

NOTE: THE DESIGN OF CULVERT SHALL BE DETERMINED BY THE MAXIMUM AMOUNT OF FILL WITH ONLY A SINGLE DESIGN BEING USED FOR THE ENTIRE INSTALLATION.

DATA CHART

DESIGN	7-7-10	7-7-20	7-7-30	7-7-40	7-7-50	7-7-60	7-7-70	7-7-80	DESIGN	10-9-10	10-9-20	10-9-30	10-9-40	10-9-50	10-9-60	10-9-70	10-9-80
BARREL DIMENSIONS	S=7'; H=7'	S=7'; H=7'	S=7'; H=7'	S=7'; H=7'	S=7'; H=7'	S=7'; H=7'	S=7'; H=7'	S=7'; H=7'	BARREL DIMENSIONS	S=10'; H=9'	S=10'; H=9'	S=10'; H=9'	S=10'; H=9'	S=10'; H=9'	S=10'; H=9'	S=10'; H=9'	S=10'; H=9'
T ₁	7 1/2"	9"	10 1/2"	11 1/2"	1' - 1"	1' - 2"	1' - 3 1/2"	1' - 5"	T ₁	9 1/2"	11"	1' - 0 1/2"	1' - 1 1/2"	1' - 2 1/2"	1' - 3 1/2"	1' - 4 1/2"	1' - 5 1/2"
T ₂	9"	9"	9 1/2"	11"	1' - 0"	1' - 1 1/2"	1' - 3 1/2"	1' - 5"	T ₂	9"	11"	1' - 0 1/2"	1' - 1 1/2"	1' - 2 1/2"	1' - 3 1/2"	1' - 4 1/2"	1' - 5 1/2"
BAR "A"	NO. 6 @ 12"	2-NO. 5 @ 12"	2-NO. 6 @ 12"	2-NO. 6 @ 12"	2-NO. 6 @ 12"	2-NO. 6 @ 12"	2-NO. 6 @ 12"	2-NO. 6 @ 12"	BAR "A"	NO. 7 @ 12"	2-NO. 7 @ 12"	2-NO. 7 @ 12"	2-NO. 7 @ 12"	2-NO. 8 @ 12"	2-NO. 8 @ 12"	2-NO. 8 @ 12"	2-NO. 11 @ 12"
BAR "B"	NO. 4 @ 12" E=1'-5" F=2'-2"	NO. 5 @ 12" E=1'-2" F=2'-10"	NO. 6 @ 12" E=1'-1" F=3'-3"	NO. 6 @ 12" E=1'-1" F=3'-5"	NO. 7 @ 12" E=1'-1" F=3'-6"	NO. 7 @ 12" E=1'-1" F=3'-6"	NO. 7 @ 12" E=1'-1" F=3'-6"	NO. 7 @ 12" E=1'-1" F=3'-6"	BAR "B"	NO. 6 @ 12" E=1'-7" F=3'-3"	NO. 6 @ 12" E=1'-6" F=3'-8"	NO. 7 @ 12" E=1'-6" F=3'-11"	NO. 8 @ 12" E=1'-6" F=4'-4"	NO. 8 @ 12" E=1'-5" F=4'-8"	NO. 8 @ 12" E=1'-5" F=4'-10"	NO. 8 @ 12" E=1'-6" F=5'-2"	NO. 10 @ 12" E=1'-7" F=6'-0"
BAR "C"	NO. 5 @ 12" A=2'-8"	NO. 5 @ 12" A=2'-6"	NO. 4 @ 12" A=2'-6"	NO. 5 @ 12" A=2'-7"	NO. 4 @ 12" A=2'-7"	NO. 4 @ 12" A=2'-7"	NO. 4 @ 12" A=2'-7"	NO. 4 @ 12" A=2'-7"	BAR "C"	NO. 4 @ 12" A=3'-0"	NO. 6 @ 12" A=2'-10"	NO. 6 @ 12" A=3'-0"	NO. 5 @ 12" A=3'-1"	NO. 6 @ 12" A=3'-4"	NO. 6 @ 12" A=3'-3"	NO. 6 @ 12" A=3'-3"	NO. 5 @ 12" A=3'-0"
NO. BARS "D" IN TWO SLABS	28	28	28	28	28	28	28	28	NO. BARS "D" IN TWO SLABS	30	30	30	30	30	30	30	30
