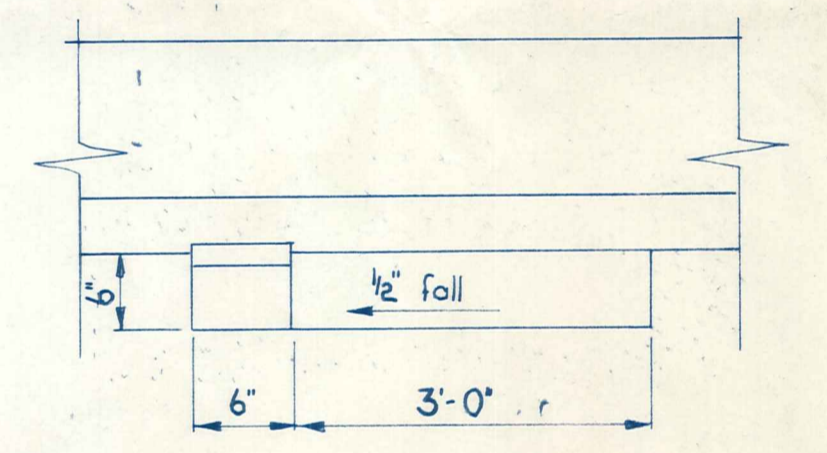
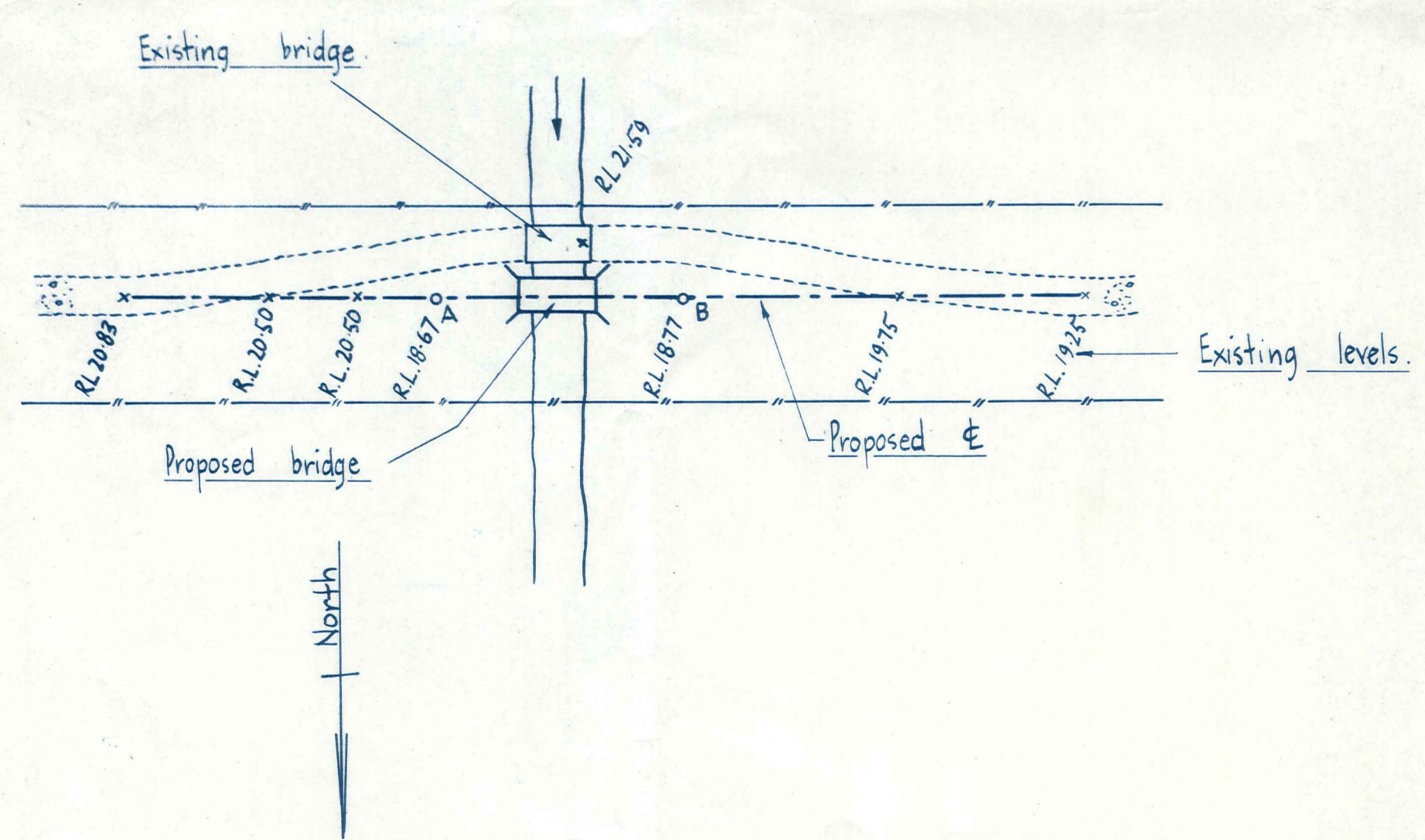
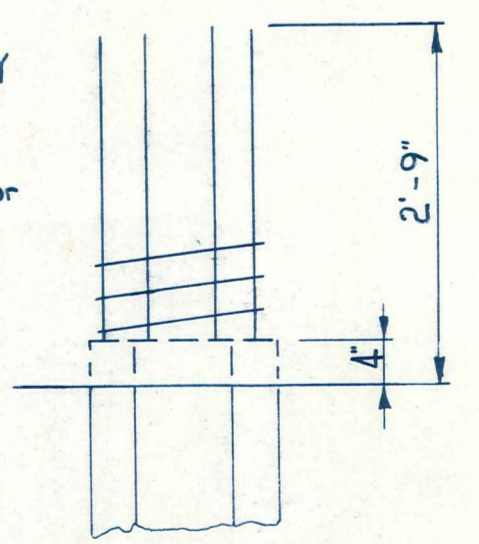


SITE DATA.

