

SPAN (S) = 3 FT HEIGHT (HT) = 2 FT OR 3 FT OR 4 FT

DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1		
1 FT	10	8	8	8	4	8.5	4	10.5	26.8	26.0	26.0	26.0	4	24	39.5	30.5	4	24	20.0	20.0	4	12	4	12	36.0	28	40	52	4	12	25.0	25.0	5	12	5	12	12
2 FT	10	8	8	8	4	8.5	4	10.5	26.8	26.0	26.0	26.0	4	24	39.5	30.5	4	24	20.0	20.0	4	12	4	12	35.0	28	40	52	4	12	24.0	24.0	5	12	5	12	12
2'- 4'	10	8	8	8	4	8.5	4	10.5	26.8	26.0	26.0	26.0	4	24	39.5	34.0	4	24	20.0	20.0	4	12	4	12	35.0	28	40	52	4	12	24.0	24.0	5	12	5	12	12
4 FT	8	8	8	8	4	12	4	12	26.8	24.0	24.0	24.0	4	24	39.5	34.0	4	24	19.0	19.0	4	12	4	12	31.1	28	40	52	4	12	23.0	24.0	5	12	5	12	12
6 FT	8	8	8	8	4	12	4	12	31.1	24.0	24.0	24.0	4	24	26.0	26.0	4	24	18.0	18.0	4	12	4	12	28.9	28	40	52	4	12	22.0	23.0	5	12	5	12	12
8 FT	8	8	8	8	4	12	4	12	28.5	24.0	24.0	24.0	4	24	24.0	24.0	4	24	18.0	18.0	4	12	4	12	27.3	28	40	52	4	12	22.0	23.0	5	12	5	12	0
10 FT	8	8	8	8	4	12	4	12	27.1	24.0	24.0	24.0	4	24	23.0	24.0	4	24	18.0	18.0	4	12	4	12	26.5	28	40	52	4	12	22.0	23.0	5	12	5	12	0
12 FT	8	8	8	8	4	12	4	12	25.0	24.0	24.0	24.0	4	24	21.0	23.0	4	24	18.0	18.0	4	12	4	12	24.5	28	40	52	4	12	22.0	23.0	5	12	5	12	0
14 FT	8	8	8	8	4	12	4	12	24.9	24.0	24.0	24.0	4	24	21.0	23.0	4	24	18.0	18.0	4	12	4	12	24.5	28	40	52	4	12	22.0	23.0	5	12	5	12	0
16 FT	8	8	8	8	4	12	4	12	24.8	24.0	24.0	24.0	4	24	21.0	22.0	4	24	18.0	18.0	4	12	4	12	24.4	28	40	52	4	11.5	22.0	23.0	5	12	5	12	0
18 FT	8	8	8	8	4	12	4	12	24.8	24.0	24.0	24.0	4	24	21.0	22.0	4	24	18.0	18.0	4	12	4	12	24.4	28	40	52	4	11	22.0	23.0	5	12	5	12	0
20 FT	8	8	8	8	4	12	4	12	24.6	24.0	24.0	24.0	4	24	21.0	22.0	4	24	18.0	18.0	4	12	4	12	24.3	28	40	52	4	10.5	22.0	23.0	5	12	5	12	0
22 FT	8	8	8	8	4	12	4	12	24.6	24.0	24.0	24.0	4	24	21.0	22.0	4	24	18.0	18.0	4	12	4	12	24.3	28	40	52	4	9.5	22.0	23.0	5	12	5	12	0
24 FT	8	8	8	8	4	12	4	12	24.5	24.0	24.0	24.0	4	24	21.0	22.0	4	24	18.0	18.0	4	11.5	4	12	24.3	28	40	52	4	9	22.0	23.0	5	12	5	12	0
26 FT	8	8	8	8	4	12	4	12	24.5	24.0	24.0	24.0	4	24	21.0	22.0	4	24	18.0	18.0	4	10.5	4	11	24.1	28	40	52	4	9	22.0	23.0	5	12	5	12	0
28 FT	8	8	8	8	4	12	4	11	24.5	24.0	24.0	24.0	4	24	21.0	22.0	4	24	18.0	18.0	4	10	4	10	24.1	28	40	52	4	8.5	22.0	23.0	5	12	5	12	0
30 FT	8	8	8	8	4	11	4	10.5	24.5	24.0	24.0	24.0	4	24	21.0	22.0	4	24	18.0	18.0	4	9	4	9.5	24.1	28	40	52	4	8	22.0	23.0	5	12	5	12	0
32 FT	8	9	8	8	4	10.5	4	9.5	24.5	24.0	24.0	24.0	4	23	21.0	22.0	4	23	18.0	18.0	4	9.5	4	12	24.5	29	41	53	4	9.5	21.0	23.0	5	12	5	12	0
34 FT	8	9	8	8	4	10	4	9	24.5	24.0	24.0	24.0	4	22	21.0	22.0	4	22	18.0	18.0	4	9	4	11	24.4	29	41	53	4	9	21.0	23.0	5	12	5	12	0
36 FT	8	9	8	8	4	9.5	4	8.5	24.5	24.0	24.0	24.0	4	21	21.0	22.0	4	21	18.0	18.0	4	8.5	4	10.5	24.4	29	41	53	4	8.5	21.0	23.0	5	12	5	12	0
38 FT	8	9	8	8	4	9	4	8	24.5	24.0	24.0	24.0	4	20	21.0	22.0	4	20	18.0	18.0	4	8	4	10	24.4	29	41	53	4	8.5	21.0	23.0	5	12	5	12	0
40 FT	8	10	8	8	4	8.5	4	7.5	24.5	24.0	24.0	24.0	4	19	21.0	22.0	4	19	18.0	18.0	4	8.5	4	12	24.8	30	42	54	4	9	21.0	23.0	5	12	5	12	0
42 FT	9	10	8	8	4	9	4	9	24.8	25.0	25.0	25.0	4	21	21.0	23.0	4	21	17.0	18.0	4	8	4	11.5	24.8	30	42	54	4	9	21.0	23.0	5	12	5	12	0
44 FT	9	10	8	8	4	8.5	4	8.5	24.8	25.0	25.0	25.0	4	20	21.0	23.0	4	20	17.0	18.0	4	8	4	11	24.8	30	42	54	4	9	21.0	23.0	5	12	5	12	0
46 FT	9	10	8	8	4	8	4	8	24.8	25.0	25.0	25.0	4	19	21.0	23.0	4	19	17.0	18.0	4	7.5	4	10.5	24.8	30	42	54	4	8.5	21.0	23.0	5	12	5	12	0
48 FT	9	11	8	8	4	8	4	7.5	24.9	25.0	25.0	25.0	4	19	21.0	22.0	4	19	18.0	18.0	4	8	4	10.5	25.0	31	43	55	4	9.5	21.0	23.0	5	12	5	12	0
50 FT	10	11	8	8	4	8	4	8	25.1	26.0	26.0	26.0	4	20	21.0	23.0	4	20	17.0	18.0	4	7.5	4	10.5	25.1	31	43	55	4	9	21.0	23.0	5	12	5	12	0

SPAN (S) = 3 FT HEIGHT (HT) = 5 FT OR 6 FT

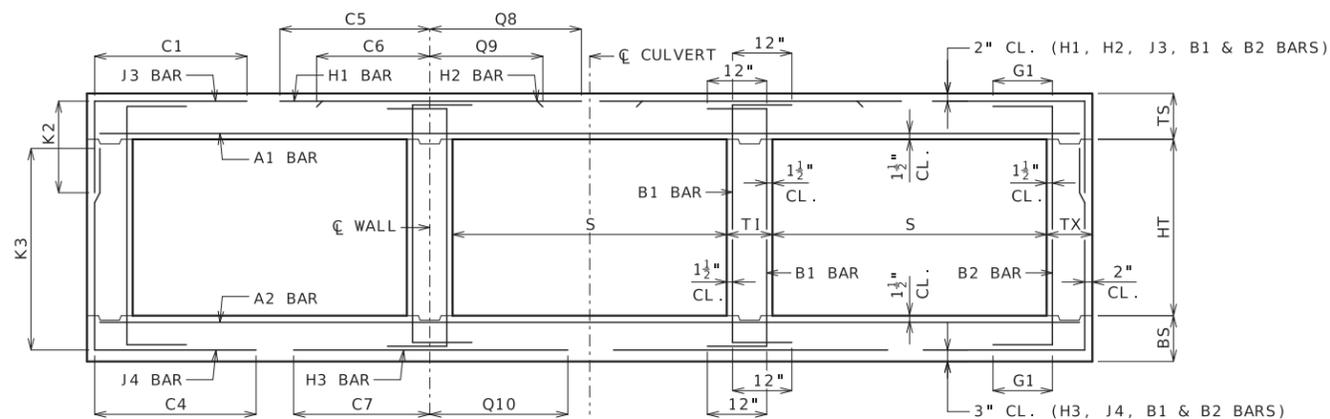
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS							
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS										
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1	
1 FT	10	8	8	8	4	8.5	4	10.5	26.8	26.0	26.0	26.0	4	24	39.5	30.5	4	24	21.0	20.0	4	12	4	11.5	36.0	64	76	4	12	34.0	25.0	5	12	5	12	12
2 FT	10	8	8	8	4	8.5	4	10.5	26.8	26.0	26.0	26.0	4	24	39.5	30.5	4	24	20.0	20.0	4	12	4	11	36.0	64	76	4	12	34.0	24.0	5	12	5	12	12
2'- 4'	10	8	8	8	4	8.5	4	10.5	26.8	26.0	26.0	26.0	4	24	39.5	34.0	4	24	20.0	20.0	4	12	4	10	36.0	64	76	4	12	34.0	24.0	5	12	5	12	12
4 FT	8	8	8	8	4	12	4	12	26.8	24.0	24.0	24.0	4	24	39.5	34.0	4	24	19.0	19.0	4	12	4	10	36.0	64	76	4	12	34.0	24.0	5	12	5	12	12
6 FT	8	8	8	8	4	12	4	12	26.8	24.0	24.0	24.0	4	24	39.5	26.0	4	24	18.0	19.0	4	12	4	9.5	36.0	64	76	4	12	34.0	23.0	5	12	5	12	12
8 FT	8	8	8	8	4	12	4	12	26.8	24.0	24.0	24.0	4	24	39.5	24.0	4	24	18.0	18.0	4	12	4	9	36.0	64	76	4	12	24.0	23.0	5	12	5	12	0
10 FT	8	8	8	8	4	12	4	12	26.8	24.0	24.0	24.0	4	24	39.5	23.0	4	24	18.0	18.0	4	12	4	8.5	36.0	64	76	4	12	23.0	23.0	5	12	5	12	0
12 FT	8	8	8	8	4	12	4	12	34.9	24.0	24.0	24.0	4	24	22.0	22.0	4	24	17.0	18.0	4	12	4	9	34.4	64	76	4	12	22.0	23.0	5	12	5	12	0
14 FT	8	8	8	8	4	12	4	11	34.5	24.0	24.0	24.0	4	24	22.0	22.0	4	24	17.0	18.0	4	12	4	8.5	34.1	64	76	4	12	22.0	23.0	5	12	5	12	0
16 FT	8	8	8	8	4	12	4	10	34.3	24.0	24.0	24.0	4	24	22.0	22.0	4	24	17.0	18.0	4	12	4	8	33.9	64	76	4	12	22.0	23.0	5	12	5	12	0
18 FT	8	8	8	8	4	12	4	9	34.0	24.0	24.0	24.0	4	24	22.0	22.0	4	24	17.0	18.0	4	12	4	7.5	33.8	64	76	4	12	22.0	23.0	5	12	5	12	0
20 FT	8	8	8	8	4	12	4	8	33.8	24.0	24.0	24.0	4	24	22.0	22.0	4	24	17.0	18.0	4	12	4	7	33.6	64	76	4	11.5	22.0	23.0	5	12	5	12	0
22 FT	8	8	8	8	4	12	4	7.5	33.6	24.0	24.0	24.0	4	24	22.0	22.0	4	24	17.0	18.0	4	12	4	6.5	33.5	64	76	4	10.5	22.0	23.0	5	12	5	12	0
24 FT	8	8	8	8	4	12	4	7	33.5	24.0	24.0	24.0	4	24	22.0	22.0	4	24	17.0	18.0	4	11.5	4													

		SPAN (S) = 4 FT												HEIGHT (HT) = 2 FT OR 3 FT																					
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS						
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS				B1 BARS		B2 BARS				
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	10	8	8	8	4	7	4	10.5	30.3	26.0	26.0	4	24	47.5	36.5	4	24	21.0	20.0	4	12	4	12	29.4	28	40	4	12	27.0	28.0	5	12	5	12	12
2 FT	10	8	8	8	4	7	4	10.5	30.3	26.0	26.0	4	24	47.5	36.5	4	24	21.0	20.0	4	12	4	12	27.3	28	40	4	11.5	27.0	27.0	5	12	5	12	12
2'- 4'	10	8	8	8	4	7	4	10.5	30.3	26.0	26.0	4	24	47.5	36.5	4	24	21.0	20.0	4	12	4	12	27.3	28	40	4	11.5	27.0	27.0	5	12	5	12	12
4 FT	8	8	8	8	4	12	4	12	28.6	24.0	24.0	4	24	33.0	36.0	4	24	20.0	20.0	4	12	4	12	25.0	28	40	4	11.5	26.0	27.0	5	12	5	12	12
6 FT	8	8	8	8	4	12	4	12	26.0	24.0	24.0	4	24	28.0	29.0	4	24	19.0	19.0	4	12	4	12	24.1	28	40	4	10.5	25.0	26.0	5	12	5	12	12
8 FT	8	8	8	8	4	12	4	12	24.8	24.0	24.0	4	24	26.0	28.0	4	24	19.0	19.0	4	12	4	12	23.5	28	40	4	10	25.0	26.0	5	12	5	12	0
10 FT	8	8	8	8	4	12	4	12	24.1	24.0	24.0	4	24	26.0	27.0	4	24	19.0	19.0	4	12	4	12	23.1	28	40	4	9	25.0	26.0	5	12	5	12	0
12 FT	8	8	8	8	4	12	4	12	23.6	24.0	24.0	4	23	25.0	26.0	4	23	18.0	19.0	4	12	4	12	22.9	28	40	4	8	25.0	26.0	5	12	5	12	0
14 FT	8	8	8	8	4	12	4	12	23.4	24.0	24.0	4	22	25.0	26.0	4	22	18.0	18.0	4	11	4	12	22.6	28	40	4	7.5	24.0	26.0	5	12	5	12	0
16 FT	8	8	8	8	4	12	4	12	22.5	24.0	24.0	4	21	24.0	25.0	4	21	18.0	18.0	4	10.5	4	12	22.1	28	40	4	7.5	24.0	25.0	5	12	5	12	0
18 FT	8	8	8	8	4	11.5	4	12	22.5	24.0	24.0	4	20	24.0	25.0	4	20	18.0	18.0	4	9.5	4	10.5	22.1	28	40	4	7	24.0	25.0	5	12	5	12	0
20 FT	8	8	8	8	4	10.5	4	11	22.4	24.0	24.0	4	18	24.0	25.0	4	18	18.0	18.0	4	8.5	4	9.5	22.1	28	40	4	6.5	24.0	25.0	5	12	5	12	0
22 FT	8	8	8	8	4	9.5	4	10	22.4	24.0	24.0	4	17	24.0	25.0	4	17	18.0	18.0	4	7.5	4	9	22.0	28	40	4	6	24.0	25.0	5	12	5	12	0
24 FT	8	9	8	8	4	8.5	4	9	22.6	24.0	24.0	4	15	24.0	25.0	4	15	18.0	18.0	4	8	4	11.5	21.4	29	41	4	7	24.0	26.0	5	12	5	12	0
26 FT	8	9	8	8	4	8	4	8.5	22.5	24.0	24.0	4	14	24.0	25.0	4	14	18.0	18.0	4	7	4	11	21.4	29	41	4	6.5	24.0	26.0	5	12	5	12	0
28 FT	8	10	8	8	4	7.5	4	8	22.8	24.0	24.0	4	13	24.0	25.0	4	13	18.0	18.0	4	7.5	4	12	20.9	30	42	4	7	24.0	26.0	5	12	5	12	0
30 FT	9	10	8	8	4	7.5	4	10	22.1	25.0	25.0	4	15	24.0	26.0	4	15	18.0	18.0	4	7	4	12	21.0	30	42	4	7	24.0	26.0	5	12	5	12	0
32 FT	9	10	8	8	4	7	4	9.5	22.1	25.0	25.0	4	14	24.0	26.0	4	14	18.0	18.0	4	6	4	12	21.0	30	42	4	6	24.0	26.0	5	12	5	12	0
34 FT	9	11	8	8	4	6.5	4	9	22.3	25.0	25.0	4	13	24.0	26.0	4	13	18.0	18.0	4	6.5	4	10.5	20.6	31	43	4	7	24.0	26.0	5	12	5	12	0
36 FT	10	11	8	8	4	7	4	10	21.9	26.0	26.0	4	14	24.0	26.0	4	14	18.0	19.0	4	6.5	4	10.5	20.9	31	43	4	7	24.0	26.0	5	12	5	12	0
38 FT	10	12	8	8	4	6.5	4	9.5	22.0	26.0	26.0	4	13	24.0	26.0	4	13	18.0	19.0	4	6.5	4	9.5	20.5	32	44	4	7.5	24.0	27.0	5	12	5	12	0
40 FT	10	12	8	8	4	6	4	9	22.0	26.0	26.0	4	13	24.0	26.0	4	13	18.0	19.0	4	6.5	4	9.5	20.5	32	44	4	7	24.0	27.0	5	12	5	12	0
42 FT	11	12	8	8	4	6.5	4	9.5	21.6	27.0	27.0	4	14	23.0	26.0	4	14	18.0	19.0	4	6	4	9.5	20.8	32	44	4	6.5	24.0	26.0	5	12	5	12	0
44 FT	11	12	8	8	4	6	4	9.5	21.6	27.0	27.0	4	13	23.0	26.0	4	13	18.0	19.0	4	6	4	9.5	20.8	32	44	4	6	24.0	26.0	5	12	5	12	0
46 FT	11	13	8	8	4	6	4	8.5	21.8	27.0	27.0	4	12	23.0	26.0	4	12	18.0	19.0	4	6	4	8.5	20.5	33	45	4	6.5	23.0	27.0	5	12	5	12	0
48 FT	12	13	8	8	4	6	4	8.5	21.5	28.0	28.0	4	13	23.0	26.0	4	13	18.0	19.0	4	6	4	8.5	20.8	33	45	4	6.5	24.0	27.0	5	12	5	12	0
50 FT	12	13	8	8	5	9	4	8.5	21.5	28.0	28.0	4	13	23.0	26.0	4	13	18.0	19.0	5	8.5	4	8.5	20.8	33	45	4	6	24.0	27.0	5	12	5	12	0

		SPAN (S) = 4 FT												HEIGHT (HT) = 4 FT OR 5 FT																					
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS						
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS				B1 BARS		B2 BARS				
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	10	8	8	8	4	7	4	10.5	30.3	26.0	26.0	4	24	47.5	36.5	4	24	21.0	21.0	4	12	4	12	42.0	52	64	4	12	28.0	28.0	5	12	5	12	12
2 FT	10	8	8	8	4	7	4	10.5	30.3	26.0	26.0	4	24	47.5	36.5	4	24	21.0	21.0	4	12	4	12	39.1	52	64	4	11	27.0	28.0	5	12	5	12	12
2'- 4'	10	8	8	8	4	7	4	10.5	30.3	26.0	26.0	4	24	47.5	37.0	4	24	21.0	21.0	4	12	4	12	39.1	52	64	4	11	27.0	28.0	5	12	5	12	12
4 FT	8	8	8	8	4	12	4	12	30.3	24.0	24.0	4	24	47.5	37.0	4	24	20.0	20.0	4	12	4	12	34.8	52	64	4	11	26.0	27.0	5	12	5	12	12
6 FT	8	8	8	8	4	12	4	12	34.6	24.0	24.0	4	24	29.0	30.0	4	24	19.0	19.0	4	12	4	11.5	32.1	52	64	4	10.5	25.0	26.0	5	12	5	12	12
8 FT	8	8	8	8	4	12	4	12	31.4	24.0	24.0	4	24	27.0	28.0	4	24	19.0	19.0	4	12	4	11	30.3	52	64	4	9.5	25.0	26.0	5	12	5	12	0
10 FT	8	8	8	8	4	12	4	12	29.9	24.0	24.0	4	24	26.0	27.0	4	24	19.0	19.0	4	12	4	10.5	29.3	52	64	4	9	25.0	26.0	5	12	5	12	0
12 FT	8	8	8	8	4	12	4	12	29.1	24.0	24.0	4	24	25.0	27.0	4	24	18.0	19.0	4	11.5	4	10	28.5	52	64	4	8.5	24.0	26.0	5	12	5	12	0
14 FT	8	8	8	8	4	12	4	11	28.5	24.0	24.0	4	23	25.0	26.0	4	23	18.0	19.0	4	10.5	4	9.5	28.1	52	64	4	7.5	24.0	26.0	5	12	5	12	0
16 FT	8	8	8	8	4	12	4	11	26.9	24.0	24.0	4	22	24.0	26.0	4	22	18.0	19.0	4	10	4	9.5	26.6	52	64	4	7.5	24.0	26.0	5	12	5	12	0
18 FT	8	8	8	8	4	11	4	10	26.8	24.0	24.0	4	21	24.0	26.0	4	21	18.0	19.0	4	9	4	8.5	26.5	52	64	4	7	24.0	26.0	5	12	5	12	0
20 FT	8	8	8	8	4	10	4	9	26.8	24.0	24.0	4	19	24.0	26.0	4	19	18.0	19.0	4	8	4	8	26.4	52	64	4	6.5	24.0	26.0	5	12	5	12	0
22 FT	8	8	8	8	4	9	4	8	26.6	24.0	24.0	4	17	24.0	26.0	4	17	18.0	18.0	4	7	4	7	26.4	52	64	4	6	24.0	26.0	5	12	5	12	0
24 FT	8	9	8	8	4	8.5	4	7.5	26.6	24.0	24.0	4	16	24.0	25.0	4	16	18.0	18.0	4	7.5	4	8.5	26.6	53	65	4	7	24.0	26.0	5	12	5	12	0
26 FT	8	9	8	8	4	8	4	7	26.6	24.0	24.0	4	14	24.0	25.0	4	14	18.0	18.0	4	7	4	8	26.5	53	65	4	6.5	24.0	26.0	5	12	5	12	0
28 FT	8	10	8	8	4	7.5	4	6	26.6	24.0	24.0	4	13	24.0</																					

DESIGN FILL	MEMBER THICKNESS				SPAN (S) = 4 FT																HEIGHT (HT) = 6 FT OR 7 FT															
					TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS															
	A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS				B1 BARS		B2 BARS									
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=6' HT=7'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=6' HT=7'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1	
1 FT	10	8	8	8	4	6.5	4	10.5	30.3	26.0	26.0	4	24	47.5	36.5	4	24	22.0	21.0	4	12	4	9	42.0	76	88	4	11.5	40.0	28.0	5	12	5	12	12	
2 FT	10	8	8	8	4	6.5	4	10.5	30.3	26.0	26.0	4	24	47.5	36.5	4	24	21.0	21.0	4	12	4	8.5	42.0	76	88	4	11	40.0	28.0	5	12	5	12	12	
2'- 4'	10	8	8	8	4	6.5	4	10	30.3	26.0	26.0	4	24	47.5	37.0	4	24	21.0	21.0	4	12	4	7.5	42.0	76	88	4	11	40.0	28.0	5	12	5	12	12	
4 FT	8	8	8	8	4	12	4	10	30.3	24.0	24.0	4	24	47.5	37.0	4	24	20.0	20.0	4	12	4	7.5	42.0	76	88	4	11	29.0	27.0	5	12	5	12	12	
6 FT	8	8	8	8	4	12	4	10	30.3	24.0	24.0	4	24	47.5	29.0	4	24	19.0	19.0	4	12	4	7	42.0	76	88	4	10	27.0	26.0	5	12	5	12	12	
8 FT	8	8	8	8	4	12	4	9	30.3	24.0	24.0	4	24	47.5	28.0	4	24	19.0	19.0	4	12	4	6.5	42.0	76	88	4	9.5	26.0	26.0	5	12	5	12	0	
10 FT	8	8	8	8	4	12	4	8	43.1	24.0	24.0	4	24	28.0	27.0	4	24	18.0	19.0	4	12	4	6.5	40.6	76	88	4	9	25.0	26.0	5	12	5	12	0	
12 FT	8	8	8	8	4	12	4	7.5	40.5	24.0	24.0	4	24	27.0	26.0	4	24	18.0	19.0	4	11.5	4	6	39.1	76	88	4	8.5	25.0	26.0	5	12	5	12	0	
14 FT	8	8	8	8	4	12	4	6.5	39.3	24.0	24.0	4	23	26.0	26.0	4	23	18.0	19.0	4	10.5	5	6.5	38.4	76	88	4	8	25.0	26.0	5	12	5	12	0	
16 FT	8	8	8	8	4	12	4	6.5	35.5	24.0	24.0	4	23	24.0	25.0	4	23	18.0	19.0	4	10	5	6.5	35.4	76	88	4	7.5	24.0	26.0	5	12	5	12	0	
18 FT	8	8	8	8	4	11.5	4	6	35.3	24.0	24.0	4	21	24.0	25.0	4	21	18.0	18.0	4	9	5	6	35.1	76	88	4	7	24.0	26.0	5	12	5	12	0	
20 FT	8	8	8	8	4	10	5	6.5	35.0	24.0	28.0	4	19	24.0	25.0	4	19	18.0	18.0	4	8	6	6.5	38.0	76	88	4	6.5	24.0	26.0	5	12	5	12	0	
22 FT	8	9	8	8	4	9.5	5	6	34.6	24.0	28.0	4	18	24.0	25.0	4	18	18.0	18.0	4	8.5	5	6	36.1	77	89	4	8	25.0	26.0	5	12	5	11.5	0	
24 FT	8	9	9	8	4	8.5	5	6.5	34.1	24.0	28.0	4	16	24.0	25.0	4	16	18.0	18.0	4	8	5	7	35.6	77	89	4	7.5	25.0	26.0	5	12	5	11.5	0	
26 FT	8	9	9	8	4	8	5	6	34.0	24.0	28.0	4	15	24.0	25.0	4	15	18.0	18.0	4	7.5	5	6.5	35.5	77	89	4	7	25.0	26.0	5	12	5	11	0	
28 FT	8	10	9	8	4	7.5	6	7.5	36.8	24.0	28.0	4	14	24.0	25.0	4	14	18.0	18.0	4	7.5	5	7	36.6	78	90	4	7.5	25.0	26.0	5	12	5	10.5	0	
30 FT	9	10	9	8	4	8	5	6	35.0	25.0	29.0	4	15	24.0	25.0	4	15	18.0	18.0	4	7	5	6.5	36.4	78	90	4	7	25.0	26.0	5	12	5	10	0	
32 FT	9	10	9	8	4	7.5	5	6	35.0	25.0	29.0	4	14	24.0	25.0	4	14	18.0	18.0	4	6.5	5	6	36.3	78	90	4	6.5	25.0	26.0	5	12	5	9.5	0	
34 FT	9	11	9	8	4	7	5	6	34.9	25.0	29.0	4	13	24.0	25.0	4	13	18.0	18.0	4	7	5	6.5	37.4	79	91	4	7	25.0	26.0	5	12	5	9	0	
36 FT	10	11	9	8	4	7	5	6.5	35.9	26.0	30.0	4	15	24.0	25.0	4	15	18.0	18.0	4	7	5	6	37.0	79	91	4	7	25.0	26.0	5	12	5	8.5	0	
38 FT	10	11	9	8	4	7	5	6	35.8	26.0	30.0	4	14	24.0	25.0	4	14	18.0	18.0	4	6.5	6	7.5	40.0	79	91	4	6.5	25.0	26.0	5	12	5	8.5	0	
40 FT	10	12	9	8	4	6.5	5	6	35.6	26.0	30.0	4	13	24.0	25.0	4	13	18.0	18.0	4	6.5	5	6	38.3	80	92	4	7	25.0	26.0	5	12	5	8.5	0	
42 FT	10	12	9	8	4	6	5	6	35.6	30.0	30.0	4	12	24.0	25.0	4	12	18.0	18.0	4	6.5	6	7.5	41.1	80	92	4	6.5	25.0	26.0	5	12	5	8.5	0	
44 FT	11	12	9	8	4	6.5	6	7.5	39.5	31.0	35.0	4	14	24.0	25.0	4	14	18.0	18.0	4	6	6	7	40.9	80	92	4	6.5	25.0	26.0	5	12	5	8.5	0	
46 FT	11	13	9	8	4	6	6	6.5	39.4	31.0	35.0	4	13	24.0	25.0	4	13	18.0	18.0	4	6.5	6	7.5	42.0	81	93	4	6.5	26.0	26.0	5	12	5	8.5	0	
48 FT	11	13	10	8	4	6	5	6	36.3	27.0	31.0	4	13	23.0	25.0	4	13	18.0	18.0	4	6	5	6.5	38.4	81	93	4	6.5	25.0	26.0	5	12	5	8	0	
50 FT	12	13	11	8	4	6	5	7	37.0	28.0	32.0	4	14	23.0	25.0	4	14	18.0	18.0	4	6	5	7.5	37.9	81	93	4	6	25.0	26.0	5	12	5	7.5	0	

BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CULVERT.



GENERAL NOTES:

IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.

SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.

CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT	
	MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 4 FEET HEIGHT (HT): 6 THRU 7 FEET	
DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	703.87A	SHEET NO. 3 OF 27

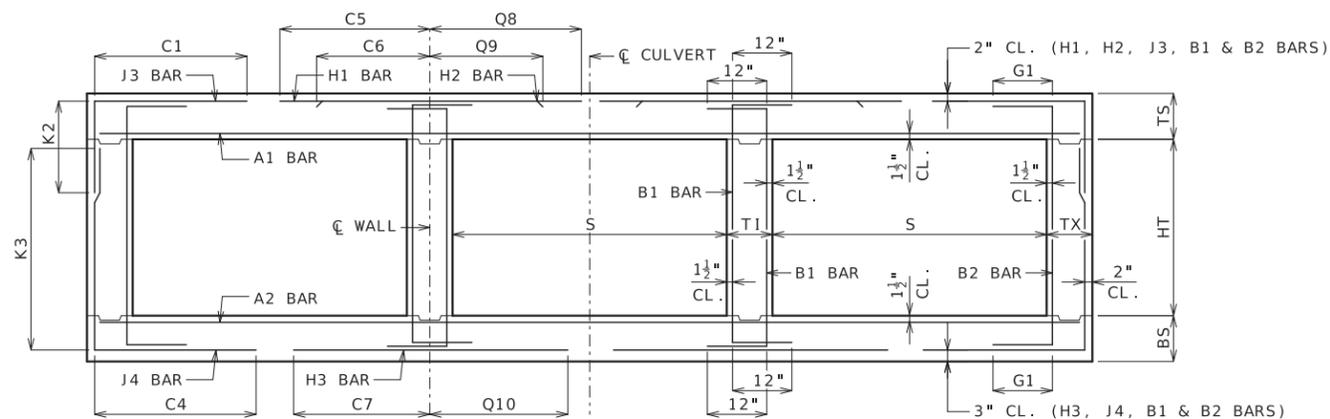
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

		SPAN (S) = 5 FT										HEIGHT (HT) = 3 FT OR 4 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS										BOTTOM SLAB BARS										WALL BARS										
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS						
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=3' HT=4'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=3' HT=4'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	10	8	8	8	5	9	4	10.5	33.9	26.0	26.0	4	19	56.5	42.5	4	19	22.0	21.0	4	12	4	12	33.9	40	52	4	8.5	30.0	31.0	5	12	5	12	12
2 FT	11	8	8	8	4	6	4	9.5	33.9	27.0	27.0	4	21	56.5	42.5	4	21	22.0	21.0	4	12	4	12	31.1	40	52	4	8.5	30.0	31.0	5	12	5	12	12
2'- 4'	11	8	8	8	4	6	4	9.5	33.9	27.0	27.0	4	20	56.5	46.0	4	20	22.0	21.0	4	12	4	12	31.1	40	52	4	8.5	30.0	31.0	5	12	5	12	12
4 FT	8	8	8	8	4	10.5	4	12	32.1	24.0	24.0	4	20	38.0	46.0	4	20	20.0	20.0	4	12	4	12	28.4	40	52	4	8.5	29.0	30.0	5	12	5	12	12
6 FT	8	8	8	8	4	12	4	12	29.3	24.0	24.0	4	21	31.0	34.0	4	21	20.0	20.0	4	12	4	12	27.0	40	52	4	8	28.0	29.0	5	12	5	12	12
8 FT	8	8	8	8	4	12	4	12	27.5	24.0	24.0	4	20	30.0	31.0	4	20	19.0	19.0	4	11	4	11	26.3	40	52	4	7	28.0	29.0	5	12	5	12	0
10 FT	8	8	8	8	4	11	4	12	26.6	24.0	24.0	4	18	29.0	30.0	4	18	19.0	19.0	4	9.5	4	10.5	25.6	40	52	4	6.5	27.0	29.0	5	12	5	12	0
12 FT	8	8	8	8	4	10	4	10.5	26.1	24.0	24.0	4	16	28.0	30.0	4	16	19.0	19.0	4	8	4	9.5	25.3	40	52	4	6	27.0	29.0	5	12	5	12	0
14 FT	8	8	8	8	4	8.5	4	9.5	25.6	24.0	24.0	4	14	28.0	29.0	4	14	19.0	19.0	4	7	4	8.5	25.0	40	52	5	7	27.0	29.0	5	12	5	12	0
16 FT	8	9	8	8	4	8	4	8.5	25.6	24.0	24.0	4	13	28.0	29.0	4	13	19.0	19.0	4	7	4	11	24.3	41	53	4	6	27.0	29.0	5	12	5	12	0
18 FT	8	9	8	8	4	7.5	4	8	24.8	24.0	24.0	4	12	27.0	28.0	4	12	19.0	19.0	4	7	4	10.5	23.5	41	53	4	6	27.0	29.0	5	12	5	12	0
20 FT	8	9	8	8	4	7	4	7.5	24.6	24.0	24.0	5	17	27.0	28.0	5	17	19.0	19.0	4	6	4	9.5	23.5	41	53	5	7	27.0	29.0	5	12	5	12	0
22 FT	9	10	8	8	4	7	4	9	24.3	25.0	25.0	4	12	27.0	29.0	4	12	19.0	19.0	4	6.5	4	12	23.1	42	54	4	6	27.0	29.0	5	12	5	12	0
24 FT	9	11	8	8	4	6.5	4	8	24.4	25.0	25.0	5	17	27.0	29.0	5	17	19.0	19.0	4	6.5	4	10.5	22.6	43	55	4	6	26.0	30.0	5	12	5	12	0
26 FT	10	11	8	8	4	6.5	4	8.5	23.9	26.0	26.0	5	18	26.0	29.0	5	18	19.0	19.0	4	6	4	10.5	22.9	43	55	5	8	26.0	29.0	5	12	5	12	0
28 FT	10	11	8	8	4	6	4	8	23.9	26.0	26.0	5	17	26.0	29.0	5	17	19.0	19.0	5	8.5	4	10.5	22.9	43	55	5	8	26.0	29.0	5	12	5	12	0
30 FT	10	12	8	8	5	8	4	7	24.0	26.0	26.0	5	16	26.0	29.0	5	16	19.0	19.0	5	9	4	9.5	22.5	44	56	5	8.5	26.0	30.0	5	12	5	12	0
32 FT	11	12	8	8	5	9	4	8	23.6	27.0	27.0	5	17	26.0	29.0	5	17	19.0	19.0	5	8.5	4	9.5	22.8	44	56	5	8	26.0	30.0	5	12	5	12	0
34 FT	11	13	8	8	5	8.5	4	7	23.8	27.0	27.0	5	16	26.0	29.0	5	16	19.0	19.0	5	8.5	4	8.5	22.5	45	57	5	8.5	26.0	30.0	5	12	5	12	0
36 FT	12	13	8	8	5	8.5	4	8	23.5	28.0	28.0	5	17	26.0	29.0	5	17	19.0	19.0	5	8	4	8.5	22.8	45	57	5	8	26.0	30.0	5	12	5	12	0
38 FT	12	14	8	8	5	8	4	7	23.6	28.0	28.0	5	16	26.0	29.0	5	16	19.0	19.0	5	8	4	7.5	22.6	46	58	5	8.5	26.0	30.0	5	12	5	12	0
40 FT	13	14	8	8	5	8	4	7.5	23.4	29.0	29.0	5	16	26.0	29.0	5	16	19.0	19.0	5	8	4	7.5	22.8	46	58	5	8	26.0	30.0	5	12	5	12	0
42 FT	13	14	8	8	5	7.5	4	7.5	23.4	29.0	29.0	5	16	26.0	29.0	5	16	19.0	19.0	5	7.5	4	7.5	22.8	46	58	5	7.5	26.0	30.0	5	12	5	12	0
44 FT	13	15	8	8	5	7.5	4	7	23.6	29.0	29.0	5	15	26.0	29.0	5	15	19.0	19.0	5	7.5	4	7	22.8	47	59	5	8	26.0	30.0	5	12	5	12	0
46 FT	14	15	8	8	5	7.5	4	7	23.4	30.0	30.0	5	16	25.0	29.0	5	16	18.0	19.0	5	7.5	4	7	22.9	47	59	5	7.5	26.0	30.0	5	12	5	12	0
48 FT	14	15	8	8	5	7	4	7	23.4	30.0	30.0	5	15	25.0	29.0	5	15	18.0	19.0	5	7	4	7	22.9	47	59	5	7	26.0	30.0	5	12	5	12	0
50 FT	14	16	8	8	5	7	4	6.5	23.6	30.0	30.0	5	15	25.0	29.0	5	15	18.0	19.0	5	7	4	6.5	22.9	48	60	5	7.5	26.0	30.0	5	12	5	12	0

		SPAN (S) = 5 FT										HEIGHT (HT) = 5 FT OR 6 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS										BOTTOM SLAB BARS										WALL BARS										
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS						
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=5' HT=6'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=5' HT=6'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	11	8	8	8	4	6	4	9.5	33.9	27.0	27.0	4	22	56.5	42.5	4	22	23.0	23.0	4	12	4	10	47.5	64	76	4	8.5	31.0	31.0	5	12	5	12	12
2 FT	11	8	8	8	4	6	4	9.5	33.9	27.0	27.0	4	21	56.5	42.5	4	21	22.0	22.0	4	11	4	9.5	42.8	64	76	4	8	30.0	31.0	5	12	5	12	12
2'- 4'	11	8	8	8	4	6	4	9.5	33.9	27.0	27.0	4	20	56.5	46.0	4	20	22.0	22.0	4	11	4	9	42.8	64	76	4	8	30.0	31.0	5	12	5	12	12
4 FT	8	8	8	8	4	10	4	10	33.9	24.0	24.0	4	20	56.5	46.0	4	20	21.0	21.0	4	12	4	9	38.9	64	76	4	8.5	29.0	30.0	5	12	5	12	12
6 FT	8	8	8	8	4	12	4	10.5	38.3	24.0	24.0	4	21	33.0	35.0	4	21	20.0	20.0	4	12	4	8.5	35.5	64	76	4	7.5	28.0	30.0	5	12	5	12	12
8 FT	8	8	8	8	4	12	4	10	34.4	24.0	24.0	4	20	30.0	31.0	4	20	19.0	20.0	4	10.5	4	8	33.5	64	76	4	7	28.0	29.0	5	12	5	12	0
10 FT	8	8	8	8	4	10.5	4	9	32.9	24.0	24.0	4	18	29.0	30.0	4	18	19.0	19.0	4	9	4	7.5	32.3	64	76	4	6.5	27.0	29.0	5	12	5	12	0
12 FT	8	8	8	8	4	9.5	4	8	31.9	24.0	24.0	4	16	28.0	30.0	4	16	19.0	19.0	4	7.5	4	7	31.3	64	76	4	6	27.0	29.0	5	12	5	12	0
14 FT	8	8	8	8	4	8.5	4	7	31.1	24.0	24.0	4	14	28.0	29.0	4	14	19.0	19.0	4	7	4	6	30.8	64	76	5	7	27.0	29.0	5	12	5	12	0
16 FT	8	9	8	8	4	8	4	6.5	30.8	24.0	24.0	4	13	28.0	29.0	4	13	19.0	19.0	4	7	4	7	30.9	65	77	4	6	27.0	29.0	5	12	5	12	0
18 FT	8	9	8	8	4	7.5	4	6.5	29.1	24.0	24.0	4	12	27.0	28.0	4	12	19.0	19.0	4	6.5	4	7	29.1	65	77	4	6	27.0	29.0	5	12	5	12	0
20 FT	8	9	8	8	4	7	5	7	29.0	24.0	24.0	5	17	27.0	28.0	5	17	19.0	19.0	4	6	4	6.5	29.0	65	77	5	7.5	27.0	29.0	5	12	5	12	0
22 FT	9	10	8	8	4	7	4	6.5	29.1	25.0	25.0	4	12	26.0	29.0	4	12	19.0	19.0	4	6	4	7.5	29.3	66	78	4	6	27.0	29.0	5	12	5	12	0
24 FT	9	10	8	8	4	6.5	4	6	29.1	25.0	25.0	5	17	26.0	29.0	5	17	19.0	19.0	5	8.5	4	7	29.1	66	78	5	7.5	27.0	29.0	5	12	5	12	0
26 FT	10	11	8	8	4	6.5	5	8	29.4	26.0	26.0	4	12	26.0	29.0	4	12	19.0	19.0	4	6	4	6.5	29.4	67	79	5	8.5	26.0	29.0	5	12	5	12	0
28 FT	10	11	8	8	4	6	5	7.5	29.3	26.0	26.0	5</																							

DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS																BOTTOM SLAB BARS										WALL BARS				
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS						
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=7' HT=8'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=7' HT=8'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
	1 FT	11	8	8	8	4	6	4	9	33.9	27.0	27.0	4	22	56.5	42.5	4	22	23.0	23.0	4	11	4	7	48.0	88	100	4	8	46.0	31.0	5	12	5	12
2 FT	11	8	8	8	4	6	4	8.5	33.9	27.0	27.0	4	21	56.5	42.5	4	21	23.0	23.0	4	10.5	4	6.5	48.0	88	100	4	8	32.0	31.0	5	12	5	12	12
2'- 4'	11	8	8	8	4	6	4	7	33.9	27.0	27.0	4	20	56.5	46.0	4	20	23.0	23.0	4	10.5	4	6	48.0	88	100	4	8	32.0	31.0	5	12	5	12	12
4 FT	8	8	8	8	4	9.5	4	7	33.9	24.0	24.0	4	20	56.5	46.0	4	20	21.0	21.0	4	11.5	4	6	48.0	88	100	4	8	31.0	30.0	5	12	5	12	12
6 FT	8	8	8	8	4	12	4	7	33.9	24.0	24.0	4	21	56.5	35.0	4	21	20.0	20.0	4	11	5	6	48.0	88	100	4	7.5	29.0	30.0	5	12	5	12	12
8 FT	8	8	8	8	4	12	4	6.5	51.8	24.0	24.0	4	20	34.0	31.0	4	20	19.0	20.0	4	10	5	6	46.0	88	100	4	7	28.0	29.0	5	12	5	12	0
10 FT	8	8	9	8	4	11	4	7	43.8	24.0	24.0	4	18	30.0	30.0	4	18	19.0	20.0	4	9	4	6	41.6	88	100	4	6.5	28.0	29.0	5	12	5	12	0
12 FT	8	8	9	8	4	9.5	4	6	41.3	24.0	24.0	4	16	29.0	30.0	4	16	19.0	19.0	4	8	5	6	40.4	88	100	4	6	27.0	29.0	5	12	5	12	0
14 FT	8	9	9	8	4	9	5	7	39.9	24.0	28.0	4	15	28.0	29.0	4	15	19.0	19.0	4	8	5	6.5	41.4	89	101	4	6.5	27.0	29.0	5	12	5	11.5	0
16 FT	8	9	9	8	4	8	5	6	39.1	24.0	28.0	4	13	28.0	29.0	4	13	19.0	19.0	4	7	5	6	40.8	89	101	4	6	27.0	29.0	5	12	5	11	0
18 FT	8	9	9	8	4	7.5	5	6	36.5	24.0	28.0	4	13	26.0	28.0	4	13	19.0	19.0	4	7	5	6	38.1	89	101	4	6	27.0	29.0	5	12	5	11.5	0
20 FT	8	9	9	8	4	7	6	7	39.1	24.0	32.0	5	18	26.0	28.0	5	18	19.0	19.0	4	6	6	7	40.9	89	101	5	7.5	27.0	29.0	5	12	5	10.5	0
22 FT	8	10	9	8	4	6.5	6	7	38.8	24.0	28.0	5	17	27.0	28.0	5	17	19.0	20.0	4	6.5	5	6	39.0	90	102	5	8	27.0	29.0	5	12	5	10	0
24 FT	9	11	9	8	4	6.5	5	6	37.0	25.0	29.0	5	18	26.0	28.0	5	18	19.0	19.0	4	6.5	5	6	39.8	91	103	4	6	27.0	29.0	5	12	5	9.5	0
26 FT	9	11	9	8	4	6	5	6	36.9	25.0	29.0	5	16	26.0	28.0	5	16	19.0	19.0	4	6	5	6	39.6	91	103	5	8.5	27.0	29.0	5	12	5	8.5	0
28 FT	10	12	9	8	4	6	5	6	37.9	30.0	30.0	5	17	26.0	28.0	5	17	19.0	19.0	4	6	5	6	40.3	92	104	4	6	27.0	29.0	5	12	5	8.5	0
30 FT	10	12	9	8	4	6	5	6	37.8	30.0	30.0	5	16	26.0	28.0	5	16	19.0	19.0	4	6	6	7.5	43.1	92	104	5	8.5	27.0	29.0	5	12	5	8.5	0
32 FT	11	12	10	8	4	6	5	6.5	38.4	31.0	31.0	5	17	26.0	28.0	5	17	18.0	19.0	5	9	5	6.5	39.6	92	104	5	8	27.0	29.0	5	12	5	8	0
34 FT	11	13	10	8	5	9	5	6.5	38.3	31.0	31.0	5	16	26.0	28.0	5	16	19.0	19.0	5	9	5	6.5	40.4	93	105	5	8.5	28.0	30.0	5	12	5	8	0
36 FT	12	13	10	8	5	9	5	6.5	39.1	32.0	32.0	5	17	26.0	28.0	5	17	18.0	19.0	5	8.5	5	6.5	40.3	93	105	5	8	27.0	30.0	5	12	5	8	0
38 FT	12	14	10	8	5	8.5	5	6	39.0	32.0	32.0	5	17	26.0	28.0	5	17	18.0	19.0	5	9	5	6.5	40.9	94	106	5	8.5	28.0	30.0	5	12	5	8	0
40 FT	12	14	11	8	5	8	5	7	38.9	32.0	32.0	5	16	26.0	28.0	5	16	18.0	19.0	5	8.5	5	7	40.8	94	106	5	8	28.0	30.0	5	12	5	7.5	0
42 FT	13	14	11	8	5	8.5	5	7	39.6	33.0	33.0	5	17	26.0	28.0	5	17	18.0	19.0	5	8	5	7	40.5	94	106	5	7.5	28.0	30.0	5	12	5	7.5	0
44 FT	13	15	11	8	5	8	5	6.5	39.5	33.0	33.0	5	16	26.0	28.0	5	16	18.0	19.0	5	8	5	7	41.3	95	107	5	8	28.0	30.0	5	12	5	7.5	0
46 FT	13	15	12	8	5	7.5	5	6.5	39.5	33.0	33.0	5	15	26.0	28.0	5	15	18.0	19.0	5	8	5	6.5	41.0	95	107	5	7.5	28.0	30.0	5	12	5	7	0
48 FT	14	15	12	8	5	8	5	6.5	40.3	34.0	34.0	5	17	26.0	27.0	5	17	18.0	19.0	5	7.5	5	6.5	40.9	95	107	5	7	28.0	30.0	5	12	5	7	0
50 FT	14	16	12	8	5	7.5	5	6.5	40.1	34.0	34.0	5	16	26.0	27.0	5	16	18.0	19.0	5	8	5	6.5	41.6	96	108	5	7.5	28.0	30.0	5	12	5	7	0

BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CULVERT.



GENERAL NOTES:

IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.

SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.

CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

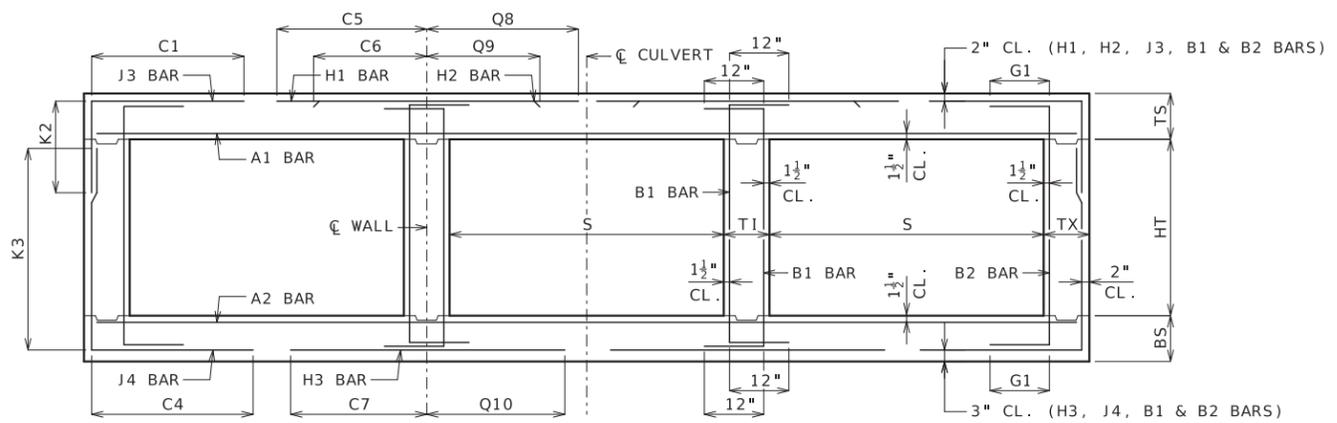
	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT	
	MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 5 FEET HEIGHT (HT): 7 THRU 8 FEET	
DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	703.87A	SHEET NO. 5 OF 27

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

		SPAN (S) = 6 FT												HEIGHT (HT) = 3 FT OR 4 FT OR 5 FT																						
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS							
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS										
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1	
									HT=3'	HT=4'	HT=5'														HT=3'	HT=4'	HT=5'									
1 FT	11	8	8	8	5	8	4	9.5	37.5	27.0	27.0	4	17	64.5	48.5	4	17	23.0	23.0	4	9.5	4	7	47.3	76	88	4	7	34.0	34.0	5	12	5	12	12	
2 FT	11	8	8	8	5	8	4	9.5	37.5	27.0	27.0	4	17	64.5	48.5	4	17	23.0	23.0	4	8.5	4	7	47.3	76	88	4	6.5	33.0	34.0	5	12	5	12	12	
2'- 4'	11	8	8	8	5	8	4	7	37.5	27.0	27.0	4	14	64.5	52.0	4	14	23.0	23.0	4	8.5	4	7	47.3	76	88	4	6.5	33.0	34.0	5	12	5	12	12	
4 FT	8	8	8	8	4	7.5	4	8.5	35.8	24.0	24.0	4	14	64.5	52.0	4	14	21.0	22.0	4	8.5	4	7	43.0	76	88	4	6.5	32.0	34.0	5	12	5	12	12	
6 FT	8	8	8	8	4	9	4	9.5	32.6	24.0	24.0	4	14	35.0	38.0	4	14	21.0	20.0	4	8.5	4	8.5	30.0	40	52	64	4	6	31.0	32.0	5	12	5	12	12
8 FT	8	8	8	8	4	9	4	9	30.4	24.0	24.0	4	13	33.0	35.0	4	13	20.0	20.0	4	8	4	8	29.0	40	52	64	5	7.5	30.0	32.0	5	12	5	12	0
10 FT	8	8	8	8	4	8	4	8	29.4	24.0	24.0	4	12	32.0	34.0	4	12	20.0	20.0	4	7	4	7	28.4	40	52	64	5	6.5	30.0	32.0	5	12	5	12	0
12 FT	8	9	8	8	4	7	4	7	28.8	24.0	24.0	5	17	31.0	33.0	5	17	20.0	20.0	4	6.5	4	9	27.4	41	53	65	5	7	30.0	32.0	5	12	5	12	0
14 FT	8	9	8	8	4	6.5	4	6.5	28.3	24.0	24.0	5	16	31.0	32.0	5	16	21.0	21.0	5	9	4	8	26.9	41	53	65	5	6.5	30.0	32.0	5	12	5	12	0
16 FT	9	10	8	8	4	6	4	7.5	27.6	25.0	25.0	5	16	30.0	33.0	5	16	20.0	20.0	5	9	4	9.5	26.5	42	54	66	5	7	29.0	32.0	5	12	5	12	0
18 FT	9	10	8	8	5	9	4	6.5	27.4	25.0	25.0	5	16	30.0	32.0	5	16	21.0	21.0	5	8	4	8.5	26.3	42	54	66	5	6.5	29.0	32.0	5	12	5	12	0
20 FT	10	11	8	8	5	9	4	7	27.0	26.0	26.0	5	15	30.0	33.0	5	15	20.0	20.0	5	8	4	8.5	26.0	43	55	67	5	7	29.0	33.0	5	12	5	12	0
22 FT	10	11	8	8	5	8.5	4	6.5	26.0	26.0	26.0	5	15	29.0	32.0	5	15	20.0	20.0	5	7.5	4	8.5	25.0	43	55	67	5	7	29.0	33.0	5	12	5	12	0
24 FT	11	12	8	8	5	8.5	4	6.5	25.8	27.0	27.0	5	15	29.0	32.0	5	15	20.0	20.0	5	8	4	8.5	24.9	44	56	68	5	7	29.0	33.0	5	12	5	12	0
26 FT	11	12	8	8	5	7.5	4	6	25.6	27.0	27.0	5	14	29.0	32.0	5	14	20.0	20.0	5	6.5	4	8	24.9	44	56	68	5	6.5	29.0	33.0	5	12	5	12	0
28 FT	12	13	8	8	5	7.5	4	6.5	25.5	28.0	28.0	5	14	29.0	32.0	5	14	19.0	20.0	5	7.5	4	8	24.9	45	57	69	5	7	29.0	33.0	5	12	5	12	0
30 FT	12	14	8	8	5	7	4	6	25.6	28.0	28.0	5	13	29.0	32.0	5	13	19.0	20.0	5	7.5	4	7.5	24.8	46	58	70	5	7	28.0	33.0	5	12	5	12	0
32 FT	13	14	8	8	5	7	4	6	25.4	29.0	29.0	5	14	28.0	33.0	5	14	19.0	20.0	5	7	4	7.5	24.9	46	58	70	5	6.5	28.0	33.0	5	12	5	12	0
34 FT	13	15	8	8	5	7	5	8.5	25.6	29.0	29.0	5	13	28.0	32.0	5	13	19.0	20.0	5	7	4	7	24.8	47	59	71	5	7	28.0	33.0	5	12	5	12	0
36 FT	14	15	8	8	5	7	4	6	25.4	30.0	30.0	5	13	28.0	33.0	5	13	19.0	20.0	5	6.5	4	7	25.0	47	59	71	5	6.5	28.0	33.0	5	12	5	12	0
38 FT	14	16	8	8	5	6.5	5	8.5	25.5	30.0	30.0	5	13	28.0	32.0	5	13	19.0	20.0	5	7	4	6.5	24.9	48	60	72	5	6.5	28.0	33.0	5	12	5	12	0
40 FT	15	16	8	8	5	6.5	5	8	30.4	31.0	31.0	5	13	33.0	38.0	5	13	24.0	25.0	5	6.5	4	6.5	25.1	48	60	72	5	6.5	28.0	33.0	5	12	5	12	0
42 FT	15	17	8	8	5	6.5	5	8	30.6	31.0	31.0	5	12	33.0	37.0	5	12	24.0	25.0	5	6.5	4	6	25.1	49	61	73	5	6.5	28.0	33.0	5	12	5	12	0
44 FT	16	17	8	8	5	6.5	5	7	30.5	32.0	32.0	5	13	33.0	37.0	5	13	24.0	25.0	5	6.5	4	6	25.3	49	61	73	5	6	28.0	33.0	5	12	5	12	0
46 FT	16	17	8	8	5	6	5	7	30.5	32.0	32.0	5	12	33.0	37.0	5	12	24.0	25.0	5	6	4	6	25.3	49	61	73	5	6	28.0	33.0	5	12	5	12	0
48 FT	17	18	8	8	5	6	5	6.5	30.6	37.0	37.0	5	13	33.0	37.0	5	13	24.0	25.0	5	6	5	6.5	25.5	50	62	74	5	6	28.0	33.0	5	12	5	11	0
50 FT	17	18	8	8	5	6	5	6.5	30.6	37.0	37.0	5	12	33.0	37.0	5	12	24.0	25.0	5	6	5	6.5	25.4	50	62	74	5	6	28.0	33.0	5	12	5	10.5	0

		SPAN (S) = 6 FT												HEIGHT (HT) = 6 FT OR 7 FT																					
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS						
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS									
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
									HT=6'	HT=7'															HT=6'	HT=7'									
1 FT	11	8	8	8	5	8	4	9.5	37.5	27.0	27.0	4	17	64.5	48.5	4	17	24.0	24.0	4	9.5	4	7.5	52.8	76	88	4	7	34.0	34.0	5	12	5	12	12
2 FT	11	8	8	8	5	8	4	9.5	37.5	27.0	27.0	4	17	64.5	48.5	4	17	23.0	23.0	4	8.5	4	7	47.3	76	88	4	6.5	33.0	34.0	5	12	5	12	12
2'- 4'	11	8	8	8	5	8	4	7	37.5	27.0	27.0	4	14	64.5	52.0	4	14	23.0	23.0	4	8.5	4	7	47.3	76	88	4	6.5	33.0	34.0	5	12	5	12	12
4 FT	8	8	8	8	4	7	4	7	37.5	24.0	24.0	4	14	64.5	52.0	4	14	21.0	22.0	4	8.5	4	7	43.0	76	88	4	6.5	32.0	34.0	5	12	5	12	12
6 FT	8	8	8	8	4	8.5	4	7.5	41.9	24.0	24.0	4	14	37.0	39.0	4	14	21.0	21.0	4	8	4	6.5	39.1	76	88	4	6	31.0	33.0	5	12	5	12	12
8 FT	8	8	8	8	4	8.5	4	7	37.6	24.0	24.0	4	13	34.0	35.0	4	13	20.0	20.0	4	7.5	4	6	36.9	76	88	5	7	30.0	32.0	5	12	5	12	0
10 FT	8	8	8	8	4	8	4	8	36.0	24.0	24.0	4	12	32.0	34.0	4	12	20.0	20.0	4	6.5	5	6	35.4	76	88	5	6.5	30.0	32.0	5	12	5	12	0
12 FT	8	9	8	8	4	7	5	6.5	34.8	24.0	24.0	5	17	31.0	33.0	5	17	20.0	20.0	4	6.5	4	6	35.0	77	89	5	7	30.0	32.0	5	12	5	12	0
14 FT	8	9	8	8	4	6	5	6	33.9	24.0	28.0	5	16	31.0	33.0	5	16	21.0	21.0	5	8.5	5	6.5	34.1	77	89	5	6.5	30.0	32.0	5	12	5	12	0
16 FT	9	10	8	8	4	6	5	6.5	33.8	25.0	25.0	5	16	30.0	33.0	5	16	20.0	20.0	5	9	4	6	34.0	78	90	5	7	29.0	33.0	5	12	5	12	0
18 FT	9	10	8	8	5	9	5	6.5	33.4	25.0	29.0	5	16	30.0	32.0	5	16	21.0	21.0	5	8	5	6.5	33.6	78	90	5	6.5	29.0	32.0	5	12	5	12	0
20 FT	9	11	8	8	5	8	5	6	33.1	25.0	29.0	5	16	30.0	32.0	5	16	21.0	22.0	5	8	5	7	33.8	79	91	5	7.5	29.0	33.0	5	12	5	12	0
22 FT	10	11	8	8	5	8.5	5	7	31.6	26.0	30.0	5	15	29.0	32.0	5	15	20.0	20.0	5	7.5	5	7	31.9	79	91	5	7	29.0	33.0	5	12	5	12	0
24 FT	10	12	8	8	5	7.5	5	6.5	31.6	26.0	30.0	5																							

DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS																BOTTOM SLAB BARS										WALL BARS				
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS						
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=8' HT=9'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=8' HT=9'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
	1 FT	11	8	8	8	5	7.5	4	7	37.5	27.0	27.0	4	17	64.5	48.5	4	17	24.0	25.0	4	8.5	5	6.5	54.0	100	112	4	7	52.0	35.0	5	12	5	12
2 FT	11	8	8	8	5	7.5	4	6.5	37.5	27.0	27.0	4	17	64.5	48.5	4	17	23.0	24.0	4	8	5	6	54.0	100	112	4	6.5	35.0	34.0	5	12	5	12	12
2'- 4'	11	8	8	8	5	7.5	4	6	38.1	27.0	27.0	4	14	64.5	52.0	4	14	23.0	24.0	4	8	5	6	54.8	100	112	4	6	35.0	34.0	5	12	5	12	12
4 FT	8	8	9	8	4	7	4	6	38.1	24.0	24.0	4	14	64.5	52.0	4	14	22.0	22.0	4	8	5	6.5	54.8	100	112	4	6	33.0	34.0	5	12	5	12	12
6 FT	8	8	9	8	4	8.5	4	6	38.1	24.0	24.0	4	14	64.5	40.0	4	14	21.0	21.0	4	8	5	6	50.8	100	112	4	6	32.0	33.0	5	12	5	12	12
8 FT	8	9	9	8	4	8.5	4	6	50.1	24.0	24.0	4	14	35.0	35.0	4	14	20.0	20.0	4	8.5	5	6.5	50.8	101	113	4	6.5	31.0	33.0	5	12	5	12	0
10 FT	8	9	9	8	4	8	5	6.5	45.8	24.0	28.0	4	12	33.0	33.0	4	12	20.0	20.0	4	7.5	5	6	47.5	101	113	4	6	31.0	33.0	5	12	5	11	0
12 FT	8	9	10	8	4	7	5	6.5	43.0	24.0	28.0	5	17	32.0	33.0	5	17	20.0	20.0	4	6.5	5	6.5	44.8	101	113	5	7	30.0	32.0	5	12	5	11	0
14 FT	8	9	10	8	4	6.5	5	6	41.6	28.0	28.0	5	17	31.0	32.0	5	17	21.0	21.0	4	6	5	6	43.5	101	113	5	6.5	30.0	32.0	5	12	5	10	0
16 FT	8	10	10	8	4	6	6	7	43.3	28.0	28.0	5	16	30.0	32.0	5	16	22.0	22.0	5	9	5	6	44.4	102	114	5	7	30.0	33.0	5	12	5	9.5	0
18 FT	9	10	10	8	4	6	5	6	41.8	29.0	29.0	5	16	30.0	32.0	5	16	20.0	21.0	5	8.5	6	7.5	46.4	102	114	5	7	30.0	32.0	5	12	5	9	0
20 FT	9	11	10	8	5	8.5	5	6	41.0	29.0	29.0	5	16	30.0	32.0	5	16	21.0	22.0	5	8.5	5	6	44.4	103	115	5	7	30.0	33.0	5	12	5	8.5	0
22 FT	10	11	10	8	5	9	5	6.5	39.9	30.0	30.0	5	15	29.0	32.0	5	15	20.0	20.0	5	8	5	6	41.4	103	115	5	7	30.0	33.0	5	12	5	9	0
24 FT	10	12	10	8	5	8	5	6.5	39.5	30.0	30.0	5	15	29.0	32.0	5	15	20.0	21.0	5	8	5	6	42.3	104	116	5	7	30.0	33.0	5	12	5	8.5	0
26 FT	11	12	10	8	5	8	5	6	40.5	31.0	31.0	5	14	29.0	32.0	5	14	19.0	20.0	5	7	5	6	41.9	104	116	5	6.5	30.0	33.0	5	12	5	8	0
28 FT	11	13	10	8	5	7.5	5	6	40.3	31.0	31.0	5	14	29.0	32.0	5	14	20.0	20.0	5	7.5	5	6	42.8	105	117	5	7	30.0	33.0	5	12	5	8	0
30 FT	12	14	10	8	5	8	5	6	41.0	32.0	32.0	5	14	29.0	31.0	5	14	19.0	20.0	5	8	5	6	43.3	106	118	5	7	30.0	33.0	5	12	5	8	0
32 FT	12	14	11	8	5	7.5	5	6.5	40.8	32.0	32.0	5	13	29.0	31.0	5	13	19.0	20.0	5	7.5	5	7	42.9	106	118	5	6.5	30.0	33.0	5	12	5	7.5	0
34 FT	13	15	11	8	5	7.5	5	6.5	41.5	33.0	33.0	5	13	28.0	31.0	5	13	19.0	20.0	5	7.5	5	7	43.5	107	119	5	7	30.0	33.0	5	12	5	7.5	0
36 FT	13	15	11	8	5	7	5	6	41.4	33.0	33.0	5	13	28.0	31.0	5	13	19.0	20.0	5	7	5	6.5	43.4	107	119	5	6.5	30.0	33.0	5	12	5	7.5	0
38 FT	14	16	12	8	5	7	5	6.5	42.1	34.0	34.0	5	13	28.0	31.0	5	13	19.0	20.0	5	7	5	6.5	43.8	108	120	5	6.5	30.0	33.0	5	12	5	7	0
40 FT	14	16	12	8	5	7	5	6	42.0	34.0	34.0	5	13	28.0	31.0	5	13	19.0	20.0	5	7	5	6.5	43.6	108	120	5	6.5	30.0	33.0	5	12	5	7	0
42 FT	15	17	12	8	5	7	5	6	47.6	35.0	35.0	5	13	33.0	36.0	5	13	24.0	25.0	5	7	5	6.5	44.3	109	121	5	6.5	30.0	33.0	5	12	5	7	0
44 FT	15	17	13	8	5	6.5	5	6	47.6	35.0	35.0	5	13	33.0	36.0	5	13	24.0	25.0	5	6.5	5	6	44.0	109	121	5	6	30.0	33.0	5	12	5	6.5	0
46 FT	15	17	13	8	5	6	5	6	47.6	35.0	35.0	5	12	33.0	36.0	5	12	24.0	25.0	5	6	5	6	43.9	109	121	5	6	30.0	33.0	5	12	5	6.5	0
48 FT	16	18	13	8	5	6.5	5	6	48.3	36.0	36.0	5	13	33.0	35.0	5	13	24.0	25.0	5	6.5	5	6	44.5	110	122	5	6	30.0	33.0	5	12	5	6.5	0
50 FT	16	18	14	8	5	6	5	6	48.3	36.0	36.0	5	12	33.0	35.0	5	12	24.0	25.0	5	6	5	6	44.3	110	122	6	8.5	32.0	37.0	5	12	5	6.5	0



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CL CULVERT.

