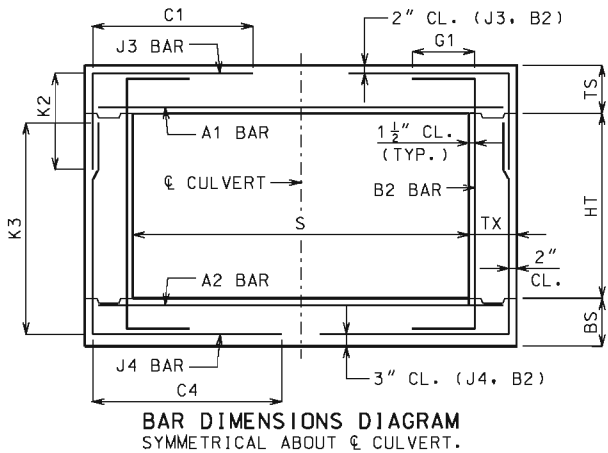
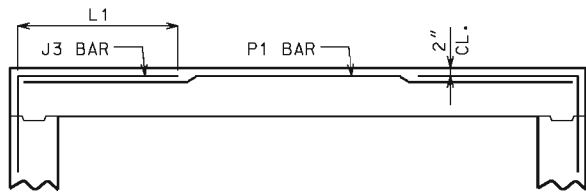


SPAN (S) = 3 FT											HEIGHT (HT) = 2 FT OR 3 FT										
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS							BOTTOM SLAB BARS							WALL BARS			
				A1 BARS		J3 BARS			A2 BARS		J4 BARS					B2 BARS					
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1	
									HT=2'	HT=3'						HT=2'	HT=3'				
1 FT	9	8	8	4	7	4	12	32.5	25.3	33.6	4	11.5	4	12	32.5	28	40	5	12	12	
2 FT	9	8	8	4	7	4	12	32.5	25.3	33.6	4	11.5	4	12	30.8	28	40	5	12	12	
4 FT	8	8	8	4	12	4	12	26.4	24.1	32.4	4	12	4	12	26.0	28	40	5	12	0	
6 FT	8	8	8	4	12	4	12	24.6	24.1	32.4	4	12	4	12	24.6	28	40	5	12	0	
8 FT	8	8	8	4	12	4	12	23.8	24.1	32.4	4	12	4	12	23.8	28	40	5	12	0	
10 FT	8	8	8	4	12	4	12	22.0	24.1	32.4	4	12	4	12	22.0	28	40	5	12	0	
12 FT	8	8	8	4	12	4	12	22.0	24.1	32.4	4	12	4	12	22.0	28	40	5	12	0	
14 FT	8	8	8	4	12	4	12	22.0	24.1	32.4	4	12	4	12	22.0	28	40	5	12	0	
16 FT	8	8	8	4	12	4	12	22.0	24.1	32.4	4	12	4	12	22.0	28	40	5	12	0	
18 FT	8	8	8	4	12	4	12	22.0	24.1	32.4	4	12	4	12	22.0	28	40	5	12	0	
20 FT	8	8	8	4	12	4	12	22.0	24.1	32.4	4	11	4	12	22.0	28	40	5	12	0	
22 FT	8	8	8	4	11.5	4	12	22.0	24.1	32.4	4	10	4	12	22.0	28	40	5	12	0	
24 FT	8	8	8	4	10.5	4	12	22.0	24.1	32.4	4	9	4	12	22.0	28	40	5	12	0	
26 FT	8	8	8	4	9.5	4	12	22.0	24.1	32.4	4	8.5	4	11.5	22.0	28	40	5	12	0	
28 FT	8	8	8	4	9	4	11.5	22.0	24.1	32.4	4	8	4	10.5	22.0	28	40	5	12	0	
30 FT	8	8	8	4	8.5	4	11	22.0	24.1	32.4	4	7.5	4	10	22.0	28	40	5	12	0	
32 FT	8	8	8	4	8	4	10	22.0	24.1	32.4	4	7	4	9.5	22.0	28	40	5	12	0	
34 FT	8	8	8	4	7.5	4	9.5	22.0	24.1	32.4	4	6.5	4	8.5	22.0	28	40	5	12	0	
36 FT	8	8	8	4	7	4	9	22.0	24.1	32.4	4	6	4	8	22.0	28	40	5	12	0	
38 FT	8	8	8	4	6.5	4	8.5	22.0	24.1	32.4	5	9	4	8	22.0	28	40	5	12	0	
40 FT	8	9	8	4	6.5	4	8	22.0	24.1	32.1	4	6	4	11	21.5	29	41	5	12	0	
42 FT	8	9	8	4	6	4	8	22.0	24.1	32.1	5	9	4	10	21.5	29	41	5	12	0	
44 FT	8	9	8	4	6	4	7.5	22.0	24.1	32.1	5	8.5	4	10	21.5	29	41	5	12	0	
46 FT	8	9	8	4	6	4	7	22.0	24.1	32.1	5	8	4	9.5	21.5	29	41	5	12	0	
48 FT	8	10	8	4	6	4	7	22.0	24.0	31.9	5	8.5	4	12	21.5	30	42	5	12	0	
50 FT	8	10	8	4	6	4	6.5	22.0	24.0	31.9	5	8	4	12	21.5	30	42	5	12	0	

SPAN (S) = 3 FT																			HEIGHT (HT) = 4 FT OR 5 FT												
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS											
				A1 BARS		J3 BARS				A2 BARS		J4 BARS				B2 BARS															
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1											
									HT=4'	HT=5'						HT=4'	HT=5'														
1 FT	9	8	8	4	6.5	4	12	32.5	25.3	30.3	4	10.5	4	12	32.5	52	64	5	12	12											
2 FT	9	8	8	4	6.5	4	12	32.5	25.3	30.3	4	10	4	12	32.5	52	64	5	12	12											
4 FT	8	8	8	4	12	4	12	32.5	24.3	29.1	4	12	4	12	32.5	52	64	5	12	0											
6 FT	8	8	8	4	12	4	12	36.1	24.3	29.1	4	12	4	12	33.5	52	64	5	12	0											
8 FT	8	8	8	4	12	4	12	32.5	24.3	29.1	4	12	4	12	32.5	52	64	5	12	0											
10 FT	8	8	8	4	12	4	12	32.5	24.3	29.1	4	12	4	12	32.5	52	64	5	12	0											
12 FT	8	8	8	4	12	4	12	35.6	24.3	29.1	4	12	4	12	32.5	52	64	5	12	0											
14 FT	8	8	8	4	12	4	12	34.4	24.3	29.1	4	12	4	11.5	36.1	52	64	5	12	0											
16 FT	8	8	8	4	12	4	12	33.5	24.3	29.1	4	12	4	11	35.3	52	64	5	12	0											
18 FT	8	8	8	4	12	4	12	32.5	24.3	29.1	4	12	4	10.5	34.8	52	64	5	12	0											
20 FT	8	8	8	4	12	4	12	31.6	24.3	29.1	4	10.5	4	10	34.4	52	64	5	12	0											
22 FT	8	8	8	4	11.5	4	11	31.6	24.3	29.1	4	9.5	4	9.5	33.9	52	64	5	12	0											
24 FT	8	8	8	4	10.5	4	10	31.6	24.3	29.1	4	9	4	9	33.9	52	64	5	12	0											
26 FT	8	8	8	4	9.5	4	9.5	31.3	24.3	29.1	4	8.5	4	8	33.5	52	64	5	12	0											
28 FT	8	8	8	4	9	4	8.5	31.3	24.3	29.1	4	7.5	4	7.5	33.0	52	64	5	12	0											
30 FT	8	8	8	4	8.5	4	8	31.3	24.3	29.1	4	7	4	7	33.0	52	64	5	12	0											
32 FT	8	8	8	4	8	4	7.5	30.8	24.3	29.1	4	7	4	6.5	33.0	52	64	5	12	0											
34 FT	8	8	8	4	7.5	4	7	30.8	24.3	29.1	4	6.5	4	6.5	32.5	52	64	5	12	0											
36 FT	8	8	8	4	7	4	7	30.8	24.3	29.1	4	6	4	6	32.5	52	64	5	12	0											
38 FT	8	8	8	4	6.5	4	6.5	30.8	24.3	29.1	5	9	5	7	32.5	52	64	5	12	0											
40 FT	8	9	8	4	6.5	4	6	30.8	24.0	28.8	4	6	4	6.5	32.5	53	65	5	12	0											
42 FT	8	9	8	4	6	4	6	30.8	24.0	28.8	5	9	4	6	32.5	53	65	5	11.5	0											
44 FT	8	9	8	4	6	5	6.5	30.8	24.0	28.8	5	8.5	4	6	32.5	53	65	5	11	0											
46 FT	8	9	8	4	6	5	6.5	30.4	24.0	28.8	5	8	5	6.5	34.8	53	65	5	10.5	0											
48 FT	8	9	8	4	6	5	6	30.4	24.0	28.8	5	8	5	6.5	34.8	53	65	5	10	0											
50 FT	8	9	8	4	6	5	6	30.4	24.0	28.8	5	7.5	5	6	34.8	53	65	5	9.5	0											



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CL. CULVERT.



ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2'-0". DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18", 22" AND 28" FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

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 GREATER MEMBER THICKNESS, AREA OF REINFORCEMENT AND BAR DIMENSIONS FROM THE 2 FEET AND 4 FEET TABULATED DESIGN FILLS. AREA OF REINFORCEMENT EQUALS BAR AREA PER FOOT SPACING.

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
SINGLE BOX CULVERT**

MEMBER THICKNESS
BAR SIZE, SPACING & DIMENSIONS

SPAN (S): 3 FEET
HEIGHT (HT): 2 THRU 5 FEET

THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

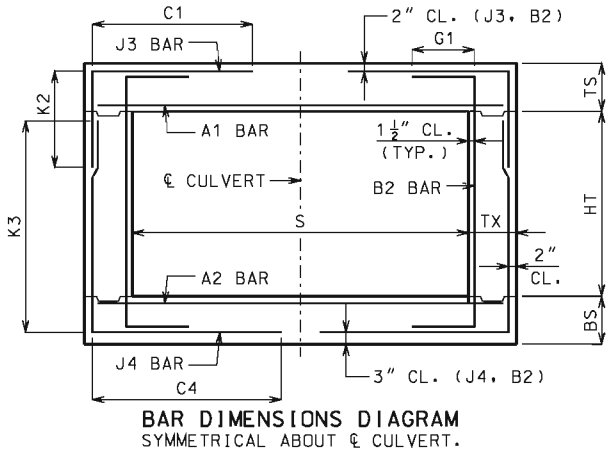
DATE EFFECTIVE: 04/01/2011
DATE PREPARED: 4/18/2011

703.17

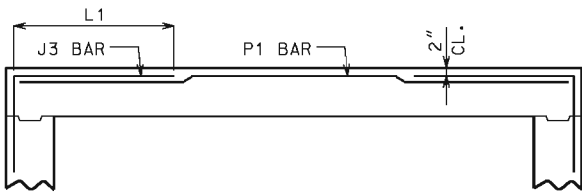
SHEET NO.
1 OF 14

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				A2 BARS		J4 BARS				B2 BARS													
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1									
									HT=3'	HT=4'						HT=3'	HT=4'												
1 FT	10	8	8	5	8	4	10.5	44.9	26.5	33.0	5	8.5	4	6	35.4	40	52	5	12	12									
2 FT	10	8	8	5	8	4	10.5	44.9	26.5	33.0	5	8	4	6	32.0	40	52	5	12	12									
4 FT	8	8	8	4	8.5	4	10.5	28.5	24.5	30.6	4	7.5	4	10	28.5	40	52	5	12	0									
6 FT	8	8	8	4	10	4	12	27.3	24.5	30.6	4	8	4	10	27.3	40	52	5	12	0									
8 FT	8	8	8	4	9.5	4	11	26.5	24.5	30.6	4	8	4	9.5	26.5	40	52	5	12	0									
10 FT	8	8	8	4	10	4	12	25.1	24.5	30.6	4	8.5	4	10.5	25.1	40	52	5	12	0									
12 FT	8	8	8	4	8.5	4	10	25.1	24.5	30.6	4	7	4	9	25.1	40	52	5	12	0									
14 FT	8	8	8	4	7.5	4	8.5	25.1	24.5	30.6	4	6	4	7.5	25.1	40	52	5	12	0									
16 FT	8	8	8	4	6.5	4	7.5	25.1	24.5	30.6	5	8.5	4	7	25.1	40	52	5	12	0									
18 FT	8	8	8	4	6	4	6.5	25.1	24.5	30.6	5	8	4	6	25.1	40	52	5	12	0									
20 FT	8	8	8	4	6	4	6	25.1	24.5	30.6	5	8	5	6.5	25.1	40	52	5	12	0									
22 FT	8	9	8	4	6	5	6.5	25.1	24.0	30.0	5	7.5	4	7	23.8	41	53	5	12	0									
24 FT	8	9	8	4	6	5	6	25.1	24.0	30.0	5	7.5	4	6.5	23.8	41	53	5	12	0									
26 FT	9	10	8	5	8.5	4	6.5	24.5	25.0	31.0	5	7	4	8.5	23.8	42	54	5	12	0									
28 FT	9	10	8	5	8.5	4	6	24.5	25.0	31.0	5	7	4	8	23.8	42	54	5	12	0									
30 FT	9	11	8	5	8	5	6.5	24.5	25.5	31.5	5	6.5	4	9	23.1	43	55	5	12	0									
32 FT	10	11	8	5	8	4	6	23.8	26.0	32.0	5	6.5	4	8	23.1	43	55	5	12	0									
34 FT	10	12	8	5	7.5	5	7.5	23.8	26.5	32.5	5	6	4	9	22.5	44	56	5	12	0									
36 FT	10	12	8	5	7	5	7.5	23.8	26.5	32.5	5	6	4	8.5	22.5	44	56	5	12	0									
38 FT	11	12	8	5	7	4	6	23.8	27.0	33.0	5	6	4	8	23.1	44	56	5	12	0									
40 FT	11	13	8	5	6.5	5	8.5	23.8	27.5	33.5	5	6	4	8.5	22.5	45	57	5	12	0									
42 FT	12	13	8	5	6.5	4	6	23.1	28.0	34.0	5	6	4	8	23.1	45	57	5	12	0									
44 FT	12	13	8	5	6.5	5	9	23.1	28.0	34.0	5	6	4	7.5	23.1	45	57	5	12	0									
46 FT	12	14	8	5	6	5	8.5	23.8	28.5	34.5	6	8	4	7.5	22.5	46	58	5	12	0									
48 FT	13	14	8	5	6	4	6	23.1	29.0	35.0	6	8	4	7.5	23.1	46	58	5	12	0									
50 FT	13	14	8	5	6	5	8.5	23.1	29.0	35.0	6	8	4	7.5	23.1	46	58	5	12	0									

SPAN (S) = 5 FT																		HEIGHT (HT) = 7 FT OR 8 FT											
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS									
				A1 BARS		J3 BARS				A2 BARS		J4 BARS				B2 BARS													
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1									
									HT=7'	HT=8'						HT=7'	HT=8'												
1 FT	10	9	8	5	8	4	9.5	44.9	26.5	29.8	5	7.5	4	7	44.9	89	101	5	12	12									
2 FT	10	9	8	5	8	4	8.5	44.9	26.5	29.8	5	7.5	4	6.5	44.9	89	101	5	12	12									
4 FT	8	8	8	4	7.5	4	7.5	44.9	24.8	27.9	4	6.5	4	6	44.9	88	100	5	12	0									
6 FT	8	9	8	4	9	4	7.5	44.9	24.0	27.0	4	7.5	4	6.5	44.9	89	101	5	12	0									
8 FT	8	9	8	4	9	4	7	44.9	24.0	27.0	4	7.5	4	6	44.9	89	101	5	12	0									
10 FT	8	9	8	4	10	4	7.5	44.9	24.0	27.0	4	8	4	6.5	44.9	89	101	5	12	0									
12 FT	8	10	8	4	8.5	4	6.5	44.9	24.3	27.3	4	8	4	6.5	44.9	90	102	5	12	0									
14 FT	8	10	9	4	7.5	4	6.5	41.4	24.3	27.3	4	7	4	7	45.5	90	102	5	12	0									
16 FT	8	10	9	4	6.5	4	6	40.8	24.3	27.3	4	6	4	6.5	45.5	90	102	5	11.5	0									
18 FT	8	10	9	4	6	5	6.5	40.0	24.3	27.3	5	9	4	6	45.5	90	102	5	10.5	0									
20 FT	8	10	9	4	6	5	6	39.4	25.3	28.4	5	8	5	6.5	47.6	90	102	5	10	0									
22 FT	8	10	9	4	6	6	7	42.1	25.3	28.4	5	7.5	5	6	47.6	90	102	5	9	0									
24 FT	9	11	9	5	8.5	5	6	41.4	26.8	30.0	5	7.5	5	6	47.6	91	103	5	8.5	0									
26 FT	9	11	9	5	8.5	5	6	41.4	26.8	30.0	5	7	6	7.5	49.6	91	103	5	8.5	0									
28 FT	9	11	9	5	8.5	5	6	41.4	29.8	33.3	5	6.5	6	7	49.6	91	103	5	8.5	0									
30 FT	9	11	9	5	8	5	6	40.8	29.8	33.3	5	6.5	6	6.5	49.6	91	103	5	8.5	0									
32 FT	10	11	9	5	8	5	6	46.3	30.0	33.6	5	6.5	6	6	49.6	91	103	5	8.5	0									
34 FT	10	11	9	5	7.5	5	6	45.5	30.0	33.6	5	6	6	6	49.6	91	103	5	8.5	0									
36 FT	10	12	10	5	7	5	6.5	40.6	30.3	33.9	5	6	5	6	49.0	92	104	5	8	0									
38 FT	11	12	10	5	7.5	5	6	43.4	31.6	35.4	5	6	6	7	51.1	92	104	5	8	0									
40 FT	11	12	11	5	7.5	5	7	41.1	31.6	35.4	5	6	5	6.5	49.8	92	104	5	7.5	0									
42 FT	11	13	11	5	7	5	7	41.1	31.9	35.6	5	6	5	6.5	49.8	93	105	5	7.5	0									
44 FT	12	13	11	5	7	5	6.5	43.3	32.3	36.0	5	6	5	6	49.8	93	105	5	7.5	0									
46 FT	12	13	11	5	7	5	6	43.3	32.3	36.0	5	6	5	6	49.8	93	105	5	7.5	0									
48 FT	12	14	12	5	6.5	5	6.5	41.0	32.5	36.3	6	8	5	6.5	51.1	94	106	5	7	0									
50 FT	13	14	12	5	6.5	5	6.5	43.3	33.9	37.8	6	8	5	6.5	51.1	94	106	5	7	0									



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT ϵ CULVERT.