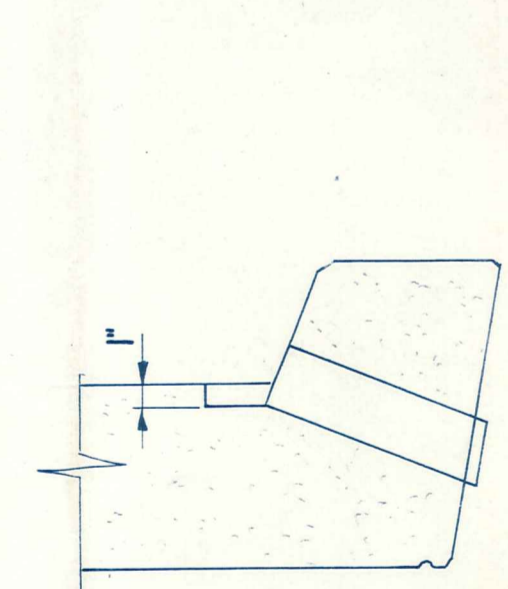
Map reference 5134 - 424557
 Stream gradient 0.206' per 100'
 Existing total waterway 84 sq. ft.
 Proposed total waterway 155 sq. ft.



Pile heads to be completely stripped of concrete for distance shown. Helical winding to be restored for three complete turns and tied to pile rods



PILE HEAD STRIPPING DETAIL
N.T.S.



Drain pipes out of 6"x4"x1/4" R.H.S.
 2 required 2'-0" from low end of bridge

DRAINPIPE INSTALLATION DETAIL
N.T.S.

ORIGINAL SIZE INCHES
 0 10 20 30 40 50 60 70 80 90 100 110 120
 mm

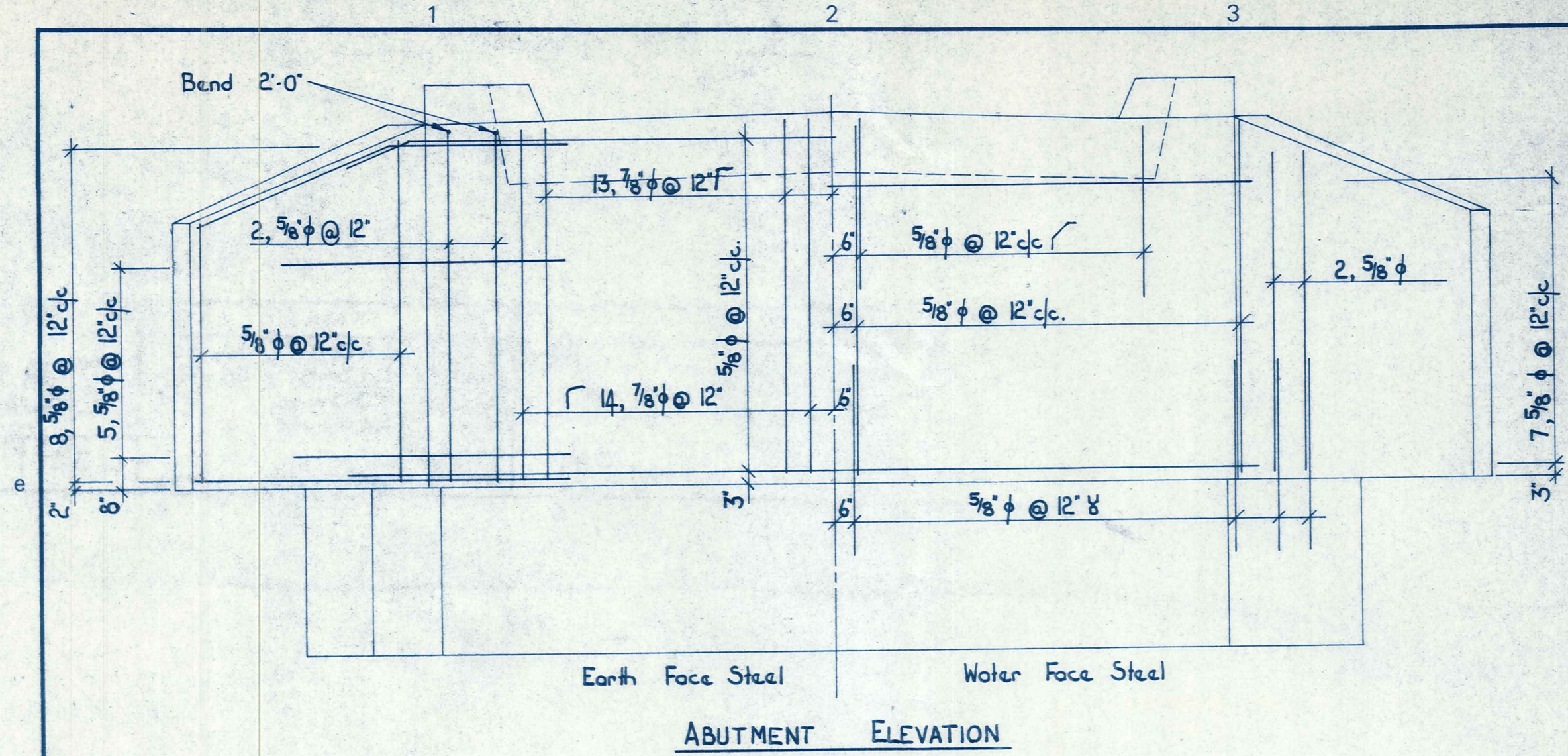
DUFFILL WATTS & KING
 CONSULTING CIVIL & STRUCTURAL ENGINEERS
 Dunedin P.O. Box 5269, Ph. 77-240 Invercargill P.O. Box 576, Ph. 3049
 Christchurch 139 Clyde Rd., Ph. 515-801

