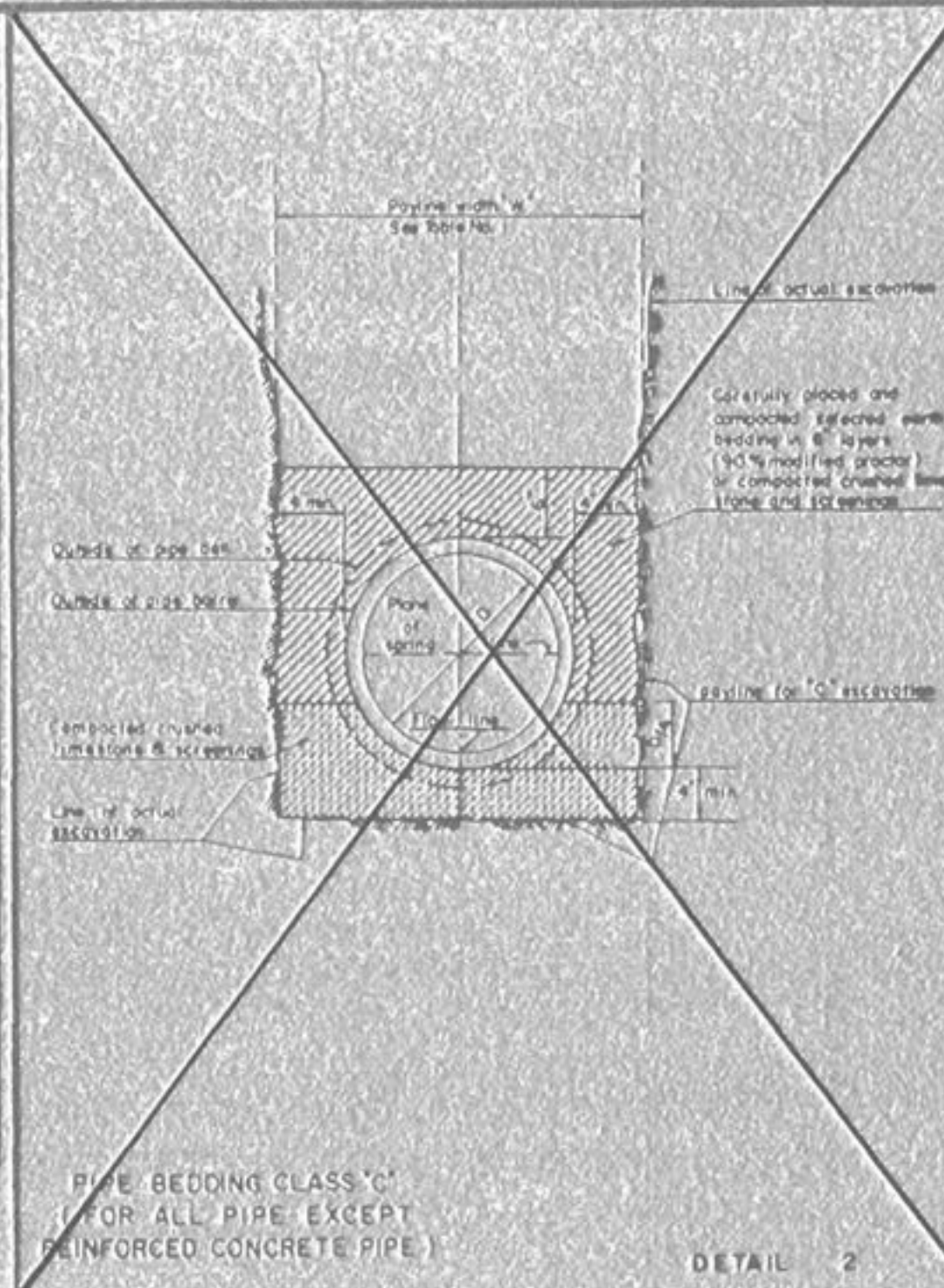
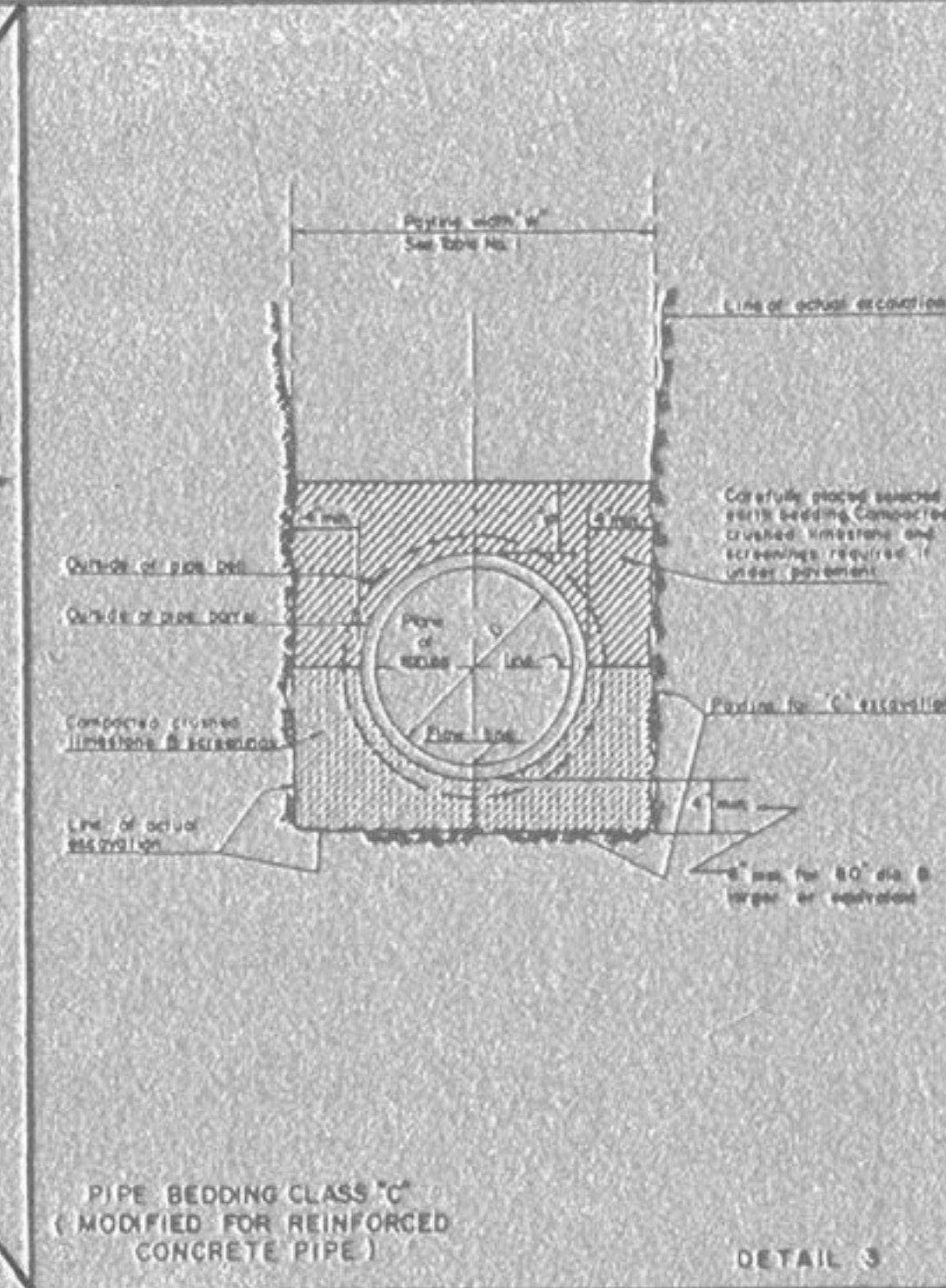


