CULVERT DIMENSIONS

CULVERT HEIGHT	"J"	"LW"	"N1"	"N2"	"R"	"Z"	"Y" Clear Spans 4'	5'	6'	7'	8'	9'	10'	12'	14'	16'	18	20'	22'	24'
4'	3'-10"	12'-2 7/8"			1 1/16"	11'-8 1/16"	12'-5 3/16"	13'-5 3/16"	14'-5 3/16"	15'-5 3/16"	16'-5 3/16"	17'-5 3/16"	18'-5 3/16"							
5'	4'-6"	14'-4 3/8"			1 1/16"	13'-8 1/16"		14'-10 5/8"	15'-10 5/8"	16'-10 5/8"	17'-10 5/8"	18'-10 5/8"	19'-10 5/8"	21'-10 5/8"						
6'	5'-9"	18'-4 6/16"			1 1/4"	17'-5 3/8"	16'-7 1/2"		18'-7 1/2"		20'-7 1/2"		22'-7 1/2"	24'-7 1/2"	26'-7 1/2"	28'-7 1/2"	30'-7 1/2"	32'-7 1/2"		
8'	7'-4"	23'-4 15/16"			1 1/2"	22'-2 15/16"					24'-1 3/16"		26'-1 3/16"	28'-1 3/16"	30'-1 3/16"	32'-1 3/16"	34'-1 3/16"	36'-1 3/16"		
10'	8'-4"	26'-7 1/4"	2'-11"	6'-6"	1 3/4"	25'-3 7/16"							28'-3 9/16"	30'-3 9/16"	32'-3 9/16"	34'-3 9/16"	36'-3 9/16"	38'-3 9/16"	40'-3 9/16"	
12'	9'-7"	30'-7 8"	3'-3"	7'-0"	1 15/16"	29'-0 3/4"								33'-0 7/16"	35'-0 7/16"	37'-0 7/16"	39'-0 7/16"	41'-0 7/16"	43'-0 7/16"	45'-0 7/16"

ESTIMATED QUANTITIES ~ CULVERT (L=150 FT.)

CLEAR SPANS

CULVERT HEIGHT	4' Conc. Cu.Yd.	4' Reinf. Steel Lb.	5' Conc. Cu.Yd.	5' Reinf. Steel Lb.	6' Conc. Cu.Yd.	6' Reinf. Steel Lb.	7' Conc. Cu.Yd.	7' Reinf. Steel Lb.	8' Conc. Cu.Yd.	8' Reinf. Steel Lb.	9' Conc. Cu.Yd.	9' Reinf. Steel Lb.	10' Conc. Cu.Yd.	10' Reinf. Steel Lb.	12' Conc. Cu.Yd.	12' Reinf. Steel Lb.	14' Conc. Cu.Yd.	14' Reinf. Steel Lb.	16' Conc. Cu.Yd.	16' Reinf. Steel Lb.	18' Conc. Cu.Yd.	18' Reinf. Steel Lb.	20' Conc. Cu.Yd.	20' Reinf. Steel Lb.	22' Conc. Cu.Yd.	22' Reinf. Steel Lb.	24' Conc. Cu.Yd.	24' Reinf. Steel Lb.	CULVERT HEIGHT
4'	62.86	8,842	75.23	11,327	82.81	12,817	96.64	15,271	108.97	17,770	124.79	20,208	139.01	23,090															4'
5'			83.64	11,671	94.20	14,122	105.68	15,808	118.09	17,510	131.44	20,590	148.76	24,350	177.05	29,036													5'
6'	89.23	10,804			107.46	14,893			135.35	19,617			167.07	25,896	202.64	31,851	253.05	40,088	297.38	46,586	353.30	58,125	413.39	68,544					6'
8'									174.41	26,894			203.83	30,286	241.63	35,276	295.28	42,787	346.61	52,747	401.98	62,531	461.34	73,117					8
10'													254.22	33,861	288.33	38,823	326.12	47,936	378.95	58,275	436.83	69,729	502.54	82,504	573.13	97,852			10'
12'															346.82	47,412	378.50	55,883	420.53	61,540	479.61	72,629	542.69	82,907	621.36	97,045	706.08	110,084	12'

HEIGHT = 12 FT.

