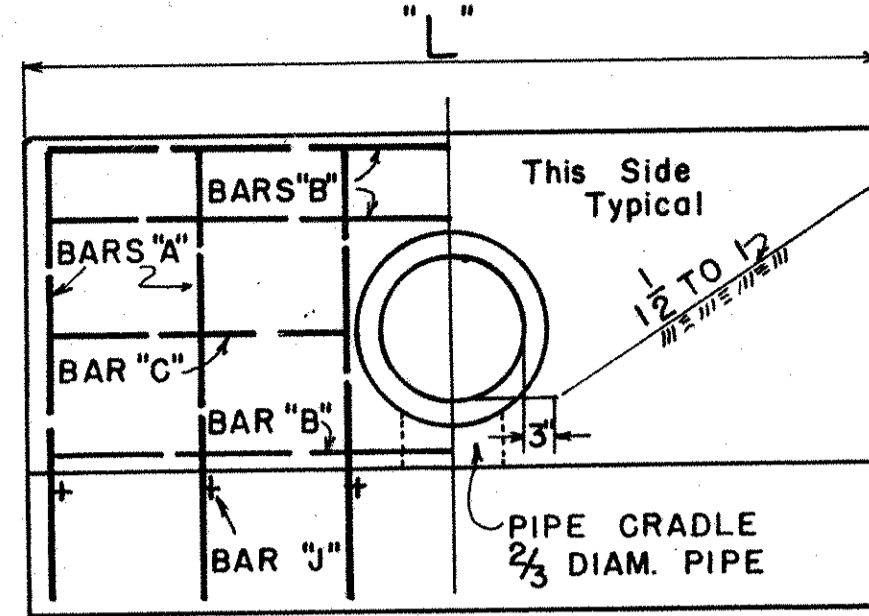
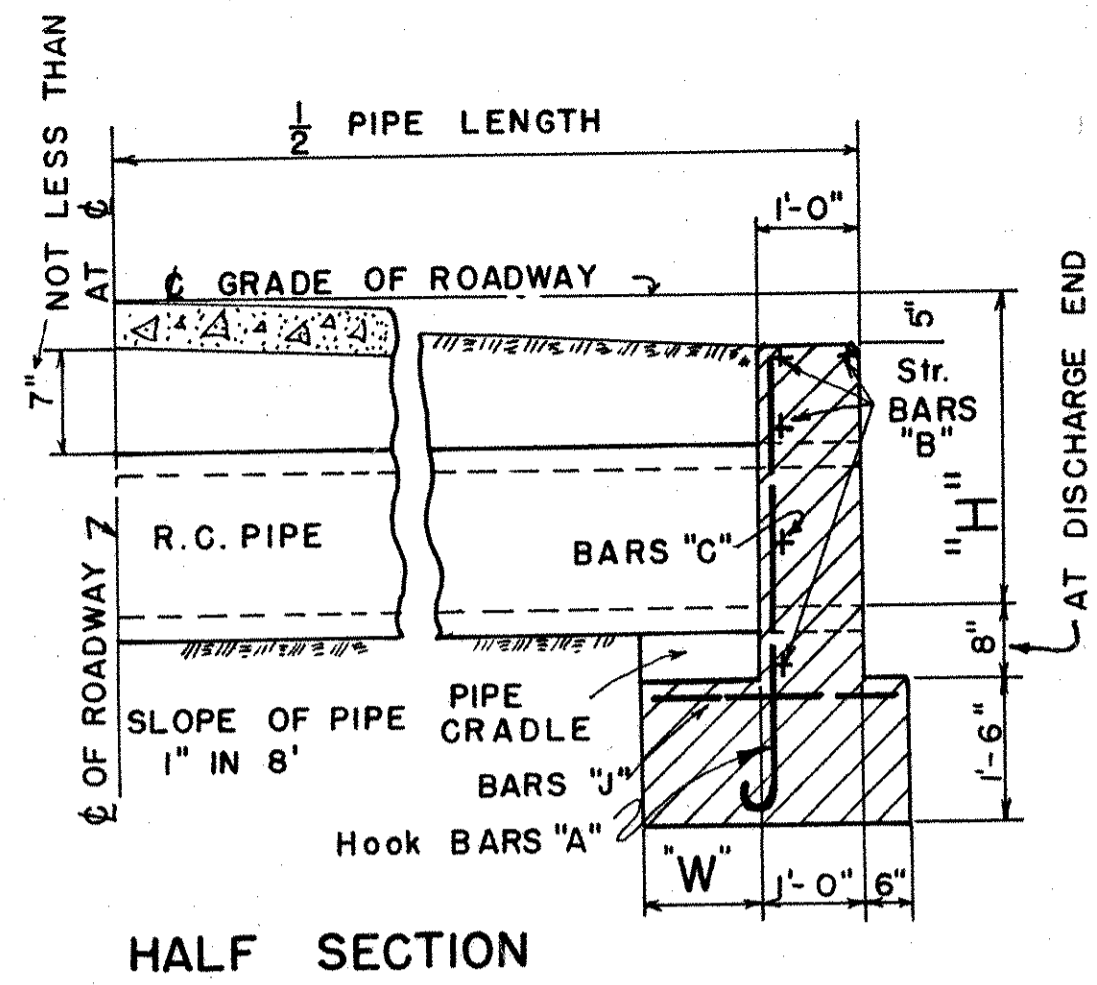
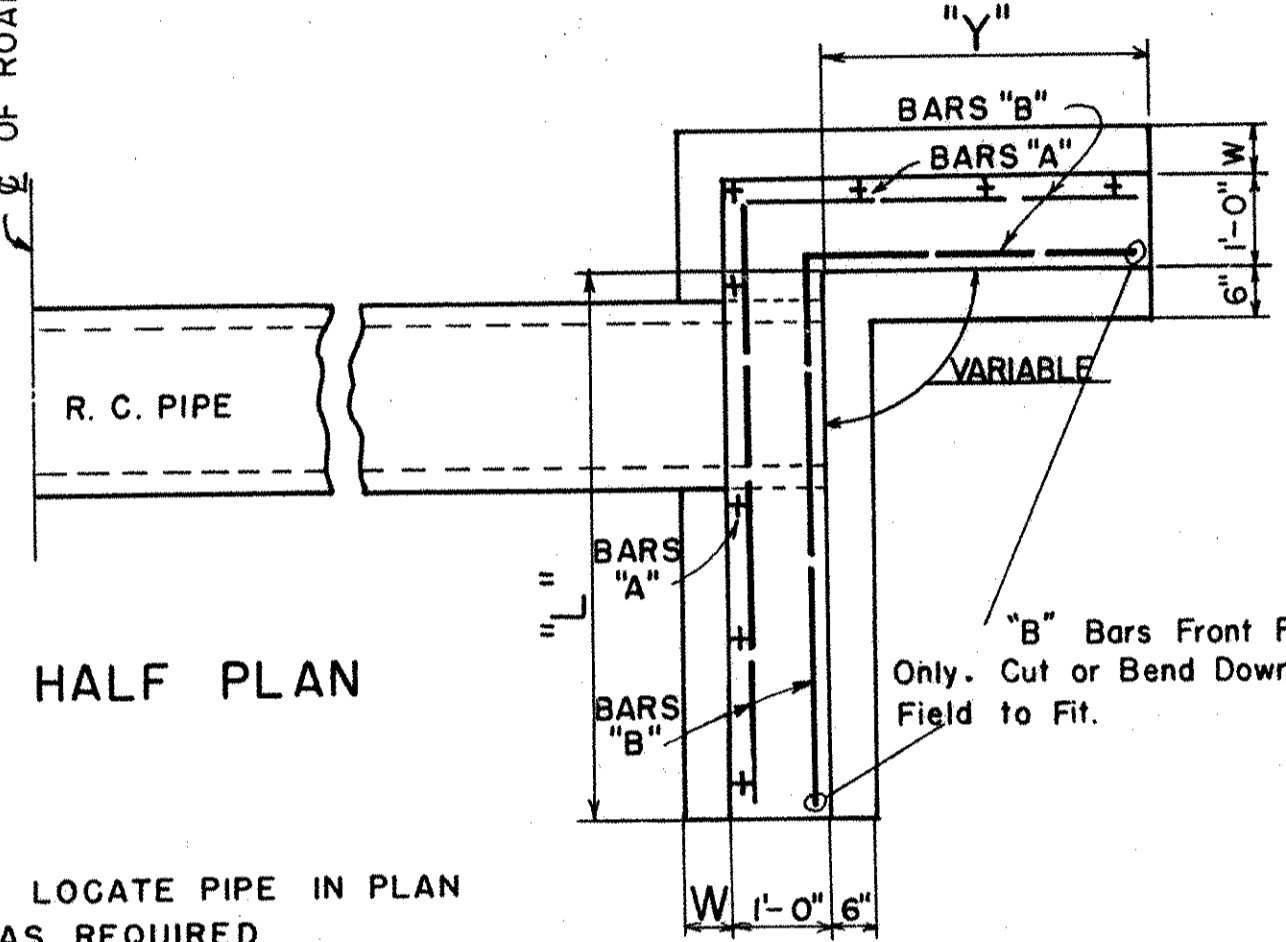
