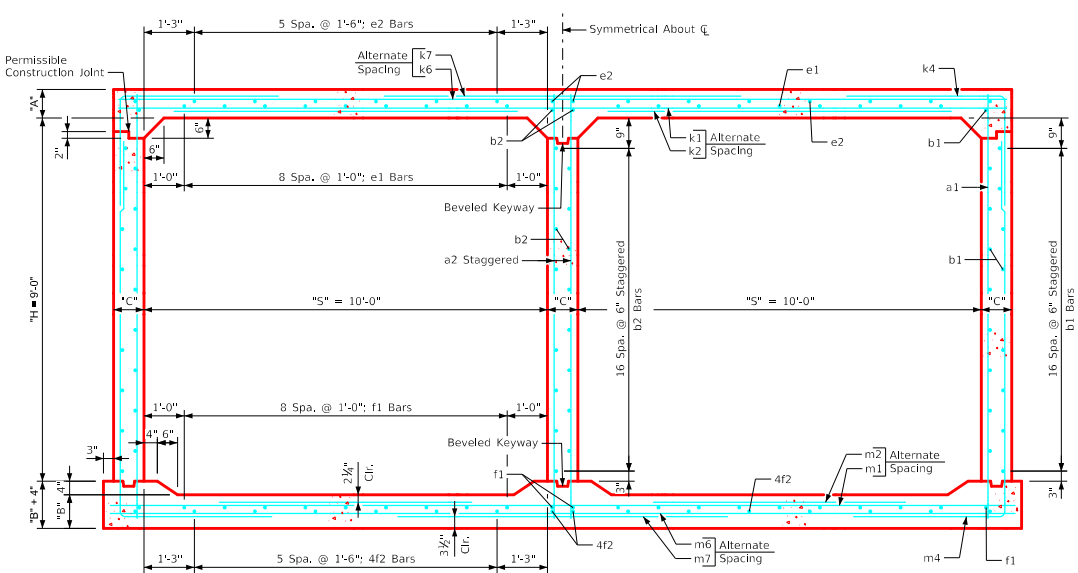
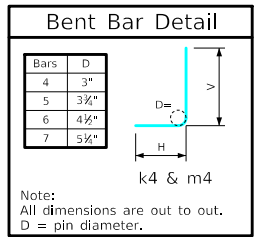


Variable Dimensions and Quantities for Twin 10' x 9' Barrel Sections

Dimensions													Bar List																																												
Fill	S	H	A	B	C	D	E	U	W	X	Z	a1			a2			b1			b2			e1			e2			f1			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.	No.	Size	Sp.	No.	Size	Sp.	No.	Size	Sp.	No.										
0	10	9	13	11.5	9	9	9	0'-0	6'-2	2'-1	6'-9	4	12	10'-11	6	9	10'-11	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	6	18	21'-11	5	18	10'-11	4	6	9	6	5	6	12	12'-4	4	4	5	21'-11				
1	10	9	12.5	11.5	9	9	9	0'-6	6'-5	2'-1	6'-2	4	12	10'-11	6	9	10'-11	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	6	18	21'-11	5	18	10'-5	6	12	10'-4	6'-6	3'-10	5	18	21'-11	5	18	12'-10	5	4	5	21'-11	
2	10	9	9	10	9	9	9	1'-10	6'-5	2'-10	4'-10	4	12	10'-6	6	9	10'-6	4	6	36	4	6	19	5	12	18	4	18	16	4	12	22	4	18	16	5	9	21'-11	4	9	8'-2	5	6	9	8'-8	6'-6	3'-2	5	12	21'-11	5	12	12'-10	5	4	5	21'-11
3	10	9	8	10	9	9	9	2'-7	4'-10	2'-2	3'-11	4	12	10'-5	6	9	10'-5	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	5	9	21'-11	4	9	6'-6	5	6	7'-2	4'-1	3'-1	4	12	21'-11	6	12	9'-8	6	4	5	21'-11	
4	10	9	8	10	9	9	9	2'-1	4'-3	2'-2	3'-8	4	12	10'-5	6	9	10'-5	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	5	12	21'-11	5	12	7'-9	6	9	7'-6	4'-0	3'-6	4	12	21'-11	6	12	8'-6	6	4	5	21'-11	
5-7	10	9	8	10	9	9	9	2'-2	4'-1	3'-2	3'-7	4	12	10'-5	6	9	10'-5	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	5	12	21'-11	5	12	7'-5	5	6	7'-4	3'-8	3'-8	4	12	21'-11	7	12	8'-2	7	4	5	21'-11	
8-10	10	9	9	11.5	9	9	9	2'-2	3'-7	2'-1	3'-6	4	12	10'-7	6	9	10'-7	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	5	12	21'-11	5	12	7'-11	5	6	6'-8	3'-4	3'-4	4	9	21'-11	6	9	7'-2	6	4	5	21'-11	
11-13	10	9	11	13.5	9	9	9	1'-10	3'-7	2'-0	3'-7	4	12	10'-11	6	9	10'-11	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	6	18	21'-11	6	18	8'-8	5	6	6'-8	3'-4	3'-4	4	9	21'-11	6	9	7'-2	6	4	5	21'-11	
14-16	10	9	12.5	15	9	9	9	1'-8	3'-8	1'-11	3'-9	4	12	11'-2	6	9	11'-2	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	6	18	21'-11	6	18	9'-3	5	6	7'-0	3'-6	3'-6	5	12	21'-11	7	12	7'-4	7	4	5	21'-11	
17-19	10	9	14	16	10	9	9	1'-7	3'-9	2'-2	3'-10	4	9	11'-5	7	9	11'-5	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-2	5	12	9'-5	6	9	7'-4	3'-4	4'-0	5	12	22'-2	7	12	7'-6	7	4	5	22'-2	
20-22	10	9	14.5	17	10.5	9	9	1'-7	3'-9	1'-10	3'-11	4	12	11'-6	7	9	11'-6	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-3	5	12	9'-6	6	9	7'-5	3'-4	4'-1	5	12	22'-3	7	12	7'-6	7	4	5	22'-3	
23-25	10	9	16.5	18.5	11	9	9	1'-2	3'-11	1'-8	4'-0	4	9	11'-10	7	9	11'-10	4	6	36	4	6	19	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-5	5	12	10'-0	6	9	7'-7	3'-5	4'-2	5	12	22'-5	7	12	7'-10	7	4	5	22'-5	

