



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

Phone #:919-775-1450

Builder: David Weekley Homes

Model: B326 B CP TMB GLH

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: _____

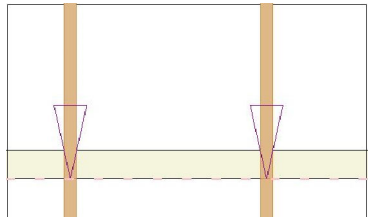
General Notes:

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

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

** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT.

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.

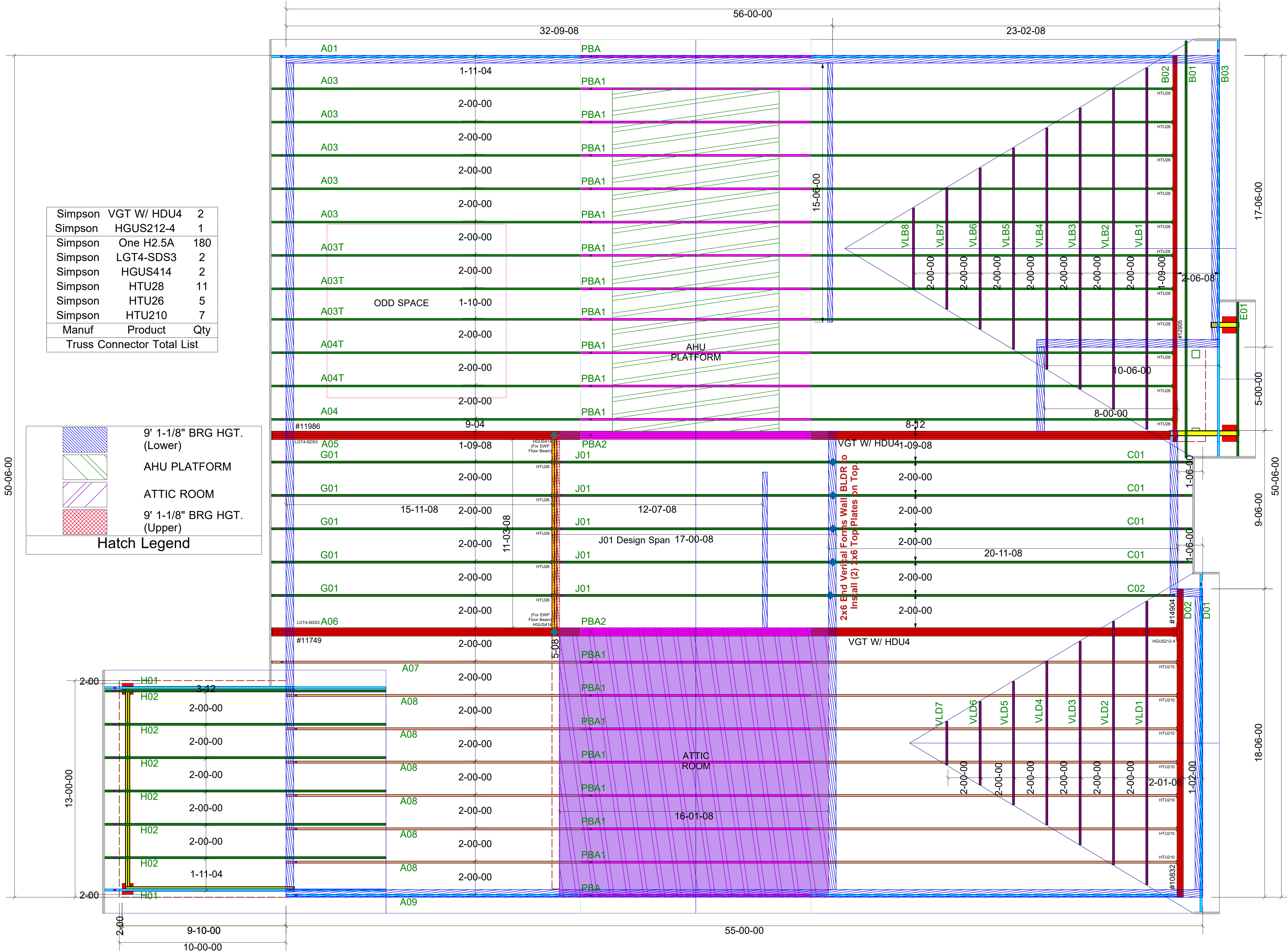


Truss Drawing Left End Indicator

** 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.



Simpson	VGW W/ HDU4	2
Simpson	HGUS212-4	1
Simpson	One H2.5A	180
Simpson	LGT4-SDS3	2
Simpson	HGUS414	2
Simpson	HTU28	11
Simpson	HTU26	5
Simpson	HTU210	7
Manuf	Product	Qty
Truss Connector Total List		

	9' 1-1/8" BRG HGT. (Lower)
	AHU PLATFORM
	ATTIC ROOM
	9' 1-1/8" BRG HGT. (Upper)
Hatch Legend	

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

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 Trusses" available from the Truss Plate Institute, 583 D'Onofrio Drive, Madison, WI 53179.



David Weekley Homes
1017 Serenity / B326 "B"
ROOF PLACEMENT PLAN

Scale:	NTS
Date:	9/29/2025
Designer:	Nick Darr
Project Number:	25090119-01
Sheet Number:	1/1

** 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 ANS/ITPI 1, all uplift connectors are the responsibility of the bldg designer and or contractor.

Trenco

818 Soundside Rd
Edenton, NC 27932

Re: 25090119-01
1017 Serenity-Roof-B326 B CP TMB GLH

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

Pages or sheets covered by this seal: I76702237 thru I76702276

My license renewal date for the state of North Carolina is December 31, 2025.

North Carolina COA: C-0844



October 1, 2025

Pace, Adam

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 MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or 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.

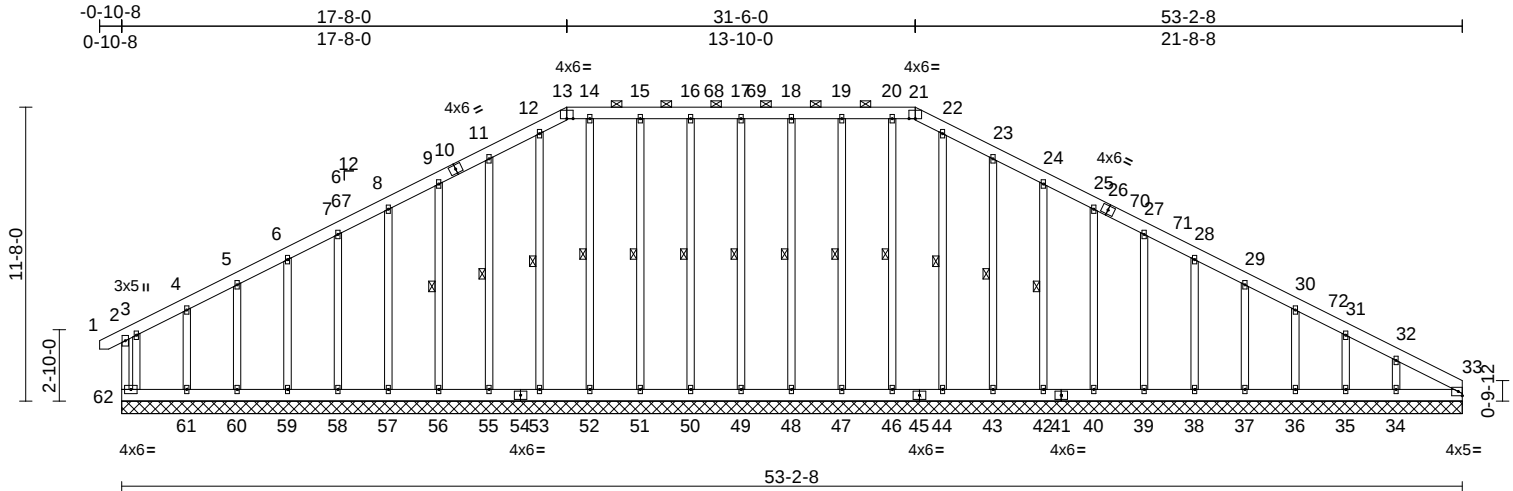
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A01	Piggyback Base Supported Gable	1	1	176702237
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:48

Page: 1

ID:HvYYHe4LpHmiz2Dld9nw5TzRQov-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:91.4

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	0.13	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.01	33	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 546 lb FT = 20%											

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3 *Except*
49-17,48-18,47-19,46-20,44-22,50-16,51-15,
52-14,53-12:2x4 SP No.2

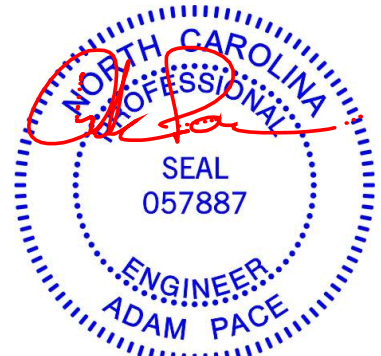
BRACING
TOP CHORD Structural wood sheathing directly applied or
6-0-0 oc purlins, except end verticals, and
2-0-0 oc purlins (10-0-0 max.): 13-21.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc
bracing.
WEBS 1 Row at midpt 17-49, 18-48, 19-47,
20-46, 22-44, 23-43,
24-42, 16-50, 15-51,
14-52, 12-53, 11-55, 9-56

REACTIONS (size)
33=53-2-8, 34=53-2-8, 35=53-2-8,
36=53-2-8, 37=53-2-8, 38=53-2-8,
39=53-2-8, 40=53-2-8, 42=53-2-8,
43=53-2-8, 44=53-2-8, 46=53-2-8,
47=53-2-8, 48=53-2-8, 49=53-2-8,
50=53-2-8, 51=53-2-8, 52=53-2-8,
53=53-2-8, 55=53-2-8, 56=53-2-8,
57=53-2-8, 58=53-2-8, 59=53-2-8,
60=53-2-8, 61=53-2-8, 62=53-2-8
Max Horiz 62=186 (LC 12)
Max Uplift 34=66 (LC 14), 35=171 (LC 15),
36=15 (LC 14), 37=50 (LC 15),
38=42 (LC 15), 39=44 (LC 15),
40=43 (LC 15), 42=46 (LC 15),
43=52 (LC 15), 47=29 (LC 11),
48=28 (LC 11), 49=25 (LC 10),
50=28 (LC 11), 51=29 (LC 10),
55=52 (LC 14), 56=46 (LC 14),
57=43 (LC 14), 58=44 (LC 14),
59=46 (LC 14), 60=22 (LC 14),
61=138 (LC 14), 62=88 (LC 15)

Max Grav 34=413 (LC 25), 35=84 (LC 13),
36=196 (LC 41), 37=153 (LC 59),
38=174 (LC 45), 39=221 (LC 45),
40=230 (LC 45), 42=229 (LC 45),
43=230 (LC 45), 44=217 (LC 45),
46=199 (LC 40), 47=220 (LC 40),
48=217 (LC 40), 49=216 (LC 40),
50=217 (LC 40), 51=220 (LC 40),
52=199 (LC 40), 53=217 (LC 43),
55=234 (LC 43), 56=233 (LC 43),
57=233 (LC 43), 58=233 (LC 43),
59=199 (LC 43), 60=151 (LC 58),
61=255 (LC 51), 62=134 (LC 58)

FORCES (lb) - Maximum Compression/Maximum
Tension
TOP CHORD 2-62=243/191, 1-2=0/23, 2-3=100/92,
3-4=75/120, 4-5=49/115, 5-6=59/156,
6-7=75/201, 7-8=91/246, 8-9=107/291,
9-11=125/338, 11-12=145/387,
12-13=147/384, 13-14=140/380,
14-15=140/380, 15-16=140/380,
16-17=140/380, 17-18=140/380,
18-19=140/380, 19-20=140/380,
20-21=140/380, 21-22=147/384,
22-23=145/387, 23-24=125/338,
24-25=107/291, 25-27=91/246,
27-28=75/201, 28-29=60/160,
29-30=64/136, 30-31=72/111,
31-32=125/100, 32-33=134/115

BOT CHORD 61-62=80/149, 60-61=80/149,
59-60=80/149, 58-59=80/149,
57-58=80/149, 56-57=80/149,
55-56=80/149, 53-55=80/149,
52-53=80/149, 51-52=80/149,
50-51=80/149, 49-50=80/149,
48-49=80/149, 47-48=80/149,
46-47=80/149, 44-46=80/149,
43-44=80/149, 42-43=80/149,
40-42=80/149, 39-40=80/149,
38-39=80/149, 37-38=80/149,
36-37=80/149, 35-36=80/149,
34-35=80/149, 33-34=80/149



October 1,2025

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.sbcacompnents.com)

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A01	Piggyback Base Supported Gable	1	1	I76702237
Job Reference (optional)					

WEBS 17-49=-176/57, 18-48=-177/62,
19-47=-180/61, 20-46=-159/6, 22-44=-177/2,
23-43=-190/87, 24-42=-189/81,
25-40=-190/77, 27-39=-181/77,
28-38=-132/77, 29-37=-125/77,
30-36=-138/78, 31-35=-67/120,
32-34=-241/136, 16-50=-177/62,
15-51=-180/61, 14-52=-159/1, 12-53=-177/0,
11-55=-194/87, 9-56=-193/81, 8-57=-193/77,
7-58=-194/77, 6-59=-157/77, 5-60=-116/91,
4-61=-185/158, 3-62=-226/261

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) -0-8-6 to 4-7-0, Exterior(2N) 4-7-0 to 12-4-3, Corner(3R) 12-4-3 to 22-11-13, Exterior(2N) 22-11-13 to 26-2-3, Corner(3R) 26-2-3 to 36-7-0, Exterior(2N) 36-7-0 to 47-10-11, Corner(3E) 47-10-11 to 53-2-8 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) 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) 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) Gable studs spaced at 2-0-0 oc.
- 11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 12) * 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.
- 13) n/a
- 14) 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.
- 15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

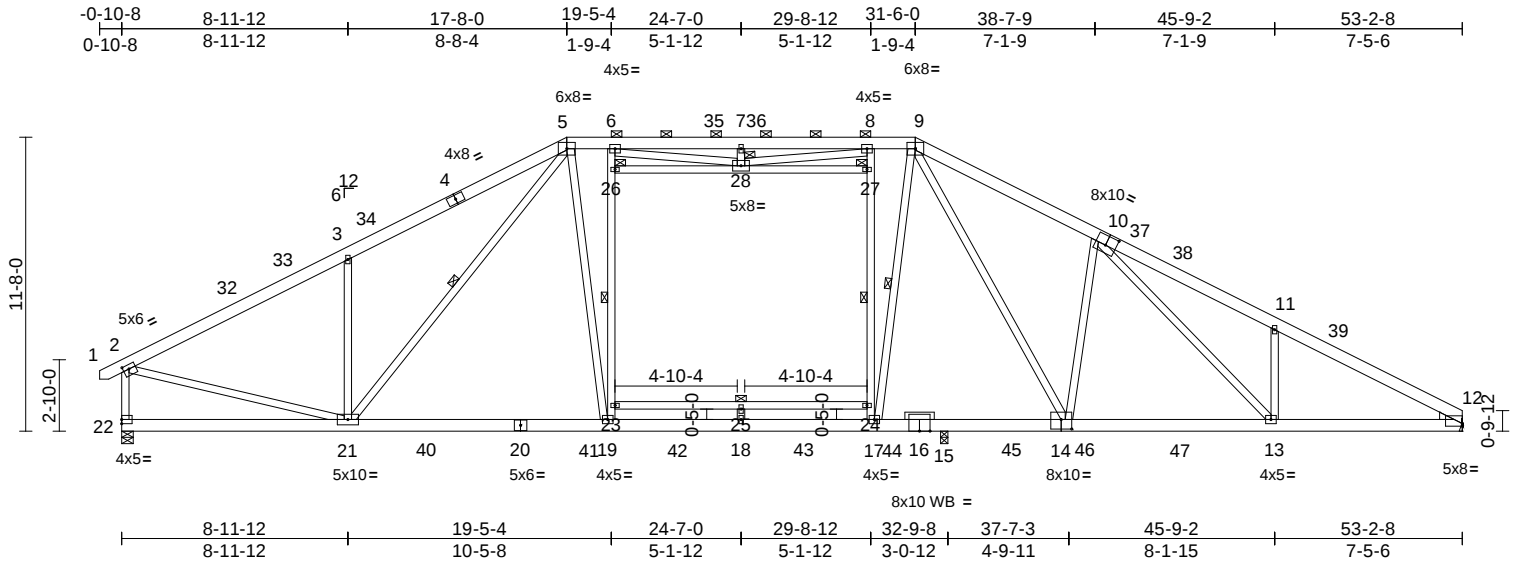
LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A03	Piggyback Base	5	1	176702238
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:50
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Page: 1



Scale = 1:91.4

Plate Offsets (X, Y): [2:0-2-12,0-2-0], [10:0-5-0,0-4-8], [12:Edge,0-1-5], [14:0-5-0,0-4-8]

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	0.88	Vert(LL)	-0.32	19-21	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.50	19-21	>778	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.10	12	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 470 lb FT = 20%											

LUMBER		
TOP CHORD	2x6 SP No.2	
BOT CHORD	2x6 SP 2400F 2.0E *Except* 14-12:2x6 SP No.2	
WEBS	2x4 SP No.3 *Except* 21-2,6-19,8-17,17-9,14-9,19-5,21-5:2x4 SP No.2	
OTHERS	2x4 SP No.3	
WEDGE	Right: 2x4 SP No.3	
BRACING		
TOP CHORD	Structural wood sheathing directly applied or 3-2-9 oc purlins, except end verticals, and 2-0-0 oc purlins (3-8-5 max.): 5-9.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 2-2-0 oc bracing: 12-13.	
WEBS	1 Row at midpt 19-26, 17-27, 9-17, 5-21, 23-24	
JOINTS	1 Brace at Jt(s): 26, 27, 28	
REACTIONS (size)		
	12= Mechanical, 15=0-3-8, 22=0-5-8	
	Max Horiz 22=-186 (LC 12)	
	Max Uplift 12=-25 (LC 14), 15=-202 (LC 15), 22=-167 (LC 14)	
	Max Grav 12=2098 (LC 47), 15=842 (LC 39), 22=2369 (LC 37)	
FORCES (lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=0/23, 2-3=-3256/213, 3-5=-3382/413, 5-6=-2725/221, 6-7=-3236/426, 7-8=-3236/426, 8-9=-2704/219, 9-11=-4172/299, 11-12=-4217/186, 2-22=-2417/212	

BOT CHORD		21-22=-118/222, 19-21=-21/2509, 18-19=-3/2629, 17-18=-3/2629, 15-17=0/2487, 13-15=-38/3144, 12-13=-83/3646
WEBS		2-21=-78/2773, 19-23=-494/240, 23-26=-476/250, 6-26=-463/253, 17-24=-870/220, 24-27=-856/226, 8-27=-835/223, 9-17=-89/937, 10-14=-907/319, 9-14=-186/974, 10-13=-222/774, 11-13=-324/238, 5-19=0/906, 3-21=-842/342, 5-21=-282/512, 23-25=-70/38, 24-25=-70/38, 18-25=0/34, 26-28=-14/48, 27-28=-135/26, 7-28=-255/89, 6-28=-296/704, 8-28=-284/817

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) -0-8-6 to 4-7-7, Interior (1) 4-7-7 to 10-1-12, Exterior(2R) 10-1-12 to 39-1-13, Interior (1) 39-1-13 to 47-10-11, Exterior(2E) 47-10-11 to 53-2-8 zone; end vertical left 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, 24-7-0 from left end, supported at two points, 5-0-0 apart.
- Provide adequate drainage to prevent water ponding.

