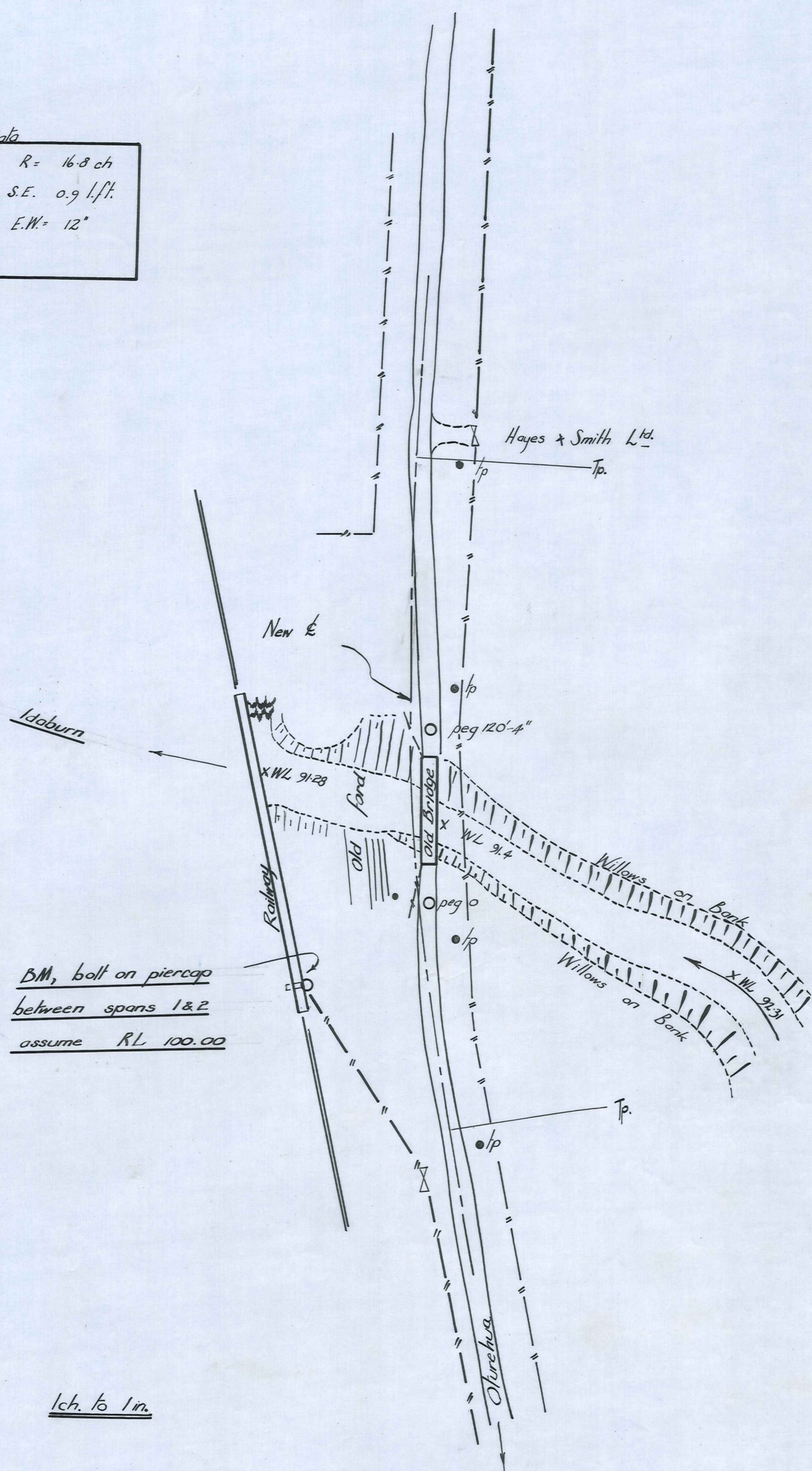
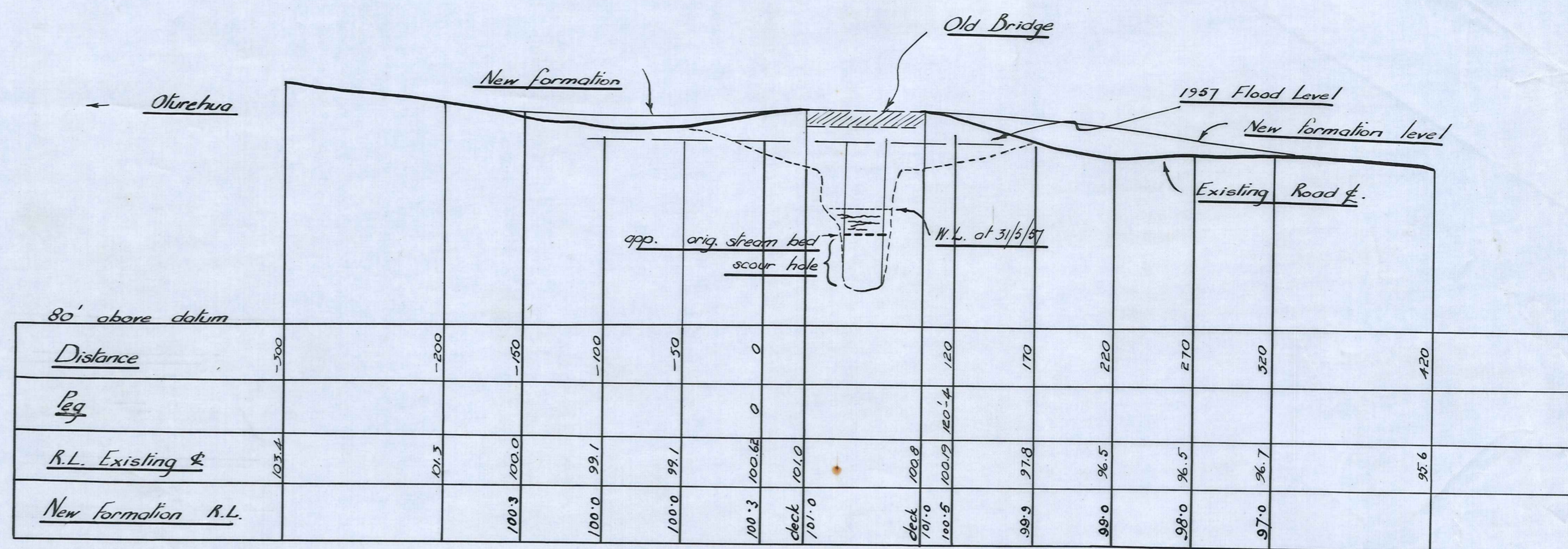


Curve data  
 $\Delta = 12^\circ$      $R = 16.8$  ch  
 S.V. = 30 mph    S.E. 0.9 l/ft.  
 A.O. = 3.54 ch.    E.W. = 12"  
 A.X. = 12.4 k

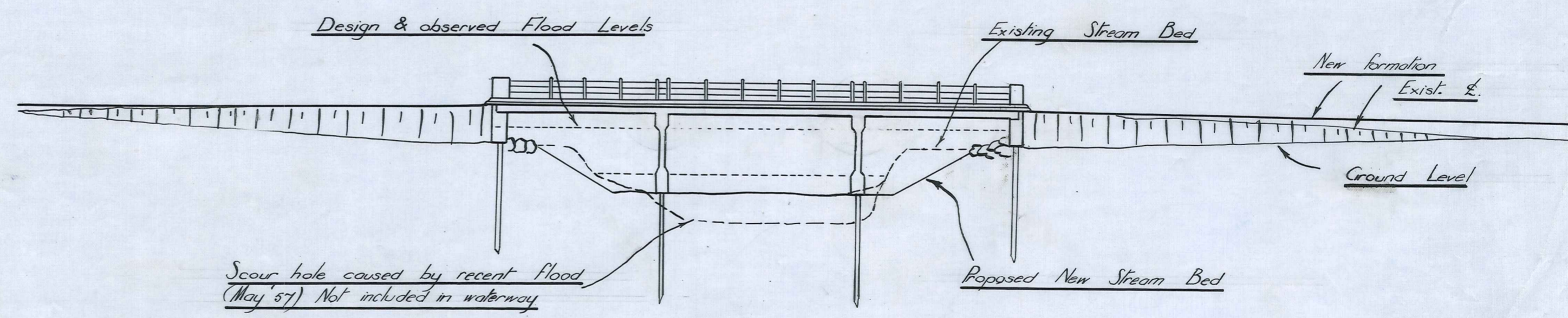


BM, bolt on piercap  
 between spans 1 & 2  
 assume RL 100.00

1 ch. to 1 in.

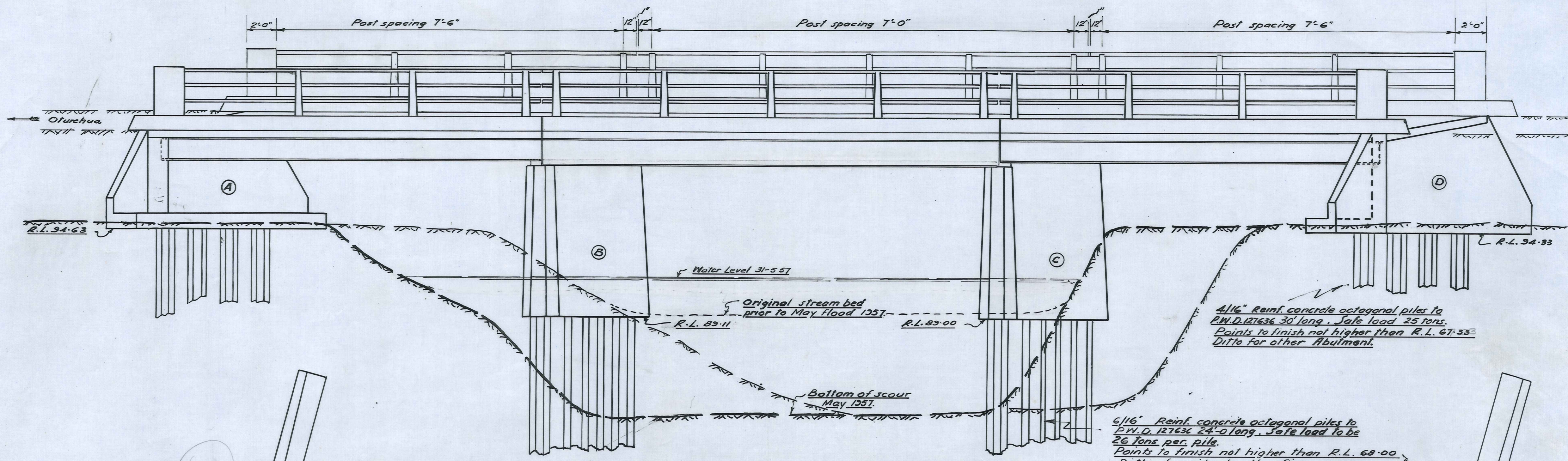


Horiz. 1 ch - 1 in.    Vert. 10' - 1 in.

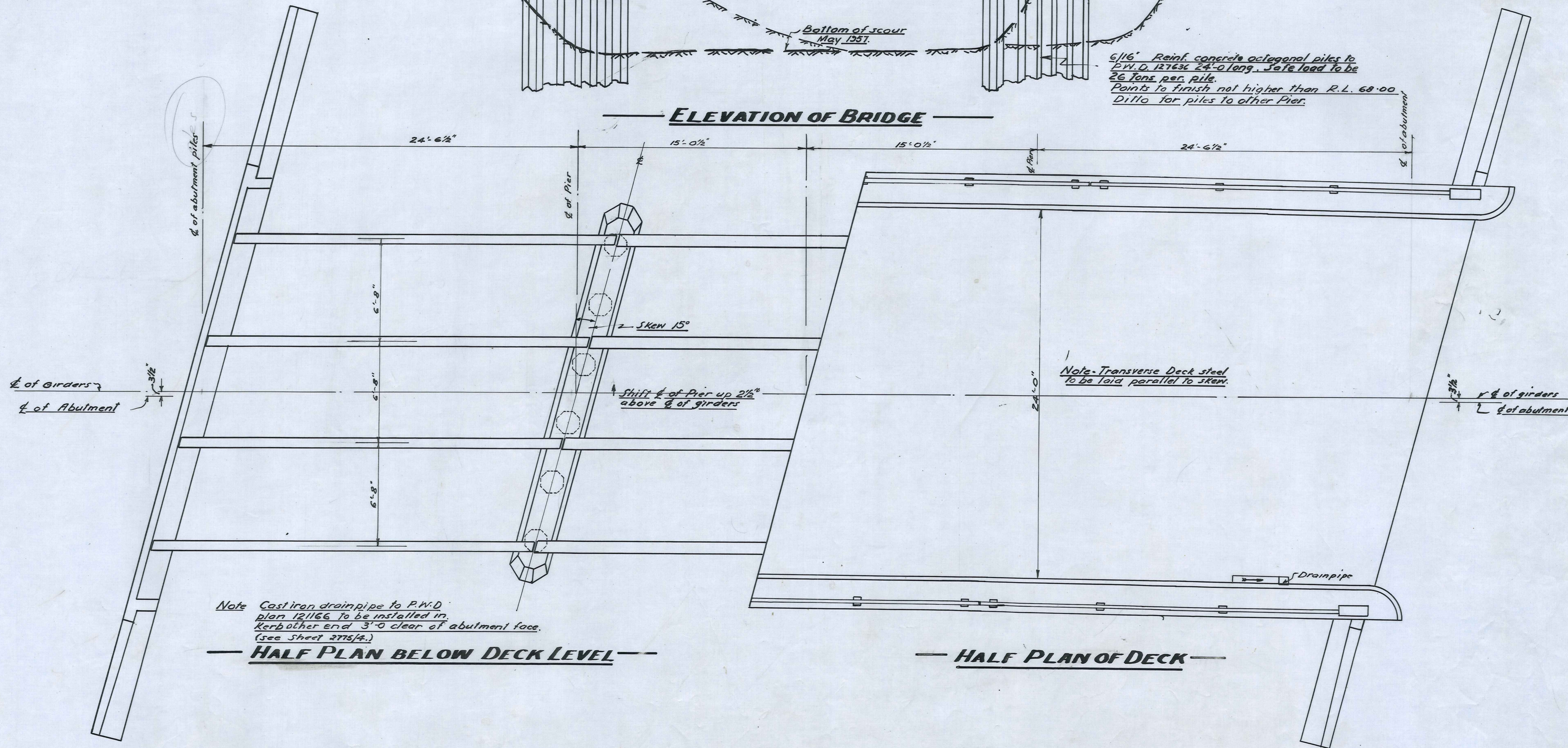


Elevation of Proposed New Bridge  
 1/16 in. to 1 ft.

