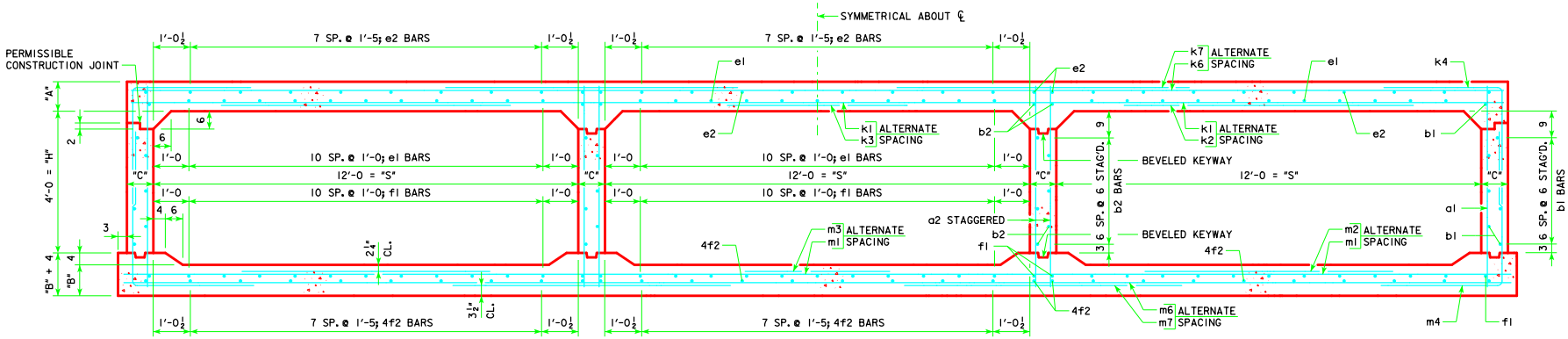
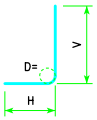


TRIPLE 12 x 4 BARREL SECTION

BENT BAR DETAIL

BARS	D
4	3
5	3¾
6	4½
7	5¼



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.

VARIABLE DIMENSIONS AND QUANTITIES FOR TRIPLE 12 x 4 BARREL SECTIONS

DIMENSIONS

FILL	S	H	A	B	C	D	E	R	T	U	W	X	Z
0	12	4	14	11	9	9	9	0'-1	0'-0	7'-0	2'-9	4'-2	4'-3
1	12	4	13.5	11	9	9	9	0'-7	0'-4	6'-8	3'-0	5'-0	4'-3
2	12	4	10	10	9	9	9	2'-0	2'-0	5'-8	3'-8	5'-4	4'-3
3-6	12	4	10	10.5	9	6	9	2'-5	2'-0	4'-11	3'-4	4'-2	4'-2
7-8	12	4	10	11	9	9	9	3'-10	2'-10	4'-0	3'-1	4'-5	3'-10
9-10	12	4	11	12.5	9	9	9	3'-11	2'-8	4'-0	2'-10	4'-3	3'-10
11-12	12	4	12	13.5	9	9	9	4'-0	2'-6	3'-11	2'-9	4'-3	3'-10
13-15	12	4	13.5	15.5	9	6	9	4'-2	2'-4	3'-10	2'-5	4'-10	3'-10
16-17	12	4	14.5	16.5	9	9	9	3'-10	1'-7	3'-11	2'-1	4'-4	3'-10
18-19	12	4	15.5	17.5	9	9	9	3'-10	1'-7	3'-11	1'-8	4'-4	3'-11
20-21	12	4	16.5	18.5	9	9	9	3'-10	1'-6	4'-0	1'-7	4'-8	4'-0
22-23	12	4	18	20	9.5	9	6	3'-11	1'-1	4'-1	1'-2	4'-9	4'-1
24-25	12	4	19.5	21	9.5	9	6	4'-0	0'-11	4'-2	1'-1	4'-7	4'-2

