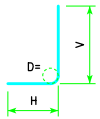
VARIABLE DIMENSIONS AND QUANTITIES FOR 12 x 9 BARREL SECTIONS

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	9	13.5	13.5	9	9	4	12	11'-2	4	6	36	5	12	11	4	16	10	4	12	13	4	14	10	6	6	13'-2	5	6	10'-9	7'-6	3'-3	--	--	7	9	13'-8	5	6	14'-10	5'-3	9'-7	5	13'-8	0.595	0.620	0.479	1.694	260.37
1	12	9	12.5	13	9	9	4	12	11'-0	4	6	36	5	12	11	4	16	10	4	12	13	4	14	10	7	9	13'-2	5	6	10'-9	7'-6	3'-3	--	--	7	9	13'-8	5	6	14'-11	5'-5	9'-6	5	13'-8	0.553	0.598	0.479	1.630	257.92
2	12	9	8.5	10.5	9	6	4	6	10'-6	4	6	36	6	12	11	4	16	8	4	12	13	4	15	8	7	6	13'-2	5	6	7'-7	4'-9	2'-10	5	13'-2	7	6	13'-8	5	6	13'-8	4'-4	9'-4	5	13'-8	0.387	0.490	0.479	1.356	289.87
3-5	12	9	8.5	10.5	9	6	4	6	10'-6	4	6	36	4	12	11	4	14	8	4	12	13	4	14	8	7	6	13'-2	5	6	7'-0	4'-2	2'-10	5	13'-2	7	6	13'-8	5	6	13'-5	4'-1	9'-4	5	13'-8	0.387	0.490	0.479	1.356	277.26
6-7	12	9	8.5	10.5	9	9	4	12	10'-6	4	6	36	4	12	11	4	12	8	4	12	13	4	12	8	7	6	13'-2	7	9	7'-6	3'-9	3'-9	7	13'-2	7	6	13'-8	7	9	13'-0	3'-8	9'-4	7	13'-8	0.387	0.490	0.479	1.356	295.63
8-10	12	9	9.5	12.5	9	6	4	6	10'-9	4	6	36	4	12	11	4	16	6	4	12	13	4	16	6	7	6	13'-2	5	6	6'-3	3'-4	2'-11	5	13'-2	7	6	13'-8	5	6	12'-9	3'-3	9'-6	5	13'-8	0.428	0.577	0.479	1.484	269.34
11-15	12	9	10.5	12.5	9	9	4	12	10'-10	4	6	36	4	12	11	4	16	6	4	12	13	4	16	6	8	6	13'-2	7	9	7'-2	3'-3	3'-11	7	13'-2	8	6	13'-8	7	9	12'-9	3'-3	9'-6	7	13'-8	0.470	0.577	0.479	1.526	324.16
16-20	12	9	12.5	15	9.5	9	4	12	11'-2	4	6	36	4	12	11	4	13	6	4	12	13	4	14	6	8	6	13'-3	7	9	7'-0	2'-11	4'-1	7	13'-3	8	6	13'-9	7	9	12'-8	3'-0	9'-8	7	13'-9	0.558	0.690	0.506	1.754	324.11
21-25	12	9	14.5	17	11	9	6	9	11'-6	4	6	36	4	12	11	4	16	6	4	12	13	4	14	6	8	6	13'-6	5	6	6'-10	3'-5	3'-5	5	13'-6	8	6	14'-0	5	6	13'-0	3'-2	9'-10	5	14'-0	0.657	0.791	0.587	2.035	328.16
26-30	12	9	16.5	19	12	9	5	12	11'-10	4	6	36	4	12	11	4	14	6	4	12	13	4	15	6	9	6	13'-8	7	9	7'-8	3'-3	4'-5	7	13'-8	9	6	14'-2	7	9	13'-4	3'-4	10'-0	7	14'-2	0.753	0.892	0.640	2.285	387.53
31-35	12	9	18	20.5	13	9	4	9	12'-1	4	6	36	4	12	11	4	15	6	4	12	13	4	15	6	9	6	13'-10	6	6	7'-5	3'-5	4'-0	6	13'-10	9	6	14'-4	6	6	13'-8	3'-6	10'-2	6	14'-4	0.830	0.971	0.693	2.494	393.97
36-40	12	9	19.5	22	14	9	4	9	12'-4	4	6	36	4	12	11	4	15	6	5	12	13	4	16	6	9	6	14'-0	6	6	7'-9	3'-7	4'-2	6	14'-0	9	6	14'-6	6	6	13'-11	3'-8	10'-3	6	14'-6	0.908	1.053	0.746	2.707	405.13
41-45	12	9	21	23.5	14.5	9	5	12	12'-7	4	6	36	4	12	11	4	16	6	5	12	13	4	16	6	9	6	14'-1	6	6	8'-0	3'-9	4'-3	6	14'-1	9	6	14'-7	6	6	14'-3	3'-10	10'-5	6	14'-7	0.981	1.128	0.772	2.881	414.66
46-50	12	9	22.5	25	15.5	9	6	12	12'-10	4	6	36	5	12	11	4	16	6	5	12	13	4	17	6	9	6	14'-3	7	9	8'-10	3'-11	4'-11	7	14'-3	9	6	14'-9	7	9	14'-6	4'-0	10'-6	7	14'-9	1.062	1.212	0.825	3.099	432.16
51-55	12	9	25	27.5	16.5	9	5	12	13'-3	4	6	36	5	12	11	4	17	6	5	12	13	4	12	8	9	6	14'-5	6	6	8'-9	4'-2	4'-7	6	14'-5	9	6	14'-11	6	6	15'-0	4'-3	10'-9	6	14'-11	1.190	1.345	0.878	3.413	435.26

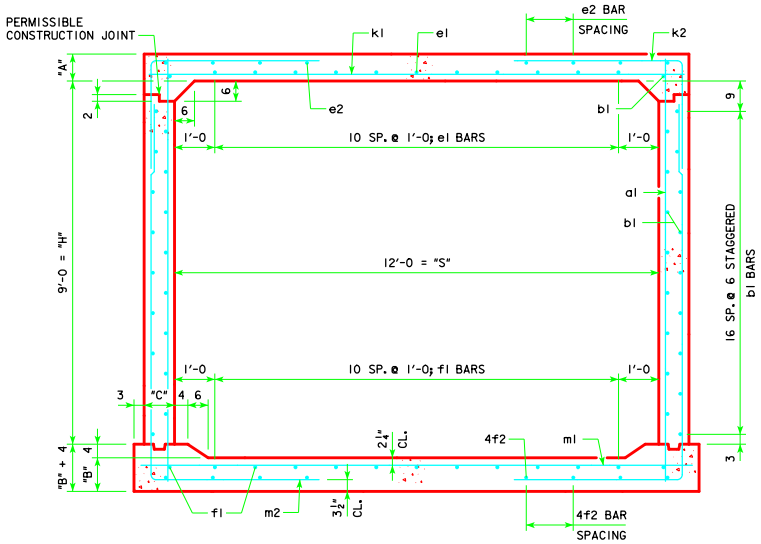
BENT BAR DETAIL

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 9 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 9 BARREL SECTIONS

RCB 12-9-12

ENGLISHLRFDSIGNEDSINGLECULVERTS.DGN - RCB 12-9-12 - THIS SHEET ISSUED 04-12.