Waterway Data.	
Area of Catchment	= 33,400 ac.
Length of Catchment	= 15 mls.
Grade of Catchment	= 0.44
Stream grade at Bridge	= .003
Existing Waterway:	520 sq. ft. - 1957 flood level.
New Waterway:	600 sq. ft.
Estimated 50 yr Flood:	3730 cu. secs.
"	1957 " : 3450 "



**ELEVATION OF BRIDGE**



Note Cast iron drainpipe to P.W.D. plan 121166 to be installed in kerb other end 3'-0" clear of abutment face. (see sheet 2775/4.)

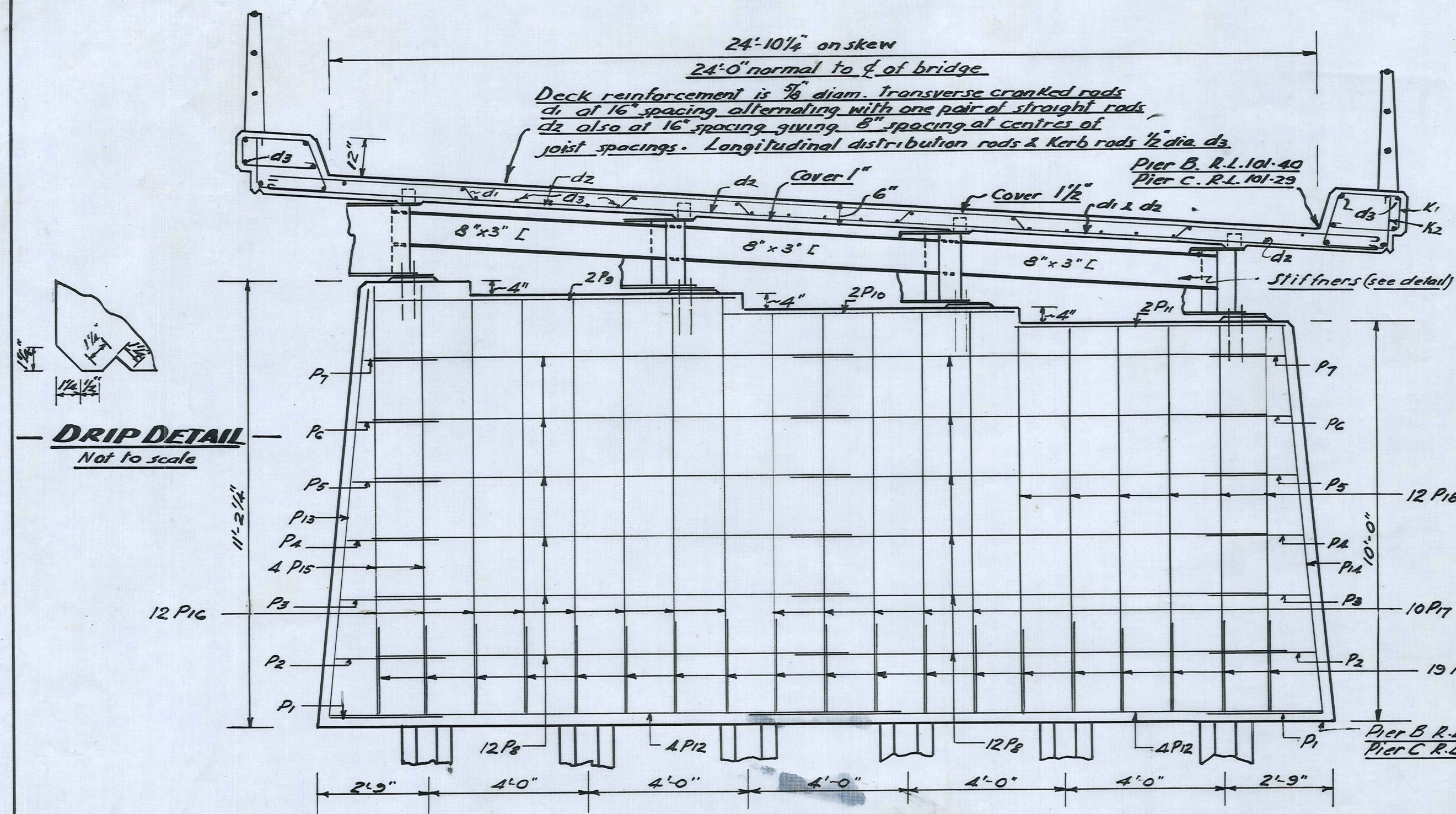
**HALF PLAN BELOW DECK LEVEL**

**HALF PLAN OF DECK**

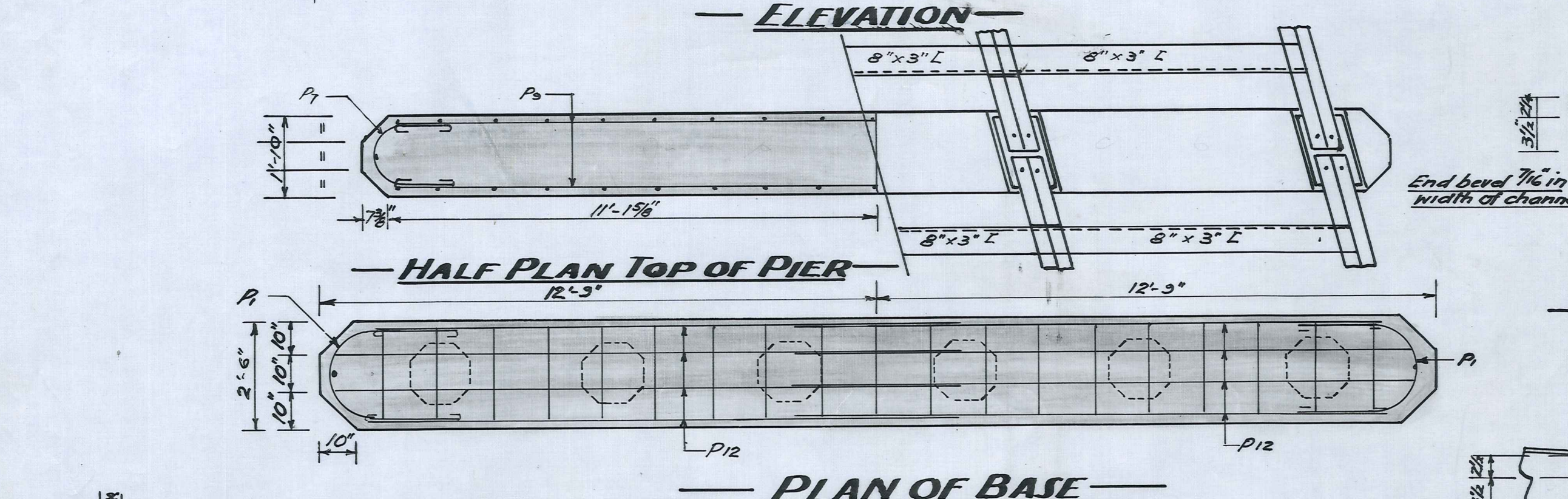
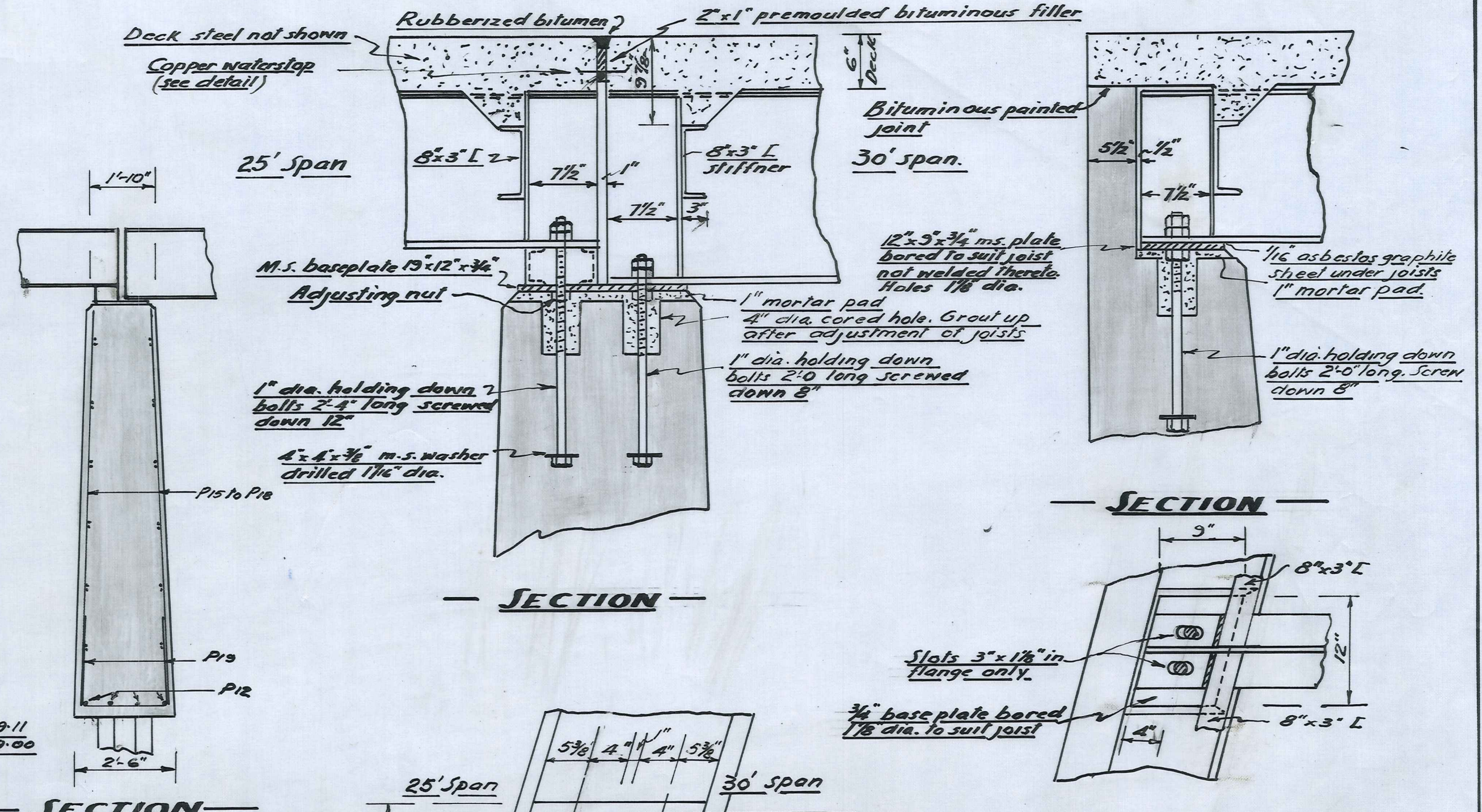
LOADING H.20.516.44.

