Lateral Calculations

Project Title: Holsam Residence

Location: Eagle, Idaho

Job #: 2023-5250

SNAKE RIVER ENGINEERING

PROFESSIONAL ENGINEER
LICENSED
15386
5/16/2023
STATE OF IDAHO
KALEB JONES

For Holsam Residence only

Prepared in accordance with 2018 IBC. Calculations expire by: 5/16/2024

SITE SPECIFIC DESIGN CRITERIA:

Snow Criteria:

Roof Load (P_f)	25 psf	
Ground Load (P_g)	25 psf	
Exposure Factor (C_e)	1.0	Partially
Thermal Factor (C_t)	1.0	Typical
Importance (I_s)	1.0	

Wind Criteria:

Wind Speed (V_3)	115 mph	
Wind Exposure	C	Open Terrain
Wind Importance (I_w)	1.0	
Building Category	II	

Seismic Criteria:

Site Class	D	Stiff Soil		
Ss	0.29		Fa	1.57
S1	0.10		Fv	2.39
S_{DS}	0.30		S_{D1}	0.16
Risk Category	II	Other		
Seismic Importance (I_E)	1.0			
Seismic Design Category (SDC)	C			

Seismic Criteria (continued):

Wall Material	Design Base Shear	Response Coeff., R	
OSB	.06Wp	6.5	Typ @ Ext
GYP	.18Wp	2	Typ @ Int
CANT COL	.24Wp	1.5	

Soil Criteria:

Brg. Strength	1500 psf

STRUCTURE SPECIFIC DESIGN CRITERIA:

Live Loads:

Typ Residential	40 psf
Garage (P.V.)	50 psf
Sleeping Area's	30 psf

Floor Dead Loads:

Deck	2.5
Joist	2.0
Ceiling	2.0
Flooring	2.5
Misc	3.0
TOTAL	**12 psf**

Roof Dead Loads:

Deck	1.5
Insulation	2.0
Roofing	3.0
Joist	2.5
Ceiling	3.0
Misc	4.5
TOTAL	**17 psf**

Interior Wall Dead Loads:

Studs	2.0
Gyp. Board	2.5
Misc	3.0
TOTAL	**8 psf**

Exterior Wall Dead Loads:

Studs	2.0
Siding	2.5
Insulation	0.5
Gyp. Board	2.5
Sheating	1.5
Misc	3.0
TOTAL	**12 psf**

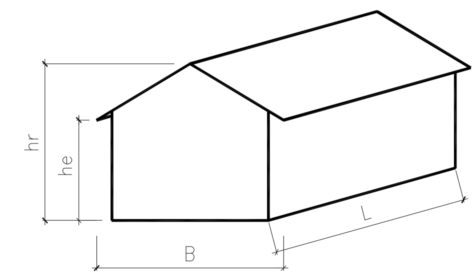
Deck Dead Load

Decking	4.4
Joist	2.0
	0.0
Misc	3.0
TOTAL	**10 psf**

WIND ANALYSIS: Low-rise Building - Based on IBC / ASCE 7

INPUT DATA

Exposure category (B, C or D, ASCE 7-16 26.7.3)		C	
Importance factor (ASCE 7-16 Table 1.5-2)	I_w =	1.00	for all Category
Basic wind speed (ASCE 7-16 26.5.1 or 2018 IBC)	V =	115	*mph*
Topographic factor (ASCE 7-16 26.8 & Table 26.8-1)	K_{zt} =	1.00	Flat
Building height to ridge	h_r =	*22.92 ft*	*ft*
Building height to eave	h_e =	*10.00 ft*	*ft*
Building width	B =	*75.00 ft*	*ft*
Building length	L =	*86.00 ft*	*ft*
Overhang sloped width	O_h =	*3.00 ft*	*ft*
Effective area of components (or Solar Panel area)	A =	*33.3 ft²*	ft^2, <== Overhang? (Yes or No): Yes
Enclosed? (Y/N)		y	



ANALYSIS

Velocity pressure

$q_h = 0.00256\ K_z\ K_{zt}\ K_d\ K_e\ V^2$ = **24.91** psf

where: q_h = velocity pressure at mean roof height, h. (Eq. 26.10-1 page 268)

K_z = velocity pressure exposure coefficient evaluated at height, h, (Tab. 26.10-1, pg = **0.87**

K_d = wind directionality factor. (Tab. 26.6-1, for building, page 266) = **0.85**

h = mean roof height = **16.46** ft

K_e = ground elevation factor. (***1.0*** per Sec. 26.9, page 268) ***< 60 ft, [Satisfactory]*** (ASCE 7-16 26.2.1)

< Min (L, B), [Satisfactory] (ASCE 7-16 26.2.2)

Design pressures for MWFRS

$p = q_h\ [(G\ C_{pf}) - (G\ C_{pi})]$

where: p = pressure in appropriate zone. (Eq. 28.3-1, page 311). p_{min} = **16** psf (ASCE 7-16 28.3.4)

$G\ C_{p\,f}$ = product of gust effect factor and external pressure coefficient, see table below. (Fig. 28.3-1, page 312 & 313)

$G\ C_{p\,i}$ = product of gust effect factor and internal pressure coefficient.(Tab. 26.13-1, Enclosed Building, page 271)

= **0.18** or **-0.18**

a = width of edge strips, Fig 28.3-1, page 312, MAX[MIN(0.1B, 0.1L, 0.4h), MIN(0.04B, 0.04L), 3] = **6.58** ft

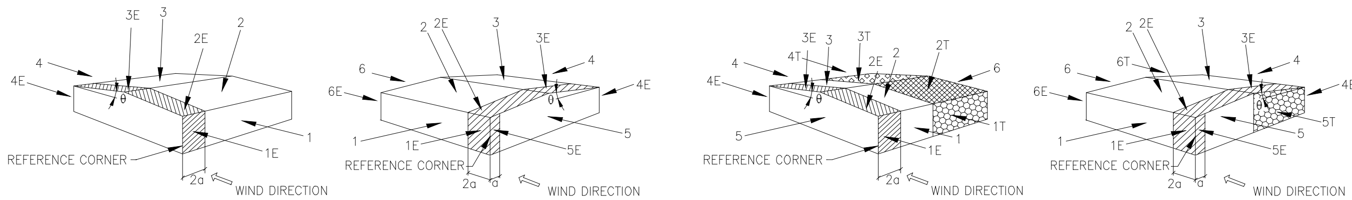
Net Pressures (psf), Basic Load Cases

Surface	Roof angle q = 18.43			Roof angle q = 18.43		
	$G\ C_{p\,f}$	Net Press. W/ (+$GC_{p\,i}$)	Net Press. W/ (-$GC_{p\,i}$)	$G\ C_{p\,f}$	Net Press. W/ (+$GC_{p\,i}$)	Net Press. W/ (-$GC_{p\,i}$)
1	0.52	8.38	17.35	-0.45	-15.69	-6.73
2	-0.69	-21.67	-12.70	-0.69	-21.67	-12.70
3	-0.47	-16.16	-7.19	-0.37	-13.70	-4.73
4	-0.42	-14.83	-5.86	-0.45	-15.69	-6.73
5				0.40	5.48	14.45
6				-0.29	-11.71	-2.74
1E	0.78	14.95	23.92	-0.48	-16.44	-7.47
2E	-1.07	-31.14	-22.17	-1.07	-31.14	-22.17
3E	-0.67	-21.26	-12.29	-0.53	-17.69	-8.72
4E	-0.62	-19.88	-10.91	-0.48	-16.44	-7.47
5E				0.61	10.71	19.68
6E				-0.43	-15.20	-6.23

Net Pressures (psf), Torsional Load Cases

Surface	Roof angle q = 18.43		
	$G\ C_{p\,f}$	Net Press. W/ (+$GC_{p\,i}$)	Net Press. W/ (-$GC_{p\,i}$)
1T	0.52	2.10	4.34
2T	-0.69	-5.42	-3.18
3T	-0.47	-4.04	-1.80
4T	0.00	-3.71	-1.47
Surface	**Roof angle q = 0.00**		
	$G\ C_{p\,f}$	Net Press. W/ (+$GC_{p\,i}$)	Net Press. W/ (-$GC_{p\,i}$)
5T	0.40	1.37	3.61
6T	-0.29	-2.93	-0.69

+ / - Wind Pressure 64%



Load Case A (Transverse) Load Case B (Longitudinal)
Basic Load Cases

Load Case A (Transverse) Load Case B (Longitudinal)
Torsional Load Cases

Design pressures for components and cladding

$p = q_h[(G C_p) - (G C_{pi})]$

where: p = pressure on component. (Eq. 30.3-1, pg 33

p_{min} = 16.00 psf (ASCE 7-16 30.2.2)

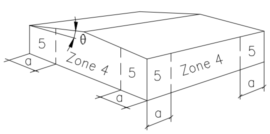
$G C_p$ = 1.00 external pressure coefficie

see table below. (ASCE 7-16 30.3.2)

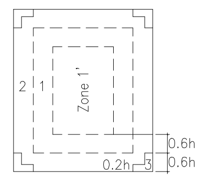
q = 18.43 °

$p_{overhang}$ = **-85.94** psf

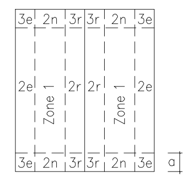
(ASCE 7-16 28.3.3)



Walls



Roof θ≤7°



Roof θ>7°

Comp. & Cladding Coeffs.	Effective Area (ft^2)	Zone 1		Zone 1'		Zone 2		Zone 2e		Zone 2n		Zone 2r	
		GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$
	1875	0.30	-0.80	0.30	-0.80	0.30	-2.20	0.30	-0.80	0.30	-1.00	0.30	-1.00
	Effective Area (ft^2)	Zone 3		Zone 3e		Zone 3r		Zone 4		Zone 5			
		GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$		
	33	0.30	-2.50	0.30	-2.50	0.30	-1.80	0.99	-1.09	0.99	-1.37		

Comp. & Cladding Pressures	Zone 1		Zone 1'		Zone 2		Zone 2e		Zone 2n		Zone 2r	
	Positive	*Negative*	*Positive*	*Negative*	*Positive*	*Negative*	*Positive*	*Negative*	*Positive*	*Negative*	*Positive*	*Negative*
	2.99	-15.44	2.99	-15.44	2.99	-50.32	2.99	-15.44	2.99	-20.43	2.99	-20.43
	Zone 3		Zone 3e		Zone 3r		Zone 4		Zone 5			
	Positive	*Negative*	*Positive*	*Negative*	*Positive*	*Negative*	*Positive*	*Negative*	*Positive*	*Negative*	*(Max Pressure*	
	2.99	-57.79	2.99	-57.79	2.99	-40.36	20.07	-22.56	20.07	-29.68	***57.79*** *psf)*	

LOAD CASE 'A' FACTORED LOADS	
$0.6{*}W_r = (Z_2 + Z_3) * 0.6 =$	**3.3 psf**
$0.6{*}W_{rE} = (Z_{2E} + Z_{3E}) * 0.6 =$	**5.9 psf**
$0.6{*}W_w = (Z_1 + Z_4) * 0.6 =$	**13.9 psf**
$0.6{*}W_{wE} = (Z_{1E} + Z4E) * 0.6 =$	**20.9 psf**

LOAD CASE 'B' FACTORED LOADS	
$0.6{*}W_r = (Z_2 + Z_3) * 0.6 =$	**4.8 psf**
$0.6{*}W_{rE} = (Z_{2E} + Z_{3E}) * 0.6 =$	**8.1 psf**
$0.6{*}W_w = (Z_5 + Z_6) * 0.6 =$	**10.3 psf**
$0.6{*}W_{wE} = (Z_{5E} + Z_{6E}) * 0.6 =$	**15.5 psf**

ROOF COMPONENTS FACTORED LOAD	
$0.6{*}Z_{r,c\&c} =$	**12.3 psf**

WALL COMPONENTS FACTORED LOAD	
$0.6{*}Z_{w,c\&c} =$	**13.5 psf**

OSB SEISMIC LOADING ANALYSIS

IBC / ASCE 7: Equivalent Lateral Force (ELF) Procedure:

