

professional structural engineering commercial . residential . industrial po box 231, ashland, oregon 97520

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# STRUCTURAL CALCULATIONS **JOB NUMBER: 2020-20**

# HARRY ABEL INSURANCE AGENCY **OFFICE ADDITION & REMODEL** 875 HWY 101 FLORENCE, OREGON

July, 2020



FXPIRES 6/30/202

Design Criteria:

Roof Dead Load: Roof Snow Load: Wind Speed, Exposure: Seismic Coefficients Ss, S1, Site Class: Timber Species & Grade: Glued Laminated Beam Type & Grade: I Joist Manufacturer: Engineered Lumber Manufacturer: Roof Sheathing Type & Span Rating: Wall Sheathing Type & Span Rating: Concrete Compressive Strength (f'c): Reinforcing Steel Type & Grade: Soil Bearing Capacity:

20 psf 20 psf 130 MPH, D 1.406. 0.739. D Douglas Fir, No 2, Unless Noted 24F-V4 DF/DF, Exterior Glue Weyerhaeuser, Trus-Joist, TJI Weyerhaeuser, TimberStrand, LSL, 1.55E 19/32", Exposure 1, CDX, 32/16 15/32", Exposure 1, CDX, 24/16 2500 psi ASTM A615, Grade 60 1500 psf

# Notes:

Work not specifically detailed shall be constructed in accordance with the 2019 Oregon Structural Specialty Code.

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Scope:

Perform structural engineering calculations and review structural drawings.

Prepared for: Crow/Clay & Associates Inc. 125 West Central Avenue Suite 400 Coos Bay, Oregon 97420 (541) 269-9388

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ASHLAND, OREGON 97520 commercial . residential . industrial (541) 552-1417 po box 231 . ashland . oregon 97520

#### Project Title: ABEL INSURANCE Engineer: Project ID: ATG 2020-20 Project Descr: OFFICE ADDITION & REMODEL

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ACE Engineering LLC

# ASCE 7-16 Wind Forces, Chapter 27, Part I

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Lic. # : KW-06009472

# DESCRIPTION: ABEL INSURANCE OFFICE REMODEL, 875 HWY 101, FLORENCE, OREGON

# ABEL INSURANCE OFFICE ADDITION & REMODEL, 875 HWY 101, FLORENCE, OREGON

## **Basic Values**

Risk Category V : Basic Wind Speed		3 per ASCE 7-16 Table 1.5-1 130.0			Horizontal Dim. in North-South Direction (B or L) = 58.0 Horizontal Dim. in East-West Direction (B or L) = 50.50			
Kd : Directionality Fact	or	0.850 per ASCE 7-16 Table 26.6-1			h : Mean Roof			= 50.50
Exposure Category		ASCE 7-16 S				CE 7-16 Sec 26.8 & I		- 15.0
	posure D	East :	Exposure D		th: K1 =	K2 =	K3 =	Kzt =
1	posure D	West :	Exposure D		th: $K1 =$	K2 =	K3 =	Kzt =
					st: K1 =	K2 =	K3 =	Kzt =
Building Period & Flex	ibility Category	1		We	st: K1 =	K2 =	K3 =	Kzt =
User has specified the	ne building free	quency is >=	1 Hz, therefore c	onsidered RIGID	for both North-Sou	uth and East-West d	irections.	
Building Story Dat	<u>a</u>							
	hi	Story Ht	E <sub>R</sub> : X	E <sub>R</sub> : X				
Level Description	ft	ft	ft	ft				
PEAK	16.00	6.25	0.000	0.000				
EAVE	9.75	9.75	0.000	0.000				
Gust Factor	For wind	comina from	direction indicate	ed				
North =	0.850	South		0.850				
East =	0.850	West		0.850				
Enclosure								
Check if Building Qu	lalifies as "∩r	nen"						
Check in Dunuing Qu	North \		South Wall	East Wall	West Wall	Roof		Total
Agross		)4.0 ft^2	950.0 ft^2	644.0 ft^2	644.0 ft^2	<u></u>	ft^2	4,242.0 ft^2
Aopenings		10.0 ft^2	40.0 ft^2	300.0 ft^2	300.0 ft^2		ft^2	850.0 ft^2
Aopenings >= 0.8 * Agro	oss?	No	No	No	No			
	ļ	All four Aa	ross values	must be non-	zero	Building does	NOT qual	ify as "Open"
North Elevation : De		Ŭ						
				<u>4.0</u> ft^2		> 1.10 * Aoi ?		No
Reference area = s Aoi = Ao-total - Ao	smaller of 4 sq.	II. 01 1% 01 <i>F</i>	Agross = =	4.0 ft 2 640.0 ft^2		> Reference Area ?	=	No Yes
Agi = Ag-total - Ag			=	2,238.0 ft^2		/ Agi >= 0.20 ?	=	No
Aoi / Agi			=	0.2860		0		
Building is "Encl	osed" wher	n the North	n wall receive	es positive ex	ternal pressu	re		
South Elevation : De	etermine Encl	osure Class	ification per AS	SCE Section 26.	<u>12</u>			
Reference area = s	maller of 4 sq.	ft. or 1% of A	Agross =	4.0 ft^2		> 1.10 * Aoi ?	=	No
Aoi = Ao-total - Ao			=	810.0 ft^2		> Reference Area ?	=	Yes
Agi = Ag-total - Ag			=	3,292.0 ft^2	Is Aoi	/ Agi >= 0.20 ?	=	No
Aoi / Agi Building is "Encl	osed" wher	n the Sout	= h wall receiv	0.2461 es positive ex	rternal nressu	Iro		
0								
East Elevation : Dete						1 10 * 4 ~ 2		Na
Reference area = s Aoi = Ao-total - Ao	smaller of 4 sq.	11. OF 1% OF A	Agross = =	4.0 ft^2 550.0 ft^2		> 1.10 * Aoi ? > Reference Area ?	=	No Yes
Agi = Ag-total - Ag			=	3,598.0 ft^2		/ Agi >= 0.20 ?	=	Yes
5 .5						5		

Building is "Enclosed" when the East wall receives positive external pressure



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Project Title: ABEL INSURANCE Engineer: ATG Project ID: 2020-20 Project Descr: OFFICE ADDITION & REMODEL

po bo	x 231 . ashland . oreg 52.1417 . ace-engine	on 97520 <b>(54</b>	1) 552-14	17	020	Project	t Descr: OFFI			10DEL ed: 8 JUN 2020	10.28414
ASCE 7-16 W	ind Force	es, Chapte	er 27,	Part I					e\ACE\ENGINE-	~1\Work\2020-2~1\0 1983-2020, Build:12	CCA.ec6 .
Lic. # : KW-06009472 DESCRIPTION: A	BEL INSURA	NCE OFFICE I	REMODE	L. 875 HW	/Y 101. I	FLOREN	ICE, OREGON			ACE Engine	eering LLC
West Elevation : De											
Reference area =				AJUL JUL	4.0 ft^2		Is Ao > 1.10 *	Aoi ?	=	No	
Aoi = Ao-total - Ao	)	5	=		550.0 ft^2		Is Ao > Refere		=	Yes	
Agi = Ag-total - Ag Aoi / Agi	]		=		598.0 ft^2 .1529	2	Is Aoi / Agi >=	0.20?	=	Yes	
Building is "End	losed" wher	n the West w	all rece			ternal p	ressure				
Velocity Pressure	<u>s</u>										
When the following v North Wall =		e leeward or si South Wall =	dewall pro 1.030		e value c st Wall =			26.10-1) : Vest Wall  =	1.03	0 psf	
When the following v											
		South Wall =	37.886		st Wall =	:	37.886psf V	Vest Wall =	37.88	6 psf	
qz : Windward Wall V		res at various r	neights pe	er Eq. 26.10 South Ele			East Ele	evation		West Eleva	ation
Height Above Base (ft)		qz		Kz	qz		Kz	qz		Kz	qz
0.00	1.030			1.030	37.89		1.030	37.89		1.030	37.89
4.00 8.00	1.030 1.030			1.030 1.030	37.89 37.89		1.030 1.030	37.89 37.89		1.030 1.030	37.89 37.89
12.00	1.030			1.030	37.89		1.030	37.89 37.89		1.030	37.89
Pressure Coefficie		07.07		1.000		/alues w	hen elevation re		ive external		07.07
GCpi : Internal press		t, per sec. 26.13	and Tab	le 26.13-1							
-	North	South		Eas			West				
+/-	0.180			+/-	0.180	+/-	0.180				
Specify Cp Values fr		3-1 for Windwar when elevation				sure					
	North	South		Eas	•		West				
Windward Wall	0.80		0.80		0.80		0.80				
Leeward Wall	-0.30		-0.30		-0.30		-0.30				
Side Walls Wind Pressures	-0.70		-0.70		-0.70		-0.70				
Wind Pressures						nd pres	<u>sure</u>				
		itive Internal	Ne	egative Inter	nal						
Leeward Wall Pres		16.480 psf 29.362 psf		-2.841 psf -15.723 psf							
Windward Wall Pr Height Above Bas		Positive Interna Pressure (psf		Negative Pressur	Internal						
0.00		Tressure (psi	18.94	1103301	c (p3i)	32.58					
4.00			18.94			32.58					
8.00			18.94 18.94			32.58					
12.00		Elevation rea				32.58	0.1150				
Wind Pressures		itive Internal		eqative Inter		na pres	<u>sure</u>				
Leeward Wall Pre		16.480 psf	110	-2.841 psf	<u>1101</u>						
Side Wall Pressur		29.362 psf		-15.723 psf							
Windward Wall Pr Height Above Bas		Positive Interna Pressure (psf		Negative Pressur	Internal e (psf)						
0.00			18.94			32.58					
4.00			18.94			32.58					

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# Lic. # : KW-06009472 DESCRIPTION: ABEL INSURANCE OFFICE REMODEL, 875 HWY 101, FLORENCE, OREGON

8.00	18.94	32.58
12.00	18.94	32.58

ASCE 7-16 Wind Forces, Chapter 27, Part I

Wind Pressures when EAST Elevation receives positive external wind pressure

	Positive Internal	Negative Internal	
Leeward Wall Pressures Side Wall Pressures	-16.480 psf -29.362 psf	-2.841 psf -15.723 psf	
Windward Wall Pressures Height Above Base (ft)	· Positive Internal Pressure (psf)	Negative Interna Pressure (psf)	
0.00		18.94	32.58
4.00		18.94	32.58
8.00		18.94	32.58
12.00		18.94	32.58

# Wind Pressures when WEST Elevation receives positive external wind pressure

	Positive Internal	Negative Internal	
Leeward Wall Pressures Side Wall Pressures	-16.480 psf -29.362 psf	-2.841 psf -15.723 psf	
Windward Wall Pressures . Height Above Base (ft)	Positive Internal Pressure (psf)	Negative Internal Pressure (psf)	
0.00		18.94	32.58
4.00		18.94	32.58
8.00		18.94	32.58
12.00		18.94	32.58

# Story Forces for Design Wind Load Cases

## Values below are calculated based on a building with dimensions B x L x h as defined on the "Basic Values" tab.

Load Case W	/indward Wall	Building level	Ht. Range	Trib. Height		Components (k) In "X" Direction			lt, (ft-k)
CASE 1	North	Level 2	12.88' -> 16.00'	3.13	-5.60				
CASE 1	North	Level 1	4.88' -> 12.88'	8.00	-14.31				
CASE 1	South	Level 2	12.88' -> 16.00'	3.13	5.60				
CASE 1	South	Level 1	4.88' -> 12.88'	8.00	14.31				
CASE 1	East	Level 2	12.88' -> 16.00'	3.13		-6.43			
CASE 1	East	Level 1	4.88' -> 12.88'	8.00		-16.44			
CASE 1	West	Level 2	12.88' -> 16.00'	3.13		6.43			
CASE 1	West	Level 1	4.88' -> 12.88'	8.00		16.44			
CASE 2	North	Level 2	12.88' -> 16.00'	3.13	-4.20			7.58 +/-	31.8
CASE 2	North	Level 1	4.88' -> 12.88'	8.00	-10.73			7.58 +/-	81.3
CASE 2	South	Level 2	12.88' -> 16.00'	3.13	4.20			7.58 +/-	31.8
CASE 2	South	Level 1	4.88' -> 12.88'	8.00	10.73			7.58 +/-	81.3
CASE 2	East	Level 2	12.88' -> 16.00'	3.13		-4.82	8.70	+/-	41.9
CASE 2	East	Level 1	4.88' -> 12.88'	8.00		-12.33	8.70	+/-	107.2
CASE 2	West	Level 2	12.88' -> 16.00'	3.13		4.82	8.70	+/-	41.9
CASE 2	West	Level 1	4.88' -> 12.88'	8.00		12.33	8.70	+/-	107.2
CASE 3	North & East	Level 2	12.88' -> 16.00'	3.13	-4.20	-4.82			
CASE 3	North & East	Level 1	4.88' -> 12.88'	8.00	-10.73	-12.33			

