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

TILT-UP CONCRETE WALL (ACI 318-02/05)

DESCRIPTION: PCA Notes on ACI318-05 Example 21.3

PANEL PROPERTIES

Panel Height: Lc =	20.0 ft	Conc Weight =	150.0 pcf
Total Panel Thickness =	8.00 in	f'c =	4.0 ksi
Reveal Thickness =	0.000 in	fy =	60.0 ksi
Panel Thickness: h =	8.000 in	Lt wt conc factor	
Strip Width: b =	12.0 in	(NW=1, LW=.75)	1.00
Cover to Ext Vert Bar =	0.750 in		
Vert Bar Location :	Centered	Min Defl ratio =	150
Bar Depth: d =	4.000 in		
Vertical Bar Size =	# 4		
Vertical Bar Spacing =	9.0 in		
As =	0.26 in2/ft		
Parapet Height =	0.00 ft		

Horizontal Reinforcing:

Opening Width =	0.00 ft	As = 0.0020 Ag
EL Top of Opening =	0.00 ft	Centered / Each Face
EL Bottom Opening =	0.00 ft	#4@ 12.3 / #4@ 18.0
Opening Material Wt=	10.0 psf	#5@ 18.0 / #5@ 18.0

LOADING

12" STRIP WIDTH

Lateral Loading		plf	Ms ('lb)
Wind Pressure =	30.0 psf	30.0	1500.0
Seismic Factor =	0.000	0.0	0.0
Use this seismic moment instead :			0.0

Uniform Vertical Loading		eccentricity	plf	Ms ('lb)
Panel wt midht =	1000 plf	0.000 in	1000	0.0
Dead Load =	2004 plf	2.700 in	2004	225.5
Floor Live Load =	0 plf	2.700 in	0	0.0
Roof Live Load =	900 plf	2.700 in	900	101.3
Roof Snow Load =	0 plf	2.700 in	0	0.0
Concentrated Vertical Loading		**eccentricity**		
Dead Load =	0.0 k	2.000 in	0	0.0
Floor Live Load =	0.0 k	2.000 in	0	0.0
Roof Live Load =	0.0 k	2.000 in	0	0.0
Roof Snow Load =	0.0 k	2.000 in	0	0.0

Type of Floor Live Load:

Garage, assembly or LL>100psf: ○

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	1.2D +1.0E +0.5L 0.2S	0.9D +1.6W	0.9D +1.0E	
Mua ('lb) =	315.6	321.2	432.5	1632.5	2721.2	270.5	2602.9	202.9	
Pu (lb) =	4205.6	4054.8	5044.8	5044.8	4054.8	3604.8	2703.6	2703.6	
Pu /Ag (psi) =	43.8	42.2	52.6	52.6	42.2	37.6	28.2	28.2	COMPRESSION OKAY
0.06f'c (psi) =	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	
Ase (in2) =	0.33	0.33	0.35	0.35	0.33	0.32	0.31	0.31	
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) =	0.487	0.484	0.508	0.508	0.484	0.473	0.451	0.451	
c (in) =	0.573	0.569	0.598	0.598	0.569	0.556	0.530	0.530	
Icr (in4) =	32.1	31.9	33.0	33.0	31.9	31.4	30.3	30.3	
ε_T =	0.0179	0.0181	0.0171	0.0171	0.0181	0.0186	0.0196	0.0196	
ϕ =	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	
Ig (in4) =	512.0	512.0	512.0	512.0	512.0	512.0	512.0	512.0	
yt (in) =	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
fr (psi) =	474.3	474.3	474.3	474.3	474.3	474.3	474.3	474.3	
Mcr ('lb) =	5059.6	5059.6	5059.6	5059.6	5059.6	5059.6	5059.6	5059.6	
Mu ('lb) =	445.3	447.4	654.4	2470.0	3791.1	363.2	3246.3	253.1	
Capacity: ϕMn ('lb) =	5602.2	5562.5	5822.7	5822.7	5562.5	5443.6	5204.5	5204.5	

STRENGTH OKAY

DEFLECTION

Msa ('lb) =	225.5	326.7	326.7	1826.7	1826.7	225.5	1725.5	225.5	
Ps (lb) =	3004.0	3904.0	3904.0	3904.0	3904.0	3004.0	3004.0	3004.0	
Ie (in4) =	512.0	512.0	512.0	512.0	512.0	512.0	512.0	512.0	
M ('lb) =	227.7	330.9	330.9	1850.2	1850.2	227.7	1742.5	227.7	
Δs (in) =	0.009	0.013	0.013	0.072	0.072	0.009	0.068	0.009	
Defl Ratio =	L / 9999	L / 9999	L / 9999	L / 3325	L / 3325	L / 9999	L / 3531	L / 9999	

DEFLECTION OKAY

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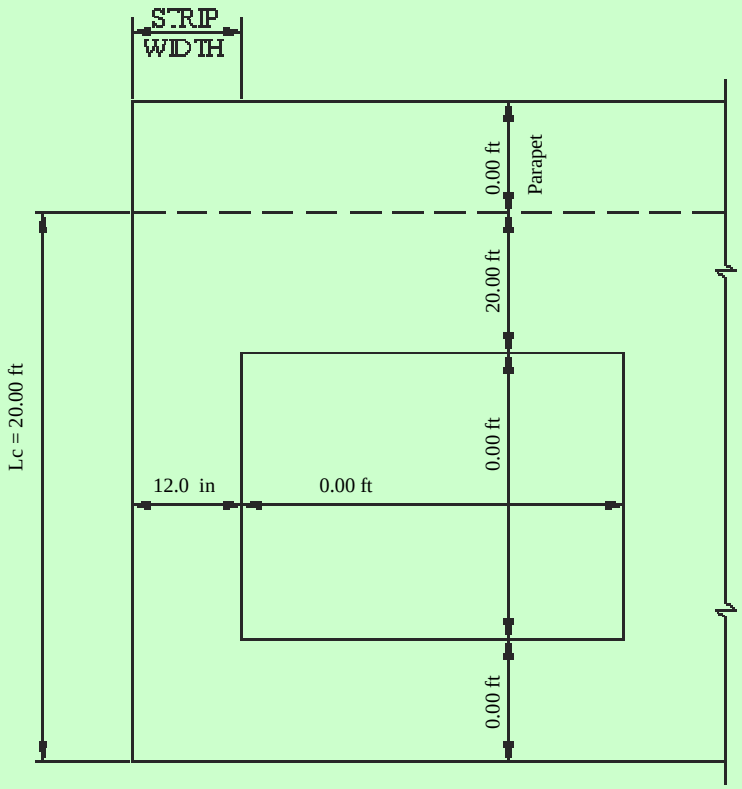

PANEL ELEVATION