ROUND PIPE				HORIZONTAL ECCENTRIC PIPE			
Inside Diameter (Inches)	Payline Width of Trench (Feet)	Payline Width of Trench (Feet)	Pay Volume (cu ft per ft)	Payline Width of Trench (Feet)	Payline Width of Trench (Feet)	Pay Volume (cu ft per ft)	Pay Volume (cu ft per ft)
4	26	233	3.20				
6	28	233	3.46				
8	30	233	3.70				
10	32	233	3.88				
12	34	233	4.08				
15	38	233	4.82				
18	42	233	5.62	14.23	4.0	3.42	5.84
24	54	233	7.35	19.50	4.8	4.08	7.84
30	66	233	9.08	24.78	5.6	4.63	9.81
36	78	233	10.81	30.06	6.4	5.17	10.71
42	90	233	12.54	35.34	7.2	5.70	11.72
48	102	233	14.27	40.62	8.0	6.24	12.73
54	114	233	16.00	45.90	8.8	6.77	13.74
60	126	233	17.73	51.18	9.6	7.30	14.75
66	138	233	19.46	56.46	10.4	7.84	15.76
72	150	233	21.19	61.74	11.2	8.37	16.77
78	162	233	22.92	67.02	12.0	8.91	17.78
84	174	233	24.65	72.30	12.8	9.44	18.79
90	186	233	26.38	77.58	13.6	9.98	19.80
96	198	233	28.11	82.86	14.4	10.51	20.81
102	210	233	29.84	88.14	15.2	11.05	21.82
108	222	233	31.57	93.42	16.0	11.58	22.83
114	234	233	33.30	98.70	16.8	12.12	23.84
120	246	233	35.03	103.98	17.6	12.65	24.85
126	258	233	36.76	109.26	18.4	13.19	25.86
132	270	233	38.49	114.54	19.2	13.72	26.87
138	282	233	40.22	119.82	20.0	14.26	27.88
144	294	233	41.95	125.10	20.8	14.79	28.89
150	306	233	43.68	130.38	21.6	15.33	29.90
156	318	233	45.41	135.66	22.4	15.86	30.91
162	330	233	47.14	140.94	23.2	16.40	31.92
168	342	233	48.87	146.22	24.0	16.93	32.93
174	354	233	50.60	151.50	24.8	17.47	33.94
180	366	233	52.33	156.78	25.6	18.00	34.95
186	378	233	54.06	162.06	26.4	18.54	35.96
192	390	233	55.79	167.34	27.2	19.07	36.97
198	402	233	57.52	172.62	28.0	19.61	37.98
204	414	233	59.25	177.90	28.8	20.14	38.99
210	426	233	60.98	183.18	29.6	20.68	39.99
216	438	233	62.71	188.46	30.4	21.21	41.00
222	450	233	64.44	193.74	31.2	21.75	42.01
228	462	233	66.17	199.02	32.0	22.28	43.02
234	474	233	67.90	204.30	32.8	22.82	44.03
240	486	233	69.63	209.58	33.6	23.35	45.04
246	498	233	71.36	214.86	34.4	23.89	46.05
252	510	233	73.09	220.14	35.2	24.42	47.06
258	522	233	74.82	225.42	36.0	24.96	48.07
264	534	233	76.55	230.70	36.8	25.49	49.08
270	546	233	78.28	235.98	37.6	26.03	50.09
276	558	233	80.01	241.26	38.4	26.56	51.10
282	570	233	81.74	246.54	39.2	27.10	52.11
288	582	233	83.47	251.82	40.0	27.63	53.12
294	594	233	85.20	257.10	40.8	28.17	54.13
300	606	233	86.93	262.38	41.6	28.70	55.14
306	618	233	88.66	267.66	42.4	29.24	56.15
312	630	233	90.39	272.94	43.2	29.77	57.16
318	642	233	92.12	278.22	44.0	30.31	58.17
324	654	233	93.85	283.50	44.8	30.84	59.18
330	666	233	95.58	288.78	45.6	31.38	60.19
336	678	233	97.31	294.06	46.4	31.91	61.20
342	690	233	99.04	299.34	47.2	32.45	62.21
348	702	233	100.77	304.62	48.0	32.98	63.22
354	714	233	102.50	309.90	48.8	33.52	64.23
360	726	233	104.23	315.18	49.6	34.05	65.24
366	738	233	105.96	320.46	50.4	34.59	66.25
372	750	233	107.69	325.74	51.2	35.12	67.26
378	762	233	109.42	331.02	52.0	35.66	68.27
384	774	233	111.15	336.30	52.8	36.19	69.28
390	786	233	112.88	341.58	53.6	36.73	70.29
396	798	233	114.61	346.86	54.4	37.26	71.30
402	810	233	116.34	352.14	55.2	37.80	72.31
408	822	233	118.07	357.42	56.0	38.33	73.32
414	834	233	119.80	362.70	56.8	38.87	74.33
420	846	233	121.53	367.98	57.6	39.40	75.34
426	858	233	123.26	373.26	58.4	39.94	76.35
432	870	233	125.00	378.54	59.2	40.47	77.36
438	882	233	126.73	383.82	60.0	41.01	78.37