GENERAL NOTES:
 IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.
 SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.
 DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.
 CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

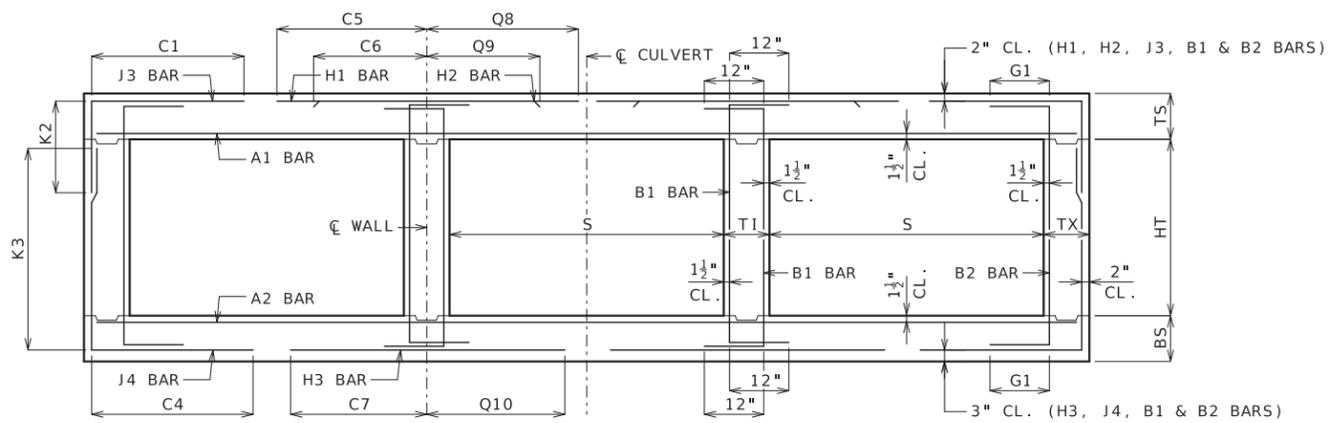
	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT	
	MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 6 FEET HEIGHT (HT): 8 THRU 9 FEET	
DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	703.87A	SHEET NO. 7 OF 27

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

		SPAN (S) = 7 FT												HEIGHT (HT) = 4 FT OR 5 FT OR 6 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1		
1 FT	12	8	8	8	5	7.5	4	8.5	41.1	28.0	28.0	28.0	4	16	72.5	54.5	4	16	25.0	25.0	4	8.5	4	7.5	42.5	52	64	76	4	6	36.0	37.0	5	12	5	12	12
2 FT	12	8	8	8	5	7.5	4	8.5	41.1	28.0	28.0	28.0	4	15	72.5	54.5	4	15	24.0	24.0	4	7.5	4	7	39.0	52	64	76	5	7.5	35.0	37.0	5	12	5	12	12
2'- 4'	12	8	8	8	5	7.5	4	6.5	41.1	28.0	28.0	28.0	5	17	72.5	58.0	5	17	24.0	24.0	4	7	4	7	39.0	52	64	76	5	7	35.0	37.0	5	12	5	12	12
4 FT	8	8	8	8	4	6	4	6.5	39.5	24.0	24.0	24.0	5	17	47.0	58.0	5	17	23.0	23.0	4	7	4	7	36.0	52	64	76	5	7	35.0	37.0	5	12	5	12	12
6 FT	8	8	8	8	4	6.5	4	7	36.0	24.0	24.0	24.0	5	17	38.0	42.0	5	17	22.0	22.0	4	6.5	4	6.5	33.4	52	64	76	5	6.5	34.0	36.0	5	12	5	12	12
8 FT	8	8	8	8	4	6.5	4	6.5	33.5	24.0	24.0	24.0	5	17	36.0	38.0	5	17	23.0	22.0	5	9	4	6	32.0	52	64	76	5	6	33.0	35.0	5	12	5	12	0
10 FT	8	9	8	8	4	6	5	7	32.3	24.0	24.0	24.0	5	16	35.0	37.0	5	16	23.0	23.0	5	9	4	7	30.9	53	65	77	5	6.5	33.0	35.0	5	12	5	12	0
12 FT	8	9	8	8	4	6	5	6	31.4	24.0	24.0	24.0	5	14	34.0	36.0	5	14	23.0	23.0	5	7.5	4	6	30.1	53	65	77	5	6	32.0	35.0	5	12	5	12	0
14 FT	9	10	8	8	5	8.5	4	6	30.5	25.0	25.0	25.0	5	15	33.0	36.0	5	15	23.0	23.0	5	7.5	4	7	29.5	54	66	78	5	6	32.0	36.0	5	12	5	12	0
16 FT	10	11	8	8	5	8	5	8	29.9	26.0	26.0	26.0	5	15	33.0	36.0	5	15	22.0	22.0	5	7.5	4	7	29.0	55	67	79	5	6.5	32.0	36.0	5	12	5	12	0
18 FT	10	11	8	8	5	8	5	7.5	29.5	26.0	26.0	26.0	5	15	33.0	36.0	5	15	23.0	24.0	5	6	4	6.5	28.6	55	67	79	5	6	32.0	36.0	5	12	5	12	0
20 FT	11	12	8	8	5	7.5	5	8.5	29.1	27.0	27.0	27.0	5	14	32.0	36.0	5	14	22.0	23.0	5	6.5	4	6.5	28.4	56	68	80	5	6	31.0	36.0	5	12	5	12	0
22 FT	12	13	8	8	5	7	5	8.5	28.9	28.0	28.0	28.0	5	13	32.0	36.0	5	13	21.0	22.0	5	6.5	4	6	28.3	57	69	81	5	6	31.0	36.0	5	12	5	12	0
24 FT	12	13	8	8	5	7	5	8.5	27.6	28.0	28.0	28.0	5	13	31.0	36.0	5	13	21.0	22.0	5	6	4	6	27.1	57	69	81	6	8	34.0	39.0	5	12	5	12	0
26 FT	13	14	8	8	5	6.5	5	8.5	27.5	29.0	29.0	29.0	5	12	31.0	36.0	5	12	20.0	21.0	5	6.5	4	6	27.1	58	70	82	5	6	31.0	36.0	5	12	5	12	0
28 FT	13	15	8	8	5	6.5	5	8.5	27.6	29.0	29.0	29.0	5	12	31.0	36.0	5	12	21.0	22.0	5	6.5	4	6.5	27.0	59	71	83	5	6	31.0	37.0	5	12	5	12	0
30 FT	14	15	8	8	5	6	5	8.5	27.5	30.0	30.0	34.0	5	12	31.0	36.0	5	12	20.0	21.0	5	6	5	8.5	27.1	59	71	83	6	8	34.0	39.0	5	12	5	12	0
32 FT	15	16	8	8	5	6	5	8	32.5	31.0	31.0	35.0	6	17	39.0	45.0	6	17	29.0	30.0	5	6	5	8	27.3	60	72	84	6	8	34.0	40.0	5	12	5	12	0
34 FT	15	17	8	8	5	6	5	8	32.6	31.0	31.0	31.0	6	16	39.0	45.0	6	16	29.0	30.0	5	6	4	6	27.3	61	73	85	6	8.5	34.0	40.0	5	12	5	11.5	0
36 FT	16	17	8	8	5	6	5	7	32.5	32.0	32.0	36.0	6	16	39.0	45.0	6	16	29.0	30.0	6	8.5	5	7	27.4	61	73	85	6	8	34.0	40.0	5	12	5	11	0
38 FT	16	18	8	8	6	8	5	7	32.6	32.0	36.0	36.0	6	15	39.0	45.0	6	15	29.0	30.0	5	6	5	6.5	27.4	62	74	86	6	8	34.0	40.0	5	12	5	10	0
40 FT	17	18	8	8	6	8	5	6.5	32.6	37.0	37.0	37.0	6	16	39.0	45.0	6	16	29.0	30.0	6	8	5	6.5	27.6	62	74	86	6	7.5	34.0	40.0	5	12	5	9.5	0
42 FT	17	19	8	8	6	7.5	5	6.5	32.8	37.0	37.0	37.0	6	15	39.0	45.0	6	15	29.0	30.0	6	8	5	6.5	27.6	63	75	87	6	8	34.0	40.0	5	12	5	9.5	0
44 FT	18	19	8	8	6	7.5	5	6.5	32.6	38.0	38.0	38.0	6	15	39.0	45.0	6	15	29.0	30.0	6	7.5	5	6.5	27.8	63	75	87	6	7.5	34.0	40.0	5	12	5	9.5	0
46 FT	18	20	8	8	6	7.5	5	6.5	32.8	38.0	38.0	38.0	6	15	39.0	44.0	6	15	29.0	30.0	6	8	5	6	27.8	64	76	88	6	7.5	34.0	40.0	5	12	5	9.5	0
48 FT	19	20	8	8	6	7.5	5	6	32.8	39.0	39.0	39.0	6	15	39.0	44.0	6	15	29.0	30.0	6	7.5	5	6	27.9	64	76	88	6	7	34.0	40.0	5	12	5	9.5	0
50 FT	19	21	8	8	6	7	5	6	32.9	39.0	39.0	39.0	6	14	39.0	44.0	6	14	29.0	30.0	6	7.5	6	7.5	31.0	65	77	89	6	7.5	34.0	40.0	5	12	5	9	0

		SPAN (S) = 7 FT												HEIGHT (HT) = 7 FT OR 8 FT																						
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS							
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS										
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1	
1 FT	12	8	8	8	5	7.5	4	8	41.1	28.0	28.0	28.0	4	16	72.5	54.5	4	16	25.0	26.0	4	8	4	6	57.4	88	100	4	6	37.0	37.0	5	12	5	12	12
2 FT	12	8	8	8	5	7.5	4	7.5	41.1	28.0	28.0	28.0	4	15	72.5	54.5	4	15	25.0	25.0	4	7	5	6.5	51.3	88	100	5	7	36.0	37.0	5	12	5	12	12
2'- 4'	12	8	9	8	5	7.5	4	6	41.8	28.0	28.0	28.0	5	17	73.5	58.0	5	17	25.0	25.0	4	7	5	6.5	51.3	88	100	5	7	36.0	37.0	5	12	5	12	12
4 FT	8	8	9	8	4	6	4	6	41.8	24.0	24.0	24.0	5	17	73.5	58.0	5	17	23.0	23.0	4	7	4	6.5	45.9	88	100	5	7	35.0	37.0	5	12	5	12	12
6 FT	8	8	9	8	4	6.5	4	6	44.3	24.0	24.0	24.0	5	17	40.0	43.0	5	17	22.0	22.0	4	6.5	5	6.5	41.8	88	100	5	6.5	34.0	36.0	5	12	5	12	12
8 FT	8	8	9	8	4	6.5	4	6	40.9	24.0	24.0	24.0	5	17	37.0	38.0	5	17	22.0	23.0	5	9	5	6	39.9	88	100	5	6	33.0	35.0	5	12	5	12	0
10 FT	8	9	9	8	4	6	5	6.5	39.1	24.0	28.0	28.0	5	16	35.0	37.0	5	16	23.0	23.0	5	9	5	7	39.4	89	101	5	6.5	33.0	36.0	5	12	5	12	0
12 FT	8	9	9	8	4	6	6	7	41.0	24.0	28.0	28.0	5	15	34.0	36.0	5	15	23.0	24.0	5	7	5	6	38.3	89	101	5	6	32.0	35.0	5	12	5	12	0
14 FT	9	10	9	8	5	8.5	5	6	37.8	25.0	29.0	29.0	5	15	34.0	36.0	5	15	23.0	23.0	5	7.5	5	6.5	37.9	90	102	5	6	32.0	36.0	5	12	5	12	0
16 FT	10	11	9	8	5	8	5	7	37.4	26.0	30.0	30.0	5	15	33.0	36.0	5	15	22.0	22.0	5	7.5	5	7	37.6	91	103	5	6.5	32.0	36.0	5	12	5	12	0
18 FT	10	11	9	8	5	8	5	6.5	36.8	30.0	30.0	30.0	5	15	33.0	36.0	5	15	23.0	23.0	5	6	5	6.5	36.9	91	103	5	6	32.0	36.0	5	12	5	12	0
20 FT	11	12	9	8	5	7.5	5	6.5	36.8	31.0	31.0	31.0	5	14	32.0	36.0	5	14	21.0	22.0	5	7	5	6.5	37.0	92	104	5	6	32.0	36.0	5	12	5	11	0
22 FT	11	13	9	8	5	7	5	6	36.5	31.0	31.0	31.0	5	14	32.0	35.0	5	14	22.0	23.0	5	7	5	7	37.0	93	105	5	6	32.0	36.0	5	12	5	10	0
24 FT	12	13	9	8	5	7	5	7	34.8	32.0	32.0	32.0	5	1																						

DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS																BOTTOM SLAB BARS								WALL BARS						
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS						
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
										HT=9'	HT=10'														HT=9'	HT=10'									
1 FT	12	9	8	8	5	7.5	5	9	41.1	28.0	32.0	4	16	72.5	54.5	4	16	26.0	27.0	4	8	5	6	60.0	113	125	4	7	58.0	38.0	5	12	5	12	12
2 FT	12	9	8	8	5	7	5	8.5	41.1	28.0	32.0	4	15	72.5	54.5	4	15	25.0	26.0	4	7.5	6	7	63.0	113	125	4	6.5	39.0	38.0	5	12	5	12	12
2'- 4'	12	9	9	8	5	7	5	6	44.8	28.0	32.0	5	17	75.5	58.0	5	17	25.0	26.0	4	7	6	7	63.0	113	125	4	6	39.0	38.0	5	12	5	11	12
4 FT	8	9	9	8	4	6	5	6	44.8	24.0	28.0	5	17	75.5	58.0	5	17	23.0	23.0	4	7	5	6	60.8	113	125	4	6	37.0	38.0	5	12	5	11	12
6 FT	8	9	10	8	4	6.5	5	6.5	59.1	24.0	28.0	5	17	45.0	43.0	5	17	22.0	22.0	4	7	5	6.5	56.3	113	125	5	7.5	34.0	37.0	5	12	5	11	12
8 FT	8	9	10	8	4	6.5	5	6.5	50.8	28.0	28.0	5	17	38.0	38.0	5	17	22.0	22.0	4	6.5	5	6	51.8	113	125	5	7	33.0	36.0	5	12	5	10.5	0
10 FT	8	9	10	8	4	6	6	7.5	50.9	28.0	32.0	5	16	36.0	37.0	5	16	23.0	23.0	5	9	6	6.5	52.6	113	125	5	6	33.0	36.0	5	12	5	9.5	0
12 FT	8	10	10	8	4	6	6	6.5	48.5	28.0	32.0	5	15	35.0	36.0	5	15	23.0	24.0	5	8.5	6	7	53.1	114	126	5	6.5	33.0	36.0	5	12	5	9	0
14 FT	9	10	10	8	5	8.5	5	6	46.4	29.0	29.0	5	16	34.0	36.0	5	16	23.0	23.0	5	8	6	7	51.3	114	126	5	6	33.0	36.0	5	12	5	8.5	0
16 FT	9	11	10	8	5	8	5	6	44.8	29.0	29.0	5	15	33.0	35.0	5	15	23.0	24.0	5	7.5	6	7	51.8	115	127	5	6	33.0	36.0	5	12	5	8	0
18 FT	10	12	10	8	5	8	5	6.5	45.3	30.0	30.0	5	15	33.0	35.0	5	15	22.0	23.0	5	7.5	6	7	51.8	116	128	5	6.5	33.0	36.0	5	12	5	8	0
20 FT	11	12	10	8	5	7.5	5	6	46.1	31.0	31.0	5	14	33.0	35.0	5	14	21.0	22.0	5	7	6	6.5	50.8	116	128	5	6	33.0	36.0	5	12	5	8	0
22 FT	11	13	10	8	5	7.5	5	6	45.4	31.0	31.0	5	14	32.0	35.0	5	14	22.0	23.0	5	7	6	6.5	51.4	117	129	5	6	33.0	36.0	5	12	5	8	0
24 FT	12	13	10	8	5	7	5	6	43.4	32.0	32.0	5	13	31.0	35.0	5	13	21.0	22.0	5	6	6	6.5	48.0	117	129	6	8	35.0	39.0	5	12	5	8	0
26 FT	12	14	10	8	5	7	6	7.5	46.1	32.0	36.0	5	13	31.0	35.0	5	13	21.0	22.0	5	6.5	6	7	48.6	118	130	6	8.5	35.0	39.0	5	12	5	8	0
28 FT	13	15	11	8	5	6.5	5	6	43.6	33.0	33.0	5	12	31.0	35.0	5	12	20.0	21.0	5	6.5	5	6.5	45.9	119	131	5	6	32.0	36.0	5	12	5	7.5	0
30 FT	14	15	11	8	5	6.5	5	6	44.3	34.0	34.0	5	12	31.0	35.0	5	12	20.0	21.0	5	6	5	6	45.5	119	131	6	8	35.0	39.0	5	12	5	7.5	0
32 FT	14	16	12	8	5	6.5	5	6	44.1	34.0	34.0	5	12	31.0	34.0	5	12	20.0	21.0	5	6.5	5	6	45.9	120	132	6	8	35.0	40.0	5	12	5	7	0
34 FT	15	17	12	8	5	6.5	5	6	49.6	35.0	35.0	6	17	40.0	43.0	6	17	29.0	30.0	5	6.5	5	6.5	46.5	121	133	6	8	36.0	40.0	5	12	5	7	0
36 FT	15	17	13	8	5	6	5	6	49.6	35.0	35.0	6	16	40.0	43.0	6	16	29.0	30.0	5	6	5	6	46.0	121	133	6	7.5	35.0	40.0	5	12	5	6.5	0
38 FT	16	18	13	8	5	6	6	8.5	54.1	36.0	36.0	6	16	40.0	43.0	6	16	29.0	29.0	5	6	5	6	46.6	122	134	6	8	36.0	40.0	5	12	5	6.5	0
40 FT	16	18	13	8	6	8.5	6	8	54.0	36.0	36.0	6	15	40.0	43.0	6	15	29.0	30.0	5	6	5	6	46.5	122	134	6	7.5	36.0	40.0	5	12	5	6.5	0
42 FT	17	19	14	8	5	6	6	8	54.8	37.0	37.0	6	16	39.0	42.0	6	16	29.0	29.0	5	6	5	6	46.9	123	135	6	7.5	36.0	40.0	5	12	5	6	0
44 FT	17	19	14	8	6	8	6	8	54.6	37.0	37.0	6	15	39.0	42.0	6	15	29.0	29.0	6	8	5	6	46.8	123	135	6	7	36.0	40.0	5	12	5	6	0
46 FT	18	20	14	8	6	8	6	7.5	55.3	38.0	38.0	6	16	39.0	42.0	6	16	28.0	29.0	6	8	5	6	47.3	124	136	6	7.5	36.0	40.0	5	12	5	6	0
48 FT	18	20	15	8	6	7.5	6	8	55.4	38.0	42.0	6	15	39.0	42.0	6	15	28.0	29.0	6	7.5	6	8	50.0	124	136	6	7	36.0	40.0	5	12	6	8.5	0
50 FT	18	21	15	8	6	7	6	7.5	55.4	38.0	42.0	6	14	39.0	42.0	6	14	28.0	29.0	6	8	6	8	50.6	125	137	6	7	36.0	40.0	5	12	6	8	0



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CULVERT.

GENERAL NOTES:
 IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.
 SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.
 DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.
 CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 7 FEET HEIGHT (HT): 9 THRU 10 FEET	
	DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	SHEET NO. 703.87A 9 OF 27

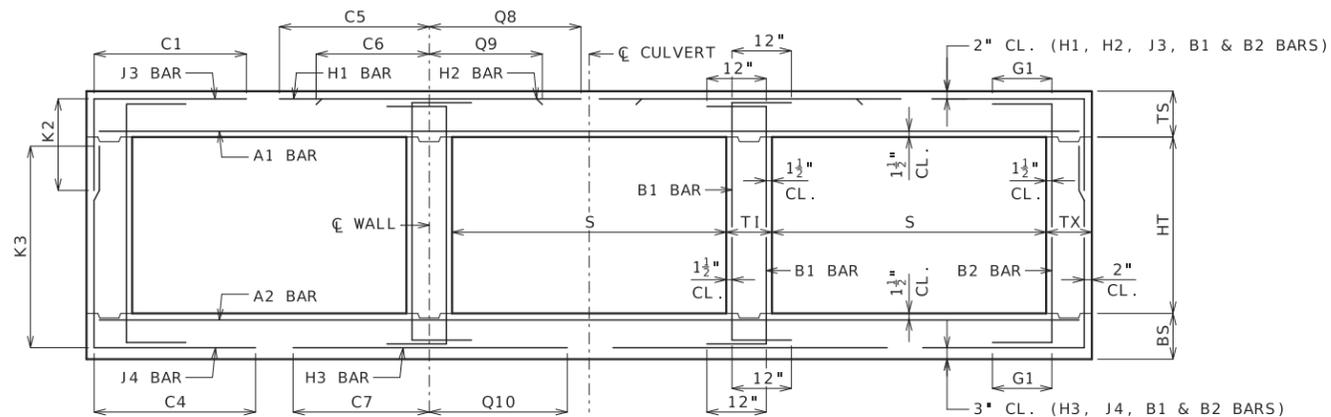
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

		SPAN (S) = 8 FT												HEIGHT (HT) = 4 FT OR 5 FT OR 6 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	12	8	8	8	5	7	4	8.5	44.8	28.0	28.0	28.0	4	13	81.5	60.5	4	13	27.0	23.0	4	7.5	4	6.5	42.0	52	64	76	5	7	39.0	40.0	5	12	5	12	12
2 FT	12	8	8	8	5	7	4	8.5	44.8	28.0	28.0	28.0	4	12	81.5	60.5	4	12	26.0	25.0	4	6.5	4	6	38.8	52	64	76	5	6.5	38.0	40.0	5	12	5	12	12
2'- 4'	12	8	8	8	5	7	5	6	44.8	28.0	28.0	28.0	5	16	81.5	64.0	5	16	27.0	27.0	4	6	4	6	38.8	52	64	76	5	6	38.0	40.0	5	11	5	12	12
4 FT	8	8	8	8	4	6	5	6	40.6	24.0	24.0	24.0	5	16	50.0	64.0	5	16	27.0	27.0	4	6	4	6	35.4	52	64	76	5	6	38.0	40.0	5	11	5	12	12
6 FT	8	8	8	8	4	6	5	6.5	36.5	28.0	24.0	28.0	5	15	42.0	45.0	5	15	26.0	26.0	5	8.5	5	6.5	33.5	52	64	76	6	7	39.0	41.0	5	12	5	12	12
8 FT	8	9	8	8	4	6	5	6	34.4	24.0	24.0	24.0	5	14	39.0	41.0	5	14	25.0	25.0	5	8	4	6.5	31.9	53	65	77	5	6	36.0	39.0	5	12	5	12	0
10 FT	9	10	8	8	5	8.5	4	6	32.6	25.0	25.0	25.0	5	15	38.0	41.0	5	15	25.0	25.0	5	8	4	7.5	30.5	54	66	78	5	6	35.0	39.0	5	12	5	12	0
12 FT	9	10	8	8	5	8.5	5	6.5	31.6	25.0	25.0	25.0	5	14	37.0	40.0	5	14	24.0	25.0	5	7	4	6.5	29.8	54	66	78	6	7	38.0	42.0	5	12	5	12	0
14 FT	10	11	8	8	5	8	5	7.5	30.5	26.0	26.0	26.0	5	14	36.0	40.0	5	14	24.0	25.0	5	6.5	4	6.5	29.0	55	67	79	5	6	34.0	39.0	5	12	5	12	0
16 FT	11	12	8	8	5	7.5	5	8.5	29.6	27.0	27.0	27.0	5	14	35.0	40.0	5	14	24.0	25.0	5	6.5	4	6.5	28.4	56	68	80	5	6	34.0	39.0	5	12	5	12	0
18 FT	11	13	8	8	5	7.5	5	8	29.5	27.0	27.0	27.0	5	13	35.0	39.0	5	13	24.0	25.0	5	6	4	6.5	27.6	57	69	81	6	8	37.0	43.0	5	12	5	12	0
20 FT	12	14	8	8	5	7	5	8.5	28.8	28.0	28.0	28.0	5	13	35.0	39.0	5	13	24.0	25.0	5	6	4	6.5	27.3	58	70	82	6	8	36.0	43.0	5	12	5	12	0
22 FT	13	14	8	8	5	6.5	5	8.5	28.1	29.0	29.0	29.0	5	12	34.0	40.0	5	12	23.0	24.0	6	8	4	6	27.4	58	70	82	6	7.5	37.0	43.0	5	12	5	12	0
24 FT	14	15	8	8	5	6	5	8.5	27.9	30.0	30.0	30.0	5	12	34.0	40.0	5	12	22.0	23.0	6	8	4	6	27.3	59	71	83	6	7.5	36.0	43.0	5	12	5	12	0
26 FT	15	16	8	8	6	8.5	5	8	32.6	31.0	31.0	31.0	6	16	42.0	49.0	6	16	30.0	32.0	6	8	4	6	27.3	60	72	84	6	7.5	36.0	43.0	5	12	5	12	0
28 FT	15	16	8	8	6	8	5	8	31.6	31.0	31.0	31.0	6	16	42.0	48.0	6	16	31.0	32.0	6	7.5	4	6	26.1	60	72	84	6	7	36.0	43.0	5	12	5	12	0
30 FT	16	17	8	8	6	8	5	7	31.5	32.0	32.0	32.0	6	15	42.0	48.0	6	15	30.0	31.0	6	7.5	4	6	26.3	61	73	85	6	7	36.0	43.0	5	12	5	12	0
32 FT	16	18	8	8	6	7.5	5	7	31.6	32.0	36.0	36.0	6	15	42.0	48.0	6	15	31.0	32.0	6	7.5	5	6.5	26.1	62	74	86	6	7	36.0	43.0	5	12	5	12	0
34 FT	17	19	8	8	6	7.5	5	6.5	31.6	37.0	37.0	37.0	6	14	42.0	48.0	6	14	30.0	31.0	6	7.5	5	6.5	26.3	63	75	87	6	7	36.0	43.0	5	12	5	11.5	0
36 FT	18	19	8	8	6	7.5	5	6.5	31.5	38.0	38.0	38.0	6	14	42.0	48.0	6	14	30.0	31.0	6	7.5	5	6.5	26.4	63	75	87	6	7	36.0	43.0	5	12	5	10.5	0
38 FT	18	20	8	8	6	7	5	6.5	31.6	38.0	38.0	38.0	6	13	42.0	48.0	6	13	30.0	31.0	6	7.5	5	6	26.4	64	76	88	6	7	36.0	43.0	5	12	5	10	0
40 FT	19	20	8	8	6	7	5	6	31.6	39.0	39.0	39.0	6	13	42.0	48.0	6	13	29.0	31.0	6	6.5	5	6	26.5	64	76	88	6	6.5	36.0	43.0	5	12	5	9.5	0
42 FT	19	21	8	8	6	6	5	6	31.8	39.0	39.0	39.0	6	12	42.0	48.0	6	12	30.0	31.0	6	7	6	7.5	29.6	65	77	89	6	6.5	36.0	43.0	5	12	5	9.5	0
44 FT	20	22	8	8	6	6.5	6	7.5	35.9	44.0	44.0	44.0	6	13	41.0	48.0	6	13	29.0	30.0	6	7	6	7	29.8	66	78	90	6	6.5	36.0	43.0	5	12	5	9.5	0
46 FT	21	22	8	8	6	6.5	6	7	35.8	45.0	45.0	45.0	6	13	41.0	48.0	6	13	29.0	30.0	6	6.5	6	7	29.9	66	78	90	6	6.5	36.0	43.0	5	12	5	9.5	0
48 FT	21	23	8	8	6	6.5	6	7	36.0	45.0	45.0	45.0	6	13	41.0	48.0	6	13	29.0	30.0	6	7	6	6.5	30.0	67	79	91	6	6.5	36.0	43.0	5	12	5	9.5	0
50 FT	22	23	8	8	6	6.5	6	6.5	35.9	46.0	46.0	46.0	6	13	41.0	47.0	6	13	29.0	30.0	6	6.5	6	6.5	30.1	67	79	91	6	6	36.0	43.0	5	12	5	9	0

		SPAN (S) = 8 FT												HEIGHT (HT) = 7 FT OR 8 FT OR 9 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	12	9	8	8	5	7	4	6	44.8	28.0	28.0	28.0	4	13	81.5	60.5	4	13	27.0	25.0	4	7.5	4	6	66.0	89	101	113	5	8	41.0	41.0	5	12	5	12	12
2 FT	12	9	8	8	5	7	4	6	44.8	28.0	28.0	28.0	4	12	81.5	60.5	4	12	26.0	24.0	4	6.5	5	6.5	61.3	89	101	113	5	7.5	39.0	41.0	5	12	5	12	12
2'- 4'	12	9	8	8	5	7	6	7.5	47.8	28.0	32.0	32.0	5	16	83.5	64.0	5	16	27.0	28.0	5	8.5	6	6	61.3	89	101	113	5	6	39.0	41.0	5	12	5	12	12
4 FT	8	8	8	8	4	6	6	7.5	47.8	28.0	32.0	32.0	5	16	83.5	64.0	5	16	27.0	28.0	5	8.5	6	6	55.0	88	100	112	5	6	38.0	40.0	5	12	5	12	12
6 FT	8	9	8	8	4	6	6	7.5	52.5	24.0	28.0	32.0	5	15	44.0	47.0	5	15	26.0	26.0	5	8.5	6	6.5	52.3	89	101	113	5	6.5	37.0	40.0	5	12	5	12	12
8 FT	8	9	8	8	4	6	6	7.5	47.4	24.0	28.0	32.0	5	14	40.0	42.0	5	14	25.0	25.0	5	7.5	6	6	48.1	89	101	113	5	6	36.0	39.0	5	12	5	11.5	0
10 FT	9	10	8	8	5	8.5	6	7	46.3	25.0	29.0	33.0	5	15	39.0	41.0	5	15	25.0	25.0	5	7.5	6	6.5	46.9	90	102	114	5	6	35.0	39.0	5	12	5	11	0
12 FT	9	10	8	8	5	8.5	6	7	44.8	29.0	33.0	33.0	5	14	37.0	40.0	5	14	24.0	25.0	5	6.5	6	6	45.4	90	102	114	6	7	38.0	42.0	5	12	5	10	0
14 FT	10	11	8	8	5	8	6	6.5	44.1	30.0	30.0	34.0	5	14	37.0	40.0	5	14	24.0	25.0	5	6.5	6	6	44.9	91	103	115	5	6	35.0	39.0	5	12	5	9.5	0
16 FT	11	12	8	8	5	7.5	6	6.5	43.6	31.0	31.0	35.0	5	14	36.0	40.0	5	14	24.0	25.0	5	6.5	6	6.5	44.4	92	104	116	5	6	34.0	39.0	5	12	5	9.5	0
18 FT	11	13	8	8	5	7.5	6	6	42.8	31.0	31.0	35.0	5	13	35.0	39.0	5	13	24.0	25.0	5	6	6	6.5	43.9	93	105	117	6	8	37.0	43.0	5	12	5	9.5	0
20 FT	12	14	8	8	5	7	6	6	42.4	32.0	32.0	36.0	5	13	35.0	39.0	5	13	24.0	25.0	5	6	6	6.5	43.4	94	106	118	6	8	37.0	43.0	5	12	5	9.5	0
22 FT	13	14	8	8	5	6.5	6	6	42.1	33.0	33.0	37.0	5	12	35.0	39.0	5	12	23.0	24.0	6	8	6	6	43.0	94	106	118	6	7.5	37.0	43.0					

