

Job 28006	Truss S1	Truss Type SCISSORS	Qty 14	Ply 1	JE Womble\Tim Goodwin\Hill
C&R Building Supply, Autryville NC					Job Reference (optional)

8.430 s Jan 20 2021 MiTek Industries, Inc. Tue May 14 11:26:44 2024 Page 1  
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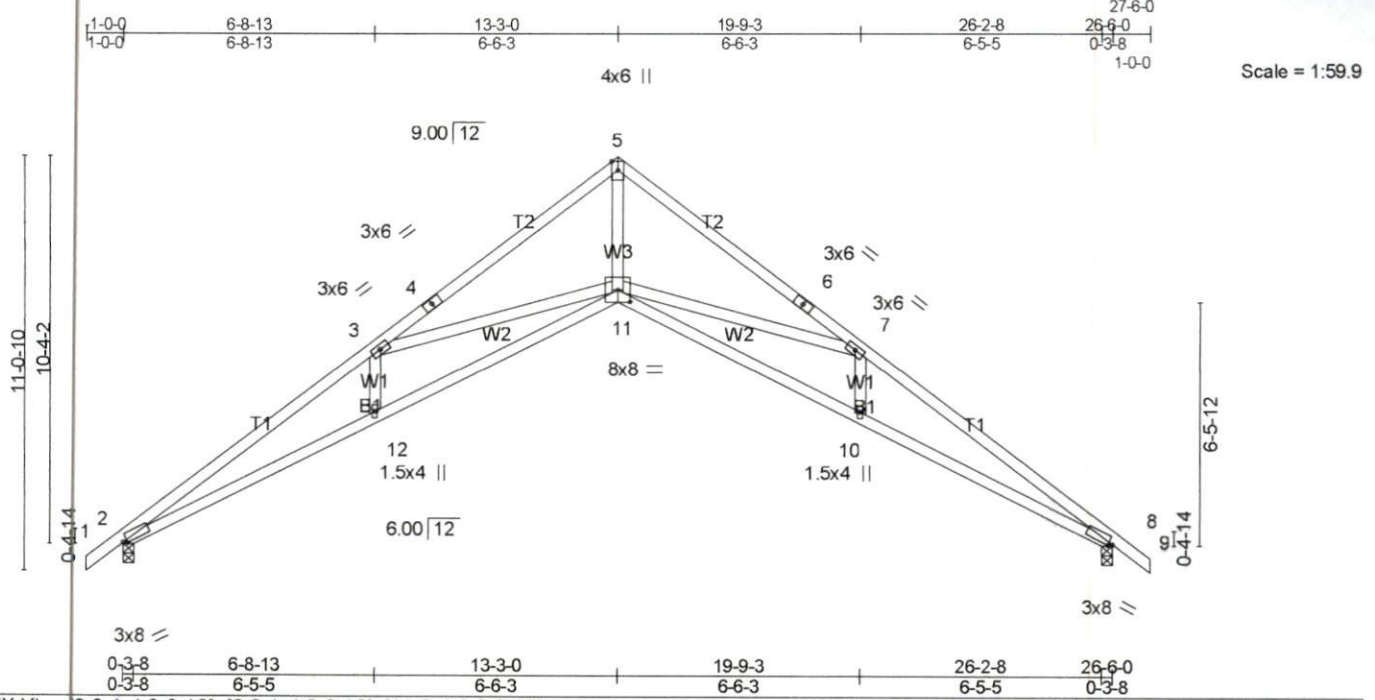


Plate Offsets (X,Y)-- [2:0-1-4,0-0-13], [8:0-1-4,0-0-13], [11:0-4-0,0-3-15]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.31	Vert(LL)	-0.26	11-12	>999	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.38	Vert(CT)	-0.55	11-12	>575		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.77	Horz(CT)	0.62	8	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-AS	Wind(LL)	0.12	11-12	>999		
	Code IRC2018/TPI2014						Weight: 127 lb	FT = 20%