INPUT DATA

Typical floor height:	h =	10	*ft*
Typical floor weight:	w_x =	109.7	*kips*
Number of floors:	n =	1	
Importance factor (ASCE 11.5.1):	I_e =	1.00	
Design spectral response:	S_{DS} =	0.30	g
	S_{D1} =	0.16	g
Mapped spectral resp.:	S_1 =	0.10	g
Period Parameter, C_t: (ASCE Tab 12.8-2):	C_t =	0.020	
Resp. coefficient: (ASCE Tab. 12.2.1):	R =	6.5	
Seismic design category:	SDC =	C	
	h_n =	22.9	*ft*

DESIGN SUMMARY

$C_s = 1.2 * S_{DS} / (R / I_e)$ =	0.0558		**<= Applicable**
Period Parameter, x =	*0.75*	, ASCE Tab 12.8-2	
Period: $T_a = C_t (h_n)^x$ =	*0.21*	sec, ASCE 12.8.2.1	
$C_s < S_{D1} / [(R / I_e) T_a]$ =	*0.1170*	, ASCE Tab 12.8.1.1	**<= Not Applicable**
$C_s > 0.044 S_{DS} I_e$ =	*0.0133*	, ASCE Tab 12.8.1.1	**<= Not Applicable**
$C_s > 0.5 S_1 / (R / I_e)$ =	*0.0077*	, ASCE Tab 12.8.1.1	**<= Not Applicable**
k =	*1.86*	, (ASCE 12.8.3, page 91)	

$V = C_s W =$ ***0.0558*** W

$0.7 * V =$ ***0.0391*** W

W = ***110*** *kips, total*

SEISMIC COMPONENT & ANCHORING ANALYSIS

Out-of-plane seismic force for wall design (ASCE 7, Sec.12.11.1)

$$w_{1,seismic} = MAX\left(0.4 I S_{DS} W_p \ , 0.1 W_p\right)$$

= ***0.1*** W_p = ***0.1*** psf ***<= USE FOR DIAPHRAGMS***

Where : W_p = **1.0** psf , I_e = 1.00

(CBC / IBC Tab. 1604.5 & ASCE 7 Tab. 1.5-2)

Out-of-plane seismic force for anchorage design

<u>For seismic design category A & B, any diaphragm (ASCE 7 Sec. 12.11.2)</u>

$$F_{anch,seismic} = MAX\left[0.4 S_{DS} I W_p \frac{(h+h_p)^2}{2h} \ , \ 0.1 W_p \frac{(h+h_p)^2}{2h} \ , \ 400 S_{DS} I \ , \ F_{min}\right] =$$

Where : F_{min} = ***0.11*** plf, ***1.18*** W_p = ***121*** plf (Horizontal) ***<= Not Applicable***

(ASCE 7 Sec. 12.11.2 & 11.7.3)

<u>For seismic design category C and above, flexible diaphragm (ASCE 7 Sec. 12.11.2.1)</u>

$$F_{anch,seismic} = MAX\left[0.8 S_{DS} I W_p \frac{(h+h_p)^2}{2h} \ , \ 0.1 W_p \frac{(h+h_p)^2}{2h} \ , \ 400 S_{DS} I \ , \ F_{min}\right] =$$

= ***2.37*** W_p = ***121*** plf (Horizontal) ***<= Applicable***

<u>For connections (ASCE 7 Sec. 12.11.2.1)</u>

$F_{conn,seismic} = MAX\ [0.133\ S_{DS}\ w_p\ ,\ 0.5\ w_p] =$ ***0.5*** W_p = ***0.5*** plf (Horizontal)

GYP SEISMIC LOADING ANALYSIS

IBC / ASCE 7: Equivalent Lateral Force (ELF) Procedure:

INPUT DATA

Typical floor height:	h =	10	*ft*
Typical floor weight:	w_x =	109.7	*kips*
Number of floors:	n =	1	
Importance factor (ASCE 11.5.1):	I_e =	1.00	
Design spectral response:	S_{DS} =	0.30	g
	S_{D1} =	0.16	g
Mapped spectral resp.:	S_1 =	0.10	g
Period Parameter, C_t: (ASCE Tab 12.8-2):	C_t =	0.020	
Resp. coefficient: (ASCE Tab. 12.2.1):	R =	2	
Seismic design category:	SDC =	C	
	h_n =	22.9	*ft*

DESIGN SUMMARY

$C_s = 1.2 * S_{DS} / (R / I_e)$ =	0.1814		**<= Applicable**
Period Parameter, x =	*0.75*	, ASCE Tab 12.8-2	
Period: $T_a = C_t (h_n)^x$ =	*0.21*	sec, ASCE 12.8.2.1	
$C_s < S_{D1} / [(R / I_e) T_a]$ =	*0.3803*	, ASCE Tab 12.8.1.1	**<= Not Applicable**
$C_s > 0.044 S_{DS} I_e$ =	*0.0133*	, ASCE Tab 12.8.1.1	**<= Not Applicable**
$C_s > 0.5 S_1 / (R / I_e)$ =	*0.0250*	, ASCE Tab 12.8.1.1	**<= Not Applicable**
k =	*1.86*	, (ASCE 12.8.3, page 91)	

$V = C_s W$ = ***0.1814*** W

$0.7 * V$ = ***0.1270*** W

W = ***110*** *kips, total*

SEISMIC COMPONENT & ANCHORING ANALYSIS

Out-of-plane seismic force for wall design (ASCE 7, Sec.12.11.1)

$$w_{1,seismic} = MAX\left(0.4 I S_{DS} W_p \;, 0.1 W_p\right)$$ = ***0.1*** W_p = ***0.1*** psf ***<= USE FOR DIAPHRAGMS***

Where : W_p = 1.0 psf , I_e = 1.00
(CBC / IBC Tab. 1604.5 & ASCE 7 Tab. 1.5-2)

Out-of-plane seismic force for anchorage design

For seismic design category A & B, any diaphragm (ASCE 7 Sec. 12.11.2)

$$F_{anch,seismic} = MAX\left[0.4 S_{DS} I W_p \frac{(h+h_p)^2}{2h} \;,\; 0.1 W_p \frac{(h+h_p)^2}{2h} \;,\; 400 S_{DS} I \;,\; F_{min}\right] =$$

Where : F_{min} = ***0.11*** plf, ***1.18*** W_p = ***121*** plf (Horizontal) ***<= Not Applicable***
(ASCE 7 Sec. 12.11.2 & 11.7.3)

For seismic design category C and above, flexible diaphragm (ASCE 7 Sec. 12.11.2.1)

$$F_{anch,seismic} = MAX\left[0.8 S_{DS} I W_p \frac{(h+h_p)^2}{2h} \;,\; 0.1 W_p \frac{(h+h_p)^2}{2h} \;,\; 400 S_{DS} I \;,\; F_{min}\right] =$$

= ***2.37*** W_p = ***121*** plf (Horizontal) ***<= Applicable***

For connections (ASCE 7 Sec. 12.11.2.1)

$F_{conn,seismic}$ = *MAX [0.133 S_{DS} w_p , 0.5 w_p]* = ***0.5*** W_p = ***0.5*** plf (Horizontal)

WIND / SEISMIC SHEAR FORCE CALCULATIONS:

From ASCE 7-16 Wind & Seismic Loading Analysis

Wall Line	Roof / Floor					Wall					Load above		$*C_s$ (Wp)	=	Loading		
	Wind Force (psf)	Diaph. Weight	Wr, We truss trib (ft)	Area W (ft)	Area L (ft)	Wind Force (psf)	Wall DL (psf)	Wall ht (ft)	wall line dist (ft)	Upr. Flr Wall ht (ft)	Wind (#)	Seismic (#)			**Wind Force (kips)**	**Seismic Force (kips)**	**Lateral Control**
X1-1	9.6	17	10.9	18.0	38.0	19.0	12.0	12.0	18.0				0.04	=	**1.97**	**0.33**	**Wind**
X2-1	9.6 9.6	17 17	10.9 12.9	18.0 57.0	38.0 80.0	19.0 15.5	8.0 8.0	12.0 10.0	18.0 57.0				0.13 0.13	= =	**7.72**	**6.46**	**Wind**
X3-1	9.6	17	12.9	57.0	80.0	15.5	12.0	10.0	57.0				0.04	=	**5.75**	**1.78**	**Wind**

Wall Line	Wind Force (psf)	Diaph. Weight	Wr, We truss trib (ft)	Area W (ft)	Area L (ft)	Wind Force (psf)	Wall DL (psf)	Wall ht (ft)	wall line dist (ft)	Upr. Flr Wall ht (ft)	Wind (#)	Seismic (#)	$*C_s$ (Wp)	=	**Wind Force (kips)**	**Seismic Force (kips)**	**Lateral Control**
Y1-1	9.6	17	12.9	48.0	56.0	15.8	12.0	10.0	48.0				0.04	=	**4.88**	**1.12**	**Wind**
Y2-1	9.6 9.6	17 17	12.9 12.9	48.0 38.0	56.0 75.0	15.8 16.3	8.0 8.0	10.0 10.0	48.0 38.0				0.13 0.13	= =	**8.79**	**6.85**	**Wind**
Y3-1	9.6	17	12.9	38.0	75.0	16.3	12.0	10.0	38.0				0.04	=	**3.91**	**1.12**	**Wind**

SHEAR WALL CALCULATIONS:

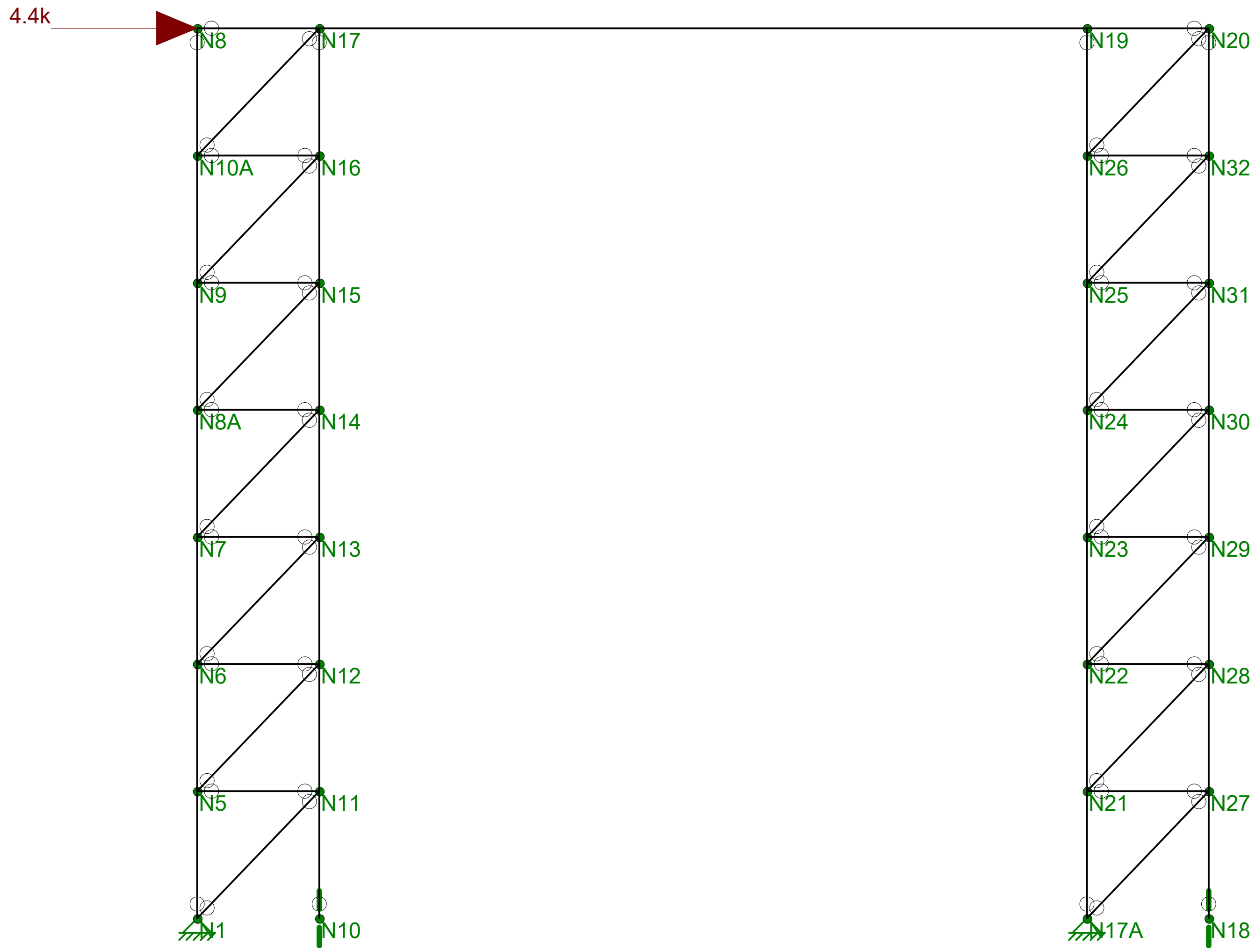
		X1-1	X2-1	X2-1	X2-1	X2-1	X3-1
Shear Wall Forces							
Total length of wall		38.00 ft	80.00 ft	80.00 ft	80.00 ft	80.00 ft	86.00 ft
Total length of shear wall	L =	38.00 ft	26.00 ft	7.50 ft	15.54 ft	4.00 ft	46.00 ft
Total length of full ht seg.	L_w =	15.00 ft	10.00 ft	7.50 ft	15.54 ft	4.00 ft	19.46 ft
height of shear wall	H =	12.00 ft	14.00 ft	10.00 ft	15.00 ft	10.00 ft	12.00 ft
Maximum opening height	H' =	12.00 ft	10.00 ft	0.00 ft	0.00 ft	0.00 ft	12.00 ft
Total force at top of wall	V_1 =	1969 lbs	2084 lbs	1563 lbs	3238 lbs	833 lbs	3155 lbs
Self weight	$w_{DL\ self}$ =	144 plf	168 plf	120 plf	180 plf	120 plf	144 plf
Applied dead load	$w_{DL\ above}$ =	40 plf	40 plf	40 plf	40 plf	40 plf	40 plf
Prefered OSB thickness	in	7/16	7/16	7/16	7/16	7/16	7/16
Prefered Gyp thickness	in	1/2	1/2	1/2	1/2	1/2	1/2
Wall Connected to Concrete	y/n =	Y	Y	Y	Y	Y	Y
Shear Wall Segments							
		3.50	5.00	7.50	15.54	4.00	4.00
		3.50	5.00				3.98
		4.00					3.98
		4.00					3.96
							3.54
Shear Transfer to Concrete							
	T =	Not Req'd	755 lbs	1724 lbs	2101 lbs	1892 lbs	Not Req'd
1/2 Anchor Bolts @		72 '' O.C.	72 '' O.C.	72 '' O.C.	60 '' O.C.	48 '' O.C.	72 '' O.C.
Provide:		Code Min.	Code Min.	Code Min.	A5	A4	Code Min.
Min # of 1/2 Anchor Bolts		(2) Min	(3) Min	(2) Min	(4) Min	(2) Min	(4) Min
Load From Above		0.00	0.00	0.00	0.00	0.00	0.00
			HD1	**HD1**	**HD1**	**HD1**	
Shear Resisting System							
Force Calculated		290.20	354.89	208.35	208.35	208.35	349.16
		OSB	**OSB**	**Gyp.**	**Gyp.**	**OSB**	**OSB**
Min Shear Wall Segment:		3.43 ft	4.00 ft	5.00 ft	7.50 ft	2.86 ft	3.43 ft
Provide:	Va=	**SW1**	**SW1**	**SWD**	**SWD**	**SW1**	**SW1**
Min Shear Wall Segment:							
Provide:	Va=						
Blocking / Nailing Framing Attachment							
Blocking Unit Shear		52 plf	26 plf	20 plf	40 plf	10 plf	37 plf
Blocking		**NONE**	**NONE**	**NONE**	**NONE**	**NONE**	**NONE**
Nailing		**See SCHED**	**See SCHED**	**See SCHED**	**See SCHED**	**See SCHED**	**See SCHED**
Unit Base Shear							
% of full height segments	%fh = L_w/L =	0.395	0.385	1.000	1.000	1.000	0.423
% of maximum opening height	%oh = H'/H =	1.000	0.714	0.000	0.000	0.000	1.000
Shear cap adj factor	SCAF =	0.45	0.59	1.00	1.00	1.00	0.46
Unit base shear	vbase V_1/L_w =	131 plf	208 plf	208 plf	208 plf	208 plf	162 plf
Effective unit base shear	vreq=v_{base}/SCAF=	290 plf	355 plf	208 plf	208 plf	208 plf	349 plf
Ovrtrn. mo. Ttl. length of wall	OTM =	52.2 k-ft	49.7 k-ft	15.6 k-ft	48.6 k-ft	8.3 k-ft	81.5 k-ft
Shear wall adjustment factor							
Resist moment total L. of wall	RM =	132.7 k-ft	70.2 k-ft	4.5 k-ft	26.5 k-ft	1.3 k-ft	194.4 k-ft
	r=	0.3947	0.4667	1.0000	1.0000	1.0000	0.4230
	C_O=	0.4524	0.5871	1.0000	1.0000	1.0000	0.4643

SHEAR WALL CALCULATIONS:

		X3-1	Y1-1	Y2-1	Y2-1	Y2-1	Y2-1
Shear Wall Forces							
Total length of wall		86.00 ft	56.00 ft	75.00 ft	75.00 ft	75.00 ft	75.00 ft
Total length of shear wall	L =	16.00 ft	56.00 ft	11.00 ft	11.00 ft	8.50 ft	10.50 ft
Total length of full ht seg.	L_w =	6.00 ft	28.00 ft	8.00 ft	11.00 ft	8.50 ft	10.50 ft
height of shear wall	H =	15.00 ft	14.00 ft	12.00 ft	13.00 ft	10.00 ft	10.00 ft
Maximum opening height	H' =	12.00 ft	14.00 ft	8.00 ft	0.00 ft	0.00 ft	0.00 ft
Total force at top of wall	V_1 =	2644 lbs	4877 lbs	1850 lbs	2543 lbs	1965 lbs	2428 lbs
Self weight	$w_{DL\ self}$ =	180 plf	168 plf	144 plf	156 plf	120 plf	120 plf
Applied dead load	$w_{DL\ above}$ =	40 plf	40 plf	40 plf	40 plf	40 plf	40 plf
Prefered OSB thickness	in	7/16	7/16	7/16	7/16	7/16	7/16
Prefered Gyp thickness	in	1/2	1/2	1/2	1/2	1/2	1/2
Wall Connected to Concrete	y/n =	Y	Y	Y	Y	Y	Y
Shear Wall Segments							
		3.00	8.00	3.50	11.00	8.50	10.50
		3.00	8.00	4.50			
			4.00				
			4.00				
			4.00				
Shear Transfer to Concrete							
	T =	3500 lbs	Not Req'd	2697 lbs	2359 lbs	1905 lbs	1809 lbs
			72 '' O.C.	72 '' O.C.	60 '' O.C.	72 '' O.C.	60 '' O.C.
Provide:			Code Min.	Code Min.	A5	Code Min.	A5
Min # of 1/2 Anchor Bolts			(5) Min	(2) Min	(3) Min	(2) Min	(3) Min
Load From Above		0.00	0.00	0.00	0.00	0.00	0.00
Holdown		**HD3**		**HD2**	**HD2**	**HD1**	**HD1**
Shear Resisting System							
Force Calculated		826.30	348.34	294.25	231.19	231.19	231.19
		B.F.	**OSB**	**OSB**	**OSB**	**Gyp.**	**Gyp.**
Min Shear Wall Segment:		1.33 ft	4.00 ft	3.43 ft	3.71 ft	5.00 ft	5.00 ft
Provide:	Va=	**4400**	**SW1**	**SW1**	**SW1**	**SWE**	**SWE**
Min Shear Wall Segment:							
Provide:	Va=						
Blocking / Nailing Framing Attachment							
Blocking Unit Shear		31 plf	87 plf	25 plf	34 plf	26 plf	32 plf
Blocking		**NONE**	**NONE**	**NONE**	**NONE**	**NONE**	**NONE**
Nailing		**See SCHED**	**See SCHED**	**See SCHED**	**See SCHED**	**See SCHED**	**See SCHED**
Unit Base Shear							
% of full height segments	%fh = L_w/L =	0.375	0.500	0.727	1.000	1.000	1.000
% of maximum opening height	%oh = H'/H =	0.800	1.000	0.667	0.000	0.000	0.000
Shear cap adj factor	SCAF =	0.53	0.50	0.79	1.00	1.00	1.00
Unit base shear	vbase V_1/L_w =	441 plf	174 plf	231 plf	231 plf	231 plf	231 plf
Effective unit base shear	vreq=v_{base}/SCAF=	826 plf	348 plf	294 plf	231 plf	231 plf	231 plf
Ovrtrn. mo. of shrt. pnl	OTM =	19.8 k-ft	136.6 k-ft	28.2 k-ft	33.1 k-ft	19.7 k-ft	24.3 k-ft
Shear wall adjustment factor							
Resist moment of shrt panel	RM =	1.0 k-ft	325.8 k-ft	11.1 k-ft	11.8 k-ft	5.8 k-ft	8.8 k-ft
	r=	0.4286	0.5000	0.8000	1.0000	1.0000	1.0000
	C_O=	0.5333	0.5000	0.7857	1.0000	1.0000	1.0000

SHEAR WALL CALCULATIONS:

		Y3-1	Y3-1
Shear Wall Forces			
Total length of wall		75.00 ft	75.00 ft
Total length of shear wall	L =	23.00 ft	36.50 ft
Total length of full ht seg.	L_w =	8.00 ft	16.50 ft
height of shear wall	H =	10.00 ft	15.00 ft
Maximum opening height	H' =	10.00 ft	15.00 ft
Total force at top of wall	V_1 =	1276 lbs	2632 lbs
Self weight	$w_{DL\ self}$ =	120 plf	180 plf
Applied dead load	$w_{DL\ above}$ =	40 plf	40 plf
Prefered OSB thickness	in	7/16	7/16
Prefered Gyp thickness	in	1/2	1/2
Wall Connected to Concrete	y/n =	Y	Y
Shear Wall Segments			
		4.00	5.50
		4.00	5.50
			5.50
Shear Transfer to Concrete			
	T =	441 lbs	Not Req'd
1/2 Anchor Bolts @		72 '' O.C.	72 '' O.C.
Provide:		Code Min.	Code Min.
Min # of 1/2 Anchor Bolts		(2) Min	(3) Min
Load From Above		0.00	0.00
Holdown		**Perp. Wall**	
Shear Resisting System			
Force Calculated		367.62	334.37
		OSB	**OSB**
Min Shear Wall Segment:		2.86 ft	4.29 ft
Provide:	Va=	**SW2**	**SW1**
Min Shear Wall Segment:			
Provide:	Va=		
Blocking / Nailing Framing Attachment			
Blocking Unit Shear		17 plf	35 plf
Blocking		**NONE**	**NONE**
Nailing		**See SCHED**	**See SCHED**
Unit Base Shear			
% of full height segments	%fh = L_w/L =	0.348	0.452
% of maximum opening height	%oh = H'/H =	1.000	1.000
Shear cap adj factor	SCAF =	0.43	0.48
Unit base shear	vbase V_1/L_w =	160 plf	160 plf
Effective unit base shear	vreq=v_{base}/SCAF=	368 plf	334 plf
Ovrtrn. mo. Ttl. length of wall	OTM =	29.4 k-ft	82.8 k-ft
Shear wall adjustment factor			
Resist moment total L. of wall	RM =	42.3 k-ft	146.4 k-ft
	r=	0.3478	0.4521
	C_O=	0.4340	0.4771



Loads: BLC 1, Wind Load
Envelope Only Solution

Wood Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	I (90,270) ...	I (0,180) [i...
1	Chord	4.5X5.5FS	Column	Rectangular	DF/L #2	Typical	24.75	41.766	62.391
2	Web	2X6	Beam	None	DF/L #2	Typical	8.25	1.547	20.797
3	Beam	4X12	Beam	None	24F-1.8E DF Balanced	Typical	39.375	40.195	415.283

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Temp [F]
1	N1	0	0	0
2	N8	0	14	0
3	N10	1.92	0	0
4	N17	1.92	14	0
5	N5	0	2	0
6	N6	0	4	0
7	N7	0	6	0
8	N8A	0	8	0
9	N9	0	10	0
10	N10A	0	12	0
11	N11	1.92	2	0
12	N12	1.92	4	0
13	N13	1.92	6	0
14	N14	1.92	8	0
15	N15	1.92	10	0
16	N16	1.92	12	0
17	N17A	14	0	0
18	N18	15.92	0	0
19	N19	14	14	0
20	N20	15.92	14	0
21	N21	14	2	0
22	N22	14	4	0
23	N23	14	6	0
24	N24	14	8	0
25	N25	14	10	0
26	N26	14	12	0
27	N27	15.92	2	0
28	N28	15.92	4	0
29	N29	15.92	6	0
30	N30	15.92	8	0
31	N31	15.92	10	0
32	N32	15.92	12	0

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Rotation[k-ft/rad]
1	N1	Reaction	Reaction	
2	N18		Reaction	
3	N10		Reaction	
4	N17A	Reaction	Reaction	

Wood Design Parameters

	Label	Shape	Length[...	Le-out[ft]	Le-in[ft]	le-bend to...	le-bend bo...	K-out	K-in	CV	Cr	Out sw...	In sway
1	M1	Chord	14	2	2	Lb out							
2	M2	Chord	14	2	2								
3	M4	Web	2.772			Lb out							
4	M5	Web	1.92			Lb out							
5	M6	Web	2.772			Lb out							
6	M7	Web	1.92			Lb out							
7	M8	Web	2.772			Lb out							
8	M9	Web	1.92			Lb out							
9	M10	Web	2.772			Lb out							
10	M11	Web	1.92			Lb out							
11	M12	Web	2.772			Lb out							
12	M13	Web	1.92			Lb out							
13	M14	Web	2.772			Lb out							
14	M15	Web	1.92			Lb out							
15	M16	Web	2.772			Lb out							
16	M17	Chord	14	2	2								
17	M18	Chord	14	2	2								
18	M19	Web	2.772			Lb out							
19	M20	Web	1.92			Lb out							
20	M21	Web	2.772			Lb out							
21	M22	Web	1.92			Lb out							
22	M23	Web	2.772			Lb out							
23	M24	Web	1.92			Lb out							
24	M25	Web	2.772			Lb out							
25	M26	Web	1.92			Lb out							
26	M27	Web	2.772			Lb out							
27	M28	Web	1.92			Lb out							
28	M29	Web	2.772			Lb out							
29	M30	Web	1.92			Lb out							
30	M31	Web	2.772			Lb out							
31	M31A	Beam	15.92	0	0	Lb out							

Joint Loads and Enforced Displacements (BLC 1 : Wind Load)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N8	L	X	4.4

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Joint	Point	Distributed
1	Wind Load	WL			1		
2	Dead Load	DL					1

Envelope Maximum Member Section Forces

	Member		Axial[k]	Loc[ft]	LC	Shear[k]	Loc[ft]	LC	Moment[k-ft]	Loc[ft]	LC
1	M1	max	1.391	12.104	17	.031	2.042	17	.143	2.042	17
2		min	-6.633	0	17	-.072	0	17	-.026	11.958	17
3	M2	max	7.869	0	9	.023	4.083	17	.111	4.083	9

Envelope Maximum Member Section Forces (Continued)

	Member		Axial[k]	Loc[ft]	LC	Shear[k]	Loc[ft]	LC	Moment[k-ft]	Loc[ft]	LC
4		min	-.265	12.104	17	-.065	2.042	9	-.016	1.896	9
5	M4	max	.107	0	16	0	0	1	0	0	1
6		min	-1.891	0	17	0	0	1	0	0	1
7	M5	max	1.27	0	17	0	0	1	0	0	1
8		min	-.068	0	1	0	0	1	0	0	1
9	M6	max	.091	0	16	0	0	1	0	0	1
10		min	-1.815	0	17	0	0	1	0	0	1
11	M7	max	1.273	0	17	0	0	1	0	0	1
12		min	-.065	0	1	0	0	1	0	0	1
13	M8	max	.094	0	16	0	0	1	0	0	1
14		min	-1.837	0	17	0	0	1	0	0	1
15	M9	max	1.268	0	17	0	0	1	0	0	1
16		min	-.065	0	1	0	0	1	0	0	1
17	M10	max	.094	0	16	0	0	1	0	0	1
18		min	-1.835	0	17	0	0	1	0	0	1
19	M11	max	1.28	0	17	0	0	1	0	0	1
20		min	-.065	0	1	0	0	1	0	0	1
21	M12	max	.094	0	16	0	0	1	0	0	1
22		min	-1.829	0	17	0	0	1	0	0	1
23	M13	max	1.242	0	17	0	0	1	0	0	1
24		min	-.065	0	1	0	0	1	0	0	1
25	M14	max	.094	0	16	0	0	1	0	0	1
26		min	-1.918	0	17	0	0	1	0	0	1
27	M15	max	1.434	0	17	0	0	1	0	0	1
28		min	-.066	0	1	0	0	1	0	0	1
29	M16	max	.096	0	16	0	0	1	0	0	1
30		min	-1.967	0	17	0	0	1	0	0	1
31	M17	max	2.598	12.104	9	.033	10.063	9	.14	2.042	9
32		min	-5.997	0	17	-.071	0	9	-.046	11.958	9
33	M18	max	8.303	0	9	.024	4.083	9	.107	4.083	17
34		min	-.251	12.104	9	-.063	2.042	9	-.017	1.896	9
35	M19	max	-.058	0	18	0	0	1	0	0	1
36		min	-2.076	0	9	0	0	1	0	0	1
37	M20	max	1.509	0	9	0	0	1	0	0	1
38		min	.04	0	18	0	0	1	0	0	1
39	M21	max	-.056	0	18	0	0	1	0	0	1
40		min	-2.029	0	9	0	0	1	0	0	1
41	M22	max	1.319	0	9	0	0	1	0	0	1
42		min	.039	0	18	0	0	1	0	0	1
43	M23	max	-.056	0	18	0	0	1	0	0	1
44		min	-1.94	0	9	0	0	1	0	0	1
45	M24	max	1.357	0	9	0	0	1	0	0	1
46		min	.039	0	18	0	0	1	0	0	1
47	M25	max	-.056	0	18	0	0	1	0	0	1
48		min	-1.946	0	9	0	0	1	0	0	1
49	M26	max	1.345	0	9	0	0	1	0	0	1
50		min	.039	0	18	0	0	1	0	0	1
51	M27	max	-.057	0	18	0	0	1	0	0	1
52		min	-1.95	0	9	0	0	1	0	0	1
53	M28	max	1.352	0	9	0	0	1	0	0	1
54		min	.039	0	18	0	0	1	0	0	1
55	M29	max	-.055	0	18	0	0	1	0	0	1

Envelope Maximum Member Section Forces (Continued)

	Member		Axial[k]	Loc[ft]	LC	Shear[k]	Loc[ft]	LC	Moment[k-ft]	Loc[ft]	LC
56		min	-1.918	0	9	0	0	1	0	0	1
57	M30	max	1.348	0	9	0	0	1	0	0	1
58		min	.041	0	18	0	0	1	0	0	1
59	M31	max	-.064	0	18	0	0	1	0	0	1
60		min	-2.027	0	9	0	0	1	0	0	1
61	M31A	max	2.656	0	17	1.807	14.096	9	3.329	13.93	9
62		min	-.004	0	1	-.785	13.93	9	-2.6	1.99	17

Envelope Member End Reactions

	Member	Membe...		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
1	M1	I	max	.204	16	0	1	0	1
2			min	-6.633	17	-.072	17	0	1
3		J	max	1.391	17	.004	1	0	1
4			min	-.211	1	-.013	17	0	1
5	M2	I	max	7.869	9	.008	9	0	1
6			min	.08	18	0	1	0	1
7		J	max	.54	16	.003	1	0	1
8			min	-.265	17	-.002	17	0	1
9	M4	I	max	.107	16	0	1	0	1
10			min	-1.891	17	0	1	0	1
11		J	max	.107	16	0	1	0	1
12			min	-1.891	17	0	1	0	1
13	M5	I	max	1.27	17	0	1	0	1
14			min	-.068	1	0	1	0	1
15		J	max	1.27	17	0	1	0	1
16			min	-.068	1	0	1	0	1
17	M6	I	max	.091	16	0	1	0	1
18			min	-1.815	17	0	1	0	1
19		J	max	.091	16	0	1	0	1
20			min	-1.815	17	0	1	0	1
21	M7	I	max	1.273	17	0	1	0	1
22			min	-.065	1	0	1	0	1
23		J	max	1.273	17	0	1	0	1
24			min	-.065	1	0	1	0	1
25	M8	I	max	.094	16	0	1	0	1
26			min	-1.837	17	0	1	0	1
27		J	max	.094	16	0	1	0	1
28			min	-1.837	17	0	1	0	1
29	M9	I	max	1.268	17	0	1	0	1
30			min	-.065	1	0	1	0	1
31		J	max	1.268	17	0	1	0	1
32			min	-.065	1	0	1	0	1
33	M10	I	max	.094	16	0	1	0	1
34			min	-1.835	17	0	1	0	1
35		J	max	.094	16	0	1	0	1
36			min	-1.835	17	0	1	0	1
37	M11	I	max	1.28	17	0	1	0	1
38			min	-.065	1	0	1	0	1
39		J	max	1.28	17	0	1	0	1
40			min	-.065	1	0	1	0	1

Envelope Member End Reactions (Continued)

	Member	Membe...		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
41	M12	I	max	.094	16	0	1	0	1
42			min	-1.829	17	0	1	0	1
43		J	max	.094	16	0	1	0	1
44			min	-1.829	17	0	1	0	1
45	M13	I	max	1.242	17	0	1	0	1
46			min	-.065	1	0	1	0	1
47		J	max	1.242	17	0	1	0	1
48			min	-.065	1	0	1	0	1
49	M14	I	max	.094	16	0	1	0	1
50			min	-1.918	17	0	1	0	1
51		J	max	.094	16	0	1	0	1
52			min	-1.918	17	0	1	0	1
53	M15	I	max	1.434	17	0	1	0	1
54			min	-.066	1	0	1	0	1
55		J	max	1.434	17	0	1	0	1
56			min	-.066	1	0	1	0	1
57	M16	I	max	.096	16	0	1	0	1
58			min	-1.967	17	0	1	0	1
59		J	max	.096	16	0	1	0	1
60			min	-1.967	17	0	1	0	1
61	M17	I	max	.198	16	0	18	0	1
62			min	-5.997	17	-.071	9	0	1
63		J	max	2.598	9	-.003	18	0	1
64			min	.368	18	-.024	9	0	1
65	M18	I	max	8.303	9	.009	9	0	1
66			min	.166	18	0	18	0	1
67		J	max	-.078	18	-.002	18	0	1
68			min	-.251	9	-.007	9	0	1
69	M19	I	max	-.058	18	0	1	0	1
70			min	-2.076	9	0	1	0	1
71		J	max	-.058	18	0	1	0	1
72			min	-2.076	9	0	1	0	1
73	M20	I	max	1.509	9	0	1	0	1
74			min	.04	18	0	1	0	1
75		J	max	1.509	9	0	1	0	1
76			min	.04	18	0	1	0	1
77	M21	I	max	-.056	18	0	1	0	1
78			min	-2.029	9	0	1	0	1
79		J	max	-.056	18	0	1	0	1
80			min	-2.029	9	0	1	0	1
81	M22	I	max	1.319	9	0	1	0	1
82			min	.039	18	0	1	0	1
83		J	max	1.319	9	0	1	0	1
84			min	.039	18	0	1	0	1
85	M23	I	max	-.056	18	0	1	0	1
86			min	-1.94	9	0	1	0	1
87		J	max	-.056	18	0	1	0	1
88			min	-1.94	9	0	1	0	1
89	M24	I	max	1.357	9	0	1	0	1
90			min	.039	18	0	1	0	1
91		J	max	1.357	9	0	1	0	1
92			min	.039	18	0	1	0	1