Scale 1/4" to 1'-0"

MANIOTOTO COUNTY COUNCIL	HAYES BRIDGE IDABURN - OMAKAU M.H. NO. 227.	DUFFILL, WATTS & KING CIVIL ENGINEERS AND SURVEYORS DUNEDIN and INVERCARGILL	NAME		DATE	JOB No. 2775/2.
			SURVEYED BY DRAWN CALCULATIONS CHECKED TRACED	J.R. Fairman W.C. Duffill " " W.C.D.		
			F.B.K.		FILE No. 5/14/21	



**DRIP DETAIL**  
Not to scale



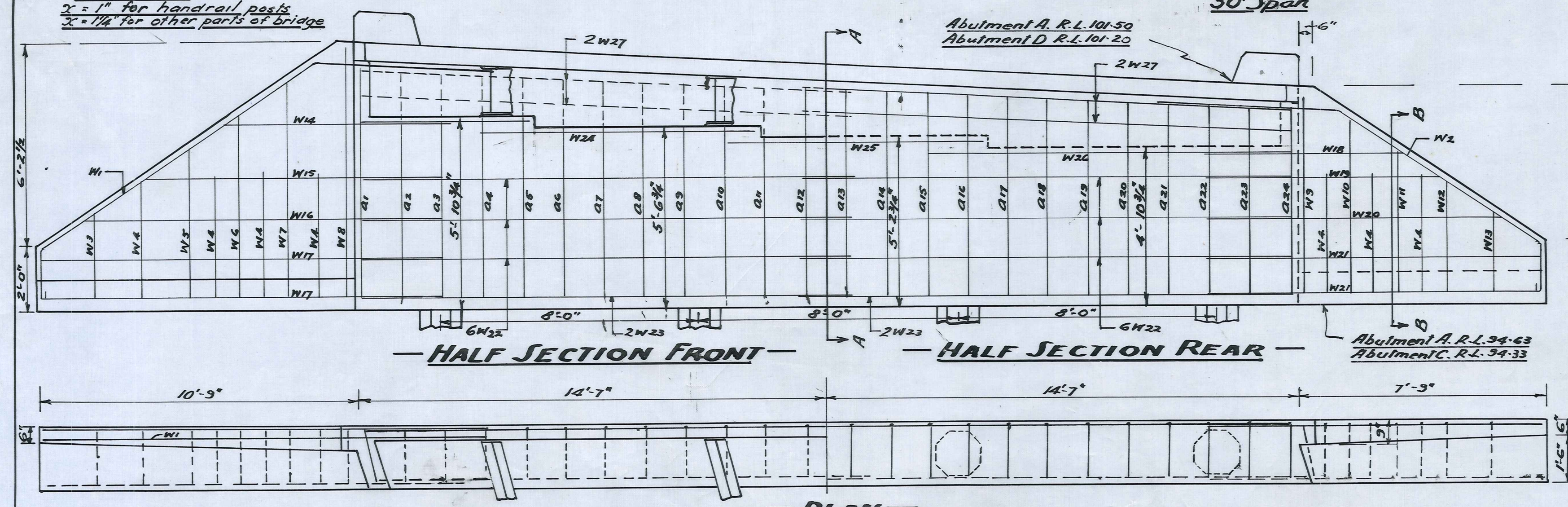
**ELEVATION**

**HALF PLAN TOP OF PIER**

**PLAN OF BASE**

**PIER DETAILS**  
Scale 3/8 in. to 1'-0"

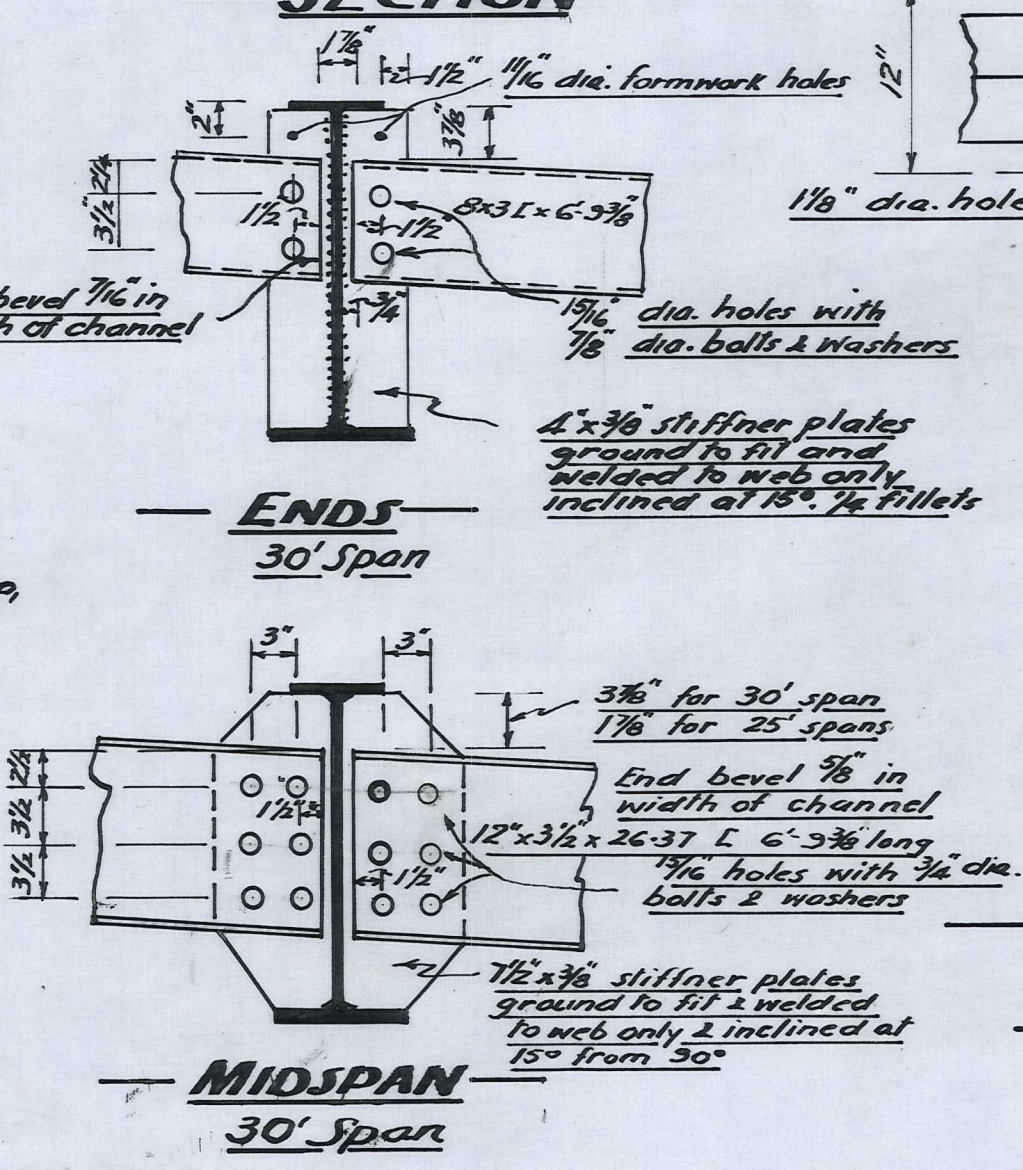
**CHAMFER & FILLET**  
Not to scale  
x = 1" for handrail posts  
x = 1/4" for other parts of bridge



**HALF SECTION FRONT**

**HALF SECTION REAR**

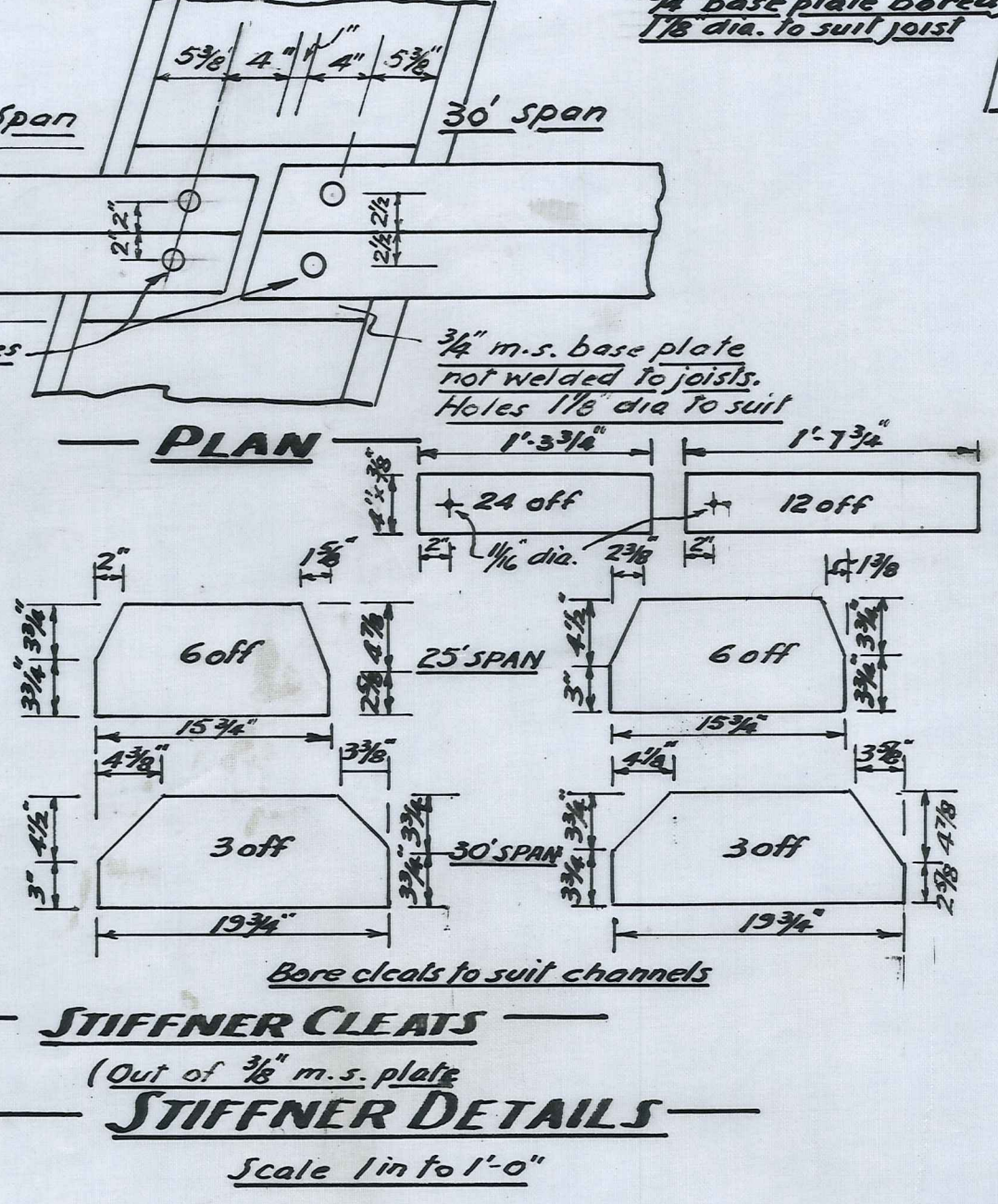
**PLAN**  
**ABUTMENT DETAILS**  
Scale 3/8 in. to 1'-0"