BAR LIST FOR WINGS & APRONS

BAR	SIZE	No. Required Span 12'	14'	16'	18'	20'	22'	24'	DIM. X	DIM. X1	LENGTH
T1	#4	2	2	2	2	2	2	2			S+1'-6"
T2	#4	2	2	2	2	2	2	2			S+2'-3"
T3	#4	2	2	2	2	2	2	2			S+3'-0"
T4	#4	2	2	2	2	2	2	2			S+3'-9"
T5	#4	2	2	2	2	2	2	2			S+4'-6"
T6	#4	2	2	2	2	2	2	2			S+5'-3"
T7	#4	2	2	2	2	2	2	2			S+6'-0"
T8	#4	2	2	2	2	2	2	2			S+6'-9"
T9	#4	2	2	2	2	2	2	2			S+7'-6"
T10	#4	2	2	2	2	2	2	2			S+8'-3"
T11	#4	2	2	2	2	2	2	2			S+9'-0"
T12	#4	2	2	2	2	2	2	2			S+9'-9"
T13	#4	2	2	2	2	2	2	2			S+10'-6"
T14	#4	2	2	2	2	2	2	2			S+11'-3"
T15	#4	2	2	2	2	2	2	2			S+12'-0"
T16	#4	2	2	2	2	2	2	2			S+12'-9"
T17	#4	2	2	2	2	2	2	2			S+13'-6"
T18	#4	2	2	2	2	2	2	2			S+14'-3"
T19	#4	2	2	2	2	2	2	2			S+15'-0"
T20	#4	2	2	2	2	2	2	2			S+15'-9"
T21	#4	2	2	2	2	2	2	2			S+16'-6"
T22	#4	2	2	2	2	2	2	2			S+17'-2"
T23	#4	2	2	2	2	2	2	2			S+17'-11"
T24	#4	2	2	2	2	2	2	2			S+18'-8"
T25	#4	2	2	2	2	2	2	2			S+19'-5"
T26	#4	2	2	2	2	2	2	2			S+20'-2"
T27	#4	2	2	2	2	2	2	2			S+20'-11"
T28	#4	2	2	2	2	2	2	2			S+21'-8"
T29	#4	6	6	6	6	6	6	6			S+21'-8"
U	#4	12	12	12	12	12	12	12			30'-3"
V1	#4	28	32	36	40	44	48	52	28'-8"	1'-8"	30'-4"
V2	#4	4	4	4	4	4	4	4	26'-7"	1'-8"	28'-3"
V3	#4	4	4	4	4	4	4	4	23'-10"	1'-8"	25'-6"
V4	#4	4	4	4	4	4	4	4	21'-1"	1'-8"	22'-9"
V5	#4	4	4	4	4	4	4	4	18'-4"	1'-8"	20'-0"
V6	#4	4	4	4	4	4	4	4	15'-7"	1'-8"	17'-3"
V7	#4	4	4	4	4	4	4	4	12'-10"	1'-8"	14'-6"
V8	#4	4	4	4	4	4	4	4	10'-1"	1'-8"	11'-9"
V9	#4	4	4	4	4	4	4	4	7'-4"	1'-8"	9'-0"
V10	#4	4	4	4	4	4	4	4	4'-7"	1'-8"	6'-3"
W1	#7	20	20	20	20	20	20	20	6'-5"	W+9'-6"	W+15'-11"
W2	#7	20	20	20	20	20	20	20	6'-0"	W+8'-6"	W+14'-6"
W3	#7	12	12	12	12	12	12	12	5'-8"	W+7'-8"	W+13'-4"
W4	#7	12	12	12	12	12	12	12	5'-4"	W+6'-10"	W+12'-2"
W5	#6	12	12	12	12	12	12	12	5'-0"	W+6'-0"	W+11'-0"
W6	#6	12	12	12	12	12	12	12	4'-8"	W+5'-2"	W+9'-10"
W7	#5	12	12	12	12	12	12	12	4'-3"	W+4'-2"	W+8'-5"
W8	#5	12	12	12	12	12	12	12	3'-11"	W+3'-3"	W+7'-2"
W9	#4	12	12	12	12	12	12	12	3'-7"	W+2'-3"	W+5'-10"
W10	#4	8	8	8	8	8	8	8	3'-4"	W+1'-7"	W+4'-11"
W11	#4	8	8	8	8	8	8	8	3'-1"	W+1'-0"	W+4'-1"
W12	#4	4	4	4	4	4	4	4	3'-0"	W+0'-8"	W+3'-8"
Y1	#4	8	8	8	8	8	8	8			5'-8"
Y2	#4	8	8	8	8	8	8	8			9'-8"
Y3	#4	8	8	8	8	8	8	8			13'-8"
Y4	#4	8	8	8	8	8	8	8			17'-8"
Y5	#4	8	8	8	8	8	8	8			21'-8"
Y6	#4	8	8	8	8	8	8	8			25'-8"
Y7	#4	8	8	8	8	8	8	8			29'-8"
Y8	#4	24	24	24	24	24	24	24			30'-3"

