

Project: Address: Date: 10/16/2017

Designer:

Job Name: Jones, Rich and Barnes

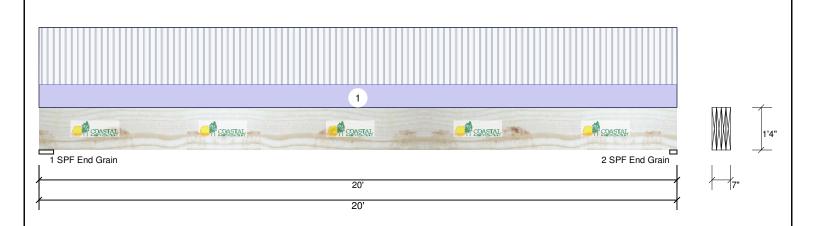
Page 1 of 6

Project #:

Reactions lb (Uplift)

### 1.750" X 16.000" 4-Ply - PASSED 2.0E CP-LAM

Level: Level



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Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const		
Plies:	4	Design Method:	ASD	1	6135	2748	0	0	0		
Moisture Condition	n: Dry	Building Code:	IBC/IRC 2015	2	6015	2694	0	0	0		
Deflection LL:	360	Load Sharing:	Yes								
Deflection TL:	240	Deck:	Not Checked								
Importance:	Normal										
Temperature:	Temp <= 100°F										
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# **Analysis Results**

Member Information

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	42121 ft-lb	10'1 3/16"	75755 ft-lb	0.556 (56%)	D+L	L
Unbraced	42121 ft-lb	10'1 3/16"	42220 ft-lb	0.998 (100%)	D+L	L
Shear	7435 lb	1'7 3/4"	21280 lb	0.349 (35%)	D+L	L
LL Defl inch	0.420 (L/559)	10'1 1/4"	0.652 (L/360)	0.640 (64%)	L	L
TL Defl inch	0.608 (L/386)	10'1 1/4"	0.979 (L/240)	0.620 (62%)	D+L	L

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Compression edge bracing required at 5'4" o.c. or less.
- 5 Lateral slenderness ratio based on single ply width

l	Bearings	5					
I	Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
	1 - SPF End Grain	5.500"	27%	2748 / 6135	8883	L	D+L
	2 - SPF End Grain	2.750"	53%	2694 / 6015	8709	L	D+L

Load Type Location Trib Width Side Dead 0.9 Snow 1.15 Wind 1.6 Const. 1.25 Comments 45 PSF 0 PSF 13-6-0 18 PSF 0 PSF 0 PSF Uniform Top

Self Weight 29 PLF

# Notes

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Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

# Handling & Installation

LVL beams must not be cut or drilled
Refer to manufacturer's product information
regarding installation requirements, multi-ply
fastening details, beam strength values, and code
approvals
Damaged Beams must not be used

Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Pacific Woodtech Corp 1850 Park Lane

Burlington, WA 98233 (888) 707-2285 www.pacificwoodtech.com APA: PR-L233, ICC-ES: ESR-2909







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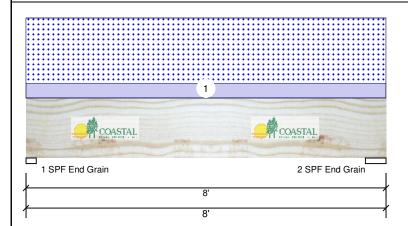
Designer:

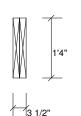
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### 1.750" X 16.000" 2-Ply - PASSED 2.0E CP-LAM

Level: Level





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### **Member Information**

Type: Girder Plies: 2 Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal Temperature: Temp <= 100°F

### Reactions Ib (Uplift) Application: Floor

Brg	Live	Dead	Snow	Wind	Const
1	0	720	2984	0	0
2	0	756	3136	0	0

ASD

Nο

IBC/IRC 2015

Not Checked

Design Method:

Building Code:

Load Sharing:

Deck:

Analysis	Results
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Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6807 ft-lb	3'10 13/16"	41884 ft-lb	0.163 (16%)	D+S	L
Unbraced	6807 ft-lb	3'10 13/16"	15387 ft-lb	0.442 (44%)	D+S	L
Shear	2329 lb	6'4 1/4"	12236 lb	0.190 (19%)	D+S	L
LL Defl inch	0.024 (L/3836)	3'10 7/8"	0.252 (L/360)	0.090 (9%)	S	L
TL Defl inch	0.029 (L/3090)	3'10 7/8"	0.379 (L/240)	0.080 (8%)	D+S	L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6807 ft-lb	3'10 13/16"	41884 ft-lb	0.163 (16%)	D+S	L
Unbraced	6807 ft-lb	3'10 13/16"	15387 ft-lb	0.442 (44%)	D+S	L
Shear	2329 lb	6'4 1/4"	12236 lb	0.190 (19%)	D+S	L
LL Defl inch	0.024 (L/3836)	3'10 7/8"	0.252 (L/360)	0.090 (9%)	S	L
TL Defl inch	0.029 (L/3090)	3'10 7/8"	0.379 (L/240)	0.080 (8%)	D+S	L

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- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on single ply width.

Bearings	earings										
Bearing Le	ngth Ca	ар. Re	act D/L lb	Total	Ld. Case	Ld. Comb.					
1 - SPF 2.7 End Grain	750" 4	5%	720 / 2984	3704	L	D+S					
2 - SPF 5.5 End Grain	500" 2	4%	756 / 3136	3892	L	D+S					

### ID Load Type Location Trib Width Side Dead 0.9 Snow 1.15 Wind 1.6 Const. 1.25 Comments 10 PSF 0 PSF 0 PSF 1 Uniform 17-0-0 Top 45 PSF 0 PSF

6. For flat roofs provide proper drainage to prevent ponding

15 PLF Self Weight

## Notes

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Handling & Installation

LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals Damaged Beams must not be used

Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

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1850 Park Lane Burlington, WA 98233 (888) 707-2285 www.pacificwoodtech.com APA: PR-L233, ICC-ES: ESR-2909







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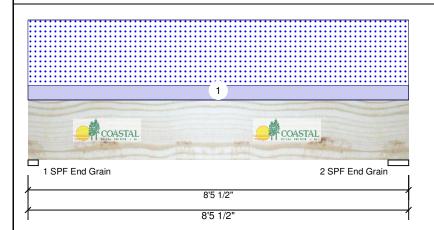
Date: 10/16/2017 Designer:

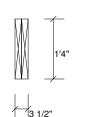
Job Name: Jones, Rich and Barnes

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### 1.750" X 16.000" 2-Ply - PASSED 2.0E CP-LAM

Level: Level





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### **Member Information**

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal Temperature: Temp <= 100°F

Application: Floor Design Method: Building Code: IBC/IRC 2015 Load Sharing: Nο Deck: Not Checked

# Reactions Ib (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	969	4089	0	0
2	0	1015	4285	0	0

# **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9873 ft-lb	4'1 9/16"	41884 ft-lb	0.236 (24%)	D+S	L
Unbraced	9873 ft-lb	4'1 9/16"	14543 ft-lb	0.679 (68%)	D+S	L
Shear	3285 lb	1'5 3/8"	12236 lb	0.268 (27%)	D+S	L
LL Defl inch	0.039 (L/2485)	4'1 5/8"	0.268 (L/360)	0.140 (14%)	S	L
TL Defl inch	0.048 (L/2009)	4'1 5/8"	0.402 (L/240)	0.120 (12%)	D+S	L

# **Bearings**

Bearing Length	Cap. F	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 2.750" End Grain	62%	969 / 4089	5058	L	D+S
2 - SPF 5.500" End Grain	32%	1015 / 4285	5300	L	D+S

