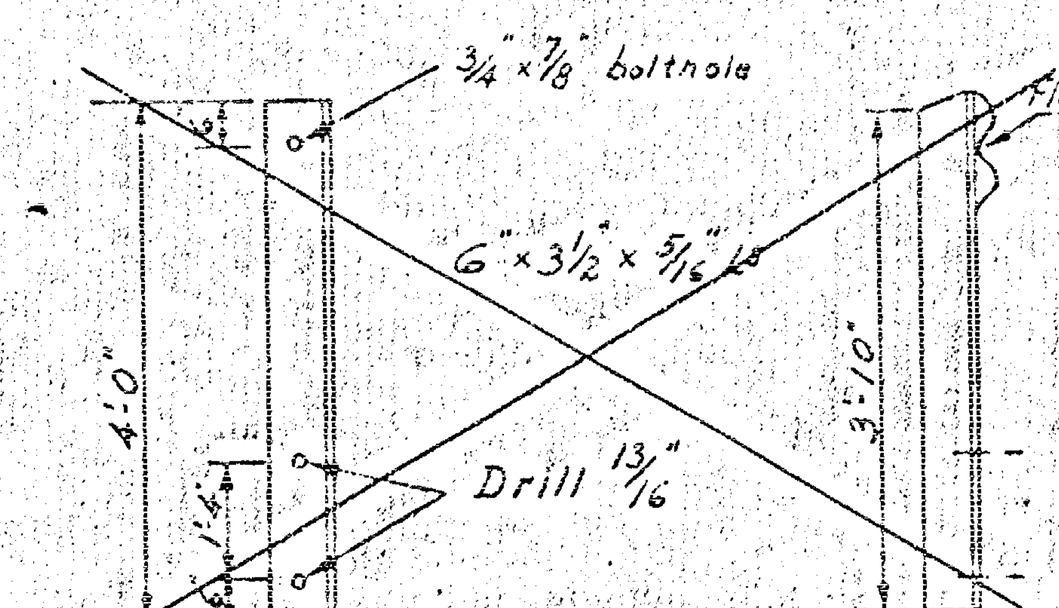
Bearing ℞ Detail
Place on 6' ctrs over pile
Use on B type Abut.



