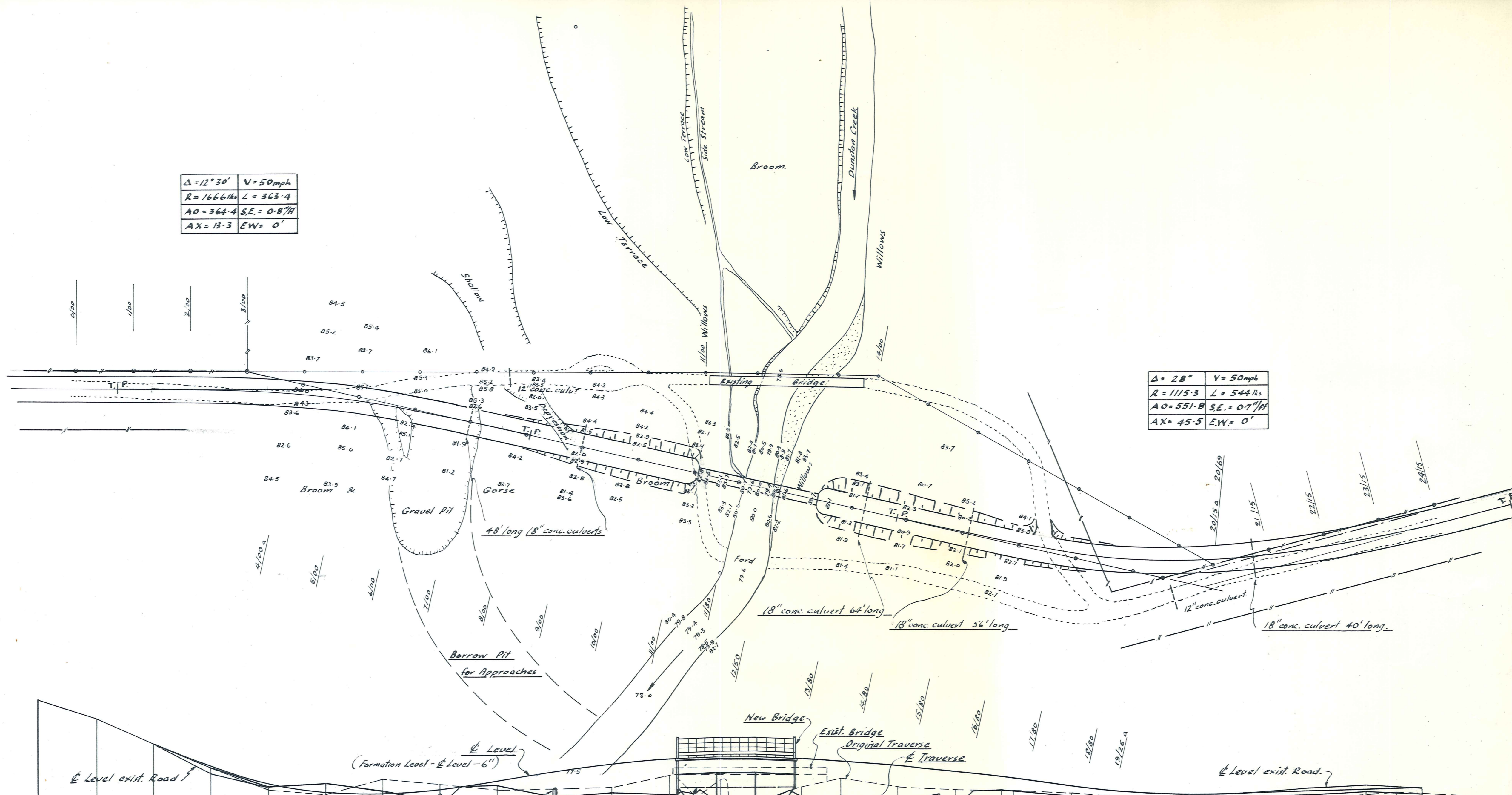


$\Delta = 12^\circ 30'$	$V = 50 \text{ mph}$
$R = 1666 \frac{1}{2}$	$L = 363.4$
$AO = 364.4$	$SE = 0.8''/ft$
$AX = 13.3$	$EW = 0'$

$\Delta = 28^\circ$	$V = 50 \text{ mph}$
$R = 1115.3$	$L = 544 \frac{1}{2}$
$AO = 551.8$	$SE = 0.7''/ft$
$AX = 45.5$	$EW = 0'$



	Level exist. Road																					
	Formation Level = Level - 6"																					
	Level																					
	New Bridge																					
	Exist. Bridge																					
	Original Traverse																					
	Level																					
	Level exist. Road																					
	18" culverts																					
	design flood level 84.0																					
	18" culverts																					
70.0' above datum.																						
ORIGINAL TRAVERSE CHAINAGE	0+00	100+00	200+00	300+00	400+00	500+00	600+00	700+00	800+00	900+00	1000+00	1100+00	1200+00	1300+00	1400+00	1500+00	1600+00	1700+00	1800+00	1900+00	2000+00	
ORIGINAL TRAVERSE PEG LEVEL	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	96.65	
TRAVERSE CHAINAGE	0+00	0+77	1+00	1+77	2+00	2+77	3+00	3+77	4+00	4+77	5+00	5+77	6+00	6+77	7+00	7+77	8+00	8+77	9+00	9+77	10+00	
TRAVERSE PEG LEVEL																						
FORMATION LEVEL	99.5	96.5	92.07	87.6	84.0	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	
ALIGNMENT	50 m.p.h. Transition										Straight											
GRADE	Grade as Drawn.																					

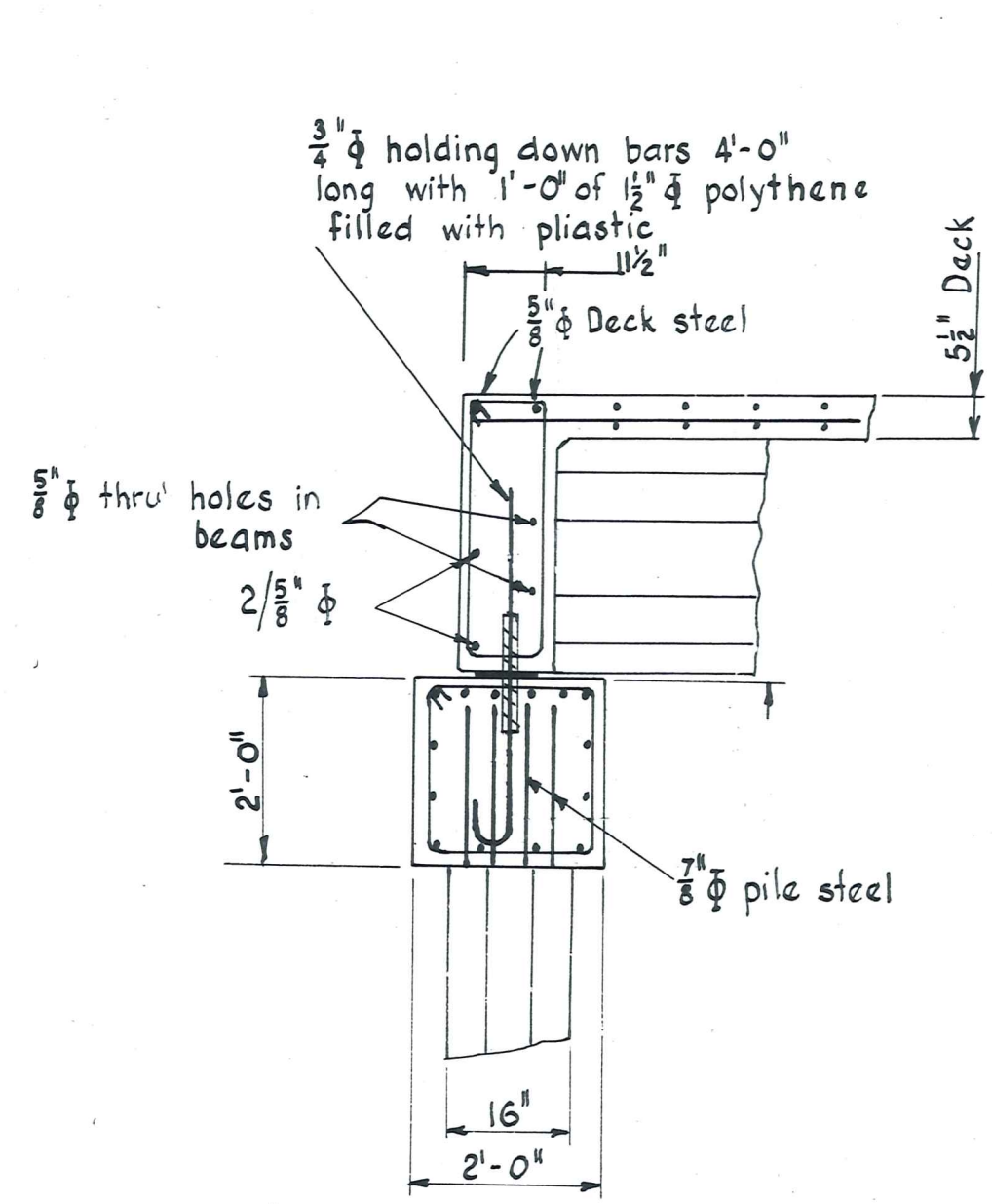
Scale: 1/4" = 10' Horiz., 10" = 10' Vert.

