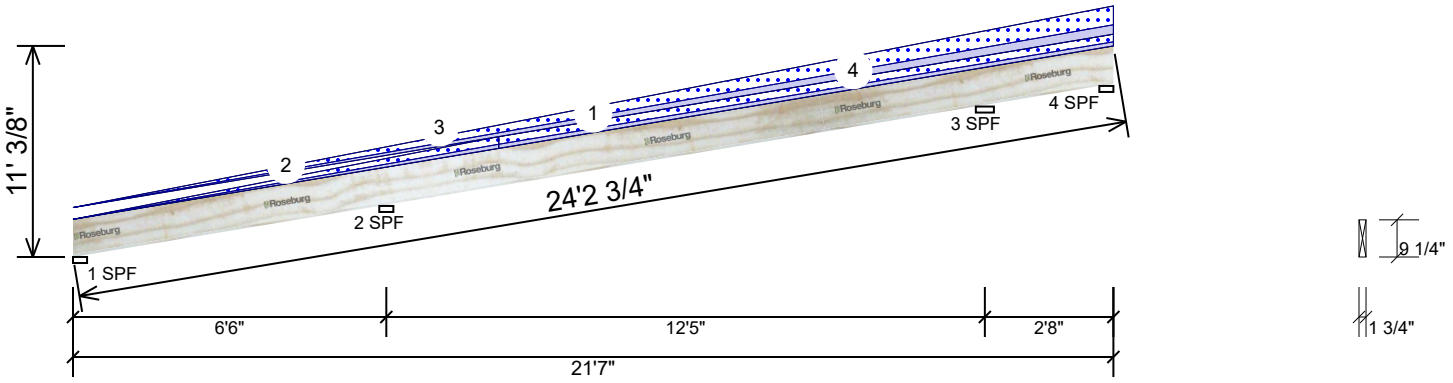
EWP Studio
Simpson Strong-Tie®
Component Solutions™

Client:	Charlie D Smith Construction	Date:	9/14/2021
Project:	ROOF HIP - above bedroom 4	Input by:	RKW
Address:	200 Gilchrist Road Cameron, N.C. 28326 Harnett County	Job Name:	Chambers Residence
		Project #:	21090009

B14 2.0E Rigidlam LVL 1.750" X 9.250" - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Roof
Plies:	1	Slope:	5.66/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	480	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal - II	Deck:	Not Checked
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	(-33)	0 (-74)	0	0
2	Vertical	0	747	1218	0	0
3	Vertical	0	1232	2071	0	0
4	Vertical	0	(-228)	0 (-372)	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	0%	-33 / -122	-155 (-155)	_L_	D+S(D+S)
2 - SPF	3.500"	Vert	76%	747 / 1220	1967	LL_	D+S
3 - SPF	4.500"	Vert	99%	1232 / 2083	3314	_LL	D+S
4 - SPF	3.500"	Vert	0%	-228 / -506	-734 (-734)	_L_	D+S(D+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-3294 ft-lb	18'11"	7659 ft-lb	0.430 (43%)	D+S	_LL
Unbraced	-3294 ft-lb	18'11"	3298 ft-lb	0.999 (100%)	D+S	_LL
Pos Moment	2158 ft-lb	12'8"	7659 ft-lb	0.282 (28%)	D+S	_L_
Unbraced	2158 ft-lb	12'8"	2161 ft-lb	0.998 (100%)	D+S	_L_
Shear	1394 lb	19'3 1/4"	3599 lb	0.387 (39%)	D+S	_LL
LL Defl inch	0.149 (L/1104)	12'7 1/4"	0.343 (L/480)	0.435 (43%)	S	_L_
TL Defl inch	0.236 (L/697)	12'7 5/16"	0.686 (L/240)	0.344 (34%)	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 Refer to manufacturer's literature for sloped bearing detail.
3 Attach with enough nails to prevent sliding between the joist and the sloped bearing wedge at each support.
4 Girders are designed to be supported on the bottom edge only.
5 Tie-down connection required at bearing 1 for uplift 155 lb (Combination D+S, Load Case _L_).
6 Tie-down connection required at bearing 4 for uplift 734 lb (Combination D+S, Load Case _L_).
7 Top must be laterally braced at a maximum of 17'11 3/8" o.c. along the slope.
8 Bottom must be laterally braced at a maximum of 11'6 5/8" o.c.

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.

Lumber

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

Handling & Installation

1. LVL 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 5/24/2024

Manufacturer Info

Roseburg Forest Products
4500 Riddle By-pass Rd
Riddle, OR 97469
(541) 784-4005
www.roseburg.com
APA: PR-L289, PR-L270, ICC-ES: ESR-1210

Kempsville Building Material
298 Harvey Faulk Road, N.C.
U.S.A
27332
919.775.1450

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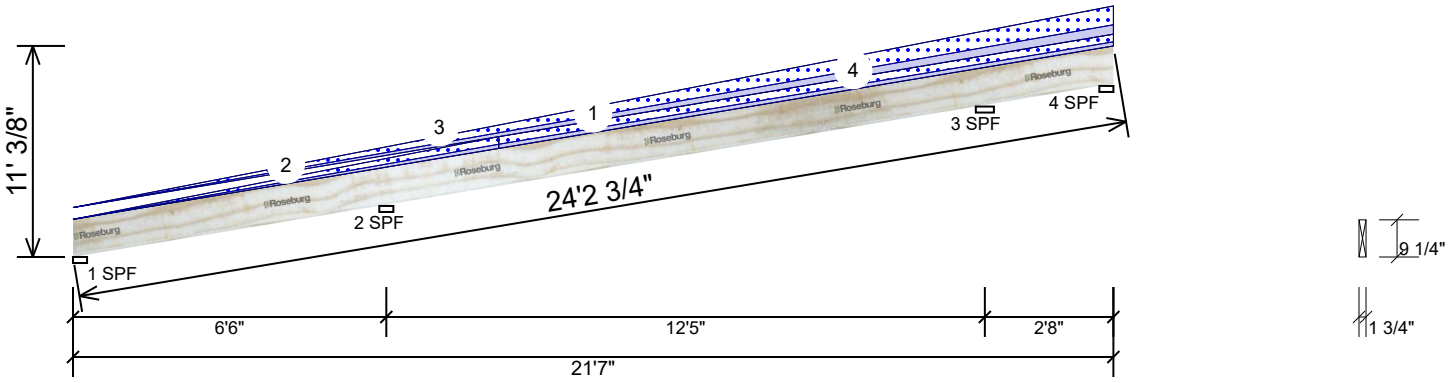

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
2	Tapered Start	0-0-0		Top	0 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Rf Load
	End	8-10-0			35 PLF	0 PLF	65 PLF	0 PLF	0 PLF	
3	Tapered Start	0-0-0		Top	0 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
	End	21-7-0			80 PLF	0 PLF	160 PLF	0 PLF	0 PLF	
4	Tapered Start	8-10-0		Top	35 PLF	0 PLF	65 PLF	0 PLF	0 PLF	Rf Load
	End	21-7-0			35 PLF	0 PLF	65 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF					

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