DESIGN FILL	MEMBER THICKNESS				SPAN (S) = 8 FT HEIGHT (HT) = 10 FT OR 11 FT																														
					TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS														
	TS	BS	TX	TI	A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS						
					SIZE	SPA.	SIZE	SPA.	C1	K2 HT=10' HT=11'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=10' HT=11'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	12	9	8	9	5	7	5	7	44.9	32.0	32.0	4	13	81.5	61.5	4	13	28.0	26.0	4	6.5	6	6	69.3	125	137	5	7.5	43.0	42.0	5	11.5	5	10	12
2 FT	12	9	9	9	5	7	5	8	45.5	32.0	32.0	4	12	82.5	61.5	4	12	27.0	24.0	4	6.5	6	6.5	70.0	125	137	5	7	41.0	41.0	5	11.5	5	10.5	12
2'- 4'	12	9	10	9	5	7	6	7	49.1	32.0	32.0	5	16	84.5	65.0	5	16	27.0	27.0	4	6	6	6.5	70.0	125	137	5	7	41.0	41.0	5	11.5	5	9.5	12
4 FT	8	9	10	9	4	6	6	7	49.1	28.0	28.0	5	16	84.5	65.0	5	16	27.0	27.0	4	6	5	6	65.8	125	137	5	7	39.0	41.0	5	11.5	5	9.5	12
6 FT	8	9	11	9	4	6	5	6	57.1	28.0	28.0	5	16	44.0	44.0	5	16	26.0	26.0	5	9	5	6	56.6	125	137	5	6.5	37.0	39.0	5	11.5	5	9.5	12
8 FT	8	10	11	9	4	6	6	7	54.8	28.0	28.0	5	15	41.0	41.0	5	15	25.0	26.0	5	9	5	6.5	56.4	126	138	5	6.5	37.0	39.0	5	12	5	9	0
10 FT	8	10	11	9	4	6	6	6.5	51.9	28.0	28.0	5	14	39.0	40.0	5	14	25.0	25.0	5	7.5	5	6	54.0	126	138	5	6	36.0	39.0	5	12	5	8.5	0
12 FT	9	11	11	9	5	8.5	6	7	52.5	29.0	29.0	5	14	38.0	39.0	5	14	25.0	25.0	5	7.5	5	6	53.9	127	139	5	6	36.0	39.0	5	12	5	8	0
14 FT	10	11	11	9	5	8	5	6	50.1	30.0	30.0	5	15	37.0	39.0	5	15	25.0	25.0	5	7	5	6	51.9	127	139	5	6	35.0	39.0	5	12	5	7.5	0
16 FT	10	12	11	9	5	7.5	5	6	48.3	30.0	30.0	5	13	36.0	39.0	5	13	24.0	25.0	5	6.5	5	6	52.3	128	140	5	6	35.0	39.0	5	12	5	7.5	0
18 FT	11	13	11	9	5	7.5	5	6.5	48.6	31.0	31.0	5	14	36.0	39.0	5	14	24.0	25.0	5	6.5	6	7	55.0	129	141	6	8	38.0	42.0	5	12	5	7.5	0
20 FT	12	14	11	9	5	7	5	6	48.8	32.0	32.0	5	13	35.0	39.0	5	13	24.0	25.0	5	6.5	6	7	54.9	130	142	6	8	38.0	43.0	5	12	5	7.5	0
22 FT	13	15	11	9	5	6.5	6	8	52.1	33.0	37.0	5	12	35.0	39.0	5	12	23.0	24.0	5	6	6	7	54.9	131	143	6	8	38.0	43.0	5	12	5	7.5	0
24 FT	13	15	12	9	5	6.5	5	6	48.3	33.0	33.0	5	12	35.0	38.0	5	12	23.0	25.0	5	6	6	7.5	53.9	131	143	6	7	38.0	43.0	5	12	5	7	0
26 FT	14	16	12	9	5	6	6	8	51.8	34.0	38.0	5	12	35.0	38.0	5	12	22.0	24.0	5	6	6	7.5	54.1	132	144	6	7.5	38.0	43.0	5	12	5	7	0
28 FT	15	16	12	9	5	6	6	8	56.1	35.0	39.0	6	16	43.0	47.0	6	16	31.0	32.0	6	7.5	6	8	51.0	132	144	6	7	38.0	43.0	5	12	5	7	0
30 FT	15	17	12	9	6	8	6	7	55.9	35.0	39.0	6	16	43.0	47.0	6	16	31.0	32.0	6	8	6	7.5	51.5	133	145	6	7	38.0	43.0	5	12	5	7	0
32 FT	16	18	13	9	6	8	6	8	56.5	36.0	40.0	6	15	42.0	47.0	6	15	30.0	31.0	6	8	6	8.5	51.8	134	146	6	7	38.0	43.0	5	12	5	6.5	0
34 FT	17	19	13	9	6	8	6	7.5	56.9	37.0	41.0	6	14	42.0	47.0	6	14	30.0	31.0	6	8	6	8.5	52.3	135	147	6	7	38.0	43.0	5	12	5	6.5	0
36 FT	17	19	14	9	6	7.5	6	7.5	57.0	37.0	41.0	6	14	42.0	46.0	6	14	30.0	31.0	6	7.5	6	8	51.9	135	147	6	6.5	38.0	43.0	5	12	5	6	0
38 FT	18	20	14	9	6	7.5	6	7.5	57.4	38.0	42.0	6	14	42.0	46.0	6	14	30.0	31.0	6	7.5	6	8	52.3	136	148	6	7	38.0	43.0	5	12	5	6	0
40 FT	18	20	14	9	6	7	6	6.5	57.3	38.0	42.0	6	13	42.0	46.0	6	13	30.0	31.0	6	6.5	6	8	52.1	136	148	6	6.5	38.0	43.0	5	12	5	6	0
42 FT	19	21	15	9	6	7	6	7	57.9	43.0	43.0	6	14	42.0	46.0	6	14	30.0	30.0	6	7	6	8	52.6	137	149	6	6.5	38.0	43.0	5	12	6	8	0
44 FT	19	22	15	9	6	7	6	7	57.9	43.0	43.0	6	13	42.0	46.0	6	13	30.0	30.0	6	7	6	8	53.0	138	150	6	6.5	38.0	43.0	5	12	6	8	0
46 FT	20	22	15	9	6	7	6	6	58.1	44.0	44.0	6	14	42.0	45.0	6	14	30.0	30.0	6	7	6	7.5	52.9	138	150	6	6.5	38.0	43.0	5	12	6	8	0
48 FT	20	23	16	9	6	6.5	6	7	58.5	44.0	44.0	6	13	42.0	45.0	6	13	30.0	30.0	6	7	6	7.5	53.3	139	151	6	6.5	38.0	44.0	5	12	6	8	0
50 FT	21	23	16	9	6	6.5	6	6.5	58.9	45.0	45.0	6	13	42.0	45.0	6	13	29.0	30.0	6	6.5	6	7.5	53.3	139	151	6	6	38.0	44.0	5	12	6	8	0

BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CULVERT.



GENERAL NOTES:

IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.

SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.

CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

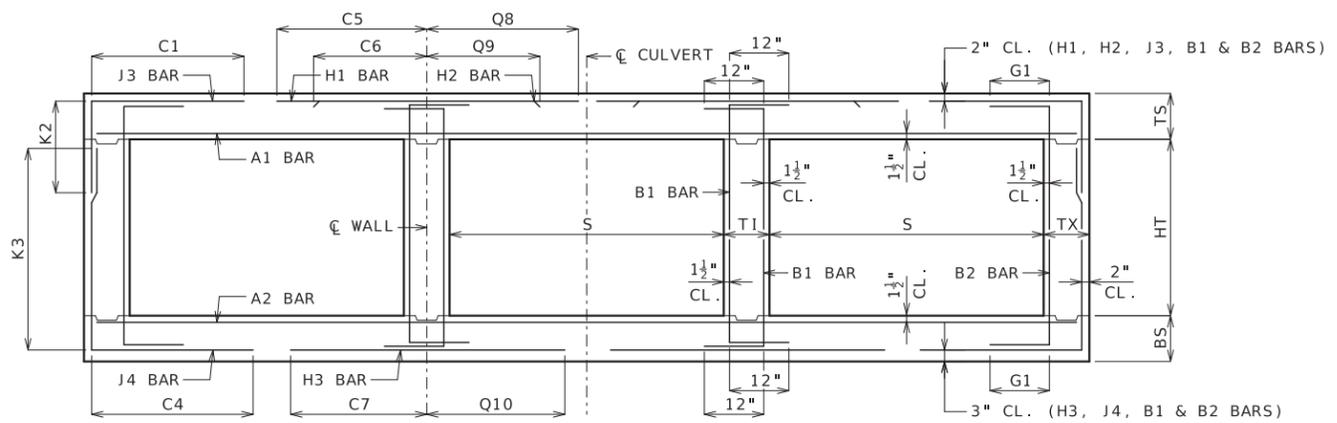
	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT	
	MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 8 FEET HEIGHT (HT): 10 THRU 11 FEET	
DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	703.87A	SHEET NO. 11 OF 27

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

		SPAN (S) = 9 FT												HEIGHT (HT) = 5 FT OR 6 FT OR 7 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	13	8	8	8	5	6.5	4	7.5	48.3	29.0	29.0	29.0	4	12	89.5	66.5	4	12	28.0	26.0	4	6.5	5	6	46.1	64	76	88	5	6	42.0	43.0	5	12	5	12	12
2 FT	13	9	8	8	5	6.5	4	7.5	48.3	29.0	29.0	29.0	5	17	89.5	68.5	5	17	27.0	27.0	4	6.5	4	6	43.9	65	77	89	5	6.5	41.0	43.0	5	12	5	12	12
2'- 4'	13	9	8	8	5	6.5	5	6.5	48.3	29.0	29.0	29.0	5	16	89.5	70.0	5	16	29.0	29.0	5	8.5	4	6	43.9	65	77	89	5	6	41.0	43.0	5	12	5	12	12
4 FT	9	9	8	8	5	8.5	5	6.5	44.8	25.0	25.0	25.0	5	16	57.0	70.0	5	16	29.0	29.0	5	8.5	4	6	39.6	65	77	89	5	6	40.0	43.0	5	12	5	12	12
6 FT	9	9	8	8	5	8.5	5	6.5	39.6	25.0	25.0	29.0	5	15	46.0	52.0	5	15	27.0	28.0	5	7.5	5	6.5	36.5	65	77	89	6	7	42.0	45.0	5	12	5	12	12
8 FT	9	10	8	8	5	8.5	5	6.5	36.8	25.0	25.0	25.0	5	14	42.0	45.0	5	14	26.0	27.0	5	7.5	4	6.5	34.8	66	78	90	5	6	38.0	42.0	5	12	5	12	0
10 FT	9	10	8	8	5	8.5	5	6	35.4	25.0	25.0	29.0	5	12	41.0	44.0	5	12	26.0	26.0	5	7	5	7	33.5	66	78	90	6	6.5	41.0	45.0	5	12	5	12	0
12 FT	10	11	8	8	5	8	5	7	33.9	26.0	26.0	30.0	5	12	40.0	44.0	5	12	26.0	26.0	5	6.5	5	7.5	32.4	67	79	91	6	7	40.0	45.0	5	12	5	12	0
14 FT	11	12	8	8	5	7.5	5	7.5	32.8	27.0	27.0	31.0	5	13	39.0	43.0	5	13	25.0	26.0	5	6	5	8.5	31.6	68	80	92	6	7	40.0	46.0	5	12	5	12	0
16 FT	12	13	8	8	5	7	5	8	31.9	28.0	28.0	32.0	5	13	38.0	43.0	5	13	25.0	27.0	5	6	5	8.5	31.0	69	81	93	6	7	39.0	46.0	5	12	5	12	0
18 FT	13	14	8	8	5	6.5	5	8	31.3	29.0	29.0	33.0	5	12	37.0	43.0	5	12	25.0	26.0	6	8	5	8.5	30.6	70	82	94	6	7.5	39.0	46.0	5	12	5	12	0
20 FT	14	15	8	8	5	6	5	8.5	30.6	30.0	30.0	34.0	5	12	37.0	43.0	5	12	24.0	26.0	6	8	5	8.5	30.3	71	83	95	6	7	39.0	46.0	5	12	5	12	0
22 FT	15	16	8	8	6	8	5	8	35.3	31.0	31.0	35.0	6	16	45.0	52.0	6	16	32.0	34.0	6	7.5	5	8	30.0	72	84	96	6	7	39.0	46.0	5	12	5	12	0
24 FT	15	16	8	8	6	8	5	7.5	35.0	31.0	35.0	35.0	6	16	45.0	52.0	6	16	33.0	35.0	6	6.5	5	8	29.8	72	84	96	6	6.5	39.0	46.0	5	12	5	11.5	0
26 FT	16	17	8	8	6	8	5	7	34.9	32.0	36.0	36.0	6	15	45.0	52.0	6	15	32.0	34.0	6	7	5	7	29.8	73	85	97	6	6.5	39.0	46.0	5	12	5	10.5	0
28 FT	17	18	8	8	6	7.5	5	6.5	34.8	32.0	37.0	37.0	6	14	45.0	52.0	6	14	32.0	34.0	6	7	5	6.5	29.8	74	86	98	6	6.5	39.0	46.0	5	12	5	9.5	0
30 FT	18	19	8	8	6	7	5	6.5	33.6	38.0	38.0	38.0	6	13	44.0	52.0	6	13	31.0	32.0	6	7	5	6.5	28.8	75	87	99	6	6	39.0	46.0	5	12	5	9.5	0
32 FT	18	20	8	8	6	7	5	6.5	33.8	38.0	38.0	38.0	6	13	44.0	51.0	6	13	32.0	33.0	6	7	5	6	28.8	76	88	100	6	6.5	39.0	46.0	5	12	5	9.5	0
34 FT	19	20	8	8	6	6.5	5	6	33.6	39.0	39.0	39.0	6	13	44.0	51.0	6	13	31.0	33.0	6	6	5	6	28.9	76	88	100	6	6	39.0	46.0	5	12	5	9.5	0
36 FT	20	21	8	8	6	6.5	6	7.5	37.8	44.0	44.0	44.0	6	12	44.0	51.0	6	12	30.0	32.0	6	6.5	6	7.5	32.0	77	89	101	6	6	39.0	46.0	5	12	5	9.5	0
38 FT	20	22	8	8	6	6	6	7.5	37.9	44.0	44.0	44.0	6	12	44.0	51.0	6	12	31.0	32.0	6	6.5	6	7	32.0	78	90	102	6	6	39.0	46.0	5	12	5	9	0
40 FT	21	23	8	8	6	6	6	6	38.0	45.0	45.0	45.0	6	12	44.0	51.0	6	12	30.0	32.0	6	6.5	6	6.5	32.3	79	91	103	6	6	39.0	46.0	5	12	5	8.5	0
42 FT	22	23	8	8	6	6	6	6.5	37.9	46.0	46.0	46.0	6	12	44.0	51.0	6	12	30.0	31.0	6	6	6	6.5	32.3	79	91	103	7	8	42.0	49.0	5	12	5	8	0
44 FT	23	24	9	8	6	6	6	7	38.8	47.0	47.0	47.0	6	12	44.0	50.0	6	12	30.0	31.0	6	6	6	7	33.0	80	92	104	7	8	42.0	50.0	5	12	5	8.5	0
46 FT	23	25	9	8	7	8	6	7	38.9	47.0	47.0	47.0	7	16	49.0	55.0	7	16	35.0	36.0	6	6	6	7	33.0	81	93	105	7	8	42.0	50.0	5	12	5	8.5	0
48 FT	24	25	9	8	7	8	6	7	38.9	48.0	48.0	48.0	6	12	43.0	50.0	6	12	30.0	31.0	6	6	6	7	33.1	81	93	105	7	7.5	42.0	50.0	5	12	5	8	0
50 FT	24	26	9	8	7	7.5	6	6.5	39.0	48.0	48.0	48.0	7	15	48.0	55.0	7	15	35.0	36.0	6	6	6	6.5	33.3	82	94	106	7	7.5	42.0	50.0	5	12	5	7.5	0

		SPAN (S) = 9 FT												HEIGHT (HT) = 8 FT OR 9 FT OR 10 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	13	9	8	8	5	6.5	5	8.5	48.3	29.0	29.0	33.0	4	12	89.5	66.5	4	12	29.0	27.0	4	6.5	6	6.5	75.0	101	113	125	5	7	43.0	44.0	5	12	5	12	12
2 FT	13	9	8	8	5	6.5	5	8.5	51.3	29.0	33.0	33.0	5	18	91.5	68.5	5	18	28.0	25.0	5	9	6	6.5	69.0	101	113	125	5	6.5	42.0	44.0	5	12	5	11.5	12
2'- 4'	13	9	8	8	5	6.5	6	7	51.3	29.0	33.0	33.0	5	16	91.5	70.0	5	16	29.0	30.0	5	8	6	6	69.0	101	113	125	5	6	42.0	44.0	5	12	5	10	12
4 FT	9	9	8	8	5	8.5	6	7	51.3	29.0	33.0	33.0	5	16	91.5	70.0	5	16	29.0	30.0	5	8	6	6	62.0	101	113	125	5	6	41.0	44.0	5	12	5	10	12
6 FT	9	10	9	8	5	8.5	5	6	54.9	25.0	25.0	29.0	5	15	49.0	53.0	5	15	27.0	28.0	5	8	5	6	53.9	102	114	126	5	6.5	39.0	43.0	5	12	5	11	12
8 FT	9	10	9	8	5	8.5	5	6	48.8	25.0	29.0	29.0	5	14	44.0	46.0	5	14	26.0	27.0	5	7	6	6.5	52.4	102	114	126	6	7	41.0	46.0	5	12	5	10.5	0
10 FT	9	11	9	8	5	8.5	5	6	46.5	25.0	29.0	29.0	5	12	42.0	44.0	5	12	26.0	26.0	5	6.5	6	7	51.4	103	115	127	5	6	38.0	43.0	5	12	5	9.5	0
12 FT	10	11	9	8	5	8	5	6	45.8	30.0	30.0	30.0	5	13	40.0	43.0	5	13	26.0	27.0	5	6.5	6	6	49.5	103	115	127	6	7	40.0	45.0	5	12	5	9	0
14 FT	11	12	9	8	5	7.5	6	7	48.1	31.0	31.0	35.0	5	13	39.0	43.0	5	13	25.0	27.0	5	6	6	6.5	48.8	104	116	128	6	7	40.0	46.0	5	12	5	8.5	0
16 FT	12	13	9	8	5	7	6	6.5	47.4	32.0	32.0	36.0	5	13	39.0	43.0	5	13	25.0	27.0	5	6	6	6.5	48.3	105	117	129	6	7	40.0	46.0	5	12	5	8.5	0
18 FT	13	14	9	8	5	6.5	6	7	46.9	33.0	33.0	37.0	5	12	38.0	43.0	5	12	24.0	26.0	6	8	6	6.5	47.6	106	118	130	6	7.5	40.0	46.0	5	12	5	8.5	0
20 FT	13	15	9	8	5	6.5	6	6	46.0	33.0	33.0	37.0	5	12	38.0	43.0	5	12	25.0	27.0	6	8	6	6.5	47.1	107	119	131	6	7	40.0	46.0	5	12	5	8.5	0
22 FT	14	16	11	8	5	6	5	6	43.5	34.0	34.0	34.0	5	12	37.0	42.0	5	12	25.0	26.0	6	7.5	5	7	44.0	108	120	132	6								

DESIGN FILL	MEMBER THICKNESS				SPAN (S) = 9 FT																HEIGHT (HT) = 11 FT OR 12 FT														
					TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS														
	A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS										
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=11' HT=12'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=11' HT=12'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	13	9	9	10	5	6.5	5	7.5	49.3	33.0	33.0	4	12	90.5	67.5	4	12	29.0	27.0	4	6	6	6	76.3	137	149	5	6.5	44.0	44.0	5	10	5	9	12
2 FT	13	10	9	10	5	6.5	5	7	52.3	33.0	33.0	5	18	92.5	69.5	5	18	28.0	25.0	4	6	6	6.5	76.3	138	150	5	7	44.0	45.0	5	11.5	5	9	12
2'- 4'	13	10	9	10	5	6.5	5	6	52.3	33.0	33.0	5	16	92.5	71.0	5	16	29.0	30.0	5	8.5	6	6	76.3	138	150	5	7	44.0	45.0	5	11.5	5	8.5	12
4 FT	9	10	9	10	5	8.5	5	6	52.3	29.0	29.0	5	16	92.5	71.0	5	16	29.0	30.0	5	8.5	6	6	76.3	138	150	5	7	43.0	45.0	5	11.5	5	8.5	12
6 FT	9	10	10	10	5	8.5	5	6	69.4	29.0	29.0	5	16	51.0	49.0	5	16	28.0	28.0	5	7.5	6	6.5	68.8	138	150	5	6	41.0	43.0	5	12	5	8	12
8 FT	9	10	10	10	5	8.5	5	6	60.0	29.0	29.0	5	14	45.0	45.0	5	14	27.0	27.0	5	7	6	6	63.9	138	150	6	7	43.0	45.0	5	12	5	8	0
10 FT	9	11	10	10	5	8.5	6	7	59.0	29.0	33.0	5	13	42.0	43.0	5	13	27.0	27.0	5	6.5	6	6	63.6	139	151	5	6	39.0	43.0	5	12	5	8	0
12 FT	10	12	10	10	5	8	6	7	58.6	30.0	34.0	5	13	41.0	43.0	5	13	26.0	27.0	5	6.5	6	6.5	62.8	140	152	5	6	39.0	43.0	5	12	5	8	0
14 FT	11	12	10	10	5	7.5	6	7.5	58.5	31.0	35.0	5	13	41.0	43.0	5	13	26.0	27.0	5	6	6	6	60.4	140	152	6	7	41.0	45.0	5	12	5	8	0
16 FT	12	13	11	10	5	7	5	6	54.4	32.0	32.0	5	13	40.0	42.0	5	13	26.0	27.0	5	6	6	7	59.1	141	153	6	7	41.0	45.0	5	12	5	7.5	0
18 FT	12	14	11	10	5	7	6	7.5	55.6	32.0	36.0	5	12	39.0	42.0	5	12	26.0	27.0	6	8	6	6.5	59.0	142	154	6	7.5	41.0	46.0	5	12	5	7.5	0
20 FT	13	15	12	10	5	6.5	6	8	55.0	33.0	37.0	5	12	38.0	42.0	5	12	26.0	27.0	6	8	6	7	58.1	143	155	6	7	41.0	46.0	5	12	5	7	0
22 FT	14	16	12	10	5	6	6	7.5	55.0	34.0	38.0	5	12	38.0	42.0	5	12	25.0	27.0	6	7.5	6	7	57.9	144	156	6	7	41.0	46.0	5	12	5	7	0
24 FT	15	17	13	10	6	8	6	7.5	61.0	35.0	39.0	6	16	47.0	51.0	6	16	33.0	35.0	6	7.5	6	7.5	57.4	145	157	6	6.5	41.0	46.0	5	12	5	6.5	0
26 FT	16	17	13	10	6	8	6	7	61.3	40.0	40.0	6	15	46.0	51.0	6	15	33.0	34.0	6	6.5	6	7	56.6	145	157	6	6.5	41.0	46.0	5	12	5	6.5	0
28 FT	16	18	14	10	6	8	6	7.5	61.0	36.0	40.0	6	15	46.0	51.0	6	15	33.0	35.0	6	7	6	7	56.6	146	158	6	6.5	41.0	46.0	5	12	5	6	0
30 FT	17	19	14	10	6	7.5	6	7.5	59.6	37.0	41.0	6	14	45.0	50.0	6	14	32.0	34.0	6	7	6	7.5	54.8	147	159	6	6	41.0	46.0	5	12	5	6	0
32 FT	18	20	14	10	6	7	6	7	59.9	38.0	42.0	6	13	45.0	50.0	6	13	32.0	33.0	6	7	6	7.5	55.0	148	160	6	6	41.0	46.0	5	12	5	6	0
34 FT	18	20	14	10	6	6.5	6	6.5	59.8	38.0	42.0	6	13	45.0	50.0	6	13	32.0	34.0	6	6	6	7.5	54.9	148	160	6	6	41.0	46.0	5	12	5	6	0
36 FT	19	21	15	10	6	6.5	6	7	60.3	43.0	43.0	6	13	45.0	50.0	6	13	31.0	33.0	6	6.5	6	7.5	55.3	149	161	6	6	41.0	47.0	5	12	6	8	0
38 FT	20	22	15	10	6	6.5	6	6.5	60.6	44.0	44.0	6	12	45.0	50.0	6	12	31.0	32.0	6	6.5	6	7.5	55.5	150	162	6	6	41.0	47.0	5	12	6	8	0
40 FT	20	23	16	10	6	6.5	6	6.5	60.9	44.0	44.0	6	12	45.0	49.0	6	12	31.0	32.0	6	6.5	6	7.5	55.9	151	163	6	6	41.0	47.0	5	12	6	8	0
42 FT	21	23	16	10	6	6.5	6	6.5	61.1	45.0	45.0	6	12	45.0	49.0	6	12	31.0	32.0	6	6	6	7.5	55.8	151	163	7	7.5	44.0	50.0	5	12	6	8	0
44 FT	22	24	17	10	6	6	6	6.5	61.9	46.0	46.0	6	12	45.0	49.0	6	12	31.0	32.0	6	6	6	7	56.3	152	164	7	7.5	44.0	50.0	5	12	6	7.5	0
46 FT	22	25	17	10	6	6	6	6	61.9	46.0	46.0	6	12	45.0	48.0	6	12	31.0	32.0	6	6	6	7	56.5	153	165	7	8	44.0	50.0	5	12	6	7.5	0
48 FT	23	26	18	10	6	6	6	6.5	62.5	47.0	47.0	6	12	44.0	48.0	6	12	31.0	31.0	6	6	6	6.5	57.0	154	166	7	8	44.0	50.0	5	12	6	7	0
50 FT	23	26	18	10	7	8	6	6	62.5	47.0	47.0	6	12	44.0	48.0	6	12	31.0	31.0	6	6	6	6.5	56.9	154	166	7	7.5	44.0	50.0	5	12	6	7	0



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CL CULVERT.

GENERAL NOTES:
 IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.
 SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.
 DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.
 CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

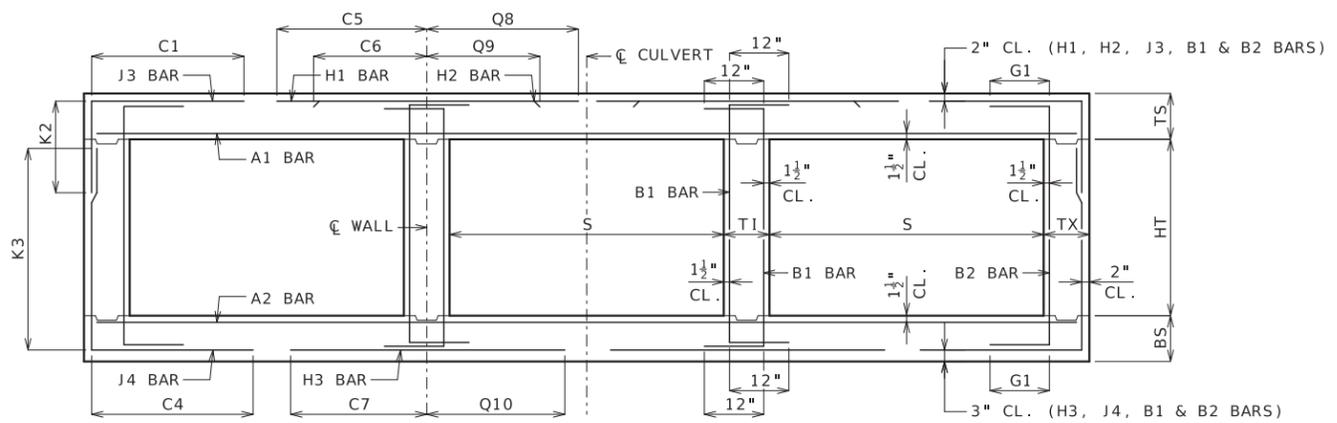
	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 9 FEET HEIGHT (HT): 11 THRU 12 FEET	
	DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	SHEET NO. 703.87A 13 OF 27

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

		SPAN (S) = 10 FT										HEIGHT (HT) = 5 FT OR 6 FT OR 7 FT																									
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS										BOTTOM SLAB BARS										WALL BARS												
					A1 BARS		J3 BARS			H1 BARS		H2 BARS			A2 BARS		J4 BARS			H3 BARS		B1 BARS		B2 BARS													
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	13	9	8	8	5	6.5	4	7	51.9	29.0	29.0	29.0	5	16	98.5	74.5	5	16	29.0	27.0	4	6	4	6	47.4	65	77	89	5	6.5	45.0	47.0	5	12	5	12	12
2 FT	13	9	8	8	5	6.5	4	6.5	51.9	29.0	29.0	29.0	5	14	98.5	74.5	5	14	28.0	29.0	5	8.5	5	6.5	43.3	65	77	89	5	6	44.0	46.0	5	12	5	12	12
2'- 4'	13	9	8	8	5	6.5	6	7.5	51.9	29.0	29.0	29.0	5	13	98.5	76.0	5	13	30.0	30.0	5	7.5	5	6.5	43.3	65	77	89	6	6.5	46.0	49.0	5	10	5	12	12
4 FT	9	9	8	8	5	7.5	6	7.5	48.4	25.0	29.0	29.0	5	13	59.0	76.0	5	13	30.0	30.0	5	7.5	5	6.5	39.0	65	77	89	6	6.5	46.0	49.0	5	10	5	12	12
6 FT	9	9	8	8	5	8	5	6	39.8	29.0	29.0	29.0	5	13	49.0	55.0	5	13	28.0	29.0	5	7.5	6	7	39.8	65	77	89	6	6	45.0	48.0	5	12	5	12	12
8 FT	10	10	8	8	5	8	5	7.5	36.8	26.0	26.0	30.0	5	13	45.0	50.0	5	13	28.0	28.0	5	7	5	6.5	34.8	66	78	90	6	6.5	44.0	48.0	5	12	5	12	0
10 FT	10	11	8	8	5	8	5	6.5	35.4	26.0	26.0	30.0	6	15	47.0	51.0	6	15	30.0	31.0	5	6.5	5	7.5	32.9	67	79	91	6	6.5	43.0	49.0	5	12	5	12	0
12 FT	11	12	8	8	5	7.5	5	7	33.6	27.0	27.0	31.0	6	16	45.0	50.0	6	16	30.0	31.0	5	6	5	8.5	31.6	68	80	92	6	6.5	42.0	49.0	5	12	5	12	0
14 FT	12	13	8	8	5	7	5	8	32.4	28.0	28.0	32.0	6	16	44.0	50.0	6	16	29.0	31.0	5	6	5	8.5	30.9	69	81	93	6	6.5	42.0	49.0	5	12	5	12	0
16 FT	13	14	8	8	5	6.5	5	8	31.3	29.0	29.0	33.0	6	16	44.0	50.0	6	16	29.0	31.0	6	8	5	8.5	30.3	70	82	94	6	7	42.0	49.0	5	12	5	12	0
18 FT	14	15	8	8	5	6	5	8.5	30.5	30.0	30.0	34.0	6	16	43.0	50.0	6	16	29.0	31.0	6	7.5	5	8.5	29.8	71	83	95	6	7	41.0	49.0	5	12	5	12	0
20 FT	15	16	8	8	6	8	5	8	34.9	31.0	31.0	35.0	6	16	48.0	56.0	6	16	35.0	37.0	6	7	5	8	29.4	72	84	96	6	7	41.0	49.0	5	12	5	12	0
22 FT	16	17	8	8	6	8	5	7	34.4	32.0	32.0	36.0	6	15	48.0	56.0	6	15	34.0	37.0	6	7	5	7	29.0	73	85	97	6	6.5	41.0	50.0	5	12	5	12	0
24 FT	17	18	8	8	6	7.5	5	6.5	34.0	37.0	37.0	37.0	6	14	48.0	56.0	6	14	34.0	36.0	6	6.5	5	6.5	28.9	74	86	98	6	6.5	41.0	50.0	5	12	5	11	0
26 FT	18	19	8	8	6	7	5	6.5	33.9	38.0	38.0	38.0	6	13	47.0	55.0	6	13	33.0	35.0	6	6.5	5	6.5	28.8	75	87	99	6	6	41.0	50.0	5	12	5	10	0
28 FT	19	20	8	8	6	6.5	5	6	33.8	39.0	39.0	39.0	6	13	47.0	55.0	6	13	33.0	35.0	6	6.5	5	6	28.8	76	88	100	6	6	41.0	50.0	5	12	5	9.5	0
30 FT	19	21	8	8	6	6	5	6	33.8	39.0	39.0	39.0	6	12	47.0	55.0	6	12	33.0	36.0	6	6	6	7.5	31.6	77	89	101	7	7.5	44.0	53.0	5	12	5	9.5	0
32 FT	20	22	8	8	6	6.5	6	7.5	37.8	44.0	44.0	44.0	6	12	47.0	55.0	6	12	33.0	35.0	6	6	6	7	31.8	78	90	102	7	7.5	44.0	53.0	5	12	5	9.5	0
34 FT	21	23	8	8	6	6	6	6	36.8	45.0	45.0	45.0	6	12	46.0	55.0	6	12	32.0	34.0	6	6	6	6.5	30.9	79	91	103	7	7.5	44.0	53.0	5	12	5	9.5	0
36 FT	22	23	8	8	6	6	6	6.5	36.8	46.0	46.0	46.0	7	15	51.0	60.0	7	15	36.0	38.0	6	6	6	6.5	31.0	79	91	103	7	7	44.0	53.0	5	12	5	9.5	0
38 FT	23	24	8	8	7	7.5	6	6	36.8	47.0	47.0	47.0	7	15	51.0	59.0	7	15	36.0	37.0	6	6	6	6	31.1	80	92	104	7	7	44.0	53.0	5	12	5	8.5	0
40 FT	23	25	8	8	7	7.5	6	6	36.9	47.0	47.0	47.0	7	15	51.0	59.0	7	15	36.0	38.0	6	6	6	6	31.1	81	93	105	7	7	44.0	53.0	5	12	5	8	0
42 FT	24	26	8	8	7	7.5	6	6	37.0	48.0	48.0	48.0	7	14	51.0	59.0	7	14	36.0	37.0	7	8	7	6.5	34.4	82	94	106	7	7	44.0	53.0	5	12	5	7.5	0
44 FT	25	26	9	8	7	7	6	6.5	37.8	49.0	49.0	49.0	7	14	51.0	59.0	7	14	36.0	37.0	7	7.5	6	6.5	32.0	82	94	106	7	7	44.0	53.0	5	12	5	8.5	0
46 FT	25	27	9	8	7	7	6	6.5	37.9	49.0	49.0	49.0	7	14	51.0	59.0	7	14	36.0	37.0	7	7.5	6	6.5	32.0	83	95	107	7	7	44.0	53.0	5	12	5	8	0
48 FT	26	28	9	8	7	7	6	6.5	38.0	50.0	50.0	50.0	7	14	51.0	58.0	7	14	35.0	37.0	7	7.5	6	6	32.3	84	96	108	7	7	44.0	53.0	5	12	5	7.5	0
50 FT	27	28	9	8	7	7	6	6	38.0	51.0	51.0	51.0	7	14	51.0	58.0	7	14	35.0	37.0	7	7	6	6	32.4	84	96	108	7	6.5	44.0	53.0	5	12	5	7	0

