Boi	ise Cascade	Dou Dou	ble 1-3/4"	x 14" VI	ERSA-LA	M® 2	.0 3100	) SP			P	ASSED
				FB01 (F	loor Beam	)						
BC CAL Build 71	C® Member 33	Report		Dry   1 spa	an   No cant.					Ар	ril 2, 201	9 09:33:12
Job nam	ie:	JOB#2019-012			File name	e: P	19-03028	3				
Address	:				Descriptio	on: B	EAM FB	)1				
City, Sta	te, Zip:		-		Specifier:							
Builder:	a a mba i	VALUE BUILD CONS	Ι.		Designer	: N	lark Love	lace				
Code re	ports:	ESR-1040			Company	/: L	ongLear					
۲ B1				10	0-06-00							
ы			Total H	orizontal Pro	oduct Length	= 10-06-	00					DZ
Reacti Bearing	on Summ	ary (Down / Uplift <sub>Live</sub>	) (Ibs) <sub>Dead</sub>	s	now		Wind		Roo	f Live		
B1, 3-1/2	2"	3255 / 0	1820 / 0									
B2, 3-1/2	2"	3255 / 0	1820 / 0									
Load S	Summary		5.4	<b>e</b> t 1			Live	Dead	Snow	Wind	Roof Live	Tributary
	scription	Load Type	e <u>Ret.</u> lb/ft) l	Start	End	Loc.	100%	90% 14	115%	160%	125%	00-00-00
1 Sta	andard I oad	Unf Area	(lb/ft²) I	00-00-00	10-06-00	Front	40	15				15-06-00
2		Unf. Lin. (	lb/ft) L	00-00-00	10-06-00	Тор		100				n\a
Contro	ols Summa	ary Value	% Allow	vable l	Duration	Case	e Loca	tion				
Pos. Mo	ment	12185 ft-lbs	42.0%		100%	1	05-03	3-00				
End She	ar	3665 lbs	39.4%		100%	1	01-0	5-08				
Total Lo	ad Deflectior	n L/872 (0.138")	41.3%	1	n\a	1	05-03	3-00				
Live Loa	d Deflection	L/999 (0.089")	n\a	I	n\a	2	05-03	3-00				
Max Def	1.	0.138"	13.8%	1	n∖a	1	05-03	3-00				
Span / D	epth	8.6										
Bearin	g Suppor	ts Dim. (LxW)	Value	% Allow Support	% Allow Member	Mater	ial					
B1	Wall/Plate	3-1/2" x 3-1/2"	5075 lbs	n\a	55.2%	Unsp	ecified					
B2	Wall/Plate	3-1/2" x 3-1/2"	5075 lbs	n\a	55.2%	Unsp	ecified					
Notes												
Design r Design r Design r Calculat BC CAL Design b	neets User s neets User s neets arbitra ions assume C® analysis pased on Dry	pecified (L/360) Total I pecified (L/480) Live Ic ry (1") Maximum Total member is fully braced is based on IBC 2018. Service Condition.	oad deflection ad deflection load deflectio d.	n criteria. criteria. n criteria.								

#### **User Notes**

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Boise Cascade	Double 1-3	8/4" x 14" VERSA-LAM®	0 2.0 3100 SP	PASSED
		FB01 (Floor Beam)		
BC CALC® Membe	er Report	Dry   1 span   No cant.		April 2, 2019 09:33:12
Build 7133				
Job name:	JOB#2019-012	File name:	P19-03028	
Address:		Description:	BEAM FB01	
City, State, Zip:		Specifier:		
Builder:	VALUE BUILD CONST.	Designer:	Mark Lovelace	
Code reports:	ESR-1040	Company:	LongLeaf	

