Lateral Loading: Area, Height & Weight Data

Date: February 27 2008 **Firm:** Architect, Engineer or Builder
Job: Example 1 **By:** AAA

FLOOR PLAN AREAS & SHEAR WALL GRID SPACING

•Establish Grid Spacing and Floor Plan Configuration at Each Level•

Left 1 2 3 4 5 6 7 8 Right

Shear Wall Spacing 20

A	Back																		
	Roof 2																		
	2nd Fl/Rf 1	20	R																
B	1st Fl		1																
	Roof 2																		
	2nd Fl/Rf 1																		
C	1st Fl																		
	Roof 2																		
	2nd Fl/Rf 1																		
D	1st Fl																		
	Roof 2																		
	2nd Fl/Rf 1																		
E	1st Fl																		
	Roof 2																		
	2nd Fl/Rf 1																		
F	1st Fl																		
	Roof 2																		
	2nd Fl/Rf 1																		
G	1st Fl																		
	Roof 2																		
	2nd Fl/Rf 1																		
H	1st Fl																		
	Front																		

	Roof Block Area+OH	Floor Block Area	Perim Wall	Overall Width
Roof 2				
2nd Fl/Rf 1	560			20
1st Fl		400	40	20
Roof at 2nd Fl				20

Typ OH L to R: 2

Hz Rf Area: 280
Zone B= 60
Zone D= 40
Hz Wl Area
Zone A= 96
Zone C= 64

N L Plan w/ both Legs> 15% of Plan or Vert SW offset.Y?

Typical Overhang F to B: 2

Roof 2
Roof Block Area+OH
Overall Depth a= 3 Zone B= Zone D=

2nd Fl / Roof 1 20 Dpth of Roof 2nd Fl
Roof Block Area+OH 560
Floor Block Area
Perimeter Wall
Overall Depth 20 a= 3 Zone B= 15 Zone D=

1st Floor Dpth of Roof 1st Fl Zone A= Zone C=
Floor Block Area 400
Perimeter Wall 40
Overall Depth 20 a= 3 Zone A= 96 Zone C= 64

Vt Rf Area
Oh Zone E=
Oh Zone G=
Oh Zone E= 24
Oh Zone G= 16

Rf 2 Area + OH =
FB Zone E=
FB Zone G=
Rf 1 Area + OH = 560
Floor 2 Area =
Wl 2 Perimeter =
FB Zone E= 120
FB Zone G= 120
Floor 1 Area = 400
Wl1 Perimeter = 80

ASCE7 a = less of 10%of least horiz dim or 40%of ht but not less than 4%of least horiz dim but at least 3 ft. Sec 6.2 Low-rise Building: ht < 60 ft. Rf ht < least horiz dim.

TYPICAL DEAD LOADS

Wind Area Calc →

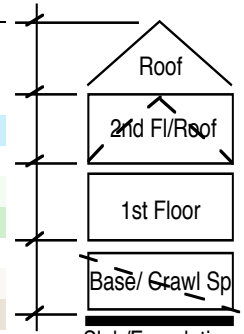
•Establish Dead Loads (lbs/sf)•

						Roof		**Interior Wall**	
						Roofing	3	Gyp.Bd	6
					FL wdth	Sheathing	1.5	Framing	4
						Framing	2	Int. Finish	
					Vt Rf Area	Snow	7.5	Other	
				20	L-R		14		10
		400	40	20	Zone E=	**Ceiling**			
		Roof at 2nd Fl		20		Insulation	1	**Exterior Wall**	
					120	Framing	0.5	Ext Finish	15
					Zone G=	Gyp. Bd.	2	Shear	1.5
						Other		Framing	3
					280		3.5	Insulation	
					OhZoneE	**Floor**		Gyp. Bd.	
						Floor	4	Int .Finish	
					24	Sub. Fl.	2	Other	
					OhZoneG	Framing	3.5		19.5
						Insul	0.5		
					16	Topping		1-1/2"=18psf	
						Other			
							10		

FLOOR HEIGHTS & WIND AREA

•Establish Floor to Floor and Roof Heights (ft)•

	Roof Pitch	Roof Height	Floor Height
	X/12		
	5	5	
2nd Fl Depth			
Fl to Fl Height			8
1st Fl Dp - S if Zero			s
Ave. Sill to Fl Ht			
Wind Ht.@Ridge			13.00
Wind Ht.@Gable			10.50
Mean Roof Ht.			10.50



Ridge	F to B	L to R
Runs?	Y	
Hips?		

SEISMIC LOADS

•Establish Dead Loads• Sec.12.7.2 ASCE7

Mat. Weights		2nd Floor		1st Floor		Base Level	
Item	DL(psf)	Area (sf)	DL(lbs)	Area(sf)	DL(lbs)	Area(sf)	DL(lbs)
Wt Roof	14			560	7,840		
Wt Ceil	3.5			400	1,400		
Wt Ext Wl	19.5			320	6,240		
Wt Int Wl	10						
Wt Floor	10						
		Sum 2nd		Sum 1st	15,480	Base	

interior wall default: 10 psf of floor area — Sum 2nd,1st & Base 15,480

•Distribute Weights to Various Levels•

Tributary Weight	Roof 2 Line	2nd Fl Rf 1 Line	1st Fl Line	Wt Sum
Wt Roof 2nd				
Wt Ceil 2nd				
1/2Wt Ext Wl 2				
Wt Int Wl 2				
Wt Floor 2				
Wt Roof 1st		7,840		7,840
Wt Ceil 1		1,400		1,400
1/2 Wt Ext Wl 1		6,240		6,240
Wt Int Wl 1				
Wt Floor 1				
1/2Wt Ext Wl Base				
Wt Ceil Base				
Line Sum		15,480	W=	15,480

•Determine Base Shear•

06 IBC Calculation Method per 12.8 ASCE7 & Sec.1613.5 IBC

Site Class=	B	Sec.11.4.2 ASCE7	Mapped %g: Ss=	119	Sec.1613.5 (Fig.1-14 odd)
Occ. Cat.=	II	Tbl.1604.5 IBC	Mapped %g: S1=	48	Sec.1613.5 (Fig.1-14 even)
R=	5.5	Tbl.12-12.2-1 ASCE7	Mapped Period TL=	8	Fig.(22-20) ASCE7
Site Coef. Fa=	1.00	Tbl. 1613.5.3(1)	Seismic Design Cat.=	D	Sec.1613.5.6 IBC
Site Coef. Fy=	1.00	Tbl. 1613.5.3(2)	Seis Coef Cs=Sds/(R/I) =	0.145	Eq.(12.8-2) ASCE7
Importance Ie=	1.00	Tbl.11.5-1 ASCE7	Cs not >Sd1 /T(R/I) =	15.162	for T < = TL Eq.(12.8-3)
Sms=FaSs=	1.19	Eq.(16-37) IBC	Cs not >Sd1 TL / (R/I) T^2 =	NA	for T > TL Eq.(12.8-4)
Sm1=FyS1=	0.48	Eq.(16-38) IBC	Cs not < 0.01 =	0.010	Eq.(12.8-5) ASCE7
Sds=2/3Sms=	0.80	Eq.(16-39) IBC	Cs not < 0.5 S1/ (R/I) =	NA	for S1 => 0.6g Eq.(12.8-6)
Sd1=2/3Sm1=	0.32	Eq.(16-40) IBC	V (SD)= CsW =	2,244	Eq(12.8-1) ASCE7
P limit Cu=	1.40	Tbl.12.8-1 ASCE7	**V= (SD)*0.7=V(ASD) =**	**1,571**	(ASD) Comb 5. ASCE7 12.4.1
Ta=Cth^n	0.12	Eq.(12.8-7) ASCE7			

For Code Table references used by MaxQuake see Code Sections Cited or Appendix A (below)

BUILDING CODE

07 CBC [ ] 06 IBC [X]

•Vertical Distribution of Shear to Various Levels• Sec. 12.8.3 ASCE7

Fx= V (Wtx)(Htx)^k/Sum(Wti)(Hti)^k Eq.(12.8-11) Ht from plate to foundation — Eh= pQe Eq.(12.4-3)

k= 1 Eq.(12.8-12) ASCE7

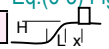
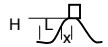
	Wt x	Ht x^k	(Wt)(Ht)^k	Fx	p F to B	p L to R
Roof 2					1.30	1.30
2nd Fl/Rf 1	15,480	8	123,840	1,571	1.00	1.00
1st Floor						
Sum	15,480	8	123,840	1,571	Sec 12.3.4 ASCE7	

WIND LOADS

•Adjusted Wind Zone Loads• Eq. (6-1) ASCE7 $Ps = \lambda K_{zt} I Ps_{30}$ =

IBC Sec 6.4 Method 1 (Simplified Procedure) ASCE7 Figure 6-2 ASCE7 Roof 2 Ø Roof 1 Ø

for design of Main Wind-Force Resisting System

				Longit	Trans	Trans
Wind Speed Ps30=	90	Fig 1609 IBC or Fig 6-1 ASCE7	HZ Zone A	12.8	12.8	16.9
Occupancy Cat.=	II	Tbl.1604.5 IBC or Tbl.1-1 ASCE7	Zone B	12.8	10.0	10.0
Roughness Cat.=	B	Sec 6.5.6.2 ASCE7 or IBC1609.4.2	Zone C	10.0	10.0	11.8
Exposure Cat.=	B	Sec 6.5.6.3 ASCE7 or IBC1609.4.3	Zone D	10.0	10.0	10.0
Importance Iw=	1.00	Tbl. 6-1 ASCE7	VT Zone E	-15.4	-15.4	-12.6
Ht & Exp Coef λ=	1.00	Fig. 6-2 ASCE7	Zone G	-10.7	-10.7	-10.3
Topo Factor Kzt =	1.00	Eq.(6-3) Fig.6-4 ASCE7	Zone E oh	-21.6	-21.6	-17.3
Topo Type =	Flat	 Escarpment	 Hill / Ridge	Zone G oh	-16.9	-16.9

Topo Features = H= ft z= ft L= ft x=

•Total Wind Load In Each Direction At Each Level (lbs)•

	Trib Area F to B			Trib Area L to R			Wind Load	
Horizontal	B,A area	D,C area	Sum PsA	B,A area	D,C area	Sum PsA	**F to B**	**L to R**
Roof 2								
Roof 1	15		192	60	40	1,000		
2nd Floor							1,126	2,189
1st Floor	96	64	1,869	96	64	2,378		
Vert Uplift	E,F,Eoh	G,H,Goh	Sum PsA	E,F,Eoh	G,H,Goh	Sum PsA	**F to B**	**L to R**
Roof 2					144			
Roof 1	144	136	-3,650	144	296	-5,040	3,650	5,040

GOVERNING LATERAL LOADS

•Maximum Total Load In Each Direction At Each Level (lbs)•

	Front to Back	Left to Right	Wind %of Seismic F to B	Wind %of Seismic L to R
Roof 2				
2nd Fl / Roof 1	1,571 Seismic	2,189 Wind	72%	139%
1st Floor				

Shear Wall Segments Data, Lines 1-8

Date: February 27 2008 **Firm:** Architect, Engineer or Builder

Job: Project Name **By:** AAA

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	Line 1	Line 2	Line 3	Line 4	Line 5	Line 6	Line 7	Line 8

Segment (Seg) names a-g appear to show possible quadrants (q). Remove Segs not used. Move and add 1,2...to denote multiple (m) seg's in a quadrant, ie., b2.

Seg Variables; Lg: Seg lgth. Ht: Seg hght (from pg 1). X: Wl Opening. B: Bearing Wall? - B=yes. E: Ext./Int. Wall? - E or I. S: Stacked Seg above, same row, q-m & ≤ Lg.

2nd level

1,2,3.. Wall Lines Run From Front to Back

Seg q-m	Wall Variables Lg	Ht	X	B	E
sum			Syst		

1st level

Seg q-m	Wall Variables Lg	Ht	X	B	E	S
a1	8	8		B	E	
a2	8	8		B	E	
sum	16.00		Syst		WS	

Seg q-m	Wall Variables Lg	Ht	X	B	E	S
a1	4	4	4	B	E	
a2	4	4	4	B	E	
a3	4	4		B	E	
sum	12.00		Syst		W%	

0.5 = max X ht / Wall ht"

Base level

Seg q-m	Wall Variables Lg	Ht	X	B	E	S
sum			Syst			

Seg Height/Length ratio is limited to 2:1 for wood edge blocked panel. "Ht/Lg >2 limit" appears if exceeded, per IBC/CBC Tbl.2305.3.4 and LA for Ht/Lg limits for other assemblies.

Shear Wall Segments Data, Lines A-H

Date: February 27 2008 **Firm:** Architect, Engineer or Builder

Job: Project Name **By:** AAA

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Segment (Seg) names 1-7 appear to show possible quadrants (q). Remove Segs not used. Move and add a,b...to denote multiple (m) seg's in a quadrant, ie., 2b.
Seg Variables; Lg: Seg lgth. Ht: Seg hght (from pg 1). X: Wl Opening. B: Bearing Wall? - B=yes. E: Ext. /Int. Wall? - E or I. S: Stacked Seg above, same row, q-m & ≤ Lg.

	Line A	Line B	Line C	Line D	Line E	Line F	Line G	Line H
2nd level	Seg q-m / Wall Variables: Lg Ht X B E	Seg q-m / Wall Variables: Lg Ht X B E	Seg q-m / Wall Variables: Lg Ht X B E	Seg q-m / Wall Variables: Lg Ht X B E	Seg q-m / Wall Variables: Lg Ht X B E	Seg q-m / Wall Variables: Lg Ht X B E	Seg q-m / Wall Variables: Lg Ht X B E	Seg q-m / Wall Variables: Lg Ht X B E
A,B,C.. Wall Lines Run From Side to Side	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst
1st level	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S
	1 20 8 N E	1a 2 8 N E 1b 2 8 N E						
	sum 20.00 Syst WS	sum 4.00 Syst SW	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst
Base level	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S	Seg q-m / Wall Variables: Lg Ht X B E S
	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst	sum Syst

Seg Ht/Lg ratio limit is 2:1 for wood edge blocked panel at v = Tbl. 2306.4.1, and Ht/Lg up to a 3.5:1 at v* 2w/h. "3.5 >Ht/Lg >2.0"appears if between, "Ht/Lg>3.5" if exceeded. See Tbl. 2305.3.4. for other mat.

Diaphragm Flexibility: Length/Width Ratio & Drift Limits

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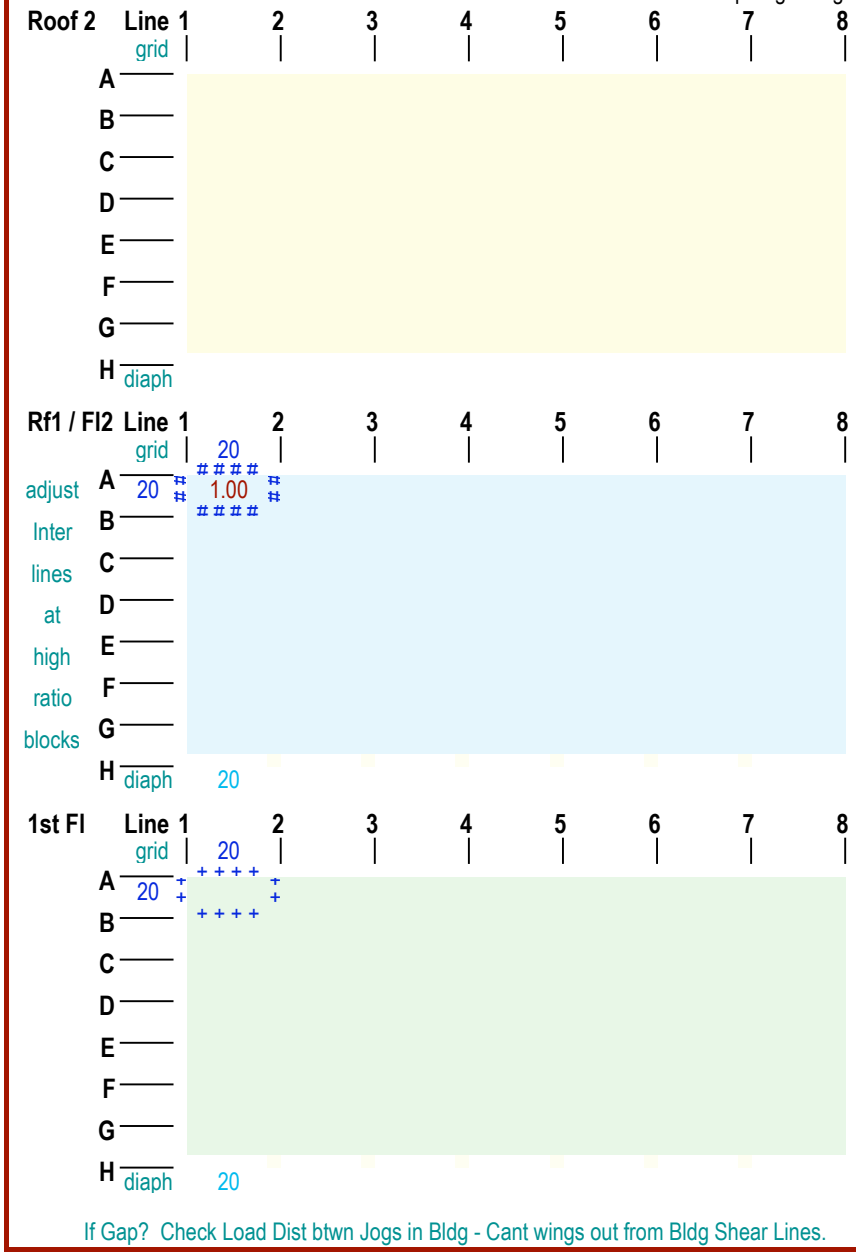
Q08.1

Date: February 27 2008 Firm: Architect, Engineer or Builder

Job: Project Name By: AAA

DIAPHRAGM DIVISIONS AND LENGTH / WIDTH RATIOS

: # # : Shear Wall/Collector Line + + + + + Perimeter of Cantilevered Diaphragm Edge



If Gap? Check Load Dist btwn Jogs in Bldg - Cant wings out from Bldg Shear Lines.

FLEXIBLE DIAPHRAGM LIMITATIONS

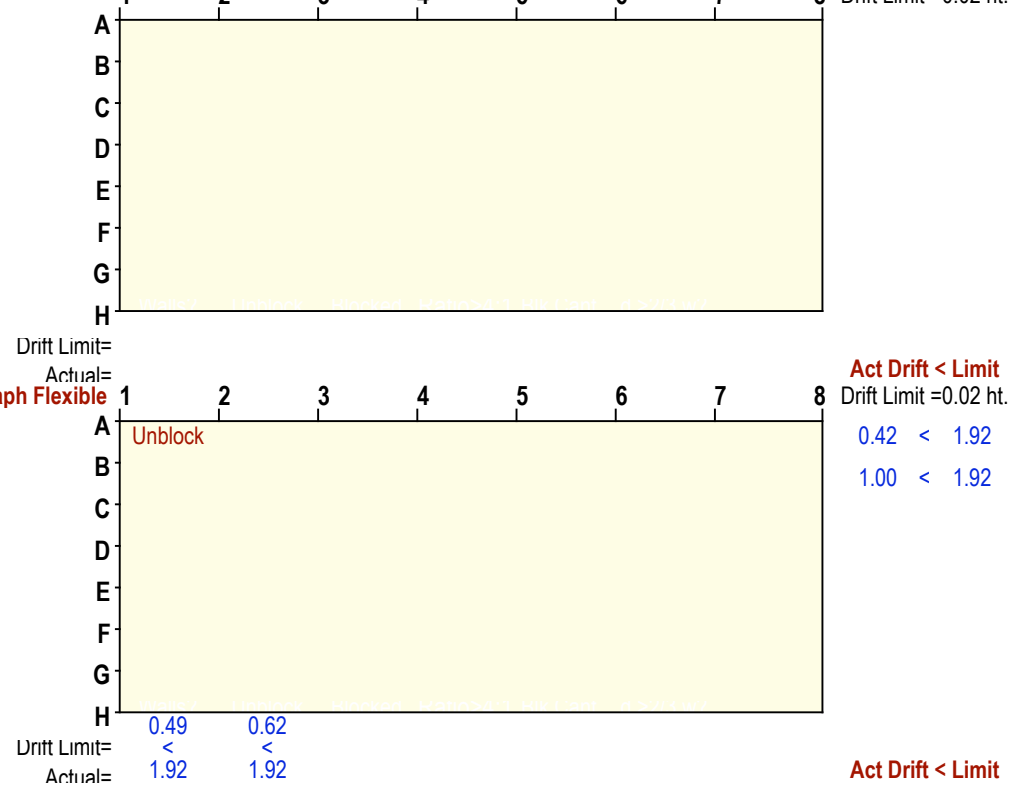
ASCE7 Sec 12.3.1 & Sec1613.6.1

l/w Ratios <Tbl.2305.2.3,Cantilever d< 25' & 2/3 w, Topping<1-1/2" and Wl Drift <Tbl.12.12-1

Limitations: MaxTopping 1-1/2",Max Blocked Ratio 4.0, Unblocked 3.0, all Cantilevers Block

STORY DRIFT

	Actual	Limit
Eq. 23-2		12.12-1



Segment Construction w/ Hold-Downs

Front to Back

MaxQuake Q08.2h

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Date: February 27 2008 Firm: Architect, Engineer or Builder

Job: Project Name By: AAA

Front to Back

Uplift = Overturning Moment (OTM) - Resisting Moment (RM) / Segment Length (Seg Lg).

Hold Down (HD Type) Built into Shear Units, Mfg Abreviation Shown at req'd Units, see Wall Type for Frame Size- HD for Sheathed Walls seclected from Hold-down Shd

	Line 1	Line 2	Line 3	Line 4	Line 5	Line 6	Line 7	Line 8
2nd Level	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type
	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ
	Roof Uplift from Side to Side Winds resisted by Left and Right Ext. Walls				Uplift (plf) Rf 2 @ Ext Wl		Uplift Detail @ Rf 2 & Ext Wl	NA
1st Level	Seg / Uplift / HD Type	60% Full Ht Wl / Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type
	a1 NA a2 NA	a1 W% a2 W% a3 NA						
	V (plf) 36 WlΔ 6	0.83 V (plf) 48 WlΔ 6	V (plf) WlΔ	V (plf) WlΔ	V (plf) WlΔ	V (plf) WlΔ	V (plf) WlΔ	V (plf) WlΔ
	Roof Uplift from Side to Side Winds resisted by Left and Right Ext. Walls				Uplift (plf) Rf 1 @ Ext Wl	65	Uplift Detail @ Rf 1 & Ext Wl	Δ T
	Straps/Hold-Downs must run continuous down through the Wall below to the Foundation. If no Wall below; tie to Beams, sized for Hold-Down Point Loads.							
Base Level	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type	Seg / Uplift / HD Type
	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ	V (plf) / WlΔ

Shear Each Unit (V (ea.)) = Sum of Shear at that Line & Level (Sum V) / Number of Shear Frames at that Line & Level - V (plf) = Sum V / Sum Seg Lgth.

Maximum required Shear Wall Construction or Shear Frame for Wall Type Symbol is selected from Shear Wall Schedule on Page 11.

Segment Construction w/ Hold-Downs

Left to Right

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Q08.2h

Date: February 27 2008 Firm: Architect, Engineer or Builder

Job: Project Name By: AAA

Side to Side

Uplift = Overturning Moment (OTM) - Resisting Moment (RM) / Segment Length (Seg Lg).

Hold Down (HD Type) Built into Shear Units, Mfg Abreviation Shown at req'd Units, see Wall Type for Frame Size- HD for Sheathed Walls seclected from Hold-down Shd

	Line A			Line B			Line C			Line D			Line E			Line F			Line G			Line H		
2nd Level	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type
	V (plf)			V (plf)			V (plf)			V (plf)			V (plf)			V (plf)			V (plf)			V (plf)		
	WlΔ			WlΔ			WlΔ			WlΔ			WlΔ			WlΔ			WlΔ			WlΔ		
	Roof Uplift from Front to Back Winds resisted by Front and Back Ext. Walls												Uplift(plf) Rf 2 @ Ext Wl						Uplift Detail @ Rf 2 & Ext Wl			NA		
1st Level	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type
	1		NA	1a	2,052	Δ SW																		
				1b	2,052	Δ SW																		
	V (plf)	55		V (plf)	547		V (plf)			V (plf)			V (plf)			V (plf)			V (plf)			V (plf)		
	WlΔ	6		SW WlΔ	24x8c		WlΔ			WlΔ			WlΔ			WlΔ			WlΔ			WlΔ		
	Roof Uplift from Front to Back Winds resisted by Front and Back Ext. Walls												Uplift(plf) Rf 1 @ Ext Wl			31			Uplift Detail @ Rf 1 & Ext Wl			NA		
	Straps/Hold-Downs must run continuous down through the Wall below to the Foundation. If no Wall below; tie to Beams, sized for Hold-Down Point Loads.																							
Base Level	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type	Seg	Uplift	HD Type
	V (plf)			V (plf)			V (plf)			V (plf)			V (plf)			V (plf)			V (plf)			V (plf)		
	WlΔ			WlΔ			WlΔ			WlΔ			WlΔ			WlΔ			WlΔ			WlΔ		

Shear Each Unit (V (ea.)) = Sum of Shear at that Line & Level (Sum V) / Number of Shear Frames at that Line & Level - V (plf) = Sum V / Sum Seg Lgth.

Maximum required Shear Wall Construction or Shear Frame for Wall Type Symbol is selected from Shear Wall Schedule on Page 11.

Shear Wall and Hold Down Schedules

Schd W

Date: February 27 2008 Firm: Architect, Engineer or Builder

Job: Project Name By: AAA

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SHEAR WALL OPTIONS:

Place an "X" in the appropriate shaded block. Select only one option under each heading (except System when using frames)

Special Zone

X	No
	Los Angeles Area

Hardware Mfg.

X	Simpson
	USP
	Other (Apx.W)

Wall Framing Material

X	Doug Fir or So.Pine
	Hem Fir (s.grav.<.49)
	3-1/2" Metal Studs
	Other (See Apx. W)

Shear Wall System

X	WS-All Plywd or PB
	WS-Gyp,Stuc or Ply

Wall Frame Units on Shd X

Ply/PB Wall Sheathing

X	3/8"or1/2" CC or CD Ply
	3/8"or1/2" Struc I Ply
	3/8"or1/2" CD Ply o/GB
	1/2"Ext M,S/M-2 Prtcl Bd
	Other Sheathing/Fastener Combo (See Apx. W)

Fasteners

X	8d
	10d
	14ga Staple
	1"Screw in Stl

To Customize, Overwrite Sched. on Apx. W below

WIND AND EARTHQUAKE DATA

06 IBC

Importance Fact.	1.00	S.Design Cat.	D	Seis. Site Class	B
Basic Wind Speed	90	Ss Acc. %g	119%	S. Res Coef. Cs	0.14
Wind Exposure	B	S1 Acc. %g	48%	Response Factor	5.5
Wind Horiz. (psf)	16.909	Res Coef Sd1	0.32	Base V	1,571
Wind Vert. (psf)	-15.4	Res Coef Sds	0.80	System:	Light Frame SW
Sec 6.4 Method 1 ASCE7		Analysis Proc.	Method per 12.8 ASCE7 & Sec.1613.5 IBC		

WALL HOLD-DOWN & STRAP SCHEDULE

	Hold-Down Symbol	Max. Uplift lbs.	Min. Post Size	Wall Fl to Fl Strap (Note 3,4)	Foundation Anchor Straps (Note 2)	Bolt Type HD (Note 2,4)	Bolt Dia. (Note 2)
	NA	up to 300	use the hold-down across or below req'd type				
Δ	H1a	920	2x	CS18-20"	PAHD42		
Δ	H1b	1,750	2x	CS16-28"	STHD8	LTT20B	1/2"
Δ	H2	3,235	2-2x	MST 37"	STHD14	PHD2	5/8"
Δ	H5	4,685	2-2x	MST 48"		PHD5	5/8"
Δ	H6	5,860	2-2x	MST 60"		PHD6	7/8"
Δ	H8	6,490	2-2x	CMST14+136"		HDQ8	7/8"
Δ	H10	9,235	4x	CMST12+136"		HDC10	7/8"
Δ	H11	11,445	4x			HD14A	1"
Δ	H15	15,305	6x6			HD15	1-1/4"
	?	Add [ ] inches to Fl to Fl Tie Strap for gap across Joist					

1 Straps and HD's as Mfg. by Simpson Strong-Tie Co. Cat C-2008
2 Nail Straps w/10d & SDS 1/4" Scw at HD (min.pen.1-3/4") SB Anchor and Mfg. Data for Nailing, Bolt and Embedment Requirements
3 If No Cont. Rim Joist Add Lgth Of Gap.10d at CS, 16d: CMST & MST
4 Straps and Hold-Downs must run continuous to Walls below; if no Wall below, tie to Beams, sized for Hold-Down Point Loads

SHEAR WALL SCHEDULE

	Wall Type Symbol	Shear Load (plf)	Wall Sheathing Material (Note 1,2)	Edge Nail 8d (Note 3)	Anchor Bolts 5/8"x12 GF:900 (Note 6)	Plate to Fl. Nail 16d GF:120 (Note 7)	Lag 1/2" GF:478 (Note 6,8)	Plate Clips A35 GF:450 (Note 9,10)
	NA	construct wall as spec'd per symbol or any below						
	Δ 6	260	1/2" Ply	6"	40"oc	6"oc	22"oc	20"oc
2,4,5	Δ 4	380	1/2" Ply	4"	27"oc	4"oc	15"oc	14"oc
2,4,5	Δ 3	490	1/2" Ply	3"	21"oc		11"oc	11"oc
2,4,5	Δ 2	640	1/2" Ply	2"	16"oc		9"oc	8"oc
2,4,5	Δ 44	760 ea side	1/2" Ply	4"	14"oc		7"oc	7"oc
2,4,5	Δ 33	980 ea side	1/2" Ply	3"	10"oc		6"oc	5"oc
2,4,5	Δ 22	1,280 ea side	1/2" Ply	2"	8"oc		4"oc	4"oc
	?							

1 Sheathing: 3/8"-1/2" (4 ply min) CD, CC Plyor OSB with all edges blocked
2 Framing: 2x DF typ @ 16"oc., 3x req'd if 10d w/ +1-5/8" penetration, 2" or 3"oc
3 Typical Fasteners: 8d Common or Galv. Box nails (no sinkers), nail field @12"
4 3x or 2x w/ dbl AB at plate and 3x panel edges at walls 600lbs>Shear >350lbs,
5 Offset panel edges on opposite sides of wall and stagger plate splices
6 Anchor Bolts spaced per Schd w/ 3"x3"x0.229" Plate Washers req'd at Mud Sill
7 Stagger 16d nails in 2x, lags at 3x plates when no sheathing continuity to Rim Joist
8 Pre-drill 3/8" hole for Lag. Provide Washer. Adjust lgth for 2" penetration into Joist.
9 Clips: Plate to Blocks only req'd if no shear sheathing continuity from Wall to Blocks
10 Anchors and Clips as Mfg. by Simpson Strong-Tie Co. Cat C-2008

Manufactured Shear Frame Schedules

Schd X

Date: February 27 2008 **Firm:** Architect, Engineer or Builder

Job: Project Name **By:** AAA

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Q08.2h

Lateral Load Analysis & Construction Design Software

ICBO No.1Jun03

(HF) HARDY FRAME SCHEDULE

PFC-5342

For IBC/CBC: ICC Report Table Values Multiplied by 0.88

Frame Model Numbers and Unit Shear & Uplift Capacities (lbs)