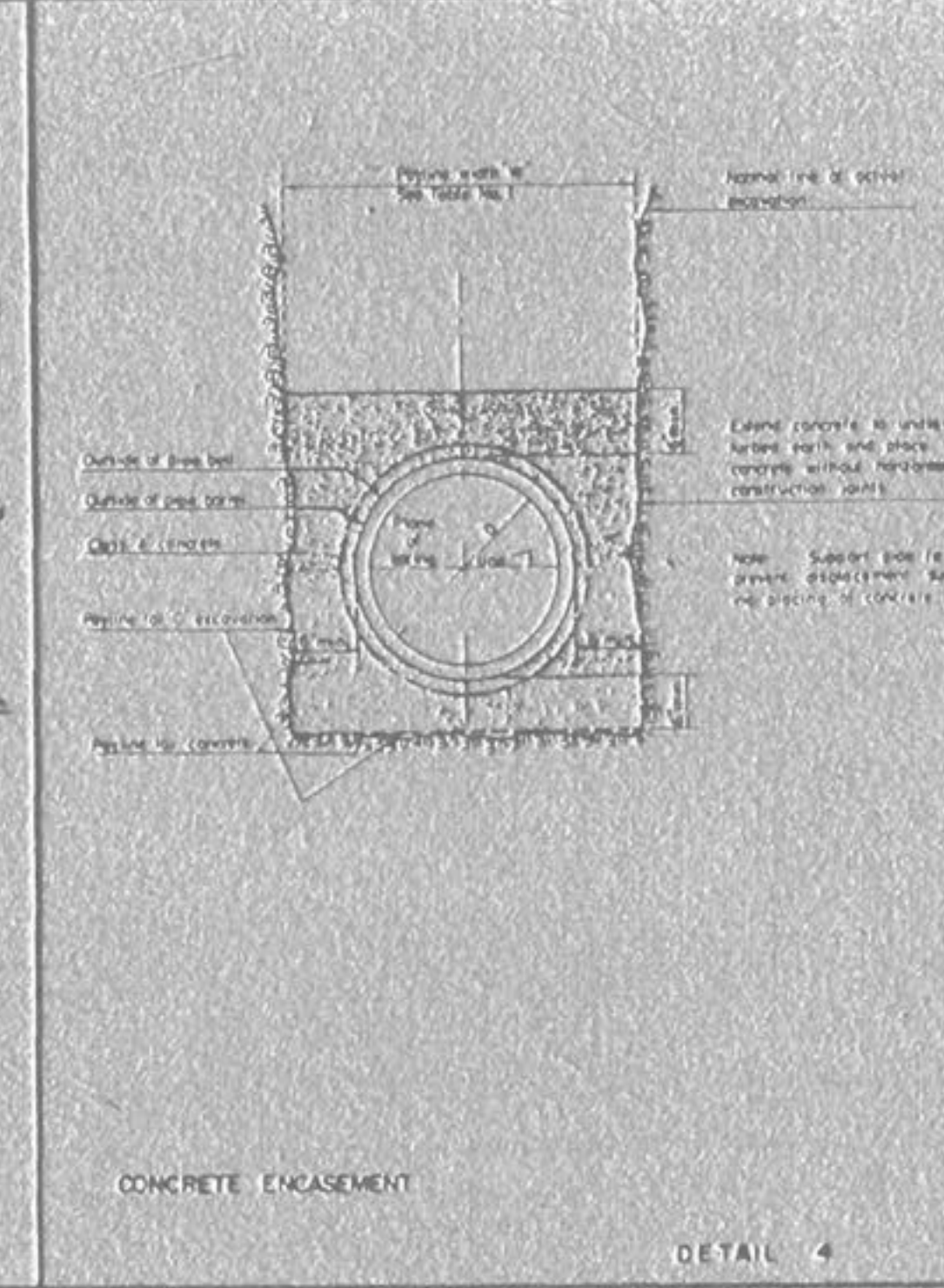
TABLE NO. 1  
 PAYLINE WIDTHS OF TRENCH AND QUANTITIES OF CONCRETE



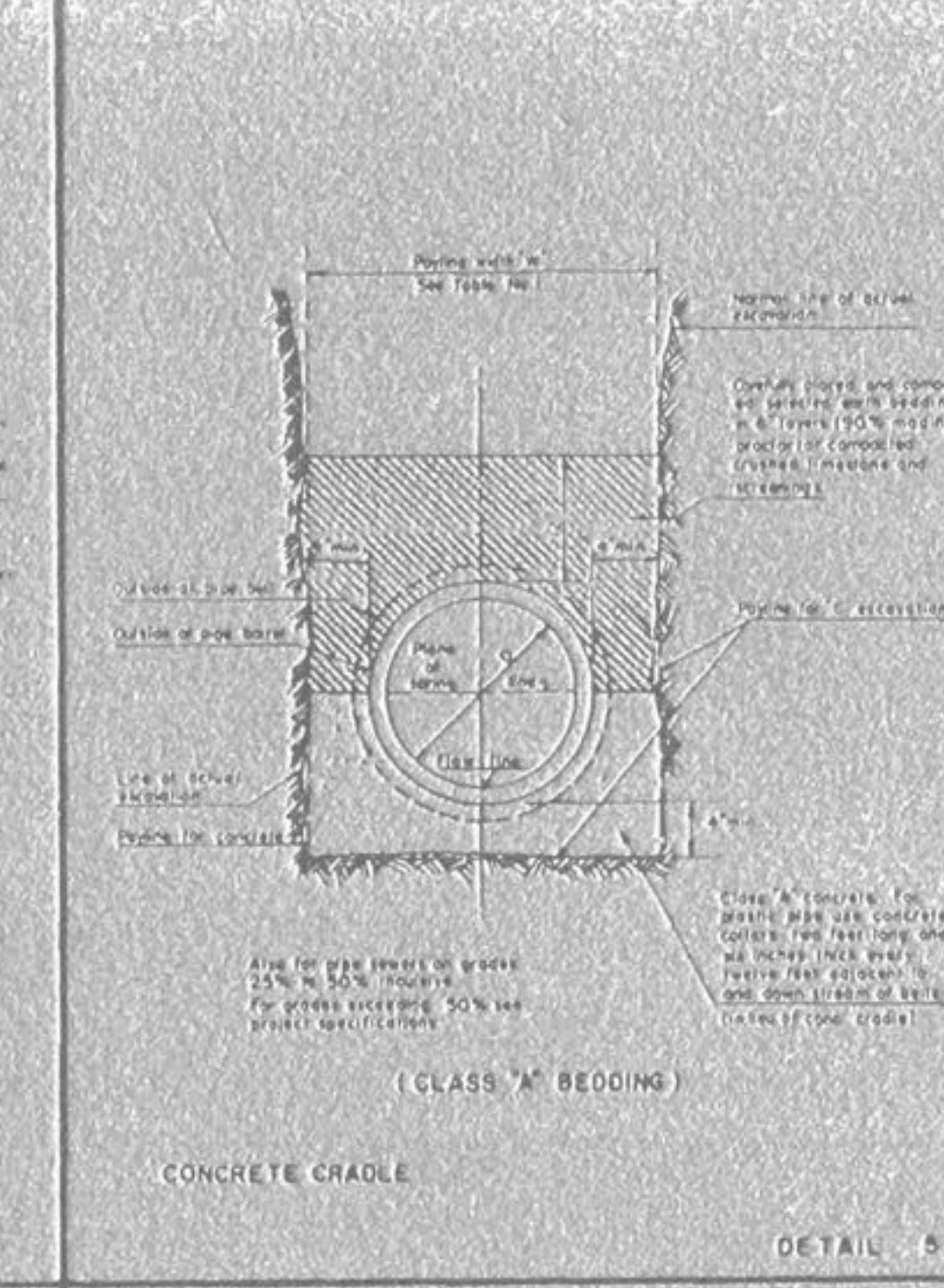
DETAIL 2  
 PIPE BEDDING CLASS "C" FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE



DETAIL 3  
 PIPE BEDDING CLASS "C" (MODIFIED FOR REINFORCED CONCRETE PIPE)