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- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on single ply width

Self Weight

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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		22-0-0	Тор	10 PSF	0 PSF	45 PSF	0 PSF	0 PSF	

15 PLF

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# Handling & Installation

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LVL beams must not be out or drilled

Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

Damaged Beams must not be used

Design assumes top edge is laterally restrained

Provide lateral support at bearing points to avoid lateral displacement and rotation

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Designer: PD

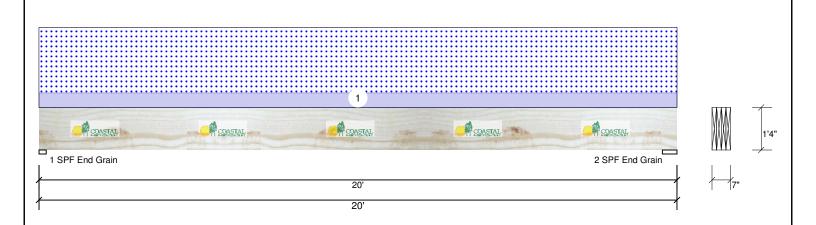
Job Name: Jones, Rich and Barnes

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Project #:

### 1.750" X 16.000" 4-Ply - PASSED 2.0E CP-LAM

Level: Level



Member Info		Reactions Ib (Uplift)								
Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const	
Plies:	4	Design Method:	ASD	1	0	1625	6015	0	0	
Moisture Condition	on: Dry	Building Code:	IBC/IRC 2015	2	0	1657	6135	0	0	
Deflection LL:	360	Load Sharing:	Yes							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal									
Temperature:	Temp <= 100°F									
	- P			Bearin	qs					

# **Analysis Results**

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Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	36949 ft-lb	9'10 13/16"	87119 ft-lb	0.424 (42%)	D+S	L
Unbraced	36949 ft-lb	9'10 13/16"	37004 ft-lb	0.999 (100%)	D+S	L
Shear	6522 lb	1'5 3/8"	24472 lb	0.267 (27%)	D+S	L
LL Defl inch	0.420 (L/559)	9'10 7/8"	0.652 (L/360)	0.640 (64%)	S	L
TL Defl inch	0.533 (L/441)	9'10 7/8"	0.979 (L/240)	0.540 (54%)	D+S	L

# **Design Notes**

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- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Compression edge bracing required at 6'3" o.c. or less.

Bearing Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF 2.750" End Grain	47% 1625 / 6015	7640 L	D+S
2 - SPF 5.500" End Grain	24% 1657 / 6135	7792 L	D+S

5 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
1	Uniform		13-6-0	Тор	10 PSF	0 PSF	45 PSF	0 PSF	0 PSF		
	Self Weight				29 PLF						

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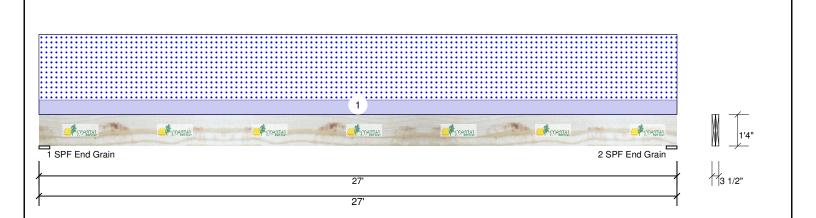
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Project #:

Reactions Ib (Uplift)

1.750" X 16.000" 2-Ply - PASSED 2.0E CP-LAM

Level: Level



ı	Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	W	/ind	Const
ı	Plies:	2	Design Method:	ASD	1	0	736	2430		0	0
ı	Moisture Condition:	Dry	Building Code:	IBC/IRC 2015	2	0	736	2430		0	0
ı	Deflection LL:	360	Load Sharing:	No							
ı	Deflection TL:	240	Deck:	Not Checked							
ı	Importance:	Normal									
ı	Temperature:	Temp <= 100°F									
ı					Bearings	i					
ı					Bearing	Length	Cap. React	D/L lb	Total L	Ld. Case	Ld. Cor

