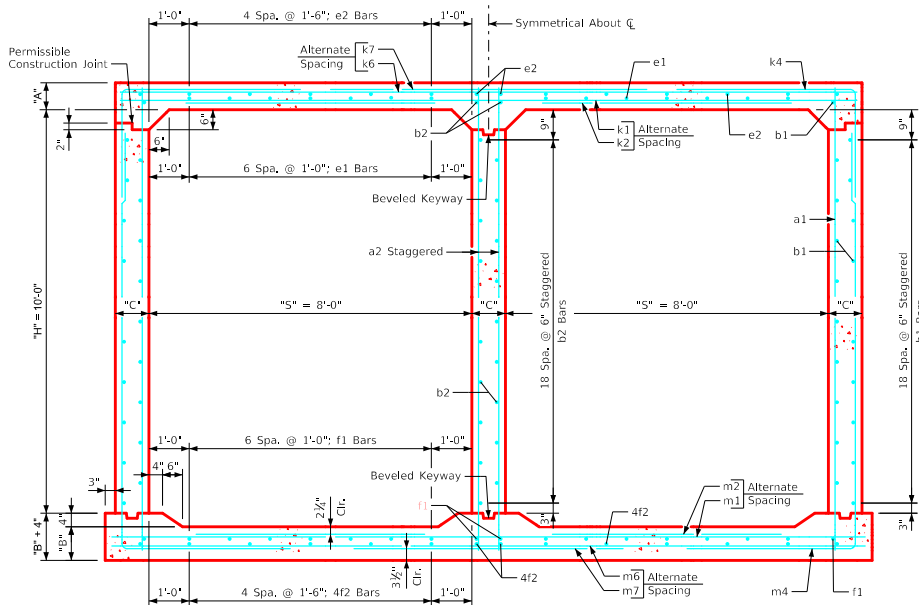


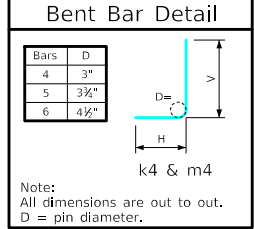
Variable Dimensions and Quantities for Twin 8' x 10' Barrel Sections

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.	Size	Sp.	L	Size	Sp.	L	Size	Sp.	L	Size	Sp.	L	Size	Sp.	L					
0	8	10	13	11	10	6	9	0'-0	5'-3	1'-11	5'-8	4	6	11'-11	7	9	11'-11	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	4	12	18'-2	4	12	9'-1	4	6	8'-7	5'-5	3'-2	4	12	18'-2	4	12	10'-6	4	4.5	18'-2
1	8	10	11	10.5	10	6	9	0'-7	5'-5	1'-11	5'-8	4	6	11'-8	7	9	11'-8	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	6	18	18'-2	5	18	8'-6	4	6	8'-2	5'-3	2'-11	4	18	18'-2	5	18	10'-10	5	4.5	18'-2
2	8	10	8	10	10	6	9	1'-0	5'-8	1'-7	4'-1	4	6	11'-5	7	9	11'-5	4	6	40	4	6	21	4	12	14	4	18	14	4	9	18'-2	4	9	7'-7	4	6	7'-9	5'-0	2'-9	5	18	18'-2	6	18	11'-4	6	4.5	18'-2						
3	8	10	8	10	10	9	9	1'-7	4'-3	2'-4	3'-5	5	12	11'-5	7	9	11'-5	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	6	18	18'-2	5	18	6'-6	4	6	7'-7	4'-10	2'-9	4	12	18'-2	4	12	8'-6	4	4.5	18'-2
4	8	10	8	10	10	9	9	1'-6	3'-5	2'-5	3'-3	5	12	11'-5	7	9	11'-5	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	4	12	6'-10	4	6	7'-0	4'-3	2'-9	4	12	18'-2	4	12	6'-10	4	4.5	18'-2			
5-7	8	10	8	10	10	9	9	1'-7	3'-4	2'-6	3'-0	4	12	11'-5	7	9	11'-5	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	4	12	6'-5	6	9	7'-10	4'-4	3'-6	5	18	18'-2	6	18	6'-8	6	4.5	18'-2			
8-10	8	10	8	10	10	9	9	2'-1	2'-11	2'-3	3'-0	4	9	11'-5	7	9	11'-5	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	6	18	18'-2	5	18	5'-6	6	9	7'-8	3'-10	3'-10	5	12	18'-2	5	12	5'-10	5	4.5	18'-2
11-13	8	10	8.5	11	10	9	9	2'-0	3'-0	2'-0	2'-11	4	9	11'-6	7	9	11'-6	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	5	12	18'-2	4	12	5'-9	5	6	7'-0	3'-6	3'-6	4	12	18'-2	6	12	6'-0	6	4.5	18'-2
14-16	8	10	9.5	12	10.5	9	9	1'-11	2'-10	1'-7	3'-3	5	12	11'-8	7	9	11'-8	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	5	12	18'-3	4	12	6'-0	5	6	6'-10	3'-5	3'-5	4	9	18'-3	5	9	5'-8	5	4.5	18'-3
17-19	8	10	10	13	10.5	9	9	1'-10	2'-11	1'-10	3'-3	4	9	11'-10	7	9	11'-10	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	5	12	18'-3	4	12	6'-3	5	6	6'-6	3'-3	3'-3	5	12	18'-3	6	12	5'-10	6	4.5	18'-3
20-22	8	10	12.5	14.5	11.5	9	9	1'-7	3'-0	1'-6	3'-2	5	12	12'-2	7	9	12'-2	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	6	18	18'-6	5	18	7'-0	5	6	7'-2	3'-7	3'-7	4	12	18'-6	6	12	6'-0	6	4.5	18'-6
23-25	8	10	13.5	15.5	12	9	9	1'-2	3'-1	1'-0	3'-3	5	12	12'-4	7	9	12'-4	4	6	40	4	6	21	4	12	14	4	18	14	4	12	18	4	18	14	6	18	18'-8	5	18	7'-10	6	9	7'-10	3'-11	3'-11	4	12	18'-8	6	12	6'-2	6	4.5	18'-8

