Client: Benjamin Stout Date: 5/18/2022 Page 1 of 5 Project: Input by: Marshall Naylor isDesign Address: Job Name: Charlotte Project #: 1.750" X 24.000" 2-Ply - PASSED _evel: Level **Kerto-S LVL** TFBM1 5 3 9 8 2 7 1 SPF End Grain 2 SPF End Grain 22 22' Member Information Reactions UNPATTERNED Ib (Uplift) Application: Wind Type: Floor Brg Direction Live Dead Snow Const Plies: 2 Design Method: ASD 5161 3709 0 Vertical 1980 0 Moisture Condition: Dry **Building Code: IBC/IRC 2015** 2 Vertical 1980 5161 3709 0 0 Deflection LL: 480 Load Sharing: No

Deflection TL: 360 Deck: Not Checked Importance: Normal - II Temp <= 100°F Temperature:

Bearings Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. D+0.75(L+S) 1 - SPF 3.500" Vert 5161 / 4267 9428 L End Grain 5161 / 4267 9428 L D+0.75(L+S) 2 - SPF 3.500" Vert 92% End Grain

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	39562 ft-lb	11'	84163 ft-lb	0.470 (47%)	D+0.75(L+S)	L
Unbraced	39562 ft-lb	11'	39573 ft-lb	1.000 (100%)	D+0.75(L+S)	L
Shear	7753 lb	2'3 1/2"	20608 lb	0.376 (38%)	D+0.75(L+S)	L
LL Defl inch	0.236 (L/1098)	11' 1/16"	0.539 (L/480)	0.437 (44%)	0.75(L+S)	L
TL Defl inch	0.499 (L/519)	11' 1/16"	0.719 (L/360)	0.694 (69%)	D+0.75(L+S)	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 4'5 9/16" o.c.
- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width

7 Eateral sichaemess ratio based on single ply width.													
ID	Load Type	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments					
1	Uniform			Far Face	47 PLF	140 PLF	0 PLF	0 PLF	0 PLF	F6			
2	Part. Uniform	0-0-0 to 5-7-8		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall			
3	Part. Uniform	0-0-0 to 5-7-8		Тор	334 PLF	0 PLF	334 PLF	0 PLF	0 PLF	A3			
4	Tie-In	0-0-0 to 22-0-0	0-6-0	Far Face	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	1' Floor			
5	5 Tie-In 0-0-0 to 22-0-0 0-6-0 Near Face 0 PSF 40 PSF 0 PSF 0 PSF 0 PSF 1' Floor												
6	Point	5-7-8		Тор	1830 lb	0 lb	1830 lb	0 lb	0 lb	FB3			
Continued on	page 2												

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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
- 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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This design is valid until 11/3/2024 CSD DESIGN

Manufacturer Info

isDesign

Client: Benjamin Stout

Project: Address:

5/18/2022

Job Name: Charlotte

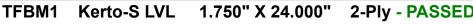
Marshall Naylor

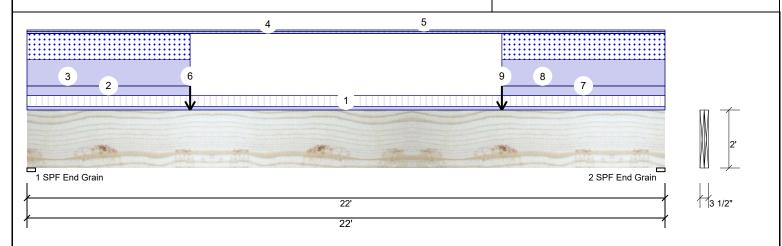
Page 2 of 5

Project #:

Input by:

Level: Level





Continued from p	page 1									
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	Bearing Length	0-3-8								
7	Part. Uniform	16-4-8 to 22-0-0		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
8	Part. Uniform	16-4-8 to 22-0-0		Тор	334 PLF	0 PLF	334 PLF	0 PLF	0 PLF	A3
9	Point	16-4-8		Тор	1830 lb	0 lb	1830 lb	0 lb	0 lb	FB3
	Bearing Length	0-3-8								
	Self Weight				19 PLF					

Notes
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 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

This design is valid until 11/3/2024

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Client:

Project: Address: Benjamin Stout

5/18/2022

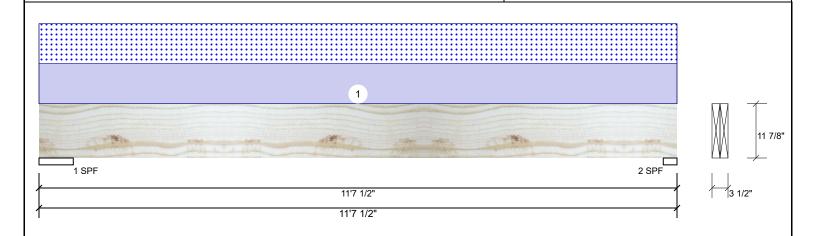
Input by: Marshall Naylor Job Name: Charlotte

