VARIABLE DIMENSIONS AND QUANTITIES FOR TRIPLE 10 x 11 BARREL SECTIONS

DIMENSIONS

FILL	S	H	A	B	C	D	E	R	T	U	W	X	Z
0	10	11	13	11	11	9	9	0'-0	0'-0	6'-6	2'-6	4'-5	4'-0
1	10	11	12.5	11	11	9	9	0'-6	0'-2	6'-6	2'-7	4'-4	3'-8
2	10	11	9.5	10	11	9	9	1'-1	0'-11	6'-4	2'-1	3'-2	3'-6
3-6	10	11	9	10	11	9	9	2'-4	2'-1	4'-10	2'-1	2'-10	3'-10
7-8	10	11	8	10.5	11	9	9	2'-6	2'-0	3'-7	2'-1	2'-10	3'-5
9-10	10	11	9	11	11	9	9	2'-7	2'-1	3'-6	2'-9	3'-6	3'-6
11-12	10	11	9.5	12	11	9	9	2'-7	2'-0	3'-6	2'-6	3'-5	3'-6
13-15	10	11	11.5	14	11	9	9	2'-7	1'-9	3'-4	2'-3	3'-4	3'-6
16-17	10	11	12.5	15	11.5	9	9	2'-7	1'-8	3'-5	2'-1	3'-3	3'-6
18-19	10	11	13	15.5	12.5	6	9	3'-0	2'-0	3'-5	2'-0	3'-1	3'-6
20-21	10	11	14	16.5	13	9	6	3'-0	1'-11	3'-6	1'-9	3'-2	3'-7
22-23	10	11	15	17.5	13.5	9	6	2'-11	1'-6	3'-7	1'-7	3'-1	3'-8
24-25	10	11	16	18.5	14	9	9	2'-10	1'-4	3'-7	1'-5	3'-0	3'-9

BAR LIST

	a1			a2			b1			b2			e1			e2		
FILL	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.
0	4	12	12'-11	7	9	12'-11	4	6	44	4	6	46	4	12	27	4	18	24
1	4	12	12'-10	7	9	12'-10	4	6	44	4	6	46	4	12	27	4	18	24
2	4	9	12'-6	7	9	12'-6	4	6	44	4	6	46	4	12	27	4	18	24
3-6	4	9	12'-6	7	9	12'-6	4	6	44	4	6	46	4	12	27	4	18	24
7-8	4	9	12'-5	7	9	12'-5	4	6	44	4	6	46	4	12	27	4	18	24
9-10	5	12	12'-7	7	9	12'-7	4	6	44	4	6	46	4	12	27	4	18	24
11-12	5	12	12'-8	7	9	12'-8	4	6	44	4	6	46	4	12	27	4	18	24
13-15	5	9	13'-0	7	9	13'-0	4	6	44	4	6	46	4	12	27	4	18	24
16-17	6	12	13'-2	7	9	13'-2	4	6	44	4	6	46	4	12	27	4	18	24
18-19	4	6	13'-3	7	9	13'-3	4	6	44	4	6	46	4	12	27	4	18	24
20-21	6	9	13'-5	6	6	13'-5	4	6	44	4	6	46	4	12	27	4	18	24
22-23	6	9	13'-7	6	6	13'-7	4	6	44	4	6	46	4	12	27	4	18	24
24-25	5	12	13'-9	8	9	13'-9	4	6	44	4	6	46	4	12	27	4	18	24

	f1			f2			k1			k2			k3			k4					k6			k7		
FILL	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	H	V	SIZE	SP.	L	SIZE	SP.	L
0	4	12	33	4	18	24	6	18	33'-4	6	18	11'-2	6	18	10'-11	6	9	10'-4	6'-9	3'-7	5	18	33'-4	6	18	13'-0
1	4	12	33	4	18	24	6	18	33'-4	6	18	11'-0	6	18	9'-11	6	9	10'-4	6'-9	3'-7	5	18	33'-4	6	18	13'-0
2	4	12	33	4	18	24	5	12	33'-4	5	12	10'-3	4	12	8'-9	6	9	9'-11	6'-7	3'-4	4	9	33'-4	4	9	12'-8
3-6	4	12	33	4	18	24	5	9	33'-4	4	9	7'-9	4	9	6'-3	6	9	8'-8	5'-5	3'-3	5	12	33'-4	5	12	10'-4
7-8	4	12	33	4	18	24	5	12	33'-4	5	12	7'-7	4	12	5'-11	5	6	6'-10	4'-0	2'-10	5	12	33'-4	6	12	7'-3
9-10	4	12	33	4	18	24	5	12	33'-4	5	12	7'-9	4	12	5'-9	5	6	6'-11	4'-0	2'-11	5	12	33'-4	6	12	7'-1
11-12	4	12	33	4	18	24	5	12	33'-4	5	12	7'-11	4	12	5'-9	5	6	6'-11	3'-11	3'-0	4	12	33'-4	7	12	7'-2
13-15	4	12	33	4	18	24	5	12	33'-4	5	12	8'-8	4	12	5'-9	6	9	7'-7	4'-1	3'-6	5	12	33'-4	6	12	6'-11
16-17	4	12	33	4	18	24	5	12	33'-6	5	12	8'-10	5	12	5'-10	6	9	7'-8	4'-1	3'-7	5	12	33'-6	6	12	7'-1
18-19	4	12	33	4	18	24	5	9	33'-10	4	9	8'-4	4	9	5'-0	5	6	7'-4	4'-1	3'-3	4	12	33'-10	7	12	7'-1
20-21	4	12	33	4	18	24	5	9	34'-0	4	9	8'-7	4	9	5'-1	6	9	7'-9	4'-1	3'-8	4	12	34'-0	7	12	7'-3
22-23	4	12	33	4	18	24	5	9	34'-2	4	9	9'-6	4	9	5'-4	5	6	7'-7	4'-2	3'-5	5	12	34'-2	6	12	7'-5
24-25	4	12	33	4	18	24	5	9	34'-4	4	9	9'-10	4	9	5'-6	7	9	8'-8	4'-4	4'-4	5	12	34'-4	6	12	7'-6