**SECTION**

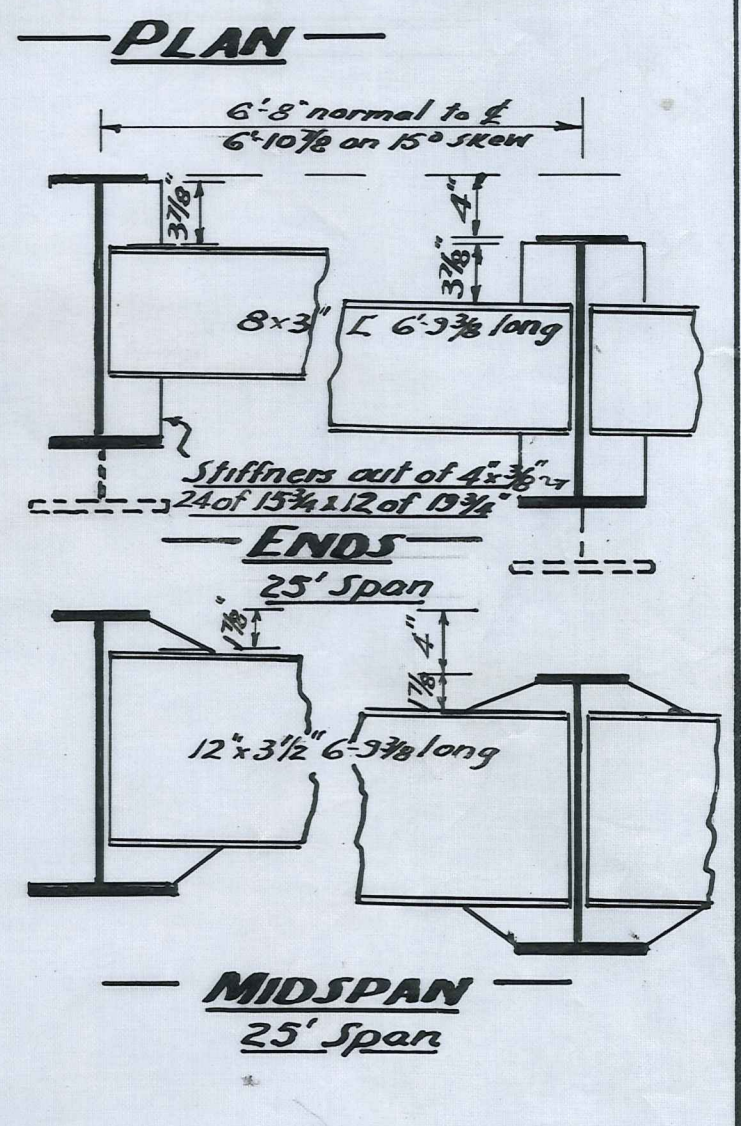
**ENDS**  
30' Span

**MIDSPAN**  
30' Span



**STIFFNER CLEATS**  
(Out of 3/8" m.s. plate)

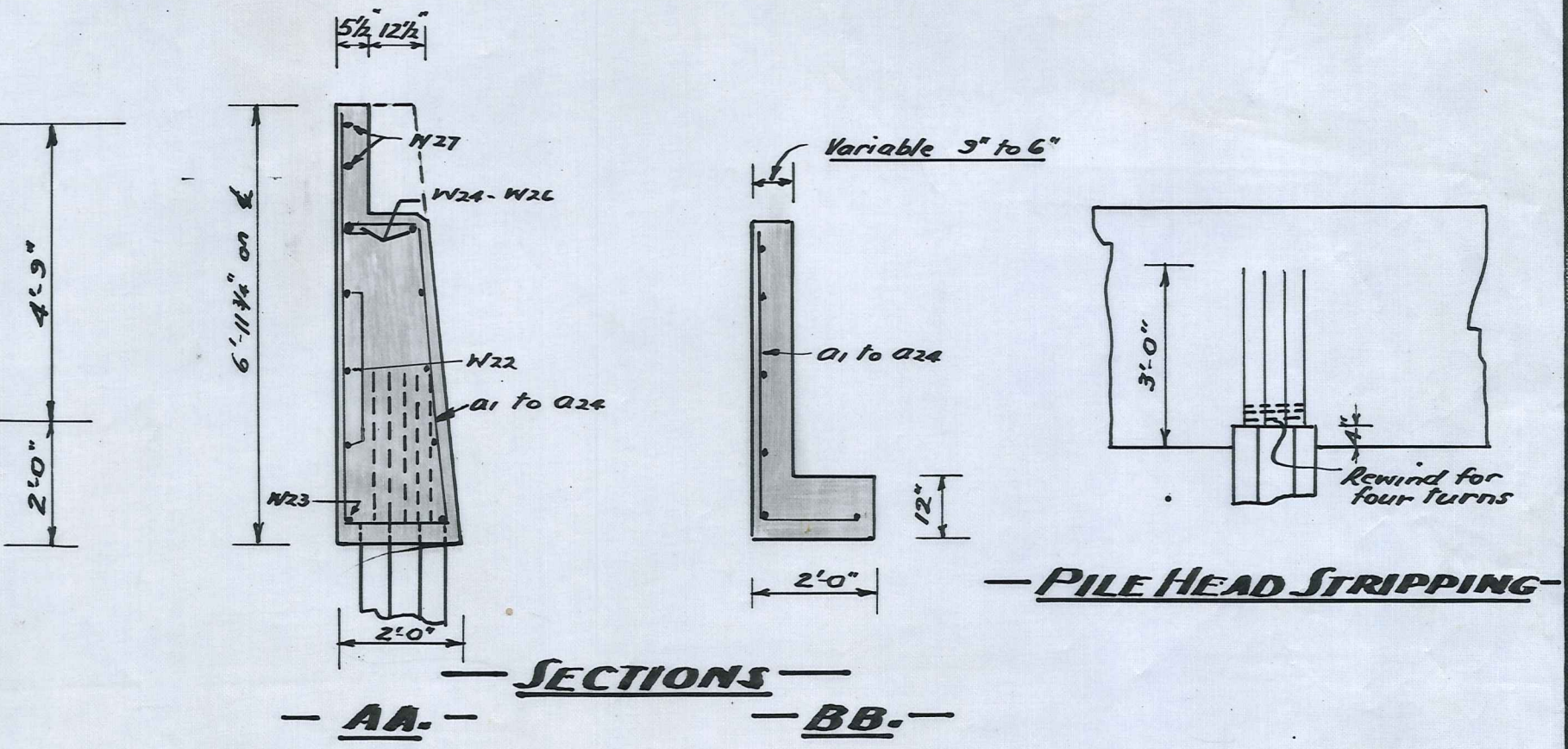
**STIFFNER DETAILS**  
Scale 1 in to 1'-0"



**PLAN**

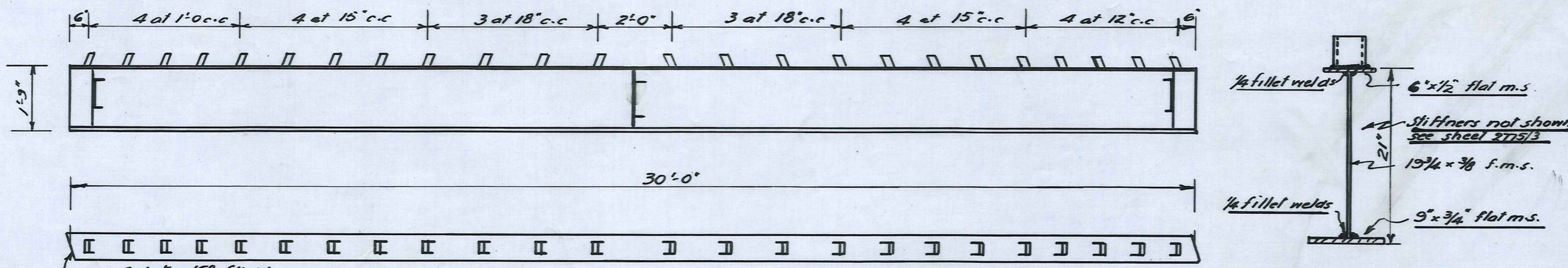
**ENDS**  
25' Span

**MIDSPAN**  
25' Span

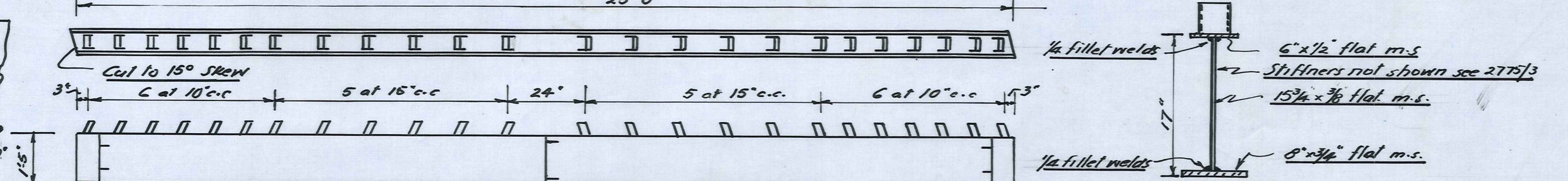


**SECTIONS**  
**AA** **BB**

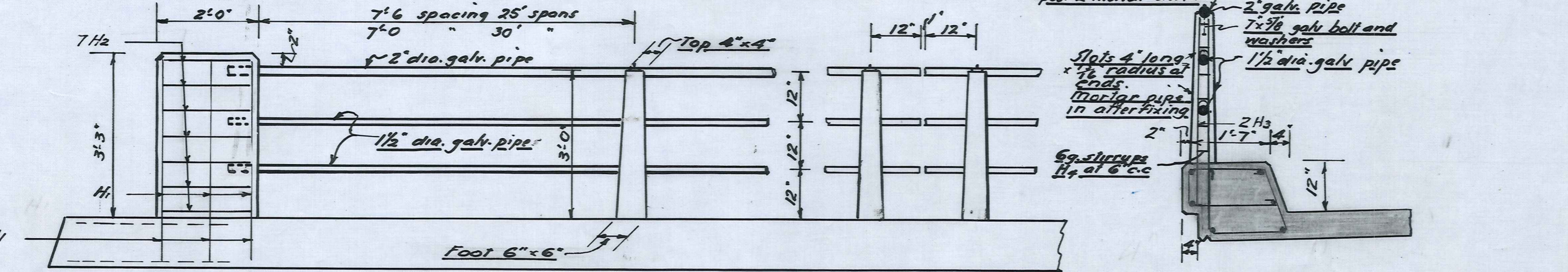
**WATERSTOP DETAIL**  
22g Copper



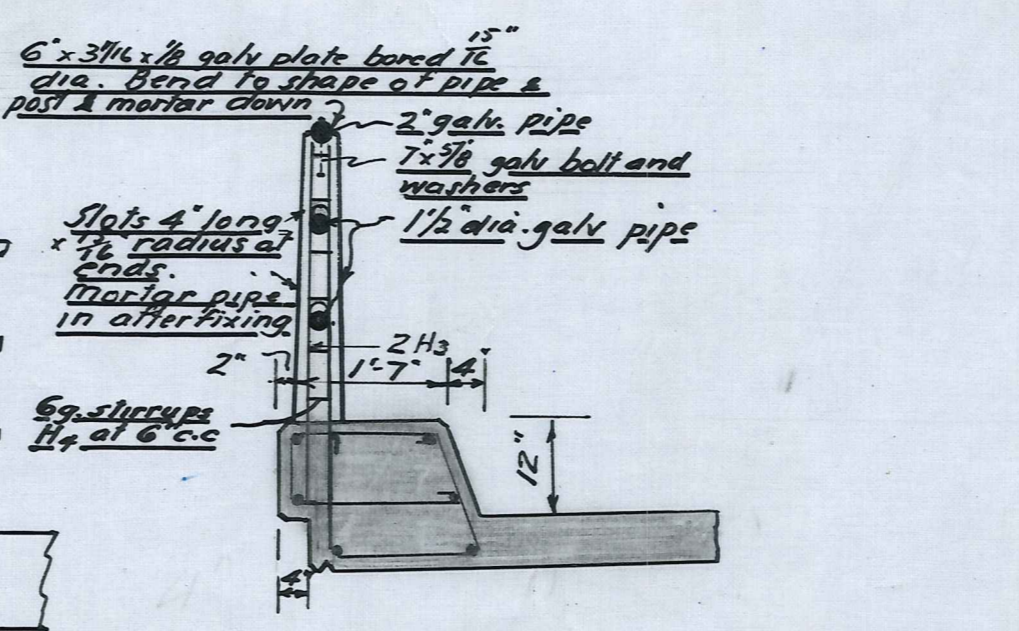
**JOIST DETAIL 30' SPAN**  
Four Thus  
For boring details of bottom flanges  
& stiffener details see sheet 2775/3



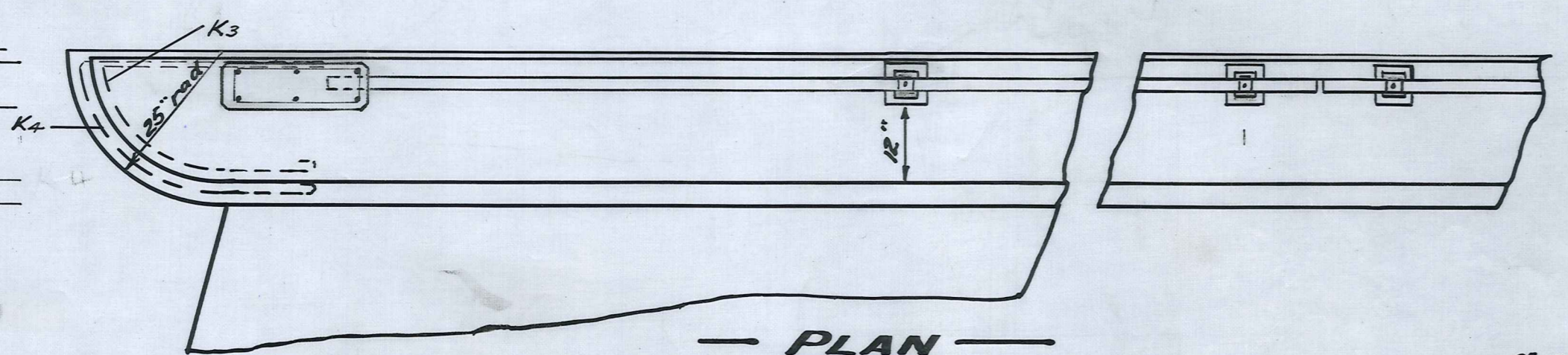
**JOIST DETAIL 25' SPAN**  
Eight Thus  
For boring details of bottom flanges  
and stiffener details see sheet 2775/3