HEIGHT = 10 FT.

BAR LIST FOR WINGS & APRONS

BAR	SIZE	No. Required Span 10'	12'	14'	16'	18'	20'	22'	DIM. X	DIM. X1	LENGTH
T1	#4	2	2	2	2	2	2	2			S+1'-2"
T2	#4	2	2	2	2	2	2	2			S+1'-8"
T3	#4	2	2	2	2	2	2	2			S+2'-5"
T4	#4	2	2	2	2	2	2	2			S+3'-2"
T5	#4	2	2	2	2	2	2	2			S+3'-11"
T6	#4	2	2	2	2	2	2	2			S+4'-8"
T7	#4	2	2	2	2	2	2	2			S+5'-5"
T8	#4	2	2	2	2	2	2	2			S+6'-2"
T9	#4	2	2	2	2	2	2	2			S+6'-11"
T10	#4	2	2	2	2	2	2	2			S+7'-8"
T11	#4	2	2	2	2	2	2	2			S+8'-5"
T12	#4	2	2	2	2	2	2	2			S+9'-2"
T13	#4	2	2	2	2	2	2	2			S+9'-9"
T14	#4	2	2	2	2	2	2	2			S+10'-6"
T15	#4	2	2	2	2	2	2	2			S+11'-3"
T16	#4	2	2	2	2	2	2	2			S+12'-0"
T17	#4	2	2	2	2	2	2	2			S+12'-9"
T18	#4	2	2	2	2	2	2	2			S+13'-6"
T19	#4	2	2	2	2	2	2	2			S+14'-3"
T20	#4	2	2	2	2	2	2	2			S+15'-0"
T21	#4	2	2	2	2	2	2	2			S+15'-9"
T22	#4	2	2	2	2	2	2	2			S+16'-6"
T23	#4	2	2	2	2	2	2	2			S+17'-3"
T24	#4	2	2	2	2	2	2	2			S+17'-11"
T25	#4	2	2	2	2	2	2	2			S+18'-7"
T26	#4	6	6	6	6	6	6	6			S+18'-10"
U	#4	12	12	12	12	12	12	12			26'-3"
V1	#4	24	28	32	36	40	44	48	24'-11"	1'-8"	26'-7"
V2	#4	4	4	4	4	4	4	4	22'-7"	1'-8"	24'-3"
V3	#4	4	4	4	4	4	4	4	19'-10"	1'-8"	21'-6"
V4	#4	4	4	4	4	4	4	4	17'-1"	1'-8"	18'-9"
V5	#4	4	4	4	4	4	4	4	14'-4"	1'-8"	16'-0"
V6	#4	4	4	4	4	4	4	4	11'-7"	1'-8"	13'-3"
V7	#4	4	4	4	4	4	4	4	8'-10"	1'-8"	10'-6"
V8	#4	4	4	4	4	4	4	4	6'-1"	1'-8"	7'-9"
V9	#4	4	4	4	4	4	4	4	3'-4"	1'-8"	5'-0"
W1	#6	20	20	20	20	20	20	20	5'-10"	W+8'-1"	W+13'-11"
W2	#6	20	20	20	20	20	20	20	5'-5"	W+7'-2"	W+12'-7"
W3	#5	20	20	20	20	20	20	20	5'-0"	W+6'-3"	W+11'-3"
W4	#5	12	12	12	12	12	12	12	4'-8"	W+5'-7"	W+10'-3"
W5	#5	12	12	12	12	12	12	12	4'-5"	W+4'-11"	W+9'-4"
W6	#4	12	12	12	12	12	12	12	4'-2"	W+4'-1"	W+8'-3"
W7	#4	12	12	12	12	12	12	12	3'-10"	W+3'-5"	W+7'-3"
W8	#4	12	12	12	12	12	12	12	3'-5"	W+2'-7"	W+6'-0"
W9	#4	8	8	8	8	8	8	8	3'-2"	W+2'-0"	W+5'-2"
W10	#4	8	8	8	8	8	8	8	2'-11"	W+1'-4"	W+4'-3"
W11	#4	8	8	8	8	8	8	8	2'-8"	W+0'-8"	W+3'-4"
Y1	#4	8	8	8	8	8	8	8			5'-4"
Y2	#4	8	8	8	8	8	8	8			9'-4"
Y3	#4	8	8	8	8	8	8	8			13'-4"
Y4	#4	8	8	8	8	8	8	8			17'-4"
Y5	#4	8	8	8	8	8	8	8			21'-4"
Y6	#4	8	8	8	8	8	8	8			25'-4"
Y7	#4	16	16	16	16	16	16	16			26'-3"