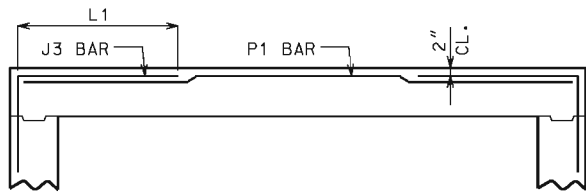
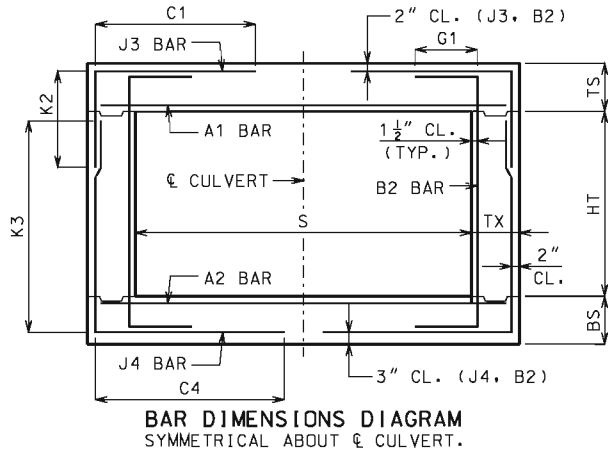
ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2'-0". DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18", 22" AND 28" FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

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				A2 BARS		J4 BARS				B2 BARS													
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1									
									HT=5'	HT=6'						HT=5'	HT=6'												
1 FT	10	8	8	5	8	4	10.5	44.9	26.3	30.6	5	8	4	6	44.9	64	76	5	12	12									
2 FT	10	8	8	5	8	4	10.5	44.9	26.3	30.6	5	8	4	6	44.9	64	76	5	12	12									
4 FT	8	8	8	4	8	4	11	44.9	24.1	28.3	4	7	4	8.5	44.9	64	76	5	12	0									
6 FT	8	8	8	4	9	4	10.5	39.5	24.1	28.3	4	7.5	4	8	38.1	64	76	5	12	0									
8 FT	8	8	8	4	9	4	10	34.6	24.1	28.3	4	7	4	7.5	34.6	64	76	5	12	0									
10 FT	8	8	8	4	9.5	4	11	30.6	24.1	28.3	4	8	4	8	30.6	64	76	5	12	0									
12 FT	8	8	8	4	8	4	9	29.9	24.1	28.3	4	6.5	4	7.5	30.6	64	76	5	12	0									
14 FT	8	8	8	4	7	4	8	29.9	24.1	28.3	4	6	4	6.5	29.9	64	76	5	12	0									
16 FT	8	8	8	4	6	4	7	29.3	24.1	28.3	5	8	4	6	29.9	64	76	5	12	0									
18 FT	8	8	8	4	6	4	6	29.3	24.1	28.3	5	8	5	6.5	29.9	64	76	5	12	0									
20 FT	8	8	8	4	6	5	6.5	29.3	24.1	28.3	5	8	5	6	29.9	64	76	5	12	0									
22 FT	8	9	8	4	6	5	6	29.3	24.5	28.5	5	7.5	4	6	29.9	65	77	5	12	0									
24 FT	8	9	8	5	9	6	7.5	32.0	28.1	32.8	5	7.5	5	6.5	29.9	65	77	5	12	0									
26 FT	9	10	8	5	8.5	5	6.5	29.3	25.1	29.3	5	7	4	6	30.6	66	78	5	12	0									
28 FT	9	10	8	5	8	5	6.5	29.3	25.1	29.3	5	7	5	7	29.9	66	78	5	12	0									
30 FT	9	10	8	5	7.5	5	6.5	29.3	29.6	34.4	5	6.5	5	6.5	29.9	66	78	5	12	0									
32 FT	10	11	8	5	7.5	5	7	29.3	26.6	30.8	5	6.5	5	7.5	30.6	67	79	5	12	0									
34 FT	10	11	8	5	7.5	5	6.5	29.3	26.6	30.8	5	6.5	5	7	30.6	67	79	5	11.5	0									
36 FT	10	11	8	5	7	5	6.5	29.3	30.4	35.3	5	6	5	6	30.6	67	79	5	11	0									
38 FT	11	12	8	5	7	5	7	29.9	27.3	31.5	5	6	5	7	31.3	68	80	5	10	0									
40 FT	11	12	8	5	6.5	5	6.5	29.9	31.3	36.0	5	6	5	6.5	31.3	68	80	5	10	0									
42 FT	11	13	8	5	6.5	5	6	29.9	27.6	31.9	5	6	5	7	31.3	69	81	5	9.5	0									
44 FT	12	13	8	5	6.5	5	6.5	29.9	28.0	32.3	5	6	5	6.5	32.0	69	81	5	9.5	0									
46 FT	12	13	8	5	6	5	6	29.9	32.0	36.8	5	6	5	6	31.3	69	81	5	9.5	0									
48 FT	12	14	9	5	6	5	7	30.4	28.4	32.5	6	8	5	8	31.8	70	82	5	9.5	0									
50 FT	13	14	9	5	6	5	7.5	30.4	29.5	33.9	6	8	5	7.5	32.4	70	82	5	9	0									

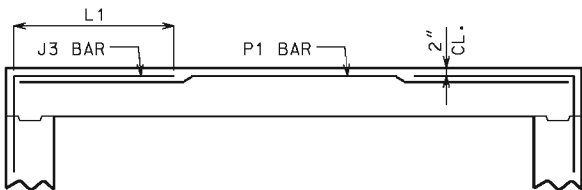
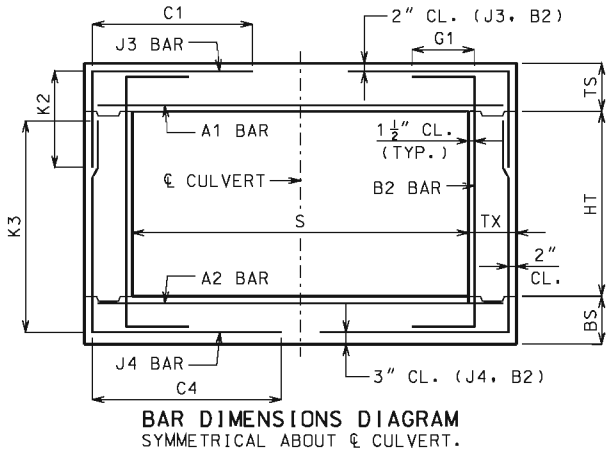
SPAN (S) = 6 FT																			HEIGHT (HT) = 3 FT OR 4 FT OR 5 FT																
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS									BOTTOM SLAB BARS									WALL BARS													
				A1 BARS		J3 BARS						A2 BARS		J4 BARS						B2 BARS															
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1													
									HT=3'	HT=4'	HT=5'						HT=3'	HT=4'	HT=5'																
1 FT	10	8	8	5	8	4	9	51.3	26.5	33.0	39.4	5	8	5	6	41.6	40	52	64	5	12	12													
2 FT	11	8	8	5	7.5	4	9.5	51.3	27.0	33.5	40.0	5	8	6	7.5	36.0	40	52	64	5	12	12													
4 FT	8	8	8	4	6.5	4	7.5	32.8	24.5	30.6	36.9	5	8.5	4	6.5	32.0	40	52	64	5	12	0													
6 FT	8	8	8	4	7	4	8	30.4	24.5	30.6	36.9	5	9	4	7	30.4	40	52	64	5	12	0													
8 FT	8	8	8	4	6.5	4	7.5	29.6	24.5	30.6	36.9	5	8.5	4	6.5	29.6	40	52	64	5	12	0													
10 FT	8	8	8	4	7	4	8	27.3	24.5	30.6	36.9	4	6	4	7	27.3	40	52	64	5	12	0													
12 FT	8	8	8	4	6	4	7	27.3	24.5	30.6	36.9	5	8	4	6	27.3	40	52	64	5	12	0													
14 FT	8	8	8	4	6	4	6	27.3	24.5	30.6	36.9	5	8	5	6	27.3	40	52	64	5	12	0													
16 FT	8	8	8	4	6	5	6	27.3	28.3	35.4	42.6	5	8	6	7	30.4	40	52	64	5	12	0													
18 FT	8	9	8	5	8.5	6	7.5	30.4	24.0	30.0	36.0	5	7.5	4	6	26.4	41	53	65	5	12	0													
20 FT	8	9	8	5	7.5	6	7.5	30.4	28.4	35.4	42.5	5	7	5	6.5	26.4	41	53	65	5	12	0													
22 FT	9	10	8	5	7.5	5	6.5	26.4	25.0	31.0	37.0	5	7	4	6.5	25.6	42	54	66	5	12	0													
24 FT	9	11	8	5	7	5	6.5	26.4	25.5	31.5	37.5	5	6.5	4	7	24.8	43	55	67	5	12	0													
26 FT	10	11	8	5	7	5	7.5	26.4	26.0	32.0	38.0	5	6.5	4	6.5	25.6	43	55	67	5	12	0													
28 FT	10	12	8	5	6.5	5	7.5	26.4	26.5	32.5	38.5	5	6	4	7	24.8	44	56	68	5	12	0													
30 FT	11	12	8	5	6.5	5	8.5	25.6	27.0	33.0	39.0	5	6	4	6	24.8	44	56	68	5	12	0													
32 FT	11	13	8	5	6	5	8	25.6	27.5	33.5	39.5	5	6	4	7	24.8	45	57	69	5	12	0													
34 FT	12	13	8	5	6	5	8.5	25.6	28.0	34.0	40.0	5	6	4	6	24.8	45	57	69	5	12	0													
36 FT	12	14	8	6	8	5	8.5	25.6	28.5	34.5	40.5	6	8	4	6.5	24.8	46	58	70	5	12	0													
38 FT	13	14	8	6	8	5	8.5	24.8	29.0	35.0	41.0	6	8	4	6	24.8	46	58	70	5	12	0													
40 FT	13	14	8	6	7.5	5	8.5	24.8	29.0	35.0	41.0	6	7.5	5	9	24.8	46	58	70	5	12	0													
42 FT	14	15	8	6	8	5	8.5	24.8	30.0	36.0	42.0	6	7.5	4	6	24.8	47	59	71	5	12	0													
44 FT	14	15	8	6	7.5	5	8.5	24.8	30.0	36.0	42.0	6	7.5	5	8.5	24.8	47	59	71	5	12	0													
46 FT	14	16	8	6	7	5	8.5	24.8	30.5	36.5	42.5	6	7	4	6	24.8	48	60	72	5	12	0													
48 FT	15	16	8	6	7	5	8	29.6	31.0	37.0	43.0	6	7	5	8	25.6	48	60	72	5	12	0													
50 FT	15	16	8	6	7	5	8	29.6	31.0	37.0	43.0	6	7	5	8	24.8	48	60	72	5	12	0													

SPAN (S) = 6 FT																			HEIGHT (HT) = 8 FT OR 9 FT														
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS									BOTTOM SLAB BARS									WALL BARS											
				A1 BARS		J3 BARS					A2 BARS		J4 BARS					B2 BARS															
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1													
								HT=8'	HT=9'							HT=8'	HT=9'																
1 FT	10	10	8	5	8	4	7	51.3	26.6	29.5	5	7	4	6.5	51.3	102	114	5	12	12													
2 FT	11	10	8	5	7.5	4	7	51.3	28.0	31.0	5	7	4	6	51.3	102	114	5	12	12													
4 FT	8	9	9	4	6	4	6.5	51.9	24.9	27.6	5	8	4	6.5	51.9	101	113	5	12	0													
6 FT	8	9	9	4	6.5	4	6.5	51.9	24.9	27.6	5	8.5	4	6	51.9	101	113	5	12	0													
8 FT	8	10	9	4	6.5	4	6	51.9	25.1	27.9	4	6	4	6	51.9	102	114	5	11.5	0													
10 FT	8	10	9	4	7.5	4	6.5	45.4	25.1	27.9	4	6.5	4	6.5	51.9	102	114	5	12	0													
12 FT	8	10	9	4	6	5	6.5	43.8	25.1	27.9	5	8.5	4	6	51.9	102	114	5	11.5	0													
14 FT	8	10	9	4	6	5	6	42.1	26.1	29.0	5	7.5	5	6.5	54.3	102	114	5	10	0													
16 FT	8	10	9	4	6	6	7	44.5	28.4	31.5	5	7	5	6	54.3	102	114	5	9.5	0													
18 FT	8	10	9	5	9	6	7	43.8	29.4	32.6	5	7	6	7	55.9	102	114	5	8.5	0													
20 FT	9	10	9	5	8.5	5	6	43.8	29.8	33.0	5	7	6	6.5	56.8	102	114	5	8.5	0													
22 FT	9	11	9	5	8	5	6	42.9	30.0	33.3	5	6.5	6	6.5	55.9	103	115	5	8.5	0													
24 FT	10	11	9	5	7.5	5	6	45.4	30.3	33.5	5	6.5	6	6	55.9	103	115	5	8.5	0													
26 FT	10	11	9	5	7	5	6	44.5	30.3	33.5	5	6	6	6	55.9	103	115	5	8.5	0													
28 FT	10	12	9	5	6.5	6	7	47.0	31.6	35.0	5	6	6	6	55.9	104	116	5	8	0													
30 FT	11	12	9	5	6.5	6	6.5	49.4	35.4	39.0	5	6	6	6	55.9	104	116	5	8	0													
32 FT	11	13	10	5	6.5	6	8	46.8	32.3	35.5	5	6	6	6.5	56.6	105	117	5	8	0													
34 FT	12	13	11	5	6.5	5	6.5	44.0	32.5	35.9	5	6	5	6	49.8	105	117	5	7.5	0													
36 FT	12	13	11	5	6	5	6.5	44.0	32.5	35.9	6	8	6	7.5	52.3	105	117	5	7.5	0													
38 FT	12	14	12	5	6	5	6	42.0	32.8	36.1	6	8	5	6	48.8	106	118	5	7	0													
40 FT	13	14	12	5	6	5	6	44.5	33.0	36.4	6	8	5	6	48.8	106	118	5	7	0													
42 FT	13	15	12	5	6	5	6	43.6	33.4	36.6	6	7.5	5	6	52.1	107	119	5	7	0													
44 FT	14	15	13	5	6	5	6	44.3	34.8	38.3	6	7.5	5	6	48.5	107	119	5	6.5	0													
46 FT	14	15	13	6	8	5	6	44.3	34.8	38.3	6	7.5	6	8	51.0	107	119	5	6.5	0													
48 FT	14	16	13	6	8	5	6	44.3	35.1	38.6	6	7	5	6	50.1	108	120	5	6.5	0													
50 FT	15	16	13	6	8	5	6	51.0	35.4	38.9	6	7	6	8	53.5	108	120	5	6.5	0													



