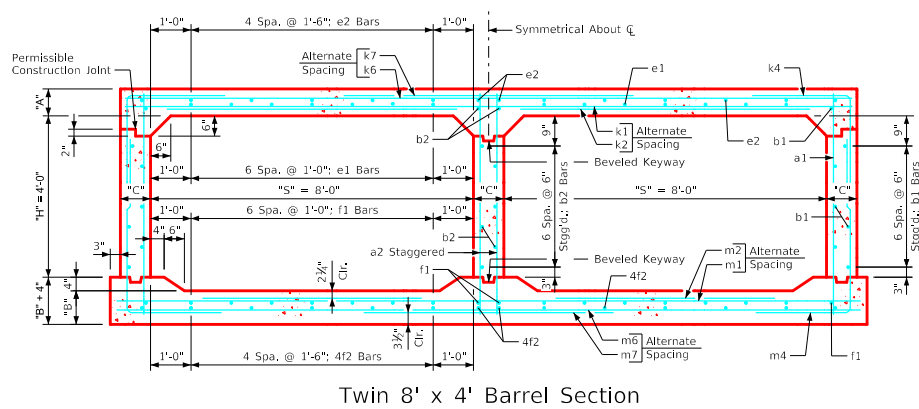
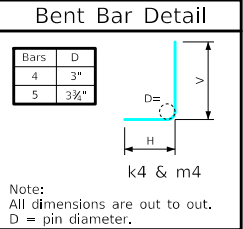


Variable Dimensions and Quantities for Twin 8' x 4' Barrel Sections

Dimensions													Bar List																																				
Fill	S	H	A	B	C	D	E	U	W	X	Z	a1		a2		b1		b2		e1		e2		f1		f2		k1		k2		k4		k6		k7		k9											
												Size	Sp.	L	Size	Sp.	L	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.		
0	8	4	13	10	9	9	9	0'-0	5'-2	2'-3	5'-7	5	12	5'-10	6	9	5'-10	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	8'-11	4	6	6'-4	3'-2	3'-0	4	12	17'-11	4	12	10'-4	4	4,5	17'-11
1	8	4	11	10	9	9	9	0'-1	5'-5	1'-11	4'-0	4	9	5'-8	6	9	5'-8	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	8'-10	4	6	6'-0	3'-0	3'-0	4	18	17'-11	5	18	10'-10	5	4,5	17'-11
2	8	4	8	10	9	9	9	1'-0	4'-7	2'-4	3'-8	5	12	5'-5	6	9	5'-5	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	5	18	7'-4	4	6	5'-6	2'-9	2'-9	5	18	17'-11	6	18	9'-2	6	4,5	17'-11
3	8	4	8	10	9	9	9	1'-1	3'-7	1'-8	3'-1	4	12	5'-5	6	9	5'-5	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	7'-3	4	6	5'-6	2'-9	2'-9	4	12	17'-11	4	12	7'-2	4	4,5	17'-11
4	8	4	8	10	9	9	9	1'-5	3'-2	1'-9	2'-11	4	12	5'-5	6	9	5'-5	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	6'-7	4	6	5'-6	2'-9	2'-9	4	12	17'-11	4	12	6'-4	4	4,5	17'-11
5-7	8	4	8	10	9	9	9	1'-8	3'-1	1'-10	3'-1	4	12	5'-5	6	9	5'-5	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	6'-1	4	6	5'-6	2'-9	2'-9	4	12	17'-11	5	12	6'-2	5	4,5	17'-11
8-10	8	4	8	10	9	9	9	2'-1	2'-11	2'-6	3'-1	4	12	5'-5	6	9	5'-5	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	6'-1	4	6	5'-0	2'-3	2'-9	5	12	17'-11	5	12	5'-10	5	4,5	17'-11
11-13	8	4	8.5	10.5	9	9	9	2'-1	3'-0	2'-1	2'-10	4	9	5'-6	6	9	5'-6	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	5'-6	4	6	4'-11	2'-2	2'-9	4	12	17'-11	6	12	6'-0	6	4,5	17'-11
14-16	8	4	9.5	12	9	9	9	1'-10	3'-0	1'-10	2'-11	4	12	5'-8	6	9	5'-8	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	6'-3	4	6	4'-11	2'-1	2'-10	5	12	17'-11	6	12	6'-0	6	4,5	17'-11
17-19	8	4	10.5	12	9	9	9	1'-8	3'-0	1'-6	3'-0	4	12	5'-9	6	9	5'-9	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	6'-7	4	6	4'-10	1'-11	2'-11	5	12	17'-11	6	12	6'-0	6	4,5	17'-11
20-22	8	4	12	13.5	9	9	9	1'-5	3'-0	1'-3	3'-1	4	12	6'-0	6	9	6'-0	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	12	7'-4	4	6	4'-11	1'-11	3'-0	5	12	17'-11	6	12	6'-0	6	4,5	17'-11
23-25	8	4	13	15	9	9	9	1'-1	3'-1	1'-2	3'-2	4	9	6'-3	6	9	6'-3	4	6	16	4	6	9	4	12	14	4	18	14	4	12	17'-11	4	9	7'-10	5	12	5'-7	2'-1	3'-6	5	12	17'-11	6	12	6'-2	6	4,5	17'-11