Page 3 of 5

Project #:

1.750" X 11.875" 2-Ply - PASSED **Kerto-S LVL** FB3

Level: Level



Member Info	rmation	Rea	ctions UNP	ATTERI	NED II	b (Uplift)					
Type:	Girder	Application:	Floor	Brg	Direction	Live	9	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical	()	1855	1800	0	0
Moisture Condition	on: Dry	Building Code:	IBC/IRC 2015	2	Vertical	()	1739	1688	0	0
Deflection LL:	480	Load Sharing:	No								
Deflection TL:	360	Deck:	Not Checked								
Importance:	Normal - II										
Temperature:	Temp <= 100°F										
				Bea	rings						
				Bea	aring Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	SPF 7.500"	Vert	33%	1855 / 1800	3655	L	D+S
					SDE 3.000"	\/ort	77%	1730 / 1688	3/127	1	D+S

Analysis Results

Analysis Actual Location Allowed Capacity Comb. Case Moment 9006 ft-lb 6' 22897 ft-lb 0.393 (39%) D+S L Unbraced 9006 ft-lb 6' 9009 ft-lb 1.000 D+S L (100%) 1.000 D+S L L Shear 3275 lb 10'4 5/8" 10197 lb 0.321 (32%) D+S L LL Defl inch 0.109 (L/1198) 6' 0.272 (L/480) 0.401 (40%) S L TL Defl inch 0.221 (L/590) 6' 0.362 (L/360) 0.610 (61%) D+S L	ш	•						
Unbraced 9006 ft-lb 6' 9009 ft-lb 1.000 D+S L (100%) Shear 3275 lb 10'4 5/8" 10197 lb 0.321 (32%) D+S L LL Defl inch 0.109 (L/1198) 6' 0.272 (L/480) 0.401 (40%) S L	ſ	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
(100%) Shear 3275 lb 10'4 5/8" 10197 lb 0.321 (32%) D+S L LL Defl inch 0.109 (L/1198) 6' 0.272 (L/480) 0.401 (40%) S L		Moment	9006 ft-lb	6'	22897 ft-lb	0.393 (39%)	D+S	L
LL Defl inch 0.109 (L/1198) 6' 0.272 (L/480) 0.401 (40%) S L		Unbraced	9006 ft-lb	6'	9009 ft-lb		D+S	L
		Shear	3275 lb	10'4 5/8"	10197 lb	0.321 (32%)	D+S	L
TL Defl inch 0.221 (L/590) 6' 0.362 (L/360) 0.610 (61%) D+S L		LL Defl inch	0.109 (L/1198)	6'	0.272 (L/480)	0.401 (40%)	S	L
		TL Defl inch	0.221 (L/590)	6'	0.362 (L/360)	0.610 (61%)	D+S	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top must be laterally braced at a maximum of 10'5 15/16" o.c.
- 5 Bottom must be laterally braced at end bearings.
- 6 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	300 PLF	0 PLF	300 PLF	0 PLF	0 PLF	A4	
	Self Weight				9 PLF						

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 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
- For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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This design is valid until 11/3/2024 CSD DESIGN



Client: Benjamin Stout

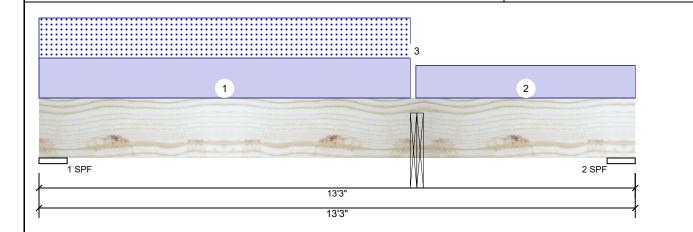
Project: Address: Date: 5/18/2022

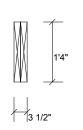
Input by: Marshall Naylor Job Name: Charlotte

Project #:

1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL** FB1-3

Level: Level





Page 4 of 5

Member Information

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

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

Reactions UNPATTERNED Ib (Uplift) Wind Brg Direction Live Dead Snow Const 701 4291 3464 Vertical 0 0 1 2 Vertical 1279 5550 3298 0 0

Bearings

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 7.500" D+S Vert 4291 / 3464 7755 L D+0.75(L+S) 2 - SPF 7.500" Vert 81% 5550 / 3432 8982 L

