



Carter Sanford Component Plant  
298 Harvey Faulk Rd  
Sanford, NC 27332

Phone #:919-775-1450

**Builder: DR Horton Inc**

**Model: Robie L LFT GRH**



**THE PLACEMENT PLAN NOTES:**

1. The Placement Plan is a diagram for truss installation. It is not an engineered drawing and has not been reviewed by an engineer. The Owner/Building Designer is responsible for obtaining an engineer's review if one is required by the local jurisdiction.
2. The responsibilities of the Owner, Contractor, Building Designer, Component Designer and Component Manufacturer shall be as set forth in ANSI/TPI 1. Capitalized terms shall be as defined in ANSI/TP 1 unless otherwise indicated.
3. Each Component is designed as an individual component utilizing information provided by others. The Owner/Building Designer is responsible for reviewing all Component Submittal Packages and individual Component Design Drawings for compliance with the Construction Documents and compatibility with the overall Building design.
4. Contractor will not proceed with component installation until the Owner/Building Designer has reviewed the Component Submittal Package. Questions on the suitability of any Component will be resolved by the Building Designer.
5. The Building Designer and Contractor are responsible for all temporary and permanent bracing.
6. The Placement Plan assumes the building is dimensionally correct, structurally sound, and in a suitable condition to support each Component during installation and thereafter, including but not limited to installation of all bearing points. Proper design and construction of all structural components, including foundations, headers, beams, walls and columns are the responsibility of the Owner, Building Designer and Contractor.
7. Do not cut, drill, or modify any Component without first consulting the Component Manufacturer or Building Designer. Damaged Components shall not be installed unless directed by the Building Designer or approved by the Component Manufacturer.
8. Components must be handled and installed following all applicable safety standards and best practices, including but not limited to BCSI, OSHA, TPI and local codes. Failure to properly handle, brace or otherwise install Component can result in serious injury or death.
9. All uplift connectors shown within these documents are recommendations only. Per ANSI/TPI 1, all uplift connectors are the responsibility of the building designer and or contractor.

**Approved By:** \_\_\_\_\_

**Date:** \_\_\_\_\_

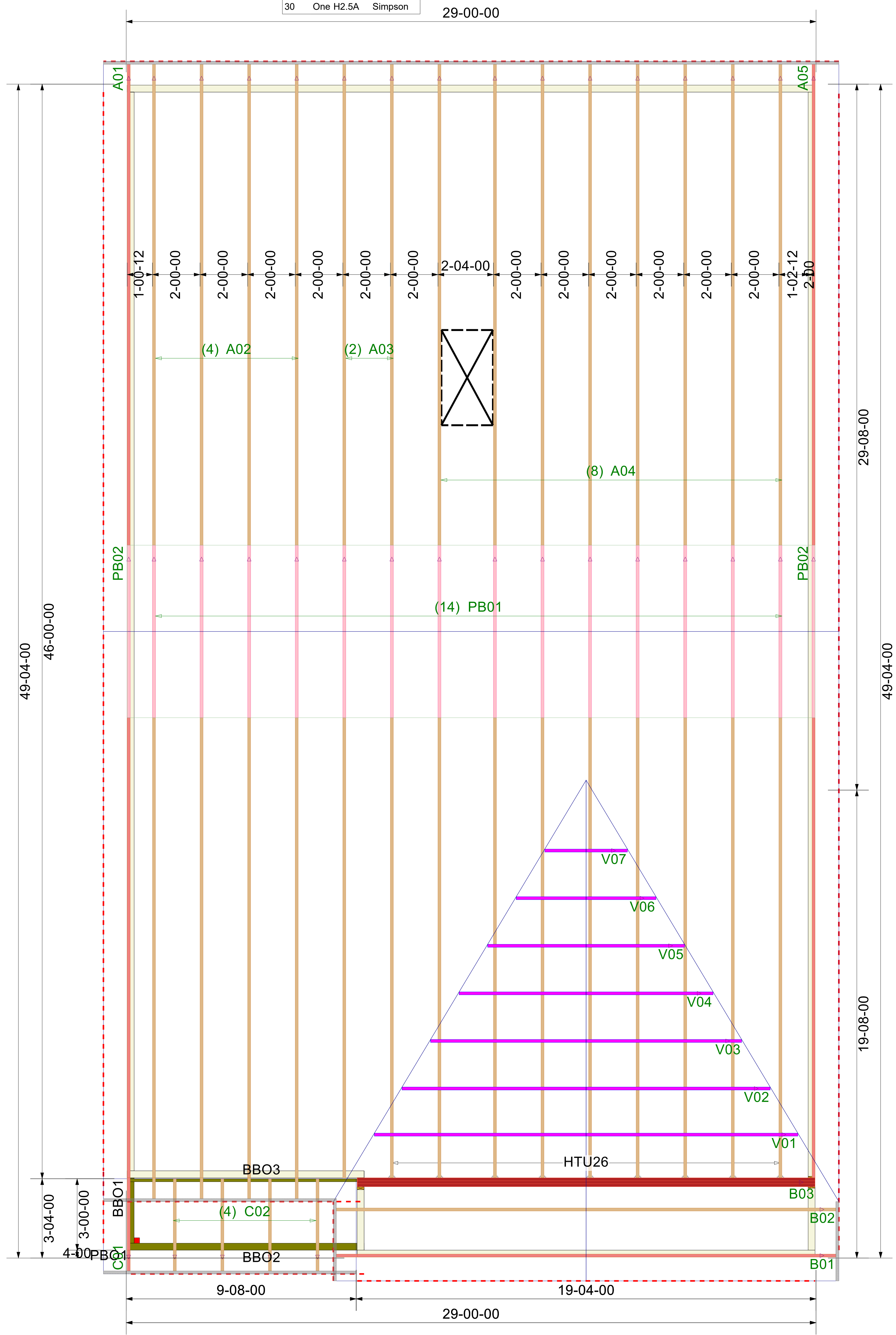
\*\* FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.      \*\* DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT.      \*\* TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE.

**General Notes:**

\*\* CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTRACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION.

\*\* ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.

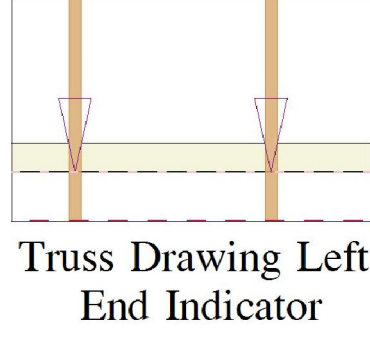
Truss Connector Total List		
Qty	Product	Manuf
9	HTU26	Simpson
30	One H2.5A	Simpson



\*\* TRIANGULAR SYMBOL NEAR END OF TRUSS INDICATES LEFT END OF TRUSS AS SHOWN ON INDIVIDUAL TRUSS DRAWINGS.

\*\* PLUMBING DROPS NOTED ARE IN THE APPROXIMATE LOCATIONS PER PLAN. BUILDER TO VERIFY LOCATIONS BEFORE SETTING TRUSSES.

\*\* REFER TO FINAL TRUSS ENGINEERING SHEETS FOR PLY TO PLY CONNECTIONS.



Truss Drawing Left End Indicator

\*\* GIRDERS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS.      \*\* DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH.      \*\* All uplift connectors shown within these documents are recommendations only. Per ANSI/TPI 1, all uplift connectors are the responsibility of the bldg designer and or contractor.

Scale:	NTS
Date:	7/8/2024
Designer:	Nate Donaldson
Project Number:	24070013-01
Sheet Number:	1/1

DR Horton Inc  
 47 Mason Ridge-Roof-Robie L  
 LFT GRH  
**ROOF PLACEMENT PLAN**



**THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.** These trusses are designed as individual components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor systems and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding the bracing, consult "Bracing of Wood Truss" available from the Truss Plate Institute, 583 D'Onofrio Drive, Madison, WI 53179

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

RE: 24070013  
 47 Mason Ridge Roof-Robie L LFT GRH

Trenco  
 818 Soundside Rd  
 Edenton, NC 27932

**Site Information:**

Customer: DR Horton Inc Project Name: 24070013  
 Lot/Block: 47 Model:  
 Address: Subdivision: Mason Ridge  
 City: State:

**General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):**

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.7  
 Wind Code: ASCE 7-16 Wind Speed: 130 mph  
 Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 24 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I66103873	A01	6/10/2024	21	I66103893	V04	6/10/2024
2	I66103874	A02	6/10/2024	22	I66103894	V05	6/10/2024
3	I66103875	A03	6/10/2024	23	I66103895	V06	6/10/2024
4	I66103876	A04	6/10/2024	24	I66103896	V07	6/10/2024
5	I66103877	A05	6/10/2024				
6	I66103878	B01	6/10/2024				
7	I66103879	B02	6/10/2024				
8	I66103880	B03	6/10/2024				
9	I66103881	C01	6/10/2024				
10	I66103882	C02	6/10/2024				
11	I66103883	CJ01	6/10/2024				
12	I66103884	D01	6/10/2024				
13	I66103885	D02	6/10/2024				
14	I66103886	D03	6/10/2024				
15	I66103887	J01	6/10/2024				
16	I66103888	PB01	6/10/2024				
17	I66103889	PB02	6/10/2024				
18	I66103890	V01	6/10/2024				
19	I66103891	V02	6/10/2024				
20	I66103892	V03	6/10/2024				

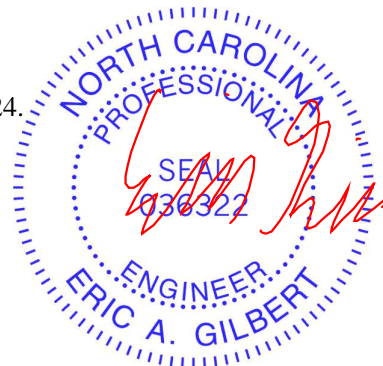
The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Truss Design Engineer's Name: Gilbert, Eric

My license renewal date for the state of North Carolina is December 31, 2024.