Location	Type	Ht.	8 ft	V	UL	9 ft	V	UL	10 ft	V	UL	11 ft	V	UL
	W	2,3	2.7											
		2,3	4.0											
		2,3	5.3											
		2,3	6.7											
Location	?			?			?			?				
	W		8 ft	V	UL	9 ft	V	UL	10 ft	V	UL	11 ft	V	UL
		Ht.												
		2,3	2.7											
		2,3	4.0											
		2,3	5.3											
		2,3	6.7											
			?			?			?			?		

(HP) HARDY PANEL SCHEDULE

For IBC/CBC: ICC Report Table Values Multiplied by 0.77

Location	Type	Ht	7 ft	V	UL	8 ft	V	UL	9 ft	V	UL	10 ft	V	UL
	W	4,5	1.5											
		4,5	2.0											
		4,5	2.0											
		4,5	2.5											
		4,5	2.5											
Location			?			?			?			?		
			7 ft	V	UL	8 ft	V	UL	9 ft	V	UL	10 ft	V	UL
		4,5	1.5											
		4,5	1.5											
		4,5	1.5											
		4,5	1.5											
		4,5	1.5											
			?			?			?			?		

1 Mfg. By Hardy Frames, Inc. 800 754-3030

2 Follow Mfg. literature for all Straps, Screws, Anchor Bolt & other installation req'ts.

3 Provide Mfg. post or Calculate Beam under free ends of frames if not stacked.

4 Install on Crushing Plate Extending 3" ea. Side of Panel at Wood Installations

5 Typical 7/8" Anchor Bolt **h** at Panels indicates 1-1/8" Anchor Bolts

(SW) STRONG-WALL SCHEDULE

ICC-ER 5485

Frame Model Numbers and Unit Shear & Uplift Capacities (lbs) Note 5

Ht.	7 ft	V	UL	8 ft	V	UL	9 ft	V	UL	10 ft	V	UL
Width	5		8325			10790			10790			10790
4,6 1.3	16x7c	1,050										
4,6 1.5				18x8c	1,150		18x9c	1,080				
4,6 1.8	22x7c	1,315										
4,6 2.0				24x8c	1,610		24x9c	1,585		24x10c	1,590	
4,6 2.7				32x8c	2,865		32x9c	2,600		32x10c	2,460	
4,6 4.0				48x8c	4,545		48x9c	4,370		48x10c	4,095	
	?			?			?			?		
4,7 1.5				18x8r	735		18x9r	620				
4,7 2.0				24x8r	1,105		24x9r	960		24x10r	850	
4,7 2.7				32x8r	1,480		32x9r	1,420		32x10r	1,400	
4,7 4.0				48x8r	2,790		48x9r	2,395		48x10r	2,115	
	?			?			?			?		

1 Mfg. By Simpson Strong-Tie Co. 800 999-5099 www.strongtie.com

2 Follow Mfg. literature for all HD, Connector, Anchor Bolt & other installation req'ts.

3 Provide min. 4x4 DF No. 1 post or beam under free ends of frames if not stacked

4 All Strong-Wall listed are 3-1/2" thick, see Mfg. data for 5-1/2"units

5 7'Portal Units Pair Req'd w/ 4x12 DF No.1 Min. Hdr. Load Factor Calc. May be Req'd.

6 **c** Suffix for Units Based Directly on Concrete Footing or Slab, **r** for Raised Floor

7 Raised Floor Framing Min. DF No.1, Crush Plates Req'd, See Mfg. Req'ts

TJ) TRUS JOIST PANEL SCHEDULE

ICBO ES PFC-5929

Limited to Installation Directly on Concrete Footing or Slab

Frame Model Numbers and Unit Shear & Uplift Capacities (lbs)

Ht.	7 ft	V	UL	8 ft	V	UL	9 ft	V	UL	10	V	UL
Width			11000			11000			11000			11000
3 1.3	**16x7**	1340										
3 1.8	**22x7**	2395										
2				**24x8**	1980		**24x9**	1830				
2.7				**32x8**	2905		**32x9**	2795		**32x10**	2615	
4				**48x8**	4900		**48x9**	4600		**48x10**	4300	
	?			?			?			?		

1 Mfg. By Trus Joist - a Weyerhaeuser Business 800 628-3997 www.trusjoist.com

2 Follow Mfg. literature for all HD, Connector, Anchor Bolt & other installation req'ts.

3 Provide 1.5E TimberStrand LSL Portal Column at other end of Hdr if used single.