

PRRNSF20230918

STRUCTURAL ENGINEERING CALCULATIONS

The enclosed documents are to be used in conjunction with the plans referenced on the cover page. It is imperative that the contractor study and understand the engineering requirements and any required changes to the architectural plan prior to start of work. Modifications may include additional foundations or footings, beam and framing size, sheathing, etc.

<u>Scope of Engineering</u>: Engineering analysis and design to resist <u>lateral and gravity loads in</u> <u>accordance with the 2018 IBC</u> have been performed and incorporated into stamped "S" sheets. All analyses and calculations are included in this engineering report (see $8\frac{1}{2}x11$ pages). Engineering assumptions are listed below. If the conditions listed below are not present at the site, all calculations and stamped drawings are void and *Phillips Structural Engineering* must be contacted immediately for further consultation.

STRUCTURAL DESIGN CRITERIA AND LOADING: Building Code 2018 International Building Code (IBC)

EARTHQUAKE DESIGN DATA:

- -Risk Category = II
- Seismic Importance Factor (Ie) = 1.0
- Mapped Spectral Response Acceleration Parameters
 - Ss = 1.26
 - $-S_1 = 0.44$
- Seismic Design Category (SDC) = "D"
- Basic Seismic Force-Resisting System = Light-frame (wood) walls sheathed with wood structural panel rated for shear resistance
- Response Modification Factor (R) = 6.5
- Analysis Procedure Used = Equivalent Lateral Force

WIND DESIGN DATA:

- Basic Design Wind Speed (V) = 110 MPH
- Allowable Stress Design Wind Speed (Vasd) = 85 MPH
- Risk Category = II
- Wind Importance Factor (Iw) = 1.0
- Wind Exposure = "B"
- Topographical Effect (Kzt) = 1.00

ROOF LOADING:

- Dead Load = 15 PSF (No tile weight included)
- Roof Live Load (Lr) = 20PSF
- Typical Flat Roof Snow Load (Pf) = 25PSF
- Snow Exposure Factor (Ce) = 1.0
- Snow Load Importance Factor (Is) = 1.0
- **Typical roof snow load shall not be less than 25PSF

FLOOR LOADING:

- Dead Load = 12 PSF (Standard wood framing without heavy finish)
- Typical Residential Occupancy Live Loading (L) = 40 PSF
- Deck Live Load (L) = 60PSF (1.5x for area served)

SOILS CRITERIA	
Soils Consultant	None (U.N.O.)
Soils Report #	None (U.N.O.)
Minimum Allowable Pressure Required	1500 PSF (Verify w/ Site Condition
Frost Bearing Depth	18"
* See plans/detailing for other soils considerations	

ns)

PRRNSF20230918 City of Puyallup Development & Permitting Services ISUED PERMIT Building Planning Engineering Public Works Frie Traffic

A This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

1 The ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Wendy's 🖤

ATC Hazards by Location

Search Information

Address:	409 43rd Ave SW, Puyallup, WA 98373, USA		Men's Wearhouse 🤤
Coordinates:	47.151463999999999,-122.297448	9	440 ft
Elevation:	440 ft	17 19 19	The JPS Store
Timestamp:	2023-03-29T19:35:50.651Z		43rd Ave SW 43rd Ave St
Hazard Type:	Seismic	wallup School of Music 💡	🛛 Boei Shido Martial Arts 🔤 📢
Reference Document:	ASCE7-16	Google	Map data ©2023 Report a map error
Risk Category:	II		
Site Class:	D-default		

Basic Parameters

Name	Value	Description
SS	1.262	MCE _R ground motion (period=0.2s)
S ₁	0.436	MCE _R ground motion (period=1.0s)
S _{MS}	1.515	Site-modified spectral acceleration value
S _{M1}	* null	Site-modified spectral acceleration value
S _{DS}	1.01	Numeric seismic design value at 0.2s SA
S _{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* nu li	Seismic design category
Fa	1.2	Site amplification factor at 0.2s
Fv	* nu ll	Site amplification factor at 1.0s
CRS	0.914	Coefficient of risk (0.2s)
CR ₁	0.898	Coefficient of risk (1.0s)
PGA	0.5	MCE _G peak ground acceleration
F _{PGA}	1.2	Site amplification factor at PGA
PGA _M	0.6	Site modified peak ground acceleration
TL	6	Long-period transition period (s)
SsRT	1.262	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.381	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.436	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.485	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

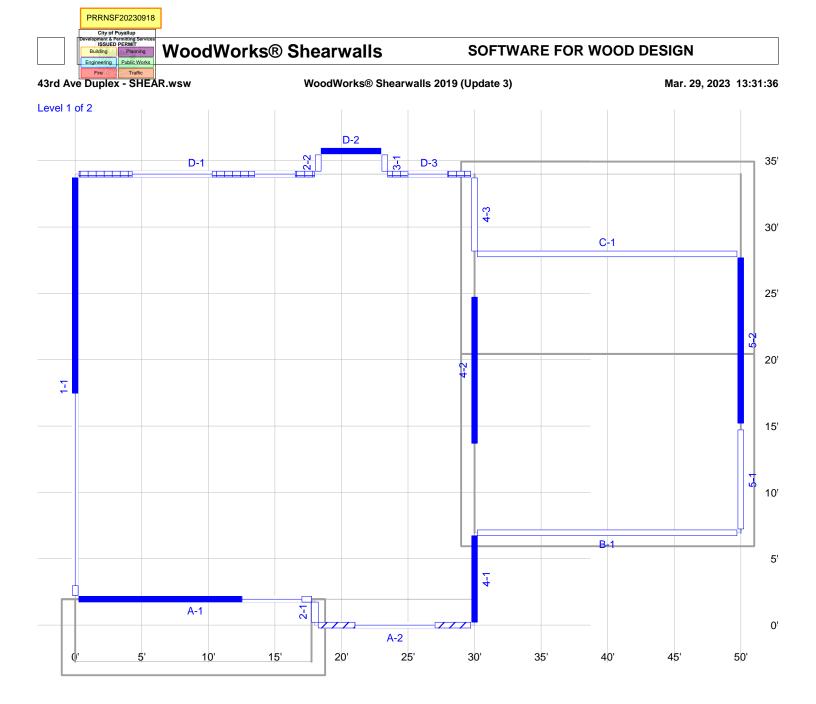
The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

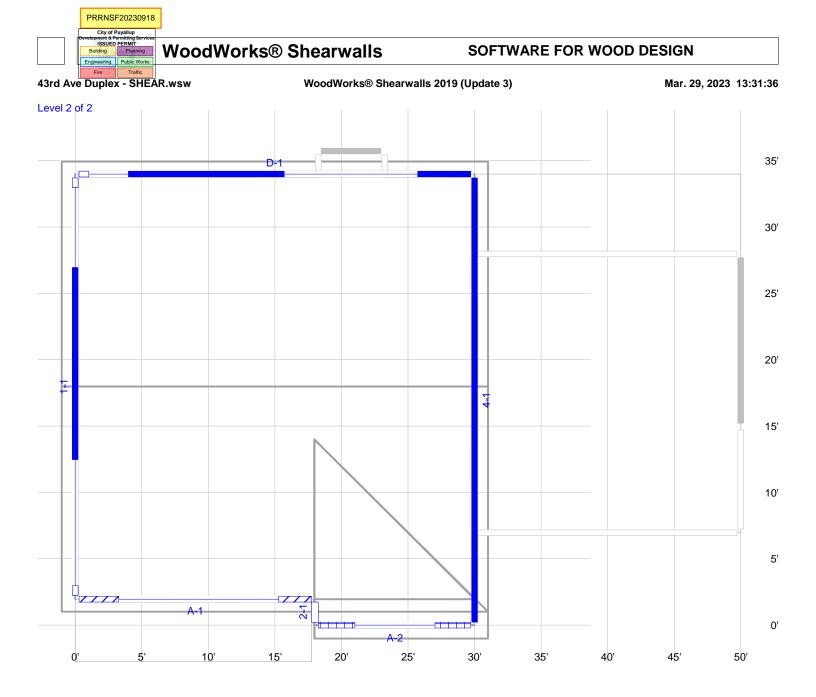
Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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Orange = Selected wall(s) 4 of 42



Orange = Selected wall(s) 5 of 42

PRRNSF20230918

City of Pu

WoodWorks® Shearwalls

SOFTWARE FOR WOOD DESIGN

WoodWorks® Shearwalls 2019 (Update 3)

43rd Ave Duplex - SHEAR.wsw

Mar. 29, 2023 14:14:48

Project Information

COMPANY AND PROJECT INFORMATION	
Company	Project
Phillips Structural Engineering	
PO Box 108	
Milton, WA 98354	

DESIGN SETTINGS

	n Code		ind Standard		Se	ismic Standard		
IBC 2018/AW	C SDPWS 2015	ASCE 7-16 Dir	ectional (All	ASCE 7-16				
	Load Co	ombinations			Building Code Ca	pacity Modification		
or Design (ASD)		For Deflection (Stre	ngth)	Wind	Seismic			
0.70 Seismic		1.00 Seismic	- /		1.00	1.00		
0.60 Wind		1.00 Wind						
	Service Condition	ns and Load Duration			Max Shearv	vall Offset [ft]		
Duration	Temperature	Moistur	re Content		Plan	Elevation		
Factor	Range	Fabrication	tion Service		(within story)	(between stories)		
-	-	-	-		4.00	3.75		
		Maximum	Height-to-width R	latio				
Wood p	anels	Fiberboard	Lumber	r		Gypsum		
Wind	Seismic		Wind	Seismic	Blocked	Unblocked		
3.5	3.5	-	-	-	-	-		
Ignor	re non-wood-panel s	hear resistance contrib	ution		Forces b	ased on		
- W	/ind	Sei	smic	н	lold-downs Ag	pplied loads		
Ne	ever	Alv	ways		Drag struts Ag	pplied loads		
	Sh	earwall relative rigidity:	Wall capacity	7				
	Perforat	ed shearwall Co factor:	SDPWS Equation	on 4.3-5				
Non-identical n	naterials and constru	uction on the shearline:	Not allowed					
		Deflection Equation:	No deflection	n analysis				
	Dri	ft limit for wind design:	1 / 500 story	/ height				
		Force-transfer strap:	· Continuous at	top of h	ighest opening	and bottom of lowe		

SITE INFORMATION

ASCE 7-16 Dire	Wind ctional (All he	aights)	Seismic ASCE 7-16 12.8 Equivalent Lateral Force Procedure						
	110 mph			Category II - All othe					
Design Wind Speed	-		Risk Category	Regular	.15				
Serviceability Wind Speed Exposure	100 mph Exposure B		Structure Type Building System	Bearing Wall					
Enclosure Partially enclosed			Design Category	D					
Min Wind Loads: Walls 16 psf			Site Class	D					
Roofs	8 psf		Spectral Response Acceleration						
Topograp	hic Information [ft]		S1: 0.440g Ss: 1.260g						
Shape	Height	Length	Fundamental Period	E-W	N-S				
_	_	_	T Used	0.202s	0.202s				
Site Location: -			Approximate Ta	0.202s	0.202s				
E	lev: Oft		Maximum T	0.283s	0.283s				
Rigid buildin	ng - Static ana	lysis	Response Factor R	6.50	6.50				
Case 2	E-W loads	N-S loads	Fa: 1.20	Fv: 1.8	б				
Eccentricity (%)	15	15							
Loaded at	75%								



Structural Data

STORY INFORMATION

	Story Elev [ft]	Floor/Ceiling Depth [in]	Wall Height [ft]
Ceiling	21.44	0.0	
Level 2	13.44	1'-6.0	8.00
Level 1	2.94	11.3	9.00
Foundation	2.00		

BLOCK and ROOF INFORMATION

	Block		Roof Panels							
	Dimensions [ft]		Face	Туре	Slope	Overhang [ft]				
Block 1	2 Story	E-W Ridge								
Location X,Y =	0.00	2.00	North	Side	23.0	1.00				
Extent X,Y =	30.00	32.00	South	Side	23.0	1.00				
Ridge Y Location, Offset	18.00	0.00	East	Gable	90.0	1.00				
Ridge Elevation, Height	28.23	6.79	West	Gable	90.0	1.00				
Block 2	2 Story	N-S Ridge								
Location X,Y =	18.00	0.00	North	Joined	157.0	1.00				
Extent X,Y =	12.00	2.00	South	Gable	90.0	1.00				
Ridge X Location, Offset	18.00	-6.00	East	Side	23.0	1.00				
Ridge Elevation, Height	26.53	5.09	West	Side	90.0	1.00				
Block 3	1 Story	E-W Ridge								
Location X,Y =	30.00	7.00	North	Side	27.0	1.00				
Extent X,Y =	20.00	27.00	South	Side	27.0	1.00				
Ridge Y Location, Offset	20.50	0.00	East	Gable	90.0	1.00				
Ridge Elevation, Height	20.32	6.88	West	Gable	90.0	1.00				
Block 4	1 Story	E-W Ridge								
Location X,Y =	0.00	-2.75	North	Side	90.0	1.00				
Extent X,Y =	17.75	4.75	South	Side	23.0	1.00				
Ridge Y Location, Offset	2.00	2.38	East	Gable	90.0	1.00				
Ridge Elevation, Height	15.45	2.02	West	Gable	90.0	1.00				

PRRNSF20230918

WoodWorks® Shearwalls

SHEATHING MATERIALS by WALL GROUP

Sheathing								Fa	stene	rs			Apply		
Grp	Surf	Material	Ratng	Thick	GU	Ply	Or	Gvtv	Size	Туре	Df	Eg	Fd	Bk	Notes
				in	in			lbs/in				in	in		
1	Ext	Struct Sh OSB	24/16	7/16	-	-	Vert	83500	8d	Nail	Ν	6	12	Y	1,3
2	Ext	Struct Sh OSB	24/16	7/16	-	-	Vert	83500	8d	Nail	Ν	4	12	Y	1,2,3

Legend:

Grp – Wall Design Group number, used to reference wall in other tables (created by program)

Surf - Exterior or interior surface when applied to exterior wall

Ratng – Span rating, see SDPWS Table C4.2.2.2C

Thick – Nominal panel thickness

GU - Gypsum underlay thickness

Ply – Number of plies (or layers) in construction of plywood sheets

Or – Orientation of longer dimension of sheathing panels

Gvtv - Shear stiffness in Ib/in. of depth from SDPWS Tables C4.2.2A-B

Type – Fastener type from SDPWS[•] Tables 4.3A-D: Nail – common wire nail for structural panels and lumber, cooler or gypsum wallboard nail for GWB, plasterboard nail for gypsum lath, galvanised nail for gypsum sheathing; Box - box nail; Casing – casing nail; Roof – roofing nail; Screw – drywall screw

Size - Common, box, and casing nails: refer to SDPWS Table A1 (casing sizes = box sizes).

Gauges: $11 \text{ ga} = 0.120^{\circ} \times 1-3/4^{\circ}$ (gypsum sheathing, 25/32" fiberboard), $1-1/2^{\circ}$ (lath & plaster, $1/2^{\circ}$ fiberboard); 13 ga plasterboard = $0.92^{\circ} \times 1-1/8^{\circ}$.

Cooler or gypsum wallboard nail: $5d = .086" \times 1-5/8"$; $6d = .092" \times 1-7/8"$; $8d = .113" \times 2-3/8"$; 6/8d = 6d base ply, 8d face ply for 2-ply GWB. Drywall screws: No. 6, 1-1/4" long.

5/8" gypsum sheathing can also use 6d cooler or GWB nail

Df - Deformed nails (threaded or spiral), with increased withdrawal capacity

Eg - Panel edge fastener spacing

Fd – Field spacing interior to panels

Bk – Sheathing is nailed to blocking at all panel edges; Y(es) or N(o)

Apply Notes - Notes below table legend which apply to sheathing side

Notes:

1. Capacity has been reduced for framing specific gravity according to SDPWS T4.3A Note 3.

2. Framing at adjoining panel edges must be 3" nominal or wider with staggered nailing according to SDPWS 4.3.7.1.4

3. Shear capacity for current design has been increased to the value for 15/32" sheathing with same nailing because stud spacing is 16" max. or panel orientation is horizontal. See SDPWS T4.3A Note 2.

FRAMING MATERIALS and STANDARD WALL by WALL GROUP

Wall	Species	Grade	b	d	Spcg	SG	E	Standard Wall
Grp			in	in	in		psi^6	
1	Hem-Fir	No.2	1.50	5.50	16	0.43	1.30	
2	Hem-Fir	No.2	1.50	5.50	16	0.43	1.30	

Legend:

Wall Grp – Wall Design Group

b – Stud breadth (thickness)

d - Stud depth (width)

Spcg – Maximum on-centre spacing of studs for design, actual spacing may be less.

SG – Specific gravity

E – Modulus of elasticity

Standard Wall - Standard wall designed as group.

Notes:

Check manufacture requirements for stud size, grade and specific gravity (G) for all shearwall hold-downs.