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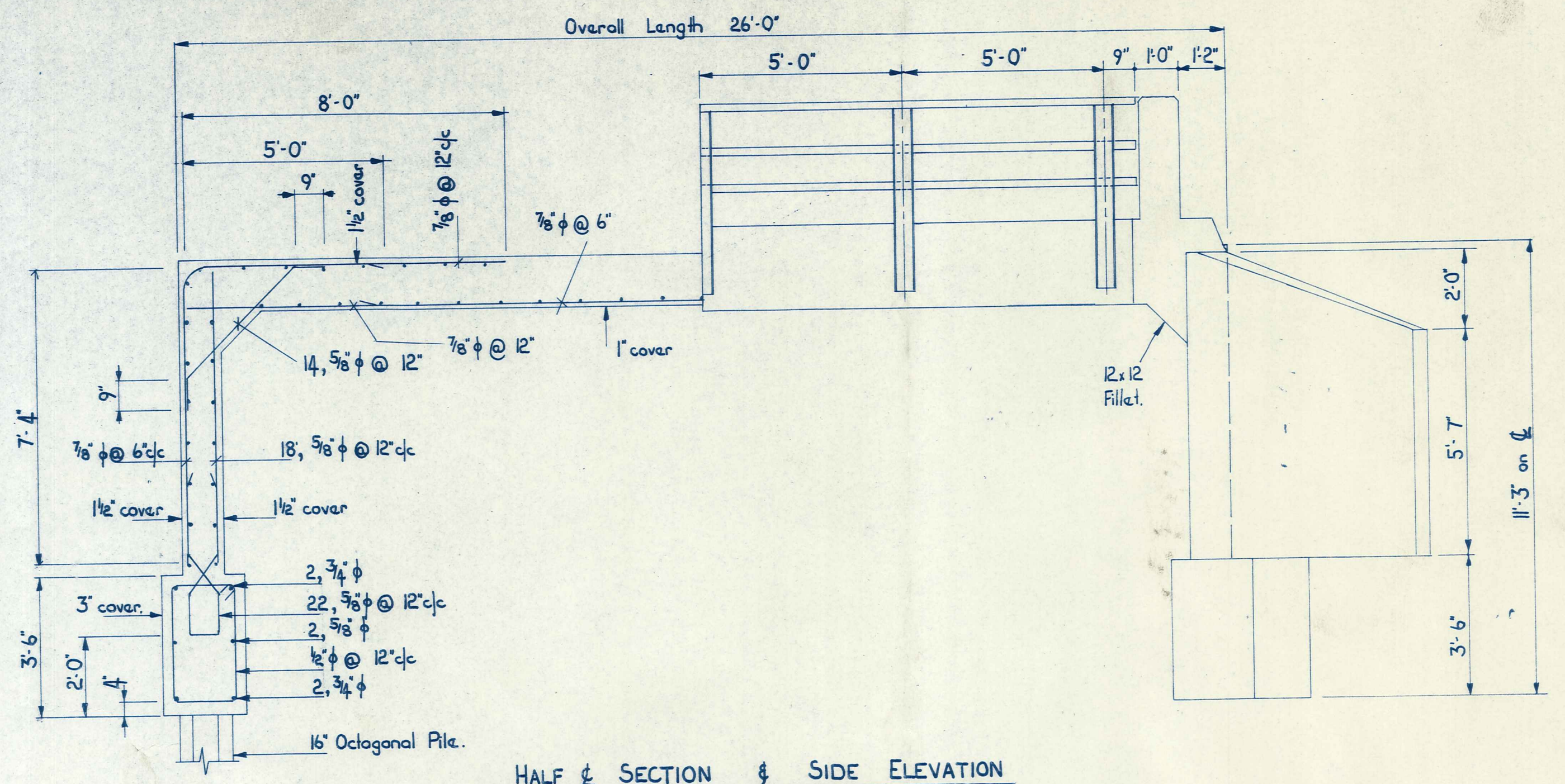
DUNDASS BRIDGE - DOOLBURN STREAM, DUNDASS LANE

AMENDMENTS				NAME	DATE	JOB NO.	Sheet No.
NO.	BY	DATE	Appvd.	Surveyed	G. R. Duff	July, 1972	7184
				Drawn	"	"	1
				Calculations	"	"	of 3 sheets
				Traced	"	"	
				Checked	"	"	
				Approved	G. R. Duff	"	