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					A2 BARS		J4 BARS					B2 BARS																	
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1													
									HT=4'	HT=5'	HT=6'						HT=4'	HT=5'	HT=6'																
1 FT	11	9	8	5	7.5	4	9	57.0	27.1	32.3	37.4	5	7.5	4	6	54.3	53	65	77	5	12	12													
2 FT	11	9	8	5	7.5	4	9	57.0	27.1	32.3	37.4	5	7.5	5	7	43.3	53	65	77	5	12	12													
4 FT	8	8	8	4	6	4	6	36.8	24.3	29.1	34.0	5	8	5	6	35.9	52	64	76	5	12	0													
6 FT	8	8	8	4	6	4	6	33.1	24.3	29.1	34.0	5	8	5	6	33.1	52	64	76	5	12	0													
8 FT	8	9	8	4	6	5	6.5	32.3	24.0	28.8	33.6	5	7.5	4	6.5	32.3	53	65	77	5	12	0													
10 FT	8	9	8	4	6	4	6	30.4	24.0	28.8	33.6	5	7.5	4	7.5	29.5	53	65	77	5	12	0													
12 FT	8	9	8	4	6	5	6	30.4	24.0	28.8	33.6	5	7.5	4	6	28.5	53	65	77	5	12	0													
14 FT	8	9	8	5	8	6	7.5	33.1	28.3	33.9	39.5	5	7	5	6.5	28.5	53	65	77	5	12	0													
16 FT	8	9	8	5	7	6	7	33.1	28.3	33.9	39.5	5	6.5	6	7.5	31.3	53	65	77	5	12	0													
18 FT	9	10	8	5	7	5	6.5	28.5	25.4	30.4	35.3	5	6	5	7	28.5	54	66	78	5	12	0													
20 FT	9	10	8	5	6	5	6	28.5	29.1	34.8	40.4	6	8	5	6	27.6	54	66	78	5	12	0													
22 FT	10	11	8	5	6	5	7	28.5	26.3	31.1	36.1	6	8	5	7.5	27.6	55	67	79	5	12	0													
24 FT	10	12	8	6	8	5	6	28.5	26.0	30.8	35.6	6	8	5	8.5	26.6	56	68	80	5	12	0													
26 FT	11	13	8	6	8	5	7	27.6	27.5	32.4	37.3	6	8	5	8.5	26.6	57	69	81	5	12	0													
28 FT	12	13	8	6	7.5	5	8	27.6	28.5	33.6	38.6	6	7.5	5	8.5	27.6	57	69	81	5	12	0													
30 FT	12	14	8	6	7.5	5	7	27.6	28.3	33.3	38.1	6	7.5	5	8.5	26.6	58	70	82	5	12	0													
32 FT	13	14	8	6	7	5	8	26.6	29.4	34.5	39.5	6	7	5	8.5	27.6	58	70	82	5	12	0													
34 FT	13	15	8	6	7	5	7	27.6	29.1	34.0	39.0	6	7	5	8.5	26.6	59	71	83	5	12	0													
36 FT	14	15	8	6	6.5	5	7.5	26.6	30.3	35.3	40.4	6	7	5	8.5	27.6	59	71	83	5	12	0													
38 FT	14	16	8	6	6.5	5	7	26.6	30.6	35.8	40.8	6	7	5	8	26.6	60	72	84	5	11.5	0													
40 FT	15	16	8	6	6.5	5	7.5	32.3	31.1	36.1	41.1	6	6.5	5	8	27.6	60	72	84	5	10.5	0													
42 FT	15	17	8	6	6	5	7	32.3	35.3	40.9	46.5	6	6.5	5	7	27.6	61	73	85	5	10	0													
44 FT	16	17	8	6	6	5	7	32.3	36.5	42.3	48.0	6	6.5	5	7	27.6	61	73	85	5	9.5	0													
46 FT	16	18	8	6	6	5	6	32.3	36.3	41.9	47.5	6	6.5	5	6.5	27.6	62	74	86	5	9.5	0													
48 FT	17	18	9	6	6	5	7.5	32.5	33.5	38.8	43.9	6	6.5	5	8	27.9	62	74	86	5	10	0													
50 FT	17	19	9	6	6	5	7	32.5	37.1	42.8	48.4	6	6	5	7.5	27.9	63	75	87	5	9	0													

SPAN (S) = 7 FT																		HEIGHT (HT) = 9 FT OR 10 FT																	
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS									BOTTOM SLAB BARS									WALL BARS													
				A1 BARS		J3 BARS					A2 BARS		J4 BARS					B2 BARS																	
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1															
									HT=9'	HT=10'						HT=9'	HT=10'																		
1 FT	11	10	8	5	7.5	4	6	57.0	27.3	29.9	5	7	5	6.5	58.9	114	126	5	12	12															
2 FT	11	10	8	5	7.5	5	8.5	58.9	28.5	31.3	5	7	5	6	58.9	114	126	5	11	12															
4 FT	8	9	9	4	6	5	6	59.5	28.8	31.6	5	7.5	5	6	59.5	113	125	5	10.5	0															
6 FT	8	10	9	4	6	5	6	59.5	29.0	31.9	5	7	5	6.5	59.5	114	126	5	10	0															
8 FT	8	10	9	4	6	6	7	62.3	29.0	31.9	5	7	5	6	59.5	114	126	5	9	0															
10 FT	8	10	9	4	6	5	6	46.5	26.6	29.3	5	7.5	5	6	59.5	114	126	5	10	0															
12 FT	8	11	9	4	6	6	7	47.4	25.6	28.1	5	7	5	6	59.5	115	127	5	9	0															
14 FT	8	11	9	5	8.5	6	7	46.5	29.3	32.1	5	6.5	6	7	62.3	115	127	5	8.5	0															
16 FT	9	11	9	5	8	5	6	46.5	29.5	32.4	5	6.5	6	6.5	62.3	115	127	5	8.5	0															
18 FT	9	11	9	5	7	6	7	48.4	30.8	33.8	5	6.5	6	6	64.1	115	127	5	8.5	0															
20 FT	10	11	9	5	7	6	7.5	50.3	31.0	34.0	5	6	6	6	60.5	115	127	5	8.5	0															
22 FT	10	12	9	5	6.5	6	6.5	49.3	31.3	34.3	5	6	6	6	62.3	116	128	5	8	0															
24 FT	11	12	9	5	6	6	7	51.1	35.3	38.6	6	8.5	6	6	64.1	116	128	5	7.5	0															
26 FT	11	13	10	5	6	6	7.5	48.9	33.0	36.1	5	6	6	6.5	60.1	117	129	5	8	0															
28 FT	12	13	11	5	6	5	6.5	45.6	32.0	35.0	6	8	6	7	54.1	117	129	5	7.5	0															
30 FT	12	14	11	6	8	5	6	45.6	32.3	35.3	6	8	6	7	56.0	118	130	5	7.5	0															
32 FT	13	14	12	6	8	5	6	46.1	33.8	36.9	6	7.5	6	8	52.8	118	130	5	7	0															
34 FT	13	15	12	6	8	5	6	45.1	34.0	37.1	6	7.5	6	8	55.6	119	131	5	7	0															
36 FT	14	15	12	6	7.5	6	8	49.9	35.6	38.9	6	7.5	6	7.5	54.8	119	131	5	7	0															
38 FT	14	16	13	6	7.5	5	6	45.6	34.6	37.8	6	7	6	8	54.4	120	132	5	6.5	0															
40 FT	15	16	13	6	7.5	6	8	55.3	36.1	39.4	6	7	6	7.5	54.4	120	132	5	6.5	0															
42 FT	15	17	13	6	7	6	7.5	55.3	36.5	39.8	6	7	6	7.5	56.3	121	133	5	6.5	0															
44 FT	16	17	14	6	7	6	8	55.9	38.1	41.5	6	7	6	7.5	53.9	121	133	5	6	0															
46 FT	16	17	14	6	7	6	7.5	55.9	38.1	41.5	6	6.5	6	7	53.9	121	133	5	6	0															
48 FT	16	18	14	6	6.5	6	7	55.9	37.0	40.3	6	6.5	6	7.5	55.9	122	134	5	6	0															
50 FT	17	18	15	6	6.5	6	8	56.4	41.4	45.0	6	6.5	6	7.5	53.5	122	134	6	8	0															

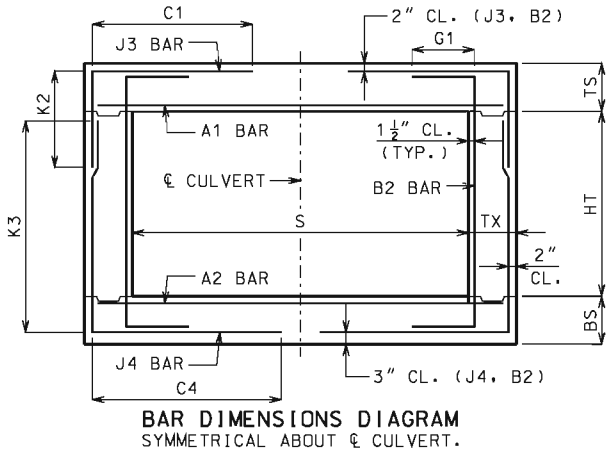


ALTERNATE J3 BAR

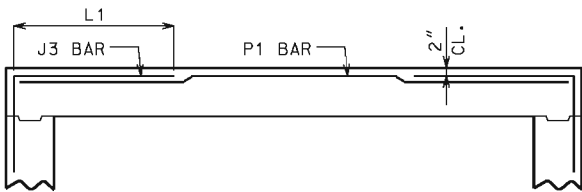
AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS

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					A2 BARS		J4 BARS					B2 BARS							
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1			
									HT=4'	HT=5'	HT=6'						HT=4'	HT=5'	HT=6'						
1 FT	12	9	8	5	7	4	8.5	63.5	28.1	33.5	38.8	5	7.5	5	6	44.8	53	65	77	5	12	12			
2 FT	12	9	8	5	7	4	8	63.5	28.1	33.5	38.8	5	7	6	7.5	43.6	53	65	77	5	12	12			
4 FT	8	8	8	5	8	6	7.5	38.5	32.5	39.0	45.6	5	6.5	6	6	38.5	52	64	76	5	12	0			
6 FT	8	8	8	5	8.5	6	7.5	37.5	32.5	39.0	45.6	5	7	6	6	36.4	52	64	76	5	12	0			
8 FT	8	8	8	5	8	6	7.5	36.4	32.5	39.0	45.6	5	6.5	6	6	35.4	52	64	76	5	12	0			
10 FT	8	8	8	5	8.5	6	7.5	34.4	32.5	39.0	45.6	5	7	6	6	34.4	52	64	76	5	12	0			
12 FT	8	9	8	5	7.5	6	7.5	34.4	32.4	38.9	45.4	5	6.5	6	7.5	32.3	53	65	77	5	12	0			
14 FT	8	9	8	5	6.5	6	6.5	34.4	32.4	38.9	45.4	6	8	6	7	32.3	53	65	77	5	12	0			
16 FT	9	10	8	5	6	5	6	30.1	29.1	34.8	40.4	6	8	5	6.5	28.1	54	66	78	5	12	0			
18 FT	9	11	8	6	7.5	6	7	33.3	29.6	35.3	40.9	6	7.5	5	7.5	27.0	55	67	79	5	12	0			
20 FT	10	12	8	6	7.5	5	6	29.1	26.0	30.8	35.6	6	7.5	5	8.5	26.0	56	68	80	5	12	0			
22 FT	11	13	8	6	7	5	6.5	28.1	27.5	32.4	37.3	6	7	5	8.5	26.0	57	69	81	5	12	0			
24 FT	12	13	8	6	7	5	7.5	27.0	32.6	38.4	44.1	6	7	5	8	26.0	57	69	81	5	12	0			
26 FT	13	14	8	6	7	5	8	27.0	29.4	34.5	39.5	6	7	5	8.5	26.0	58	70	82	5	12	0			
28 FT	13	15	8	6	6.5	5	7	27.0	29.1	34.0	39.0	6	6.5	5	8.5	26.0	59	71	83	5	12	0			
30 FT	14	15	8	6	6	5	7.5	26.0	30.3	35.3	40.4	6	6.5	5	8.5	26.0	59	71	83	5	12	0			
32 FT	15	16	8	6	6	5	7.5	31.3	35.5	41.3	47.0	6	6.5	5	8	26.0	60	72	84	5	12	0			
34 FT	15	17	8	6	6	5	7	31.3	31.5	36.5	41.6	6	6.5	5	7	26.0	61	73	85	5	12	0			
36 FT	16	17	8	6	6	5	7	31.3	32.6	37.9	43.0	6	6	5	7	26.0	61	73	85	5	12	0			
38 FT	16	18	8	7	7.5	5	7	31.3	36.3	41.9	47.5	6	6	5	6.5	26.0	62	74	86	5	11.5	0			
40 FT	17	18	8	7	7.5	5	6.5	31.3	37.5	43.3	49.0	6	6	5	6.5	26.0	62	74	86	5	10.5	0			
42 FT	17	19	8	7	7	5	6.5	31.3	37.1	42.8	48.4	6	6	5	6.5	26.0	63	75	87	5	10	0			
44 FT	18	19	8	7	7	5	6.5	30.1	38.4	44.1	49.9	7	7.5	5	6.5	26.0	63	75	87	5	9.5	0			
46 FT	18	20	8	7	7	5	6	31.3	38.1	43.8	49.4	7	7.5	5	6	26.0	64	76	88	5	9.5	0			
48 FT	19	20	8	7	7	5	6	31.3	39.4	45.1	50.9	7	7.5	5	6	26.0	64	76	88	5	9.5	0			
50 FT	19	20	8	7	6.5	5	6	31.3	39.4	45.1	50.9	7	7	6	7.5	29.1	64	76	88	5	9.5	0			

SPAN (S) = 8 FT													HEIGHT (HT) = 10 FT OR 11 FT												
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS					
				A1 BARS		J3 BARS						A2 BARS		J4 BARS						B2 BARS					
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1					
									HT=10'	HT=11'						HT=10'	HT=11'								
1 FT	11	10	8	5	6.5	5	7.5	65.5	31.3	34.0	5	6.5	6	6.5	66.5	126	138	5	9.5	12					
2 FT	11	10	8	5	6.5	5	7	65.5	31.3	34.0	5	6	6	6	66.5	126	138	5	9.5	12					
4 FT	8	9	9	5	7.5	6	7	68.3	33.0	36.0	5	6	6	6	68.3	125	137	5	8.5	0					
6 FT	8	10	9	5	8.5	6	7	68.3	30.6	33.4	5	7	6	6.5	68.3	126	138	5	8.5	0					
8 FT	8	10	9	5	8	6	7	68.3	33.3	36.3	5	7	6	6	68.3	126	138	5	8.5	0					
10 FT	8	10	9	5	8.5	6	7	52.5	30.6	33.4	5	7	6	6	68.3	126	138	5	8.5	0					
12 FT	8	10	9	5	7.5	6	6.5	50.4	33.3	36.3	5	6.5	6	6	65.1	126	138	5	8.5	0					
14 FT	9	11	9	5	7	6	7	52.5	31.0	33.8	5	6.5	6	6	69.3	127	139	5	8.5	0					
16 FT	9	11	9	5	6	6	6	50.4	33.8	36.8	6	8	6	6	64.0	127	139	5	8.5	0					
18 FT	10	12	9	5	6	6	6	52.5	34.3	37.3	6	8	6	6	68.3	128	140	5	8	0					
20 FT	11	12	10	5	6	5	6	48.8	31.8	34.5	6	7.5	6	6.5	58.3	128	140	5	8	0					
22 FT	11	13	10	6	8	6	7	50.9	33.4	36.3	6	7.5	6	6.5	60.4	129	141	5	7.5	0					
24 FT	12	13	11	6	7.5	6	8	51.4	33.6	36.5	6	7	6	7	56.8	129	141	5	7.5	0					
26 FT	12	14	11	6	7	6	7.5	50.3	33.9	36.8	6	7	6	7	57.8	130	142	5	7.5	0					
28 FT	13	15	12	6	7.5	6	8	50.8	34.4	37.3	6	7	6	7.5	57.3	131	143	5	7	0					
30 FT	14	15	12	6	7	6	7.5	51.9	36.0	39.0	6	6.5	6	7	57.3	131	143	5	7	0					
32 FT	14	16	13	6	7	6	8	51.3	36.3	39.3	6	6.5	6	7.5	56.6	132	144	5	6.5	0					
34 FT	15	16	13	6	6.5	6	7.5	57.8	36.5	39.5	6	6.5	6	7	55.6	132	144	5	6.5	0					
36 FT	15	17	13	6	6.5	6	6.5	57.8	36.8	39.8	6	6.5	6	7	57.8	133	145	5	6.5	0					
38 FT	16	18	14	6	6.5	6	7.5	58.3	37.3	40.3	6	6.5	6	7.5	57.3	134	146	5	6	0					
40 FT	16	18	14	6	6	6	7	58.3	37.3	40.3	6	6	6	7	57.3	134	146	5	6	0					
42 FT	17	19	15	6	6	6	7	58.9	42.3	45.6	6	6	6	7.5	56.6	135	147	6	8	0					
44 FT	17	19	15	6	6	6	6.5	57.8	42.3	45.6	6	6	6	7	56.6	135	147	6	8	0					
46 FT	18	19	15	6	6	6	7	58.9	42.5	45.9	7	8	6	6	56.6	135	147	6	8	0					
48 FT	18	20	16	7	8	6	7	58.3	42.9	46.3	7	8	6	7	56.0	136	148	6	8	0					
50 FT	19	21	16	7	7.5	6	7	59.4	43.4	46.8	7	8	6	7	58.3	137	149	6	8	0					



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CL. CULVERT.



ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2'-0". DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18", 22" AND 28" FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

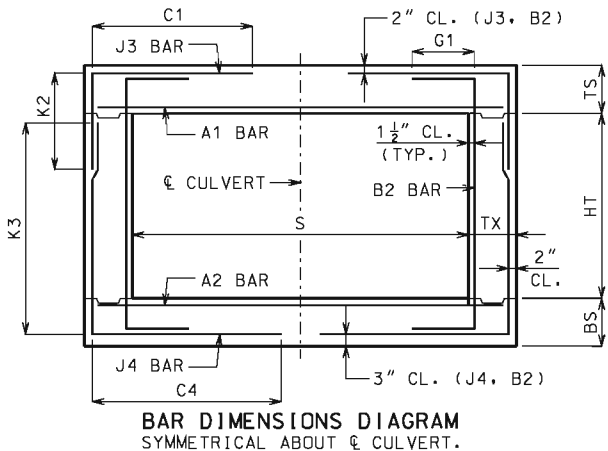
SPAN (S) = 8 FT													HEIGHT (HT) = 7 FT OR 8 FT OR 9 FT												
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS									BOTTOM SLAB BARS									WALL BARS			
				A1 BARS		J3 BARS					A2 BARS		J4 BARS					B2 BARS							
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1			
									HT=7'	HT=8'	HT=9'						HT=7'	HT=8'	HT=9'						
1 FT	12	10	8	5	7	4	6.5	63.5	28.3	31.6	35.0	5	7	5	6.5	65.5	90	102	114	5	12	12			
2 FT	12	10	8	5	7	4	6	63.5	28.3	31.6	35.0	5	7	5	6.5	65.5	90	102	114	5	12	12			
4 FT	8	9	8	5	7.5	6	7.5	66.5	28.8	32.4	36.0	5	6.5	6	6.5	66.5	89	101	113	5	12	0			
6 FT	8	9	8	5	8	6	7.5	53.0	28.8	32.4	36.0	5	7	6	6.5	58.3	89	101	113	5	12	0			
8 FT	8	9	8	5	7.5	6	7.5	47.9	28.8	32.4	36.0	5	6.5	6	6	51.0	89	101	113	5	11.5	0			
10 FT	8	9	8	5	8	6	7.5	41.6	28.8	32.4	36.0	5	7	6	6	43.6	89	101	113	5	12	0			
12 FT	8	9	9	5	7.5	6	7	41.0	32.6	36.8	40.8	5	6.5	6	6.5	42.0	89	101	113	5	12	0			
14 FT	8	10	9	5	6.5	6	6.5	41.0	28.1	31.6	35.1	5	6	6	7	42.0	90	102	114	5	12	0			
16 FT	9	10	9	5	6	6	7.5	41.0	29.4	33.0	36.6	6	7.5	6	6.5	42.0	90	102	114	5	12	0			
18 FT	9	11	9	6	8	6	6.5	39.9	29.8	33.3	36.9	6	7.5	6	7	42.0	91	103	115	5	11	0			
20 FT	10	11	9	6	7.5	6	7	39.9	30.0	33.6	37.3	6	6.5	6	6	42.0	91	103	115	5	10	0			
22 FT	11	12	9	6	7.5	6	7	39.9	31.6	35.4	39.0	6	7	6	6.5	42.0	92	104	116	5	9	0			
24 FT	11	13	9	6	6.5	6	6.5	39.9	31.9	35.6	39.4	6	6.5	6	7	42.0	93	105	117	5	8.5	0			
26 FT	12	14	10	6	7	5	6	38.1	32.5	36.3	40.0	6	7	5	6.5	39.3	94	106	118	5	9	0			
28 FT	13	15	10	6	7	6	7.5	40.3	33.1	36.9	40.6	6	7	5	6.5	39.3	95	107	119	5	8	0			
30 FT	13	15	10	6	6.5	6	6.5	40.3	33.1	36.9	40.6	6	6.5	5	6	39.3	95	107	119	5	8	0			
32 FT	14	16	11	6	6.5	6	8.5	40.6	34.9	38.8	42.5	6	6.5	5	7	39.6	96	108	120	5	8	0			
34 FT	15	17	11	6	6.5	6	8	47.1	35.5	39.4	43.3	6	6.5	5	7	39.6	97	109	121	5	7.5	0			
36 FT	15	17	11	6	6	6	7	47.1	35.5	39.4	43.3	6	6	5	6.5	39.6	97	109	121	5	7.5	0			
38 FT	16	18	12	6	6	6	8	47.5	36.1	40.0	43.9	6	6	5	6.5	40.0	98	110	122	5	7.5	0			
40 FT	17	18	12	6	6	6	8	47.5	37.6	41.6	45.5	6	6	5	6.5	40.0	98	110	122	5	7	0			
42 FT	17	19	12	7	8	6	7.5	47.5	38.0	41.9	45.9	6	6	5	6.5	41.0	99	111	123	5	7	0			
44 FT	18	19	13	7	8	5	6	44.8	38.3	42.3	46.3	6	6	5	6	40.4	99	111	123	5	7	0			
46 FT	18	20	13	7	7.5	6	8	48.0	38.6	42.6	46.5	7	8	5	6	41.4	100	112	124	5	6.5	0			
48 FT	19	20	13	7	7.5	6	8	48.0	40.1	44.3	48.3	7	7.5	5	6	41.4	100	112	124	5	6.5	0			
50 FT	19	21	13	7	7	6	7	48.0	39.3	43.3	47.3	7	7.5	5	6	41.4	101	113	125	5	6.5	0			

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						A2 BARS		J4 BARS						B2 BARS													
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1											
									HT=5'	HT=6'	HT=7'						HT=5'	HT=6'	HT=7'														
1 FT	12	9	8	5	6.5	4	7	69.6	28.1	32.5	37.0	5	6.5	6	7.5	54.5	65	77	89	5	12	12											
2 FT	12	9	8	5	6.5	4	7	69.6	28.1	32.5	37.0	5	6	6	7	48.8	65	77	89	5	12	12											
4 FT	8	9	8	5	6.5	6	7	42.9	32.4	37.8	43.3	5	6	6	7.5	42.9	65	77	89	5	12	0											
6 FT	8	9	8	5	7	6	7.5	40.6	32.4	37.8	43.3	5	6	6	7	39.5	65	77	89	5	12	0											
8 FT	8	10	8	5	6.5	6	7	39.5	24.1	28.0	32.0	5	6	5	6.5	33.6	66	78	90	5	12	0											
10 FT	8	10	8	5	7	6	7.5	37.1	24.1	28.0	32.0	5	6.5	4	6	31.4	66	78	90	5	12	0											
12 FT	8	10	8	5	6	6	6	37.1	28.5	33.1	37.9	6	8	5	6.5	30.1	66	78	90	5	12	0											
14 FT	9	10	8	6	7.5	6	7	34.8	29.6	34.4	39.3	6	7	5	6	30.1	66	78	90	5	12	0											
16 FT	9	11	8	6	7	6	6	34.8	29.3	33.9	38.6	6	6.5	5	7	29.0	67	79	91	5	12	0											
18 FT	10	12	8	6	6.5	6	6.5	33.6	30.0	34.8	39.4	6	6.5	5	7.5	29.0	68	80	92	5	12	0											
20 FT	11	13	8	6	6	6	7	33.6	31.6	36.4	41.3	6	6	5	8	29.0	69	81	93	5	12	0											
22 FT	12	14	8	6	6	5	6	29.0	32.4	37.3	42.0	6	6	5	8.5	27.9	70	82	94	5	12	0											
24 FT	13	15	8	6	6	5	6	29.0	29.0	33.3	37.5	6	6	5	8.5	27.9	71	83	95	5	12	0											
26 FT	14	16	8	6	6	5	6	29.0	30.6	34.9	39.3	6	6	5	8	27.9	72	84	96	5	12	0											
28 FT	15	16	8	7	7.5	5	6.5	33.6	35.3	40.1	45.1	7	8	5	8	27.9	72	84	96	5	12	0											
30 FT	15	17	8	7	7	6	8	37.1	35.6	40.6	45.5	7	7.5	5	7	27.9	73	85	97	5	11.5	0											
32 FT	16	17	8	7	7	5	6	32.5	36.1	41.0	45.9	7	7.5	5	6.5	27.9	73	85	97	5	10	0											
34 FT	17	18	8	7	7	5	6	32.5	37.8	42.9	47.9	7	7.5	5	6.5	29.0	74	86	98	5	9.5	0											
36 FT	17	19	9	7	7	5	6	33.9	37.3	42.3	47.1	7	7.5	5	7.5	29.3	75	87	99	5	10.5	0											
38 FT	18	20	9	7	7	5	6	33.9	38.1	43.0	48.0	7	7.5	5	7	29.3	76	88	100	5	9.5	0											
40 FT	19	20	9	7	6.5	5	6.5	33.9	39.5	44.5	49.5	7	7	5	7	29.3	76	88	100	5	8.5	0											
42 FT	19	21	10	7	6.5	5	6.5	34.3	39.9	45.0	50.0	7	7	5	7.5	29.5	77	89	101	5	10	0											
44 FT	20	21	10	7	6.5	5	6.5	34.3	40.4	45.4	50.4	7	6.5	5	7.5	29.5	77	89	101	5	9.5	0											
46 FT	21	22	10	7	6.5	5	6.5	34.3	41.1	46.3	51.3	7	7	5	7	29.5	78	90	102	5	8.5	0											
48 FT	21	22	10	7	6	5	6.5	34.3	41.1	46.3	51.3	7	6.5	5	7	29.5	78	90	102	5	8	0											
50 FT	22	23	10	7	6	5	6.5	34.3	42.0	47.0	52.1	7	6.5	5	6.5	30.6	79	91	103	5	8	0											

SPAN (S) = 9 FT																		HEIGHT (HT) = 11 FT OR 12 FT															
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS									BOTTOM SLAB BARS									WALL BARS											
				A1 BARS		J3 BARS					A2 BARS		J4 BARS					B2 BARS															
				SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1													
	HT=11'	HT=12'	HT=11'						HT=12'																								
1 FT	11	11	8	5	6	5	6	70.8	31.3	33.8	5	6	6	6	73.1	139	151	5	9.5	12													
2 FT	11	12	8	6	8.5	6	7	73.1	33.0	35.6	5	6	6	6	73.1	140	152	5	9.5	12													
4 FT	8	10	9	5	6	6	6.5	73.8	33.4	36.1	6	8	6	6	73.8	138	150	5	8.5	0													
6 FT	8	11	9	5	7	6	6.5	73.8	32.1	34.8	5	6	6	6	73.8	139	151	5	8.5	0													
8 FT	9	11	9	5	7	6	7	73.8	30.9	33.4	5	6	6	6	73.8	139	151	5	8.5	0													
10 FT	9	11	9	5	7.5	6	7	58.5	30.9	33.4	5	6.5	6	6	73.8	139	151	5	8.5	0													
12 FT	9	12	9	5	6.5	6	6	56.1	34.0	36.8	5	6	6	6	73.8	140	152	5	8.5	0													
14 FT	10	12	9	5	6	6	6	57.4	34.3	37.0	6	8	6	6	73.8	140	152	5	7.5	0													
16 FT	10	12	10	6	8	6	6.5	53.1	34.3	37.0	6	7	6	6	63.8	140	152	5	8	0													
18 FT	11	13	10	6	7.5	6	6.5	54.3	36.3	39.1	6	7	6	6	64.9	141	153	5	7.5	0													
20 FT	11	13	11	6	6.5	6	6.5	52.4	36.3	39.1	6	6.5	6	7	59.5	141	153	5	7.5	0													
22 FT	12	14	12	6	7	6	8	52.8	33.6	36.3	6	6.5	6	7.5	58.8	142	154	5	7	0													
24 FT	13	15	12	6	6.5	6	7.5	54.0	37.3	40.1	6	6.5	6	7	60.0	143	155	5	7	0													
26 FT	14	15	13	6	6.5	6	7.5	54.5	35.9	38.6	6	6	6	6.5	56.9	143	155	5	6.5	0													
28 FT	14	16	13	6	6	6	7	53.3	39.3	42.3	6	6	6	7	58.1	144	156	5	6.5	0													
30 FT	15	17	13	6	6	6	6.5	60.5	39.8	42.8	6	6	6	6.5	60.5	145	157	5	6.5	0													
32 FT	16	17	14	6	6	6	7	61.0	40.0	43.0	6	6	6	6	57.4	145	157	5	6	0													
34 FT	16	18	14	7	8	6	6.5	61.0	40.3	43.3	7	7.5	6	6.5	58.5	146	158	5	6	0													
36 FT	17	19	15	6	6	6	7	60.3	42.4	45.5	7	8	6	6.5	59.0	147	159	6	8	0													
38 FT	18	19	15	7	7.5	6	6.5	61.5	42.6	45.8	7	7.5	6	6.5	57.8	147	159	6	8	0													
40 FT	18	20	15	7	7.5	6	6	61.5	42.9	46.0	7	7.5	6	6.5	60.3	148	160	6	8	0													
42 FT	19	21	16	7	7.5	6	6.5	62.0	43.4	46.5	7	7.5	6	6.5	59.5	149	161	6	8	0													
44 FT	19	21	16	7	7	6	6	62.0	43.4	46.5	7	7	6	6.5	59.5	149	161	6	8	0													
46 FT	20	22	17	7	7	6	6.5	62.5	45.6	48.9	7	7	6	6.5	58.8	150	162	6	7.5	0													
48 FT	20	22	17	7	7	6	6	61.3	45.6	48.9	7	7	6	6.5	58.8	150	162	6	7.5	0													
50 FT	21	23	18	7	7	6	6.5	63.0	46.1	49.4	7	7	6	6.5	59.3	151	163	6	7	0													

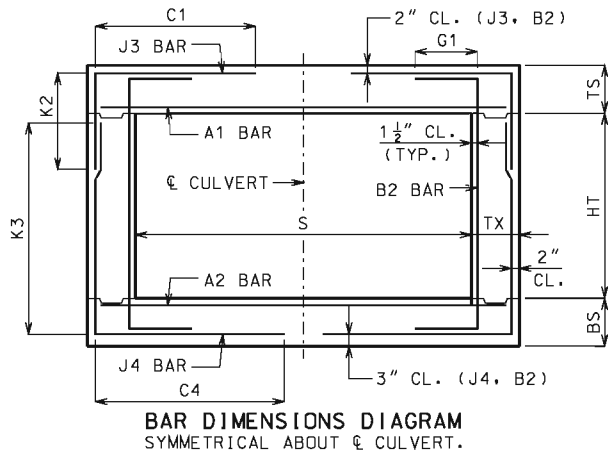
SPAN (S) = 10 FT																			HEIGHT (HT) = 5 FT OR 6 FT OR 7 FT																
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS									BOTTOM SLAB BARS									WALL BARS													
				A1 BARS		J3 BARS						A2 BARS		J4 BARS						B2 BARS															
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1													
									HT=5'	HT=6'	HT=7'						HT=5'	HT=6'	HT=7'																
1 FT	12	9	8	5	6	4	6	75.5	28.1	32.5	37.0	5	6	6	6.5	52.5	65	77	89	5	12	12													
2 FT	12	10	8	5	6	5	7.5	76.8	32.4	37.4	42.4	5	6	5	6.5	44.8	66	78	90	5	12	12													
4 FT	8	9	8	6	8	7	6.5	44.8	32.4	37.8	43.3	6	7.5	6	7	42.3	65	77	89	5	12	0													
6 FT	8	10	8	6	8.5	6	6	42.3	28.5	33.1	37.9	6	7.5	5	6.5	35.9	66	78	90	5	12	0													
8 FT	8	10	8	6	7.5	7	6	43.5	28.5	33.1	37.9	6	7	5	6.5	33.3	66	78	90	5	12	0													
10 FT	9	10	8	6	7	6	6.5	38.4	29.6	34.4	39.3	6	6.5	6	7	35.9	66	78	90	5	12	0													
12 FT	9	10	8	6	7.5	6	6.5	35.9	29.6	34.4	39.3	6	6.5	6	7	34.5	66	78	90	5	12	0													
14 FT	9	11	8	6	6.5	7	6	39.6	29.3	33.9	38.6	6	6	5	7	29.5	67	79	91	5	12	0													
16 FT	10	12	8	6	6	6	6	34.5	30.0	34.8	39.4	6	6	5	7.5	28.1	68	80	92	5	12	0													
18 FT	11	13	8	7	7.5	6	6.5	33.3	31.6	36.4	41.3	7	7.5	5	8	28.1	69	81	93	5	12	0													
20 FT	12	14	8	7	7.5	6	7	33.3	32.4	37.3	42.0	7	7.5	5	8.5	26.9	70	82	94	5	12	0													
22 FT	13	15	8	7	7	6	7.5	32.0	33.3	38.0	42.8	7	7.5	5	8.5	26.9	71	83	95	5	12	0													
24 FT	14	16	8	7	7	6	8	30.8	34.0	38.8	43.6	7	7.5	5	8	26.9	72	84	96	5	12	0													
26 FT	15	17	8	7	6.5	6	8	37.1	35.6	40.6	45.5	7	7	5	7	26.9	73	85	97	5	12	0													
28 FT	16	18	8	7	6.5	6	8.5	35.9	36.5	41.4	46.4	7	7	5	6.5	26.9	74	86	98	5	12	0													
30 FT	17	18	8	7	6.5	5	6	32.0	37.8	42.9	47.9	7	6.5	5	6.5	26.9	74	86	98	5	11.5	0													
32 FT	18	19	8	7	6.5	5	6	32.0	38.6	43.6	48.8	7	6.5	5	6.5	26.9	75	87	99	5	10	0													
34 FT	18	20	8	7	6	6	7.5	35.9	38.1	43.0	48.0	7	6.5	5	6	26.9	76	88	100	5	9.5	0													
36 FT	19	21	8	7	6	6	7.5	35.9	39.9	45.0	50.0	7	6.5	6	7.5	30.8	77	89	101	5	9.5	0													
38 FT	20	21	8	7	6	6	7.5	35.9	44.1	49.6	55.3	7	6.5	6	7.5	30.8	77	89	101	5	9.5	0													
40 FT	21	22	8	7	6	6	7	35.9	45.1	50.6	56.1	7	6.5	6	7	30.8	78	90	102	5	9	0													
42 FT	21	23	9	8	7.5	5	6	33.5	41.6	46.6	51.6	7	6	5	6	28.4	79	91	103	5	8.5	0													
44 FT	22	23	9	8	7.5	6	7.5	37.4	42.0	47.0	52.1	7	6	5	6	28.4	79	91	103	5	8.5	0													
46 FT	23	24	10	8	7.5	5	6.5	33.8	43.9	49.0	54.1	7	6	5	6.5	28.6	80	92	104	5	8.5	0													
48 FT	23	25	10	8	7	5	6	33.8	43.3	48.3	53.4	7	6	5	6	28.6	81	93	105	5	8	0													
50 FT	24	25	10	8	7	5	6	33.8	44.8	49.9	55.0	7	6	5	6	28.6	81	93	105	5	8	0													