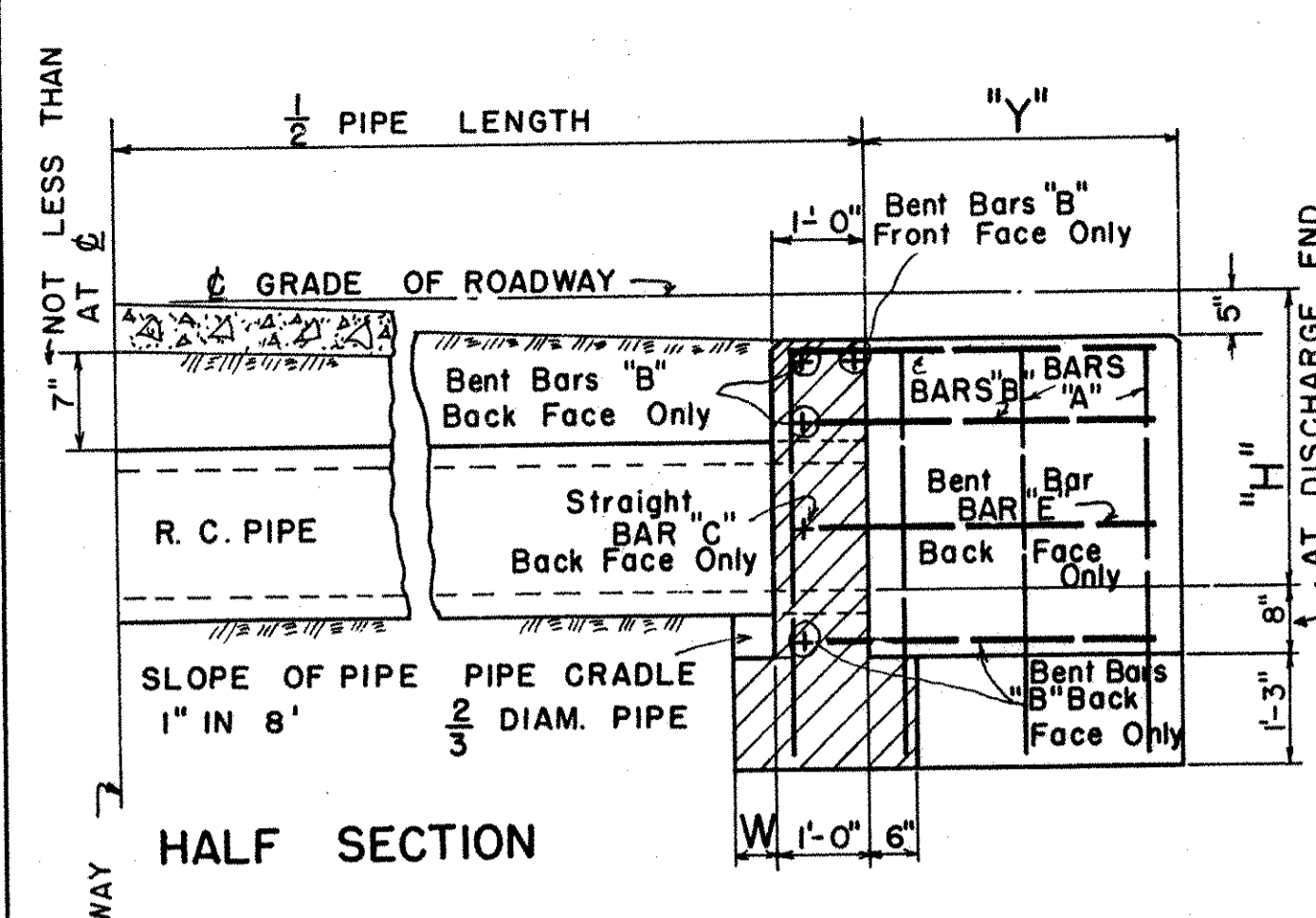


STRAIGHT TYPE HEADWALLS



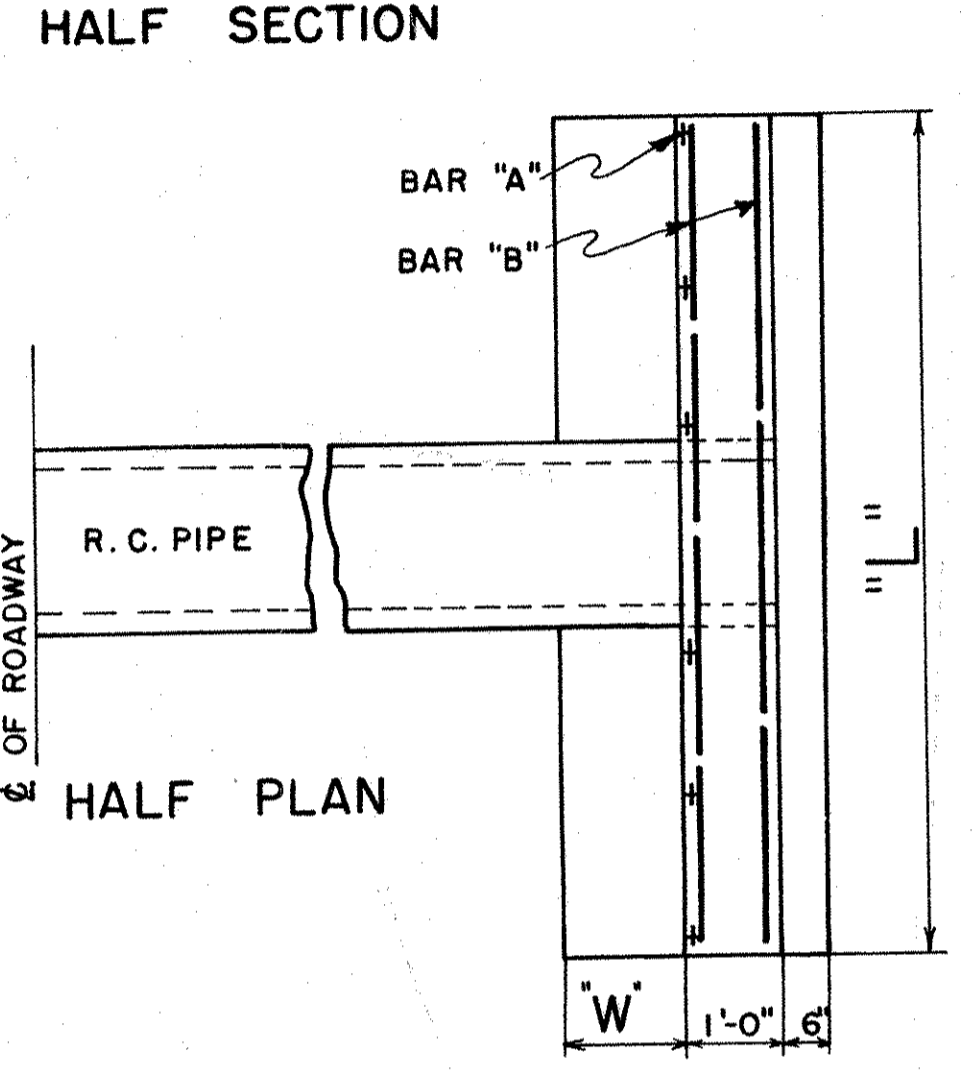
NOTE:
 MINIMUM "H" CROWN GRADE TO DISCH. END
 18" PIPE = 3.25'
 24" PIPE = 3.75'
 30" PIPE = 4.25'
 36" PIPE = 4.75'



NOTE

H	L	Y	W	SPACING OF VERTICAL BARS	QUANTITIES FOR TWO HEADWALLS				CONCRETE				FOOTING												
					1/2" REINFORCING BARS				C.U. YDS.																