North Carolina COA: C-0844

**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.



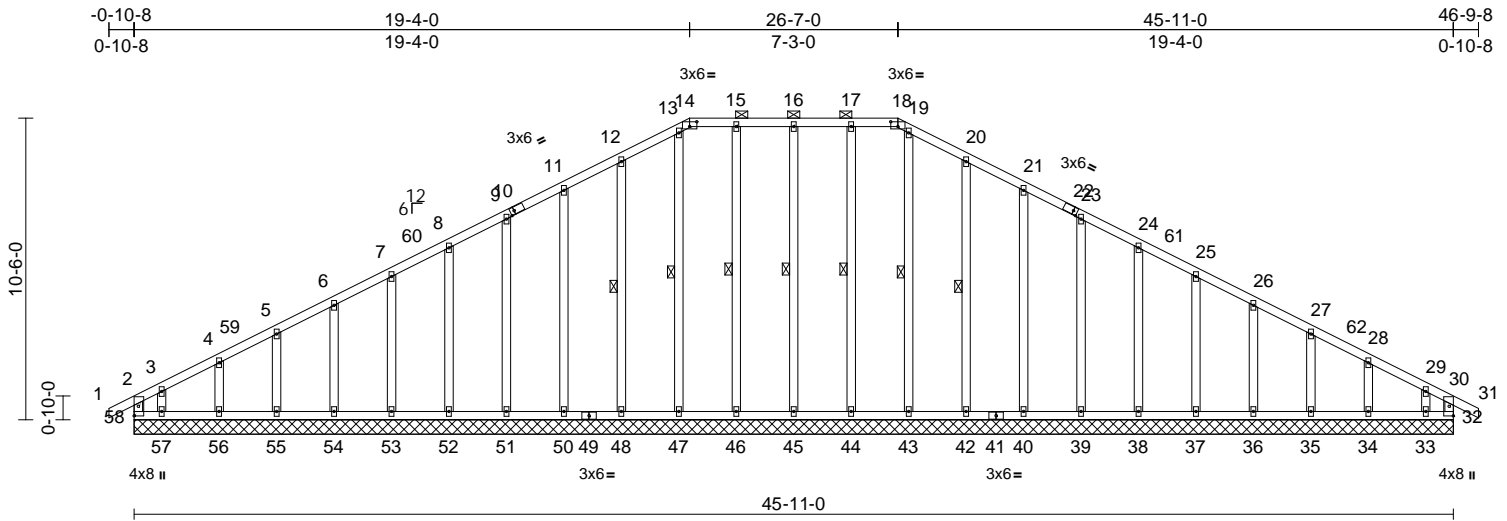
June 10, 2024

Job 24070013	Truss A01	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	I66103873
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:05  
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Page: 1



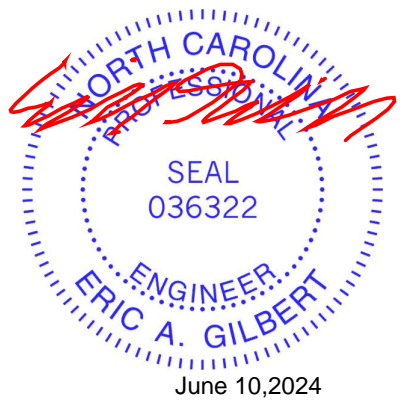
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Plate Offsets (X, Y): [10:0-1-11,0-1-8], [14:0-3-0,0-2-0], [18:0-3-0,0-2-0], [22:0-1-11,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.22	Horz(CT)	0.01	32	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 349 lb	FT = 20%

LUMBER		Max Uplift		TOP CHORD	
TOP CHORD	2x4 SP No.2	32=-13 (LC 11), 33=-138 (LC 15), 34=-38 (LC 15), 35=-45 (LC 15), 36=-43 (LC 15), 37=-44 (LC 15), 38=-44 (LC 15), 39=-44 (LC 15), 40=-43 (LC 15), 42=-55 (LC 15), 44=-14 (LC 11), 45=-34 (LC 10), 46=-13 (LC 11), 48=-54 (LC 14), 50=-43 (LC 14), 51=-44 (LC 14), 52=-44 (LC 14), 53=-44 (LC 14), 54=-43 (LC 14), 55=-46 (LC 14), 56=-35 (LC 14), 57=-177 (LC 14), 58=-66 (LC 10)		2-58=-149/53, 1-2=0/27, 2-3=-217/85, 3-4=-157/78, 4-5=-117/87, 5-6=-87/102, 6-7=-62/125, 7-8=-52/150, 8-9=-65/195, 9-11=-79/241, 11-12=-97/286, 12-13=-118/336, 13-14=-112/303, 14-15=-110/320, 15-16=-110/320, 16-17=-110/320, 17-18=-110/320, 18-19=-112/303, 19-20=-118/336, 20-21=-97/286, 21-23=-79/241, 23-24=-65/195, 24-25=-46/150, 25-26=-35/105, 26-27=-46/60, 27-28=-69/44, 28-29=-109/49, 29-30=-160/64, 30-31=0/27, 30-32=-118/44	
BOT CHORD	2x4 SP No.2				
WEBS	2x4 SP No.3				
OTHERS	2x4 SP No.3				
BRACING		Max Grav			
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 14-18.	32=156 (LC 33), 33=98 (LC 53), 34=169 (LC 22), 35=158 (LC 45), 36=161 (LC 41), 37=164 (LC 45), 38=214 (LC 45), 39=223 (LC 45), 40=221 (LC 45), 42=229 (LC 45), 43=182 (LC 22), 44=218 (LC 40), 45=218 (LC 40), 46=218 (LC 40), 47=184 (LC 57), 48=229 (LC 43), 50=221 (LC 43), 51=223 (LC 43), 52=214 (LC 43), 53=164 (LC 43), 54=161 (LC 41), 55=158 (LC 43), 56=169 (LC 21), 57=126 (LC 51), 58=200 (LC 27)			
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.				
WEBS	1 Row at midpt 16-45, 15-46, 13-47, 12-48, 17-44, 19-43, 20-42				
REACTIONS	(size)				
		32=45-11-0, 33=45-11-0, 34=45-11-0, 35=45-11-0, 36=45-11-0, 37=45-11-0, 38=45-11-0, 39=45-11-0, 40=45-11-0, 42=45-11-0, 43=45-11-0, 44=45-11-0, 45=45-11-0, 46=45-11-0, 47=45-11-0, 48=45-11-0, 50=45-11-0, 51=45-11-0, 52=45-11-0, 53=45-11-0, 54=45-11-0, 55=45-11-0, 56=45-11-0, 57=45-11-0, 58=45-11-0			
	Max Horiz	58=142 (LC 14)			

**FORCES** (lb) - Maximum Compression/Maximum Tension



June 10, 2024

Continued on page 2

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	47 Mason Ridge Roof-Robie L LFT GRH	I66103873
24070013	A01	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:05

Page: 2

ID:3MyMA21koMWXjvV0hxcMGjz9Jxh-RfC?PsB70Hq3NSgPqnL8w3uiTXbGKwRCDoi7J4zJC?f

**BOT CHORD** 57-58=-32/163, 56-57=-32/163,  
55-56=-32/163, 54-55=-32/163,  
53-54=-32/163, 52-53=-32/163,  
51-52=-32/163, 50-51=-32/163,  
48-50=-32/163, 47-48=-32/163,  
46-47=-32/163, 45-46=-32/163,  
44-45=-32/163, 43-44=-32/163,  
42-43=-32/163, 40-42=-32/163,  
39-40=-32/163, 38-39=-32/163,  
37-38=-32/163, 36-37=-32/163,  
35-36=-32/163, 34-35=-32/163,  
33-34=-32/163, 32-33=-32/163

**WEBS** 16-45=-178/76, 15-46=-178/37,  
13-47=-144/0, 12-48=-189/91,  
11-50=-181/76, 9-51=-183/77, 8-52=-174/77,  
7-53=-126/77, 6-54=-127/77, 5-55=-125/77,  
4-56=-131/117, 3-57=-95/124,  
17-44=-178/38, 19-43=-142/0,  
20-42=-189/91, 21-40=-181/76,  
23-39=-183/77, 24-38=-174/77,  
25-37=-126/77, 26-36=-127/77,  
27-35=-125/78, 28-34=-132/116,  
29-33=-89/127

16) Graphical purlin representation does not depict the size  
or the orientation of the purlin along the top and/or  
bottom chord.

**LOAD CASE(S)** Standard

#### NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)  
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 3-8-10, Exterior(2N) 3-8-10 to 14-8-14, Corner(3R) 14-8-14 to 30-11-8, Exterior(2N) 30-11-8 to 42-2-6, Corner(3E) 42-2-6 to 46-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) TLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) Gable requires continuous bottom chord bearing.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 13) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 58, 13 lb uplift at joint 32, 34 lb uplift at joint 45, 13 lb uplift at joint 46, 54 lb uplift at joint 48, 43 lb uplift at joint 50, 44 lb uplift at joint 51, 44 lb uplift at joint 52, 44 lb uplift at joint 53, 43 lb uplift at joint 54, 46 lb uplift at joint 55, 35 lb uplift at joint 56, 177 lb uplift at joint 57, 14 lb uplift at joint 44, 55 lb uplift at joint 42, 43 lb uplift at joint 40, 44 lb uplift at joint 39, 44 lb uplift at joint 38, 44 lb uplift at joint 37, 43 lb uplift at joint 36, 45 lb uplift at joint 35, 38 lb uplift at joint 34 and 138 lb uplift at joint 33.
- 15) 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.

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcacomponents.com](http://www.sbcacomponents.com))



818 Soundside Road  
Edenton, NC 27932

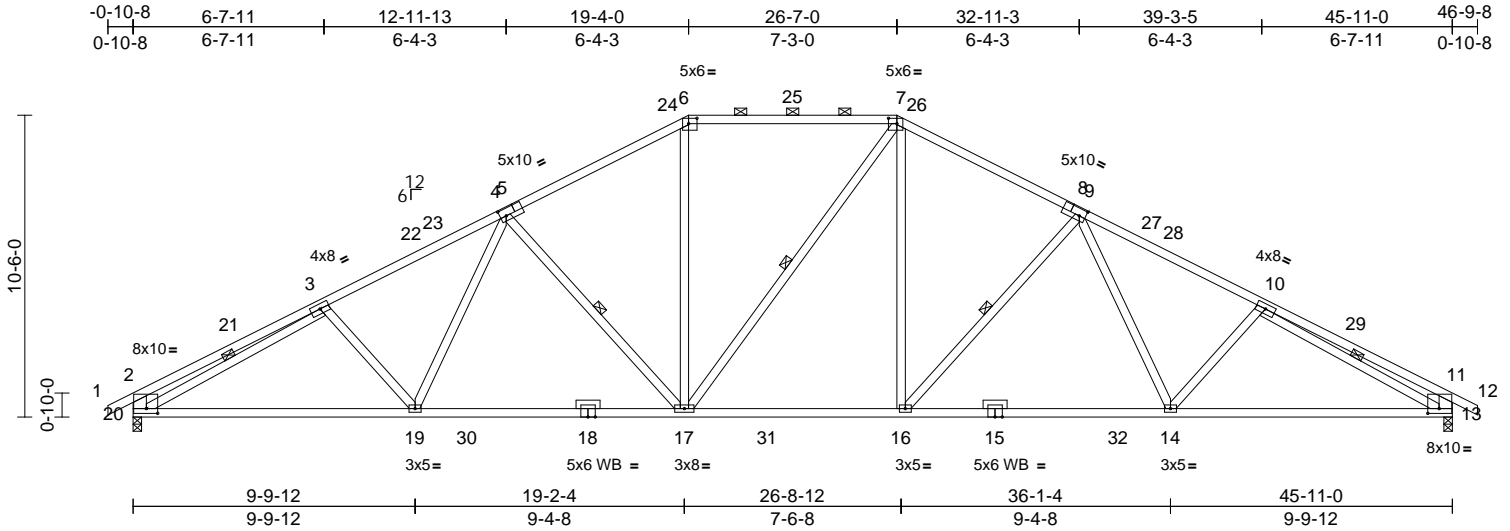
Job 24070013	Truss A02	Truss Type Piggyback Base	Qty 4	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103874
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:06

Page: 1

ID:y7Cs0P4Fsb0zCWp9wmhIQZz9Jxd-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRcDoi7J4zJC?f



Scale = 1:80.2

Plate Offsets (X, Y): [2:0-4-12,0-2-0], [5:0-2-8,0-3-0], [6:0-3-8,0-2-4], [7:0-3-8,0-2-4], [8:0-2-8,0-3-0], [13:0-4-12,0-2-0]