**LUMBER-**  
 TOP CHORD 2x4 SF 2400F 2.0E  
 BOT CHORD 2x4 SF 2400F 2.0E  
 WEBS 2x4 SF No.3 \*Except\*  
 W3: 2x4 SP No.2

**BRACING-**  
 TOP CHORD Structural wood sheathing directly applied.  
 BOT CHORD Rigid ceiling directly applied.

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

**REACTIONS.** (lb/size) 2=1120/0-3-8 (min. 0-1-8), 8=1120/0-3-8 (min. 0-1-8)  
 Max Horz 2=-185(LC 6)  
 Max Uplift 2=-41(LC 8), 8=-41(LC 8)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-3671/0, 3-4=-2683/0, 4-5=-2574/0, 5-6=-2574/0, 6-7=-2684/0, 7-8=-3671/0  
 BOT CHORD 2-12=0/3179, 11-12=0/3205, 10-11=0/3205, 8-10=0/3176  
 WEBS 5-11=0/2672, 7-11=-869/234, 3-11=-869/234

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=29ft; L=26ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 4) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6'-0" between the bottom chord and any other members.
  - 5) Bearing at joint(s) 2, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 8.
  - 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - 8) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard

Job 28006	Truss SG1	Truss Type GABLE	Qty 2	Ply 1	JE Womble\Tim Goodwin\Hill
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C&R Building Supply, Autryville NC 8.430 s Jan 20 2021 MiTek Industries, Inc. Tue May 14 11:26:45 2024 Page 1  
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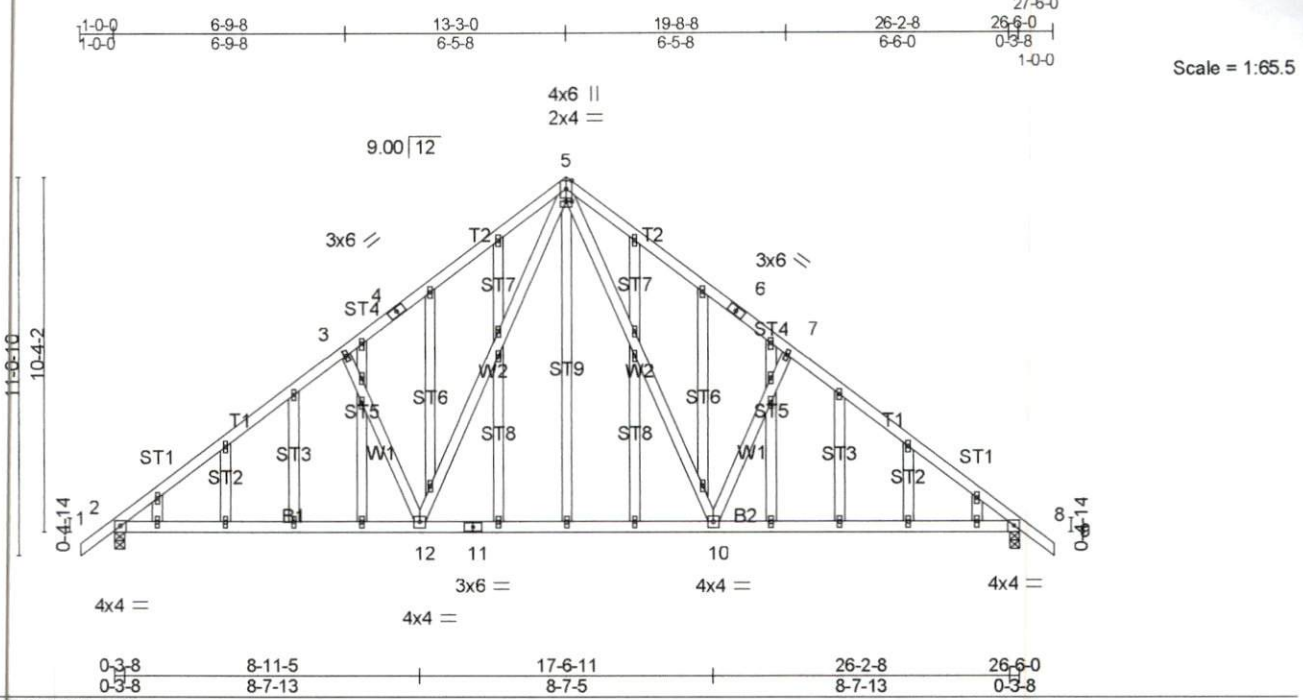