SPAN (S) = 10 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					A2 BARS		J4 BARS					B2 BARS																	
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1													
									HT=11'	HT=12'	HT=13'						HT=11'	HT=12'	HT=13'																
1 FT	11	11	9	6	8	6	7.5	80.0	31.3	33.8	36.4	6	7.5	6	6	80.0	139	151	163	5	8.5	12													
2 FT	11	11	9	6	7.5	6	7	80.0	35.8	38.6	41.5	6	7.5	6	6	80.0	139	151	163	5	8.5	12													
4 FT	9	11	9	6	8	6	6.5	80.0	33.8	36.6	39.4	6	7.5	6	6	80.0	139	151	163	5	8	0													
6 FT	9	12	9	5	6	6	6	80.0	31.1	33.6	36.1	6	7.5	6	6	80.0	140	152	164	5	7.5	0													
8 FT	9	12	10	5	6	6	6.5	75.4	31.1	33.6	36.1	6	7.5	6	6.5	80.6	140	152	164	5	7.5	0													
10 FT	10	12	10	6	8	6	6.5	74.1	32.8	35.4	38.0	6	7	6	6	80.6	140	152	164	5	7	0													
12 FT	10	12	10	6	8.5	6	6.5	58.5	32.8	35.4	38.0	6	7.5	6	6	71.5	140	152	164	5	8	0													
14 FT	10	13	10	6	7.5	6	6	57.3	31.5	34.0	36.5	6	7	6	6	74.1	141	153	165	5	7	0													
16 FT	11	13	11	6	7	6	6.5	56.4	33.3	35.9	38.5	6	6.5	6	6.5	65.5	141	153	165	5	7.5	0													
18 FT	12	14	12	6	7	6	7.5	56.8	33.6	36.3	39.0	6	6.5	6	7.5	63.4	142	154	166	5	7	0													
20 FT	13	15	12	6	6.5	6	7	56.8	35.6	38.4	41.1	6	6	6	7	64.6	143	155	167	5	7	0													
22 FT	13	15	13	6	6	6	7	55.9	35.6	38.4	41.1	7	8	6	7	61.1	143	155	167	5	6.5	0													
24 FT	14	16	13	6	6	6	6.5	57.3	36.1	38.9	41.6	7	7.5	6	7	61.1	144	156	168	5	6.5	0													
26 FT	15	17	13	7	8	6	6	63.9	36.6	39.4	42.1	7	7.5	6	6	62.5	145	157	169	5	6.5	0													
28 FT	16	18	14	7	8	6	6.5	63.0	38.6	41.5	44.4	7	7.5	6	6.5	61.6	146	158	170	5	6	0													
30 FT	16	18	14	7	7	6	6	63.0	40.3	43.3	46.3	7	7	6	6	61.6	146	158	170	5	6	0													
32 FT	17	19	15	7	7	6	6	63.5	42.4	45.5	48.6	7	7	6	6	60.8	147	159	171	6	8	0													
34 FT	18	20	15	7	7	6	6	63.5	42.9	46.0	49.1	7	7	6	6	62.1	148	160	172	6	8	0													
36 FT	19	21	16	7	7	6	6	63.9	43.4	46.5	49.6	7	7	6	6	62.5	149	161	173	6	8	0													
38 FT	19	21	16	7	6.5	7	7.5	69.4	43.4	46.5	49.6	7	6.5	6	6	61.3	149	161	173	6	8	0													
40 FT	20	22	17	7	6.5	6	6	64.4	45.6	48.9	52.1	7	6.5	6	6	61.6	150	162	174	6	7.5	0													
42 FT	21	23	17	7	6.5	7	7.5	69.9	46.1	49.4	52.6	7	6.5	6	6	63.0	151	163	175	6	7.5	0													
44 FT	21	23	18	7	6.5	6	6	64.9	46.1	49.4	52.6	7	6.5	6	6	62.1	151	163	175	6	7	0													
46 FT	22	24	19	7	6.5	6	6	65.4	46.8	50.0	53.3	7	6.5	6	6	62.5	152	164	176	6	6.5	0													
48 FT	23	25	19	7	6	6	6	65.4	47.3	50.5	53.8	7	6	6	6	62.5	153	165	177	6	6.5	0													
50 FT	23	25	20	7	6	6	6	65.8	47.3	50.5	53.8	7	6	6	6	63.0	153	165	177	6	6.5	0													

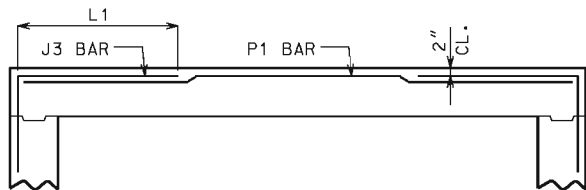


SPAN (S) = 11 FT												HEIGHT (HT) = 6 FT OR 7 FT OR 8 FT											
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS			
				A1 BARS		J3 BARS				A2 BARS		J4 BARS				B2 BARS							
	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE			SPA.	SIZE	SPA.	C4				K3				
						HT=6'	HT=7'	HT=8'		HT=6'	HT=7'					HT=8'	SIZE	SPA.	G1				
1 FT	12	10	8	6	7.5	5	7	82.6	32.0	36.4	40.6	6	8	6	7.5	61.6	78	90	102	5	12	12	
2 FT	12	10	8	6	7.5	5	6.5	82.6	32.0	36.4	40.6	6	7.5	6	7	53.3	78	90	102	5	12	12	
4 FT	9	10	8	6	7	6	6.5	46.3	29.3	33.4	37.4	6	7	6	7.5	46.3	78	90	102	5	12	0	
6 FT	9	10	8	6	7	6	6.5	43.4	29.3	33.4	37.4	6	6.5	6	6.5	42.0	78	90	102	5	12	0	
8 FT	9	10	8	6	6.5	6	6	42.0	33.5	38.3	42.9	6	6	6	6	40.6	78	90	102	5	12	0	
10 FT	10	11	8	6	6.5	6	6.5	39.3	30.8	35.0	39.3	7	8	6	7	37.8	79	91	103	5	12	0	
12 FT	10	11	8	6	6.5	6	6.5	37.8	30.8	35.0	39.3	6	6	6	7	35.0	79	91	103	5	12	0	
14 FT	10	11	8	7	7.5	6	6	36.4	34.4	39.0	43.6	7	7	6	6	35.0	79	91	103	5	12	0	
16 FT	11	13	8	7	7	6	6	36.4	31.9	36.0	40.3	7	7	5	6.5	30.8	81	93	105	5	12	0	
18 FT	11	14	8	7	6	7	6	39.3	31.3	35.4	39.5	7	6.5	5	7	29.4	82	94	106	5	12	0	
20 FT	13	15	8	7	6.5	6	6.5	33.6	33.3	37.5	41.6	7	6.5	5	7	29.4	83	95	107	5	12	0	
22 FT	14	16	8	7	6	6	6.5	33.6	34.9	39.3	43.5	7	6.5	5	7	29.4	84	96	108	5	12	0	
24 FT	15	17	8	7	6	6	6.5	39.3	35.6	40.0	44.3	7	6.5	5	6.5	29.4	85	97	109	5	12	0	
26 FT	16	18	8	7	6	6	6.5	37.8	36.4	40.6	45.0	7	6.5	5	6.5	29.4	86	98	110	5	10	0	
28 FT	17	19	8	8	7.5	6	6.5	37.8	37.1	41.4	45.8	7	6	5	6.5	29.4	87	99	111	5	9.5	0	
30 FT	18	20	8	8	7.5	6	6	37.8	38.9	43.3	47.8	7	6	5	6	29.4	88	100	112	5	9.5	0	
32 FT	19	21	9	8	7.5	6	7	39.5	39.6	44.0	48.5	7	6	5	6.5	29.6	89	101	113	5	9	0	
34 FT	20	22	10	8	7.5	6	8	39.8	40.4	44.8	49.3	7	6	5	7	31.3	90	102	114	5	10	0	
36 FT	21	23	10	8	7.5	6	8	39.8	41.1	45.5	50.0	7	6	5	6.5	31.3	91	103	115	5	9	0	
38 FT	22	23	10	8	7	6	8	39.8	42.5	47.1	51.6	8	7.5	5	6.5	31.3	91	103	115	5	8	0	
40 FT	22	24	11	8	7	6	7	40.0	43.0	47.5	52.0	8	7.5	5	7	31.5	92	104	116	5	9	0	
42 FT	23	25	11	8	7	6	8	40.0	43.8	48.3	52.9	8	7.5	5	7	31.5	93	105	117	5	8.5	0	
44 FT	24	26	11	8	7	6	8	40.0	44.5	49.0	53.6	8	7.5	5	6.5	31.5	94	106	118	5	7.5	0	
46 FT	25	26	11	8	6.5	6	8	40.0	46.0	50.8	55.4	8	7	5	6.5	31.5	94	106	118	5	7.5	0	
48 FT	25	27	11	8	6.5	6	7.5	40.0	45.3	49.8	54.4	8	7	5	6	31.5	95	107	119	5	7.5	0	
50 FT	26	27	11	8	6.5	6	8	40.0	46.8	51.5	56.1	8	7	5	6	31.5	95	107	119	5	7.5	0	

SPAN (S) = 11 FT												HEIGHT (HT) = 12 FT OR 13 FT OR 14 FT											
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS								BOTTOM SLAB BARS								WALL BARS			
				A1 BARS		J3 BARS				A2 BARS		J4 BARS				B2 BARS							
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1	
									HT=12'	HT=13'	HT=14'						HT=12'	HT=13'	HT=14'				
1 FT	12	12	9	6	7.5	6	7	86.0	32.6	35.0	37.4	6	7.5	6	6	86.0	152	164	176	5	8.5	12	
2 FT	12	12	9	6	7	6	6.5	86.0	34.3	36.8	39.3	6	7	6	6	86.0	152	164	176	5	8	12	
4 FT	9	11	10	6	7	6	6	86.6	33.4	35.9	38.4	6	6.5	6	6	86.6	151	163	175	5	7.5	0	
6 FT	9	12	10	6	7.5	6	6	86.6	33.6	36.1	38.6	6	6.5	6	6	88.0	152	164	176	5	7	0	
8 FT	10	13	10	6	7.5	6	6	86.6	34.0	36.5	39.0	6	7	6	6	86.6	153	165	177	5	6.5	0	
10 FT	10	13	11	6	7	6	6	70.1	34.0	36.5	39.0	6	6.5	6	6.5	88.6	153	165	177	5	6.5	0	
12 FT	10	13	11	6	7.5	6	6	60.0	32.4	34.8	37.3	6	6.5	6	6.5	74.4	153	165	177	5	7.5	0	
14 FT	11	13	11	6	6.5	6	6	60.0	35.9	38.5	41.1	6	6	6	6	70.1	153	165	177	5	7	0	
16 FT	12	14	12	6	6.5	6	7	60.5	36.3	39.0	41.6	7	8	6	6.5	67.6	154	166	178	5	7	0	
18 FT	13	15	13	6	6	6	7	59.5	38.4	41.1	43.9	7	7.5	6	7	65.3	155	167	179	5	6.5	0	
20 FT	14	16	13	6	6	6	6.5	60.9	38.9	41.6	44.4	7	7.5	6	6.5	66.8	156	168	180	5	6.5	0	
22 FT	14	17	14	7	7.5	6	6.5	59.9	39.1	41.9	44.6	7	7	6	6.5	64.3	157	169	181	5	6	0	
24 FT	15	17	14	7	7	6	6	65.8	39.4	42.1	44.9	7	6.5	6	6	64.3	157	169	181	5	6	0	
26 FT	16	18	15	7	7	6	6	66.1	41.5	44.4	47.3	7	6.5	6	6	63.3	158	170	182	6	8	0	
28 FT	17	19	15	7	7	6	6	66.1	42.0	44.9	47.8	7	6.5	6	6	64.6	159	171	183	6	8	0	
30 FT	18	20	16	7	7	6	6	66.6	42.5	45.4	48.3	7	6.5	6	6	63.6	160	172	184	6	8	0	
32 FT	19	21	16	7	6.5	7	8	72.5	44.8	47.8	50.8	7	6.5	7	8	68.1	161	173	185	6	8	0	
34 FT	20	22	16	7	6.5	7	7	72.5	45.3	48.3	51.3	7	6.5	7	7	68.1	162	174	186	6	8	0	
36 FT	20	22	17	7	6	7	7.5	71.5	50.6	54.0	57.4	7	6	7	7	67.0	162	174	186	6	7.5	0	
38 FT	21	23	18	7	6	7	7.5	72.0	45.8	48.8	51.8	7	6	7	7.5	67.5	163	175	187	6	7	0	
40 FT	22	24	18	7	6	7	7	73.5	46.3	49.3	52.3	7	6	7	7.5	69.0	164	176	188	6	7	0	
42 FT	23	25	19	7	6	7	7.5	74.0	48.6	51.8	54.9	7	6	7	8	68.0	165	177	189	6	6.5	0	
44 FT	23	26	20	7	6	7	7.5	73.0	47.0	50.0	53.0	7	6	6	6	65.4	166	178	190	6	6.5	0	
46 FT	24	26	20	8	7.5	7	7	73.0	49.1	52.3	55.4	8	7.5	7	7.5	68.4	166	178	190	6	6.5	0	
48 FT	25	27	21	8	7.5	7	7.5	73.5	49.6	52.8	55.9	8	7.5	7	8	68.9	167	179	191	6	6	0	
50 FT	25	27	21	8	7	7	7	73.5	49.6	52.8	55.9	8	7	7	7	68.9	167	179	191	6	6	0	



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT ϵ CULVERT.



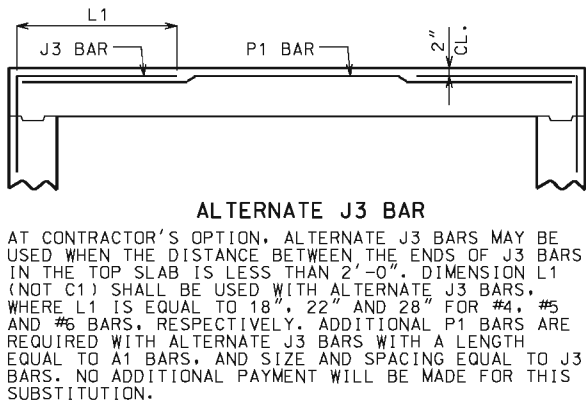
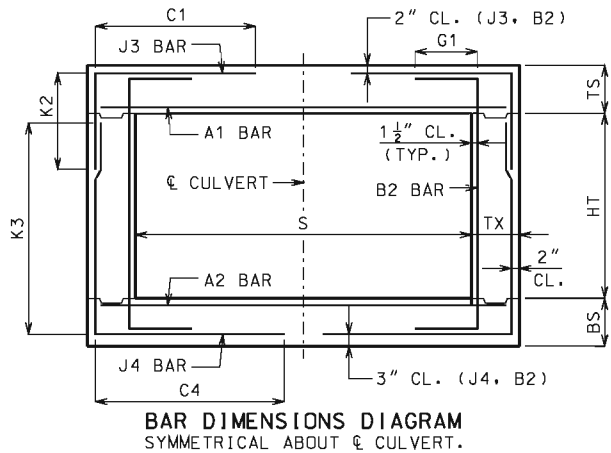
ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2'-0". DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18", 22" AND 28" FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

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				A2 BARS		J4 BARS				B2 BARS							
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1	
									HT=9'	HT=10'	HT=11'						HT=9'	HT=10'	HT=11'				
1 FT	12	11	8	6	7.5	5	7	82.6	32.8	35.9	39.0	6	7.5	6	6.5	85.4	115	127	139	5	9.5	12	
2 FT	12	11	8	6	7	5	6.5	82.6	32.8	35.9	39.0	6	7	6	6	85.4	115	127	139	5	9.5	12	
4 FT	9	10	9	6	7	6	6.5	70.5	34.1	37.5	40.9	6	6.5	6	6	73.4	114	126	138	5	9.5	0	
6 FT	9	11	9	6	7.5	6	6	57.8	30.8	33.8	36.8	6	6.5	6	6	64.9	115	127	139	5	9.5	0	
8 FT	9	11	9	6	7	7	6.5	56.4	30.8	33.8	36.8	6	6	6	6	56.4	115	127	139	5	9	0	
10 FT	10	12	9	6	6.5	6	6	50.8	31.3	34.3	37.3	6	6	6	6	55.0	116	128	140	5	8.5	0	
12 FT	10	12	9	6	6.5	6	6	46.5	31.3	34.3	37.3	6	6	6	6	48.0	116	128	140	5	10	0	
14 FT	11	12	9	6	6	6	6.5	45.1	35.3	38.6	42.0	7	7.5	6	6	46.5	116	128	140	5	9	0	
16 FT	11	13	10	7	7.5	6	6	45.5	33.0	36.1	39.3	7	7	6	6.5	46.9	117	129	141	5	9.5	0	
18 FT	12	14	10	7	7	6	6.5	45.5	32.3	35.3	38.3	7	7	6	6.5	45.5	118	130	142	5	8.5	0	
20 FT	13	15	10	7	7	6	6	45.5	34.0	37.1	40.3	7	6.5	6	6.5	45.5	119	131	143	5	8	0	
22 FT	14	16	11	7	7	6	6.5	45.8	35.9	39.1	42.4	7	6.5	6	7.5	45.8	120	132	144	5	8	0	
24 FT	15	17	11	7	6.5	6	6	51.5	36.5	39.8	42.9	7	6.5	6	7.5	45.8	121	133	145	5	7.5	0	
26 FT	16	18	12	7	6.5	6	6.5	51.9	37.0	40.3	43.5	7	6.5	6	8	46.1	122	134	146	5	7.5	0	
28 FT	17	19	12	7	6.5	6	6.5	51.9	37.5	40.8	44.0	7	6.5	6	7.5	46.1	123	135	147	5	7	0	
30 FT	18	20	13	7	6.5	6	6.5	52.3	38.1	41.3	44.5	7	6.5	6	8	46.4	124	136	148	5	7.5	0	
32 FT	19	21	13	7	6	6	6.5	52.3	40.0	43.4	46.8	7	6	6	7.5	46.4	125	137	149	5	6.5	0	
34 FT	20	22	13	7	6	6	6	52.3	40.6	44.0	47.4	7	6	6	7.5	46.4	126	138	150	5	6.5	0	
36 FT	21	22	13	7	6	6	6	52.3	45.3	49.0	52.8	7	6	6	6.5	46.4	126	138	150	5	6.5	0	
38 FT	21	23	14	8	7.5	6	6	52.5	41.1	44.5	47.9	7	6	6	7.5	46.8	127	139	151	5	6	0	
40 FT	22	24	14	8	7.5	6	6	52.5	43.3	46.8	50.1	8	7.5	6	7	48.1	128	140	152	5	6	0	
42 FT	23	25	15	8	7.5	6	6.5	52.9	48.4	52.1	56.0	8	7.5	6	7.5	48.5	129	141	153	5	6	0	
44 FT	24	25	15	8	7	6	6.5	52.9	48.6	52.5	56.4	8	7	6	6.5	48.5	129	141	153	6	8	0	
46 FT	24	26	15	8	7	6	6	52.9	49.0	52.8	56.6	8	7	6	7	48.5	130	142	154	6	8	0	
48 FT	25	27	16	8	7	6	6	53.3	49.6	53.5	57.3	8	7	6	7.5	48.9	131	143	155	6	8	0	
50 FT	26	27	16	8	6.5	6	6	53.3	51.5	55.5	59.4	8	7	6	6.5	48.9	131	143	155	6	8	0	