- All plates are 2x4 MT20 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, 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 25 lb uplift at joint 12.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 22 and 15. 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



October 1, 2025

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)

ENGINEERING BY
TRENCO
A MiTek Affiliate

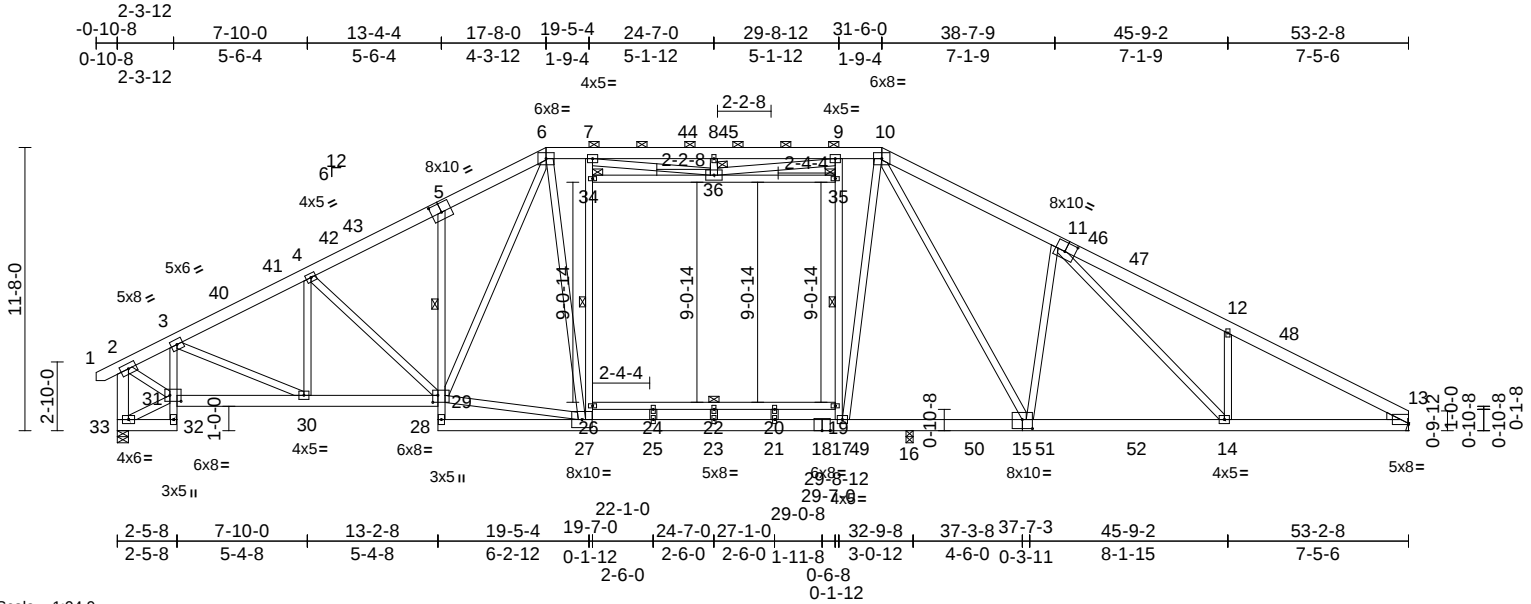
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A03T	Piggyback Base	3	1	Job Reference (optional)
					I76702239

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:50
ID:OFJfX3lDTx6FWWzRbXohbzzRCTM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRcDoi7J4zJC?f

Page: 1



Scale = 1:94.9

Plate Offsets (X, Y): [5:0-5-0,0-4-8], [11:0-5-0,0-4-8], [13:Edge,0-0-9], [15:0-5-0,0-4-8], [29:0-2-8,0-3-8], [31:0-5-8,0-3-0]

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	0.59	Vert(LL)	-0.38	23-25	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.72	23-25	>541	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.16	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 502 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.3 *Except* 33-32,31-29:2x6 SP
No.2, 28-18,15-13,18-15:2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except*
29-6,7-27,9-17,27-6,17-10,15-10,29-27,2-31:
2x4 SP No.2, 33-2:2x6 SP 2400F 2.0E
WEDGE Right: 2x4 SP No.3
BRACING
TOP CHORD Structural wood sheathing directly applied or
3-0-2 oc purlins, except end verticals, and
2-0-0 oc purlins (3-6-4 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc
bracing, Except:
6-0-0 oc bracing: 24-26,22-24,20-22,19-20.
1 Row at midpt 5-29
WEBS 1 Row at midpt 27-34, 17-35
JOINTS 1 Brace at Jt(s): 34,
35, 36

REACTIONS (size) 13= Mechanical, 16=0-3-8,
33=0-5-8
Max Horiz 33=187 (LC 12)
Max Uplift 16=190 (LC 15), 33=-103 (LC 14)
Max Grav 13=2300 (LC 47), 16=960 (LC 39),
33=2616 (LC 37)

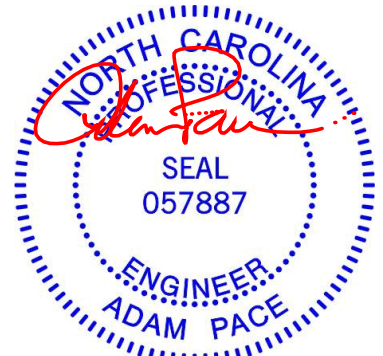
FORCES (lb) - Maximum Compression/Maximum
Tension
TOP CHORD 1-2=0/25, 2-3=-2660/138, 3-4=-3991/143,
4-6=-3996/238, 6-7=-3198/104,
7-8=-3645/322, 8-9=-3645/322,
9-10=-3182/103, 10-12=-4582/194,
12-13=-4627/81, 2-33=-2745/156

BOT CHORD 32-33=-17/36, 31-32=-1/23, 3-31=-1272/92,
30-31=-207/2363, 29-30=-123/3474,
28-29=-41/48, 5-29=-483/168,
27-28=-59/223, 25-27=0/3122, 23-25=0/3122,
21-23=0/3122, 17-21=0/3122, 16-17=0/2923,
14-16=0/3506, 13-14=-53/4013,
24-26=-82/35, 22-24=-82/35, 20-22=-82/35,
19-20=-82/35
WEBS 4-29=-162/160, 6-29=-279/1106,
26-27=-572/197, 26-34=-525/217,
7-34=-511/215, 17-19=-907/201,
19-35=-837/226, 9-35=-818/223, 6-27=0/835,
10-17=-21/1230, 10-15=-207/814,
11-15=-909/321, 11-14=-227/781,
12-14=-327/238, 4-30=-322/60, 3-30=0/1223,
27-29=0/2830, 31-33=-109/207, 22-23=-74/0,
34-36=-18/35, 35-36=-126/21, 8-36=-246/92,
7-36=-310/678, 9-36=-293/777,
2-31=-136/2679, 24-25=-178/0, 20-21=-159/0

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) -0-8-6 to 4-7-7, Interior (1) 4-7-7 to 10-1-12, Exterior(2R) 10-1-12 to 39-1-13, Interior (1) 39-1-13 to 47-10-11, Exterior(2E) 47-10-11 to 53-2-8 zone; end vertical left 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, 24-7-0 from left end, supported at two points, 5-0-0 apart.
- Provide adequate drainage to prevent water ponding.
- All plates are 2x4 MT20 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, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 33 and 16. 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.



October 1,2025

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.sbcacompnents.com)

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH	I76702239
25090119-01	A03T	Piggyback Base	3	1	Job Reference (optional)	

14) 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

 **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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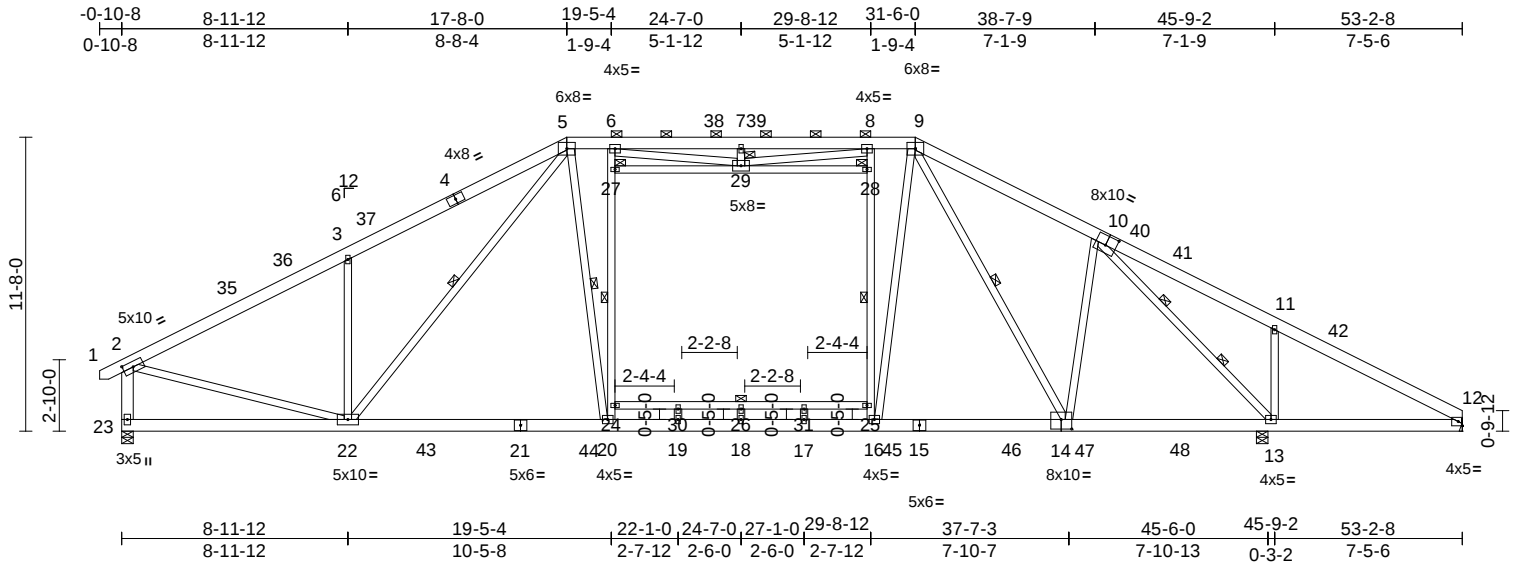
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A04	Piggyback Base	1	1	176702240
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:50
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Page: 1



Scale = 1:91.4									
Plate Offsets (X, Y): [2:0-4-14,0-2-8], [10:0-5-0,0-4-8], [14:0-5-0,0-4-8]									
Loading		(psf)	Spacing		2-0-0	CSI		DEFL	
TCLL (roof)		20.0	Plate Grip DOL		1.15	TC		in (loc) l/defl L/d	
Snow (Pf)		20.0	Lumber DOL		1.15	BC		Vert(LL) -0.37 20-22 >999 240	
TCDL		10.0	Rep Stress Incr		YES	WB		Vert(CT) -0.54 20-22 >999 180	
BCLL		0.0*	Code		IRC2018/TPI2014	Matrix-MSH		Horz(CT) 0.08 12 n/a n/a	
BCDL		10.0						Weight: 471 lb FT = 20%	

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 14-12,15-14:2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 23-2:2x6 SP No.2, 22-2,6-20,8-16,22-5,20-5,16-9,14-9:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-2-10 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-3 max.): 5-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 12-13.
WEBS 1 Row at midpt 20-27, 16-28, 5-22, 5-20, 9-14, 24-25
WEBS 2 Rows at 1/3 pts 10-13
JOINTS 1 Brace at Jt(s): 27, 28, 29

REACTIONS (size) 12= Mechanical, 13=0-5-8, 23=0-5-8
Max Horiz 23=-187 (LC 12)
Max Uplift 12=-192 (LC 14), 13=-377 (LC 15), 23=-150 (LC 14)
Max Grav 12=853 (LC 37), 13=2414 (LC 39), 23=2300 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-3161/190, 3-5=-3277/384, 5-6=-2625/228, 6-7=-3186/434, 7-8=-3186/434, 8-9=-2604/227, 9-11=-2824/498, 11-12=-1467/427, 2-23=-2365/210
BOT CHORD 22-23=-134/277, 20-22=0/2417, 19-20=0/2540, 18-19=0/2540, 17-18=0/2540, 16-17=0/2540, 13-16=-78/2316, 12-13=-321/1259

WEBS 2-22=-48/2608, 20-24=-499/281, 24-27=-482/287, 6-27=-469/290, 16-25=-832/240, 25-28=-832/248, 8-28=-812/245, 3-22=-817/328, 5-22=-290/542, 5-20=-52/877, 9-16=-33/1375, 9-14=-332/53, 10-14=0/550, 10-13=-2239/257, 11-13=-456/260, 24-30=-68/40, 26-30=-68/40, 26-31=-68/40, 25-31=-68/40, 18-26=0/36, 27-29=-49/92, 28-29=-163/43, 7-29=-262/88, 6-29=-308/732, 8-29=-287/840, 19-30=-13/20, 17-31=-27/12

- 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) -0-8-6 to 4-7-7, Interior (1) 4-7-7 to 10-1-12, Exterior(2R) 10-1-12 to 39-1-13, Interior (1) 39-1-13 to 47-10-11, Exterior(2E) 47-10-11 to 53-2-8 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) 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
 - 4) Unbalanced snow loads have been considered for this design.
 - 5) 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.
 - 6) 200.0lb AC unit load placed on the bottom chord, 24-7-0 from left end, supported at two points, 5-0-0 apart.
 - 7) Provide adequate drainage to prevent water ponding.
 - 8) All plates are 2x4 MT20 unless otherwise indicated.

- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * 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.
- 11) Refer to girder(s) for truss to truss connections.
- 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 192 lb uplift at joint 12.
- 13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 23 and 13. This connection is for uplift only and does not consider lateral forces.
- 14) 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.
- 15) 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



October 1,2025

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

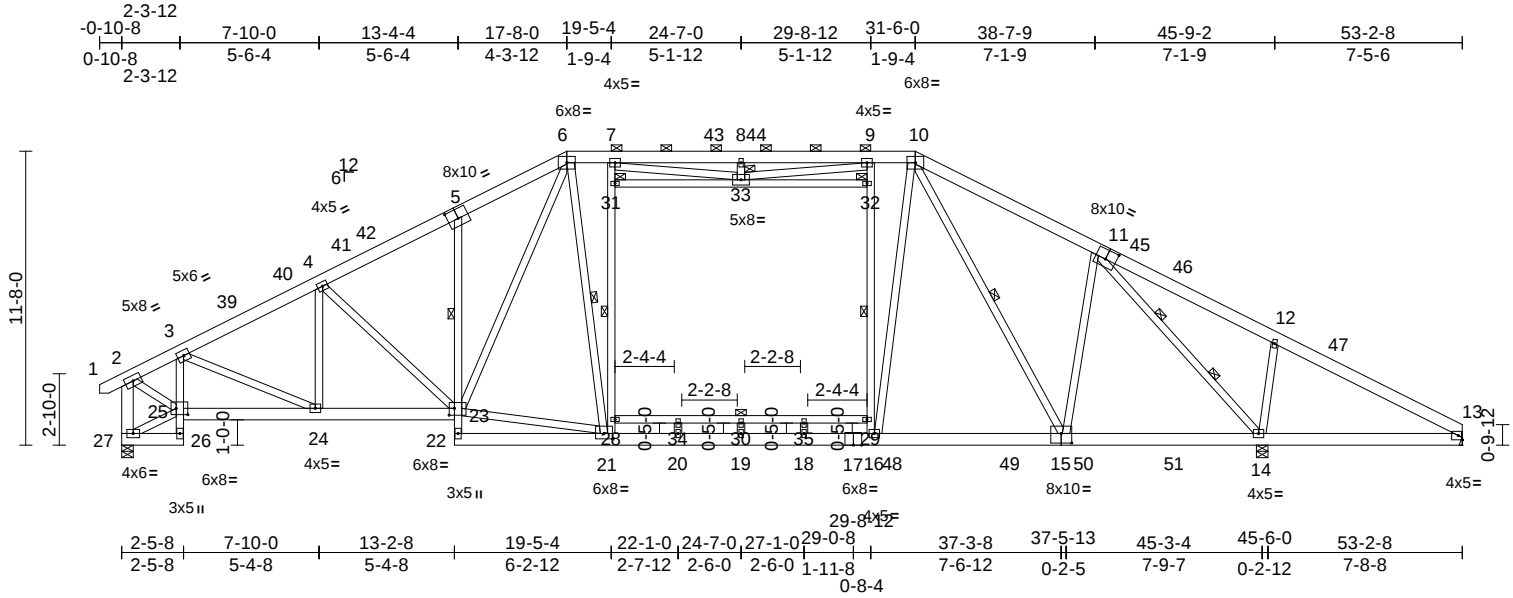
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A04T	Piggyback Base	2	1	176702241
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:51

Page: 1

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Scale = 1:91.4

Plate Offsets (X, Y): [5:0-5-0,0-4-8], [11:0-5-0,0-4-8], [15:0-5-0,0-4-8], [21:0-4-0,0-2-8], [23:0-2-8,0-3-4], [25:0-5-8,0-3-0]

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	0.64	Vert(LL)	-0.32	21-22	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.50	20-21	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.14	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 501 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 26-3,5-22:2x4 SP No.3
WEBS 2x4 SP No.3 *Except*
23-6,7-21,16-9,21-6,16-10,15-10:2x4 SP No.2, 27-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-13 oc purlins, except end verticals, and 2-0-0 oc purlins (3-10-0 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 16-18,15-16.
1 Row at midpt 5-23
WEBS 1 Row at midpt 21-31, 16-32, 6-21, 10-15, 28-29
WEBS 2 Rows at 1/3 pts 11-14
JOINTS 1 Brace at Jt(s): 31, 32, 33

REACTIONS (size) 13= Mechanical, 14=0-5-8, 27=0-5-8
Max Horiz 27=187 (LC 12)
Max Uplift 13=193 (LC 14), 14=375 (LC 15), 27=154 (LC 14)
Max Grav 13=887 (LC 43), 14=2467 (LC 39), 27=2210 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-2269/187, 3-4=-3354/225, 4-6=-3277/330, 6-7=-2481/226, 7-8=-3049/432, 8-9=-3049/432, 9-10=-2464/226, 10-12=-2610/496, 12-13=-1526/437, 2-27=-2349/206

BOT CHORD 26-27=-19/37, 25-26=0/26, 3-25=-1071/126, 24-25=-251/2015, 23-24=-196/2905, 22-23=-27/105, 5-23=-482/167, 21-22=-59/234, 20-21=0/2405, 19-20=0/2405, 18-19=0/2405, 16-18=0/2405, 14-16=-98/2178, 13-14=-329/1312
4-23=-209/135, 6-23=-268/1136, 12-14=-436/244, 21-28=-517/259, 28-31=-493/270, 7-31=-480/266, 16-29=-861/238, 29-32=-859/248, 9-32=-839/245, 6-21=-291/533, 10-16=-27/1363, 10-15=-389/0, 11-15=0/625, 11-14=-2252/272, 25-27=-114/206, 2-25=-184/2284, 21-23=0/2139, 28-34=-69/38, 30-34=-69/38, 30-35=-69/38, 29-35=-69/38, 19-30=0/41, 31-33=-43/92, 32-33=-169/41, 8-33=-260/88, 7-33=-312/720, 9-33=-284/838, 4-24=-271/79, 3-24=-2/980, 20-34=-6/33, 18-35=-31/13

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) -0-8-6 to 4-7-7, Interior (1) 4-7-7 to 10-1-12, Exterior(2R) 10-1-12 to 39-1-13, Interior (1) 39-1-13 to 47-10-11, Exterior(2E) 47-10-11 to 53-2-8 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.
- 200.0lb AC unit load placed on the bottom chord, 24-7-0 from left end, supported at two points, 5-0-0 apart.
- Provide adequate drainage to prevent water ponding.
- All plates are 2x4 MT20 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, 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 193 lb uplift at joint 13.