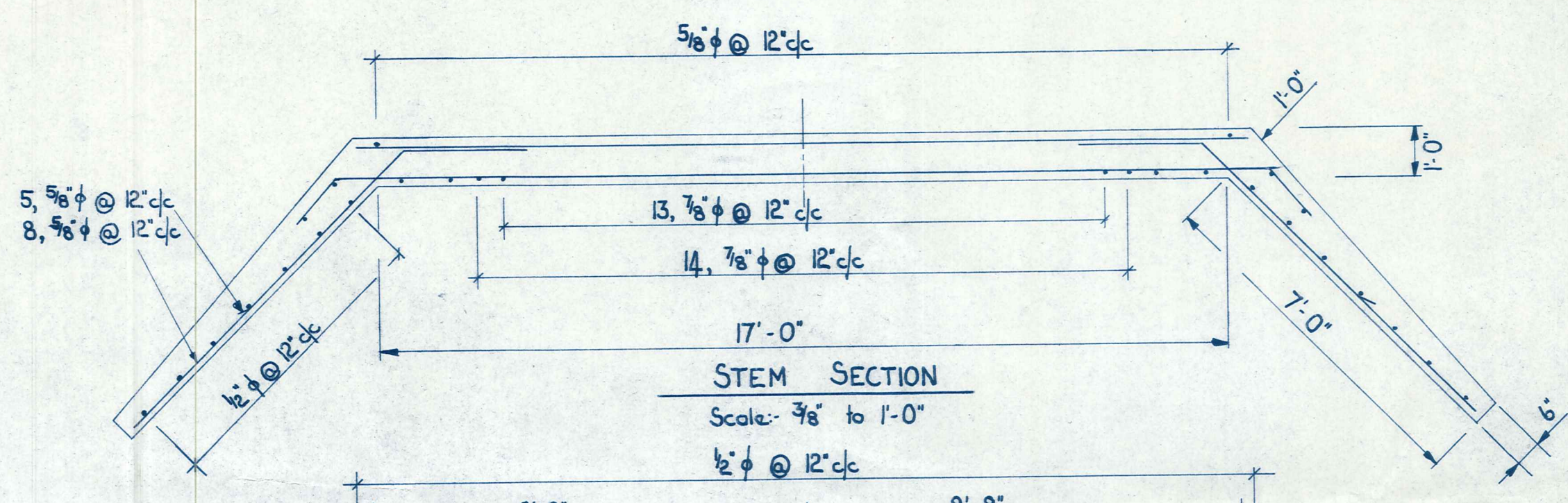
File 8/2 LB see file FB see file



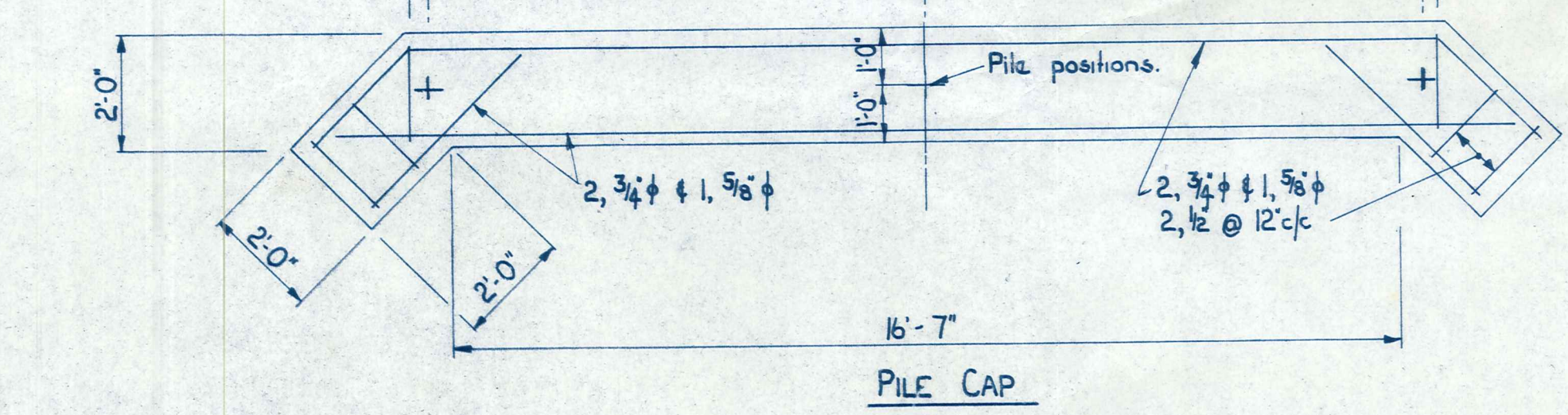
ABUTMENT ELEVATION



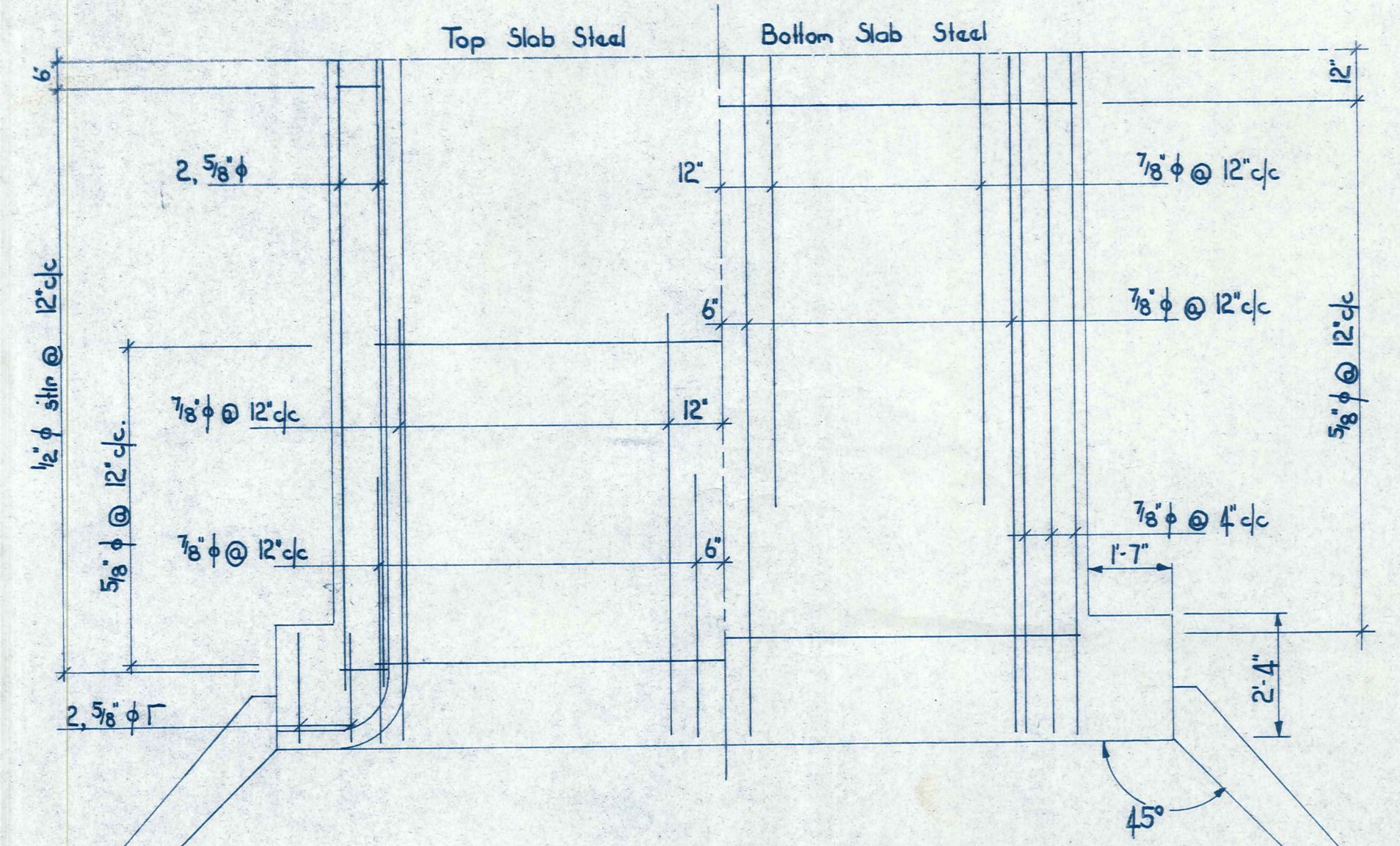
HALF SECTION & SIDE ELEVATION
Scale: 3/8" to 1'-0"