HEIGHT = 8 FT.

BAR LIST FOR WINGS & APRONS

BAR	SIZE	No. Required Span 8'	10'	12'	14'	16'	18'	20'	DIM. X	DIM. X1	LENGTH
T1	#4	2	2	2	2	2	2	2			S+0'-10"
T2	#4	2	2	2	2	2	2	2			S+1'-5"
T3	#4	2	2	2	2	2	2	2			S+2'-2"
T4	#4	2	2	2	2	2	2	2			S+2'-11"
T5	#4	2	2	2	2	2	2	2			S+3'-8"
T6	#4	2	2	2	2	2	2	2			S+4'-5"
T7	#4	2	2	2	2	2	2	2			S+5'-2"
T8	#4	2	2	2	2	2	2	2			S+5'-11"
T9	#4	2	2	2	2	2	2	2			S+6'-7"
T10	#4	2	2	2	2	2	2	2			S+7'-4"
T11	#4	2	2	2	2	2	2	2			S+8'-1"
T12	#4	2	2	2	2	2	2	2			S+8'-10"
T13	#4	2	2	2	2	2	2	2			S+9'-7"
T14	#4	2	2	2	2	2	2	2			S+10'-4"
T15	#4	2	2	2	2	2	2	2			S+11'-1"
T16	#4	2	2	2	2	2	2	2			S+11'-10"
T17	#4	2	2	2	2	2	2	2			S+12'-7"
T18	#4	2	2	2	2	2	2	2			S+13'-4"
T19	#4	2	2	2	2	2	2	2			S+14'-1"
T20	#4	2	2	2	2	2	2	2			S+14'-10"
T21	#4	2	2	2	2	2	2	2			S+15'-7"
T22	#4	2	2	2	2	2	2	2			S+16'-3"
T23	#4	6	6	6	6	6	6	6			S+16'-6"
U	#4	12	12	12	12	12	12	12			23'-0"
V1	#4	20	24	28	32	36	40	44	21'-11"	1'-8"	23'-7"
V2	#4	4	4	4	4	4	4	4	19'-2"	1'-8"	20'-10"
V3	#4	4	4	4	4	4	4	4	16'-5"	1'-8"	18'-1"
V4	#4	4	4	4	4	4	4	4	13'-8"	1'-8"	15'-4"
V5	#4	4	4	4	4	4	4	4	10'-11"	1-8"	12'-7"
V6	#4	4	4	4	4	4	4	4	8'-2"	1'-8"	9'-10"
V7	#4	4	4	4	4	4	4	4	5'-5"	1'-8"	7'-1"
W1	#5	24	24	24	24	24	24	24	4'-6"	W+6'-9"	W+11'-3"
W2	#5	20	20	20	20	20	20	20	4'-1"	W+5'-7"	W+9'-8"
W3	#5	12	12	12	12	12	12	12	3'-7"	W+4'-7"	W+8'-2"
W4	#4	12	12	12	12	12	12	12	3'-3"	W+3'-7"	W+6'-10"
W5	#4	12	12	12	12	12	12	12	2'-11"	W+2'-7"	W+5'-6"
W6	#4	12	12	12	12	12	12	12	2'-7"	W+1'-7"	W+4'-2"
W7	#4	8	8	8	8	8	8	8	2'-3"	W+1'-0"	W+3'-3"
W8	#4	8	8	8	8	8	8	8	2'-0"	W+0-5"	W+2'-5"
Y1	#4	8	8	8	8	8	8	8			4'-10"
Y2	#4	8	8	8	8	8	8	8			8'-0"
Y3	#4	8	8	8	8	8	8	8			11'-2"
Y4	#4	8	8	8	8	8	8	8			14'-4"
Y5	#4	8	8	8	8	8	8	8			17'-6"
Y6	#4	8	8	8	8	8	8	8			20'-8"
Y7	#4	16	16	16	16	16	16	16			23'-0"