Fill	Bar List																		Quantities						
	m1	m2	m4	m6	m7	m9	Concrete (CY/FT)		Steel (LB/FT)																
Size	Sp.	L	Size	Sp.	L	Size	Sp.	L	H	V	Size	Sp.	L	Size	Sp.	L	Slab	Floor	Walls	Total	(LB/FT)				
0	5	12	18'-5	4	12	5'-2	4	6	9'-3	5'-0	4'-3	4	18	18'-5	6	18	11'-2	6	4,5	18'-5	0.789	0.638	0.299	1.726	235.29
1	6	18	18'-5	5	18	5'-9	4	6	8'-6	4'-3	4'-3	4	12	18'-5	4	12	8'-0	4	4,5	18'-5	0.676	0.638	0.299	1.613	205.16
2	5	12	18'-5	4	12	5'-2	4	6	8'-9	2'-6	4'-3	5	18	18'-5	5	18	7'-4	5	4,5	18'-5	0.507	0.638	0.299	1.444	212.71
3	4	12	18'-5	4	12	6'-5	4	6	6'-8	2'-5	4'-3	4	12	18'-5	4	12	6'-2	4	4,5	18'-5	0.507	0.638	0.299	1.444	185.66
4	4	12	18'-5	4	12	6'-3	4	6	6'-7	2'-4	4'-3	4	12	18'-5	4	12	5'-10	4	4,5	18'-5	0.507	0.638	0.299	1.444	183.63
5-7	4	12	18'-5	4	12	6'-2	4	6	6'-7	2'-4	4'-3	5	18	18'-5	6	18	6'-2	6	4,5	18'-5	0.507	0.638	0.299	1.444	190.16
8-10	5	12	18'-5	4	12	4'-8	4	6	6'-6	2'-3	4'-3	5	18	18'-5	7	18	6'-2	7	4,5	18'-5	0.507	0.638	0.299	1.444	210.53
11-13	5	12	18'-5	4	12	5'-8	4	6	6'-6	2'-2	4'-4	4	9	18'-5	5	9	5'-8	5	4,5	18'-5	0.536	0.667	0.299	1.502	211.58
14-16	5	12	18'-5	4	12	6'-4	4	6	6'-5	2'-0	4'-5	4	9	18'-5	5	9	5'-10	5	4,5	18'-5	0.592	0.753	0.299	1.644	218.11
17-19	4	9	18'-5	4	9	6'-11	4	6	6'-5	2'-0	4'-5	5	12	18'-5	6	12	6'-0	6	4,5	18'-5	0.648	0.753	0.299	1.700	223.24
20-22	4	9	18'-5	4	9	7'-8	4	6	6'-7	2'-0	4'-7	5	12	18'-5	6	12	6'-2	6	4,5	18'-5	0.733	0.840	0.299	1.872	227.24
23-25	4	9	18'-5	4	9	7'-10	5	12	6'-9	2'-1	4'-8	5	12	18'-5	6	12	6'-4	6	4,5	18'-5	0.789	0.927	0.299	2.015	228.53



- Notes:
- Dimensions listed on this sheet to be used in conjunction with Sheet TWRCB G3-20.
 - Fill, dimensions "S" and "H" are in feet.
 - Dimensions "A", "B", "C", "D", and "Sp." listed in the bar list are in inches.
 - Dimensions "L", "H", "V" are in feet and inches.

IOWADOT Highway Division

Standard Design
Twin Reinforced Concrete
Box Culverts
July, 2020

Culvert Barrel Details 8' x 4' Barrel Sections	TWRCB 8-4-20
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ENGLISHLRFDDESIGNEDTWINCULVERTS.DGN - TWRCB 8-4-20 - THIS SHEET ISSUED 07-2020.