VARIABLE DIMENSIONS AND QUANTITIES FOR TWIN 8 x 7 BARREL SECTIONS

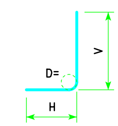
DIMENSIONS												BAR LIST														
												a1			a2			b1			b2			e1		
FILL	S	H	A	B	C	D	E	U	W	X	Z	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.
0	8	7	13	10.5	9	9	9	0'-0	5'-3	1'-11	5'-5	4	9	8'-10	6	9	8'-10	4	6	28	4	6	15	5	12	14
1	8	7	11.5	10.5	9	9	9	0'-9	5'-3	1'-11	5'-3	4	9	8'-9	6	9	8'-9	4	6	28	4	6	15	4	12	14
2	8	7	8	10	9	9	9	1'-0	5'-5	1'-7	4'-2	4	9	8'-5	6	9	8'-5	4	6	28	4	6	15	4	12	14
3	8	7	8	10	9	9	9	1'-6	4'-6	2'-1	3'-8	4	9	8'-5	6	9	8'-5	4	6	28	4	6	15	4	12	14
4	8	7	8	10	9	9	9	1'-7	3'-10	2'-3	3'-4	4	12	8'-5	6	9	8'-5	4	6	28	4	6	15	4	12	14
5-7	8	7	8	10	9	9	9	1'-5	3'-3	2'-4	3'-1	4	12	8'-5	6	9	8'-5	4	6	28	4	6	15	4	12	14
8-10	8	7	8	10	9	9	9	2'-2	2'-11	2'-4	3'-0	4	9	8'-5	6	9	8'-5	4	6	28	4	6	15	4	12	14
11-13	8	7	8.5	11	9	9	9	2'-1	2'-11	2'-1	3'-3	4	9	8'-6	6	9	8'-6	4	6	28	4	6	15	4	12	14
14-16	8	7	9.5	12	9	9	9	1'-7	3'-0	1'-8	3'-3	4	9	8'-8	6	9	8'-8	4	6	28	4	6	15	4	12	14
17-19	8	7	10	12.5	9	9	9	1'-7	2'-11	1'-8	3'-3	4	9	8'-9	6	9	8'-9	4	6	28	4	6	15	4	12	14
20-22	8	7	12	13.5	9	9	9	1'-3	3'-0	1'-8	3'-1	5	12	9'-0	6	9	9'-0	4	6	28	4	6	15	4	12	14
23-25	8	7	13	15.5	9	9	9	1'-2	3'-1	1'-3	3'-3	4	9	9'-3	6	9	9'-3	4	6	28	4	6	15	4	12	14

	BAR LIST																											
	e2			f1			f2			k1			k2			k4					k6			k7			k9		
FILL	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	H	V	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L
0	4	18	14	4	12	18	4	18	14	6	18	17'-11	6	18	8'-11	4	6	8'-8	5'-5	3'-3	4	12	17'-11	4	12	10'-6	4	4.5	17'-11
1	4	18	14	4	12	18	4	18	14	5	12	17'-11	4	12	8'-2	5	12	8'-6	5'-5	3'-1	4	12	17'-11	4	12	10'-6	4	4.5	17'-11
2	4	18	14	4	12	18	4	18	14	4	9	17'-11	4	9	7'-5	4	6	6'-9	3'-11	2'-10	5	18	17'-11	6	18	10'-10	6	4.5	17'-11
3	4	18	14	4	12	18	4	18	14	5	12	17'-11	4	12	6'-5	4	6	6'-1	3'-3	2'-10	5	18	17'-11	6	18	9'-0	6	4.5	17'-11
4	4	18	14	4	12	18	4	18	14	6	18	17'-11	5	18	6'-3	4	6	6'-2	3'-1	3'-1	5	18	17'-11	6	18	7'-8	6	4.5	17'-11
5-7	4	18	14	4	12	18	4	18	14	5	18	17'-11	5	18	6'-11	4	6	5'-10	2'-11	2'-11	4	12	17'-11	5	12	6'-6	5	4.5	17'-11
8-10	4	18	14	4	12	18	4	18	14	5	12	17'-11	4	12	5'-5	4	6	5'-8	2'-10	2'-10	5	12	17'-11	5	12	5'-10	5	4.5	17'-11
11-13	4	18	14	4	12	18	4	18	14	5	12	17'-11	4	12	5'-9	5	9	5'-6	2'-7	2'-11	4	9	17'-11	5	9	5'-10	5	4.5	17'-11
14-16	4	18	14	4	12	18	4	18	14	4	9	17'-11	4	9	6'-9	5	9	5'-6	2'-6	3'-0	5	12	17'-11	6	12	6'-0	6	4.5	17'-11
17-19	4	18	14	4	12	18	4	18	14	4	9	17'-11	4	9	6'-10	4	6	5'-5	2'-5	3'-0	5	12	17'-11	6	12	5'-10	6	4.5	17'-11
20-22	4	18	14	4	12	18	4	18	14	4	9	17'-11	4	9	7'-8	4	6	5'-8	2'-6	3'-2	5	12	17'-11	6	12	6'-0	6	4.5	17'-11
23-25	4	18	14	4	12	18	4	18	14	6	18	17'-11	6	18	7'-9	4	6	5'-10	2'-7	3'-3	5	12	17'-11	6	12	6'-2	6	4.5	17'-11