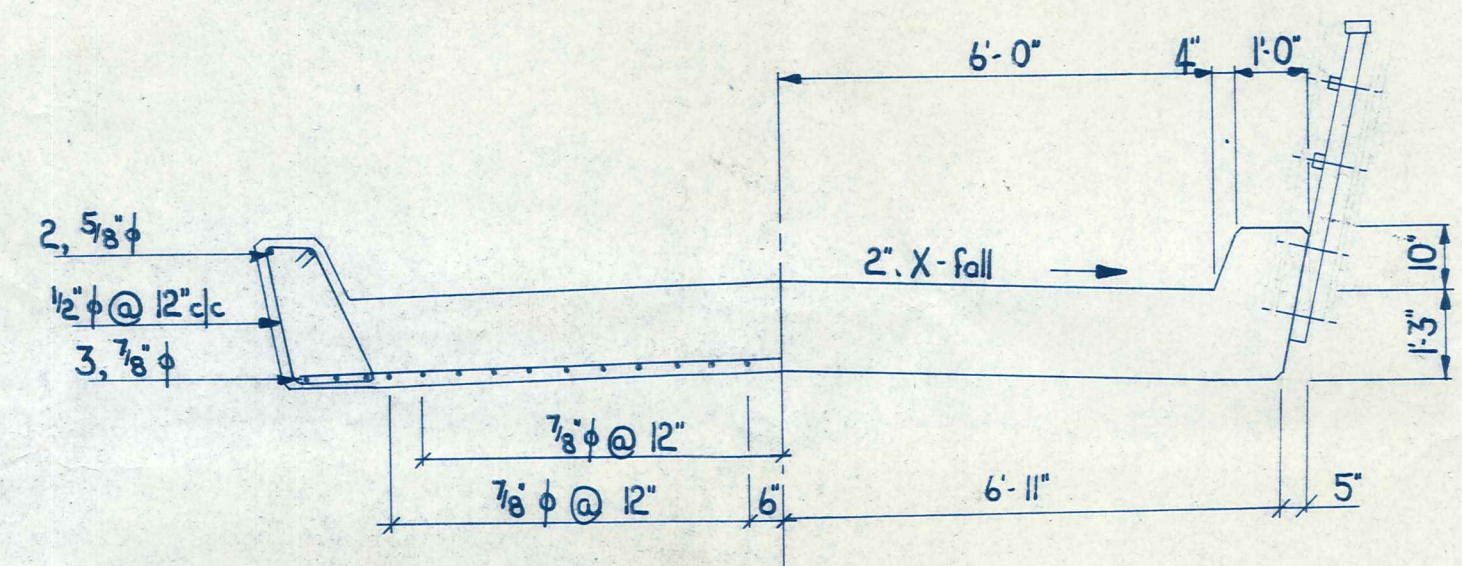
STEM SECTION
Scale: 3/8" to 1'-0"



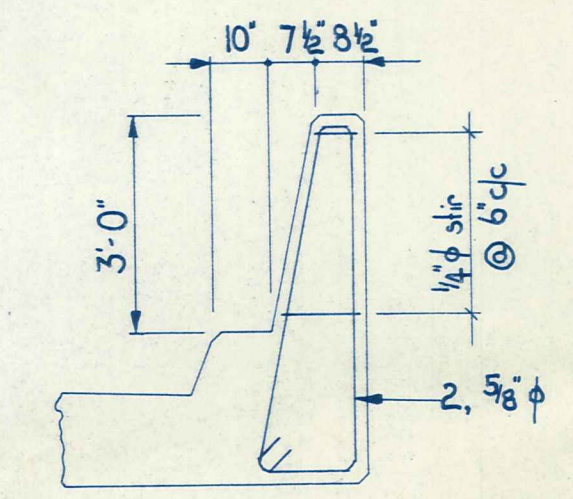
PILE CAP



HALF DECK PLAN
Scale: 3/8" to 1'-0"