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ASCE 7 16	Wind Earons C	hantor (	7 Dort			File = C:\Users\a	allan\OneDrive\AC		JUN 2020, 10 rk\2020-2~1\CCA	
ASCE 7-10 Lic. # : KW-0600947	Wind Forces, C	napter 4	27, Part 1			Software	copyright ENERC		020, Build:12.20.2 CE Engineeri	
DESCRIPTION:	ABEL INSURANCE C	FFICE REM	ODEL, 875 I	HWY 101	, FLORENC	E, OREGON		P	ICE Engineen	
CASE 3	North & West	Level 2	12.88' ->	16 00'	3.13	-4.20	4.82			
CASE 3	North & West	Level 1	4.88' ->		8.00	-10.73	12.33			
CASE 3	South & West	Level 2	12.88' ->		3.13	4.20	4.82			
CASE 3	South & West	Level 1	4.88' ->		8.00	10.73	12.33			
CASE 3	South & East	Level 2	12.88' ->		3.13	4.20	-4.82			
CASE 3	South & East	Level 1	4.88' ->		8.00	10.73	-12.33			
CASE 4	North & East	Level 2	12.88' ->	16.00'	3.13	-3.15	-3.62	8.70	7.58 +/-	55.4
CASE 4	North & East	Level 1	4.88' ->	12.88'	8.00	-8.06	-9.25	8.70	7.58 +/-	141.5
CASE 4	North & West	Level 2	12.88' ->	16.00'	3.13	-3.15	3.62	8.70	7.58 +/-	55.4
CASE 4	North & West	Level 1	4.88' ->	12.88'	8.00	-8.06	9.25	8.70	7.58 +/-	141.5
CASE 4	South & West	Level 2	12.88' ->	16.00'	3.13	3.15	3.62	8.70	7.58 +/-	55.4
CASE 4	South & West	Level 1	4.88' ->	12.88'	8.00	8.06	9.25	8.70	7.58 +/-	141.5
CASE 4	South & East	Level 2	12.88' ->	16.00'	3.13	3.15	-3.62	8.70	7.58 +/-	55.4
CASE 4	South & East	Level 1	4.88' ->	12.88'	8.00	8.06	-9.25	8.70	7.58 +/-	141.5
Min per ASCE 27.1.	.5 North	Level 2	12.88' ->	16.00'	3.13	-2.53				
Min per ASCE 27.1.	.5 North	Level 1	4.88' ->	12.88'	8.00	-6.46				
Min per ASCE 27.1.	.5 South	Level 2	12.88' ->	16.00'	3.13	2.53				
Min per ASCE 27.1.	.5 South	Level 1	4.88' ->	12.88'	8.00	6.46				
Min per ASCE 27.1.	.5 East	Level 2	12.88' ->	16.00'	3.13		-2.90			
Min per ASCE 27.1.	.5 East	Level 1	4.88' ->	12.88'	8.00		-7.42			
Min per ASCE 27.1.	.5 West	Level 2	12.88' ->	16.00'	3.13		2.90			
Min per ASCE 27.1.	.5 West	Level 1	4.88' ->	12.88'	8.00		7.42			
Base Shear for	Design Wind Load	<u>Cases</u>							North +Y	
Values below are	calculated based on a b	uilding with o	dimensions B			the "General" ta		Mast		V

			Wind Base She	ear Components (k)			West	+
Load Case	Windward Wall	Leeward Wall	In "Y" Direction	In "X" Direction		Mt, (ft-k)		
Case 1	North	South	-19.91					
Case 1	South	North	19.91					
Case 1	East	West		-22.87				
Case 1	West	East		22.87				
Case 2	North	South	-14.93		+/-	113.1		
Case 2	South	North	14.93		+/-	113.1		
Case 2	East	West		-17.15	+/-	149.2		
Case 2	West	East		17.15	+/-	149.2		
Case 3	North & East	South & West	-14.93	-17.15				
Case 3	North & West	South & East	-14.93	17.15				
Case 3	South & West	North & East	14.93	17.15				
Case 3	South & East	North & West	14.93	-17.15				
Case 4	North & East	South & West	-11.21	-12.87	+/-	196.9		
Case 4	North & West	South & East	-11.21	12.87	+/-	196.9		
Case 4	South & West	North & East	11.21	12.87	+/-	196.9		
Case 4	South & East	North & West	11.21	-12.87	+/-	196.9		
Min per ASCE 27.1.5	North	South	-8.99					

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East

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West

Min per ASCE 27.1.5

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ASCE 7-16 Wind Fo	orces, chap	ner 27, Part I		Software copyright	ENERCALC, INC. 1983	-2020, Build:12.20.2.28 .
Lic. # : KW-06009472						ACE Engineering LLC
DESCRIPTION: ABEL INS	URANCE OFFIC	E REMODEL, 875 HW	Y 101, FLORENCE,	OREGON		
Min per ASCE 27.1.5	South	North	8.99			
WIII PELASCE 27.1.5	Julii	NOTIT	0.99			
Min per ASCE 27.1.5	East	West		-10.32		

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SHEET: 6

06/08/20

DATE:



# PROJECT: 2020-20 ABEL INSURANCE OFFICE REMODEL, 875 HWY 101, FLORENCE, OREGON DETERMINE SEISMIC LOAD

## SEISMIC DESIGN USING ASCE 7

SITE CLASS RISK CATEGORY	D 2	ASCE 7 TABLE 20.3-1 ASCE 7 TABLE 1.5-1
Ι <sub>Ε</sub>	1	ASCE 7 TABLE 1.5-2
Ss	1.406	ASCE 7 FIGURE 22-1
S <sub>1</sub>	0.739	ASCE 7 FIGURE 22-2
Fa	1.20	ASCE 7 TABLE 11.4-1
Fv	1.70	ASCE 7 TABLE 11.4-2
R	6.5	ASCE 7 TABLE 12.14-1

Ct X hn	0.02 0.75 9	ASCE 7 TABLE 12.8-2 ASCE 7 TABLE 12.8-2 ft (AVERAGE ROOF HEIGHT)
SDC	D	ASCE 7 TABLE 11.6-1 & 11.6-2
ар	1	ASCE 7 TABLE 13.5-1 & 13.6-1
Rp	2.5	ASCE 7 TABLE 13.5-1 & 13.6-1
lp	1.00	ASCE 7 SECTION 13.1.3
z	9	ft (HEIGHT OF ELEMENT)
ρ	1.00	ASCE 7 SECTION 12.3.4 (1.0 or 1.3)

#### DESIGN WEIGHT

ELEMENT	UNIT WT.	AREA	<u>WEIGHT</u>		
ROOF	30	2929	87.87	kip	
			0	kip	
			0	kip	
			0	kip	
			0	kip	
_			0		
			0	kip	
			0	kip	
			0	kip	
		TOTAL	88	kip	
BUILDINGS:					
S <sub>MS</sub>	1.687	ASCE 7	(11.4-1)		
S <sub>M1</sub>	1.256	ASCE 7	(11.4-2)		
S <sub>DS</sub>	1.125	ASCE 7	(11.4-3)		
S <sub>D1</sub>	0.838	ASCE 7	· /		
Cs	0.173	ASCE 7	(12.8-2)		
Csmax	1.240	ASCE 7	(12.8-3)		
Csmin	0.063	ASCE 7	(12.8-5)		
V	0.173	W ASCE	7 (12.8-1)		
E	0.173	W	. ,		
V	15.21	kip			
Fa		•	Ss		
SITE CLASS	0.25	0.5	0.75	1	1.25
А	0.8	0.8	0.8	0.8	0.8
В	0.9	0.9	0.9	0.9	0.9
С	1.3	1.3	1.2	1.2	1.2
D	1.6	1.4	1.2	1.1	1
Fv			<b>S</b> <sub>1</sub>		
SITE CLASS	0.1	0.2	0.3	0.4	0.5
А	0.8	0.8	0.8	0.8	0.8
В	0.8	0.8	0.8	0.8	0.8
С	1.5	1.5	1.5	1.5	1.5
D	2.4	2.2	2	1.9	1.8

ELEM	ENTS:	
Fp	0.54	Wp ASCE 7 (13.3-1, 2, 3)

```
Fp 47.441 kip
```

1.5 0.8 0.9 1.2 1

0.6 0.8 0.8 1.4 1.7

T 0.104 ASCE 7 (12.8-7)

Т	k
0.5	1
2.5	2
-	

	k	1	ASCE 7 SE	ECTION 12.8	3.3					
VERTICAL F	ORCE DISTRI	BUTION					DIAPHR	AGM FORC	E DISTRIB	UTION
LEVEL	<u>HEIGHT</u>	h <sup>k</sup>	<u>w h<sup>k</sup></u>	<u>(12.8-11)</u>	<u>0.7E</u>		<u>Σ Fi</u>	<u>Σ wi</u>	<u>(12.10-1,</u>	<u>2 &amp; 3)</u>
ROOF	9.75	9.75	856.7325	15.21	10.64	kip	15.21	87.87	19.77	kip
	0	0.00	0	0.00	0.00	kip	15.21	87.87	0.00	kip
	0	0.00	0	0.00	0.00	kip	15.21	87.87	0.00	kip
	0	0.00	0	0.00	0.00	kip	15.21	87.87	0.00	kip
	0	0.00	0	0.00	0.00	kip	15.21	87.87	0.00	kip
	0	0.00	0	0.00	0.00	kip	15.21	87.87	0.00	kip
	0	0.00	0	0.00	0.00	kip	15.21	87.87	0.00	kip
	0	0.00	0	0.00	0.00	kip	15.21	87.87	0.00	kip
	0	0	0	0.00	0.00	_ kip	15.21	87.87	0.00	kip
			856.7325	15.21	10.64					



LATERAL DESIGN - TIMBER DIAPHRAGM

PROJECT: LINE:	10d OR 8d:	APHRAGM 8d	URANCE C	DFFICE REMODEL, 875 HWY 101, FLORENCE, OR
OVERSTRENGTH FACTOR:	Ω=	1		
UNIFORM WIND LOAD ON DIAPHRAGM:	w <sub>w</sub> =	237	plf	USE 0.6W
UNIFORM SEISMIC LOAD ON DIAPHRAGM:	w <sub>E</sub> =	274	plf	USE 0.7E
POINT WIND LOAD ON DIAPHRAGM:	V <sub>w</sub> =	0	kips	USE 0.6W
POINT SEISMIC LOAD ON DIAPHRAGM:	V <sub>E</sub> =	0	kips	USE 0.7E
LOCATION OF POINT LOAD:	x=	1	ft	
DIAPHRAGM DIMENSIONS: (SPAN LENGTH)	L=	58	ft	
(WIDTH)	) W=	50.5	ft	
ASPECT RATIO:		1.148515		ОК
MAXIMUM WIND SHEAR ON DIAPHRAGM		6.86	kips	SEISMIC GOVERNS
MAXIMUM SEISMIC SHEAR ON DIAPHRAGM		7.95	kips	EQ
		EQ plf	W plf	
DISTANCE FROM DIAPHRAGM EDGE	0	157.3693	135.8614	15/32 CDX, 8d @ 6" EN & BN, UNBLOCKED
4' FROM EDG	= 4	135.6632	117.1219	15/32 CDX, 8d @ 6" EN & BN, UNBLOCKED
8' FROM EDGI		113.9571	98.38238	15/32 CDX, 8d @ 6" EN & BN, UNBLOCKED
12' FROM EDG		92.25096		15/32 CDX, 8d @ 6" EN & BN, UNBLOCKED
16' FROM EDGI				15/32 CDX, 8d @ 6" EN & BN, UNBLOCKED
20' FROM EDG				15/32 CDX, 8d @ 6" EN & BN, UNBLOCKED
24' FROM EDG				15/32 CDX, 8d @ 6" EN & BN, UNBLOCKED
28' FROM EDGI	E 28	5.426527	4.684875	15/32 CDX, 8d @ 6" EN & BN, UNBLOCKED

Ga 5.5 DIAPHRAGM DEFLECTION: 0.429277 in

CHORD FORCE: 2.281855 kip

SHEET:

DATE: 6/8/20

7

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# LATERAL DESIGN - SHEAR WALLS

3/4" DIA. A.B. SPACING:

10d NAILS IN SILL

1920

188.8

82 in

8 in

PROJECT:	2020-20					75 HWY	101 ELOE	PENCE	OREGON
LINE:	NORTH W	ALL							ONECON
		100	d OR 8d:	8d	C	DX OR S	TRUCT 1:	CDX	
WIND SHEAR ON WALL (0.6W):	V <sub>w</sub> =	3371.4	pounds						
SEISMIC SHEAR ON WALL (0.7E):	V <sub>E</sub> =	2432.3	pounds						
LENGTH:	L1=	25	ft	L2=	0	ft	L3=	0	ft
HEIGHT:	H1=	10	ft	H2=	0	ft	H3=	0	ft
OVERTURNING FORCE ABOVE:	P1=	0	pounds	P2=	0	pounds	P3=	0	pounds
WIND UNIT SHEAR:	v <sub>w</sub> =	135	plf	unblocked	CDX v	vith 8d @	) 6" oc with	n studs a	at 16" oc
SEISMIC UNIT SHEAR:	V <sub>F</sub> =	97	plf			-	) 6" oc with		
OVERTURNING FORCES:	Pot1=	1376	pounds		0	pounds		0	pounds
RESISTANCE TO OVERTURNING:		1370	ft	level trib.	0	ft	level trib.	0	ft
leve		113	pounds	level thb.	0	pounds	level thb.	0	pounds
wal		750	pounds		0	pounds		0	pounds
tota		863	pounds		Ő	pounds		Ő	pounds
NET OVERTURNING FORCE:	•	514	pounds			pounds		NO OT	•
	DT	T2Z in 2	•		NO HD	•		NO HD	pennae
	deflection				######			#######	in
10d TOE NAILS SPACING:	157.3	14	in						
LTP4 SPACING:	600	53	in						
A35 SPACING:	695	62	in		max 2:′	l height r	atio for unl	blocked	shear walls
1/2" DIA. A.B. SPACING:	944	84	in			0			
5/8" DIA. A.B. SPACING:	1376	122	in						
3/4" DIA. A.B. SPACING:	1920	171	in						
10d NAILS IN SILL	188.8	17	in						
			VECTIO						
LINE:	NORTH W	-	VESTIB d OR 8d:	-	CE	)X OR S	TRUCT 1:	CDX	
	-	100	d OR 8d:	-	CE	)X OR S	TRUCT 1:	CDX	
WIND SHEAR ON WALL (0.6W):	V <sub>w</sub> =	100 <b>3371.4</b>	d OR 8d: pounds	-	CE	)X OR S	TRUCT 1:	СDХ	
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E):	V <sub>w</sub> = V <sub>E</sub> =	100 3371.4 2432.3	d OR 8d: pounds pounds	8d	-	-			4
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH:	V <sub>W</sub> = V <sub>E</sub> = L1=	100 3371.4 2432.3 12	d OR 8d: pounds pounds ft	8d	0	ft	L3=	0	ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT:	V <sub>w</sub> = V <sub>E</sub> = L1= H1=	100 3371.4 2432.3 12 10	d OR 8d: pounds pounds ft ft	<b>8d</b> L2= H2=	0 0	ft	L3= H3=	0 0	ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE:	V <sub>w</sub> = V <sub>E</sub> = L1= H1= P1=	100 3371.4 2432.3 12 10 0	d OR 8d: pounds pounds ft ft pounds	<b>8d</b> L2= H2= P2=	0 0 0	ft ft pounds	L3= H3= P3=	0	
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR:	V <sub>w</sub> = V <sub>E</sub> = L1= H1= P1= v <sub>w</sub> =	100 3371.4 2432.3 12 10 0 281	d OR 8d: pounds pounds ft ft pounds plf	<b>8d</b> L2= H2= P2= 1-side CD	0 0 0 X with	ft ft pounds 8d @ 6"	L3= H3= P3= oc	0 0	ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR:	$V_{W} = V_{E} = L1 = H1 = P1 = V_{W} = v_{E} = V_{E}$	100 3371.4 2432.3 12 10 0 281 203	d OR 8d: pounds pounds ft ft pounds plf plf	8d L2= H2= P2= 1-side CD 1-side CD	0 0 0 X with X with	ft ft pounds 8d @ 6" 8d @ 6"	L3= H3= P3= oc oc	0 0 0	ft pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES:	$V_{W} =$ $V_{E} =$ L1 = H1 = P1 = $v_{W} =$ $v_{E} =$ Pot1 =	100 3371.4 2432.3 12 10 0 281 203 2932	d OR 8d: pounds pounds ft ft pounds plf plf pounds	8d L2= H2= P2= 1-side CD 1-side CD Pot2=	0 0 0 X with 0 X with 0	ft ft pounds 8d @ 6" 8d @ 6" pounds	L3= H3= P3= oc oc Pot3=	0 0 0	ft pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING:	$V_{W} =$ $V_{E} =$ $L1 =$ $H1 =$ $P1 =$ $v_{W} =$ $v_{E} =$ $Pot1 =$ $level trib.$	100 3371.4 2432.3 12 10 0 281 203 2932 1	d OR 8d: pounds ft ft pounds plf plf pounds ft	8d L2= H2= P2= 1-side CD 1-side CD	0 0 0 0 X with 0 0 0	ft ft pounds 8d @ 6" 8d @ 6" pounds ft	L3= H3= P3= oc oc	0 0 0 0	ft pounds pounds ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve	$V_{W} =$ $V_{E} =$ L1 = H1 = P1 = $v_{W} =$ $v_{E} =$ Pot1 = level trib. 1 <b>15</b>	100 3371.4 2432.3 12 10 0 281 203 2932 1 54	d OR 8d: pounds pounds ft ft pounds plf plf pounds	8d L2= H2= P2= 1-side CD 1-side CD Pot2=	0 0 0 X with X with 0 0 0	ft ft pounds 8d @ 6" 8d @ 6" pounds	L3= H3= P3= oc oc Pot3=	0 0 0 0 0 0	ft pounds pounds ft pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal	$V_{W} =$ $V_{E} =$ L1 = H1 = P1 = $v_{W} =$ $v_{E} =$ Pot1 = level trib. 15 10	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360	d OR 8d: pounds ft ft pounds plf pounds ft pounds ft pounds pounds	8d L2= H2= P2= 1-side CD 1-side CD Pot2=	0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds	L3= H3= P3= oc oc Pot3=	0 0 0 0 0 0 0	ft pounds pounds ft pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal tota	$V_{W} =$ $V_{E} =$ L1 = H1 = P1 = $v_{W} =$ $v_{E} =$ Pot1 = level trib. 15 10	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360 414	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds	8d L2= H2= P2= 1-side CD Pot2= level trib.	0 0 0 X with X with X with 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds pounds	L3= H3= P3= oc oc Pot3=	0 0 0 0 0 0 0 0 0	ft pounds pounds ft pounds pounds pounds pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal	$V_{w} =$ $V_{E} =$ L1 = H1 = P1 = $v_{w} =$ $v_{E} =$ Pot1 = level trib. 15 10	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360 414 2518	d OR 8d: pounds ft ft pounds plf pounds ft pounds ft pounds pounds pounds pounds	8d L2= H2= P2= 1-side CD Pot2= level trib.	0 0 0 X with X with 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds pounds ft pounds pounds pounds pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal tota	$V_{w} =$ $V_{E} =$ L1 = H1 = P1 = $v_{w} =$ $v_{E} =$ Pot1 = level trib. 15 10 HE	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360 414 2518 DU2 in 2	d OR 8d: pounds ft ft pounds plf pounds ft pounds ft pounds pounds pounds pounds pounds pounds	8d L2= H2= P2= 1-side CD Pot2= level trib.	0 0 0 X with X with 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds ft pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal tota	$V_{w} =$ $V_{E} =$ $L1 =$ $H1 =$ $P1 =$ $v_{w} =$ $v_{E} =$ $Pot1 =$ $level trib.$ $I =$	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360 414 2518 2022 in 2 0.2365	d OR 8d: pounds ft ft pounds plf pounds ft pounds pounds pounds pounds pounds pounds pounds pounds pounds pounds pounds pounds pounds pounds pounds ft ft pounds ft pounds ft pounds ft pounds ft pounds plf pounds ft pounds ft pounds plf pounds ft pounds ft pounds plf pounds ft pounds ft pounds ft pounds plf pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds ft pounds pounds ft pounds pounds pounds ft pounds p	8d L2= H2= P2= 1-side CD Pot2= level trib.	0 0 0 X with X with 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds ft pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal tota NET OVERTURNING FORCE:	$V_w =$ $V_E =$ L1 = H1 = P1 = $v_w =$ $v_E =$ Pot1 = level trib. 1 <b>15</b> 1 <b>10</b> HE deflection 157.3	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360 414 2518 2022 in 2 0.2365 7	d OR 8d: pounds ft ft pounds plf pounds ft pounds pounds pounds pounds pounds pounds pounds in	8d L2= H2= P2= 1-side CD Pot2= level trib.	0 0 0 X with X with 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds ft pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal tota NET OVERTURNING FORCE:	$V_w =$ $V_E =$ L1 = H1 = P1 = $v_w =$ $v_E =$ Pot1 = level trib. 1 <b>15</b> 1 <b>10</b> HE deflection 157.3 600	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360 414 2518 2022 in 2 0.2365 7 26	d OR 8d: pounds ft ft pounds plf pounds ft pounds ft pounds pounds pounds pounds pounds pounds in in	8d L2= H2= P2= 1-side CD Pot2= level trib.	0 0 0 X with X with 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds ft pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal tota NET OVERTURNING FORCE:	$V_w =$ $V_E =$ L1 = H1 = P1 = $v_w =$ $v_E =$ Pot1 = level trib. 1 <b>15</b> 1 <b>10</b> HE deflection 157.3 600 695	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360 414 2518 2022 in 2 0.2365 7 26 30	d OR 8d: pounds pounds ft ft pounds plf pounds ft pounds pounds pounds pounds pounds pounds pounds in in in	8d L2= H2= P2= 1-side CD Pot2= level trib.	0 0 0 X with X with 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds ft pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wal tota NET OVERTURNING FORCE:	$V_w =$ $V_E =$ L1 = H1 = P1 = $v_w =$ $v_E =$ Pot1 = level trib. 1 <b>15</b> 1 <b>10</b> HE deflection 157.3 600	100 3371.4 2432.3 12 10 0 281 203 2932 1 54 360 414 2518 2022 in 2 0.2365 7 26	d OR 8d: pounds ft ft pounds plf pounds ft pounds ft pounds pounds pounds pounds pounds pounds in in	8d L2= H2= P2= 1-side CD Pot2= level trib.	0 0 0 X with X with 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 6" 8d @ 6" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds ft pounds pounds pounds pounds

SHEET: 8

DATE: 6/8/20



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# LATERAL DESIGN - SHEAR WALLS

DATE: 7/13/20

PROJECT: LINE:	2020-20 SOUTH W	ALL							OREGON
		10	d OR 8d:	8d	CI	DX OR S	TRUCT 1:	CDX	
WIND SHEAR ON WALL (0.6W):	V <sub>w</sub> =	4318	pounds						
SEISMIC SHEAR ON WALL (0.7E):	V <sub>E</sub> =	3350	pounds						
LENGTH:	L1=	4.5	ft	L2=	5.33	ft	L3=	5	ft
HEIGHT:	H1=	10	ft	H2=	10	ft	H3=	10	ft
OVERTURNING FORCE ABOVE:	P1=	0	pounds	P2=	0	pounds	P3=	0	pounds
WIND UNIT SHEAR:	v <sub>w</sub> =	291	plf	1-side CI	DX with	8d @ 6"	ос		
SEISMIC UNIT SHEAR:	v <sub>E</sub> =	226	plf	1-side CI	DX with	8d @ 6"	ос		
OVERTURNING FORCES:	Pot1=	3275	pounds	Pot2=	3213	pounds	Pot3=	3235	pounds
RESISTANCE TO OVERTURNING	level trib.	1	ft	level trib.		ft	level trib.	1	ft
leve	15	20	pounds		24	pounds		23	pounds
wa	l 10	135	pounds		160	pounds		150	pounds
tota	l	155	pounds		184	pounds		173	pounds
NET OVERTURNING FORCE:		3120				pounds			pounds
		0U4 in 2		H	DU2 in 2		HD	U2 in 2	
	deflection				0.343	in		0.355	in
10d TOE NAILS SPACING:	157.3	6	in						
LTP4 SPACING:	600	25	in						
A35 SPACING:	695	29	in						
1/2" DIA. A.B. SPACING:	944	39	in in		multiply	/ seismic	by 2L1/H1		
5/8" DIA. A.B. SPACING: 3/4" DIA. A.B. SPACING:	1376 1920	57 79	in in						
10d NAILS IN SILL	1920	8	in						
IOU INALES IN SILL	100.0	0	111						
LINE:	SOUTH W							<b></b>	
		10	d OR 8d:	8d	CI	DX OR S	TRUCT 1:	CDX	
WIND SHEAR ON WALL (0.6W):	V <sub>w</sub> =	10 <b>4318</b>	d OR 8d: pounds	8d	CI	DX OR S	TRUCT 1:	CDX	
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E):	V <sub>w</sub> = V <sub>E</sub> =	10 <b>4318</b> 3350	d OR 8d: pounds pounds	8d	CI	-			
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH:	V <sub>W</sub> = V <sub>E</sub> = L1=	10 4318 3350 12	d OR 8d: pounds pounds ft	<b>8d</b> L2=	0	ft	L3=	12	ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT:	V <sub>W</sub> = V <sub>E</sub> = L1= H1=	10 4318 3350 12 10	d OR 8d: pounds pounds ft ft	<b>8d</b> L2= H2=	0	ft ft	L3= H3=	12 10	ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE:	V <sub>w</sub> = V <sub>E</sub> = L1= H1= P1=	10 4318 3350 12 10 0	d OR 8d: pounds pounds ft ft pounds	<b>8d</b> L2= H2= P2=	0 0 0	ft ft pounds	L3= H3= P3=	12 10 0	ft pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT:	V <sub>W</sub> = V <sub>E</sub> = L1= H1=	10 4318 3350 12 10	d OR 8d: pounds pounds ft ft	<b>8d</b> L2= H2= P2=	0 0 0	ft ft pounds	L3= H3=	12 10 0	ft pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE:	V <sub>w</sub> = V <sub>E</sub> = L1= H1= P1=	10 4318 3350 12 10 0	d OR 8d: pounds pounds ft ft pounds	8d L2= H2= P2= unblocke	0 0 0 d CDX v	ft ft pounds with 8d @	L3= H3= P3=	12 10 0 studs	ft pounds at 16" oc
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR:	V <sub>W</sub> = V <sub>E</sub> = L1= H1= P1= v <sub>W</sub> =	10 4318 3350 12 10 0 180	d OR 8d: pounds pounds ft ft pounds plf	8d L2= H2= P2= unblocke unblocke	0 0 0 d CDX v	ft ft pounds with 8d @	L3= H3= P3= 0 6" oc with 0 6" oc with	12 10 0 studs	ft pounds at 16" oc
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR:	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib.	10 4318 3350 12 10 0 180 140	d OR 8d: pounds ft ft pounds plf plf	8d L2= H2= P2= unblocke unblocke	0 0 0 d CDX 0 d CDX 0 0	ft ft pounds with 8d @ with 8d @	L3= H3= P3= 0 6" oc with 0 6" oc with	12 10 0 studs	ft pounds at 16" oc at 16" oc
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. 1	10 4318 3350 12 10 0 180 140 1877 1 54	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds	8d L2= H2= P2= unblocke Pot2=	0 0 0 d CDX 0 d CDX 0 0	ft ft pounds with 8d @ with 8d @ pounds ft pounds	L3= H3= P3= ) 6" oc with 0 6" oc with Pot3= level trib.	12 10 0 studs studs 1877 12 648	ft pounds at 16" oc at 16" oc pounds ft pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve	$V_W =$ $V_E =$ H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. I = 15 10	10 4318 3350 12 10 0 180 140 1877 1 54 360	d OR 8d: pounds ft ft pounds plf pounds ft pounds ft pounds pounds	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0	ft ft pounds with 8d @ with 8d @ pounds ft pounds pounds	L3= H3= P3= ) 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360	ft pounds at 16" oc at 16" oc pounds ft pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota	$V_W =$ $V_E =$ H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. I = 15 10	10 4318 3350 12 10 0 180 140 1877 1 54 360 414	d OR 8d: pounds pounds ft ft pounds plf pounds ft pounds pounds pounds pounds	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX d CDX 0 0 0 0 0 0 0	ft ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds	L3= H3= P3= ) 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> <b>10</b> <b>10</b> <b>12</b> <b>12</b> <b>177</b> <b>12</b> <b>1877</b> <b>12</b> <b>1877</b> <b>12</b> <b>10</b> <b>1877</b> <b>12</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b> <b>10</b>	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve	$V_W =$ $V_E =$ L1 = H1 = P1 = $V_W =$ $V_E =$ Pot1 = level trib. I = 15 I = 10	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. 1 10 1	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463 T2Z in 2	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds 2-2x	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869 F2Z in 2	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota	$V_{W}$ = $V_{E}$ = L1= H1= P1= $v_{W}$ = $v_{E}$ = Pot1= level trib. 15 1 10 DT deflection	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463 T2Z in 2 0.25	d OR 8d: pounds pounds ft ft pounds plf pounds ft pounds pounds pounds 2-2x in	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota NET OVERTURNING FORCE:	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. 1 10 1 DT deflection 157.3	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463 T2Z in 2 0.25 10	d OR 8d: pounds pounds ft ft pounds plf pounds ft pounds pounds pounds pounds 2-2x in in	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869 F2Z in 2	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota NET OVERTURNING FORCE:	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. 1 10 1 DT deflection 157.3 600	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463 T2Z in 2 0.25 10 40	d OR 8d: pounds pounds ft ft pounds plf pounds ft pounds pounds pounds pounds 2-2x in in	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869 F2Z in 2	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota NET OVERTURNING FORCE:	$V_{W}$ = $V_{E}$ = L1= H1= P1= $v_{W}$ = $V_{E}$ = Pot1= level trib. 1 <b>10</b> 1 <b>10</b> 1 <b>DT</b> deflection 157.3 600 695	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463 T2Z in 2 0.25 10 40 46	d OR 8d: pounds pounds ft ft pounds plf pounds ft pounds pounds pounds pounds 2-2x in in in	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869 F2Z in 2	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota NET OVERTURNING FORCE: 10d TOE NAILS SPACING: LTP4 SPACING: A35 SPACING: 1/2" DIA. A.B. SPACING:	$V_{W}$ = $V_{E}$ = L1= H1= P1= $v_{W}$ = $v_{E}$ = Pot1= level trib. 1 <b>10</b> 1 <b>10</b> 1 <b>10</b> 1 <b>10</b> 1 <b>17</b> .3 600 695 944	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463 T2Z in 2 0.25 10 40 46 63	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds 2-2x in in in in	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869 F2Z in 2	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota NET OVERTURNING FORCE: 10d TOE NAILS SPACING: LTP4 SPACING: A35 SPACING: 1/2" DIA. A.B. SPACING: 5/8" DIA. A.B. SPACING:	$V_{W} = V_{E} = L1 = H1 = P1 = V_{W} = V_{E} = Pot1 = level trib. = 15 I 0 I 0 I 0 I 0 0 0 0 0 0 0 0 0 0 0 0 $	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463 T2Z in 2 0.25 10 40 46 63 92	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds 2-2x in in in in in in	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869 F2Z in 2	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E): LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING: leve wa tota NET OVERTURNING FORCE: 10d TOE NAILS SPACING: LTP4 SPACING: A35 SPACING: 1/2" DIA. A.B. SPACING:	$V_{W}$ = $V_{E}$ = L1= H1= P1= $v_{W}$ = $v_{E}$ = Pot1= level trib. 1 <b>10</b> 1 <b>10</b> 1 <b>10</b> 1 <b>10</b> 1 <b>17</b> .3 600 695 944	10 4318 3350 12 10 0 180 140 1877 1 54 360 414 1463 T2Z in 2 0.25 10 40 46 63	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds 2-2x in in in in	8d L2= H2= P2= unblocke Pot2=	0 0 d CDX 0 d CDX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds with 8d @ with 8d @ pounds ft pounds pounds pounds pounds	L3= H3= P3= 0 6" oc with 0 6" oc with Pot3= level trib.	<b>12</b> <b>10</b> <b>0</b> studs studs 1877 <b>12</b> 648 360 1008 869 F2Z in 2	ft pounds at 16" oc at 16" oc pounds ft pounds pounds pounds pounds 2-2x