BAR "E"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	BAR "E"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"
NO. BARS "F" IN TWO WALLS	14	14	14	14	14	14	14	14	NO. BARS "F" IN TWO WALLS	18	18	18	18	18	18	18	18
NO. BARS "G" IN TWO WALLS	12	12	12	12	12	12	12	12	NO. BARS "G" IN TWO WALLS	16	16	16	16	16	16	16	16
BAR "H"	NO. 6 @ 12"	NO. 5 @ 12"	NO. 4 @ 12"	NO. 5 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	BAR "H"	NO. 5 @ 12"	NO. 6 @ 12"	NO. 6 @ 12"	NO. 5 @ 12"	NO. 6 @ 12"	NO. 6 @ 12"	NO. 6 @ 12"	NO. 5 @ 12"
NO. BARS "J" PER CORNER	0	0	1 @ 10"	2 @ 6"	3 @ 5 1/2"	4 @ 4"	5 @ 3 1/2"	7 @ 2 1/2"	NO. BARS "J" PER CORNER	0	0	2 @ 9 1/2"	3 @ 6 1/2"	5 @ 4 1/2"	7 @ 3 1/2"	10 @ 3"	10 @ 3"
CU. YDS. CONCRETE PER FT.	0.7786	0.8704	0.9896	1.1253	1.2500	1.3920	1.5368	1.6847	CU. YDS. CONCRETE PER FT.	1.1658	1.4969	1.7280	2.0410	2.2480	2.4775	2.7297	3.0064
LB. REINF. STEEL PER FT.	121.863	140.33	170.65	190.54	196.06	247.96	274.59	348.71	LB. REINF. STEEL PER FT.	182.60	261.43	301.39	327.47	396.80	420.15	480.73	537.17
MAX. HT. OF FILL OVER TOP	10'	20'	30'	40'	50'	60'	70'	80'	MAX. HT. OF FILL OVER TOP	10'	20'	30'	40'	50'	60'	70'	80'

DESIGN	9-9-10	9-9-20	9-9-30	9-9-40	9-9-50	9-9-60	9-9-70	9-9-80	DESIGN	9-6-10	9-6-20	9-6-30	9-6-40	9-6-50	9-6-60	9-6-70	9-6-80
BARREL DIMENSIONS	S=9'; H=9'	S=9'; H=9'	S=9'; H=9'	S=9'; H=9'	S=9'; H=9'	S=9'; H=9'	S=9'; H=9'	S=9'; H=9'	BARREL DIMENSIONS	S=9'; H=6'	S=9'; H=6'	S=9'; H=6'	S=9'; H=6'	S=9'; H=6'	S=9'; H=6'	S=9'; H=6'	S=9'; H=6'
T ₁	9 1/2"	11"	1' - 1"	1' - 2 1/2"	1' - 4"	1' - 5 1/2"	1' - 6 1/2"	1' - 7 1/2"	T ₁	8 1/2"	11 1/2"	13 1/2"	15"	16 1/2"	17 1/2"	19"	20"
T ₂	9"	10 1/2"	1' - 0"	1' - 1 1/2"	1' - 3"	1' - 4 1/2"	1' - 7"	1' - 9 1/2"	T ₂	8 1/2"	10 1/2"	12 1/2"	14 1/2"	16 1/2"	18"	20"	22"
BAR "A"	NO. 7 @ 12"	2-NO. 6 @ 12"	NO. 9 @ 12"	NO. 9 @ 12"	2-NO. 7 @ 12"	NO. 9 @ 12"	2-NO. 7 @ 12"	NO. 10 @ 12"	BAR "A"	NO. 7 @ 12"	2-NO. 6 @ 12"	2-NO. 6 @ 12"	2-NO. 7 @ 12"	2-NO. 7 @ 12"	2-NO. 7 @ 12"	2-NO. 7 @ 12"	2-NO. 8 @ 12"