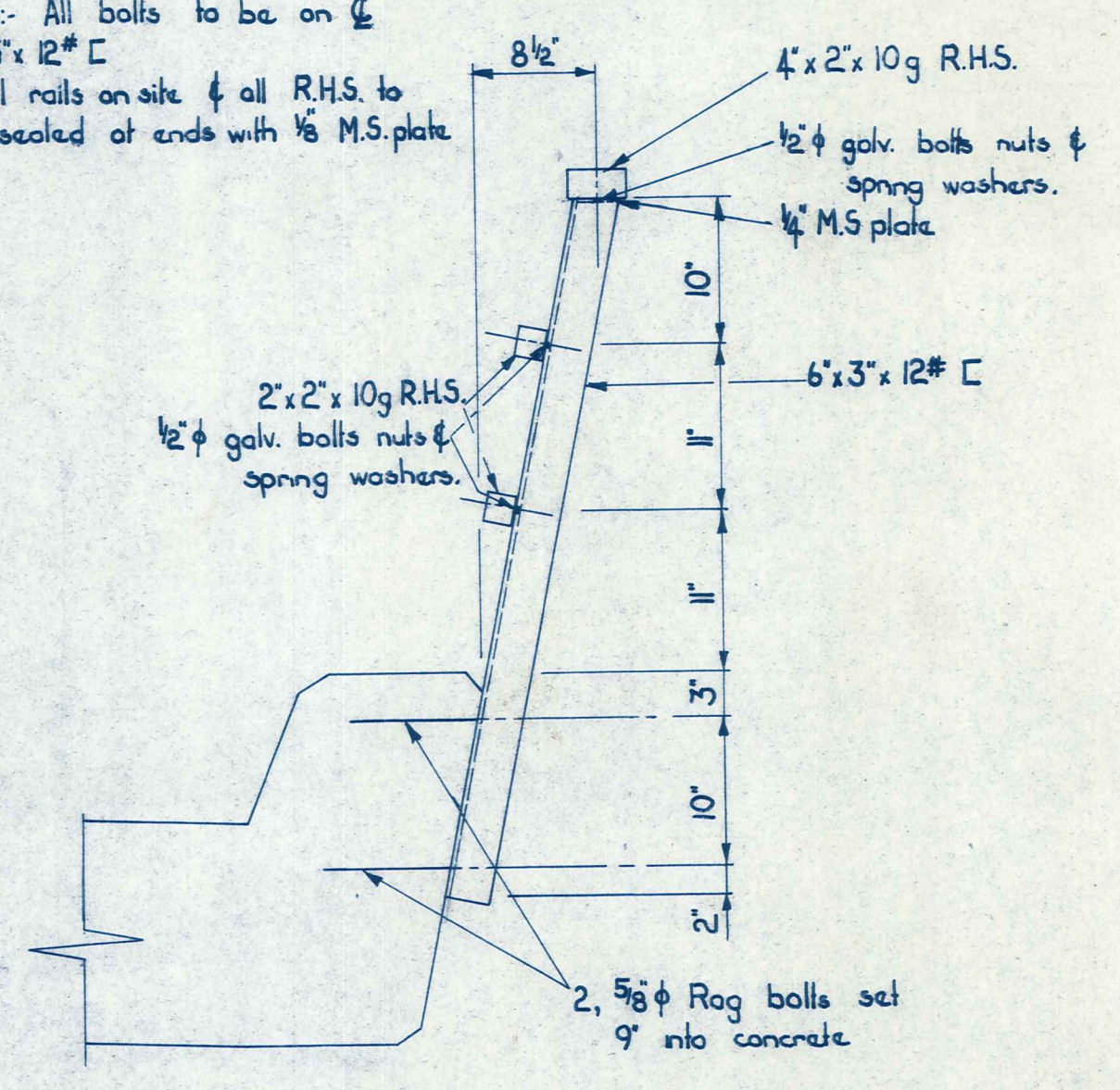


DECK SECTION
Scale: 3/8" to 1'-0"

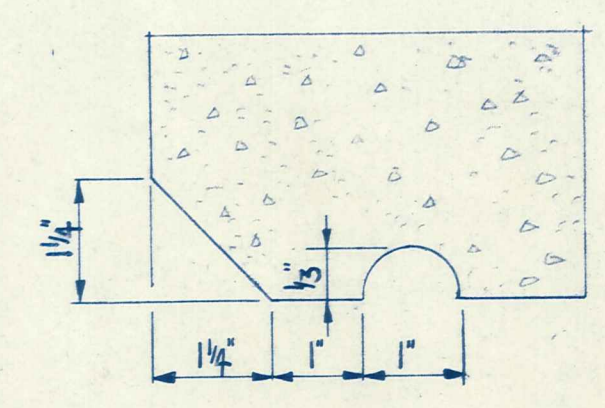


SECTION THRU END POST
Scale: 3/8" to 1'-0"

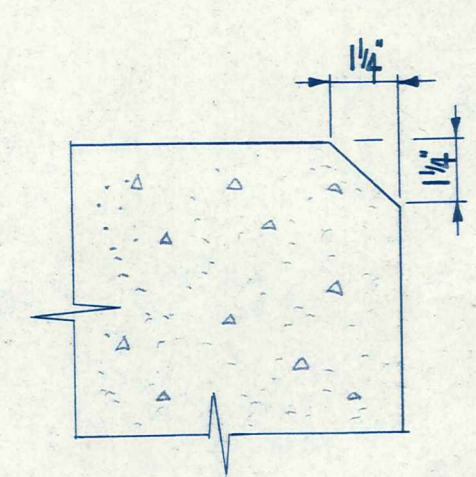
Note: All bolts to be on \perp
6" x 3" x 12" C
Drill rails on site of all R.H.S. to be sealed at ends with 1/2" M.S. plate.



HANDRAIL POST DETAIL
Scale: 1 in to 1 ft.