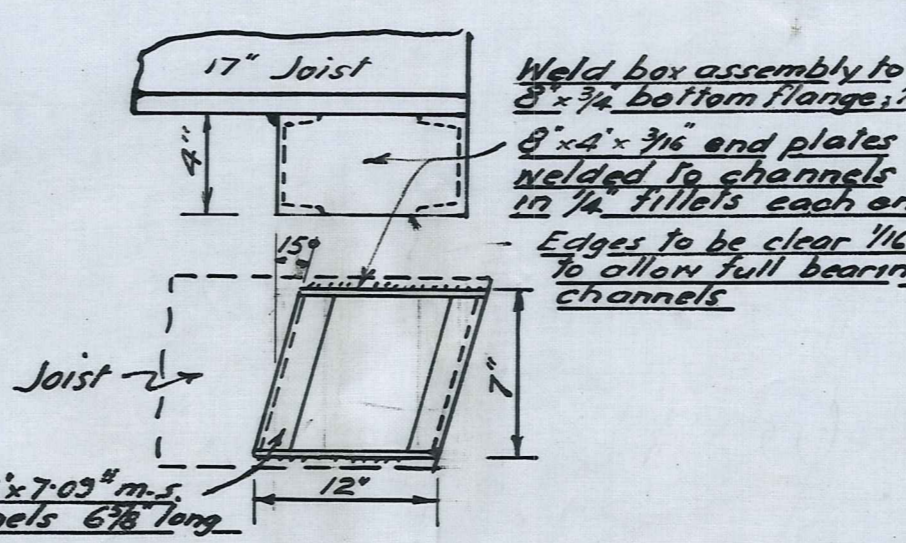
**ELEVATION OF HANDRAILS & POSTS**



**POST DETAIL**

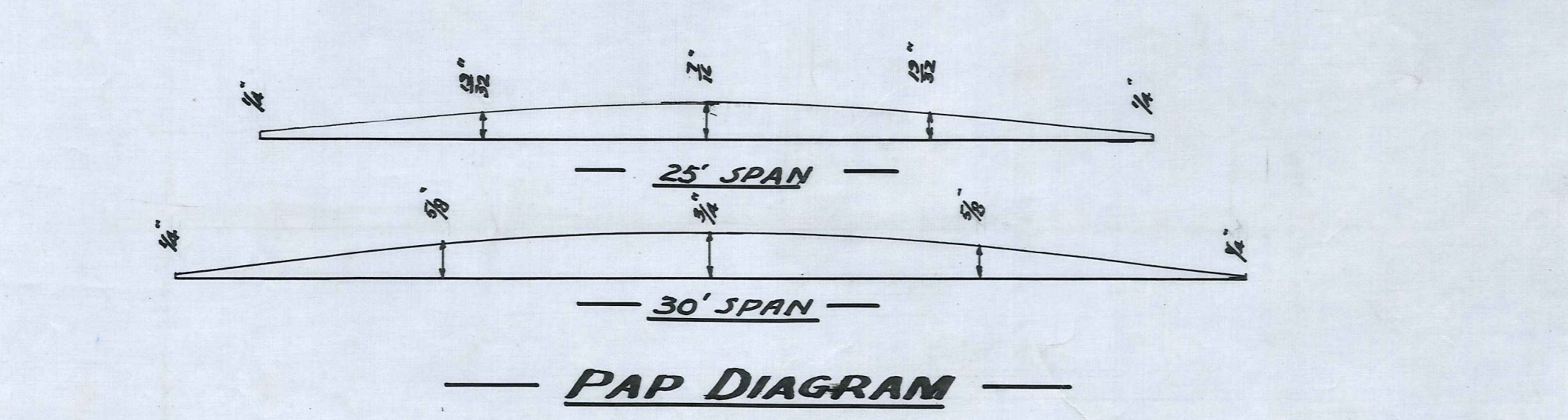


**PLAN  
HANDRAIL & POST DETAILS**  
Scale 1/2" = 1'-0"

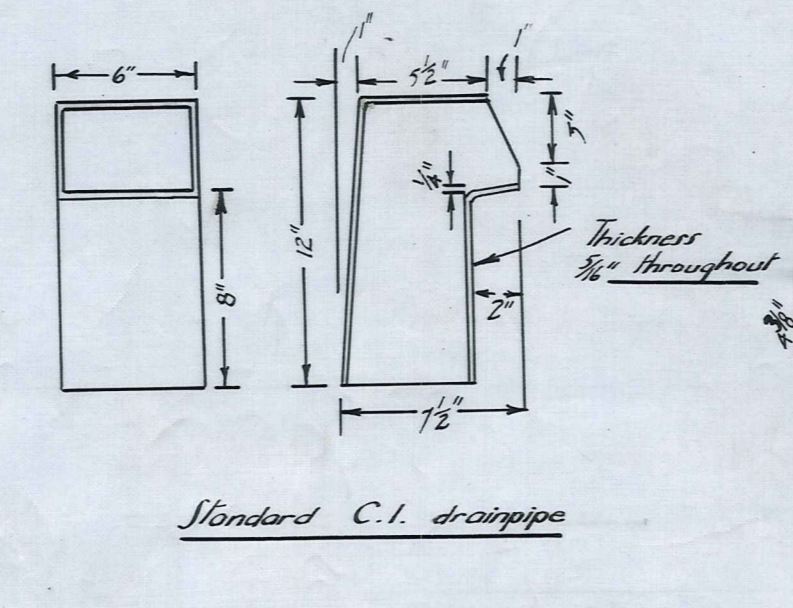


**BOX ASSEMBLY AT PIERS  
FOR 25 SPAN GIRDERS**

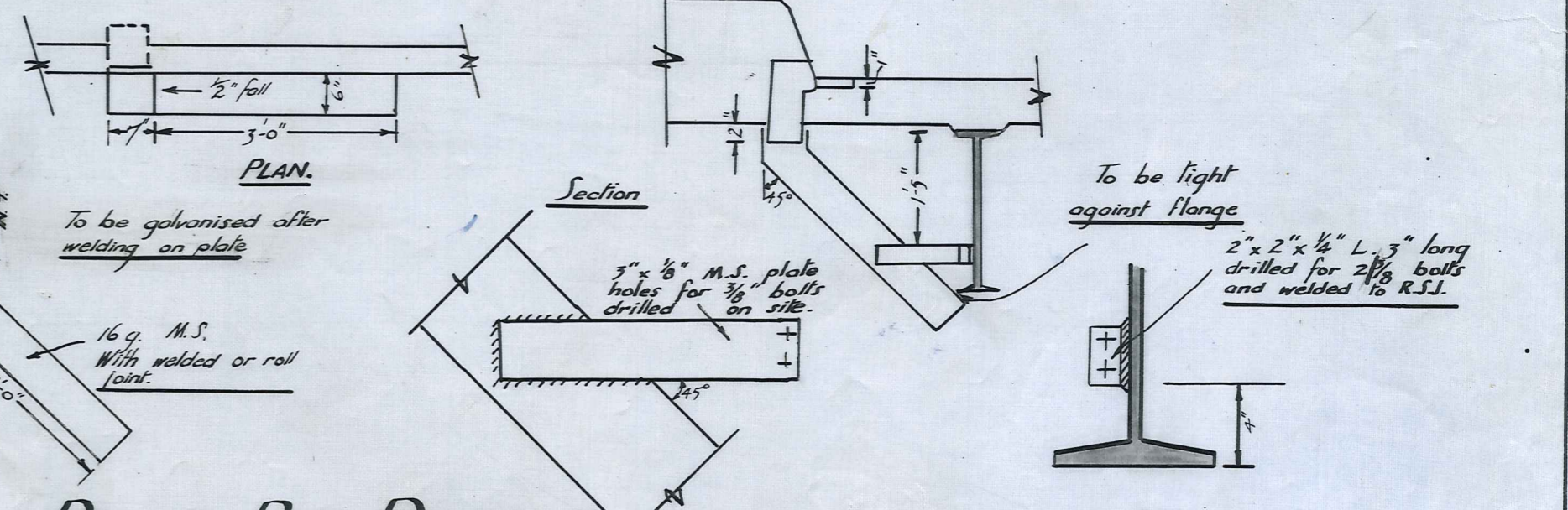
Six Thus  
Scale 1 1/2" = 1'-0"