HEIGHT = 6 FT.

BAR LIST FOR WINGS & APRONS

BAR	SIZE	No. Required Span 4'	6'	8'	10'	12'	14'	16'	18'	20'	DIM. X	DIM. X1	LENGTH
T1	#4	2	2	2	2	2	2	2	2	2			S+0'-8"
T2	#4	2	2	2	2	2	2	2	2	2			S+1'-5"
T3	#4	2	2	2	2	2	2	2	2	2			S+2'-2"
T4	#4	2	2	2	2	2	2	2	2	2			S+2'-11"
T5	#4	2	2	2	2	2	2	2	2	2			S+3'-8"
T6	#4	2	2	2	2	2	2	2	2	2			S+4'-5"
T7	#4	2	2	2	2	2	2	2	2	2			S+5'-2"
T8	#4	2	2	2	2	2	2	2	2	2			S+5'-11"
T9	#4	2	2	2	2	2	2	2	2	2			S+6'-8"
T10	#4	2	2	2	2	2	2	2	2	2			S+7'-5"
T11	#4	2	2	2	2	2	2	2	2	2			S+8'-2"
T12	#4	2	2	2	2	2	2	2	2	2			S+8'-11"
T13	#4	2	2	2	2	2	2	2	2	2			S+9'-7"
T14	#4	2	2	2	2	2	2	2	2	2			S+10'-4"
T15	#4	2	2	2	2	2	2	2	2	2			S+11'-1"
T16	#4	2	2	2	2	2	2	2	2	2			S+11'-10"
T17	#4	2	2	2	2	2	2	2	2	2			S+12'-7"
T18	#4	6	6	6	6	6	6	6	6	6			S+13'-0"
U	#4	12	12	12	12	12	12	12	12	12			18'-0"
V1	#4	12	16	20	24	28	32	36	40	44	17'-1"	1'-8"	18'-9"
V2	#4	4	4	4	4	4	4	4	4	4	14'-1"	1'-8"	15'-9"
V3	#4	4	4	4	4	4	4	4	4	4	11'-4"	1'-8"	13'-0"
V4	#4	4	4	4	4	4	4	4	4	4	8'-7"	1'-8"	10'-3"
V5	#4	4	4	4	4	4	4	4	4	4	5'-10"	1'-8"	7'-6"
V6	#4	4	4	4	4	4	4	4	4	4	3'-1"	1'-8"	4'-9"
W1	#4	20	20	20	20	20	20	20	20	20	4'-0"	W+5'-4"	W+9'-4"
W2	#4	12	12	12	12	12	12	12	12	12	3'-8"	W+4'-9"	W+8'-5"
W3	#4	12	12	12	12	12	12	12	12	12	3'-5"	W+4'-0"	W+7'-5"
W4	#4	12	12	12	12	12	12	12	12	12	3'-0"	W+3'-2"	W+6'-2"
W5	#4	12	12	12	12	12	12	12	12	12	2'-8"	W+2'-3"	W+4'-11"
W6	#4	12	12	12	12	12	12	12	12	12	2'-4"	W+1'-4"	W+3'-8"
W7	#4	12	12	12	12	12	12	12	12	12	2'-0"	W+0'-5"	W+2'-5"
Y1	#4	4	4	4	4	4	4	4	4	4			4'-10"
Y2	#4	4	4	4	4	4	4	4	4	4			8'-1"
Y3	#4	4	4	4	4	4	4	4	4	4			11'-3"
Y4	#4	4	4	4	4	4	4	4	4	4			14'-5"
Y5	#4	4	4	4	4	4	4	4	4	4			17'-7"
Y6	#4	4	4	4	4	4	4	4	4	4			18'-0"