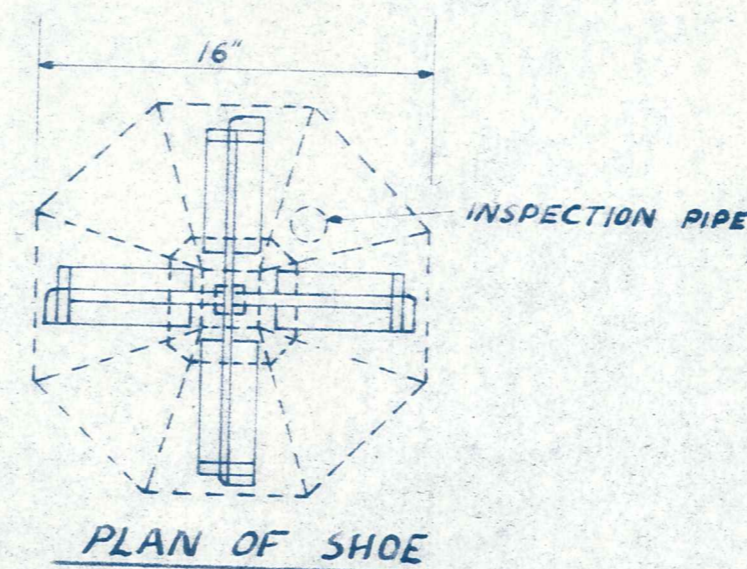
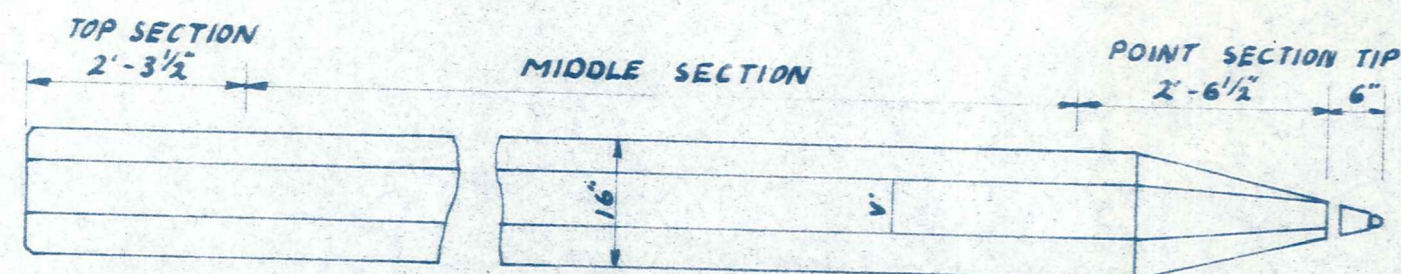
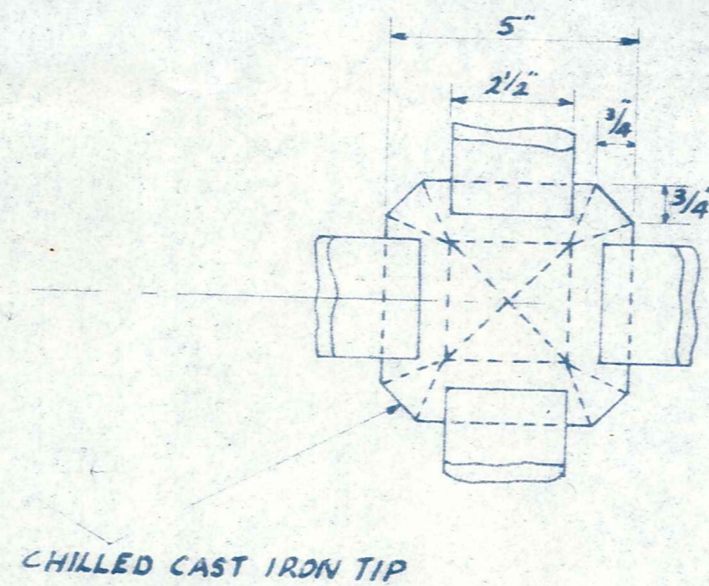
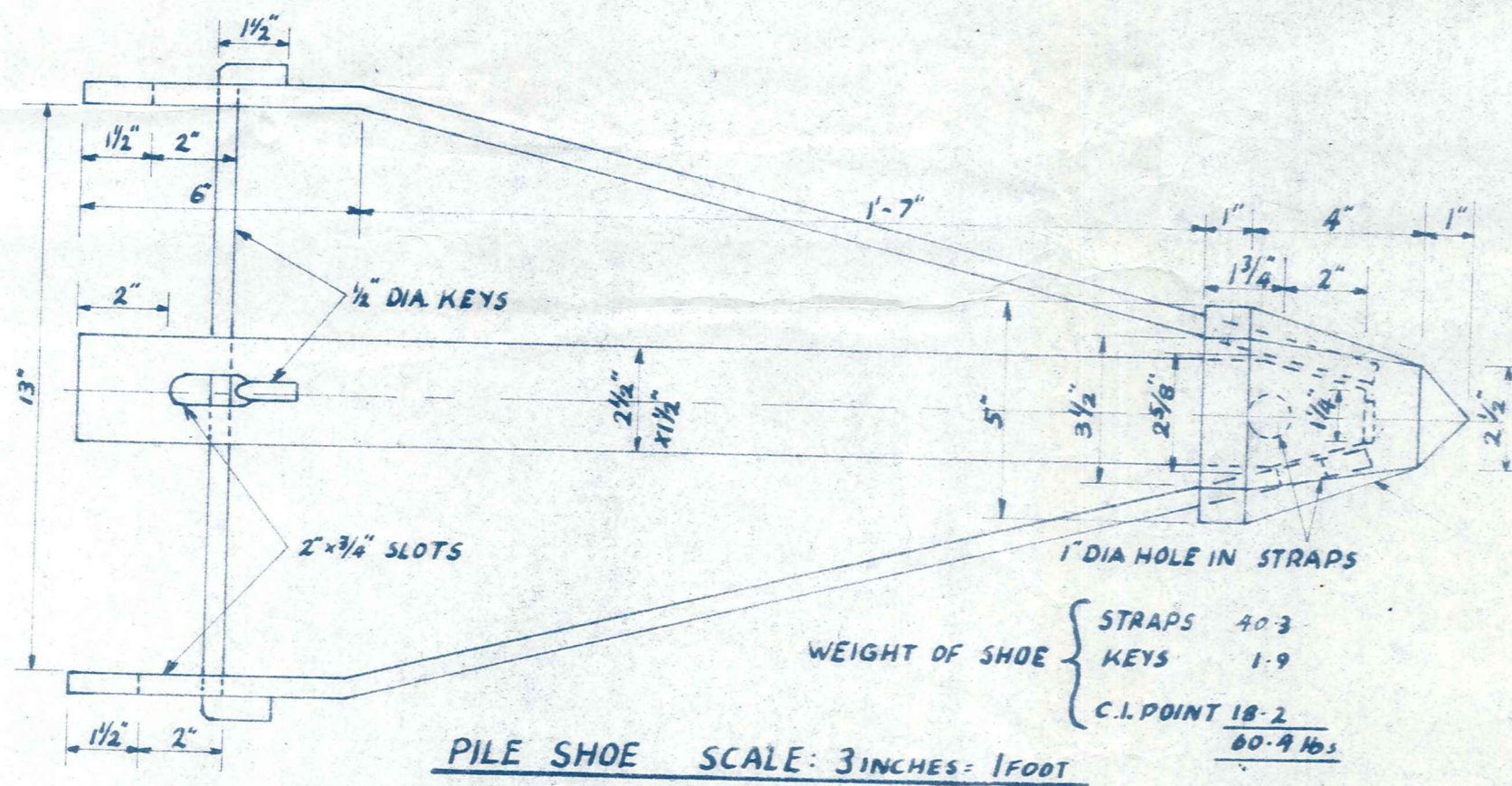
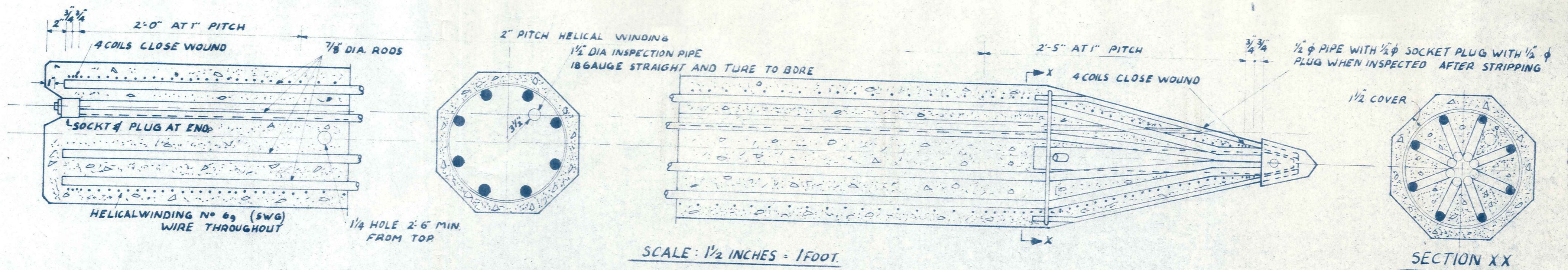


DRIP DETAIL
N.T.S.