DETAIL 4  
 CONCRETE ENCASEMENT

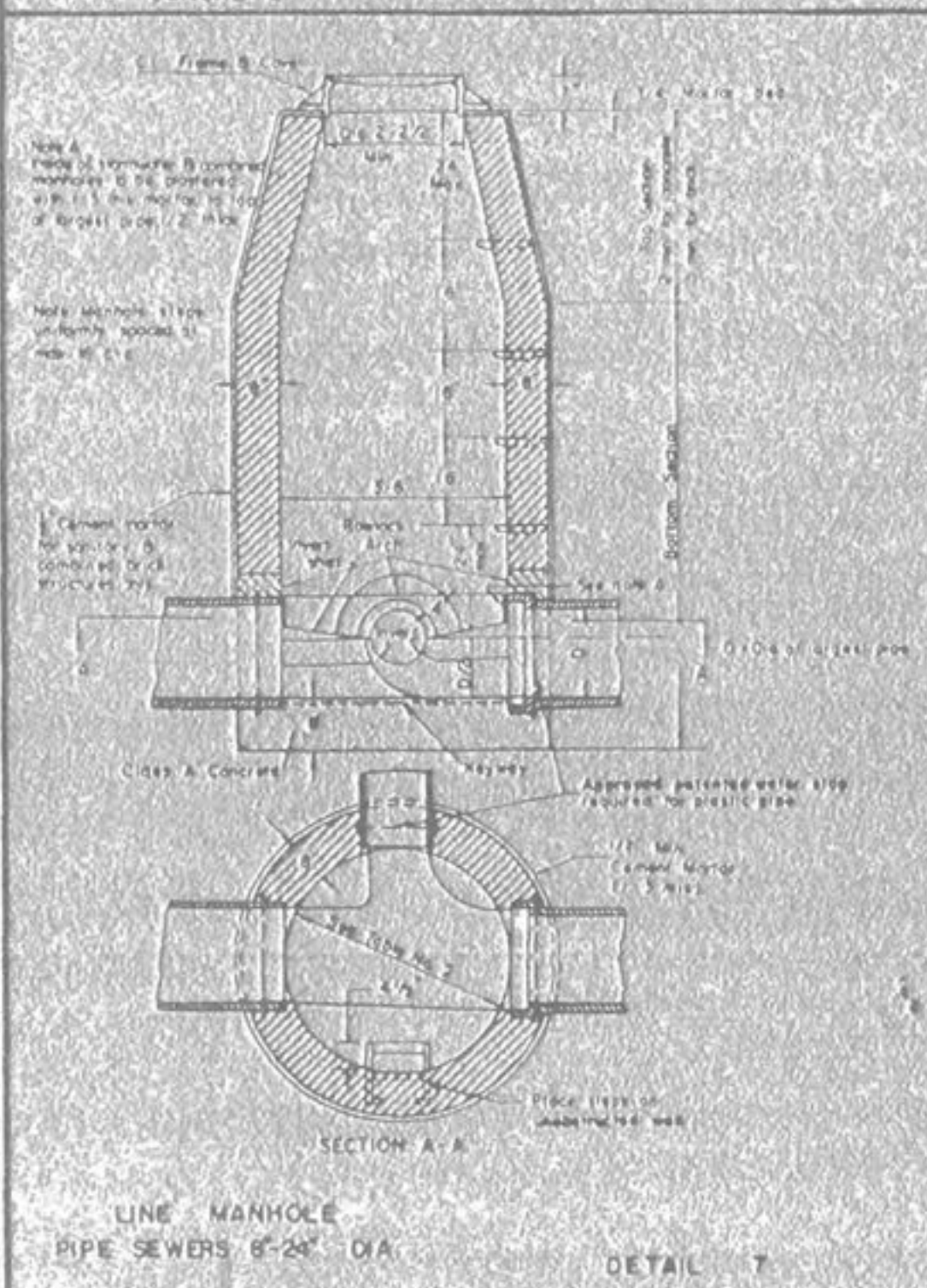


DETAIL 5  
 CONCRETE CRADLE

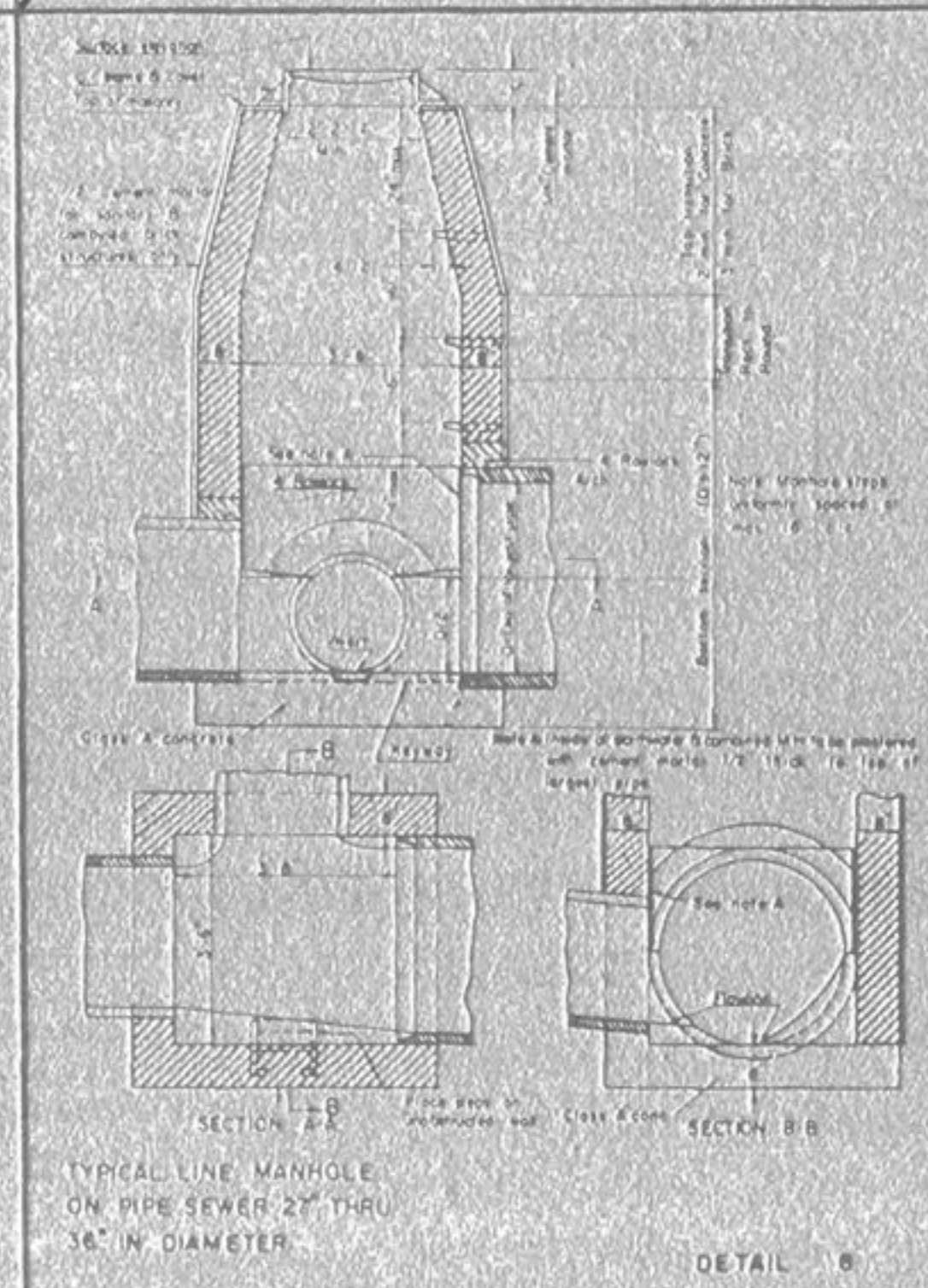
TABLE NO. 2  
 STANDARD MANHOLE DIMENSIONS

Section	Manhole	Dimension
Top	Upper	2' 2 1/2" Dia
Transition	Lower	3' 6" Dia
Bottom	8" thru 24" Dia Pipe	3' 6" Dia
Bottom	27" thru 36" Dia Pipe	3' 6" Square