HEIGHT = 5 FT.

BAR LIST FOR WINGS & APRONS

BAR	SIZE	No. Required Span 5'	6'	7'	8'	9'	10'	12'	DIM. X	DIM. X1	LENGTH
T1	#4	2	2	2	2	2	2	2			S+0'-9"
T2	#4	2	2	2	2	2	2	2			S+1'-6"
T3	#4	2	2	2	2	2	2	2			S+2'-3"
T4	#4	2	2	2	2	2	2	2			S+3'-0"
T5	#4	2	2	2	2	2	2	2			S+3'-9"
T6	#4	2	2	2	2	2	2	2			S+4'-6"
T7	#4	2	2	2	2	2	2	2			S+5'-3"
T8	#4	2	2	2	2	2	2	2			S+6'-0"
T9	#4	2	2	2	2	2	2	2			S+6'-8"
T10	#4	2	2	2	2	2	2	2			S+7'-5"
T11	#4	2	2	2	2	2	2	2			S+8'-2"
T12	#4	2	2	2	2	2	2	2			S+8'-11"
T13	#4	2	2	2	2	2	2	2			S+9'-8"
T14	#4	6	6	6	6	6	6	6			S+10'-4"
U	#4	8	8	8	8	8	8	8			14'-0"
V1	#4	14	16	18	20	22	24	28	13'-4"	1'-8"	15'-0"
V2	#4	4	4	4	4	4	4	4	10'-0"	1'-8"	11'-8"
V3	#4	4	4	4	4	4	4	4	7'-3"	1'-8"	8'-11"
V4	#4	4	4	4	4	4	4	4	4'-6"	1'-8"	6'-2"
V5	#4	4	4	4	4	4	4	4	1'-9"	1'-8"	3'-5"
W1	#4	12	12	12	12	12	12	12	3'-0"	W+4'-4"	W+7'-4"
W2	#4	12	12	12	12	12	12	12	2'-10"	W+3'-10"	W+6'-8"
W3	#4	12	12	12	12	12	12	12	2'-7"	W+3'-2"	W+5'-9"
W4	#4	12	12	12	12	12	12	12	2'-3"	W+2'-3"	W+4'-6"
W5	#4	12	12	12	12	12	12	12	1'-11"	W+1'-4"	W+3'-3"
W6	#4	12	12	12	12	12	12	12	1'-9"	W+0'-5"	W+2'-2"
Y1	#4	4	4	4	4	4	4	4			4'-4"
Y2	#4	4	4	4	4	4	4	4			7'-6"
Y3	#4	4	4	4	4	4	4	4			10'-8"
Y4	#4	8	8	8	8	8	8	8			14'-0"