Plate Offsets (X,Y)-- [5.0-2.0,0-0.0]

<b>LOADING</b> (psf)	<b>SPACING-</b>	<b>CSI.</b>	<b>DEFL.</b>	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	2-0-0	TC 0.23	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.36	Vert(LL) -0.25 10-12 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.28	Vert(CT) -0.31 10-12 >999 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-AS	Horz(CT) 0.03 8 n/a n/a		
	Code IRC2018/TPI2014		Wind(LL) 0.04 10-47 >999 240	Weight: 233 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x4 SF 2400F 2.0E	TOP CHORD Structural wood sheathing directly applied.
BOT CHORD 2x4 SF 2400F 2.0E	BOT CHORD Rigid ceiling directly applied.
WEBS 2x4 SF No.3	
OTHERS 2x4 SF No.3	

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

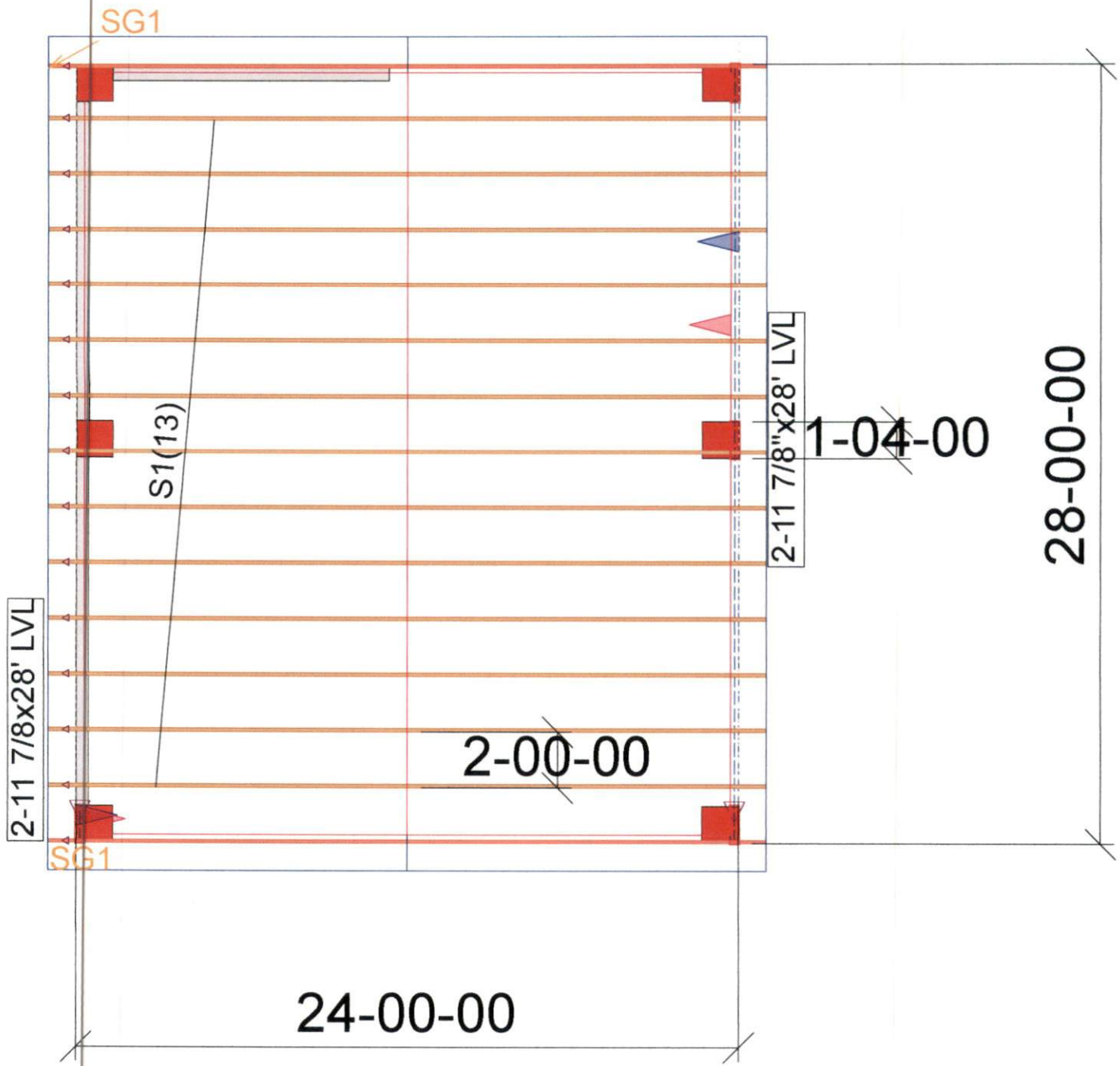
**REACTIONS.** (lb/size) 2=1120/0-3-8 (min. 0-1-8), 8=1120/0-3-8 (min. 0-1-8)  
 Max Horz 2=-185(LC 6)  
 Max Uplift 2=-41(LC 8), 8=-41(LC 8)  
 Max Grav 2=1138(LC 13), 8=1138(LC 14)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1500/68, 3-4=-1394/109, 4-5=-1286/151, 5-6=-1286/151, 6-7=-1394/109, 7-8=-1500/68  
 BOT CHORD 2-12=0/1254, 11-12=0/820, 10-11=0/820, 8-10=0/1148  
 WEBS 3-12=-375/153, 5-12=-40/732, 5-10=-40/732, 7-10=-375/153