Envelope Member End Reactions (Continued)

	Member	Membe...		Axial[k]	LC	Shear[k]	LC	Moment[k-ft]	LC
93	M25	I	max	-.056	18	0	1	0	1
94			min	-1.946	9	0	1	0	1
95		J	max	-.056	18	0	1	0	1
96			min	-1.946	9	0	1	0	1
97	M26	I	max	1.345	9	0	1	0	1
98			min	.039	18	0	1	0	1
99		J	max	1.345	9	0	1	0	1
100			min	.039	18	0	1	0	1
101	M27	I	max	-.057	18	0	1	0	1
102			min	-1.95	9	0	1	0	1
103		J	max	-.057	18	0	1	0	1
104			min	-1.95	9	0	1	0	1
105	M28	I	max	1.352	9	0	1	0	1
106			min	.039	18	0	1	0	1
107		J	max	1.352	9	0	1	0	1
108			min	.039	18	0	1	0	1
109	M29	I	max	-.055	18	0	1	0	1
110			min	-1.918	9	0	1	0	1
111		J	max	-.055	18	0	1	0	1
112			min	-1.918	9	0	1	0	1
113	M30	I	max	1.348	9	0	1	0	1
114			min	.041	18	0	1	0	1
115		J	max	1.348	9	0	1	0	1
116			min	.041	18	0	1	0	1
117	M31	I	max	-.064	18	0	1	0	1
118			min	-2.027	9	0	1	0	1
119		J	max	-.064	18	0	1	0	1
120			min	-2.027	9	0	1	0	1
121	M31A	I	max	2.656	17	1.395	17	0	1
122			min	-.004	1	-.211	1	0	1
123		J	max	1.4	9	1.714	9	0	1
124			min	.042	18	.125	18	0	1

Envelope Wood Code Checks

	Member	Shape	Code Check	Loc[...	LC	Shear...	Loc[...	LC	Fc' [k...	Ft' [ksi]	Fb' [k...	Fv' [k...	RB	CL	CP	Eqn
1	M1	4.5X5....	.415	1.896	17	.016	0	17	1.101	.756	1.194	.272	6.755	.995	.983	3.9-1
2	M2	4.5X5....	.289	0	9	.014	2.042	9	1.101	.756	1.194	.272	6.755	.995	.983	3.6.3
3	M4	2X6	.194	0	17	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
4	M5	2X6	.102	0	17	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
5	M6	2X6	.186	0	17	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
6	M7	2X6	.102	0	17	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
7	M8	2X6	.189	0	17	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
8	M9	2X6	.102	0	17	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
9	M10	2X6	.188	0	17	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
10	M11	2X6	.103	0	17	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
11	M12	2X6	.188	0	17	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
12	M13	2X6	.100	0	17	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
13	M14	2X6	.197	0	17	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
14	M15	2X6	.115	0	17	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
15	M16	2X6	.202	0	17	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1

Envelope Wood Code Checks (Continued)

	Member	Shape	Code Check	Loc[...	LC	Shear...	Loc[...	LC	Fc' [k...	Ft' [ksi]	Fb' [k...	Fv' [k...	RB	CL	CP	Eqn
16	M17	4.5X5....	.380	1.896	17	.016	0	9	1.101	.756	1.194	.272	6.755	.995	.983	3.9-1
17	M18	4.5X5....	.305	0	9	.014	2.042	9	1.101	.756	1.194	.272	6.755	.995	.983	3.6.3
18	M19	2X6	.213	0	9	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
19	M20	2X6	.121	0	9	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
20	M21	2X6	.208	0	9	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
21	M22	2X6	.106	0	9	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
22	M23	2X6	.199	0	9	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
23	M24	2X6	.109	0	9	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
24	M25	2X6	.200	0	9	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
25	M26	2X6	.108	0	9	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
26	M27	2X6	.200	0	9	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
27	M28	2X6	.109	0	9	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
28	M29	2X6	.197	0	9	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
29	M30	2X6	.108	0	9	.000	0	18	1.51	1.186	1.856	.288	7.505	.991	.635	3.6.3
30	M31	2X6	.208	0	9	.000	0	18	.875	1.18	1.847	.288	9.018	.987	.368	3.9-1
31	M31A	4X12	.149	13.93	9	.162	14.0...	9	2.56	1.76	3.646	.424	11.97	.95	1	3.9-3

TALL WALL CALCULATIONS:

This spreadsheet is used for designing a stud wall according to the NDS.

Description:	15' Tall Wall	King Stud (5' Max Opening)	15' Trimmer	King Stud (4' Max Opening)	15' Trimmer	
Type:	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	
Species:	*DF-L*	*DF-L*	*DF-L*	*DF-L*	*DF-L*	
Grade:	*No. 2*	*No. 2*	*No. 2*	*No. 2*	*No. 2*	
Nominal width, t =	*(1) 2*	*(2) 2*	*(1) 2*	*(2) 2*	*(1) 2*	
Actual width =	1.50 in	3.00 in	1.50 in	3.00 in	1.50 in	
Nominal depth, d =	*6*	*6*	*6*	*6*	*6*	
Actual depth =	5.50 in	5.50 in	5.50 in	5.50 in	5.50 in	
Span, L =	*15.000 ft*	*15.000 ft*	*15.000 ft*	*15.000 ft*	*15.000 ft*	
w/o Plates	14.750 ft	14.750 ft	14.750 ft	14.750 ft	14.750 ft	
Stud spacing, s =	*16 in*	*40 in*	*16 in*	*34 in*	*16 in*	
Lat. Pressure, w_{wind} =	13.54 psf	13.54 psf	5.00 psf	13.54 psf	5.00 psf	
Axial load, P =	*560 lbs*	*50 lbs*	*1050 lbs*	*50 lbs*	*252 lbs*	
Eccentricity, e =	*0 in*	*0 in*	*0 in*	*0 in*	*0 in*	
K_{cE} =	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	
c =	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	
w =	18.0 plf	45.4 plf	6.7 plf	38.6 plf	6.7 plf	
Fb	900 psi	900 psi	900 psi	900 psi	900 psi	
Fv	180 psi	180 psi	180 psi	180 psi	180 psi	
Fc-prll	1,350 psi	1,350 psi	1,350 psi	1,350 psi	1,350 psi	
Fc-perp	625 psi	625 psi	625 psi	625 psi	625 psi	
C_d	*1.60*	*1.60*	*1.15*	*1.60*	*1.15*	
$C_{F,Fb}$	*1.30*	*1.30*	*1.30*	*1.30*	*1.30*	
$C_{F,Fcprll}$	*1.10*	*1.10*	*1.10*	*1.10*	*1.10*	
C_r	*1.15*	*1.00*	*1.00*	*1.00*	*1.00*	
C_p	0.19	0.19	0.25	0.19	0.25	
C_H	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	
C_b	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*	
E	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi	
Emin	580,000 psi	580,000 psi	580,000 psi	580,000 psi	580,000 psi	
Allowable Stress:						
F'_b = $F_b C_d C_F C_r$ =	**2153 psi**	**1872 psi**	**1346 psi**	**1872 psi**	**1346 psi**	
F'_v = $F'_v C_d C_H$ =	**288 psi**	**288 psi**	**207 psi**	**288 psi**	**207 psi**	
F^*_c = $F_c C_d C_F$ =	2376 psi	2376 psi	1708 psi	2376 psi	1708 psi	
F_{cE} = $(K_{cE} E')/(l_e/d)2$ =	463 psi	463 psi	463 psi	463 psi	463 psi	
F'_c = $F_c C_d C_F C_p$ =	**443 psi**	**443 psi**	**434 psi**	**443 psi**	**434 psi**	
$F'_{c\,perp}$ = $F_{c\,perp}$ Cb =	**668 psi**	**668 psi**	**668 psi**	**668 psi**	**668 psi**	
E' = E =	**1600000 psi**	**1600000 psi**	**1600000 psi**	**1600000 psi**	**1600000 psi**	
F_{bE} =	**1609 psi**	**6435 psi**	**1609 psi**	**6435 psi**	**1609 psi**	
Slenderness Ratio:	**< 50 OK**	**< 50 OK**	**< 50 OK**	**< 50 OK**	**< 50 OK**	
R_B =	**21**	**10**	**21**	**10**	**21**	
Bending:	**< F'b OK**	**< F'b OK**	**< F'b OK**	**< F'b OK**	**< F'b OK**	
M = $w L^2/8 + P e/12$ =	491 ft-lbs	1235 ft-lbs	181 ft-lbs	1051 ft-lbs	181 ft-lbs	
f_b = M/S =	**779 psi**	**980 psi**	**288 psi**	**834 psi**	**288 psi**	
S =	8 in³	15 in³	8 in³	15 in³	8 in³	
Shear:	**< F'v OK**	**< F'v OK**	**< F'v OK**	**< F'v OK**	**< F'v OK**	
V = w L/2 =	133 lbs	335 lbs	49 lbs	285 lbs	49 lbs	
f_v = 1.5 V/A =	**24 psi**	**30 psi**	**9 psi**	**26 psi**	**9 psi**	
A =	8 in²	17 in²	8 in²	17 in²	8 in²	
Compression:	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**	
f_c = P/A =	**68 psi**	**3 psi**	**127 psi**	**3 psi**	**31 psi**	
Compression (perp.):	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**	
$f_{c\,perp}$ = P/A =	**68 psi**	**3 psi**	**127 psi**	**3 psi**	**31 psi**	
Combined:	**< 1.0 OK**					
(fc/Fc)2 + {fb/[Fb(1-(fc/FcE)]} =	0.45					
Deflection:	**> 180 OK**	**> 180 OK**	**> 180 OK**	**> 180 OK**	**> 180 OK**	
D = $22.5\ w L^4/E' I$ =	**0.58 in**	**0.73 in**	**0.21 in**	**0.62 in**	**0.21 in**	
I =	21 in^4	42 in^4	21 in^4	42 in^4	21 in^4	
SPAN /	**306**	**244**	**830**	**286**	**830**	

TALL WALL CALCULATIONS:

This spreadsheet is used for designing a stud wall according to the NDS.

Description:	**13' Tall Wall**	**King Stud (16' Max Opening)**	**13' Trimmer**	**12' Tall Wall**	**King Stud (4' Max Opening)**	**12' Trimmer**
Type:	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*
Species:	*DF-L*	*DF-L*	*DF-L*	*DF-L*	*DF-L*	*DF-L*
Grade:	*No. 2*	*No. 2*	*No. 2*	*No. 2*	*No. 2*	*No. 2*
Nominal width, t =	*(1) 2*	*(3) 2*	*(1) 2*	*(1) 2*	*(1) 2*	*(1) 2*
Actual width =	1.50 in	4.50 in	1.50 in	1.50 in	1.50 in	1.50 in
Nominal depth, d =	*6*	*6*	*6*	*6*	*6*	*6*
Actual depth =	5.50 in	5.50 in	5.50 in	5.50 in	5.50 in	5.50 in
Span, L =	*13.000 ft*	*13.000 ft*	*13.000 ft*	*12.000 ft*	*12.000 ft*	*12.000 ft*
w/o Plates	12.750 ft	12.750 ft	12.750 ft	11.750 ft	11.750 ft	11.750 ft
Stud spacing, s =	*16 in*	*106 in*	*16 in*	*16 in*	*34 in*	*16 in*
Lat. Pressure, w_{wind} =	13.54 psf	13.54 psf	5.00 psf	13.54 psf	13.54 psf	5.00 psf
Axial load, P =	*560 lbs*	*50 lbs*	*3360 lbs*	*947 lbs*	*50 lbs*	*1421 lbs*
Eccentricity, e =	*0 in*	*0 in*	*0 in*	*0 in*	*0 in*	*0 in*
K_{cE} =	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
c =	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*
w =	18.0 plf	119.9 plf	6.7 plf	18.0 plf	38.6 plf	6.7 plf
Fb	900 psi	900 psi	900 psi	900 psi	900 psi	900 psi
Fv	180 psi	180 psi	180 psi	180 psi	180 psi	180 psi
Fc-prll	1,350 psi	1,350 psi	1,350 psi	1,350 psi	1,350 psi	1,350 psi
Fc-perp	625 psi	625 psi	625 psi	625 psi	625 psi	625 psi
C_d	*1.60*	*1.60*	*1.15*	*1.60*	*1.60*	*1.15*
$C_{F,Fb}$	*1.30*	*1.30*	*1.30*	*1.30*	*1.30*	*1.30*
$C_{F,Fcprll}$	*1.10*	*1.10*	*1.10*	*1.10*	*1.10*	*1.10*
C_r	*1.15*	*1.00*	*1.00*	*1.15*	*1.00*	*1.00*
C_p	0.25	0.25	0.33	0.28	0.28	0.38
C_H	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*6.00*
C_b	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*
E	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi
Emin	580,000 psi	580,000 psi	580,000 psi	580,000 psi	580,000 psi	580,000 psi
Allowable Stress:						
F'_b = $F_b C_d C_F C_r$ =	**2153 psi**	**1872 psi**	**1346 psi**	**2153 psi**	**1872 psi**	**1346 psi**
F'_v = $F'_v C_d C_H$ =	**288 psi**	**288 psi**	**207 psi**	**288 psi**	**288 psi**	**1242 psi**
F^*_c = $F_c C_d C_F$ =	2376 psi	2376 psi	1708 psi	2376 psi	2376 psi	1708 psi
F_{cE} = $(K_{cE} E')/(l_e/d)2$ =	620 psi	620 psi	620 psi	730 psi	730 psi	730 psi
F'_c = $F_c C_d C_F C_p$ =	**582 psi**	**582 psi**	**565 psi**	**676 psi**	**676 psi**	**650 psi**
$F'_{c\,perp}$ = $F_{c\,perp}$ Cb =	**668 psi**	**668 psi**	**668 psi**	**668 psi**	**668 psi**	**668 psi**
E' = E =	**1600000 psi**	**1600000 psi**	**1600000 psi**	**1600000 psi**	**1600000 psi**	**1600000 psi**
F_{bE} =	**1861 psi**	**16749 psi**	**1861 psi**	**2019 psi**	**2019 psi**	**2019 psi**
Slenderness Ratio:	**≤ 50 OK**	**≤ 50 OK**	**≤ 50 OK**	**≤ 50 OK**	**≤ 50 OK**	**≤ 50 OK**
R_B =	**19**	**6**	**19**	**19**	**19**	**19**
Bending:	**≤ F'b OK**	**≤ F'b OK**	**≤ F'b OK**	**≤ F'b OK**	**≤ F'b OK**	**≤ F'b OK**
M = $w L^2/8 + P e/12$ =	367 ft-lbs	2436 ft-lbs	135 ft-lbs	311 ft-lbs	667 ft-lbs	115 ft-lbs
f_b = M/S =	**582 psi**	**1288 psi**	**215 psi**	**494 psi**	**1058 psi**	**183 psi**
S =	8 in³	23 in³	8 in³	8 in³	8 in³	8 in³
Shear:	**≤ F'v OK**	**≤ F'v OK**	**≤ F'v OK**	**≤ F'v OK**	**≤ F'v OK**	**≤ F'v OK**
V = w L/2 =	115 lbs	764 lbs	43 lbs	106 lbs	227 lbs	29 lbs
f_v = 1.5 V/A =	**21 psi**	**46 psi**	**8 psi**	**19 psi**	**41 psi**	**5 psi**
A =	8 in²	25 in²	8 in²	8 in²	8 in²	8 in²
Compression:	**≤ F'c OK**	**≤ F'c OK**	**≤ F'c OK**	**≤ F'c OK**	**≤ F'c OK**	**≤ F'c OK**
f_c = P/A =	**68 psi**	**2 psi**	**407 psi**	**115 psi**	**6 psi**	**172 psi**
Compression (perp.):	**≤ F'c OK**	**≤ F'c OK**	**≤ F'c OK**	**≤ F'c OK**	**≤ F'c OK**	**≤ F'c OK**
$f_{c\,perp}$ = P/A =	**68 psi**	**2 psi**	**407 psi**	**115 psi**	**6 psi**	**172 psi**
Combined:	**≤ 1.0 OK**			**≤ 1.0 OK**		
(fc/Fc)2 + {fb/[Fb(1-(fc/FcE)]} =	0.32			0.30		
Deflection:	**≥ 180 OK**	**≥ 180 OK**	**≥ 180 OK**	**≥ 180 OK**	**≥ 180 OK**	**≥ 180 OK**
D = $22.5 w L^4/E' I$ =	**0.32 in**	**0.71 in**	**0.12 in**	**0.23 in**	**0.50 in**	**0.09 in**
I =	21 in^4	62 in^4	21 in^4	21 in^4	21 in^4	21 in^4
SPAN /	**474**	**214**	**1284**	**606**	**283**	**1641**

SNAKE RIVER ENGINEERING
524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

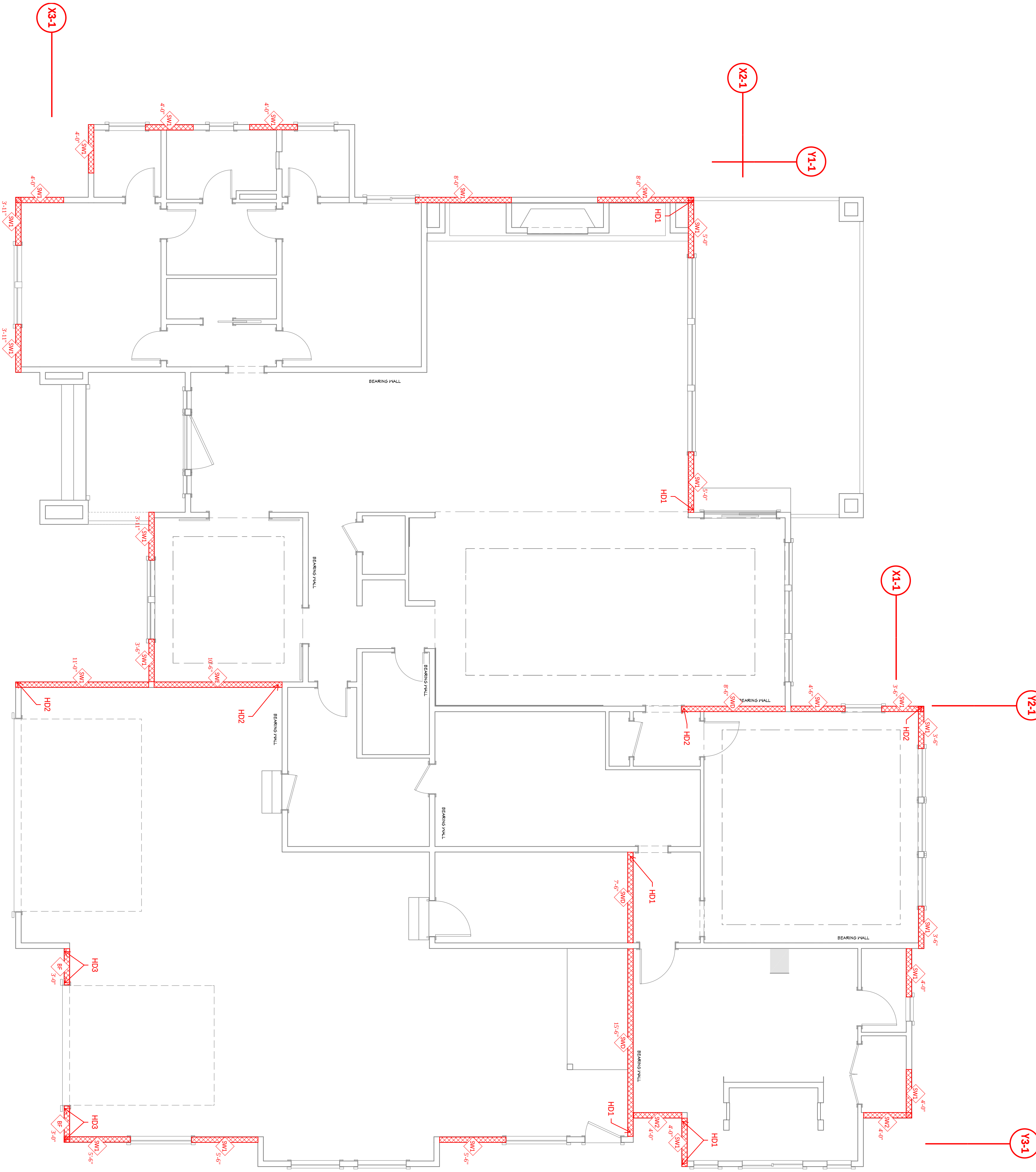
Completed by: JDJ
Review/Check: KKJ

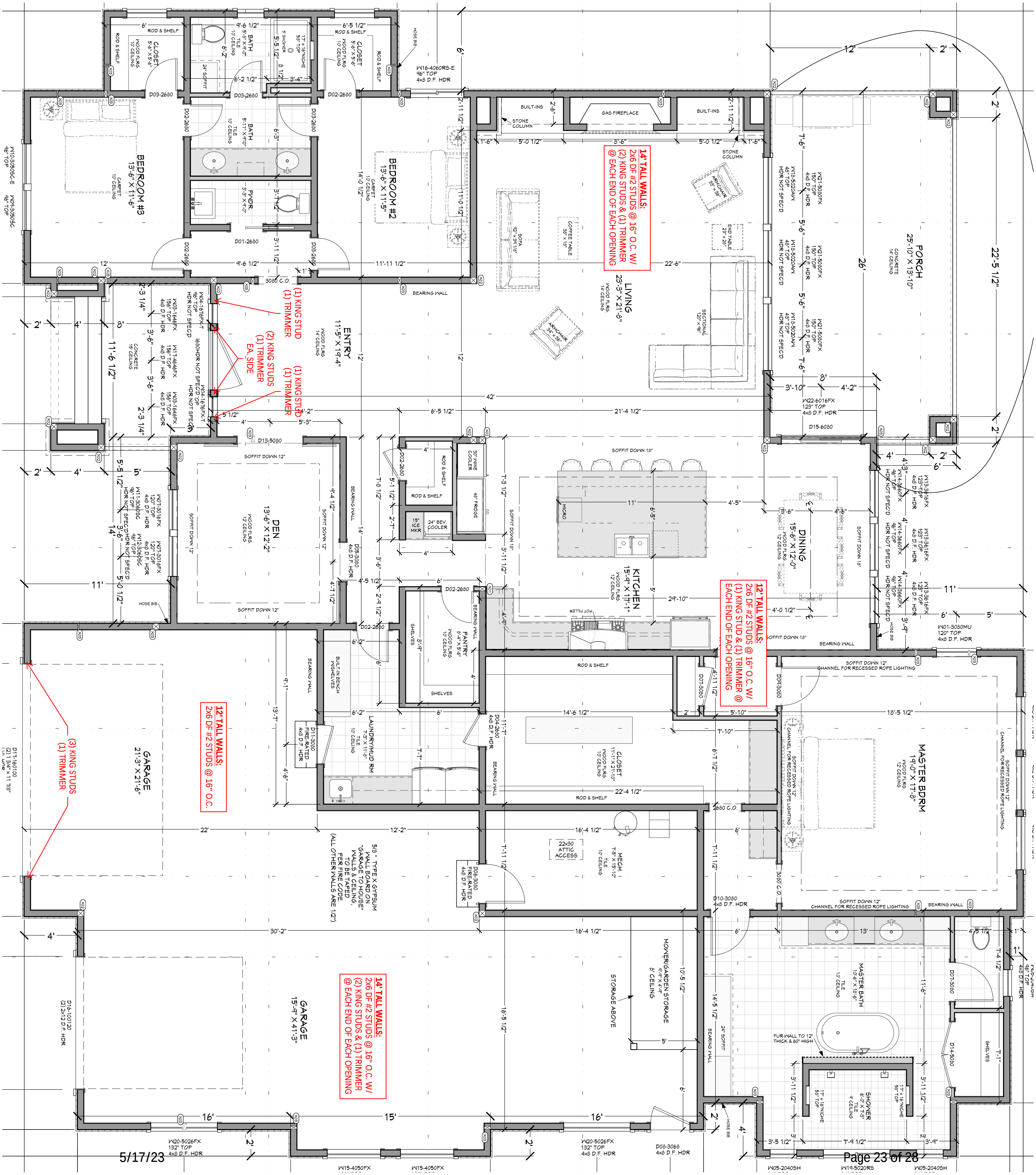
Project Name: Holsam Residence
SRE Project #: 2023-5250
City and State: Eagle, Idaho

TALL WALL CALCULATIONS:

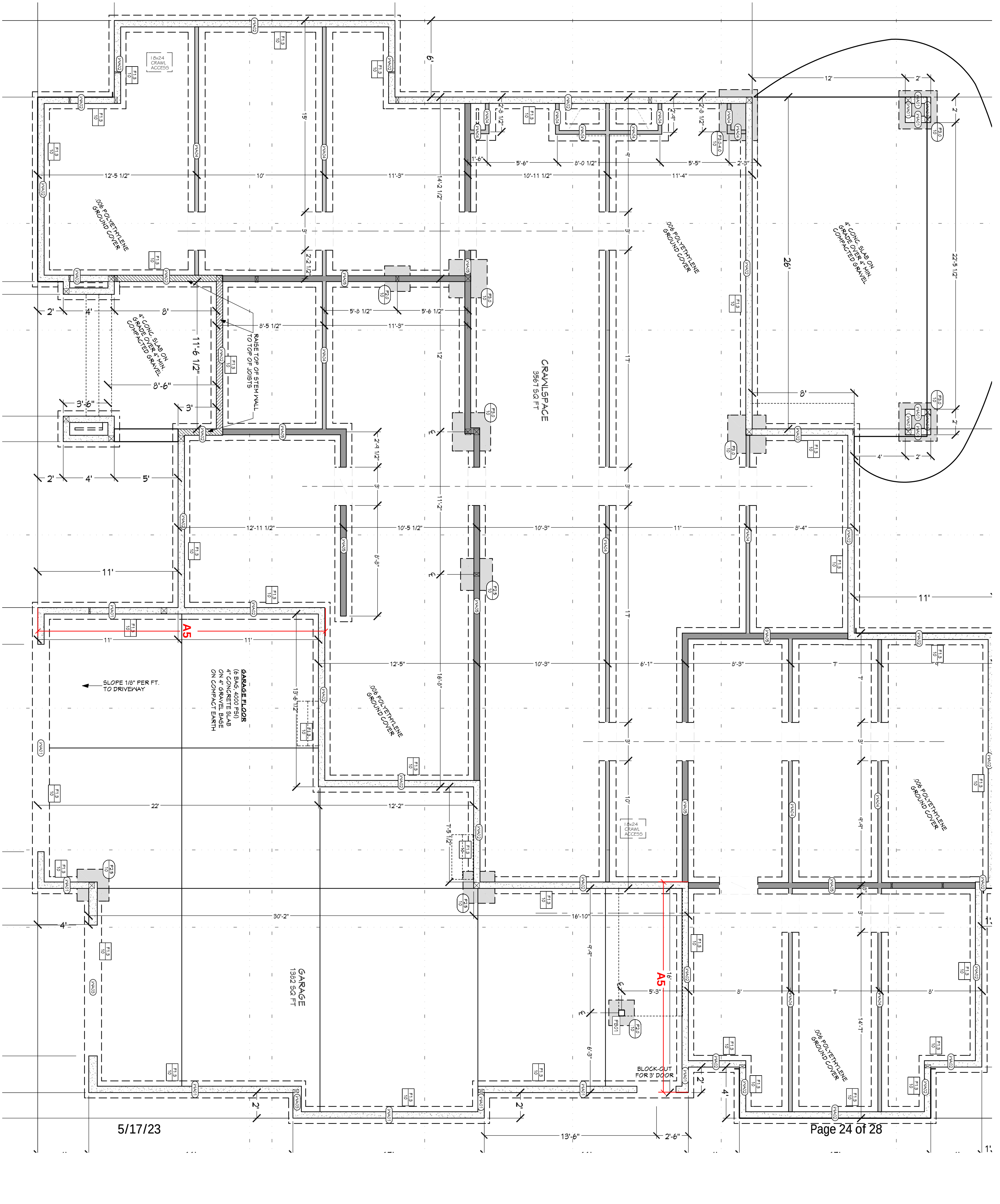
This spreadsheet is used for designing a stud wall according to the NDS.

Description:	14' Tall Wall	King Stud (5' Max Opening)	14' Trimmer	King Stud (4.5' Max Opening)	King Stud (1.5' Max Opening)	King Stud (6.5' Max Opening)
Type:	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*	*2x Lumber (2"-4")*
Species:	*DF-L*	*DF-L*	*DF-L*	*DF-L*	*DF-L*	*DF-L*
Grade:	*No. 2*	*No. 2*	*No. 2*	*No. 2*	*No. 2*	*No. 2*
Nominal width, t =	*(1) 2*	*(2) 2*	*(1) 2*	*(2) 2*	*(1) 2*	*(2) 2*
Actual width =	1.50 in	3.00 in	1.50 in	3.00 in	1.50 in	3.00 in
Nominal depth, d =	*6*	*6*	*6*	*6*	*6*	*6*
Actual depth =	5.50 in	5.50 in	5.50 in	5.50 in	5.50 in	5.50 in
Span, L =	*14.000 ft*	*14.000 ft*	*14.000 ft*	*14.000 ft*	*14.000 ft*	*14.000 ft*
w/o Plates	13.750 ft	13.750 ft	13.750 ft	13.750 ft	13.750 ft	13.750 ft
Stud spacing, s =	*16 in*	*40 in*	*16 in*	*37 in*	*19 in*	*49 in*
Lat. Pressure, w_{wind} =	13.54 psf	13.54 psf	5.00 psf	13.54 psf	13.54 psf	13.54 psf
Axial load, P =	*840 lbs*	*50 lbs*	*1575 lbs*	*50 lbs*	*50 lbs*	*50 lbs*
Eccentricity, e =	*0 in*	*0 in*	*0 in*	*0 in*	*0 in*	*0 in*
K_{cE} =	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
c =	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*
w =	18.0 plf	45.4 plf	6.7 plf	42.0 plf	21.7 plf	55.6 plf
Fb	900 psi	900 psi	900 psi	900 psi	900 psi	900 psi
Fv	180 psi	180 psi	180 psi	180 psi	180 psi	180 psi
Fc-prll	1,350 psi	1,350 psi	1,350 psi	1,350 psi	1,350 psi	1,350 psi
Fc-perp	625 psi	625 psi	625 psi	625 psi	625 psi	625 psi
C_d	*1.60*	*1.60*	*1.15*	*1.60*	*1.60*	*1.60*
$C_{F,Fb}$	*1.30*	*1.30*	*1.30*	*1.30*	*1.30*	*1.30*
$C_{F,Fcprll}$	*1.10*	*1.10*	*1.10*	*1.10*	*1.10*	*1.10*
C_r	*1.15*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
C_p	0.21	0.21	0.29	0.21	0.21	0.21
C_H	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*6.00*
C_b	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*	*1.07*
E	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi
Emin	580,000 psi	580,000 psi	580,000 psi	580,000 psi	580,000 psi	580,000 psi
Allowable Stress:						
F'_b = $F_b C_d C_F C_r$ =	**2153 psi**	**1872 psi**	**1346 psi**	**1872 psi**	**1872 psi**	**1872 psi**
F'_v = $F'_v C_d C_H$ =	**288 psi**	**288 psi**	**207 psi**	**288 psi**	**288 psi**	**1728 psi**
F^*_c = $F_c C_d C_F$ =	2376 psi	2376 psi	1708 psi	2376 psi	2376 psi	2376 psi
F_{cE} = $(K_{cE} E')/(l_e/d)2$ =	533 psi	533 psi	533 psi	533 psi	533 psi	533 psi
F'_c = $F_c C_d C_F C_p$ =	**506 psi**	**506 psi**	**493 psi**	**506 psi**	**506 psi**	**506 psi**
$F'_{c\,perp}$ = $F_{c\,perp}$ Cb =	**668 psi**	**668 psi**	**668 psi**	**668 psi**	**668 psi**	**668 psi**
E' = E =	**1600000 psi**	**1600000 psi**	**1600000 psi**	**1600000 psi**	**1600000 psi**	**1600000 psi**
F_{bE} =	**1726 psi**	**6902 psi**	**1726 psi**	**6902 psi**	**1726 psi**	**6902 psi**
Slenderness Ratio:	**< 50 OK**	**< 50 OK**	**< 50 OK**	**< 50 OK**	**< 50 OK**	**< 50 OK**
R_B =	**20**	**10**	**20**	**10**	**20**	**10**
Bending:	**< F'b OK**	**< F'b OK**	**< F'b OK**	**< F'b OK**	**< F'b OK**	**< F'b OK**
M = $w L^2/8 + P e/12$ =	427 ft-lbs	1073 ft-lbs	158 ft-lbs	993 ft-lbs	513 ft-lbs	1313 ft-lbs
f_b = M/S =	**677 psi**	**851 psi**	**250 psi**	**788 psi**	**814 psi**	**1042 psi**
S =	8 in³	15 in³	8 in³	15 in³	8 in³	15 in³
Shear:	**< F'v OK**	**< F'v OK**	**< F'v OK**	**< F'v OK**	**< F'v OK**	**< F'v OK**
V = w L/2 =	124 lbs	312 lbs	46 lbs	289 lbs	149 lbs	93 lbs
f_v = 1.5 V/A =	**23 psi**	**28 psi**	**8 psi**	**26 psi**	**27 psi**	**8 psi**
A =	8 in²	17 in²	8 in²	17 in²	8 in²	17 in²
Compression:	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**
f_c = P/A =	**102 psi**	**3 psi**	**191 psi**	**3 psi**	**6 psi**	**3 psi**
Compression (perp.):	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**	**< F'c OK**
$f_{c\,perp}$ = P/A =	**102 psi**	**3 psi**	**191 psi**	**3 psi**	**6 psi**	**3 psi**
Combined:	**< 1.0 OK**					
(fc/Fc)2 + {fb/[Fb(1-(fc/FcE)]} =	0.43					
Deflection:	**> 180 OK**	**> 180 OK**	**> 180 OK**	**> 180 OK**	**> 180 OK**	**> 180 OK**
D = $22.5\ w L^4/E' I$ =	**0.44 in**	**0.55 in**	**0.16 in**	**0.51 in**	**0.52 in**	**0.67 in**
I =	21 in^4	42 in^4	21 in^4	42 in^4	21 in^4	42 in^4
SPAN /	**378**	**301**	**1024**	**325**	**314**	**246**