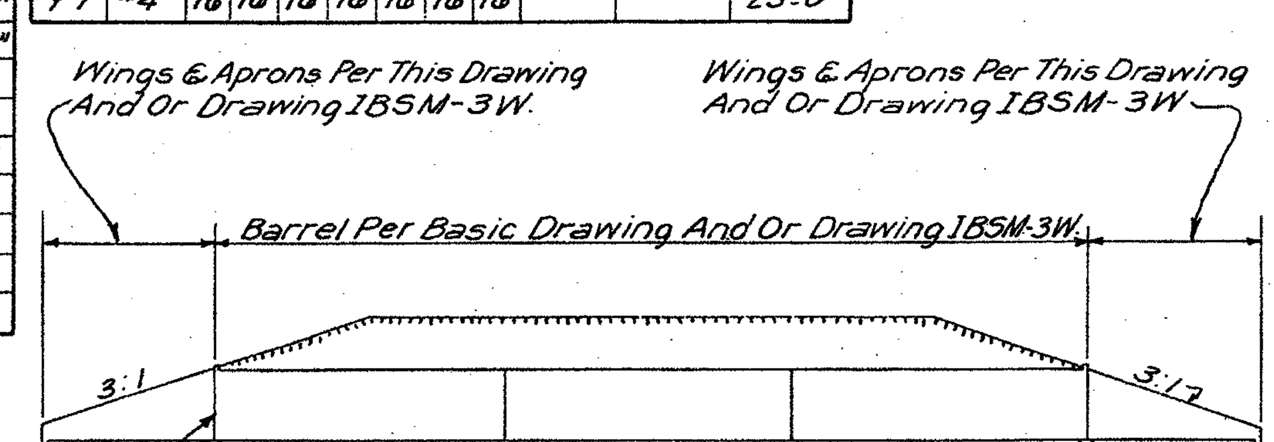
HEIGHT = 4 FT.

BAR LIST FOR WINGS & APRONS

BAR	SIZE	No. Required Span 4'	5'	6'	7'	8'	9'	10'	DIM. X	DIM. X1	LENGTH
T1	#4	2	2	2	2	2	2	2			S+0'-9"
T2	#4	2	2	2	2	2	2	2			S+1'-6"
T3	#4	2	2	2	2	2	2	2			S+2'-3"
T4	#4	2	2	2	2	2	2	2			S+3'-0"
T5	#4	2	2	2	2	2	2	2			S+3'-9"
T6	#4	2	2	2	2	2	2	2			S+4'-6"
T7	#4	2	2	2	2	2	2	2			S+5'-3"
T8	#4	2	2	2	2	2	2	2			S+6'-0"
T9	#4	2	2	2	2	2	2	2			S+6'-9"
T10	#4	2	2	2	2	2	2	2			S+7'-6"
T11	#4	2	2	2	2	2	2	2			S+8'-3"
T12	#4	6	6	6	6	6	6	6			S+8'-11"
U	#4	8	8	8	8	8	8	8			11'-11"
V1	#4	12	14	16	18	20	22	24	11'-4"	1'-8"	13'-0"
V2	#4	4	4	4	4	4	4	4	8'-0"	1'-8"	9'-8"
V3	#4	4	4	4	4	4	4	4	5'-3"	1'-8"	6'-11"
V4	#4	4	4	4	4	4	4	4	2'-6"	1'-8"	4'-2"
W1	#4	12	12	12	12	12	12	12	2'-6"	W+3'-9"	W+6'-3"
W2	#4	12	12	12	12	12	12	12	2'-3"	W+2'-11"	W+5'-2"
W3	#4	12	12	12	12	12	12	12	2'-0"	W+2'-0"	W+4'-0"
W4	#4	12	12	12	12	12	12	12	1'-9"	W+1'-1"	W+2'-10"
W5	#4	8	8	8	8	8	8	8	1'-7"	W+0'-4"	W+1'-11"
Y1	#4	4	4	4	4	4	4	4			3'-8"
Y2	#4	4	4	4	4	4	4	4			6'-11"
Y3	#4	4	4	4	4	4	4	4			10'-2"
Y4	#4	4	4	4	4	4	4	4			11'-11"

