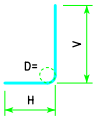
VARIABLE DIMENSIONS AND QUANTITIES FOR 12 x 4 BARREL SECTIONS

DIMENSIONS							BAR LIST																																							QUANTITIES				
							a1			b1			e1			e2			f1			f2			k1			k2				k9			m1			m2					m9		CONCRETE (CY/FT)				STEEL
FILL	S	H	A	B	C	D	SIZE	SP.	L	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	L	SIZE	SP.	L	H	V	SIZE	L	SIZE	SP.	L	SIZE	SP.	L	H	V	SIZE	L	SLAB	FLOOR	WALLS	TOTAL	(LB/FT)
0	12	4	13.5	13	9	9	4	9	6'-1	4	6	16	5	12	11	4	14	6	4	12	13	4	13	8	7	9	13'-2	6	9	6'-8	3'-0	3'-8	6	13'-2	5	6	13'-8	6	9	8'-5	3'-11	4'-6	6	13'-8	0.595	0.598	0.202	1.395	182.47
1	12	4	12.5	13	9	9	4	12	6'-0	4	6	16	5	12	11	4	16	6	4	12	13	4	17	6	8	12	13'-2	5	6	6'-6	3'-3	3'-3	5	13'-2	5	6	13'-8	5	6	7'-11	3'-5	4'-6	5	13'-8	0.553	0.598	0.202	1.353	176.00
2-3	12	4	8.5	10	9	9	4	12	5'-5	4	6	16	4	12	11	4	12	8	4	12	13	4	14	8	8	9	13'-2	7	9	7'-6	3'-9	3'-9	7	13'-2	6	6	13'-8	7	9	8'-6	4'-3	4'-3	7	13'-8	0.387	0.469	0.202	1.058	229.26
4-5	12	4	8	10	9	9	4	12	5'-5	4	6	16	4	12	11	4	12	8	4	12	13	4	17	6	6	6	13'-2	7	9	7'-6	3'-9	3'-9	7	13'-2	6	6	13'-8	7	9	7'-9	3'-6	4'-3	7	13'-8	0.366	0.469	0.202	1.037	214.71
6-7	12	4	8.5	10.5	9	9	4	12	5'-6	4	6	16	4	12	11	4	17	6	4	12	13	4	17	6	6	6	13'-2	7	9	7'-2	3'-5	3'-9	7	13'-2	7	6	13'-8	7	9	7'-9	3'-5	4'-4	7	13'-8	0.387	0.490	0.202	1.079	226.63
8-10	12	4	9	11	9	9	4	12	5'-7	4	6	16	4	12	11	4	16	6	4	12	13	4	15	6	7	6	13'-2	6	6	6'-6	3'-3	3'-3	6	13'-2	7	6	13'-8	6	6	7'-6	3'-2	4'-4	6	13'-8	0.407	0.512	0.202	1.121	240.61
11-15	12	4	10.5	12.5	9	9	4	12	5'-10	4	6	16	4	12	11	4	13	6	4	12	13	4	13	6	7	6	13'-2	6	6	6'-2	2'-10	3'-4	6	13'-2	7	6	13'-8	6	6	7'-3	2'-9	4'-6	6	13'-8	0.470	0.577	0.202	1.249	237.37
16-20	12	4	12.5	14.5	9.5	9	4	9	6'-2	4	6	16	4	12	11	4	11	6	4	12	13	4	11	6	8	6	13'-3	7	9	6'-7	2'-6	4'-1	7	13'-3	8	6	13'-9	7	9	7'-3	2'-7	4'-8	7	13'-9	0.558	0.668	0.213	1.439	273.34
21-25	12	4	14.5	17	10.5	9	6	9	6'-6	4	6	16	4	12	11	4	11	6	4	12	13	4	11	6	8	6	13'-5	6	6	6'-5	2'-8	3'-9	6	13'-5	8	6	13'-11	5	6	7'-6	2'-8	4'-10	5	13'-11	0.652	0.786	0.236	1.674	281.11
26-30	12	4	16.5	18.5	11.5	9	4	12	6'-10	4	6	16	4	12	11	4	11	6	4	12	13	4	12	6	8	6	13'-7	6	6	6'-7	2'-9	3'-10	6	13'-7	8	6	14'-1	6	6	7'-10	2'-10	5'-0	6	14'-1	0.748	0.863	0.258	1.869	283.45
31-35	12	4	18	20.5	12	6	4	6	7'-1	4	6	16	4	12	11	4	13	6	4	12	13	4	12	6	9	6	13'-8	7	9	7'-6	3'-0	4'-6	7	13'-8	9	6	14'-2	7	9	8'-1	2'-11	5'-2	7	14'-2	0.818	0.959	0.269	2.046	336.97
36-40	12	4	19.5	22	13	9	4	9	7'-4	4	6	16	4	12	11	4	13	6	5	12	13	4	13	6	9	6	13'-10	6	6	7'-3	3'-1	4'-2	6	13'-10	9	6	14'-4	6	6	8'-4	3'-1	5'-3	6	14'-4	0.895	1.039	0.292	2.226	343.61
41-45	12	4	21	23.5	13.5	9	4	9	7'-7	4	6	16	4	12	11	4	13	6	5	12	13	4	13	6	9	6	13'-11	6	6	7'-5	3'-2	4'-3	6	13'-11	9	6	14'-5	6	6	8'-8	3'-3	5'-5	6	14'-5	0.968	1.114	0.303	2.385	348.24
46-50	12	4	22.5	25	14.5	9	5	12	7'-10	4	6	16	5	12	11	4	13	6	5	12	13	4	14	6	9	6	14'-1	6	6	7'-9	3'-4	4'-5	6	14'-1	9	6	14'-7	6	6	8'-11	3'-5	5'-6	6	14'-7	1.048	1.197	0.325	2.570	361.34
51-55	12	4	24	26	15	9	5	12	8'-1	4	6	16	5	12	11	4	14	6	5	12	13	4	14	6	9	6	14'-2	6	6	7'-11	3'-5	4'-6	6	14'-2	9	6	14'-8	6	6	9'-1	3'-6	5'-7	6	14'-8	1.122	1.251	0.336	2.709	365.11