		SPAN (S) = 10 FT										HEIGHT (HT) = 8 FT OR 9 FT OR 10 FT																									
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS										BOTTOM SLAB BARS										WALL BARS												
					A1 BARS		J3 BARS			H1 BARS		H2 BARS			A2 BARS		J4 BARS			H3 BARS		B1 BARS		B2 BARS													
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	13	9	8	8	5	6.5	5	8.5	54.9	29.0	33.0	33.0	5	16	100.5	74.5	5	16	30.0	30.0	5	8.5	6	6.5	74.1	101	113	125	5	6	46.0	47.0	5	12	5	12	12
2 FT	13	9	8	8	5	6.5	5	8	54.9	29.0	33.0	33.0	5	14	100.5	74.5	5	14	28.0	28.0	5	7.5	6	6	65.8	101	113	125	6	7	47.0	50.0	5	12	5	11.5	12
2'- 4'	13	9	9	8	5	6.5	5	6	65.9	29.0	33.0	33.0	5	13	100.5	76.0	5	13	30.0	31.0	5	7.5	6	6	65.8	101	113	125	6	6.5	47.0	50.0	5	12	5	11.5	12
4 FT	9	9	9	8	5	7	5	6	65.9	29.0	29.0	29.0	5	13	74.0	76.0	5	13	30.0	31.0	5	7.5	6	6.5	57.6	101	113	125	6	6.5	46.0	50.0	5	12	5	11.5	12
6 FT	9	9	9	8	5	8	5	6	51.8	29.0	29.0	29.0	5	13	51.0	57.0	5	13	29.0	29.0	5	7	6	6	52.9	101	113	125	6	6	45.0	48.0	5	12	5	11.5	12
8 FT	9	10	9	8	5	8	5	6	48.1	29.0	29.0	29.0	6	15	49.0	52.0	6	15	30.0	31.0	5	7	6	6.5	51.0	102	114	126	6	6	44.0	49.0	5	12	5	11	0
10 FT	10	11	9	8	5	8	5	6	46.5	30.0	30.0	30.0	5	12	44.0	48.0	5	12	27.0	28.0	5	6.5	6	6.5	49.5	103	115	127	6	6.5	43.0	49.0	5	12	5	10.5	0
12 FT	11	12	9	8	5	7.5	6	7	48.1	31.0	31.0	35.0	6	16	45.0	50.0	6	16	30.0	31.0	5	6	6	6.5	48.4	104	116	128	6	6.5	43.0	49.0	5	12	5	9.5	0
14 FT	12	13	9	8	5	7	6	7	47.0	32.0	32.0	36.0	6	16	45.0	50.0	6	16	29.0	31.0	5	6	6	7	47.4	105	117	129	6	6.5	42.0	49.0	5	12	5	8.5	0
16 FT	13	14	9	8	5	6.5	6	7	46.0	33.0	33.0	37.0	6	16	44.0	50.0	6	16	29.0	31.0	6	8	6	7	46.5	106	118	130	6	7	42.0	49.0	5	12	5	8.5	0
18 FT	14	15	9	8	5	6	6	7	45.3	34.0	34.0	38.0	6	16	43.0	49.0	6	16	29.0	31.0	6	7.5	6	7	45.9	107	119	131	6	7	42.0	49.0	5	12	5	8.5	0
20 FT	15	16	9	8	6	8	6	7	50.5	35.0	35.0	39.0	6	16	49.0	55.0	6	16	35.0	37.0	6	7	6	6.5	45.3	108	120	132	6	7	42.0	49.0	5	12	5	8.5	0
22 FT	15	17	11	8	6	7.5	5	6	47.1	35.0	35.0	35.0	6	15	48.0	55.0	6	15	35.0	37.0	6	7	5	7	42.1	109	121										

DESIGN FILL	MEMBER THICKNESS				SPAN (S) = 10 FT																HEIGHT (HT) = 11 FT OR 12 FT OR 13 FT																
					TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS				J3 BARS				H1 BARS				H2 BARS				A2 BARS				J4 BARS				H3 BARS				B1 BARS		B2 BARS		
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	13	10	9	10	5	6.5	5	6.5	55.9	33.0	33.0	33.0	5	16	101.5	75.5	5	16	30.0	29.0	5	8.5	6	6	82.3	138	150	162	5	6.5	49.0	49.0	5	10	5	8.5	12
2 FT	13	10	10	10	5	6.5	5	6.5	56.5	33.0	33.0	33.0	5	14	101.5	75.5	5	14	29.0	29.0	5	8	6	6.5	83.0	138	150	162	5	6.5	47.0	48.0	5	12	5	8	12
2'- 4'	13	10	10	10	5	6.5	6	7	56.5	33.0	33.0	33.0	5	13	101.5	77.0	5	13	31.0	31.0	5	7	6	6	83.0	138	150	162	5	6	47.0	48.0	5	11	5	8	12
4 FT	9	10	10	10	5	7	6	7	56.5	29.0	29.0	33.0	5	13	101.5	77.0	5	13	31.0	31.0	5	7	6	6	81.3	138	150	162	5	6	46.0	48.0	5	11	5	8	12
6 FT	9	11	10	10	5	8	6	7	75.6	29.0	29.0	33.0	5	13	54.0	53.0	5	13	29.0	29.0	5	7	6	6	77.8	139	151	163	5	6	44.0	47.0	5	12	5	8	12
8 FT	9	11	11	10	5	8	6	7	64.6	29.0	29.0	33.0	5	12	47.0	48.0	5	12	28.0	28.0	5	6.5	6	6.5	69.5	139	151	163	6	7	45.0	49.0	5	12	5	7.5	0
10 FT	10	11	11	10	5	8	5	6	61.1	30.0	30.0	30.0	5	12	46.0	47.0	5	12	28.0	28.0	5	6	6	6	65.8	139	151	163	6	6.5	45.0	48.0	5	12	5	7.5	0
12 FT	11	12	11	10	5	7.5	5	6	60.3	31.0	31.0	31.0	5	12	44.0	47.0	5	12	27.0	28.0	5	6	6	6	65.1	140	152	164	6	6.5	44.0	49.0	5	12	5	7.5	0
14 FT	12	13	11	10	5	7	6	7.5	62.6	32.0	32.0	36.0	5	12	43.0	46.0	5	12	27.0	28.0	5	6	6	6.5	64.4	141	153	165	6	6.5	44.0	49.0	5	12	5	7	0
16 FT	13	14	12	10	5	6.5	6	8	61.3	33.0	33.0	37.0	5	12	42.0	46.0	5	12	27.0	28.0	6	8	6	7	63.0	142	154	166	6	7	44.0	49.0	5	12	5	7	0
18 FT	13	15	12	10	5	6.5	6	7	59.3	33.0	37.0	37.0	6	15	45.0	48.0	6	15	30.0	31.0	6	7.5	6	6.5	62.8	143	155	167	6	7	44.0	49.0	5	12	5	7	0
20 FT	14	16	13	10	5	6	6	7.5	58.8	34.0	38.0	38.0	6	15	44.0	48.0	6	15	30.0	31.0	6	7	6	7	61.8	144	156	168	6	7	44.0	49.0	5	12	5	6.5	0
22 FT	15	17	13	10	6	8	6	6.5	64.6	35.0	39.0	39.0	6	15	50.0	54.0	6	15	36.0	37.0	6	7	6	6.5	61.4	145	157	169	6	6.5	44.0	50.0	5	12	5	6.5	0
24 FT	16	18	14	10	6	8	6	7	64.6	36.0	40.0	40.0	6	15	49.0	54.0	6	15	35.0	37.0	6	6.5	6	6.5	60.5	146	158	170	6	6.5	44.0	50.0	5	12	5	6	0
26 FT	17	19	14	10	6	7.5	6	6.5	64.5	37.0	41.0	41.0	6	14	49.0	54.0	6	14	35.0	37.0	6	6.5	6	6.5	60.4	147	159	171	6	6	44.0	50.0	5	12	5	6	0
28 FT	18	20	15	10	6	7	6	6.5	64.9	42.0	42.0	42.0	6	13	48.0	54.0	6	13	34.0	36.0	6	6.5	6	6.5	60.3	148	160	172	6	6	44.0	50.0	5	12	6	8	0
30 FT	19	21	15	10	6	6.5	6	6.5	65.1	43.0	43.0	43.0	6	13	48.0	54.0	6	13	33.0	35.0	6	6.5	6	6.5	60.4	149	161	173	7	7.5	47.0	53.0	5	12	6	8	0
32 FT	20	22	16	10	6	6.5	6	6.5	65.5	44.0	44.0	44.0	6	12	48.0	53.0	6	12	33.0	34.0	6	6	6	7	60.5	150	162	174	7	7.5	47.0	53.0	5	12	6	8	0
34 FT	20	23	16	10	6	6.5	6	6.5	63.5	44.0	44.0	44.0	6	12	47.0	53.0	6	12	33.0	35.0	6	6	6	7.5	58.9	151	163	175	7	7.5	46.0	53.0	5	12	6	8	0
36 FT	21	24	16	10	6	6	6	6	63.9	45.0	45.0	45.0	6	12	47.0	53.0	6	12	32.0	34.0	6	6	6	7	59.1	152	164	176	7	7.5	46.0	53.0	5	12	6	8	0
38 FT	22	24	17	10	6	6	6	6	64.4	46.0	46.0	46.0	7	15	52.0	58.0	7	15	37.0	38.0	6	6	6	7	59.0	152	164	176	7	7	46.0	53.0	5	12	6	7.5	0
40 FT	23	25	17	10	6	6	6	6	64.6	47.0	47.0	47.0	7	15	52.0	57.0	7	15	36.0	37.0	6	6	6	7	59.3	153	165	177	7	7	46.0	53.0	5	12	6	7.5	0
42 FT	23	26	18	10	7	7.5	6	6	65.0	47.0	47.0	47.0	7	15	52.0	57.0	7	15	37.0	38.0	7	8	6	6.5	59.6	154	166	178	7	7	46.0	54.0	5	12	6	7	0
44 FT	24	27	19	10	7	7.5	6	6	65.8	44.0	48.0	48.0	7	15	52.0	57.0	7	15	36.0	37.0	7	8	6	6.5	60.0	155	167	179	7	7	46.0	54.0	5	12	6	7	0
46 FT	24	27	19	10	7	7	6	6	65.6	48.0	48.0	48.0	7	14	52.0	57.0	7	14	36.0	38.0	7	7.5	6	6.5	59.9	155	167	179	7	6.5	46.0	54.0	5	12	6	6.5	0
48 FT	25	28	20	10	7	7	6	6	66.4	45.0	49.0	49.0	7	14	52.0	56.0	7	14	36.0	37.0	7	7.5	6	6	60.4	156	168	180	7	6.5	46.0	54.0	5	12	6	6.5	0
50 FT	26	29	20	10	7	7	7	7.5	71.6	50.0	50.0	50.0	7	15	51.0	55.0	7	15	36.0	37.0	7	7.5	6	6	60.6	157	169	181	7	6.5	47.0	54.0	5	12	6	6.5	0



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CULVERT.

GENERAL NOTES:
 IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.
 SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.
 DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.
 CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 10 FEET HEIGHT (HT): 11 THRU 13 FEET	
	DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	SHEET NO. 703.87A 15 OF 27

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

SPAN (S) = 11 FT HEIGHT (HT) = 6 FT OR 7 FT OR 8 FT

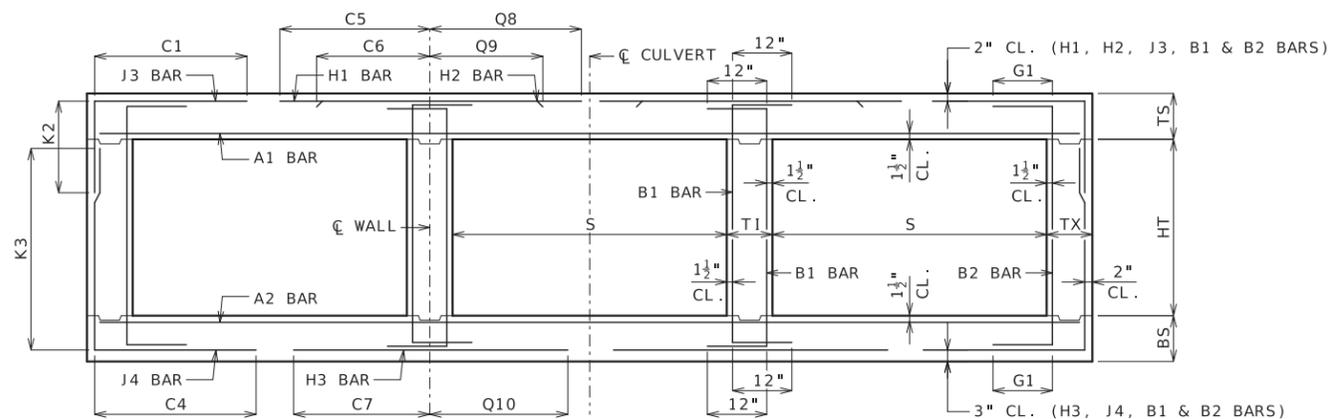
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	13	9	8	8	5	6.5	5	9	58.5	29.0	29.0	33.0	5	13	108.5	80.5	5	13	30.0	33.0	5	8.5	5	6	52.6	77	89	101	6	7	50.0	53.0	5	12	5	12	12
2 FT	14	9	8	8	5	6	4	6	55.5	30.0	30.0	30.0	5	14	106.5	80.5	5	14	29.0	28.0	5	7.5	6	6.5	50.8	77	89	101	6	6.5	49.0	52.0	5	12	5	12	12
2'- 4'	14	9	8	8	5	6	5	6	55.5	30.0	30.0	30.0	5	12	106.5	82.0	5	12	32.0	33.0	5	7.5	6	6.5	50.8	77	89	101	6	6	49.0	52.0	5	11.5	5	12	12
4 FT	10	9	8	8	5	6.5	5	6	49.1	30.0	30.0	30.0	5	12	66.0	82.0	5	12	32.0	33.0	5	7.5	6	6.5	45.9	77	89	101	6	6	49.0	52.0	5	11.5	5	12	12
6 FT	10	10	8	8	5	7	5	6	42.8	30.0	30.0	30.0	5	12	53.0	63.0	5	12	30.0	31.0	5	7	5	6	39.8	78	90	102	6	6	47.0	52.0	5	12	5	12	12
8 FT	10	11	8	8	5	7	6	7	43.0	26.0	30.0	30.0	6	15	52.0	56.0	6	15	32.0	32.0	5	6.5	5	6.5	37.4	79	91	103	6	6.5	46.0	52.0	5	12	5	12	0
10 FT	11	12	8	8	5	7	5	6	37.6	27.0	31.0	31.0	6	15	50.0	55.0	6	15	31.0	32.0	5	6	5	7	35.6	80	92	104	6	6.5	45.0	52.0	5	12	5	12	0
12 FT	12	13	8	8	5	7	5	6.5	36.0	28.0	32.0	32.0	6	15	48.0	54.0	6	15	31.0	32.0	5	6	5	7.5	34.6	81	93	105	6	6.5	45.0	52.0	5	12	5	12	0
14 FT	13	14	8	8	5	6.5	5	7	34.6	33.0	33.0	33.0	6	15	47.0	54.0	6	15	31.0	32.0	6	8	5	7.5	33.8	82	94	106	6	6.5	44.0	53.0	5	12	5	12	0
16 FT	14	15	8	8	5	6	5	7	33.6	34.0	34.0	34.0	6	14	46.0	53.0	6	14	30.0	32.0	6	7.5	5	7.5	33.1	83	95	107	6	6.5	44.0	53.0	5	12	5	12	0
18 FT	15	16	8	8	6	8	5	6.5	37.9	35.0	35.0	35.0	6	14	51.0	59.0	6	14	36.0	38.0	6	7	5	7.5	32.6	84	96	108	6	6.5	44.0	53.0	5	12	5	11	0
20 FT	16	17	8	8	6	8	5	6.5	37.3	36.0	36.0	36.0	6	14	51.0	59.0	6	14	36.0	38.0	6	7	5	7	32.1	85	97	109	6	6.5	44.0	53.0	5	12	5	10	0
22 FT	17	18	8	8	6	7.5	5	6	36.9	37.0	37.0	37.0	6	14	50.0	59.0	6	14	36.0	38.0	6	6.5	5	6.5	31.9	86	98	110	6	6.5	44.0	53.0	5	12	5	9.5	0
24 FT	18	19	8	8	6	7	5	6	36.5	38.0	38.0	38.0	6	13	50.0	59.0	6	13	36.0	38.0	6	6	5	6.5	31.6	87	99	111	6	6	44.0	53.0	5	12	5	9.5	0
26 FT	19	21	8	8	6	6.5	6	7.5	40.4	39.0	39.0	43.0	6	13	50.0	59.0	6	13	35.0	38.0	6	6	6	7.5	34.4	89	101	113	7	7.5	47.0	56.0	5	12	5	9.5	0
28 FT	20	22	9	8	6	6.5	5	6	37.1	40.0	40.0	40.0	6	12	49.0	58.0	6	12	35.0	37.0	6	6	5	6	31.9	90	102	114	7	7.5	47.0	56.0	5	12	5	8.5	0
30 FT	21	23	10	8	6	6	5	6.5	37.9	41.0	41.0	41.0	6	12	49.0	58.0	6	12	34.0	37.0	7	8	5	6.5	32.4	91	103	115	7	7	47.0	56.0	5	12	5	8.5	0
32 FT	22	24	10	8	6	6	5	6.5	37.8	42.0	42.0	42.0	7	15	54.0	63.0	7	15	39.0	41.0	7	7.5	5	6.5	32.5	92	104	116	7	7	47.0	57.0	5	12	5	8	0
34 FT	23	25	10	8	7	7.5	5	6.5	37.8	43.0	43.0	43.0	7	15	54.0	63.0	7	15	38.0	40.0	7	7.5	5	6	32.5	93	105	117	7	6.5	47.0	57.0	5	12	5	8	0
36 FT	24	25	10	8	7	7.5	5	6	36.5	44.0	44.0	44.0	7	14	54.0	62.0	7	14	37.0	39.0	7	7	5	6	31.6	93	105	117	7	6.5	47.0	56.0	5	12	5	8	0
38 FT	25	26	10	8	7	7	5	6	36.6	45.0	45.0	45.0	7	14	53.0	62.0	7	14	37.0	38.0	7	7	5	6	31.8	94	106	118	7	6.5	47.0	56.0	5	12	5	8	0
40 FT	25	27	10	8	7	6.5	5	6	36.8	45.0	45.0	45.0	7	13	53.0	62.0	7	13	37.0	39.0	7	7	6	7	34.6	95	107	119	7	6.5	46.0	56.0	5	12	5	8	0
42 FT	26	28	10	8	7	7	6	7	40.8	50.0	50.0	50.0	7	13	53.0	62.0	7	13	37.0	38.0	7	7	6	7	34.9	96	108	120	7	6.5	46.0	56.0	5	12	5	8	0
44 FT	27	29	10	8	7	6.5	6	7	40.9	51.0	51.0	51.0	7	13	53.0	61.0	7	13	36.0	37.0	7	7	6	6.5	35.0	97	109	121	7	6.5	46.0	56.0	5	12	5	7.5	0
46 FT	28	29	11	8	7	6.5	6	7.5	41.6	52.0	52.0	52.0	7	13	53.0	61.0	7	13	36.0	37.0	7	6	6	7.5	35.6	97	109	121	7	6	47.0	57.0	5	12	5	7.5	0
48 FT	28	30	11	8	7	6	6	7.5	41.8	52.0	52.0	52.0	7	12	53.0	61.0	7	12	36.0	37.0	7	6.5	6	7	35.6	98	110	122	7	6	47.0	57.0	5	12	5	7.5	0
50 FT	29	31	11	8	7	6	6	7	41.9	53.0	53.0	53.0	7	12	53.0	60.0	7	12	36.0	37.0	7	6.5	6	7	35.9	99	111	123	7	6	47.0	57.0	5	12	5	7.5	0

SPAN (S) = 11 FT HEIGHT (HT) = 9 FT OR 10 FT OR 11 FT

DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	13	9	9	9	5	6.5	5	8	59.3	33.0	33.0	33.0	5	13	109.5	81.5	5	13	31.0	33.0	5	7.5	6	6	74.5	113	125	137	6	7	51.0	53.0	5	11.5	5	10.5	12
2 FT	14	10	9	9	5	6	5	8	59.3	34.0	34.0	34.0	5	14	109.5	81.5	5	14	29.0	28.0	5	7.5	6	7	70.6	114	126	138	5	6	47.0	50.0	5	12	5	10.5	12
2'- 4'	14	10	9	9	5	6	5	6	59.3	34.0	34.0	34.0	5	13	109.5	83.0	5	13	32.0	33.0	5	7	6	6.5	70.6	114	126	138	6	6.5	50.0	53.0	5	11.5	5	9.5	12
4 FT	10	10	9	9	5	6.5	5	6	59.3	30.0	30.0	30.0	5	13	109.5	83.0	5	13	32.0	33.0	5	7	6	6.5	64.1	114	126	138	6	6.5	50.0	53.0	5	11.5	5	9.5	12
6 FT	10	10	9	9	5	7	5	6	56.6	30.0	30.0	30.0	5	12	55.0	61.0	5	12	30.0	31.0	5	7	6	6	57.8	114	126	138	6	6	48.0	52.0	5	12	5	9.5	12
8 FT	10	11	9	9	5	7	6	7.5	55.5	30.0	30.0	34.0	6	15	53.0	56.0	6	15	32.0	33.0	5	6.5	6	6	55.6	115	127	139	6	6	47.0	52.0	5	12	5	9	0
10 FT	11	12	9	9	5	7	6	7	53.5	31.0	35.0	35.0	6	15	51.0	55.0	6	15	32.0	33.0	5	6	6	6	53.8	116	128	140	6	6.5	46.0	52.0	5	12	5	8.5	0
12 FT	12	13	9	9	5	7	6	6.5	51.9	32.0	36.0	36.0	6	15	49.0	54.0	6	15	31.0	33.0	5	6	6	6	52.4	117	129	141	6	6.5	46.0	52.0	5	12	5	8.5	0
14 FT	13	14	9	9	5	6.5	6	6	50.5	33.0	37.0	37.0	6	15	48.0	53.0	6	15	31.0	33.0	6	8	6	6	51.3	118	130	142	6	6.5	45.0	52.0	5	12	5	8.5	0
16 FT	14	15	10	9	5	6	6	7	49.9	34.0	34.0	38.0	6	15	47.0	53.0	6	15	31.0	33.0	6	7.5	6	7	50.4	119	131	143	6	6.5	45.0	52.0	5	12	5	8	0
18 FT	15	16	10	9	6	8	6	7	54.9	35.0	35.0	39.0	6	15	52.0	59.0	6	15	37.0	39.0	6	7	6	7	49.6	120	132	144	6	6.5	45.0	53.0	5	12	5	8	0
20 FT	16	17	11	9	6	8	6	7.5	54.8	36.0	36.0	40.0	6	14	52.0	58.0	6	14	36.0	39.0	6	7	6	8	49.3	121	133	145	6	6.5	45.0	53.0	5	12	5	7.5	0
22 FT	17	18	12	9	6	7.5	6	8	54.8	37.0	37.0	37.0	6	14	51.0	58.0	6	14	36.0	39.0	6	6.5	5	6	45.9	122	134	146	6	6.5	45.0	53.0	5				

DESIGN FILL	MEMBER THICKNESS				SPAN (S) = 11 FT HEIGHT (HT) = 12 FT OR 13 FT OR 14 FT																																
					TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS																
	A1 BARS				J3 BARS				H1 BARS				H2 BARS				A2 BARS				J4 BARS				H3 BARS				B1 BARS		B2 BARS						
																																	K2		K3		
TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	HT=12'	HT=13'	HT=14'	SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	HT=12'	HT=13'	HT=14'	SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1	
1 FT	13	10	10	11	5	6.5	5	6	60.3	33.0	33.0	33.0	5	13	110.5	82.5	5	13	31.0	33.0	5	7.5	6	6	89.3	150	162	174	5	6	51.0	51.0	5	10	5	8	12
2 FT	14	11	10	11	5	6	5	6	60.3	34.0	34.0	34.0	5	14	110.5	82.5	5	14	30.0	32.0	5	7.5	6	6	89.3	151	163	175	5	6	50.0	51.0	5	12	5	8	12
2'- 4'	14	11	11	11	5	6	5	6	60.9	34.0	34.0	34.0	5	13	110.5	82.5	5	13	33.0	33.0	5	7	6	6	89.3	151	163	175	5	6	50.0	51.0	5	12	5	7.5	12
4 FT	10	11	11	11	5	7	5	6	60.9	30.0	30.0	30.0	5	13	110.5	80.0	5	13	33.0	33.0	5	7	6	6.5	85.9	151	163	175	5	6	49.0	51.0	5	12	5	7.5	12
6 FT	10	11	11	11	5	7.5	5	6	79.0	30.0	30.0	30.0	5	12	58.0	57.0	5	12	31.0	31.0	5	6.5	6	6	77.5	151	163	175	6	6.5	50.0	53.0	5	12	5	7.5	12
8 FT	10	11	12	11	5	7.5	6	7.5	70.1	30.0	30.0	34.0	6	15	54.0	55.0	6	15	33.0	33.0	5	6.5	6	6	70.9	151	163	175	6	6	48.0	52.0	5	12	5	7	0
10 FT	11	12	12	11	5	7.5	6	8	68.5	31.0	31.0	35.0	6	16	52.0	54.0	6	16	32.0	33.0	5	6	6	6	69.9	152	164	176	6	6	47.0	52.0	5	12	5	7	0
12 FT	12	13	12	11	5	7	6	8	67.4	32.0	32.0	36.0	6	16	50.0	53.0	6	16	32.0	33.0	5	6	6	6.5	69.0	153	165	177	6	6	47.0	52.0	5	12	5	7	0
14 FT	13	14	12	11	5	6.5	6	7	66.4	33.0	37.0	37.0	6	16	49.0	53.0	6	16	32.0	33.0	6	8	6	6.5	68.3	154	166	178	6	6.5	47.0	52.0	5	12	5	6.5	0
16 FT	14	15	13	11	5	6	6	7	64.9	34.0	38.0	38.0	6	15	48.0	52.0	6	15	32.0	33.0	6	7.5	6	7	66.6	155	167	179	6	6.5	47.0	52.0	5	12	5	6.5	0
18 FT	15	16	13	11	6	8	6	6.5	70.3	39.0	39.0	39.0	6	15	54.0	58.0	6	15	37.0	39.0	6	7	6	6	66.0	156	168	180	6	6.5	47.0	52.0	5	12	5	6.5	0
20 FT	15	17	14	11	6	8	6	6.5	68.4	39.0	39.0	39.0	6	14	53.0	58.0	6	14	37.0	39.0	6	7	6	6.5	65.1	157	169	181	6	6.5	46.0	53.0	5	12	5	6	0
22 FT	17	18	14	11	6	7.5	6	6.5	69.0	41.0	41.0	41.0	6	14	53.0	58.0	6	14	37.0	39.0	6	6	6	6	64.5	158	170	182	6	6	46.0	53.0	5	12	5	6	0
24 FT	18	20	15	11	6	7	6	6.5	68.9	42.0	42.0	42.0	6	13	52.0	58.0	6	13	36.0	38.0	6	6	6	6	64.6	160	172	184	6	6	46.0	53.0	5	12	6	8	0
26 FT	19	21	15	11	6	6.5	6	6	68.6	43.0	43.0	43.0	6	13	52.0	57.0	6	13	36.0	38.0	6	6	6	6	64.3	161	173	185	7	7.5	49.0	56.0	5	12	6	8	0
28 FT	20	22	16	11	6	6.5	6	6	68.6	44.0	44.0	44.0	6	12	51.0	57.0	6	12	35.0	37.0	6	6	6	6	63.9	162	174	186	7	7.5	49.0	56.0	5	12	6	8	0
30 FT	21	23	17	11	6	6	6	6	69.0	45.0	45.0	45.0	6	12	51.0	57.0	6	12	34.0	36.0	7	8	6	6.5	64.0	163	175	187	7	7	49.0	57.0	5	12	6	7.5	0
32 FT	21	24	17	11	6	6	6	6	68.6	45.0	45.0	45.0	6	12	51.0	57.0	6	12	35.0	37.0	7	7.5	6	6.5	64.1	164	176	188	7	7	49.0	57.0	5	12	6	7.5	0
34 FT	22	25	18	11	6	6	6	6	69.1	46.0	46.0	46.0	7	15	55.0	62.0	7	15	40.0	41.0	7	7.5	6	6.5	64.4	165	177	189	7	6.5	49.0	57.0	5	12	6	7	0
36 FT	23	26	18	11	7	7.5	7	7.5	74.3	47.0	47.0	47.0	7	15	55.0	61.0	7	15	39.0	41.0	7	7.5	6	6	64.5	166	178	190	7	6.5	49.0	57.0	5	12	6	7	0
38 FT	24	26	18	11	7	7.5	7	8	72.6	48.0	48.0	48.0	7	14	55.0	61.0	7	14	38.0	40.0	7	7	6	6.5	62.4	166	178	190	7	6.5	49.0	57.0	5	12	6	7	0
40 FT	25	27	18	11	7	7	7	7	72.9	49.0	49.0	49.0	7	14	55.0	61.0	7	14	38.0	39.0	7	7	6	6	62.6	167	179	191	7	6.5	49.0	57.0	5	12	6	7	0
42 FT	25	28	19	11	7	7	7	7	73.3	49.0	49.0	49.0	7	14	55.0	60.0	7	14	38.0	40.0	7	7	6	6	62.9	168	180	192	7	6.5	49.0	57.0	5	12	6	6.5	0
44 FT	26	29	20	11	7	7	7	7.5	74.0	50.0	50.0	50.0	7	13	54.0	60.0	7	13	38.0	39.0	7	7	6	6	63.3	169	181	193	7	6	49.0	57.0	5	12	6	6.5	0
46 FT	27	30	21	11	7	6.5	7	7.5	74.6	51.0	51.0	51.0	7	13	54.0	59.0	7	13	37.0	38.0	7	7	6	6	63.6	170	182	194	7	6	49.0	57.0	5	12	6	6	0
48 FT	27	30	21	11	7	6	7	7	74.5	51.0	51.0	51.0	7	12	54.0	59.0	7	12	37.0	39.0	7	6	6	6	63.5	170	182	194	7	6	49.0	57.0	5	12	6	6	0
50 FT	28	31	22	11	7	6.5	7	7	75.3	52.0	52.0	58.0	7	13	54.0	59.0	7	13	37.0	38.0	7	6.5	7	7.5	67.0	171	183	195	7	6	49.0	58.0	5	12	6	6	0

BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CULVERT.



GENERAL NOTES:

IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.

SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.

CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT	
	MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 11 FEET HEIGHT (HT): 12 THRU 14 FEET	
DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	703.87A	SHEET NO. 17 OF 27

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

		SPAN (S) = 12 FT												HEIGHT (HT) = 6 FT OR 7 FT OR 8 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	9	8	8	5	6	4	6	59.1	30.0	30.0	30.0	5	12	114.5	86.5	5	12	31.0	34.0	5	7.5	6	7	54.6	77	89	101	6	6.5	53.0	56.0	5	12	5	12	12
2 FT	14	9	8	8	5	6	5	8.5	62.1	30.0	30.0	34.0	5	12	116.5	86.5	5	12	30.0	33.0	5	7.5	6	6.5	50.3	77	89	101	6	6	52.0	55.0	5	12	5	12	12
2' - 4'	14	10	8	8	5	6	5	6.5	62.1	31.0	31.0	34.0	5	12	116.5	88.0	5	12	33.0	35.0	5	7	6	6.5	50.3	78	90	102	6	6	52.0	56.0	5	12	5	12	12
4 FT	11	10	8	8	5	6	5	6.5	48.9	31.0	31.0	31.0	5	12	69.0	88.0	5	12	33.0	35.0	5	7	5	6	42.6	78	90	102	6	6	51.0	56.0	5	12	5	12	12
6 FT	11	11	8	8	5	6.5	5	6.5	42.8	31.0	31.0	31.0	6	16	59.0	71.0	6	16	34.0	36.0	5	6.5	5	6.5	39.3	79	91	103	6	6.5	49.0	56.0	5	12	5	12	12
8 FT	11	12	8	8	5	6.5	5	6	39.9	31.0	31.0	31.0	6	14	55.0	61.0	6	14	33.0	34.0	5	6	5	7.5	36.6	80	92	104	6	6.5	48.0	56.0	5	12	5	12	0
10 FT	12	13	8	8	5	6.5	5	6.5	37.3	32.0	32.0	32.0	6	14	52.0	59.0	6	14	32.0	34.0	5	6	5	7.5	34.9	81	93	105	6	6	47.0	56.0	5	12	5	12	0
12 FT	13	14	8	8	5	6	5	7	35.4	33.0	33.0	33.0	6	14	51.0	58.0	6	14	32.0	34.0	6	8	5	8	33.8	82	94	106	6	6	47.0	56.0	5	12	5	12	0
14 FT	14	15	8	8	5	6	5	7	33.9	34.0	34.0	34.0	6	13	49.0	57.0	6	13	32.0	34.0	6	7.5	5	8	32.8	83	95	107	6	6	47.0	56.0	5	12	5	12	0
16 FT	15	16	8	8	6	8	5	6.5	37.9	35.0	35.0	35.0	6	13	55.0	63.0	6	13	37.0	40.0	6	7	5	8	32.1	84	96	108	6	6	46.0	56.0	5	12	5	12	0
18 FT	16	17	8	8	6	8	5	6.5	37.0	36.0	36.0	36.0	6	13	54.0	63.0	6	13	37.0	40.0	6	7	5	7	31.6	85	97	109	6	6	46.0	56.0	5	12	5	11.5	0
20 FT	17	18	8	8	6	7.5	5	6.5	36.4	37.0	37.0	37.0	6	12	53.0	63.0	6	12	37.0	40.0	6	6.5	5	6.5	31.1	86	98	110	6	6	46.0	56.0	5	12	5	10	0
22 FT	18	20	8	8	6	6.5	5	6	36.1	38.0	38.0	38.0	6	12	53.0	62.0	6	12	37.0	40.0	6	6	5	6	30.8	88	100	112	6	6	46.0	57.0	5	12	5	9.5	0
24 FT	20	21	8	8	6	6.5	6	7.5	39.5	44.0	44.0	44.0	6	12	52.0	62.0	6	12	36.0	39.0	7	8	6	7.5	33.8	89	101	113	7	7.5	49.0	59.0	5	12	5	9.5	0
26 FT	21	22	8	8	6	6	6	7	39.3	45.0	45.0	45.0	6	12	52.0	62.0	6	12	36.0	39.0	7	7.5	6	7	33.6	90	102	114	7	7.5	49.0	60.0	5	12	5	9.5	0
28 FT	22	23	8	8	6	6	6	6.5	39.0	46.0	46.0	46.0	7	15	57.0	67.0	7	15	41.0	44.0	7	7	6	6.5	33.4	91	103	115	7	7	49.0	60.0	5	12	5	8.5	0
30 FT	23	24	8	8	7	7.5	6	6	38.9	47.0	47.0	47.0	7	15	56.0	67.0	7	15	40.0	43.0	7	6.5	6	6	33.4	92	104	116	7	6.5	49.0	60.0	5	12	5	8	0
32 FT	24	25	9	8	7	7.5	6	7	39.8	48.0	48.0	48.0	7	14	56.0	66.0	7	14	40.0	42.0	7	6.5	6	7	34.0	93	105	117	7	6.5	49.0	60.0	5	12	5	8.5	0
34 FT	25	26	9	8	7	7	6	6.5	39.8	49.0	49.0	49.0	7	14	56.0	66.0	7	14	39.0	42.0	7	6	6	6.5	34.0	94	106	118	7	6	49.0	60.0	5	12	5	8	0
36 FT	26	27	9	8	7	7	6	6.5	39.8	50.0	50.0	50.0	7	13	56.0	66.0	7	13	39.0	41.0	7	6	6	6.5	34.1	95	107	119	7	6	49.0	60.0	5	12	5	7.5	0
38 FT	27	28	9	8	7	6.5	6	6	39.8	51.0	51.0	51.0	7	13	56.0	66.0	7	13	38.0	40.0	7	6	6	6	34.3	96	108	120	7	6	49.0	60.0	5	12	5	7	0
40 FT	28	29	9	8	7	6.5	6	6	38.9	52.0	52.0	52.0	7	12	56.0	65.0	7	12	37.0	39.0	7	6.5	6	6	33.4	97	109	121	8	7.5	55.0	66.0	5	12	5	7	0
42 FT	28	30	10	8	7	6	6	6.5	39.8	52.0	52.0	52.0	7	12	56.0	65.0	7	12	38.0	40.0	7	6.5	6	6.5	33.9	98	110	122	8	7.5	55.0	66.0	5	12	5	8	0
44 FT	29	31	10	8	7	6	6	6.5	39.9	53.0	53.0	53.0	7	12	55.0	64.0	7	12	38.0	39.0	7	6.5	6	6	34.0	99	111	123	8	7.5	55.0	66.0	5	12	5	7	0
46 FT	30	32	10	8	7	6	6	6	40.0	54.0	54.0	54.0	7	12	55.0	64.0	7	12	37.0	38.0	7	6	6	6	34.3	100	112	124	8	7.5	55.0	66.0	5	12	5	6.5	0
48 FT	31	33	10	8	8	7.5	6	6	40.1	55.0	55.0	55.0	8	15	63.0	71.0	8	15	45.0	46.0	7	6	7	6.5	37.5	101	113	125	8	7.5	55.0	66.0	5	12	5	6.5	0
50 FT	32	34	11	8	8	7.5	6	6.5	41.0	56.0	56.0	56.0	7	12	55.0	63.0	7	12	37.0	38.0	7	6	6	6	35.1	102	114	126	8	7	55.0	66.0	5	12	5	7	0

		SPAN (S) = 12 FT												HEIGHT (HT) = 9 FT OR 10 FT OR 11 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	10	8	9	5	6	5	7.5	62.3	34.0	34.0	34.0	5	12	117.5	87.5	5	12	31.0	35.0	5	7.5	6	6	79.4	114	126	138	5	6	51.0	54.0	5	12	5	10	12
2 FT	14	10	9	9	5	6	5	8	62.9	34.0	34.0	34.0	5	12	117.5	87.5	5	12	30.0	33.0	5	7	6	6.5	68.6	114	126	138	6	6.5	53.0	56.0	5	12	5	10.5	12
2' - 4'	14	10	9	9	5	6	6	7	75.1	34.0	34.0	35.0	5	12	117.5	89.0	5	12	34.0	36.0	5	7	6	6	68.6	114	126	138	6	6	53.0	56.0	5	12	5	10	12
4 FT	11	10	9	9	5	6	6	7	75.1	31.0	31.0	35.0	5	12	82.0	89.0	5	12	34.0	36.0	5	7	6	6	61.3	114	126	138	6	6	52.0	56.0	5	12	5	10	12
6 FT	11	11	9	9	5	6.5	6	7	59.8	31.0	31.0	35.0	6	16	61.0	70.0	6	16	35.0	36.0	5	6.5	6	6	57.5	115	127	139	6	6	50.0	56.0	5	12	5	9.5	12
8 FT	11	12	9	9	5	6.5	6	7	55.3	31.0	31.0	35.0	6	15	56.0	60.0	6	15	33.0	34.0	5	6	6	6.5	54.5	116	128	140	6	6	49.0	56.0	5	12	5	9	0
10 FT	12	13	9	9	5	6.5	6	6.5	52.5	32.0	32.0	36.0	6	14	54.0	59.0	6	14	33.0	34.0	5	6	6	6.5	52.4	117	129	141	6	6	48.0	56.0	5	12	5	8.5	0
12 FT	13	14	9	9	5	6	6	6.5	50.4	33.0	33.0	37.0	6	14	52.0	58.0	6	14	32.0	34.0	6	8	6	6.5	50.6	118	130	142	6	6	48.0	56.0	5	12	5	8.5	0
14 FT	14	15	9	9	5	6	6	6.5	48.8	34.0	34.0	38.0	6	14	51.0	57.0	6	14	32.0	34.0	6	7.5	6	6.5	49.4	119	131	143	6	6	48.0	56.0	5	12	5	8.5	0
16 FT	15	16	10	9	6	8	6	7.5	54.3	35.0	35.0	39.0	6	13	55.0	63.0	6	13	38.0	40.0	6	7	6	7.5	48.5	120	132	144	6	6	47.0	56.0	5	12	5	8	0
18 FT	16	17	11	9	6	8	6	8	54.3	36.0	36.0	36.0	6	13	55.0	62.0	6	13	38.0	40.0	6	7	5	6	45.4	121	133	145	6	6	47.0	56.0	5	12	5	8	0
20 FT	17	18	11	9	6	7.5	6	7.5	53.6	37.0	37.0	41.0	6	13	54.0	62.0	6	13	37.0	40.0	6	6	6	8	47.8	122	134	146	6	6	47.0	56.0	5	12	5	7.5	0
22 FT	18	20	11	9	6	7	6	6.5	53.3	38.0	38.0	42.0	6	12	54.0	62.0	6	12	37.0	40.0	6	6	6	7													

		SPAN (S) = 12 FT												HEIGHT (HT) = 12 FT OR 13 FT																					
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS						
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS				B1 BARS		B2 BARS				
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=12' HT=13'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=12' HT=13'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	10	10	10	5	6	5	7	63.8	34.0	34.0	5	12	118.5	87.5	5	12	32.0	35.0	5	7	6	6.5	89.1	150	162	6	7	55.0	57.0	5	12	5	8.5	12
2 FT	14	10	10	10	5	6	5	7	63.8	34.0	34.0	5	12	118.5	87.5	5	12	31.0	33.0	5	7	6	6	79.6	150	162	6	6.5	54.0	56.0	5	12	5	8	12
2'- 4'	14	11	10	10	5	6	5	6	63.8	34.0	34.0	5	12	118.5	89.0	5	12	34.0	35.0	5	6.5	6	6	79.6	151	163	6	6.5	54.0	57.0	5	12	5	8	12
4 FT	11	11	10	10	5	6.5	5	6	63.8	31.0	31.0	5	12	118.5	89.0	5	12	34.0	35.0	5	6.5	6	6.5	76.3	151	163	6	6.5	53.0	57.0	5	12	5	8	12
6 FT	11	11	10	10	5	6.5	5	6	71.3	31.0	31.0	6	16	65.0	69.0	6	16	35.0	36.0	5	6.5	6	6	69.1	151	163	6	6	51.0	56.0	5	12	5	8	12
8 FT	11	12	10	10	5	6.5	6	7	65.4	31.0	35.0	6	15	57.0	60.0	6	15	34.0	35.0	5	6	6	6	66.4	152	164	6	6	50.0	56.0	5	12	5	8	0
10 FT	12	13	10	10	5	6.5	6	7	62.9	36.0	36.0	6	15	55.0	58.0	6	15	33.0	34.0	5	6	6	6	63.8	153	165	6	6	49.0	56.0	5	12	5	8	0
12 FT	13	14	11	10	5	6.5	6	7.5	61.1	33.0	37.0	6	14	53.0	57.0	6	14	33.0	34.0	6	8	6	7	62.0	154	166	6	6	49.0	56.0	5	12	5	7.5	0
14 FT	14	15	11	10	5	6	6	7	59.9	38.0	38.0	6	14	51.0	57.0	6	14	32.0	34.0	6	7.5	6	6	60.9	155	167	6	6	48.0	56.0	5	12	5	7.5	0
16 FT	15	16	12	10	6	8	6	7	65.0	39.0	39.0	6	14	56.0	62.0	6	14	38.0	40.0	6	7	6	7	59.9	156	168	6	6	48.0	56.0	5	12	5	7	0
18 FT	16	17	12	10	6	8	6	6.5	64.1	40.0	40.0	6	13	55.0	62.0	6	13	38.0	40.0	6	7	6	6	59.1	157	169	6	6	48.0	56.0	5	12	5	7	0
20 FT	17	18	13	10	6	7.5	6	6.5	63.8	41.0	41.0	6	13	55.0	61.0	6	13	38.0	40.0	6	6	6	7	58.5	158	170	6	6	48.0	56.0	5	12	5	6.5	0
22 FT	18	20	13	10	6	7	6	6	63.3	42.0	42.0	6	13	54.0	61.0	6	13	38.0	40.0	6	6	6	6.5	58.4	160	172	6	6	48.0	56.0	5	12	5	6.5	0
24 FT	19	21	14	10	6	6.5	6	6.5	63.1	39.0	43.0	6	12	54.0	61.0	6	12	37.0	40.0	7	8	6	7	58.0	161	173	7	7.5	51.0	60.0	5	12	5	6	0
26 FT	20	22	14	10	6	6.5	6	6	62.8	44.0	44.0	6	12	53.0	61.0	6	12	37.0	40.0	7	7.5	6	6.5	57.6	162	174	7	7.5	51.0	60.0	5	12	5	6	0
28 FT	21	23	15	10	6	6	6	6	62.9	45.0	45.0	6	12	53.0	61.0	6	12	37.0	40.0	7	7	6	7	57.4	163	175	7	7	51.0	60.0	5	12	6	8	0
30 FT	23	25	15	10	7	7.5	6	6	62.8	47.0	47.0	7	15	57.0	65.0	7	15	40.0	42.0	7	7	6	7	57.5	165	177	7	6.5	51.0	60.0	5	12	6	8	0
32 FT	23	26	16	10	7	7	6	6	63.1	47.0	47.0	7	14	57.0	65.0	7	14	41.0	43.0	7	7	6	7.5	57.5	166	178	7	6.5	51.0	60.0	5	12	6	8	0
34 FT	24	27	16	10	7	7	7	7.5	68.1	48.0	48.0	7	14	57.0	65.0	7	14	40.0	42.0	7	7	6	7	57.5	167	179	7	6	51.0	60.0	5	12	6	8	0
36 FT	25	28	17	10	7	7	6	6	63.6	49.0	49.0	7	14	57.0	64.0	7	14	40.0	42.0	7	7	6	7	57.8	168	180	7	6	51.0	60.0	5	12	6	7.5	0
38 FT	26	29	17	10	7	7	7	7.5	68.6	50.0	50.0	7	13	57.0	64.0	7	13	39.0	41.0	7	6.5	6	7	57.9	169	181	7	6	51.0	60.0	5	12	6	7.5	0
40 FT	27	29	17	10	7	6.5	7	8	66.8	51.0	51.0	7	13	56.0	63.0	7	13	38.0	40.0	7	6	6	7	55.9	169	181	8	7.5	57.0	66.0	5	12	6	7.5	0
42 FT	28	30	17	10	7	6.5	7	7	66.9	52.0	52.0	7	12	56.0	63.0	7	12	38.0	39.0	7	6	6	7	56.0	170	182	8	7.5	57.0	66.0	5	12	6	7.5	0
44 FT	29	31	18	10	7	6	7	7.5	67.8	53.0	53.0	7	12	56.0	62.0	7	12	37.0	38.0	7	6	6	6.5	56.4	171	183	8	7.5	57.0	66.0	5	12	6	7	0
46 FT	29	32	19	10	7	6	7	7.5	68.5	53.0	53.0	7	12	56.0	62.0	7	12	38.0	39.0	7	6	6	6.5	56.8	172	184	8	7	57.0	67.0	5	12	6	6.5	0
48 FT	30	33	19	10	7	6	7	7	68.5	54.0	54.0	7	12	56.0	61.0	7	12	37.0	38.0	7	6	6	6.5	56.9	173	185	8	7	57.0	67.0	5	12	6	6.5	0
50 FT	31	34	19	10	7	6	7	6.5	68.6	55.0	55.0	7	12	56.0	61.0	7	12	37.0	38.0	7	6	6	6.5	57.3	174	186	8	7	57.0	67.0	5	12	6	6.5	0

		SPAN (S) = 12 FT												HEIGHT (HT) = 14 FT OR 15 FT																					
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS						
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS				B1 BARS		B2 BARS				
	TS	BS	TX	T1	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=14' HT=15'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=14' HT=15'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	11	10	12	5	6	6	7.5	64.0	34.0	38.0	5	12	119.5	88.5	5	12	32.0	35.0	5	7	6	6	95.5	175	187	5	6	55.0	55.0	5	12	5	8	12
2 FT	14	12	10	12	5	6	6	7	64.0	34.0	38.0	5	12	119.5	88.5	5	12	31.0	34.0	5	7	6	6	95.5	176	188	5	6	54.0	55.0	5	12	5	8	12
2'- 4'	14	12	12	12	5	6	6	7	68.3	34.0	38.0	6	15	121.5	88.5	6	15	37.0	37.0	5	6.5	6	6	95.5	176	188	6	6.5	55.0	57.0	5	11	5	7	12
4 FT	10	11	12	12	5	6	6	7.5	68.3	34.0	34.0	6	15	121.5	77.0	6	15	37.0	37.0	5	6.5	6	6	86.8	175	187	6	6.5	55.0	57.0	5	11	5	7	12
6 FT	10	12	12	12	5	6.5	6	7	80.0	34.0	34.0	6	15	61.0	61.0	6	15	35.0	35.0	5	6	6	6.5	83.1	176	188	6	6.5	53.0	57.0	5	12	5	7	12
8 FT	11	12	12	12	5	7	6	7.5	76.8	35.0	35.0	6	15	58.0	59.0	6	15	35.0	35.0	5	6	6	6	77.1	176	188	6	6	52.0	55.0	5	12	5	7	0
10 FT	12	13	12	12	5	6.5	6	7.5	74.4	36.0	36.0	6	15	56.0	58.0	6	15	34.0	35.0	5	6	6	6	75.5	177	189	6	6	51.0	55.0	5	12	5	6.5	0
12 FT	13	14	13	12	5	6.5	6	7.5	71.5	37.0	37.0	6	15	54.0	57.0	6	15	34.0	35.0	6	8	6	6	73.0	178	190	6	6	50.0	55.0	5	12	5	6.5	0
14 FT	14	15	13	12	5	6	6	6.5	70.3	38.0	38.0	6	14	52.0	56.0	6	14	33.0	35.0	6	7.5	6	6	72.0	179	191	6	6	50.0	55.0	5	12	5	6.5	0
16 FT	15	16	14	12	6	8	6	6.5	74.5	39.0	39.0	6	14	57.0	62.0	6	14	39.0	41.0	6	7	6	6.5	70.3	180	192	6	6	49.0	55.0	5	12	5	6	0
18 FT	15	17	15	12	6	7.5	6	6.5	72.4	39.0	39.0	6	13	56.0	61.0	6	13	39.0	40.0	6	6.5	6	6.5	69.0	181	193	6	6	49.0	56.0	5	12	6	8	0
20 FT	17	19	15	12	6	7.5	6	6	73.0	41.0	41.0	6	13	56.0	61.0	6	13	39.0	41.0	6	6	6	6	69.6	183	195	6	6	49.0	56.0	5	12	6	8	0
22 FT	18	20	16	12	6	7	6	6.5	72.8	42.0	42.0	6	13	55.0	61.0	6	13	39.0	41.0	6	6	6	6	68.4	184	196	6	6	49.0	56.0	5	12	6	8	0
24 FT	19	21	16	12	6	6.5	6	6	72.4	43.0	43.0	6	13	55.0	61.0	6	13	38.0	41.0	7	8	7	7.5	71.1	185	197	7	7.5	52.0	59.0	5	12	6	8	0
26 FT	20	22	16	12	6	6.5	7	7.5	77.1	44.0	50.0	6	12	55.0	61.0	6	12	38.0	40.0	7	7.5	7	7	70.8	186	198									

DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS																BOTTOM SLAB BARS										WALL BARS						
					A1 BARS		J3 BARS			H1 BARS		H2 BARS		A2 BARS		J4 BARS			H3 BARS		B1 BARS		B2 BARS														
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
										HT=7'	HT=8'	HT=9'														HT=7'	HT=8'	HT=9'									
1 FT	14	9	8	8	5	6	5	8.5	65.8	34.0	34.0	34.0	5	12	125.5	92.5	5	12	34.0	38.0	5	7.5	6	6	60.0	89	101	113	6	6	56.0	59.0	5	12	5	12	12
2 FT	15	10	8	8	6	8	5	8	65.8	31.0	35.0	35.0	6	16	129.5	99.5	6	16	40.0	44.0	5	7	6	6.5	55.5	90	102	114	6	6	54.0	59.0	5	12	5	12	12
2'- 4'	15	10	8	8	6	8	6	7	65.8	31.0	35.0	35.0	6	14	129.5	99.5	6	14	40.0	44.0	5	7	6	6	55.5	90	102	114	7	6.5	57.0	62.0	5	12	5	12	12
4 FT	11	10	8	8	6	8	6	7	56.4	31.0	35.0	35.0	6	14	77.0	97.0	6	14	38.0	40.0	5	7	6	6	49.5	90	102	114	7	6.5	57.0	62.0	5	12	5	12	12
6 FT	11	11	8	8	6	8.5	6	7	49.0	31.0	31.0	35.0	6	13	63.0	75.0	6	13	35.0	37.0	5	6.5	6	7	45.9	91	103	115	7	7	55.0	62.0	5	12	5	12	12
8 FT	12	12	8	8	5	6	5	6	42.0	32.0	32.0	32.0	6	14	58.0	67.0	6	14	34.0	36.0	5	6	6	7	43.3	92	104	116	7	7	54.0	62.0	5	12	5	12	0
10 FT	13	14	8	8	5	6	5	6	39.8	33.0	33.0	33.0	6	13	55.0	63.0	6	13	33.0	36.0	6	8	5	6.5	38.1	94	106	118	6	6	50.0	59.0	5	12	5	12	0
12 FT	14	15	8	8	6	8	5	6	37.9	34.0	34.0	34.0	6	13	53.0	62.0	6	13	33.0	35.0	6	7.5	5	6.5	36.9	95	107	119	6	6	49.0	59.0	5	12	5	12	0
14 FT	15	16	8	8	6	7.5	5	6	41.4	35.0	35.0	35.0	6	12	58.0	67.0	6	12	39.0	41.0	6	7	5	6.5	35.9	96	108	120	6	6	49.0	59.0	5	12	5	10.5	0
16 FT	16	17	8	8	6	7.5	6	8	44.4	36.0	36.0	36.0	6	12	57.0	67.0	6	12	38.0	41.0	6	7	5	6.5	35.1	97	109	121	6	6	49.0	60.0	5	12	5	9.5	0
18 FT	17	18	8	8	6	7	6	7.5	43.5	37.0	37.0	37.0	6	12	56.0	66.0	6	12	38.0	41.0	6	6.5	5	6	34.5	98	110	122	7	7	52.0	63.0	5	12	5	9.5	0
20 FT	18	20	9	8	6	6.5	6	8	44.3	38.0	38.0	38.0	7	15	61.0	71.0	7	15	43.0	46.0	6	6	5	7	34.6	100	112	124	6	6	49.0	60.0	5	12	5	9	0
22 FT	20	21	9	8	6	6.5	6	8	43.4	40.0	40.0	40.0	6	12	55.0	66.0	6	12	38.0	41.0	7	8	5	6.5	34.5	101	113	125	7	7	52.0	63.0	5	12	5	8.5	0
24 FT	21	22	9	8	6	6	6	7.5	43.0	41.0	41.0	41.0	7	15	60.0	71.0	7	15	43.0	46.0	7	7.5	5	6	34.3	102	114	126	7	7	51.0	63.0	5	12	5	8.5	0
26 FT	22	24	10	8	6	6	6	8	43.8	42.0	42.0	42.0	7	15	59.0	70.0	7	15	42.0	46.0	7	7	5	6.5	34.5	104	116	128	7	7	51.0	63.0	5	12	5	8	0
28 FT	23	25	11	8	7	7	5	6	40.5	43.0	43.0	43.0	7	14	59.0	70.0	7	14	42.0	46.0	7	6.5	5	7	34.9	105	117	129	7	6.5	51.0	63.0	5	12	5	8.5	0
30 FT	25	26	11	8	7	7	5	6	40.0	45.0	45.0	45.0	7	14	59.0	70.0	7	14	41.0	44.0	7	6.5	5	6.5	34.9	106	118	130	7	6.5	51.0	63.0	5	12	5	7.5	0
32 FT	26	27	11	8	7	7	5	6	39.8	46.0	46.0	46.0	7	13	59.0	69.0	7	13	40.0	43.0	7	6	5	6	34.8	107	119	131	7	6	51.0	63.0	5	12	5	7.5	0
34 FT	27	29	11	8	7	6.5	6	8	43.9	47.0	47.0	51.0	7	13	58.0	69.0	7	13	40.0	42.0	7	6.5	6	7.5	37.9	109	121	133	8	7.5	57.0	69.0	5	12	5	7.5	0
36 FT	28	30	11	8	7	6.5	6	7.5	43.9	52.0	52.0	52.0	7	12	58.0	68.0	7	12	40.0	42.0	7	6	6	7	37.9	110	122	134	8	7.5	57.0	69.0	5	12	5	7.5	0
38 FT	29	31	11	8	7	6	6	6.5	43.9	53.0	53.0	53.0	7	12	58.0	68.0	7	12	39.0	41.0	7	6	6	7	38.0	111	123	135	8	7	57.0	69.0	5	12	5	7	0
40 FT	30	32	12	8	7	6	6	7.5	44.8	54.0	54.0	54.0	7	12	58.0	68.0	7	12	38.0	40.0	7	6	6	7.5	38.5	112	124	136	8	7	57.0	70.0	5	12	5	7	0
42 FT	31	33	12	8	8	7.5	6	7.5	43.8	55.0	55.0	55.0	8	15	66.0	75.0	8	15	46.0	47.0	7	6	6	7	37.6	113	125	137	8	7	57.0	69.0	5	12	5	7	0
44 FT	32	34	12	8	8	7.5	6	7	43.9	56.0	56.0	56.0	8	14	65.0	74.0	8	14	45.0	47.0	7	6	6	7	37.8	114	126	138	8	7	57.0	69.0	5	12	5	7	0
46 FT	32	35	12	8	8	7	6	7	43.9	56.0	56.0	56.0	8	14	65.0	74.0	8	14	46.0	47.0	7	6	6	6.5	37.8	115	127	139	8	7	57.0	69.0	5	12	5	7	0
48 FT	33	35	12	8	8	7	6	7	43.9	57.0	57.0	57.0	8	14	65.0	74.0	8	14	45.0	47.0	8	7	6	6.5	37.9	115	127	139	8	6.5	57.0	69.0	5	12	5	6.5	0
50 FT	34	36	12	8	8	7	6	6.5	43.9	58.0	58.0	58.0	8	14	65.0	73.0	8	14	45.0	46.0	8	7	6	6.5	38.1	116	128	140	8	6.5	57.0	69.0	5	12	5	6	0

DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS																BOTTOM SLAB BARS										WALL BARS						
					A1 BARS		J3 BARS			H1 BARS		H2 BARS		A2 BARS		J4 BARS			H3 BARS		B1 BARS		B2 BARS														
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
										HT=10'	HT=11'	HT=12'														HT=10'	HT=11'	HT=12'									
1 FT	14	10	9	10	5	6	5	7	66.6	34.0	34.0	34.0	5	12	126.5	93.5	5	12	35.0	38.0	5	7	6	6	81.5	126	138	150	6	6.5	57.0	60.0	5	12	5	9	12
2 FT	15	10	10	10	6	8	5	7.5	67.3	35.0	35.0	35.0	6	16	130.5	100.5	6	16	41.0	44.0	5	7	6	6	70.1	126	138	150	6	6	56.0	58.0	5	12	5	9.5	12
2'- 4'	15	10	10	10	6	8	5	6	72.3	35.0	35.0	35.0	6	15	130.5	100.5	6	15	41.0	44.0	5	7	6	6	70.1	126	138	150	7	6.5	58.0	61.0	5	9.5	5	9	12
4 FT	11	10	10	10	6	8	5	6	72.3	31.0	31.0	31.0	6	15	82.0	97.0	6	15	38.0	39.0	5	7	6	6	64.6	126	138	150	7	6.5	58.0	61.0	5	9.5	5	9	12
6 FT	11	11	10	10	5	6	5	6	60.5	31.0	31.0	31.0	6	14	64.0	71.0	6	14	36.0	37.0	5	6.5	6	6	61.0	127	139	151	7	6.5	57.0	61.0	5	12	5	9	12
8 FT	12	13	10	10	5	6	5	6	56.8	32.0	32.0	32.0	6	14	60.0	64.0	6	14	35.0	36.0	5	6	6	6.5	59.1	129	141	153	6	6	52.0	59.0	5	12	5	8.5	0
10 FT	13	14	10	10	5	6	6	7	56.9	33.0	33.0	37.0	6	13	57.0	62.0	6	13	34.0	36.0	6	8	6	6.5	56.8	130	142	154	6	6	51.0	59.0	5	12	5	8	0
12 FT	14	15	10	10	5	6	6	6.5	54.6	34.0	34.0	38.0	6	13	55.0	61.0	6	13	34.0	36.0	6	7.5	6	6.5	54.9	131	143	155	6	6	51.0	59.0	5	12	5	8	0
14 FT	15	16	10	10	6	8	6	6.5	58.9	35.0	35.0	39.0	6	13	60.0	66.0	6	13	39.0	42.0	6	7	6	6	53.5	132	144	156	6	6	50.0	59.0	5	12	5	8	0
16 FT	16	17	11	10	6	7.5	6	7	58.0	36.0	36.0	40.0	6	12	58.0	66.0	6	12	39.0	42.0	6	7	6	7.5	52.5	133	145	157	6	6	50.0	59.0	5	12	5	7.5	0
18 FT	17	18	12	10	6	7.5	6	7	57.9	37.0	37.0	41.0	6	12	58.0	66.0	6	12	39.0	42.0	6	6	6	7.5	52.0	134	146	158	7	7	53.0	62.0	5	12	5	7	0
20 FT	18	20	12	10	6	7	6	6.5	57.3	38.0	38.0	42.0	6	12	57.0	65.0	6	12	39.0	42.0	6	6	6	7.5	51.5	136	148	160	6	6	50.0	60.0					

		SPAN (S) = 13 FT																HEIGHT (HT) = 13 FT OR 14 FT																	
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS								WALL BARS										
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS						
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=13'/HT=14'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=13'/HT=14'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	11	10	11	5	6	5	6	67.5	34.0	34.0	5	12	127.5	94.5	5	12	35.0	38.0	5	7	6	6.5	100.1	163	175	5	6	56.0	58.0	5	12	5	8	12
2 FT	15	11	10	11	6	8	5	6	67.5	35.0	35.0	6	16	131.5	101.5	6	16	41.0	44.0	5	6.5	6	6	88.9	163	175	6	6.5	57.0	60.0	5	12	5	8	12
2'-4'	15	11	11	11	6	8	5	6	68.1	35.0	35.0	6	15	131.5	101.5	6	15	41.0	44.0	5	6.5	6	6	88.9	163	175	6	6	57.0	60.0	5	12	5	7.5	12
4 FT	11	11	11	11	6	8	5	6	68.1	31.0	31.0	6	15	127.5	92.0	6	15	38.0	39.0	5	6.5	6	6	78.6	163	175	6	6	56.0	60.0	5	12	5	7.5	12
6 FT	11	12	11	11	5	6	6	7.5	75.9	31.0	35.0	6	14	65.0	69.0	6	14	36.0	37.0	5	6	6	6.5	74.6	164	176	6	6	54.0	59.0	5	12	5	7.5	12
8 FT	12	13	11	11	5	6	6	7.5	70.1	32.0	36.0	6	14	61.0	64.0	6	14	35.0	36.0	5	6	6	6.5	70.9	165	177	6	6	53.0	59.0	5	12	5	7.5	0
10 FT	12	14	12	11	5	6	6	7.5	65.9	36.0	36.0	6	12	58.0	61.0	6	12	35.0	35.0	6	8	6	7	67.9	166	178	6	6	52.0	59.0	5	12	5	7	0
12 FT	13	15	12	11	6	8	6	7	64.4	37.0	37.0	6	12	56.0	60.0	6	12	34.0	35.0	6	7.5	6	7	66.3	167	179	6	6	52.0	59.0	5	12	5	7	0
14 FT	15	16	12	11	6	8	6	6.5	69.9	39.0	39.0	6	13	60.0	66.0	6	13	40.0	42.0	6	7	6	6	64.9	168	180	6	6	51.0	59.0	5	12	5	7	0
16 FT	16	17	13	11	6	8	6	6.5	68.9	40.0	40.0	6	13	59.0	65.0	6	13	40.0	42.0	6	7	6	6.5	63.8	169	181	6	6	51.0	59.0	5	12	5	6.5	0
18 FT	17	19	14	11	6	7.5	6	6.5	68.3	41.0	41.0	6	12	58.0	65.0	6	12	40.0	42.0	6	6	6	6.5	63.5	171	183	6	6	51.0	60.0	5	12	5	6	0
20 FT	18	20	14	11	6	7	6	6	67.5	42.0	42.0	6	12	58.0	65.0	6	12	39.0	42.0	6	6	6	6.5	62.8	172	184	6	6	51.0	60.0	5	12	5	6	0
22 FT	19	21	14	11	6	6.5	6	6	66.9	43.0	43.0	6	12	57.0	65.0	6	12	39.0	42.0	7	8	6	6	62.1	173	185	7	7	54.0	63.0	5	12	5	6	0
24 FT	20	22	16	11	6	6	6	6	67.3	44.0	44.0	7	15	62.0	69.0	7	15	44.0	47.0	7	7	6	6.5	61.8	174	186	7	7	54.0	63.0	5	12	6	8	0
26 FT	22	24	16	11	6	6	6	6	67.1	46.0	46.0	7	15	61.0	69.0	7	15	43.0	46.0	7	7	6	7	61.8	176	188	7	7	54.0	63.0	5	12	6	8	0
28 FT	23	25	16	11	7	7.5	7	8	71.6	47.0	47.0	7	15	61.0	69.0	7	15	43.0	46.0	7	6.5	6	6.5	61.4	177	189	7	6.5	54.0	63.0	5	12	6	8	0
30 FT	24	26	16	11	7	7.5	7	7	71.3	48.0	48.0	7	14	60.0	69.0	7	14	42.0	45.0	7	6.5	6	6	61.0	178	190	7	6.5	54.0	63.0	5	12	6	8	0
32 FT	25	28	17	11	7	7	7	7.5	71.6	49.0	49.0	7	14	60.0	68.0	7	14	42.0	45.0	7	6.5	6	6.5	61.1	180	192	7	6	54.0	64.0	5	12	6	7.5	0
34 FT	26	29	17	11	7	6.5	7	6.5	71.4	50.0	50.0	7	13	60.0	68.0	7	13	42.0	44.0	7	6.5	6	6.5	61.0	181	193	8	7.5	60.0	70.0	5	12	6	7.5	0
36 FT	27	30	18	11	7	6.5	7	7	72.0	51.0	51.0	7	13	60.0	68.0	7	13	41.0	43.0	7	6	6	6.5	61.3	182	194	8	7.5	60.0	70.0	5	12	6	7	0
38 FT	28	31	19	11	7	6.5	7	7.5	72.5	52.0	52.0	7	12	59.0	67.0	7	12	41.0	43.0	7	6	6	6.5	61.5	183	195	8	7	60.0	70.0	5	12	6	6.5	0
40 FT	29	32	19	11	7	6	7	6.5	72.6	53.0	53.0	7	12	59.0	67.0	7	12	40.0	42.0	7	6	6	6	61.5	184	196	8	7	60.0	70.0	5	12	6	6.5	0
42 FT	30	33	20	11	7	6	7	7	73.3	54.0	54.0	7	12	59.0	66.0	7	12	39.0	41.0	7	6	6	6	61.9	185	197	8	7	60.0	70.0	5	12	6	6.5	0
44 FT	31	34	20	11	8	7.5	7	7	71.6	55.0	55.0	8	15	67.0	73.0	8	15	47.0	48.0	7	6	6	6	60.1	186	198	8	7	60.0	70.0	5	12	6	6.5	0
46 FT	32	35	20	11	8	7.5	7	6.5	71.6	56.0	56.0	8	15	67.0	73.0	8	15	46.0	48.0	8	7.5	6	6	60.3	187	199	8	7	60.0	70.0	5	12	6	6.5	0
48 FT	32	36	21	11	8	7	7	7	72.4	56.0	56.0	8	14	67.0	73.0	8	14	47.0	48.0	8	7.5	6	6	60.5	188	200	8	6.5	60.0	70.0	5	12	6	6	0
50 FT	33	36	22	11	8	7	7	7	73.1	57.0	63.0	8	14	66.0	72.0	8	14	46.0	47.0	8	6.5	7	7.5	63.8	188	200	8	6.5	60.0	70.0	5	12	6	6	0