Fill	Bar List																		Quantities						
	m1	m2	m4	m6	m7	m9	Slab	Floor	Walls	Total	Steel (LB/FT)														
0	5	12	18'-0	4	12	6'-3	4	6	15'-4	5'-0	10'-4	4	18	18'-8	6	18	11'-4	6	4.5	18'-8	0.803	0.707	0.887	2.397	304.55
1	5	12	18'-0	4	12	6'-2	4	6	15'-4	5'-0	10'-4	4	18	18'-8	6	18	11'-4	6	4.5	18'-8	0.689	0.678	0.887	2.254	306.74
2	4	9	18'-0	4	9	6'-9	4	6	15'-5	5'-2	10'-3	5	18	18'-8	6	18	8'-2	6	4.5	18'-8	0.518	0.649	0.887	2.054	312.71
3	5	12	18'-0	4	12	5'-5	4	6	14'-6	4'-3	10'-3	5	18	18'-8	6	18	6'-10	6	4.5	18'-8	0.518	0.649	0.887	2.054	293.58
4	5	12	18'-0	4	12	5'-0	4	6	14'-3	4'-0	10'-3	5	18	18'-8	6	18	6'-6	6	4.5	18'-8	0.518	0.649	0.887	2.054	281.79
5-7	5	12	18'-0	4	12	4'-10	6	9	14'-4	4'-1	10'-3	4	12	18'-8	5	12	6'-0	5	4.5	18'-8	0.518	0.649	0.887	2.054	310.03
8-10	5	12	18'-0	4	12	5'-4	6	9	14'-0	3'-9	10'-3	4	12	18'-8	6	12	6'-0	6	4.5	18'-8	0.518	0.649	0.887	2.054	328.29
11-13	5	12	18'-0	4	12	5'-11	5	6	13'-11	3'-7	10'-4	4	9	18'-8	5	9	5'-10	5	4.5	18'-8	0.546	0.707	0.887	2.140	325.92
14-16	4	9	18'-0	4	9	6'-11	5	6	14'-0	3'-7	10'-5	5	18	18'-9	8	18	6'-6	8	4.5	18'-9	0.609	0.770	0.934	2.313	336.71
17-19	5	12	18'-0	4	12	6'-8	5	6	13'-11	3'-5	10'-6	5	18	18'-9	8	18	6'-6	8	4.5	18'-9	0.638	0.829	0.934	2.401	336.87
20-22	5	12	19'-0	4	12	7'-4	5	6	14'-3	3'-7	10'-8	4	9	19'-0	5	6	6'-4	5	4.5	19'-0	0.795	0.932	1.022	2.749	341.37
23-25	4	9	19'-2	4	9	8'-4	6	9	14'-5	3'-8	10'-9	4	9	19'-2	5	9	6'-6	5	4.5	19'-2	0.861	0.999	1.067	2.927	348.16



Twin 8' x 10' Barrel Section



- 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.

LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER	IOWADOT Highway Division
		Standard Design Twin Reinforced Concrete Box Culverts July, 2020
		Culvert Barrel Details 8' x 10' Barrel Sections
		TWRCB 8-10-20

ENGLISHLRFDDESIGNEDTWINCULVERTS.DGN - TWRCB 8-10-20 - THIS SHEET ISSUED 07-2020.