Company	**JOB TITLE**		
Address			
City	**JOB NO.**	**SHEET NO.**	
Phone	**CALCULATED BY**	**DATE**	
Other	**CHECKED BY**	**DATE**	

TU08 Ver 2010.07.23

TILT-UP CONCRETE WALL (ACI 318-08)

www.struware.com

DESCRIPTION: ACI 551.2R-10 example B.2

PANEL PROPERTIES

Panel Height: Lc =	29.5 ft	Conc Weight =	150.0 pcf
Total Panel Thickness =	8.75 in	f'c =	4.0 ksi
Reveal Thickness =	0.00 in	fy =	60.0 ksi
Structural Thickness: h =	8.75 in	Lt wt conc factor	
Strip Width: b =	48.0 in	(NW=1, LW=.75)	1.00
Cover to Ext Vert Bar =	0.75 in		
Vert Bar Location :	Centered	Min Defl ratio =	150
Bar Depth: d =	4.375 in		
Vertical Bar Size =	# 6		
Vertical Bar Spacing =	6.9 in		
As =	0.770 in2/ft		
Parapet Height =	1.50 ft		

Opening Properties		Horizontal Reinforcing:	
Opening Width =	10.00 ft	As =	0.0020 Ag
EL Top of Opening =	15.00 ft	Centered	Each Face
EL Bottom Opening =	0.00 ft	#4@ 11.2	#4@ 18.0
Opening Material Wt =	0.0 psf	#5@ 17.5	#5@ 18.0
Opng Conc thickness =	8.75 in		

LOADING

12" STRIP WIDTH

Lateral Loading			plf	Ms ('lb)
Wind Pressure =	17.0 psf		38.3	4160.9
Seismic Factor =	0.000		0.0	0.0
	Use this seismic moment instead :			0.0

Vertical Loading

S_{DS} = 0.000

Uniform Vertical Loading		eccentricity	plf	Ms ('lb)
Strip wt midht =	1777 plf	0.000 in	1777	0.0
Dead Load =	0 plf	3.000 in	0	0.0
Floor Live Load =	0 plf	3.000 in	0	0.0
Roof Live Load =	0 plf	3.000 in	0	0.0
Roof Snow Load =	0 plf	3.000 in	0	0.0
Concentrated Vertical Loading		**eccentricity**		
Opening wt midht =	8.8 k	0.000 in	2188	0.0
Dead Load =	4.5 k	3.000 in	1125	140.6
Floor Live Load =	0.0 k	3.000 in	0	0.0
Roof Live Load =	4.7 k	3.000 in	1175	146.9
Roof Snow Load =	0.0 k	3.000 in	0	0.0

Garage, assembly or LL>100psf: ○ Roofs that don't shed snow: ◉

All Others: ◉ All Others: ○

STRENGTH

	1.4D	1.2D +1.6L +0.5Lr	1.2D +0.5L +1.6Lr	1.2D +0.8W +1.6Lr	1.2D +1.6W +0.5L +0.5Lr	(1.2+.2Sds)D +1.0E +0.5L +0.7S	0.9D +1.6W	(0.9-.2Sds)D +1.0E	
Mua ('lb) =	196.9	242.2	403.8	3732.5	6899.6	168.8	6784.0	126.6	
Pu (lb) =	7125.8	6695.3	7987.8	7987.8	6695.3	6107.8	4580.9	4580.9	
Pu /Ag (psi) =	67.9	63.8	76.1	76.1	63.8	58.2	43.6	43.6	COMPRESSION OKAY
0.06f'c (psi) =	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	
Ase (in2) =	0.89	0.88	0.90	0.90	0.88	0.87	0.85	0.85	
Ec (ksi) =	3605	3605	3605	3605	3605	3605	3605	3605	
n =	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	
a (in) =	1.307	1.296	1.328	1.328	1.296	1.282	1.244	1.244	
c (in) =	1.537	1.525	1.562	1.562	1.525	1.508	1.464	1.464	
Icr (in4) =	72.1	71.8	72.7	72.7	71.8	71.4	70.2	70.2	
ε_t =	0.0055	0.0056	0.0054	0.0054	0.0056	0.0057	0.0060	0.0060	
ϕ =	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	
Ig (in4) =	669.9	669.9	669.9	669.9	669.9	669.9	669.9	669.9	
yt (in) =	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	
fr (psi) =	474.3	474.3	474.3	474.3	474.3	474.3	474.3	474.3	
Mcr ('lb) =	6052.8	6052.8	6052.8	6052.8	6052.8	6052.8	6052.8	6052.8	
Mu ('lb) =	376.6	440.6	859.7	7947.1	12552.6	287.6	9902.2	184.7	
Capacity: ϕMn ('lb) =	14881.3	14782.0	15079.0	15079.0	14782.0	14646.1	14289.7	14289.7	

STRENGTH OKAY

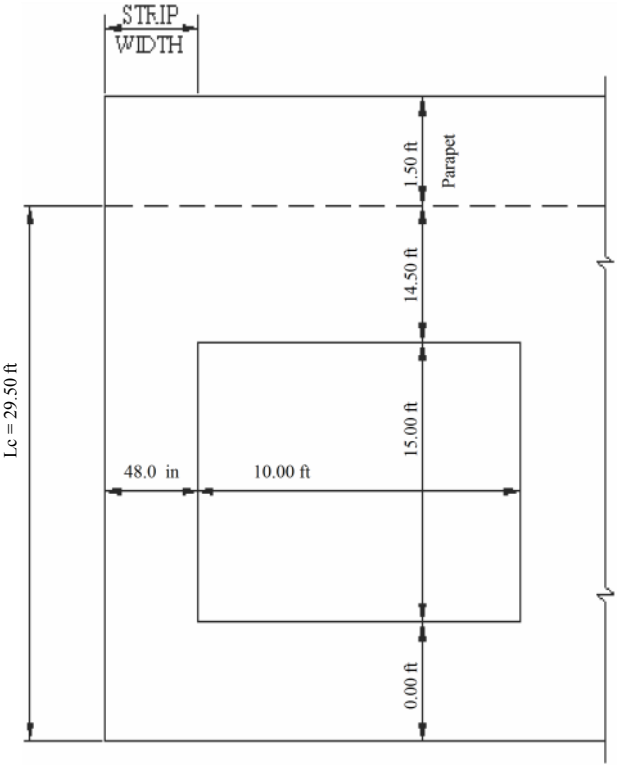
DEFLECTION

Service Load Combinations: ○
ACI 318 Commentary Load Combinations: ◉

	D	D +0.5L or 0.5Lr	D +0.5Lr or 0.5S	D +0.7W	D+0.70W +0.50L or 0.50Lr	(1+.105Sds)D +0.7E +0.5(L+S)	0.6D +1.0W	(0.6-.14Sds)D +0.7E	
Msa ('lb) =	140.6	214.1	214.1	3053.2	3126.7	140.6	4245.3	84.4	
Ps (lb) =	5089.8	5677.3	5677.3	5089.8	5677.3	5089.8	3053.9	3053.9	
Δcr (in) =	0.393	0.393	0.393	0.393	0.393	0.393	0.393	0.393	
Δn (in) =	9.966	9.943	10.011	10.011	9.943	9.910	9.823	9.823	
Ma ('lb) =	144.6	220.8	220.8	3139.6	3131.4	144.6	4383.4	85.8	
Δs (in) =	0.009	0.014	0.014	0.204	0.010	0.009	0.543	0.006	
Defl Ratio =	L / 9999	L / 9999	L / 9999	L / 1738	L / 9999	L / 9999	L / 652	L / 9999	

DEFLECTION OKAY

DESCRIPTION: ACI 551.2R-10 example B.2



PANEL ELEVATION