**PAP DIAGRAM**

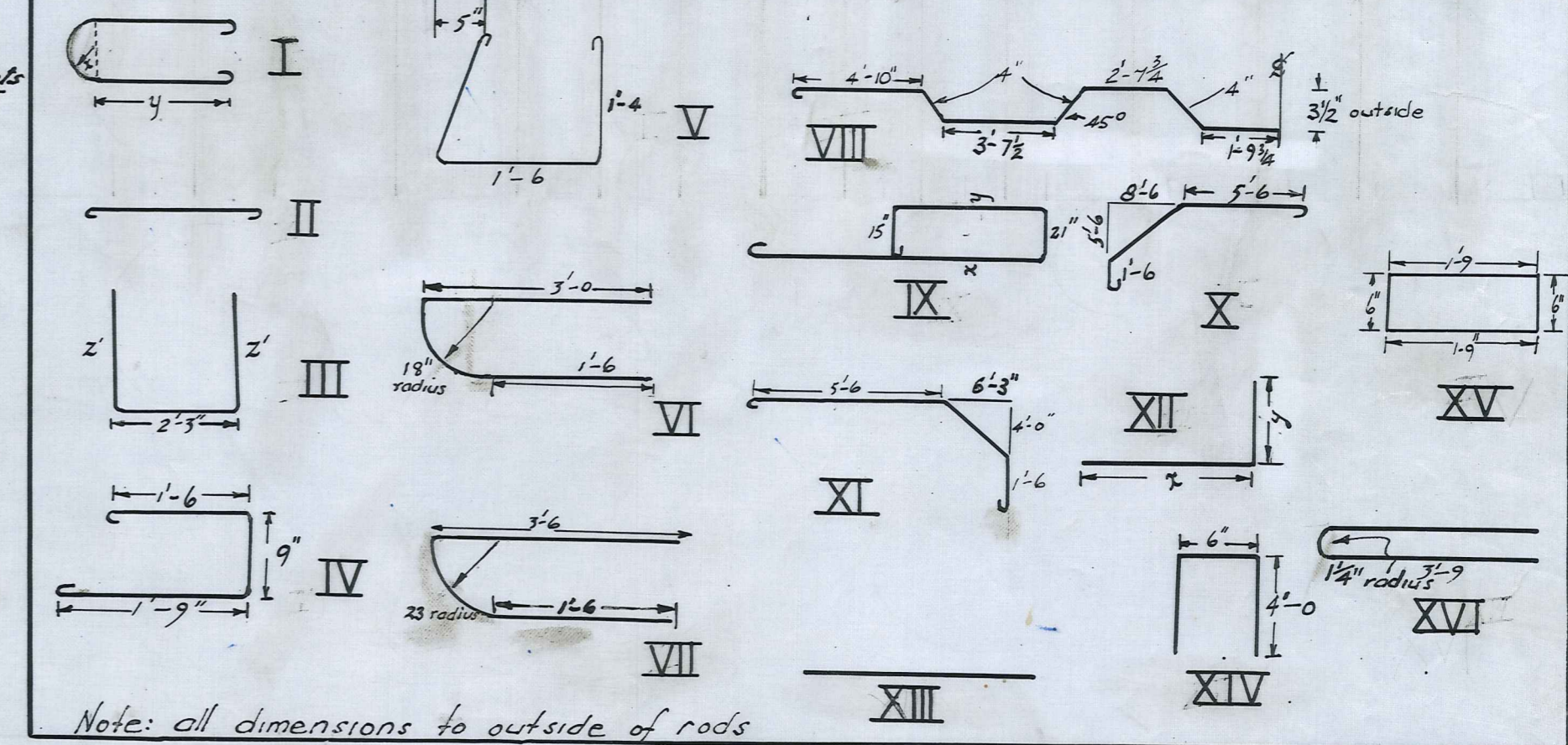


**Standard C.I. drainage pipe**

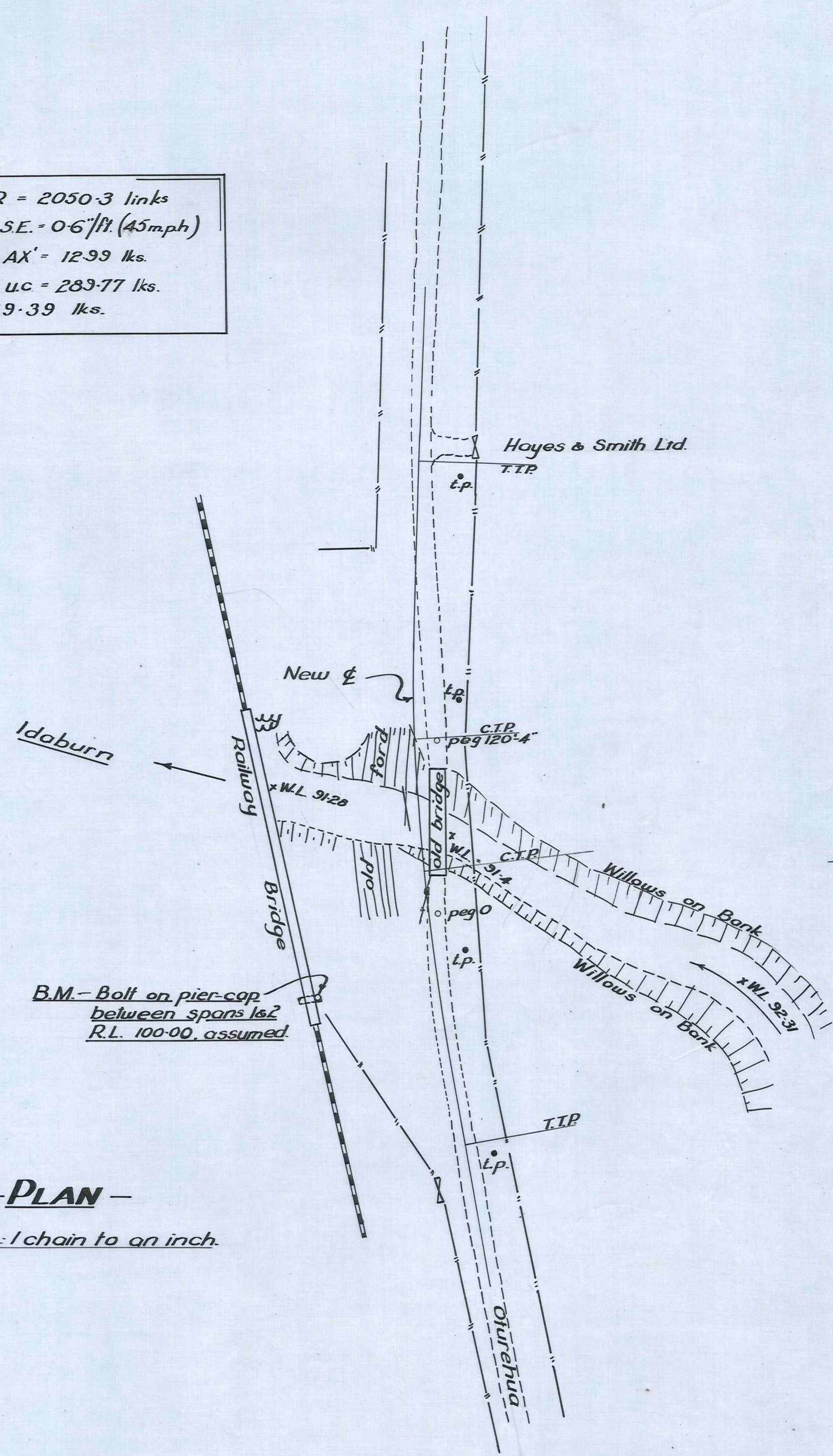


**DRAIN PIPE DETAILS**

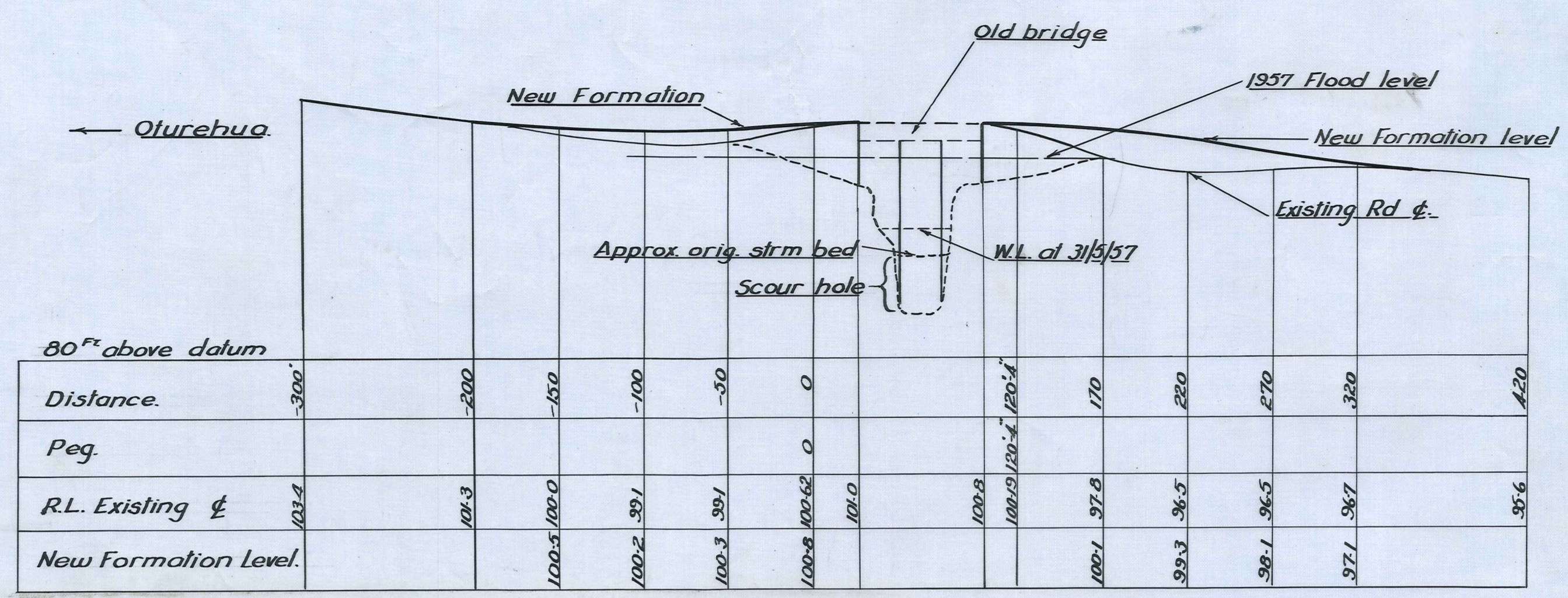
Rod.	Dia.	No.	Cut Length	Shape	x	y	z	Rod.	Dia.	No.	Cut Length	Shape	x	y	z
P1	3/8"	4	4'-9 1/2"	I	13 1/2"	1'-9"		A14	3/8"	2	15'-5"	IX	6'-3"	4'-9"	
P2	3/8"	4	7'-4 1/2"	I	12'-8"	19 1/2"		A15	3/8"	2	15'-3"	IX	6'-3"	4'-9"	
P3	3/8"	4	6'-11"	I	12'-8"	18"		A16	3/8"	2	15'-2"	IX	6'-2"	4'-9"	
P4	3/8"	4	6'-6"	I	11'-2"	16 1/2"		A17	3/8"	2	12'-10"	IX	6'-2"	4'-5"	
P5	3/8"	4	6'-1"	I	10'-8"	15"		A18	3/8"	2	12'-7"	IX	6'-1"	4'-5"	
P6	3/8"	4	5'-8"	I	10'-8"	13 1/2"		A19	3/8"	2	12'-8"	IX	6'-0"	4'-5"	
P7	3/8"	4	5'-4"	I	9'-2"	12"		A20	3/8"	2	12'-8"	IX	6'-0"	4'-5"	
P8	3/8"	4	5'-9"	II				A21	3/8"	2	12'-7"	IX	5'-11"	4'-5"	
P9	3/8"	4	8'-0"	II				A22	3/8"	2	12'-6"	IX	5'-10"	4'-5"	
P10	3/8"	4	8'-0"	II				A23	3/8"	2	12'-5"	IX	5'-9"	4'-5"	
P11	3/8"	4	7'-6"	II				A24	3/8"	2	12'-6"	IX	5'-10"	4'-5"	
P12	1"	16	14'-9"	II											
P13	3/8"	2	11'-6"	II											
P14	3/8"	2	10'-6"	II				W1	3/4"	2	18'-3"	X			
P15	3/8"	8	11'-6"	II				W2	3/4"	2	15'-9"	XI			
P16	3/8"	24	11'-2"	II				W3	3/8"	2	4'-4"	IX	2'-7"	1'-9"	
P17	3/8"	20	11'-0"	II				W4	3/8"	14	5'-5"	XII	3'-8"	1'-9"	
P18	3/8"	24	10'-8"	II				W5	3/8"	2	6'-4"	IX	4'-7"	1'-9"	
P19	3/8"	38	6'-6"	III				W6	3/8"	2	7'-5"	XII	5'-8"	1'-9"	
								W7	3/8"	2	8'-5"	XII	6'-8"	1'-9"	
								W8	3/8"	2	9'-6"	XII	7'-9"	1'-9"	
K1	3/8"	166	4'-7"	IX				W9	3/8"	2	7'-9"	XII	6'-0"	1'-9"	
K2	3/8"	166	4'-9"	IX				W10	3/8"	2	7'-2"	XII	5'-5"	1'-9"	
K3	3/8"	4	7'-5"	VII				W11	3/8"	2	6'-2"	XII	4'-5"	1'-9"	
K4	3/8"	4	7'-10"	VII				W12	3/8"	2	5'-2"	XII	3'-5"	1'-9"	
								W13	3/8"	2	4'-2"	XII	2'-5"	1'-9"	
								W14	1/2"	2	7'-0"	XII			
d1	3/8"	63	28'-10"	VIII				W15	1/2"	2	9'-3"	XII			
d2	3/8"	122	28'-5"	IX				W16	1/2"	2	11'-3"	XII			
d3	1/2"	70	25'-3"	XIII	25'	span		W17	1/2"	4	12'-6"	IX			
d4	1/2"	35	29'-3"	XIII	30'	span		W18	1/2"	2	6'-3"	XII			
								W19	1/2"	2	7'-3"	XII			
								W20	1/2"	2	9'-3"	XII			
A1	3/8"	2	18'-6"	IX	7'-2"	7'-3"		W21	1/2"	4	10'-5"	XII			
A2	3/8"	2	16'-5"	IX	7'-0"	5'-5"		W22	1/2"	24	15'-3"	XII			
A3	3/8"	2	16'-3"	IX	6'-10"	5'-5"		W23	1"	8	15'-3"	XII			
A4	3/8"	2	16'-2"	IX	6'-9"	5'-5"		W24	1/2"	4	8'-6"	XII			
A5	3/8"	2	16'-1"	IX	6'-8"	5'-5"		W25	1/2"	4	8'-0"	XII			
A6	3/8"	2	15'-8"	IX	6'-8"	5'-1"		W26	1/2"	4	11'-3"	XII			
A7	3/8"	2	15'-7"	IX	6'-7"	5'-1"		W27	1/2"	8	15'-0"	XIII			
A8	3/8"	2	15'-7"	IX	6'-7"	5'-1"									
A9	3/8"	2	15'-6"	IX	6'-6"	5'-1"									
A10	3/8"	2	15'-5"	IX	6'-5"	5'-1"		H1	5/8"	12	8'-6"	XIV			
A11	3/8"	2	15'-2"	IX	6'-5"	4'-9"		H2	6g	28	6'-0"	XV			
A12	3/8"	2	15'-1"	IX	6'-4"	4'-9"		H3	3/8"	44	7'-9"	XVI			
A13	3/8"	2	15'-1"	IX	6'-4"	4'-9"		H4	6g	132	1'-3"	II	no heads		



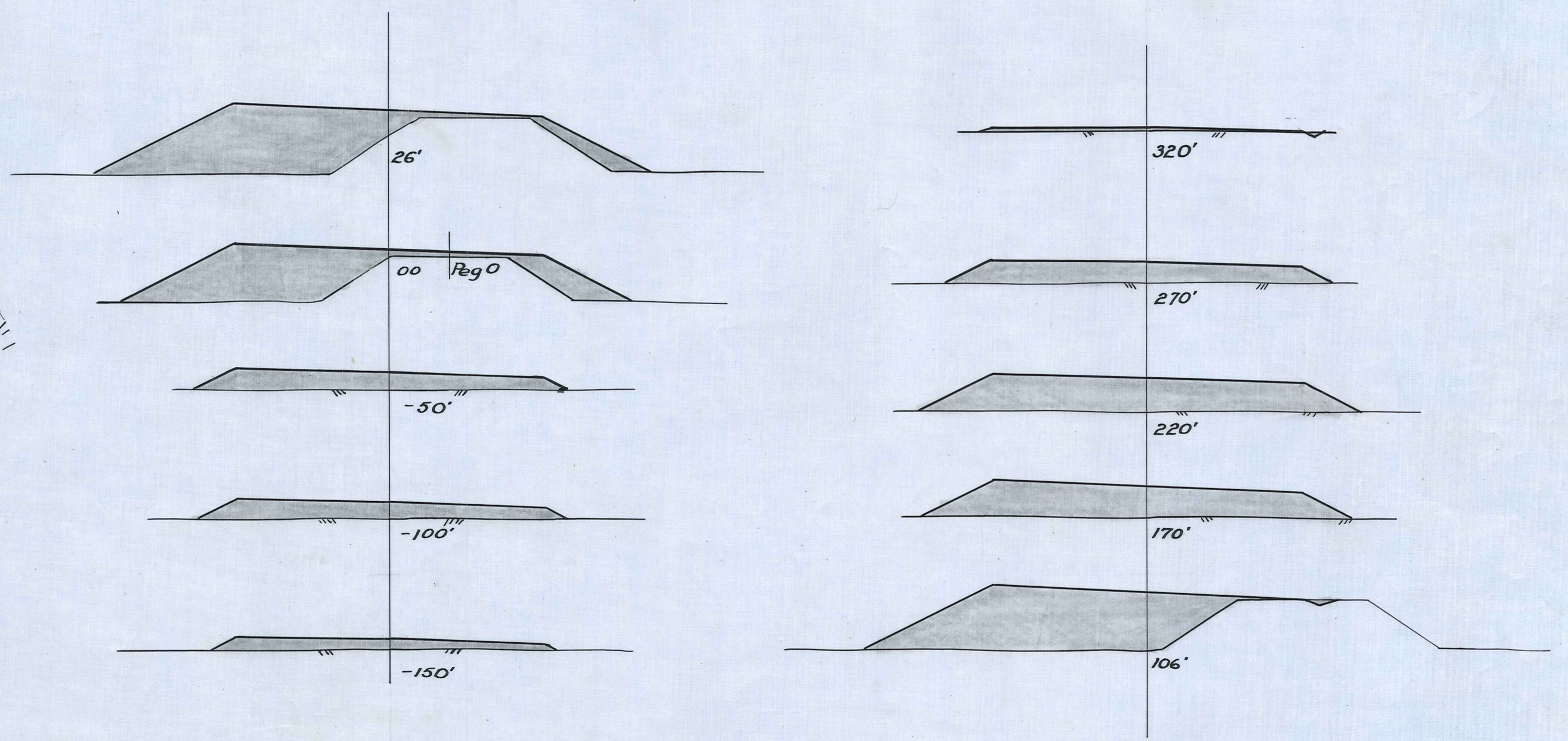
$\Delta = 12^\circ$   $R = 2050.3$  links  
 $SV = 50$  mph.  $SE = 0.6$  ft. (45 mph)  
 $AO = 360.45$   $AX' = 12.99$  lks.  
 $L. trans 2.25 uc = 283.77$  lks.  
 $L. c.c.a = 139.39$  lks.