<h1 style="margin:0;">MANIOTOTO COUNTY COUNCIL</h1>	<h1 style="margin:0;">BEATIES BRIDGE</h1>	<p style="margin:0;">DUFFILL, WATTS &amp; KING CONSULTING CIVIL &amp; STRUCTURAL ENGINEERS DUNEDIN and INVERCARGILL</p>
		<p style="margin:0;">SURVEYED BY: G. Britton DRAWN BY: " " CHECKED BY: AET TRADED BY: " " APPROVED BY: " "</p>
		<p style="margin:0;">NAME: " " DATE: July 64 JOB No. 4451/1 FILE No 6/63</p>

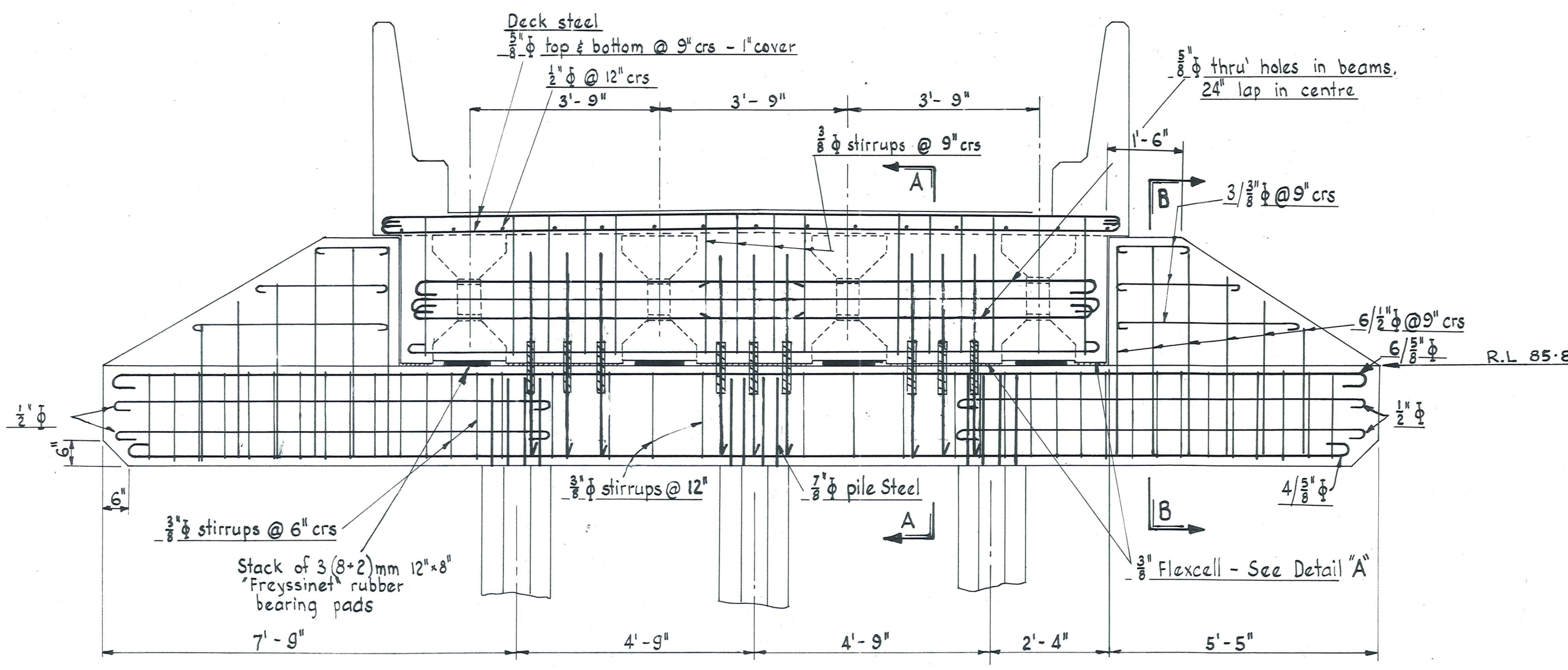




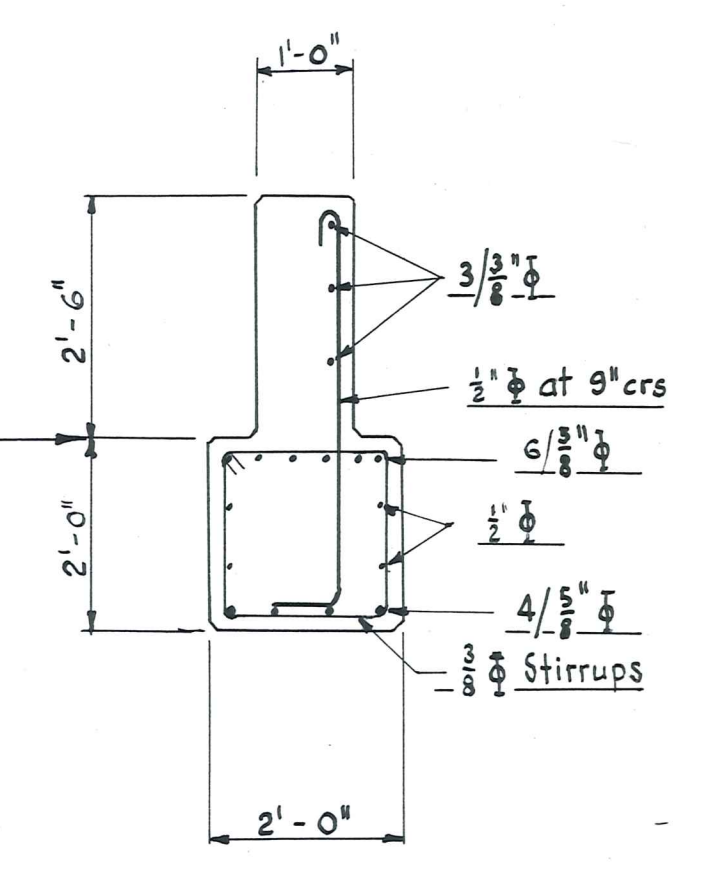