BAR "B"	NO. 4 @ 12" E=1'-4" F=2'-4"	NO. 6 @ 12" E=1'-5" F=3'-4"	NO. 7 @ 12" E=1'-4" F=3'-7"	NO. 8 @ 12" E=1'-4" F=4'-2"	NO. 8 @ 12" E=1'-4" F=4'-2"	NO. 9 @ 12" E=1'-5" F=4'-5"	NO. 9 @ 12" E=1'-5" F=4'-5"	NO. 9 @ 12" E=1'-5" F=4'-5"	BAR "B"	NO. 5 @ 12" E=1'-3" F=4'-3"	NO. 5 @ 12" E=1'-3" F=4'-9"	NO. 6 @ 12" E=1'-3" F=4'-9"	NO. 5 @ 12" E=1'-4" F=4'-9"	NO. 6 @ 12" E=1'-4" F=4'-9"	NO. 7 @ 12" E=1'-4" F=5'-3"	NO. 7 @ 12" E=1'-4" F=5'-3"	NO. 5 @ 12" E=1'-10" F=5'-2"
BAR "C"	NO. 5 @ 12" A=2'-10 1/2"	NO. 5 @ 12" A=2'-10 1/2"	NO. 5 @ 12" A=2'-10 1/2"	NO. 4 @ 12" A=2'-11 1/2"	NO. 5 @ 12" A=2'-11 1/2"	NO. 5 @ 12" A=2'-11 1/2"	NO. 5 @ 12" A=2'-11 1/2"	NO. 5 @ 12" A=2'-11 1/2"	BAR "C"	NO. 4 @ 12" A=2'-6"	NO. 4 @ 12" A=2'-7"	NO. 4 @ 12" A=2'-10"	NO. 4 @ 12" A=3'-0"	NO. 5 @ 12" A=3'-2"	NO. 5 @ 12" A=3'-3"	NO. 5 @ 12" A=3'-5"	NO. 7 @ 12" A=4'-3"
NO. BARS "D" IN TWO SLABS	32	32	32	32	32	32	32	32	NO. BARS "D" IN TWO SLABS	30	30	30	30	30	30	30	30
BAR "E"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	BAR "E"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"
NO. BARS "F" IN TWO WALLS	18	18	18	18	18	18	18	18	NO. BARS "F" IN TWO WALLS	12	12	12	12	12	12	12	12
NO. BARS "G" IN TWO WALLS	16	16	16	16	16	16	16	16	NO. BARS "G" IN TWO WALLS	10	10	10	10	10	10	10	10
BAR "H"	NO. 6 @ 12"	NO. 5 @ 12"	NO. 5 @ 12"	NO. 4 @ 12"	NO. 5 @ 12"	NO. 5 @ 12"	NO. 6 @ 12"	NO. 7 @ 12"	BAR "H"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 5 @ 12"	NO. 5 @ 12"	NO. 5 @ 12"	NO. 7 @ 12"
NO. BARS "J" PER CORNER	0	0	1 @ 9 1/2"	3 @ 6 1/2"	4 @ 4 1/2"	5 @ 4"	7 @ 3 1/2"	9 @ 2 1/2"	NO. BARS "J" PER CORNER	0	0	1 @ 6"	2 @ 8"	3 @ 5 1/2"	4 @ 4 1/2"	5 @ 4"	6 @ 3 1/2"
CU. YDS. CONCRETE PER FT.	1.1250	1.3059	1.5586	1.7662	1.9784	2.1954	2.4354	2.6990	CU. YDS. CONCRETE PER FT.	0.8752	1.1446	1.3787	1.5902	1.7855	1.9907	2.1964	2.3878
LB. REINF. STEEL PER FT.	159.82	209.00	253.64	296.82	342.95	392.88	446.59	508.09	LB. REINF. STEEL PER FT.	141.80	167.89	196.73	237.12	254.08	294.05	309.47	342.54
MAX. HT. OF FILL OVER TOP	10'	20'	30'	40'	50'	60'	70'	80'	MAX. HT. OF FILL OVER TOP	10'	20'	30'	40'	50'	60'	70'	80'

