

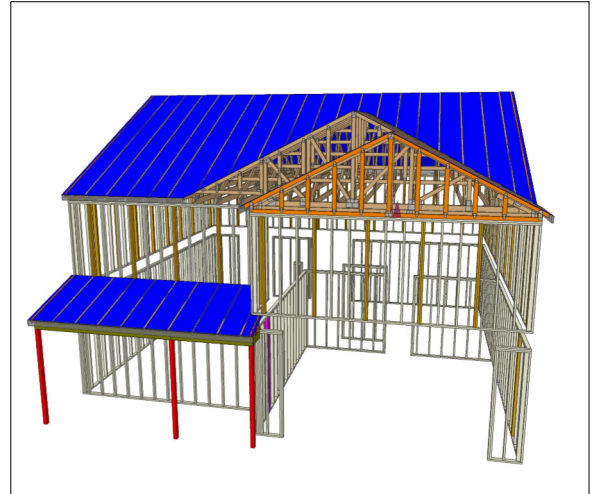


Carter Sanford Component Plant  
298 Harvey Faulk Rd  
Sanford, NC 27332

Phone #:919-775-1450

**Builder: DR Horton Inc**

**Model: Hayden F**



**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.

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

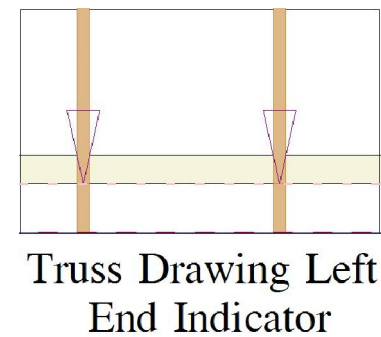


DR Horton Inc  
**7 Mason Ridge  
 Hayden F**  
**ROOF PLACEMENT PLAN**

Scale: **NTS**  
 Date: **11/4/2024**  
 Designer: **Nate Donaldson**  
 Project Number: **24100227-A**  
 Sheet Number:

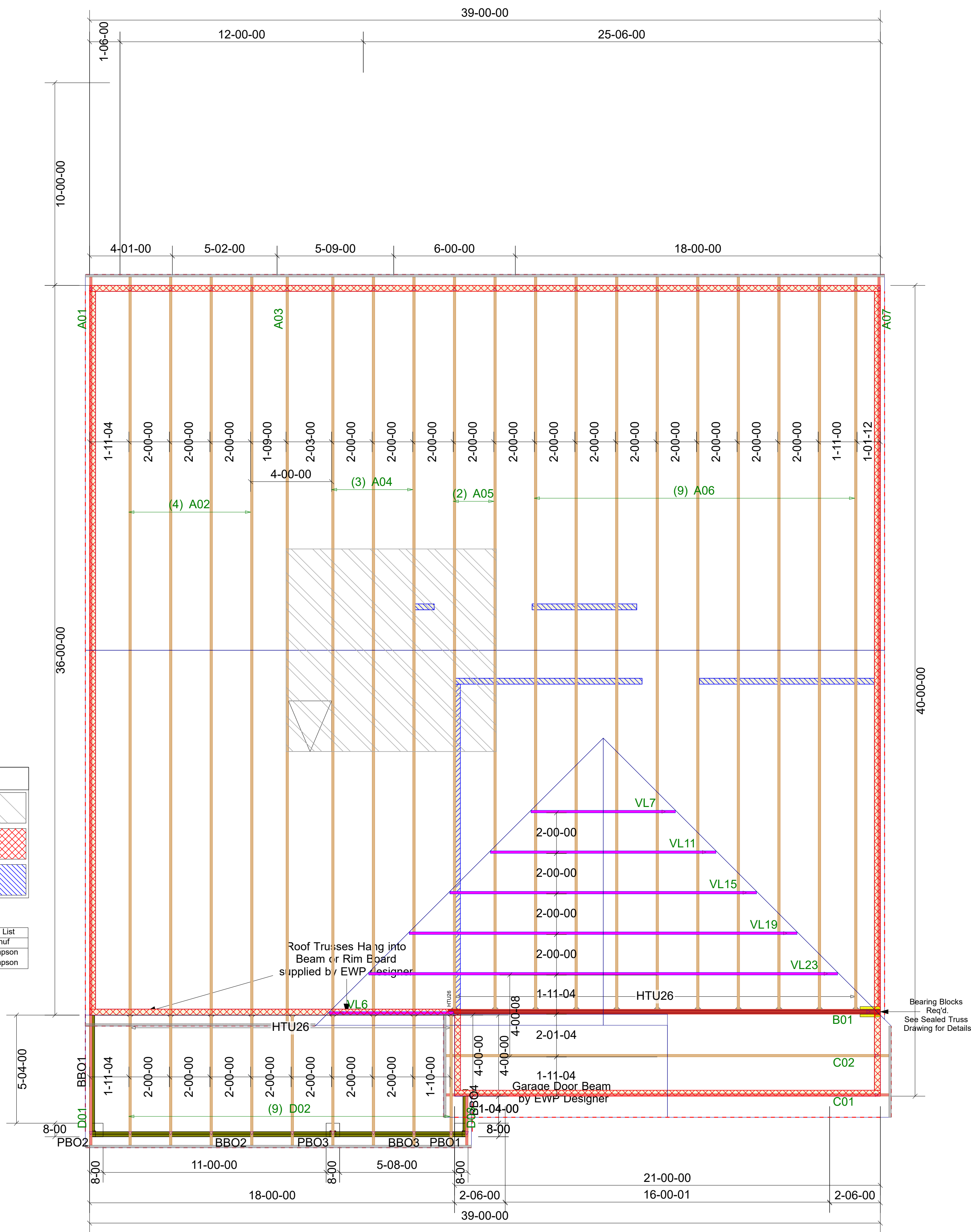
**1/1**

\*\* DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT. \*\* TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE.  
 \*\* FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.  
 \*\* 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 ANSIT/TP1 1, ALL UPLIFT CONNECTORS ARE THE RESPONSIBILITY OF THE BLDG DESIGNER AND/OR CONTRACTOR.



Hatch Legend	
AHU Platform	
8' 1-1/8" BRG HGT AFF	
9' 1-1/8" BRG HGT AFF	

Truss Connector Total List		
Qty	Product	Manuf
20	HTU26	Simpson
50	One H2.5A*	Simpson



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

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

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

RE: 24100227  
 Hayden-F-SLAB-Roof-All Levels

Trenco  
 818 Soundside Rd  
 Edenton, NC 27932

**Site Information:**

Customer: DR Horton Inc Project Name: 24100227  
 Lot/Block: 7 Model: Hayden F  
 Address: Subdivision: Mason Ridge  
 City: State:

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

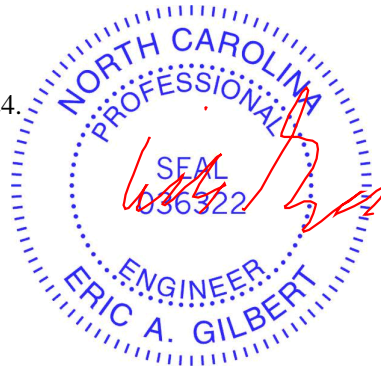
Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.7  
 Wind Code: ASCE 7-16 Wind Speed: 130 mph  
 Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 19 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	I69015966	A01	10/21/2024
2	I69015967	A02	10/21/2024
3	I69015968	A03	10/21/2024
4	I69015969	A04	10/21/2024
5	I69015970	A05	10/21/2024
6	I69015971	A06	10/21/2024
7	I69015972	A07	10/21/2024
8	I69015973	B01	10/21/2024
9	I69015974	C01	10/21/2024
10	I69015975	C02	10/21/2024
11	I69015976	D01	10/21/2024
12	I69015977	D02	10/21/2024
13	I69015978	D03	10/21/2024
14	I69015979	VL6	10/21/2024
15	I69015980	VL7	10/21/2024
16	I69015981	VL11	10/21/2024
17	I69015982	VL15	10/21/2024
18	I69015983	VL19	10/21/2024
19	I69015984	VL23	10/21/2024