## **Connection Diagram: Full Length of Member**



Calculated Side Load = 513.3 lb/ft Connectors are: 16d Box Nails

#### Disclosure

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 $\begin{array}{l} \mathsf{BC}\ \mathsf{CALC}{}^{\mathbb{B}},\ \mathsf{BC}\ \mathsf{FRAMER}{}^{\mathbb{R}},\ \mathsf{AJS}^{\mathsf{TM}},\\ \mathsf{ALLJOIST}{}^{\mathbb{B}},\ \mathsf{BC}\ \mathsf{RIM}\ \mathsf{BOARD}^{\mathsf{TM}},\ \mathsf{BCI}{}^{\mathbb{B}},\\ \mathsf{BOISE}\ \mathsf{GLULAM}^{\mathsf{TM}},\ \mathsf{BC}\ \mathsf{FloorValue}{}^{\mathbb{B}},\\ \mathsf{VERSA-LAM}{}^{\mathbb{B}},\ \mathsf{VERSA-RIM}\ \mathsf{PLUS}{}^{\mathbb{B}},\\ \end{array}$ 

Boise Cascade		Quadr	uple 1-3	8/4" >	<b>x 18</b> " '	VERSA	-LAM	® 2.(	0 31	00 SF	)		P	ASSED
				F	B02 (F	loor Bea	m)							
BC CALC® Member Build 7133	Report			Dry	/ 1 spa	an   No can	t.					Ар	ril 2, 201	9 09:33:12
Job name: Address:	JOB#2019	-012				File nar	ne: tion:	P19-	03028 M FBC	)2				
City, State, Zip;						Specifie	er:		WI DC	/2				
Builder:	VALUE BU	JILD CONST				Designe	er:	Mark	Love	lace				
Code reports:	ESR-1040					Compa	ny:	Long	Leaf					
		7.	27						2	7				
+ + + +	+ + +	<u> </u>	<del>7</del>	<b>↓</b> ↓	+ +	5	+ +	¥	¥ + _	<b>·</b> +	+ +	+ +	+ +	+ +
+ + + +	4 🔶 🛉	+ +								<b>↓</b> ,	<mark>↓ ↓ ↓</mark>	, 6 ,	<mark>↓ ↓</mark>	<b>↓</b> ↓
				++	++		+ +		+ +		+ +	<u>+ +</u> ⊥ ⊥	+ +	
	<u> </u>	<u> </u>		• •	<u> </u>	<u> </u>				<u> </u>	• •			• •
<i>}</i>					20	0-07-00								B2
ы			Total	l Horizo	ontal Pro	oduct Leng	th = 20-0	7-00						DZ
Reaction Summ	nary (Dow	/n / Uplift)	(lbs)								_			
Bearing B1 3-1/2"	Live 823 / 0		Dead 5955 / 0		3	808 / 0		Win	d		Roo	t Live		
B1, 3-1/2 B2 3-1/2"	823/0		5955 / 0		3	3808 / 0								
52, 0 112	02070		000070		0									
Load Summary								L	.ive	Dead	Snow	Wind	Roof	Tributary
Tag Description		Load Type	R	ef.	Start	End	Loc.	1	00%	90%	115%	160%	Live 125%	
0 Self-Weight		Unf. Lin. (I	b/ft) L	0	0-00-00	20-07-0	О Тор			36				00-00-00
1 Standard Load		Unf. Area	(lb/ft²) L	0	0-00-00	20-07-0	О Тор	4	0	15				02-00-00
2		Conc. Pt.	(lbs) L	0	6-04-00	06-04-0	О Тор			1898	1465			n\a
3		Conc. Pt.	(lbs) R	0	6-04-00	06-04-0	О Тор			1898	1465			n\a
4		Unf. Lin. (I	b/ft) L	0	0-00-00	06-04-0	U Top			370	370			n\a
5 6		Unf. Lin. (I Unf. Lin. (I	b/ft) L	0	0-00-00 0-00-00	0 20-07-0	D Top			370	370			n∖a n∖a
		••••••					с . ср			0.0				
Controls Summ	ary Valu		% All	owable		Duration	Ca	se	Locat	tion				
Pos. Moment	427	44 π-IDS	39.8%	%o 07		115%	4	2	10-03	3-08				
Total Load Deflectio	n 1/4	9 IDS 95 (0 488")	29.07	/0 )/_		n\a	4	<u>^</u>	10_0	9-00 3-08				
Live Load Deflection	L/4	312 (0.400 )	36.6%	%		n\a	ļ	-	10-03	3-08				
Max Defl.	0.4	88"	48.8%	%		n∖a		2	10-03	3-08				
Span / Depth	13.4	4												
				0/ /	Mow	% Allow								
<b>Bearing Suppor</b>	rts Dim. (L	xW)	Value	Sup	oport	Member	Mat	erial						
B1 Wall/Plate	e 3-1/2" x	x 7"	9763 lbs	n\a		53.1%	Uns	specif	ied					
B2 Wall/Plate	e 3-1/2" :	x 7"	9763 lbs	n∖a		53.1%	Uns	specif	ied					
Notes														
Design meets Users	specified (L/	(360) Total Io	ad deflecti	on crit	eria.									
Design meets User	specified (L/	480) Live lo	ad deflectio	on crite	eria.									
Design meets arbitra	ary (1") Max	imum Total I	oad deflect	tion cri	teria.									
Calculations assume	e member is	fully braced												
BC CALC® analysis	is based or	n IBC 2018.												
Design based on Dr	y Service Co	ondition.				denicus of	alda I	مامدان	a int la	ada				
please consult a tec	hnical repre	sentative or	professiona	al of R	ecord.	uesign of	siue-loa	ueu p		aus,				

Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.

Bolts are assumed to be Grade A307 or Grade 2 or higher.

Member has no side loads.

Boise Cascad		1-3/4" X 18" VERSA-LAN	/I® 2.0 3100 SP	PASSED
		FB02 (Floor Beam)		
BC CALC® Mem	ber Report	Dry   1 span   No cant.		April 2, 2019 09:33:12
Build 7133				
Job name:	JOB#2019-012	File name:	P19-03028	
Address:		Description:	BEAM FB02	
City, State, Zip:		Specifier:		
Builder:	VALUE BUILD CONST.	Designer:	Mark Lovelace	
Code reports:	ESR-1040	Company:	LongLeaf	

## **User Notes**

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# **Connection Diagram: Full Length of Member**



Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record. Beams 7 inches wide will be assumed to be either top-loaded only, or equally loaded from each side.

Bolts are assumed to be Grade A307 or Grade 2 or higher.

Member has no side loads.

Connectors are: 1/2 in. Staggered Through Bolt

## Disclosure

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Boise Cascade		Doubl	e 1-3/4" :	x 11-7/8	" VERSA-	LAM®	2.0 31	00 SF	)		P	ASSED
				FB03	Floor Beam	ı)						
BC CALC® Member Build 7133	Report			Dry   1 s	oan   No cant.					Ар	ril 2, 201	9 09:33:12
Job name: Address:	JOB#2019-	012			File nam Descripti	e: P on: B	19-03028 EAM FB	3 03				
City, State, Zip:			г		Specifier	: 	lark Love	laco				
Code reports:	ESR-1040				Compan	y: L	ongLeaf	lace				
+ $+$ $+$	+ + +	+ + +	+ + +	+ +	↓ 3 ↓ ↓	+ +	+ +	+ +	+ +	+ +	+ +	+ +
						<u>†</u> †	<u>+</u> +	t t	<u>†</u> †	<u>†</u> †	+ +	
	$\overline{+}$	$\overrightarrow{+}$	$\overline{}$	+ +		$\overline{\downarrow}$ $\overline{\downarrow}$	+ +	÷÷	+ +	+ +	$\overline{+}$	$\downarrow$ $\downarrow$
/ 					17-00-00							/
B1			Total	Horizontal F	Product Length	n = 17-00-	00					B2
<b>Reaction Summ</b>	ary (Dow	n / Uplift	) (Ibs)		-							
Bearing	Live		Dead		Snow		Wind		Roo	f Live		
B1, 3-1/2" B2 2 1/2"	340/0		1420/0		340/0							
DZ, 3-1/Z	34070		1420 / 0		34070							
							Live	Dead	Snow	Wind	Roof	Tributary
Load Summary							LIVE	Deuu	Chow		Live	moutary
Tag Description		Load Type	Re	f. Start	End	Loc.	100%	90%	115%	160%	125%	
0 Self-Weight		Unt. Lin. (	ID/TT) L	00-00-0		Тор	40	12				00-00-00
1 Standard Load		Unit. Area	(ID/IL <sup>-</sup> ) L			Тор	40	15	40			00-00-10
3		Unf. Lin. (	lb/ft) L	00-00-0	)0 17-00-00 )0 17-00-00	Тор		100	40			n\a
Controlo Summ	<b>OP</b> (	- (				-	_					
Pos Momont		e 1 ft lbc	% Allo	wable	Duration			tion				
Fos. Moment End Shear	700 1494	5 lhs	18 9%		100%	1	00-0	0-00 3-06				
Total Load Deflectio	n 1/50	7 (0.392")	71.0%		n\a	3	08-0	6-00				
Live Load Deflection	L/99	9 (0.103")	n\a		n\a	6	08-0	6-00				
Max Defl.	0.39	2"	39.2%		n\a	3	08-0	6-00				
Span / Depth	16.7	,										
Bearing Suppor	ts Dim. (Lx	W)	Value	% Allow Support	% Allow Member	Mater	ial					
B1 Wall/Plate	e 3-1/2" x	3-1/2"	1930 lbs	n\a	21.0%	Unsp	ecified					
B2 Wall/Plate	e 3-1/2" x	3-1/2"	1930 lbs	n\a	21.0%	Unsp	ecified					
Notes												
Design meets User	specified (L/3	360) Total lo	bad deflection	n criteria.								
Design meets User	specified (L/4	180) Live lo	ad deflection	n criteria.								
Calculations assume	ary (1) IVIAXII a memberie :	fully brocce	ioau uellecti I	on chiena.								
BC CALC® analysis	is based on	IBC 2018										
Design based on Dr	v Service Co	ndition.										
Member has no side	loads.											
User Notes						-		<u>.</u>				
I his design is provid review of this proiect	led as a cour	rtesy to the eral nor seis	builder and smic analysis	does NOT s has been	guarantee a c considered.	omplete All bearin	structura a condition	il ons.				

review of this project. Neither lateral nor seismic analysis has been considered. All bearing conditions, connections, spans, o.c. spacing, loading and product usages shall be verified by the builder and engineer of record. This design shall be reviewed, verified and approved by the builder, project engineer and local building department prior to ordering materials.

Boise Cascade	Double 1-3/4	X 11-//8	VERSA-LAN	N® 2.0 3100 SP		PASSED
		FB03 (	Floor Beam)			
BC CALC® Membe	r Report	Dry   1 sp	an   No cant.		April 2, 2	2019 09:33:12
Build 7133						
Job name:	JOB#2019-012		File name:	P19-03028		
Address:			Description:	BEAM FB03		
City, State, Zip:			Specifier:			
Builder:	VALUE BUILD CONST.		Designer:	Mark Lovelace		
Code reports:	ESR-1040		Company:	LongLeaf		

2/4U - 44 7/0U VEDCA LAMO 0.0.2400.00

## **Connection Diagram: Full Length of Member**

1.1.4



b minimum = 3" d = 24"