ACE ENGINEERING LLC professional structural engineering commercial . residential . industrial po box 231 . ashland . oregon 97520 541.552.1417 . ace-engineeringllc.com

# LATERAL DESIGN - SHEAR WALLS

DATE: 7/13/20

PROJECT: LINE:	2020-20 WEST WA	LL EXI	STING						, OREGON
	N/		d OR 8d:		CL	DX OR S	TRUCT 1: 0	CDX	
WIND SHEAR ON WALL (0.6W):	V <sub>W</sub> =		pounds						
SEISMIC SHEAR ON WALL (0.7E)	V <sub>E</sub> =	5324	pounds						
LENGTH:	L1=	9.8	ft	L2=	11.5		L3=	8.8	ft
HEIGHT:	H1=	10	ft .	H2=	10	ft .	H3=	10	ft .
OVERTURNING FORCE ABOVE:	P1=	0	pounds		0	pounds		0	pounds
WIND UNIT SHEAR:	v <sub>w</sub> =	198	plf			-	6" oc with	studs	at 16" oc
SEISMIC UNIT SHEAR:	v <sub>E</sub> =	177	plf	1-side CI	DX with	8d @ 6"	ос		
OVERTURNING FORCES:	Pot1=	2091	pounds			pounds	Pot3=	2104	pounds
RESISTANCE TO OVERTURNING		6	ft	level trib.		ft .	level trib.	6	ft
leve	-	265	pounds		311	pounds		238	pounds
wa		294	pounds		345	pounds		264	pounds
tota NET OVERTURNING FORCE:	1	559 1532	pounds pounds		656 1410	pounds pounds		502	pounds pounds
NET OVERTORNING FORCE.	л	T2Z in 2			T2Z in 2			Γ2Z in 2	•
	deflection			DI	0.269			0.305	
10d TOE NAILS SPACING:	157.3	10	in		0.200			0.000	
LTP4 SPACING:	600	36	in						
A35 SPACING:	695	42	in						
1/2" DIA. A.B. SPACING:	944	57	in						
5/8" DIA. A.B. SPACING:	1376	83	in						
3/4" DIA. A.B. SPACING:	1920	116	in						
10d NAILS IN SILL	188.8	11	in						
				\ <b>F</b>					
LINE:	EAST WAI				CI			CDY	
		10	d OR 8d:	8d	CI	DX OR S	TRUCT 1: 0	CDX	
WIND SHEAR ON WALL (0.6W):	V <sub>w</sub> =	10 <b>5973</b>	d OR 8d: pounds	8d	CI	DX OR S	TRUCT 1: 0	CDX	
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E)	V <sub>w</sub> = V <sub>E</sub> =	10 <b>5973</b> 5324	d OR 8d: pounds pounds	8d	-	-			4
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH:	V <sub>W</sub> = V <sub>E</sub> = L1=	10 5973 5324 8	d OR 8d: pounds pounds ft	<b>8d</b> L2=	0	ft	L3=	6	ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT:	V <sub>W</sub> = V <sub>E</sub> = L1= H1=	10 5973 5324 8 10	d OR 8d: pounds pounds ft ft	<b>8d</b> L2= H2=	0	ft ft	L3= H3=	6 10	ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE:	V <sub>w</sub> = V <sub>E</sub> = L1= H1= P1=	10 5973 5324 8 10 0	d OR 8d: pounds pounds ft ft pounds	<b>8d</b> L2= H2= P2=	0 0 0	ft ft pounds	L3= H3= P3=	6	
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR:	V <sub>W</sub> = V <sub>E</sub> = L1= H1= P1= v <sub>W</sub> =	10 5973 5324 8 10 0 427	d OR 8d: pounds pounds ft ft pounds plf	<b>8d</b> L2= H2= P2= 1-side CE	0 0 0 DX with	ft ft pounds 8d @ 4"	L3= H3= P3= oc	6 10	ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR:	V <sub>W</sub> = V <sub>E</sub> = L1= H1= P1= v <sub>W</sub> = v <sub>E</sub> =	10 5973 5324 8 10 0 427 380	d OR 8d: pounds ft ft pounds plf plf	8d L2= H2= P2= 1-side CI 1-side CI	0 0 0 DX with DX with	ft ft pounds 8d @ 4" 8d @ 3"	L3= H3= P3= oc oc	6 10 0	ft pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES:	$V_W = V_E = L1 = H1 = P1 = V_W = V_E = Pot1 = Pot$	10 5973 5324 8 10 0 427 380 4251	d OR 8d: pounds pounds ft ft pounds plf plf pounds	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 DX with DX with 0	ft pounds 8d @ 4" 8d @ 3" pounds	L3= H3= P3= oc oc Pot3=	6 10 0 4654	ft pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING	$V_W = V_E = L1 = H1 = P1 = V_W = V_E = Pot1 = level trib.$	10 5973 5324 8 10 0 427 380 4251 4551 12.5	d OR 8d: pounds ft ft pounds plf plf pounds ft	8d L2= H2= P2= 1-side CI 1-side CI	0 0 0 0 0 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft	L3= H3= P3= oc oc	6 10 0 4654 12.5	ft pounds pounds ft
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING Ieve	$V_W =$ $V_E =$ L1 = H1 = P1 = $V_W =$ $V_E =$ Pot1 = level trib. el <b>15</b>	10 5973 5324 8 10 0 427 380 4551 12.5 450	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 DX with DX with 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft pounds	L3= H3= P3= oc oc Pot3=	6 10 0 4654 12.5 338	ft pounds pounds ft pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve	$V_W =$ $V_E =$ H1 = P1 = $V_W =$ $V_E =$ Pot1 = level trib. level trib. 15 10	10 5973 5324 8 10 0 427 380 4551 12.5 450 240	d OR 8d: pounds ft ft pounds plf pounds ft pounds ft pounds pounds	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 DX with DX with 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds	L3= H3= P3= oc oc Pot3=	6 10 0 4654 12.5 338 180	ft pounds pounds ft pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota	$V_W =$ $V_E =$ H1 = P1 = $V_W =$ $V_E =$ Pot1 = level trib. level trib. 15 10	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690	d OR 8d: pounds pounds ft ft pounds plf pounds ft pounds pounds pounds pounds	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds	L3= H3= P3= oc oc Pot3=	6 10 0 4654 12.5 338 180 518	ft pounds ft pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve	$V_W =$ $V_E =$ L1 = H1 = P1 = $V_W =$ $V_E =$ Pot1 = level trib. el <b>15</b> II <b>10</b>	10 5973 5324 8 10 0 427 380 4551 12.5 450 240	d OR 8d: pounds ft ft pounds plf pounds ft pounds pounds pounds pounds pounds	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518	ft pounds ft pounds pounds pounds pounds
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota	$V_W =$ $V_E =$ L1 = H1 = P1 = $V_W =$ $V_E =$ Pot1 = level trib. el <b>15</b> II <b>10</b>	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690 3861 DU4 in 2	d OR 8d: pounds ft ft pounds plf pounds ft pounds pounds pounds pounds Pounds	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518 4137	ft pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota NET OVERTURNING FORCE:	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. 15 11 10 HE deflection 157.3	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690 3861 DU4 in 2	d OR 8d: pounds ft ft pounds plf pounds ft pounds pounds pounds pounds Pounds	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518 4137 U4 in 2	ft pounds ft pounds pounds pounds pounds 2-2x
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota NET OVERTURNING FORCE:	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. 15 10 deflection 157.3 600	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690 3861 240 690 3861 2004 in 2 0.344 4 17	d OR 8d: pounds pounds ft ft pounds plf pounds ft pounds pounds pounds pounds pounds pounds	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518 4137 U4 in 2 0.397	ft pounds ft pounds pounds pounds pounds 2-2x in
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota NET OVERTURNING FORCE:	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. 15 10 10 15 16 157.3 600 695	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690 3861 2004 in 2 0.344 4 17 20	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds pounds pounds pounds in in in	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518 4137 U4 in 2 0.397	ft pounds ft pounds pounds pounds pounds 2-2x in
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota NET OVERTURNING FORCE: 10d TOE NAILS SPACING: LTP4 SPACING: A35 SPACING: 1/2" DIA. A.B. SPACING:	$V_W =$ $V_E =$ L1 = H1 = P1 = $v_W =$ $v_E =$ Pot1 = level trib. 15 10 10 HE deflection 157.3 600 695 944	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690 3861 0U4 in 2 0.344 4 17 20 27	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds pounds pounds pounds pounds in in in in	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518 4137 U4 in 2 0.397	ft pounds ft pounds pounds pounds pounds 2-2x in
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota NET OVERTURNING FORCE: 10d TOE NAILS SPACING: LTP4 SPACING: A35 SPACING: 1/2" DIA. A.B. SPACING: 5/8" DIA. A.B. SPACING:	$V_{W} = V_{E} = L1 = H1 = P1 = V_{W} = V_{E} = Pot1 = level trib.$ $P trib. $	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690 3861 0U4 in 2 0.344 4 17 20 27 39	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds pounds pounds pounds in in in in in	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518 4137 U4 in 2 0.397	ft pounds ft pounds pounds pounds pounds 2-2x in
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota NET OVERTURNING FORCE: 10d TOE NAILS SPACING: LTP4 SPACING: A35 SPACING: 1/2" DIA. A.B. SPACING: 5/8" DIA. A.B. SPACING: 3/4" DIA. A.B. SPACING:	$V_{W} = V_{E} = L1 = H1 = P1 = V_{W} = V_{E} = Pot1 = level trib.$ $P t = 15 ll to the flection 157.3 = 600 = 695 = 944 = 1376 = 1920$	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690 3861 0U4 in 2 0.344 4 17 20 27 39 54	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds pounds pounds pounds pounds in in in in in in	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518 4137 U4 in 2 0.397	ft pounds ft pounds pounds pounds pounds 2-2x in
WIND SHEAR ON WALL (0.6W): SEISMIC SHEAR ON WALL (0.7E) LENGTH: HEIGHT: OVERTURNING FORCE ABOVE: WIND UNIT SHEAR: SEISMIC UNIT SHEAR: OVERTURNING FORCES: RESISTANCE TO OVERTURNING leve wa tota NET OVERTURNING FORCE: 10d TOE NAILS SPACING: LTP4 SPACING: A35 SPACING: 1/2" DIA. A.B. SPACING: 5/8" DIA. A.B. SPACING:	$V_{W} = V_{E} = L1 = H1 = P1 = V_{W} = V_{E} = Pot1 = level trib.$ $P trib. $	10 5973 5324 8 10 0 427 380 4551 12.5 450 240 690 3861 0U4 in 2 0.344 4 17 20 27 39	d OR 8d: pounds ft ft pounds plf plf pounds ft pounds pounds pounds pounds pounds pounds pounds in in in in in	<b>8d</b> L2= H2= P2= 1-side CE 1-side CE Pot2=	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ft ft pounds 8d @ 4" 8d @ 3" pounds ft pounds pounds pounds pounds pounds	L3= H3= P3= oc oc Pot3= level trib.	6 10 0 4654 12.5 338 180 518 4137 U4 in 2 0.397	ft pounds ft pounds pounds pounds pounds 2-2x in

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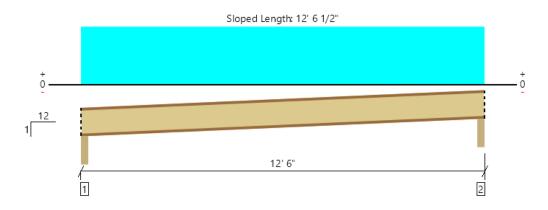
## LATERAL DESIGN - PERFORATED SHEAR WALLS

PROJECT: LINE:	2020-20 EAST WAI			CE REMO	ODEL, 8	75 HWY	101, FLO	RENCE,	OREGON
		10	d OR 8d:	8d	CE	DX OR S	TRUCT 1:	CDX	
WIND SHEAR ON WALL (0.6W):	Vw=	5973	pounds						
SEISMIC SHEAR ON WALL (0.7E):	Ve=	5323.5	pounds						
TOTAL WALL LENGTH:	L=	21.5	ft						
LENGTH:	L1=	4.33	ft	L2=	8.33	ft	L3=	4.833	ft
HEIGHT:	H1=	10	ft	H2=	10	ft	H3=	10	ft
OPENING HEIGHT:	Ho1=	5	ft	Ho2=	5	ft	Ho3=	5	ft
OVERTURNING FORCE ABOVE:	P1=	0	pounds	P2=	0	pounds	P3=	0	pounds
HEIGHT/LENGTH RATIO:	H1/L1=	2.3095		H2/L2=	1.2005		H3/L3=	2.0691	
MAX OPENING HEIGHT RATIO:		50%							
PERCENT FULL HEIGHT SHEATH	ING:	81%							
OPENING ADJUSTMENT FACTOR	: Co=	0.916		1	0.91	0.83	0.77	0.71	
WIND UNIT SHEAR:	v <sub>w</sub> =	373	plf	1-side Cl	DX with	8d @ 4" (	ос		
SEISMIC UNIT SHEAR	v <sub>E</sub> =	332	plf	1-side Cl	DX with	8d @ 4" o	ос		
OVERTURNING FORCES:	Pot=	3728	pounds						
RESISTANCE TO OVERTURNING:	level trib.	6	ft						
leve	15	581	pounds						
wa	l <b>10</b>	645	pounds						
tota	I	1226	pounds						
NET OVERTURNING FORCE:		2502	pounds						
	HI	DU2 in 2	-2x						
	deflection	0.2533	in						
10d TOE NAILS SPACING:	157.3	5	in						
LTP4 SPACING:	600	19	in						
A35 SPACING:	695	22	in		3x OR 2	2-2x FRA	MING AT	PANEL	EDGES
1/2" DIA. A.B. SPACING:	944	30	in						
5/8" DIA. A.B. SPACING:	1376	44	in		multiply	seismic	by 2L1/H	1	
3/4" DIA. A.B. SPACING:	1920	62	in						
10d NAILS IN SILL	188.8	6	in		multiply	shear by	y 2L3/H3		



MEMBER REPORT

# Level, Roof: Joist 1 piece(s) 14" TJI ® 110 @ 24" OC



#### All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Member Length : 12' 7 11/16"

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)	System : Roof
Member Reaction (lbs)	501 @ 2 1/2"	1581 (3.50")	Passed (32%)	1.15	1.0 D + 1.0 S (All Spans)	Member Type : Joist Building Use : Residential
Shear (lbs)	477 @ 3 1/2"	2139	Passed (22%)	1.15	1.0 D + 1.0 S (All Spans)	Building Code : IBC 2018
Moment (Ft-lbs)	1463 @ 6' 3"	4301	Passed (34%)	1.15	1.0 D + 1.0 S (All Spans)	Design Methodology : ASD
Live Load Defl. (in)	0.104 @ 6' 3"	0.606	Passed (L/999+)		1.0 D + 0.45 W + 0.75 L + 0.75 S (All Spans)	Member Pitch : 1/12
Total Load Defl. (in)	0.164 @ 6' 3"	0.808	Passed (L/885)		1.0 D + 0.45 W + 0.75 L + 0.75 S (All Spans)	

• Deflection criteria: LL (L/240) and TL (L/180).

• Top Edge Bracing (Lu): Top compression edge must be braced at 4' 5" o/c based on loads applied, unless detailed otherwise.

• Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 12' 7" o/c based on loads applied, unless detailed otherwise.

	Bearing Length			Loads to Supports (lbs)					
Supports	Total	Available	Required	Dead	Snow	Wind	Seismic	Total	Accessories
1 - Beveled Plate - DF	3.50"	3.50"	1.75"	251	250	538	63/-63	1102/- 63	Blocking
2 - Beveled Plate - DF	3.50"	3.50"	1.75"	251	250	538	63/-63	1102/- 63	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

			Dead	Snow	Wind	Seismic	
Vertical Load	Location (Side)	Spacing	(0.90)	(1.15)	(1.60)	(1.60)	Comments
1 - Uniform (PSF)	0 to 12' 6"	24"	20.0	20.0	43.0	5.0	Default Load

#### Member Notes

OFFICE ROOF RAFTER

#### Weyerhaeuser Notes

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The product application, input design loads, dimensions and support information have been provided by ATG

ForteWEB Software Operator Allan ACE ENGINEERING LLC (541) 552-1417 atg@ace-engineeringllc.com Job Notes ABEL INSURANCE OFFICE REMODEL & ADDITION 875 HWY 101 FLORENCE OREGON

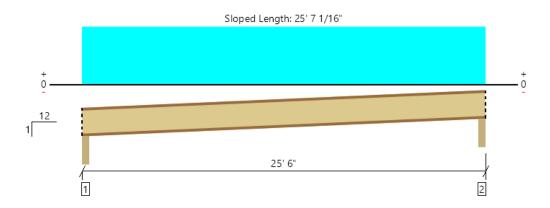


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MEMBER REPORT

# Level, Roof: Joist Conf 1 piece(s) 14" TJI ® 560 @ 24" OC



#### All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Member Length : 25' 8 1/4"

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)	System : Roof
Member Reaction (lbs)	1022 @ 2 1/2"	1984 (3.50")	Passed (52%)	1.15	1.0 D + 1.0 S (All Spans)	Member Type : Joist Building Use : Residential
Shear (lbs)	998 @ 3 1/2"	2749	Passed (36%)	1.15	1.0 D + 1.0 S (All Spans)	Building Code : IBC 2018
Moment (Ft-lbs)	6303 @ 12' 9"	12966	Passed (49%)	1.15	1.0 D + 1.0 S (All Spans)	Design Methodology : ASD
Live Load Defl. (in)	0.736 @ 12' 9"	1.259	Passed (L/410)		1.0 D + 0.45 W + 0.75 L + 0.75 S (All Spans)	Member Pitch : 1/12
Total Load Defl. (in)	1.166 @ 12' 9"	1.678	Passed (L/259)		1.0 D + 0.45 W + 0.75 L + 0.75 S (All Spans)	

• Deflection criteria: LL (L/240) and TL (L/180).

• Top Edge Bracing (Lu): Top compression edge must be braced at 6' 7" o/c based on loads applied, unless detailed otherwise.

• Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 25' 7" o/c based on loads applied, unless detailed otherwise.

	В	earing Leng	th		Loads t				
Supports	Total	Available	Required	Dead	Snow	Wind	Seismic	Total	Accessories
1 - Beveled Plate - DF	3.50"	3.50"	1.75"	512	510	1097	128/-128	2247/- 128	Blocking
2 - Beveled Plate - DF	3.50"	3.50"	1.75"	512	510	1097	128/-128	2247/- 128	Blocking

Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

			Dead	Snow	Wind	Seismic	
Vertical Load	Location (Side)	Spacing	(0.90)	(1.15)	(1.60)	(1.60)	Comments
1 - Uniform (PSF)	0 to 25' 6"	24"	20.0	20.0	43.0	5.0	Default Load

#### Member Notes

CONFERENCE ROOF RAFTER

## Weyerhaeuser Notes

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The product application, input design loads, dimensions and support information have been provided by ATG

ForteWEB Software Operator Allan ACE ENGINEERING LLC (541) 552-1417 atg@ace-engineeringllc.com Job Notes ABEL INSURANCE OFFICE REMODEL & ADDITION 875 HWY 101 FLORENCE OREGON



6/9/2020 2:49:19 PM UTC ForteWEB v2.4, Engine: V8.0.1.5, Data: V7.3.2.0 File Name: 2020-20 Abel CCA Page 1 / 1 ACE ENGINEERING LLC professional structural engineering commercial . residential . industrial