CHAMFER & FILET DETAILS
N.T.S.

AMENDMENTS			NAME	DATE	JOB NO.	Sheet No.
NO.	BY	DATE	Appvd	Surveyed	G.R. Duff	July 72
				Drawn	R.T. Smith	Oct. 72
				Calculations	P.D. Orange	
				Traced	K.A. Marshall	
				Checked		
				Approved	<i>[Signature]</i>	Nov-72

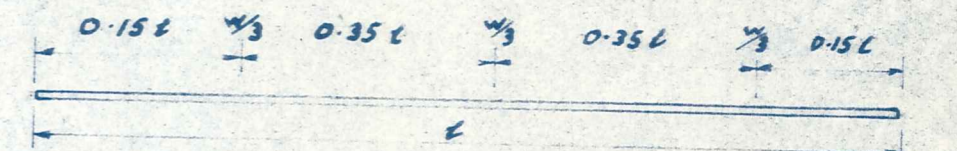


NOTES

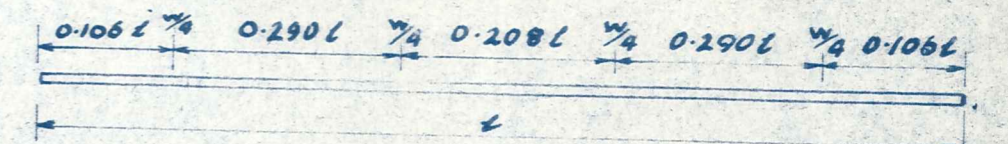
1. THIS DESIGN IS BASED ON MATERIALS AND WORKMANSHIP BEING IN ACCORDANCE WITH CURRENT SPECIFICATIONS OF THE MINISTRY OF WORKS SPECIAL ATTENTION IS DRAWN TO CLAUSES COVERING "CORED INSPECTION HOLE".
2. NOMINAL LENGTH OF PIPE = LENGTH OF REINFORCING STEEL.
3. MINIMUM WEIGHT OF MONKEY FOR PILES UNDER 30 FEET LONG IS 3 TONS PROVIDED SPECIFIED BEARING DOES NOT EXCEED 25 TONS, IF BEARING EXCEEDS 25 TONS A 4 TON MONKEY MUST BE USED IRRESPECTIVE OF THE PILE LENGTH.

METHODS OF LIFTING AND HANDLING PILES.

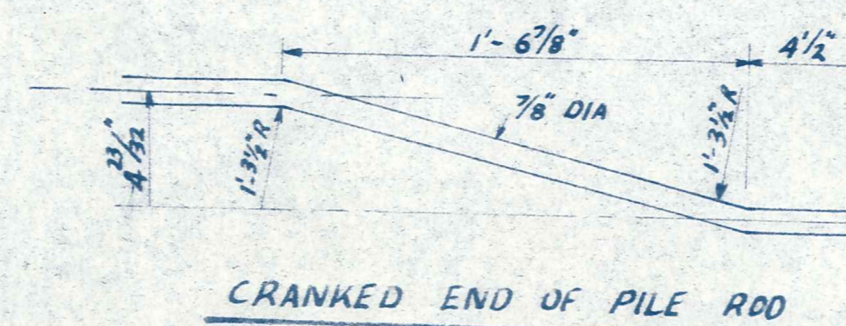
1. PILES UNDER 20 FT. LONG MAY BE SLUNG FROM A SINGLE POINT LOCATED ANYWHERE ALONG THE PILE.
2. PILES FROM 20 FT. TO 31 FT. LONG MAY BE SLUNG FROM A SINGLE POINT LOCATED A DISTANCE OF 0.293L FROM THE PILE HEAD.
3. PILES OVER 31 FT. AND UP TO 45 FT. SHALL BE SLUNG FROM TWO POINTS LOCATED A DISTANCE OF 0.207L FROM EACH END.
4. PILES OVER 45 FT. AND UP TO 66 FT. LONG SHALL BE SLUNG FROM THREE POINTS AS INDICATED BELOW.



5. PILES OVER 66 FT. AND UP TO 88 FT. LONG SHALL BE SLUNG FROM FOUR POINTS AS INDICATED BELOW.



FOR ARRANGEMENTS INVOLVING MORE THAN TWO POINTS OF PICK UP, A SUITABLE SYSTEM OF PULLEYS AND/OR BEAM MUST BE USE TO GIVE EQUAL VERTICAL REACTIONS AT EACH POINT. THE ABOVE IS BASED ON A LIMITING STRESS OF 12,000 LBS./SQ. IN. IN THE STEEL ASSUMING 100% IMPACT DURING LIFTING.



STD. 16" OCT. PILES FOR FRESH WATER P.W.D. 152992.

WEIGHTS OF PILES OF VARIOUS LENGTHS

NOMINAL LENGTH IN FEET	10	15	20	25	30	35	40	45	50	55	60
WEIGHT IN TONS	0.87	1.37	1.86	2.35	2.84	3.34	3.83	4.32	4.82	5.31	5.80

QUANTITIES

16" OCT. PILE	CONCRETE (CUB FEET)	7/8" DIA RODS (LIN FT)	NO. 69 WIRE (LIN FT)
TOP SECTION 2'-3 1/2" LONG	3.375	17	94
MIDDLE SECTION PER FOOT RUN	1.473	8	20.25
POINT SECTION 2'-6 1/2" LONG	2.229	20.66	75

AMENDMENTS						NAME	DATE
No.	By	Date	Description	Apprd.	Surveyed		
						M.J. Bakic	

DUFFILL, WATTS & KING
CONSULTING CIVIL & STRUCTURAL ENGINEERS
DUNEDIN & INVERCARGILL N.Z.

File B/2 L.Bk. F.Bk.
JOB No. 7184/3
Sheet 3 of 3 Sheets

VINCENT COUNTY COUNCIL

STD. 16" OCTAGONAL REINFORCED CONCRETE PILE