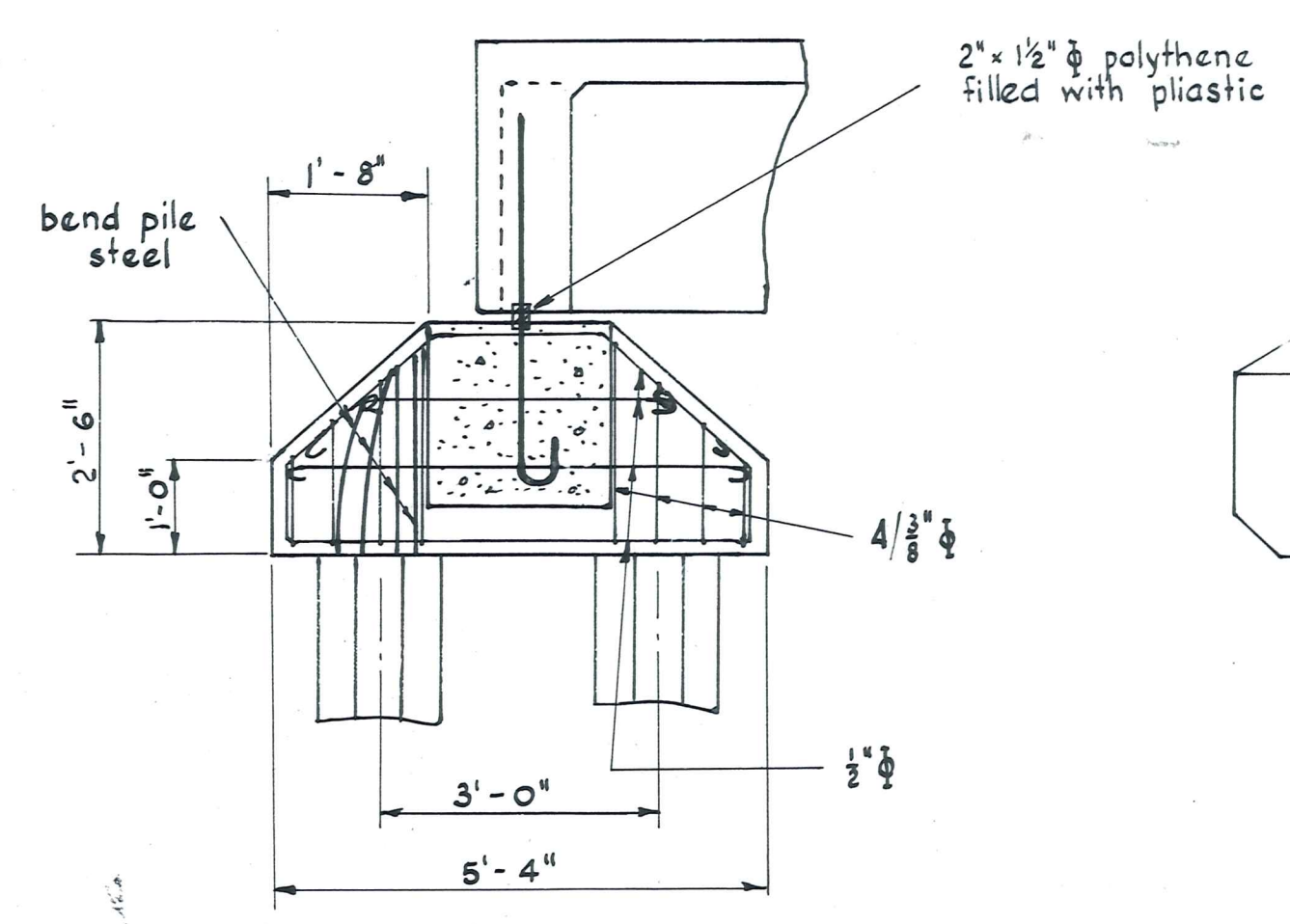
SECTION A-A  
Scale 1/2" = 1'-0"



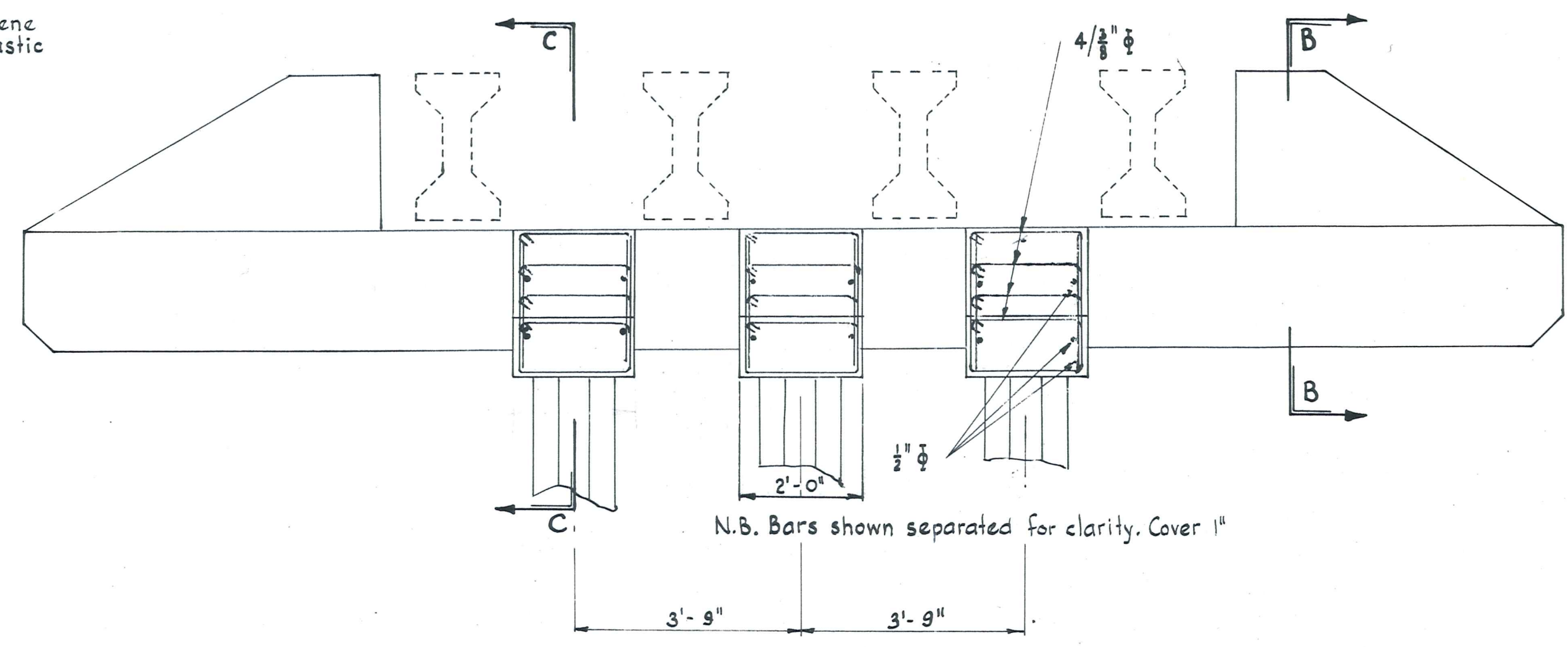
ELEVATION ABUTMENT NO 1  
Scale 1/2" = 1'-0"



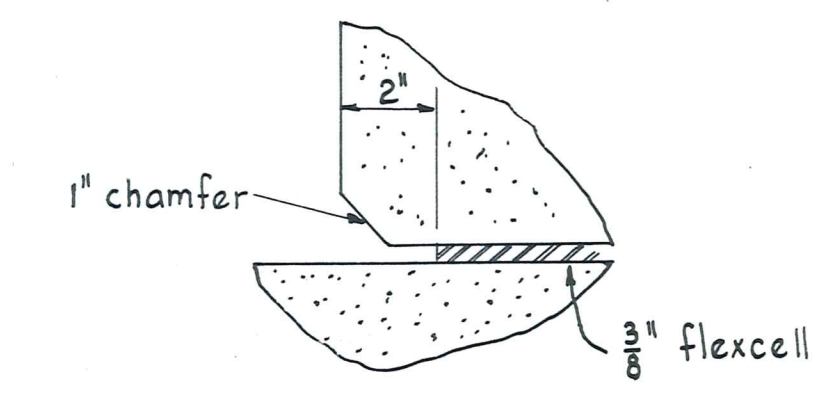
SECTION B-B  
Scale 1/2" = 1'-0"



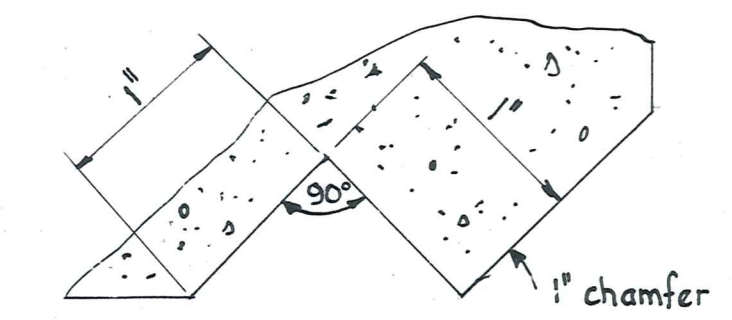
SECTION C-C  
Scale 1/2" = 1'-0"



ELEVATION ABUTMENT NO 2  
N.B. Abutment beam, diaphragm, and seating details as for Abutment No 1. Reinforcing not shown.  
Scale 1/2" = 1'-0"

