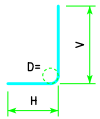
VARIABLE DIMENSIONS AND QUANTITIES FOR 10 x 4 BARREL SECTIONS

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	10	4	12.5	12	9	9	4	12	5'-11	4	6	16	4	12	9	4	14	6	4	12	11	4	13	8	5	6	11'-2	6	12	6'-6	2'-11	3'-7	6	11'-2	6	9	11'-8	7	12	8'-3	3'-10	4'-5	7	11'-8	0.476	0.481	0.202	1.159	148.89
1	10	4	12	12	9	9	4	9	5'-11	4	6	16	4	12	9	4	15	6	4	12	11	4	16	6	6	9	11'-2	5	9	6'-4	3'-2	3'-2	5	11'-2	6	9	11'-8	6	9	7'-8	3'-3	4'-5	6	11'-8	0.458	0.481	0.202	1.141	142.32
2	10	4	8	10	9	9	4	9	5'-5	4	6	16	5	12	9	4	16	6	4	12	11	4	15	6	7	9	11'-2	5	6	6'-1	3'-3	2'-10	5	11'-2	7	9	11'-8	5	6	7'-5	3'-2	4'-3	5	11'-8	0.316	0.407	0.202	0.925	168.26
3	10	4	8	10	9	6	4	6	5'-5	4	6	16	4	12	9	4	15	6	4	12	11	4	15	6	7	9	11'-2	6	9	6'-4	3'-2	3'-2	6	11'-2	6	6	11'-8	6	9	7'-4	3'-1	4'-3	6	11'-8	0.316	0.407	0.202	0.925	172.68
4-6	10	4	8	10	9	9	4	12	5'-5	4	6	16	4	12	9	4	14	6	4	12	11	4	14	6	7	9	11'-2	5	6	5'-10	2'-11	2'-11	5	11'-2	6	6	11'-8	5	6	7'-2	2'-11	4'-3	5	11'-8	0.316	0.407	0.202	0.925	162.74
7-10	10	4	8	10	9	9	4	9	5'-5	4	6	16	4	12	9	4	13	6	4	12	11	4	13	6	6	6	11'-2	5	6	5'-8	2'-10	2'-10	5	11'-2	6	6	11'-8	5	6	7'-1	2'-10	4'-3	5	11'-8	0.316	0.407	0.202	0.925	166.11
11-15	10	4	8.5	10.5	9	6	4	6	5'-6	4	6	16	4	12	9	4	13	6	4	12	11	4	12	6	7	6	11'-2	5	6	5'-8	2'-10	2'-10	5	11'-2	7	6	11'-8	5	6	7'-0	2'-8	4'-4	5	11'-8	0.334	0.425	0.202	0.961	195.79
16-20	10	4	10.5	13	9	6	4	6	5'-10	4	6	16	4	12	9	4	10	6	4	12	11	4	10	6	7	6	11'-2	5	6	5'-5	2'-4	3'-1	5	11'-2	7	6	11'-8	5	6	6'-9	2'-3	4'-6	5	11'-8	0.405	0.518	0.202	1.125	194.58
21-25	10	4	12.5	14	9	6	4	6	6'-1	4	6	16	4	12	9	4	9	6	4	12	11	4	10	6	9	9	11'-2	6	9	5'-9	2'-2	3'-7	6	11'-2	8	6	11'-8	6	9	6'-10	2'-3	4'-7	6	11'-8	0.476	0.555	0.202	1.233	218.66
26-30	10	4	14	16	9.5	9	4	9	6'-5	4	6	16	4	12	9	4	9	6	4	12	11	4	10	6	8	6	11'-3	5	6	5'-7	2'-3	3'-4	5	11'-3	8	6	11'-9	5	6	7'-1	2'-4	4'-9	5	11'-9	0.534	0.634	0.213	1.381	222.55
31-35	10	4	15	17.5	10	6	4	6	6'-7	4	6	16	4	12	9	4	10	6	4	12	11	4	10	6	8	6	11'-4	6	9	6'-2	2'-5	3'-9	6	11'-4	8	6	11'-10	6	9	7'-4	2'-5	4'-11	6	11'-10	0.575	0.696	0.224	1.495	233.13
36-40	10	4	16.5	19	11	6	4	6	6'-10	4	6	16	4	12	9	4	10	6	4	12	11	4	11	6	8	6	11'-6	6	9	6'-5	2'-6	3'-11	6	11'-6	8	6	12'-0	6	9	7'-7	2'-7	5'-0	6	12'-0	0.640	0.762	0.247	1.649	237.71
41-45	10	4	17.5	20	11.5	9	6	12	7'-0	4	6	16	4	12	9	4	11	6	4	12	11	4	11	6	8	6	11'-7	6	9	6'-8	2'-8	4'-0	6	11'-7	8	6	12'-1	6	9	7'-9	2'-8	5'-1	6	12'-1	0.682	0.807	0.258	1.747	243.66
46-50	10	4	19	21	12	6	4	6	7'-3	4	6	16	4	12	9	4	11	6	4	12	11	4	11	6	9	6	11'-8	6	9	6'-10	2'-9	4'-1	6	11'-8	9	6	12'-2	6	9	7'-11	2'-9	5'-2	6	12'-2	0.744	0.851	0.269	1.864	279.03
51-55	10	4	20	22.5	12.5	9	6	12	7'-5	4	6	16	4	12	9	4	11	6	5	12	11	4	12	6	9	6	11'-9	6	9	7'-0	2'-10	4'-2	6	11'-9	9	6	12'-3	6	9	8'-3	2'-11	5'-4	6	12'-3	0.787	0.916	0.281	1.984	289.84

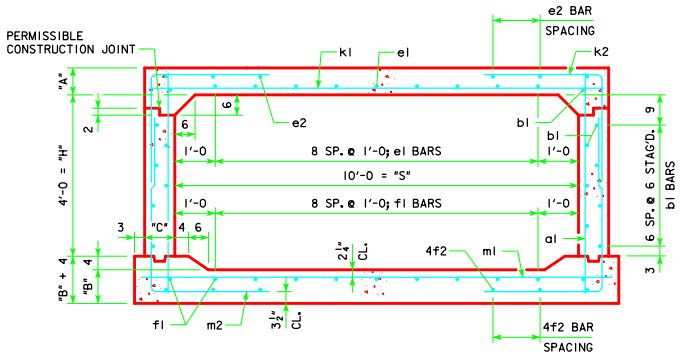
BENT BAR DETAIL

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.



10 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

10 x 4 BARREL SECTIONS

RCB 10-4-12

ENGLISH\RFDSIGNEDSINGLECULVERTS.DGN - RCB 10-4-12 - THIS SHEET ISSUED 04-12.