					BARS "A"	BARS "B"	BARS "C"	BARS "E"	WALLS	PIPE SIZES	FOOTING	TOTAL													
3.25	5'-8"	3'-5"	6"	16"	16	4	72	8	10	6	84	2	3	6	7	2	5	0	10	116	2.51				1.87
3.50	6'-0"	3'-9"	7"	15"	20	4	95	8	11	0	88	2	4	0	8	2	5	6	11	135	2.88				2.09
3.75	6'-5"	4'-2"	8"	15"	20	5	100	8	12	0	96	2	4	0	8	2	6	0	12	144	3.33	3.24			2.36
4.00	6'-9"	4'-6"	8"	16"	20	5	105	8	12	6	100	2	4	0	8	2	6	0	12	150	3.76	3.67			2.50
4.25	7'-2"	4'-11"	9"	16"	20	5	110	8	13	6	108	2	4	6	9	2	6	6	13	160	4.27	4.18	4.06		2.78
4.50	7'-6"	5'-3"	10"	16"	20	5	115	8	14	0	112	2	4	6	9	2	7	0	14	167	4.75	4.66	4.54		3.04
4.75	7'-11"	5'-8"	10"	14"	24	6	144	8	15	0	120	2	5	0	10	2	7	6	15	193	5.31	5.22	5.11	4.96	3.22
5.00	8'-3"	6'-0"	11"	14"	26	6	163	10	15	6	155	2	5	6	11	2	7	6	15	230	5.85	5.76	5.64	5.50	3.51