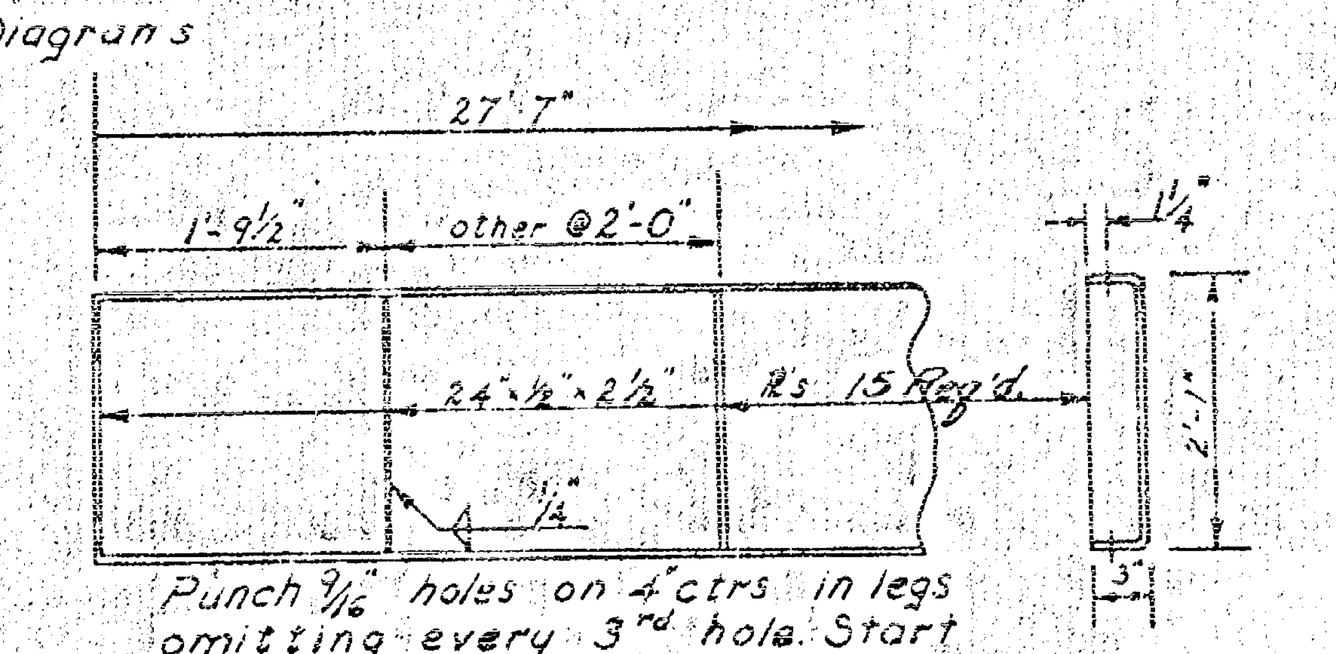
Bending Diagrams



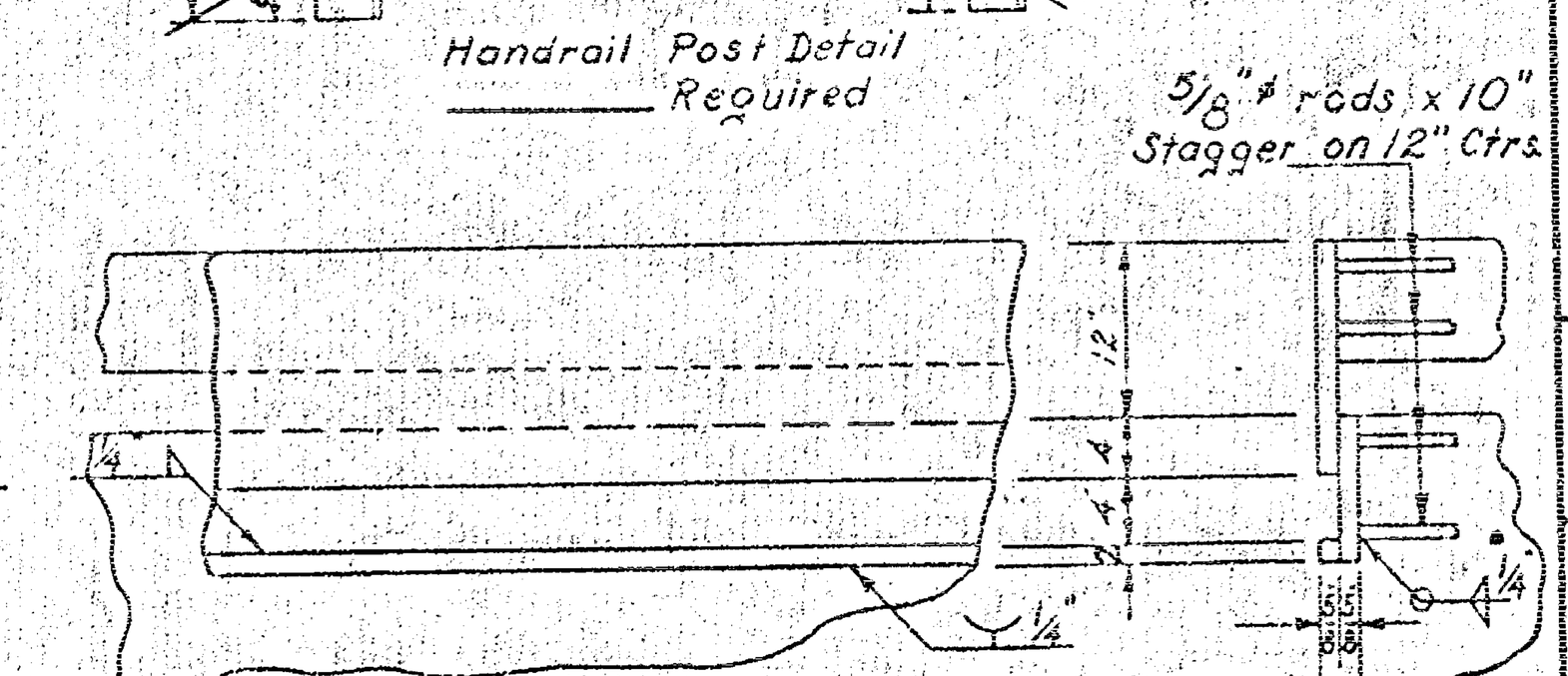
Sections of Abut Type A Use at Abut No's. 1-2