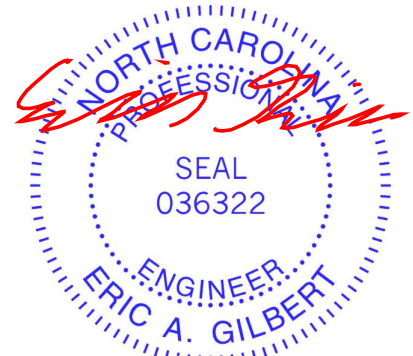
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.32	14-16	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.54	14-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.88	Horz(CT)	0.15	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 283 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP 2400F 2.0E
BOT CHORD	2x4 SP 2400F 2.0E
WEBS	2x4 SP No.3 *Except* 17-7:2x4 SP No.2, 20-2,13-11:2x6 SP No.2
OTHERS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 4-0-12 oc purlins, except end verticals, and 2-0-0 oc purlins (4-3-6 max.): 6-7.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 4-17, 7-17, 9-16, 3-20, 10-13
REACTIONS	
(size)	13=0-3-8, 20=0-3-8
Max Horiz	20=141 (LC 14)
Max Uplift	13=202 (LC 15), 20=202 (LC 14)
Max Grav	13=2193 (LC 47), 20=2188 (LC 47)
FORCES	
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/30, 2-3=-1075/181, 3-4=-3903/362, 4-6=-3144/385, 6-7=-2710/381, 7-9=-3154/385, 9-10=-3911/363, 10-11=-1063/181, 11-12=0/30, 2-20=-721/183, 11-13=-716/191
BOT CHORD	19-20=-353/3449, 17-19=-227/3202, 16-17=-21/2634, 14-16=-122/3210, 13-14=-213/3455
WEBS	3-19=-157/184, 4-19=-15/504, 4-17=-848/225, 6-17=-29/986, 7-17=-260/262, 7-16=-71/1003, 9-16=-849/225, 9-14=-15/502, 10-14=-157/184, 3-20=-2996/207, 10-13=-3015/191

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 3-8-10, Interior (1) 3-8-10 to 12-10-1, Exterior(2R) 12-10-1 to 32-11-3, Interior (1) 32-11-3 to 42-2-6, Exterior(2E) 42-2-6 to 46-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 20 and 13. This connection is for uplift only and does not consider lateral forces.
- 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



June 10, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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**TRENCO**  
A MiTek Affiliate

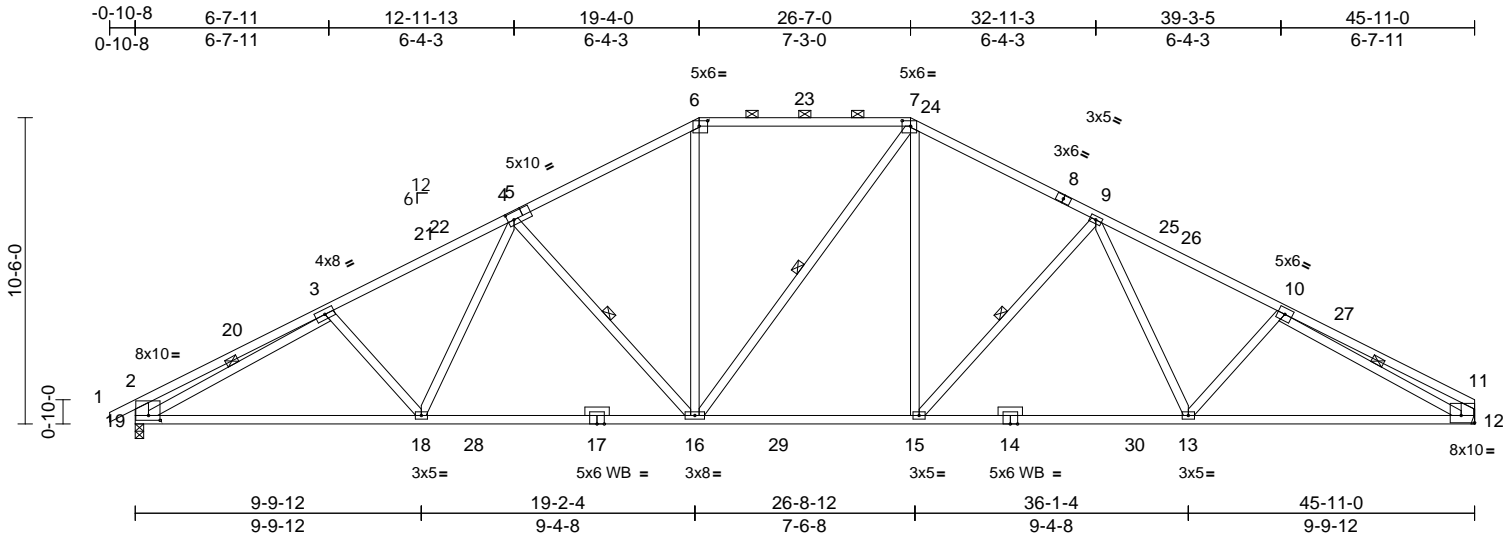
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss A03	Truss Type Piggyback Base	Qty 2	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103875
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Scale = 1:79

Plate Offsets (X, Y): [2:0-4-12,0-2-0], [5:0-2-8,0-3-0], [6:0-3-8,0-2-4], [7:0-3-8,0-2-4], [12:Edge,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.32	13-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.54	13-15	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.95	Horz(CT)	0.15	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 282 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP 2400F 2.0E  
BOT CHORD 2x4 SP 2400F 2.0E  
WEBS 2x4 SP No.3 \*Except\* 16-7:2x4 SP No.2, 19-2,12-11:2x6 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 4-0-13 oc purlins, except end verticals, and 2-0-0 oc purlins (4-3-10 max.): 6-7.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
WEBS 1 Row at midpt 4-16, 7-16, 9-15, 3-19, 10-12

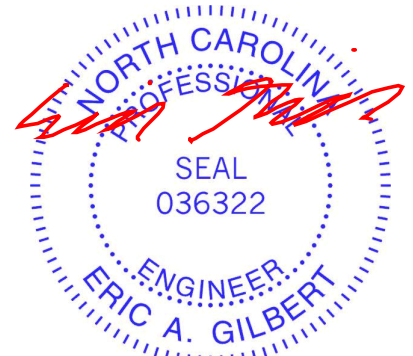
**REACTIONS** (size) 12= Mechanical, 19=0-3-8  
Max Horiz 19=149 (LC 18)  
Max Uplift 12=180 (LC 15), 19=202 (LC 14)  
Max Grav 12=2137 (LC 47), 19=2189 (LC 47)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/30, 2-3=-1075/181, 3-4=-3904/364, 4-6=-3145/387, 6-7=-2711/383, 7-9=-3155/388, 9-10=-3921/374, 10-11=-839/126, 2-19=-721/183, 11-12=-543/115  
BOT CHORD 18-19=-362/3447, 16-18=-236/3199, 15-16=-53/2632, 13-15=-156/3208, 12-13=-234/3469  
WEBS 3-18=-157/184, 4-18=-15/504, 4-16=-849/225, 6-16=-29/987, 7-16=-261/256, 7-15=-71/1003, 9-15=-848/224, 9-13=-19/513, 10-13=-172/188, 3-19=-2997/208, 10-12=-3255/247

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 3-8-10, Interior (1) 3-8-10 to 12-10-1, Exterior(2R) 12-10-1 to 32-11-3, Interior (1) 32-11-3 to 41-1-2, Exterior(2E) 41-1-2 to 45-8-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 180 lb uplift at joint 12.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(19). This connection is for uplift only and does not consider lateral forces.
- 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.

13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.  
**LOAD CASE(S)** Standard



June 10, 2024

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ENGINEERING BY  
**TRENCO**  
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818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss A04	Truss Type Piggyback Base	Qty 8	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	I66103876
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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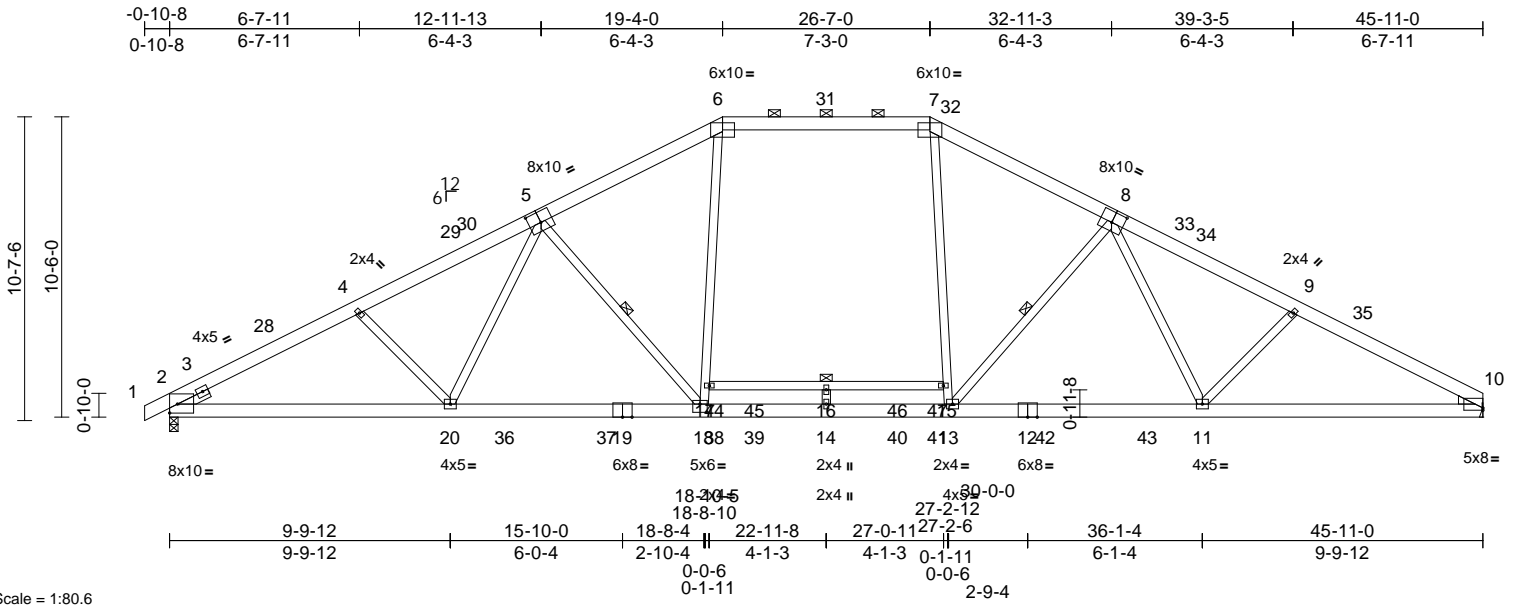


Plate Offsets (X, Y): [2:Edge,0-3-12], [5:0-5-0,0-4-8], [8:0-5-0,0-4-8], [10:Edge,0-0-15], [18:0-3-0,0-3-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.34	Vert(LL)	-0.43	11-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.57	11-13	>972	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.61	Horz(CT)	0.12	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 332 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x6 SP 2400F 2.0E  
BOT CHORD 2x6 SP 2400F 2.0E \*Except\* 17-15:2x4 SP No.2  
WEBS 2x4 SP No.3  
WEDGE Right: 2x4 SP No.3  
SLIDER Left 2x4 SP No.3 -- 1-2-1

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 4-5-8 oc purlins, except 2-0-0 oc purlins (5-7-9 max.): 6-7.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 16-17,15-16.  
WEBS 1 Row at midpt 5-18, 8-13

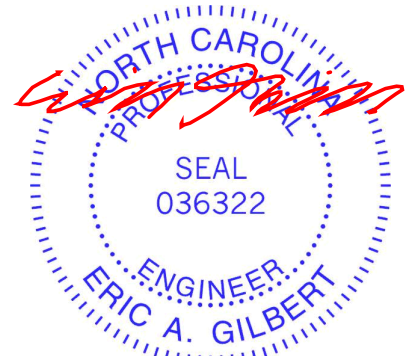
**REACTIONS** (size) 2=0-3-8, 10= Mechanical  
Max Horiz 2=168 (LC 18)  
Max Uplift 2=-50 (LC 14), 10=-32 (LC 15)  
Max Grav 2=2522 (LC 47), 10=2467 (LC 47)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/27, 2-4=-4806/77, 4-6=-4630/74, 6-7=-3414/99, 7-9=-4701/82, 9-10=-4911/88  
BOT CHORD 2-20=-124/4162, 18-20=0/3924, 14-18=0/3321, 13-14=0/3321, 11-13=0/3950, 10-11=-71/4263, 16-17=-10/0, 15-16=-10/0  
WEBS 4-20=-184/175, 5-20=-92/390, 5-18=-889/314, 17-18=0/1283, 6-17=0/1379, 7-15=0/1388, 13-15=0/1292, 8-13=-927/313, 8-11=-94/455, 9-11=-235/184, 14-16=-268/0

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 3-8-10, Interior (1) 3-8-10 to 12-10-1, Exterior(2R) 12-10-1 to 33-0-8, Interior (1) 33-0-8 to 41-3-14, Exterior(2E) 41-3-14 to 45-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 200.0lb AC unit load placed on the bottom chord, 22-11-8 from left end, supported at two points, 5-0-0 apart.
- Provide adequate drainage to prevent water ponding.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 10.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.