ADDITIONAL BAR LIST FOR WINGS & APRONS

Bar	Size	H=4 Ft. No.	H=4 Ft. Length	H=5 Ft. No.	H=5 Ft. Length	H=6 Ft. No.	H=6 Ft. Length	H=8 Ft. No.	H=8 Ft. Length	H=10 Ft. No.	H=10 Ft. Length	H=12 Ft. No.	H=12 Ft. Length
F	#4	8	12'-5"	8	14'-8"	8	18'-10"	8	24'-2"	8	27'-6"	8	31'-8"
Q	#5	20	3'-0"	24	3'-0"	28	3'-0"	72	3'-0"	72	3'-0"	88	3'-0"
QS	#4	4	3'-7"	4	4'-7"	4	5'-7"	4	7'-7"	4	9'-7"	4	11'-7"
R1	#4							8	W+6'-1"	8	W+7'-1"	8	W+8'-4"
R2	#4							12	W+4'-8"	8	W+6'-2"	8	W+7'-5"
R3	#4							12	W+3'-3"	12	W+4'-9"	12	W+6'-0"
R4	#4							12	W+1'-10"	12	W+3'-4"	12	W+4'-7"
R5	#4							12	W+5"	12	W+1'-11"	12	W+3'-2"
R6	#4									12	W+6"	12	W+1'-9"
R7	#4											12	W+4"



SIDE ELEVATION OF CULVERT

See Dwg. No. IBJL-1 For Joint Locations.

NOTE:
Auxiliary Slabs "W" And Vertical Construction Joints At The Wings Are Required Only Where Called For By The Basic Drawing And Auxiliary Slabs "W" Are Not To Be Used For Culvert Heights Of Less Than 8 Feet.

GENERAL NOTES:

This Drawing Shows The General Details Necessary To Modify A Single Cell Culvert For Wings With 3:1 Slope.

All Governing Dimensions, Reinforcing Details And General Requirements Of Basic Culvert Drawing Shall Apply Except As Specifically Modified By This Drawing And Or Drawing IBSM-3W.

Barrel Details On Basic Culvert Drawing Shall Be Used With Cover From 2'-6" To The Maximum Shown On Basic Culvert Drawing. With Cover Less Than 2'-6" And More Than Maximum Shown On Basic Culvert Drawing, Use Drawing IBSM-3W For Barrel Details.

Quantities Shown On This Sheet Are For Culverts With Basic Culvert Barrels And Wings With 3:1 Slope Per This Drawing. Quantities Shown On Drawing IBSM-3W Are For Culverts With Barrels Per Dwg. IBSM-3W And Wings With 3:1 Slope Per This Drawing And Drawing IBSM-3W. Quantities Not Shown On This Sheet And Or Drawing IBSM-3W Are Same As Shown On Basic Culvert Drawing.

Quantities Shown On This Sheet Are For Complete Culvert Of The Length Noted And Include Barrel, Parapets, Wings, Aprons, Cut-Off Walls, Auxiliary Slabs "W" Where Required And Two Auxiliary Slabs "J."

Quantities Shown On This Sheet Will Be Used As A Basis For Final Payment For Culverts Constructed In Accordance With This Drawing And Basic Culvert Drawing.

REVISION	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WINGS WITH 3:1 SLOPE FOR BASIC CULVERT DRAWING SINGLE CELL

HEIGHTS 4–12 FT.
SPANS 4–24 FT.

WORKING NUMBER SD-IWS-3A

SHEET NUMBER

FILENAME:

DESIGN TEAM ________ CHECKED ________ DATE ________

COUNTY:

PROJECT NO.:

DESIGN TEAM:

FILENAME: