Client:

Ben Stout Real Estate

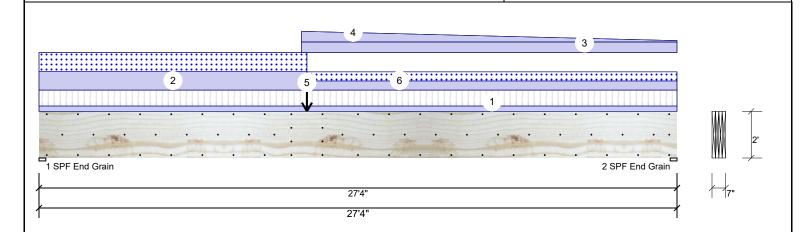
Project: Address:

9/18/2020 Date:

David Landry Input by: Job Name: Lot 9 Sierra Villas Project #: J0920-4183

1.750" X 24.000" 4-Ply - PASSED **Kerto-S LVL** BM<sub>1</sub>

Level: Level



	ia cioii
Type:	Girder
Plies:	4
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360
Importance:	Normal
Temperature:	Temp <= 100°F

Member Information

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

Reactions UNPATTERNED Ib (Uplift) Wind Brg Live Dead Snow Const 2460 5185 2893 0 0 1 2 2460 5403 2018 0 0

### Analysis Results Analysis Actual Location Allowed Comb. Case Capacity 12'7 1/2" 175059 ft-lb Moment 64272 ft-lb 0.367 (37%) D+0.75(L+S) L Unbraced 64272 ft-lb 12'7 1/2" 64355 ft-lb 0.999 D+0.75(L+S) L (100%)Shear 7607 lb 25'1 3/8" 35840 lb 0.212 (21%) D+L LL Defl inch 0.221 (L/1459) 13'3 7/8" 0.672 (L/480) 0.330 (33%) 0.75(L+S)

13'6 3/16" 0.897 (L/360) 0.620 (62%) D+0.75(L+S) L

### Bearings Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" 5185 / 4015 9200 I D+0.75(L+S) End Grain

2 - SPF 3.500" 5403 / 3359 D+0.75(L+S) 8762 L Fnd Grain

# Design Notes

- 1 Fasten all plies using 3 rows of WS6 at 16" o.c. Maximum end distance not to exceed 8".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 4 Simpson fasteners applied from a single side of the member use tip values where published.
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be laterally braced at a maximum of 5'6 3/8" o.c.
- 8 Bottom braced at bearings.

TL Defl inch 0.553 (L/584)

9 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			Far Face	60 PLF	180 PLF	0 PLF	0 PLF	0 PLF	F1-F3
2	Part. Uniform	0-0-0 to 11-5-12		Near Face	212 PLF	0 PLF	212 PLF	0 PLF	0 PLF	D2
3	Part. Uniform	11-3-0 to 27-4-0		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
4	Tapered Start	11-3-0		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	B1SG

Continued on page 2...

### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- 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
- 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
- 6. For flat roofs provide proper drainage to prevent ponding

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us ICC-ES: ESR-3633

**Manufacturer Info** 

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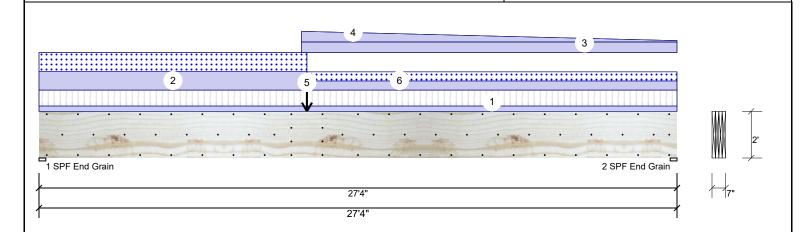
Client: Ben Stout Real Estate