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).  
 Truss Design Engineer's Name: Gilbert, Eric  
 My license renewal date for the state of North Carolina is December 31, 2024.  
 North Carolina COA: C-0844

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



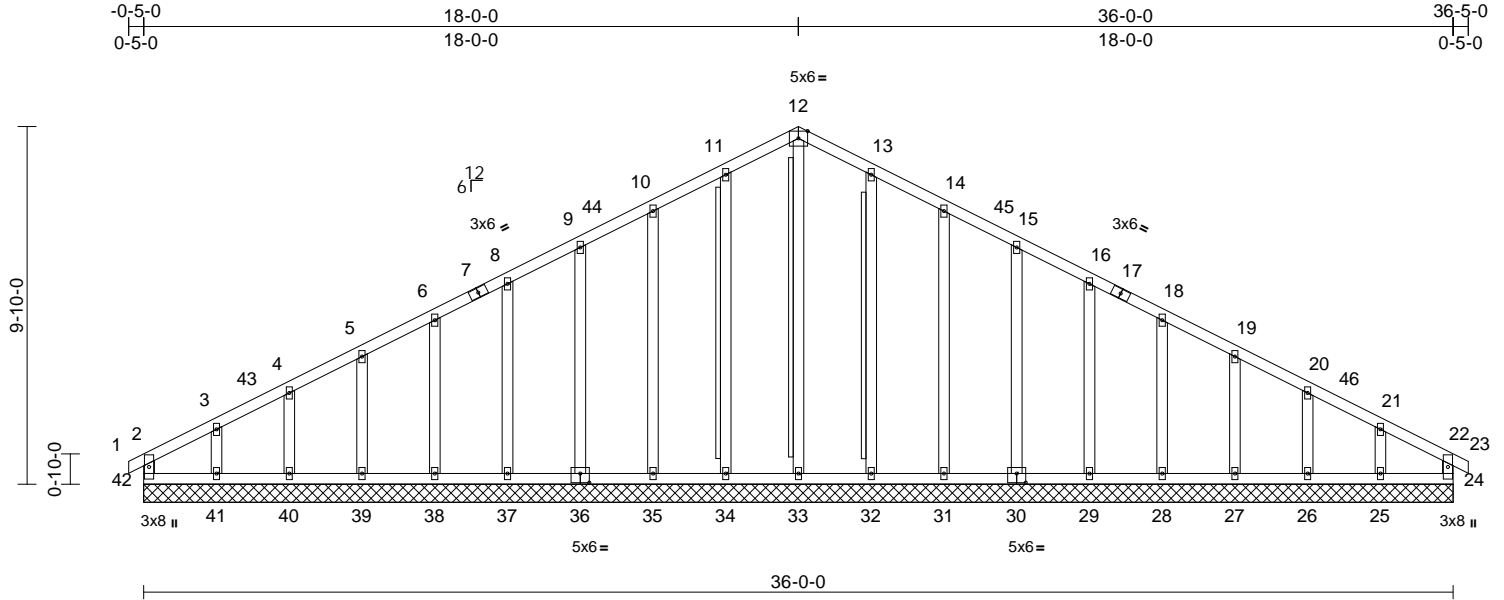
October 21, 2024

Job 24100227	Truss A01	Truss Type Common Supported Gable	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015966
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:44  
ID:vF2b2QneXVJP9E5leL0LSzzyU\_5-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:63.3  
Plate Offsets (X, Y): [30:0-3-0,0-3-0], [36:0-3-0,0-3-0]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.20	Horz(CT)	0.01	24	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 244 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 \*Except\* 0-0,0-0,0-0:2x4 SP No.2(flat)

**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 T-Brace: 2x4 SP No.2 - 12-33, 11-34, 13-32  
Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c., with 3in minimum end distance.  
Brace must cover 90% of web length.