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=29ft; L=26ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
  - All plates are 1.5x4 MT20 unless otherwise indicated.
  - Gable studs spaced at 2-0-0 oc.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members, with BCDL = 10.0psf.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 8.
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
  - This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard

Comment 1  
JE Womble  
Job #28006  
Goodwin\Hill





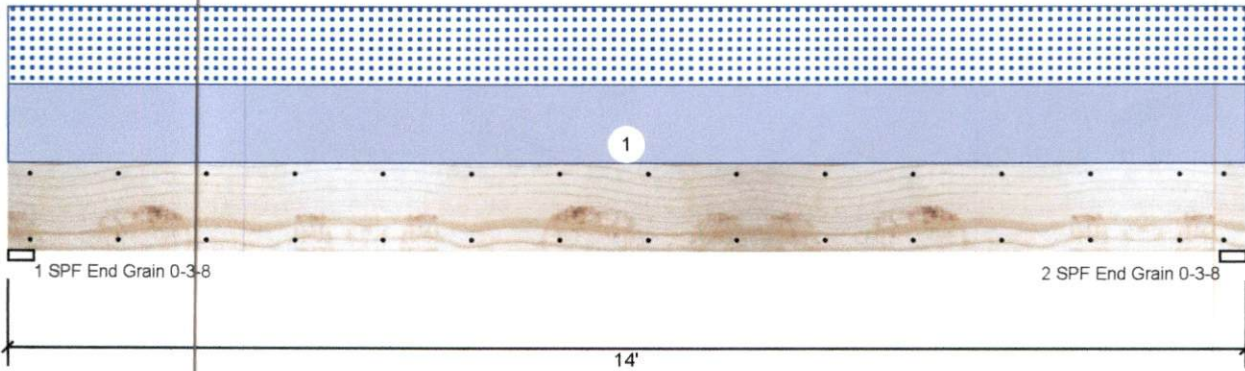


Client: C&R Building Supply  
 Project:  
 Address:

Date: 5/14/2024  
 Input by: Nicholas DeGuzman  
 Job Name:  
 Project #:

**B1 Murphy 2.0E-3100F LVL 1.750" X 11.875" 2-Ply - PASSED**

Level: Level



**Member Information**

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal - II
Temperature:	Temp <= 100°F
General Load	
Floor Live:	40 PSF
Dead:	15 PSF

Application:	Floor
Design Method:	ASD
Building Code:	IRC 2021
Load Sharing:	No
Deck:	Not Checked

**Reactions PATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1870	1785	0	0
2	Vertical	0	1870	1785	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	40%	1870 / 1785	3655	L	D+S
2 - SPF End Grain	3.500"	Vert	40%	1870 / 1785	3655	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11968 ft-lb	7'	24484 ft-lb	49%	D+S	L
Unbraced	11968 ft-lb	7'	11976 ft-lb	100%	D+S	L
Shear	2986 lb	1'3 3/8"	9241 lb	32%	D+S	L
LL Defl inch	0.198 (L/823)	7' 1/16"	0.451 (L/360)	44%	S	L
TL Defl inch	0.404 (L/402)	7' 1/16"	0.677 (L/240)	60%	D+S	L

**Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 7'1 11/16" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 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			Top	255 PLF	0 PLF	255 PLF	0 PLF	0 PLF	S1 Truss
	Self Weight				12 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.

**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 2/14/2027

**Manufacturer Info**  
 Murphy Engineered Wood Products  
 412 West Central  
 Sutherlin, OR 97479  
 (541) 459-4545  
 www.murphyplywood.com  
 APA: PR-L283, ICC-ES: ESR-2913

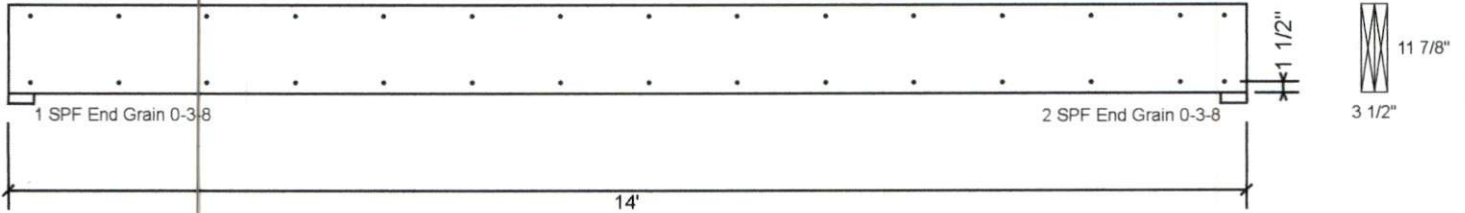
**Eastern Engineered Wood Products**  
 1245 Easton Road, PA 18015



Client: C&R Building Supply  
 Project:  
 Address:

Date: 5/14/2024  
 Input by: Nicholas DeGuzman  
 Job Name:  
 Project #:


**B1 Murphy 2.0E-3100F LVL 1.750" X 11.875" 2-Ply - PASSED** Level: 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	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C <sub>M</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

<p><b>Notes</b></p> <p>Calculated Structural 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.</p> <p><b>Lumber</b></p> <ol style="list-style-type: none"> <li>Dry service conditions, unless noted otherwise</li> <li>LVL not to be treated with fire retardant or corrosive</li> </ol>	<p><b>Handling &amp; Installation</b></p> <ol style="list-style-type: none"> <li>LVL beams must not be cut or drilled</li> <li>Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals</li> <li>Damaged Beams must not be used</li> <li>Design assumes top edge is laterally restrained</li> <li>Provide lateral support at bearing points to avoid lateral displacement and rotation</li> </ol> <p>6. For flat roofs provide proper drainage to prevent ponding</p>	<p><b>Manufacturer Info</b></p> <p>Murphy Engineered Wood Products        412 West Central        Sutherlin, OR 97479        (541) 459-4545        www.murphyplywood.com        APA: PR-L283, ICC-ES: ESR-2913</p>	<p><b>Eastern Engineered Wood Products</b>        1245 Easton Road, PA        18015</p> 
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