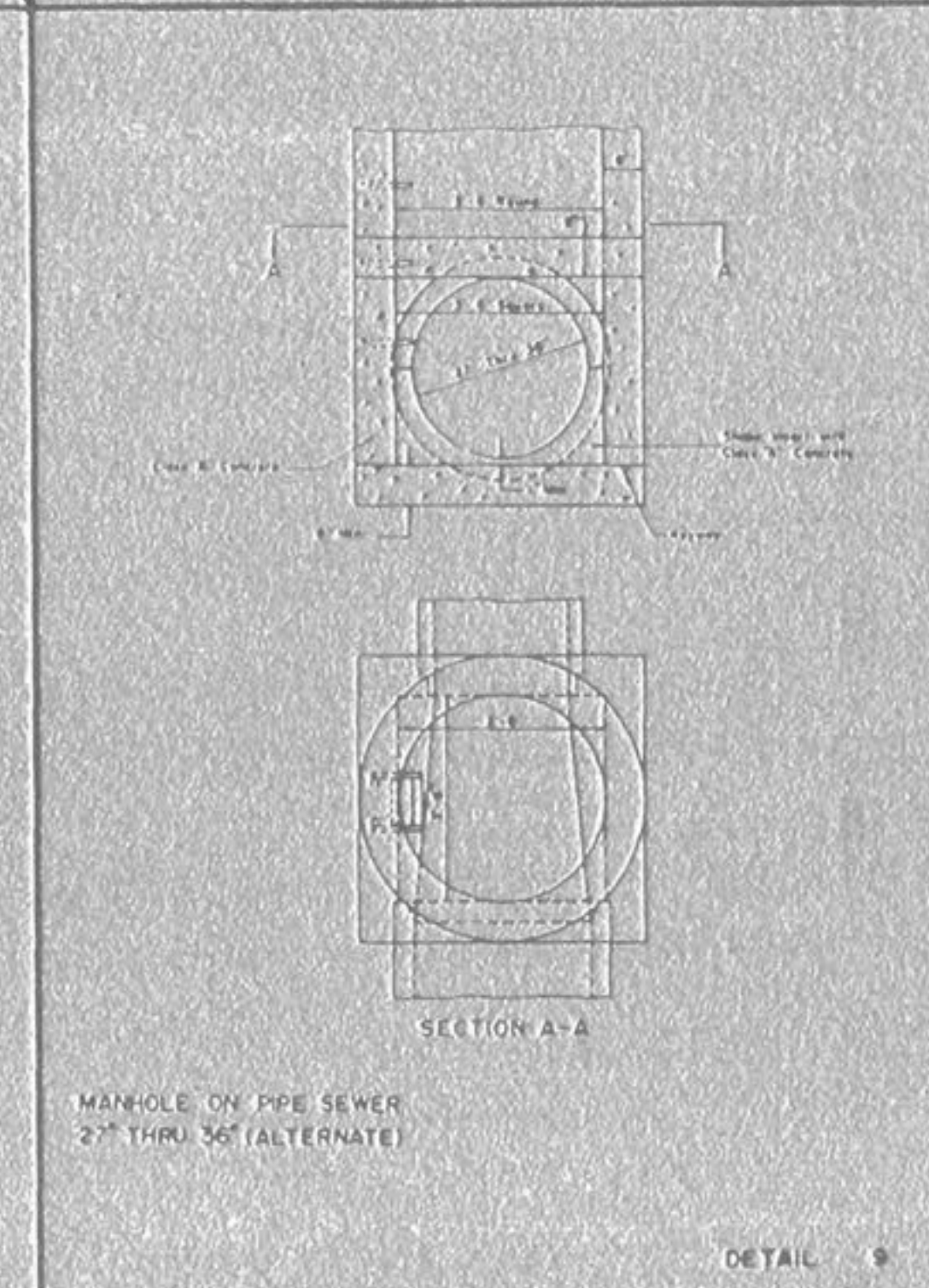
DETAIL 6  
 STANDARD MANHOLE DIMENSIONS



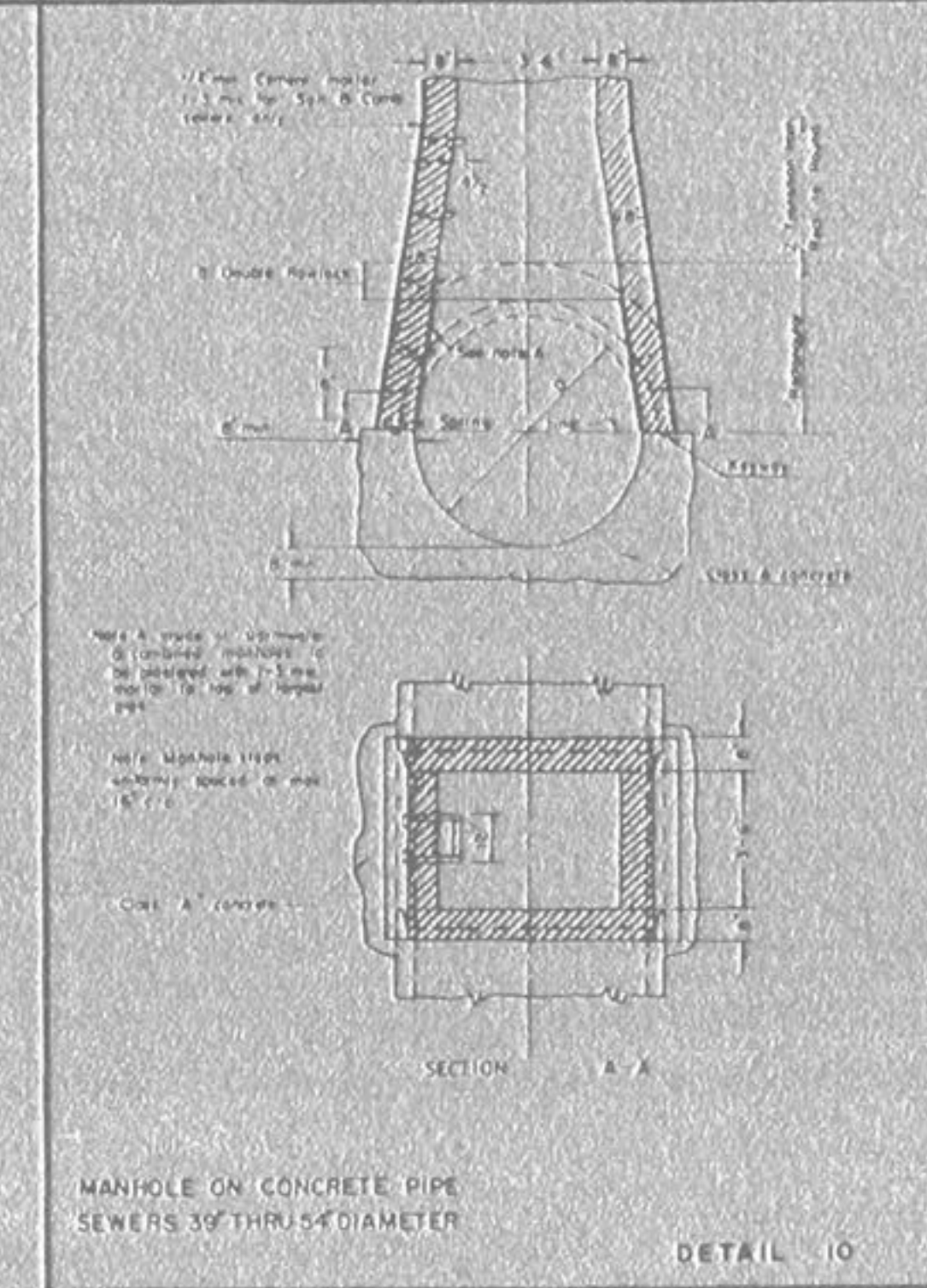
DETAIL 7  
 LINE MANHOLE PIPE SEWERS 8-24" DIA



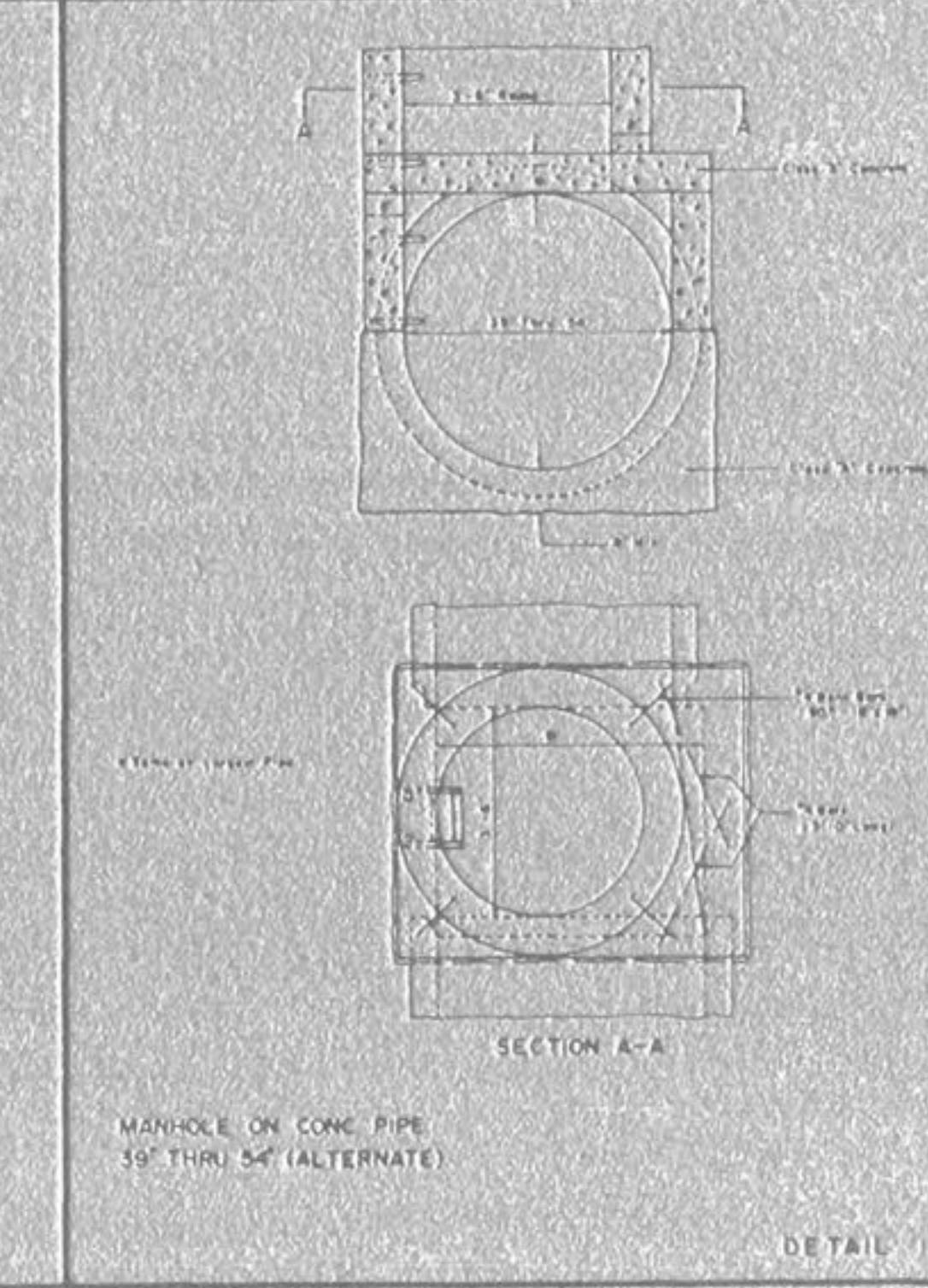
DETAIL 8  
 TYPICAL LINE MANHOLE ON PIPE SEWER 27" THRU 36" IN DIAMETER



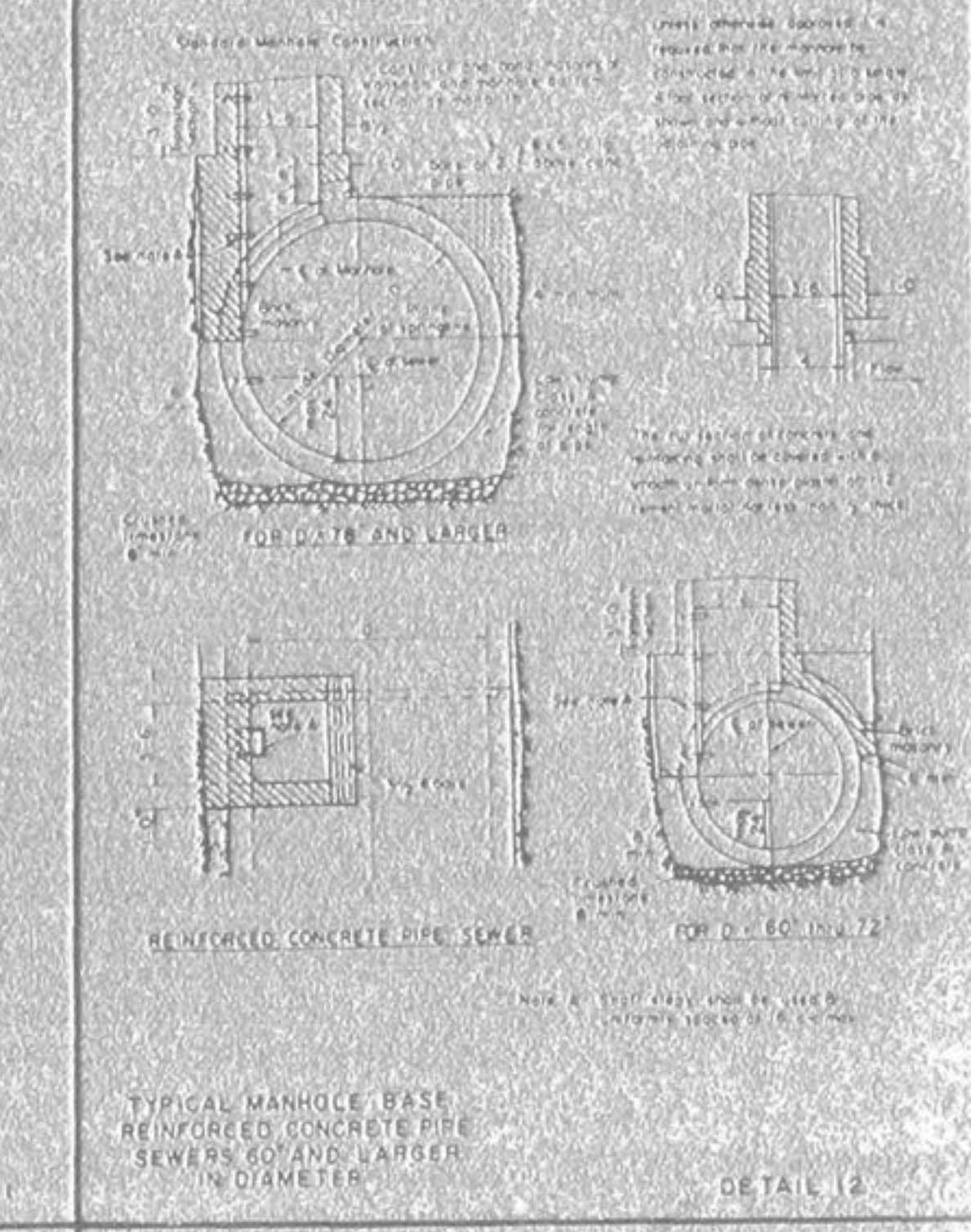
DETAIL 9  
 MANHOLE ON PIPE SEWER 27" THRU 36" (ALTERNATE)