SHEARLINE, WALL and OPENING DIMENSIONS

North-south	Type	Wall	Location	Exten	+ [f+]	Length	FHS	Aspect	Height
Shearlines	Type	Group	X [ft]	Start	End	[ft]	[ft]	Ratio	[ft]
Line 1		Group		Start	Enu	րդ	րց	Kalio	լպ
Level 2		-	0.00	0 00	24.00	20.00	14 50		0 00
Line 1	-	1	0.00	2.00	34.00	32.00	14.50	-	8.00
Wall 1-1	Seg	1	0.00	2.00	34.00	32.00	14.50	-	-
Segment 1		-	-	2.00	3.00	1.00	-	8.00	-
Opening 1		-	-	3.00	12.50	9.50	-	-	4.00
Segment 2		-	-	12.50	27.00	14.50	-	0.55	-
Opening 2		-	-	27.00	33.00	6.00	-	-	4.00
Segment 3		-	-	33.00	34.00	1.00	-	8.00	-
Level 1									
Line 1		1	0.00	2.00	34.00	32.00	16.50	-	9.00
Wall 1-1	Seg	1	0.00	2.00	34.00	32.00	16.50	-	-
Segment 1		-	-	2.00	3.00	1.00	-	9.00	-
Opening 1		-	-	3.00	17.50	14.50	-	-	4.00
Segment 2		-	-	17.50	34.00	16.50	-	0.55	-
Line 2									
Level 2									
Line 2	NSW		18.00	0.00	35.75	35.75	0.00	-	8.00
Wall 2-1	NSW		18.00	0.00	2.00	2.00	0.00	1.00	-
	100		10.00	0.00	2.00	2.00	0.00	1.00	
Line 2			18.00	0.00	35.75	35.75	0.00	_	9.00
Wall 2-1	NICILI		18.00	0.00	2.00	2.00	0.00	1.00	
Wall 2-1 Wall 2-2	NSW		18.00	34.00	2.00 35.75	2.00 1.75	0.00	1.00	-
	NSW		18.25	34.00	35.75	1./5	0.00	1.00	-
Line 3									
Level 1									
Line 3	NSW		23.25	34.00	35.75	1.75	0.00	-	9.00
Wall 3-1	NSW		23.25	34.00	35.75	1.75	0.00	1.00	-
Line 4									
Level 2									
Line 4	Seg	1	30.00	0.00	34.00	34.00	34.00	-	8.00
Wall 4-1	Seg	1	30.00	0.00	34.00	34.00	34.00	0.24	-
Level 1	2								
Line 4		1	30.00	0.00	28.00	28.00	18.50	_	9.00
Wall 4-1	Seg	1	30.00	0.00	7.00	7.00	7.00	1.29	-
Wall 4-2	Seg	1	30.00	13.50	25.00	11.50	11.50	0.78	-
Wall 4-3	NSW	-	30.00	28.00	34.00	6.00	0.00	1.00	_
Line 5	11011		50.00	20.00	51.00	0.00	0.00	1.00	
Level 1		-							
Line 5		1	50.00	7.00	28.00	21.00	13.00	-	9.00
Wall 5-1	NSW	-	50.00	7.00	15.00	8.00	0.00	1.00	-
Wall 5-2	Seg	1	50.00	15.00	28.00	13.00	13.00	0.69	-
Foot woot	Turne	Wall	Lagation	Fritan	4 641	l an aith	FUE	Asusst	Haimht
East-west	Туре		Location	Exten		Length	FHS	Aspect	Height
Shearlines		Group	Y [ft]	Start	End	[ft]	[ft]	Ratio	[ft]
Line A									
Level 2									
Line A		1	1.20	0.00	30.00	30.00	18.00	-	8.00
Wall A-1	Seg	1	I		10 00	10 00	6.00	_	-
	beg	T	2.00	0.00	18.00	18.00	0.00	-	
Segment 1	beg	-	2.00	0.00 0.00	18.00 3.25	18.00 3.25	-	2.46	-
Segment 1 Opening 1	569							2.46	_ 4.00
Opening 1	569	-		0.00 3.25	3.25 15.25	3.25 12.00	-	-	
Opening 1 Segment 2		- -		0.00 3.25 15.25	3.25 15.25 18.00	3.25 12.00 2.75	- -	_ 2.91	4.00
Opening 1 Segment 2 Wall A-2	FT	- - 1	_ _ _ 0.00	0.00 3.25 15.25 18.00	3.25 15.25 18.00 30.00	3.25 12.00 2.75 12.00	- - 12.00	_ 2.91 _	4.00 _ _
Opening 1 Segment 2 Wall A-2 Segment 1		- - 1 -	_ _ 0.00 _	0.00 3.25 15.25 18.00 18.00	3.25 15.25 18.00 30.00 21.00	3.25 12.00 2.75 12.00 3.00	_ _ 12.00	- 2.91 - 1.33	4.00 - - -
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1		- - 1 -	- - 0.00 - -	0.00 3.25 15.25 18.00 18.00 21.00	3.25 15.25 18.00 30.00 21.00 27.00	3.25 12.00 2.75 12.00 3.00 6.00	- - 12.00 -	2.91 _ 1.33 _	4.00 _ _ 4.00
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2		- - 1 -	_ _ 0.00 _	0.00 3.25 15.25 18.00 18.00	3.25 15.25 18.00 30.00 21.00	3.25 12.00 2.75 12.00 3.00	_ _ 12.00	- 2.91 - 1.33	4.00 - - -
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1		- - 1 - -	- - 0.00 - -	0.00 3.25 15.25 18.00 18.00 21.00 27.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00	- - 12.00 - - -	2.91 - 1.33 - 1.33	4.00 - - 4.00 -
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A	FΤ	- - 1 - - 1	- - 0.00 - - - 1.20	0.00 3.25 15.25 18.00 18.00 21.00 27.00 0.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00	- - 12.00 - - - 18.50	2.91 - 1.33 - 1.33	4.00 - - 4.00 - 9.00
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1		- - 1 - - 1 1	- - - - - - 1.20 2.00	0.00 3.25 15.25 18.00 18.00 21.00 27.00 0.00 0.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00 30.00 18.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00 18.00	- - 12.00 - - - 18.50 12.50	2.91 1.33 	4.00 _ _ 4.00 _ 9.00 _
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1	FΤ	- - - - - 1 1 1	- - - - - 1.20 2.00	0.00 3.25 15.25 18.00 18.00 21.00 27.00 0.00 0.00 0.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00 30.00 18.00 12.50	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00 18.00 12.50	- - 12.00 - - - 18.50 12.50 -	2.91 - 1.33 - 1.33 - 0.72	4.00 - - 4.00 - 9.00 -
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1	FΤ		- - - - - 1.20 2.00	$\begin{array}{c} 0.00\\ 3.25\\ 15.25\\ 18.00\\ 18.00\\ 21.00\\ 27.00\\ 0.00\\ 0.00\\ 0.00\\ 12.50\\ \end{array}$	3.25 15.25 18.00 30.00 21.00 27.00 30.00 30.00 18.00 12.50 17.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00 18.00 12.50 4.50	- 12.00 - - 18.50 12.50 -	2.91 - 1.33 1.33 - - 0.72	4.00 _ _ 4.00 _ 9.00 _
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2	FΤ	- - - - - 1 1 - - -	- - - - - - 1.20 2.00 - - -	$\begin{array}{c} 0.00\\ 3.25\\ 15.25\\ 18.00\\ 18.00\\ 21.00\\ 27.00\\ \end{array}\\ \begin{array}{c} 0.00\\ 0.00\\ 0.00\\ 12.50\\ 17.00 \end{array}$	3.25 15.25 18.00 30.00 21.00 27.00 30.00 30.00 18.00 12.50 17.00 18.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00 18.00 12.50 4.50 1.00	- - - - - 18.50 12.50 - - -	2.91 - 1.33 - 1.33 - 0.72	4.00 - - 4.00 - 9.00 -
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1	FΤ		- - - - - 1.20 2.00	$\begin{array}{c} 0.00\\ 3.25\\ 15.25\\ 18.00\\ 18.00\\ 21.00\\ 27.00\\ 0.00\\ 0.00\\ 0.00\\ 12.50\\ \end{array}$	3.25 15.25 18.00 30.00 21.00 27.00 30.00 30.00 18.00 12.50 17.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00 18.00 12.50 4.50	- 12.00 - - 18.50 12.50 -	2.91 - 1.33 1.33 - - 0.72	4.00 - - 4.00 - 9.00 - - 4.00
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2	FT Seg	- - - - - 1 1 - - -	- - - - - - 1.20 2.00 - - -	$\begin{array}{c} 0.00\\ 3.25\\ 15.25\\ 18.00\\ 18.00\\ 21.00\\ 27.00\\ \end{array}\\ \begin{array}{c} 0.00\\ 0.00\\ 0.00\\ 12.50\\ 17.00 \end{array}$	3.25 15.25 18.00 30.00 21.00 27.00 30.00 30.00 18.00 12.50 17.00 18.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00 18.00 12.50 4.50 1.00	- - - - - 18.50 12.50 - - -	2.91 - 1.33 - 1.33 - 0.72 - 9.00	4.00 - - 4.00 - 9.00 - 4.00
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2 Wall A-2	FT Seg	- - - - - 1 1 - - - 1	- - - - - - 1.20 2.00 - - - 0.00	0.00 3.25 15.25 18.00 21.00 27.00 0.00 0.00 0.00 12.50 17.00 18.00	3.25 15.25 18.00 30.00 27.00 30.00 30.00 18.00 12.50 17.00 18.00 30.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00 18.00 12.50 4.50 1.00 12.00	- - 12.00 - - 18.50 12.50 - - - 6.00	2.91 1.33 1.33 - 0.72 9.00	4.00 - - 4.00 - 9.00 - 4.00 -
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1	FT Seg		- - - - - - - - - - - - - - - - - - -	0.00 3.25 15.25 18.00 21.00 27.00 0.00 0.00 0.00 12.50 17.00 18.00 18.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00 18.00 12.50 17.00 18.00 30.00 21.00 27.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 30.00 18.00 12.50 4.50 1.00 12.00 3.00	- 12.00 - - 18.50 12.50 - - - - - - - - - - - - - - - - - - -	2.91 1.33 1.33 - 0.72 9.00 - 3.00	4.00 - - 4.00 - 9.00 - 4.00 - - - -
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2	FT Seg		- - - - - - - - - - - - - - - 0.00 - - - 0.00	0.00 3.25 15.25 18.00 21.00 27.00 0.00 0.00 0.00 12.50 17.00 18.00 18.00 21.00	3.25 15.25 18.00 30.00 27.00 30.00 18.00 12.50 17.00 18.00 30.00 21.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 12.50 4.50 1.00 12.00 3.00 6.00	- - 12.00 - - - 18.50 12.50 - - 6.00 - -	2.91 1.33 - 1.33 - 0.72 - 9.00 - 3.00	4.00 - - 4.00 - 9.00 - 4.00 - - 5.00
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Line B	FT Seg		- - - - - - - - - - - - - - - 0.00 - - - 0.00	0.00 3.25 15.25 18.00 21.00 27.00 0.00 0.00 0.00 12.50 17.00 18.00 18.00 21.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00 18.00 12.50 17.00 18.00 30.00 21.00 27.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 12.50 4.50 1.00 12.00 3.00 6.00	- - 12.00 - - - 18.50 12.50 - - 6.00 - -	2.91 1.33 - 1.33 - 0.72 - 9.00 - 3.00	4.00 - - 4.00 - 9.00 - 4.00 - - 5.00
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Line B Level 1	FT Seg Seg		- - - - - - - - - - - - - - 0.00 - - - -	0.00 3.25 15.25 18.00 21.00 27.00 0.00 0.00 12.50 17.00 18.00 18.00 21.00 27.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00 18.00 12.50 17.00 18.00 30.00 21.00 27.00 30.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 18.00 12.50 4.50 1.00 12.00 3.00 6.00 3.00	- 12.00 - - 18.50 12.50 - - 6.00 - - -	2.91 1.33 - 0.72 9.00 - 3.00 3.00	4.00 - - 4.00 - - 4.00 - - 5.00 -
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Line B Level 1 Line B	FT Seg Seg NSW		- - - - - - - - - - - - - 0.00 - - - - -	0.00 3.25 15.25 18.00 21.00 27.00 0.00 0.00 0.00 12.50 17.00 18.00 18.00 27.00 30.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00 18.00 12.50 17.00 18.00 30.00 21.00 27.00 30.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 12.50 4.50 1.00 12.00 3.00 6.00 3.00 20.00	- - - - - - - - - - - - - - - - - - -	2.91 1.33 1.33 - 0.72 9.00 - 3.00 3.00	4.00 - - 4.00 - - 4.00 - - 5.00 - 9.00
Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Level 1 Line A Wall A-1 Segment 1 Opening 1 Segment 2 Wall A-2 Segment 1 Opening 1 Segment 2 Line B Level 1	FT Seg Seg		- - - - - - - - - - - - - - 0.00 - - - -	0.00 3.25 15.25 18.00 21.00 27.00 0.00 0.00 12.50 17.00 18.00 18.00 21.00 27.00	3.25 15.25 18.00 30.00 21.00 27.00 30.00 18.00 12.50 17.00 18.00 30.00 21.00 27.00 30.00	3.25 12.00 2.75 12.00 3.00 6.00 3.00 18.00 12.50 4.50 1.00 12.00 3.00 6.00 3.00	- 12.00 - - 18.50 12.50 - - 6.00 - - -	2.91 1.33 - 1.33 - 0.72 9.00 - 3.00 3.00	4.00 - - 4.00 - - 4.00 - - 5.00 -

SHEAKLINE, WALL all									
Level 1									
Line C	NSW		28.00	30.00	50.00	20.00	0.00	-	9.00
Wall C-1	NSW		28.00	30.00	50.00	20.00	0.00	1.00	-
Line D									
Level 2									
Line D		1	34.00	0.00	30.00	30.00	16.00	-	8.00
Wall D-1	Seg	1	34.00	0.00	30.00	30.00	16.00	-	-
Segment 1		-	-	0.00	1.00	1.00	-	8.00	-
Opening 1		-	-	1.00	4.00	3.00	-	-	4.00
Segment 2		-	-	4.00	15.75	11.75	-	0.68	-
Opening 2		-	-	15.75	25.75	10.00	-	-	4.00
Segment 3		-	-	25.75	30.00	4.25	-	1.88	-
Level 1									
Line D		2	34.29	0.00	30.00	30.00	30.00	-	9.00
Wall D-1	FT	2	34.00	0.00	18.25	18.25	18.25	-	-
Segment 1		-	-	0.00	4.25	4.25	-	1.18	-
Opening 1		-	-	4.25	10.25	6.00	-	-	5.00
Segment 2		-	-	10.25	13.50	3.25	-	1.54	-
Opening 2		-	-	13.50	16.50	3.00	-	-	5.00
Segment 3		-	-	16.50	18.25	1.75	-	2.86	-
Wall D-2	Seg	2	35.75	18.25	23.25	5.00	5.00	1.80	-
Wall D-3	FT	2	34.00	23.25	30.00	6.75	6.75	-	-
Segment 1		-	-	23.25	25.00	1.75	-	2.86	-
Opening 1		-	-	25.00	28.00	3.00	-	-	5.00
Segment 2		-	-	28.00	30.00	2.00	-	2.50	-

Legend:

Type - Seg = segmented, Prf = perforated, FT = force-transfer, NSW = non-shearwall

Location - Dimension perpendicular to wall

FHS - Length of full-height sheathing used to resist shear force. For perforated walls, it is based on the factored segments Li defined in SDPWS 4.3.4.3

Aspect Ratio - Ratio of wall height to segment length (h/bs), for force-transfer walls, the aspect ratio of the central pier

Wall Group - Wall design group defined in Sheathing and Framing Materials tables, where it shows associated Standard Wall

If two wall group numbers listed, they are for rigid diaphragm and flexible diaphragm design.



Loads

WIND SHEAR LOADS (as entered or generated)

Level 2 Block	F	Floment	المحط	\A/m -1	Cf	Brof	I a a a t i a	n [#]	Magnitu		Trib
Block	F	Element	Load Case	Wnd Dir	Surf Dir	Prof	Locatio Start	n [ft] End	[lbs,plf,p Start	End	Ht [ft]
											1.1
Block 1	W	Wall	1	W->E	Wind	Line	0.00	2.00	44.3		
Block 1	W	Wall	Min	W->E	Wind	Line	0.00	2.00	32.0	- 4 0	
Block 1	W	L Gable	Min	W->E	Wind	Line	2.00	18.00	0.0	54.3	
Block 1	W	Wall	1	W->E	Wind	Line	2.00	34.00	44.3		
Block 1	W	Wall	Min	W->E	Wind	Line	2.00	34.00	32.0	FO C	
Block 1	W	L Gable	1	₩->E	Wind	Line	2.00	18.00	0.0	79.6	
Block 1 Block 1	W	R Gable	1 Mir	₩->E	Wind	Line	18.00	34.00 34.00	79.6 54.3	0.0 0.0	
Block 1	W E	R Gable Wall	Min 1	W->E W->E	Wind Lee	Line Line	18.00 0.00	34.00	29.7	0.0	
Block 1	E	Wall	Min	W->E W->E	Lee	Line	0.00	34.00	32.0		
Block 1	E	L Gable	1	W->E W->E	Lee	Line	2.00	18.00	0.0	50.4	
Block 1	E	L Gable	Min	W->E W->E	Lee	Line	2.00	18.00	0.0	54.3	
Block 1	E	R Gable	Min	W->E	Lee	Line	18.00	34.00	54.3	0.0	
Block 1	E	R Gable	1	₩->E	Lee	Line	18.00	34.00	50.4	0.0	
Block 1	W	Wall	1	E->W	Lee	Line	0.00	2.00	29.7	0.0	
Block 1	W	Wall	Min	E->W	Lee	Line	0.00	2.00	32.0		
Block 1	W	L Gable	Min	E->W	Lee	Line	2.00	18.00	0.0	54.3	
Block 1	W	L Gable	1	E->W	Lee	Line	2.00	18.00	0.0	50.4	
Block 1	W	Wall	Min	E->W	Lee	Line	2.00	34.00	32.0	50.1	
Block 1	W	Wall	1	E->W	Lee	Line	2.00	34.00	29.7		
Block 1	W	R Gable	1	E->W	Lee	Line	18.00	34.00	50.4	0.0	
Block 1	W	R Gable	Min	E->W E->W	Lee	Line	18.00	34.00	54.3	0.0	
Block 1	E	Wall	1	E->W	Wind	Line	0.00	34.00	44.3	0.0	
Block 1	E	Wall	Min	E->W	Wind	Line	0.00	34.00	32.0		
Block 1	E	L Gable	Min	E->W	Wind	Line	2.00	18.00	0.0	54.3	
Block 1	E	L Gable	1	E->W	Wind	Line	2.00	18.00	0.0	79.6	
Block 1	E	R Gable	Min	E->W	Wind	Line	18.00	34.00	54.3	0.0	
Block 1	E	R Gable	1	E->W	Wind	Line	18.00	34.00	79.6	0.0	
Block 1	S	Roof	1	S->N	Wind	Line	-1.00	31.00	1.5	0.0	
Block 1	S	Roof	Min	S->N	Wind	Line	-1.00	31.00	28.9		
Block 1	S	Wall	Min	S->N	Wind	Line	0.00	18.00	32.0		
Block 1	S	Wall	1	S->N	Wind	Line	0.00	18.00	44.3		
Block 1	S	Wall	Min	S->N	Wind	Line	18.00	30.00	32.0		
Block 1	S	Wall	1	S->N	Wind	Line	18.00	30.00	44.3		
Block 1	N	Roof	Min	S->N	Lee	Line	-1.00	31.00	28.9		
Block 1	N	Roof	1	S->N	Lee	Line	-1.00	31.00	64.3		
Block 1	N	Wall	Min	S->N	Lee	Line	0.00	30.00	32.0		
Block 1	N	Wall	1	S->N	Lee	Line	0.00	30.00	28.9		
Block 1	S	Roof	1	N->S	Lee	Line	-1.00	31.00	64.3		
Block 1	S	Roof	Min	N->S	Lee	Line	-1.00	31.00	28.9		
Block 1	S	Wall	Min	N->S	Lee	Line	0.00	18.00	32.0		
Block 1	S	Wall	1	N->S	Lee	Line	0.00	18.00	28.9		
Block 1	S	Wall	Min	N->S	Lee	Line	18.00	30.00	32.0		
Block 1	S	Wall		N->S		Line	18.00		28.9		
Block 1	N	Roof	1 1	N->S N->S	Lee Wind	Line	-1.00	30.00 31.00	1.5		
Block 1	N N	Roof	⊥ Min	N->S N->S	Wind	Line	-1.00	31.00	28.9		
Block 1	N N	Wall	1	N->S N->S	Wind	Line	0.00	30.00	44.3		
Block 1	N	Wall	 Min		Wind	Line	0.00	30.00	32.0		
DIOCK I	TN		1111	11 -0	WIIIG		0.00	50.00	52.0		
Block 2	W	Ctr Roof	Min	W->E	Wind	Line	-1.00	2.00	8.0		
Block 2 Block 2	W	Ctr Roof	1	W->E W->E	Wind	Line	-1.00	2.00	59.9		
Block 2	W	R Roof	Min	W->E	Wind	Line	2.00	14.00	8.0	0.0	
Block 2 Block 2	W	R Roof	1	W->E	Wind	Line	2.00	14.00	59.9	0.0	
Block 2 Block 2	E	Ctr Roof	Min	W->E	Lee	Line	-1.00	1.00	22.1	0.0	
Block 2 Block 2	E	R Roof	Min	W->E W->E	Lee	Line	1.00	14.00	22.1	0.0	
Block 2 Block 2	W	Ctr Roof	Min	E->W	Lee	Line	-1.00	2.00	8.0	0.0	
Block 2 Block 2	W	Ctr Roof	1	E->W E->W	Lee	Line	-1.00	2.00	45.0		
Block 2 Block 2	W	R Roof	Min	E->W	Lee	Line	2.00	14.00	8.0	0.0	
Block 2	W	R Roof	1	E->W	Lee	Line	2.00	14.00	45.0	0.0	
Block 2 Block 2	E	Ctr Roof	Min	E->W	Wind	Line	-1.00	1.00	22.1	0.0	
Block 2 Block 2	E	R Roof	Min	E->W	Wind	Line	1.00	14.00	22.1	0.0	
Block 2 Block 2	S	R Gable	1	S->N	Wind	Line	18.00	30.00	59.3	0.0	
Block 2 Block 2	S	R Gable	Min	S->N	Wind	Line	18.00	30.00	40.7	0.0	
Block 2	S	R Gable	1	N->S	Lee	Line	18.00	30.00	37.5	0.0	
Block 2	S	R Gable	Min	N->S	Lee	Line	18.00	30.00	40.7	0.0	
210011 2	5			1, 20	LCC		10.00	30.00	10.7	0.0	
Level 1			1						Magnitu	de	Trib
Block	F	Element	Load	Wnd	Surf	Prof	Locatio	n [ft]	[lbs,plf,p		Ht
				VVIIU	Juli	I FIUI	LUCatio	11 1111	105.00.0	1311	

City of Puyallup oment & Permitting Servic ISSUED PERMIT

WoodWorks® Shearwalls

WIND SHEAR LOADS (as entered or generated) (continued)

WIND SHEAR LC	DADS (as entered or ge	nerated) (contir	iuea)		1				
Block 1	W Wall	Min	W->E	Wind	Line	0.00	2.00	32.0	
Block 1	W Wall	1	W - > E	Wind	Line	0.00	2.00	41.7	
Block 1	W Wall	1	W - > E	Wind	Line	0.00	2.00	61.7	
Block 1	W Wall	Min	W - > E	Wind	Line	0.00	2.00	48.0	
Block 1	W Wall	Min	W - > E	Wind	Line	2.00	34.00	48.0	
Block 1	W Wall	Min	W - > E	Wind	Line	2.00	34.00	32.0	
Block 1	W Wall	1	W - > E	Wind	Line	2.00	34.00	41.7	
Block 1	W Wall	1	W - > E	Wind	Line	2.00	34.00	61.7	
Block 1	W Wall	Min	W - > E	Wind	Line	34.00	35.75	48.0	
Block 1	W Wall	1	W - > E	Wind	Line	34.00	35.75	61.7	
Block 1	E Wall	Min	W - > E	Lee	Line	0.00	34.00	32.0	
Block 1	E Wall	1	W - > E	Lee	Line	0.00	7.00	44.6	
Block 1	E Wall	1	W - > E	Lee	Line	0.00	34.00	29.7	
Block 1	E Wall	Min	W->E	Lee	Line	0.00	7.00	48.0	
Block 1	E Wall	Min	W - > E	Lee	Line	7.00	28.00	48.0	
Block 1	E Wall	1	W->E	Lee	Line	7.00	28.00	44.6	
Block 1	E Wall	1	W->E	Lee	Line	28.00	34.00	44.6	
Block 1	E Wall	Min	W->E	Lee	Line	28.00	34.00	48.0	
Block 1	E Wall	1	₩->E	Lee	Line	34.00	35.75	44.6	
Block 1	E Wall	Min	₩->E	Lee	Line	34.00	35.75	48.0	
Block 1		1 Min	E->W	Lee	Line	0.00	2.00	29.7	
Block 1	W Wall	Min	E->W	Lee	Line	0.00	2.00	48.0	
Block 1	W Wall	Min	E->W	Lee	Line	0.00	2.00	32.0	
Block 1	W Wall	1	E->W	Lee	Line	0.00	2.00	44.6	
Block 1	W Wall	1	E->W	Lee	Line	2.00	34.00	29.7	
Block 1	W Wall	Min	E->W	Lee	Line	2.00	34.00	32.0	
Block 1	W Wall	1	E->W	Lee	Line	2.00	34.00	44.6	
Block 1	W Wall	Min	E->W	Lee	Line	2.00	34.00	48.0	
Block 1	W Wall	Min	E->W	Lee	Line	34.00	35.75	48.0	
Block 1	W Wall	1	E->W	Lee	Line	34.00	35.75	44.6	
Block 1	E Wall	1	E - > W	Wind	Line	0.00	7.00	61.7	
Block 1	E Wall	Min	E - > W	Wind	Line	0.00	34.00	32.0	
Block 1	E Wall	1	E - > W	Wind	Line	0.00	34.00	41.7	
Block 1	E Wall	Min	E - > W	Wind	Line	0.00	7.00	48.0	
Block 1	E Wall	Min	E - > W	Wind	Line	7.00	28.00	48.0	
Block 1	E Wall	1	E - > W	Wind	Line	7.00	28.00	61.7	
Block 1	E Wall	1	E->W	Wind	Line	28.00	34.00	61.7	
Block 1	E Wall	Min	E->W	Wind	Line	28.00	34.00	48.0	
Block 1	E Wall	1	E->W	Wind	Line	34.00	35.75	61.7	
Block 1	E Wall	Min	E->W	Wind	Line	34.00	35.75	48.0	
Block 1	S Wall	Min	S->N	Wind	Line	0.00	18.00	32.0	
Block 1	S Wall	1	S->N	Wind	Line	0.00	18.00	61.7	
Block 1	S Wall	1	S->N	Wind	Line	0.00	18.00	41.7	
Block 1	S Wall	Min	S->N	Wind	Line	0.00	18.00	48.0	
Block 1	S Wall	1	S->N	Wind	Line	18.00	30.00	61.7	
Block 1	S Wall	Min	S->N S->N	Wind	Line	18.00	30.00	32.0	
Block 1 Block 1	S Wall S Wall	1 Min	S->N S->N	Wind	Line	18.00	30.00 30.00	41.7 48.0	
Block 1		Min	S->N	Wind	Line	18.00			
Block 1	S Wall	Min	S->N	Wind	Line	30.00	50.00	48.0	
Block 1	S Wall	1	S->N	Wind	Line	30.00	50.00	61.7	
Block 1	N Wall	1	S->N	Lee	Line	0.00	18.25	43.4	
Block 1	N Wall	Min	S->N	Lee	Line	0.00	30.00	32.0	
Block 1	N Wall	1	S->N	Lee	Line	0.00	30.00	28.9	
Block 1	N Wall	Min	S->N	Lee	Line	0.00	18.25	48.0	
Block 1	N Wall	Min	S->N	Lee	Line	18.25	23.25	48.0	
Block 1	N Wall	1	S->N	Lee	Line	18.25	23.25	43.4	
Block 1	N Wall	Min	S->N	Lee	Line	23.25	30.00	48.0	
Block 1	N Wall	1	S->N	Lee	Line	23.25	30.00	43.4	
Block 1	N Wall	1	S->N	Lee	Line	30.00	50.00	43.4	
Block 1	N Wall	Min	S->N	Lee	Line	30.00	50.00	48.0	
Block 1	S Wall	Min	N->S	Lee	Line	0.00	18.00	48.0	
Block 1	S Wall	1	N->S	Lee	Line	0.00	18.00	43.4	
Block 1	S Wall	Min	N->S	Lee	Line	0.00	18.00	32.0	
Block 1	S Wall	1	N->S	Lee	Line	0.00	18.00	28.9	
Block 1	S Wall	1	N->S	Lee	Line	18.00	30.00	28.9	
Block 1	S Wall	Min	N->S	Lee	Line	18.00	30.00	32.0	
Block 1	S Wall	Min	N->S	Lee	Line	18.00	30.00	48.0	
Block 1	S Wall	1	N->S	Lee	Line	18.00	30.00	43.4	
Block 1	S Wall	1	N->S	Lee	Line	30.00	50.00	43.4	
Block 1	S Wall	Min	N->S	Lee	Line	30.00	50.00	48.0	
Block 1	N Wall	Min	N->S	Wind	Line	0.00	30.00	32.0	
Block 1	N Wall	1	N->S	Wind	Line	0.00	18.25	61.7	
DIOON I	TA MOTT	ـــــــــــــــــــــــــــــــــــــ	11 -0	MIIIO		0.00	10.20	VI./	

WIND SHEAR LOADS (as entered or generated) (continued)

Block 1 N Wall Min N->S Wind Line 0.00 18.25	10 0	
	48.0	
Block 1 N Wall 1 N->S Wind Line 0.00 30.00	41.7	
Block 1 N Wall 1 N->S Wind Line 18.25 23.25	61.7	
Block 1 N Wall Min N->S Wind Line 18.25 23.25	48.0	
Block 1 N Wall Min N->S Wind Line 23.25 30.00	48.0	
Block 1 N Wall 1 N->S Wind Line 23.25 30.00	61.7	
Block 1 N Wall N No. Mail Line 30.00 50.00	61.7	
Block 1 N Wall Min N->S Wind Line 30.00 50.00	48.0	
block i in wall min nyb wind line 50.00 50.00	10.0	
Block 3 W L Gable 1 W->E Wind Line 7.00 20.50	0.0	72.1
Block 3 W L Gable Min W->E Wind Line 7.00 20.50	0.0	55.0
Block 3 W R Gable 1 W->E Wind Line 20.50 34.00	72.1	0.0
Block 3 W R Gable I W-ZE Wind Line 20.50 34.00 Block 3 W R Gable Min W->E Wind Line 20.50 34.00	55.0	0.0
Block 3 E L Gable Min W->E Lee Line $7.00 20.50$	0.0	55.0
Block 3 E L Gable 1 W->E Lee Line $7.00 \ 20.50$	0.0	45.8
Block 3 E R Gable 1 W->E Lee Line 20.50 34.00	45.8	0.0
Block 3 E R Gable Min W->E Lee Line 20.50 34.00	55.0	0.0
Block 3 W L Gable Min E->W Lee Line 7.00 20.50	0.0	55.0
Block 3 W L Gable 1 E->W Lee Line 7.00 20.50	0.0	45.8
Block 3 W R Gable Min E->W Lee Line 20.50 34.00	55.0	0.0
Block 3 W R Gable 1 E->W Lee Line 20.50 34.00	45.8	0.0
Block 3 E L Gable Min E->W Wind Line 7.00 20.50	0.0	55.0
Block 3 E L Gable 1 E->W Wind Line 7.00 20.50	0.0	72.1
Block 3 E R Gable Min E->W Wind Line 20.50 34.00	55.0	0.0
Block 3 E R Gable 1 E->W Wind Line 20.50 34.00	72.1	0.0
Block 3 S Roof Min S->N Wind Line 29.00 51.00	29.6	
Block 3 S Roof 1 S->N Wind Line 29.00 51.00	16.7	
Block 3 N Roof Min S->N Lee Line 29.00 51.00	29.6	
Block 3 N Roof 1 S->N Lee Line 29.00 51.00	59.0	
Block 3 S Roof 1 N->S Lee Line 29.00 51.00	59.0	
Block 3 S Roof Min N->S Lee Line 29.00 51.00	29.6	
Block 3 N Roof Min N->S Wind Line 29.00 51.00	29.6	
Block 3 N Roof 1 N->S Wind Line 29.00 51.00	16.7	
	10.7	
Block 4 W L Gable Min W->E Wind Line -2.75 2.00	0.0	16.1
Block 4 W L Gable 1 W->E Wind Line -2.75 2.00	0.0	20.7
Block 4 E L Gable Min W->E Lee Line -2.75 2.00	0.0	16.1
Block 4 E L Gable 1 W->E Lee Line -2.75 2.00	0.0	5.5
Block 4 W L Gable 1 $E \rightarrow W$ Lee Line -2.75 2.00	0.0	5.5
Block 4 W L Gable I $E \rightarrow W$ Lee Line -2.75 2.00 Block 4 W L Gable Min $E \rightarrow W$ Lee Line -2.75 2.00	0.0	16.1
Block 4 W L Gable Min E^{-2W} Lee Line -2.75 2.00 Block 4 E L Gable 1 E^{-2W} Wind Line -2.75 2.00	0.0	20.7
Block 4 E L Gable I $E \rightarrow W$ Wind Line -2.75 2.00 Block 4 E L Gable Min $E \rightarrow W$ Wind Line -2.75 2.00	0.0	16.1
		T0.T
Block 4 S Roof Min S->N Wind Line -1.00 18.75	50.0	
Block 4 N Roof Min S->N Lee Line -1.00 18.75	8.1	
Block 4 N Roof 1 S->N Lee Line -1.00 18.75	15.6	
Block 4 S Roof Min N->S Lee Line -1.00 18.75	50.0	
Block 4 N Roof 1 N->S Wind Line -1.00 18.75	20.7	
Block 4 N Roof Min N->S Wind Line -1.00 18.75	8.1	

Legend:

Block - Block used in load generation

Accum. = loads from one block combined with another

Manual = user-entered loads (so no block)

F - Building face (north, south, east or west)

Element - Building surface on which loads generated or entered

Load Case - One of the following:

ASCE 7 All Heights: Case 1 or 2 from Fig 27.3-8 or minimum loads from 27.1.5

ASCE 7 Low-rise: Reference corner and Case A or B from Fig 28.3-1 or minimum loads from 28.3.4

Wind Dir - Direction of wind for loads with positive magnitude, also direction of MWFRS.

Surf Dir - Windward or leeward side of the building for loads in given direction

Prof - Profile (distribution)

Location - Start and end points on building element

Magnitude - Start = intensity of uniform and point loads or leftmost intensity of trapezoidal load, End = right intensity of trap load Trib Ht - Tributary height of area loads only

Notes:

Windward load on the monoslope roof was not generated, to comply with ASCE 7 Figure 27.3-1, Note 7.

All loads entered by the user or generated by program are specified (unfactored) loads. The program applies a load factor of 0.60 to wind loads before distributing them to the shearlines.

BUILDING MASSES

Level 2 Force Dir	Building Element	Block	Wall Line	Profile	Locatio Start	on [ft] End	Magni [Ibs,plf Start		Trib Width [ft]
	LIGHIGHT		LINC		Jan		Jan	LIIU	րց
E-W	Roof	Block 1	1	Line	1.00	35.00	240.0	240.0	
E - W	Roof	Block 1	4	Line	1.00	35.00	240.0	240.0	
E - W	Roof	Block 2	2	Line	-1.00	2.00	105.0	105.0	
E - W	Roof	Block 2	4	Line	-1.00	2.00	105.0	105.0	
E - W	R Gable	Block 1	1	Line	2.00	18.00	67.9	0.0	
E - W	L Gable	Block 1	1	Line	18.00	34.00	0.0	67.9	
E-W	L Gable	Block 1	4	Line	2.00	18.00	67.9	0.0	
E-W	R Gable	Block 1	4	Line	18.00	34.00	0.0	67.9	
N-S	Roof	Block 1		Line	-1.00	31.00	255.0	255.0	
N-S	Roof	Block 1	D	Line	-1.00	31.00	255.0	255.0	
N-S	Roof	Block 2	A	Line	17.00	31.00	30.0	30.0	
N-S	Roof	Block 2		Line	17.00	31.00	15.0	15.0	
N-S	R Gable	Block 2	A	Line	18.00	30.00	0.0	50.9	
N-S	L Gable	Block 2	A	Line	18.00	18.00	50.9	0.0	
Both	Wall 1-1	n/a	1	Line	2.00	34.00	40.0	40.0	
Both	Wall 2-1	n/a	2	Line	0.00	2.00	40.0	40.0	
Both	Wall 4-1	n/a	4	Line	0.00	34.00	40.0	40.0	
Both	Wall A-2	n/a	A	Line	18.00	30.00	40.0	40.0	
Both	Wall A-1	n/a	-	Line	0.00	18.00	40.0	40.0	
Both	Wall D-1	n/a	D	Line	0.00	30.00	40.0	40.0	
Level 1							Magni		Trib
Force Dir	Building Element	Block	Wall Line	Profile	Locatio Start	on [ft] End	[lbs,plf Start	,psf] End	Width [ft]
	Liement		Line		Otart	Liid	Otart	Ena	[14]
E-W	Roof	Block 3	4	Line	6.00	35.00	165.0	165.0	
E-W	Roof	Block 3	5	Line	6.00	35.00	165.0	165.0	
E - W	Roof	Block 4	1	Line	-3.75	3.00	148.1	148.1	
E - W	Roof	Block 4		Line	-3.75	3.00	148.1	148.1	
E - W	R Gable	Block 3	4	Line	7.00	20.50	68.8	0.0	
E - W	L Gable	Block 3	4	Line	20.50	34.00	0.0	68.8	
E - W	L Gable	Block 3	5	Line	7.00	20.50	68.8	0.0	
E - W	R Gable	Block 3	5	Line	20.50	34.00	0.0	68.8	
E - W	R Gable	Block 4	1	Line	-2.75	2.00	20.2	0.0	
E - W	L Gable	Block 4	1	Line	2.00	2.00	0.0	20.2	
E - W	L Gable	Block 4		Line	-2.75	2.00	20.2	0.0	
E - W	R Gable	Block 4		Line	2.00	2.00	0.0	20.2	
E - W	Floor F2	n/a	1	Line	2.00	7.00	180.0	180.0	
Both	Wall 1-1	n/a	1	Line	2.00	34.00	40.0	40.0	
E - W	Floor F3	n/a	1	Line	7.00	28.00	300.0	300.0	
E-W E-W	Floor F4	n/a	1	Line	28.00	34.00	180.0	180.0	
E-W	Floor Fl	n/a	2	Line	0.00	2.00	72.0	72.0	
Both	Wall 2-1	n/a	2	Line	0.00	2.00	40.0	40.0	
E-W E-W	Floor F5 Floor F5	n/a n/a	3	Line Line	34.00 34.00	35.75 35.75	30.0 30.0	30.0 30.0	
F – M	FIOOL F5	11/a	2	TTHE	34.00	35.75	30.0	30.0	
Both	Wall 4-1	n/a	4	Line	0.00	34.00	40.0	40.0	
E - W	Floor Fl	n/a	4	Line	0.00	2.00	72.0	72.0	
E-W	Floor F2	n/a	4	Line	2.00	7.00	180.0	180.0	
E - W	Floor F4	n/a	4	Line	28.00	34.00	180.0	180.0	
E - W	Floor F3	n/a	5	Line	7.00	28.00	300.0	300.0	
	Roof	Block 3	В	Line	29.00	51.00	217.5	217.5	
N-S			D	Line	29.00	51.00	217.5	217.5	
N-S N-S		Block K							
N-S	Roof	Block 3 Block 4	D	Line	-1.00	18.75	50.6	50.6	
N-S N-S	Roof Roof	Block 4	D	Line Line	-1.00 -1.00	18.75 18.75	50.6 50.6	50.6 50.6	
N-S	Roof		A	Line Line Line	-1.00 -1.00 18.00	18.75 18.75 18.25	50.6 50.6 204.0	50.6 50.6 204.0	
N-S N-S N-S	Roof Roof Roof	Block 4 Block 4		Line	-1.00	18.75	50.6	50.6	
N-S N-S N-S N-S	Roof Roof Roof Floor F2	Block 4 Block 4 n/a	A	Line Line	-1.00 18.00	18.75 18.25	50.6 204.0	50.6 204.0	

BUILDING MASSES (continued)

BUILDING	MASSES (continued)							
N-S	Floor Fl	n/a		Line	0.00	18.00	192.0	192.0	
Both	Wall A-1	n/a		Line	0.00	18.00	40.0	40.0	
N-S	Floor F5	n/a	В	Line	30.00	50.00	126.0	126.0	
N-S	Floor F5	n/a	С	Line	30.00	50.00	126.0	126.0	
N-S	Floor Fl	n/a	D	Line	0.00	18.00	192.0	192.0	
Both	Wall D-1	n/a	D	Line	0.00	30.00	40.0	40.0	
N-S	Floor F2	n/a	D	Line	18.00	18.25	204.0	204.0	
N-S	Floor F4	n/a	D	Line	23.25	30.00	204.0	204.0	
N-S	Floor F3	n/a		Line	18.25	23.25	214.5	214.5	
Both	Wall 1-1	n/a	1	Line	2.00	34.00	45.0	45.0	
Both	Wall 2-1	n/a	2	Line	0.00	2.00	45.0	45.0	
Both	Wall 2-2	n/a		Line	34.00	35.75	45.0	45.0	
Both	Wall 3-1	n/a	3	Line	34.00	35.75	45.0	45.0	
Both	Wall 4-1	n/a	4	Line	0.00	7.00	45.0	45.0	
Both	Wall 4-2	n/a	4	Line	13.50	25.00	27.0	27.0	
Both	Wall 4-3	n/a	4	Line	28.00	34.00	45.0	45.0	
Both	Wall 5-1	n/a	5	Line	7.00	15.00	45.0	45.0	
Both	Wall 5-2	n/a	5	Line	15.00	28.00	45.0	45.0	
Both	Wall A-2	n/a	A	Line	18.00	30.00	45.0	45.0	
Both	Wall A-1	n/a		Line	0.00	18.00	45.0	45.0	
Both	Wall B-1	n/a	В	Line	30.00	50.00	45.0	45.0	
Both	Wall C-1	n/a	С	Line	30.00	50.00	45.0	45.0	
Both	Wall D-1	n/a	D	Line	0.00	18.25	45.0	45.0	
Both	Wall D-3	n/a	D	Line	23.25	30.00	45.0	45.0	
Both	Wall D-2	n/a		Line	18.25	23.25	45.0	45.0	
1									

Legend:

Force Dir - Direction in which the mass is used for seismic load generation, E-W, N-S, or Both

Building element - Roof, gable end, wall or floor area used to generate mass, wall line for user-applied masses, Floor F# - refer to Plan View for floor area number

Wall line - Shearline that equivalent line load is assigned to

Location - Start and end points of equivalent line load on wall line

Trib Width. - Tributary width; for user applied area loads only

SEISMIC LOADS

Level 2					
	Duefile	l a a a ti a		Max Ilha ul	6 m o 61
Force	Profile	Locatio		Mag [lbs,pl	
Dir		Start	End	Start	End
	T <i>b a a</i>	1 00	0 00	4.4 5	4.4 7
E-W	Line	-1.00	0.00	44.7	44.7
E-W	Point	0.00	0.00	167	167
E-W	Line	0.00	1.00	61.7	61.7
E-W	Line	1.00	2.00	163.8	163.8
E-W	Point	2.00	2.00	153	153
E-W	Line	2.00	18.00	119.1	148.0
E-W	Line	18.00	34.00	148.0	119.1
E-W	Point	34.00	34.00	255	255
E-W	Line	34.00	35.00	102.1	102.1
N-S	Line	-1.00	0.00	108.5	108.5
N-S	Point	0.00	0.00	503	503
N-S	Line	0.00	17.00	125.5	125.5
N-S	Line	17.00	18.00	135.1	135.1
N-S	Point	18.00	18.00	17	17
N-S	Line	18.00	30.00	145.9	135.1
N-S	Point	30.00	30.00	520	520
N-S	Line	30.00	31.00	118.1	118.1
	-				
Level 1	Drafila	Leastie		May files al	f mofi
Force	Profile	Locatio		Mag [lbs,pl	
Dir		Start	End	Start	End
E-W	Line	-3.75	-2.75	35.8	35.8
E-W	Line	-2.75	0.00	35.8	38.6
E - W	Point	0.00	0.00	123	123
E - W	Line	0.00	2.00	76.5	78.5
E - W	Point	2.00	2.00	185	185
E - W	Line	2.00	3.00	104.6	99.7
E-W	Line	3.00	6.00	64.0	64.0
E-W	Line	6.00	7.00	103.8	103.8
E-W	Point	7.00	7.00	109	109
E-W	Line	7.00	13.50	132.8	140.8
E-W	Line	13.50	15.00	144.1	145.9
E-W	Line	15.00	20.50	145.9	152.7
E-W	Line	20.50	25.00	152.7	147.1
E-W	Line	25.00	28.00	143.9	140.2
E-W	Point	28.00	28.00	109	109
E-W	Line	28.00	34.00	111.2	103.8
E-W	Point	34.00	34.00	281	281
E-W	Line	34.00	35.00	57.9	57.9
1.7 1.7					
E-W	Line	35.00	35.75	18.1	18.1
E-W E-W	Line Point	35.00 35.75	35.75 35.75	18.1 27	18.1 27
E-W	Point	35.75	35.75	27	27
E-W N-S	Point Line	35.75 -1.00	35.75 0.00	27 12.2	27 12.2
E-W N-S N-S	Point Line Point	35.75 -1.00 0.00	35.75 0.00 0.00	27 12.2 334	27 12.2 334
E-W N-S N-S N-S	Point Line Point Line	35.75 -1.00 0.00 0.00	35.75 0.00 0.00 18.00	27 12.2 334 79.1	27 12.2 334 79.1
E-W N-S N-S N-S N-S	Point Line Point Line Point	35.75 -1.00 0.00 0.00 17.75	35.75 0.00 0.00 18.00 17.75	27 12.2 334 79.1 6	27 12.2 334 79.1 6
E-W N-S N-S N-S N-S N-S	Point Line Point Line Point Point	35.75 -1.00 0.00 0.00 17.75 18.00	35.75 0.00 0.00 18.00 17.75 18.00	27 12.2 334 79.1 6 21	27 12.2 334 79.1 6 21
E-W N-S N-S N-S N-S N-S N-S	Point Line Point Line Point Point Line	35.75 -1.00 0.00 0.00 17.75 18.00 18.00	35.75 0.00 18.00 17.75 18.00 18.25	27 12.2 334 79.1 6 21 82.0	27 12.2 334 79.1 6 21 82.0
E-W N-S N-S N-S N-S N-S N-S N-S	Point Line Point Doint Point Line Point	35.75 -1.00 0.00 17.75 18.00 18.00 18.25	35.75 0.00 18.00 17.75 18.00 18.25 18.25	27 12.2 334 79.1 6 21 82.0 10	27 12.2 334 79.1 6 21 82.0 10
E-W N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Point Doint Line Point Line	35.75 -1.00 0.00 17.75 18.00 18.00 18.25 18.25	35.75 0.00 18.00 17.75 18.00 18.25 18.25 18.25 18.75	27 12.2 334 79.1 6 21 82.0 10 84.5	27 12.2 334 79.1 6 21 82.0 10 84.5
E-W N-S N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Point Line Point Line Line Line	35.75 -1.00 0.00 17.75 18.00 18.00 18.25 18.25 18.25 18.75	35.75 0.00 18.00 17.75 18.00 18.25 18.25 18.25 18.75 23.25	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3	$27 \\ 12.2 \\ 334 \\ 79.1 \\ 6 \\ 21 \\ 82.0 \\ 10 \\ 84.5 \\ 72.3 \\ $
E-W N-S N-S N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Point Line Point Line Line Line Point	35.75 -1.00 0.00 17.75 18.00 18.00 18.25 18.25 18.25 18.75 23.25	35.75 0.00 18.00 17.75 18.00 18.25 18.25 18.25 18.75 23.25 23.25	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10
E-W N-S N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Point Line Point Line Line Line	35.75 -1.00 0.00 17.75 18.00 18.00 18.25 18.25 18.25 18.75	35.75 0.00 18.00 17.75 18.00 18.25 18.25 18.25 18.75 23.25	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3	$27 \\ 12.2 \\ 334 \\ 79.1 \\ 6 \\ 21 \\ 82.0 \\ 10 \\ 84.5 \\ 72.3 \\ $
E-W N-S N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Point Line Point Line Line Line Point	35.75 -1.00 0.00 17.75 18.00 18.00 18.25 18.25 18.25 18.75 23.25	35.75 0.00 18.00 17.75 18.00 18.25 18.25 18.25 18.75 23.25 23.25	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10
E-W N-S N-S N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Point Line Point Line Line Point Line Point Line	35.75 -1.00 0.00 17.75 18.00 18.25 18.25 18.25 18.75 23.25 23.25	35.75 0.00 18.00 17.75 18.00 18.25 18.25 18.75 23.25 23.25 23.25 29.00	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10 69.8	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10 69.8
E-W N-S N-S N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Doint Doint Line Doint Line Doint Line Line Line Line	35.75 -1.00 0.00 17.75 18.00 18.00 18.25 18.25 18.25 18.75 23.25 23.25 29.00	35.75 0.00 18.00 17.75 18.00 18.25 18.25 18.75 23.25 23.25 23.25 29.00 30.00	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10 69.8 122.3	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10 69.8 122.3
E-W N-S N-S N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Point Line Point Line Point Line Line Point	35.75 -1.00 0.00 17.75 18.00 18.25 18.25 18.25 18.75 23.25 23.25 23.25 29.00 30.00	$\begin{array}{c} 35.75\\ 0.00\\ 0.00\\ 18.00\\ 17.75\\ 18.00\\ 18.25\\ 18.25\\ 18.25\\ 18.75\\ 23.25\\ 23.25\\ 29.00\\ 30.00\\ 30.00\\ \end{array}$	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10 69.8 122.3 384	27 12.2 334 79.1 6 21 82.0 10 84.5 72.3 10 69.8 122.3 384
E-W N-S N-S N-S N-S N-S N-S N-S N-S N-S N-S	Point Line Point Point Line Point Line Point Line Line Point Line Point Line	35.75 -1.00 0.00 17.75 18.00 18.25 18.25 18.25 18.75 23.25 23.25 23.25 29.00 30.00	$\begin{array}{c} 35.75\\ 0.00\\ 18.00\\ 17.75\\ 18.00\\ 18.25\\ 18.25\\ 18.75\\ 23.25\\ 23.25\\ 29.00\\ 30.00\\ 30.00\\ 50.00\\ \end{array}$	$\begin{array}{c} 27 \\ 12.2 \\ 334 \\ 79.1 \\ 6 \\ 21 \\ 82.0 \\ 10 \\ 84.5 \\ 72.3 \\ 10 \\ 69.8 \\ 122.3 \\ 384 \\ 93.8 \end{array}$	$\begin{array}{c} 27\\ 12.2\\ 334\\ 79.1\\ 6\\ 21\\ 82.0\\ 10\\ 84.5\\ 72.3\\ 10\\ 69.8\\ 122.3\\ 384\\ 93.8 \end{array}$

Legend:

Loads in table can be accumulation of loads from several building masses, so they do not correspond with a particular building element. Location - Start and end of load in direction perpendicular to seismic force direction

Notes:

All loads entered by the user or generated by program are specified (unfactored) loads. The program applies a load factor of 0.70 and redundancy factor to seismic loads before distributing them to the shearlines.



Design Summary

SHEARWALL DESIGN

Wind Shear Loads, Flexible Diaphragm All shearwalls have sufficient design capacity.

Seismic Loads, Flexible Diaphragm

All shearwalls have sufficient design capacity.

HOLDDOWN DESIGN

Wind Loads, Flexible Diaphragm All hold-downs have sufficient design capacity.

Seismic Loads, Flexible Diaphragm

All hold-downs have sufficient design capacity.

This Design Summary does not include failures that occur due to excessive story drift from ASCE 7 CC.2.2 (wind) or 12.12 (seismic). Refer to Story Drift table in this report to verify this design criterion. Refer to the Deflection table for possible issues regarding fastener slippage (SDPWS Table C4.2.2D).

Flexible Diaphragm Wind Design ASCE 7 Directional (All Heights) Loads

N-S	w	For	ASD S	hear Force	[plf]	Asp	-Cub		Allo	wable	Shear [plf]		Resp.
Shearlines	Gp	Dir		vmax/vft	V [lbs]	Int	Ext	Int	Ext	Co	C Cmb	V [lbs]	Ratio
Line 1	υp	211	•	Thirds of the	1 [100]				EAt		0 01110	1 [186]	nano
Level 2													
Ln1, Lev2	_	S->N	_	_	1348	-	_	_	339	_	_	4909	-
LIII, DCVZ	_	N->S	_	_	1327	_	_	_	339	_	_	4909	_
Wall 1-1	1	S->N	_	_	1348	-	1.0	-	339	_	_	4909	-
10411 1 1	1	N->S	_	_	1327	_	1.0	_	339	_	_	4909	_
Seg. 1	_	Both	0.0	0.0	0	-	1.0	-	339	-	339	-	-
Seg. 2	-	S->N	93.0	0.0	1348	-	1.0	-	339	-	339	4909	0.27
	-	N->S	91.5	0.0	1327	-	1.0	-	339	-	339	4909	0.27
Seg. 3	-	Both	0.0	0.0	0	-	1.0	-	339	-	339		_
Level 1													
Ln1, Lev1	_	Both	_	_	3094	-	_	-	339	_	_	5586	-
Wall 1-1	1	Both	_	_	3094	-	1.0	-	339	_	_	5586	-
Seg. 1	_	Both	0.0	0.0	0	-	1.0	-	339	_	339	-	_
Seg. 2	_	Both	187.5	0.0	3094	-	1.0	-	339	_	339	5586	0.55
Line 4													
Level 2													
	1	S->N	42.6	_	1 / / 7	_	1.0	_	339	_	220	11510	0.13
Ln4, Lev2	1 1	S->N N->S	42.6 40.9	_	1447 1390	_	1.0	_	339	_	339 339	11510	0.13
	Ŧ	M->2	40.9	-	T3A0	-	1.0	-	237	-	339	11210	0.12
Level 1		a			4070								
Ln4, Lev1	-	S->N	-	-	4213	-	-	-	339	-	-	6263	-
	-	N->S		-	4174	-	-	-	339	-	-	6263	-
Wall 4-1	1	S->N	227.7	-	1594	-	1.0	-	339	-	339	2370	0.67
	1	N->S	225.6	-	1579	-	1.0	-	339	-	339	2370	0.67
Wall 4-2	1	S->N	227.7	-	2619	-	1.0	-	339	-	339	3893	0.67
	1	N->S	225.6	-	2595	-	1.0	-	339	-	339	3893	0.67
Line 5													
Ln5, Lev1	-	Both	-	-	1130	-	-	-	339	-	-	4401	-
Wall 5-2	1	Both	86.9	-	1130	-	1.0	-	339	-	339	4401	0.26
E-W	w	For	ASD S	hear Force		Asp	-Cub		Allo		Shear [plf]		Resp.
Shearlines	Gp	Dir	v	vmax/vft	V [lbs]	Int	Ext	Int	Ext	Со	C Cmb	V [lbs]	Ratio
Line A													
Level 2													
Level 2	_	W->E	_	_	1682	_	_	_	339	_	_	5596	_
	-	₩->E E->W	-		1682	-		-	339 339	-		5596	-
LnA, Lev2	-	E->W	-	-	1609	-	-	-	339	-	-	5596	-
Level 2 LnA, Lev2 Wall A-1	- 1	E->W W->E	- - -	- -	1609 461	-	- 1.0	-	339 339	- - -	- -	5596 1534	-
LnA, Lev2 Wall A-1	- 1 1	E->W W->E E->W	-	- - -	1609 461 441	- - -	_ 1.0 1.0	- - -	339 339 339	- - -	- - -	5596 1534 1534	- - -
LnA, Lev2	- 1 1	E->W W->E E->W W->E	- 82.7	- - 0.0	1609 461 441 269	- - -	_ 1.0 1.0 .81	- - -	339 339 339 275	-	- - 275	5596 1534 1534 894	- - 0.30
LnA, Lev2 Wall A-1 Seg. 1	- 1 - -	E->W W->E E->W W->E E->W	- 82.7 79.1	- - 0.0 0.0	1609 461 441 269 257	- - - -	- 1.0 1.0 .81 .81	- - - -	339 339 339 275 275	- - - -	- - 275 275	5596 1534 1534 894 894	- - 0.30 0.29
LnA, Lev2 Wall A-1	- 1 - -	E->W W->E E->W W->E E->W W->E	- 82.7 79.1 70.0	- - 0.0 0.0 0.0	1609 461 441 269 257 192	- - - -	- 1.0 1.0 .81 .81 .69	- - - -	339 339 339 275 275 233	- - - -	- 275 275 233	5596 1534 1534 894 894 640	- - 0.30 0.29 0.30
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2	- 1 - - -	E->W W->E E->W W->E E->W W->E E->W	- 82.7 79.1 70.0 66.9	- - 0.0 0.0 0.0 0.0	1609 461 441 269 257 192 184	- - - - -	- 1.0 .81 .69 .69	- - - - -	339 339 339 275 275 233 233		- 275 275 233 233	5596 1534 1534 894 894 640 640	- - 0.30 0.29 0.30 0.29
LnA, Lev2 Wall A-1 Seg. 1	- 1 - - - 1	E->W W->E E->W W->E E->W W->E E->W W->E	82.7 79.1 70.0 66.9	- - 0.0 0.0 0.0 0.0	1609 461 441 269 257 192 184 1221	- - - - - -	- 1.0 .81 .81 .69 .69 1.0		339 339 275 275 233 233 339		- 275 275 233 233 -	5596 1534 1534 894 894 640 640 640 4062	- - 0.30 0.29 0.30 0.29 -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2	- 1 - - 1 1	E->W W->E E->W W->E E->W W->E E->W W->E E->W	82.7 79.1 70.0 66.9 _	- - 0.0 0.0 0.0 0.0 - -	1609 461 441 269 257 192 184 1221 1168	- - - - - - -	- 1.0 .81 .81 .69 .69 1.0 1.0	- - - - - -	339 339 275 275 233 233 339 339		- 275 275 233 233 -	5596 1534 1534 894 640 640 640 4062 4062	- - 0.30 0.29 0.30 0.29 - -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2	- 1 - - - 1	E->W W->E E->W W->E E->W W->E E->W W->E	82.7 79.1 70.0 66.9 - 203.5	- - - 0.0 0.0 0.0 - - 0.0	1609 461 441 269 257 192 184 1221 1168 611	- - - - - -	- 1.0 .81 .81 .69 .69 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339		- 275 275 233 233 - - 339	5596 1534 1534 894 640 640 640 4062 4062 1016	- - 0.30 0.29 0.30 0.29 - - - 0.60
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2	- 1 - - 1 1	E->W W->E E->W W->E E->W W->E E->W W->E E->W	82.7 79.1 70.0 66.9 _	- - 0.0 0.0 0.0 0.0 - -	1609 461 441 269 257 192 184 1221 1168	- - - - - - -	- 1.0 .81 .81 .69 .69 1.0 1.0	- - - - - -	339 339 275 275 233 233 339 339		- 275 275 233 233 -	5596 1534 1534 894 640 640 640 4062 4062	- - 0.30 0.29 0.30 0.29 - -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2	- 1 - - 1 1	E->W W->E E->W W->E E->W W->E E->W W->E E->W W->E E->W W->E	82.7 79.1 70.0 66.9 - 203.5	- - - 0.0 0.0 0.0 - - 0.0	1609 461 441 269 257 192 184 1221 1168 611	- - - - - - - -	- 1.0 .81 .81 .69 .69 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339		- 275 275 233 233 - - 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031	- - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1	- 1 - - 1 1	E ->W W->E E->W W->E E->W W->E W->E W->E W	82.7 79.1 70.0 66.9 - 203.5 194.7	- - - 0.0 0.0 0.0 - - - 0.0 0.0	1609 461 441 269 257 192 184 1221 1168 611 584	- - - - - - - -	- 1.0 .81 .81 .69 .69 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339		- 275 275 233 233 - - 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031	- - 0.30 0.29 0.30 0.29 - - 0.60 0.58
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1	- 1 - - 1 1 - -	E ->W W->E E ->W W->E E ->W W->E E ->W W->E E ->W W->E W->E W->E W->E	82.7 79.1 70.0 66.9 203.5 194.7	- 0.0 0.0 0.0 - - 0.0 0.0 203.5	1609 461 441 269 257 192 184 1221 168 611 584 1221		1.0 1.0 .81 .69 .69 1.0 1.0 1.0 1.0	- - - - - - - - - -	339 339 275 275 233 339 339 339 339 339 339		- 275 275 233 233 - 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031	- - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1	- 1 - - 1 1 - -	E ->W W ->E E ->W W ->W	82.7 79.1 70.0 66.9 203.5 194.7 	- 0.0 0.0 0.0 - - 0.0 0.0 203.5 194.7 0.0	1609 461 441 269 257 192 184 1221 1168 611 584 1221 168 611		1.0 1.0 .81 .69 .69 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 - 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 4062 1016 2031 2031 1016	- - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2	- - - 1 1 - - - - - - - - - -	E ->W W->E E ->W W->E W->E W->S W->S W->S W->S W->S W->S W->S W->S	82.7 79.1 70.0 66.9 203.5 194.7 203.5	- 0.0 0.0 0.0 - - 0.0 203.5 194.7	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168		1.0 1.0 .81 .69 .69 1.0 1.0 1.0 1.0		339 339 275 275 233 339 339 339 339 339 339 339 339 339		- 275 275 233 233 - - 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031	- - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1		E - > W W = -> W E - > W W> W W> W W> W E> W W> W E> W E> W E> W	82.7 79.1 70.0 66.9 203.5 194.7 203.5	- 0.0 0.0 0.0 - - 0.0 203.5 194.7 0.0 0.0	1609 461 441 269 257 192 184 1221 1168 611 584 611 584		1.0 1.0 .81 .69 .69 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 - 339 339 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 1016 1016	$\begin{array}{c} - \\ - \\ - \\ 0.30 \\ 0.29 \\ - \\ - \\ 0.60 \\ 0.58 \\ 0.60 \\ 0.58 \\ 0.60 \\ 0.58 \end{array}$
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1		E ->W W ->E E ->W W ->E E ->W W ->E W ->W W ->E W ->E W ->E W ->E W ->E W ->E	82.7 79.1 70.0 66.9 203.5 194.7 203.5 194.7 	- - - - - - 0.0 0.0 - - - 0.0 0.0 203.5 194.7 0.0 0.0	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 4010		1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - - 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 1016 1016 5586	- - - 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58 -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1		E - > W W - > E E - > W W - > W W - > W E - > W W - > > W	82.7 79.1 70.0 66.9 203.5 194.7 203.5 194.7 	- - - - - - - - - - - - - 0.0 0.0 203.5 194.7 0.0 0.0 - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 4010 3937		1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 339 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - 339 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 2031 1016 1016 5586 5586	- - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1		E -> > W E -> > > W E -> > > = -> = -> = -> = - W E -> > > = -> = - W E -> -> = - N E W E W E W E W E W E W E W E W	82.7 79.1 70.0 66.9 203.5 194.7 203.5 194.7 203.5	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 4010 3937 3038		- 1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 1016 1016 5586 5586 4232	- - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1	- - - - - - - - - - - - - 1 1 - - - - -	E->>W WE->>W W>>W W>>W W>>W W>>W W>>W WE>>W	82.7 79.1 70.0 66.9 203.5 194.7 203.5 194.7 203.5 194.7 	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 1221 1168 611 584 2037 3038 2983		- 1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - 339 339 339 339 339 339 339 - - - -	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 1016 1016 5586 5586 5586 4232 4232	- - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58 - - - - - - - - - - - - - - - - - - -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1		E->>WE WE->>>WE WE->>>WE WE->>>WE WE->>>WE WE->>>WE WE->>>WE WE WE WE WE WE WE WE WE WE WE WE WE W	- 82.7 79.1 70.0 66.9 - - 203.5 194.7 - - 203.5 194.7 - - - - 203.5	- - - 0.0 0.0 0.0 - - - 0.0 203.5 194.7 0.0 0.0	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 1221 1168 611 584 203 3038 2983 3038		1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - 339 339 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 4062 1016 2031 2031 1016 1016 5586 5586 4232 4232	- - - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1		E->>WE WE->>>WE W>>WE W>>WE W>>WE W>>>WE W>>>WE W>>>WE WE WE WE WE WE WE WE WE WE WE WE WE W	- 82.7 79.1 70.0 66.9 - - 203.5 194.7 - - - 203.5 194.7 - - - - 243.0 238.6	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 4010 3937 3038 2983 3038 2983		1.0 1.0 .81 .81 .69 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - - 339 339 339 339 339 339 339 339 3	5596 1534 1534 894 640 640 4062 4062 4062 1016 1016 1016 1016 5586 5586 4232 4232 4232	- - - - - - - - - - - - - - - - - - -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1 Seg. 2		E->>WE WE->>>WE WE->>>WE WE->>>WE WE->>>WE WE->>>WE WE->>>WE WE WE WE WE WE WE WE WE WE WE WE WE W	- 82.7 79.1 70.0 66.9 - - 203.5 194.7 - - 203.5 194.7 - - - - 203.5	- - - 0.0 0.0 0.0 - - - 0.0 203.5 194.7 0.0 0.0	1609 461 441 269 257 192 184 1221 1168 611 584 4010 3937 3038 2983 3038 2983 0		1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - 339 339 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 4062 1016 2031 2031 1016 1016 5586 5586 4232 4232	- - - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1		E->>WE WE->>>WE W>>WE W>>WE W>>WE W>>>WE W>>>WE W>>>WE WE WE WE WE WE WE WE WE WE WE WE WE W	- 82.7 79.1 70.0 66.9 - - 203.5 194.7 - - - 203.5 194.7 - - - - 243.0 238.6	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 4010 3937 3038 2983 3038 2983		1.0 1.0 .81 .81 .69 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 233 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 2031 2031 1016 1016 5586 5586 4232 4232 4232 4232 4232	- - - - - - - - - - - - - - - - - - -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1 Seg. 1 Seg. 2		E->>W WE->>W WE->>W WE->>>W	- 82.7 79.1 70.0 66.9 - - 203.5 194.7 - - 203.5 194.7 - - - 203.5 194.7 - - - 203.5 194.7 - - - 203.5 194.7 - - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 4010 3937 3038 2983 3038 2983 0		1.0 1.0 .81 .81 .69 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - - - 339 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 1016 1016 5586 5586 4232 4232 4232	- - - - - - - - - - - - - - - - - - -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1 Seg. 1 Seg. 2 Wall A-2		E->>WE WE->>>WE W>>WE->>>WE W>>>WE W>>>WE W>>>WE WE>>> WE WE>>> WE WE WE WE WE WE WE WE WE WE WE WE WE	- 82.7 79.1 70.0 66.9 - 203.5 194.7 - - 203.5 194.7 - - - 243.0 238.6 0.0 - -	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 611 584 4010 3937 3038 2983 3038 2983 0 972 954		- 1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 339 339 339 339 339 339 339 339 339		- 275 275 233 233 233 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 2031 2031 1016 1016 5586 5586 4232 4232 4232 4232 4232 4232	- - - - 0.30 0.29 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1 Seg. 1 Seg. 2	- - - - - - - - - - - - - - - - - - -	E->>WE WE->>>>WE WE->>>>>>>>>>>>>>>>>>>>	- 82.7 79.1 70.0 66.9 - 203.5 194.7 - 203.5 194.7 - - 243.0 238.6 0.0 238.6 0.0	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 4010 3937 3038 2983 3038 2983 3038 2983 0 972 954 486		- 1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 339 339 339 339 339 339 339 339 339		- 275 275 233 233 233 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 2031 1016 1016 5586 5586 4232 4232 4232 4232 4232 4232 4232 423	- - - - - - - - - - - - - - - - - - -
<pre>LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1 Seg. 1 Seg. 2 Wall A-2 Seg. 1</pre>		E W E W E W E W E W E W E W E W E W E W	- 82.7 79.1 70.0 66.9 - 203.5 194.7 - 203.5 194.7 - - 203.5 194.7 - - 243.0 238.6 0.0 238.6 0.0 - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 4010 3937 3038 2983 3038 2983 3038 2983 3038 2983		1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - 339 339 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 1016 1016 5586 4232 4232 4232 4232 4232 4232 4232 423	- - - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.29 - - - - - - - - - - - - - - - - - - -
LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1 Seg. 1 Seg. 2 Wall A-2		E ->>WE WE ->>>WE WE ->>>WE WE ->>>WE WE ->>>WE WE WE WE WE WE WE WE WE WE WE WE WE W	- 82.7 79.1 70.0 66.9 - - 203.5 194.7 - - 203.5 194.7 - - - 243.0 238.6 0.0 - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 4010 3937 3038 2983 3038 2983 0 972 954 486 477 486		1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 4062 1016 1016 1016 1016 5586 4232 4232 4232 4232 4232 4232 4232 423	- - - - - - - - - - - - - - - - - - -
<pre>LnA, Lev2 Wall A-1 Seg. 1 Seg. 2 Wall A-2 Seg. 1 Open. 1 Seg. 2 Level 1 LnA, Lev1 Wall A-1 Seg. 1 Seg. 1 Seg. 2 Wall A-2 Seg. 1</pre>		E W E W E W E W E W E W E W E W E W E W	- 82.7 79.1 70.0 66.9 - 203.5 194.7 - 203.5 194.7 - - 203.5 194.7 - - 243.0 238.6 0.0 238.6 0.0 - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	1609 461 441 269 257 192 184 1221 1168 611 584 1221 1168 611 584 4010 3937 3038 2983 3038 2983 3038 2983 3038 2983		1.0 1.0 .81 .81 .69 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		339 339 275 275 233 233 339 339 339 339 339 339 339 339		- 275 275 233 233 233 - 339 339 339 339 339 339 339 339 339	5596 1534 1534 894 640 640 4062 4062 1016 1016 2031 2031 1016 1016 5586 4232 4232 4232 4232 4232 4232 4232 423	- - - - 0.30 0.29 0.30 0.29 - - 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.58 0.60 0.29 - - - - - - - - - - - - - - - - - - -

City of Puyallu

WoodWorks® Shearwalls

SHEAR RESULTS (flexible wind design, continued)

SHEAR RESUL	IS (flex)	ible wind	design, cor	ntinued)									
LnD, Lev2	-	W->E	-	-	1400	-	-	-	339	-	-	5416	-
	-	E - > W	-	-	1392	-	-	-	339	-	-	5416	-
Wall D-1	1	W - > E	-	-	1400	-	1.0	-	339	-	-	5416	-
	1	E - > W	-	-	1392	-	1.0	-	339	-	-	5416	-
Seg. 1	-	Both	0.0	0.0	0	-	1.0	-	339	-	339	-	-
Seg. 2	-	W - > E	87.5	0.0	1028	-	1.0	-	339	-	339	3978	0.26
	-	E - > W	87.0	0.0	1022	-	1.0	-	339	-	339	3978	0.26
Seg. 3	-	W - > E	87.5	0.0	372	-	1.0	-	339	-	339	1439	0.26
	-	E - > W	87.0	0.0	370	-	1.0	-	339	-	339	1439	0.26
Level 1													
LnD, Lev1	-	W - > E	-	-	3802	-	-	-	495	-	-	14125	-
	-	E -> W	-	-	3794	-	-	-	495	-	-	14125	-
Wall D-1	2	W - > E	-	-	2480	-	1.0	-	495	-	-	8770	-
	2	E -> W	-	-	2475	-	1.0	-	495	-	-	8770	-
Seg. 1	-	W - > E	244.6	0.0	1040	-	1.0	-	495	-	495	2103	0.49
	-	E -> W	244.1	0.0	1037	-	1.0	-	495	-	495	2103	0.49
Open. 1	-	W - > E	-	305.8	1835	-	-	-	495	-	495	2969	0.62
	-	E -> W	-	305.1	1831	-	-	-	495	-	495	2969	0.62
Seg. 2	-	W - > E	326.2	-101.9	1060	-	1.0	-	495	-	495	1608	0.66
	-	E - > W	325.5	-101.7	1058	-	1.0	-	495	-	495	1608	0.66
Open. 2	-	W - > E	-	305.8	917	-	-	-	495	-	495	1484	0.62
	-	E - > W	-	305.1	915	-	-	-	495	-	495	1484	0.62
Seg. 3	-	W - > E	217.4	34.0	381	-	.70	-	346	-	346	606	0.63
	-	E - > W	217.0	33.9	380	-	.70	-	346	-	346	606	0.63
Wall D-2	2	W - > E	135.9	-	679	-	1.0	-	495	-	495	2474	0.27
	2	E - > W	135.6	-	678	-	1.0	-	495	-	495	2474	0.27
Wall D-3	2	W - > E	-	-	642	-	1.0	-	495	-	-	2882	-
	2	E - > W	-	-	641	-	1.0	-	495	-	-	2882	-
Seg. 1	-	W - > E	171.2	0.0	300	-	.70	-	346	-	346	606	0.49
	-	E -> W	170.9	0.0	299	-	.70	-	346	-	346	606	
Open. 1	-	W - > E	-	214.0	642	-	-	-	495	-	495	1484	0.43
	-	E -> W	-	213.6	641	-	-	-	495	-	495	1484	0.43
Seg. 2	-	Both	170.9	0.0	342	-	.80	-	396	-	396	792	0.43

Legend:

W Gp - Wall design group defined in Sheathing and Framing Materials tables, where it shows associated Standard Wall. "^" means that this wall is critical for all walls in the Standard Wall group.

For Dir - Direction of wind force along shearline.

v - Design shear force on segment = ASD-factored shear force per unit length of full-height sheathing (FHS)

vmax/vft - Perforated walls: Collector and in-plane anchorage force as per SDPWS eqn. 4.3-9 = V/FHS/Co. FHS is factored for narrow segments as per 4.3.4.3

Force-transfer walls: Shear force in piers above and below either openings or piers beside opening(s). Aspect ratio factor does not apply to these piers.

V - ASD factored shear force. For shearline: total shearline force. For wall: total of all segments on wall. For segment: force on segment

Asp/Cub – For wall: Unblocked structural wood panel factor Cub from SDPWS 4.3.3.2. For segment or force-transfer pier: Aspect ratio adjustment from SDPWS 4.3.3.4.1

Int - Unit shear capacity of interior sheathing; Ext - Unit shear capacity of exterior sheathing. For wall: Unfactored. For segment: Include Cub factor and aspect ratio adjustments.

Co - Adjustment factor for perforated walls from SDPWS Equation 4.3-5.

C - Sheathing combination rule, A = Add capacities, S = Strongest side or twice weakest, G = Stiffness-based using SDPWS 4.3-3.

Cmb - Combined interior and exterior unit shear capacity including perforated wall factor Co.

V – Total factored shear capacity of shearline, wall or segment.

Crit Resp – Response ratio = v/Cmb = design shear force/unit shear capacity. "S" indicates that the wind design criterion was critical in selecting wall.

Notes:

Refer to Elevation View diagrams for individual level for uplift anchorage force t for perforated walls given by SDPWS 4.3.6.4.2,4.

HOLD-DOWN DESIGN (flexible wind design)

Level 1		•	• /			Tensile	ASD				
Line-		Locati	ion [ft]	Load	Ho	olddown F	orce [lbs]			Сар	Crit
Wall	Posit'n	Х	Ŷ	Case	Shear	Dead	Uplift	Cmb'd	Hold-down	[lbs]	Resp.
Line 1											
	V Elem	0.00	2.88	1	419			419		level	
1-1	R Op 1	0.00	17.63	1	2541			2541	STHD14 (8"	3815	0.67
	V Elem	0.00	26.88	1	1228			1228	Refer to upper		
1-1	R End	0.00	33.87	1	1713			1713	STHD14 (8"	3815	0.45
Line 4											
4-1	L End	30.00	0.12	1	2607			2607	STHD14 (8"	3815	0.68
4-1	R End	30.00	6.88	1	2106			2106	STHD14 (8"	3815	0.55
4-2	L End	30.00	13.63	1	2095			2095	STHD14 (8"	3815	0.55
4-2	R End	30.00	24.88	1	2076			2076	STHD14 (8"	3815	0.54
	V Elem	30.00	33.87	1	462			462	Refer to upper	level	
Line 5											
5-2	L End	50.00	15.13	1	1393			1393	LIMIT w/o	1500	0.93
5-2	R End	50.00	27.88	1	1393			1393	LIMIT w/o	1500	0.93
Line A											
A-1	L End	0.12	2.00	1	2948			2948	STHD14 (8"	3815	0.77
	V Elem	3.13	0.00	1	686			686	Refer to upper	level	
A-1	L Op 1	12.38	2.00	1	1979			1979	STHD14 (8"	3815	0.52
	V Elem	17.13	0.00	1	393			393	Refer to upper		
	V Elem	17.87	0.00	1	589			589	Refer to upper	level	
A-2	L End	18.13	0.00	1	2687			2687	STHD14 (8"	3815	0.70
A-2	L Op 1	20.88	0.00	1	1562			1562	STHD14 (8"	3815	0.41
A-2	R Op 1	27.13	0.00	1	1591			1591	STHD14 (8"	3815	0.42
A-2	R End	29.88	0.00	1	2610			2610	STHD14 (8"	3815	0.68
Line D											
D-1	L End	0.12	34.00	1	1240			1240	LIMIT w/o	1500	0.83
	V Elem	4.13	34.00	1	715			715	Refer to upper	level	
	V Elem	13.38	34.00	1	207			207	Refer to upper		
	V Elem	16.62	34.00	1	504			504	Refer to upper	level	
D-1	R End	18.13	34.00	1	1237			1237	LIMIT w/o	1500	0.82
D-2	L End	18.38	35.75	1	1287			1287	LIMIT w/o	1500	0.86
D-2	R End	23.13	35.75	1	1285			1285	LIMIT w/o	1500	0.86
D-3	L End	23.38	34.00	1	889			889	LIMIT w/o	1500	0.59
	V Elem	24.88	34.00	1	527			527	Refer to upper	level	
	V Elem	28.13	34.00	1	217			217	Refer to upper	level	
D-3	R End	29.88	34.00	1	1627			1627	STHD14 (8"	3815	0.43
Level 2						Tensile				•	o ''
Line-			ion [ft]	Load			orce [lbs]	.		Сар	Crit
Wall	Posit'n	Х	Y	Case	Shear	Dead	Uplift	Cmb'd	Hold-down	[lbs]	Resp.
Line 1											
1-1	R Op 1	0.00	12.63	1	1247			1247	MSTC48B3	3315	0.38
1-1	L Op 2	0.00	26.88	1	1228			1228	MST48	3640	0.34
Line 4											
4-1	L End	30.00	0.12	1	481			481	LIMIT w/o	1500	0.32
4-1	R End	30.00	33.87	1	462			462	LIMIT w/o	1500	0.31
Line A											
A-1	L End	0.12	2.00	1	717			717	LIMIT w/o	1500	0.48
A-1	L 0p 1	3.13	2.00	1	686				LIMIT w/o	1500	0.46
A-1	R Op 1	15.38	2.00	1	616			616	LIMIT w/o	1500	0.41
A-1	R End	17.87	2.00	1	589			589	LIMIT w/o	1500	0.39
A-2	L End	18.13	0.00	1	1096			1096	LIMIT w/o	1500	0.73
A-2	R End	29.88	0.00	1	1049			1049	LIMIT w/o	1500	0.70
Line D	it bild	22.00	0.00	-	1017			1010	W/O	1000	5.75
D-1	R Op 1	4 12	34.00	1	715			715	LIMIT W/O	1500	0.48
		4.13		1					LIMIT w/o LIMIT w/o		
D-1	L Op 2 D Op 2	15.63	34.00		711			711		1500	0.47
D-1	R Op 2	25.88	34.00	1	744			744	LIMIT w/o	1500	0.50
D-1	R End	29.88	34.00	1	739			739	LIMIT w/o	1500	0.49
Logondi					1						

Legend:

Line-Wall:

At wall or opening - Shearline and wall number At vertical element - Shearline

Posit'n - Position of stud that hold-down is attached to:

V Elem - Vertical element: column or strengthened studs required where not at wall end or opening

L or R End - At left or right wall end

L or R Op n - At left or right side of opening n

t @ Op n - Uplift force t at opening n from offset opening in perforated wall above, from SDPWS 4.3.6.2.1

Location - Co-ordinates in Plan View

Load Case - Results are for critical load case:



ASCE 7 All Heights: Case 1 or 2 from Fig. 27.3-8

ASCE 7 Low-rise: Windward corner(s) and Case A or B from Fig. 28.3-1

ASCE 7 Minimum loads (27.1.5 / 28.3.4)

Hold-down Forces:

Shear – Wind shear overturning component, based on shearline force, factored for ASD by 0.60. For perforated walls, T from SDPWS 4.3-8 is used.

Dead – Dead load resisting component, factored for ASD by 0.60

Uplift - Uplift wind load component, factored for ASD by 0.60. For perforated walls, T from SDPWS 4.3-8 is used.

Cmb'd - Sum of ASD-factored overturning, dead and uplift forces. May also include the uplift force t from perforated walls from SDPWS 4.3.6.2.1

when openings are staggered.

Hold-down – Device used from hold-down database

Cap – Allowable ASD tension load

Crit. Resp. - Critical Response = Combined ASD force / Allowable ASD tension load

Notes:

Refer to Shear Results table for factor Co, and shearline dimensions table for the sum of Li, used to calculate tension force T for perforated walls from SDPWS Eqn. 4.3-8.

Designer is responsible for design of connection from wall to floor or foundation for shear force shown in Shear Results table. Refer to SDPWS 4.3.6.4.3 for foundation anchor bolt requirements.

COLLECTOR FORCES (flexible wind design)

Level 1					Drag		Strap/Blo	
Line-	Position on Wall	Location		Load	Force	[lbs]	Force [lbs]
Wall	or Opening	Х	Y	Case	>	<	>	<
Line 1								
1-1	Right Opening 1	0.00	17.50	1	-1498	1498		
Line 4								
4-1	Right Wall End	30.00	7.00	1	541	-536		
4-2	Left Wall End	30.00	13.50	1	-437	433		
4-2	Right Wall End	30.00	25.00	1	451	-447		
Line 5								
5-2	Left Wall End	50.00	15.00	1	-431	431		
Line A								
A-1	Left Opening 1	12.50	2.00	1	1367	-1342		
A-2	Left Opening 1	21.00	0.00	1	717	-704		
A-2	Right Opening 1	27.00	0.00	1	-85	84		
Line D								
D-1	Left Opening 1	4.25	34.00	1	-539	537		
D-1	Right Opening 1	10.25	34.00	1	536	-535		
D-1	Left Opening 2	13.50	34.00	1	-207	207		
D-1	Right Opening 2	16.50	34.00	1	330	-329		
D-3	Left Opening 1	25.00	34.00	1	- 8	8		
D-3	Right Opening 1	28.00	34.00	1	253	-253		
D-1	Left Opening 1	4.25	34.00				1040	1037
D-1	Right Opening 1	10.25	34.00				795	793
D-1	Left Opening 2	13.50	34.00				596	595
D-1	Right Opening 2	16.50	34.00				321	320
D-3	Left Opening 1	25.00	34.00				300	299
D-3	Right Opening 1	28.00	34.00				342	342
Level 2					Drag S		Strap/Blo	
Line-	Position on Wall	Location	າ [ft]	Load	Force	[lbs]	Force [lbs]
Wall	or Opening	Х	Y	Case	>	<	>	<
Line 1								
1-1	Right Opening 1	0.00	12.50	1	-442	435		
1-1	Left Opening 2	0.00	27.00	1	295	-290		
Line A								
	Left Opening 1	3.25	2.00	1	86	-83		
A-1	here opening i							
A-1 A-1	Right Opening 1	15.25	2.00	1	-586	561		
			2.00 0.00	1 1	-586 -716	561 685		
A-1	Right Opening 1	15.25						
A-1 A-2	Right Opening 1 Left Opening 1	15.25 21.00	0.00	1	-716	685	611	584
A-1 A-2 A-2	Right Opening 1 Left Opening 1 Right Opening 1	15.25 21.00 27.00	0.00	1	-716	685	611 611	
A-1 A-2 A-2 A-2	Right Opening 1 Left Opening 1 Right Opening 1 Left Opening 1	15.25 21.00 27.00 21.00	0.00 0.00 0.00	1	-716	685		
A-1 A-2 A-2 A-2 A-2 Line D	Right Opening 1 Left Opening 1 Right Opening 1 Left Opening 1 Right Opening 1	15.25 21.00 27.00 21.00 27.00	$0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00$	1 1	-716 168	685 -161		
A-1 A-2 A-2 A-2 A-2 Line D D-1	Right Opening 1 Left Opening 1 Right Opening 1 Left Opening 1 Right Opening 1 Right Opening 1	15.25 21.00 27.00 21.00 27.00 4.00	0.00 0.00 0.00 0.00 34.00	1 1	-716 168 -187	685 -161 186		
A-1 A-2 A-2 A-2 A-2 Line D	Right Opening 1 Left Opening 1 Right Opening 1 Left Opening 1 Right Opening 1	15.25 21.00 27.00 21.00 27.00	$0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00$	1 1	-716 168	685 -161		584 584

Legend:

Line-Wall - Shearline and wall number

Position...- Side of opening or wall end that drag strut is attached to

Location - Co-ordinates in Plan View

Load Case - Results are for critical load case:

ASCE 7 All heights Case 1 or 2

ASCE 7 Low-rise corner; Case A or B

Drag strut Force - Axial force in transfer element at openings, gaps, or changes in design shear along shearline. + : tension; - : compression. Based on ASD-factored shearline force (vmax from 4.3.6.4.1.1 for perforated walls)

Strap/Blocking Force - For force-transfer walls, force transferred from above and below opening to shearwall pier.

-> Due to shearline force in the west-to-east or south-to-north direction

<- Due to shearline force in the east-to-west or north-to-south direction



Flexible Diaphragm Seismic Design

SEISMIC INFORMATION

Level	Mass	Area	Story Shear [lbs]		Diaphragm Force [lbs]					
	[lbs]	[sq.ft]	E-W	N-S	E-W:	Fpx	Design	N-S:	Fpx	Design
2	24549	984.0	5222	5222		3655	3655		3655	3655
1	43624	1412.8	5266	5266		6156	6156		6156	6156
All	68173	-	10488	10488		-	-		-	-

Legend:

Mass – Sum of all generated and input building masses on level = wx in ASCE 7 equation 12.8-12.

Story Shear – Total unfactored (strength-level) shear force induced at level x, = Fx in ASCE 7 equation 12.8-11.

Diaphragm Force – Minimum ASD-factored force for diaphragm design, used by Shearwalls only for drag strut forces, as per Exception to 12.10.2.1. Fpx is from Eqns. 12.10-1, -2, and -3. Design = The greater of the story shear and Fpx + transfer forces from discontinuous shearlines, factored by overstrength (omega) as per 12.10.1.1. Omega = 2.5 as per 12.2-1.

Redundancy Factor p (rho):

E-W 1.00, N-S 1.00 Automatically calculated according to ASCE 7 12.3.4.2.

Vertical Earthquake Load Ev

Ev = 0.2 Sds D; Sds = 1.00; Ev = 0.200 D unfactored; 0.140 D factored; total dead load factor: 0.6 - 0.140 = 0.460 tension, 1.0 + 0.140 = 1.140 compression.

SHEAR RESULTS (flexible seismic design)

Shearlines Line 1 Level 2 Ln1, Lev2 Wall 1-1 Seg. 1 Seg. 2 Seg. 3	Gp -	Dir	v	vmax/vft	V [lbs]	Int	Ext	Int	Ext	Co C	Cmb	V [lbs]	Ratio
Line 1 Level 2 Ln1, Lev2 Wall 1-1 Seg. 1 Seg. 2	-	_											
Level 2 Ln1, Lev2 Wall 1-1 Seg. 1 Seg. 2													
Ln1, Lev2 Wall 1-1 Seg. 1 Seg. 2		-											
Wall 1-1 Seg. 1 Seg. 2		Both	-	-	1782	-	_	_	242	-	-	3506	-
Seg. 1 Seg. 2	1	Both	-	-	1782	-	1.0	_	242	-	-	3506	-
Seg. 2	-	Both	0.0	0.0	0	-	1.0	-	242	-	242	_	-
Sec 3	-	Both	122.9	0.0	1782	-	1.0	-	242	-	242	3506	0.51
JUG . J	-	Both	0.0	0.0	0	-	1.0	-	242	-	242	-	-
Level 1													
Ln1, Lev1	-	Both	-	-	2857	-	-	-	242	-	-	3990	_
Wall 1-1	1	Both	-	-	2857	-	1.0	-	242	-	-	3990	-
Seg. 1	-	Both	0.0	0.0	0	-	1.0	-	242	-	242	-	-
Seg. 2	-	Both	173.1	0.0	2857	-	1.0	-	242	-	242	3990	0.72
Line 4													
Level 2													
Ln4, Lev2	1	Both	55.1	-	1873	-	1.0	-	242	-	242	8221	0.23
Level 1													
Ln4, Lev1	-	Both	-	-	3633	-	-	-	242	-	-	4473	_
Wall 4-1	1	Both	196.4	-	1375	-	1.0	-	242	-	242	1693	0.81
Wall 4-2	1	Both	196.4	-	2259	-	1.0	-	242	-	242	2781	0.81
Line 5													
Ln5, Lev1	-	Both	-	-	852	-	-	-	242	_	-	3143	-
Wall 5-2	1	Both	65.5	-	852	-	1.0	-	242	-	242	3143	0.27
E-W	W	For	ASD S	hear Force	[plf]	Asp	-Cub		Allo	wable Shea	ar [plf]		Resp.
Shearlines	Gp	Dir	v	vmax/vft	V [lbs]	Int	Ext	Int	Ext	Co C	Cmb	V [lbs]	Ratio
Line A					· ·								
Level 2													
LnA, Lev2	-	Both	-	_	1869	_	_	_	242	_	-	3997	_
Wall A-1	1	Both	_	_	512	_	1.0	_	242	_	-	1096	_
Seq. 1	-	Both	91.9	0.0	299	_	.81	_	196	_	196	639	0.47
Seg. 2	_	Both	77.7	0.0	214	_	.69	_	166	_	166	457	0.47
Wall A-2	1	Both	-	-	1357	_	1.0	_	242	_	-	2902	-
Seg. 1	-	Both	226.1	0.0	678	_	1.0	_	242	_	242	725	0.94
Open. 1	_	Both	-	226.1	1357	_	-	_	242	_	242	1451	0.94
Seg. 2	_	Both	226.1	0.0	678	_	1.0	_	242	_	242	725	0.94
Level 1		DOCII	220.1	0.0	070		1.0		212		212	125	0.91
LnA, Lev1	_	Both	_	-	3727	_	_	_	242	_	_	3990	-
Wall A-1	1^	Both	_	_	2823	_	1.0	_	242	_	_	3023	_
Seg. 1	_ _	Both	_ 225.9	0.0	2823	_	1.0	_	242	_	242	3023	0.93
Seg. 2	_	Both	0.0	0.0	2023	_	1.0	_	242	_	242	- 3023	-
Wall A-2	1^		- 0.0	-	903	_	1.0	-	242	_	- 242	967	_
	_ _	Both		0.0		_	.67	_		_	161		0.93
Seg. 1	_	Both	150.6 150.6		452	_	.67	_	161	_		484	
Seg. 2	-	Both	130.0	0.0	452	-	.07	-	161	-	161	484	0.93
Line D													
Level 2													
LnD, Lev2	-	Both	-	-	1786	-	-	-	242	-	-	3869	-
Wall D-1	1	Both	-	-	1786	-	1.0	-	242	-	_	3869	-
Seg. 1	-	Both	0.0	0.0	0	-	1.0	-	242	-	242	-	-
Seg. 2	-	Both	111.6	0.0	1312	-	1.0	-	242	-	242		0.46
Seg. 3	-	Both	111.6	0.0	474	-	1.0	-	242	-	242	1028	0.46
Level 1													
LnD, Lev1	-	Both	-	-	3617	-	-	-	353	-	-	10090	-
Wall D-1	2^	Both	-	-	2359	-	1.0	-	353	-	-	6264	-
Seg. 1	-	Both	232.7	0.0	989	-	1.0	-	353	-	353		0.66
Open. 1	-	Both	-	290.9	1745	-	-	-	353	-	353		0.82
Seg. 2	-	Both	310.3	-97.0	1008	-	1.0	-	353	-	353		0.88
Open. 2	-	Both	-	290.9	873	-	-	-	353	-	353		0.82
Seg. 3	-	Both	206.8	32.3	362	-	.70	-	247	-	247	433	
Wall D-2	2	Both	129.3	-	646	-	1.0	-	353	-	353		0.37
	2	Both	-	-	611	-	1.0	-	353	-	-	2059	-
Wall D-3		Both	162.9	0.0	285	-	.70	-	247	-	247	433	0.66
Wall D-3 Seg. 1	-	BUCH	102.7										
Seg. 1 Open. 1	-	Both	-	203.6	611	-	-	-	353	-	353	1060	0.58
Seg. 1						-		-				1060	

Legend:

W Gp - Wall design group defined in Sheathing and Framing Materials tables, where it shows associated Standard Wall. "^" means that this wall is critical for all walls in the Standard Wall group.

For Dir – Direction of seismic force along shearline.

v - Design shear force on segment = ASD-factored shear force per unit length of full-height sheathing (FHS)

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City of Pu

WoodWorks® Shearwalls

vmax/vft - Perforated walls: Collector and in-plane anchorage force as per SDPWS eqn. 4.3-9 = V/FHS/Co. FHS is factored for narrow segments as per 4.3.4.3

Force-transfer walls: Shear force in piers above and below either openings or piers beside opening(s). Aspect ratio factor does not apply to these piers.

V - ASD factored shear force. For shearline: total shearline force. For wall: total of all segments on wall. For segment: force on segment Asp/Cub – For wall: Unblocked structural wood panel factor Cub from SDPWS 4.3.3.2. For segment or force-transfer pier: Aspect ratio adjustment from SDPWS 4.3.3.4.1

Int - Unit shear capacity of interior sheathing; Ext - Unit shear capacity of exterior sheathing. For wall: Unfactored. For segment: Include Cub factor and aspect ratio adjustments.

Co - Adjustment factor for perforated walls from SDPWS Equation 4.3-5.

C - Sheathing combination rule, A = Add capacities, S = Strongest side or twice weakest, G = Stiffness-based using SDPWS 4.3-3.

Cmb - Combined interior and exterior unit shear capacity including perforated wall factor Co.

V – Total factored shear capacity of shearline, wall or segment.

Crit Resp – Response ratio = v/Cmb = design shear force/unit shear capacity. "W" indicates that the wind design criterion was critical in selecting wall.

Notes:

Refer to Elevation View diagrams for individual level for uplift anchorage force t for perforated walls given by SDPWS 4.3.6.4.2,4.

HOLD-DOWN DESIGN (flexible seismic design)

Level 1	DWN DESIGN		Sinic acoigi	' <u>'</u>	Tensile ASD				
Line-		Locati	on [ft]		Holddown Force [lbs]			Cap	Crit
Wall	Posit'n	X	Y	Shear	Dead Ev	Cmb'd	Hold-down	[lbs]	Resp.
Line 1								•••	•
	V Elem	0.00	2.88	554		554	Refer to upper	level	
1-1	R Op 1	0.00	17.63	2677		2677	STHD14 (8"	3815	0.70
	V Elem	0.00	26.88	1649		1649			
1-1	R End	0.00	33.87	1582		1582	STHD14 (8"	3815	0.41
Line 4									
4-1	L End	30.00	0.12	2456		2456	STHD14 (8"	3815	0.64
4-1	R End	30.00	6.88	1833		1833	,	3815	0.48
4-2	L End	30.00	13.63	1807		1807		3815	0.47
4-2	R End	30.00	24.88	1807		1807		3815	0.47
Line F	V Elem	30.00	33.87	623		623	Refer to upper	Tever	
Line 5	T The d	50.00	15 10	1050		1050		1500	0 70
5-2 5-2	L End R End	50.00	15.13 27.88	1050 1050		1050 1050	LIMIT w/o LIMIT w/o	1500 1500	0.70 0.70
	R Ella	50.00	27.00	1020		1050	LIMII W/O	1300	0.70
Line A A-1	L End	0.12	2.00	2870		2870	STHD14 (8"	3815	0.75
A-T	V Elem	3.13	2.00	2870 796			Refer to upper		0.75
A-1	L Op 1	12.38	2.00	1827		1827	STHD14 (8"	3815	0.48
	V Elem	17.13	0.00	437			Refer to upper		0.10
	V Elem	17.87	0.00	684			Refer to upper		
A-2	L End	18.13	0.00	2696			STHD14 (8"	3815	0.71
A-2	L Op 1	20.88	0.00	1478		1478	STHD14 (8"	3815	0.39
A-2	R Op 1	27.13	0.00	1478		1478		3815	0.39
A-2	R End	29.88	0.00	2696		2696	STHD14 (8"	3815	0.71
Line D									
D-1	L End	0.12	34.00	1180			LIMIT w/o	1500	0.79
	V Elem	4.13	34.00	913			Refer to upper		
	V Elem	13.38	34.00	266			Refer to upper		
D 1	V Elem	16.62	34.00	646			Refer to upper		0 70
D-1 D-2	R End L End	18.13 18.38	34.00	1180 1225		1180 1225		1500 1500	0.79 0.82
D-2 D-2	R End	23.13	35.75 35.75	1225		1225		1500	0.82
D-2 D-3	L End	23.38	34.00	846			LIMIT W/O	1500	0.52
23	V Elem	24.88	34.00	672		672	Refer to upper		0.50
	V Elem	28.13	34.00	277		277			
D-3	R End	29.88	34.00	1795		1795		3815	0.47
Level 2					Tensile ASD				
Line-			on [ft]		Holddown Force [lbs]			Сар	Crit
Wall	Posit'n	X	Y	Shear	Dead Ev	Cmb'd	Hold-down	[lbs]	Resp.
Line 1									
1-1	R Op 1	0.00	12.63	1649		1649		3315	0.50
1-1	L Op 2	0.00	26.88	1649		1649	MST48	3640	0.45
Line 4	_								
4-1	L End	30.00	0.12	623			LIMIT w/o	1500	0.42
4-1	R End	30.00	33.87	623		623	LIMIT w/o	1500	0.42
Line A		0.50	0.00						
A-1	L End	0.12	2.00	796			LIMIT w/o	1500	0.53
A-1	L Op 1	3.13	2.00	796			LIMIT w/o	1500	0.53
A-1	R Op 1	15.38	2.00	684			LIMIT w/o	1500	0.46
A-1	R End	17.87	2.00	684			LIMIT w/o	1500	0.46
A-2	L End B End	18.13	0.00	1218		1218		1500	0.81
A-2	R End	29.88	0.00	1218		1218	LIMIT w/o	1500	0.81
Line D	$D \sim 1$	1 1 2	24 00	010		010		1500	0 61
D-1 D-1	R Op 1 L Op 2	4.13	34.00 34.00	913 913		913 913	LIMIT w/o LIMIT w/o	1500 1500	0.61 0.61
D-1 D-1	LOpZ ROp2	15.63 25.88	34.00	913 949			LIMIT W/O	1500 1500	0.61
D-1 D-1	R OP Z R End	25.88	34.00	949		949 949	LIMII W/O LIMIT W/O	1500	0.63
T_7		27.00	54.00	249		223	TTHIT W/O	1000	0.05
				1					

Legend:

Line-Wall:

At wall or opening – Shearline and wall number At vertical element - Shearline

Posit'n - Position of stud that hold-down is attached to:

V Elem - Vertical element: column or strengthened studs required where not at wall end or opening

L or R End - At left or right wall end

L or R Op n - At left or right side of opening n

t @ Op n - Uplift force t at opening n from offset opening in perforated wall above, from SDPWS 4.3.6.2.1

Location - Co-ordinates in Plan View



Hold-down Forces:

Public Works

City of Puyallu ment & Permittin ISSUED PERMI ilding Pla

Shear - Seismic shear overturning component, factored for ASD by 0.7. For perforated walls, T from SDPWS 4.3-8 is used

Dead - Dead load resisting component, factored for ASD by 0.60

Ev - Vertical seismic load effect from ASCE 7 12.4.2.2 = -0.2Sds x ASD seismic factor x unfactored D = 0.233 x factored D. Refer to Seismic Information table for more details.

Cmb'd - Sum of ASD-factored overturning, dead and vertical seismic forces. May also include the uplift force t from perforated walls from SDPWS 4.3.6.2.1 when openings are staggered.

Hold-down – Device used from hold-down database

Cap – Allowable ASD tension load

Crit. Resp. - Critical Response = Combined ASD force/Allowable ASD tension load

Notes:

Combined force from ASCE 7 2.4.1 load combination 10 = -(0.6D - 0.7Ev + 0.7Eh); Eh (from 12.4.2.1) = - shear overturning force Refer to Shear Results table for factor Co, and shearline dimensions table for the sum of Li, used to calculate tension force T for perforated walls from SDPWS Eqn. 4.3-8.

Designer is responsible for design of connection from wall to floor or foundation for shear force shown in Shear Results table. Refer to SDPWS 4.3.6.4.3 for foundation anchor bolt requirements.

COLLECTOR FORCES (flexible seismic design)

Line- Wall Position on Wall or Opening Location [ft] X Force [lbs] r -> <	Level 1	OR FORCES (nexible seismic)	0 /		Drag S	Strut	Strap/Blo	ckina
Wall or Opening X Y \rightarrow \leftarrow \rightarrow \leftarrow Line 1 Shearline force 3577 3577 -1732 1732 Line 4 Shearline force 4813 4813 4813 4813 4-1 Right Wall End 30.00 7.00 618 -618 4-2 Left Wall End 30.00 13.50 -499 499 4-2 Right Wall End 30.00 15.00 516 -516 Shearline force 1422 1422 1422 1422 Line A Shearline force 4970 4970 4970 A-1 Left Opening 1 21.00 0.00 889 -889 A-2 Right Opening 1 21.00 0.00 8841 4841 A-2 Right Opening 1 10.25 34.00 -686 686 D-1 Right Opening 1 25.00 34.00 -242 264 D-1 Right Opening 1 26.50 34.00		Position on Wall	Location	[f+]	•		•	•
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $							-	-
Shearline force 3577 3577 -1732 1732 Line 4 Right Opening 1 0.00 17.50 -1732 1732 4 Right Wall End 30.00 7.00 618 -618 4-2 Left Wall End 30.00 13.50 -499 499 4-2 Right Wall End 30.00 15.00 516 -516 Line 5 Shearline force 1422 1422 1422 Line A Shearline force 4970 4970 4970 A-1 Left Opening 1 27.00 0.00 889 -889 A-2 Left Opening 1 10.25 34.00 -686 686 D-1 Right Opening 1 25.00 34.00 323 -323 D-1 Right Opening 1 28.00 34.00 323 -323 D-1 Right Opening 1 28.00 34.00 323 -323 D-1 Right Opening 1 28.00 34.00 -264 264		or opening	^		/	\	,	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Line	Cheerline forge			2577	2577		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1 1		0 00	17 50				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Right Opening i	0.00	17.50	-1/32	1/52		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Line 4				4010	4010		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	4 7		20.00					
4-2 Right Wall End 30.00 25.00 516 -516 Line 5 Shearline force 1422 1422 1422 5-2 Left Wall End 50.00 15.00 -542 542 Line A Shearline force 4970 4970 4970 A-1 Left Opening 1 21.00 0.00 889 -889 A-2 Right Opening 1 27.00 0.00 -105 105 Line D Shearline force 4841 4841 4841 D-1 Right Opening 1 10.25 34.00 682 -686 D-1 Right Opening 1 25.00 34.00 -264 264 D-1 Right Opening 1 25.00 34.00 -323 -323 D-1 Left Opening 1 25.00 34.00 -420 -420 D-3 Right Opening 1 28.00 34.00 -332 -323 D-1 Left Opening 1 25.00 34.00 -326 326 326 D-3 Left Opening 1 28.00 34.00 -425								
Line 5 $\frac{1}{5-2}$ Left Wall End 50.00 15.00 $\frac{1422}{-542}$ $\frac{1422}{542}$ Line A $\frac{1422}{542}$ $\frac{1422}{542}$ A-1 Left Opening 1 12.50 2.00 1694 -1694 A-2 Right Opening 1 21.00 0.00 -105 105 Line D $\frac{1}{200}$ $\frac{1000}{2000}$								
Shearline force 1422 1422 1422 Line A Shearline force 4970 4970 A-1 Left Opening 1 12.50 2.00 A-2 Left Opening 1 21.00 0.00 A-2 Right Opening 1 27.00 0.00 Barline force 4841 4841 D-1 Left Opening 1 4.25 34.00 D-1 Right Opening 2 13.50 34.00 -686 D-1 Right Opening 1 25.00 34.00 -11 11 D-3 Left Opening 1 10.25 34.00 -686 686 D-1 Right Opening 1 25.00 34.00 -11 11 D-3 Left Opening 1 4.25 34.00 -567 567 D-1 Left Opening 1 25.00 34.00 -528 285 285 D-1 Left Opening 1 25.00 34.00 -285 285 285 D-3 Right Opening 1 28.00 <td< td=""><td></td><td>Right Wall End</td><td>30.00</td><td>25.00</td><td>516</td><td>-516</td><td></td><td></td></td<>		Right Wall End	30.00	25.00	516	-516		
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A-1 Left opening 1 12.50 2.00 1694 -1694 A-2 Left opening 1 21.00 0.00 889 -889 A-2 Right Opening 1 27.00 0.00 -105 105 Line D	Line A							
A-2 Left Opening 1 21.00 0.00 889 -889 A-2 Right Opening 1 27.00 0.00 -105 105 Line D Shearline force 4841 4841 4841 D-1 Left Opening 1 10.25 34.00 -686 686 D-1 Right Opening 2 13.50 34.00 -264 264 D-1 Left Opening 1 25.00 34.00 -264 264 D-3 Left Opening 1 25.00 34.00 -264 264 D-3 Left Opening 1 25.00 34.00 -264 264 D-1 Right Opening 1 25.00 34.00 -264 264 D-1 Left Opening 1 10.25 34.00 -264 264 D-1 Left Opening 1 10.25 34.00 -265 567 756 D-1 Right Opening 2 16.50 34.00 285 325 285 285 285 285 285 285 285 285 285 285 285 285 126								
A-2 Right Opening 1 27.00 0.00 -105 105 Line D Shearline force 4841 4841 4841 D-1 Left Opening 1 10.25 34.00 -686 686 D-1 Right Opening 1 10.25 34.00 -264 264 D-1 Right Opening 2 16.50 34.00 -2264 264 D-1 Right Opening 1 25.00 34.00 420 -420 D-3 Right Opening 1 25.00 34.00 323 -323 D-1 Left Opening 1 10.25 34.00 323 -323 D-1 Left Opening 2 13.50 34.00 305 305 D-1 Right Opening 1 25.00 34.00 285 285 D-3 Right Opening 1 25.00 34.00 285 285 326								
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$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Right Opening 1	27.00	0.00	-105	105		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Line D							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	D-1	Left Opening 1	4.25		-686			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	D-1					-682		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		Left Opening 2		34.00	-264	264		
D-3 Right Opening 1 28.00 34.00 323 -323 D-1 Left Opening 1 10.25 34.00 756 756 D-1 Left Opening 2 13.50 34.00 756 756 D-1 Left Opening 2 16.50 34.00 305 305 305 D-3 Left Opening 1 25.00 34.00 285 285 285 285 D-3 Right Opening 1 28.00 34.00 756 756 567 567 567 567 567 567 326	D-1		16.50	34.00		-420		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	D-3	Right Opening 1		34.00	323	-323		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	D-1	Left Opening 1	4.25	34.00			989	989
$\begin{array}{c c c c c c c c c c c c c c c c c c c $								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Left Opening 2	13.50	34.00			567	567
D-3 Right Opening 1 28.00 34.00 326 326 326 Line- Wall Position on Wall or Opening Location [ft] X Drag Strut Force [lbs] Strap/Blocking Force [lbs] Line- Wall or Opening X Y > <							305	
Level 2 Drag Strut Strap/Blocking Wall or Opening X Y Force [lbs] Force [lbs] Wall or Opening X Y > <> Line- Mail or Opening X Y > <> Line 1 Shearline force 1782 1782 > <> Line 1 Shearline force 1782 1782 > <> Line 4 Shearline force 1782 1782 > <> Line A Shearline force 1869 1869 A-1 Left Opening 1 3.25 2.00 -652 652 A-1 Right Opening 1 21.00 0.00 -796 796 A-2 Left Opening 1 27.00 0.00 187 -187 A-2 Right Opening 1 27.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 <	D-3	Left Opening 1	25.00	34.00			285	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	D-3	Right Opening 1	28.00	34.00			326	326
$\begin{array}{c c c c c c c c c c c c c c c c c c c $					Drag	Strut	Stran/Blo	ckina
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Position on Wall	Location	[f+]	•		•	•
Line 1 Shearline force 1-1 Right Opening 1 1-1 Left Opening 2 Nearline force A-1 Left Opening 1 A-2 Left Opening 1 A-2 Right Opening 1 A-3 Right Ope	-						-	-
Shearline force 1782 1782 1-1 Right Opening 1 0.00 12.50 -585 585 1-1 Left Opening 2 0.00 27.00 390 -390 Line A		or opening	Λ			<u> </u>		`
1-1 Right Opening 1 0.00 12.50 -585 585 1-1 Left Opening 2 0.00 27.00 390 -390 Line A		Shearline force			1782	1782		
1-1 Left Opening 2 0.00 27.00 390 -390 Line A	1-1		0 00	12 50				
Line A Shearline force 1869 1869 A-1 Left Opening 1 3.25 2.00 96 -96 A-1 Right Opening 1 15.25 2.00 -652 652 A-2 Left Opening 1 21.00 0.00 -796 796 A-2 Right Opening 1 27.00 0.00 187 -187 A-2 Left Opening 1 21.00 0.00 A-2 Right Opening 1 27.00 0.00 Line D 678 678 Shearline force 1786 1786 D-1 Right Opening 1 4.00 34.00 -238 238 D-1 Left Opening 2 15.75 34.00 374 -374		5 1 5						
Shearline force 1869 1869 A-1 Left Opening 1 3.25 2.00 96 -96 A-1 Right Opening 1 15.25 2.00 -652 652 A-2 Left Opening 1 21.00 0.00 -796 796 A-2 Right Opening 1 21.00 0.00 187 -187 A-2 Left Opening 1 21.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 Line D		here opening z	0.00	27.00	570	520		
A-1 Left Opening 1 3.25 2.00 96 -96 A-1 Right Opening 1 15.25 2.00 -652 652 A-2 Left Opening 1 21.00 0.00 -796 796 A-2 Right Opening 1 27.00 0.00 187 -187 A-2 Left Opening 1 21.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 Line D	Line A	Cheenline ferre			1000	1000		
A-1 Right Opening 1 15.25 2.00 -652 652 A-2 Left Opening 1 21.00 0.00 -796 796 A-2 Right Opening 1 27.00 0.00 187 -187 A-2 Left Opening 1 21.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 Line D 678 678 Shearline force 1786 1786 678 D-1 Right Opening 1 4.00 34.00 -238 238 D-1 Left Opening 2 15.75 34.00 374 -374	7 1		2 25	2 0 0				
A-2 Left Opening 1 21.00 0.00 -796 796 A-2 Right Opening 1 27.00 0.00 187 -187 A-2 Left Opening 1 21.00 0.00 187 -187 A-2 Left Opening 1 27.00 0.00 678 678 678 A-2 Right Opening 1 27.00 0.00 678 678 678 678 Line D								
A-2 Right Opening 1 27.00 0.00 187 -187 A-2 Left Opening 1 21.00 0.00 678 678 A-2 Right Opening 1 27.00 0.00 678 678 678 Line D								
A-2 Left Opening 1 21.00 0.00 678 678 678 A-2 Right Opening 1 27.00 0.00 678								
A-2 Right Opening 1 27.00 0.00 678 678 678 Line D					T8./	-18./	670	6.0.0
Line D Shearline force D-1 Right Opening 1 4.00 34.00 -238 238 D-1 Left Opening 2 15.75 34.00 374 -374								
Shearline force 1786 1786 D-1 Right Opening 1 4.00 34.00 -238 238 D-1 Left Opening 2 15.75 34.00 374 -374		Right Opening l	27.00	0.00			678	678
D-1Right Opening 14.0034.00-238238D-1Left Opening 215.7534.00374-374	Line D							
D-1 Left Opening 2 15.75 34.00 374 -374								
	D-1	Right Opening 1		34.00				
	D-1	Left Opening 2	15.75	34.00	374	-374		
	D-1	Right Opening 2		34.00	-221	221		

Legend:

Line-Wall - Shearline and wall number

Position...- Side of opening or wall end that drag strut is attached to

Location - Co-ordinates in Plan View

Drag strut Force - Axial force in transfer element at openings, gaps, or changes in design shear along shearline. + : tension; - : compression. Based on ASD-factored shearline force shown. For SDC C-F, it is the greater of the design shearline force and the diaphragm force Fpx, added to shearline force from story above and to forces transferred from discontinuous shearlines factored by overstrength (omega) as per 12.10.1.1. Refer to Seismic Information table for diaphragm forces and omega factor.

For SDC D-F, if horizontal torsional irregularities 2, 3, or 4 are input, or vertical irregularity 4 detected or input, 25% increase from 12.3.3.4 applied. For perforated walls, this force is converted to vmax using 4.3.6.4.1.1.

Strap/Blocking Force – For force-transfer walls, force transferred from above and below opening to shearwall pier.

-> Due to shearline force in the west-to-east or south-to-north direction

<- Due to shearline force in the east-to-west or north-to-south direction

PRRNSF	20230918	City of Puyallup elopment & Permitting Servic /ISSUED PERMIT Building Planning ngineering Public Works						
M				PHIL	LIPS		R1 Apr. 4, 2023 16:44	
					Check Calc WoodWorks Size	ulation Sheet er 2023		
Loads: Load Load1 Load2 Self-weight	Type Dead Snow Dead	Distribution Full Area Full Area Full UDL	n Pat- Locati tern Start	on [ft] Magnitude End Start Er 15.00(17.50 25.00(17.50 8.5) psf			
Maximum Re	eactions (lbs	s), Bearing Cap	oacities (lbs)	and Bearing Lengt		10.2001		L
						10.266'		×
Unfactored:	.							10.T33'
Dead Snow Factored:	1390 2246							1390 2246
Total Bearing: Capacity Beam Support Des ratio Beam Support Load comb Length Min req'd Cb Cb min Cb support Fcp sup	3636 3636 3871 1.00 0.94 #2 1.60 1.60 1.00 1.00 1.11 625							3636 3636 3871 1.00 0.94 #2 1.60 1.60 1.60 1.00 1.00 1.11 625
			Total le	Supports: / ngth: 10.25'; Clear span: 10 Lateral support:	All - Timber-soft E ; Volume = 2.6 c top = at supports	4F-V4 DF, 3-1/2"x10-1/2" beam, D.Fir-L No.2 u.tt, 7 lamiations, 3-1/2" maximu s, bottom = at supports; ssign code check.	n width,	
Analysis vs. Criterion Shear Bending(+) Live Defl'r Total Defl'r	Analysis fv = 1 fb = 16 n 0.17 = 1	.19 Fv' = 97 Fb' = 1/711 0.34 =	Value Unit 305 psi 2625 psi	Analysis/Desig: fv/Fv' = 0 fb/Fb' = 0 0	n .39 .65 .51 .65			
Eminy' 0.85 CRITICAL LOAD (Shear : I Bending(+): I Deflection: I Bearing : S D=dead S=snow All LC's are		00 1.00 -0.951 10 1.00 0.951 10 1.00 - 10 1.00 - 5 (100) - 5	CV Cfu too pattern log	Cr Cfrt Notes Cv. - 1.00 1.00 1.0 - 1.00 - 1.00 - 1.00 - 1.00				
CALCULATIONS: V max = 3590, EI = 607.74e0 "Live" deflect Total deflect	, V design = 2 06 lb-in^2 ction is due t tion = 1.50 pe	+S or L+Lr, _== sic from ASCE 7- 2922 (NDS 3.4.3. to all non-dead rrmanent + "live = 10.13' Le =	l(a)) lbs; M(- loads (live, v) = 9094 lbs-ft wind, snow)				
2. Please verify th	esign are in accord nat the default defl values are for mat	ection limits are appr erials conforming to	opriate for your ap	g Code (IBC 2021) and the I plication. d manufactured in accordar	-		wable Stress Design (ASD). Desig	n values are from the NDS Supplement.