October 1,2025

Continued on page 2

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH	I76702241
25090119-01	A04T	Piggyback Base	2	1	Job Reference (optional)	

- 13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 14 and 27. This connection is for uplift only and does not consider lateral forces.
- 14) 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.
- 15) 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

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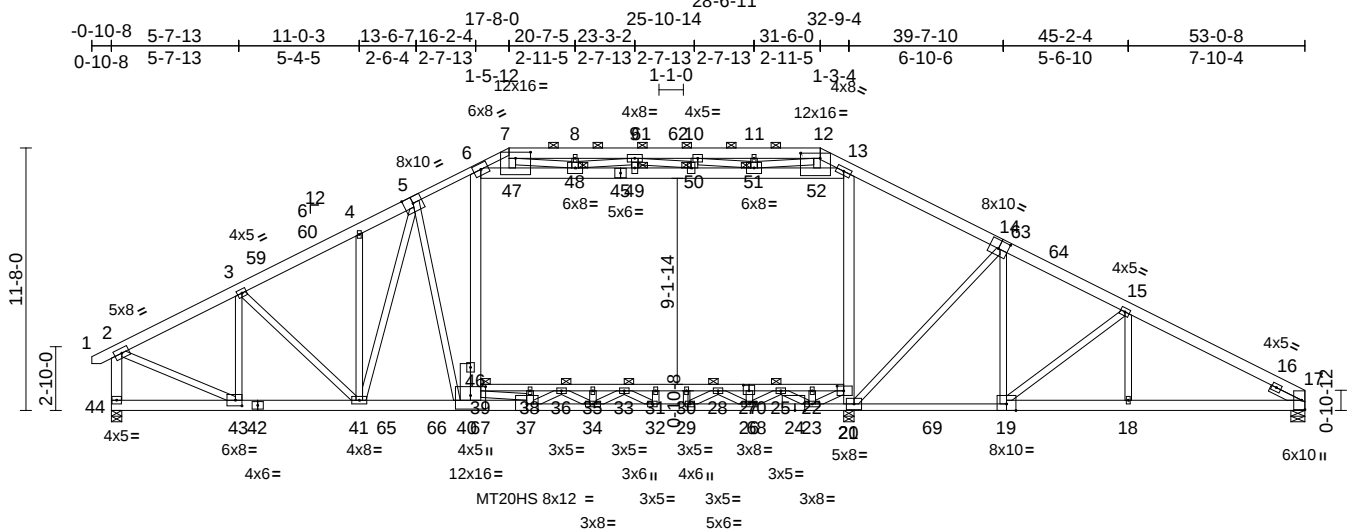
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A05	Attic Girder	1	4	Job Reference (optional)

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

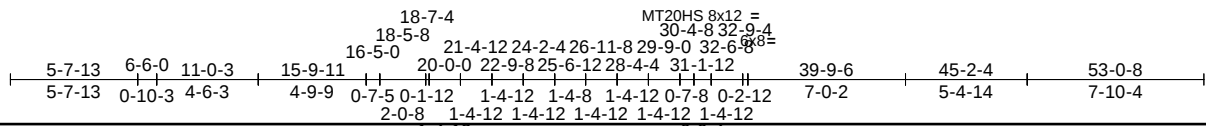
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Page: 1

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PROVIDE CONNECTION OF TRUSS TO BEARING PLATE AT JOINT 20 CAPABLE OF WITHSTANDING 5415 LBS UPLIFT REACTION DUE TO GRAVITY LOADING APPLIED TO THE TRUSS. IT IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT/ENGINEER TO DESIGN THE CONNECTION OF THE TRUSS TO THE BEARING PLATE, PROVIDE AND DESIGN CONNECTION SYSTEM FOR A CONTINUOUS LOAD PATH FROM THE TRUSS TO THE FOUNDATION, AND DESIGN FOOTING/FOUNDATION TO RESIST SUCH UPLIFT. FAILURE TO DO SO WILL VOID THIS CONSTRUCTION.



Scale = 1:102.4

Plate Offsets (X, Y): [7:0-8-0,0-3-4], [12:0-10-8,0-2-12], [14:0-5-0,0-4-8], [21:0-3-8,0-2-8], [24:0-5-4,Edge], [27:0-3-0,0-3-0], [40:0-8-0,0-4-12], [43:0-3-8,0-3-0]

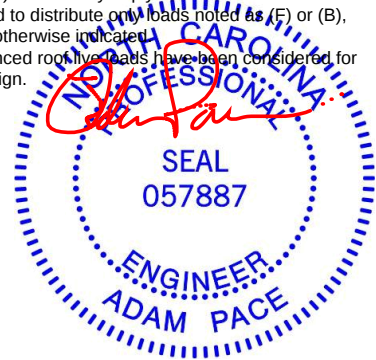
loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.75	Vert(LL)	-0.47	37-40	>840	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.70	37-40	>558	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	NO	WB	0.89	Horz(CT)	0.20	17	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	0.23	21-39	>849	360		
BCDL	10.0										Weight: 2048 lb FT = 20%	

Weight: 2048 lb FT = 20%

LUMBER	
TOP CHORD	2x6 SP No.2 *Except* 5-7:2x4 SP 2400F 2.0E, 14-17:2x6 SP 2400F 2.0E
BOT CHORD	2x4 SP 2400F 2.0E *Except* 42-37,19-17:2x6 SP 2400F 2.0E, 27-21:2x4 SP No.2, 42-44:2x6 SP No.2
WEBS	2x4 SP No.2 *Except* 13-20:2x6 SP 2400F 2.0E, 6-45,44-2,40-46,40-6,45-13:2x6 SP No.2
SLIDER	Right 2x4 SP No.2 -- 1-6-0
BRACING	
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.): 7-12.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
JOINTS	1 Brace at Jt(s): 48, 49, 50, 51, 39, 25, 36, 28, 33
REACTIONS	(size) 17=0-7-7, 20=0-5-8, 44=0-5-8 Max Horiz 44=-188 (LC 10) Max Uplift 17=-451 (LC 12), 20=-5415 (LC 45), 44=-699 (LC 12) Max Grav 17=9350 (LC 46), 20=786 (LC 12), 44=11932 (LC 46)
FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=0/24, 2-3=-13713/800, 3-4=-17642/1055, 4-6=-18906/1144, 6-7=-6043/488, 7-8=-3103/527, 8-9=-3100/525, 9-10=-3731/715, 10-11=-1691/1485, 11-12=-1691/1485, 12-13=-4750/432, 13-15=-18132/1119, 15-17=-17169/902, 17-18=-11734/718

BOT CHORD	43-44=-126/442, 41-43=-752/12264, 40-41=-861/16356, 34-40=-671/17599, 32-34=0/18804, 29-32=0/19376, 26-29=0/18479, 23-26=-263/15959, 20-23=-771/12432, 18-20=-798/16095, 17-18=-733/15001, 38-39=-995/0, 36-38=-1085/0, 35-36=-3377/0, 33-35=-3377/0, 31-33=-3959/0, 30-31=-3959/0, 28-30=-3959/0, 25-28=-2719/0, 22-25=-336/2384, 21-22=-336/2384
WEBS	3-43=-5387/378, 3-41=-242/5005, 4-41=-715/164, 5-40=-135/1588, 20-21=-693/6385, 13-21=-528/7418, 6-47=-10956/708, 47-48=-10567/685, 48-49=-10846/654, 49-50=-10881/656, 50-51=-15880/961, 51-52=-12450/787, 13-52=-13096/825, 2-43=-691/12984, 39-40=-659/7358, 6-39=-545/8850, 7-47=-151/2387, 8-48=-452/63, 9-49=-133/2471, 10-50=-165/76, 11-51=-248/67, 12-52=-210/3499, 21-23=0/2301, 37-39=0/3053, 22-23=-559/0, 37-38=-557/0, 23-25=-2297/0, 36-37=-948/59, 25-26=0/2872, 34-36=0/1732, 26-27=-774/12, 34-35=-925/20, 26-28=-376/115, 33-34=-130/268, 28-29=0/1088, 32-33=-1/679, 29-30=-518/0, 31-32=-294/7, 7-48=-4692/262, 9-48=-4658/364, 9-50=-5162/316, 10-51=-2569/285, 12-51=-5668/328, 14-19=-833/163, 15-19=-148/1465, 14-20=-358/556, 5-41=-2383/128, 15-18=-560/116

- 4-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, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-7-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc, Except member 40-46 2x6 - 3 rows staggered at 0-4-0 oc, member 6-40 2x6 - 2 rows staggered at 0-4-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 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.



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Continued on page 2

NOTES

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

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A05	Attic Girder	1	4	I76702242
Job Reference (optional)					

- 4) 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;
cantilever left and right exposed ; end vertical left and
right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 5) 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
- 6) Unbalanced snow loads have been considered for this
design.
- 7) 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.
- 8) Provide adequate drainage to prevent water ponding.
- 9) All plates are MT20 plates unless otherwise indicated.
- 10) All plates are 2x4 MT20 unless otherwise indicated.
- 11) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 12) * 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.
- 13) Ceiling dead load (5.0 psf) on member(s). 6-47, 47-48,
48-49, 49-50, 50-51, 51-52, 13-52; Wall dead load
(5.0psf) on member(s).13-21, 6-39
- 14) Bottom chord live load (40.0 psf) and additional bottom
chord dead load (5.0 psf) applied only to room. 38-39,
36-38, 35-36, 33-35, 31-33, 30-31, 28-30, 27-28, 25-27,
22-25, 21-22
- 15) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 5415 lb uplift at
joint 20.
- 16) LGT4-SDS3 Simpson Strong-Tie connectors
recommended to connect truss to bearing walls due to
UPLIFT at jt(s) 44. This connection is for uplift only and
does not consider lateral forces.
- 17) One H2.5A Simpson Strong-Tie connectors
recommended to connect truss to bearing walls due to
UPLIFT at jt(s) 17. This connection is for uplift only and
does not consider lateral forces.
- 18) 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.
- 19) Graphical purlin representation does not depict the size
or the orientation of the purlin along the top and/or
bottom chord.
- 20) This truss has large uplift reaction(s) from gravity load
case(s). Proper connection is required to secure truss
against upward movement at the bearings. Building
designer must provide for uplift reactions indicated.
- 21) LGT4 Hurricane ties must have four studs in line below
the truss.
- 22) Hanger(s) or other connection device(s) shall be
provided sufficient to support concentrated load(s) 608
lb down and 52 lb up at 28-8-4, and 9100 lb down and
774 lb up at 16-1-4 on bottom chord. The design/
selection of such connection device(s) is the
responsibility of others.
- 23) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate
Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-7=-60, 7-12=-60, 12-17=-60,
44-53=-20, 21-39=-30, 6-47=-10, 47-48=-10,
45-48=-10, 45-49=-10, 49-50=-10, 50-51=-10,
51-52=-10, 13-52=-10
Drag: 13-21=-10, 39-46=-10, 6-46=-10
Concentrated Loads (lb)
Vert: 40=-4881 (F), 68=-326 (F)

 **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

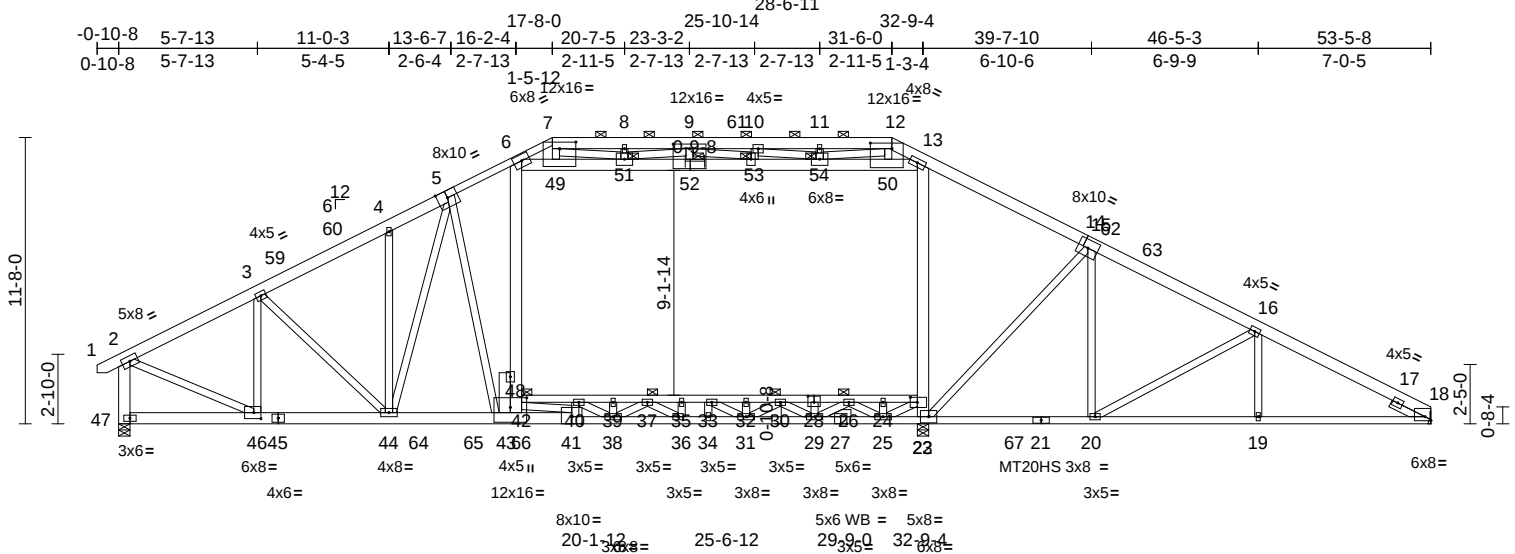
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A06	Attic Girder	1	4	Job Reference (optional)

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

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PROVIDE CONNECTION OF TRUSS TO BEARING PLATE AT JOINT 22 CAPABLE OF WITHSTANDING 5383 LBS UPLIFT REACTION DUE TO GRAVITY LOADING APPLIED TO THE TRUSS. IT IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT/ENGINEER TO DESIGN THE CONNECTION OF THE TRUSS TO THE BEARING PLATE, PROVIDE AND DESIGN CONNECTION SYSTEM FOR A CONTINUOUS LOAD PATH FROM THE TRUSS TO THE FOUNDATION, AND DESIGN FOOTING/FOUNDATION TO RESIST SUCH UPLIFT. FAILURE TO DO SO WILL VOID THIS CONSTRUCTION.

Scale = 1:93.9

Plate Offsets (X, Y): [7:0-8-0,0-3-4], [9:0-8-0,0-2-4], [12:0-10-8,0-2-12], [18:Edge,0-2-0], [23:0-3-8,0-2-8], [28:0-3-0,0-3-0], [43:0-8-0,0-4-12], [46:0-3-8,0-3-0]

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	0.99	-0.49	41-43	>800	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.73	-0.74	41-43	>530	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.21	18	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.24	23-42	>809	360	
BCDL	10.0										
Weight: 2020 lb FT = 20%											

LOADING
TOP CHORD 2x6 SP No.2 *Except* 5-7:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 47-45:2x6 SP No.2, 42-28,28-23:2x4 SP No.2, 45-41:2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 6-43,6-52,47-2,43-48,52-13:2x6 SP No.2, 13-22:2x6 SP 2400F 2.0E, 46-2:2x4 SP No.2
OTHERS 2x4 SP No.3
SLIDER Right 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-4-5 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-12.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 42, 51, 52, 53, 54, 26, 30, 37

REACTIONS (size) 18= Mechanical, 22=0-5-8, 47=0-5-8
Max Horiz 47=190 (LC 10)
Max Uplift 18=421 (LC 12), 22=5383 (LC 45), 47=683 (LC 12)
Max Grav 18=8904 (LC 46), 22=793 (LC 12), 47=11748 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/24, 2-3=-13498/782, 3-4=-17368/1033, 4-6=-18572/1120, 6-7=-6007/480, 7-8=-3098/528, 8-9=-3095/527, 9-10=-3730/713, 10-11=-1716/1437, 11-12=-1716/1437, 12-13=-4562/424, 13-15=-17758/1088, 15-16=-17909/1006, 16-18=-17623/896, 2-47=-11551/702

BOT CHORD 46-47=-124/440, 44-46=-731/12075, 43-44=-832/16083, 38-43=-686/16693, 36-38=0/17735, 34-36=0/18049, 31-34=0/18049, 29-31=0/16737, 25-29=-154/14351, 22-25=-775/12144, 20-22=-780/16080, 19-20=-737/15458, 18-19=-737/15458, 40-42=-790/31, 39-40=-2303/0, 37-39=-2303/0, 35-37=-3084/0, 33-35=-3084/0, 32-33=-2967/0, 30-32=-2967/0, 26-30=-1186/728, 24-26=-366/3070, 23-24=-366/3070
WEBS 3-46=-5311/373, 3-44=-238/4930, 4-44=-697/163, 5-43=-124/1464, 42-43=-614/7199, 6-42=-531/8734, 22-23=-712/6597, 13-23=-513/7232, 6-49=-10641/684, 49-51=-10263/662, 51-53=-11084/660, 53-54=-15528/928, 50-54=-12362/771, 13-50=-12999/808, 2-46=-673/12779, 7-49=-147/2360, 12-50=-204/3452, 7-51=-4776/262, 8-51=-469/63, 9-51=-4230/346, 9-52=-120/2270, 9-53=-4656/281, 10-53=-108/93, 10-54=-2535/279, 11-54=-269/67, 12-54=-5373/307, 23-25=0/1635, 24-25=-569/0, 25-26=-1727/0, 26-29=0/2288, 38-40=0/1572, 28-29=-733/20, 38-39=-499/9, 29-30=-799/0, 37-38=-363/251, 30-31=0/1377, 36-37=0/559, 31-32=-542/0, 35-36=-323/0, 31-33=-172/5, 33-34=-22/125, 41-42=0/2662, 40-41=-885/0, 15-22=-629/212, 15-20=-254/167, 16-20=-135/835, 16-19=-34/151, 5-44=-2270/112

- 4-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, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-4-0 oc, Except member 43-48 2x6 - 3 rows staggered at 0-4-0 oc, member 13-22 2x6 - 2 rows staggered at 0-9-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 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.



October 1,2025

Continued on page 2

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ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A06	Attic Girder	1	4	I76702243
			Job Reference (optional)		

- 4) 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;
cantilever left and right exposed ; end vertical left and
right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 5) 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
- 6) Unbalanced snow loads have been considered for this
design.
- 7) 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.
- 8) Provide adequate drainage to prevent water ponding.
- 9) All plates are MT20 plates unless otherwise indicated.
- 10) All plates are 2x4 MT20 unless otherwise indicated.
- 11) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 12) * 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.
- 13) Ceiling dead load (5.0 psf) on member(s). 6-49, 49-51,
51-52, 52-53, 53-54, 50-54, 13-50; Wall dead load
(5.0psf) on member(s).6-42, 13-23
- 14) Bottom chord live load (40.0 psf) and additional bottom
chord dead load (5.0 psf) applied only to room. 40-42,
39-40, 37-39, 35-37, 33-35, 32-33, 30-32, 28-30, 26-28,
24-26, 23-24
- 15) Refer to girder(s) for truss to truss connections.
- 16) Bearing at joint(s) 47 considers parallel to grain value
using ANSI/TPI 1 angle to grain formula. Building
designer should verify capacity of bearing surface.
- 17) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 5383 lb uplift at
joint 22 and 421 lb uplift at joint 18.
- 18) LGT4-SDS3 Simpson Strong-Tie connectors
recommended to connect truss to bearing walls due to
UPLIFT at jt(s) 47. This connection is for uplift only and
does not consider lateral forces.
- 19) 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.
- 20) Graphical purlin representation does not depict the size
or the orientation of the purlin along the top and/or
bottom chord.
- 21) This truss has large uplift reaction(s) from gravity load
case(s). Proper connection is required to secure truss
against upward movement at the bearings. Building
designer must provide for uplift reactions indicated.
- 22) LGT4 Hurricane ties must have four studs in line below
the truss.
- 23) Hanger(s) or other connection device(s) shall be
provided sufficient to support concentrated load(s) 9100
lb down and 774 lb up at 16-1-4 on bottom chord. The
design/selection of such connection device(s) is the
responsibility of others.
- 24) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate
Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-7=-60, 7-12=-60, 12-18=-60,
47-55=-20, 23-42=-30, 6-49=-10, 49-51=-10,
51-52=-10, 52-53=-10, 53-54=-10, 50-54=-10,
13-50=-10
Drag: 42-48=-10, 6-48=-10, 13-23=-10
Concentrated Loads (lb)
Vert: 43=-4881 (F)

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A07	Attic	1	1	I76702244
			Job Reference (optional)		

- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * 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.
- 11) Ceiling dead load (5.0 psf) on member(s). 5-43, 43-45, 45-46, 46-47, 47-48, 44-48, 12-44; Wall dead load (5.0psf) on member(s).5-38, 12-21
- 12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 37-38, 35-37, 34-35, 32-34, 30-32, 29-30, 27-29, 26-27, 24-26, 22-24, 21-22
- 13) Refer to girder(s) for truss to truss connections.
- 14) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 42 and 19. This connection is for uplift only and does not consider lateral forces.
- 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.
- 16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 17) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

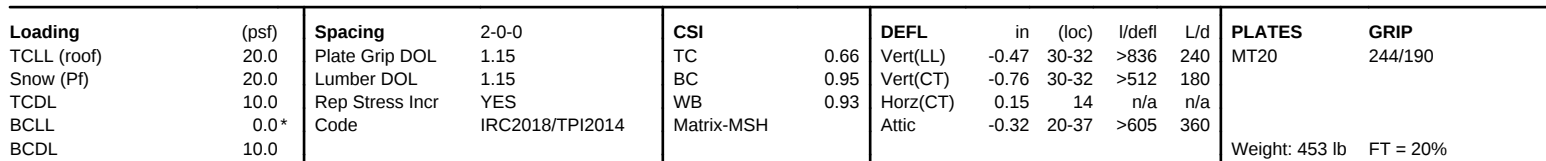
 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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.sbcacompnents.com)



818 Soundside Road
Edenton, NC 27932

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:54 Page: 1

A circular blue seal for the North Carolina Professional Engineer. The outer ring contains the text "NORTH CAROLINA" at the top and "ENGINEER" at the bottom. Inside the ring, the word "PROFESSIONAL" is at the top and "ADAM PACE" is at the bottom. In the center, the word "SEAL" is above the number "057887". A red signature, "Adam Pace", is written across the seal, overlapping the "PROFESSIONAL" and "ADAM PACE" text.

