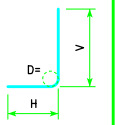
VARIABLE DIMENSIONS AND QUANTITIES FOR 10 x 9 BARREL SECTIONS

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	10	9	12.5	12.5	9	6	4	6	11'-0	4	6	36	5	12	9	4	17	8	4	12	11	4	17	8	7	9	11'-2	5	9	9'-8	6'-6	3'-2	--	--	7	9	11'-8	5	9	16'-0	6'-6	9'-6	--	--	0.476	0.500	0.479	1.455	220.21
1	10	9	12	12.5	9	6	4	6	10'-11	4	6	36	5	12	9	4	17	8	4	12	11	4	17	8	8	12	11'-2	5	9	9'-8	6'-6	3'-2	--	--	7	9	11'-8	5	9	16'-0	6'-6	9'-6	--	--	0.458	0.500	0.479	1.437	220.29
2-3	10	9	8	10	9	9	4	9	10'-5	4	6	36	4	12	9	4	17	8	4	12	11	4	16	8	8	9	11'-2	6	9	9'-10	6'-8	3'-2	--	--	6	6	11'-8	6	9	13'-11	4'-8	9'-3	6	11'-8	0.316	0.407	0.479	1.202	243.87
4-5	10	9	8	10	9	9	4	12	10'-5	4	6	36	4	12	9	4	13	8	4	12	11	4	12	8	6	6	11'-2	5	6	6'-9	3'-11	2'-10	5	11'-2	6	6	11'-8	5	6	13'-0	3'-9	9'-3	5	11'-8	0.316	0.407	0.479	1.202	216.13
6-8	10	9	8	10.5	9	9	4	9	10'-5	4	6	36	4	12	9	4	18	6	4	12	11	4	18	6	6	6	11'-2	6	9	6'-9	3'-7	3'-2	6	11'-2	7	6	11'-8	6	9	12'-11	3'-7	9'-4	6	11'-8	0.316	0.425	0.479	1.220	230.21
9-10	10	9	8.5	10.5	9	9	5	12	10'-6	4	6	36	4	12	9	4	16	6	4	12	11	4	16	6	8	9	11'-2	6	9	6'-6	3'-3	3'-3	6	11'-2	7	6	11'-8	6	9	12'-7	3'-3	9'-4	6	11'-8	0.334	0.425	0.479	1.238	239.16
11-15	10	9	9	11	9	9	5	12	10'-7	4	6	36	4	12	9	4	14	6	4	12	11	4	14	6	7	6	11'-2	5	6	5'-10	2'-11	2'-11	5	11'-2	7	6	11'-8	5	6	12'-3	2'-11	9'-4	5	11'-8	0.352	0.444	0.479	1.275	239.92
16-20	10	9	10.5	13	9.5	6	4	6	10'-10	4	6	36	4	12	9	4	14	6	4	12	11	4	13	6	7	6	11'-3	5	6	6'-2	3'-1	3'-1	5	11'-3	8	6	11'-9	5	6	12'-5	2'-11	9'-6	5	11'-9	0.409	0.522	0.506	1.437	263.97
21-25	10	9	12.5	14.5	11	9	6	9	11'-2	4	6	36	4	12	9	4	14	6	4	12	11	4	14	6	9	9	11'-6	5	6	6'-4	3'-2	3'-2	5	11'-6	8	6	12'-0	5	6	12'-9	3'-1	9'-8	5	12'-0	0.494	0.591	0.587	1.672	291.45
26-30	10	9	14	16.5	12	9	4	12	11'-5	4	6	36	4	12	9	4	14	6	4	12	11	4	14	6	9	9	11'-8	7	9	7'-4	3'-2	4'-2	7	11'-8	8	6	12'-2	7	9	13'-1	3'-3	9'-10	7	12'-2	0.559	0.678	0.640	1.877	300.82
31-35	10	9	15	18	13	9	4	9	11'-8	4	6	36	4	12	9	4	14	6	4	12	11	4	15	6	8	6	11'-10	7	9	7'-8	3'-4	4'-4	7	11'-10	8	6	12'-4	7	9	13'-4	3'-5	9'-11	7	12'-4	0.606	0.747	0.693	2.046	319.03
36-40	10	9	16.5	19	14	9	4	12	11'-10	4	6	36	4	12	9	4	15	6	4	12	11	4	15	6	8	6	12'-0	6	6	7'-5	3'-6	3'-11	6	12'-0	8	6	12'-6	6	6	13'-7	3'-7	10'-0	6	12'-6	0.673	0.798	0.746	2.217	323.61
41-45	10	9	17.5	20.5	15	6	4	6	12'-1	4	6	36	4	12	9	4	15	6	4	12	11	4	16	6	8	6	12'-2	7	9	8'-1	3'-7	4'-6	7	12'-2	8	6	12'-8	7	9	13'-11	3'-9	10'-2	7	12'-8	0.723	0.870	0.799	2.392	339.76
46-50	10	9	19	21.5	15.5	9	4	9	12'-3	4	6	36	4	12	9	4	15	6	4	12	11	4	16	6	8	6	12'-3	6	6	7'-10	3'-9	4'-1	6	12'-3	9	6	12'-9	6	6	14'-1	3'-10	10'-3	6	12'-9	0.787	0.917	0.825	2.529	356.50
51-55	10	9	20	22.5	16.5	9	5	12	12'-5	4	6	36	4	12	9	4	17	6	5	12	11	4	16	6	9	6	12'-5	6	6	8'-4	4'-2	4'-2	6	12'-5	9	6	12'-11	6	6	14'-4	4'-0	10'-4	6	12'-11	0.839	0.971	0.878	2.688	390.21

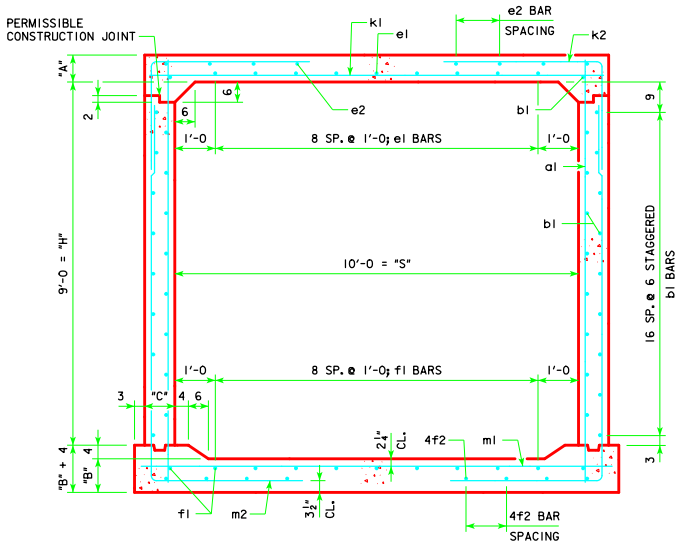
BENT BAR DETAIL

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 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

10 x 9 BARREL SECTIONS

RCB 10-9-12

ENGLISH\RFDSIGNEDSINGLECULVERTS.DGN - RCB 10-9-12 - THIS SHEET ISSUED 04-12.