Handrail Post Detail
Required



Punch 9/16" holes on 4" ctrs in legs omitting every 3rd hole. Start 3½" from end.
Detail of bent ½" Plate 8 Required

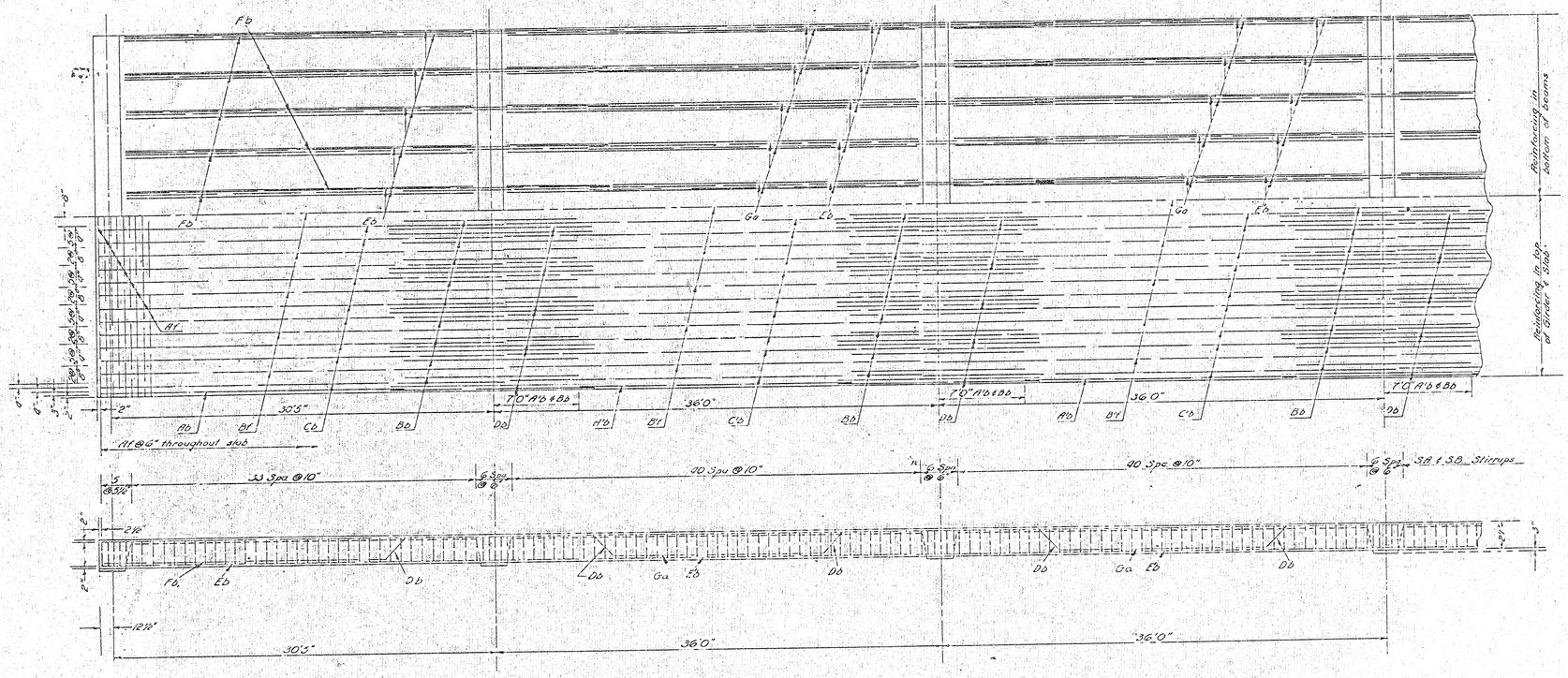


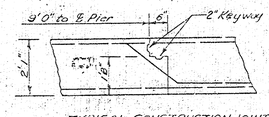
Expansion Detail ℞ to be 27'-7" unless other wise noted
2 Required