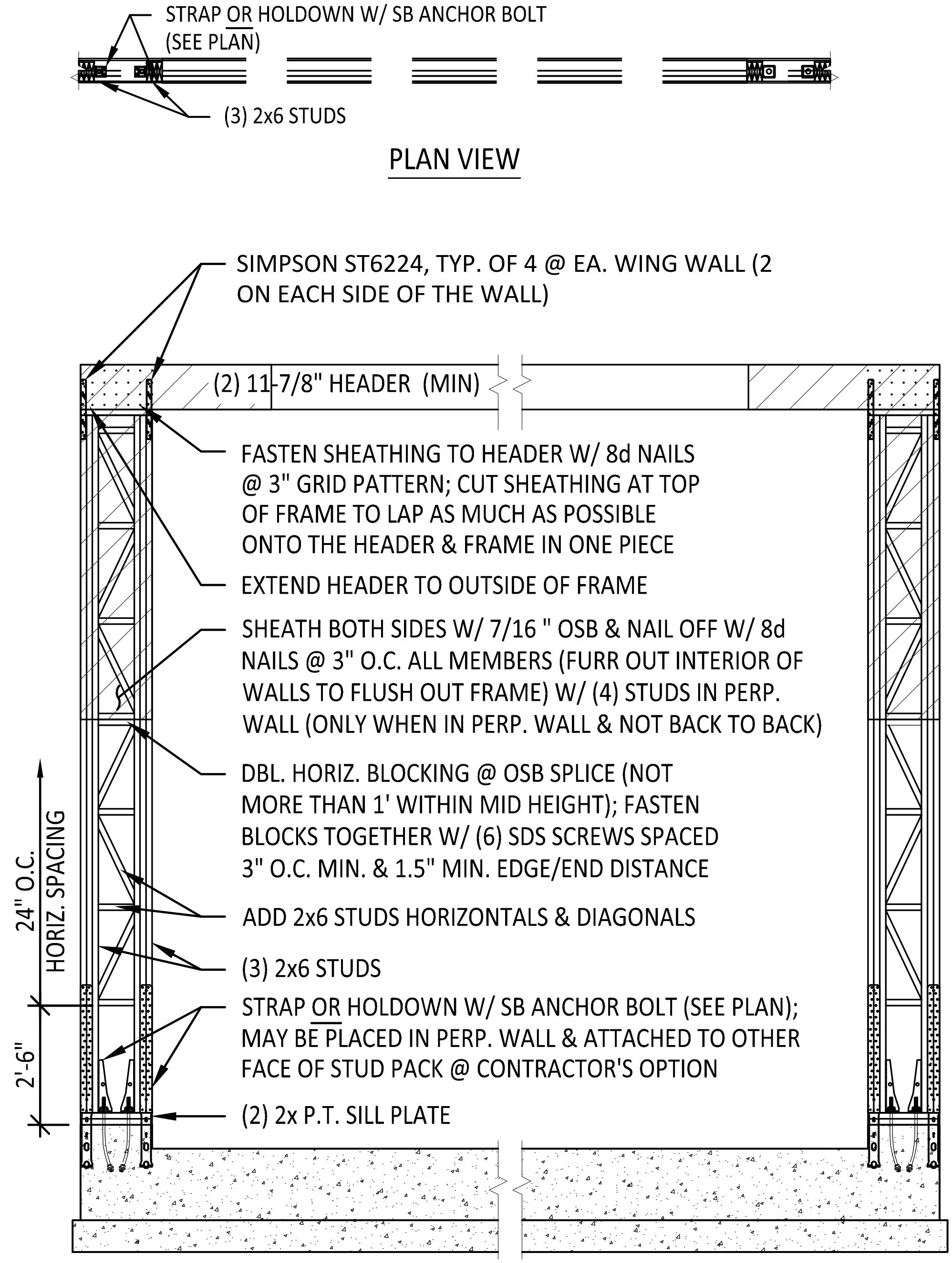

X3-1
X2-1
Y1-1
X1-1
Y2-1
Y3-1
SW1
SWD
SW2
HD1
HD2
HD3
BF
BEARING WALL



14' TALL WALLS:
2x6 DF #2 STUDS @ 16" O.C. W/
(2) KING STUDS & (1) TRIMMER
@ EACH END OF EACH OPENING
(1) KING STUD
(1) TRIMMER
(2) KING STUDS
(1) TRIMMER
EA. SIDE
12' TALL WALLS:
2x6 DF #2 STUDS @ 16" O.C. W/
(1) KING STUD & (1) TRIMMER @
EACH END OF EACH OPENING
12' TALL WALLS:
2x6 DF #2 STUDS @ 16" O.C.
(3) KING STUDS
(1) TRIMMER
BEDROOM #3
13'-6" X 11'-6"
BEDROOM #2
13'-6" X 11'-5"
LIVING
23'-3" X 21'-8"
PORCH
25'-10" X 13'-10"
ENTRY
11'-5" X 19'-4"
DEN
13'-6" X 12'-2"
KITCHEN
15'-4" X 17'-1"
DINING
15'-6" X 12'-0"
PANTRY
LAUNDRY/MUD RM
CLOSET
MECH
GARAGE
21'-3" X 21'-6"
GARAGE
15'-9" X 41'-3"
MASTER BDRM
19'-0" X 17'-8"
MASTER BATH
SHOWER
GAS FIREPLACE
BUILT-INS
BEARING WALL
MOWER/GARDEN STORAGE
STORAGE ABOVE
5/8" TYPE X GYPSUM WALL BOARD ON "GARAGE TO HOUSE" WALLS & CEILING TO BE TAPED PER FIRE CODE. (ALL OTHER WALLS ARE 1/2")

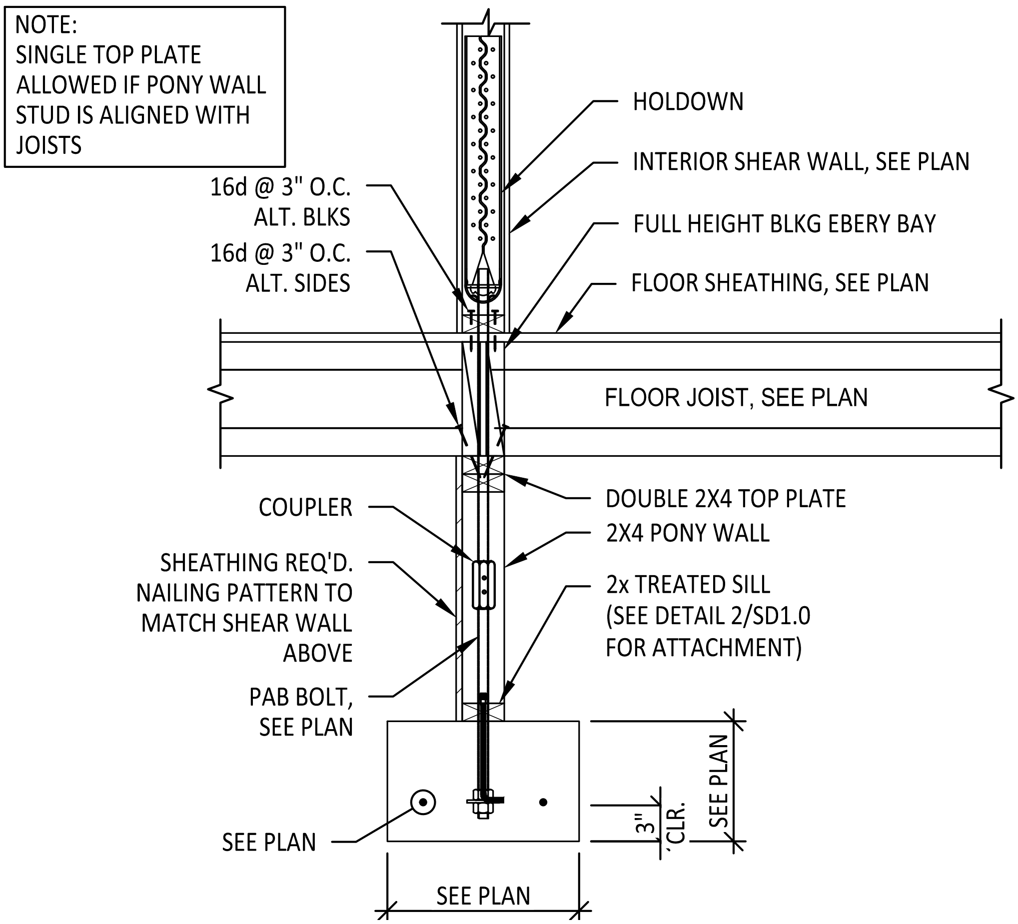


CRAWLSPACE
3567 SQ FT
GARAGE
1362 SQ FT
.006 POLYETHYLENE GROUND COVER
4" CONC. SLAB ON GRADE OVER 4" MIN COMPACTED GRAVEL
GARAGE FLOOR
(6 BAG, 4000 PSI)
4" CONCRETE SLAB
ON 4" GRAVEL BASE
ON COMPACT EARTH
SLOPE 1/8" PER FT. TO DRIVEWAY
RAISE TOP OF STEM WALL TO TOP OF JOISTS
18x24 CRAWL ACCESS
BLOCK-OUT FOR 3' DOOR
A5



ENGINEERED BRACE FRAME

OUTSIDE ELEVATION



9
SD1.0

TYP. INT. HOLD-DOWN DETAIL

SCALE: 3/4" = 1-0"

OSB SHEAR WALL SCHEDULE:

MARK	SHEATHING	SIDES OF WALL	SHEET NAILING PERIMETER / FIELD		SHEET STAPLING PERIMETER / FIELD	BLKG	NAILING (UNO) BOTTOM PLATE INTO RIM
SW1	7/16" APA RATED	1	8d @ 6 / 12	OR	16ga x 1-1/2" @ 3 / 12	YES	(2) 16d NAILS PER 16" BAY
SW2	7/16" APA RATED	1	8d @ 4 / 12	OR	16ga x 1-1/2" @ 2 / 12	YES	(3) 16d NAILS PER 16" BAY
BF	7/16" APA RATED	2	8d @ 3 / 3		ENGINEERED BRACE FRAME ASSEMBLY	YES	(SEE ATTACHED DETAIL)

GYP. SHEAR WALL SCHEDULE:

MARK	SHEATHING	SIDES OF WALL	SHEET NAILING PERIMETER / FIELD		SHEET STAPLING PERIMETER / FIELD	BLKG	NAILING (UNO) BOTTOM PLATE INTO RIM
SWD	1/2" GYP. BOARD	2	5d COOLER @ 6 / 6			NO	(2) 16d NAILS PER 16" BAY
SWE	1/2" GYP. BOARD	2	5d COOLER @ 6 / 6			YES	(2) 16d NAILS PER 16" BAY
OR	1/2" GYP. BOARD	2	5d COOLER @ 4 / 4			NO	(2) 16d NAILS PER 16" BAY

TYP. NOTES:

1 ALL SHEATHING PANEL EDGES SHALL BE BLOCKED UNO
2 PROVIDE SAME NAILING PATTERN ABOVE AND BELOW OPENINGS AS ADJACENT SHEAR PANEL.
3 ALL EXTERIOR WALLS SHALL BE SHEARWALL "SW1" WITHOUT BLKG UNO
4 FASTEN GABLE/RIM TO SHEAR WALLS BELOW W/ 10d TOENAILS @ 12" O.C. UNO
5 FASTEN TRUSS HEELS TO SHEAR WALLS W/ H2.5A AND (2) 10d TOENAILS @ EACH
6 GYP BOARD SHEAR WALLS MAY BE SUBSTITUTED WITH AN SW1 SHEAR WALL @ CONTRACTOR'S OPTION
7 WALL SHEATHING CAN BE APPLIED TO EITHER SIDE OF THE WALL. (UNLESS NOTED OTHERWISE)

ANCHOR BOLT KEY NOTES:

A5	-	1/2"Ø ANCHOR BOLTS @ 60" O.C.

HOLDOWN SCHEDULE:

MARK	STRAP TYPE	STRAP FASTENERS	# OF STUDS		ANCHOR BOLT	# OF STUDS	FASTENERS
HD1	LSTHD8 OR LSTHD8RJ W/ RIM	(20) 16d SINKERS	2	OR	DTT2Z W/1/2Øx10"	2	(8) 1/4"x1-1/2" SDS
HD2	STHD10 OR STHD10RJ W/ RIM	(24) 16d SINKERS	2	OR	HDU2- SDS2.5 W/ SB5/8x24 OR PAB5 @ INT. PONY WALLS	2	(6) 1/4"x2-1/2" SDS
HD3	STHD14 OR STHD14RJ W/ RIM	(30) 16d SINKERS	2	OR	HDU5-SDS2.5 W/ SB5/8x24 OR PAB5 @ INT. PONY WALLS	2	(14) 1/4"x2-1/2" SDS