Fill	Bar List																											Quantities			
	m1	m2	m4	H	V	m6	m7	m9	Slab	Floor	Walls	Total	Steel (LBS/FT)																		
0	5	12	22'-5	5	12	8'-2	5	6	15'-7	6'-2	9'-5	5	18	22'-5	7	18	13'-6	7	4	5	22'-5	0.950	0.866	0.715	2.531	354.84					
1	5	12	22'-5	5	12	8'-1	7	12	15'-10	6'-5	9'-5	4	9	22'-5	4	9	12'-4	4	4	5	22'-5	0.915	0.866	0.715	2.496	361.68					
2	6	12	22'-5	5	12	6'-7	5	6	13'-10	4'-7	9'-3	5	18	22'-5	8	18	9'-8	8	4	5	22'-5	0.675	0.761	0.715	2.151	306.03					
3	5	12	22'-5	5	12	7'-8	5	6	13'-2	3'-11	9'-3	4	9	22'-5	5	9	7'-10	5	4	5	22'-5	0.606	0.761	0.715	2.082	352.24					
4	5	12	22'-5	5	12	7'-8	6	9	13'-1	3'-10	9'-3	4	9	22'-5	5	9	7'-4	5	4	5	22'-5	0.606	0.761	0.715	2.082	347.32					
5-7	5	9	22'-5	4	9	5'-9	5	6	12'-10	3'-7	9'-3	5	9	22'-5	5	9	7'-2	5	4	5	22'-5	0.606	0.761	0.715	2.082	363.16					
8-10	5	12	22'-5	5	12	8'-3	5	6	12'-9	3'-4	9'-5	5	9	22'-5	5	9	7'-0	5	4	5	22'-5	0.675	0.866	0.715	2.256	361.71					
11-13	5	12	22'-5	5	12	8'-5	5	6	12'-11	3'-4	9'-7	5	9	22'-5	5	9	7'-2	5	4	5	22'-5	0.812	1.007	0.715	2.534	365.37					
14-16	5	12	22'-5	5	12	9'-1	5	6	13'-0	3'-4	9'-8	4	9	22'-5	6	9	7'-6	6	4	5	22'-5	0.915	1.112	0.715	2.742	370.63					
17-19	5	9	22'-8	4	9	8'-5	6	9	13'-2	3'-5	9'-9	5	12	22'-8	7	12	7'-8	7	4	5	22'-8	1.033	1.198	0.795	3.026	397.08					
20-22	5	9	22'-9	4	9	9'-2	6	9	13'-3	3'-5	9'-10	5	12	22'-9	7	12	7'-10	7	4	5	22'-9	1.076	1.275	0.837	3.188	395.50					
23-25	5	9	22'-11	4	9	9'-7	6	9	13'-5	3'-5	10'-0	5	12	22'-11	7	12	8'-0	7	4	5	22'-11	1.224	1.390	0.876	3.490	406.74					



- 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	
		Standard Design Twin Reinforced Concrete Box Culverts July, 2020
		Culvert Barrel Details 10' x 9' Barrel Sections
		TWRCB 10-9-20

ENGLISHRFD\DESIGNEDTWINCULVERTS.DGN - TWRCB 10-9-20 - THIS SHEET ISSUED 07-2020.