October 1, 2025

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	A08	Attic	6	1	I76702245
Job Reference (optional)					

- 8) * 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.
- 9) Ceiling dead load (5.0 psf) on member(s). 4-42, 42-44, 44-45, 45-46, 46-47, 43-47, 11-43; Wall dead load (5.0psf) on member(s).4-37, 11-20
- 10) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 36-37, 34-36, 33-34, 31-33, 29-31, 28-29, 26-28, 25-26, 23-25, 21-23, 20-21
- 11) Refer to girder(s) for truss to truss connections.
- 12) 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.
- 14) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

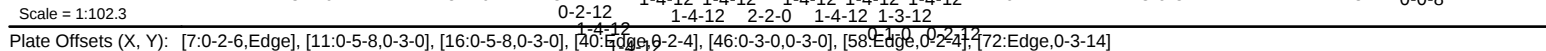
 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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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Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Tue Sep 30 14:18:32 Page: 1



LUMBER		TOP CHORD	8-9=139/259, 9-10=115/292, 10-11=898/249, 11-12=2171/449, 12-13=2165/450, 13-81=2802/576, 14-81=2802/576, 14-15=2145/441, 15-16=2145/441, 16-17=858/233, 17-18=123/307, 18-19=147/294, 19-20=143/269	7) All plates are 2x4 MT20 unless otherwise indicated. 8) Gable studs spaced at 2-0-0 oc. 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads. 10) * 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.
TOP CHORD	2x6 SP No.2			
BOT CHORD	2x4 SP No.2 *Except* 58-46:2x4 SP 2400F 2.0E			
WEBS	2x4 SP 2400F 2.0E *Except* 10-59,17-39:2x6 SP No.2, 10-72,72-17:2x4 SP No.2	WEBS	58-59=1095/37, 10-58=1114/113, 39-40=1085/62, 17-40=1102/149, 10-69=44/659, 69-71=41/648, 71-72=437/2707, 72-74=436/2707, 73-74=443/2765, 70-73=31/579, 17-70=33/588, 15-73=252/68, 11-71=285/1541, 13-71=631/136, 14-73=699/144, 16-73=299/1610	11) Ceiling dead load (5.0 psf) on member(s). 10-69, 69-71, 71-72, 72-74, 73-74, 70-73, 17-70; Wall dead load (5.0psf) on member(s).10-58, 17-40 12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 57-58, 55-57, 54-55, 52-54, 50-52, 49-50, 47-49, 46-47, 44-46, 41-44, 40-41 13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint (s) 68, 64, 59, 39, 31, 37, 35, 34, 32, 30, 62, 63, 65, 66, 67, 28, 28 except (jt=lb) 38=155, 29=102, 60=158.
OTHERS	2x4 SP 2400F 2.0E			
BRACING				
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-1-10 max.): 11-16.			
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 48-51.			
WEBS	1 Row at midpt 10-58, 17-40, 18-38, 19-37, 9-60, 8-62	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) 0-1-12 to 5-5-14, Interior (1) 5-5-14 to 10-1-6, Exterior(2R) 10-1-6 to 39-0-10, Interior (1) 39-0-10 to 48-1-6, Exterior(2E) 48-1-6 to 53-5-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60	
JOINTS	1 Brace at Jt(s): 44, 55, 47, 52, 71, 72, 73, 74			
REACTIONS	All bearings 53-5-8.			
	(lb) - Max Horiz 68=221 (LC 15)			
	Max Uplift All uplift 100 (lb) or less at joint(s) 28, 30, 31, 32, 33, 34, 35, 37, 39, 59, 62, 63, 64, 65, 66, 67, 68, 75 except 29=102 (LC 15), 38=156 (LC 40), 60=158 (LC 40)			
	Max Grav All reactions 250 (lb) or less at joint (s) 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 60, 62, 63, 64, 65, 66, 67, 68, 75 except 39=1113 (LC 40), 42=337 (LC 20), 45=370 (LC 20), 48=319 (LC 20), 51=317 (LC 20), 53=370 (LC 20), 56=340 (LC 20), 59=1124 (LC 40)			
FORCES	(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.			

Continued on page 2

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ENGINEERING BY
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818 Soundside Road
Edenton, NC 27922

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH	I76702246
25090119-01	A09	Attic Supported Gable	1	1	Job Reference (optional)	

- 14) 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.
- 15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 16) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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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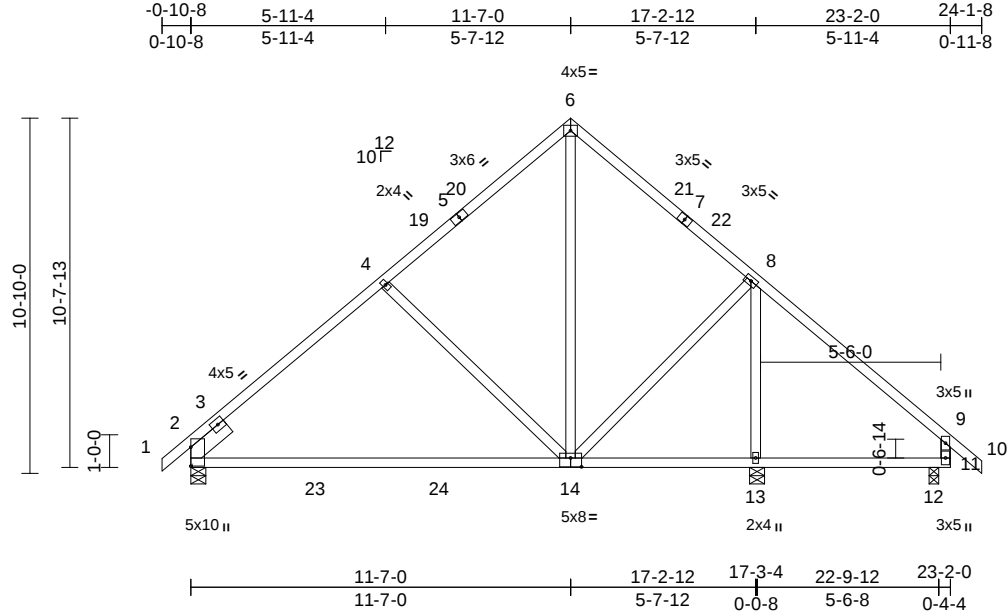
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	B01	Common	1	1	176702247
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:55
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Page: 1



Scale = 1:70.3

Plate Offsets (X, Y): [14:0-4-0,0-3-4]

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	0.65	Vert(LL)	-0.47	14-17	>439	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.76	14-17	>271	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.51	Horz(CT)	0.07	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 133 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3
SLIDER Left 2x6 SP No.2 -- 1-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-6-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 12=0-3-8, 13=0-5-8
Max Horiz 2=264 (LC 13)
Max Uplift 2=-75 (LC 14), 12=-101 (LC 15), 13=-25 (LC 14)
Max Grav 2=895 (LC 5), 12=496 (LC 26), 13=894 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/34, 2-4=-1149/151, 4-6=-727/185, 6-8=-721/180, 8-9=-357/114, 9-10=0/42, 9-11=-394/143
BOT CHORD 2-13=-251/724, 12-13=0/198, 11-12=0/198
WEBS 6-14=-104/474, 8-14=-48/407, 8-13=-824/78, 4-14=-398/238

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 8-7-0, Exterior(2R) 8-7-0 to 14-7-0, Interior (1) 14-7-0 to 21-1-8, Exterior(2E) 21-1-8 to 24-1-8 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
- 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) 2 and 13. This connection is for uplift only and does not consider lateral forces.
- H10A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 12. 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



October 1, 2025

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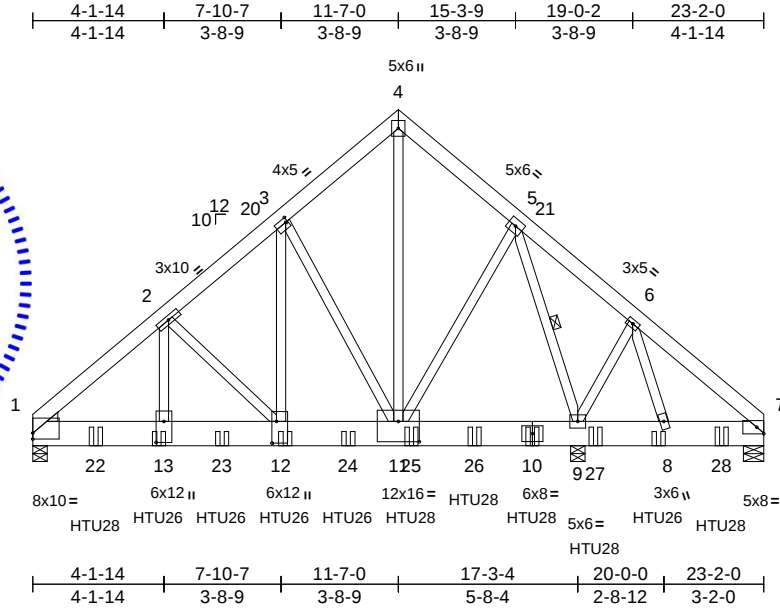
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	B02	Common Girder	1	2	176702248
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:55
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Page: 1



Scale = 1:73

Plate Offsets (X, Y): [1:Edge,0-2-5], [3:0-0-12,0-1-12], [11:0-8-0,0-7-12], [12:0-8-4,0-1-12], [13:0-8-0,0-3-0]

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	0.29	Vert(LL)	-0.09	12-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.37	Vert(CT)	-0.16	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.02	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 480 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x10 SP 2400F 2.0E
WEBS 2x4 SP No.2
WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-8-13 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 5-9

REACTIONS

(size) 1=0-5-8, 7=0-7-12, 9=0-5-8
Max Horiz 1=-227 (LC 8)
Max Uplift 7=-290 (LC 12)
Max Grav 1=8528 (LC 5), 7=650 (LC 19), 9=12464 (LC 6)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-10160/0, 2-3=-7631/0, 3-4=-4911/0, 4-5=-4858/0, 5-6=-168/141, 6-7=-144/558
BOT CHORD 1-13=-85/7699, 12-13=0/7699, 11-12=0/5846, 9-11=0/1835, 8-9=-166/68, 7-8=-356/42
WEBS 2-13=-84/3409, 2-12=-2655/212, 3-12=-287/5415, 3-11=-4414/390, 4-11=0/5839, 5-11=0/4098, 5-9=-6959/0, 6-9=-217/508, 6-8=-690/0

NOTES

- 2-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: 2x10 - 3 rows staggered at 0-4-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 2-13 2x4 - 2 rows staggered at 0-7-0 oc, member 3-12 2x4 - 1 row at 0-7-0 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; TCDL=6.0psf; BCDL=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.
- 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) 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 HTU28 (20-16d Girder, 26-10dx1 1/2 Truss) or equivalent at 2-0-0 from the left end to connect truss(es) to back face of bottom chord.

- Use Simpson Strong-Tie HTU26 (20-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 4-0-0 from the left end to 10-0-0 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 12-0-0 from the left end to 15-10-0 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HTU28 (26-10d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent at 17-10-0 from the left end to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent at 19-10-0 from the left end to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HTU28 (26-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent at 21-10-0 from the left end to connect truss(es) to back face of bottom chord.

October 1,2025

Continued on page 2

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ENGINEERING BY
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	B02	Common Girder	1	2	I76702248
					Job Reference (optional)

- 17) Fill all nail holes where hanger is in contact with lumber.
- LOAD CASE(S)** Standard
- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
- Uniform Loads (lb/ft)
- Vert: 1-4=-60, 4-7=-60, 14-17=-20
- Concentrated Loads (lb)
- Vert: 10=-1957 (B), 13=-1883 (B), 12=-1883 (B), 8=-867 (B), 22=-1883 (B), 23=-1883 (B), 24=-1883 (B), 25=-1957 (B), 26=-1957 (B), 27=-867 (B), 28=-832 (B)

⚠ 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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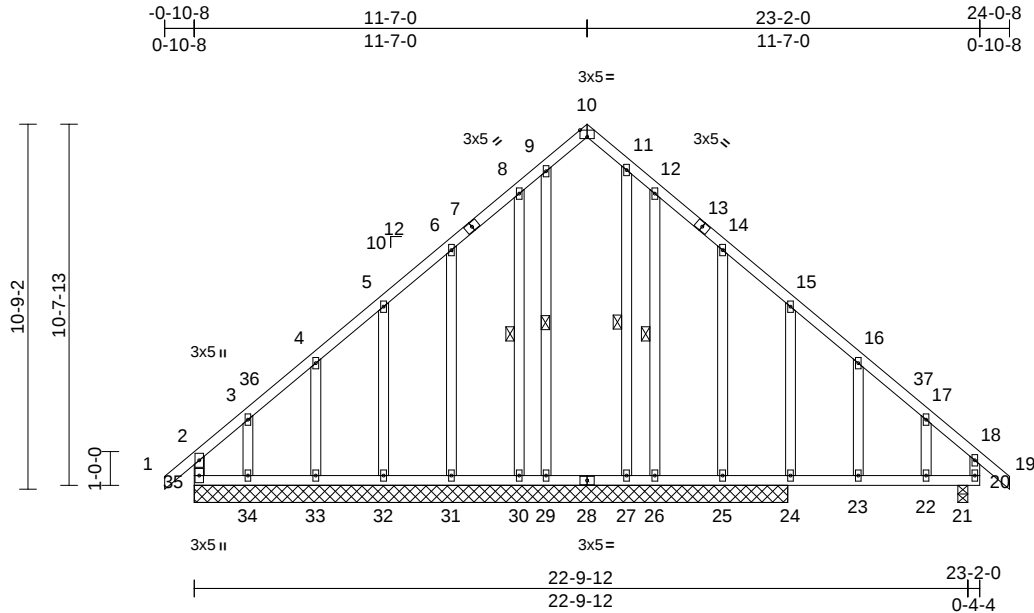
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	B03	Common Supported Gable	1	1	176702249
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:55
ID:onyrlCEMWITAUSFyYbXALJy7LR6-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDdi7J4zJC?I

Page: 1



Scale = 1:67.9

Plate Offsets (X, Y): [10:0-2-8,Edge]

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	0.26	Vert(LL)	0.04	22-23	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.04	22-23	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.16	Horz(CT)	-0.02	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 188 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.
WEBS	1 Row at midpt 9-29, 11-27, 8-30, 12-26

REACTIONS (size)	10=17-6-0, 21=0-3-8, 24=17-6-0, 25=17-6-0, 26=17-6-0, 27=17-6-0, 29=17-6-0, 30=17-6-0, 31=17-6-0, 32=17-6-0, 33=17-6-0, 34=17-6-0, 35=17-6-0
Max Horiz	35=262 (LC 12)
Max Uplift	10=172 (LC 13), 21=85 (LC 15), 24=204 (LC 15), 25=12 (LC 14), 26=82 (LC 15), 27=7 (LC 15), 29=17 (LC 14), 30=60 (LC 14), 31=76 (LC 14), 32=77 (LC 14), 33=61 (LC 14), 34=179 (LC 11), 35=244 (LC 10)
Max Grav	10=475 (LC 15), 21=340 (LC 26), 24=486 (LC 26), 25=111 (LC 22), 26=214 (LC 22), 27=140 (LC 6), 29=155 (LC 5), 30=177 (LC 21), 31=211 (LC 21), 32=196 (LC 25), 33=194 (LC 30), 34=227 (LC 30), 35=389 (LC 26)

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

TOP CHORD	2-35=-304/195, 1-2=0/38, 2-3=-332/271, 3-4=-259/221, 4-5=-253/265, 5-6=-235/308, 6-8=-253/357, 8-9=-270/407, 9-10=-285/438, 10-11=-285/439, 11-12=-272/409, 12-14=-247/354, 14-15=-247/290, 15-16=-137/186, 16-17=-159/128, 17-18=-158/69, 18-19=0/38, 18-20=-206/122
BOT CHORD	34-35=-27/100, 33-34=-27/100, 32-33=-27/100, 31-32=-27/100, 30-31=-27/100, 29-30=-27/100, 27-29=-27/100, 26-27=-27/100, 25-26=-27/100, 24-25=-27/100, 23-24=-27/100, 22-23=-27/100, 21-22=-27/100, 20-21=-27/100
WEBS	9-29=-84/38, 11-27=-82/36, 8-30=-157/72, 6-31=-170/101, 5-32=-143/97, 4-33=-154/99, 3-34=-135/130, 12-26=-168/79, 14-25=-132/77, 15-24=-269/150, 16-23=-54/68, 17-22=-81/70

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 8-7-0, Corner(3R) 8-7-0 to 14-7-0, Exterior(2N) 14-7-0 to 21-0-8, Corner(3E) 21-0-8 to 24-0-8 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.
- 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.
- Bearing at joint(s) 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.



October 1, 2025

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.

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	B03	Common Supported Gable	1	1	I76702249
Job Reference (optional)					

13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 172 lb uplift at joint 10.

14) n/a

15) n/a

16) 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.