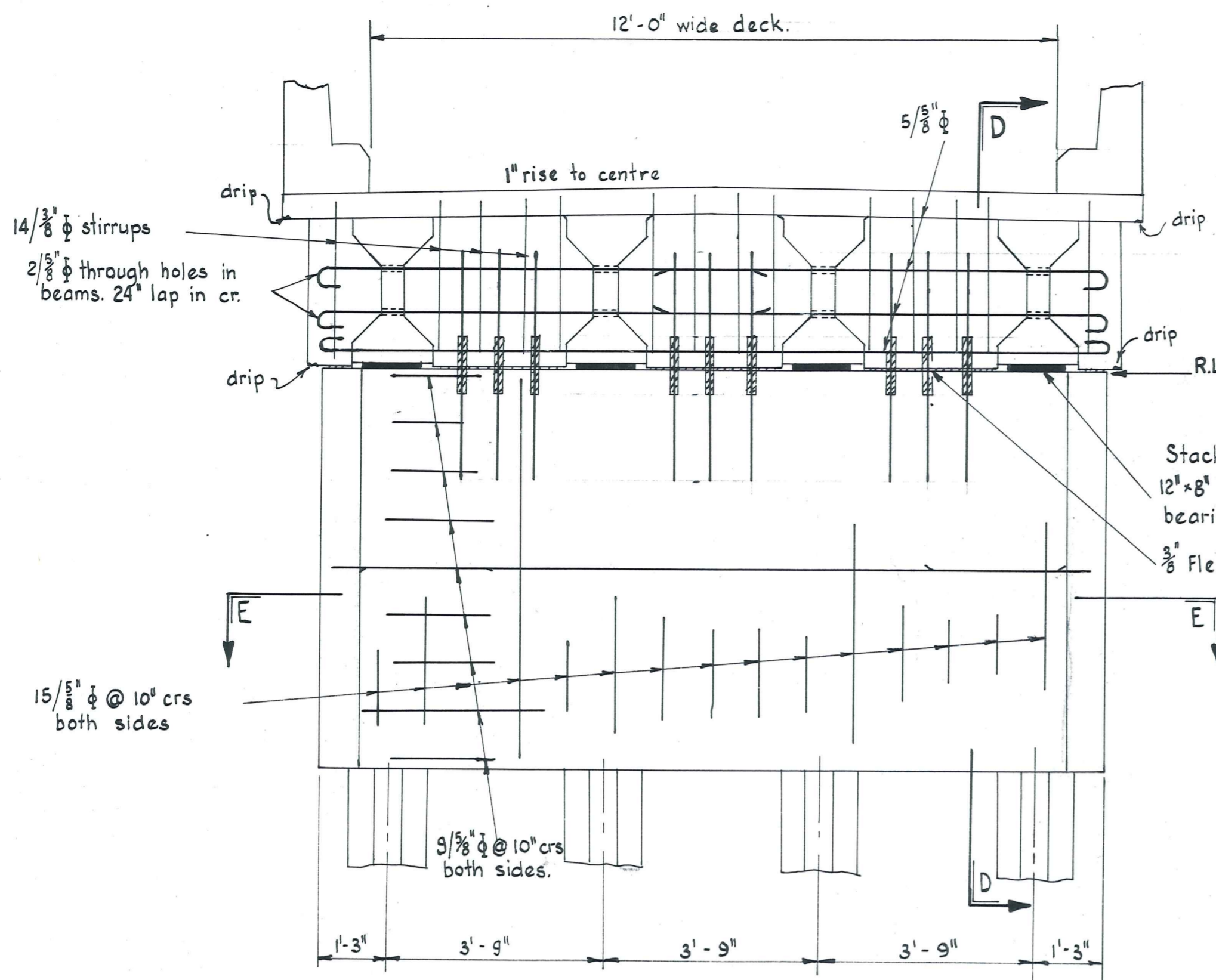


DETAIL "A"