BAR LIST

FILL	a1 SIZE	a1 SP.	a1 L	a2 SIZE	a2 SP.	a2 L	b1 SIZE	b1 SP.	b1 NO.	b2 SIZE	b2 SP.	b2 NO.	e1 SIZE	e1 SP.	e1 NO.	e2 SIZE	e2 SP.	e2 NO.	f1 SIZE	f1 SP.	f1 NO.	f2 SIZE	f2 SP.	f2 NO.	k1 SIZE	k1 SP.	k1 L	k2 SIZE	k2 SP.	k2 L	k3 SIZE	k3 SP.	k3 L	k4 SIZE	k4 SP.	k4 L	k4 H	k4 V	k6 SIZE	k6 SP.	k6 L	k7 SIZE	k7 SP.	k7 L
0	4	12	6'-0	6	9	6'-0	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	5	12	38'-8	5	12	12'-11	5	12	12'-7	6	12	6'-7	2'-11	3'-8	5	18	38'-8	7	18	14'-8
1	4	12	5'-11	6	9	5'-11	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	6	18	38'-8	6	18	12'-7	6	18	11'-7	6	12	6'-9	3'-1	3'-8	5	18	38'-8	7	18	14'-4
2	5	12	5'-7	7	9	5'-7	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	5	9	38'-8	4	9	10'-0	4	9	8'-9	6	9	6'-8	3'-4	3'-4	5	18	38'-8	8	18	13'-9
3-6	4	6	5'-7	7	9	5'-7	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	6	12	38'-8	5	12	9'-8	4	12	7'-11	6	9	6'-10	3'-5	3'-5	5	12	38'-8	6	12	10'-7
7-8	5	12	5'-8	6	9	5'-8	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	5	9	38'-8	4	9	8'-2	4	9	5'-1	6	9	6'-3	2'-11	3'-4	4	9	38'-8	6	9	8'-3
9-10	4	12	5'-10	6	9	5'-10	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	5	9	38'-8	4	9	8'-9	4	9	4'-11	5	6	5'-8	2'-7	3'-1	5	12	38'-8	7	12	8'-3
11-12	4	12	6'-0	6	9	6'-0	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	5	9	38'-8	4	9	9'-5	4	9	4'-9	5	6	5'-6	2'-4	3'-2	5	12	38'-8	7	12	8'-2
13-15	4	6	6'-4	6	9	6'-4	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	6	12	38'-8	5	12	9'-10	4	12	4'-5	4	6	5'-7	2'-4	3'-3	5	9	38'-8	6	9	8'-2
16-17	5	12	6'-6	6	9	6'-6	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	7	18	38'-8	7	18	11'-4	4	18	5'-1	4	6	5'-8	2'-4	3'-4	5	9	38'-8	6	9	8'-4
18-19	4	9	6'-8	6	9	6'-8	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	7	18	38'-8	7	18	11'-4	4	18	5'-1	4	6	5'-10	2'-5	3'-5	5	9	38'-8	6	9	8'-5
20-21	4	9	6'-10	6	9	6'-10	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	5	9	38'-8	5	9	11'-5	4	9	5'-1	4	6	5'-11	2'-5	3'-6	5	9	38'-8	6	9	8'-7
22-23	4	9	7'-1	5	6	7'-1	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	5	9	38'-10	5	9	11'-11	4	9	5'-0	4	6	6'-2	2'-6	3'-8	5	9	38'-10	6	9	8'-10
24-25	4	12	7'-3	5	6	7'-3	4	6	16	4	6	18	4	12	33	4	17	30	4	12	39	4	17	30	5	9	38'-10	5	9	12'-1	4	9	4'-10	5	9	6'-5	2'-7	3'-10	5	9	38'-10	6	9	9'-1