RE CONC. MODIFIED T-BEAM BRIDGE
AUXILIARY DETAILS
BRIDGE NO. 819-X-3250

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
12-51 H.S.	1/2" = 1'	R. R. J.	C. D. H.		6
	DATE	9-50	9-23-50		
	PLANFILE		TOTAL SHEETS 8		





TYPICAL CONSTRUCTION JOINT

SUMMARY OF QUANTITIES

30'5" - 13 @ 36' - 30'5" Continuous Spans; 26' Roadway; Concrete Handrail

	Ab	Bb	Ab'	Bb'	Cb	Cb'	Db	Eb	Eb'	Fb	Ga	Gb	Db'	Eb'	Fb'	Ab"	Bb"	Cb"	#4	#5	Cu'
Bar	Ab	Bb	Ab'	Bb'	Cb	Cb'	Db	Eb	Eb'	Fb	Ga	Gb	Db'	Eb'	Fb'	Ab"	Bb"	Cb"	#4	#5	Cu'
No.	82		10	28	8	60	130	4	20	976	252	18	17	36	234	280	40	260	40	260	362	548	2	88	16	16	104	4	131	56
Size	#9	#9	#9	#9	#9	#9	#9	#9	#9	#7	#7	#7	#7	#9	#9	#9	#7	#9	#9	#9	#8	#8	#9	#9	#9	#9	#9	#9	#8	#8
Length	69'10"		21'0"	28'6"	27'6"	11'3"	29'0"	10'0"	21'0"	30'6"	5'-0"	28'6"	5'-0"	28'6"	30'6"	21'0"	16'0"	32'3"	32'10"	28'0"	16'0"	13'11"	11'3"	3'10"	29'0"	10'0"				

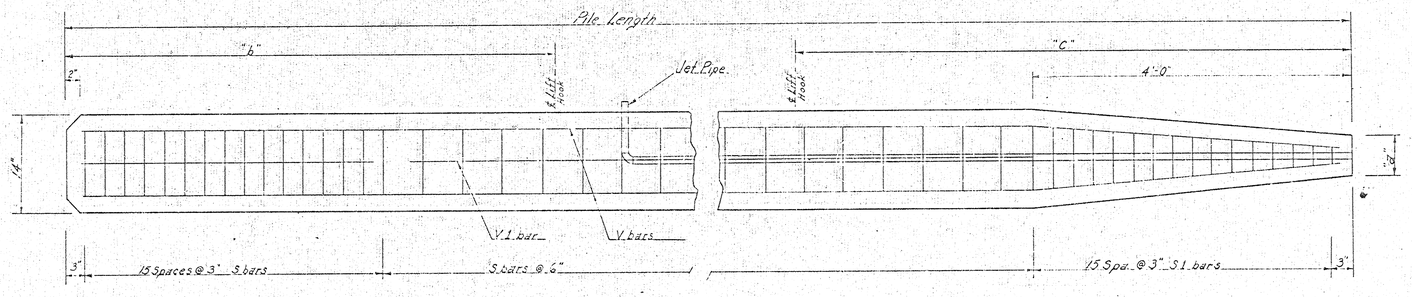
Concrete Class A (AE)	692.2 Cu. Yds.	~~Metal Handrail~~	Lin. Ft.
Reinforcing Steel	194,683 Lb.	Structural Steel	16,458 Lb.
10"ø Conc. Piles	3,080 Lin. Ft.	~~Conc. Shell Piles~~	Lin. Ft.
Bearing Devices	7,200 Lb.	~~4"ø Conc. Grout Post~~	Lin. Ft.

REINFORCING DETAIL
BRIDGE NO. 819-X-3250

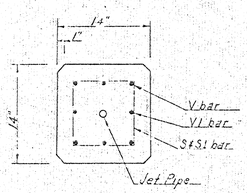
PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
	½"=1'0"	M.E.S.			7
	DATE				
	PLANFILE		TOTAL SHEETS	8	

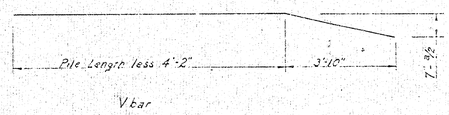
Pub. Rd Div. No.	State	Project No.	Fiscal Year	Sheet No.	Total Sheets
5	Kansas		1951	8	8