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DATE: 6/9/2020

PROJECT: 2020-20 ABEL IN MEMBER LOCATION: LUMBER DESIGN FOR:	NSURANCE ROOF BE GLB -	AM AT	SOUTH		NOFF	ICE	E, OREGON	l	
Fb <b>2400</b> psi			PROPOS	SED WID	TH:	5.125	in		
Fv <b>240</b> psi			PROPOS	SED DEP	TH:	13.5	in		
FcL <b>650</b> psi				SP	PAN:	14.75	ft		
E <b>1800</b> ksi			TRIBUT/	ARY WID	TH:	25.25	ft		
	LIVE LOA					0	psf		
	SNOW LOA					20	psf		
	DEAD LOA					20	psf		
	BEAM SEI					40	plf	16.8	
2000' radius camber:				AD (poun	'	0	lb		
0.1631719				AD (poun	'	0	lb		
minimum roof camber:				AD (poun		0	lb		
	ISTANCE F					1	ft		
minimum floor camber:	REPETI			FACTOR:	-	1 1.15			
0.307				FACTOR FACTOR:		1.15			
CALCULATIONS:	LOAD FAC					1.15			
combined loads:	W:	1050	505	plf	P:	0	0	lb	
moment:		28555		P.1	M2:	7219	lb ft		
reaction:	R1:	7744	lb		R2:	7744	lb		
shear:	V1:	6563	lb		V2:	6563	lb		
Minimum flexural sec	ction Sx:	124.15	in3	5.125	х	12.06	in min		
Minimum area for she	ear:	35.67	in2	5.125	х	6.96	in min		
Minimum total load ly	K:	842	in4	5.125	х	12.54	in min	(L/240 TL)	0.591
Minimum live load lx:	-	608	in4	5.125	х	11.25	in min	(L/360 LL)	0.284
Minimum bearing are	ea:	11.91	in2	5.125	х	2.32	in min		
BEAM SELECTION:					5.12	25 x 13.5	24F-V4	GLB	
MEMBER LOCATION:	ROOF BE	ΑΜ ΑΤ	NORTH	ADDITIO	N COI	NFEREN	CE		
MEMBER LOCATION: LUMBER DESIGN FOR:				ADDITIOI TED BEA			CE		
LUMBER DESIGN FOR: Fb <b>2400</b> psi			LAMINA PROPOS	TED BEA SED WID	M - 24 TH:	4F V4 6.75	<b>CE</b> in		
LUMBER DESIGN FOR: Fb <b>2400</b> psi Fv <b>240</b> psi			LAMINA PROPOS	<b>TED BEA</b> SED WID SED DEP	M - 24 TH: TH:	4F V4 6.75 18	in in		
LUMBER DESIGN FOR: Fb <b>2400</b> psi Fv <b>240</b> psi FcL <b>650</b> psi			LAMINA PROPOS PROPOS	TED BEA SED WID SED DEP SP	<b>M - 2</b> 4 DTH: PTH: PAN:	4F V4 6.75 18 21.5	in in ft		
LUMBER DESIGN FOR: Fb <b>2400</b> psi Fv <b>240</b> psi	GLB -	GLUE	LAMINA PROPOS PROPOS TRIBUTA	TED BEA SED WID SED DEP SP ARY WID	M - 24 TH: TH: PAN: TH:	4F V4 6.75 18 21.5 25.25	in in ft ft		
LUMBER DESIGN FOR: Fb <b>2400</b> psi Fv <b>240</b> psi FcL <b>650</b> psi E <b>1800</b> ksi	GLB -	GLUE	LAMINA PROPOS PROPOS TRIBUTA	TED BEA SED WID SED DEP SP ARY WID RIB WID	M - 24 TH: TH: PAN: TH: TH):	4F V4 6.75 18 21.5 25.25 0	in in ft ft psf		
LUMBER DESIGN FOR: Fb <b>2400</b> psi Fv <b>240</b> psi FcL <b>650</b> psi E <b>1800</b> ksi	GLB - LIVE LOA SNOW LOA	GLUE AD (psf AD (psf	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID	M - 24 DTH: PTH: PAN: DTH: TH): TH):	4F V4 6.75 18 21.5 25.25 0 20	in ft ft psf psf		
LUMBER DESIGN FOR: Fb <b>2400</b> psi Fv <b>240</b> psi FcL <b>650</b> psi E <b>1800</b> ksi	GLB - LIVE LOA SNOW LOA DEAD LOA	GLUE AD (psf AD (psf AD (psf	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID	M - 24 TH: PAN: PAN: TH: TH): TH): TH):	4F V4 6.75 18 21.5 25.25 0 20 20	in ft ft psf psf psf	29.5	
LUMBER DESIGN FOR: Fb <b>2400</b> psi Fv <b>240</b> psi FcL <b>650</b> psi E <b>1800</b> ksi	GLB - LIVE LOA SNOW LOA DEAD LOA BEAM SEI	GLUE AD (psf AD (psf AD (psf LF WEI	LAMINAT PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AL	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID DD'L LOA	M - 24 PTH: PTH: PAN: DTH: TH): TH): TH): NDS:	4F V4 6.75 18 21.5 25.25 0 20 20 30	in ft ft psf psf psf plf	29.5	
LUMBER DESIGN FOR: Fb <b>2400</b> psi Fv <b>240</b> psi FcL <b>650</b> psi E <b>1800</b> ksi	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE P0	LAMINAT PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID DD'L LOA AD (poun	M - 24 PTH: PTH: PAN: PTH: PAN: PTH: TH): TH): TH): NDS: ods):	4F V4 6.75 18 21.5 25.25 0 20 20	in ft ft psf psf psf	29.5	
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC	LAMINAT PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/ DINT LO/	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID DD'L LOA AD (poun AD (poun	M - 24 PTH: PTH: PAN: PTH: TH): TH): TH): MDS: ids): ids):	4F V4 6.75 18 21.5 25.25 0 20 20 30 0	in ft ft psf psf plf lb	29.5	
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI	GLUE AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/ DINT LO/ DINT LO/	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID OD'L LOA AD (poun AD (poun	M - 24 PTH: PTH: PAN: PTH: TH): TH): TH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH): ITH: I	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0	in ft ft psf psf plf lb lb	29.5	
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI SI D STANCE F	GLUE AD (psf AD (psf AD (psf LF WEI LIVE P( NOW P( DEAD P( ROM E	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/ DINT LO/ DINT LO/ DINT LO/	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID OD'L LOA AD (poun AD (poun	M - 24 PTH: PTH: PAN: PTH: PTH): TH): TH): TH): ds): ds): ds): pAD: PAD:	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 0 0	in ft ft psf psf plf lb lb lb	29.5	
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI SI D STANCE F	GLUE AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/ DINT LO/	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID CD'L LOA AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR	M - 24 OTH: PTH: PAN: OTH: PAN: OTH: TH): TH): TH): TH): ds): ds): ods): ods): ods): CT: CC: CC: CC: CC: CC: CC: CC	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 0 1 1 1.15	in ft ft psf psf plf lb lb ft	29.5	
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI SI D STANCE F REPETI	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU V	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/ DINT	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID CO'L LOA AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): ds): ds): ds): ds): CT: CC: CC: CV: (	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 0 1 1 1.15 0.931983	in ft ft psf psf plf lb lb ft	29.5	
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI SI STANCE F REPETI LOAD FAC	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU V CTORS	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/ DINT	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID COLL LOA AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR FACTOR from abo	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): dds): dds): dds): dds): CT: CC: CC: CV: ( vve):	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1 1.15 0.931983 1.07178	in ft ft psf psf plf lb lb ft		
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS: combined loads:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI STANCE F REPETI LOAD FAC W:	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU V CTORS 1040	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/ DINT	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID CO'L LOA AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): (DS: (dS): (dS	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1.15 0.931983 1.07178 0	in ft ft psf psf plf lb lb ft	29.5 Ib	
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS: combined loads: moment:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI STANCE F REPETI LOAD FAC w: M1:	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU VC CTORS 1040 60093	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI OVER TI GHT / AE DINT LO/ DINT	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID COLL LOA AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR FACTOR from abo	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): TH): dds): dds): dds): dds): CT: Cd: CV: P: M2: M2: M2: M2: M2: M2: M2: M2	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1.15 0.931983 1.07178 0 10660	in ft ft psf psf plf lb lb lb ft		
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS: combined loads: moment: reaction:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI STANCE F REPETI LOAD FAC w: M1: R1:	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU VC CTORS 1040 60093 11180	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI O	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID CO'L LOA AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR FACTOR from abo	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): TH): ADS: AdS): AdS): ADS: CC: CC: P: M2: R2: R2:	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1.15 0.931983 1.07178 0 10660 11180	in ft ft psf psf plf lb lb lb ft		
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS: combined loads: moment: reaction: shear:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI STANCE F REPETI LOAD FAC w: M1: R1: V1:	GLUE AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU VC CTORS 1040 60093 11180 9620	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI O	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID CO'L LOA AD (poun AD (poun AD (poun AD (poun COINT LO FACTOR: FACTOR FACTOR from abo plf	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): TH): ADS: ADS: ADS: CC: CV: P: M2: R2: V2: V2:	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1.15 0.931983 1.07178 0 10660 11180 9620	in ft ft psf psf plf lb lb lb ft ft		
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS: combined loads: moment: reaction: shear: Minimum flexural sec	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI SI STANCE F REPETI LOAD FAC w: M1: R1: V1: V1: ction Sx:	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU VC CTORS 1040 60093 11180 9620 280.34	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI O	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID CO'L LOA AD (poun AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR FACTOR FACTOR from abo plf 6.75	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): TH): ADS: AdS): AdS): AdS): ADS: CC: CV: M2: R2: V2: X	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1.15 0.931983 1.07178 0 10660 11180 9620 15.79	in ft ft psf psf plf lb lb lb ft ft lb lb ft lb lb ft		
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS: combined loads: moment: reaction: shear:	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI SI STANCE F REPETI LOAD FAC w: M1: R1: V1: V1: Stion Sx: 2 ear:	GLUE AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU VC CTORS 1040 60093 11180 9620 280.34 56.10	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI O	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID CO'L LOA AD (poun AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): TH): ADS: ADS: ADS: CC: CV: P: M2: R2: V2: V2:	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1.15 0.931983 1.07178 0 10660 11180 9620 15.79 8.31	in ft ft psf psf plf lb lb lb ft ft lb lb ft lb in min in min	lb	0.847
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS: combined loads: moment: reaction: shear: Minimum flexural sec Minimum area for she	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI SI DISTANCE F REPETIT LOAD FAC w: M1: R1: V1: V1: V1: v1: v1: v1: v1: v1: v1: v1: v1: v1: v	AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU VC CTORS 1040 60093 11180 9620 280.34	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI O	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID CO'L LOA AD (poun AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR FACTOR FACTOR from abo plf 6.75	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): TH): ADS: AdS): AdS): ADS: CC: CV: M2: R2: V2: X X X	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1.15 0.931983 1.07178 0 10660 11180 9620 15.79	in ft ft psf psf plf lb lb lb ft ft lb lb ft lb lb ft		
LUMBER DESIGN FOR: Fb 2400 psi Fv 240 psi FcL 650 psi E 1800 ksi 2000' radius camber: 0.3466875 minimum roof camber: 0.653 DI minimum floor camber: 0.436 CALCULATIONS: combined loads: moment: reaction: shear: Minimum flexural sec Minimum area for she Minimum total load b	GLB - LIVE LO/ SNOW LO/ DEAD LO/ BEAM SEI SINOUE F REPETIT LOAD FAC w: M1: R1: V1: V1: ction Sx: 2 ear: c:	GLUE AD (psf AD (psf AD (psf AD (psf LF WEI LIVE PC NOW PC DEAD PC ROM E TIVE M DU VC CTORS 1040 60093 11180 9620 280.34 56.10 2584 1882	LAMINA PROPOS PROPOS TRIBUT/ OVER TI OVER TI DINT LO/ DINT LO/ DIN	TED BEA SED WID SED DEP SP ARY WID RIB WID RIB WID RIB WID D'L LOA AD (poun AD (poun AD (poun AD (poun AD (poun COINT LO FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR FACTOR 6.75 6.75 6.75	M - 24 DTH: PTH: PAN: DTH: TH): TH): TH): TH): TH): ADS: AdS): AdS): ADS: CC: CV: M2: R2: V2: X X X X	4F V4 6.75 18 21.5 25.25 0 20 20 30 0 0 1 1.15 0.931983 1.07178 0 10660 11180 9620 15.79 8.31 16.62	in ft ft psf psf plf lb lb lb ft ft lb lb ft in min in min in min	lb (L/240 TL)	

BEAM SELECTION:

6.75 x 18 24F-V4 GLB

SHEET: 15



				1						
PROJECT	2020-20	ABEL	INSURANC	E ADDI	TION, 87	75 HWY 1	01, FL	ORENCI	E, OREGO	ON
MEMBER	LOCATION:		TYPICA		ION WIN	IDOW HE	ADER			
LUMBER [	DESIGN FO	R:	Douglas	Fir, No	. 2					
Fb	875	psi			PROPO	OSED WI	DTH:	5.5	in	
Fv	170	psi			PROPO	OSED DE	PTH:	7.5	in	
FcL	625	psi				S	PAN:	6.125	ft	
E	1300	ksi			TRIBU	TARY WI	DTH:	12.25	ft	
			LIVE LO	DAD (ps	f OVER <sup>·</sup>	TRIB WID	DTH):	0	psf	
			SNOW LO					20	psf	
						TRIB WID	,	20	psf	
			BEAM S			DD'L LO		20	plf	10.0
						DAD (pou	,	0	lb	
						DAD (pou	,	0	lb	
			DISTANCE			DAD (pou		0 1	lb ft	
								1	ft	
			REFE			N FACTOR		1.15		
						FACTOR		1.15		
	CALCULA	TIONS	LOAD FA	CTORS		t from ab		1.15		
	combined		W:	510	245	plf	P:	0	0	lb
	moment:		M1:	2392	lb ft	P	M2:	1307	lb ft	
	reaction:		R1:	1562	lb		R2:	1562	lb	
	shear:		V1:	1243	lb		V2:	1243	lb	
	Minimum f	lexural s	ection Sx:	28.52	in3	5.5	х	5.58	in min	
	Minimum a	area for s	shear:	9.54	in2	5.5	х	1.73	in min	
	Minimum t	otal load	l Ix:	41	in4	5.5	х	4.46	in min	(L/240 TL) 0.064
	Minimum I			29	in4	5.5	Х	4.00	in min	(L/360 LL) 0.031
	Minimum I	pearing a	area:	2.50	in2	5.5	Х	0.45	in min	
	BEAM SE	LECTIO	N:					6x8	B Douglas	s Fir, No. 2
MEMBER				ROOF B	EAMS			6x8	B Douglas	s Fir, No. 2
	BEAM SEI LOCATION: DESIGN FOI		N: ENTRY I Douglas					6x8	3 Dougla:	s Fir, No. 2
	LOCATION:		ENTRY I		. 2	DSED WI	DTH:	6x8 3	<b>Dougla</b> s	s Fir, No. 2
LUMBER [	LOCATION: DESIGN FO	R:	ENTRY I		. <b>2</b> PROP(	DSED WII			-	s Fir, No. 2
LUMBER [ Fb	LOCATION: DESIGN FOI <b>900</b>	R: psi	ENTRY I		. <b>2</b> PROP(	DSED DE		3	in	s Fir, No. 2
LUMBER [ Fb Fv	LOCATION: DESIGN FOI 900 180	R: psi psi	ENTRY I Douglas	Fir, No	. <b>2</b> PROPO PROPO	DSED DE SI TARY WII	PTH: PAN: DTH:	3 14 7.125 25.25	in in	s Fir, No. 2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi psi	ENTRY I Douglas	Fir, No	. 2 PROPO PROPO TRIBU	OSED DE SI TARY WII TRIB WID	PTH: PAN: DTH: )TH):	3 14 7.125 25.25 0	in in ft ft psf	s Fir, No. 2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi psi	ENTRY I Douglas	Fir, No DAD (psi DAD (psi	2 PROPO PROPO TRIBU	DSED DE SI TARY WII TRIB WID TRIB WID	PTH: PAN: DTH: )TH): )TH):	3 14 7.125 25.25 0 20	in ft ft psf psf	s Fir, No. 2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi psi	ENTRY I Douglas LIVE LO SNOW LO DEAD LO	Fir, No DAD (psi DAD (psi DAD (psi	2 PROPO PROPO TRIBU f OVER f OVER	DSED DE SI TARY WII TRIB WIE TRIB WIE TRIB WIE	PTH: PAN: DTH: DTH): DTH): DTH):	3 14 7.125 25.25 0 20 20	in ft ft psf psf psf	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi psi	ENTRY I Douglas LIVE LO SNOW LO DEAD LO	DAD (ps DAD (ps DAD (ps DAD (ps ELF WE	2 PROPO PROPO TRIBU f OVER f OVER f OVER IGHT / A	DSED DE Si TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO	PTH: PAN: DTH: DTH): DTH): DTH): ADS:	3 14 7.125 25.25 0 20 20 20 20	in ft ft psf psf psf plf	s Fir, No. 2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi psi	ENTRY I Douglas LIVE LO SNOW LO DEAD LO BEAM S	DAD (ps DAD (ps DAD (ps DAD (ps ELF WE LIVE F	2 PROPO PROPO TRIBU f OVER f OVER f OVER GOVER IGHT / A POINT LO	DSED DE SI TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou	PTH: PAN: DTH: DTH): DTH): DTH): ADS: nds):	3 14 7.125 25.25 0 20 20 20 20	in ft ft psf psf plf lb	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi psi	ENTRY I Douglas LIVE LO SNOW LO DEAD LO BEAM S	DAD (ps) DAD (ps) DAD (ps) DAD (ps) ELF WE LIVE F BNOW F	2 PROPO PROPO TRIBU OVER OVER OVER OVER OVER OVER OVER OVER	DSED DE SI TARY WII TRIB WIC TRIB WIC TRIB WIC ADD'L LO, DAD (pou DAD (pou	PTH: PAN: DTH: DTH): DTH): DTH): ADS: nds): nds):	3 14 7.125 25.25 0 20 20 20 0 0	in ft ft psf psf plf lb lb	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi ksi	ENTRY I Douglas LIVE LO SNOW LO DEAD LO BEAM S	Fir, No DAD (psi DAD (psi DAD (psi DAD (psi ELF WE LIVE F SNOW F DEAD F	2 PROPC PROPC TRIBU f OVER f OVER G OVER GOVER OVER COINT LC COINT LC	DSED DE SI TARY WII TRIB WIC TRIB WIC TRIB WIC ADD'L LO DAD (pou DAD (pou DAD (pou	PTH: PAN: DTH: )TH): )TH): )TH): ADS: nds): nds): nds):	3 14 7.125 25.25 0 20 20 20 0 0 0	in ft ft psf psf plf lb lb lb	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi ksi	ENTRY I Douglas	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: ELF WE LIVE F SNOW F DEAD F FROM E	2 PROP( PROP( FOVER FOVER FOVER FOVER FOVER FOVER FOVER FOVER FOVER FOUNT L( POINT L	DSED DE SI TARY WII TRIB WIC TRIB WIC TRIB WIC ADD'L LO DAD (pou DAD (pou DAD (pou	PTH: PAN: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): DAD:	3 14 7.125 25.25 0 20 20 20 0 0	in ft ft psf psf plf lb lb	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi ksi	ENTRY I Douglas	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: ELF WE LIVE F SNOW F DEAD F FROM E FITIVE N	2 PROP( PROP( FOVER FOVE	DSED DE SI TARY WII TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou DAD (pou POINT LO	PTH: PAN: DTH: DTH): DTH): DTH): DTH): ADS: nds): nds): nds): CAD: CT:	3 14 7.125 25.25 0 20 20 20 0 0 0 0	in ft ft psf psf plf lb lb lb	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi ksi	ENTRY I Douglas	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: ELF WE LIVE F SNOW F DEAD F FROM E FITIVE N	2 PROPC PROPC TRIBU f OVER f O	DSED DE SI TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou DAD (pou POINT LO FACTOF	PTH: PAN: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): CAD: CT: R Cd:	3 14 7.125 25.25 0 20 20 20 0 0 0 0 1	in ft ft psf psf plf lb lb lb	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625	R: psi psi ksi	ENTRY I Douglas	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: LIVE F SNOW F DEAD F FROM E FITIVE M DL ACTORS	2 PROP( PROP( FOVER FOVE	DSED DE Si TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou DAD (pou DAD (pou DAD (pou POINT LO FACTOF FACTOF FACTOF t from ab	PTH: PAN: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): CAD: R Cd: R Cd: R Cd: R Cd:	3 14 7.125 25.25 0 20 20 20 0 0 0 0 1 1.15	in ft ft psf psf plf lb lb lb	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625 1600 CALCULA combined	R: psi psi ksi	ENTRY I Douglas LIVE LO SNOW LO DEAD LO BEAM S S DISTANCE REPET LOAD FA W:	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: LIVE F SNOW F DEAD F FROM E FROM E TITIVE M DL ACTORS 1030	2 PROP( PROP( PROP( OVER OVER OVER OVER OVER OVER OVER OVER	DSED DE SI TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou DAD (pou DAD (pou POINT LO FACTOF FACTOF	PTH: PAN: DTH: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): nds): CAD: CAD: R Cd: R Cd:	3 14 7.125 25.25 0 20 20 20 20 0 0 0 0 1 1.15 1 1.15 0	in in ft ft psf psf plf lb lb lb ft	
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625 1600 CALCULA combined moment:	R: psi psi ksi	ENTRY I Douglas LIVE LC SNOW LC DEAD LC BEAM S S DISTANCE REPET LOAD FA W: M1:	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: ELF WE LIVE F SNOW F DEAD F FROM E FITIVE M DL ACTORS 1030 6536	2 PROPC PROPC FOVER FOVE FOVE FOVE FOVE FOVE FOVE FOVE FOVE	DSED DE Si TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou DAD (pou DAD (pou DAD (pou POINT LO FACTOF FACTOF FACTOF t from ab	PTH: PAN: DTH: DTH): DTH): DTH): DTH): ADS: nds): nds): nds): nds): CAD: R Cd: R Cd	3 14 7.125 25.25 0 20 20 20 0 0 0 0 1 1.15 1 1.15 0 0	in in ft ft psf psf plf lb lb ft	10.2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625 1600 CALCULA combined moment: reaction:	R: psi psi ksi	ENTRY I Douglas LIVE LO SNOW LO DEAD LO BEAM S S DISTANCE REPET LOAD FA W: M1: R1:	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: DAD (ps: LIVE F SNOW F DEAD F FROM E FROM E TITIVE N DL ACTORS 1030 6536 3669	2 PROP( PROP( PROP( f OVER f O	DSED DE Si TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou DAD (pou DAD (pou DAD (pou POINT LO FACTOF FACTOF FACTOF t from ab	PTH: PAN: DTH: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): nds): CAD: R Cd: R Cd:	3 14 7.125 25.25 0 20 20 20 20 0 0 0 0 1 1.15 1 1.15 0 0 3669	in in ft ft psf psf plf lb lb lb ft	10.2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625 1600 CALCULA combined moment: reaction: shear:	R: psi psi ksi	ENTRY I Douglas LIVE LO SNOW LO DEAD LO BEAM S S DISTANCE REPET LOAD FA W: M1: R1: V1:	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: DAD (ps: LIVE F SNOW F DEAD F FROM E FROM E TITIVE M DU ACTORS 1030 6536 3669 2468	2 PROP( PROP( PROP( OVER OVER OVER OVER OVER OVER OVER OVER	DSED DE SI TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou DAD (pou DAD (pou DAD (pou DAD (pou POINT LO FACTOF FACTOF t from ab plf	PTH: PAN: DTH: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): nds): CAD: CAD: CAD: CCF: CF: CVE): P: M2: R2: V2:	3 14 7.125 25.25 0 20 20 20 20 0 0 0 0 1 1.15 1 1.15 0 0 3669 2468	in in ft ft psf psf plf lb lb lb ft 0 lb ft lb	10.2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625 1600 CALCULA combined moment: reaction: shear: Minimum f	R: psi psi ksi TIONS: loads:	ENTRY I Douglas	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: DAD (ps: LIVE F SNOW F DEAD F FROM E FROM E TITIVE M DU ACTORS 1030 6536 3669 2468 75.78	2 PROP( PROP( PROP( OVER OVER OVER OVER OVER OVER OVER OVER	DSED DE SI TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou D	PTH: PAN: DTH: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): nds): CAD: CAD: CAD: CCF: CF: CV2: R C2: X	3 14 7.125 25.25 0 20 20 20 20 0 0 0 0 1 1.15 1 1.15 0 0 3669 2468 12.31	in in ft ft psf psf plf lb lb lb ft lb ft lb lb ft lb lb ft	10.2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625 1600 CALCULA combined moment: reaction: shear: Minimum f	R: psi psi ksi TIONS: loads:	ENTRY I Douglas LIVE LO SNOW LO DEAD LO BEAM S OISTANCE REPET LOAD FA w: M1: R1: V1: Section Sx: shear:	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: DAD (ps: LIVE F SNOW F DEAD F FROM E FROM E TITIVE M DU ACTORS 1030 6536 3669 2468 75.78 17.88	2 PROP( PROP( PROP( OVER OVER OVER OVER OVER OVER OVER OVER	DSED DE Si TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou D	PTH: PAN: DTH: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): nds): CAD: CAD: CAD: CAD: CAD: CAD: CAD: CAD	3 14 7.125 25.25 0 20 20 20 0 0 0 0 1 1.15 1 1.15 0 0 3669 2468 12.31 5.96	in in ft ft psf psf plf lb lb lb ft lb ft lb in min in min	10.2
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625 1600 CALCULA combined moment: reaction: shear: Minimum f	R: psi psi ksi TIONS: loads:	ENTRY I Douglas	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: DAD (ps: LIVE F SNOW F DEAD F FROM E FROM E TITIVE M DU ACTORS 1030 6536 3669 2468 75.78 17.88 105	2 PROP( PROP( PROP( OVER OVER OVER OVER OVER OVER OVER OVER	DSED DE Si TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou D	PTH: PAN: DTH: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): nds): CAD: CAD: CAD: CF: CF: CF: CP: R2: R2: V2: x x x x	3 14 7.125 25.25 0 20 20 20 0 0 0 0 0 1 1.15 1 1.15 0 0 3669 2468 12.31 5.96 7.48	in in ft ft psf psf plf lb lb lb ft lb ft lb in min in min in min	10.2 Ib
LUMBER [ Fb Fv FcL	LOCATION: DESIGN FOI 900 180 625 1600 CALCULA combined moment: reaction: shear: Minimum f	R: psi psi ksi TIONS: loads: lexural s area for s otal load ive load	ENTRY I Douglas	Fir, No DAD (ps: DAD (ps: DAD (ps: DAD (ps: DAD (ps: LIVE F SNOW F DEAD F FROM E FROM E TITIVE M DU ACTORS 1030 6536 3669 2468 75.78 17.88	2 PROP( PROP( PROP( OVER OVER OVER OVER OVER OVER OVER OVER	DSED DE Si TARY WII TRIB WIE TRIB WIE TRIB WIE ADD'L LO DAD (pou DAD (pou D	PTH: PAN: DTH: DTH: DTH): DTH): DTH): ADS: nds): nds): nds): nds): CAD: CAD: CAD: CAD: CAD: CAD: CAD: CAD	3 14 7.125 25.25 0 20 20 20 0 0 0 0 1 1.15 1 1.15 0 0 3669 2468 12.31 5.96	in in ft ft psf psf plf lb lb lb ft lb ft lb in min in min	10.2

BEAM SELECTION:

(2) 2x14 Douglas Fir, No. 2

DATE: 7/13/2020



BC CALC® Member Report

# Single 2 x 6 DFL Stud

ST01

Dry | 09-07-08 | 16 OCS | Repetitive

PASSED

June 9, 2020 08:14:00

Build 7555		, , , , , , , , , , , , , , , , , , ,
Job name:	2020	File name: 2020
Address:		Description: TYPICAL BEARING WALL STUD
City, State, Zip:		Specifier:
Customer:		Designer: Allan Goffe
Code reports:	WCLIB/WWPA	Company:

# Lateral Reaction Summary (lbs)

Bearing		Connection						
Top Plate	290							
Bottom Plate	290							
Load Summary			l ive	Dead	Snow	Wind	Roof	

L	_06	au Summary			2.00	Douu	0		Live	
_1	Гag	Description	Load Type	Start	End	100%	90%	115%	160%	125%
1	1	Wind Load	Area F/B (lb/ft <sup>2</sup> )	00-00-00	09-07-08				45	
2	2	Roof Load	Unf. Lin. (lb/ft)	00-00-00	00-00-00		256	255	545	

Bracing	Elevation	Sheathing
Тор	09-07-08	Left-Right
Base	00-00-00	

<b>Controls Summar</b>	y		Value	% Allowable	Duration	Case
Front-Back Bending			419 ft-lbs	51.6%	160%	3
Front-Back Shear			174 lbs	11.0%	n\a	3
Front-Back Defl.			L/688 (0.168")	26.2%	n\a	2
Front-Back Max. Defl.			0.168"	16.8%	n\a	2
Axial Compression			942 lbs	15.0%	160%	5
Axial Compression and	Bending Fror	nt-Back	n\a	59.1%	160%	3
Slenderness Ratio			21.00	42.0%	n\a	0
Paaring Supports						
Bearing Supports	Size	Value	%Allowable	Duration I	Material	
Top Plate Double 2x 942 lbs		942 lbs	26.9%	115%	Spruce-Pine	-Fir
Bottom Plate	2x	942 lbs	26.9%	115% \$	Spruce-Pine	-Fir

# Notes

Design meets arbitrary (1") Maximum Total load deflection criteria.(Strong Axis)

Design meets User specified (L/180) Total load deflection criteria.(Strong Axis)

BC Calc does not perform shear wall or connection design for in-plane load transfer.

The analysis of solid sawn wood members is in accordance with the NDS and is limited to the output shown above. All other support and design for these products, including but not limited to notching, connections, installation, and engineer/architect certification is the responsibility of the project's design professional of record.

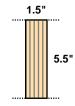
BC CALC® analysis is based on IBC 2018.

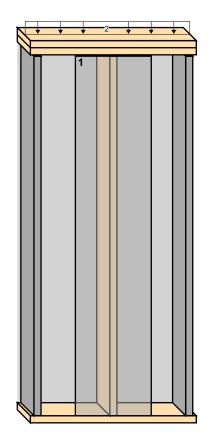
Wind load calculated based on the following: ASCE 7-16 Section 30.3; Ultimate Wind Speed: 130 mph; Risk Category: II; Exposure Category: D; Mean Roof Height: 15-00-00; Topographic Factor 1.0.

# Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS<sup>™</sup>, ALLJOIST®, BC RIM BOARD<sup>™</sup>, BCI®, BOISE GLULAM<sup>™</sup>, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.







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ACE ENGINEERING LLC PO BOX 231 ASHLAND, OREGON 97520 (541) 552-1417

#### Project Title: ABEL INSURANCE Engineer: ATG Project ID: 2020-20 Project Descr: OFFICE ADDITION & REMODEL

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# Wall Footing

Lic. # : KW-06009472

DESCRIPTION: 1'-6" THICKNED SLAB EDGE FOOTING

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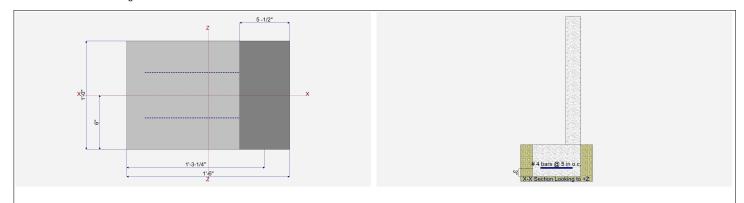
## Code References

Calculations per ACI 318-08, IBC 2009, CBC 2010, ASCE 7-10 Load Combinations Used : ASCE 7-16

# **General Information**

Material Properties fc : Concrete 28 day streng fy : Rebar Yield Ec : Concrete Elastic Modul Concrete Density	=	3,1	<b>Soi</b> l 2.50 ksi 40.0 ksi 122.0 ksi 145.0 pcf	Soil Passive F		Weight Sliding)	= = =	1.50 ksf No 100.0 pcf 0.30
φ Values Flexure Shear Analysis Settings Min Steel % Bending Reinf. Min Allow % Temp Reinf.	= = =	C	0.90 0.750 Incr	Allow. Pressu	<b>1 on footing</b> pth below Surf re Increase per footing is belo	ace foot of depth	= = =	1.0 ft ksf ft
Min. Overturning Safety Fac Min. Sliding Safety Factor AutoCalc Footing Weight as	=				d on footing re Increase per ng is wider thar	foot of width	= =	ksf ft
Dimensions Footing Width		.5 ft	Ad	justed Allow	able Bearin	g Pressure Reinforcing Bars along X-X Axis	=	1.50 ksf

Footing Width	=	1.5 ft	Footing Thickness	=	12.0 in	Bars along X-X Axis		
Wall Thickness	=	5.50 in	Rebar Centerline to Edg	ge of Conc	rete	Bar spacing	=	5.00
Wall center offset from center of footing	=	6.25 in	at Bottom of footing	=	3.0 in	Reinforcing Bar Size	=	# 4



# **Applied Loads**

	_	D	Lr	L	S	W	E	Н
P : Column Load OB : Overburden	= =	0.3450 0.010		0.050	0.2450			k ksf
V-x M-zz	= =							k k-ft
Vx applied	=	in a	bove top of fo	ooting				

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# Wall Footing

Load Combination...