GLULAM: bxd = actual breadth x actual depth.
 Glulam Beams shall be laterally supported according to the provisions of NDS Clause 3.3.3.
 GLULAM: bearing length based on smaller of Fcp(tension), Fcp(comp'n).

PRRNSF	F20230918	City of Puyallup Development & Permitting Service ISSUED PERMIT Building Planning	is is				
1) w	Voo	Pre Trainc	(S [®]	PHILLIPS STRUCTURAL EMGINE	S SERVG	SF1 Apr. 4, 2023 16:45	
			·		Calculation Sheet rks Sizer 2023	1	
Loads: Load Load1 Load2 Self-weight	Type Dead Snow Dead	Distribution Full Area Full Area Full UDL	Pat- Location tern Start	[ft] Magnitude Unit End Start End 15.00(4.50') psf 25.00(4.50') psf 13.3 plf			
Maximum R	Reactions (Ibs), Bearing Cap	acities (lbs) a	nd Bearing Lengths (in)	: 19.756' —		
Unfactored:	₫						19.711'
Dead Snow Factored:	798 1111						798 1111
Total Bearing: Capacity Beam Support Des ratio Beam Support Load comb Length Min req'd Cb min Cb support Fcp sup	1909 1909 1961 1.00 0.97 #2 0.53 1.00 1.00 1.00 1.07 625						1909 1909 1961 1.00 0.97 #2 0.53 1.00 1.07 625
Analysis vs.		e Stress and Defle	ction using NDS	Glulam-Unbal., West Spec Supports: All - Timbe 19.75'; Clear span: 19.688'; Volum Lateral support: top = at s This section PASSES	SF1 ries, 24F-V4 DF, 5-1/2"x10-1/2" r-soft Beam, D.Fir-L. No.2 re = 7.9 cu.ft; 7 laminations, 5-1/2" maxin supports, bottom = at supports; 5 the design code check.	num width,	
Shear Bending(+) Live Defl' Total Defl'	'n 0.40 =	= 1115 Fb' = 2 = L/591 0.66 =		fv/Fv' = 0.15 fb/Fb' = 0.42 0.61 0.84			
Eminy' 0.8 CRITICAL LOAD Shear : Bending(+): Deflection: Bearing : D=dead S=sno All LC's are	<pre>&(psi) CD 55 1.15 50 1.15 50 - 8 million 0 COMBINATIO LC #2 = D LC #2 = D LC #2 = D LC #2 = D Support 1 - Support 2 - we a listed in</pre>	1.00 1.00 - 1.00 1.00 - 1.00 1.00 - NS: + S + S		1.00 2			
Load combina CALCULATIONS V max = 1905 EI = 955.03e "Live" defle Total deflec	ations: ASD 5: 5, V design 206 lb-in^2 2ction is du 2tion = 1.50	Basic from ASCE 7-1 = 1732 (NDS 3.4.3.1 ue to all non-dead 1) permanent + "live" Lu = 19.69' Le = 3	6 2.4 (a)) lbs; M(+) oads (live, win	= 9388 lbs-ft d, snow)			
2. Please verify th	lesign are in act	deflection limits are appro	priate for your applic			owable Stress Design (ASD). Design values are from th	ne NDS Supplement.

GLULAM: bxd = actual breadth x actual depth.
 Glulam Beams shall be laterally supported according to the provisions of NDS Clause 3.3.3.
 GLULAM: bearing length based on smaller of Fcp(tension), Fcp(comp'n).

PRRNSF20230918 City of Puyallup Development & Permitting Services I SUED PERMIT Building Planning Engineering Public Works	
WoodWorks Apr. 4, 2023 16:46 SF2 Apr. 4, 2023 16:46	
Design Check Calculation Sheet WoodWorks Sizer 2023	
Loads: Load Type Distribution Pat- Location [ft] Magnitude Unit	
JoadFypeFull tarnStartEndStartEndLoad1DeadFull UDL80.0plfLoad2DeadFull Area12.00(7.25')psfLoad3LiveFull Area40.00(7.25')psfLoad4DeadPartial Area1.003.1315.00(17.08')psfLoad5SnowPartial Area1.003.1325.00(17.08')psfLoad7SnowPoint1.011390lbsSelf-weightDeadFull UDL6.0plf	
Maximum Reactions (Ibs), Bearing Capacities (Ibs) and Bearing Lengths (in) :	
Unfactored: 1442 Live 1442 Live 469 Snow 1887 Pacordi 3329 Bearlig: 3329 Support 1.00 Support 1.52 Hinergth 1.52 Riserie 1.52 Co min 1.00 Support 1.52 Co min 1.00 Support 1.52 Co min 1.00	A 3.108' 1049 464 1266 2346 2346 2597 1.00 0.90 #3 1.07 1.07 1.07 1.00 1.01 1.01 1.00
SF2 Lumber-soft, D.Fir-L, No.2, 4x8 (3-1/2"x7-1/4") Supports: All - Timber-soft Beam, D.Fir-L No.2 Total length: 3.19; Clear span: 3.0; Volume = 0.6 cu.ft. Lateral supports, bottom = at supports; This section PASSES the design code check.	
Analysis vs. Allowable Stress and Deflection using NDS 2018 : Criterion Analysis Value Design Value Unit Analysis/Design	
Total Defl'n $0.03 = < L/999$ $0.16 = L/240$ in 0.20 Additional Data: FACTORS: F/E(psi) CD CM Ct CL CF Cfu Cr ffrt Ci LC# Fv' 180 1.15 1.00 1.00 - - - 1.00 1.00 F' 180 1.15 1.00 1.00 - - - 1.00 1.00 F' 180 1.15 1.00 1.00 - - - 1.00 1.00 Binin' 0.58 million 1.00 1.00 - - - 1.00 1.00 - Bending(+): LC #4 + + S - - 1.00 1.00 4 CRITICAL LOAD COMBINATIONS: Shear : C(tat = D + S (tota)) - - - - 1.00 1.00 - - - 1.00 1.00 - - - 1.00 1.00 - - - 1.00 1.00 - - - 1.00 1.00<	
Design Notes: 1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS 2. Please verify that the default deflection limits are appropriate for your application. 3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.	Supplement.

PRRNSF20230918 City of Puyallup			
Development & Permitting Services (ISSUED PERMIT Building Planning Engineering Public Works			
Tone Traine WoodWorks®	PHILLIPS STRUCTURAL INFORMED	SF3 Apr. 4, 2023 16:46	
	Design Check Calculation WoodWorks Sizer 2023	Sheet	
Loads: Load Type Distribution Pat- Location [ft] Load Dead Full UDL term Start End Load Dead Full Area Load Dead Full Area Load Dead Full Area Load Dead Full Area Load Dead Partial Area Load Dead Point Area Load Dead Foint Area Load Dead Foint 2.13 Load	Start End 80.0 75.7 140.0077.257 psf 15.0011.0077 psf 15.0011.0070 psf 25.0011.0070 psf 25.0011.0070 psf 25.0011.0070 psf 25.0017.0070 psf 25.0017.0070 psf 25.0017.0070 psf 25.0017.0070 psf 6.0 plf		
Maximum Reactions (Ibs), Bearing Capacities (Ibs) an	nd Bearing Lengths (in) : 322		
Unfactored:			3.11'
Dead 1126 Live 465 Snow 1391			1411 469 1838
Factored: Total 2518 Bearing: Capacity			3249
Beam 2518 Support 2788 Des ratio			3249 3597 1.00
Support 0.90 Load comb #3 Length 1.15 Min req'd 1.15			0.90 #4 1.49 1.49
Cb 1.00 Cb min 1.00 Cb support 1.11 Fcp sup 625			1.00 1.00 1.11 625
	SF3 Lumber-soft, D.Fir-L, No.2, 4x8 (3-1 Supports: All - Timber-soft Beam, D.Fir-I Total length: 3.25; Clear spar: 3.0; Volume – Lateral support: top – at supports, boltom – a This section PASSES the design code	L No.2 = 0.6 cu.ft. ti supports;	
Analysis vs. Allowable Stress and Deflection using NDS 2 Criterion Analysis Vilue Deflection Using NDS 2 Criterion Analysis Vilue Deflection Using NDS 2 Criterion Deflection Using NDS 2 Criterion Deflection Using NDS 2 Criterion Deflection Using NDS 2 Criterion Deflection Using NDS 2 Deflection Deflection Using NDS 2 Deflection Vsite Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection Deflection	2008: na 1/1/2/1 = 0.88 fb/Fb' = 0.94 fb/Fb' = 0.94 0.15 0.21		
	frt Ci LC#		
Fb'+ 900 1.15 1.00 1.00 0.995 1.300 - 1.00 1 Fcp' 625 - 1.00 1.00 - - - 1 E' 1.6 1.101 1.00 1.00 - - - 1	.00 1.00 4 .00 1.00 4 .00 1.00 - .00 1.00 4		
Emin' 0.58 million 1.00 1.00 1 CRTICAL LOAD COMBINATIONS: Shear : LC #4 = D + S Bending(+): LC #4 = D + S	.00 1.00 4		
<pre>Bending(r): D: #4 = D + S (live) Deflection: LC #4 = D + S (live) LC #4 = D + S (total) Bearing : Support 1 - LC #3 = D + 0.75(L + S) Support 2 - LC #4 = D + S</pre>			
Support 2 - LC #4 = D + S Dedead L-live S=snow All LC's are listed in the Analysis output Load Patterns: s=S/2, X=L+S or L+Lr, _=no pattern load in th Load combinations: ASD Basic from ASCE 7-16 2.4	is span		
CALCULATIONS: V max = 3072, V design = 3072 (NDS 3.4.3.1(a)) lbs; M(+) = 321: FT = 177, 83e06 lbain?	5 lbs-ft		
"Live" deflection is due to all non-dead loads (live, wind, sm Total deflection = 1.50 permanent + "live" Lateral stability(+): Lu = 3.13' Le = 6.44' RB = 6.7	эw)		
Design Notes: 1. Analysis and design are in accordance with the ICC International Building Code (IBC 2 2. Please verify that the default deflection limits are appropriate for your application. 3. Sawn lumber bending members shall be laterally supported according to the provisions		s Design (ASD). Design values are from the NDS Supplement.	

PRRNSF20230918 City of Issue Building Engineering	f Puyallup Permiting Services D PENIT Planing Public Works			
Wood		PHILLIPS STRUCTURAL LINGINGERING	SF4 Apr. 4, 20	23 16:47
London		Design Check Calculation Shee WoodWorks Sizer 2023	et	
Loadl Dead Ful Load2 Dead Ful Load3 Live Ful Load4 Dead Ful Load5 Snow Ful Self-weight Dead Ful	tern Start End II UDL II Area II Area II Area II Area II Area II UDL II UDL II UDL	Magnitude Unit Start End 80.0 plf 12.00(7.08') paf 10.00(7.08') paf 15.00(17.25') psf 25.00(17.25') psf 7.7 plf		
Maximum Reactions (Ibs), Bea	ring Capacities (lbs) and Bea	ring Lengths (in) : 6.23'		
				 6.115
Unfactored: Dead 1343 Live 882				1343
Snow 1343 Factored: Total 3012 Bearing:				1343 3012
Capacity Beam 3012 Support 3335 Des ratio 9 Beam 1.00 Support 0.90 Load comb #3 Length 1.38 Cb 1.00 Cb min 1.00 Cb support 1.11 Fcp sup 625				3012 3335 1.00 0.90 #3 1.38 1.38 1.00 1.00 1.01 1.11 625
		SF4 umber-soft, D.Fir-L, No.2, 4x10 (3-1/2"x Supports: All - Timber-soft Beam, D.Fir-L No Total length: 625; Clear span: 6.0; Volume = 1. ateral support: top = at supports, bottom = at sup This section PASSES the design code chec	.2 4 cu.ft. oports;	
Analysis vs. Allowable Stress a Criterion Analysis Value Shear fv = 100	Design Value Unit Ana	lysis/Design fv/Fv' = 0.48		
Bending(+) fb = 1087 Live Defl'n 0.05 = < L/999	Fb' = 1227 psi si 0.20 = L/360 in in 0.31 = L/240 in in	fb/Fb' = 0.89 0.22 0.33		
$\label{eq:constraints} \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	0 1.00 3 0 1.00 3 0 1.00 - 0 1.00 3 0 1.00 3 0 1.00 3 0 1.00 3		
Load Patterns: s=5/2, X=L+S or Load combinations: ASD Basic fro CALCULATIONS: V max = 2957, V design = 2156 (NI EI = 369.34e06 lb-in^2 "Live" deflection is due to all n Total deflection = 1.50 permanent Lateral stability(+): Lu = 6.13	L+Lr,=no pattern load in this m ASCE 7-16 2.4 DS 3.4.3.1(a.)) lbs; M(+) = 4521 1 non-dead loads (live, wind, snow. t + "live"	lbs-ft		
Design Notes:				

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement 2. Please verify that the default deflection limits are appropriate for your application. 3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

PRRNSF20230918 City of Payallup Development & Permitting Services 1 SSUED PRINT Building Planning Engineering Public Works	
WoodWorks AVYAVE FOR FROM EARCH PHILLIPS STRUCTURAL LINGINISARING	
Design Check Calculation Sheet WoodWorks Sizer 2023	
Dads: Distribution Pat- Location [ft] Magnitude Unit oad1 Dead Full VDL Start End Unit oad2 Dead Full Area 12.00(1.00') psf oad3 Live Full Area 40.00(1.00') psf oad4 Dead Full Area 25.00(2.00') psf oad5 Snow Full Area 25.00(2.00') psf oad6 EartHquake Point 1.35 4123 elf-weight Dead Full UDL 9.4 plf	
aximum Reactions (Ibs), Bearing Capacities (Ibs) and Bearing Lengths (in) :	ı
nfactoredi 60 Desd 405 Snow 154 Actoredi 60 Total 2473 Total 2673 Support 2559 Des do cob 88 Live 107 Des do cob 89 Total 2673 Copecity 100 Des satio 0.5 Load coab 88 Load coab 80 Load coab 81	1 22 3 3 1 1 4 1 8 8 8 5 ** * 0 0 1
Lumber-soft, D.Fir-L, No.2, 4x12 (3-1/2"x11-1/4") Supports: All - Timber-soft Beam, D.Fir-L No.2 Total length: 6.13' Clear span: 6.0; Volume = 1.7 cu.ft. Lateral support: top = at supports, bottom = at supports;	
This section PASSES the design code check. nalysis vs. Allowable Stress and Deflection using NDS 2018 :	
Criterion Analysis Value Design Value Unit Analysis/Design Shear fv = 97 Fv' = 288 psi fv/Fv' = 0.34	
Bending(+) fb = 546 Fb' = 1550 psi fb/Fb' = 0.35 Live Defl'n 0.02 = < L/999 0.20 = L/360 in 0.11	
dditional Data: CTORS: F/E(psi) CD CM Ct CL CF Cfut Cr Cfrt Ci LC# v' 180 1.60 1.00 1.00 - - - 1.00 1.00 b'+ 900 1.60 1.00 0.00 1.00 1.00 8 cp' 625 - 1.00 1.00 - - - 1.00 1.00 min' 0.58 million 1.00 - - - 1.00 1.00 - vitcal LC #8 D + 0.72 1.00 1.00 - - - 1.00 1.00 8 MTCAL LOAD COMBINATIONS: - - - 1.00 1.00 8 eating: Support 1 - LC #8 = D + 0.7E Italian - - - - - - - - - - - - - - 0.00 8 - - - - - - - - - - - -	
ateral stability(+): Lu = 6.06' Le = 12.50' RB = 11.7 esign Notes: Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Suppler	nent.

Please venity that the default deflection limits are appropriate for your application.
 Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

PRRNSF20230918 City of Payallup Development & Permitting Servic ISUED PERMIT Building Planning Engineering Public Works			
	SS BORNEY		SF6 Apr. 4, 2023 16:48
	Desig	n Check Calculation Sheet WoodWorks Sizer 2023	
Loads:			
Load Type Distribution Loadl Dead Full Area Load2 Live Full Area Self-weight Dead Full UDL		End 75') psf	
Maximum Reactions (lbs), Bearing Cap	pacities (Ibs) and Bearing Len	gths (in) :	
<u>}</u>		9.139'	ł
X fr			X
Unfactored:			9.ď69'
Dead 712 Live 2148 Factored:			712 2148
Total 2860 Bearing: Capacity			2860
Beam 2860 Support 3055			2860 3055
Des ratio Beam 1.00 Support 0.94			1.00 0.94
Load comb #2 Length 0.83 Min reg'd 0.83			#2 0.83 0.83
Cb 1.00 Cb min 1.00 Cb support 1.07			1.00 1.00 1.07
Fcp sup 625			625
	Supports Total length: 9.13; CI Lateral suppo This sect	SF6 , D.Fir-L, No.2, 6x12 (5-1/2"x11-1/2") s: All - Timber-soft Beam, D.Fir-L No.2 ear span: 90; Volume = 4.0 o.Lft, Beam or stringer ort: top = at supports, bottom = at supports; ion PASSES the design code check.	
Analysis vs. Allowable Stress and Defl Criterion Analysis Value Design	ection using NDS 2018 : Value Unit Analysis/Des:	ign	
Shear fv = 53 Fv' = Bending(+) fb = 637 Fb' = Live Defl'n 0.08 = < L/999	L/360 in	0.26	
Total Defl'n 0.12 = L/920 0.45 = Additional Data:	L/240 in	0.26	
FACTORS: F/E(psi) CD CM Ct CL Fv' 170 1.00 1.00 1.00 - Fb'+ 875 1.00 1.00 1.00 0.993 Fcp' 625 - 1.00 1.00 - E' 1.3 million 1.00 1.00 - Emin' 0.47 million 1.00 1.00 -	$\begin{array}{ccccc} CF & Cfu & Cr & Cfrt & Ci \\ - & - & - & 1.00 & 1.00 \\ 1.000 & - & 1.00 & 1.00 & 1.00 \\ - & - & - & 1.00 & 1.00 \\ - & - & - & 1.00 & 1.00 \\ - & - & - & 1.00 & 1.00 \\ \end{array}$	LC# 2 2 - 2 2 2 2	
Bending(+): LC #2 = D + L Deflection: LC #2 = D + L (live) LC #2 = D + L (total) Bearing : Support 1 - LC #2 = D + L			
Support 2 - LC #2 = D + L D=dead L=live All LC's are listed in the Analysis outpu Load Patterns: s=S/2, X=L+S or L+Lr, == Load combinations: ASD Basic from ASCE 7-	no pattern load in this span		
CALCULATIONS: V max = 2839, V design = 2217 (NDS 3.4.3. EI = 906.17e06 lb-in^2	l(a)) lbs; M(+) = 6437 lbs-ft		
"Live" deflection is due to all non-dead Total deflection = 1.50 permanent + "live Lateral stability(+): Lu = 9.06' Le = 1	e"		
Design Notes: 1. Analysis and design are in accordance with the ICC Int 2. Please verify that the default deflection limits are appr	ternational Building Code (IBC 2021) and th	e National Design Specification (NDS 2018), using Allov	vable Stress Design (ASD). Design values are from the NDS Supplement.

Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

PRRNSF20230918 City of Puyallup Development & Permiting Services Pressure Permiting Exited Planning Engineering Public Works Free dig to Traffic	
WoodWorks®	SF7 Apr. 4, 2023 16:49
Design Check Calculation Sheet WoodWorks Sizer 2023	
Loads:LoadTypeDistributionPat- ternLocation[ft] StartMagnitude EndJnitLoad1DeadPartial Area0.004.6712.00(4.25')pefLoad2LivePartial Area0.004.6740.00(4.25')pefLoad3DeadPartial Area4.6711.2512.00(8.25')pefLoad4LivePartial Area4.6711.2540.00(8.25')pefLoad5DeadPoint4.6711.35lbsLoad6LivePoint4.6711.3lbsSelf-weightDeadFull UDL18.2plf	
Maximum Reactions (lbs), Bearing Capacities (lbs) and Bearing Lengths (in) :	ł
11.319'	11.243
Unfactored: Dead 550 Live 1428	656 1801
Factored: Total 1978 Bearing: Capacity	2458
Beam 2144 Support 1978 Des ratio 9 Beam 0.92 Support 1.00 Load comb #2 Length 0.82 Min req'd 0.82** Cb 1.00 Cb min 1.00 Cb support 1.11 FCp sup 625	2664 2458 0.92 1.00 #2 1.01 1.01** 1.00* 1.00 1.00 1.00 1.00
SF7 LVL n-ply, 1.8E, 2600Fb, 1-3/4"x18", 2-ply (3-1/2"x18") Supports: All - Timber-soft Beam, D.Fir-L No.2 Total length: 11.31'; Clear span: 11.188; Volume = 5.0 cu.ft. Lateral support: top = continuous, bottom = at supports; This section PASSES the design code check.	
Analysis vs. Allowable Stress and Deflection using NDS 2018 : Criterion Analysis Value Design Value Unit Analysis/Design	
Shear $fv = 43$ $Fv' = 285$ psi $fv/Fv' = 0.15$ Bending(+) fb = 433 Fb' = 2460 psi fb/Fb' = 0.18 Live Defl'n 0.04 = < L/999 0.37 = L/360 in 0.12	
Total Defl'n $0.07 = < L/999$ $0.56 = L/240$ in 0.12 Additional Data: FACTORS: F/8(psi) CD CM Ct CL CV Cfu Cr Cfr Ci LC# Fv' 285 1.00 - 1.00 - - - 1.00 - 2 Fb' 2600 1.00 - 1.00 1.00 - 2 Fb' 2600 1.00 - 0.00 - - - 1.00 - 2 Fc' 1.9 million - 1.00 - - - 1.00 - 2 Eminy' 0.95 million - 1.00 - - - 1.00 - 2 CRITICAL LOAD COMBINATIONS: Shear : LC #2 = D + L 1.00 - 2 Deflection: LC #2 = D + L (live) 2 2 CH 2 2 L 2 2 D 4 2 2 2 2 2 2	
Design Notes: 1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using All 2. Please verify that the default deflection limits are appropriate for your application. 3. BUILT-UP BEAMS: it is assumed that each ply is a single continuous member (that is, no butt joints are present) and that each ply is equally top-loaded	

SCL: Structural composite lumber design has assumed: - dry service conditions - no preservative or fire-retardant treatment - no notches
 BUILT-UP SCL: Contact manufacturer for connection details when side-loaded or when loads are not applied equally to all plies.
 SCL: Shear deflection is calculated using true modulus of elasticity E and shear modulus G = E/16.