Project: Address: Date: 9/18/2020

Input by: David Landry Job Name: Lot 9 Sierra Villas Project #: J0920-4183

1.750" X 24.000" **Kerto-S LVL** 4-Ply - PASSED BM<sub>1</sub>

Level: Level



Continued	from	page	1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	End	27-4-0			15 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
5	Point	11-5-12		Near Face	845 lb	0 lb	845 lb	0 lb	0 lb	D2-GR
6	Part. Uniform	11-5-12 to 27-4-0		Near Face	103 PLF	0 PLF	103 PLF	0 PLF	0 PLF	D1
	Self Weight				37 PLF					

### Notes

NOtes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

  1. IVI beams must not be cut or drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

6. For flat roofs provide proper drainage to prevent ponding

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Client: Project: Address:

Ben Stout Real Estate

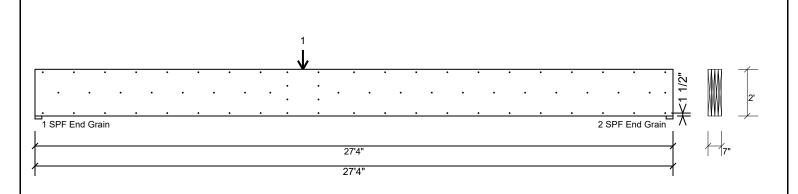
Date: 9/18/2020 Input by: David Landry

Job Name: Lot 9 Sierra Villas Project #: J0920-4183

**Kerto-S LVL** 1.750" X 24.000" BM<sub>1</sub>

4-Ply - PASSED

Level: Level



## Multi-Ply Analysis

Fasten all plies using 3 rows of WS6 at 16" o.c.. except for regions covered by concentrated load fastening. Fasteners shall be replicated on both sides. Maximum end distance not to exceed 8"

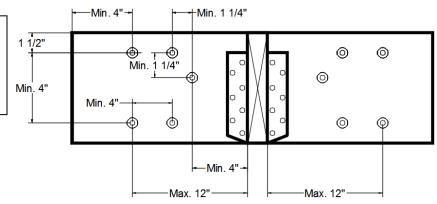
•		
Capacity	67.9 %	
Load	318.0 PLF	
Yield Limit per Foot	468.3 PLF	
Yield Limit per Fastener	208.2 lb.	
Yield Mode	Lookup	
Edge Distance	1 1/2"	
Min. End Distance	4"	
Load Combination	D+S	
Duration Factor	1.15	

### Concentrated Load

Fasten at concentrated side load at 11-5-12 with a minimum of (8) – WS6 in the pattern shown. All fasteners shall be installed with the head on the side of the annlied load

of the applied load.	
Capacity	76.1 %
Load	1267.5lb.
Total Yield Limit	1665.2 lb.
Cg	1.0000
Yield Limit per Fastener	208.2 lb.
Yield Mode	Lookup
Load Combination	D+S
Duration Factor	1.15

## Min/Max fastener distances for Concentrated Side Loads



### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- 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
- 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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/26/2023

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Client:

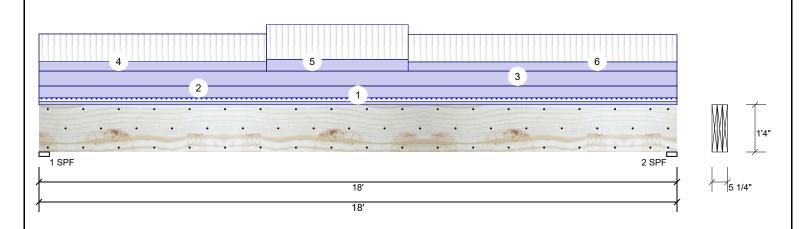
Project: Address: Ben Stout Real Estate

Date: 9/18/2020

Input by: David Landry Job Name: Lot 9 Sierra Villas Project #: J0920-4183

### 1.750" X 16.000" 3-Ply - PASSED **Kerto-S LVL BM2**

Level: Level



### **Member Information** Reactions UNPATTERNED Ib (Uplift) Application: Brg Wind Type: Floor Live Dead Snow Const Plies: 3 Design Method: ASD 2662 3805 0 315 0 1 Moisture Condition: Dry **Building Code: IBC/IRC 2015** 2 2621 3790 315 0 0 Deflection LL: 480 Load Sharing: Yes Deflection TL: 360 Deck: Not Checked Importance: Normal Temperature: Temp <= 100°F **Bearings** Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" D+L 3805 / 2662 6467 L