DESIGN	7-5-10	7-5-20	7-5-30	7-5-40	7-5-50	7-5-60	7-5-70	7-5-80	DESIGN	9-5-10							
BARREL DIMENSIONS	S=7'; H=5'	S=7'; H=5'	S=7'; H=5'	S=7'; H=5'	S=7'; H=5'	S=7'; H=5'	S=7'; H=5'	S=7'; H=5'	BARREL DIMENSIONS	S=9'; H=5'							
T ₁	7"	8 1/2"	10 1/2"	11 1/2"	1' - 1"	1' - 2"	1' - 3"	1' - 4"	T ₁	8 1/2"							
T ₂	9"	9"	9 1/2"	10 1/2"	11 1/2"	1' - 0 1/2"	1' - 1"	1' - 1 1/2"	T ₂	9"							
BAR "A"	NO. 6 @ 12"	NO. 8 @ 12"	2-NO. 6 @ 12"	NO. 9 @ 12"	NO. 9 @ 12"	2-NO. 7 @ 12"	2-NO. 6 @ 12"	NO. 9 @ 12"	BAR "A"	NO. 6 @ 12"							
BAR "B"	NO. 4 @ 12" E=1'-4" F=2'-2"	NO. 4 @ 12" E=1'-5" F=2'-5"	NO. 5 @ 12" E=1'-4" F=3'-3"	NO. 6 @ 12" E=1'-4" F=3'-4"	NO. 7 @ 12" E=1'-4" F=3'-9"	NO. 7 @ 12" E=1'-4" F=3'-11"	NO. 9 @ 12" E=1'-5" F=3'-11"	NO. 9 @ 12" E=1'-5" F=4'-0"	BAR "B"	NO. 5 @ 12" E=1'-3" F=4'-3"							
BAR "C"	NO. 5 @ 12" A=2'-7 1/2"	NO. 5 @ 12" A=2'-5 1/2"	NO. 5 @ 12" A=2'-4 1/2"	NO. 4 @ 12" A=2'-4 1/2"	NO. 5 @ 12" A=2'-6"	NO. 4 @ 12" A=2'-5 1/2"	NO. 4 @ 12" A=2'-4 1/2"	NO. 4 @ 12" A=2'-4 1/2"	BAR "C"	NO. 5 @ 12" A=2'-8"							
NO. BARS "D" IN TWO SLABS	28	28	28	28	28	28	28	28	NO. BARS "D" IN TWO SLABS	30							
BAR "E"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	BAR "E"	NO. 4 @ 12"							
NO. BARS "F" IN TWO WALLS	10	10	10	10	10	10	10	10	NO. BARS "F" IN TWO WALLS	10							
NO. BARS "G" IN TWO WALLS	8	8	8	8	8	8	8	8	NO. BARS "G" IN TWO WALLS	8							
BAR "H"	NO. 6 @ 12"	NO. 6 @ 12"	NO. 5 @ 12"	NO. 5 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	BAR "H"	NO. 5 @ 12"							
NO. BARS "J" PER CORNER	0	0	1 @ 10 1/2"	2 @ 7"	3 @ 5 1/2"	4 @ 4 1/2"	5 @ 3 1/2"	6 @ 3 1/2"	NO. BARS "J" PER CORNER	0							
CU. YDS. CONCRETE PER FT.	0.6543	0.7462	0.8692	0.9880	1.0687	1.1687	1.2592	1.3513	CU. YDS. CONCRETE PER FT.	0.8218							
LB. REINF. STEEL PER FT.	109.42	136.63	155.2638	189.45	213.61	241.69	285.52	309.37	LB. REINF. STEEL PER FT.	127.42							
MAX. HT. OF FILL OVER TOP	10'	20'	30'	40'	50'	60'	70'	80'	MAX. HT. OF FILL OVER TOP	10'							