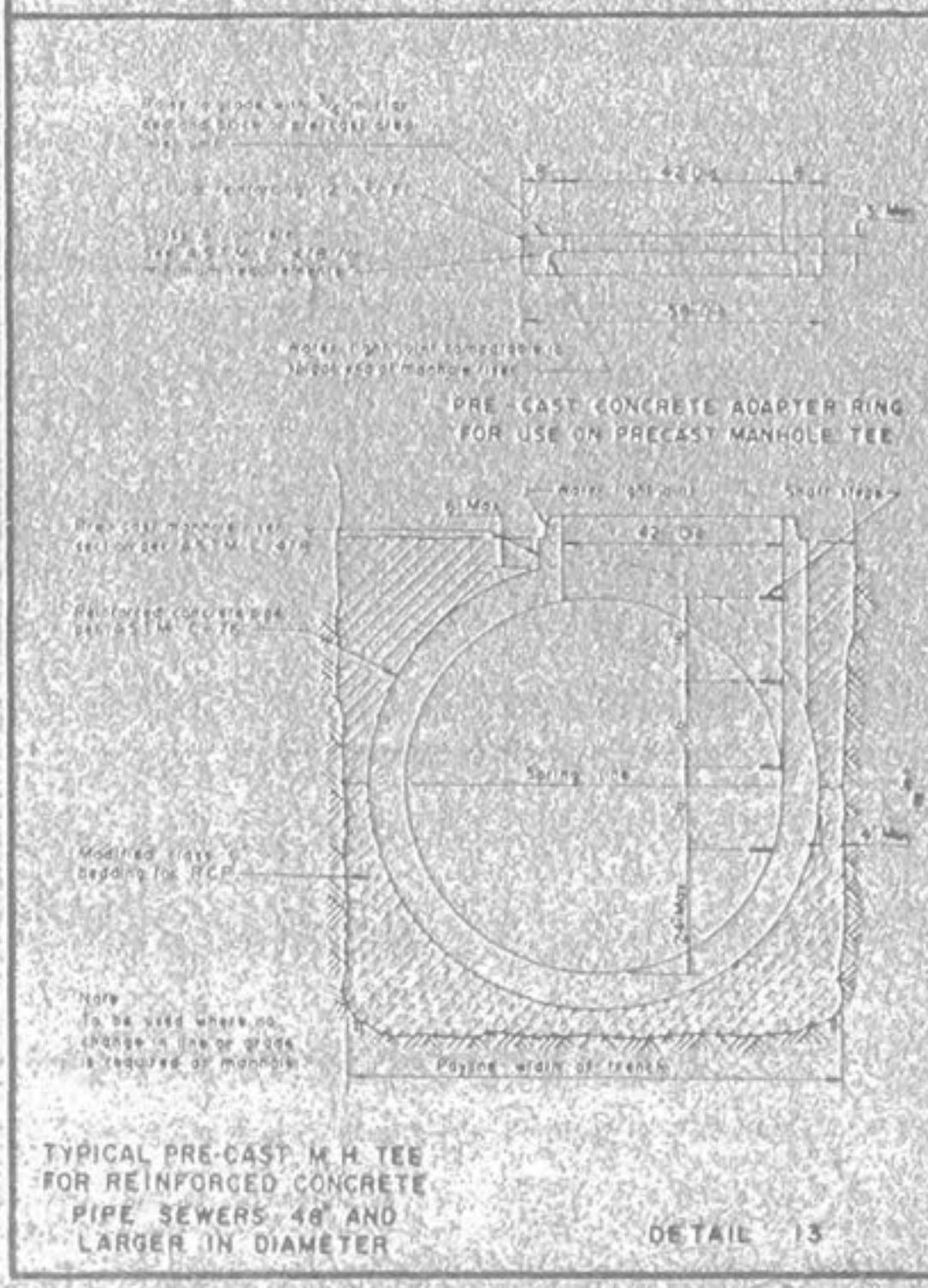
DETAIL 10  
 MANHOLE ON CONCRETE PIPE SEWERS 36" THRU 54" DIAMETER



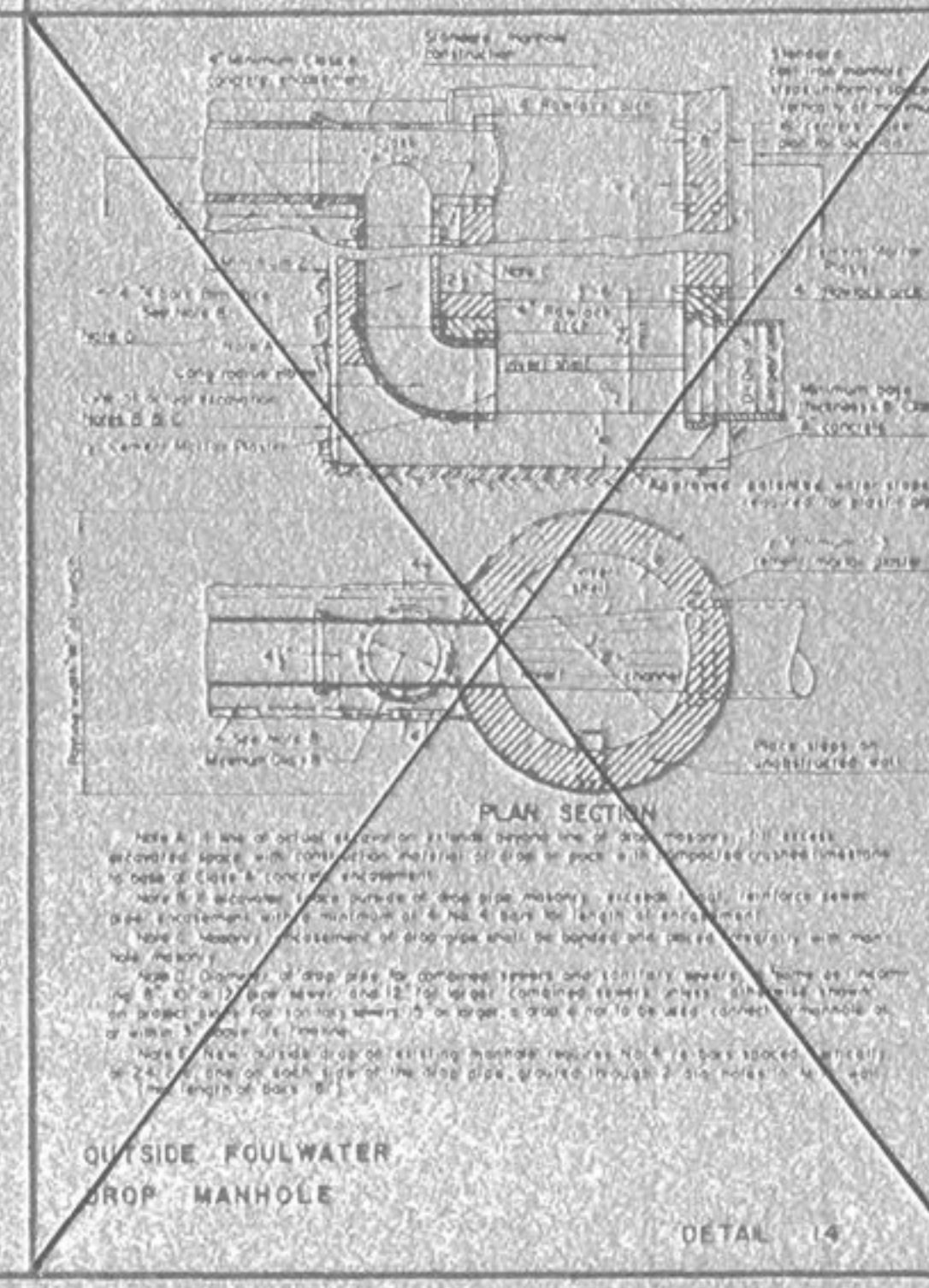
DETAIL 11  
 MANHOLE ON CONC PIPE 36" THRU 54" (ALTERNATE)