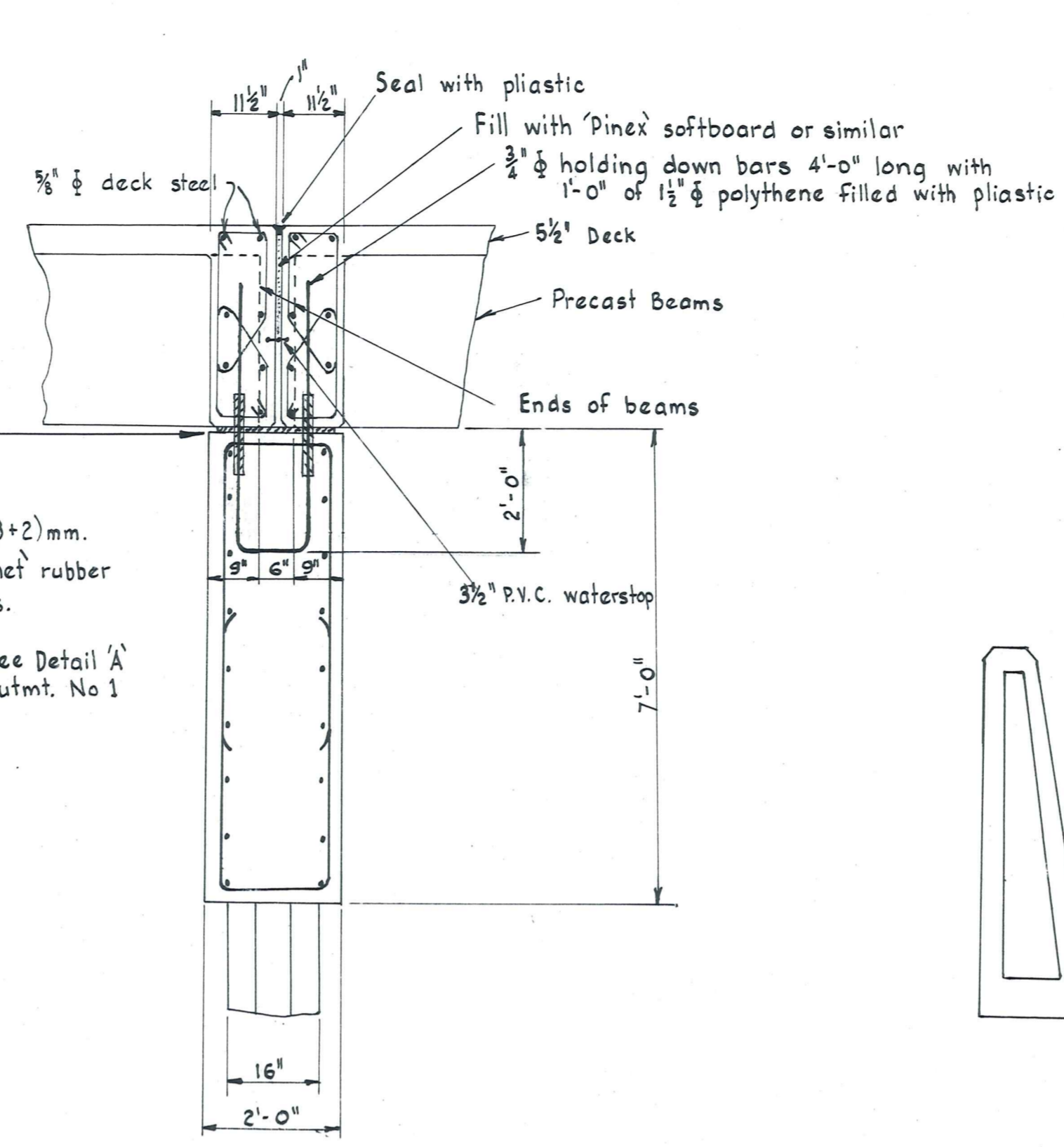


DRIP DETAIL

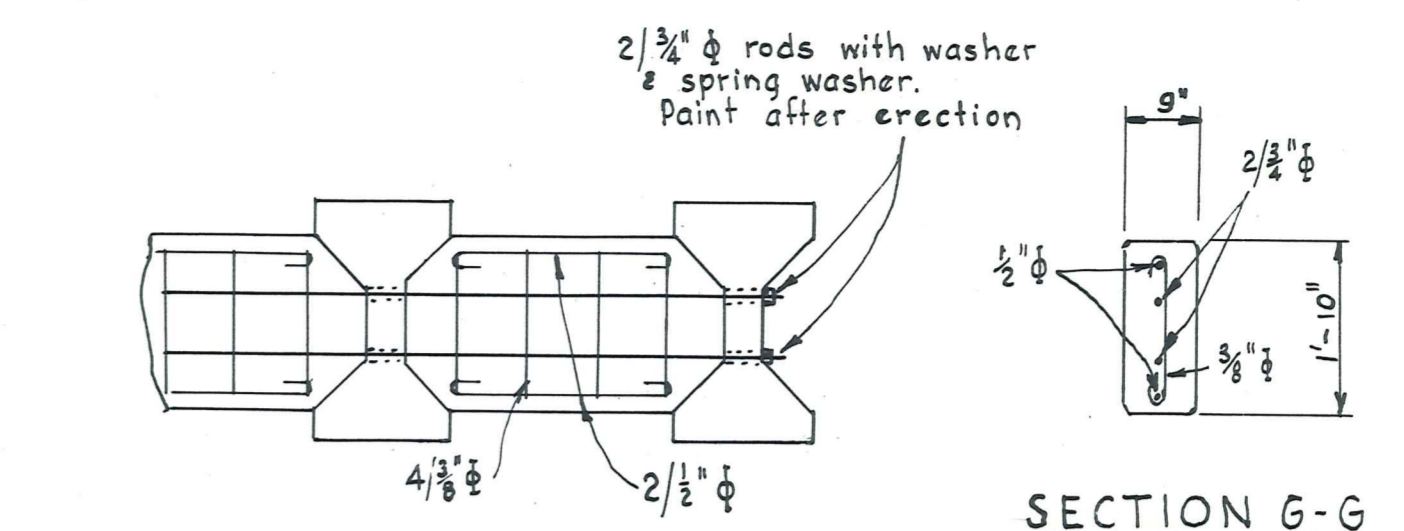




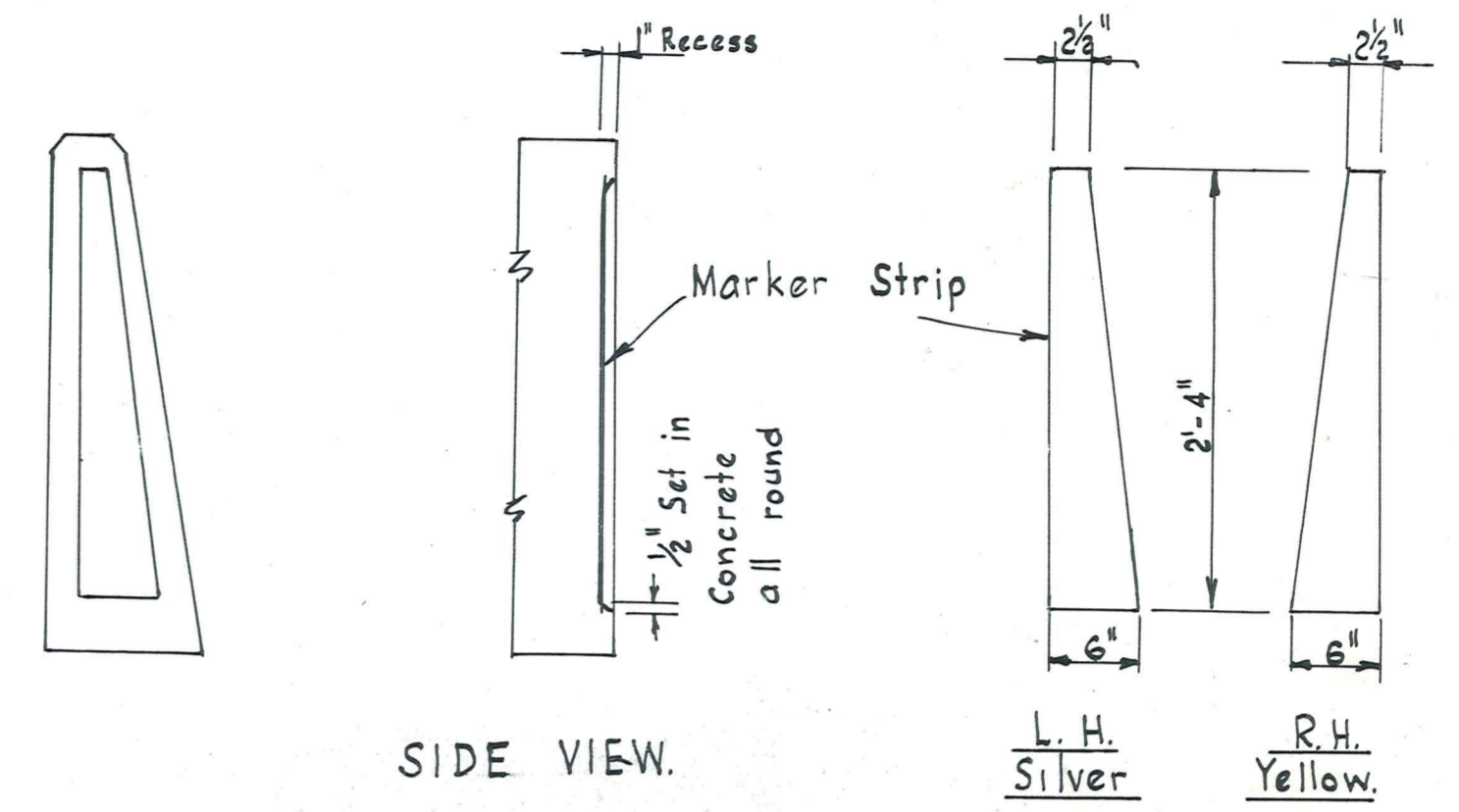
ELEVATION OF PIER



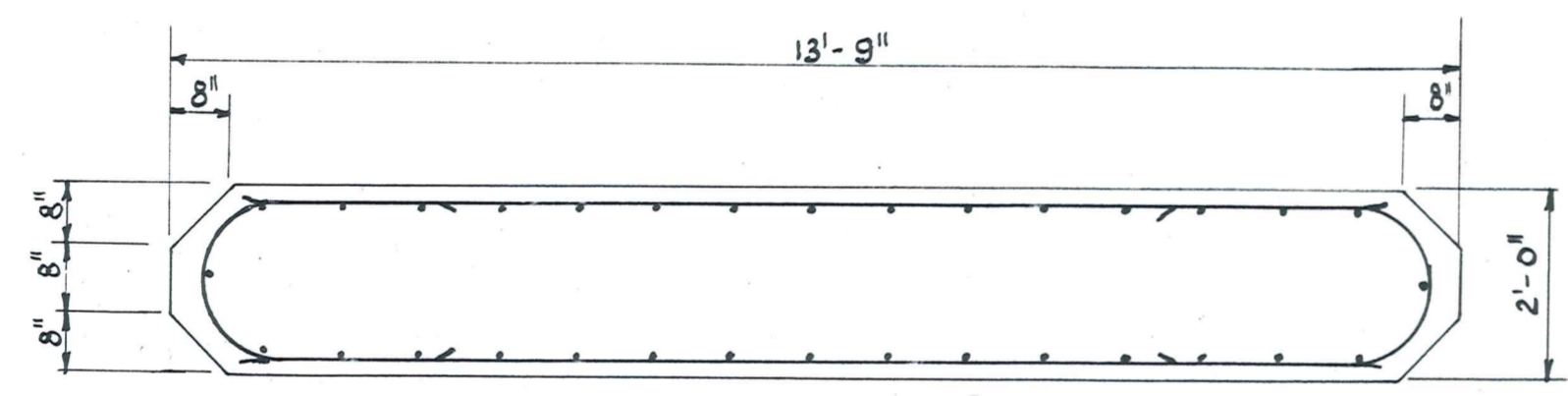
SECTION D-D



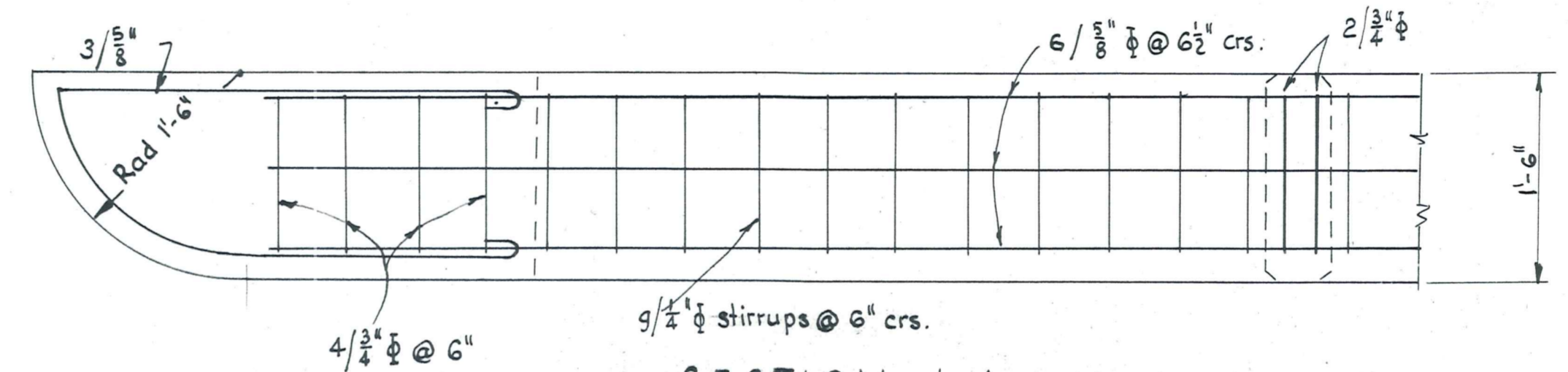
PART ELEVATION of DIAPHRAGMS  
2 thus per span.