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						A2 BARS		J4 BARS										
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1		
									HT=6'	HT=7'	HT=8'						HT=6'	HT=7'	HT=8'					
1 FT	13	10	8	6	7.5	5	8.5	89.6	33.3	37.8	42.1	6	7.5	6	6.5	57.8	78	90	102	5	12	12		
2 FT	14	10	8	6	7	5	8.5	89.6	34.6	39.1	43.8	6	7	6	6	51.6	78	90	102	5	12	12		
4 FT	10	11	8	6	6.5	6	6.5	47.1	30.8	35.0	39.3	6	6.5	5	6.5	42.5	79	91	103	5	12	0		
6 FT	10	11	8	6	6.5	6	6.5	44.1	30.8	35.0	39.3	6	6	5	6	39.5	79	91	103	5	12	0		
8 FT	10	11	8	6	6	6	6.5	41.0	30.8	35.0	39.3	7	7.5	6	6.5	39.5	79	91	103	5	12	0		
10 FT	10	11	8	7	7	7	6	42.5	34.4	39.0	43.6	7	6.5	6	6	38.0	79	91	103	5	12	0		
12 FT	11	12	8	7	7	6	6	38.0	35.1	39.8	44.5	7	6.5	6	6.5	36.5	80	92	104	5	12	0		
14 FT	11	13	8	7	7	6	6	36.5	31.9	36.0	40.3	7	6.5	5	7	30.4	81	93	105	5	12	0		
16 FT	12	14	8	7	6.5	6	6	35.0	32.5	36.8	41.0	7	6.5	5	7	30.4	82	94	106	5	12	0		
18 FT	13	15	8	7	6	6	6.5	33.5	33.3	37.5	41.6	7	6	5	6.5	30.4	83	95	107	5	12	0		
20 FT	15	17	8	7	6	6	7	39.5	35.6	40.0	44.3	7	6.5	5	7	30.4	85	97	109	5	12	0		
22 FT	16	18	8	7	6	6	7	39.5	36.4	40.6	45.0	7	6	5	6.5	30.4	86	98	110	5	12	0		
24 FT	17	19	8	8	7.5	6	7	39.5	37.1	41.4	45.8	7	6	5	6.5	30.4	87	99	111	5	11	0		
26 FT	18	20	8	8	7	6	7	39.5	38.9	43.3	47.8	7	6	5	6	30.4	88	100	112	5	9.5	0		
28 FT	19	21	8	8	7	6	7	39.5	39.6	44.0	48.5	7	6	6	7.5	33.5	89	101	113	5	9.5	0		
30 FT	20	21	8	8	7	6	6.5	39.5	44.3	49.3	54.1	8	7	6	7.5	33.5	89	101	113	5	9.5	0		
32 FT	21	23	9	8	7	6	7.5	39.8	41.1	45.5	50.0	8	7.5	5	6	30.6	91	103	115	5	8.5	0		
34 FT	22	23	9	8	6.5	6	7.5	39.8	42.5	47.1	51.6	8	7	5	6	30.6	91	103	115	5	8.5	0		
36 FT	23	24	9	8	6.5	6	7	39.8	47.9	52.9	58.0	8	7	6	7	33.6	92	104	116	5	8.5	0		
38 FT	24	25	9	8	6.5	6	6.5	39.8	48.8	53.8	58.8	8	7	6	7	33.6	93	105	117	5	8.5	0		
40 FT	24	26	10	8	6	6	7	40.0	44.5	49.0	53.6	8	7	5	6	30.8	94	106	118	5	8	0		
42 FT	25	27	10	8	6	6	7	40.0	45.3	49.8	54.4	8	7	6	7	33.9	95	107	119	5	8	0		
44 FT	26	27	10	8	6	6	7	40.0	50.4	55.5	60.5	8	6.5	6	7	33.9	95	107	119	5	8	0		
46 FT	27	28	10	8	6	6	7	40.0	51.3	56.3	61.4	8	6.5	6	7	33.9	96	108	120	5	7.5	0		
48 FT	28	29	11	8	6	6	7.5	40.3	52.1	57.1	62.1	8	6.5	6	7.5	34.1	97	109	121	5	7.5	0		
50 FT	28	30	11	8	6	6	7.5	40.3	52.5	57.5	62.6	8	6.5	6	7	34.1	98	110	122	5	7.5	0		

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						A2 BARS		J4 BARS									
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1			
									HT=12'	HT=13'						HT=12'	HT=13'						
1 FT	12	11	9	6	6.5	5	6	90.3	32.4	34.8	6	6.5	6	6	91.8	151	163	5	8.5	12			
2 FT	12	11	9	6	6.5	6	7	91.8	34.0	36.5	6	6.5	6	6	91.8	151	163	5	8.5	12			
4 FT	10	12	9	6	6.5	6	6	91.8	35.4	38.0	6	6.5	6	6	91.8	152	164	5	8.5	0			
6 FT	10	12	9	6	6.5	7	6.5	81.1	35.4	38.0	6	6	6	6	91.8	152	164	5	8	0			
8 FT	10	12	10	6	6.5	6	6	64.6	35.4	38.0	7	7.5	6	6	73.9	152	164	5	8	0			
10 FT	11	13	10	6	6	6	6	61.6	35.9	38.5	7	7.5	6	6	69.3	153	165	5	8	0			
12 FT	12	13	11	6	6	6	7	58.9	36.1	38.8	7	7	6	6	62.0	153	165	5	7.5	0			
14 FT	12	13	11	6	6	6	7	54.3	36.1	38.8	7	7	6	6	55.8	153	165	5	7.5	0			
16 FT	12	14	11	7	7	6	6	52.8	36.3	39.0	7	6.5	6	6.5	55.8	154	166	5	7.5	0			
18 FT	13	16	12	7	7	6	6	53.0	38.6	41.4	7	6.5	6	7	56.1	156	168	5	7	0			
20 FT	14	16	12	7	6.5	6	6	53.0	38.9	41.6	7	6	6	6	54.6	156	168	5	7	0			
22 FT	16	18	13	7	6.5	6	6	59.6	41.5	44.4	7	6.5	6	7	55.0	158	170	5	6.5	0			
24 FT	16	19	13	7	6	7	7	64.4	40.0	42.8	7	6	6	6.5	55.0	159	171	5	6.5	0			
26 FT	18	20	14	7	6.5	6	6	58.5	42.5	45.4	7	6	6	6.5	55.3	160	172	5	6	0			
28 FT	18	21	14	7	6	7	7	63.3	42.8	45.6	7	6	6	6.5	55.3	161	173	5	6	0			
30 FT	19	22	14	8	7.5	7	6.5	63.3	43.3	46.1	7	6	6	6	55.3	162	174	5	6	0			
32 FT	20	23	15	8	7.5	7	7.5	63.6	45.5	48.5	8	7.5	6	6.5	55.6	163	175	6	8	0			
34 FT	21	23	15	8	7	7	7	63.6	45.8	48.8	8	7	6	6	55.6	163	175	6	8	0			
36 FT	22	24	16	8	7	7	7.5	64.0	46.3	49.3	8	7	6	6.5	56.0	164	176	6	8	0			
38 FT	23	25	16	8	7	7	7	64.0	48.6	51.8	8	7	6	6	56.0	165	177	6	8	0			
40 FT	24	26	17	8	7	7	7.5	64.4	49.1	52.3	8	7	6	6.5	56.4	166	178	6	7.5	0			
42 FT	24	27	17	8	6.5	7	6.5	64.4	49.4	52.5	8	7	6	6	56.4	167	179	6	7.5	0			
44 FT	25	28	18	8	6.5	7	7	66.4	49.9	53.0	8	7	6	6.5	56.8	168	180	6	7	0			
46 FT	26	28	18	8	6.5	7	7	66.4	50.1	53.3	8	6.5	6	6	56.8	168	180	6	7	0			
48 FT	27	29	19	8	6.5	7	7.5	66.9	52.6	55.9	8	6.5	6	6.5	57.0	169	181	6	6.5	0			
50 FT	28	30	19	8	6.5	7	7	66.9	53.3	56.4	8	6.5	6	6	57.0	170	182	6	6.5	0			



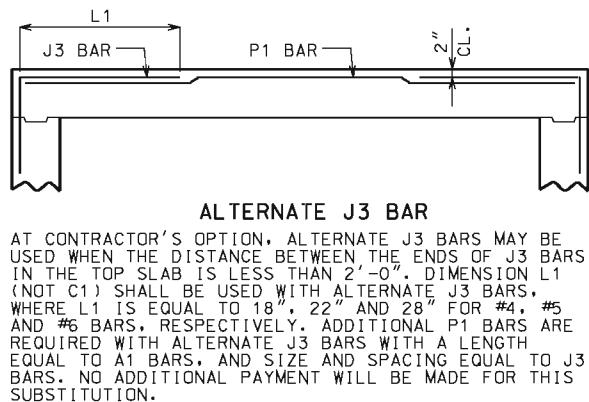
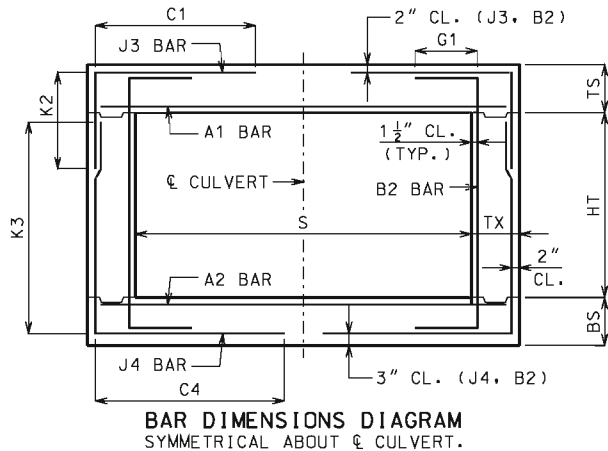
ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2'-0". DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18", 22" AND 28" FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

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						A2 BARS			J4 BARS						B2 BARS		
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1		
									HT=9'	HT=10'	HT=11'						HT=9'	HT=10'	HT=11'					
1 FT	11	12	8	6	6.5	6	7	91.3	31.5	34.5	37.5	6	7.5	6	7	91.3	116	128	140	5	10	12		
2 FT	11	12	8	6	6	6	6.5	91.3	31.5	34.5	37.5	6	7	6	6.5	91.3	116	128	140	5	9.5	12		
4 FT	10	12	8	6	6	6	6	69.9	30.0	32.9	35.8	6	6.5	6	6.5	83.6	116	128	140	5	9.5	0		
6 FT	10	12	8	6	6.5	6	6	57.8	31.3	34.3	37.3	6	6	6	6	62.4	116	128	140	5	9.5	0		
8 FT	10	12	9	6	6	6	6	52.0	31.3	34.3	37.3	7	8	6	6	55.1	116	128	140	5	10	0		
10 FT	10	12	9	7	7.5	7	6	52.0	35.0	38.4	41.8	7	7	6	6	50.5	116	128	140	5	9.5	0		
12 FT	11	13	10	7	7.5	6	6	49.3	33.0	36.1	39.3	7	7	6	6.5	49.3	117	129	141	5	10	0		
14 FT	11	13	10	7	7.5	6	6	46.3	31.8	34.8	37.8	7	7	6	6.5	46.3	117	129	141	5	12	0		
16 FT	12	14	10	7	7	6	6.5	46.3	32.3	35.3	38.3	7	6.5	6	7	44.6	118	130	142	5	11	0		
18 FT	13	15	10	7	6.5	6	6	44.6	38.0	41.5	45.0	7	6	6	7	44.6	119	131	143	5	9.5	0		
20 FT	14	16	10	7	6	7	7.5	47.8	38.6	42.0	45.5	7	6	6	6.5	44.6	120	132	144	5	8.5	0		
22 FT	16	18	11	7	6.5	6	6.5	51.1	37.0	40.3	43.5	7	6.5	6	7.5	45.0	122	134	146	5	8.5	0		
24 FT	17	19	11	7	6	6	6	49.6	37.5	40.8	44.0	7	6	6	7.5	45.0	123	135	147	5	7.5	0		
26 FT	18	20	12	7	6	6	6.5	49.9	38.1	41.3	44.5	7	6	6	7.5	45.3	124	136	148	5	8	0		
28 FT	19	21	12	7	6	6	6	49.9	40.0	43.4	46.8	7	6	6	7.5	45.3	125	137	149	5	7	0		
30 FT	20	22	13	8	7.5	6	6.5	51.8	40.6	44.0	47.4	7	6	6	8	45.5	126	138	150	5	7.5	0		
32 FT	21	23	13	8	7.5	6	6	50.3	41.1	44.5	47.9	8	7.5	6	7.5	45.5	127	139	151	5	7	0		
34 FT	21	23	13	8	7	6	6	50.3	45.6	49.3	53.0	8	7	6	7	45.5	127	139	151	5	6.5	0		
36 FT	22	24	14	8	7	6	6	52.1	43.3	46.8	50.1	8	7	6	7.5	45.9	128	140	152	5	7	0		
38 FT	23	25	14	8	6.5	6	6	50.5	43.8	47.3	50.8	8	7	6	7.5	45.9	129	141	153	5	6	0		
40 FT	24	26	14	8	6.5	6	6	50.5	44.4	47.9	51.4	8	7	6	7	45.9	130	142	154	5	6	0		
42 FT	25	27	15	8	6.5	6	6	52.5	49.6	53.5	57.3	8	7	6	7.5	46.1	131	143	155	5	6	0		
44 FT	26	28	15	8	6.5	6	6	52.5	50.3	54.1	57.9	8	6.5	6	7.5	47.8	132	144	156	6	8	0		
46 FT	27	28	15	8	6.5	6	6	50.9	52.1	56.1	60.0	8	6.5	6	7	47.8	132	144	156	6	8	0		
48 FT	27	29	15	8	6	6	6	52.5	52.5	56.4	60.4	8	6.5	6	7	47.8	133	145	157	6	8	0		
50 FT	28	30	16	8	6	6	6	52.8	53.1	57.1	61.0	8	6.5	6	7.5	48.0	134	146	158	6	8	0		