PRRNSF20230918 City of Payallup Development & Permiting Services ISSUED FERMIT	
Building Pateline Frie Traffic WoodWorks* Image: SF8 Apr. 4, 2023 16:49	
Design Check Calculation Sheet WoodWorks Sizer 2023	
Loads: Type Distribution Pat- tern Location [ft] Magnitude Distribution Load1 Dead Pull Area Start End Start End Load1 Dead Pull Area 15.00(4.25') paf Self-weight Dead Full UDL 15.0 plf	
Maximum Reactions (Ibs), Bearing Capacities (Ibs) and Bearing Lengths (in) :	Ŀ
Unfactored:	17.208'
Dead 679 Snow 916 Factored:	679 916
Total 1596 Bearing: Capacity Beam 1719	1596 1719
Beam 1719 Support 1836 Des ratio	1836
Support 0.87 Load comb #2	0.87 #2 0.50*
Min reg'd 0.50* Cb 1.00	0.50* 1.00 1.00
Cb support 1.07 Fcp sup 625 *Minimum bearing length setting used: 1/2* for end supports	1.07 625
SF8 Timber-soft, D.Fir-L, No.2, 6x12 (5-1/2"x11-1/2") Supports: All - Timber-soft Beam, D.Fir-L No.2 Total length: 17.25; Clear span: 17.188; Volume = 7.6 cu.ft.; Beam or stringer Lateral support: top = at supports, bottom = at supports; This section PASSES the design code check.	
Analysis vs. Allowable Stress and Deflection using NDS 2018 : Criterion Analysis Value Design Value Unit Analysis/Design	
Additional Data: FACTORS: F/E(psi) CD CM Ct CF Cfu Cr Cfrt Ci LC# Fv' 170 1.15 1.00 1.00 - - - 1.00 1.00 Fb'+ 875 1.5 1.00 0.983 1.000 1.00 1.00 2 Fcp' 625 - 1.00 1.00 - - - 1.00 1.00 - E' 1.3 million 1.00 - - - 1.00 1.00 -	
Emin' 0.47 million 1.00 1.00 1.00 1.00 2 CRITICAL LOAD COMBINATIONS: Shear : LC #2 = D + S Bending(+): LC #2 = D + S Deflection: LC #2 = D + S (live) LC #2 = D + S (total) Bearing : Support 1 - LC #2 = D + S Support 2 - LC #2 = D + S	
D=dead S=snow All LC's are listed in the Analysis output Load Patterns: s=S/2, X=L+S or L+Lr, =no pattern load in this span Load combinations: ASD Basic from ASCE 7-16 2.4 CALCULATIONS: V max = 1592, V design = 1411 (NDS 3.4.3.1(a)) lbs; M(+) = 6849 lbs-ft EI = 906.17e06 lb-in^2	
E1 = 906.1/E00 1D-1H 2 "Live" deflection is due to all non-dead loads (live, wind, snow) Total deflection = 1.50 permanent + "live" Lateral stability(+): Lu = 17.19' Le = 31.69' RB = 12.0	
Design Notes: 1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supp 2. Please verify that the default deflection limits are appropriate for your application.	olement.

Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National E 2. Please verify that the default deflection limits are appropriate for your application.
 Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

PRRNSF20230918 City of Puyallup Development & Pernitting Services ISSUED PERMIT Building Engineering Public Works	
WoodWorks [®] Apr. 5, 2023 09:25	
Design Check Calculation Sheet WoodWorks Sizer 2023	
Loads: Type Distribution Pat- Location [ft] Magnitude Unit Load Type Distribution Pat- Location [ft] Magnitude Unit Load1 Dead Full Area 15.00(12.00') paf Load2 Snow Full Area 25.00(12.00') paf Self-weight Dead Full UDL 15.2 plf	
Maximum Reactions (lbs), Bearing Capacities (lbs) and Bearing Lengths (in) :	Ĺ
	16.093'
Unfactored: Dead 1579 Snow 2428	1579 2428
Factored: Total 4007 Bearing:	4007
Capacity Beam 4007 Support 4116 Des ratio	4007 4116
Beam 1.00 Support 0.97 Load comb #2	1.00 0.97 #2
Length 1.12 Min req'd 1.12 Cb 1.00 Cb min 1.00	1.12 1.12 1.00 1.00
Cb support 1.07 Fcp sup 625	1.07 625
SF9 Glulam-Unbal., West Species, 24F-V4 DF, 5-1/2"x12" Supports: All - Timber-soft Beam, D.Fir-L No.2 Total length: 16.19'; Clear span: 16'; Volume – 7.4 cutt; 18 atminations, 5-1/2" maximum width, Lateral support: top = at supports, bottom = at supports; This section PASSES the design code check.	
Analysis vs. Allowable Stress and Deflection using NDS 2018 : Criterion Analysis Value Design Value Unit Analysis/Design	
Shearfv = 79Fv' = 305psifv/Fv' = 0.26Bending(+)fb = 1457Fb' = 2681psifb/Fb' = 0.54Live Defl'n0.32 = L/6080.54 = L/360in0.59Total Defl'n0.63 = L/3070.80 = L/240in0.78	
Additional Data: FACTORS: F/B(psi) CD CM Ct CL CV Cfu Cr Cfrt Notes Cvr LC#	
Fv' 265 1.15 1.00 1.00 - - - 1.00 1.00 2 Fb'+ 2400 1.15 1.00 1.00 0.971 1.000 - - 2 Fcp' 650 - 1.00 1.00 - - 2	
E' 1.8 million 1.00 1.00 1.00 2 Eminy' 0.85 million 1.00 1.00 1.00 2 CRITICAL LOAD COMBINATIONS: Shear : LC #2 = D + S	
Shear : LC #2 = D + S Bending(+): LC #2 = D + S Deflection: LC #2 = D + S (live) LC #2 = D + S (total)	
<pre>Bearing : Support 1 - LC #2 = D + S Support 2 - LC #2 = D + S D=dead S=snow</pre>	
All LC's are listed in the Analysis output Load Patterns: s=S/2, X=L+S or L+Lr, _=no pattern load in this span Load combinations: ASD Basic from ASCE 7-16 2.4 CALCULATIONS:	
V max = 3985, V design = 3466 (NDS 3.4.3.1(a)) lbs; M(+) = 16032 lbs-ft EI = 1425.58e06 lb-in ² 2 "Live" deflection is due to all non-dead loads (live, wind, snow)	
Total deflection = 1.50 permanent + 'live' Lateral stability(+): Lu = 16.06' Le = 29.63' RB = 11.9	
Design Notes: 1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are 2. Please verify that the default deflection limits are appropriate for your application.	from the NDS Supplement.
A. Reader Certify and the Certification in the Component of the Section of the Certification of the Certifica	

Glulam Beams shall be laterally supported according to the provisions of NDS Clause 3.3.3.
 GLULAM: bearing length based on smaller of Fcp(tension), Fcp(comp'n).

PRRNSF20230918 City of Puyallup Development & Permitting Services	
Issue premir Public Works Pre Yrafic WoodWorks* Image: Premir Public Works F1 Apr. 4, 2023 16:50	
PHILLIPS STRUCTURAL INVENISARING	
Design Check Calculation Sheet WoodWorks Sizer 2023	
Loads: Load Type Distribution Pat- tern Location [ft] Magnitude Unit Load1 Dead Full Area 12.00(24.0*) psf Load2 Live Full Area 40.00(24.0*) psf Self-weight Dead Full UDL 3.5 plf	
Maximum Reactions (Ibs), Bearing Capacities (Ibs) and Bearing Lengths (in) :	
9.473°	
	9.403'
Unfactored: Dead 130	130
Live 379 Factored: Total	379 509
Bearing: Capacity Joist 509 Support 982	509 982
Des ratio Joist 1.00 Support 0.52	1.00
Load comb #2 Length 0.84 Min reg'd 0.84	#2 0.84 0.84
Cb 1.00 Cb min 1.00 Cb support 1.25 Fcp sup 625	1.00 1.00 1.25 625
	625
F1 Lumber-soft, Hem-Fir, No.2, 2x12 (1-1/2"x11-1/4") Supports: All - Timber-soft Beam, D.Fir-L No.2 Floor joist spaced at 24.0" c/c; Total length: 9.5; Clear span: 9.313; Volume = 1.1 cu.ft. Lateral support: top = continuous, bottom = at supports; Repetitive factor: applied where permitted (refer to online help); This section PASSES the design code check.	
Analysis vs. Allowable Stress and Deflection using NDS 2018: Criterion Analysis Value Design Value Unit Analysis/Design	
Shear fv = 36 Fv' = 150 psi fv/Fv' = 0.24 Bending(+) fb = 451 Fb' = 977 psi fb/Fb' = 0.46 Live Defl'n 0.06 = < L/999 0.31 = L/360 in 0.19	
Total Defl'n 0.09 = < L/999	
Fv' 150 1.00 1.00 1.00 - - - 1.00 1.00 2 Fb' 850 1.00 1.00 1.000 - 1.15 1.00 1.00 2 Fcp' 405 - 1.00 1.00 - - - 1.00 1.00 - E' 1.3 million 1.00 1.00 - - - 1.00 1.00 2	
Emin' 0.47 million 1.00 1.00 1.00 1.00 2 CRTICAL LOAD COMBINATIONS: Shear : LC #2 = D + L Bending(+): LC #2 = D + L	
Deflection: LC #2 = D + L (live) LC #2 = D + L (total) Bearing : Support 1 - LC #2 = D + L	
Support 2 - LC #2 = D + L D-dead L=live All LC's are listed in the Analysis output Load Patterns: s=S/2, X=L+S or L+Lr, _=no pattern load in this span Load combinations: ASD Basic from ASCE 7-16 2.4	
CALCULATIONS: V max = 505, V design = 401 (NDS 3.4.3.1(a)) lbs; M(+) = 1188 lbs-ft EI = 231.37e06 lb-in^2	
"Live" deflection is due to all non-dead loads (live, wind, snow) Total deflection = 1.50 permanent + "live"	
Design Notes: 1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from 2. Please verify that the default deflection limits are appropriate for your application. 3. Sawn limber bending members shall be laterally supnorted according to the provisions of NDS Clause 4.4.1	n the NDS Supplement.

Design Check Calculation Sheet WoodWorks Sizer 2023 Load: Load: Path area Path area Control in the start in the star	
Load Type Distribution Pat- tern Location [ft] Magnitude Start Dist Loadi Dead Full Area Yes 40.00(7.17') psf Salf-weight Dead Full Nrea Yes 40.00(7.17') psf Maximum Reactions (lbs), Bearing Capacities (lbs) and Bearing Lengths (in) : 8.375' 8.375' Image: Salf-weight Image: Salf-weight Image: Salf-weight 8.375' Image: Salf-weight Image: Salf-weight Image: Salf-weight 8.375' Image: Salf-weight	
Unfactored: Dead Live 146 529 4.167 Total Bearing: Capacity Beam Support 674 1972 2602 Support 1094 2602	
Ó 4.167 Unfactored: Dead Live 146 Factored: Total Bearing: Capacity 674 Beam Support 1094 Beam Support 1094 Support 2602 1972	
O 4.167 Unfactored: Dead 146 Live 529 Factored: Total 674 Bearing: Capacity Beam 1094 Support Support 1211	X
Dead 146 479 Live 529 1493 Factored: 1972 Total 674 1972 Bearing: 2602 Dead 121	卒 8.333'
Bearing: Capacity Beam 1094 Support 1211	146 529
Support 1211 1972	674 1094
Beam 0.62 0.76	1211 0.62
Support 0.56 1.00 Load comb #3 #2 Length 0.50* 0.81* Min reg'd 0.50* 0.81* Ch min 1.00 1.46 Cb min 1.00 1.46 Cb support 1.11 1.21	0.56 #4 0.50* 1.00 1.00 1.11
Fcp_sup 625 *Minimum bearing length setting used: 1/2" for end supports **Minimum bearing length governed by the required width of the supporting member.	625
F2 Lumber-soft, D.Fir-L, No.2, 4x8 (3-1/2"x7-1/4") Supports: All - Timber-soft Beam, D.Fir-L No.2 Total length: 8.38; Clear span: 4.125; 4.125; Volume = 1.5 cu.ft. Lateral support: top = at end supports, bottom = at end supports; This section PASSES the design code check.	
Analysis vs. Allowable Stress and Deflection using NDS 2018 : Criterion Analysis Value Design Value Unit Analysis/Design	
Additional Data: PACTORS: F/E(psi) CD CM Ct CL CF Cfu Cr Cfrt Ci LC# Fv' 180 1.00 1.00 1.00 0.989 1.300 - 1.00 1.00 2 Fb' 900 1.00 1.00 1.00 0.989 1.300 - 1.00 1.00 2 Fp' 625 - 1.00 1.00 0.989 1.300 - 1.00 1.00 2 Fpj 625 - 1.00 1.00 1.00 1.00 - E' 1.6 million 1.00 1.00 1.00 1.00 3 Emin' 0.58 million 1.00 1.00 1.00 1.00 3 CRITCAL LOAD COMBINATONS: Shear : LC #2 = D + L Deflection LC #3 = 0 + L (pattern: L_) Support 2 - LC #3 = D + L (pattern: L_) Support 2 - LC #4 = D + L (pattern: L_) Support 2 - LC #4 = D + L (pattern: L) Dedead L-1ive Load Patterns: s=5/2, X±-KS or L-Lr, _=-no pattern load in this span Load combinations: ASD Basic from ASCE 7-16 2.4 CALCULATIONS: V max = 966, V design = 745 (MDS 3.4.3.1(a)) lbs; M(+) = 586 lbs-ft; M(-) = 822 lbs-ft EI = 177.83e06 lb-in'2 "Live' deflection is due to all non-dead loads (live, wind, snow) Total deflection = 1.50 permanet + "live" Lateral stability(-): Lu = 8.31' Le = 15.38' RB = 10.5; Lu based on full length Lateral stability(-): Lu = 8.31' Le = 15.38' RB = 10.5; Lu based on full length	

Continuous or Cantilevered Beams: NDS Clause 4.2.5. requires that normal grading provisions be extended to the middle 2/3 of 2 span beams and to the full length of cantilevers and other spans.
 Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

Developm					
Wood		PHILLIP) Sisteng	F3 Apr. 4, 2023 16:52	
	I		Calculation Sheet	L	
Loads:	Distribution Pat- Location [
Load3 Dead Load4 Live	tern Start E Full Area No Full Area Yes Full Area No Full Area Yes Full DL No	nd Start End 12.00(8.08') psf 40.00(8.08') psf 12.00(11.75') psf 40.00(11.75') psf 6.0 plf			
Maximum Reactions (Ibs), B	earing Capacities (Ibs) and	Bearing Lengths (in)	-		
			11.041'		
X ð		لي 4.583'		9.167'	
Unfactored: Dead 451 Live 1696		1264 4544		978 3408	
Factored: Total 2147 Bearing:		5808		4387	
Capacity Beam 2147 Support 2377		6066 5808		4783 4387	
Des ratio Beam 1.00 Support 0.90 Load comb #7		0.96		0.92	
Load comb #7 Length 0.98 Min reg'd 0.98 Cb 1.00 Cb min 1.00 Cb support 1.11 Fcp sup 625		#5 2.40 2.40** 1.16 1.11 625		#8 1.81 1.81** 1.21 1.21 1.11 625	
**Minimum bearing length governed by	the required width of the supporting me				<u> </u>
		Supports: All - Timb otal length: 11.06'; Clear span: Lateral support: top = at end This section PASSE	F3 ., No.2, 4x8 (3-1/2"x7-1/4") ber-soft Beam, D.Fir-L No.2 4.438; 4.438; 1.75; Volume = 1.9 cu.ft. supports, bottom = at end supports; is the design code check.		
Analysis vs. Allowable Stres	e Design Value Unit	Analysis/Design			
Shear fv = 132 Bending(+) fb = 836 Bending(-) fb = 1026 Deflection:	Fv' = 180 psi Fb' = 1155 psi Fb' = 1155 psi	fv/Fv' = 0.73 fb/Fb' = 0.72 fb/Fb' = 0.89			
Interior Live 0.04 = < L/99 Total 0.05 = < L/99 Cantil. Live 0.06 = L/387	99 0.23 = L/240 in	0.23 0.20 0.46			
Total 0.06 = L/347	7 0.18 = L/120 in	0.35			
$\begin{array}{l} \mbox{PACTORS: } F/E(psi) \mbox{CM} \\ \mbox{Fv'} & 180 & 1.00 & 1.00 & 1\\ \mbox{Fb'} & 900 & 1.00 & 1.00 & 1\\ \mbox{Fb'} & 900 & 1.00 & 1.00 & 1\\ \mbox{Fc'} & 625 & - & 1.00 & 1\\ \mbox{Emin'} & 0.58 & million & 1.00 & 1\\ \mbox{Emin'} & 0.58 & million & 1.00 & 1\\ \mbox{CRITCAL LOAD COMBINATIONS:} \\ \mbox{Shear} & : \mbox{LC } \#7 & = & 1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$.00 0.987 1.300 - 1.00 .00 0.987 1.300 - 1.00 .00 .00 .00 .00 .00 .1ttern: LL) ttern: LL)				
All LC's are listed in the Ana Load Patterns: s=S/2, X=L+S or Load combinations: ASD Basic f CALCULATIONS:	or L+Lr, _=no pattern load in From ASCE 7-16 2.4				
V max = 2949, V design = 2227 EI = 177.83e06 lb-in^2 "Live" deflection is due to al Total deflection = 1.50 permar Lateral stability(+): Lu = 11 Lateral stability(-): Lu = 11	11 non-dead loads (live, wind, nent + "live" 00' Le = 17.63' RB = 11.2;	snow) Lu based on full lengt	ch		
Design Notes: 1. Analysis and design are in accordance 2. Please verify that the default deflection	with the ICC International Building Cod	e (IBC 2021) and the National I	Design Specification (NDS 2018), using Allow	vable Stress Design (ASD). Design valu	ues are from the NDS Supplement.

Prease verify that the default denection limits are appropriate for your application.
 Continuous or Cantilevered Beams: INDS Clause 4.2.5.5 requires that normal grading provisions be extended to the middle 2/3 of 2 span beams and to the full length of cantilevers and other spans.
 Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.
 The critical deflection value has been determined using maximum back-span deflection. Cantilever deflections do not govern design.

PRRNSF	Development &	of Puyallup R Permitting Services ED PERMIT Planning Public Works						
M W	/ood	/orks [®]	PHI	2) LIPS	RG	F4 Αρr. 4, 2023 16:53		
			Desig	n Check Ca WoodWorks	alculation Sheet			
Loads: Load Load1 Load2 Load3 Load4 Self-weight Maximum Re	Dead Ful Live Ful Dead Ful Live Ful Dead Ful	tern 11 Area No 11 Area Yes 11 Area No 11 Area Yes 11 UDL No	Ocation [ft] Magnitude Start End Start 12.00(9.17 12.00(9.17 12.00(9.17 12.00(9.17 10.00(9.17) 12.00(9.17) 6.0 6.0 (lbs) and Bearing Len	End ') psf ') psf ') psf ') psf plf				
	f				— 11.038' —			∤
	X d			Ř		Ă		
Unfactored:				4.583'		9.167		11'
Dead Live Factored: Total	418 1566 1983			1171 4202 5373		907 3152 4058	2	
Bearing: Capacity Beam	1983			5673		4486	;	
Support Des ratio Beam Support	2196 1.00 0.90			5373 0.95 1.00		4058 0.90 1.00		
Load comb Length Min req'd Cb	#7 0.91 0.91			#5 2.22 2.22**		#8 1.68 1.68** 1.22		
Cb min Cb support Fcp sup	1.00 1.00 1.11 625			1.17 1.17 1.11 625		1.22 1.22 1.11 625		
**Minimum beari	ng length governed by the	required width of the su	pporting member.				•	
			Supports Total length: 11.06'; (Lateral support: te	: All - Timber-s Clear span: 4.43 op = at end supp	o.2, 4x8 (3-1/2"x7-1/4") oft Beam, D.Fir-L No.2 38', 4.438', 1.75'; Volume = 1.9 cu.ft. ports, bottom = at end supports; the design code check.			
Analysis vs.	Allowable Stress a	and Deflection us	sing NDS 2018 : Unit Analysis/Des:	i am				
Shear Bending(+) Bending(-)	fv = 122 fb = 773 fb = 949	Fv' = 180 Fb' = 1155 Fb' = 1155	psi fv/Fv' = psi fb/Fb' = psi fb/Fb' =	0.68 0.67				
Deflection: Interior Liv Tota Cantil. Liv	al 0.04 = < L/999	0.15 = L/360 0.23 = L/240 0.12 = L/180	in in in	0.21 0.18 0.43				
Additional D	al 0.06 = L/375	0.18 = L/120	in	0.32				
FACTORS: F/E Fv' 180 Fb'+ 900 Fb'- 900 Fcp' 625 E' 1.6 Emin' 0.58	(psi) CD CM Ct 0 1.00 1.00 1.00 0 1.00 1.00 1.00 0 1.00 1.00 1.00	0 0 0.987 1.300 0 0.987 1.300 0 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	LC# 5 7 5 - 7 7				
Shear : 1 Bending(+): 1 Bending(-): 1 Deflection: 1 Bearing : 5	LC #5 = D + L (path LC #7 = D + L (path LC #7 = D + L (path LC #7 = (live) LC #7 = (total) Support 1 - LC #7 = 1 Support 2 - LC #5 = 1 Support 3 - LC #8 = 1	ern: L_L) ern: LL_) D + L (pattern: L_ D + L (pattern: LI	_)					
D=dead L=live All LC's are	e listed in the Analy:	sis output						
V max = 2728	, V design = 2067 (N		; M(+) = 1976 lbs-ft; M	(-) = 2425 1	bs-ft			
EI = 177.83e0 "Live" deflect Total deflect Lateral stab:	06 lb-in^2 ction is due to all n tion = 1.50 permanent ility(+): Lu = 11.00	non-dead loads (li t + "live" 0' Le = 17.63' R		ill length				
Design Note		the ICC International I	Puilding Code (IPC 2021) and th	o Notional Dasi	an Specification (NDS 2018), using Allow	unble Stress Design (ASD) Design ve		lomont

Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values a
2. Please verify that the default deflection limits are appropriate for your application.
 Continuous or Cantilevered Beams: NDS Clause 4.2.5.5 requires that normal grading provisions be extended to the middle 2/3 of 2 span beams and to the full length of cantilevers and other spans.
 Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.
 The critical deflection value has been determined using maximum back-span deflection. Cantilever deflections do not govern design.