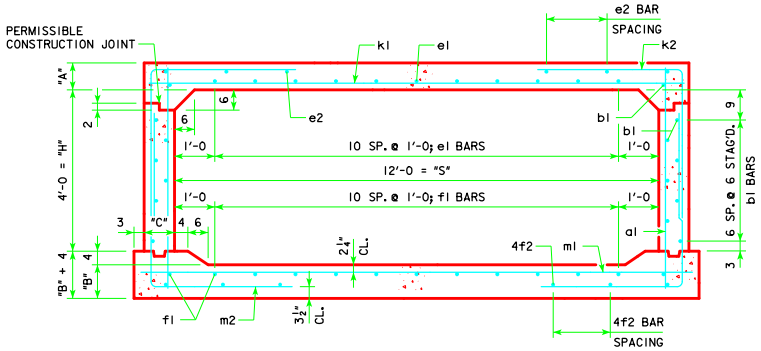
BENT BAR DETAIL

BARS	D
5	$3\frac{3}{4}$
6	$4\frac{1}{2}$
7	$5\frac{1}{4}$



k2 & m2

NOTE:
ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER.



12 x 4 BARREL SECTION

NOTES:

1. DIMENSIONS LISTED ON THIS SHEET TO BE USED IN CONJUNCTION WITH SHEET RCB G2-12.
2. THE k2 AND m2 BARS HORIZONTAL LEGS MAY LAP IN LOW FILL SITUATIONS.
3. DIMENSIONS "A", "B", "C", "D", AND "SP." LISTED IN THE BAR LIST ARE IN INCHES.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN

SINGLE REINFORCED CONCRETE BOX CULVERTS

APRIL, 2012

CULVERT BARREL DETAILS

12 x 4 BARREL SECTIONS

RCB 12-4-12

ENGLISHLRFDSIGNEDSINGLECULVERTS.DGN - RCB 12-4-12 - THIS SHEET ISSUED 04-12.