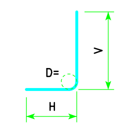
BAR LIST

	k9			m1			m2			m3			m4				
FILL	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	H	V
0	6	4.5	33'-4	5	12	33'-10	4	12	7'-2	4	12	2'-1	6	9	20'-7	9'-3	11'-4
1	6	4.5	33'-4	5	12	33'-10	4	12	7'-1	4	12	2'-3	6	9	17'-10	6'-6	11'-4
2	4	4.5	33'-4	5	12	33'-10	5	12	7'-9	4	12	4'-7	6	9	16'-5	5'-2	11'-3
3-6	5	4.5	33'-4	5	12	33'-10	5	12	7'-10	4	12	5'-3	6	9	15'-10	4'-7	11'-3
7-8	6	4.5	33'-4	5	12	33'-10	5	12	7'-10	4	12	5'-3	5	6	15'-4	4'-0	11'-4
9-10	6	4.5	33'-4	5	9	33'-10	4	9	6'-7	4	9	3'-11	5	6	15'-3	3'-11	11'-4
11-12	7	4.5	33'-4	5	9	33'-10	4	9	7'-2	4	9	4'-1	5	6	15'-5	4'-0	11'-5
13-15	6	4.5	33'-4	5	9	33'-10	4	9	8'-0	4	9	4'-3	6	9	15'-9	4'-2	11'-7
16-17	6	4.5	33'-6	5	9	34'-0	4	9	8'-4	4	9	4'-6	6	9	15'-10	4'-2	11'-8
18-19	7	4.5	33'-10	5	9	34'-4	4	9	8'-7	4	9	4'-10	5	6	15'-11	4'-2	11'-9
20-21	7	4.5	34'-0	6	12	34'-6	5	12	8'-11	4	12	4'-9	6	9	16'-0	4'-2	11'-10
22-23	6	4.5	34'-2	6	12	34'-8	5	12	9'-6	4	12	5'-0	5	6	16'-2	4'-3	11'-11
24-25	6	4.5	34'-4	6	12	34'-10	5	12	10'-1	4	12	5'-2	7	9	16'-4	4'-4	12'-0

	BAR LIST: m6			m7			m9			QUANTITIES: CONCRETE (CY/FT)				STEEL
FILL	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	SLAB	FLOOR	WALLS	TOTAL	(LB/FT)
0	5	18	33'-10	7	18	7'-11	7	4.5	33'-10	1.443	1.247	1.437	4.127	571.16
1	4	9	33'-10	4	9	7'-4	4	4.5	33'-10	1.391	1.247	1.437	4.075	550.71
2	4	9	33'-10	5	9	7'-1	5	4.5	33'-10	1.080	1.141	1.437	3.658	555.92
3-6	5	18	33'-10	8	18	7'-9	8	4.5	33'-10	1.028	1.141	1.437	3.606	565.21
7-8	5	12	33'-10	6	12	6'-11	6	4.5	33'-10	0.924	1.194	1.437	3.555	547.39
9-10	4	12	33'-10	7	12	7'-1	7	4.5	33'-10	1.028	1.247	1.437	3.712	556.79
11-12	4	12	33'-10	7	12	7'-1	7	4.5	33'-10	1.080	1.352	1.437	3.869	556.97
13-15	5	18	33'-10	8	18	7'-4	8	4.5	33'-10	1.287	1.563	1.437	4.287	577.34
16-17	5	18	34'-0	8	18	7'-4	8	4.5	34'-0	1.401	1.678	1.502	4.581	587.71
18-19	5	12	34'-4	6	12	7'-3	6	4.5	34'-4	1.472	1.751	1.632	4.855	591.05
20-21	5	12	34'-6	6	12	7'-5	6	4.5	34'-6	1.587	1.869	1.697	5.153	629.11
22-23	5	12	34'-8	6	12	7'-7	6	4.5	34'-8	1.704	1.987	1.763	5.454	639.66
24-25	5	12	34'-10	6	12	7'-10	6	4.5	34'-10	1.821	2.107	1.828	5.756	674.24

BENT BAR DETAIL

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



k4 & m4

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

NOTES:

1. DIMENSIONS LISTED ON THIS SHEET TO BE USED IN CONJUNCTION WITH SHEET TRRCB G2-12.
2. DIMENSIONS "A", "B", "C", "D", "E", 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
TRIPLE REINFORCED CONCRETE BOX CULVERTS
APRIL, 2012

CULVERT BARREL DETAILS
10 x 11 BARREL SECTIONS

TRRCB 10-11-12
SHEET 2 OF 2

ENGLISHLRFDSIGNEDTRIPLECULVERTS.DGN - TRRCB 10-11s2-12 - THIS SHEET ISSUED 04-12.