Member has no side loads. Connectors are: 3-1/4 in. Pneumatic Gun Nails

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Boise Cascade	Doub	le 1-3/4" x	x 9-1/4" \	/ERSA-L	AM®	2.0 310	)0 SP			P/	ASSED
			RB01 (F	Roof Beam	)						
BC CALC® Member Build 7133	Report		Dry   1 spa	n   No cant.					Ар	ril 2, 201	9 09:33:12
Job name:	JOB#2019-012			File name	e: P	19-03028	3				
Address.				Specifier	л. в		51				
Builder	VALUE BUILD CONS	т		Designer	· N	lark Love	lace				
Code reports:	ESR-1040			Company	/: L	ongLeaf	lace				
			2	0							
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	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		+ $+$ $+$		↓ ↓ ↓ ↓		<u>↓ ↓</u> ↓ ↓	+ + + +	$\frac{\downarrow}{\downarrow}$	+ $+$ $+$	$\downarrow$ $\downarrow$
					<u> </u>		<u> </u>	· · ·	<u> </u>	<u> </u>	
л В1			07	7-11-00							B2
2.		Total H	lorizontal Pro	oduct Length	= 07-11-	00					
Reaction Summ	ary (Down / Uplift	) (Ibs) Dead	s	now		Wind		Roo	f l ive		
B1, 3-1/2"	LIVO	1898 / 0	1	465 / 0					1 2170		
B2, 3-1/2"		1898 / 0	1	465 / 0							
							Deed	0		Deef	Tallastan
Load Summary						Live	Dead	Snow	wina	Live	Tributary
Tag Description	Load Type	Ref	. Start	End	Loc.	100%	90%	115%	160%	125%	00.00.00
0 Sell-Weight 1 Standard Load	Uni. Lin. ( Linf Area	ID/IL) L (Ib/ft²) L	00-00-00	07-11-00	Top Back		9 20	20			18-06-00
2	Unf. Lin. (	(ID/It) L Ib/ft) L	00-00-00	07-11-00	Back		100	20			n\a
Controlo Ouron		,			_		_				
Controis Summ	ary Value	% Allov	vable [	Duration	Case	E Loca	tion				
Pos. Moment	2460 lbc	38.7%		115% 115%	4	03-1	1-08				
Total Load Deflection	1 /699 (0 128")	25.8%	r	n\a	4	01-0	1-08				
Live Load Deflection	L/999 (0.056")	n\a	r	n\a	5	03-1	1-08				
Max Defl.	0.128"	12.8%	r	n\a	4	03-1	1-08				
Span / Depth	9.7										
			0/ 011	0/							
Bearing Suppor	ts Dim. (LxW)	Value	% Allow Support	% Allow Member	Mater	ial					
B1 Wall/Plate	e 3-1/2" x 3-1/2"	3362 lbs	n\a	36.6%	Unsp	ecified					
B2 Wall/Plate	e 3-1/2" x 3-1/2"	3362 lbs	n\a	36.6%	Unsp	ecified					
Cautions											
For roof members wire occur.	ith slope (1/4)/12 or less	s final design	must ensure	e that pondir	ig instab	oility will n	ot				
For roof members wi load.	th slope (1/2)/12 or less	s final design	must accou	nt for Rain-o	n-Snow	surcharg	e				
Notes											
Design meets Code	minimum (L/180) Total	load deflection	n criteria.								
Design meets Code	minimum (L/240) Live le	oad deflectior	n criteria.								

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Design meets arbitrary (1") Maximum Total load deflection criteria. Calculations assume member is fully braced.

BC CALC® analysis is based on IBC 2018.

Design based on Dry Service Condition.

Boise Cascad	de <b>Double 1-3</b> /	Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP							
		RB01 (Roof Beam)							
BC CALC® Mem	ber Report	Dry   1 span   No cant.		April 2, 2019 09:33:12					
Build 7133									
Job name:	JOB#2019-012	File name:	P19-03028						
Address:		Description:	BEAM RB01						
City, State, Zip:		Specifier:							
Builder:	VALUE BUILD CONST.	Designer:	Mark Lovelace						
Code reports:	ESR-1040	Company:	LongLeaf						

## **User Notes**

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# **Connection Diagram: Full Length of Member**



a minimum = 2" c = 5-1/4" b minimum = 3" d = 24"

Calculated Side Load = 840.0 lb/ft Connectors are: 16d Common Nails

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