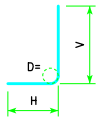
VARIABLE DIMENSIONS AND QUANTITIES FOR 12 x 12 BARREL SECTIONS

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	12	13.5	14	12	9	5	12	14'-2	4	6	48	5	12	11	4	16	10	4	12	13	4	16	10	6	6	13'-8	6	9	11'-7	7'-11	3'-8	--	--	7	9	14'-2	6	9	20'-6	7'-11	12'-7	--	--	0.623	0.668	0.862	2.153	311.79
1	12	12	12.5	13.5	12	9	5	12	14'-1	4	6	48	5	12	11	4	16	10	4	12	13	4	16	10	7	9	13'-8	6	9	11'-5	7'-11	3'-6	--	--	7	9	14'-2	6	9	20'-6	7'-11	12'-7	--	--	0.580	0.645	0.862	2.087	308.29
2	12	12	8.5	10.5	12	9	4	9	13'-6	4	6	48	5	12	11	4	16	10	4	12	13	4	17	8	8	9	13'-8	7	9	11'-2	7'-5	3'-9	--	--	7	6	14'-2	7	9	17'-7	5'-3	12'-4	7	14'-2	0.407	0.511	0.862	1.780	362.92
3	12	12	8.5	10.5	12	9	4	9	13'-6	4	6	48	4	12	11	4	14	10	4	12	13	4	16	8	7	6	13'-8	6	6	8'-8	5'-6	3'-2	6	13'-8	7	6	14'-2	6	6	17'-2	4'-10	12'-4	6	14'-2	0.407	0.511	0.862	1.780	358.58
4-7	12	12	8.5	10.5	12	9	4	9	13'-6	4	6	48	4	12	11	4	16	8	4	12	13	4	15	8	8	9	13'-8	6	6	8'-1	4'-11	3'-2	6	13'-8	7	6	14'-2	6	6	17'-0	4'-8	12'-4	6	14'-2	0.407	0.511	0.862	1.780	346.95
8-10	12	12	9	11.5	12	9	4	9	13'-7	4	6	48	4	12	11	4	14	8	4	12	13	4	14	8	7	6	13'-8	6	6	7'-7	4'-4	3'-3	6	13'-8	7	6	14'-2	6	6	16'-9	4'-4	12'-5	6	14'-2	0.429	0.556	0.862	1.847	348.24
11-15	12	12	10.5	12.5	12	9	4	9	13'-10	4	6	48	4	12	11	4	13	8	4	12	13	4	13	8	7	6	13'-8	6	6	7'-6	4'-2	3'-4	6	13'-8	8	6	14'-2	6	6	16'-8	4'-2	12'-6	6	14'-2	0.494	0.601	0.862	1.957	365.66
16-20	12	12	12.5	15	13	9	4	9	14'-2	4	6	48	4	12	11	4	18	6	4	12	13	4	12	8	9	9	13'-10	6	6	7'-6	3'-11	3'-7	6	13'-10	8	6	14'-4	6	6	16'-8	4'-0	12'-8	6	14'-4	0.589	0.722	0.934	2.245	374.84
21-25	12	12	14.5	17.5	14.5	9	6	9	14'-7	4	6	48	4	12	11	4	12	8	4	12	13	4	12	8	8	6	14'-1	7	9	8'-6	4'-3	4'-3	7	14'-1	8	6	14'-7	7	9	17'-1	4'-2	12'-11	7	14'-7	0.692	0.852	1.041	2.585	421.11
26-30	12	12	16.5	19	16	9	8	12	14'-10	4	6	48	4	12	11	4	13	8	4	12	13	4	12	8	8	6	14'-4	7	9	8'-10	4'-5	4'-5	7	14'-4	8	6	14'-10	7	9	17'-4	4'-4	13'-0	7	14'-10	0.797	0.939	1.148	2.884	449.74
31-35	12	12	18	21	17.5	9	4	9	15'-2	4	6	48	4	12	11	4	12	8	4	12	13	4	13	8	8	6	14'-7	8	9	9'-9	4'-5	5'-4	8	14'-7	9	6	15'-1	8	9	17'-9	4'-7	13'-2	8	15'-1	0.883	1.052	1.255	3.190	477.26
36-40	12	12	19.5	22.5	18.5	9	7	12	15'-5	4	6	48	4	12	11	4	12	8	5	12	13	4	13	8	9	6	14'-9	6	6	8'-8	4'-7	4'-1	6	14'-9	9	6	15'-3	6	6	18'-1	4'-9	13'-4	6	15'-3	0.965	1.137	1.327	3.429	499.68
41-45	12	12	21	24	19.5	9	8	12	15'-8	4	6	48	4	12	11	4	13	8	5	12	13	4	13	8	9	6	14'-11	6	6	9'-0	4'-9	4'-3	6	14'-11	9	6	15'-5	6	6	18'-4	4'-11	13'-5	6	15'-5	1.048	1.223	1.398	3.669	526.74
46-50	12	12	22.5	25.5	20.5	9	8	12	15'-11	4	6	48	5	12	11	4	13	8	5	12	13	4	14	8	9	6	15'-1	6	6	9'-3	4'-11	4'-4	6	15'-1	9	6	15'-7	6	6	18'-8	5'-1	13'-7	6	15'-7	1.133	1.311	1.470	3.914	538.08
51-55	12	12	24	27	21.5	6	4	6	16'-2	5	6	48	5	12	11	4	13	8	5	12	13	4	14	8	9	6	15'-3	8	9	10'-11	5'-1	5'-10	8	15'-3	9	6	15'-9	8	9	18'-10	5'-2	13'-8	8	15'-9	1.219	1.401	1.541	4.161	567.68