- 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.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- LOAD CASE(S)** Standard



June 10, 2024

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818 Soundside Road  
Edenton, NC 27932



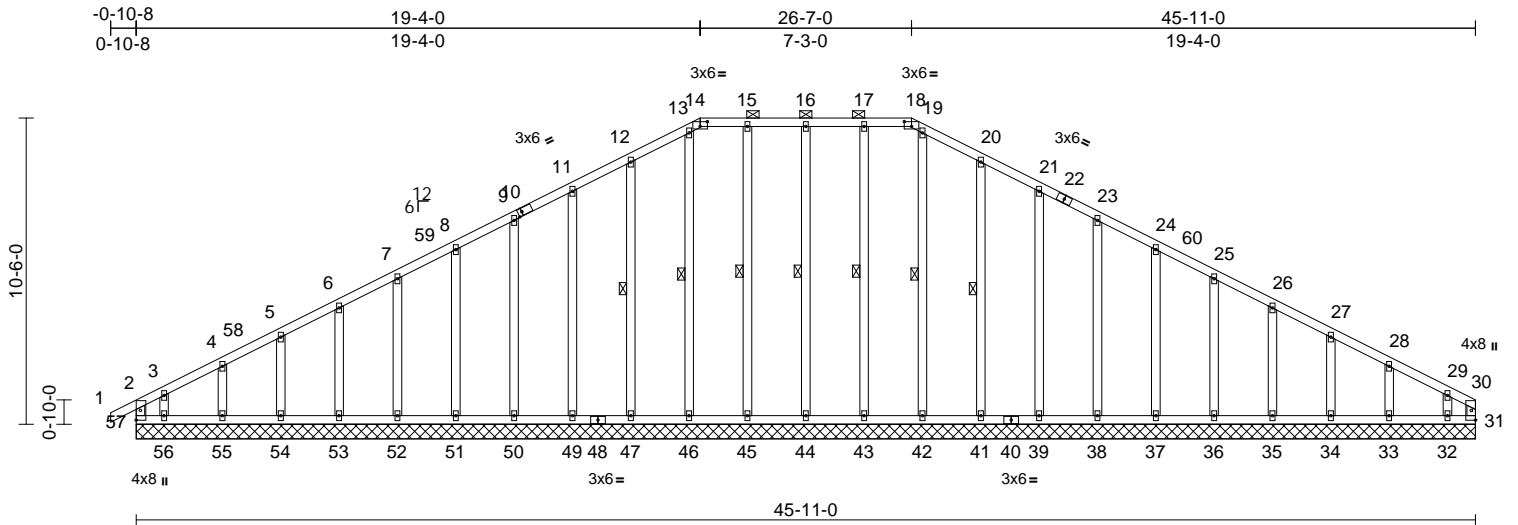
Job 24070013	Truss A05	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103877
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:07

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Scale = 1:79

Plate Offsets (X, Y): [10:0-1-11,0-1-8], [14:0-3-0,0-2-0], [18:0-3-0,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.22	Horz(CT)	0.01	31	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 347 lb	FT = 20%

LUMBER		Max Uplift		TOP CHORD	
TOP CHORD	2x4 SP No.2	31=-26 (LC 13), 32=-147 (LC 15), 33=-37 (LC 15), 34=-45 (LC 15), 35=-43 (LC 15), 36=-44 (LC 15), 37=-44 (LC 15), 38=-44 (LC 15), 39=-43 (LC 15), 41=-55 (LC 15), 43=-14 (LC 11), 44=-34 (LC 10), 45=-14 (LC 11), 47=-53 (LC 14), 49=-43 (LC 14), 50=-44 (LC 14), 51=-44 (LC 14), 52=-44 (LC 14), 53=-43 (LC 14), 54=-46 (LC 14), 55=-35 (LC 14), 56=-179 (LC 14), 57=-64 (LC 10)			2-57=-153/51, 1-2=0/27, 2-3=-220/81, 3-4=-160/75, 4-5=-120/83, 5-6=-91/99, 6-7=-66/122, 7-8=-56/147, 8-9=-69/192, 9-11=-83/237, 11-12=-101/282, 12-13=-122/333, 13-14=-115/301, 14-15=-114/317, 15-16=-114/317, 16-17=-114/317, 17-18=-114/317, 18-19=-115/301, 19-20=-122/333, 20-21=-101/282, 21-23=-83/237, 23-24=-69/192, 24-25=-51/147, 25-26=-39/101, 26-27=-51/57, 27-28=-74/39, 28-29=-112/44, 29-30=-165/58, 30-31=-110/33
BOT CHORD	2x4 SP No.2				
WEBS	2x4 SP No.3				
OTHERS	2x4 SP No.3				
BRACING		Max Grav			
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 14-18.	31=167 (LC 15), 32=130 (LC 53), 33=166 (LC 22), 34=159 (LC 45), 35=161 (LC 41), 36=164 (LC 45), 37=214 (LC 45), 38=223 (LC 45), 39=221 (LC 45), 41=229 (LC 45), 42=180 (LC 22), 43=217 (LC 40), 44=218 (LC 40), 45=217 (LC 40), 46=182 (LC 57), 47=227 (LC 43), 49=219 (LC 43), 50=223 (LC 43), 51=208 (LC 43), 52=161 (LC 43), 53=161 (LC 41), 54=158 (LC 43), 55=169 (LC 21), 56=122 (LC 51), 57=206 (LC 32)			
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.				
WEBS	1 Row at midpt 16-44, 15-45, 13-46, 12-47, 17-43, 19-42, 20-41				
REACTIONS (size)					
	31=45-11-0, 32=45-11-0, 33=45-11-0, 34=45-11-0, 35=45-11-0, 36=45-11-0, 37=45-11-0, 38=45-11-0, 39=45-11-0, 41=45-11-0, 42=45-11-0, 43=45-11-0, 44=45-11-0, 45=45-11-0, 46=45-11-0, 47=45-11-0, 49=45-11-0, 50=45-11-0, 51=45-11-0, 52=45-11-0, 53=45-11-0, 54=45-11-0, 55=45-11-0, 56=45-11-0, 57=45-11-0				
	Max Horiz 57=150 (LC 14)				

**FORCES** (lb) - Maximum Compression/Maximum Tension



June 10, 2024

Continued on page 2

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818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	47 Mason Ridge Roof-Robie L LFT GRH	I66103877
24070013	A05	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

Carter Components (Sanford, NC), Sanford, NC - 27332,

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BOT CHORD 56-57=-33/142, 55-56=-33/142,  
54-55=-33/142, 53-54=-33/142,  
52-53=-33/142, 51-52=-33/142,  
50-51=-33/142, 49-50=-33/142,  
47-49=-33/142, 46-47=-33/142,  
45-46=-33/142, 44-45=-33/142,  
43-44=-33/142, 42-43=-33/142,  
41-42=-33/142, 39-41=-33/142,  
38-39=-33/142, 37-38=-33/142,  
36-37=-33/142, 35-36=-33/142,  
34-35=-33/142, 33-34=-33/142,  
32-33=-33/142, 31-32=-33/142

WEBS 16-44=-178/76, 15-45=-177/38,  
13-46=-142/0, 12-47=-187/91,  
11-49=-179/76, 9-50=-183/77, 8-51=-168/77,  
7-52=-126/77, 6-53=-127/77, 5-54=-125/77,  
4-55=-131/117, 3-56=-94/125,  
17-43=-177/38, 19-42=-140/0,  
20-41=-189/91, 21-39=-181/76,  
23-38=-183/77, 24-37=-174/77,  
25-36=-126/78, 26-35=-127/75,  
27-34=-126/99, 28-33=-130/125,  
29-32=-113/151

16) Graphical purlin representation does not depict the size  
or the orientation of the purlin along the top and/or  
bottom chord.

**LOAD CASE(S)** Standard

#### NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)  
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 3-8-10, Exterior(2N) 3-8-10 to 14-8-14, Corner(3R) 14-8-14 to 30-11-8, Exterior(2N) 30-11-8 to 40-11-8, Corner(3E) 40-11-8 to 45-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) TLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) Gable requires continuous bottom chord bearing.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 13) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 64 lb uplift at joint 57, 26 lb uplift at joint 31, 34 lb uplift at joint 44, 14 lb uplift at joint 45, 53 lb uplift at joint 47, 43 lb uplift at joint 49, 44 lb uplift at joint 50, 44 lb uplift at joint 51, 44 lb uplift at joint 52, 43 lb uplift at joint 53, 46 lb uplift at joint 54, 35 lb uplift at joint 55, 179 lb uplift at joint 56, 14 lb uplift at joint 43, 55 lb uplift at joint 41, 43 lb uplift at joint 39, 44 lb uplift at joint 38, 44 lb uplift at joint 37, 44 lb uplift at joint 36, 43 lb uplift at joint 35, 45 lb uplift at joint 34, 37 lb uplift at joint 33 and 147 lb uplift at joint 32.
- 15) 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.