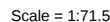
LOAD CASE(S) Standard

 **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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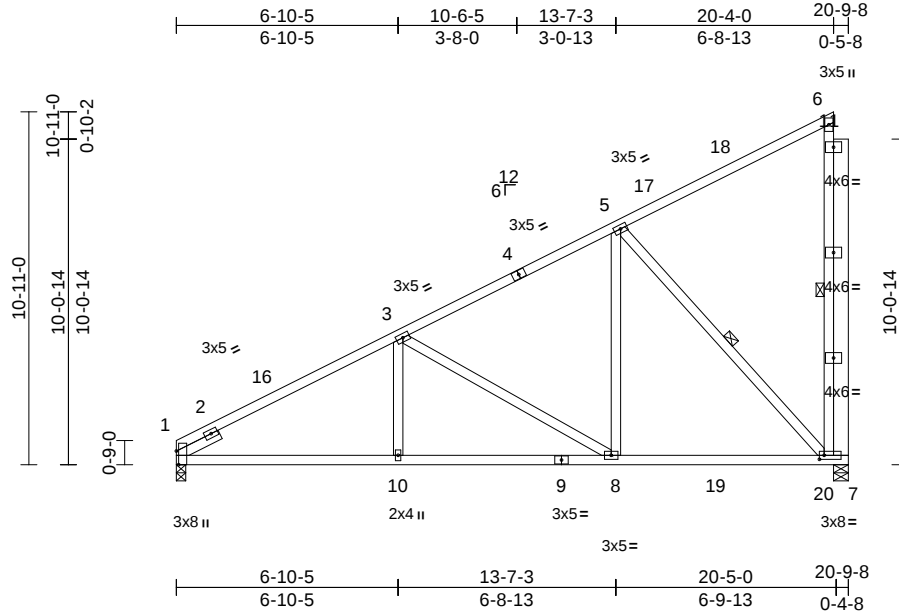
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	C02	Half Hip	1	1	176702251
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:55

Page: 1

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Scale = 1:71.3

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

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	0.82	Vert(LL)	-0.08	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.14	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.75	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 146 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 6-7:2x4 SP No.2
OTHERS	2x6 SP No.2
SLIDER	Left 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-7-1 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS	1 Row at midpt 6-7, 5-7
------	-------------------------

REACTIONS

(size)	1=0-3-8, 7=0-5-8
Max Horiz	1=370 (LC 14)
Max Uplift	1=-30 (LC 14), 7=-342 (LC 14)
Max Grav	1=900 (LC 5), 7=1714 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-3=-1401/30, 3-5=-812/0, 5-6=-162/100, 6-7=-265/95
BOT CHORD	1-10=-405/1286, 8-10=-319/1286, 7-8=-159/716
WEBS	3-10=0/254, 3-8=-658/185, 5-8=0/624, 5-7=-1018/227

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) 0-2-0 to 3-2-0, Interior (1) 3-2-0 to 17-4-4, Exterior(2E) 17-4-4 to 20-4-4 zone; 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 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) 7 and 1. 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.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 752 lb down and 129 lb up at 20-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-60, 7-12=-20
Concentrated Loads (lb)
Vert: 7=-747



October 1,2025

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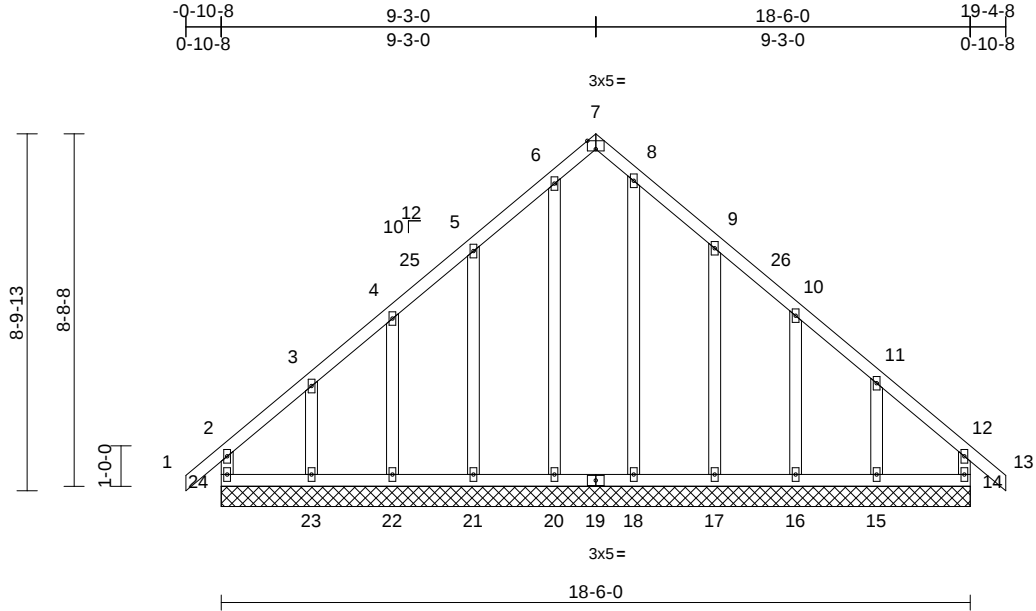
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	D01	Common Supported Gable	1	1	176702252
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:55
ID:8F2D?hHuvW?rb9K6OMb_YzZRQrE-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:56.9

Plate Offsets (X, Y): [7:0-2-8,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	0.21	Vert(LL)	n/a	-	n/a	999	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	0.20	Horz(CT)	0.00	14	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0										
Weight: 127 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 6-0-0 oc bracing.

REACTIONS (size)
14=18-6-0, 15=18-6-0, 16=18-6-0, 17=18-6-0, 18=18-6-0, 20=18-6-0, 21=18-6-0, 22=18-6-0, 23=18-6-0, 24=18-6-0
Max Horiz 24=225 (LC 12)
Max Uplift 14=48 (LC 11), 15=163 (LC 15), 16=46 (LC 15), 17=117 (LC 15), 21=114 (LC 14), 22=47 (LC 14), 23=168 (LC 14), 24=71 (LC 10)
Max Grav 14=190 (LC 30), 15=223 (LC 26), 16=173 (LC 22), 17=255 (LC 22), 18=222 (LC 22), 20=227 (LC 21), 21=252 (LC 21), 22=172 (LC 21), 23=226 (LC 25), 24=206 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-24=-168/64, 1-2=0/39, 2-3=-165/141, 3-4=-106/91, 4-5=-93/116, 5-6=-115/233, 6-7=-96/175, 7-8=-92/166, 8-9=-117/238, 9-10=-76/119, 10-11=-89/71, 11-12=-151/116, 12-13=0/39, 12-14=-155/46
BOT CHORD 23-24=-105/187, 22-23=-105/187, 21-22=-105/187, 20-21=-105/187, 18-20=-105/187, 17-18=-105/187, 16-17=-105/187, 15-16=-105/187, 14-15=-105/187

WEBS
6-20=-187/8, 8-18=-183/11, 5-21=-212/161, 4-22=-142/94, 3-23=-172/158, 9-17=-214/164, 10-16=-143/90, 11-15=-170/170

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 2-2-12, Exterior(2N) 2-2-12 to 6-2-12, Corner(3R) 6-2-12 to 12-2-4, Exterior (2N) 12-2-4 to 16-2-4, Corner(3E) 16-2-4 to 19-4-8 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 71 lb uplift at joint 24, 48 lb uplift at joint 14, 114 lb uplift at joint 21, 47 lb uplift at joint 22, 168 lb uplift at joint 23, 117 lb uplift at joint 17, 46 lb uplift at joint 16 and 163 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



October 1,2025

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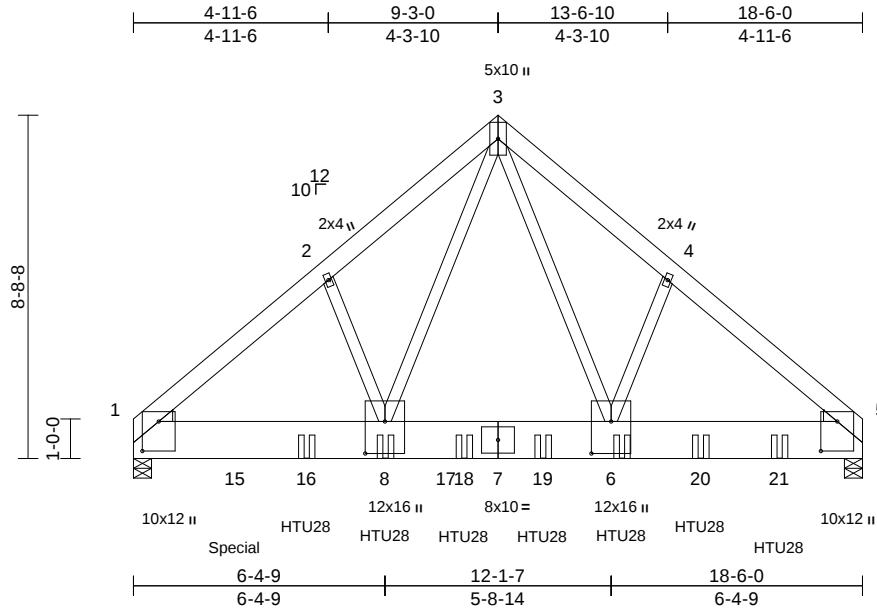
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	D02	Common Girder	1	3	176702253
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:56

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Scale = 1:58.5

Plate Offsets (X, Y): [1:0-9-0,0-5-0], [5:0-9-0,0-5-0], [6:0-9-12,0-6-0], [8:0-9-12,0-6-0]

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	0.37	Vert(LL)	-0.09	8-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.15	8-11	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.02	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
Weight: 546 lb											FT = 20%	

LUMBER

TOP CHORD 2x6 SP No.2
 BOT CHORD 2x12 SP 2400F 2.0E
 WEBS 2x4 SP No.2 *Except* 8-2,6-4:2x4 SP No.3
 WEDGE Left: 2x4 SP No.3
 Right: 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=0-5-8, 5=0-5-8
 Max Horiz 1=-181 (LC 36)
 Max Grav 1=14963 (LC 21), 5=10831 (LC 6)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-14218/0, 2-3=-14152/0, 3-4=-12497/0,
 4-5=-12624/0
 BOT CHORD 1-8=0/10921, 6-8=0/7222, 5-6=0/9610
 WEBS 3-8=0/10693, 2-8=-243/269, 3-6=0/6972,
 4-6=-157/266

NOTES

- 3-ply truss to be connected together as follows:
 Top chords connected with 10d (0.131"x3") nails as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
 Bottom chords connected with Simpson SDS 1/4 x 4-1/2 screws as follows: 2x12 - 3 rows staggered at 0-4-0 oc.
 Web chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 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.

4) 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; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60

5) 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

6) Unbalanced snow loads have been considered for this design.

7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

8) * 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.

9) 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.

10) Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 4-4-12 from the left end to 16-4-12 to connect truss(es) to back face of bottom chord.

11) Fill all nail holes where hanger is in contact with lumber.

12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 8869 lb down and 536 lb up at 2-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (lb/ft)
 Vert: 1-3=-60, 3-5=-60, 9-12=-20
 Concentrated Loads (lb)

Vert: 8=-1893 (B), 6=-1893 (B), 15=-5509 (B),
 16=-1897 (B), 18=-1893 (B), 19=-1893 (B), 20=-1893 (B), 21=-1893 (B)



October 1,2025

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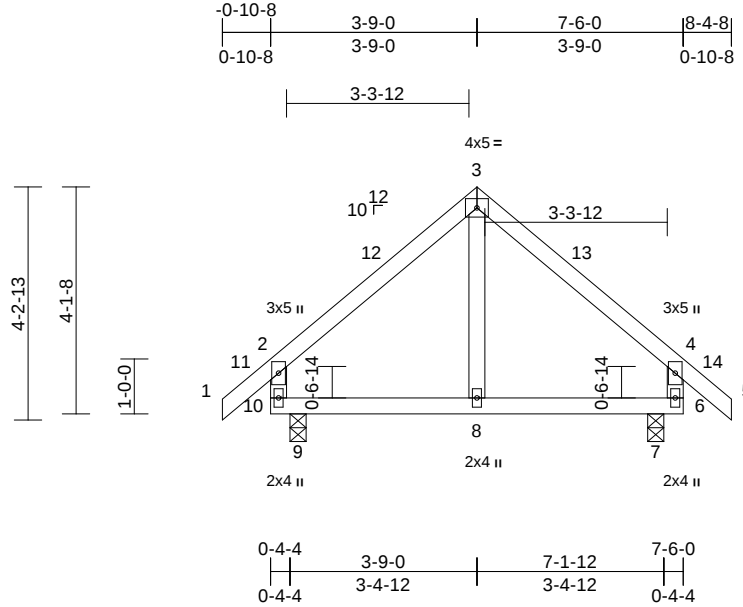
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	E01	Common	1	1	176702254
					Job Reference (optional)

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

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Scale = 1:41.9

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	0.40	Vert(LL)	-0.01	8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.29	Vert(CT)	-0.02	8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 37 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 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size)

7=0-3-8, 9=0-3-8
Max Horiz 9=-114 (LC 12)
Max Uplift 7=-38 (LC 15), 9=-38 (LC 14)
Max Grav 7=460 (LC 22), 9=460 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/49, 2-3=-269/94, 3-4=-269/92, 4-5=0/49, 2-10=-375/177, 4-6=-375/175
BOT CHORD	9-10=-11/120, 8-9=-11/122, 7-8=-11/122, 6-7=-11/122
WEBS	3-8=-26/84

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, Exterior(2R) 2-1-8 to 5-4-8, Exterior(2E) 5-4-8 to 8-4-8 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.
- 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.
- H10A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9 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.

LOAD CASE(S) Standard



October 1, 2025

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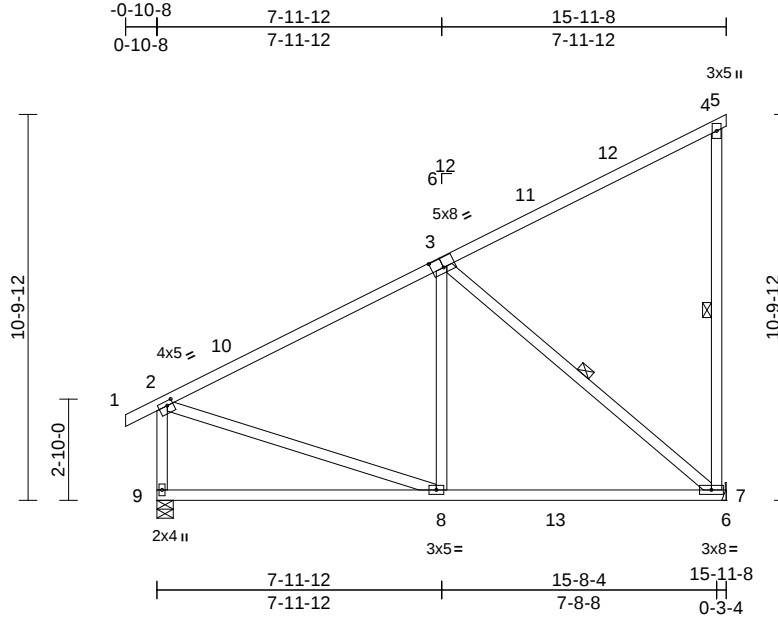
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	G01	Monopitch	5	1	176702255
Job Reference (optional)					

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

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Scale = 1:64.6

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

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	0.95	Vert(LL)	-0.12	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.20	7-8	>923	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.39	Horz(CT)	-0.01	7	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.1 *Except* 1-3:2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3 *Except* 4-7:2x4 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.
 WEBS 1 Row at midpt 4-7, 3-7

REACTIONS

(size) 7= Mechanical, 9=0-5-8
 Max Horiz 9=273 (LC 14)
 Max Uplift 7=-221 (LC 14)
 Max Grav 7=831 (LC 5), 9=754 (LC 5)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/27, 2-4=-677/119, 4-5=-12/0, 4-7=-328/122, 2-9=-655/84

BOT CHORD 8-9=-334/218, 7-8=-195/603, 6-7=0/0

WEBS 3-8=0/313, 3-7=-768/250, 2-8=0/486

NOTES

- 1) 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 12-11-8, Exterior(2E) 12-11-8 to 15-11-8 zone; cantilever left and right exposed; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) 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
- 3) Unbalanced snow loads have been considered for this design.

- 4) 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.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) * 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.
- 7) Refer to girder(s) for truss to truss connections.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 221 lb uplift at joint 7.
- 9) 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



October 1, 2025

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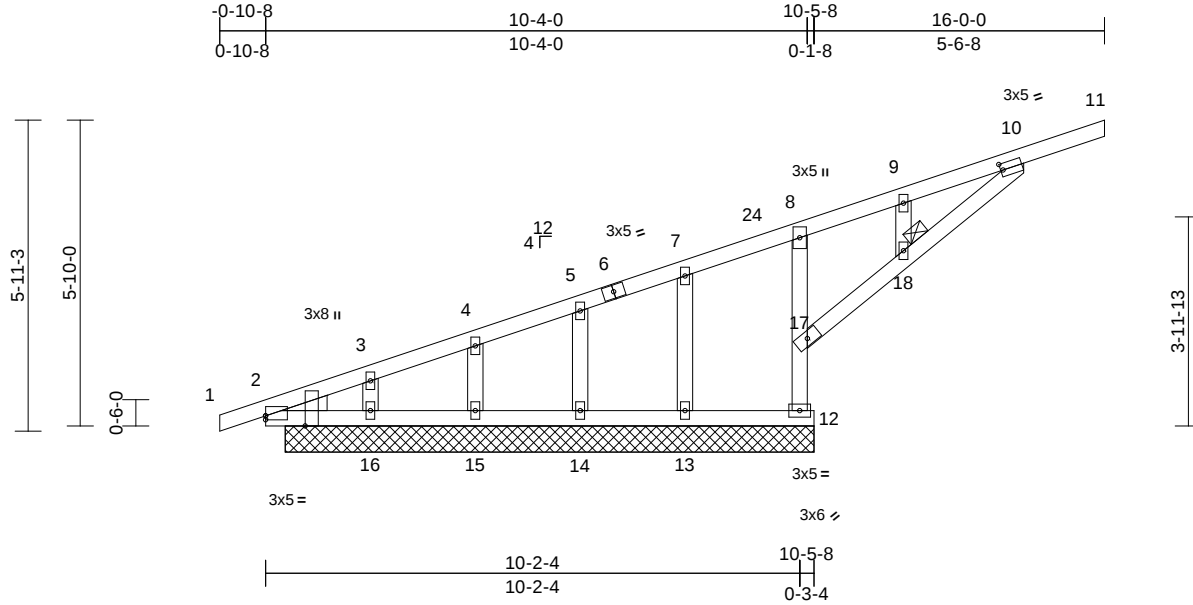
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	H01	Monopitch Supported Gable	2	1	176702256
Job Reference (optional)					

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

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Scale = 1:43.9

Plate Offsets (X, Y): [2:Edge,0-0-14], [2:0-2-5,Edge], [10:0-0-8,0-1-8]

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	0.99	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	-0.08	17	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
WEBS 2x4 SP No.3 *Except* 8-12:2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals. Except: 9-5-0 oc bracing: 12-17
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

JOINTS 1 Brace at Jt(s): 18
REACTIONS (size) 2=10-1-0, 12=10-1-0, 13=10-1-0, 14=10-1-0, 15=10-1-0, 16=10-1-0, 17=10-1-0
Max Horiz 2=180 (LC 10)
Max Uplift 2=-48 (LC 21), 12=-72 (LC 21), 13=-9 (LC 10), 14=-41 (LC 14), 15=-26 (LC 10), 16=-98 (LC 14), 17=-271 (LC 10)
Max Grav 2=123 (LC 14), 12=39 (LC 10), 13=129 (LC 1), 14=172 (LC 21), 15=158 (LC 1), 16=217 (LC 21), 17=875 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-501/428, 3-4=-457/422, 4-5=-425/425, 5-7=-382/407, 7-8=-379/476, 8-9=-444/630, 9-10=-442/697, 10-11=-45/0, 12-17=0/0, 8-17=-364/187
BOT CHORD 2-16=-383/262, 15-16=-383/262, 14-15=-383/262, 13-14=-383/262, 12-13=-383/262

WEBS 3-16=-145/129, 4-15=-125/76, 5-14=-168/114, 7-13=-31/56, 17-18=-793/453, 10-18=-801/464, 9-18=-17/26

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) -0-10-8 to 2-0-0, Interior (1) 2-0-0 to 16-0-0 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.
- 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 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.
- Bearing at joint(s) 17 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 capable of withstanding 72 lb uplift at joint 12, 98 lb uplift at joint 16 and 9 lb uplift at joint 13.
- n/a

- Non Standard bearing condition. Review required.
- 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



October 1,2025

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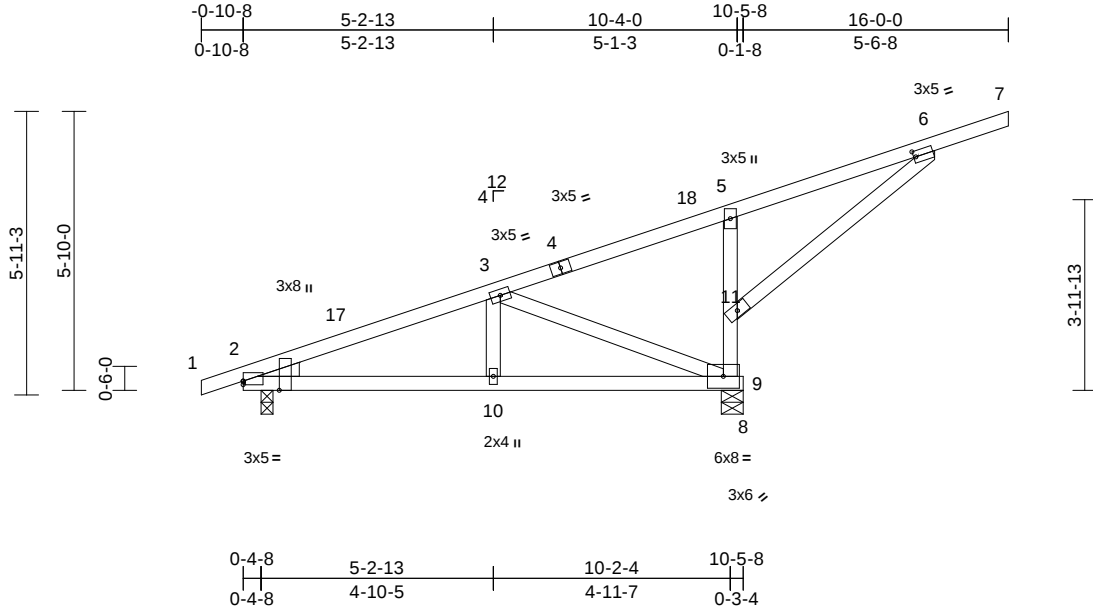
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	H02	Monopitch	6	1	176702257
Job Reference (optional)					

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

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Page: 1



Scale = 1:48.2

Plate Offsets (X, Y): [2:Edge,0-0-14], [2:0-2-5,Edge], [6:0-0-8,0-1-8]

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	0.78	Vert(LL)	0.03	9-10	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.05	9-10	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.01	9	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 66 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 5-9:2x4 SP No.1
WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
Except:
5-3-0 oc bracing: 9-11
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-0, 9=0-5-8
Max Horiz 2=207 (LC 10)
Max Uplift 2=-100 (LC 10), 9=-371 (LC 10)
Max Grav 2=377 (LC 1), 9=1084 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-368/82, 3-5=-393/465, 5-6=-456/707, 6-7=-45/0, 9-11=-847/467, 5-11=-321/163
BOT CHORD 2-10=-230/338, 9-10=-230/338, 8-9=0/0
WEBS 3-10=-124/211, 3-9=-614/478, 6-11=-811/468

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) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 16-0-0 zone; cantilever left exposed ; porch 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.
- * 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) 9 and 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.