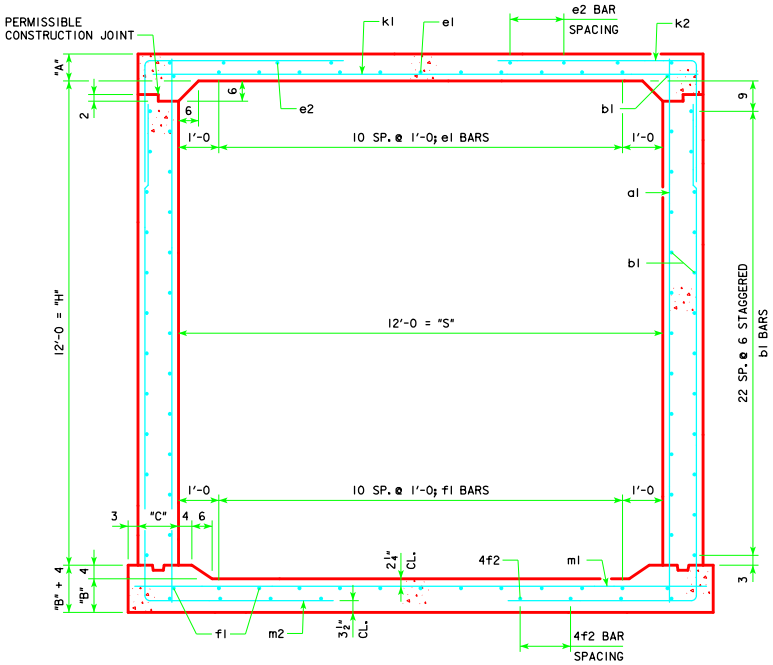
BENT BAR DETAIL

BARS	D
6	$4\frac{1}{2}$
7	$5\frac{1}{4}$
8	6



k2 & m2

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



12 x 12 BARREL SECTION

NOTES:

1. DIMENSIONS LISTED ON THIS SHEET TO BE USED IN CONJUNCTION WITH SHEET RCB G2-12.
2. HORIZONTAL LEGS FOR THE k2 AND m2 BARS 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 12 BARREL SECTIONS

RCB 12-12-12

ENGLISH\RFDSIGNEDSING\ECULVERTS.DGN - RCB 12-12-12 - THIS SHEET ISSUED 04-12.