		SPAN (S) = 13 FT																HEIGHT (HT) = 15 FT OR 16 FT																	
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS								WALL BARS										
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS		B1 BARS		B2 BARS						
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=15'/HT=16'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=15'/HT=16'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	11	12	13	5	6	5	6	69.0	34.0	34.0	5	12	128.5	95.5	5	12	35.0	37.0	5	6.5	6	6.5	103.3	187	199	6	7	60.0	61.0	5	10.5	5	7	12
2 FT	15	11	12	13	6	8	6	8	72.0	35.0	39.0	6	16	135.5	102.5	6	16	41.0	44.0	5	6.5	6	6	95.4	187	199	6	6.5	58.0	59.0	5	12	5	7	12
2'-4'	15	11	12	13	6	8	6	7	72.0	35.0	39.0	6	15	135.5	102.5	6	15	41.0	44.0	5	6.5	7	6	95.4	187	199	6	6	58.0	59.0	5	12	5	6.5	12
4 FT	11	11	12	13	6	8	6	7	72.0	35.0	35.0	6	15	130.5	82.0	6	15	39.0	39.0	5	6.5	7	6	92.5	187	199	6	6	57.0	59.0	5	12	5	6.5	12
6 FT	11	12	12	13	5	6	6	6.5	90.4	35.0	35.0	6	14	65.0	66.0	6	14	37.0	37.0	5	6	7	6	88.9	188	200	6	6	56.0	59.0	5	12	5	6.5	12
8 FT	11	13	13	13	5	6	6	6.5	78.1	35.0	35.0	6	13	60.0	62.0	6	13	36.0	36.0	5	6	6	6	82.4	189	201	6	6	55.0	59.0	5	12	5	6.5	0
10 FT	12	14	13	13	5	6	6	6.5	76.0	36.0	36.0	6	13	58.0	60.0	6	13	35.0	36.0	6	8	6	6	80.4	190	202	6	6	54.0	59.0	5	12	5	6	0
12 FT	13	15	14	13	5	6	6	6.5	73.3	37.0	37.0	6	12	57.0	59.0	6	12	35.0	36.0	6	7.5	6	6	77.5	191	203	6	6	53.0	59.0	5	12	5	6	0
14 FT	14	16	14	13	6	8	6	6	72.3	38.0	38.0	6	12	55.0	59.0	6	12	35.0	36.0	6	7	6	6	76.3	192	204	7	7	55.0	62.0	5	12	5	6	0
16 FT	15	17	16	13	6	7.5	6	6.5	76.6	39.0	39.0	6	12	60.0	64.0	6	12	41.0	42.0	6	6.5	6	6.5	73.3	193	205	7	7	55.0	62.0	5	12	6	8	0
18 FT	16	19	16	13	6	7	6	6	76.3	40.0	40.0	6	12	59.0	64.0	6	12	40.0	42.0	6	6	6	6	74.1	195	207	6	6	52.0	60.0	5	12	6	8	0
20 FT	18	20	16	13	6	7	6	6	76.8	42.0	42.0	6	12	59.0	64.0	6	12	40.0	42.0	6	6	6	6	73.0	196	208	6	6	52.0	60.0	5	12	6	8	0
22 FT	19	21	17	13	6	6.5	6	6	76.4	43.0	43.0	6	12	58.0	64.0	6	12	40.0	42.0	7	7.5	7	7.5	75.1	197	209	7	7	55.0	63.0	5	12	6	7.5	0
24 FT	20	23	17	13	6	6.5	7	7.5	81.1	44.0	50.0	6	12	58.0	64.0	6	12	40.0	42.0	7	7	7	7	75.4	199	211	7	7	55.0	63.0	5	12	6	7.5	0
26 FT	22	24	18	13	6	6	7	7.5	81.5	46.0	52.0	7	15	62.0	69.0	7	15	44.0	46.0	7	7	7	7.5	74.9	200	212	7	7	55.0	63					

		SPAN (S) = 14 FT												HEIGHT (HT) = 7 FT OR 8 FT OR 9 FT																									
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS										
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS													
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1		
1 FT	14	10	8	8	6	8.5	5	8.5	69.3	34.0	HT=7'	HT=8'	HT=9'	34.0	5	12	133.5	98.5	5	12	39.0	43.0	5	7	6	7	60.9	90	102	114	6	6.5	58.0	63.0	5	12	5	12	12
2 FT	15	10	8	8	6	8	5	8	69.3	35.0	35.0	35.0	6	16	137.5	105.5	6	16	45.0	49.0	5	7	6	6	6	54.8	90	102	114	7	7	60.0	64.0	5	12	5	12	12	
2'- 4'	15	11	8	8	6	7.5	5	6	69.3	35.0	35.0	35.0	6	14	137.5	105.5	6	14	45.0	49.0	5	6.5	6	6	6	54.8	91	103	115	6	6	60.0	64.0	5	12	5	12	12	
4 FT	12	11	8	8	6	7.5	5	6	52.4	32.0	32.0	32.0	6	14	80.0	103.0	6	14	39.0	42.0	5	6.5	6	7	49.1	91	103	115	6	6	56.0	62.0	5	12	5	12	12		
6 FT	12	12	8	8	6	8	6	7.5	48.9	32.0	32.0	32.0	6	13	66.0	81.0	6	13	37.0	39.0	5	6	5	6	42.1	92	104	116	7	7	57.0	65.0	5	12	5	12	12		
8 FT	12	13	8	8	6	7.5	6	7	45.5	32.0	32.0	32.0	6	12	61.0	69.0	6	12	35.0	37.0	6	8.5	5	6	39.1	93	105	117	7	7	56.0	66.0	5	12	5	12	0		
10 FT	13	14	9	8	6	7	5	6	41.3	33.0	33.0	33.0	7	15	61.0	69.0	7	15	38.0	40.0	6	8	5	7	38.4	94	106	118	7	6.5	55.0	65.0	5	12	5	12	0		
12 FT	15	16	9	8	6	7.5	5	6.5	43.5	35.0	35.0	35.0	6	12	62.0	71.0	6	12	40.0	43.0	6	7	5	8	36.8	96	108	120	6	6	52.0	63.0	5	12	5	12	0		
14 FT	16	17	9	8	6	7	5	6	41.9	36.0	36.0	36.0	6	12	61.0	70.0	6	12	40.0	43.0	6	7	5	7.5	35.8	97	109	121	7	7	54.0	66.0	5	12	5	12	0		
16 FT	17	18	9	8	6	7	5	6	40.8	37.0	37.0	37.0	7	15	65.0	75.0	7	15	44.0	48.0	6	6.5	5	7	34.9	98	110	122	7	7	54.0	66.0	5	12	5	12	0		
18 FT	18	20	9	8	6	6.5	6	8	44.0	38.0	38.0	38.0	7	15	64.0	75.0	7	15	44.0	47.0	6	6	5	7	34.0	100	112	124	7	7	54.0	66.0	5	12	5	10	0		
20 FT	20	21	9	8	6	6.5	5	6	38.9	40.0	40.0	40.0	7	15	63.0	75.0	7	15	44.0	48.0	7	8	5	6.5	33.9	101	113	125	7	7	54.0	66.0	5	12	5	9	0		
22 FT	21	22	9	8	6	6	6	8	42.4	41.0	41.0	41.0	7	14	63.0	74.0	7	14	44.0	47.0	7	7	5	6	33.5	102	114	126	7	6.5	54.0	66.0	5	12	5	8.5	0		
24 FT	23	24	9	8	7	7.5	6	7	42.0	47.0	47.0	47.0	7	15	62.0	74.0	7	15	44.0	47.0	7	7	6	7	36.4	104	116	128	7	7	54.0	66.0	5	12	5	8.5	0		
26 FT	24	25	9	8	7	7.5	6	7	41.6	48.0	48.0	48.0	7	14	62.0	74.0	7	14	43.0	47.0	7	6.5	6	7	36.1	105	117	129	7	6.5	54.0	66.0	5	12	5	8.5	0		
28 FT	25	26	9	8	7	7	6	6	41.4	49.0	49.0	49.0	7	14	61.0	73.0	7	14	43.0	47.0	7	6	6	6.5	35.9	106	118	130	7	6	54.0	66.0	5	12	5	7.5	0		
30 FT	27	28	10	8	7	6.5	6	7	42.3	51.0	51.0	51.0	7	13	61.0	73.0	7	13	42.0	45.0	7	6	6	7	36.5	108	120	132	7	6	54.0	67.0	5	12	5	8	0		
32 FT	28	29	10	8	7	6.5	6	6.5	42.0	52.0	52.0	52.0	7	12	61.0	73.0	7	12	41.0	44.0	7	6	6	6.5	36.4	109	121	133	8	7.5	60.0	73.0	5	12	5	7.5	0		
34 FT	29	30	10	8	7	6	6	6	41.9	53.0	53.0	53.0	7	12	61.0	72.0	7	12	41.0	44.0	8	7	6	6.5	36.4	110	122	134	8	7	60.0	73.0	5	12	5	7	0		
36 FT	30	32	11	8	7	6	6	7	42.9	54.0	54.0	54.0	7	12	61.0	72.0	7	12	41.0	43.0	7	6	6	6.5	36.9	112	124	136	8	7	60.0	73.0	5	12	5	7.5	0		
38 FT	31	33	11	8	8	7.5	6	6.5	42.9	55.0	55.0	55.0	8	15	68.0	79.0	8	15	48.0	51.0	8	7.5	6	6.5	37.0	113	125	137	8	6.5	60.0	73.0	5	12	5	7	0		
40 FT	32	34	11	8	8	7.5	6	6.5	42.9	56.0	56.0	56.0	8	14	68.0	79.0	8	14	48.0	50.0	8	7.5	6	6	37.1	114	126	138	8	6.5	60.0	73.0	5	12	5	6.5	0		
42 FT	33	35	12	8	8	7	6	7	43.8	57.0	57.0	57.0	8	14	68.0	78.0	8	14	47.0	49.0	8	7	6	6.5	37.6	115	127	139	8	6.5	60.0	73.0	5	12	5	7	0		
44 FT	34	36	12	8	8	7	6	6.5	43.8	58.0	58.0	58.0	8	14	68.0	78.0	8	14	47.0	48.0	8	7	6	6.5	37.8	116	128	140	8	6	60.0	73.0	5	12	5	6.5	0		
46 FT	35	37	12	8	8	6.5	6	6.5	42.9	59.0	59.0	59.0	8	13	67.0	77.0	8	13	46.0	47.0	8	7	6	6.5	37.0	117	129	141	8	6	60.0	73.0	5	12	5	6.5	0		
48 FT	36	38	12	8	8	6.5	6	6.5	43.0	60.0	60.0	60.0	8	13	67.0	76.0	8	13	46.0	47.0	8	7	6	6	37.1	118	130	142	8	6	60.0	73.0	5	12	5	6	0		
50 FT	37	39	12	8	8	6.5	6	6	43.1	61.0	61.0	61.0	8	13	67.0	75.0	8	13	46.0	47.0	8	7	6	6	37.4	119	131	143	8	6	60.0	73.0	5	12	5	6	0		

		SPAN (S) = 14 FT												HEIGHT (HT) = 10 FT OR 11 FT OR 12 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	10	9	10	6	8.5	5	7	70.3	34.0	34.0	34.0	5	12	134.5	99.5	5	12	39.0	43.0	5	7	6	6	80.1	126	138	150	6	6	60.0	63.0	5	10.5	5	9	12
2 FT	15	11	9	10	6	8	5	7	70.3	35.0	35.0	35.0	6	16	138.5	106.5	6	16	45.0	48.0	5	6.5	6	6	73.6	127	139	151	6	6.5	59.0	62.0	5	12	5	9	12
2'- 4'	15	11	11	10	6	7	5	6	70.3	35.0	35.0	35.0	6	13	138.5	106.5	6	13	45.0	48.0	5	6.5	6	6	73.6	127	139	151	7	7	61.0	65.0	5	9.5	5	9	12
4 FT	11	11	11	10	6	7	5	6	66.6	31.0	31.0	31.0	6	13	81.0	94.0	6	13	39.0	40.0	5	6.5	5	6	61.8	127	139	151	7	7	61.0	65.0	5	9.5	5	10	12
6 FT	12	12	11	10	6	8	5	6.5	60.6	32.0	32.0	32.0	6	13	67.0	75.0	6	13	37.0	39.0	5	6	5	6	57.3	128	140	152	7	7	59.0	65.0	5	12	5	10.5	12
8 FT	12	13	11	10	6	8	5	6	56.3	32.0	32.0	32.0	6	12	62.0	67.0	6	12	36.0	37.0	5	6	6	7	57.4	129	141	153	7	6.5	57.0	65.0	5	12	5	10	0
10 FT	13	14	11	10	6	7.5	6	8	56.3	33.0	33.0	37.0	6	12	59.0	65.0	6	12	35.0	37.0	6	7.5	6	7	55.0	130	142	154	7	6.5	57.0	65.0	5	12	5	9.5	0
12 FT	14	16	12	10	6	7.5	6	8	54.9	34.0	34.0	34.0	7	15	61.0	67.0	7	15	38.0	39.0	6	7	5	6	50.9	132	144	156	7	7	56.0	66.0	5	12	5	9.5	0
14 FT	16	17	12	10	6	7.5	6	8	59.3	36.0	36.0	36.0	6	12	62.0	70.0	6	12	41.0	43.0	6	7	5	6	49.9	133	145	157	7	7	56.0	66.0	5	12	5	9	0
16 FT	17	18	12	10	6	7	6	7.5	58.1	37.0	37.0	41.0	7	16	66.0	74.0	7	16	45.0	48.0	6	6.5	6	8	52.0	134	146	158	7	7	56.0	66.0	5	12	5	8	0
18 FT	18	20	12	10	6	7	6	7	57.5	38.0	38.0	42.0	7	15	65.0	74.0	7	15	45.0	48.0	6	6	6	8	51.3	136	148	160	7	7	55.0	66.0	5	12	5	7.5	0
20 FT	19	21	12	10	6	6	6	6.5	56.6	39.0	39.0	43.0	7	14	64.0	74.0	7	14	45.0	48.0	7	8	6	7.5	50.6	137	149	161	7	7	55.0	66.0	5	12	5	7	0
22 FT	21	22	12	10	6	6	6	6.5	55.9	41.0	41.0	45.0	7	15	64.0	74.0																					

		SPAN (S) = 14 FT												HEIGHT (HT) = 13 FT OR 14 FT																					
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS						
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS				B1 BARS		B2 BARS				
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=13' HT=14'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=13' HT=14'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	10	11	11	5	6	5	6.5	71.8	34.0	34.0	5	12	135.5	100.5	5	12	39.0	42.0	5	7	6	6	87.3	162	174	6	6	60.0	62.0	5	12	5	7.5	12
2 FT	15	11	11	11	6	8	5	6.5	71.8	35.0	35.0	6	16	139.5	107.5	6	16	45.0	48.0	5	6.5	6	6.5	83.4	163	175	6	6	59.0	62.0	5	12	5	7.5	12
2'- 4'	15	11	11	11	6	6.5	6	7	88.0	35.0	35.0	6	13	139.5	107.5	6	13	45.0	48.0	5	6.5	6	6	83.4	163	175	7	6.5	62.0	66.0	5	10.5	5	7.5	12
4 FT	11	11	11	11	6	6.5	6	7	88.0	31.0	35.0	6	13	86.0	92.0	6	13	40.0	40.0	5	6.5	6	6	76.4	163	175	7	6.5	62.0	66.0	5	10.5	5	7.5	12
6 FT	12	12	11	11	6	8	6	7.5	74.5	32.0	36.0	6	13	68.0	75.0	6	13	38.0	39.0	5	6	6	6	71.3	164	176	7	6.5	60.0	65.0	5	12	5	7.5	12
8 FT	12	13	11	11	6	8	6	7	68.5	36.0	36.0	6	12	63.0	67.0	6	12	36.0	37.0	6	8	6	6.5	68.8	165	177	7	6.5	58.0	65.0	5	12	5	7.5	0
10 FT	13	15	11	11	6	7.5	6	6.5	66.0	37.0	37.0	6	12	60.0	65.0	6	12	36.0	37.0	6	7.5	6	6	67.4	167	179	6	6	55.0	63.0	5	12	5	7.5	0
12 FT	14	16	12	11	6	7.5	6	6.5	64.0	38.0	38.0	7	16	61.0	67.0	7	16	38.0	40.0	6	7	6	7	65.3	168	180	7	7	57.0	66.0	5	12	5	7	0
14 FT	16	17	13	11	6	7.5	6	7	69.1	40.0	40.0	6	12	63.0	69.0	6	12	41.0	43.0	6	7	6	6.5	63.6	169	181	7	7	57.0	65.0	5	12	5	6.5	0
16 FT	17	18	13	11	6	7	6	6.5	67.8	41.0	41.0	6	12	62.0	69.0	6	12	41.0	43.0	6	6	6	6.5	62.4	170	182	7	6.5	56.0	66.0	5	12	5	6.5	0
18 FT	18	20	13	11	6	7	6	6	66.6	42.0	42.0	7	15	66.0	74.0	7	15	46.0	48.0	6	6	6	6	61.9	172	184	7	7	56.0	66.0	5	12	5	6.5	0
20 FT	19	21	14	11	6	6.5	6	6	66.3	43.0	43.0	7	15	65.0	73.0	7	15	45.0	48.0	7	8	6	6.5	61.0	173	185	7	7	56.0	66.0	5	12	5	6	0
22 FT	21	23	14	11	6	6	7	8	70.6	45.0	45.0	7	15	64.0	73.0	7	15	45.0	48.0	7	7	6	6	60.8	175	187	7	7	56.0	66.0	5	12	5	6	0
24 FT	22	24	15	11	6	6	7	8	70.5	46.0	46.0	7	15	64.0	73.0	7	15	45.0	48.0	7	7	6	6.5	60.3	176	188	7	7	56.0	66.0	5	12	6	8	0
26 FT	23	25	15	11	7	7.5	7	7.5	69.9	47.0	47.0	7	14	64.0	73.0	7	14	45.0	48.0	7	6.5	6	6	59.6	177	189	7	6.5	56.0	67.0	5	12	6	8	0
28 FT	25	27	16	11	7	7	7	7.5	70.3	49.0	49.0	7	14	63.0	72.0	7	14	44.0	47.0	7	6.5	6	6.5	59.9	179	191	7	6	56.0	67.0	5	12	6	8	0
30 FT	26	28	16	11	7	7	7	7	69.8	50.0	50.0	7	13	62.0	72.0	7	13	43.0	46.0	7	6	6	6	59.4	180	192	7	6	56.0	67.0	5	12	6	8	0
32 FT	27	30	17	11	7	6.5	7	7.5	70.1	51.0	51.0	7	13	62.0	72.0	7	13	43.0	46.0	7	6	6	6.5	59.5	182	194	8	7.5	62.0	73.0	5	12	6	7.5	0
34 FT	28	31	17	11	7	6	7	6.5	69.8	52.0	52.0	7	12	62.0	71.0	7	12	43.0	45.0	7	6	6	6.5	59.1	183	195	8	7	62.0	73.0	5	12	6	7.5	0
36 FT	29	32	18	11	7	6	7	7	70.3	53.0	53.0	7	12	62.0	71.0	7	12	42.0	45.0	8	7.5	6	6.5	59.3	184	196	8	7	62.0	73.0	5	12	6	7	0
38 FT	31	33	19	11	8	7.5	7	7.5	71.0	55.0	55.0	8	15	70.0	78.0	8	15	48.0	50.0	8	7.5	6	6.5	59.6	185	197	8	6.5	62.0	73.0	5	12	6	6.5	0
40 FT	31	34	19	11	8	7	7	6.5	70.9	55.0	55.0	8	14	70.0	78.0	8	14	49.0	51.0	8	7	6	6.5	59.5	186	198	8	6.5	62.0	73.0	5	12	6	6.5	0
42 FT	32	35	20	11	8	7	7	7	71.5	56.0	56.0	8	14	69.0	77.0	8	14	49.0	51.0	8	7	6	6	59.8	187	199	8	6.5	62.0	74.0	5	12	6	6.5	0
44 FT	33	36	20	11	8	7	7	6.5	71.5	57.0	57.0	8	14	69.0	77.0	8	14	48.0	50.0	8	7	6	6	59.9	188	200	8	6	62.0	74.0	5	12	6	6.5	0
46 FT	34	37	20	11	8	7	7	7	70.1	58.0	58.0	8	14	69.0	76.0	8	14	47.0	49.0	8	7	6	6	58.5	189	201	8	6	62.0	74.0	5	12	6	6.5	0
48 FT	35	38	21	11	8	6.5	7	7	70.9	59.0	59.0	8	13	68.0	75.0	8	13	47.0	48.0	8	7	6	6	59.0	190	202	8	6	62.0	74.0	5	12	6	6	0
50 FT	36	39	21	11	8	6.5	7	6.5	70.9	60.0	60.0	8	13	68.0	75.0	8	13	47.0	48.0	8	6.5	6	6	59.1	191	203	8	6	62.0	74.0	5	12	6	6	0

		SPAN (S) = 14 FT												HEIGHT (HT) = 15 FT OR 16 FT																					
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS						
					A1 BARS		J3 BARS				H1 BARS				H2 BARS				A2 BARS		J4 BARS				H3 BARS				B1 BARS		B2 BARS				
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2 HT=15' HT=16'		SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3 HT=15' HT=16'		SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	14	11	12	13	5	6	5	6	72.6	34.0	34.0	5	12	136.5	101.5	5	12	38.0	41.0	5	6.5	6	6	103.4	187	199	6	6.5	62.0	63.0	5	11.5	5	7	12
2 FT	15	12	12	13	6	8	6	8	75.6	35.0	39.0	6	16	143.5	108.5	6	16	45.0	48.0	5	6	6	6.5	99.0	188	200	6	6.5	61.0	63.0	5	12	5	7	12
2'- 4'	15	12	12	13	6	8	6	7.5	75.6	36.0	39.0	6	15	143.5	108.5	6	15	45.0	48.0	5	6	6	6	99.0	188	200	6	6	61.0	63.0	5	12	5	7	12
4 FT	12	12	12	13	6	8	6	7.5	75.6	36.0	36.0	6	15	138.5	89.0	6	15	40.0	41.0	5	6	6	6	90.1	188	200	6	6	60.0	63.0	5	12	5	7	12
6 FT	12	12	12	13	6	8	6	7	89.3	36.0	36.0	6	14	69.0	71.0	6	14	38.0	39.0	5	6	6	6	86.4	189	201	6	6	58.0	63.0	5	12	5	6.5	12
8 FT	12	14	13	13	6	8	6	6.5	78.1	36.0	36.0	6	12	64.0	66.0	6	12	37.0	37.0	6	8	6	6	81.9	190	202	6	6	57.0	62.0	5	12	5	6.5	0
10 FT	13	15	13	13	6	8	6	6.5	75.1	37.0	37.0	6	12	61.0	64.0	6	12	37.0	37.0	6	7.5	6	6.5	79.1	191	203	7	7	59.0	65.0	5	12	5	6.5	0
12 FT	14	16	14	13	6	7.5	6	6.5	72.9	38.0	38.0	6	12	59.0	63.0	6	12	36.0	37.0	6	7	6	6.5	75.6	192	204	7	7	58.0	65.0	5	12	5	6	0
14 FT	15	17	15	13	6	7.5	6	6.5	77.6	39.0	39.0	7	16	69.0	73.0	7	16	47.0	48.0	6	7	6	6.5	73.6	193	205	7	7	58.0	65.0	5	12	6	8	0
16 FT	17	19	15	13	6	7.5	6	6	77.6	41.0	41.0	6	12	63.0	68.0	6	12	42.0	44.0	6	6	6	6	73.5	195	207	6	6	55.0	63.0	5	12	6	8	0
18 FT	18	20	15	13	6	7	7	7.5	81.8	42.0	48.0	7	16	67.0	73.0	7	16	46.0	49.0	6	6	7	7	75.6	196	208	7	7	57.0	66.0	5	12	6	8	0
20 FT	19	21	16	13	6	6.5	7	7.5	81.1	43.0	49.0	7	15	66.0	73.0	7	15	46.0	49.0	7	7.5	7	7.5	74.8	197	209	7	7	57.0	66.0	5	12	6	8	0
22 FT	20	23	17	13	6	6	7	7.5	80.8	44.0	50.0	7	15	65.0	73.0	7	15	46.0	49.0	7	7	7	7.5	74.6	199	211	7	7	57.0	66.0	5	12	6	7.5	0
24 FT	22	24	17	13	6	6	7	7	80.8	46.0	52.0	7	15	65.0	73.0	7	15	46.0	49.0	7	7	7	7	74.1	200	212	7	7	57.0	66.0	5	12	6	7.5	0
26 FT	23	25	18	13	7	7.5	7	7	80.5	47.0	53.0	7	15	65.0	72.0	7	15	46.0	49.0	7	6														

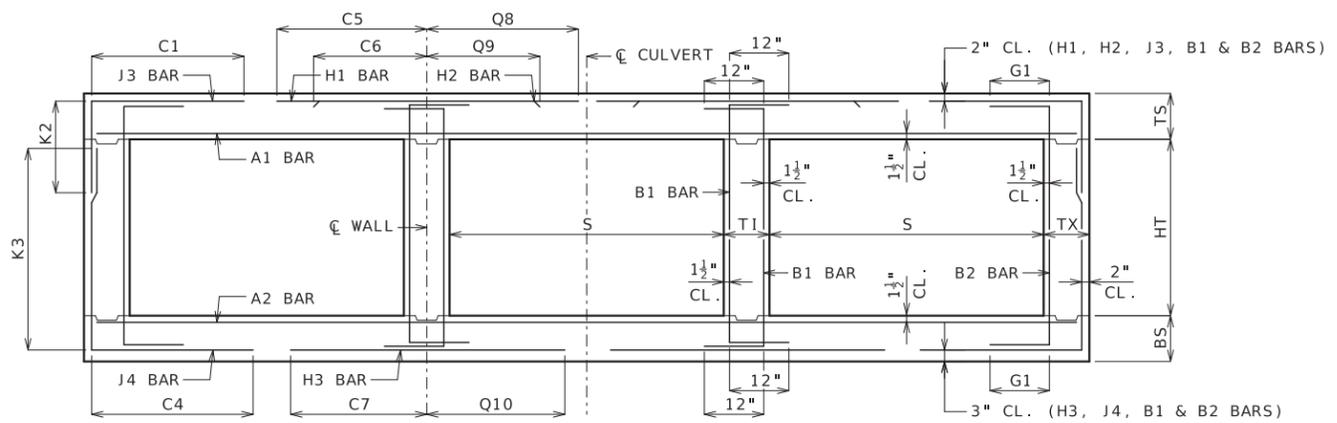
		SPAN (S) = 15 FT												HEIGHT (HT) = 8 FT OR 9 FT OR 10 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	15	10	8	8	6	8	5	8	72.9	35.0	35.0	35.0	6	16	146.5	111.5	6	16	48.0	53.0	5	7	7	6.5	69.0	102	114	126	6	6	61.0	65.0	5	12	5	12	12
2 FT	15	11	9	8	6	7.5	5	8	73.5	35.0	35.0	35.0	6	16	146.5	111.5	6	16	49.0	53.0	5	6.5	6	7	60.4	103	115	127	6	6	59.0	65.0	5	12	5	12	12
2'- 4'	15	11	9	8	6	6.5	6	7	73.5	35.0	36.0	36.0	6	12	146.5	111.5	6	12	49.0	53.0	5	6.5	6	6.5	60.4	103	115	127	7	6.5	61.0	68.0	5	11.5	5	12	12
4 FT	12	11	9	8	6	6.5	6	7	60.8	32.0	36.0	36.0	6	12	84.0	109.0	6	12	40.0	43.0	5	6.5	6	6.5	53.9	103	115	127	7	6.5	61.0	68.0	5	11.5	5	12	12
6 FT	12	12	9	8	6	7	6	6.5	53.5	32.0	32.0	36.0	7	16	72.0	86.0	7	16	41.0	43.0	6	8	6	7	49.9	104	116	128	7	6.5	60.0	68.0	5	12	5	12	12
8 FT	13	14	9	8	6	7	6	7	49.5	33.0	33.0	33.0	7	15	67.0	77.0	7	15	39.0	42.0	6	8	5	6.5	43.4	106	118	130	7	7	58.0	69.0	5	12	5	12	0
10 FT	14	15	9	8	6	7	6	7.5	46.6	34.0	34.0	34.0	7	15	64.0	73.0	7	15	39.0	41.0	6	7.5	5	6.5	41.5	107	119	131	7	6.5	58.0	69.0	5	12	5	12	0
12 FT	15	16	9	8	6	6	6	7.5	50.4	35.0	35.0	35.0	7	14	70.0	80.0	7	14	46.0	49.0	6	6	5	6	40.0	108	120	132	7	6.5	57.0	69.0	5	12	5	11.5	0
14 FT	17	18	9	8	6	6.5	6	7.5	48.4	37.0	37.0	37.0	7	15	68.0	79.0	7	15	46.0	49.0	6	6.5	5	6	38.9	110	122	134	7	6.5	57.0	69.0	5	12	5	9.5	0
16 FT	18	19	9	8	6	6.5	6	7.5	47.1	38.0	38.0	42.0	7	14	67.0	79.0	7	14	45.0	49.0	6	6	6	8.5	41.0	111	123	135	7	6.5	57.0	69.0	5	12	5	8.5	0
18 FT	19	21	10	8	6	6	6	7.5	47.8	39.0	39.0	39.0	7	14	66.0	78.0	7	14	45.0	49.0	7	8	5	6.5	37.9	113	125	137	7	6.5	57.0	70.0	5	12	5	9.5	0
20 FT	21	22	10	8	6	6	6	7.5	46.6	41.0	41.0	41.0	7	14	66.0	78.0	7	14	45.0	49.0	7	7.5	5	6	37.5	114	126	138	7	6.5	56.0	70.0	5	12	5	8	0
22 FT	23	24	10	8	7	7.5	6	7.5	46.0	43.0	43.0	43.0	7	14	65.0	77.0	7	14	45.0	49.0	7	7	5	6	37.3	116	128	140	7	6.5	56.0	70.0	5	12	5	8	0
24 FT	24	25	11	8	7	7.5	6	8	46.5	44.0	44.0	44.0	7	13	64.0	77.0	7	13	45.0	49.0	7	6.5	5	6.5	37.5	117	129	141	7	6.5	56.0	70.0	5	12	5	7.5	0
26 FT	25	27	11	8	7	7	6	7.5	46.4	45.0	45.0	45.0	7	13	64.0	77.0	7	13	44.0	48.0	7	6.5	5	6	37.1	119	131	143	7	6	56.0	70.0	5	12	5	7.5	0
28 FT	27	28	11	8	7	6.5	6	7.5	45.8	47.0	47.0	47.0	7	13	64.0	76.0	7	13	44.0	48.0	7	6	5	6	37.1	120	132	144	7	6	56.0	70.0	5	12	5	7.5	0
30 FT	28	30	12	8	7	6.5	6	7.5	46.8	52.0	52.0	52.0	7	12	63.0	76.0	7	12	43.0	47.0	8	7.5	6	8	40.4	122	134	146	8	7.5	62.0	76.0	5	12	5	7	0
32 FT	30	31	12	8	7	6	6	7.5	46.3	54.0	54.0	54.0	7	12	63.0	75.0	7	12	42.0	45.0	8	7.5	6	7.5	40.5	123	135	147	8	7	62.0	76.0	5	12	5	7	0
34 FT	31	32	12	8	8	7.5	6	7.5	46.1	55.0	55.0	55.0	8	15	71.0	83.0	8	15	50.0	53.0	8	6.5	6	7.5	40.3	124	136	148	8	6.5	62.0	76.0	5	12	5	7	0
36 FT	32	34	12	8	8	7.5	6	7	46.1	56.0	56.0	56.0	8	14	71.0	82.0	8	14	49.0	52.0	8	7	6	7	40.3	126	138	150	8	6.5	62.0	76.0	5	12	5	7	0
38 FT	33	35	13	8	8	7	6	7	47.0	57.0	57.0	57.0	8	14	71.0	82.0	8	14	49.0	51.0	8	7	6	6.5	40.8	127	139	151	8	6.5	62.0	76.0	5	12	5	6.5	0
40 FT	34	36	13	8	8	7	6	6.5	46.9	58.0	58.0	58.0	8	14	70.0	81.0	8	14	49.0	51.0	8	6.5	6	6.5	40.8	128	140	152	8	6	62.0	76.0	5	12	5	6.5	0
42 FT	35	37	13	8	8	6.5	6	6.5	46.9	59.0	59.0	59.0	8	13	70.0	81.0	8	13	48.0	50.0	8	6	6	6.5	40.9	129	141	153	8	6	62.0	76.0	5	12	5	6.5	0
44 FT	36	38	13	8	8	6.5	6	6.5	46.9	60.0	60.0	60.0	8	13	70.0	80.0	8	13	48.0	49.0	8	6	6	6	41.0	130	142	154	8	6	62.0	76.0	5	12	5	6	0
46 FT	37	39	13	8	8	6.5	6	6	46.9	61.0	61.0	61.0	8	12	70.0	79.0	8	12	47.0	49.0	8	6	6	6	41.1	131	143	155	8	6	62.0	76.0	5	12	6	8	0
48 FT	38	41	13	8	8	6	6	6	46.1	62.0	62.0	62.0	8	12	69.0	78.0	8	12	46.0	48.0	8	6.5	7	7	43.3	133	145	157	9	7.5	68.0	82.0	5	12	6	8	0
50 FT	39	42	14	8	8	6	6	6	47.1	63.0	63.0	63.0	8	12	69.0	77.0	8	12	46.0	47.0	8	6.5	7	7.5	43.9	134	146	158	9	7	68.0	82.0	5	12	5	6	0