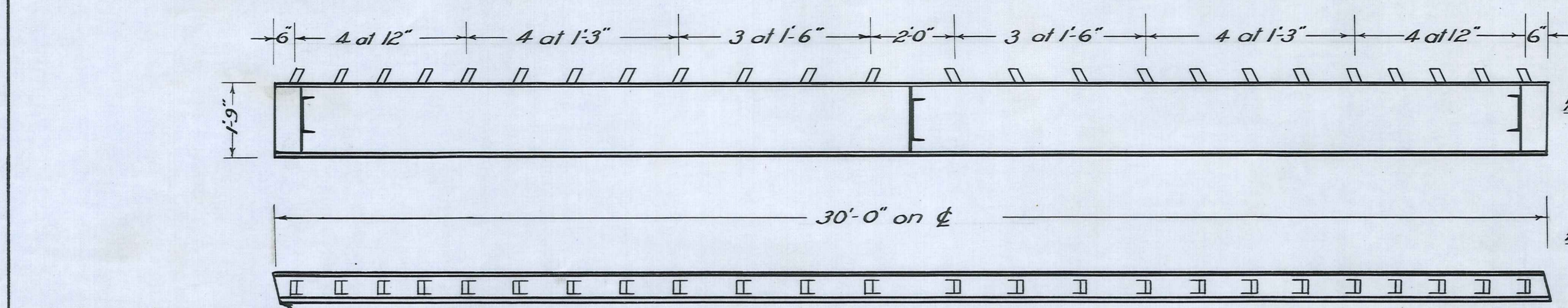
**PLAN**  
 Scale: 1 chain to an inch.



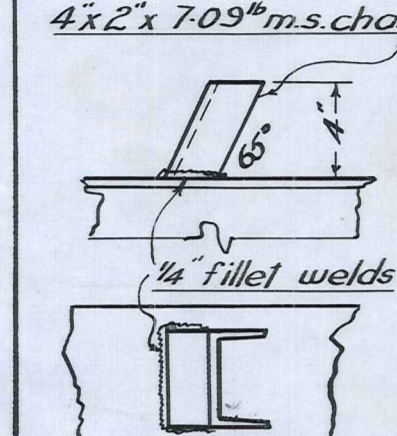
**LONGITUDINAL SECTION.**  
 Scales: Horizontal 1 chain to an inch  
 Vertical 10 feet to an inch.



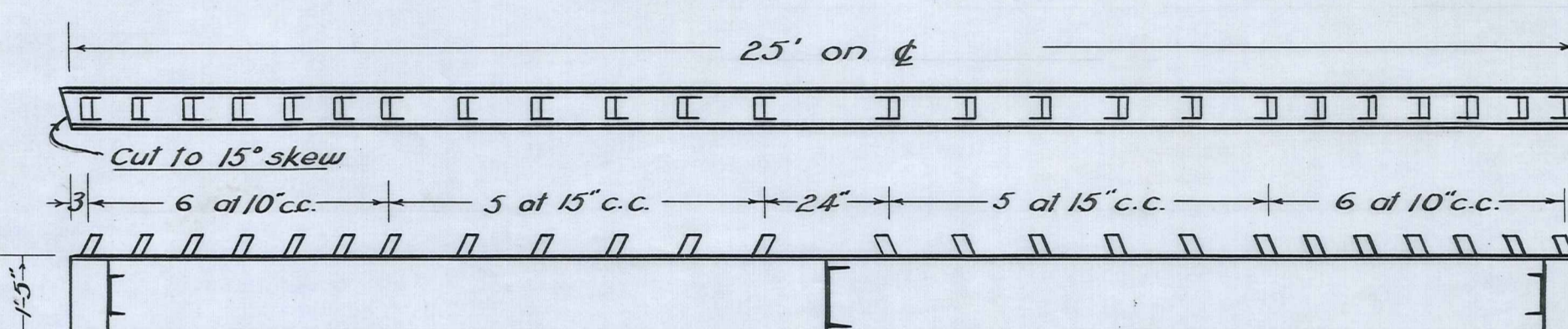
**CROSS SECTIONS.**  
 Scale: 10 feet to an inch.



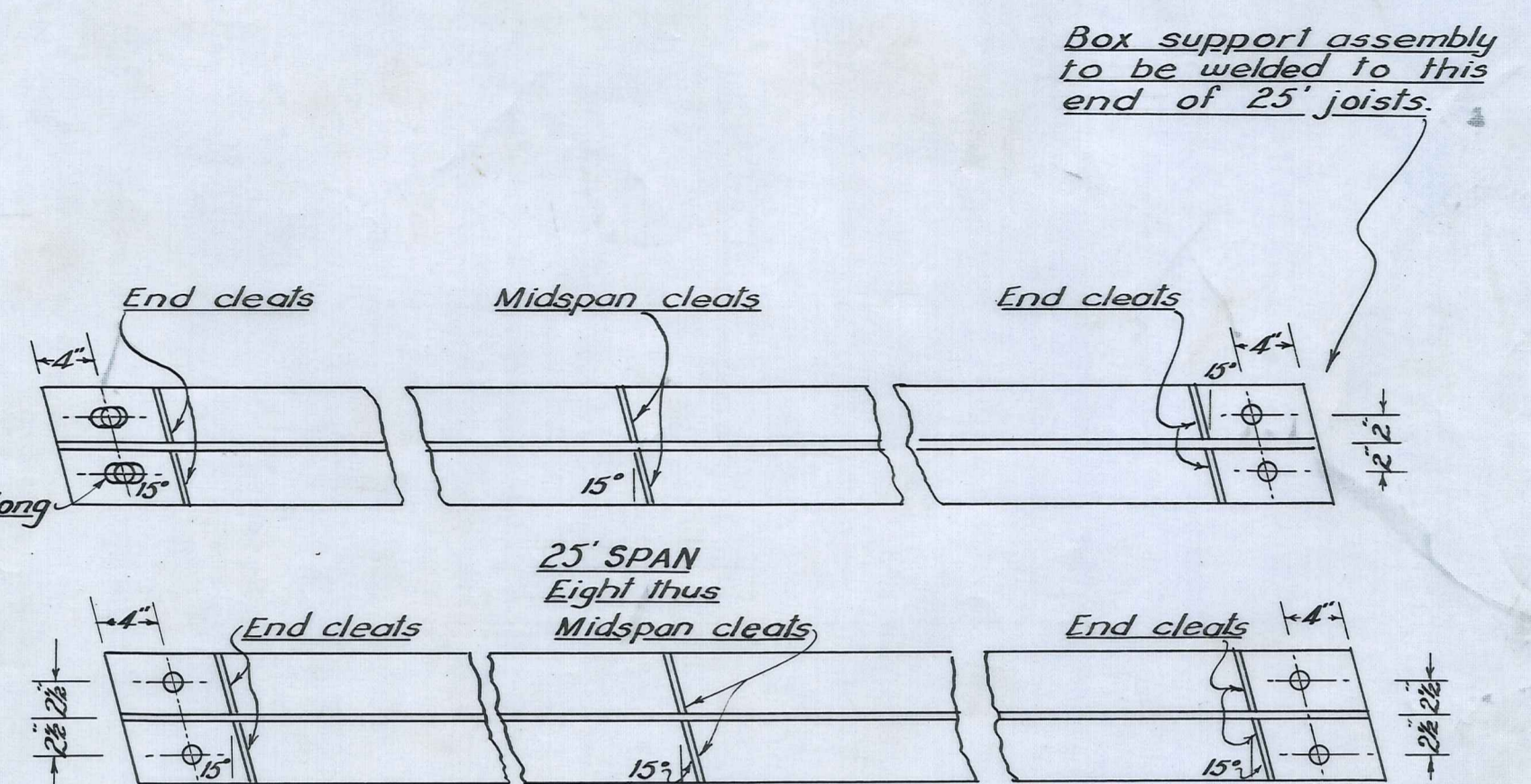
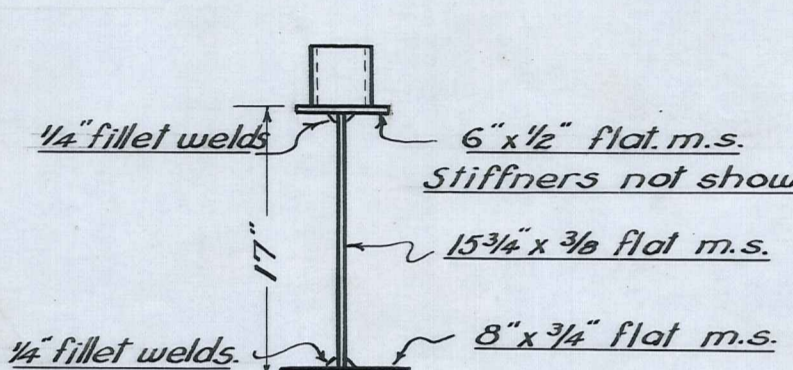
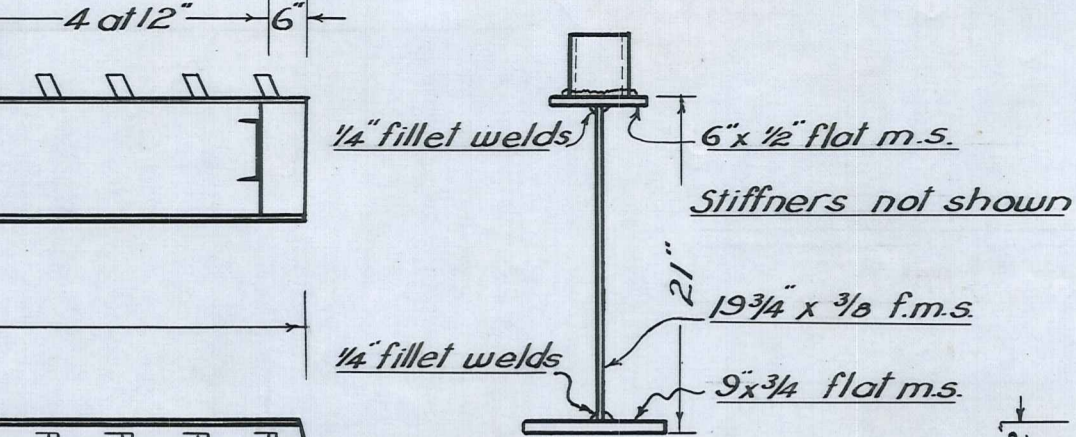
**— JOIST DETAILS 30' SPAN. —**  
Four thus



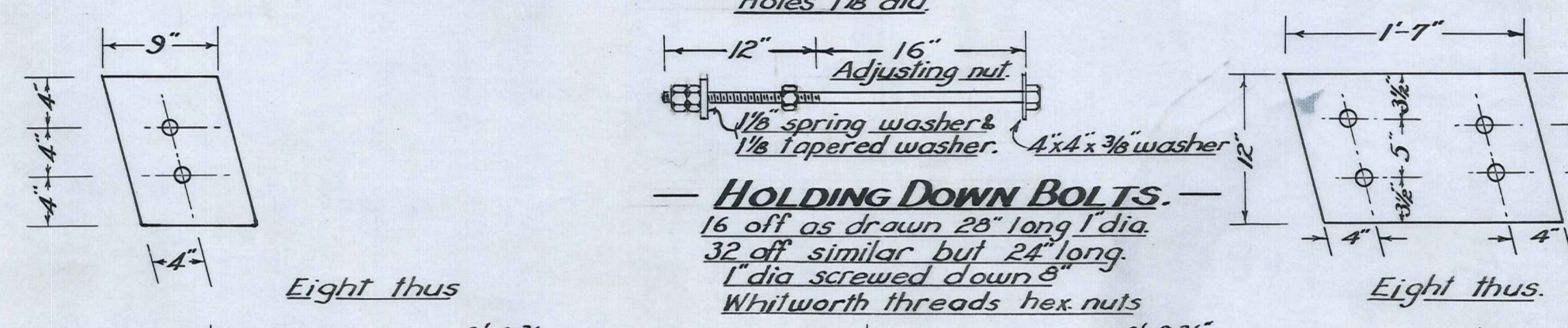
**CONNECTOR.**  
Scale 1/2" to 1'-0"



