Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 20, 2011

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Kathryn Griswell No. C55599 Exp. 12-31-12 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

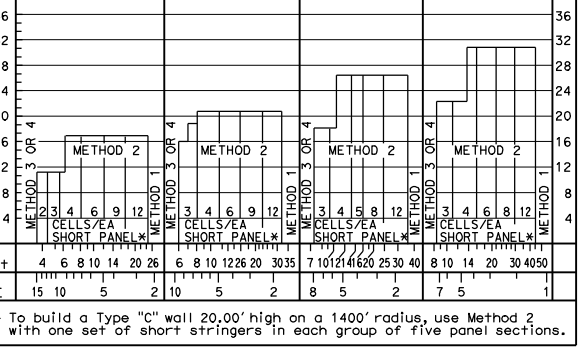
STRINGER MEMBERS REQUIRED PER CELL

STANDARD FOR STRAIGHT			SHORT IN FRONT			SHORT IN REAR		
WALL HEIGHT (ft)	0.064"	St'r St'f	St'd	SHORT	Sh't St'r St'f	St'd	SHORT	St'd St'r St'f
4.00	3	1	1	2	1	2	1	1
5.33	5	1	2	3	1	3	2	1
6.67	7	1	3	4	1	4	3	1
8.00	9	1	4	5	1	5	4	1
9.33	11	1	5	6	1	6	5	1
10.67	13	1	6	7	1	7	6	1
12.00	15	1	7	8	1	8	7	1
13.33	17	1	8	9	1	9	8	1
14.67	19	1	9	10	1	10	9	1
16.00	21	1	10	11	1	11	10	1
17.33	23	1	11	12	1	12	11	1
18.67	25	1	12	13	1	13	12	1
20.00	27	1	13	14	1	14	13	1
21.33	29	1	14	15	1	15	14	1
22.67	31	1	15	16	1	16	15	1
24.00	33	1	16	17	1	17	16	1
25.33	35	1	17	18	1	18	17	1
26.67	37	1	18	19	1	19	18	1
28.00	39	1	19	20	1	20	19	1
29.33	41	1	20	21	1	21	20	1
30.67	43	1	21	22	1	22	21	1
32.00	45	1	22	23	1	23	22	1
33.33	47	1	23	24	1	24	23	1
34.67	49	1	24	25	1	25	24	1
36.00	51	1	25	26	1	26	25	1

NOTE: This table applies only to stringers for both front and rear of a 5' length of wall.

CURVATURE CHART - 1 TO 4 BATTER

DESIGN	TYPE "A" BASE WIDTH 7.7'	TYPE "B" BASE WIDTH 9.9'	TYPE "C" BASE WIDTH 12.1'	TYPE "D" BASE WIDTH 14.3'
METHOD 1 ANGLE	0° TO 0°-20'	0° TO 0°-14'	0° TO 0°-12'	0° TO 0°-10'
METHOD 2 ANGLE	3°-34' TO 3°-54'	2°-47' TO 3°-01'	2°-16' TO 2°-28'	1°-55' TO 2°-05'



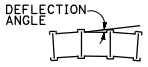
EXAMPLE - To build a Type "C" wall 20.00' high on a 1400' radius, use Method 2 with one set of short stringers in each group of five panel sections.