2 - SPF 3.500"

82%

3790 / 2621

6410 L

D+I

### **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	28237 ft-lb	8'11 3/16"	53922 ft-lb	0.524 (52%)	D+L	L
Unbraced	28237 ft-lb	8'11 3/16"	28334 ft-lb	0.997 (100%)	D+L	L
Shear	5430 lb	1'6 5/8"	17920 lb	0.303 (30%)	D+L	L
LL Defl inch	0.197 (L/1069)	8'11 11/16"	0.439 (L/480)	0.450 (45%)	L	L
TL Defl inch	0.473 (L/445)	8'11 13/16"	0.585 (L/360)	0.810 (81%)	D+L	L

# **Design Notes**

- 1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 6'1 1/2" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width

7 Eutoral dionactrices ratio based on single ply water.										
ID	Load Type	Location -	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Far Face	35 PLF	0 PLF	35 PLF	0 PLF	0 PLF	J1
2	Uniform			Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
3	Uniform			Тор	150 PLF	0 PLF	0 PLF	0 PLF	0 PLF	A1GE
4	Part. Uniform	0-0-0 to 6-5-0		Тор	94 PLF	280 PLF	0 PLF	0 PLF	0 PLF	F5
5	Part. Uniform	6-5-0 to 10-5-0		Тор	117 PLF	350 PLF	0 PLF	0 PLF	0 PLF	F4
6	Part. Uniform	10-5-0 to 18-0-0		Тор	92 PLF	275 PLF	0 PLF	0 PLF	0 PLF	F2 & F3
	Self Weight				19 PLF					

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- 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

6. For flat roofs provide proper drainage to prevent ponding Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us ICC-ES: ESR-3633

Manufacturer Info

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Client:

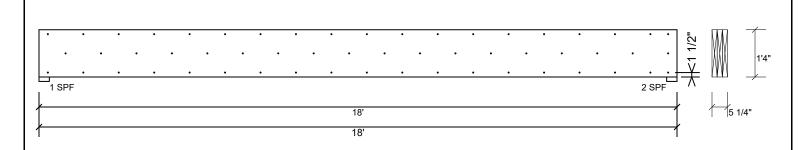
Project: Address: Ben Stout Real Estate

9/18/2020

Input by: David Landry Job Name: Lot 9 Sierra Villas Project #: J0920-4183

1.750" X 16.000" **Kerto-S LVL** 3-Ply - PASSED BM<sub>2</sub>

Level: Level



## Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Nail from both sides. Maximum end distance not to exceed

Capacity	16.5 %	
Load	46.7 PLF	
Yield Limit per Foot	282.4 PLF	
Yield Limit per Fastener	94.1 lb.	
Yield Mode	IV	
Edge Distance	1 1/2"	
Min. End Distance	3"	
Load Combination	D+S	
Duration Factor	1 15	

### Notes

NOtes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- 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
  requirements, multi-ply
  fastening details, beam strength values, and code
  approvals
  Damaged Beams must not be used

- Danaged 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

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Manufacturer Info

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Client:

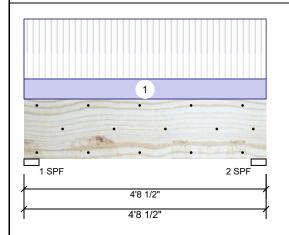
Project: Address: Ben Stout Real Estate

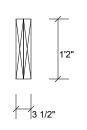
Date: 9/18/2020 Input by: David Landry

Job Name: Lot 9 Sierra Villas Project #: J0920-4183

### 1.750" X 14.000" 2-Ply - PASSED **Kerto-S LVL** BM3

Level: Level





Page 6 of 13

	ia tioii
Туре:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360

Member Information

Importance: Normal

Temp <= 100°F

Application:	Floor
Design Method:	ASD
Building Code:	IBC/IRC 2015
Load Sharing:	No
Deck:	Not Checked

# Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	824	301	0	0	0
2	824	301	0	0	0

# **Bearings**

Bearing	Length	Cap. Re	act D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	22%	301 / 824	1125	L	D+L
2 - SPF	3 500"	22%	301 / 824	1125	1	D+I

### **Analysis Results**

Temperature:

,						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1079 ft-lb	2'4 1/4"	26999 ft-lb	0.040 (4%)	D+L	L
Unbraced	1079 ft-lb	2'4 1/4"	21231 ft-lb	0.051 (5%)	D+L	L
Shear	1003 lb	1'4 3/4"	10453 lb	0.096 (10%)	D+L	L
LL Defl inch	0.003 (L/14727)	2'4 5/16"	0.106 (L/480)	0.030 (3%)	L	L
TL Defl inch	0.005 (L/10786)	2'4 5/16"	0.142 (L/360)	0.030 (3%)	D+L	L

### **Design Notes**

- 1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on single ply width.

0 Lateral Sichae	orness ratio basea on single	piy widii.									
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
1	Uniform			Far Face	117 PLF	350 PLF	0 PLF	0 PLF	0 PLF	F4	
	Self Weight				11 PLF						

NOtes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- 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

  2 Damaged Beams must not be used
- Danaged Beams must not be used
  Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

This design is valid until 2/26/2023

 For flat roofs provide proper drainage to prevent ponding Manufacturer Info

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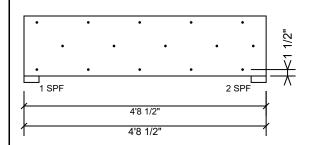
Client: Ben Stout Real Estate

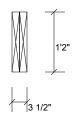
Project: Address: Date: 9/18/2020 Input by: David Landry

Job Name: Lot 9 Sierra Villas Project #: J0920-4183

1.750" X 14.000" 2-Ply - PASSED **Kerto-S LVL** BM<sub>3</sub>

Level: Level





Page 7 of 13

## Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

raster an piles asing 5 rows	or 100 box 110113 (.120x3 ) at
Capacity	95.1 %
Load	233.5 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

### Notes

NOtes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

# Handling & Installation

- Handling & Installation

  1. UVI beams must not be cut or drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

6. For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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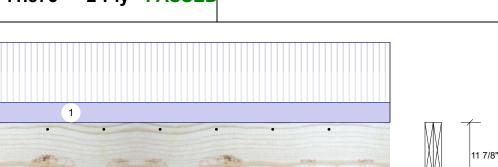
Client: Ben Stout Real Estate

Project: Address: Date:

9/18/2020 Input by: David Landry Job Name: Lot 9 Sierra Villas Project #: J0920-4183

evel: Level

1.750" X 11.875" **Kerto-S LVL** 2-Ply - PASSED BM4



1 SPF End Grain 2 SPF End Grain 11'4'

11'4'



Page 8 of 13

### Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Normal Temperature: Temp <= 100°F

Application: Floor Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift) Wind Brg Live Dead Snow Const 3088 1084 0 0 0 1 2 3088 1084 0 0 0

# **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10884 ft-lb	5'8"	19911 ft-lb	0.547 (55%)	D+L	L
Unbraced	10884 ft-lb	5'8"	10893 ft-lb	0.999 (100%)	D+L	L
Shear	3275 lb	10'1 3/8"	8867 lb	0.369 (37%)	D+L	L
LL Defl inch	0.198 (L/659)	5'8"	0.272 (L/480)	0.730 (73%)	L	L
TL Defl inch	0.267 (L/488)	5'8"	0.362 (L/360)	0.740 (74%)	D+L	L

## **Bearings**

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" 1084 / 3088 4172 L D+I End Grain 2 - SPF 3.500" 1084 / 3088 4172 L D+L End Grain

# **Design Notes**

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 8'1 1/8" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width

ID Load Type Location Trib Width Side Dead 0.9 Snow 1.15 Wind 1.6 Const. 1.25 Comments 1 Uniform Тор 182 PLF 545 PLF 0 PLF 0 PLF 0 PLF F1 & F2

> Self Weight 9 PLF

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- 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 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
- 6. For flat roofs provide proper drainage to prevent ponding

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**Manufacturer Info** 

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Client: Ben Stout Real Estate

Project: Address: Date: 9/18/2020 Input by: David Landry

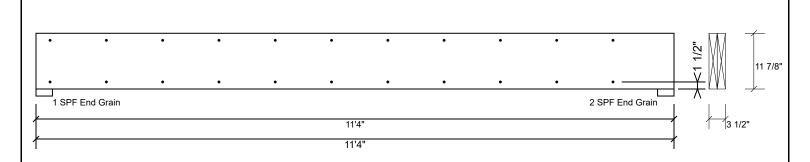
Job Name: Lot 9 Sierra Villas Project #: J0920-4183

**Kerto-S LVL** BM4

1.750" X 11.875"

2-Ply - PASSED

evel: Level



## Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

, ,		,	,
Capacity	0.0 %		
Load	0.0 PLF		
Yield Limit per Foot	163.7 PLF		
Yield Limit per Fastener	81.9 lb.		
Yield Mode	IV		
Edge Distance	1 1/2"		
Min. End Distance	3"		
Load Combination			
Duration Factor	1.00		

### Notes

NOtes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

# Handling & Installation

- Handling & Installation

  1. UVI beams must not be cut or drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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Client: Project: Address: Ben Stout Real Estate

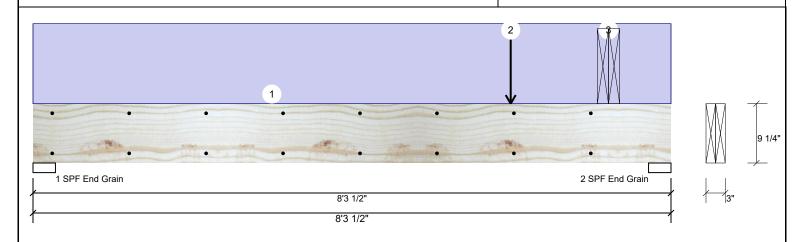
Date: 9/18/2020 Input by: David Landry

Job Name: Lot 9 Sierra Villas Project #: J0920-4183

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### 2.000" X 10.000" 2-Ply - PASSED S-P-F #2

Level: Level



Member Inforn	nation			Reactio	ns UNPA	TTERNED Ib	(Uplift)		
Type:	Girder	Application:	Floor	Brg	Live	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	61	662	142	0	0
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015	2	763	1234	458	0	0
Deflection LL:	480	Load Sharing:	No						
Deflection TL:	360	Deck:	Not Checked						
Importance:	Normal								
Temperature:	Temp <= 100°F								
				Bearing	<b>js</b>				
				Bearing	Length	Cap. React	D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF	3.500"	18% 66	62 / 153	814 L	D+0.75(L+S)
				End					
Analysis Result	s			Grain					

2 - SPF 3.500"

End Grain 48%

1234 / 915

2150 L

D+0.75(L+S)

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2560 ft-lb	6'2 1/2"	3946 ft-lb	0.649 (65%)	D+0.75(L+S)	L
Unbraced	2560 ft-lb	6'2 1/2"	3281 ft-lb	0.780 (78%)	D+0.75(L+S)	L
Shear	1603 lb	7'3 1/2"	2498 lb	0.642 (64%)	D+L	L
LL Defl inch	0.028 (L/3410)	4'7 7/8"	0.196 (L/480)	0.140 (14%)	0.75(L+S)	L
TL Defl inch	0.093 (L/1009)	4'5 3/8"	0.261 (L/360)	0.360 (36%)	D+0.75(L+S)	L

# **Design Notes**

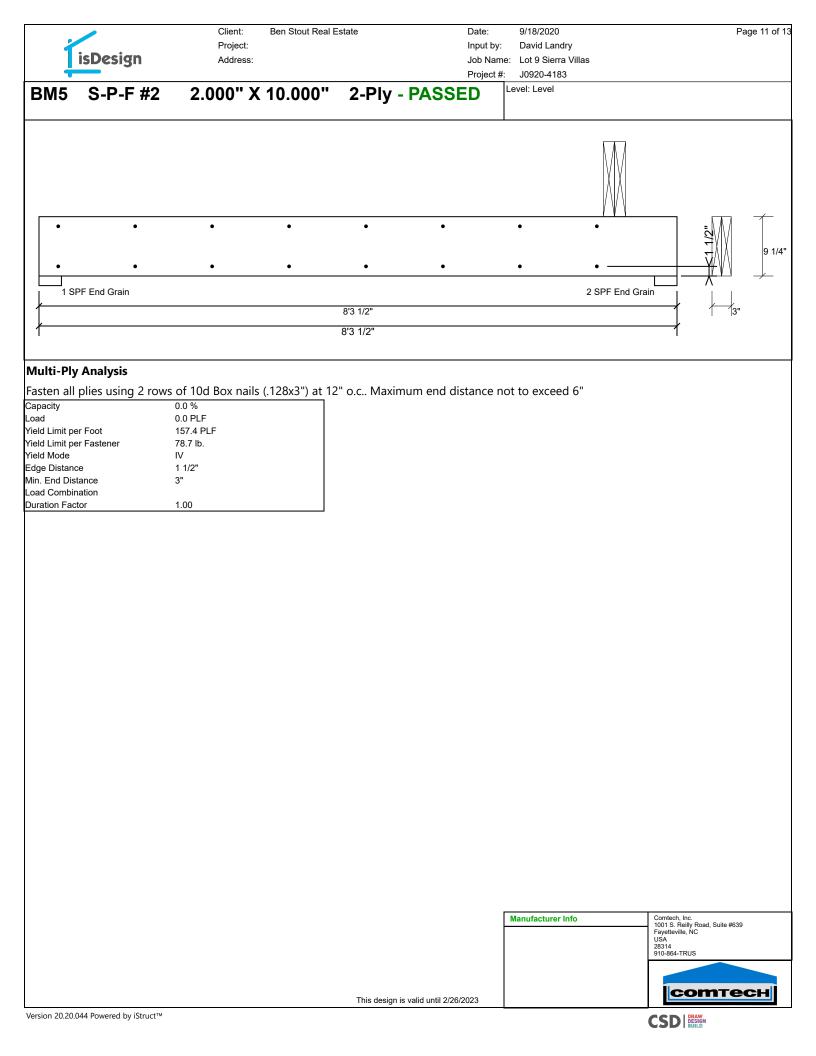
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.

1 Fasten all piles using 2 rows of 10d Box nails (.128x3") at 12" o.c. Ma	aximum end distance not
to exceed 6".	
2 Refer to last page of calculations for fasteners required for specified	loads

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

7 Lateral sle	enderness ratio based or	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			Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
2	Point	6-2-8		Тор	600 lb	0 lb	600 lb	0 lb	0 lb	Roof Load
3	Point	7-5-12		Тор	301 lb	824 lb	0 lb	0 lb	0 lb	B3 Brg 2

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Client: Ben Stout Real Estate

Project: Address: Date: 9/18/2020

2 - SPF 3.500"