5.25	8'-8"	6'-5"	11"	14"	26	6	169	10	16	6	165	2	6	0	12	2	8	0	16	242	6.47	6.38	6.26	6.12	3.70
5.50	9'-0"	6'-9"	12"	14"	28	6	189	10	17	0	170	2	6	6	13	2	8	6	17	260	7.05	6.97	6.85	6.71	3.99
5.75	9'-5"	7'-2"	12"	14"	28	7	196	10	18	0	180	2	6	6	13	2	9	0	18	272	7.73	7.65	7.53	7.39	4.19
6.00	9'-9"	7'-6"	13"	14"	30	7	218	10	18	6	185	2	7	0	14	2	9	0	18	291	8.37	8.29	8.18	8.03	4.50

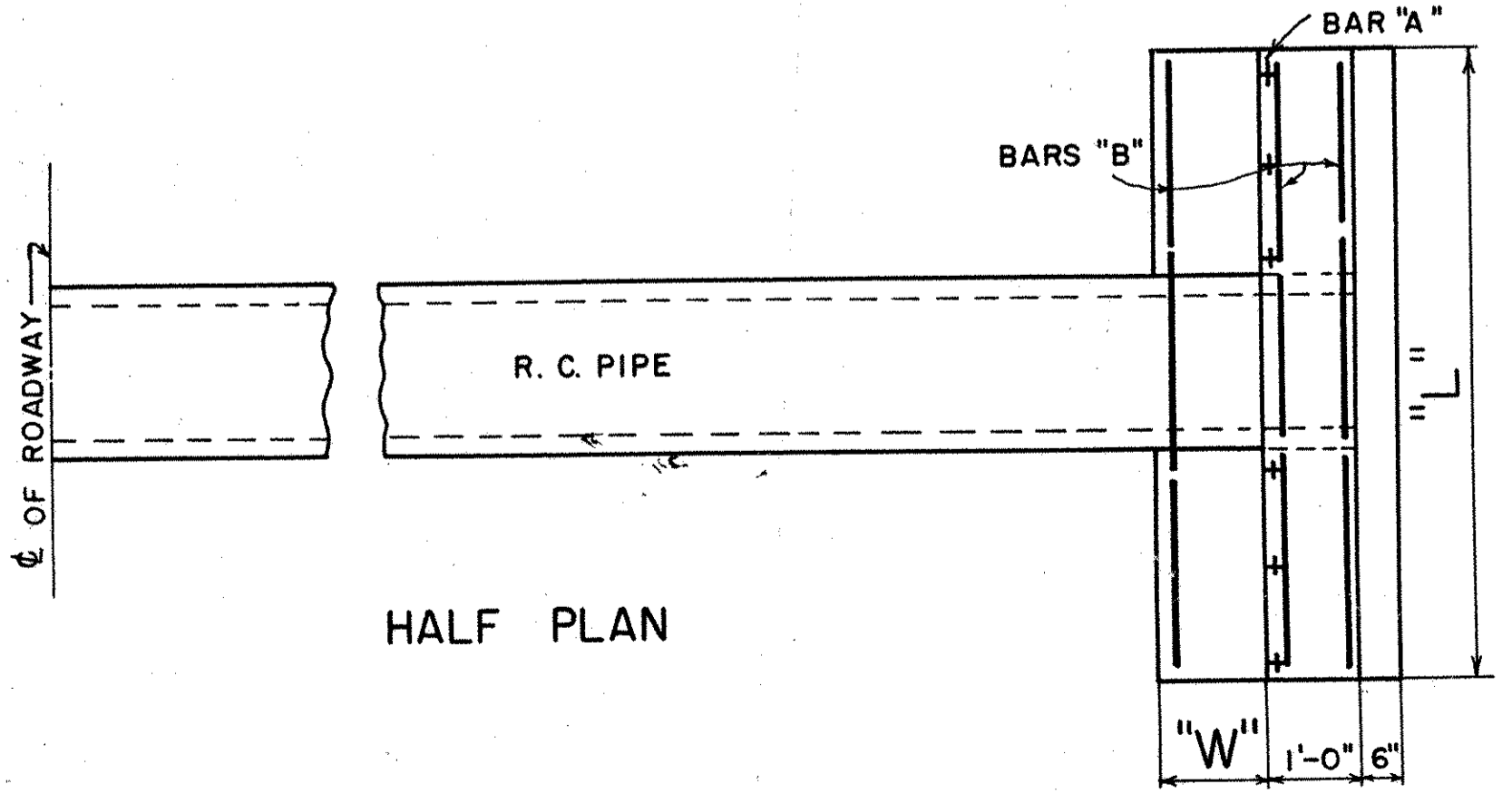
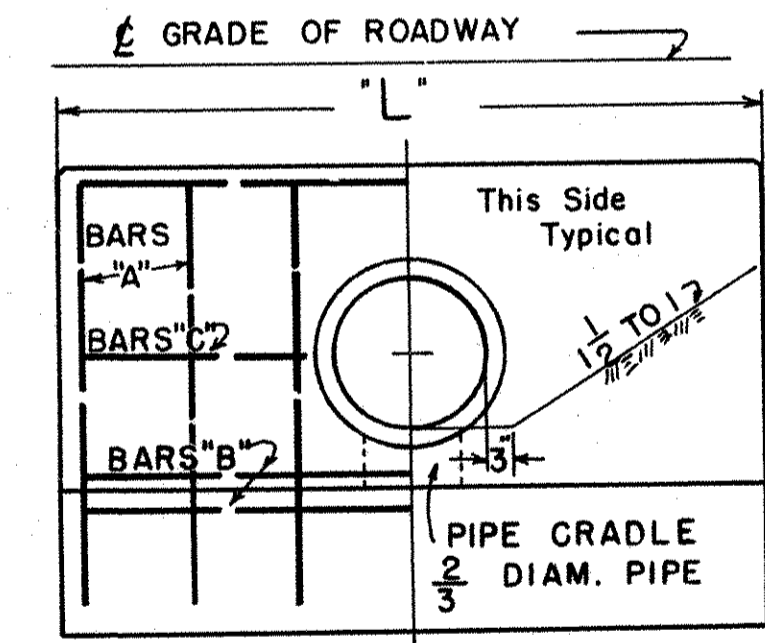
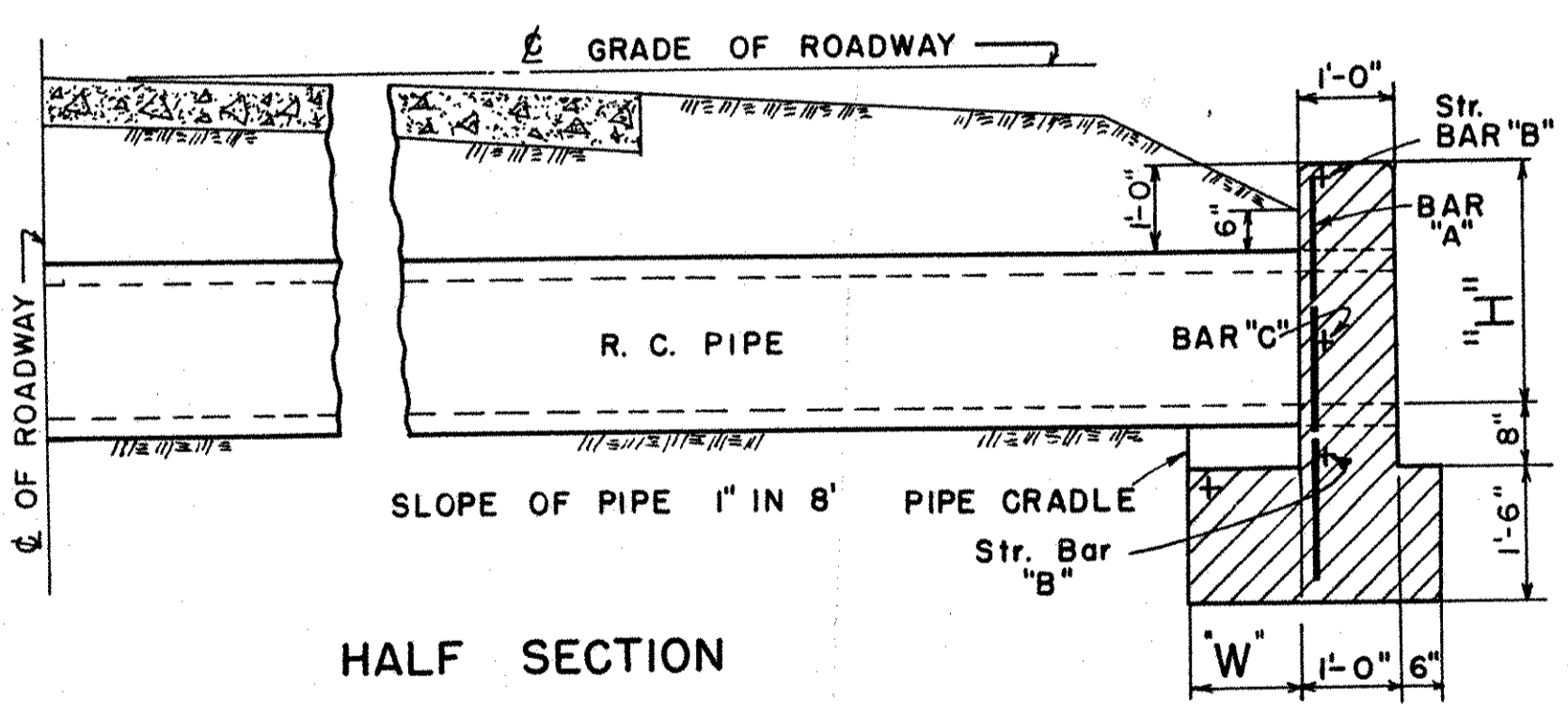
Note: Bars Are Bent or Straight As Shown On Section



NOTE

H	L	W	SPACING OF BARS "A", "B", "C", "J"	QUANTITIES FOR TWO HEADWALLS				CONCRETE				FOOTING													
				1/2" REINFORCING BARS				C.U. YDS.																	