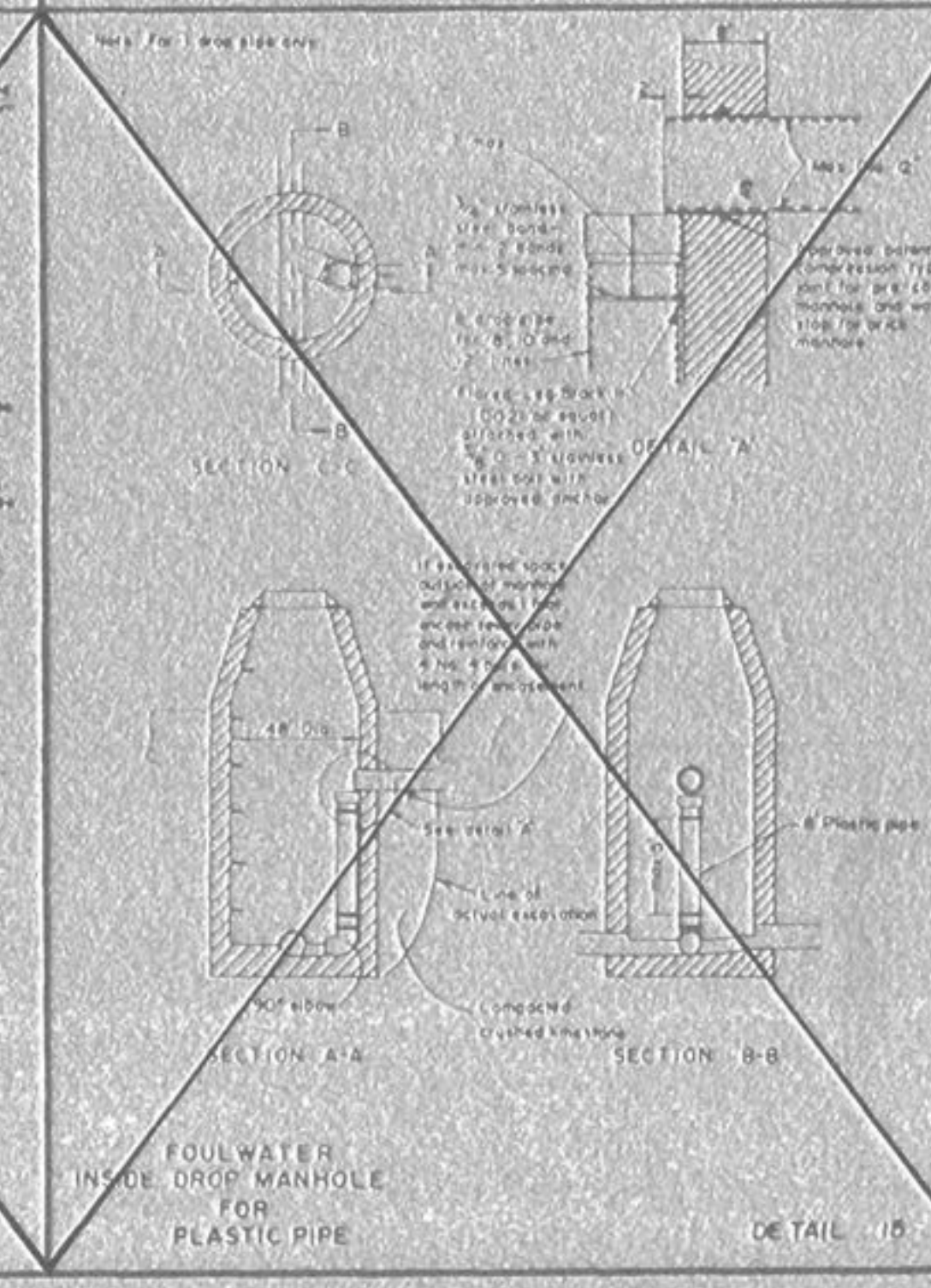
DETAIL 12  
 TYPICAL MANHOLE BASE REINFORCED CONCRETE PIPE SEWERS 60" AND LARGER IN DIAMETER



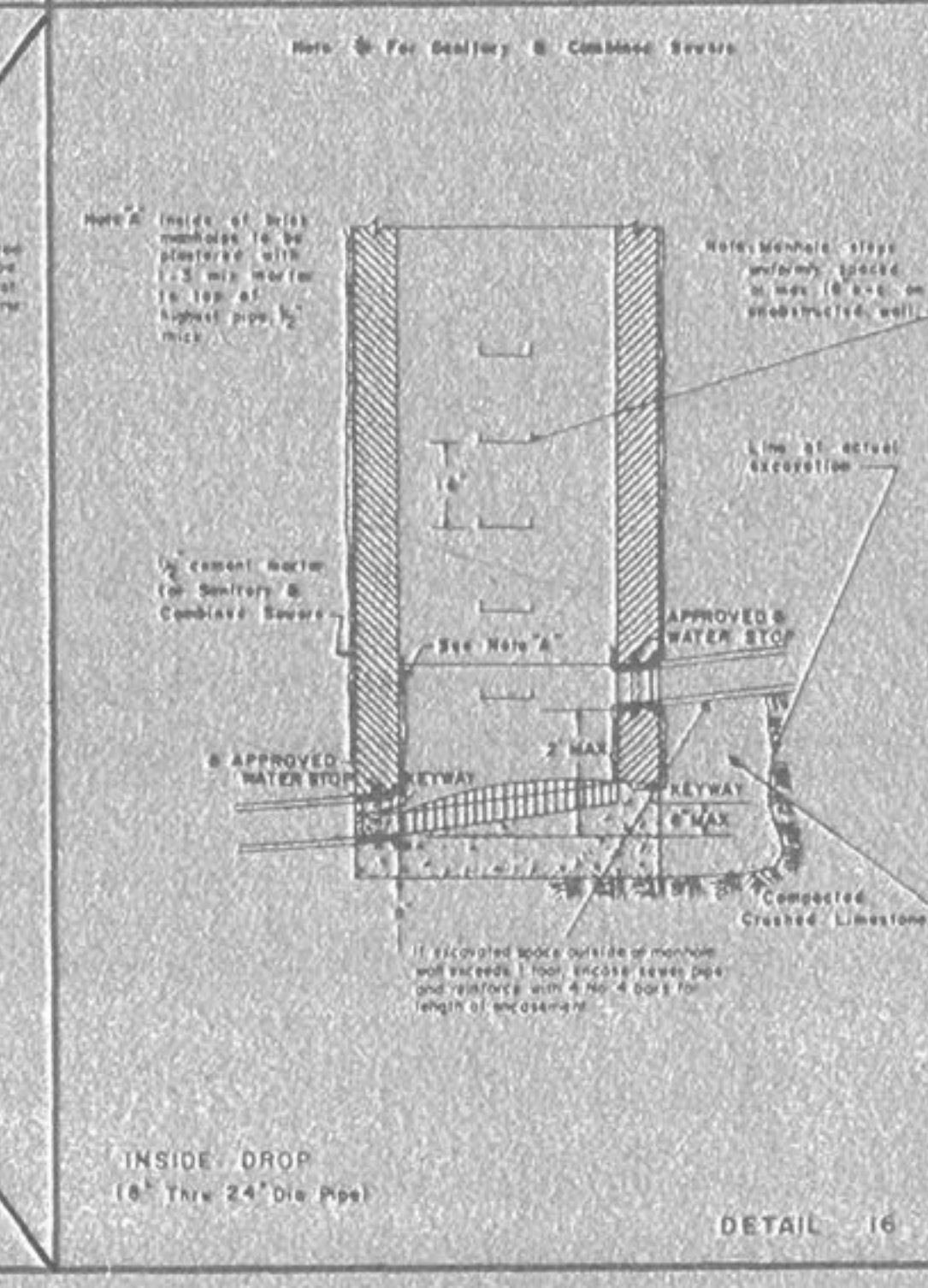
DETAIL 13  
 TYPICAL PRE-CAST M-H TEE FOR REINFORCED CONCRETE PIPE SEWERS 48" AND LARGER IN DIAMETER