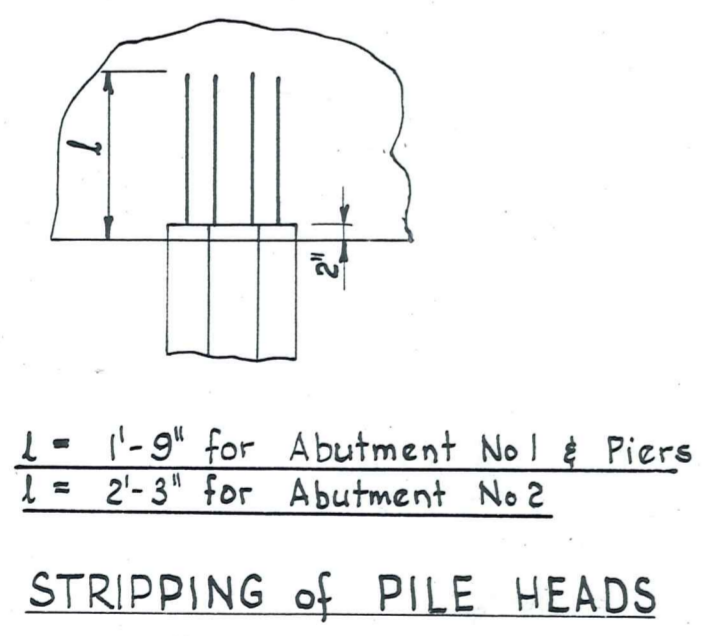
MARKER STRIP DETAILS



SECTION E-E

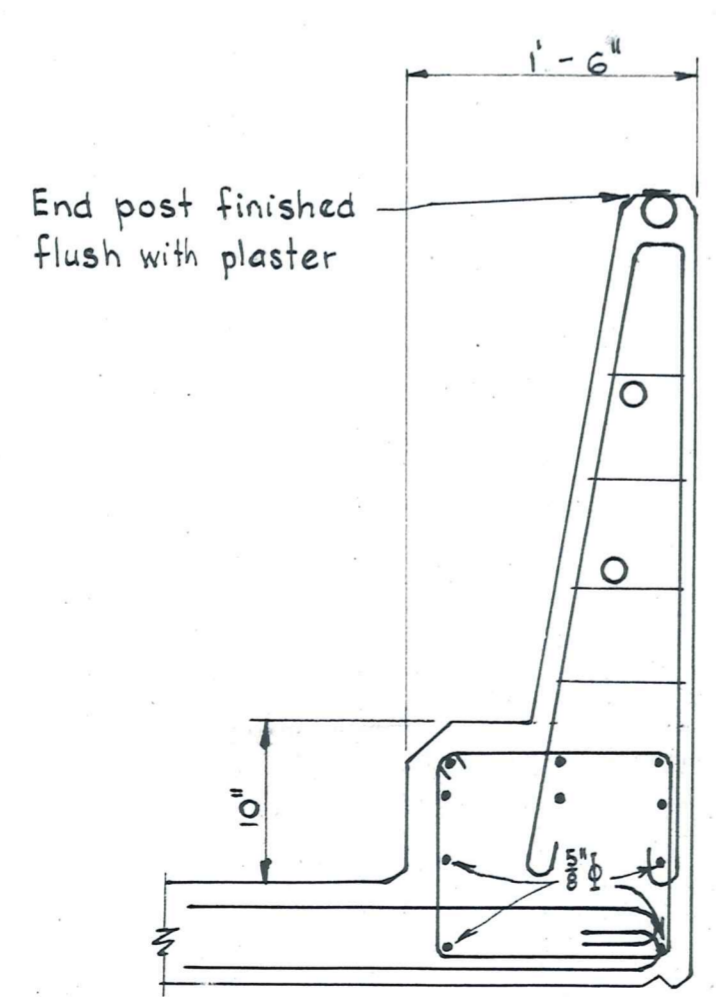


SECTION J-J

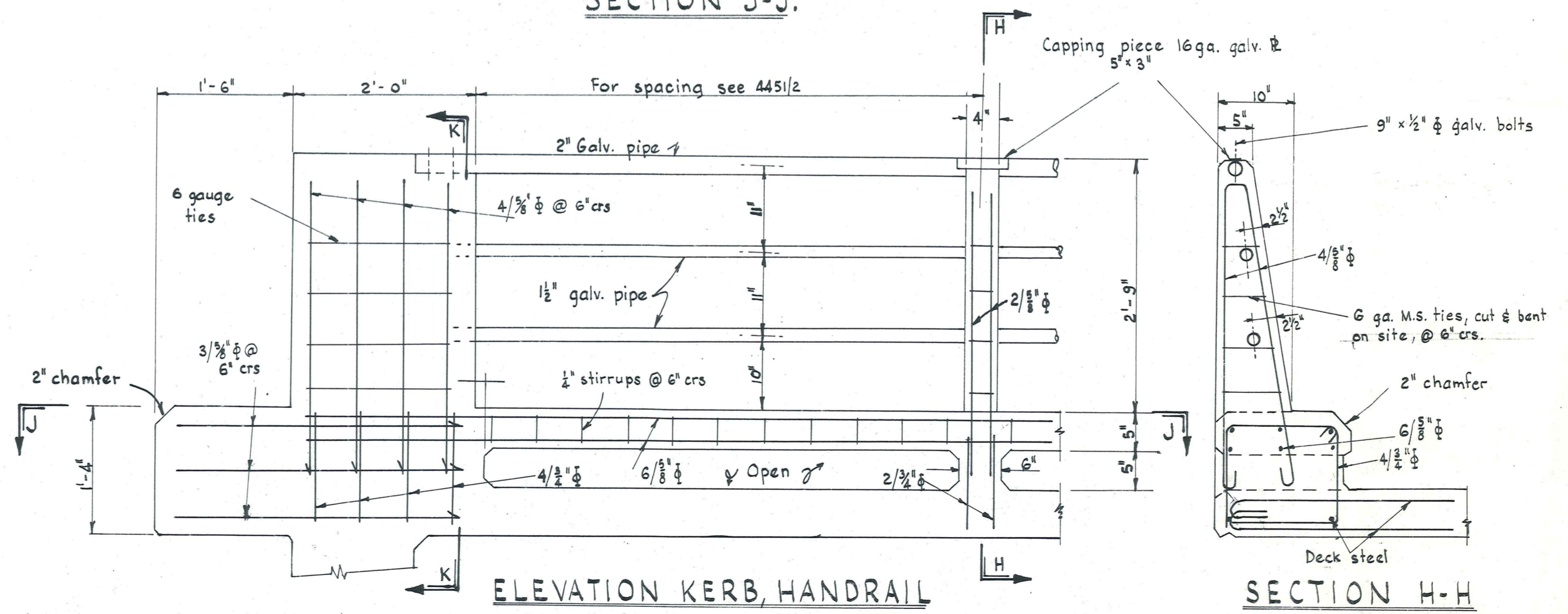


1 = 1'-9" for Abutment No 1 & Piers  
1 = 2'-3" for Abutment No 2

STRIPPING of PILE HEADS



SECTION K-K  
Other features as for H-H.

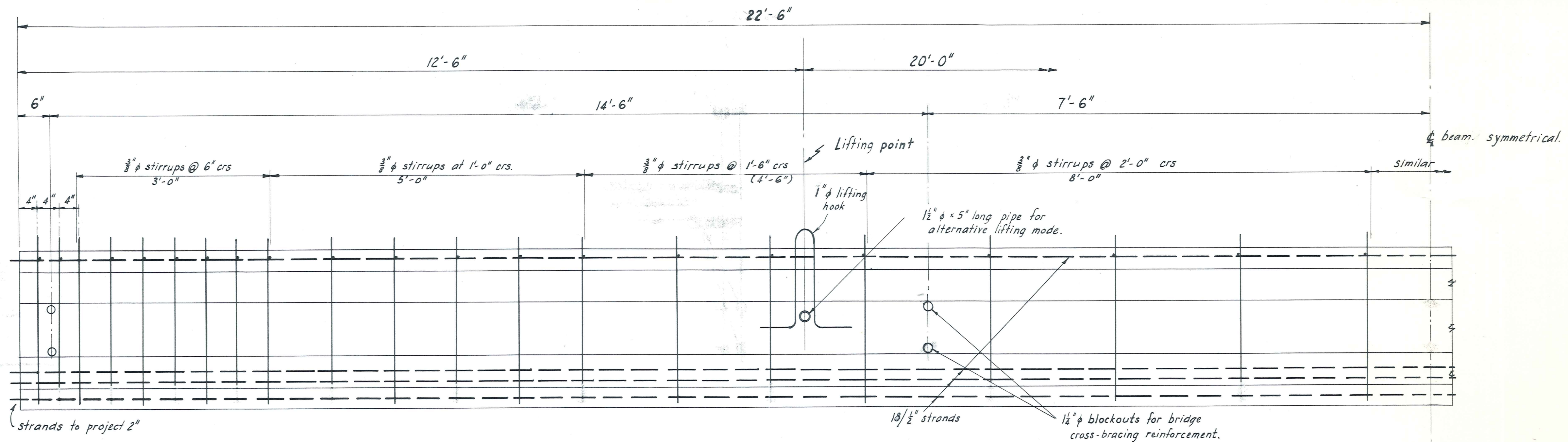


ELEVATION KERB, HANDRAIL

SECTION H-H

Scales 1/2", 1" = 1'-0"