				BARS "A"	BARS "B"	BARS "C"	BARS "J"	WALLS	PIPE SIZES	FOOTING	TOTAL														
3.25	8'-9"	1'-3"	16"	16	5	80	8	8	6	68	4	3	0	12					107	2.20				2.67	
3.50	9'-6"	1'-5"	14"	16	5	88	8	9	0	72	4	3	6	14					116	2.58					3.08
3.75	10'-3"	1'-6"	14"	16	5	92	8	10	0	80	4	3	6	14					124	2.98	2.90				3.42
4.00	11'-0"	1'-8"	16"	16	6	96	8	10	6	84	4	4	0	16	16	3	0	48	163	3.42	3.34				3.87
4.25	11'-9"	1'-9"	16"	16	6	100	8	11	6	92	4	4	0	16	16	3	0	48	171	3.87	3.80	3.70			4.24
4.50	12'-6"	1'-11"	14"	20	6	130	8	12	0	96	4	4	6	18	20	3	0	60	203	4.36	4.29	4.19			4.75
4.75	13'-3"	2'-0"	14"	20	6	135	8	13	0	104	4	4	6	18	20	3	0	60	212	4.88	4.81	4.71	4.58		5.15
5.00	14'-0"	2'-2"	16"	20	7	140	8	13	6	108	4	5	0	20	20	3	6	70	226	5.42	5.35	5.26	5.14		5.70
5.25	14'-9"	2'-3"	16"	20	7	145	10	14	6	115	4	5	6	22	20	3	6	70	255	5.99	5.93	5.83	5.71	6.15	
5.50	15'-6"	2'-5"	14"	24	7	150	10	15	0	120	4	6	0	24	24	3	6	84	293	6.59	6.53	6.44	6.32	6.75	
5.75	16'-3"	2'-6"	14"	24	7	156	10	16	0	126	4	6	6	26	24	3	6	84	305	7.22	7.15	7.07	6.95	7.22	
6.00	17'-0"	2'-8"	16"	24	8	162	10	16	6	132	4	6	6	26	24	4	0	96	320	7.87	7.81	7.73	7.61	7.87	

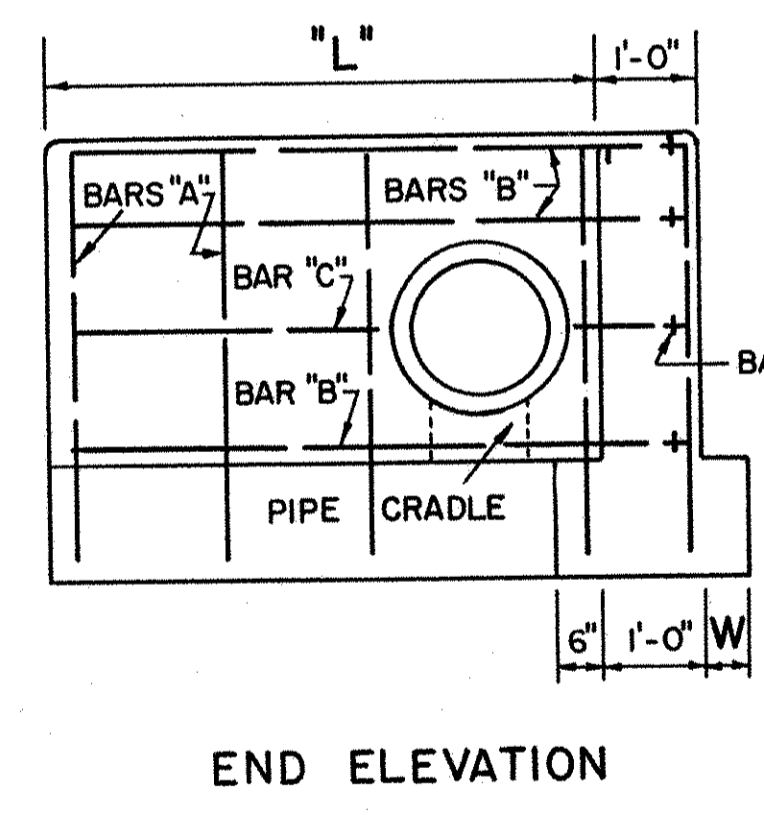
Note: All Bars Straight Except Hookbar "A"



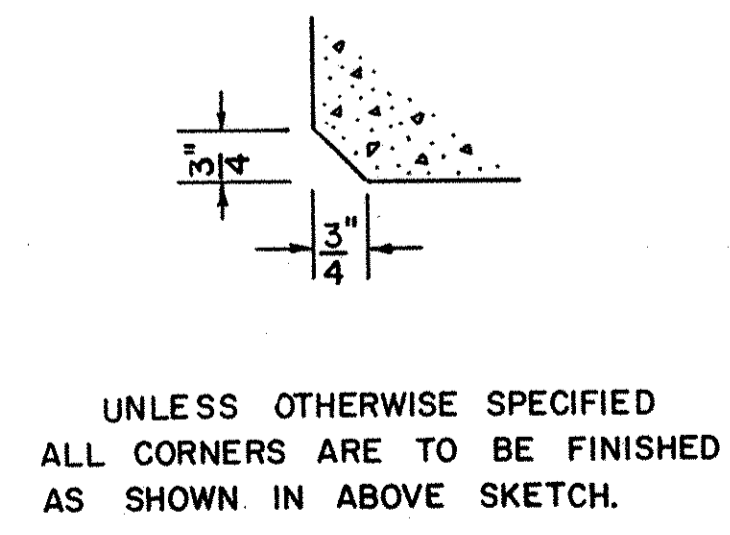