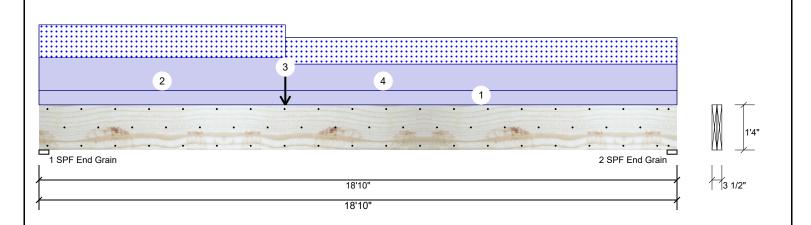
End

Grain

Input by: David Landry Job Name: Lot 9 Sierra Villas Project #: J0920-4183

**Kerto-S LVL** 2-Ply - PASSED 1.750" X 16.000" **GDH** 

Level: Level



Member Information							
Туре:	Girder						
Plies:	2						
Moisture Condition:	Dry						
Deflection LL:	480						
Deflection TL:	360						
Importance:	Normal						
Temperature:	Temp <= 100°F						

Application: Floor Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift) Live Wind Brg Dead Snow Const 2090 1408 0 0 0 1 2 0 1894 1212 0 0

### Analysis Results Analysis Actual Location Allowed Comb. Case Capacity Moment 15592 ft-lb 8'4 5/16" 39750 ft-lb 0.392 (39%) D+S L Unbraced 15592 ft-lb 8'4 5/16" 15639 ft-lb 0.997 L (100%)2954 lb 1'6 5/8" 13739 lb 0.215 (22%) D+S Shear L LL Defl inch 0.170 (L/1298) 9'2 3/16" 0.460 (L/480) 0.370 (37%) S ı

### **Bearings** Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" 2090 / 1408 3498 L End Grain

1894 / 1212

3105 L

# Design Notes

1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6"

9'2 13/16" 0.613 (L/360) 0.690 (69%) D+S

- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 7'6 3/4" o.c.
- 6 Bottom braced at bearings.

TL Defl inch 0.425 (L/520)

7 Lateral slenderness ratio based on single ply width.

I	ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
l	1	Uniform			Тор	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
l	2	Part. Uniform	0-0-0 to 7-3-4		Тор	139 PLF	0 PLF	139 PLF	0 PLF	0 PLF	D2
l	3	Point	7-3-4		Тор	314 lb	0 lb	314 lb	0 lb	0 lb	D2-GR
l	4	Part. Uniform	7-3-4 to 18-10-0		Тор	112 PLF	0 PLF	112 PLF	0 PLF	0 PLF	D1
l		Self Weight				12 PLF					

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- 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
- 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
- 6. For flat roofs provide proper drainage to prevent ponding

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D+S

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Client:

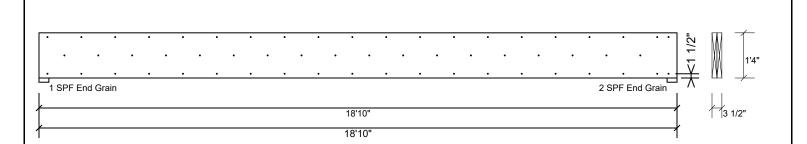
Project: Address: Ben Stout Real Estate

Date: 9/18/2020 Input by:

David Landry Job Name: Lot 9 Sierra Villas Project #: J0920-4183

**Kerto-S LVL** 1.750" X 16.000" 2-Ply - PASSED **GDH** 

Level: Level



## Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

, ,		`	,
Capacity	0.0 %		
Load	0.0 PLF		
Yield Limit per Foot	245.6 PLF		
Yield Limit per Fastener	81.9 lb.		
Yield Mode	IV		
Edge Distance	1 1/2"		
Min. End Distance	3"		
Load Combination			
Duration Factor	1.00		

### Notes

NOtes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

# Handling & Installation

- Handling & Installation

  1. UVI beams must not be cut or drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

This design is valid until 2/26/2023

For flat roofs provide proper drainage to prevent ponding

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