OTHER MEMBERS REQUIRED PER CELL

WALL HEIGHT	BEARING PLATE	FRONT COLUMN HEIGHT (ft)				REAR COLUMN HEIGHT (ft)				TOTAL COLUMN LENGTH (ft)	COLUMN SPLICE	COLUMN CAP	SPACERS (BY LENGTH)				BOTTOM SPACERS (BY LENGTH)				WALL HEIGHT (ft)
ft	16" x 22"	1st LIFT	2nd LIFT	3rd LIFT	TOTAL HEIGHT	1st LIFT	2nd LIFT	3rd LIFT	TOTAL HEIGHT				7.4'	9.6'	11.8'	14.0'	7.4'	9.6'	11.8'	14.0'	
4.00	2	4.00			4.00	2.67			2.67	6.67		2	1	1	1		1	1	1		4.00
5.33	2	5.33			5.33	4.00			4.00	9.33		2	2	2	2		1	1	1		5.33
6.67	2	6.67			6.67	5.33			5.33	12.00		2	3	3	3		1	1	1		6.67
8.00	2	8.00			8.00	6.67			6.67	14.67		2	4	4	4		1	1	1		8.00
9.33	2	9.33			9.33	8.00			8.00	17.33		2	5	5	5		1	1	1		9.33
10.67	2	10.67			10.67	9.33			9.33	20.00		2	6	6	6		1	1	1		10.67
12.00	2	12.00			12.00	10.67			10.67	22.67		2	7	7	7		1	1	1		12.00
13.33	2	8.00	5.33		13.33	12.00			12.00	25.33	1	2	8	8	8		1	1	1		13.33
14.67	2	8.00	6.67		14.67	8.00	5.33		13.33	28.00	2	2	9	9	9		1	1	1		14.67
16.00	2	8.00	8.00		16.00	8.00	6.67		14.67	30.67	2	2	10	10	10	10	1	1	1	1	16.00
17.33	2	12.00	5.33		17.33	8.00	8.00		16.00	33.33	2	2	11	11	11	11	1	1	1	1	17.33
18.67	2	12.00	6.67		18.67	12.00	5.33		17.33	36.00	2	2	12	12	12	12	1	1	1	1	18.67
20.00	2	12.00	8.00		20.00	12.00	6.67		18.67	38.67	2	2	13	13	13	13	1	1	1	1	20.00
21.33	2	12.00	9.33		21.33	12.00	8.00		20.00	41.33	2	2	14	14	14	14	1	1	1	1	21.33
22.67	2	12.00	10.67		22.67	12.00	9.33		21.33	44.00	2	2	15	15	15	15	1	1	1	1	22.67
24.00	2	12.00	12.00		24.00	12.00	10.67		22.67	46.67	2	2	16	16	16	16	1	1	1	1	24.00
25.33	2	12.00	8.00	5.33	25.33	12.00	12.00		24.00	49.33	3	2	17	17	17	17	1	1	1	1	25.33
26.67	2	12.00	8.00	6.67	26.67	12.00	8.00	5.33	25.33	52.00	4	2		18	18	18		1	1	1	26.67
28.00	2	12.00	8.00	8.00	28.00	12.00	8.00	6.67	26.67	54.67	4	2		19	19	19		1	1	1	28.00
29.33	2	12.00	12.00	5.33	29.33	12.00	8.00	8.00	28.00	57.33	4	2		20	20	20		1	1	1	29.33
30.67	2	12.00	12.00	6.67	30.67	12.00	12.00	5.33	29.33	60.00	4	2		21	21	21		1	1	1	30.67
32.00	2	12.00	12.00	8.00	32.00	12.00	12.00	6.67	30.67	62.67	4	2		22	22	22		1	1	1	32.00
33.33	2	12.00	12.00	9.33	33.33	12.00	12.00	8.00	32.00	65.33	4	2		23	23	23		1	1	1	33.33
34.67	2	12.00	12.00	10.67	34.67	12.00	12.00	9.33	33.33	68.00	4	2		24	24	24		1	1	1	34.67
36.00	2	12.00	12.00	12.00	36.00	12.00	12.00	10.67	34.67	70.67	4	2			25	25			1	1	36.00

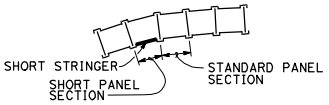
NOTE: This table applies only to standard panel sections for a 5' length of wall.

METHOD 1



Use normal play in bolt holes of standard parts. Maximum deflection shown at top of table can be obtained at each column. Chart shows smallest radius which can be used for each design of wall.

METHOD 2

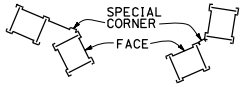


Use short stringer members (4'-2¼" face or rear) in addition to play in bolt holes. Curvature chart indicates number of cells in each group, including a modified cell, necessary to build a curved wall at a required height and radius.

METHOD 3

Use stringers field cut (with saber saw) and drilled to fit wall dimensions as it is assembled. Any radius can be fitted on any height of wall. Generally standard panels are used between field cut panels. With very short radii the spacing of the spacer member sections can be reduced so that two pieces can be cut from each stringer. This method is applicable to large single deflections.

METHOD 4



Use special shop fabricated corner connection pieces. Batter, height, angle, direction of turn, and base width determine the dimension limitations applicable on this method. Manufacturer should be contacted before detailing design for a specific turn. Rear stringers are omitted and it may be necessary to increase the base width of adjacent cells to provide needed stability. This method is an alternative for Method 3.

LEGEND

St'r = STRINGERS
St'f = STIFFENER
St'd = STANDARD
Sh't = SHORT LENGTH OF 4'-2¼"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STEEL CRIB WALL DESIGN DATA

NO SCALE

C8B

2010 STANDARD PLAN C8B

8-17-10