LOAD CASE(S) Standard



October 1, 2025

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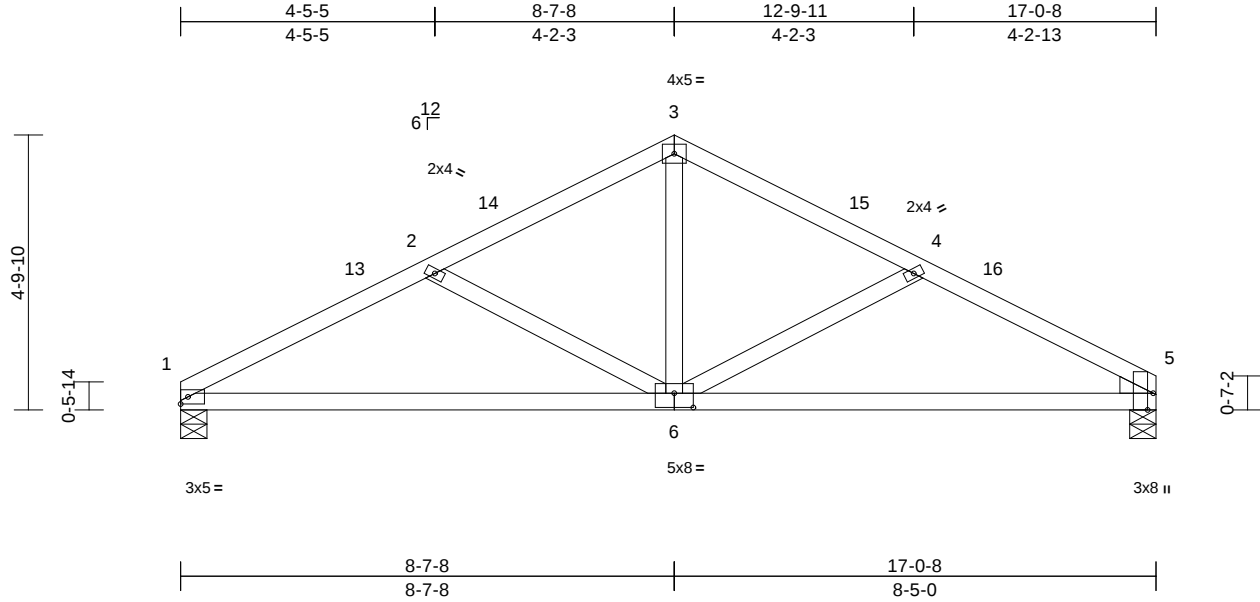
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	J01	Common	5	1	176702258
Job Reference (optional)					

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

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Scale = 1:40.3

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

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	0.38	Vert(LL)	-0.09	6-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.19	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.02	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 75 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
WEDGE Right: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-1-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=0-5-8, 5=0-5-8
Max Horiz 1=71 (LC 14)
Max Uplift 1=-66 (LC 14), 5=-64 (LC 15)
Max Grav 1=747 (LC 20), 5=746 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1256/309, 2-3=-879/232, 3-4=-871/231, 4-5=-1211/300
BOT CHORD 1-5=-221/1083
WEBS 3-6=-51/474, 4-6=-401/159, 2-6=-439/174

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) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 5-7-8, Exterior(2R) 5-7-8 to 11-7-8, Interior (1) 11-7-8 to 14-0-8, Exterior(2E) 14-0-8 to 17-0-8 zone; 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 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.
- Bearings are assumed to be: , Joint 5 SP No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 1.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. 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



October 1, 2025

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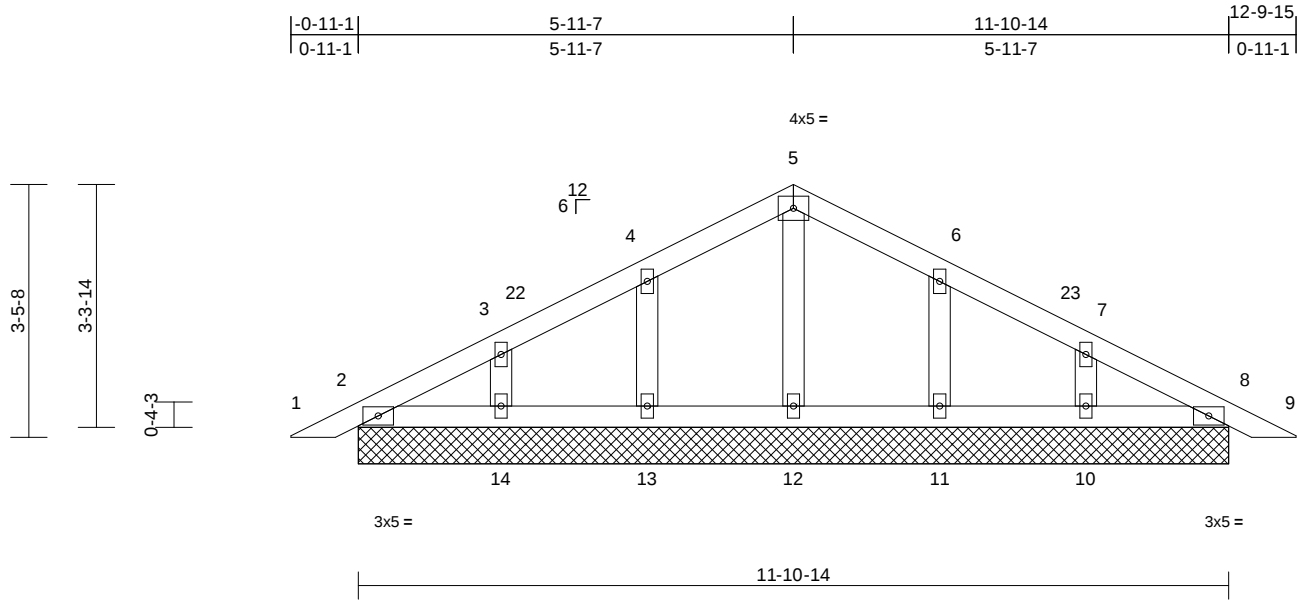
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	PBA	Piggyback	2	1	176702259
Job Reference (optional)					

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

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Scale = 1:31.5

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	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
Weight: 52 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=11-10-14, 8=11-10-14, 10=11-10-14, 11=11-10-14, 12=11-10-14, 13=11-10-14, 14=11-10-14
Max Horiz	2=52 (LC 18)
Max Uplift	2=-9 (LC 15), 8=-12 (LC 15), 10=-45 (LC 15), 11=-47 (LC 15), 13=-47 (LC 14), 14=-46 (LC 14)
Max Grav	2=125 (LC 21), 8=125 (LC 22), 10=240 (LC 22), 11=243 (LC 22), 12=143 (LC 22), 13=243 (LC 21), 14=240 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-46/33, 3-4=-56/50, 4-5=-64/116, 5-6=-64/116, 6-7=-56/50, 7-8=-30/26, 8-9=0/17
BOT CHORD	2-14=-9/67, 13-14=-9/67, 12-13=-9/67, 11-12=-9/67, 10-11=-9/67, 8-10=-9/67
WEBS	5-12=-102/0, 4-13=-207/124, 3-14=-183/114, 6-11=-207/124, 7-10=-183/114

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) 0-4-3 to 3-4-3, Exterior(2N) 3-4-3 to 3-11-0, Corner(3R) 3-11-0 to 9-11-0, Exterior(2N) 9-11-0 to 10-5-13, Corner(3E) 10-5-13 to 13-5-13 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.
- 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.
- 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.
- n/a

- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



October 1, 2025

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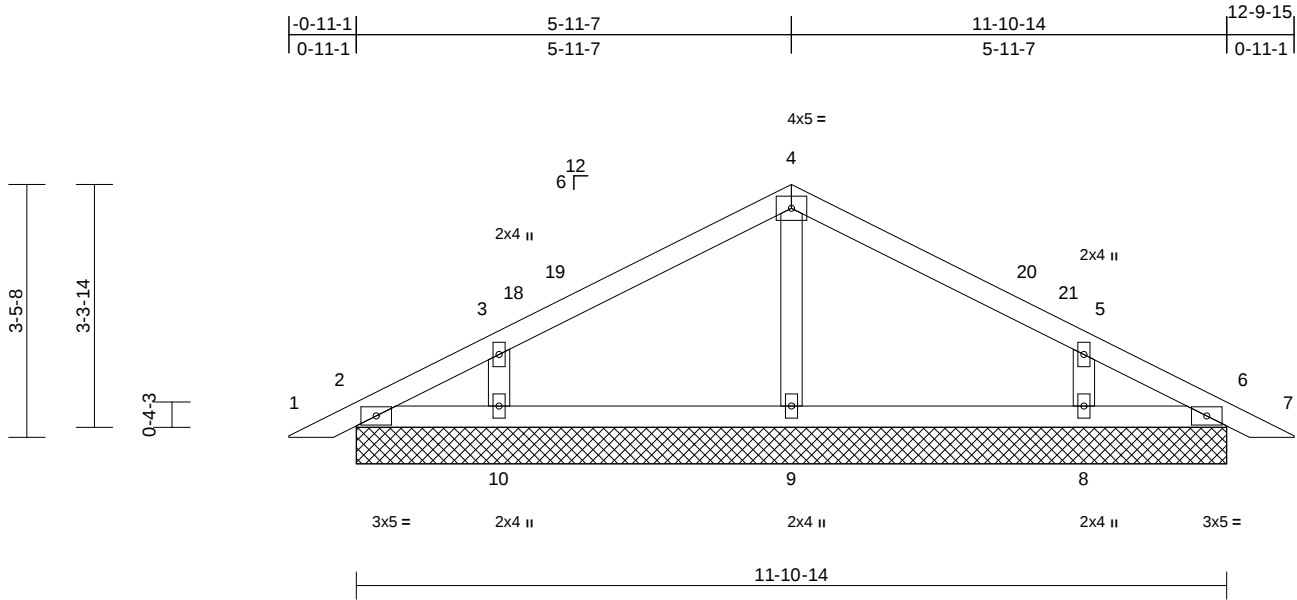
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	PBA1	Piggyback	18	1	176702260
					Job Reference (optional)

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

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Scale = 1:31.5

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	0.28	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	15	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 47 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=11-10-14, 6=11-10-14, 8=11-10-14, 9=11-10-14, 10=11-10-14
Max Horiz	2=52 (LC 18)
Max Uplift	2=-11 (LC 15), 6=-4 (LC 11), 8=-87 (LC 15), 10=-87 (LC 14)
Max Grav	2=87 (LC 1), 6=87 (LC 1), 8=423 (LC 22), 9=301 (LC 21), 10=423 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-54/45, 3-4=-124/96, 4-5=-124/96, 5-6=-34/45, 6-7=0/17
BOT CHORD	2-10=-7/46, 9-10=-2/46, 8-9=-2/46, 6-8=-7/46
WEBS	4-9=-214/91, 3-10=-377/199, 5-8=-377/199

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) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 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.
- 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 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.
- n/a

- 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



October 1, 2025

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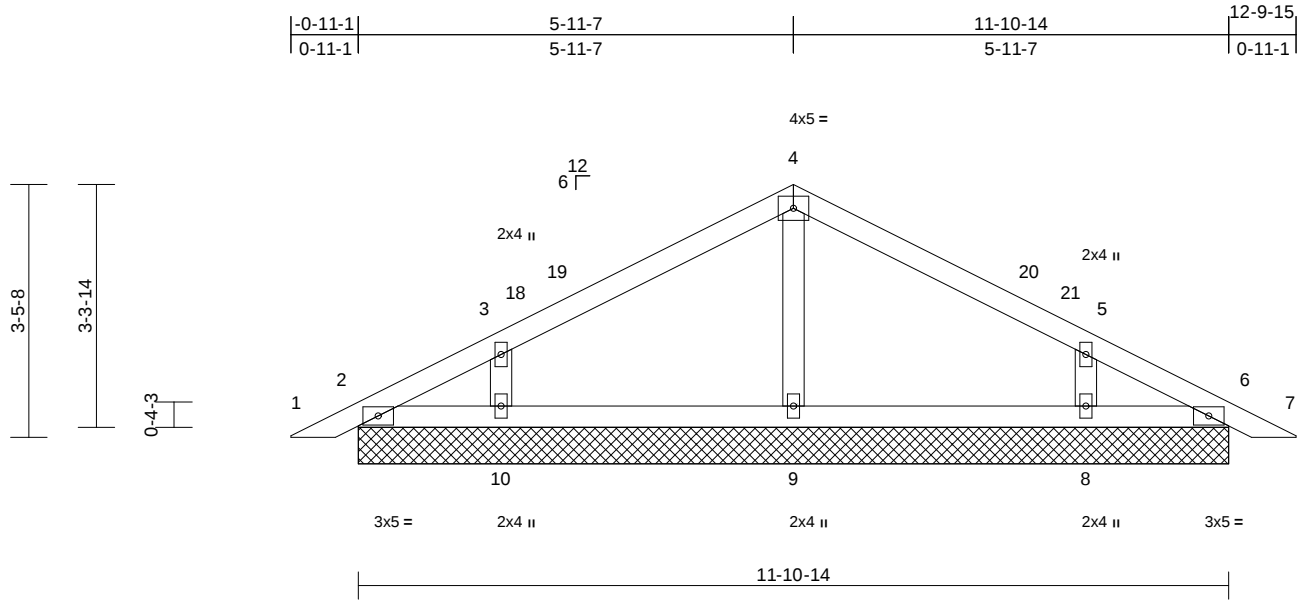
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH	176702261
25090119-01	PBA2	Piggyback	2	4	Job Reference (optional)	

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

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Scale = 1:31.5

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	0.07	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	15	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 188 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=11-10-14, 6=11-10-14, 8=11-10-14, 9=11-10-14, 10=11-10-14
Max Horiz	2=52 (LC 18)
Max Uplift	2=-11 (LC 15), 6=-4 (LC 11), 8=-87 (LC 15), 10=-87 (LC 14)
Max Grav	2=86 (LC 1), 6=86 (LC 1), 8=423 (LC 22), 9=302 (LC 21), 10=423 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-53/45, 3-4=-123/96, 4-5=-123/96, 5-6=-33/45, 6-7=0/17
BOT CHORD	2-10=-8/47, 9-10=-2/46, 8-9=-2/46, 6-8=-8/47
WEBS	4-9=-215/91, 3-10=-375/198, 5-8=-375/198

NOTES

- 4-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 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; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 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.
- 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 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.
- n/a
- 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



October 1, 2025

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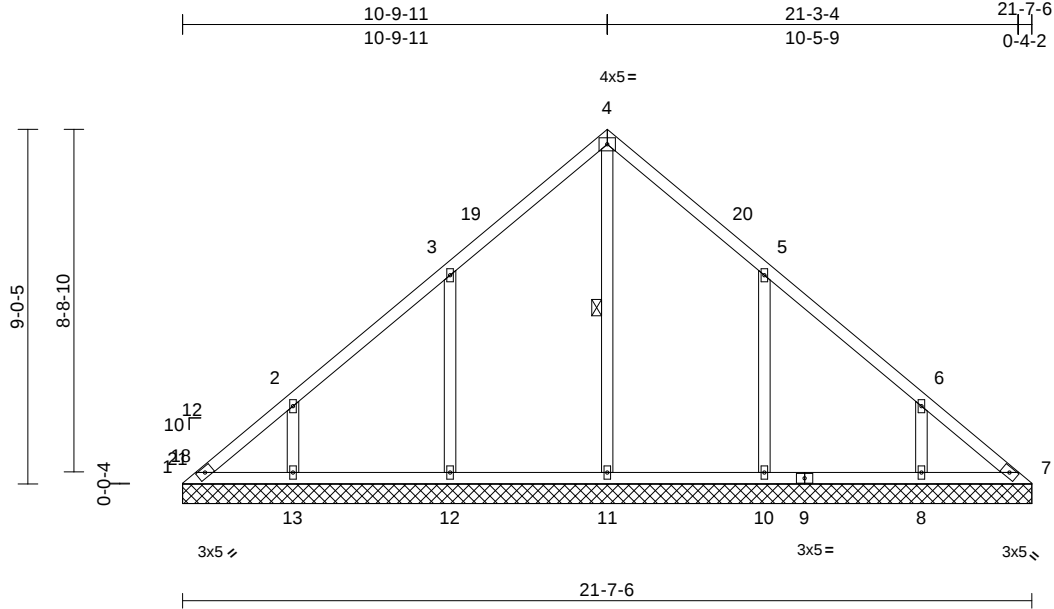
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH	176702262
25090119-01	VLB1	Valley	1	1	Job Reference (optional)	

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

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Page: 1



Scale = 1:58.7

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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.01	7	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
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.