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1983-2020, Build:12.20.2.28 . ACE Engineering LLC

LIC. # : KW-06009472	2
DESCRIPTION:	1'-6" THICKNED SLAB EDGE F

DESCRIPT	ION: 1'-6" THIC	CKNED SLAB EDG	E FOOT	ING				5.0	<u> </u>
DESIGN SI	UMMARY						Des	sign OK	
	Factor of Safety	Item		Applied		Capacity	Governing L	oad Combir	nation
PASS	n/a	Overturning - Z-Z		0.0		0.0 k-ft	No Overturning		
PASS	n/a	Sliding - X-X		0.0		0.0 k	No Sliding		
PASS	n/a	Uplift		0.0	K	0.0 k	No	o Uplift	
	Utilization Ratio	Item		Applied		Capacity	Governing L	oad Combir	nation
PASS	0.9625	Soil Bearing		1.444		1.50 ksf	+D+S		
PASS PASS	0.0	Z Flexure (+X)		0.0 k-ft		0.0 k-ft	No Moment +0.6750D		
PASS	0.003435 n/a	Z Flexure (-X) 1-way Shear (+X)		0.04265   0.0		12.418 k-ft 75.0 psi	+0	+0.0750D n/a	
PASS	0.02935	1-way Shear (-X)		2.201		75.0 psi	+1.20D+L+1.60S		
Detailed R	esults	, , , , , , , , , , , , , , , , , , ,				•			
Soil Bearing									
Rotation Axi Load C	is & ombination		Gr	oss Allowable	Хесс	Actual Soil B -X	earing Stress +X	Actual / All Ratio	
, D Only				1.50 ksf	3.764 in		0.8686 ksf		0.579
, +D+L , +D+S				1.50 ksf 1.50 ksf	3.450 in 4.508 in		0.8944 ksf 1.444 ksf		0.596 0.963
, +D+0.750L				1.50 ksf	3.523 in	0.0 ksf	0.8874 ksf		0.592
, +D+0.750L , +0.60D	+0.750S			1.50 ksf 1.50 ksf	4.153 in 3.764 in		1.303 ksf 0.5212 ksf		0.868 0.347
Overturning				1.00 KSI	0.7011			Units : k-f	
Rotation Axi Load Co	s & ombination		Ove	rturning Moment		Resisting Moment	Stability Ratio	State	us
Footing Has Sliding Stat	NO Overturning bility								
Force Applic Load Co	cation Axis ombination			Sliding Force		Resisting Force	Sliding SafetyRati	o Stati	us
Footing Has Footing Fle									
Flexure Ax	kis & Load Combi	nation Mu k-ft	Which Side?	Tension @ Bot. or Top ?	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
, +1.40D		0.08846	-X	Bottom	0.2592	Min Temp %	0.48	12.418	OK
, +1.40D , +1.20D+1.6	501	0 0.1484	+X -X	Bottom Bottom	0.2592 0.2592	Min Temp % Min Temp %	0.48 0.48	12.418 12.418	OK OK
, +1.20D+1.6	50L	0	+X	Bottom	0.2592	Min Temp %	0.48	12.418	OK
, +1.20D+1.6 , +1.20D+1.6		0.1444 0	-X +X	Bottom Bottom	0.2592 0.2592	Min Temp % Min Temp %	0.48 0.48	12.418 12.418	OK OK
, +1.20D+L		0.1211	-X	Bottom	0.2592	Min Temp %	0.48	12.418	OK
, +1.20D+L , +1.20D		0 0.07583	+X -X	Bottom Bottom	0.2592 0.2592	Min Temp % Min Temp %	0.48 0.48	12.418 12.418	OK OK
, +1.20D		0	+X	Bottom	0.2592	Min Temp %	0.48	12.418	OK
, +1.20D+L+ , +1.20D+L+		0.1119 0	-X +X	Bottom Bottom	0.2592 0.2592	Min Temp % Min Temp %	0.48 0.48	12.418 12.418	OK OK
, +1.20D+L+ , +1.20D+1.6		0.06838	+^ -X	Bottom	0.2592	Min Temp %	0.48	12.418	OK
, +1.20D+1.6	50S	0	+X	Bottom	0.2592	Min Temp %	0.48	12.418	OK
, +1.20D+L+0.50S 0.1175 , +1.20D+L+0.50S 0		-X +X	Bottom Bottom	0.2592 0.2592	Min Temp % Min Temp %	0.48 0.48	12.418 12.418	OK OK	
, +0.90D 0.05687		-X	Bottom	0.2592	Min Temp %	0.48	12.418	OK	
, +0.90D , +1.425D+L	+0.20S	0 0.1337	+X -X	Bottom Bottom	0.2592 0.2592	Min Temp % Min Temp %	0.48 0.48	12.418 12.418	OK OK
, +1.425D+L+0.20S 0		+X	Bottom	0.2592	Min Temp %	0.48	12.418	OK	
, +0.6750D , +0.6750D		0.04265 0	-X +X	Bottom Bottom	0.2592 0.2592	Min Temp % Min Temp %	0.48 0.48	12.418 12.418	OK OK
One Way Sh	iear							Units : k	

Vu:Max

Phi Vn

Vu / Phi\*Vn

Status

Vu @ +X

Vu @ -X

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# Wall Footing

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# Lic. # : KW-06009472

# DESCRIPTION: 1'-6" THICKNED SLAB EDGE FOOTING

#### One Way Shear

Units : k

ono naj onoa						
Load Combination	Vu@-X Vu	1 @ +X	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.20D+1.60L+0.50S +1.20D+L +1.20D +1.20D+L+1.60S +1.20D+1.60S +1.20D+1.60S +1.20D+L0.50S	1.843 psi 1.475 psi 1.24 psi 2.201 psi 1.966 psi 1.702 psi	0 psi 0 psi 0 psi 0 psi 0 psi 0 psi	1.843 psi 1.475 psi 1.24 psi 2.201 psi 1.966 psi 1.702 psi	75 psi 75 psi 75 psi 75 psi 75 psi 75 psi 75 psi	0.02458 0.01967 0.01653 0.02935 0.02621 0.02269	OK OK OK OK OK OK
+0.90D +1.425D+L+0.20S +0.6750D	0.9298 psi 1.798 psi 0.6974 psi	0 psi 0 psi 0 psi 0 psi	0.9298 psi 1.798 psi 0.6974 psi	75 psi 75 psi 75 psi 75 psi	0.0124 0.02398 0.009298	OK OK OK

ACE ENGINEERI professional structural engine commercial , residential , ind	eering		SHEET: 20
po box 231 . ashland . oregon 541.552.1417 . ace-engineeri			DATE: 06/11/20
RECTANGULAR FOOTING DESIGN PROJECT: FOOTING NUMBER/LOCATION:	2020-20 SPREAD DEAD		SURANCE, 875 HWY 101, FLORENCE, OR AT MID OF ROOF BEAM OVER OFFICE SNOW 0.6 WIND 0.7 SEISMIC
LIVE LOAD, RLL TOTAL LOAD, R	7.99125 15.440	<b>0</b> kip	<b>7.44875 0 0</b> kip
SOIL BEARING CAPACITY, qA	1250	psf	
OVERALL THICKNESS OF FTG, t DEPTH TO REINF, d COLUMN DIMENSION, D COLUMN DIMENSION, W	12 8.75 5.5 5.5	in in in in	
CONC STRENGTH, f'c REINFORCING STRENGTH, fy	2500 60	psi ksi	
AREA OF FOOTING STEEL, As	1.00	in^2	0.950227
CHECK BEARING CAPACITY AND I PROVIDE FOOTING WIDTH OF, B: PROVIDE FOOTING LENGTH OF, L PROVIDE FOOTING AREA, A MINIMUM FOOTING AREA, Areq	3.666	ft ft	G DIMENSIONS B L R/qA
ULTIMATE LOAD, Ru ULTIMATE SOIL PRESSURE, qu	21.51 1600	kip psf	Ru/B*L
ONE WAY SHEAR Vu oVn TWO WAY SHEAR	5.13 32.72 <b>0.K.</b>	kip kip	qu B (L/2-D/2-d) 0.85 2 (f'c)^0.5 W d
Vu	19.25	kip	qu (B L - D W)
CRITICAL PERIMETER bo INTERIOR COLUMN (VERIFY) as oVn FLEXURE	57 <b>40</b> 127.18 172.55 84.79 <b>O.K.</b>	in kip kip kip	0.85 (2+4/Bc) (f'c)^0.5 bo d 0.85 (2+as/b0/d) (f'c)^0.5 bo d 0.85 4 (f'c)^0.5 bo d
Mu a oMn	7.55 0.64 37.93 <b>0 K</b>	kip ft in kip ft	qu B (L/2-D/2-d) As fy / .85 f'c B 0.9 As fy (d-a/2)

0.K.

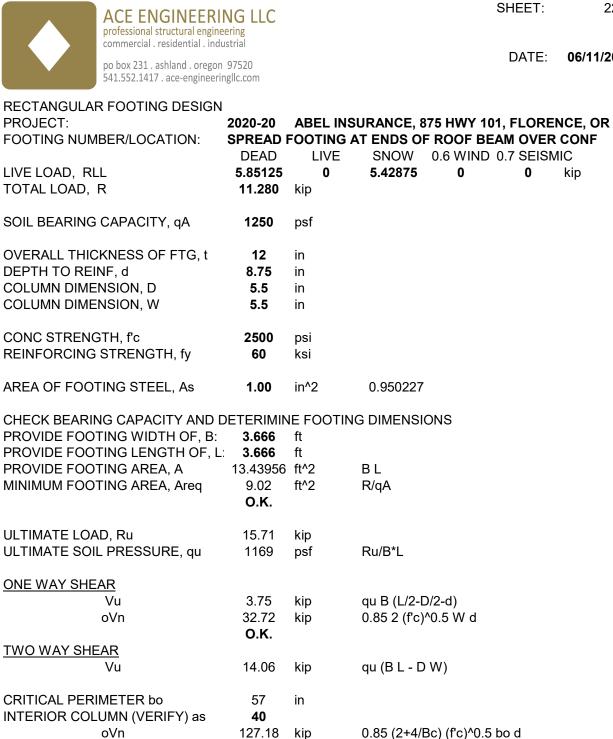


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DATE: 06/11/20

RECTANGULAR FOOTING DESIGN PROJECT: FOOTING NUMBER/LOCATION:	2020-20		SURANCE, 875 HWY 101, FLORENCE, OR AT ENDS OF ROOF BEAM OVER OFFICE SNOW 0.6 WIND 0.7 SEISMIC
LIVE LOAD, RLL TOTAL LOAD, R	7.790625 15.050		<b>7.259375 0 0</b> kip
SOIL BEARING CAPACITY, qA	1250	psf	
OVERALL THICKNESS OF FTG, t DEPTH TO REINF, d COLUMN DIMENSION, D COLUMN DIMENSION, W	12 8.75 5.5 5.5	in in in in	
CONC STRENGTH, f'c REINFORCING STRENGTH, fy	2500 60	psi ksi	
AREA OF FOOTING STEEL, As	1.00	in^2	0.950227
CHECK BEARING CAPACITY AND PROVIDE FOOTING WIDTH OF, B: PROVIDE FOOTING LENGTH OF, L PROVIDE FOOTING AREA, A MINIMUM FOOTING AREA, Areq	3.666	ft ft ft^2	G DIMENSIONS B L R/qA
ULTIMATE LOAD, Ru ULTIMATE SOIL PRESSURE, qu	20.96 1560	kip psf	Ru/B*L
ONE WAY SHEAR Vu oVn <u>TWO WAY SHEAR</u>	5.00 32.72 <b>O.K.</b>	kip kip	qu B (L/2-D/2-d) 0.85 2 (f'c)^0.5 W d
Vu	18.76	kip	qu (B L - D W)
CRITICAL PERIMETER bo INTERIOR COLUMN (VERIFY) as oVn	57 <b>40</b> 127.18 172.55 84.79 <b>O.K.</b>	in kip kip kip	0.85 (2+4/Bc) (f'c)^0.5 bo d 0.85 (2+as/b0/d) (f'c)^0.5 bo d 0.85 4 (f'c)^0.5 bo d
<u>FLEXURE</u> Mu a oMn	7.35 0.64 37.93 <b>O.K.</b>	kip ft in kip ft	qu B (L/2-D/2-d) As fy / .85 f'c B 0.9 As fy (d-a/2)



172.55

84.79

**O.K**.

5.51

0.64

37.93

**O.K.** 

FLEXURE

Mu

а

oMn

kip

kip

kip ft

kip ft

in

0.85 (2+as/b0/d) (f'c)^0.5 bo d

0.85 4 (f'c)^0.5 bo d

qu B (L/2-D/2-d)

As fy / .85 f'c B

0.9 As fy (d-a/2)

kip

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06/11/20