ELEVATION



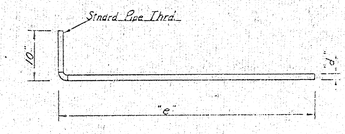
END VIEW



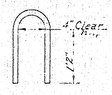
V bar

Pile Length	20'6"		24'-6"		28'6"		32'-6"		36'6"		40'6"	
									40 Reqd.		40 Reqd.	
Bar	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.
V	#7	20'6"	4	#7	24'2"	4	#7	28'2"	4	#7	32'2"	4	#6	36'2"	4	#6	40'2"	4
V1													#6	32'6"	4	#6	36'0"	4
S	#2	3'-4"	41	#2	3'-4"	49	#2	3'-4"	57	#2	3'-4"	65	#2	3'-4"	73	#2	3'-4"	81
S1	#2	Var	15	#2	Var	15	#2	Var	15	#2	Var	15	#2	Var	15	#2	Var	15
Lift Hook	#8	3'-0"	2	#8	3'-0"	2	#8	3'-0"	2	#8	3'-0"	2	#8	3'-0"	2	#8	3'-0"	2
Jet Pipe													1¼	26'10"	1	1¼	30'10"	1
"a"	6"			6"			6"			6"			6"			6"		
"b"	6'0"			7'2"			8'4"			9'6"			10'8"			11'10"		
"c"	8'0"			9'2"			10'4"			11'6"			12'8"			13'10"		
"d"													1¼			1¼		
"e"													26'0"			30'0"		
x" y" z"	3/8 to 8 3/8 by 3/8			3/8 to 8 3/8 by 3/8			3/8 to 8 3/8 by 3/8			3/8 to 8 3/8 by 3/8			3/8 to 8 3/8 by 3/8			3/8 to 8 3/8 by 3/8		
Concrete	.94 Cu Yds.			1.14 Cu Yds.			1.34 Cu Yds.			1.55 Cu Yds.			1.75 Cu Yds.			1.95 Cu Yds.		
Rebar	209 Lbs.			247 Lbs.			284 Lbs.			321 Lbs.			472 Lbs.			524 Lbs.		

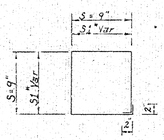
Pile Length	37'0"											
Bar	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.
V	#6	36'8"	4															
V1	#6	33'0"	4															
S	#2	3'4"	74															
S1	#2	Var	15															
Lift Hook	#8	3'0"	2															
Jet Pipe	1¼	Note	1															
"a"	10"																	
"b"	10'10"																	
"c"	11'11"																	
"d"	1¼"																	
"e"	See Note																	
x" y" z"	5/8 to 8 3/4 by 1/4																	
Concrete	1.82 Cu Yds.											
Rebar	452 Lbs.											



"d" Dia. Jet Pipe



#8 Lift Hook



"S1 – 15 bars, increase from "x" to "y" by "z" increments

S & S1 bar

General Notes

Design: According to AASHO Specifications 1949 Edition. Fs=12,000 psi. Fc=1,000 psi.
Concrete: Use class A throughout if Piling are to be encased or otherwise protected. Use class A (AE) if piling are to form open bent, unless otherwise noted
Reinforcing: All dimensions are to center of bars unless otherwise noted.
Jet Pipe: Standard pipe of Dimensions shown unless otherwise approved by Engineer.
Curing: Piling shall be left in forms or otherwise properly cured for at least 7 days. Piling shall not be moved until concrete has attained its design Strength or a minimum of 4 weeks after casting.
Payment: The cost of material and labor used for casting and driving of piles shall be included in the unit bid for concrete piles.
Handling: Piling shall only be lifted by handling hooks or by rigging within 18" of hook location.

Note: Concrete at end of piles shall be removed to expose reinforcing as shown elsewhere on plans. The measured length for payment of piles shall be as stated in Sect. 5930 of the standard specifications of Kansas, Edition of 1951.

14" x 14" x Re. Conc. Piling
BRIDGE NO. 819-x-3250

PREPARED BY
SEDGWICK COUNTY ENGINEERING DEPT.
RUFUS S. KIRK — COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
		Schwab	Houseman		8
	DATE	12-51	1-52		
	PLANFILE		TOTAL SHEETS	8	