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcacomponents.com](http://www.sbcacomponents.com))



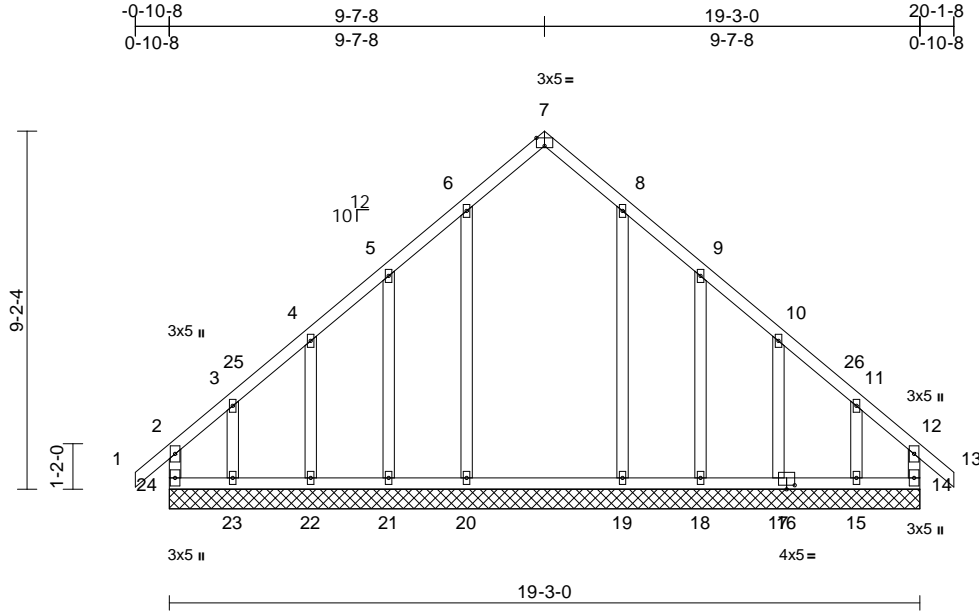
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss B01	Truss Type Common Supported Gable	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	I66103878
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:08  
ID:qdvylzw5wbNp8WJffYyFPp29Jxq-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRcDoi7J4zJc7f

Page: 1



Scale = 1:59.1

Plate Offsets (X, Y): [7:0-2-8,Edge], [16:0-2-8,0-1-4]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horz(CT)	0.01	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 125 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size)  
14=19-3-0, 15=19-3-0, 17=19-3-0, 18=19-3-0, 19=19-3-0, 20=19-3-0, 21=19-3-0, 22=19-3-0, 23=19-3-0, 24=19-3-0  
Max Horiz 24=231 (LC 13)  
Max Uplift 14=65 (LC 13), 15=241 (LC 15), 17=37 (LC 15), 18=119 (LC 15), 21=118 (LC 14), 22=37 (LC 14), 23=244 (LC 14), 24=76 (LC 12)  
Max Grav 14=289 (LC 28), 15=200 (LC 26), 17=207 (LC 31), 18=170 (LC 22), 19=359 (LC 6), 20=359 (LC 5), 21=170 (LC 21), 22=207 (LC 25), 23=205 (LC 25), 24=293 (LC 27)

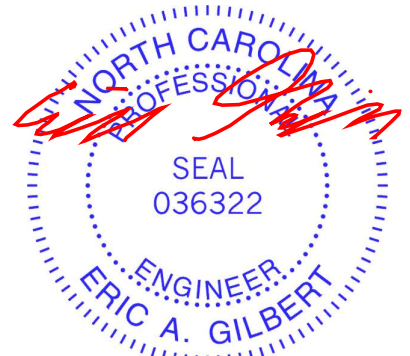
**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-24=-217/62, 1-2=0/38, 2-3=-276/132, 3-4=-151/85, 4-5=-130/59, 5-6=-121/85, 6-7=-152/106, 7-8=-152/106, 8-9=-121/85, 9-10=-124/51, 10-11=-148/77, 11-12=-271/122, 12-13=0/38, 12-14=-215/56  
BOT CHORD 23-24=-107/270, 22-23=-107/270, 21-22=-107/270, 20-21=-107/270, 19-20=-107/270, 18-19=-107/270, 17-18=-107/270, 15-17=-107/270, 14-15=-107/270

**WEBS**  
6-20=-253/34, 5-21=-148/153, 4-22=-147/87, 3-23=-141/183, 8-19=-253/30, 9-18=-148/154, 10-17=-149/85, 11-15=-131/197

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 6-7-8, Corner(3R) 6-7-8 to 12-7-8, Exterior(2N) 12-7-8 to 17-1-8, Corner(3E) 17-1-8 to 20-1-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit 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 76 lb uplift at joint 24, 65 lb uplift at joint 14, 118 lb uplift at joint 21, 37 lb uplift at joint 22, 244 lb uplift at joint 23, 119 lb uplift at joint 18, 37 lb uplift at joint 17 and 241 lb uplift at joint 15.
  - 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.
- LOAD CASE(S)** Standard



June 10, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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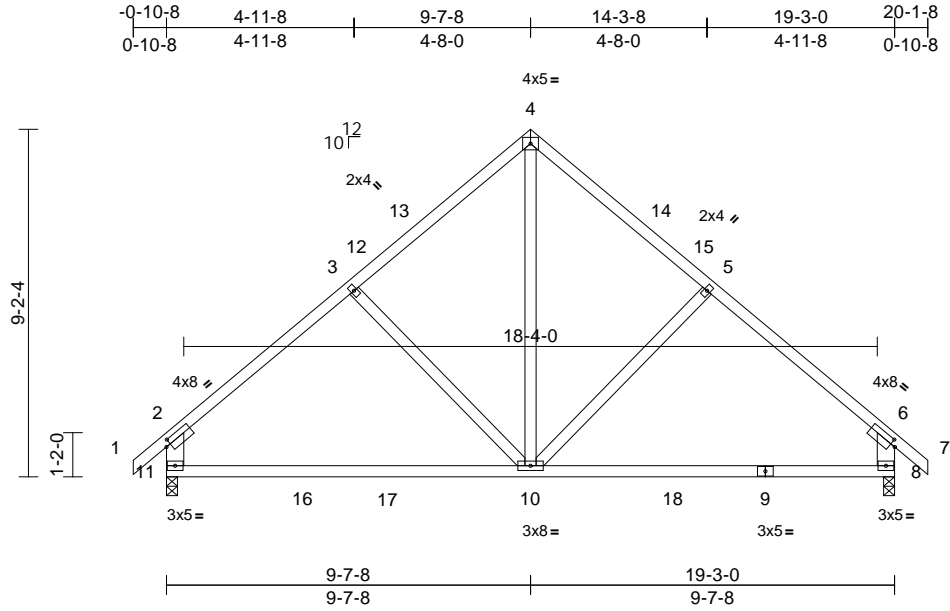
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss B02	Truss Type Common	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103879
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:08  
ID:IqTKVJwjhvVgmgurDFTUx1z9Jxp-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:60.9  
Plate Offsets (X, Y): [2:0-1-9,0-1-12], [6:0-1-9,0-1-12]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.22	8-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.38	8-10	>600	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.22	Horz(CT)	0.02	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 106 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 11-2,8-6:2x6 SP No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

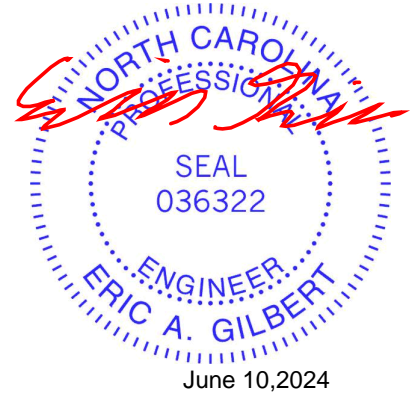
**REACTIONS** (size) 8=0-3-8, 11=0-3-8  
Max Horiz 11=-241 (LC 12)  
Max Uplift 8=-72 (LC 15), 11=-72 (LC 14)  
Max Grav 8=928 (LC 6), 11=926 (LC 5)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/42, 2-3=-1004/132, 3-4=-840/157,  
4-5=-840/158, 5-6=-1003/133, 6-7=0/42,  
2-11=-838/151, 6-8=-839/148  
BOT CHORD 10-11=-90/701, 8-10=-3/673  
WEBS 4-10=-81/649, 5-10=-210/206, 3-10=-210/206

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 11 and 8. This connection is for uplift only and does not consider lateral forces.
- 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.

**LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust)  
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 6-7-8, Exterior(2R) 6-7-8 to 12-7-8, Interior (1) 12-7-8 to 17-1-8, Exterior(2E) 17-1-8 to 20-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10

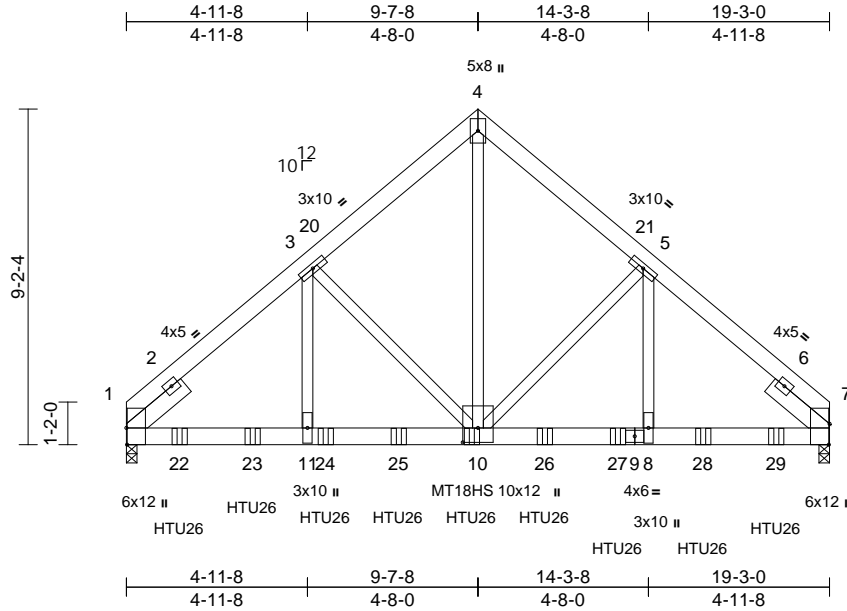


Job 24070013	Truss B03	Truss Type Common Girder	Qty 1	Ply 3	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103880
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:09  
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Page: 1



Scale = 1:63.1

Plate Offsets (X, Y): [1:0-5-8,Edge], [7:0-6-13,Edge], [10:0-4-12,0-5-0]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.63	Vert(LL)	-0.11	8-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.20	8-10	>999	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.05	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 474 lb	FT = 20%

#### LUMBER

TOP CHORD	2x6 SP No.2
BOT CHORD	2x6 SP 2400F 2.0E
WEBS	2x4 SP No.3 *Except* 10-4:2x4 SP No.2
SLIDER	Left 2x6 SP No.2 -- 2-0-0, Right 2x6 SP No.2 -- 2-0-0

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS (size)

1=0-3-8, 7=0-3-8
Max Horiz 1=-182 (LC 8)
Max Uplift 1=-262 (LC 12), 7=-385 (LC 13)
Max Grav 1=11760 (LC 5), 7=11311 (LC 6)

#### FORCES (lb) - Maximum Compression/Maximum Tension

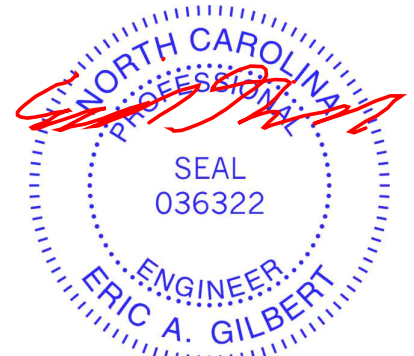
TOP CHORD	1-3=-12839/328, 3-4=-9254/327, 4-5=-9251/329, 5-7=-12587/359
BOT CHORD	1-11=-278/9589, 10-11=-278/9589, 8-10=-219/9383, 7-8=-219/9383
WEBS	4-10=-309/11164, 5-10=-3202/272, 5-8=-101/4641, 3-10=-3497/230, 3-11=-60/4994

#### NOTES

- 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-4-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 4-10 2x4 - 1 row at 0-6-0 oc.

- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BC DL=6.0psf; h=25ft; Cat II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- All plates are MT20 plates unless otherwise indicated.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 7. This connection is for uplift only and does not consider lateral forces.
- 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.
- Use Simpson Strong-Tie HTU26 (20-16d Girder, 11-10dx1 1/2 Truss) or equivalent spaced at 2-4-0 oc max. starting at 1-5-8 from the left end to 15-9-8 to connect truss(es) to back face of bottom chord.

- Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss) or equivalent at 17-9-8 from the left end to connect truss(es) to back face of bottom chord.
  - Fill all nail holes where hanger is in contact with lumber.
- LOAD CASE(S) Standard**
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-58, 4-7=-58, 12-16=-19  
Concentrated Loads (lb)  
Vert: 10=-2134 (B), 22=-2134 (B), 23=-2134 (B), 24=-2134 (B), 25=-2134 (B), 26=-2134 (B), 27=-2134 (B), 28=-2134 (B), 29=-1938 (B)



June 10, 2024

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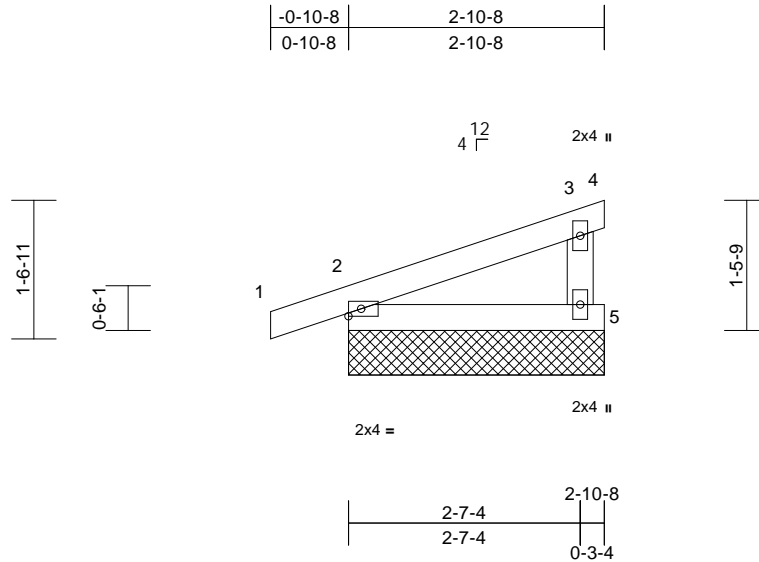
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss C01	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103881
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:09  
ID:IqTKVJwjhvVgmgurDFTUx1z9Jxp-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWwCD0i7J4zJC?f

Page: 1



Scale = 1:25.9

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 12 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 2-10-8 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
REACTIONS (size)	
	2=2-10-8, 4=2-10-8, 5=2-10-8, 6=2-10-8
Max Horiz	2=46 (LC 13), 6=46 (LC 13)
Max Uplift	2=44 (LC 10), 4=127 (LC 21), 5=64 (LC 14), 6=44 (LC 10)
Max Grav	2=203 (LC 21), 4=35 (LC 14), 5=285 (LC 21), 6=203 (LC 21)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/23, 2-3=-93/51, 3-4=-47/37, 3-5=-257/241
BOT CHORD	2-5=-25/50

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 44 lb uplift at joint 2, 127 lb uplift at joint 4, 64 lb uplift at joint 5 and 44 lb uplift at joint 2.
- 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.

LOAD CASE(S) Standard

**NOTES**

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 2-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10



June 10, 2024

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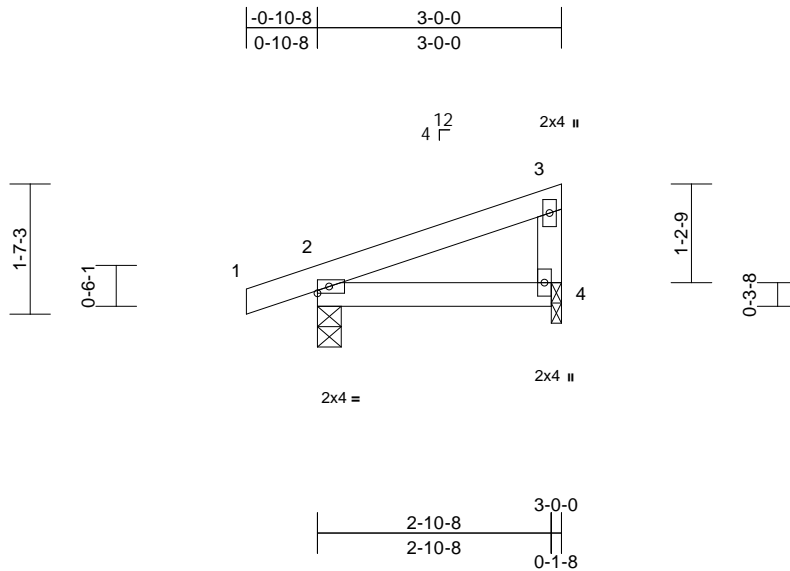
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss C02	Truss Type Monopitch	Qty 4	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103882
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:09  
ID:IqTKVJwjhvVgmgurDFTUx1z9Jxp-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	-0.01	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 12 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 3-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-8, 4=0-1-8  
Max Horiz 2=49 (LC 13)  
Max Uplift 2=-51 (LC 10), 4=-20 (LC 14)  
Max Grav 2=236 (LC 21), 4=139 (LC 21)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/24, 2-3=-83/60, 3-4=-101/81  
BOT CHORD 2-4=-31/58

- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
  - One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
  - 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.
- LOAD CASE(S)** Standard

- NOTES**
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
  - Unbalanced snow loads have been considered for this design.
  - This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.



June 10, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcacomponents.com](http://www.sbcacomponents.com))

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818 Soundside Road  
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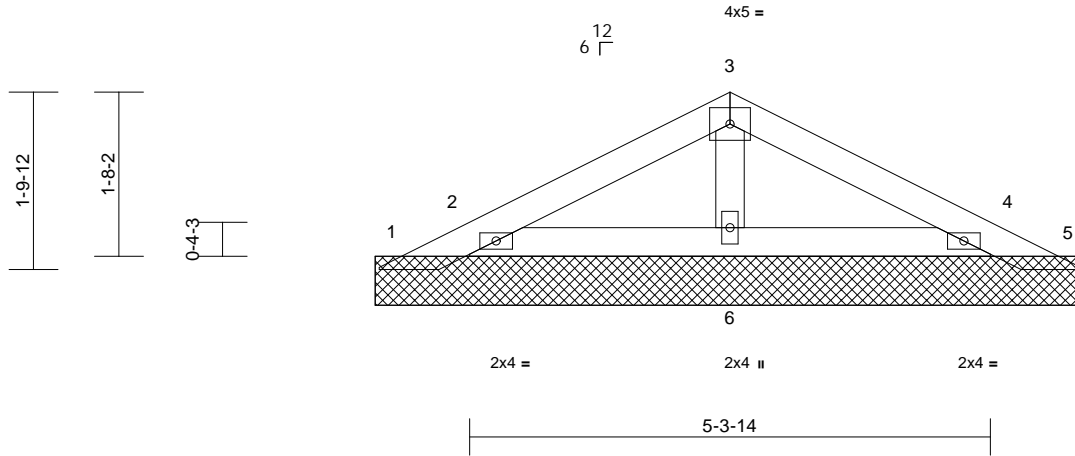
Job 24070013	Truss PB01	Truss Type Piggyback	Qty 14	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	866103888
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:10  
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Page: 1

-0-11-1	2-7-15	5-3-14	6-2-15
0-11-1	2-7-15	2-7-15	0-11-1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 21 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

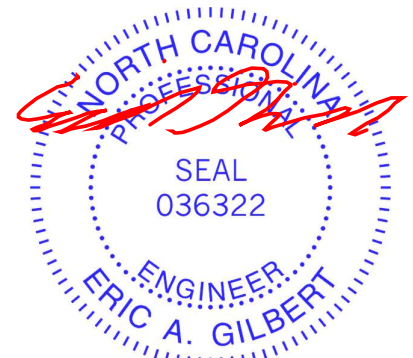
**REACTIONS** (size) 1=7-3-0, 2=7-3-0, 4=7-3-0, 5=7-3-0, 6=7-3-0, 7=7-3-0, 10=7-3-0  
Max Horiz 1=26 (LC 14)  
Max Uplift 1=-67 (LC 21), 2=-53 (LC 14), 4=-54 (LC 15), 5=-64 (LC 22), 7=-53 (LC 14), 10=-54 (LC 15)  
Max Grav 1=28 (LC 14), 2=317 (LC 21), 4=303 (LC 22), 5=18 (LC 15), 6=179 (LC 22), 7=317 (LC 21), 10=303 (LC 22)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-35/61, 2-3=-72/59, 3-4=-72/58, 4-5=-16/60  
BOT CHORD 2-6=-17/30, 4-6=-18/30  
WEBS 3-6=-95/45

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 2, 54 lb uplift at joint 4, 67 lb uplift at joint 1, 64 lb uplift at joint 5, 53 lb uplift at joint 2 and 54 lb uplift at joint 4.
- 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



June 10, 2024

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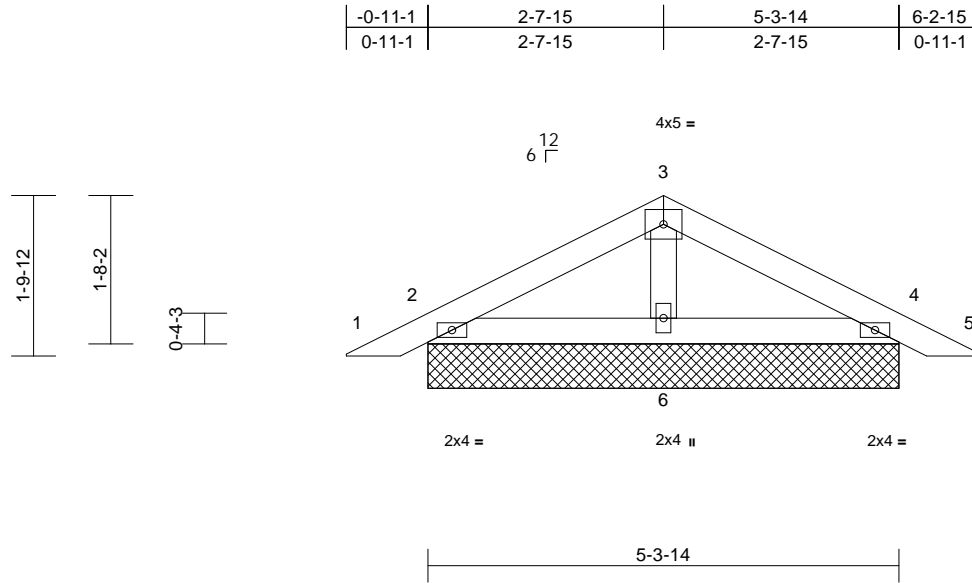


Job 24070013	Truss PB02	Truss Type Piggyback	Qty 2	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103889
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:11  
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Page: 1



Scale = 1:26

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 21 lb	FT = 20%	

**LUMBER**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=5-3-14, 4=5-3-14, 6=5-3-14,  
7=5-3-14, 11=5-3-14  
Max Horiz 2=-26 (LC 15), 7=-26 (LC 15)  
Max Uplift 2=-32 (LC 14), 4=-37 (LC 15), 6=-3  
(LC 14), 7=-32 (LC 14), 11=-37 (LC  
15)  
Max Grav 2=206 (LC 21), 4=206 (LC 22),  
6=206 (LC 22), 7=206 (LC 21),  
11=206 (LC 22)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