SPAN (S) = 13 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					A2 BARS		J4 BARS											
	TS	BS	TX			SIZE	SPA.	SIZE	SPA.	C1			HT=7'	HT=8'	HT=9'	SIZE	SPA.	SIZE	SPA.	C4	HT=7'	HT=8'	HT=9'	SIZE
	1 FT	13	11	8	6	6.5	5	8.5	95.1	34.0	38.0	41.9	6	7	6	7	67.3	91	103	115	5	12	12	
2 FT	13	11	8	6	6	5	6.5	95.1	34.0	38.0	41.9	6	6.5	6	6.5	59.0	91	103	115	5	12	12		
4 FT	10	11	8	7	7.5	6	6	49.3	31.0	34.8	38.5	6	6	6	6.5	49.3	91	103	115	5	12	0		
6 FT	10	11	8	7	7.5	6	6	45.9	34.0	38.1	42.1	7	7	6	6	45.9	91	103	115	5	12	0		
8 FT	10	12	8	7	7	7	6	47.5	30.3	33.9	37.5	7	7	6	7	42.6	92	104	116	5	12	0		
10 FT	11	12	8	7	6.5	7	6.5	44.3	35.8	39.9	44.1	7	6	6	6	41.0	92	104	116	5	12	0		
12 FT	12	13	8	7	6	7	6.5	42.6	36.4	40.6	44.8	7	6	6	6.5	39.4	93	105	117	5	12	0		
14 FT	12	14	8	7	6	7	6.5	41.0	32.5	36.3	40.0	7	6	5	6	32.8	94	106	118	5	12	0		
16 FT	13	15	8	8	7.5	7	6.5	39.4	33.1	36.9	40.6	7	6	5	6	31.1	95	107	119	5	12	0		
18 FT	14	16	8	8	7	7	7	37.8	34.9	38.8	42.5	8	7.5	6	8	34.5	96	108	120	5	12	0		
20 FT	15	18	8	8	6.5	7	7	45.9	35.9	39.6	43.5	8	7.5	5	6	31.1	98	110	122	5	11.5	0		
22 FT	17	19	8	8	7	6	6	41.0	38.0	41.9	45.9	8	7.5	6	8	34.5	99	111	123	5	9.5	0		
24 FT	18	20	8	8	6.5	7	7.5	45.9	38.6	42.6	46.5	8	7	6	7.5	34.5	100	112	124	5	9.5	0		
26 FT	19	21	9	8	6.5	6	6	41.3	39.3	43.3	47.3	8	7	5	6	31.4	101	113	125	5	9	0		
28 FT	20	22	10	8	6.5	6	6.5	41.5	41.1	45.3	49.3	8	7	5	6	33.3	102	114	126	5	10	0		
30 FT	21	23	10	8	6.5	6	6.5	41.5	41.9	45.9	50.0	8	6.5	5	6	33.3	103	115	127	5	9	0		
32 FT	22	24	10	8	6	6	6	41.5	42.5	46.6	50.6	8	6.5	5	6	33.3	104	116	128	5	8	0		
34 FT	23	25	11	8	6	6	6.5	41.8	43.1	47.3	51.4	8	6.5	5	6.5	33.4	105	117	129	5	8.5	0		
36 FT	24	26	11	8	6	6	6.5	41.8	45.1	49.4	53.5	8	6.5	5	6	33.4	106	118	130	5	8	0		
38 FT	25	27	12	8	6	6	6.5	42.0	45.9	50.0	54.3	8	6.5	5	6	33.6	107	119	131	5	8.5	0		
40 FT	26	28	12	8	6	6	7	42.0	46.5	50.8	55.0	8	6.5	5	6	33.6	108	120	132	5	7.5	0		
42 FT	27	29	12	9	7.5	6	7	42.0	51.3	55.9	60.4	8	6	6	8.5	37.0	109	121	133	5	7	0		
44 FT	28	30	12	9	7	6	7	42.0	52.0	56.6	61.1	8	6	6	8	37.0	110	122	134	5	7	0		
46 FT	29	30	12	9	7	6	7	42.0	53.9	58.5	63.1	8	6	6	7.5	37.0	110	122	134	5	7	0		
48 FT	30	31	12	9	7	6	7	42.0	54.6	59.3	64.0	8	6	6	7.5	37.0	111	123	135	5	7	0		
50 FT	30	32	12	9	7	6	6.5	42.0	55.0	59.6	64.4	8	6	6	7.5	37.0	112	124	136	5	7	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				A2 BARS		J4 BARS				B2 BARS							
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2	SIZE	SPA.	SIZE	SPA.	C4	K3	SIZE	SPA.	G1					
									HT=13'HT=14'						HT=13'HT=14'								
1 FT	12	12	9	6	6	6	6.5	99.0	36.8	39.3	6	6.5	6	6	99.0	164	176	5	8.5	12			
2 FT	12	12	9	7	8	6	6.5	99.0	36.8	39.3	6	6	6	6	99.0	164	176	5	8	12			
4 FT	10	12	10	6	6	6	6	99.6	34.6	37.0	7	8	6	6	99.6	164	176	5	8	0			
6 FT	11	13	10	6	6	6	6.5	84.6	35.0	37.4	6	6	6	6.5	99.6	165	177	5	7.5	0			
8 FT	11	13	10	6	6	7	6.5	74.8	35.0	37.4	7	7	6	6	84.6	165	177	5	7	0			
10 FT	11	13	11	7	7.5	7	6.5	68.5	35.0	37.4	7	6.5	6	6	70.1	165	177	5	7.5	0			
12 FT	12	14	12	7	7	6	6.5	62.1	37.1	39.8	7	6.5	6	6.5	67.3	166	178	5	7	0			
14 FT	13	15	12	7	7	6	6	62.1	37.6	40.1	7	6	6	6	65.5	167	179	5	7	0			
16 FT	13	15	12	7	6.5	7	7	60.5	37.6	40.1	7	6	6	6.5	58.8	167	179	5	7	0			
18 FT	14	17	13	7	6.5	7	8	59.1	38.3	40.8	7	6	6	6.5	59.1	169	181	5	6.5	0			
20 FT	15	18	13	7	6	7	7	67.6	40.5	43.1	7	6	6	6	59.1	170	182	5	6.5	0			
22 FT	17	19	14	7	6	7	7.5	68.0	41.1	43.8	7	6	6	6	59.5	171	183	5	6	0			
24 FT	18	20	14	7	6	7	7.5	66.3	43.5	46.3	8	7.5	6	6	59.5	172	184	5	6	0			
26 FT	19	21	15	8	7.5	7	7.5	66.8	43.9	46.8	8	7	6	6	58.1	173	185	6	8	0			
28 FT	20	22	15	8	7	7	7	66.8	44.4	47.1	8	7	6	6	58.1	174	186	6	8	0			
30 FT	21	23	16	8	7	7	7	67.1	46.8	49.6	8	7	6	6	58.5	175	187	6	8	0			
32 FT	22	24	16	8	7	7	7	67.1	49.3	52.3	8	7	7	7.5	61.9	176	188	6	8	0			
34 FT	23	25	17	8	6.5	7	7	67.5	47.8	50.6	8	6.5	6	6	58.9	177	189	6	7.5	0			
36 FT	24	26	17	8	6.5	7	6.5	67.5	52.3	55.4	8	6.5	7	7.5	62.3	178	190	6	7.5	0			
38 FT	25	27	18	8	6.5	7	7	67.9	50.8	53.8	8	6.5	6	6	59.1	179	191	6	7	0			
40 FT	25	28	18	8	6	7	6	67.9	51.0	54.0	8	6.5	6	6	59.1	180	192	6	7	0			
42 FT	26	29	19	8	6	7	6.5	68.3	51.5	54.5	8	6.5	6	6	59.5	181	193	6	6.5	0			
44 FT	27	30	19	8	6	7	6	68.3	52.0	55.0	8	6	6	6	59.5	182	194	6	6.5	0			
46 FT	28	31	20	8	6	7	6.5	68.6	52.5	55.5	8	6	6	6	59.9	183	195	6	6.5	0			
48 FT	29	31	20	8	6	7	6	68.6	57.0	60.3	8	6	7	7.5	63.4	183	195	6	6.5	0			
50 FT	30	32	21	9	7.5	7	7	69.0	55.4	58.5	8	6	6	6	60.1	184	196	6	6	0			



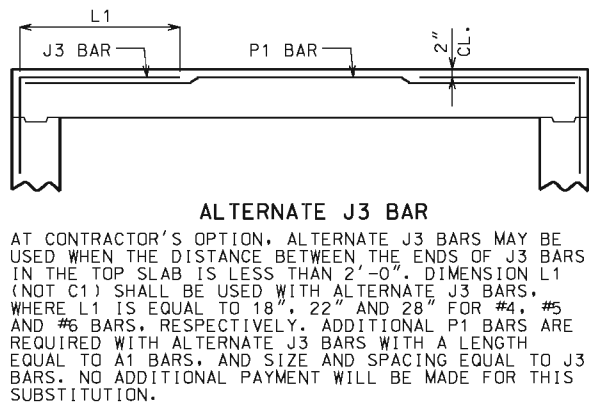
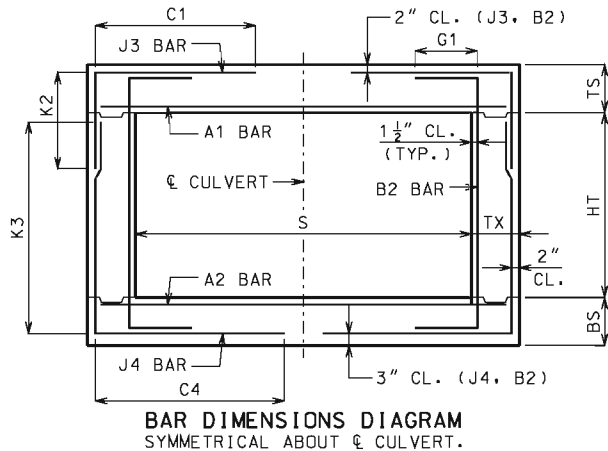
ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2'-0". DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18", 22" AND 28" FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

SPAN (S) = 13 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				A2 BARS		J4 BARS				B2 BARS							
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1	
									HT=10'	HT=11'	HT=12'						HT=10'	HT=11'	HT=12'				
1 FT	12	12	9	6	6.5	5	6	95.8	33.4	36.3	39.1	6	7	6	6.5	99.0	128	140	152	5	9	12	
2 FT	12	13	9	6	6	6	7	99.0	32.3	35.0	37.8	6	6.5	6	7	99.0	129	141	153	5	9	12	
4 FT	10	11	9	7	7.5	6	6	72.6	34.0	37.0	40.0	7	7.5	6	6	77.5	127	139	151	5	8.5	0	
6 FT	10	11	10	6	6	6	6	61.4	34.0	37.0	40.0	7	7.5	6	6	63.1	127	139	151	5	9	0	
8 FT	10	12	10	7	7.5	7	6	59.8	34.3	37.3	40.3	7	7	6	6.5	59.8	128	140	152	5	9	0	
10 FT	11	13	10	7	7	6	6	54.8	36.1	39.3	42.4	7	6.5	6	6.5	56.5	129	141	153	5	8.5	0	
12 FT	12	14	10	7	6.5	6	6	51.5	33.9	36.8	39.6	7	6.5	6	6	53.1	130	142	154	5	8	0	
14 FT	12	14	10	7	6.5	6	6	48.1	33.9	36.8	39.6	7	6	6	6	48.1	130	142	154	5	9.5	0	
16 FT	13	15	10	7	6	7	7	51.5	34.4	37.3	40.1	7	6	6	6	48.1	131	143	155	5	8	0	
18 FT	14	16	11	7	6	7	7.5	51.8	39.1	42.4	45.6	8	7.5	6	6.5	48.4	132	144	156	5	8.5	0	
20 FT	15	18	11	8	7.5	7	7	58.5	37.0	40.0	43.0	8	7.5	6	7	46.8	134	146	158	5	7.5	0	
22 FT	17	19	12	8	7.5	6	6	53.8	39.3	42.4	45.5	8	7.5	6	7	48.8	135	147	159	5	7.5	0	
24 FT	18	20	12	8	7	7	7.5	58.8	39.8	42.9	46.0	8	7	6	6.5	48.8	136	148	160	5	7	0	
26 FT	19	21	13	8	7	7	8	59.1	40.3	43.4	46.5	8	7	6	7	49.0	137	149	161	5	7	0	
28 FT	20	22	13	8	7	7	7.5	59.1	42.4	45.6	48.9	8	7	6	6.5	49.0	138	150	162	5	6.5	0	
30 FT	21	23	14	8	7	7	8	59.5	46.1	49.6	53.1	8	7	6	7	49.3	139	151	163	5	7	0	
32 FT	22	24	14	8	6.5	7	7.5	59.5	46.8	50.1	53.6	8	6.5	6	6.5	49.3	140	152	164	5	6	0	
34 FT	23	25	14	8	6.5	7	7	59.5	44.0	47.3	50.5	8	6.5	6	6.5	49.3	141	153	165	5	6	0	
36 FT	24	26	15	8	6.5	7	7.5	59.9	49.5	53.1	56.8	8	6.5	6	6.5	49.6	142	154	166	5	6	0	
38 FT	25	27	15	8	6	7	7.5	59.9	50.1	53.8	57.3	8	6.5	6	6.5	49.6	143	155	167	6	8	0	
40 FT	26	28	15	8	6	7	7	59.9	50.8	54.3	57.9	8	6.5	6	6.5	49.6	144	156	168	6	8	0	
42 FT	27	29	16	8	6	7	7.5	60.3	51.3	54.9	58.5	8	6	6	6.5	49.9	145	157	169	6	8	0	
44 FT	28	30	16	8	6	7	7.5	60.3	53.6	57.4	61.1	8	6	6	6.5	49.9	146	158	170	6	8	0	
46 FT	28	30	16	9	7	7	6.5	60.3	53.6	57.4	61.1	8	6	6	6	49.9	146	158	170	6	8	0	
48 FT	29	31	17	9	7	7	7.5	60.5	54.3	58.0	61.8	8	6	6	6.5	50.1	147	159	171	6	7.5	0	
50 FT	30	32	17	9	7	7	7.5	60.5	54.9	58.6	62.3	8	6	6	6.5	50.1	148	160	172	6	7.5	0	

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					A2 BARS		J4 BARS															
	B2 BARS																											
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	HT=7'	HT=8'	HT=9'	SIZE	SPA.	SIZE	SPA.	C4	HT=7'	HT=8'	HT=9'	SIZE	SPA.	G1						
1 FT	13	12	8	6	6	5	7	102.1	33.3	37.1	41.0	6	6.5	6	6.5	66.9	92	104	116	5	12	12						
2 FT	13	12	8	7	8	5	6	102.1	33.3	37.1	41.0	6	6	6	6	58.1	92	104	116	5	12	12						
4 FT	10	11	8	7	6.5	7	6	52.8	34.0	38.1	42.1	7	7	6	6	49.3	91	103	115	5	12	0						
6 FT	11	12	8	7	7	6	6	45.8	31.6	35.4	39.0	7	7	6	7	44.0	92	104	116	5	12	0						
8 FT	11	12	8	7	6.5	7	6.5	45.8	35.8	39.9	44.1	7	6	6	6	42.3	92	104	116	5	12	0						
10 FT	12	13	8	7	6	7	6.5	44.0	33.3	37.1	41.0	8	7.5	6	6.5	38.8	93	105	117	5	12	0						
12 FT	12	14	8	8	7	7	6	42.3	36.8	41.0	45.1	8	7	6	7	37.0	94	106	118	5	12	0						
14 FT	13	16	8	8	6.5	7	6	42.3	33.5	37.3	40.9	8	7	5	6	31.6	96	108	120	5	12	0						
16 FT	13	16	8	8	6.5	7	6	40.5	33.5	37.3	40.9	8	7	5	6	31.6	96	108	120	5	12	0						
18 FT	15	17	8	8	6.5	7	7	45.8	35.5	39.4	43.3	8	6.5	6	7.5	35.3	97	109	121	5	12	0						
20 FT	16	19	8	8	6	7	6.5	45.8	36.5	40.4	44.1	8	7	5	6	31.6	99	111	123	5	11.5	0						
22 FT	18	20	8	8	6	7	7.5	45.8	38.6	42.6	46.5	8	6.5	6	7.5	35.3	100	112	124	5	9.5	0						
24 FT	19	21	8	8	6	7	7	45.8	44.0	48.5	52.9	8	6.5	6	7.5	35.3	101	113	125	5	9.5	0						
26 FT	21	23	9	8	6	6	6.5	42.5	41.9	45.9	50.0	8	6.5	5	6	33.6	103	115	127	5	8.5	0						
28 FT	22	24	9	8	6	6	6	42.5	46.3	50.8	55.1	8	6.5	6	7	35.4	104	116	128	5	8.5	0						
30 FT	23	25	10	8	6	6	6.5	42.8	43.1	47.3	51.4	8	6.5	5	6	33.9	105	117	129	5	8.5	0						
32 FT	24	26	10	9	7.5	6	6	42.8	45.1	49.4	53.5	8	6	5	6	33.9	106	118	130	5	8	0						
34 FT	25	27	11	9	7	6	7	43.0	45.9	50.0	54.3	8	6	5	6	34.0	107	119	131	5	8.5	0						
36 FT	26	28	11	9	7	6	7	43.0	46.5	50.8	55.0	8	6	5	6	34.0	108	120	132	5	7.5	0						
38 FT	27	29	11	9	7	6	7	43.0	51.3	55.9	60.4	8	6	6	7.5	37.6	109	121	133	5	7.5	0						
40 FT	28	30	11	9	7	6	6.5	43.0	52.0	56.6	61.1	8	6	6	7	37.6	110	122	134	5	7.5	0						
42 FT	29	31	12	9	6.5	6	7	43.3	54.3	58.9	63.6	9	7.5	6	7.5	37.8	111	123	135	5	7	0						
44 FT	30	32	12	9	6.5	6	7	43.3	55.0	59.6	64.4	9	7	6	7.5	37.8	112	124	136	5	7	0						
46 FT	31	33	12	9	6.5	6	7	43.3	55.8	60.5	65.1	9	7	6	7	37.8	113	125	137	5	7	0						
48 FT	32	33	12	9	6.5	6	7	43.3	56.1	60.9	65.5	9	7	6	7	37.8	113	125	137	5	7	0						
50 FT	33	34	12	9	6.5	6	7	43.3	58.4	63.3	68.0	9	7	6	7	37.8	114	126	138	5	6.5	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					A2 BARS		J4 BARS										
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2		SIZE	SPA.	SIZE	SPA.	C4	K3		SIZE	SPA.	G1			
									HT=13'	HT=14'						HT=13'	HT=14'						
1 FT	12	12	10	6	6	6	7	105.0	36.8	39.3	6	6	6	6	105.0	164	176	5	8	12			
2 FT	13	13	10	7	8	6	7	105.0	35.4	37.8	7	8	6	6.5	105.0	165	177	5	8	12			
4 FT	11	12	10	7	7.5	6	6.5	105.0	36.5	39.0	7	7	6	6	105.0	164	176	5	8	0			
6 FT	11	13	10	7	7.5	6	6	76.5	35.0	37.4	7	7	6	6	87.3	165	177	5	8	0			
8 FT	11	13	11	7	7.5	6	6	66.3	35.0	37.4	7	6.5	6	6	71.6	165	177	5	7.5	0			
10 FT	12	14	11	7	7	6	6	64.5	37.1	39.8	7	6	6	6	68.0	166	178	5	7.5	0			
12 FT	13	15	12	7	6.5	6	6	61.3	37.6	40.1	7	6	6	6.5	64.8	167	179	5	7	0			
14 FT	14	16	13	7	6.5	6	6	59.8	38.0	40.5	7	6	6	6.5	63.4	168	180	5	6.5	0			
16 FT	14	16	13	7	6	7	8	59.8	38.0	40.5	8	7.5	6	6	56.1	168	180	5	7.5	0			
18 FT	15	18	13	7	6	7	7	67.0	40.5	43.1	8	7.5	6	6.5	56.1	170	182	5	6.5	0			
20 FT	16	19	13	8	7	7	6.5	65.1	40.9	43.5	8	7	6	6	56.1	171	183	5	6.5	0			
22 FT	18	20	14	8	7	7	7	65.5	43.5	46.3	8	7	6	6	56.4	172	184	5	6	0			
24 FT	19	22	14	8	7	7	7	65.5	44.1	46.9	8	7	6	6	56.4	174	186	5	6	0			
26 FT	20	23	15	8	6.5	7	7	65.9	44.6	47.4	8	6.5	6	6	56.8	175	187	6	8	0			
28 FT	21	24	15	8	6.5	7	6.5	65.9	45.1	47.9	8	6.5	6	6	56.8	176	188	6	8	0			
30 FT	22	25	16	8	6.5	7	6.5	66.3	47.5	50.4	8	6.5	6	6	57.0	177	189	6	8	0			
32 FT	23	26	16	8	6	7	6	66.3	50.0	53.0	8	6	7	8	58.9	178	190	6	8	0			
34 FT	24	27	17	8	6	7	6	66.6	48.5	51.4	8	6	6	6	57.4	179	191	6	7.5	0			
36 FT	25	28	17	8	6	7	6	66.6	53.0	56.1	8	6	7	8	59.3	180	192	6	7.5	0			
38 FT	26	29	18	9	7.5	7	6	67.0	51.5	54.5	8	6	6	6	57.6	181	193	6	7	0			
40 FT	27	30	18	9	7	7	6	67.0	54.1	57.3	8	6	7	8	61.4	182	194	6	7	0			
42 FT	28	31	19	9	7	7	6	67.4	52.5	55.5	9	7.5	6	6	58.0	183	195	6	6.5	0			
44 FT	29	32	19	9	7	7	6	67.4	57.3	60.5	9	7	7	8	61.8	184	196	6	6.5	0			
46 FT	30	33	20	9	7	7	6.5	67.6	55.6	58.8	9	7	6	6	58.3	185	197	6	6.5	0			
48 FT	31	34	20	9	6.5	7	6	67.6	58.4	61.5	9	7	7	8	62.0	186	198	6	6.5	0			
50 FT	32	35	21	9	6.5	7	6.5	69.9	56.6	59.8	9	7	6	6	58.6	187	199	6	6	0			