WEBS 1 Row at midpt 4-11

REACTIONS (size)	1=21-7-6, 7=21-7-6, 8=21-7-6, 10=21-7-6, 11=21-7-6, 12=21-7-6, 13=21-7-6
Max Horiz	1=-207 (LC 10)
Max Uplift	1=-54 (LC 10), 7=-1 (LC 11), 8=-115 (LC 15), 10=-174 (LC 15), 12=-173 (LC 14), 13=-118 (LC 14)
Max Grav	1=134 (LC 25), 7=119 (LC 27), 8=364 (LC 25), 10=473 (LC 6), 11=416 (LC 27), 12=473 (LC 5), 13=367 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension

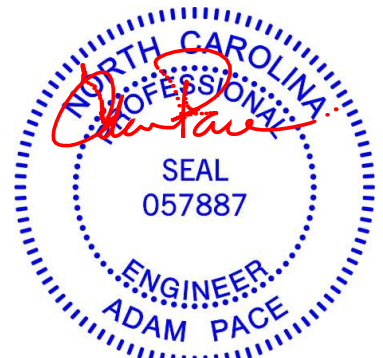
TOP CHORD	1-2=-211/174, 2-3=-165/132, 3-4=-188/184, 4-5=-188/157, 5-6=-116/82, 6-7=-166/107
BOT CHORD	1-13=-79/161, 12-13=-79/161, 11-12=-79/161, 10-11=-79/161, 8-10=-79/161, 7-8=-79/161
WEBS	4-11=-209/4, 3-12=-376/222, 2-13=-264/163, 5-10=-376/222, 6-8=-265/161

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) 0-4-13 to 3-4-13, Interior (1) 3-4-13 to 7-10-0, Exterior(2R) 7-10-0 to 13-10-0, Interior (1) 13-10-0 to 18-7-11, Exterior(2E) 18-7-11 to 21-7-11 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- 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 54 lb uplift at joint 1, 1 lb uplift at joint 7, 173 lb uplift at joint 12, 118 lb uplift at joint 13, 174 lb uplift at joint 10 and 115 lb uplift at joint 8.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 1, 2025

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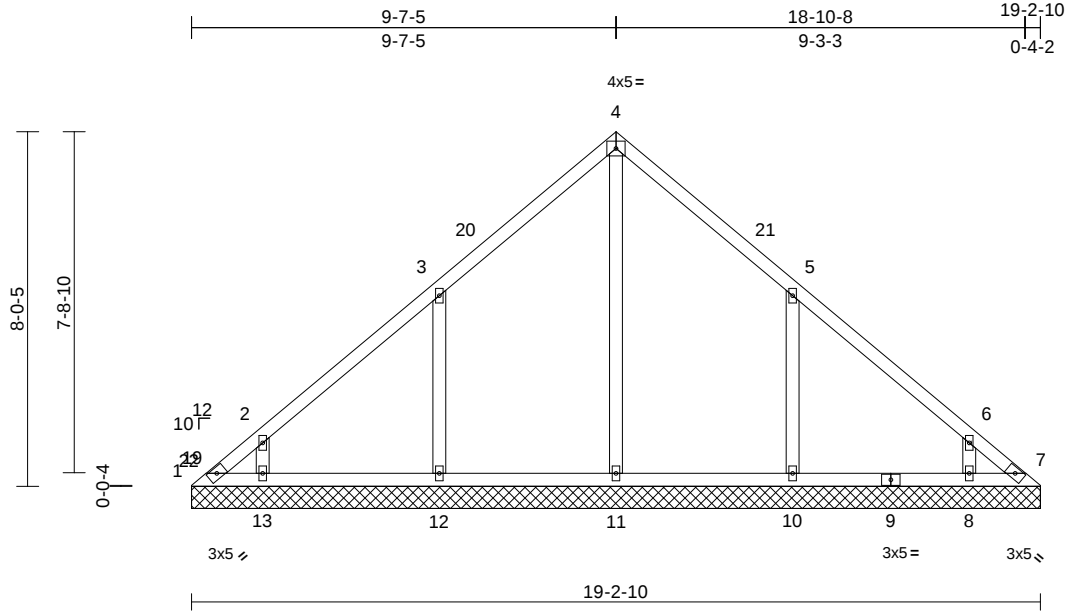
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLB2	Valley	1	1	176702263
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:57

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Scale = 1:52.2

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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.29	Horiz(TL)	0.00	7	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 90 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=19-2-10, 7=19-2-10, 8=19-2-10, 10=19-2-10, 11=19-2-10, 12=19-2-10, 13=19-2-10
Max Horiz	1=-180 (LC 10)
Max Uplift	1=-107 (LC 12), 8=-53 (LC 15), 10=-193 (LC 15), 12=-174 (LC 14), 13=-100 (LC 14)
Max Grav	1=125 (LC 11), 7=0 (LC 13), 8=303 (LC 25), 10=477 (LC 25), 11=463 (LC 27), 12=480 (LC 5), 13=314 (LC 24)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-218/204, 2-3=-217/187, 3-4=-207/267, 4-5=-207/241, 5-6=-124/65, 6-7=-72/42
BOT CHORD	1-13=-46/66, 12-13=-18/55, 11-12=-18/55, 10-11=-18/55, 8-10=-18/55, 7-8=-18/55
WEBS	4-11=-255/59, 3-12=-379/222, 2-13=-259/172, 5-10=-376/229, 6-8=-252/154

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) 0-4-13 to 3-4-13, Interior (1) 3-4-13 to 6-7-10, Exterior(2R) 6-7-10 to 12-7-10, Interior (1) 12-7-10 to 16-2-14, Exterior(2E) 16-2-14 to 19-2-14 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- 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 107 lb uplift at joint 1, 174 lb uplift at joint 12, 100 lb uplift at joint 13, 193 lb uplift at joint 10 and 53 lb uplift at joint 8.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 1, 2025

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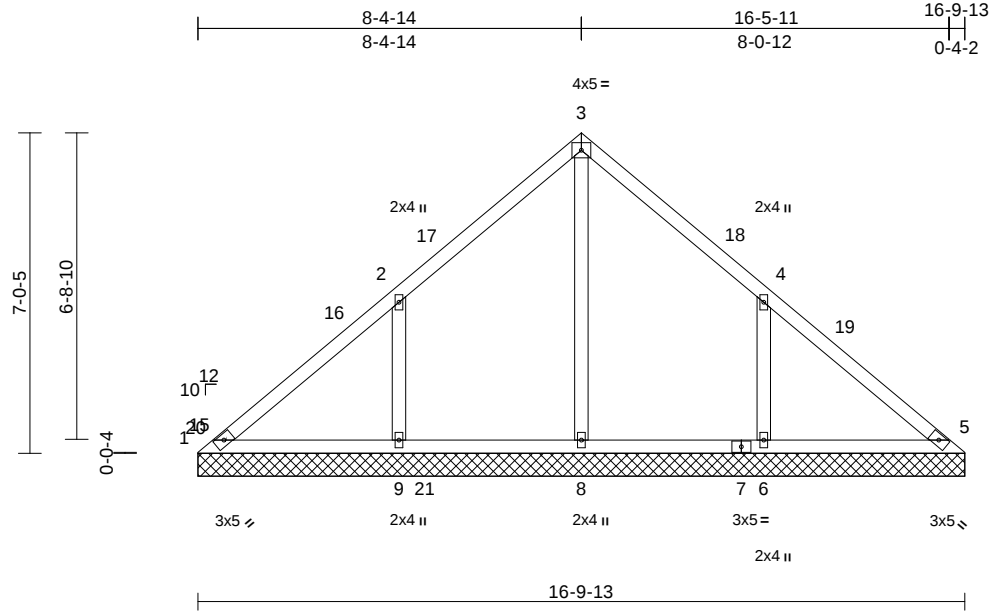
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLB3	Valley	1	1	176702264
Job Reference (optional)					

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

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Scale = 1:50.5

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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 75 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=16-9-13, 5=16-9-13, 6=16-9-13, 8=16-9-13, 9=16-9-13
Max Horiz	1=-157 (LC 10)
Max Uplift	1=-64 (LC 10), 6=-183 (LC 15), 9=-187 (LC 14)
Max Grav	1=76 (LC 13), 5=1 (LC 25), 6=510 (LC 6), 8=654 (LC 24), 9=509 (LC 5)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-104/370, 2-3=-25/319, 3-4=-2/298, 4-5=-139/301
BOT CHORD	1-9=-197/74, 8-9=-197/74, 6-8=-197/74, 5-6=-197/74
WEBS	3-8=-470/0, 2-9=-392/220, 4-6=-392/218

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) 0-4-13 to 3-4-13, Interior (1) 3-4-13 to 5-5-3, Exterior(2R) 5-5-3 to 11-5-3, Interior (1) 11-5-3 to 13-10-2, Exterior(2E) 13-10-2 to 16-10-2 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 64 lb uplift at joint 1, 187 lb uplift at joint 9 and 183 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



October 1,2025

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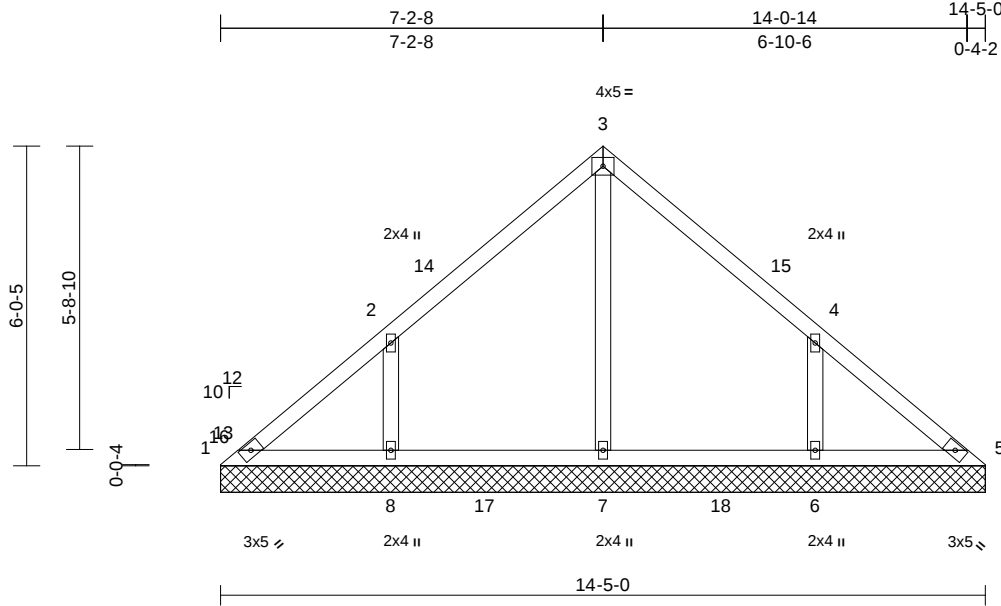
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLB4	Valley	1	1	176702265
Job Reference (optional)					

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

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Scale = 1:43.4

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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 62 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=14-5-0, 5=14-5-0, 6=14-5-0, 7=14-5-0, 8=14-5-0
Max Horiz	1=-136 (LC 10)
Max Uplift	1=-29 (LC 10), 6=-154 (LC 15), 8=-156 (LC 14)
Max Grav	1=109 (LC 25), 5=100 (LC 24), 6=454 (LC 21), 7=401 (LC 24), 8=452 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-141/139, 2-3=-178/119, 3-4=-177/112, 4-5=-122/104
BOT CHORD	1-8=-59/119, 7-8=-59/99, 6-7=-59/99, 5-6=-59/99
WEBS	3-7=-223/0, 2-8=-374/196, 4-6=-375/195

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) 0-4-13 to 3-2-13, Interior (1) 3-2-13 to 4-2-13, Exterior(2R) 4-2-13 to 10-2-13, Interior (1) 10-2-13 to 11-2-13, Exterior(2E) 11-2-13 to 14-5-5 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 29 lb uplift at joint 1, 156 lb uplift at joint 8 and 154 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



October 1,2025

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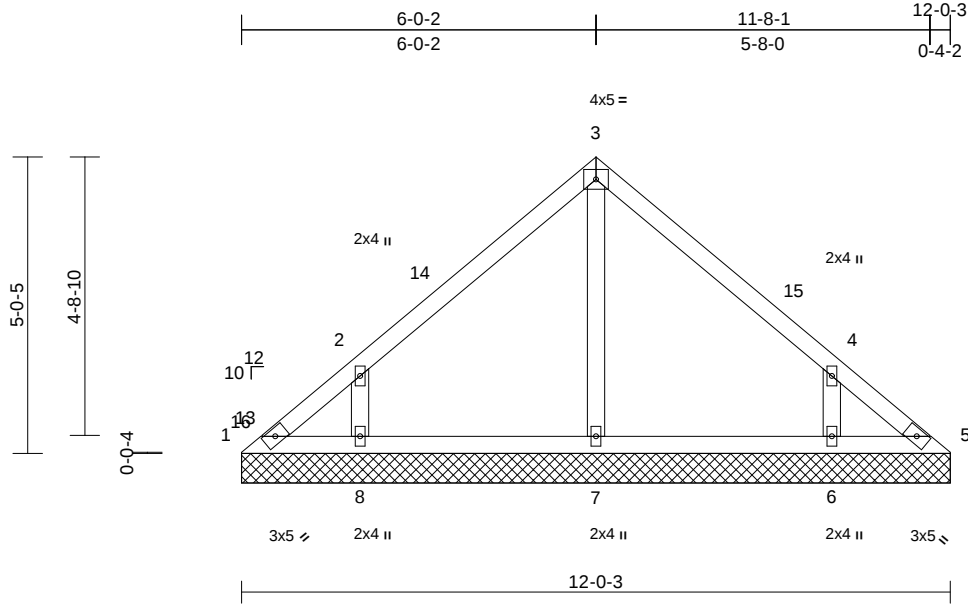
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH	I76702266
25090119-01	VLB5	Valley	1	1	Job Reference (optional)	

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Scale = 1:39.1

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	0.31	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 50 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=12-0-3, 5=12-0-3, 6=12-0-3, 7=12-0-3, 8=12-0-3
Max Horiz	1=-113 (LC 10)
Max Uplift	1=-38 (LC 10), 5=-6 (LC 11), 6=-136 (LC 15), 8=-138 (LC 14)
Max Grav	1=77 (LC 30), 5=71 (LC 24), 6=434 (LC 21), 7=259 (LC 21), 8=432 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-114/100, 2-3=-219/116, 3-4=-218/115, 4-5=-89/63
BOT CHORD	1-8=-32/73, 7-8=-30/73, 6-7=-30/73, 5-6=-30/73
WEBS	3-7=-171/0, 2-8=-400/215, 4-6=-401/220

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) 0-4-13 to 3-4-13, Exterior(2R) 3-4-13 to 9-0-8, Exterior(2E) 9-0-8 to 12-0-8 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.
- 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 38 lb uplift at joint 1, 6 lb uplift at joint 5, 138 lb uplift at joint 8 and 136 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



October 1, 2025

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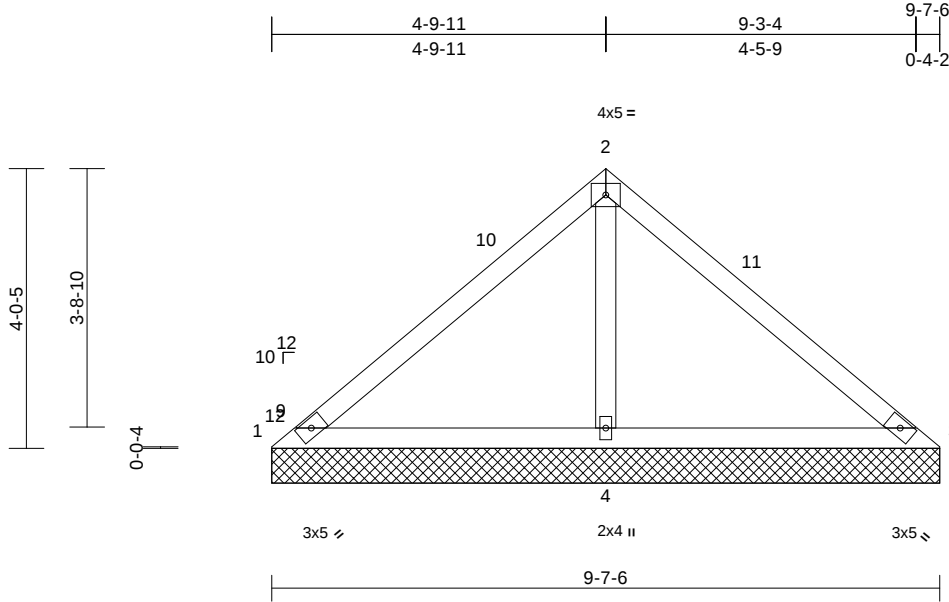
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLB6	Valley	1	1	176702267
Job Reference (optional)					

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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	0.44	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 37 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 9-7-6 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=9-7-6, 3=9-7-6, 4=9-7-6
Max Horiz	1=-89 (LC 10)
Max Uplift	1=-58 (LC 21), 3=-47 (LC 20), 4=-106 (LC 14)
Max Grav	1=75 (LC 20), 3=94 (LC 21), 4=767 (LC 20)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-110/369, 2-3=-112/366
BOT CHORD	1-4=-241/170, 3-4=-241/170
WEBS	2-4=-632/265

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) 0-4-13 to 3-4-13, Exterior(2R) 3-4-13 to 6-7-11, Exterior(2E) 6-7-11 to 9-7-11 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 58 lb uplift at joint 1, 47 lb uplift at joint 3 and 106 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



October 1, 2025

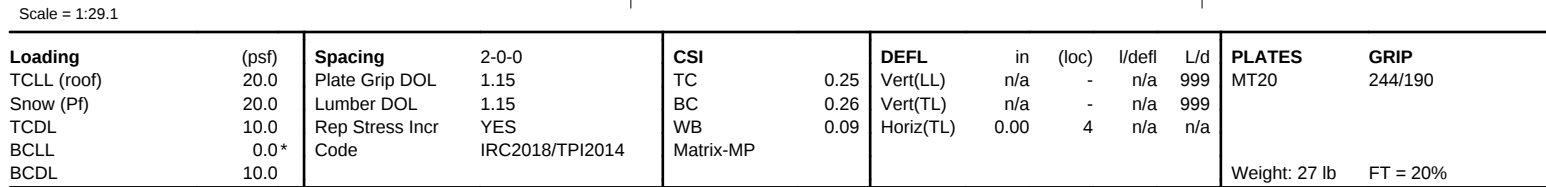
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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818 Soundside Road
Edenton, NC 27932

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58 Page: 1
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- 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.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 1, 14 lb uplift at joint 3 and 70 lb uplift at joint 4.
- 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.