NOTE

DIAMETER OF PIPE	H	L	W	SPACING OF VERTICAL BARS	QUANTITIES FOR 2 HEADWALLS				CONCRETE															
					1/2" REINFORCING BARS				C.U. YDS.															
					BARS "A"	BARS "B"	BARS "C"	BARS "E"	WALLS	PIPE SIZES	FOOTING	TOTAL												
18"	2.75	7'-3"	1'-3"	13"	12	5	60	8	7	0	56	4	2	6	10	8	6	177	222	3.99				
24"	3.25	9'-3"	1'-6"	12"	16	5	68	8	9	0	72	4	3	0	12	117	2.55	3.09	5.64					
30"	3.83	11'-6"	1'-9"	12"	20	6	120	8	11	0	88	4	4	0	16	152	3.62	4.16	7.78					
36"	4.33	13'-6"	2'-0"	11"	24	6	156	8	13	0	104	4	4	6	18	189	4.68	5.25	9.93					

Note: All Straight Bars



NOTE:
 MINIMUM "H" CROWN GRADE TO DISCHARGE END
 18" PIPE = 3.25'
 24" PIPE = 3.75'
 30" PIPE = 4.25'
 36" PIPE = 4.75'
 SLOPE OF EARTH 1/2" TO 1'; KEEP FREE OF PIPE.



THE PLAN AND PROFILE OF THE CONTRACT SHOWS THE LOCATION AND TYPE OF WALLS REQUIRED. EXISTING STRUCTURES SHALL BE REMOVED AS DIRECTED.

A SUITABLE FOUNDATION FOR HEADWALLS WILL BE REQUIRED. CARRY FOOTINGS TO SUFFICIENT DEPTH FOR FIRM MATERIAL AND FROST ACTION. QUANTITIES IN BILL OF MATERIALS ARE FOR DIMENSIONS SHOWN ON THE SHEET. NOTE MINIMUM "H" FOR VARIOUS PIPES. THIS SHEET IS NOW STANDARD AND SUPERSEDES ALL PREVIOUS SHEETS. UNLESS OTHERWISE SPECIFIED ALL BARS TO HAVE 1/2" COVER.