		SPAN (S) = 15 FT												HEIGHT (HT) = 11 FT OR 12 FT OR 13 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	15	11	9	10	6	8	5	6.5	73.9	35.0	35.0	35.0	6	16	147.5	112.5	6	16	48.0	52.0	5	6.5	6	6	89.3	139	151	163	6	6.5	63.0	67.0	5	12	5	8.5	12
2 FT	15	11	10	10	6	7.5	5	6.5	74.5	35.0	35.0	35.0	6	16	147.5	112.5	6	16	49.0	53.0	5	6.5	6	6	77.1	139	151	163	6	6	61.0	65.0	5	12	5	8	12
2'- 4'	15	12	10	10	6	7	6	7.5	77.5	35.0	36.0	36.0	6	13	147.5	112.5	6	13	49.0	53.0	5	6	6	6	77.1	140	152	164	6	6	61.0	67.0	5	10	5	8	12
4 FT	12	12	10	10	6	7	6	7.5	77.5	32.0	36.0	36.0	6	13	89.0	107.0	6	13	41.0	43.0	5	6	6	6.5	71.3	140	152	164	6	6	60.0	67.0	5	10	5	8	12
6 FT	12	12	10	10	6	7	6	7	67.9	32.0	36.0	36.0	7	16	74.0	83.0	7	16	41.0	43.0	6	8	6	6	65.1	140	152	164	7	6	61.0	68.0	5	12	5	8	12
8 FT	13	14	10	10	6	7.5	6	6.5	63.0	33.0	37.0	37.0	7	16	69.0	75.0	7	16	40.0	42.0	6	7.5	6	6	62.3	142	154	166	7	6.5	60.0	69.0	5	12	5	8	0
10 FT	14	15	10	10	6	7	6	6.5	59.4	34.0	38.0	38.0	7	15	66.0	73.0	7	15	40.0	42.0	6	7	7	6.5	62.4	143	155	167	7	6.5	59.0	69.0	5	12	5	8	0
12 FT	15	17	11	10	6	7	6	6.5	63.5	35.0	35.0	39.0	7	14	71.0	79.0	7	14	47.0	49.0	6	7	6	7	57.5	145	157	169	7	7	59.0	69.0	5	12	5	7.5	0
14 FT	17	18	12	10	6	7	6	6.5	62.4	37.0	41.0	41.0	7	15	70.0	78.0	7	15	47.0	49.0	6	6.5	6	7	56.4	146	158	170	7	6.5	58.0	69.0	5	12	5	7	0
16 FT	18	19	12	10	6	6.5	6	6.5	61.1	38.0	42.0	42.0	7	14	68.0	78.0	7	14	46.0	49.0	6	6	6	7	55.4	147	159	171	7	6.5	58.0	69.0	5	12	5	7	0
18 FT	19	21	12	10	6	6	6	6	60.4	39.0	43.0	43.0	7	14	68.0	77.0	7	14	46.0	49.0	7	8	6	6	54.6	149	161	173	7	6.5	58.0	70.0	5	12	5	7	0
20 FT	21	22	13	10	6	6	6	6	60.3	41.0	45.0	45.0	7	14	67.0	77.0	7	14	46.0	49.0	7	7	6	6.5	54.5	150	162	174	7	6.5	58.0	70.0	5	12	5	6.5	0
22 FT	22	24	13	10	6	6	6	6	59.6	42.																											

		SPAN (S) = 15 FT												HEIGHT (HT) = 14 FT OR 15 FT OR 16 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
									HT=14'	HT=15'	HT=16'															HT=14'	HT=15'	HT=16'									
1 FT	15	11	12	13	6	8	6	8	79.3	35.0	35.0	39.0	6	16	152.5	114.5	6	16	48.0	51.0	5	6.5	6	6	99.0	175	187	199	6	6	64.0	65.0	5	11.5	5	7	12
2 FT	15	12	12	13	6	8	6	8	79.3	35.0	35.0	39.0	6	16	152.5	114.5	6	16	49.0	52.0	5	6	6	6.5	95.5	176	188	200	6	6	63.0	66.0	5	11.5	5	7	12
2'- 4'	15	12	12	13	6	7	6	7	111.5	36.0	36.0	39.0	6	13	152.5	114.5	6	13	49.0	52.0	5	6	6	6	95.5	176	188	200	7	6.5	65.0	69.0	5	9.5	5	7	12
4 FT	12	12	12	13	6	7	6	7	111.5	36.0	36.0	36.0	6	13	99.0	91.0	6	13	41.0	42.0	5	6	6	6	88.6	176	188	200	7	6.5	65.0	69.0	5	9.5	5	7	12
6 FT	12	13	12	13	6	7.5	6	6.5	85.6	36.0	36.0	36.0	6	12	71.0	73.0	6	12	40.0	40.0	6	8	6	6	84.0	177	189	201	7	6.5	64.0	69.0	5	12	5	6.5	12
8 FT	13	14	13	13	6	7.5	6	7	77.4	37.0	37.0	37.0	6	12	67.0	70.0	6	12	38.0	39.0	6	7.5	6	6	78.1	178	190	202	7	6.5	62.0	68.0	5	12	5	6.5	0
10 FT	14	16	13	13	6	7.5	6	6	75.0	38.0	38.0	38.0	7	15	67.0	71.0	7	15	41.0	42.0	6	7	6	6	77.0	180	192	204	7	7	61.0	69.0	5	12	5	6.5	0
12 FT	15	17	14	13	6	7	6	6	78.9	39.0	39.0	39.0	7	15	73.0	78.0	7	15	48.0	50.0	6	7	6	6.5	74.8	181	193	205	7	6.5	60.0	69.0	5	12	5	6	0
14 FT	16	18	15	13	6	7	6	6	77.5	40.0	40.0	40.0	7	14	71.0	77.0	7	14	48.0	49.0	6	6.5	6	6.5	73.0	182	194	206	7	6.5	60.0	69.0	5	12	6	8	0
16 FT	18	20	15	13	6	7	7	8	81.9	42.0	42.0	42.0	7	15	70.0	77.0	7	15	48.0	50.0	6	6	6	6	72.4	184	196	208	7	7	60.0	69.0	5	12	6	8	0
18 FT	19	21	15	13	6	6.5	7	7	80.8	43.0	43.0	49.0	7	14	69.0	77.0	7	14	48.0	50.0	7	8	7	7	74.4	185	197	209	7	6.5	60.0	69.0	5	12	6	8	0
20 FT	20	23	16	13	6	6	7	7	80.3	44.0	44.0	50.0	7	14	69.0	76.0	7	14	47.0	50.0	7	7	7	7.5	74.0	187	199	211	7	7	59.0	70.0	5	12	6	8	0
22 FT	22	24	17	13	6	6	7	7.5	80.1	46.0	46.0	52.0	7	14	68.0	76.0	7	14	47.0	50.0	7	7	7	7.5	73.3	188	200	212	7	6.5	59.0	70.0	5	12	6	7.5	0
24 FT	23	25	17	13	7	7.5	7	7	79.4	47.0	47.0	53.0	7	14	67.0	76.0	7	14	47.0	50.0	7	6	7	7	72.5	189	201	213	7	6	59.0	70.0	5	12	6	7.5	0
26 FT	25	27	18	13	7	7	7	7	79.6	49.0	49.0	55.0	7	14	67.0	76.0	7	14	47.0	50.0	7	6.5	7	7.5	72.5	191	203	215	7	6	59.0	70.0	5	12	6	7	0
28 FT	26	29	19	13	7	7	7	7	79.6	50.0	50.0	50.0	7	13	66.0	76.0	7	13	46.0	50.0	7	6	6	6	69.5	193	205	217	8	7.5	65.0	76.0	5	12	6	6.5	0
30 FT	27	30	19	13	7	6.5	7	6.5	79.3	51.0	51.0	57.0	7	13	66.0	76.0	7	13	46.0	49.0	8	7.5	7	7.5	72.1	194	206	218	8	7.5	65.0	77.0	5	12	6	6.5	0
32 FT	29	31	20	13	7	6	7	7	79.5	53.0	53.0	59.0	7	12	65.0	75.0	7	12	44.0	47.0	8	7	7	8	71.9	195	207	219	8	7	65.0	77.0	5	12	6	6.5	0
34 FT	30	33	21	13	7	6	7	7	79.9	54.0	54.0	54.0	7	12	65.0	75.0	7	12	44.0	47.0	8	7	6	6	69.0	197	209	221	8	6.5	65.0	77.0	5	12	6	6	0
36 FT	31	34	22	13	8	7.5	7	6.5	80.1	55.0	61.0	61.0	8	15	73.0	82.0	8	15	52.0	55.0	8	7	7	7.5	71.9	198	210	222	8	6.5	65.0	77.0	5	12	6	6	0
38 FT	32	35	22	13	8	7	7	6	79.8	56.0	62.0	62.0	8	14	73.0	82.0	8	14	52.0	54.0	8	6.5	7	7.5	71.6	199	211	223	8	6.5	65.0	77.0	5	12	6	6	0
40 FT	33	36	23	13	8	6.5	7	6.5	80.4	57.0	63.0	63.0	8	13	73.0	82.0	8	13	51.0	54.0	8	6	7	7.5	71.8	200	212	224	8	6	65.0	77.0	5	12	7	7.5	0
42 FT	34	38	24	13	8	6.5	7	6.5	81.1	58.0	64.0	64.0	8	13	72.0	81.0	8	13	51.0	53.0	8	6.5	7	7	72.4	202	214	226	8	6	65.0	78.0	5	12	7	7.5	0
44 FT	35	39	25	13	8	6.5	7	6.5	81.9	59.0	65.0	65.0	8	13	72.0	81.0	8	13	50.0	52.0	8	6.5	7	7	72.5	203	215	227	8	6	65.0	78.0	5	12	7	7.5	0
46 FT	36	40	26	13	8	6.5	7	6.5	82.5	60.0	66.0	66.0	8	13	72.0	80.0	8	13	50.0	52.0	8	6.5	7	7	72.9	204	216	228	9	7.5	71.0	84.0	5	12	7	8	0
48 FT	37	41	27	13	8	6.5	7	6	83.3	67.0	67.0	67.0	8	12	72.0	79.0	8	12	49.0	51.0	8	6.5	7	7	73.1	205	217	229	9	7	71.0	84.0	5	12	7	8	0
50 FT	38	42	27	13	8	6	7	6.5	81.8	68.0	68.0	68.0	8	12	71.0	79.0	8	12	49.0	50.0	8	6	7	7	71.4	206	218	230	9	7	71.0	84.0	5	12	6	6	0

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

GENERAL NOTES:
 IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.
 SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.
 DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.
 CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.



BAR DIMENSIONS DIAGRAM
 SYMMETRICAL ABOUT CL CULVERT.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT	
	MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS SPAN (S): 15 FEET HEIGHT (HT): 14 THRU 16 FEET	
DATE EFFECTIVE: 7/1/2023 DATE PREPARED: 3/22/2023	703.87A	SHEET NO. 25 OF 27

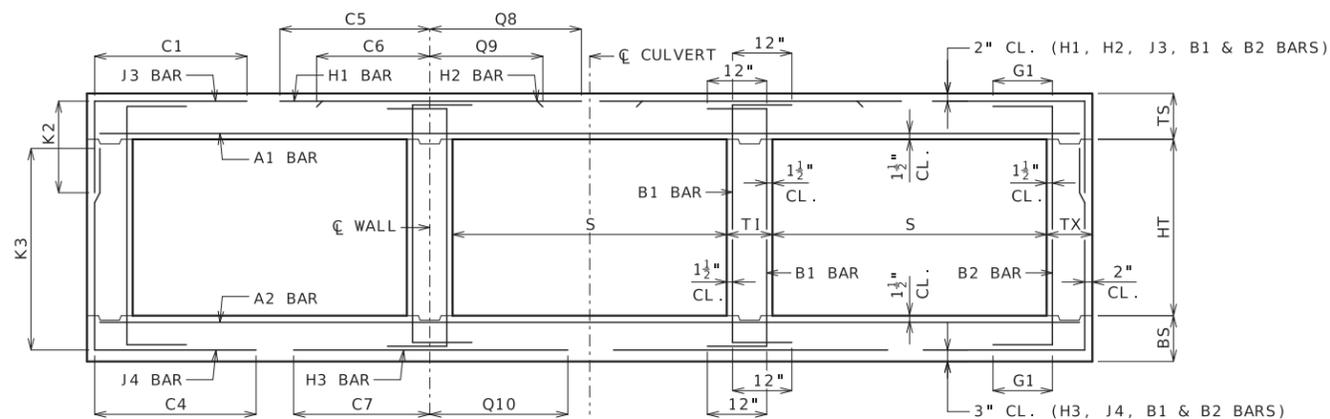
		SPAN (S) = 16 FT												HEIGHT (HT) = 8 FT OR 9 FT OR 10 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	15	10	9	8	6	7.5	5	8	77.1	35.0	35.0	35.0	6	16	154.5	117.5	6	16	52.0	57.0	5	7	6	6	64.6	102	114	126	7	6.5	66.0	71.0	5	12	5	12	12
2 FT	16	11	9	8	6	7	5	8	77.1	36.0	36.0	36.0	6	14	154.5	117.5	6	14	48.0	53.0	5	6.5	6	6.5	59.3	103	115	127	7	7	65.0	71.0	5	12	5	12	12
2'- 4'	16	11	9	8	6	6.5	5	6	77.1	36.0	36.0	36.0	6	12	154.5	117.5	6	12	48.0	53.0	6	8	6	6	59.3	103	115	127	7	6	65.0	71.0	5	12	5	12	12
4 FT	13	11	9	8	6	6.5	5	6	55.9	33.0	33.0	33.0	6	12	87.0	115.0	6	12	42.0	45.0	6	8	6	6	54.0	103	115	127	7	6	64.0	71.0	5	12	5	12	12
6 FT	13	12	10	8	6	7	5	6	51.4	33.0	33.0	33.0	7	15	75.0	91.0	7	15	42.0	45.0	6	7	6	6.5	51.4	104	116	128	7	6	62.0	70.0	5	12	5	12	12
8 FT	14	14	10	8	6	7	5	6	47.3	34.0	34.0	34.0	7	15	70.0	81.0	7	15	41.0	43.0	6	7.5	5	6.5	44.5	106	118	130	7	6	61.0	71.0	5	12	5	12	0
10 FT	15	16	10	8	6	6.5	6	8	53.6	35.0	35.0	35.0	7	14	75.0	85.0	7	14	48.0	51.0	6	7	5	7	41.6	108	120	132	7	6.5	60.0	72.0	5	12	5	12	0
12 FT	16	17	10	8	6	6.5	6	8	51.3	36.0	36.0	36.0	7	13	73.0	83.0	7	13	47.0	50.0	6	6.5	5	6.5	40.1	109	121	133	7	6	60.0	72.0	5	12	5	12	0
14 FT	18	19	10	8	6	6	6	8	49.0	38.0	38.0	38.0	7	14	71.0	83.0	7	14	47.0	50.0	6	6	5	6.5	38.8	111	123	135	7	6.5	59.0	73.0	5	12	5	12	0
16 FT	19	20	10	8	6	6	6	7.5	47.6	39.0	39.0	39.0	7	13	69.0	82.0	7	13	46.0	50.0	6	6	5	6.5	37.8	112	124	136	7	6	59.0	73.0	5	12	5	11	0
18 FT	20	22	10	8	7	7	6	7.5	46.9	40.0	40.0	40.0	7	13	69.0	81.0	7	13	46.0	50.0	7	7.5	5	6.5	36.8	114	126	138	7	6.5	59.0	73.0	5	12	5	9.5	0
20 FT	22	23	10	8	7	7.5	6	7.5	45.6	42.0	42.0	42.0	7	13	68.0	81.0	7	13	46.0	50.0	7	6.5	5	6	36.5	115	127	139	7	6	59.0	73.0	5	12	5	8	0
22 FT	24	25	10	8	7	7.5	6	7.5	45.0	44.0	44.0	44.0	7	13	67.0	81.0	7	13	46.0	50.0	7	6.5	5	6	36.3	117	129	141	7	6.5	59.0	73.0	5	12	5	8	0
24 FT	25	27	11	8	7	7	6	7.5	45.9	45.0	45.0	45.0	7	12	67.0	80.0	7	12	46.0	50.0	7	6.5	5	6	36.4	119	131	143	7	6	59.0	73.0	5	12	5	7.5	0
26 FT	27	28	11	8	7	6.5	6	7.5	45.1	47.0	47.0	47.0	7	12	66.0	80.0	7	12	45.0	50.0	7	6	5	6	36.4	120	132	144	7	6	59.0	73.0	5	12	5	7.5	0
28 FT	28	30	11	8	7	6	6	7	45.0	52.0	52.0	52.0	7	12	66.0	80.0	7	12	45.0	50.0	8	7.5	6	7	39.0	122	134	146	8	7.5	65.0	79.0	5	12	5	7.5	0
30 FT	30	31	11	8	7	6	6	6.5	44.6	54.0	54.0	54.0	7	12	66.0	79.0	7	12	44.0	48.0	8	7	6	7	39.0	123	135	147	8	7	65.0	79.0	5	12	5	7.5	0
32 FT	31	33	12	8	8	7.5	6	7.5	45.5	55.0	55.0	55.0	8	15	74.0	87.0	8	15	52.0	56.0	8	7	6	7	39.4	125	137	149	8	6.5	65.0	80.0	5	12	5	7	0
34 FT	33	34	12	8	8	7	6	7	45.3	57.0	57.0	57.0	8	14	73.0	86.0	8	14	51.0	54.0	8	6.5	6	7	39.5	126	138	150	8	6.5	65.0	80.0	5	12	5	7	0
36 FT	34	36	12	8	8	7	6	6.5	45.3	58.0	58.0	58.0	8	14	73.0	85.0	8	14	50.0	53.0	8	6.5	6	6.5	39.4	128	140	152	8	6	65.0	80.0	5	12	5	6.5	0
38 FT	35	37	12	8	8	6.5	6	6.5	45.3	59.0	59.0	59.0	8	13	73.0	85.0	8	13	50.0	53.0	8	6.5	6	6.5	39.4	129	141	153	8	6	65.0	80.0	5	12	5	6	0
40 FT	36	39	13	8	8	6	6	6.5	46.1	60.0	60.0	60.0	8	12	73.0	84.0	8	12	50.0	52.0	8	6.5	6	6	39.9	131	143	155	8	6	65.0	80.0	5	12	5	6.5	0
42 FT	38	40	13	8	8	6	6	6	46.0	62.0	62.0	62.0	8	12	72.0	83.0	8	12	48.0	50.0	8	6.5	6	6	40.1	132	144	156	9	7	71.0	86.0	5	12	5	6	0
44 FT	39	41	13	8	8	6	6	6	46.0	63.0	63.0	63.0	8	12	72.0	82.0	8	12	48.0	49.0	8	6	7	7	43.3	133	145	157	9	7	71.0	86.0	5	12	6	8	0
46 FT	40	42	13	8	8	6	7	7	51.1	70.0	70.0	70.0	8	12	72.0	82.0	8	12	47.0	48.0	8	6	7	7	43.4	134	146	158	9	7	71.0	86.0	5	12	6	7.5	0
48 FT	41	43	13	8	9	7.5	7	7	51.1	71.0	71.0	71.0	9	15	79.0	89.0	9	15	55.0	56.0	8	6	7	6.5	43.5	135	147	159	9	7	70.0	86.0	5	12	6	7.5	0
50 FT	42	45	13	8	9	7	7	6	51.4	72.0	72.0	72.0	9	15	79.0	88.0	9	15	55.0	56.0	8	6	7	6.5	43.8	137	149	161	9	7	70.0	86.0	5	10.5	6	7	0

		SPAN (S) = 16 FT												HEIGHT (HT) = 11 FT OR 12 FT OR 13 FT																							
DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS			H2 BARS			A2 BARS		J4 BARS			H3 BARS			B1 BARS		B2 BARS											
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	15	11	9	10	6	7.5	5	6	77.5	35.0	35.0	35.0	6	16	155.5	118.5	6	16	52.0	57.0	5	6.5	6	6	79.6	139	151	163	6	6	65.0	69.0	5	12	5	8.5	12
2 FT	16	12	9	10	6	7	5	6	77.5	36.0	36.0	36.0	6	14	155.5	118.5	6	14	49.0	54.0	5	6	6	6	79.0	140	152	164	6	6	64.0	69.0	5	12	5	8.5	12
2'- 4'	16	12	10	10	6	6.5	6	7	77.5	37.0	37.0	37.0	6	12	155.5	118.5	6	12	49.0	54.0	5	6	6	6	79.0	140	152	164	7	6.5	65.0	72.0	5	10.5	5	8	12
4 FT	13	12	10	10	6	6.5	6	7	76.3	37.0	37.0	37.0	6	12	91.0	115.0	6	12	42.0	45.0	5	6	6	6	69.6	140	152	164	7	6.5	65.0	72.0	5	10.5	5	8	12
6 FT	13	13	10	10	6	6.5	6	7	67.3	37.0	37.0	37.0	7	15	77.0	88.0	7	15	43.0	45.0	6	7.5	6	6.5	64.3	141	153	165	7	6	64.0	72.0	5	12	5	8	12
8 FT	14	14	10	10	6	7	6	6.5	61.5	38.0	38.0	38.0	7	15	71.0	79.0	7	15	41.0	44.0	6	7	6	6	60.3	142	154	166	7	6	62.0	72.0	5	12	5	8	0
10 FT	15	16	10	10	6	6.5	6	6	63.9	35.0	39.0	39.0	7	14	76.0	85.0	7	14	49.0	51.0	6	6.5	6	6	57.6	144	156	168	7	6.5	61.0	72.0	5	12	5	8	0
12 FT	16	18	11	10	6	6.5	6	6	62.9	36.0	40.0	40.0	7	14	74.0	83.0	7	14	48.0	51.0	6	6.5	6	7	56.4	146	158	170	7	6.5	61.0	73.0	5	12	5	7.5	0
14 FT	18	19	12	10	6	6.5	6	6.5	61.8	38.0	42.0	42.0	7	14	72.0	82.0	7	14	48.0	51.0	6	6	6	7	55.8	147	159	171	7	6.5	61.0	73.0	5	12	5	7	0
16 FT	19	21	12	10	6	6	6	6	60.8	39.0	43.0	43.0	7	13	71.0	81.0	7	13	47.0	51.0	7	8	6	7	54.6	149	161	173	7	6.5	60.0	73.0	5	12	5	7	0
18 FT	20	22	12	10	7	8	7	8	64.6	40.0	44.0	44.0	7	13	70.0	81.0	7	13	47.0	51.0	7	7.5	6	6	53.8	150	162	174	7	6.5	60.0	73.0	5	12	5	7	0
20 FT	22	24	13	10	7	8	6	6	59.6	42.0	46.0	46.0	7	13	69.0	81.0	7	13	47.0	51.0	7	7	6	7	53.6	152	164	176	7	6.5	60.0	73.0	5	12	5	6.5	0
22 FT	23	25	14	10	7	7	6	6	59.8	43.0	47.0	47.0	7	12																							

SPAN (S) = 16 FT HEIGHT (HT) = 14 FT OR 15 FT OR 16 FT

DESIGN FILL	MEMBER THICKNESS				TOP SLAB BARS												BOTTOM SLAB BARS												WALL BARS								
					A1 BARS		J3 BARS			H1 BARS		H2 BARS			A2 BARS		J4 BARS			H3 BARS		B1 BARS		B2 BARS													
	TS	BS	TX	TI	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	C5	Q8	SIZE	SPA.	C6	Q9	SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	C7	Q10	SIZE	SPA.	SIZE	SPA.	G1
1 FT	15	11	12	13	6	7.5	6	8	82.9	35.0	35.0	39.0	6	16	160.5	120.5	6	16	51.0	55.0	5	6.5	6	6	97.5	175	187	199	7	7	70.0	71.0	5	10.5	5	7	12
2 FT	16	12	12	13	6	7.5	6	8	82.9	36.0	36.0	40.0	6	15	160.5	120.5	6	15	49.0	52.0	5	6	6	6	93.3	176	188	200	7	7	69.0	71.0	5	12	5	7	12
2'- 4'	16	13	13	13	6	6.5	6	6.5	94.8	36.0	36.0	40.0	7	16	160.5	120.5	7	16	49.0	52.0	5	6	6	6	93.3	177	189	201	7	7	69.0	73.0	5	8.5	5	6.5	12
4 FT	12	13	13	13	6	6.5	6	6.5	94.8	36.0	36.0	36.0	7	16	92.0	94.0	7	16	46.0	46.0	5	6	6	6.5	87.8	177	189	201	7	7	68.0	73.0	5	8.5	5	6.5	12
6 FT	13	13	13	13	6	7	6	7	82.5	37.0	37.0	37.0	7	16	77.0	81.0	7	16	44.0	45.0	6	7.5	6	6	79.3	177	189	201	7	6	66.0	71.0	5	12	5	6.5	12
8 FT	14	15	13	13	6	7	6	6.5	77.9	38.0	38.0	38.0	7	15	73.0	77.0	7	15	43.0	44.0	6	7.5	6	6.5	77.8	179	191	203	7	6.5	64.0	72.0	5	12	5	6.5	0
10 FT	15	16	13	13	6	7	6	6	80.9	39.0	39.0	39.0	7	15	78.0	83.0	7	15	50.0	51.0	6	6.5	6	6	75.3	180	192	204	7	6	63.0	72.0	5	12	5	6.5	0
12 FT	16	18	14	13	6	6.5	6	6	78.5	40.0	40.0	40.0	7	14	76.0	82.0	7	14	49.0	51.0	6	6.5	6	6	73.8	182	194	206	7	6.5	63.0	72.0	5	12	5	6	0
14 FT	17	19	14	13	6	6	7	7.5	81.6	41.0	41.0	47.0	7	13	74.0	81.0	7	13	49.0	51.0	6	6	7	7.5	75.0	183	195	207	7	6.5	62.0	72.0	5	12	5	6	0
16 FT	19	21	15	13	6	6.5	7	7.5	80.9	43.0	43.0	49.0	7	14	73.0	81.0	7	14	49.0	51.0	7	8	7	7.5	74.0	185	197	209	7	6.5	62.0	73.0	5	12	6	8	0
18 FT	20	22	16	13	6	6	7	7.5	80.0	44.0	44.0	50.0	7	13	72.0	80.0	7	13	49.0	51.0	7	7.5	7	7.5	72.9	186	198	210	7	6.5	62.0	73.0	5	12	6	8	0
20 FT	22	24	16	13	6	6	7	7	79.1	46.0	46.0	52.0	7	13	71.0	80.0	7	13	48.0	51.0	7	7	7	7.5	72.3	188	200	212	7	6.5	62.0	73.0	5	12	6	8	0
22 FT	23	25	17	13	7	7.5	7	7	78.8	47.0	47.0	53.0	7	13	70.0	80.0	7	13	48.0	51.0	7	6	7	8	71.5	189	201	213	7	6	62.0	73.0	5	12	6	7.5	0
24 FT	25	27	17	13	7	7	7	7	78.1	49.0	49.0	55.0	7	13	70.0	80.0	7	13	48.0	51.0	7	6.5	7	7	71.3	191	203	215	7	6	61.0	73.0	5	12	6	7.5	0
26 FT	26	29	18	13	7	7	7	7	78.1	50.0	50.0	56.0	7	12	69.0	79.0	7	12	48.0	51.0	7	6	7	8	71.0	193	205	217	8	7.5	67.0	80.0	5	12	6	7	0
28 FT	28	30	19	13	7	6.5	7	7	78.3	52.0	52.0	52.0	7	12	68.0	79.0	7	12	47.0	51.0	8	7.5	6	6	67.8	194	206	218	8	7.5	67.0	80.0	5	12	6	6.5	0
30 FT	29	32	19	13	7	6	7	6.5	77.9	53.0	53.0	59.0	7	12	68.0	79.0	7	12	47.0	51.0	8	7	7	7.5	70.5	196	208	220	8	7	67.0	80.0	5	12	6	6.5	0
32 FT	31	33	20	13	8	7.5	7	6.5	78.1	55.0	55.0	61.0	8	15	76.0	87.0	8	15	53.0	57.0	8	7	7	8	70.4	197	209	221	8	6.5	67.0	80.0	5	12	6	6.5	0
34 FT	32	34	20	13	8	7.5	7	6	77.6	56.0	56.0	62.0	8	14	75.0	86.0	8	14	53.0	56.0	8	6	7	7	70.0	198	210	222	8	6	67.0	80.0	5	12	6	6.5	0
36 FT	33	36	22	13	8	7	7	6.5	78.8	57.0	63.0	63.0	8	14	75.0	86.0	8	14	53.0	56.0	8	6.5	7	7.5	70.3	200	212	224	8	6	67.0	81.0	5	12	6	6	0
38 FT	34	37	23	13	8	6.5	7	6.5	79.1	58.0	64.0	64.0	8	13	75.0	85.0	8	13	53.0	56.0	8	6	7	7.5	70.3	201	213	225	8	6	67.0	81.0	5	12	6	6	0
40 FT	36	39	23	13	8	6.5	7	6.5	79.0	60.0	66.0	66.0	8	13	75.0	85.0	8	13	51.0	54.0	8	6.5	7	7.5	70.3	203	215	227	8	6	67.0	81.0	5	12	7	7.5	0
42 FT	37	40	23	13	8	6.5	7	6	78.9	61.0	67.0	67.0	8	12	74.0	84.0	8	12	51.0	53.0	8	6	7	7	70.3	204	216	228	9	7	73.0	87.0	5	12	7	7.5	0
44 FT	38	42	24	13	8	6	7	6	79.8	68.0	68.0	68.0	8	12	74.0	83.0	8	12	50.0	52.0	8	6	7	7	70.8	206	218	230	9	7	73.0	87.0	5	12	7	7.5	0
46 FT	39	43	26	13	8	6	7	6.5	81.4	69.0	69.0	69.0	8	12	74.0	83.0	8	12	50.0	52.0	8	6	7	7	71.3	207	219	231	9	7	73.0	87.0	5	12	7	7.5	0
48 FT	40	44	27	13	8	6	7	6	82.1	70.0	70.0	70.0	8	12	74.0	82.0	8	12	49.0	51.0	8	6	7	7	71.6	208	220	232	9	7	73.0	88.0	5	12	7	8	0
50 FT	41	45	28	13	9	7.5	7	6	83.0	71.0	71.0	71.0	9	15	82.0	89.0	9	15	57.0	58.0	8	6	7	7	72.0	209	221	233	9	6.5	73.0	88.0	5	12	7	8	0

BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CULVERT.



GENERAL NOTES:

IF DESIGN FILL IS BETWEEN TABULATED DESIGN FILLS, USE THE NEXT GREATER TABULATED DESIGN FILL, EXCEPT FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET. FOR DESIGN FILLS BETWEEN 2 FEET AND 4 FEET USE THE MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2'- 4' TABULATED DESIGN FILL.

SPECIAL DESIGNS ARE REQUIRED WHEN THE DESIGN FILL IS LESS THAN 1 FOOT OR GREATER THAN 50 FEET.

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

DESIGN FILLS ARE MEASURED FROM THE TOP OF TOP SLAB TO THE TOP OF EARTH FILL OR ROADWAY.

CULVERTS MEET STRENGTH AND SERVICEABILITY REQUIREMENTS FOR THE DESIGN VEHICULAR LIVE LOAD HL-93 MINUS THE LANE LOAD.

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	CONCRETE TRIPLE BOX CULVERT	
	MEMBER THICKNESS BAR SIZE, SPACING & DIMENSIONS	
SPAN (S): 16 FEET HEIGHT (HT): 14 THRU 16 FEET		SHEET NO. 27 OF 27
DATE EFFECTIVE:	7/1/2023	703.87A
DATE PREPARED:	3/22/2023	

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.