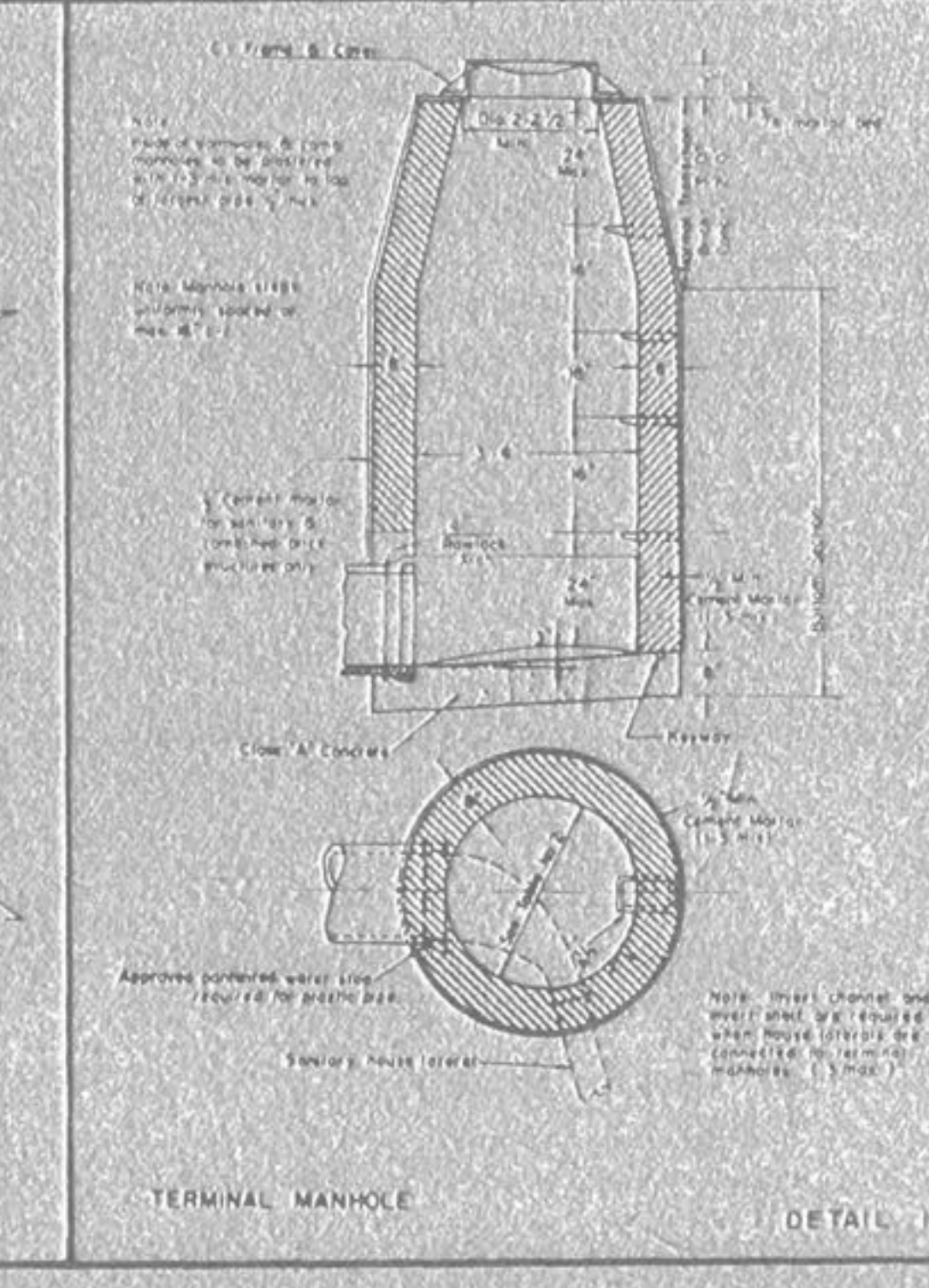
DETAIL 14  
 OUTSIDE FOULWATER DROP MANHOLE



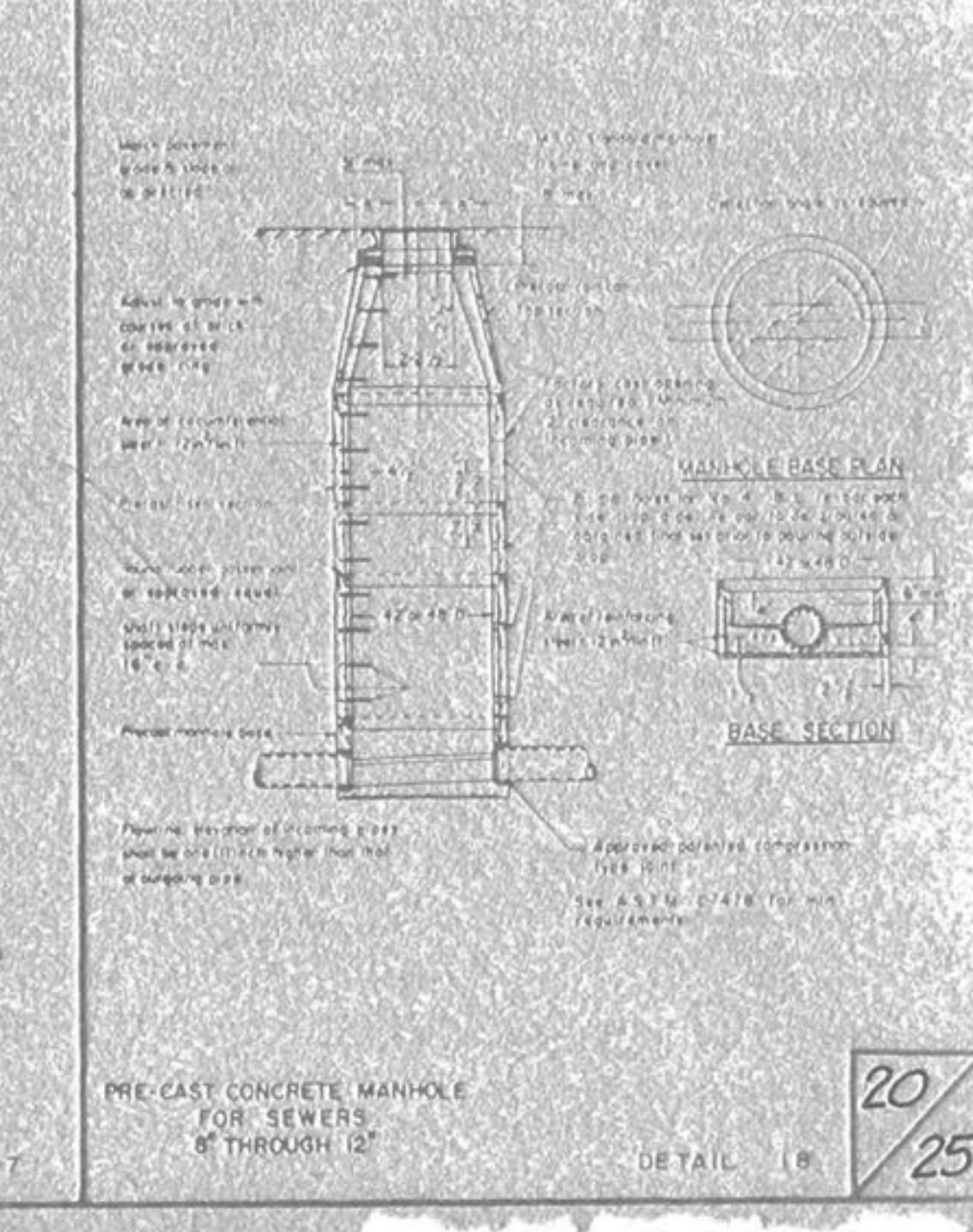
DETAIL 15  
 FOULWATER INSIDE DROP MANHOLE FOR PEASTIC PIPE



DETAIL 16  
 INSIDE DROP (8" THRU 24" DIA PIPE)



DETAIL 17  
 TERMINAL MANHOLE



DETAIL 18  
 PRE-CAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 12"