Analysis Results

Analysis Actual Location Allowed Capacity Comb. Moment 35008 ft-lb 8'4 3/4" 39750 ft-lb 0.881 (88%) D+0.75(L+S) Unbraced 35008 ft-lb 8'4 3/4" 35112 ft-lb 0.997 (100%) D+0.75(L+S) Shear 9250 lb 11'3 1/2" 13739 lb 0.673 (67%) D+0.75(L+S) LL Defl inch 0.170 (L/857) 7'1 3/4" 0.405 (L/360) 0.420 (42%) 0.75(L+S) TL Defl inch 0.405 (L/360) 7'1 7/8" 0.607 (L/240) 0.667 (67%) D+0.75(L+S)	•						
Unbraced 35008 ft-lb 8'4 3/4" 35112 ft-lb 0.997 (100%) D+0.75(L+S) Shear 9250 lb 11'3 1/2" 13739 lb 0.673 (67%) D+0.75(L+S) LL Defl inch 0.170 (L/857) 7'1 3/4" 0.405 (L/360) 0.420 (42%) 0.75(L+S)	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Shear 9250 lb 11'3 1/2" 13739 lb 0.673 (67%) D+0.75(L+S) LL Defl inch 0.170 (L/857) 7'1 3/4" 0.405 (L/360) 0.420 (42%) 0.75(L+S)	Moment	35008 ft-lb	8'4 3/4"	39750 ft-lb	0.881 (88%)	D+0.75(L+S)	L
LL Defl inch 0.170 (L/857) 7'1 3/4" 0.405 (L/360) 0.420 (42%) 0.75(L+S)	Unbraced	35008 ft-lb	8'4 3/4"	35112 ft-lb		D+0.75(L+S)	L
	Shear	9250 lb	11'3 1/2"	13739 lb	0.673 (67%)	D+0.75(L+S)	L
TL Defl inch 0.405 (L/360) 7'1 7/8" 0.607 (L/240) 0.667 (67%) D+0.75(L+S)	LL Defl inch	0.170 (L/857)	7'1 3/4"	0.405 (L/360)	0.420 (42%)	0.75(L+S)	L
	TL Defl inch	0.405 (L/360)	7'1 7/8"	0.607 (L/240)	0.667 (67%)	D+0.75(L+S)	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 2'8 3/4" o.c.
- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width

/ Lateral Sieride	iness ratio based on s	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	Part. Uniform	0-0-0 to 8-3-0		Far Face	370 PLF	0 PLF	370 PLF	0 PLF	0 PLF	C2	
2	Part. Uniform	8-4-8 to 13-3-0		Тор	300 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall/Gable	
3	Point	8-4-12		Far Face	5161 lb	1980 lb	3709 lb	0 lb	0 lb	TFBM1 Brg 2	
	Self Weight				12 PLF						

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

This design is valid until 11/3/2024

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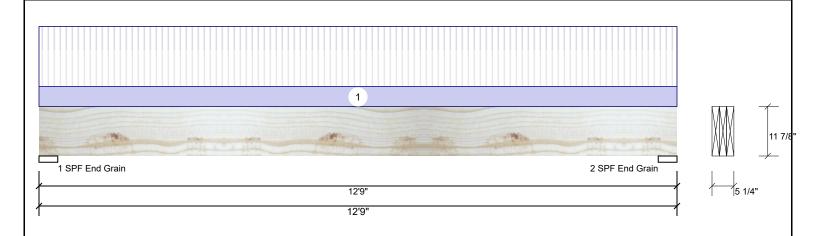
Project: Address: 5/18/2022

Input by: Marshall Naylor Job Name: Charlotte

Project #:

1.750" X 11.875" 3-Ply - PASSED Kerto-S LVL DB1

_evel: Level



Member Info	rmation	Rea	Reactions UNPATTERNED lb (Uplift)							
Type:	Girder	Application:	Floor	Brg	Direction	Live	Dead	Snow	Wind	Const
Plies:	3	Design Method:	ASD	1	Vertical	4781	1682	0	0	0
Moisture Conditi	ion: Dry	Building Code:	IBC/IRC 2015	2	Vertical	4781	1682	0	0	0
Deflection LL:	480	Load Sharing:	Yes							
Deflection TL:	360	Deck:	Not Checked							
Importance:	Normal - II									
Temperature:	Temp <= 100°F									

End Grain

Analysis Results

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	18632 ft-lb	6'4 1/2"	31060 ft-lb	0.600 (60%)	D+L	L
Unbraced	18632 ft-lb	6'4 1/2"	18665 ft-lb	0.998 (100%)	D+L	L
Shear	5094 lb	1'4 3/8"	13300 lb	0.383 (38%)	D+L	L
LL Defl inch	0.274 (L/530)	6'4 1/2"	0.303 (L/480)	0.905 (91%)	L	L
TL Defl inch	0.371 (L/392)	6'4 1/2"	0.404 (L/360)	0.918 (92%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
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- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 6'9 1/4" o.c.
- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width

L								
	Bearings	s						
ſ	Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
	1 - SPF End Grain	4.500"	Vert	33%	1682 / 4781	6463	L	D+L
l	2 - SPF	4.500"	Vert	33%	1682 / 4781	6463	L	D+L

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	250 PLF	750 PLF	0 PLF	0 PLF	0 PLF	F1

Self Weight 14 PLF

NOtes

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CSD DESIGN