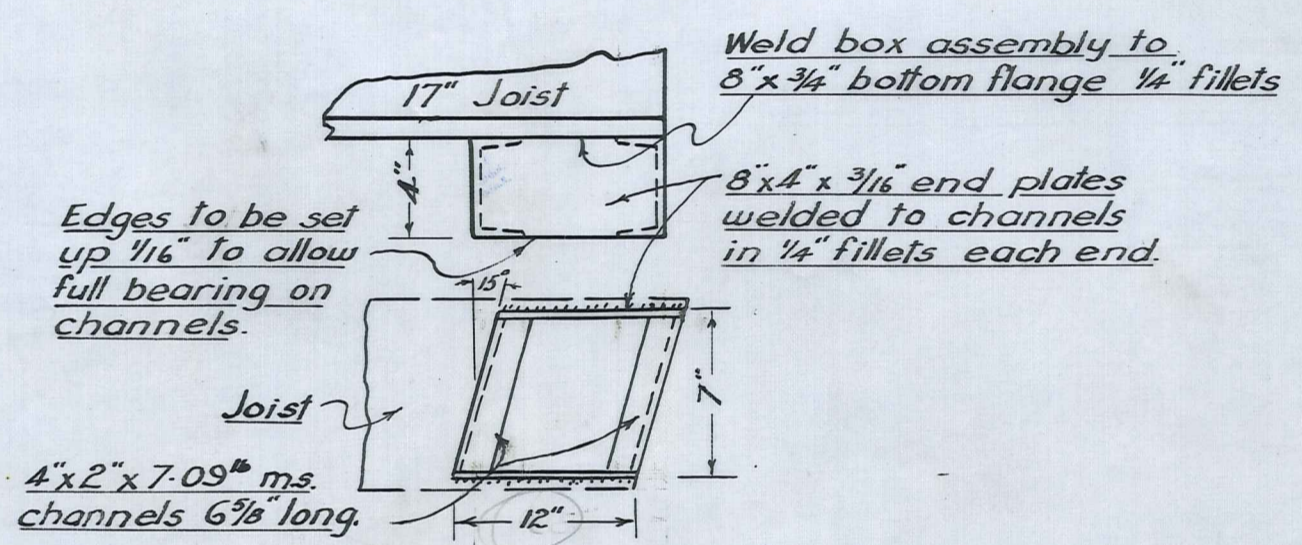
**— JOIST DETAILS 25' SPAN. —**  
Eight thus



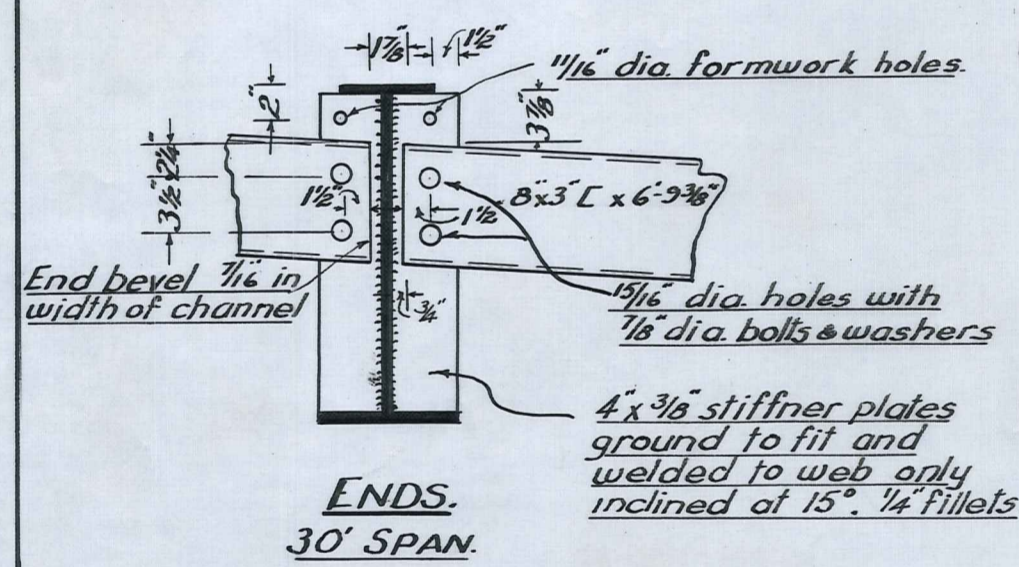
**— JOIST BORING DETAIL. —**  
Holes 1 1/8" dia.



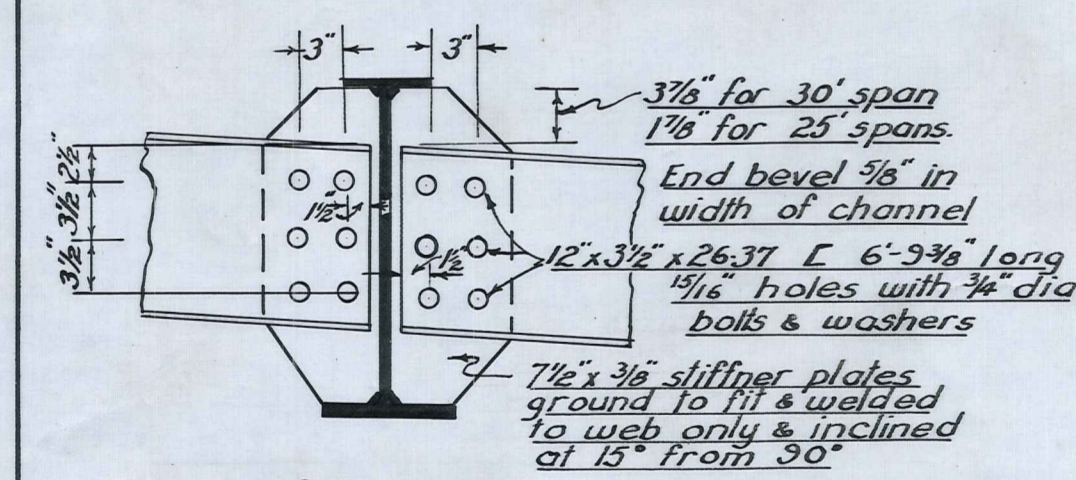
**— HOLDING DOWN BOLTS. —**  
16 off as drawn 20" long 1" dia.  
32 off similar but 24" long  
1" dia screwed down 8"  
Whitworth threads hex nuts



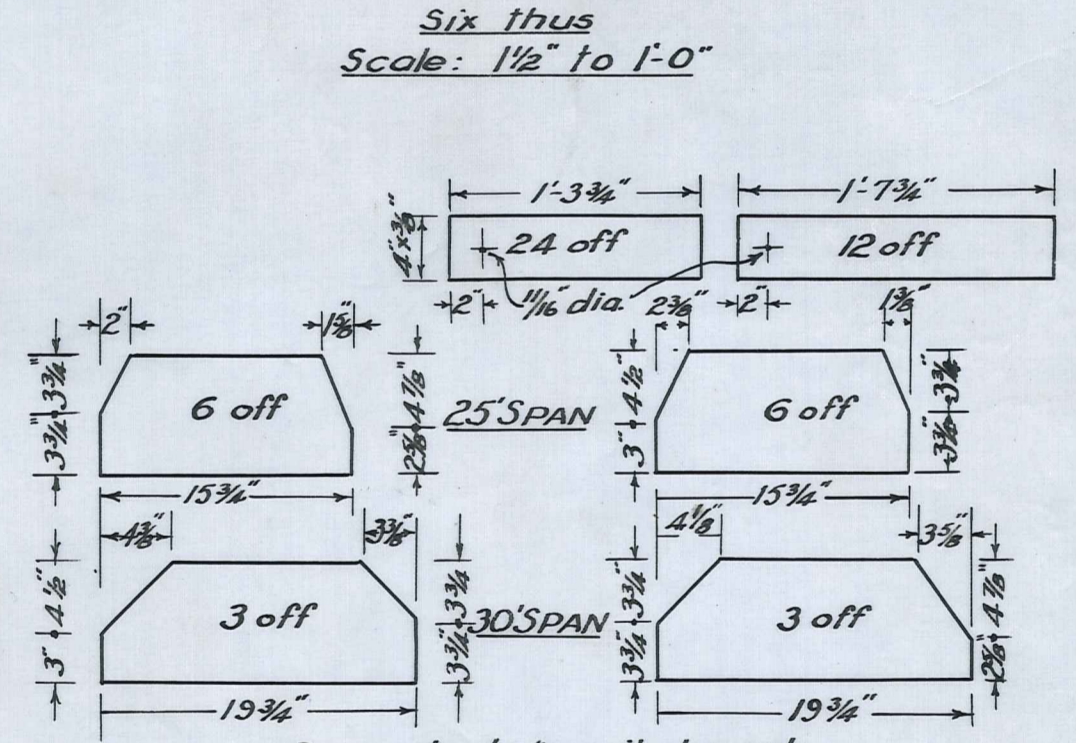
**— BOX ASSEMBLY AT PIERS FOR 25' SPAN GIRDERS. —**  
Six thus  
Scale: 1/2" to 1'-0"



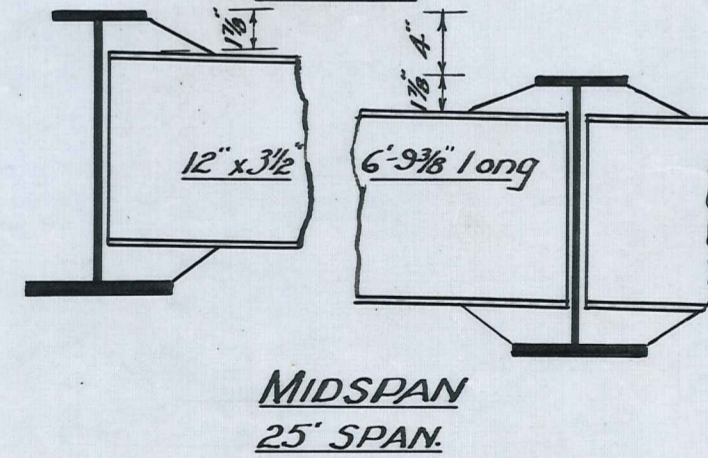
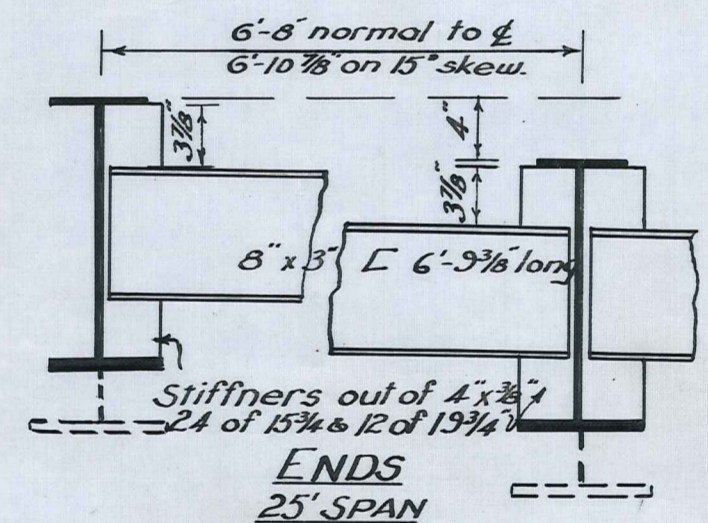
**ENDS. 30' SPAN.**



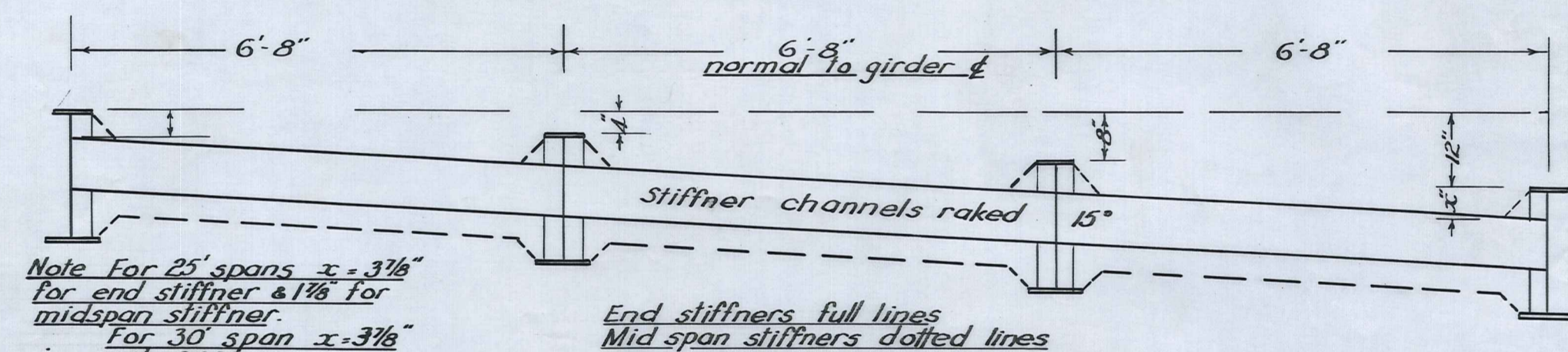
**MIDSPAN. 30' SPAN.**



**— STIFFNER DETAILS. —**  
Scale 1 in to 1'-0"



**MIDSPAN 25' SPAN.**



**— ARRANGEMENT OF GIRDERS IN BRIDGE. —**

**STRUCTURAL STEELWORK DETAILS.**