BAR LIST

FILL	k9 SIZE	k9 SP.	k9 L	m1 SIZE	m1 SP.	m1 L	m2 SIZE	m2 SP.	m2 L	m3 SIZE	m3 SP.	m3 L	m4 SIZE	m4 SP.	m4 L	m4 H	m4 V	m6 SIZE	m6 SP.	m6 L	m7 SIZE	m7 SP.	m7 L	m9 SIZE	m9 SP.	m9 L
0	7	4.5	38'-8	4	9	39'-2	4	9	8'-4	4	9	4'-5	7	12	8'-4	4'-0	4'-4	4	9	39'-2	5	9	8'-6	5	4.5	39'-2
1	7	4.5	38'-8	5	12	39'-2	4	12	7'-9	4	12	2'-9	7	12	8'-1	3'-9	4'-4	4	12	39'-2	6	12	8'-6	6	4.5	39'-2
2	8	4.5	38'-8	5	9	39'-2	4	9	6'-5	4	9	2'-1	6	9	7'-8	3'-5	4'-3	4	12	39'-2	7	12	8'-7	7	4.5	39'-2
3-6	6	4.5	38'-8	5	9	39'-2	4	9	7'-0	4	9	4'-1	6	9	7'-9	3'-5	4'-4	5	12	39'-2	7	12	8'-6	7	4.5	39'-2
7-8	6	4.5	38'-8	6	12	39'-2	5	12	7'-7	4	12	3'-11	6	9	7'-5	3'-1	4'-4	5	9	39'-2	6	9	7'-10	6	4.5	39'-2
9-10	7	4.5	38'-8	6	12	39'-2	5	12	8'-6	4	12	4'-3	5	6	7'-2	2'-8	4'-6	5	12	39'-2	7	12	8'-0	7	4.5	39'-2
11-12	7	4.5	38'-8	6	12	39'-2	5	12	8'-9	4	12	4'-3	5	6	7'-0	2'-5	4'-7	5	12	39'-2	7	12	8'-0	7	4.5	39'-2
13-15	6	4.5	38'-8	6	12	39'-2	5	12	9'-10	4	12	3'-1	4	6	7'-2	2'-5	4'-9	5	12	39'-2	7	12	8'-2	7	4.5	39'-2
16-17	6	4.5	38'-8	5	9	39'-2	5	9	10'-9	4	9	4'-1	4	6	7'-3	2'-5	4'-10	5	12	39'-2	7	12	8'-3	7	4.5	39'-2
18-19	6	4.5	38'-8	5	9	39'-2	5	9	11'-4	4	9	4'-1	4	6	7'-4	2'-5	4'-11	5	9	39'-2	6	9	8'-6	6	4.5	39'-2
20-21	6	4.5	38'-8	6	12	39'-2	6	12	11'-5	4	12	3'-5	4	6	7'-5	2'-5	5'-0	5	9	39'-2	6	9	8'-8	6	4.5	39'-2
22-23	6	4.5	38'-10	6	12	39'-4	6	12	11'-11	4	12	3'-4	4	6	7'-8	2'-7	5'-1	5	9	39'-4	6	9	8'-11	6	4.5	39'-4
24-25	6	4.5	38'-10	6	12	39'-4	6	12	12'-0	4	12	3'-8	5	9	7'-9	2'-7	5'-2	5	9	39'-4	6	9	9'-1	6	4.5	39'-4

QUANTITIES

FILL	CONCRETE (CY/FT) SLAB	FLOOR	WALLS	TOTAL	STEEL (LB/FT)
0	1.766	1.422	0.396	3.584	469.34
1	1.706	1.422	0.396	3.524	461.89
2	1.285	1.301	0.396	2.982	513.50
3-6	1.285	1.362	0.396	3.043	532.18
7-8	1.285	1.422	0.396	3.103	516.74
9-10	1.405	1.605	0.396	3.406	512.47
11-12	1.526	1.727	0.396	3.649	513.11
13-15	1.706	1.971	0.396	4.073	525.50
16-17	1.827	2.093	0.396	4.316	535.34
18-19	1.947	2.215	0.396	4.558	547.55
20-21	2.067	2.337	0.396	4.800	557.03
22-23	2.260	2.532	0.418	5.210	566.34
24-25	2.441	2.654	0.418	5.513	570.37

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

12 x 4 BARREL SECTIONS

TRRCB 12-4-12

ENGLISH_REDSIGNEDTRIPLECULVERTS.DGN - TRRCB 12-4-12 - THIS SHEET ISSUED 04-12.