DESIGN	9-8-10	9-8-20	9-8-30	9-8-40	9-8-50	9-8-60	9-8-70	9-8-80	DESIGN	9-8-90							
BARREL DIMENSIONS	S=9'; H=8'	S=9'; H=8'	S=9'; H=8'	S=9'; H=8'	S=9'; H=8'	S=9'; H=8'	S=9'; H=8'	S=9'; H=8'	BARREL DIMENSIONS	S=9'; H=8'							
T ₁	9"	11"	1' - 1"	1' - 2 1/2"	1' - 4"	1' - 5 1/2"	1' - 6 1/2"	1' - 7 1/2"	T ₁	1' - 9 1/2"							
T ₂	9"	10 1/2"	11 1/2"	1' - 1"	1' - 2 1/2"	1' - 3 1/2"	1' - 5 1/2"	1' - 7 1/2"	T ₂	1' - 11 1/2"							
BAR "A"	NO. 7 @ 12"	2-NO. 6 @ 12"	NO. 9 @ 12"	2-NO. 7 @ 12"	2-NO. 8 @ 12"	NO. 10 @ 12"	2-NO. 8 @ 12"	2-NO. 8 @ 12"	BAR "A"	2-NO. 8 @ 12"							
BAR "B"	NO. 5 @ 12" E=1'-5" F=3'-5"	NO. 6 @ 12" E=1'-4" F=3'-6"	NO. 7 @ 12" E=1'-3" F=4'-1"	NO. 7 @ 12" E=1'-3" F=4'-1"	NO. 8 @ 12" E=1'-4" F=4'-2"	NO. 8 @ 12" E=1'-4" F=4'-2"	NO. 8 @ 12" E=1'-5" F=4'-2"	NO. 8 @ 12" E=1'-5" F=4'-2"	BAR "B"	NO. 8 @ 12" E=1'-8" F=4'-2"							
BAR "C"	NO. 4 @ 12" A=2'-9 1/2"	NO. 5 @ 12" A=2'-9"	NO. 4 @ 12" A=2'-9 1/2"	NO. 5 @ 12" A=2'-10 1/2"	NO. 7 @ 12" A=2'-10 1/2"	NO. 5 @ 12" A=2'-11 1/2"	NO. 6 @ 12" A=3'-0"	NO. 8 @ 12" A=3'-2 1/2"	BAR "C"	NO. 8 @ 12" A=5'-1"							
NO. BARS "D" IN TWO SLABS	30	30	30	30	30	30	30	30	NO. BARS "D" IN TWO SLABS	30							
BAR "E"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	NO. 4 @ 12"	BAR "E"	NO. 4 @ 12"							
NO. BARS "F" IN TWO WALLS	16	16	16	16	16	16	16	16	NO. BARS "F" IN TWO WALLS	16							
NO. BARS "G" IN TWO WALLS	14	14	14	14	14	14	14	14	NO. BARS "G" IN TWO WALLS	14							
BAR "H"	NO. 5 @ 12"	NO. 5 @ 12"	NO. 4 @ 12"	NO. 5 @ 12"	NO. 7 @ 12"	NO. 5 @ 12"	NO. 6 @ 12"	NO. 8 @ 12"	BAR "H"	NO. 8 @ 12"							
NO. BARS "J" PER CORNER	0	0	1 @ 10"	3 @ 6 1/2"	4 @ 5"	5 @ 4 1/2"	6 @ 3 1/2"	8 @ 3"	NO. BARS "J" PER CORNER	7 @ 3"							
CU. YDS. CONCRETE PER FT.	1.0370	1.2426	1.4689	1.6507	1.8528	2.0249	2.2172	2.4488	CU. YDS. CONCRETE PER FT.	2.8640							
LB. REINF. STEEL PER FT.	154.71	202.23	236.68	289.17	344.98	370.27	419.38	493.96	LB. REINF. STEEL PER FT.	479.55							
MAX. HT. OF FILL OVER TOP	10'	2															