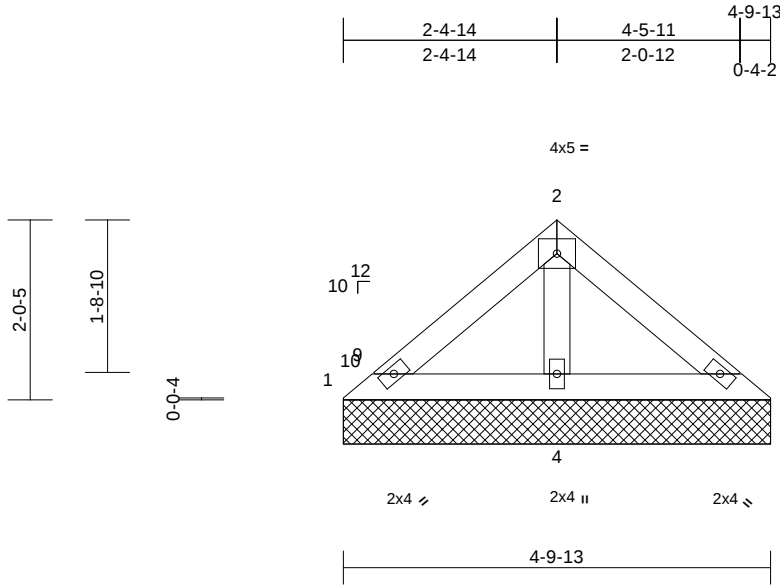
October 1, 2025

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH	176702269
25090119-01	VLB8	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58
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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	0.08	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 17 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 4-9-13 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=4-9-13, 3=4-9-13, 4=4-9-13
Max Horiz	1=-43 (LC 10)
Max Uplift	3=-7 (LC 15), 4=-30 (LC 14)
Max Grav	1=58 (LC 20), 3=86 (LC 21), 4=285 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-61/98, 2-3=-79/99
BOT CHORD	1-4=-80/85, 3-4=-80/85
WEBS	2-4=-203/92

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 7 lb uplift at joint 3 and 30 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



October 1, 2025

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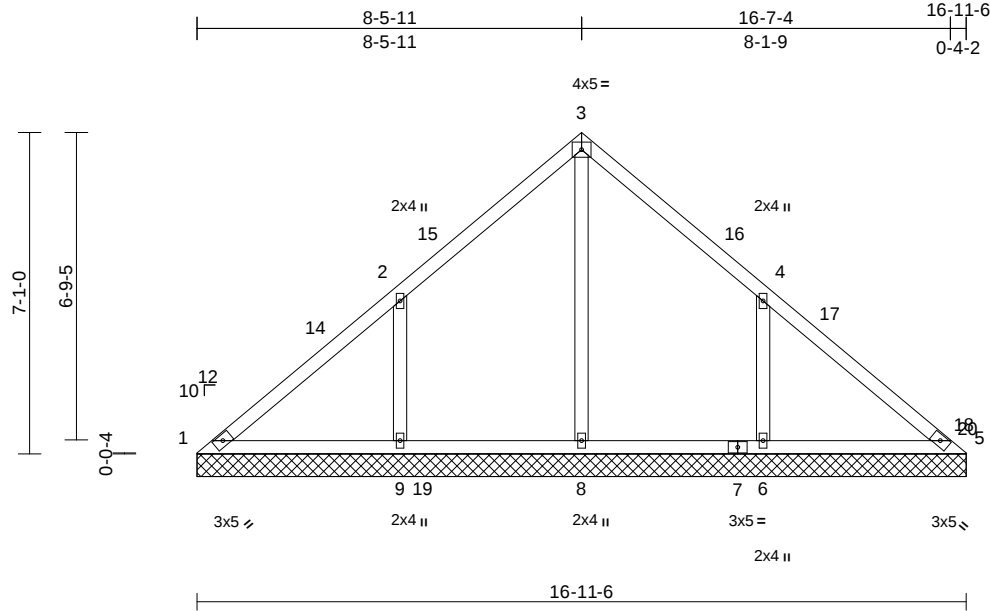
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLD1	Valley	1	1	176702270
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58
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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	0.35	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 76 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=16-11-6, 5=16-11-6, 6=16-11-6, 8=16-11-6, 9=16-11-6
Max Horiz	1=161 (LC 11)
Max Uplift	1=-21 (LC 10), 6=-183 (LC 15), 9=-187 (LC 14)
Max Grav	1=123 (LC 25), 5=86 (LC 21), 6=520 (LC 25), 8=496 (LC 24), 9=526 (LC 24)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-145/253, 2-3=-108/190, 3-4=-109/170, 4-5=-111/218
BOT CHORD	1-9=-130/131, 8-9=-130/131, 6-8=-130/131, 5-6=-130/131
WEBS	3-8=-312/0, 2-9=-397/221, 4-6=-396/219

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 5-6-0, Exterior(2R) 5-6-0 to 11-6-0, Interior (1) 11-6-0 to 13-7-3, Exterior(2E) 13-7-3 to 16-7-3 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 21 lb uplift at joint 1, 187 lb uplift at joint 9 and 183 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



October 1,2025

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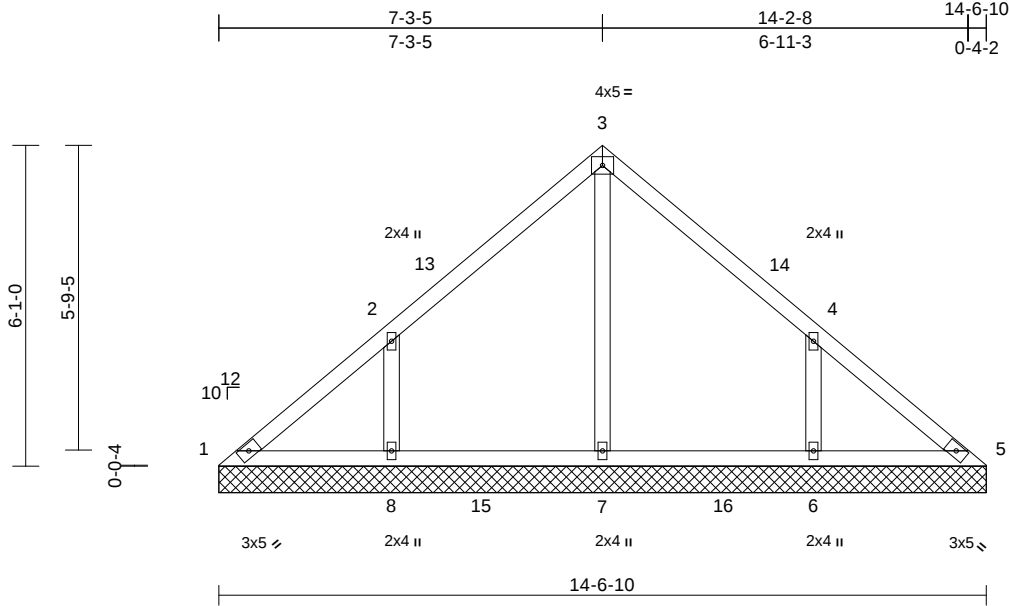
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLD2	Valley	1	1	176702271
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58

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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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 63 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=14-6-10, 5=14-6-10, 6=14-6-10, 7=14-6-10, 8=14-6-10
	Max Horiz	1=-138 (LC 10)
	Max Uplift	1=-24 (LC 10), 6=-156 (LC 15), 8=-159 (LC 14)
	Max Grav	1=124 (LC 30), 5=99 (LC 24), 6=456 (LC 21), 7=407 (LC 24), 8=456 (LC 20)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-153/145, 2-3=-173/121, 3-4=-173/111, 4-5=-121/110
BOT CHORD	1-8=-61/127, 7-8=-61/101, 6-7=-61/101, 5-6=-61/101
WEBS	3-7=-227/0, 2-8=-375/197, 4-6=-375/196

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 3-3-10, Interior (1) 3-3-10 to 4-3-10, Exterior(2R) 4-3-10 to 10-3-10, Interior (1) 10-3-10 to 11-3-10, Exterior(2E) 11-3-10 to 14-6-14 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 24 lb uplift at joint 1, 159 lb uplift at joint 8 and 156 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



October 1, 2025

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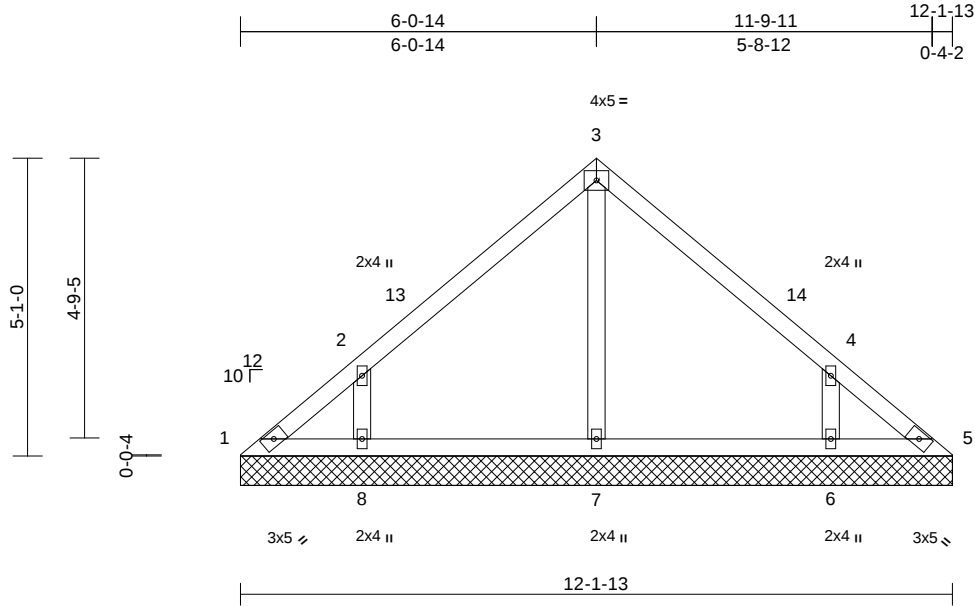
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLD3	Valley	1	1	176702272
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58
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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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 50 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=12-1-13, 5=12-1-13, 6=12-1-13, 7=12-1-13, 8=12-1-13
Max Horiz	1=-115 (LC 12)
Max Uplift	1=-33 (LC 10), 5=-5 (LC 11), 6=-136 (LC 15), 8=-140 (LC 14)
Max Grav	1=94 (LC 25), 5=73 (LC 24), 6=434 (LC 21), 7=261 (LC 21), 8=434 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-117/101, 2-3=-216/116, 3-4=-216/116, 4-5=-91/63
BOT CHORD	1-8=-32/79, 7-8=-32/74, 6-7=-32/74, 5-6=-32/74
WEBS	3-7=-174/0, 2-8=-397/217, 4-6=-397/217

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 9-2-2, Exterior(2E) 9-2-2 to 12-2-2 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 33 lb uplift at joint 1, 5 lb uplift at joint 5, 140 lb uplift at joint 8 and 136 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



October 1, 2025

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818 Soundside Road
Edenton, NC 27932

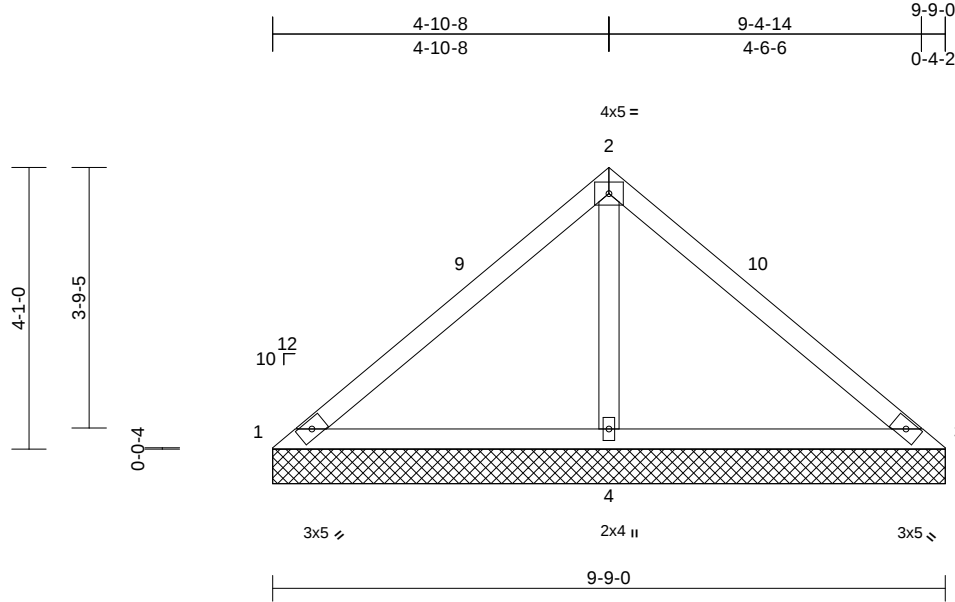
Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLD4	Valley	1	1	176702273
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58

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Scale = 1:33.4

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	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.44	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 37 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 9-9-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=9-9-0, 3=9-9-0, 4=9-9-0
Max Horiz	1=-91 (LC 10)
Max Uplift	1=-52 (LC 21), 3=-52 (LC 20), 4=-111 (LC 14)
Max Grav	1=94 (LC 20), 3=94 (LC 21), 4=788 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-117/382, 2-3=-117/382
BOT CHORD	1-4=-249/175, 3-4=-249/175
WEBS	2-4=-650/275

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 6-9-5, Exterior(2E) 6-9-5 to 9-9-5 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 52 lb uplift at joint 1, 52 lb uplift at joint 3 and 111 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



October 1,2025

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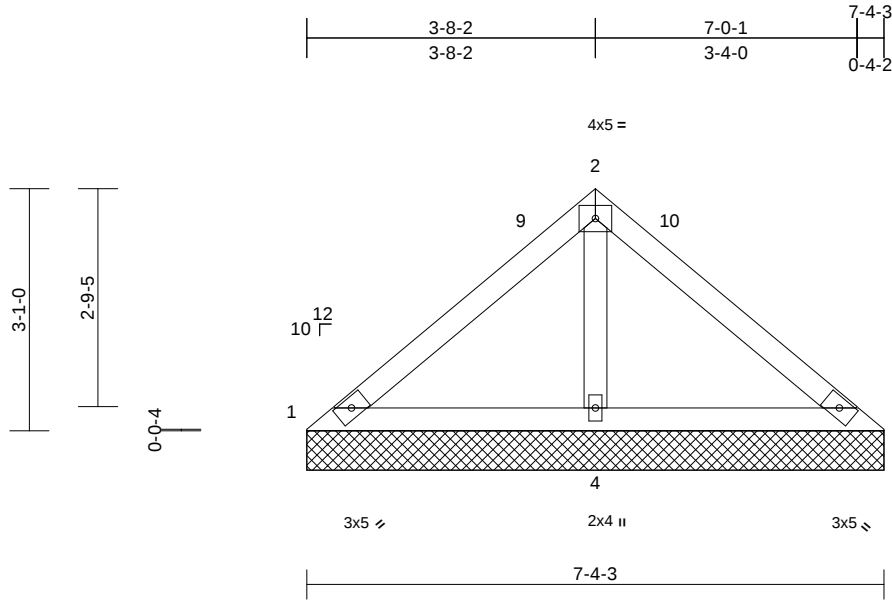
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLD5	Valley	1	1	176702274
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58
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Scale = 1:29.3

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	0.27	Vert(LL)	n/a	-	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 27 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 7-4-3 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=7-4-3, 3=7-4-3, 4=7-4-3
Max Horiz	1=68 (LC 11)
Max Uplift	1=-19 (LC 21), 3=-19 (LC 20), 4=-76 (LC 14)
Max Grav	1=105 (LC 20), 3=105 (LC 21), 4=545 (LC 20)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-92/236, 2-3=-92/236
BOT CHORD	1-4=-184/155, 3-4=-184/155
WEBS	2-4=-432/204

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 4-4-8, Exterior(2E) 4-4-8 to 7-4-8 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.
- 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 19 lb uplift at joint 1, 19 lb uplift at joint 3 and 76 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



October 1,2025

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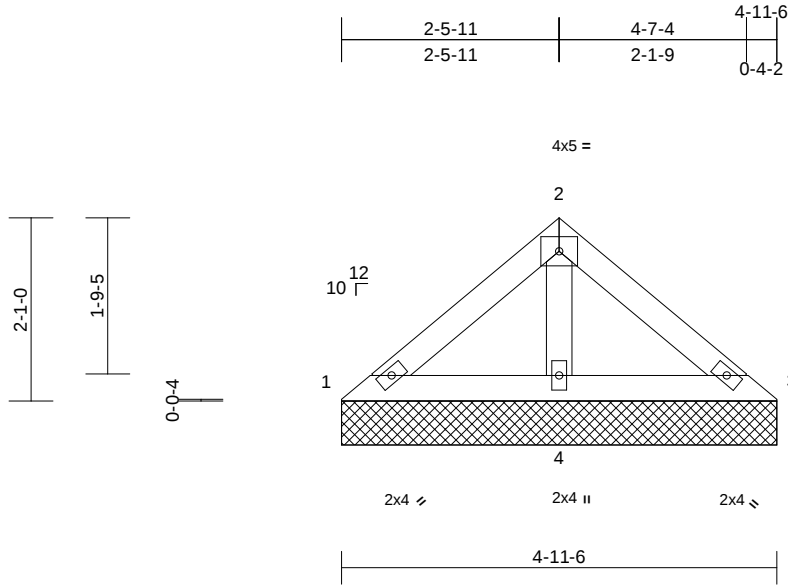
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLD6	Valley	1	1	176702275
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58
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Scale = 1:26.2

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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 18 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 4-11-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=4-11-6, 3=4-11-6, 4=4-11-6
Max Horiz 1=-44 (LC 10)
Max Uplift 3=-7 (LC 15), 4=-35 (LC 14)
Max Grav 1=89 (LC 20), 3=89 (LC 21), 4=303 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-82/108, 2-3=-82/108
BOT CHORD 1-4=-87/91, 3-4=-87/91
WEBS 2-4=-218/101

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 7 lb uplift at joint 3 and 35 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



October 1,2025

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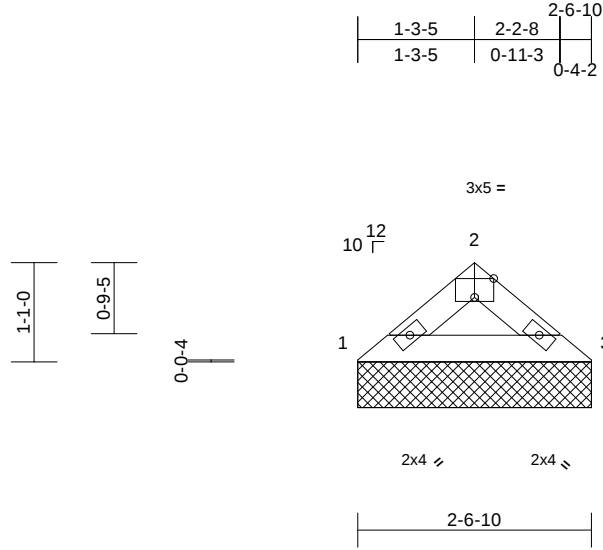
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1017 Serenity-Roof-B326 B CP TMB GLH
25090119-01	VLD7	Valley	1	1	176702276
Job Reference (optional)					

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Mon Sep 29 15:03:58
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Page: 1



Scale = 1:25.1

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	0.05	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999	244/190
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: 7 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 2-6-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-6-10, 3=2-6-10
Max Horiz 1=-21 (LC 12)
Max Uplift 1=-9 (LC 14), 3=-9 (LC 15)
Max Grav 1=115 (LC 20), 3=115 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-146/63, 2-3=-146/63
BOT CHORD 1-3=-34/104

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 9 lb uplift at joint 1 and 9 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



October 1,2025

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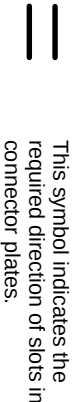
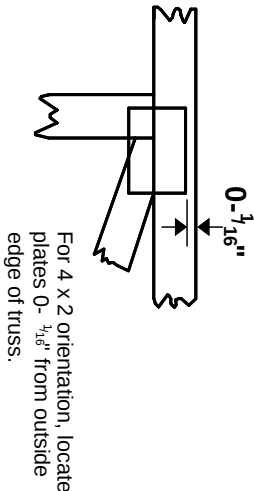
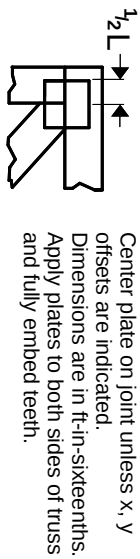
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Symbols

PLATE LOCATION AND ORIENTATION



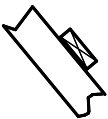
* Plate location details available in MITek software or upon request.

PLATE SIZE

4 X 4

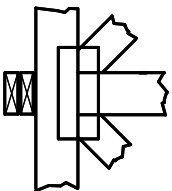
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

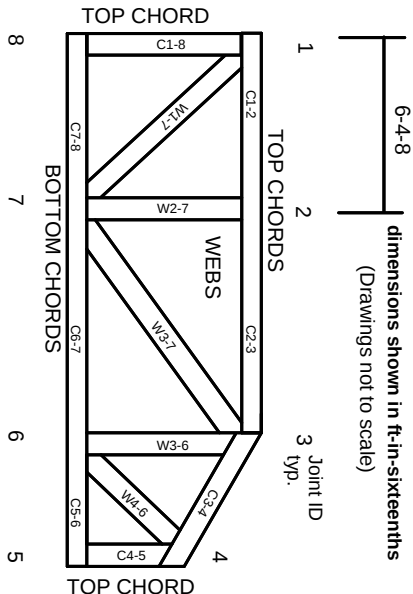


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TP1.1: 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 1 section 6.3. These truss designs rely on lumber values established by others.

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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.

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