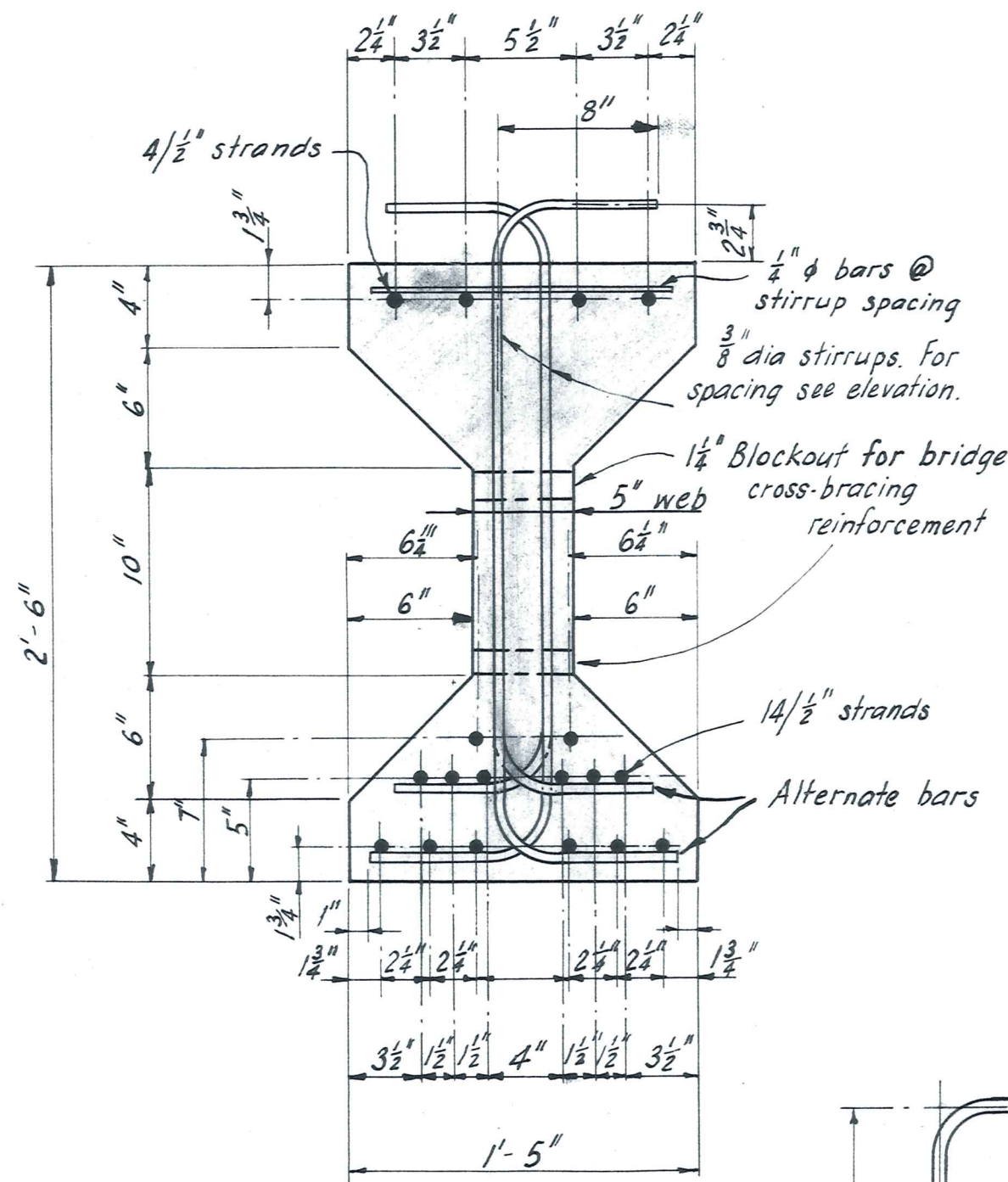




**HALF ELEVATION OF BEAM,**

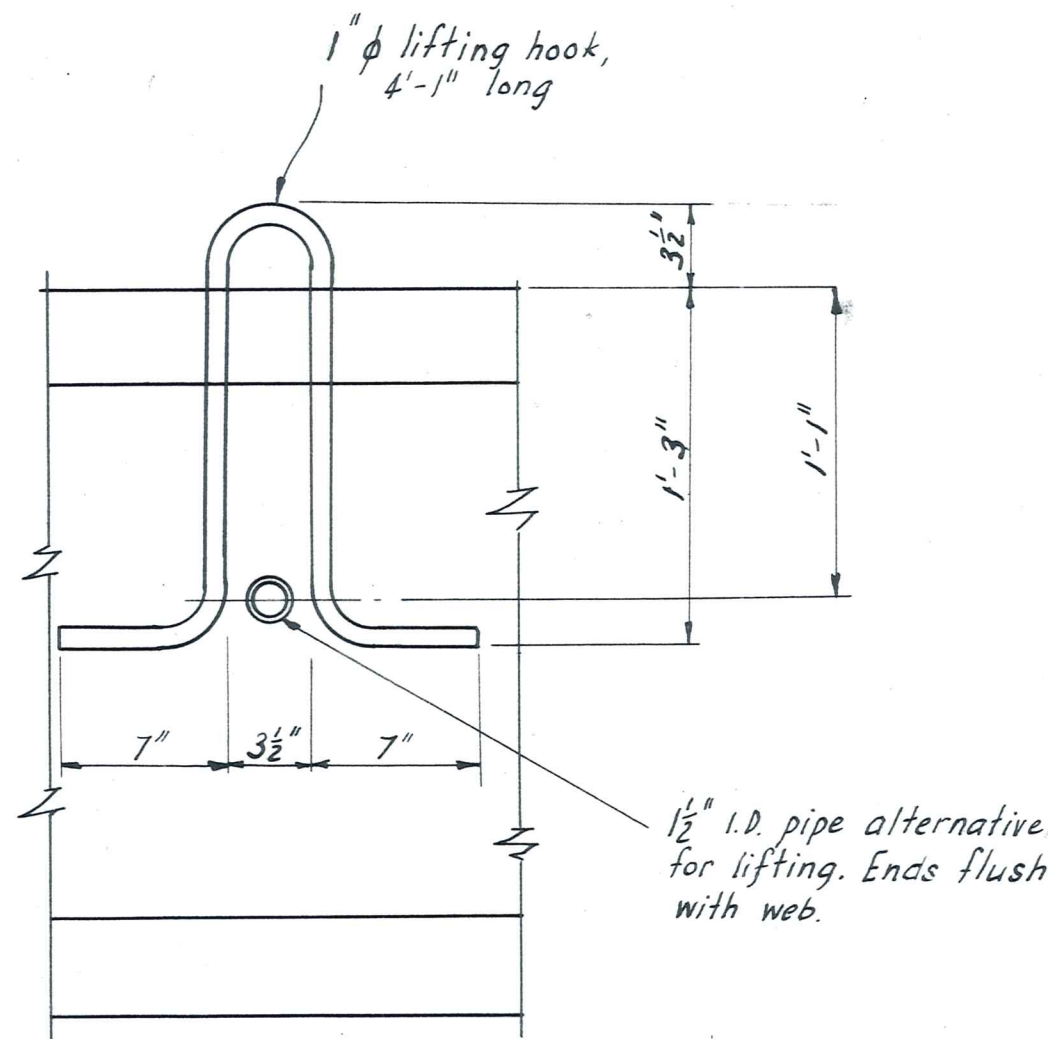
Scale 1" = 1'-0"

Minimum Cover to be 1/2" for strands  
1" for stirrups.