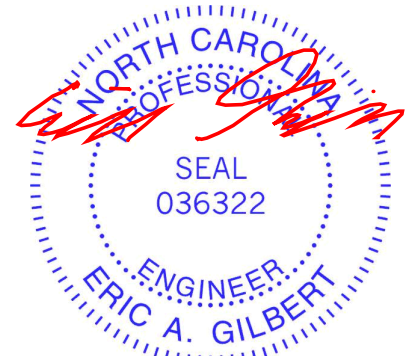
TOP CHORD 1-2=0/25, 2-3=-63/60, 3-4=-63/60, 4-5=0/25  
BOT CHORD 2-6=-6/38, 4-6=0/38  
WEBS 3-6=-107/47

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; 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.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 4, and 6. This connection is for uplift only and does not consider lateral forces.
- 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



June 10, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

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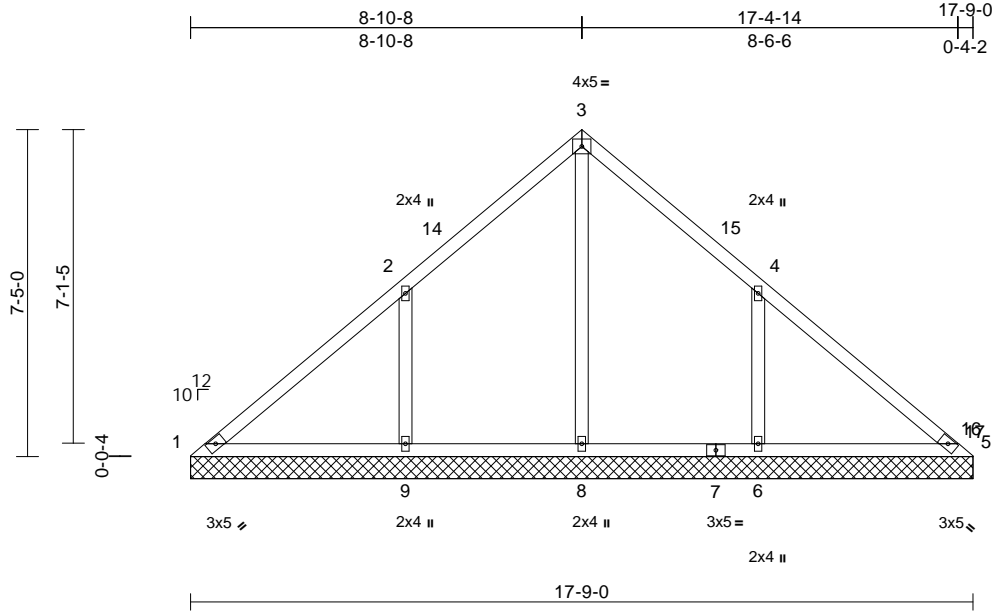
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss V01	Truss Type Valley	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103890
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:11  
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Page: 1



Scale = 1:52.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.33	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 80 lb	FT = 20%	

**LUMBER**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS**

(size) 1=17-9-0, 5=17-9-0, 6=17-9-0,  
8=17-9-0, 9=17-9-0  
Max Horiz 1=169 (LC 11)  
Max Uplift 1=-21 (LC 10), 6=-194 (LC 15),  
9=-197 (LC 14)  
Max Grav 1=117 (LC 25), 5=84 (LC 21),  
6=558 (LC 25), 8=529 (LC 24),  
9=563 (LC 24)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-158/299, 2-3=-81/218, 3-4=-82/199,  
4-5=-118/269  
BOT CHORD 1-9=-167/145, 8-9=-167/145, 6-8=-167/145,  
5-6=-167/145  
WEBS 3-8=-352/0, 2-9=-408/231, 4-6=-408/230

**NOTES**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)  
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-10-13, Exterior(2R) 5-10-13 to 11-10-13, Interior (1) 11-10-13 to 14-4-12, Exterior(2E) 14-4-12 to 17-4-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 3) 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.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1, 197 lb uplift at joint 9 and 194 lb uplift at joint 6.
- 11) 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.

**LOAD CASE(S)** Standard



June 10, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



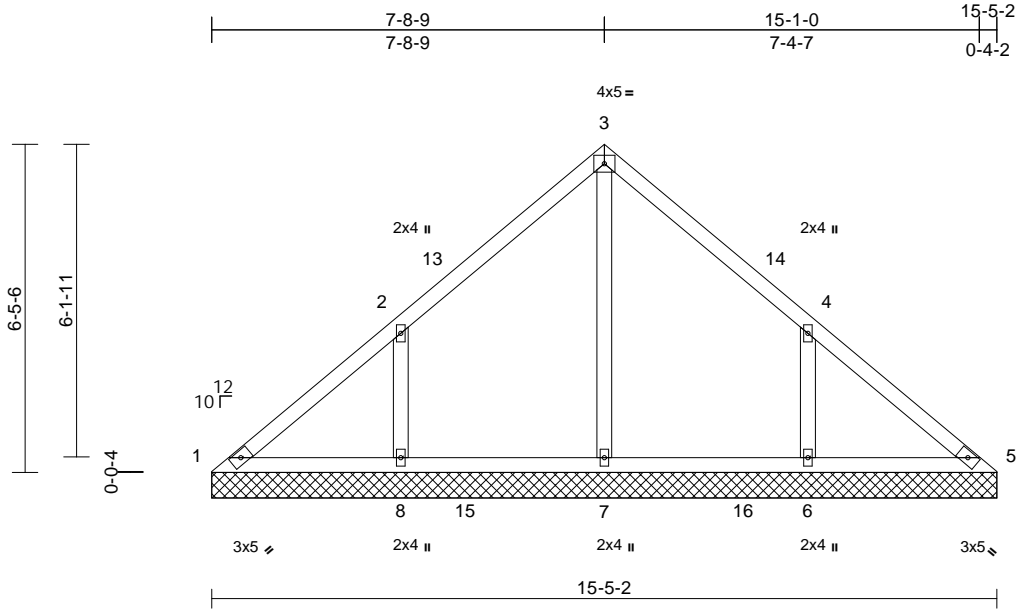
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss V02	Truss Type Valley	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103891
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:11  
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Page: 1



Scale = 1:45.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 68 lb	FT = 20%	

**LUMBER**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS**

(size) 1=15-5-2, 5=15-5-2, 6=15-5-2, 7=15-5-2, 8=15-5-2  
Max Horiz 1=-147 (LC 12)  
Max Uplift 1=-23 (LC 10), 6=-165 (LC 15), 8=-168 (LC 14)  
Max Grav 1=127 (LC 25), 5=102 (LC 21), 6=473 (LC 21), 7=439 (LC 24), 8=473 (LC 20)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-153/181, 2-3=-152/144, 3-4=-152/123, 4-5=-124/143  
BOT CHORD 1-8=-80/133, 7-8=-80/114, 6-7=-80/114, 5-6=-80/114  
WEBS 3-7=-253/0, 2-8=-380/204, 4-6=-380/203

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 4-8-14, Exterior(2R) 4-8-14 to 10-8-14, Interior (1) 10-8-14 to 12-5-6, Exterior(2E) 12-5-6 to 15-5-6 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit 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 23 lb uplift at joint 1, 168 lb uplift at joint 8 and 165 lb uplift at joint 6.
- 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.

**LOAD CASE(S)** Standard



June 10, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



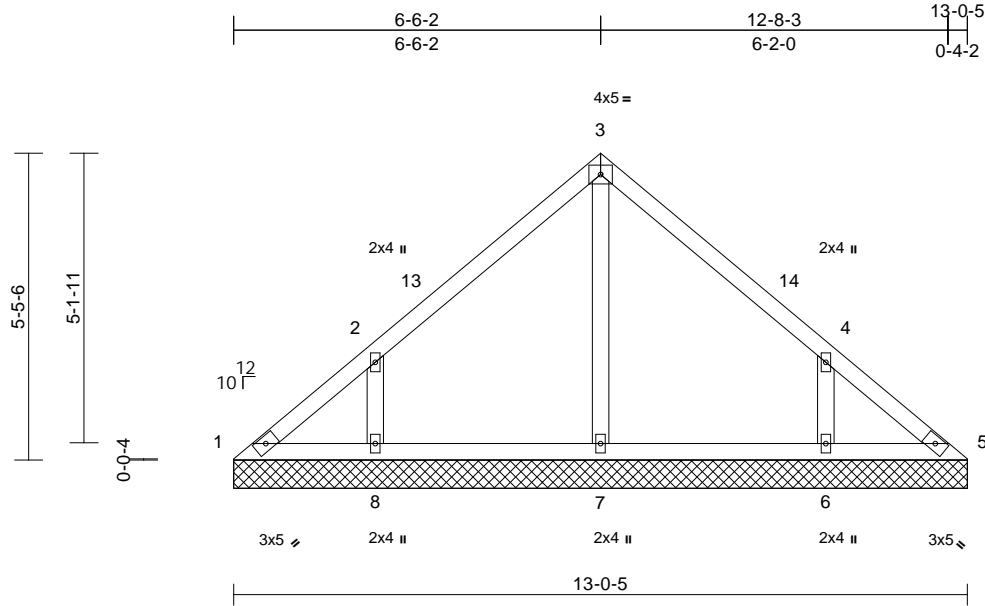
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss V03	Truss Type Valley	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103892
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:11  
ID:n01iifxLSCdWNqT1nz\_jUEz9Jxo-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 55 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

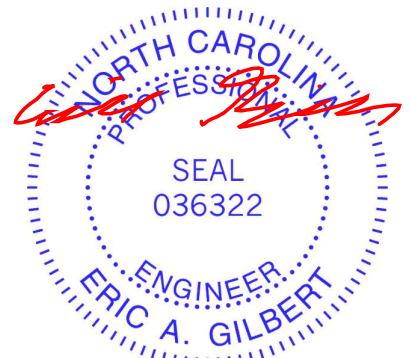
**REACTIONS** (size) 1=13-0-5, 5=13-0-5, 6=13-0-5, 7=13-0-5, 8=13-0-5  
Max Horiz 1=-123 (LC 10)  
Max Uplift 1=-28 (LC 10), 6=-142 (LC 15), 8=-145 (LC 14)  
Max Grav 1=107 (LC 25), 5=85 (LC 24), 6=437 (LC 21), 7=275 (LC 21), 8=437 (LC 20)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-134/110, 2-3=-204/115, 3-4=-204/115, 4-5=-106/68  
BOT CHORD 1-8=-41/101, 7-8=-41/83, 6-7=-41/83, 5-6=-41/83  
WEBS 3-7=-190/0, 2-8=-379/199, 4-6=-379/199

- 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 1, 145 lb uplift at joint 8 and 142 lb uplift at joint 6.
- 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.

**LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 3-6-7, Exterior(2R) 3-6-7 to 9-6-7, Interior (1) 9-6-7 to 10-0-10, Exterior(2E) 10-0-10 to 13-0-10 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



June 10, 2024

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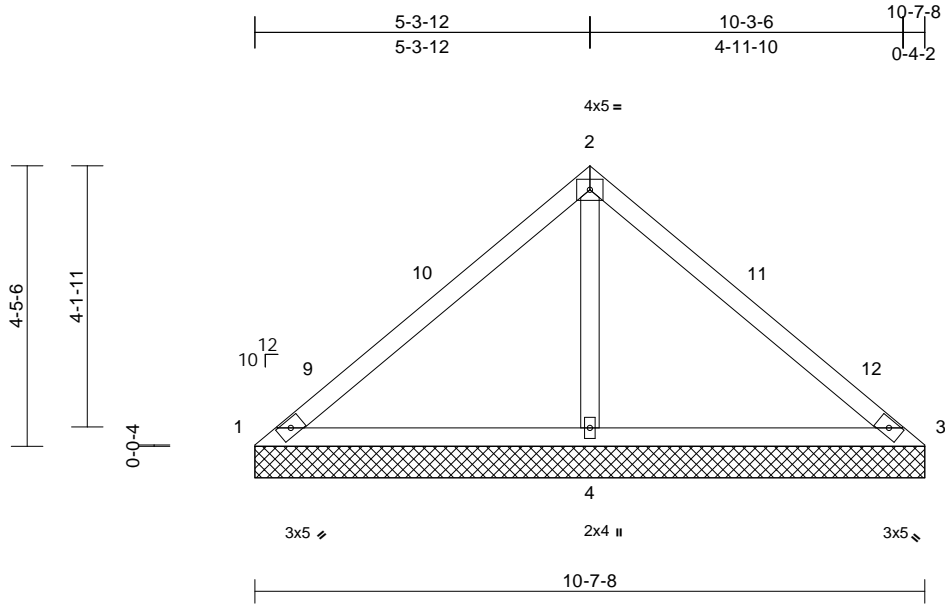
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss V04	Truss Type Valley	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	166103893
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:11  
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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.50	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 41 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 1=10-7-8, 3=10-7-8, 4=10-7-8  
Max Horiz 1=-100 (LC 10)  
Max Uplift 1=-70 (LC 21), 3=-70 (LC 20), 4=-132 (LC 14)  
Max Grav 1=78 (LC 20), 3=78 (LC 21), 4=882 (LC 20)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-138/438, 2-3=-138/438  
BOT CHORD 1-4=-293/193, 3-4=-293/193  
WEBS 2-4=-745/305

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 70 lb uplift at joint 1, 70 lb uplift at joint 3 and 132 lb uplift at joint 4.
- 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.

**LOAD CASE(S)** Standard

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 7-7-13, Exterior(2E) 7-7-13 to 10-7-13 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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.



June 10, 2024

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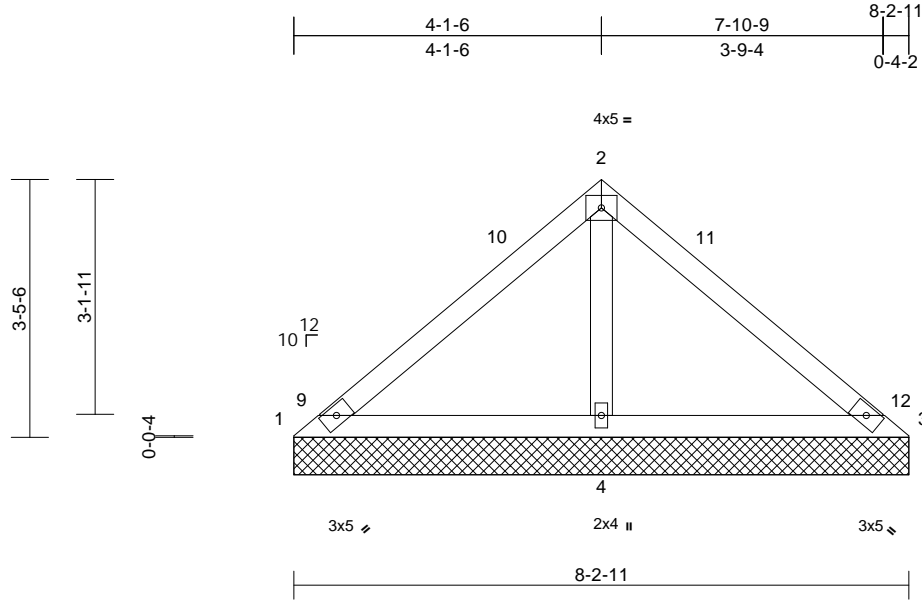
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss V05	Truss Type Valley	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	866103894
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:12  
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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.35	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.12	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 31 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 8-2-11 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 1=8-2-11, 3=8-2-11, 4=8-2-11  
Max Horiz 1=76 (LC 11)  
Max Uplift 1=-39 (LC 21), 3=-39 (LC 20), 4=-95 (LC 14)  
Max Grav 1=92 (LC 20), 3=92 (LC 21), 4=648 (LC 20)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-116/294, 2-3=-116/294  
BOT CHORD 1-4=-227/178, 3-4=-227/178  
WEBS 2-4=-522/242

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 1, 39 lb uplift at joint 3 and 95 lb uplift at joint 4.
- 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.

**LOAD CASE(S)** Standard

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 5-3-0, Exterior(2E) 5-3-0 to 8-3-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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.



June 10, 2024

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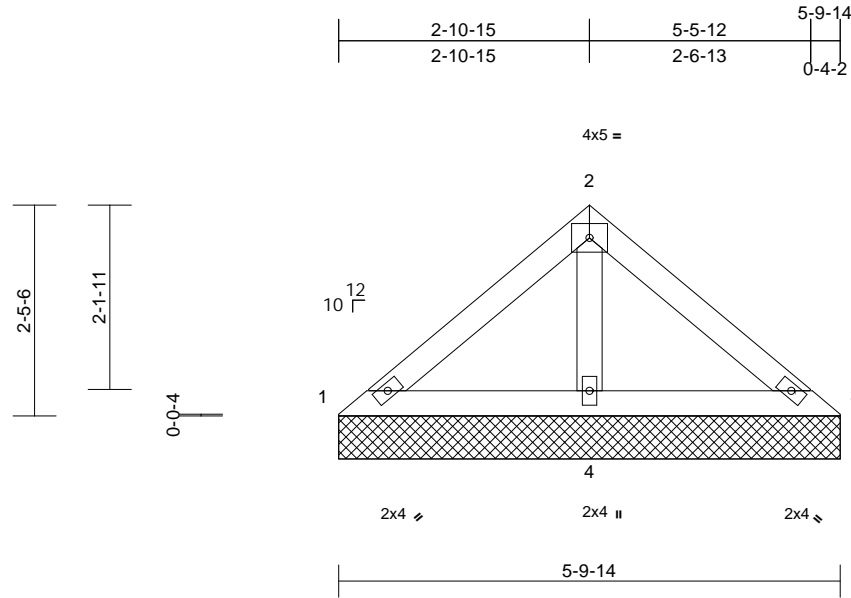
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss V06	Truss Type Valley	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	I66103895
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:12  
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Page: 1



Scale = 1:26.8

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 21 lb	FT = 20%	

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-9-14 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 1=5-9-14, 3=5-9-14, 4=5-9-14  
Max Horiz 1=-53 (LC 12)  
Max Uplift 3=-4 (LC 15), 4=-47 (LC 14)  
Max Grav 1=98 (LC 20), 3=98 (LC 21), 4=384 (LC 20)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-87/149, 2-3=-87/149  
BOT CHORD 1-4=-119/116, 3-4=-119/116  
WEBS 2-4=-291/139

- Unbalanced snow loads have been considered for this design.
  - Gable requires continuous bottom chord bearing.
  - Gable studs spaced at 4-0-0 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 3 and 47 lb uplift at joint 4.
  - 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.
- LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust)  
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; 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.
  - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10



June 10, 2024

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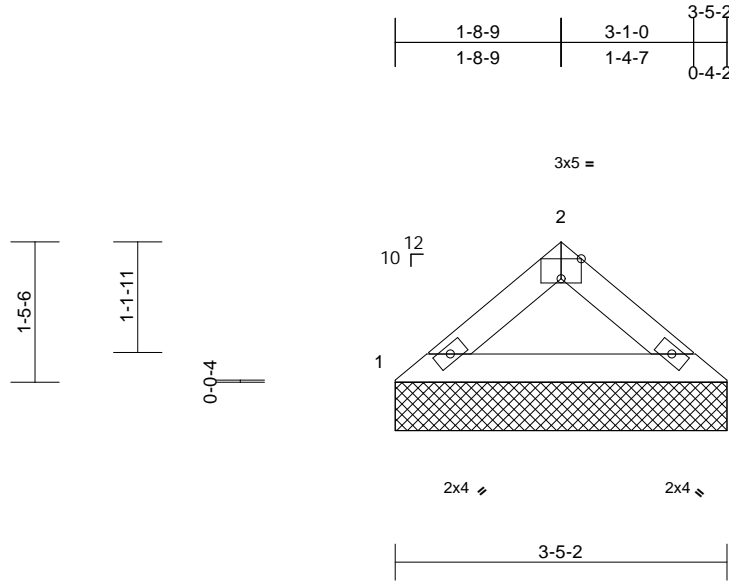
818 Soundside Road  
Edenton, NC 27932

Job 24070013	Truss V07	Truss Type Valley	Qty 1	Ply 1	47 Mason Ridge Roof-Robie L LFT GRH Job Reference (optional)	I66103896
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri Jun 07 11:13:12  
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Page: 1



Scale = 1:23.8

Plate Offsets (X, Y): [2:0-2-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 10 lb	FT = 20%	

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 3-5-2 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=3-5-2, 3=3-5-2  
Max Horiz 1=30 (LC 13)  
Max Uplift 1=-11 (LC 14), 3=-11 (LC 15)  
Max Grav 1=160 (LC 20), 3=160 (LC 21)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-207/80, 2-3=-207/80  
BOT CHORD 1-3=-48/149

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.

- Gable studs spaced at 4-0-0 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 1 and 11 lb uplift at joint 3.
- 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.

**LOAD CASE(S)** Standard



June 10, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

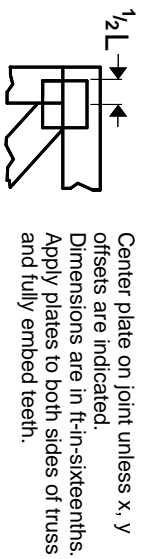
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

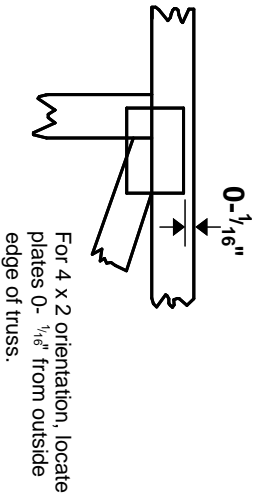


# Symbols

## PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.



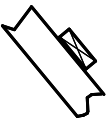
This symbol indicates the required direction of slots in connector plates.

\* Plate location details available in MITek software or upon request.

## PLATE SIZE

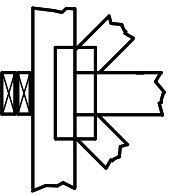
**4 X 4**  
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

## BEARING

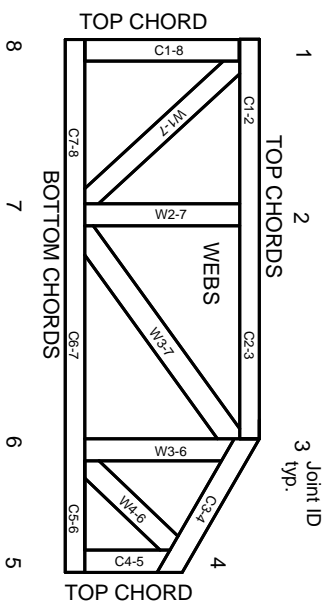


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-22: Design Standard for Bracing.  
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System



**JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.**

**CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.**

# Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282  
ESR-4722, ESL-1388

# Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TP1 section 6.3. These truss designs rely on Lumber values established by others.

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ENGINEERING BY  
**TRENGO**  
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MITek Engineering Reference Sheet: MIL-7473 rev. 1/2/2023

# General Safety Notes

## Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability/bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.