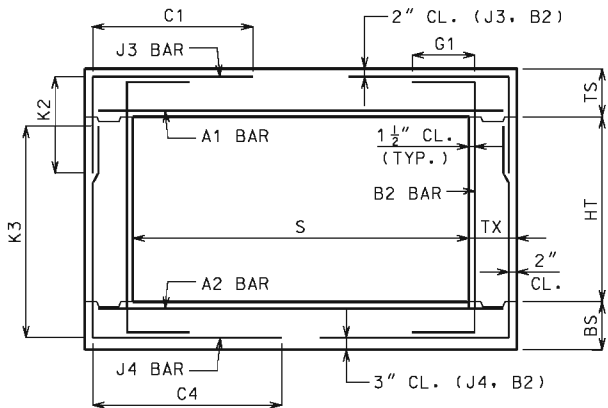
ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2'-0". DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18", 22" AND 28" FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

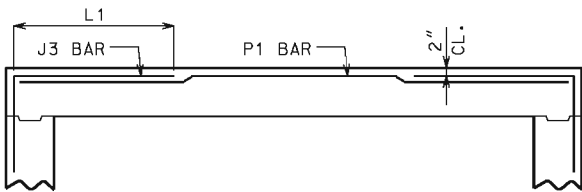
SPAN (S) = 14 FT																			HEIGHT (HT) = 10 FT OR 11 FT OR 12 FT			
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SPAN (S) = 16 FT																HEIGHT (HT) = 8 FT OR 9 FT OR 10 FT									
DESIGN FILL	MEMBER THICKNESS			TOP SLAB BARS									BOTTOM SLAB BARS									WALL BARS			
				A1 BARS		J3 BARS					A2 BARS		J4 BARS					B2 BARS							
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1			
									HT=8'	HT=9'	HT=10'						HT=8'	HT=9'	HT=10'						
1 FT	12	13	8	7	6.5	6	6.5	116.0	37.1	41.0	44.8	7	7.5	6	6.5	76.0	105	117	129	5	12	12			
2 FT	12	13	8	7	6	6	6	116.0	37.1	41.0	44.8	7	7	6	6	64.0	105	117	129	5	12	12			
4 FT	12	12	9	7	6.5	6	6.5	54.3	36.8	40.6	44.5	7	6.5	6	6	54.3	104	116	128	5	12	0			
6 FT	12	12	9	7	6	6	6.5	50.3	36.8	40.6	44.5	7	6	6	6	50.3	104	116	128	5	12	0			
8 FT	12	13	9	8	7.5	7	6.5	50.3	37.1	41.0	44.8	8	7	6	6	46.3	105	117	129	5	12	0			
10 FT	13	14	9	8	6.5	7	6.5	48.3	37.8	41.6	45.5	8	6.5	6	6	44.3	106	118	130	5	12	0			
12 FT	14	16	9	8	6.5	7	6.5	46.3	35.1	38.6	42.0	8	6.5	6	7.5	40.3	108	120	132	5	12	0			
14 FT	15	18	9	8	6	7	6	52.3	36.0	39.5	42.9	8	6	6	8	38.3	110	122	134	5	12	0			
16 FT	16	19	9	9	7	7	6	50.3	36.5	40.0	43.5	8	6	6	7.5	38.3	111	123	135	5	12	0			
18 FT	17	20	9	9	7	7	6.5	50.3	37.1	40.6	44.1	8	6	6	8	38.3	112	124	136	5	12	0			
20 FT	19	21	9	9	7	7	7	50.3	39.3	42.9	46.5	8	6	6	7.5	38.3	113	125	137	5	10.5	0			
22 FT	20	23	9	9	6.5	7	6.5	50.3	40.3	43.8	47.4	8	6	6	7.5	38.3	115	127	139	5	9	0			
24 FT	22	24	10	9	7	7	7.5	50.5	42.5	46.3	49.9	9	7.5	6	7.5	38.4	116	128	140	5	9.5	0			
26 FT	23	25	10	9	6.5	7	7	50.5	47.3	51.4	55.4	9	7	6	7	38.4	117	129	141	5	8.5	0			
28 FT	25	27	11	9	6.5	6	6	46.8	45.8	49.6	53.5	9	7	6	8	40.6	119	131	143	5	8.5	0			
30 FT	26	28	11	9	6.5	6	6	46.8	46.4	50.3	54.1	9	7	6	8	40.6	120	132	144	5	7.5	0			
32 FT	28	29	11	9	6.5	6	6.5	46.8	53.3	57.6	61.9	9	7	6	7	40.6	121	133	145	5	7.5	0			
34 FT	29	31	12	9	6.5	6	6.5	46.9	54.4	58.6	63.0	9	7	6	7.5	40.8	123	135	147	5	7	0			
36 FT	30	32	12	9	6	6	6.5	46.9	55.1	59.4	63.8	9	6.5	6	7.5	40.8	124	136	148	5	7	0			
38 FT	31	33	12	9	6	6	6.5	46.9	55.8	60.1	64.5	9	6.5	6	7	40.8	125	137	149	5	7	0			
40 FT	32	34	12	9	6	6	6.5	46.9	56.5	60.9	65.1	9	6.5	6	7	40.8	126	138	150	5	7	0			
42 FT	33	35	12	9	6	6	6	46.9	57.3	61.5	65.9	9	6.5	6	6.5	40.8	127	139	151	5	6.5	0			
44 FT	34	36	13	10	7.5	6	6.5	47.1	59.6	64.0	68.5	9	6	6	6.5	41.0	128	140	152	5	6.5	0			
46 FT	35	37	13	10	7	6	6	47.1	60.3	64.8	69.3	9	6	6	6.5	41.0	129	141	153	5	6.5	0			
48 FT	36	38	13	10	7	6	6.5	47.1	61.0	65.5	69.9	9	6	6	6	41.0	130	142	154	5	6	0			
50 FT	37	39	13	10	7	6	6	47.1	61.8	66.3	70.6	9	6	6	6	41.0	131	143	155	6	8.5	0			

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					A2 BARS		J4 BARS					B2 BARS									
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1					
									HT=14'	HT=15'	HT=16'						HT=14'	HT=15'	HT=16'								
1 FT	13	14	11	7	7.5	6	7	117.8	38.0	40.4	42.8	7	7.5	6	6.5	117.8	178	190	202	5	7.5	12					
2 FT	13	14	11	7	7	7	7.5	121.8	38.0	40.4	42.8	7	7	6	6.5	117.8	178	190	202	5	7	12					
4 FT	12	14	11	7	6.5	6	6	117.8	37.8	40.3	42.6	7	6.5	6	6	117.8	178	190	202	5	6.5	0					
6 FT	12	14	12	7	6.5	6	6	83.6	37.8	40.3	42.6	7	6.5	6	6	95.9	178	190	202	5	7	0					
8 FT	12	14	13	7	6.5	7	6.5	77.9	37.8	40.3	42.6	7	6	6	6	80.0	178	190	202	5	6.5	0					
10 FT	13	16	13	7	6	7	6.5	75.9	38.4	40.8	43.3	8	7.5	6	6	77.9	180	192	204	5	6.5	0					
12 FT	14	17	14	7	6	7	6.5	72.1	40.8	43.3	45.8	8	7	7	8	76.3	181	193	205	5	6	0					
14 FT	16	18	14	8	7	7	6.5	78.3	45.3	48.1	50.9	8	6.5	7	7	74.1	182	194	206	5	6	0					
16 FT	17	19	15	8	7	7	6.5	78.6	47.8	50.6	53.5	8	6.5	7	6.5	72.5	183	195	207	6	8	0					
18 FT	17	20	15	8	6.5	7	6.5	72.5	42.0	44.5	47.0	8	6	7	7.5	66.3	184	196	208	6	8	0					
20 FT	19	21	15	8	6.5	7	6	72.5	50.8	53.8	56.8	8	6	7	6.5	66.3	185	197	209	6	8	0					
22 FT	20	23	16	8	6	7	6	72.8	45.4	48.0	50.6	8	6	7	7	66.5	187	199	211	6	8	0					
24 FT	22	24	16	8	6	7	6	72.8	52.3	55.3	58.3	9	7.5	7	6.5	66.5	188	200	212	6	8	0					
26 FT	23	26	17	8	6	7	6	73.1	50.9	53.8	56.6	9	7.5	7	7	66.9	190	202	214	6	7.5	0					
28 FT	24	27	18	9	7	7	6	73.5	51.4	54.3	57.1	9	7	7	7	67.3	191	203	215	6	7	0					
30 FT	26	28	18	9	7	7	6	73.5	56.4	59.5	62.6	9	7	7	6.5	67.3	192	204	216	6	7	0					
32 FT	27	30	19	9	7	7	6	73.9	55.0	58.0	61.0	9	7	7	7	67.5	194	206	218	6	6.5	0					
34 FT	28	31	20	9	7	7	6	74.3	55.5	58.5	61.5	9	7	7	7	67.9	195	207	219	6	6.5	0					
36 FT	29	32	21	9	6.5	7	6	74.5	53.8	56.6	59.5	9	6.5	7	7	68.1	196	208	220	6	6.5	0					
38 FT	30	33	22	9	6.5	7	6	74.9	61.0	64.3	67.5	9	6.5	7	7	68.5	197	209	221	6	6.5	0					
40 FT	31	34	22	9	6.5	7	6	74.9	61.5	64.8	68.0	9	6.5	7	7	68.5	198	210	222	6	6	0					
42 FT	32	35	23	9	6.5	7	6	75.3	62.1	65.4	68.6	9	6.5	7	7	68.8	199	211	223	6	6	0					
44 FT	34	36	23	9	6	7	6	75.3	65.3	68.6	72.0	9	6	7	6.5	68.8	200	212	224	7	8	0					
46 FT	35	37	24	9	6	7	6	75.6	65.8	69.1	72.5	9	6	7	6.5	69.1	201	213	225	6	6	0					
48 FT	36	38	24	9	6	7	6	75.6	66.4	69.8	73.1	9	6	7	7	69.1	202	214	226	7	7.5	0					
50 FT	37	39	25	9	6	7	6	76.0	69.3	72.8	76.3	9	6	7	7	69.5	203	215	227	7	7.5	0					



BAR DIMENSIONS DIAGRAM
SYMMETRICAL ABOUT CL CULVERT.



ALTERNATE J3 BAR

AT CONTRACTOR'S OPTION, ALTERNATE J3 BARS MAY BE USED WHEN THE DISTANCE BETWEEN THE ENDS OF J3 BARS IN THE TOP SLAB IS LESS THAN 2'-0". DIMENSION L1 (NOT C1) SHALL BE USED WITH ALTERNATE J3 BARS, WHERE L1 IS EQUAL TO 18", 22" AND 28" FOR #4, #5 AND #6 BARS, RESPECTIVELY. ADDITIONAL P1 BARS ARE REQUIRED WITH ALTERNATE J3 BARS WITH A LENGTH EQUAL TO A1 BARS, AND SIZE AND SPACING EQUAL TO J3 BARS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION.

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					A2 BARS		J4 BARS					B2 BARS						
	TS	BS	TX	SIZE	SPA.	SIZE	SPA.	C1	K2			SIZE	SPA.	SIZE	SPA.	C4	K3			SIZE	SPA.	G1		
									HT=11'	HT=12'	HT=13'						HT=11'	HT=12'	HT=13'					
1 FT	12	14	9	7	6.5	6	6	116.6	36.8	39.6	42.5	7	7.5	6	6	116.6	142	154	166	5	8.5	12		
2 FT	13	14	10	7	7	6	7	117.1	38.5	41.5	44.5	7	7.5	6	6	101.0	142	154	166	5	8.5	12		
4 FT	12	13	10	7	6.5	6	6.5	72.8	36.5	39.4	42.3	7	6.5	6	6.5	74.8	141	153	165	5	8.5	0		
6 FT	12	13	10	7	6	6	6	62.6	36.5	39.4	42.3	7	6	6	6	64.6	141	153	165	5	8.5	0		
8 FT	12	14	10	7	6	7	6	62.6	36.8	39.6	42.5	8	7.5	6	6	60.6	142	154	166	5	8.5	0		
10 FT	13	15	11	8	7.5	7	6.5	60.9	37.3	40.1	43.0	8	7	6	6.5	56.9	143	155	167	5	9	0		
12 FT	14	16	11	8	6.5	7	6.5	58.9	39.3	42.3	45.3	8	6.5	6	6	54.8	144	156	168	5	8.5	0		
14 FT	15	17	11	8	6	7	6	65.0	46.1	49.6	53.1	8	6	7	7	56.9	145	157	169	5	8	0		
16 FT	16	19	12	8	6	7	6	65.3	40.5	43.5	46.5	8	6	6	6	53.0	147	159	171	5	8	0		
18 FT	17	20	12	8	6	7	6.5	61.3	41.0	44.0	47.0	8	6	6	6.5	49.0	148	160	172	5	9	0		
20 FT	19	21	12	8	6	7	6.5	59.1	43.4	46.5	49.6	8	6	6	6	49.0	149	161	173	5	7.5	0		
22 FT	20	23	13	9	7.5	7	6.5	61.5	44.3	47.4	50.5	8	6	6	6.5	49.3	151	163	175	5	8	0		
24 FT	22	24	13	9	7	7	6.5	59.5	46.8	50.0	53.3	9	7.5	6	6	49.3	152	164	176	5	6.5	0		
26 FT	23	26	14	9	7	7	6.5	59.8	47.5	50.8	54.0	9	7.5	6	6.5	49.5	154	166	178	5	7	0		
28 FT	24	27	14	9	7	7	6.5	59.8	48.0	51.3	54.5	9	7	6	6	49.5	155	167	179	5	6	0		
30 FT	26	28	14	9	6.5	7	6	59.8	50.6	54.0	57.4	9	7	6	6	49.5	156	168	180	5	6	0		
32 FT	27	29	15	9	6.5	7	6.5	60.0	51.3	54.6	58.0	9	7	6	6	49.6	157	169	181	5	6	0		
34 FT	28	31	15	9	6.5	7	6	60.0	52.1	55.5	58.8	9	7	6	6	49.6	159	171	183	6	8	0		
36 FT	29	32	16	9	6.5	7	6.5	60.4	54.5	58.0	61.5	9	6.5	6	6	49.9	160	172	184	6	8	0		
38 FT	30	33	16	9	6	7	6	60.4	55.1	58.6	62.0	9	6.5	6	6	49.9	161	173	185	6	8	0		
40 FT	32	34	16	9	6	7	6.5	60.4	57.9	61.5	65.1	9	6.5	6	6	49.9	162	174	186	6	8	0		
42 FT	33	35	17	9	6	7	7	60.6	58.5	62.1	65.8	9	6.5	6	6	50.1	163	175	187	6	7.5	0		
44 FT	34	36	17	9	6	7	7	60.6	59.1	62.8	66.3	9	6	6	6	50.1	164	176	188	6	7.5	0		
46 FT	35	37	17	10	7.5	7	6.5	60.6	59.8	63.3	66.9	9	6	6	6	50.1	165	177	189	6	7.5	0		
48 FT	36	38	18	10	7	7	7	60.9	60.3	63.9	67.5	9	6	6	6	52.5	166	178	190	6	7	0		
50 FT	37	39	18	10	7	7	7	60.9	62.9	66.6	70.4	9	6	6	6	52.5	167	179	191	6	7	0		