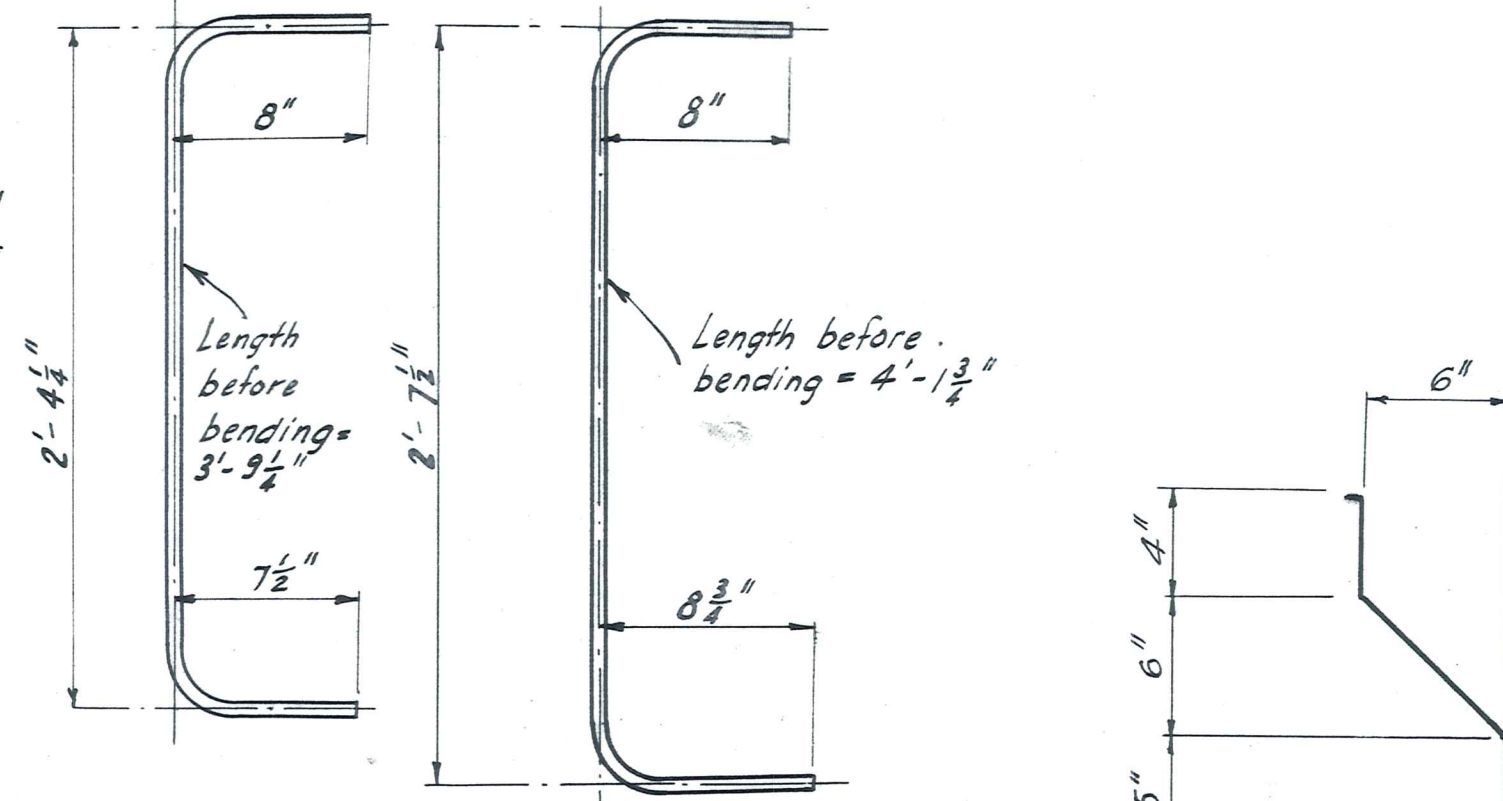
**TYPICAL SECTION**

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



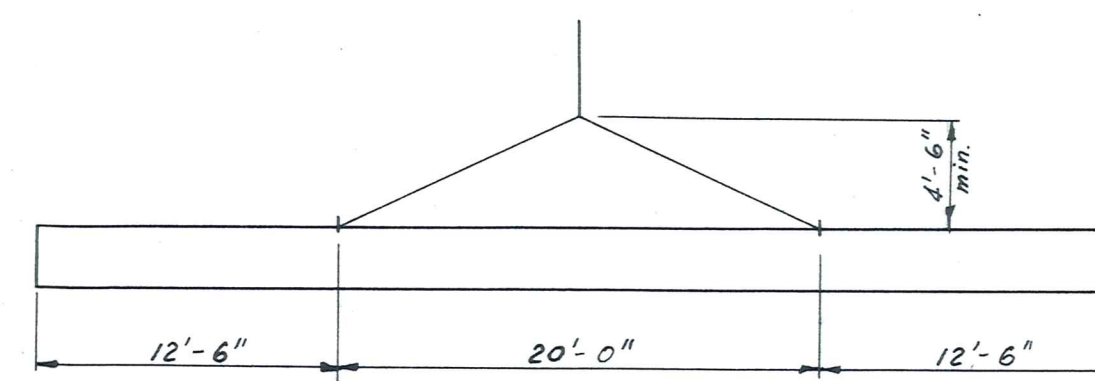
**LIFTING DETAIL**

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



**DETAIL OF STIRRUPS**

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



**LIFTING DIAGRAM,**

**DESIGN DATA**

- Concrete Nominal 5,500 psi at 28 days.  
Minimum 5,000 psi at transfer.
- H.T. Steel Strand 1/2" x 7 wire U.T.S. 100-110 tons/sq.in.  
Breaking load 36,000 lb per strand  
Preload on strand 27,000 lb per strand  
Initial Stress (0.6 x U.T.S.) 21,600 lb per strand  
Losses Allowed 15%
- Tolerances Length ± 1/4" Width ± 1/8" web ± 1/4" flange
- Gross Weight 6.6 tons to 7.1 tons for concrete densities 150-160 lb/cu.ft.

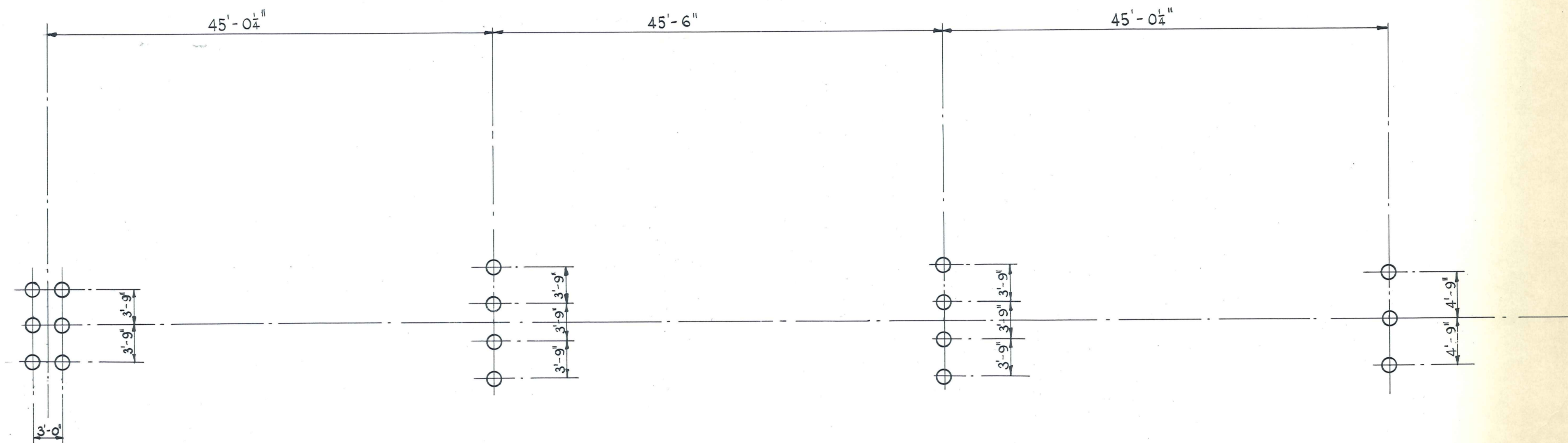
This is the new M.O.W standard form shape  
Four thus make the beam shape. 5ft lengths  
recommended for steel forms. Alternatively,  
timber forms may be used.

**45 FT. PRECAST PRESTRESSED BEAM**

DUFFILL, WATTS & KING  
CONSULTING CIVIL & STRUCTURAL ENGINEERS  
DUNEDIN and INVERCARGILL

		NAME	DATE	JOB No.
SURVEYED BY	L. M. Robinson		Aug 64	
DRAWN	I. R. Fairman			
CALCULATIONS				
CHECKED				
TRACED				
APPROVED	L.M.K.		Aug 64	





PILING PLAN  
Scale 1/8" = 1'-0"

MANIOTOTO COUNTY COUNCIL

BEATIES BRIDGE

DUFFILL, WATTS & KING  
CONSULTING CIVIL & STRUCTURAL ENGINEERS  
DUNEDIN and INVERCARGILL

DESIGNED	L.M. Robinson	Sept. 62
CHECKED		
APPROVED		

4451/6

6/63