	BAR LIST																				QUANTITIES				
	m1			m2			m4					m6			m7			m9			CONCRETE (CY/FT)				STEEL
FILL	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	H	V	SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	L	SLAB	FLOOR	WALLS	TOTAL	(LB/FT)
0	5	12	18'-5	4	12	6'-0	4	6	12'-7	5'-3	7'-4	4	18	18'-5	6	18	10'-10	6	4.5	18'-5	0.789	0.667	0.549	2.005	271.26
1	5	12	18'-5	4	12	6'-0	6	12	12'-9	5'-5	7'-4	5	18	18'-5	5	18	10'-6	5	4.5	18'-5	0.705	0.667	0.549	1.921	261.95
2	4	9	18'-5	4	9	6'-6	4	6	11'-4	4'-1	7'-3	5	18	18'-5	6	18	8'-4	6	4.5	18'-5	0.507	0.638	0.549	1.694	255.39
3	5	12	18'-5	4	12	5'-10	4	6	10'-5	3'-2	7'-3	5	18	18'-5	6	18	7'-4	6	4.5	18'-5	0.507	0.638	0.549	1.694	247.50
4	5	12	18'-5	4	12	5'-3	4	6	10'-3	3'-0	7'-3	5	18	18'-5	6	18	6'-8	6	4.5	18'-5	0.507	0.638	0.549	1.694	241.55
5-7	5	12	18'-5	4	12	5'-1	4	6	10'-1	2'-10	7'-3	4	12	18'-5	5	12	6'-2	5	4.5	18'-5	0.507	0.638	0.549	1.694	230.47
8-10	5	12	18'-5	4	12	5'-3	4	6	9'-11	2'-8	7'-3	4	12	18'-5	6	12	6'-0	6	4.5	18'-5	0.507	0.638	0.549	1.694	246.18
11-13	5	12	18'-5	4	12	5'-11	5	9	9'-11	2'-7	7'-4	5	18	18'-5	8	18	6'-6	8	4.5	18'-5	0.536	0.696	0.549	1.781	254.95
14-16	4	9	18'-5	4	9	6'-9	5	9	10'-0	2'-7	7'-5	5	18	18'-5	8	18	6'-6	8	4.5	18'-5	0.592	0.753	0.549	1.894	261.29
17-19	4	9	18'-5	4	9	7'-1	4	6	10'-0	2'-6	7'-6	5	18	18'-5	8	18	6'-6	8	4.5	18'-5	0.620	0.782	0.549	1.951	258.66
20-22	5	12	18'-5	5	12	7'-2	4	6	10'-2	2'-7	7'-7	4	12	18'-5	7	12	6'-2	7	4.5	18'-5	0.733	0.840	0.549	2.122	270.42
23-25	6	18	18'-5	6	18	7'-9	4	6	10'-5	2'-8	7'-9	5	18	18'-5	8	18	6'-6	8	4.5	18'-5	0.789	0.956	0.549	2.294	277.05

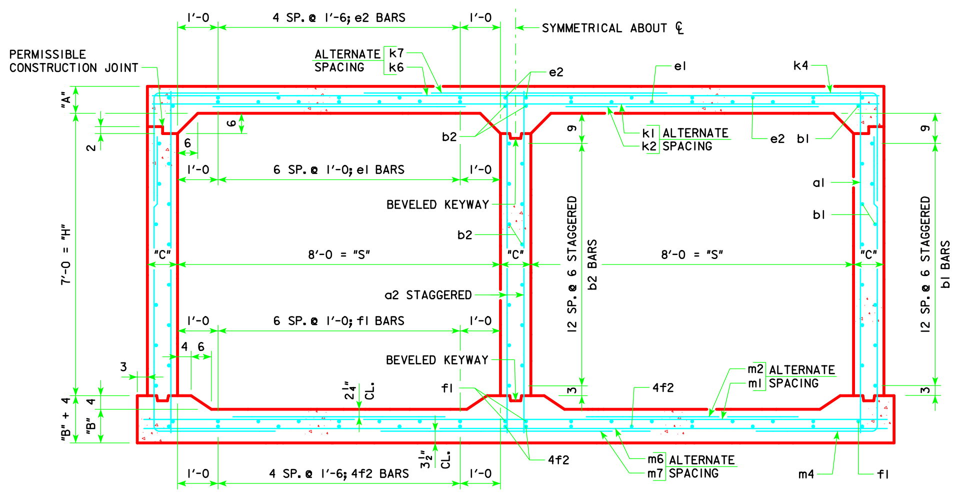
BENT BAR DETAIL

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



k4 & m4

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



TWIN 8 x 7 BARREL SECTION

NOTES:

1. DIMENSIONS LISTED ON THIS SHEET TO BE USED IN CONJUNCTION WITH SHEET TWRCB 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
TWIN REINFORCED CONCRETE BOX CULVERTS
APRIL, 2012

CULVERT BARREL DETAILS
8 x 7 BARREL SECTIONS

TWRCB 8-7-12

ENGLISHLRDSIGNEDTWINCULVERTS.DGN - TWRCB 8-7-12 - THIS SHEET ISSUED 04-12.