# **Analysis Results**

Member Information

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	20395 ft-lb	13'6"	41884 ft-lb	0.487 (49%)	D+S	L
Unbraced	20395 ft-lb	13'6"	20459 ft-lb	0.997 (100%)	D+S	L
Shear	2780 lb	25'4 1/4"	12236 lb	0.227 (23%)	D+S	L
LL Defl inch	0.820 (L/386)	13'6 1/16"	0.879 (L/360)	0.930 (93%)	S	L
TL Defl inch	1.069 (L/296)	13'6 1/16"	1.319 (L/240)	0.810 (81%)	D+S	L

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- 4 Compression edge bracing required at 5'7" o.c. or less.
- 5 Lateral slenderness ratio based on single ply width.

Bearing	Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.500"	19%	736 / 2430	3166	L	D+S
2 - SPF End Grain	5.500"	19%	736 / 2430	3166	L	D+S
1						

Load Type Location Trib Width Side Dead 0.9 Live 1 Snow 1.15 Wind 1.6 Const. 1.25 Comments 0 PSF 4-0-0 10 PSF 45 PSF 0 PSF 0 PSF Uniform Top

Self Weight 15 PLF

# Notes

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Provide lateral support at bearing points to avoid
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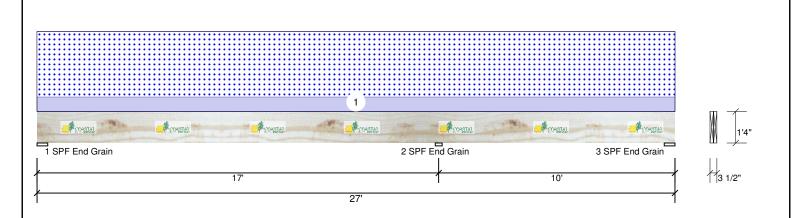
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Project #:

1.750" X 16.000" 2-Ply - PASSED 2.0E CP-LAM

Level: Level



Member Inform	nation
Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal
Temperature:	Temp <= 100°F
1	

Application: Floor Design Method: ASD Building Code: IBC/IRC 2015 Load Sharing: Nο Deck: Not Checked

Reactions Ib (Uplift) Live Dead Wind Brg Snow Const 386 0 0 1274 0 1 2 0 954 3147 0 0 3 0 133 439 0 0

Cap. React D/L lb

386 / 1297

Total Ld. Case

1683 L

Ld. Comb.

D+S

D+S

D+S

# **Bearings** Bearing Length 1 - SPF 5.500"

End Grain				_
2 - SPF End Grain	3.500"	39%	954 / 3147	4101 LL
3 - SPF End Grain	5.500"	5%	133 / 643	776 _L

# **Analysis Results**

, ,						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-6176 ft-lb	17'	41884 ft-lb	0.147 (15%)	D+S	LL
Unbraced	-6176 ft-lb	17'	7827 ft-lb	0.789 (79%)	D+S	LL
Pos Moment	5527 ft-lb	7'2 1/8"	41884 ft-lb	0.132 (13%)	D+S	L_
Unbraced	5527 ft-lb	7'2 1/8"	7827 ft-lb	0.706 (71%)	D+S	L_
Shear	2014 lb	15'8"	12236 lb	0.165 (16%)	D+S	LL
LL Defl inch	0.077 (L/2585)	7'11 1/8"	0.556 (L/360)	0.140 (14%)	S	L_
TI Deflinch	0.100 (L/2012)	7'10 15/16"	0.834 (L/240)	0.120 (12%)	D+S	L

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Self Weight

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		4-0-0	Тор	10 PSF	0 PSF	45 PSF	0 PSF	0 PSF	

15 PLF

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