**REACTIONS** (size)  
24=36-0-0, 25=36-0-0, 26=36-0-0,  
27=36-0-0, 28=36-0-0, 29=36-0-0,  
30=36-0-0, 31=36-0-0, 32=36-0-0,  
33=36-0-0, 34=36-0-0, 35=36-0-0,  
36=36-0-0, 37=36-0-0, 38=36-0-0,  
39=36-0-0, 40=36-0-0, 41=36-0-0,  
42=36-0-0  
Max Horiz 42=141 (LC 14)  
Max Uplift 24=6 (LC 11), 25=97 (LC 15),  
26=30 (LC 15), 27=46 (LC 15),  
28=42 (LC 15), 29=43 (LC 15),  
30=42 (LC 15), 31=46 (LC 15),  
32=35 (LC 15), 34=37 (LC 14),  
35=46 (LC 14), 36=42 (LC 14),  
37=43 (LC 14), 38=41 (LC 14),  
39=47 (LC 14), 40=26 (LC 14),  
41=114 (LC 14), 42=34 (LC 15)

Max Grav 24=114 (LC 27), 25=156 (LC 35),  
26=155 (LC 22), 27=155 (LC 35),  
28=156 (LC 22), 29=155 (LC 35),  
30=170 (LC 22), 31=221 (LC 22),  
32=236 (LC 22), 33=189 (LC 27),  
34=236 (LC 21), 35=221 (LC 21),  
36=170 (LC 21), 37=155 (LC 34),  
38=156 (LC 21), 39=155 (LC 34),  
40=155 (LC 21), 41=156 (LC 34),  
42=137 (LC 30)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-42=105/38, 1-2=0/15, 2-3=154/76,  
3-4=99/81, 4-5=78/100, 5-6=60/122,  
6-8=54/146, 8-9=72/190, 9-10=89/233,  
10-11=108/280, 11-12=124/318,  
12-13=124/318, 13-14=108/280,  
14-15=89/233, 15-16=72/190,  
16-18=54/146, 18-19=39/102,  
19-20=49/62, 20-21=68/44, 21-22=112/38,  
22-23=0/15, 22-24=90/24  
BOT CHORD 41-42=22/110, 40-41=22/110,  
39-40=22/110, 38-39=22/110,  
37-38=22/110, 35-37=22/110,  
34-35=22/110, 33-34=22/110,  
32-33=22/110, 31-32=22/110,  
29-31=22/110, 28-29=22/110,  
27-28=22/110, 26-27=22/110,  
25-26=22/110, 24-25=22/110  
WEBS 12-33=214/50, 11-34=198/63,  
10-35=182/81, 9-36=131/74, 8-37=116/75,  
6-38=117/75, 5-39=116/75, 4-40=117/75,  
3-41=115/140, 13-32=198/63,  
14-31=182/81, 15-30=131/74,  
16-29=116/75, 18-28=117/75,  
19-27=116/75, 20-26=117/75,  
21-25=115/140

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BC DL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-5-0 to 3-2-2, Exterior(2N) 3-2-2 to 14-4-15, Corner(3R) 14-4-15 to 21-7-2, Exterior(2N) 21-7-2 to 32-9-15, Corner(3E) 32-9-15 to 36-5-0 zone; 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); 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.



October 21, 2024

Continued on page 2

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Hayden-F-SLAB-Roof-All Levels	I69015966
24100227	A01	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:44  
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Page: 2

- 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) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 9) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 42, 6 lb uplift at joint 24, 37 lb uplift at joint 34, 46 lb uplift at joint 35, 42 lb uplift at joint 36, 43 lb uplift at joint 37, 41 lb uplift at joint 38, 47 lb uplift at joint 39, 26 lb uplift at joint 40, 114 lb uplift at joint 41, 35 lb uplift at joint 32, 46 lb uplift at joint 31, 42 lb uplift at joint 30, 43 lb uplift at joint 29, 42 lb uplift at joint 28, 46 lb uplift at joint 27, 30 lb uplift at joint 26 and 97 lb uplift at joint 25.
- 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) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

**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](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcacomponents.com](http://www.sbcacomponents.com))



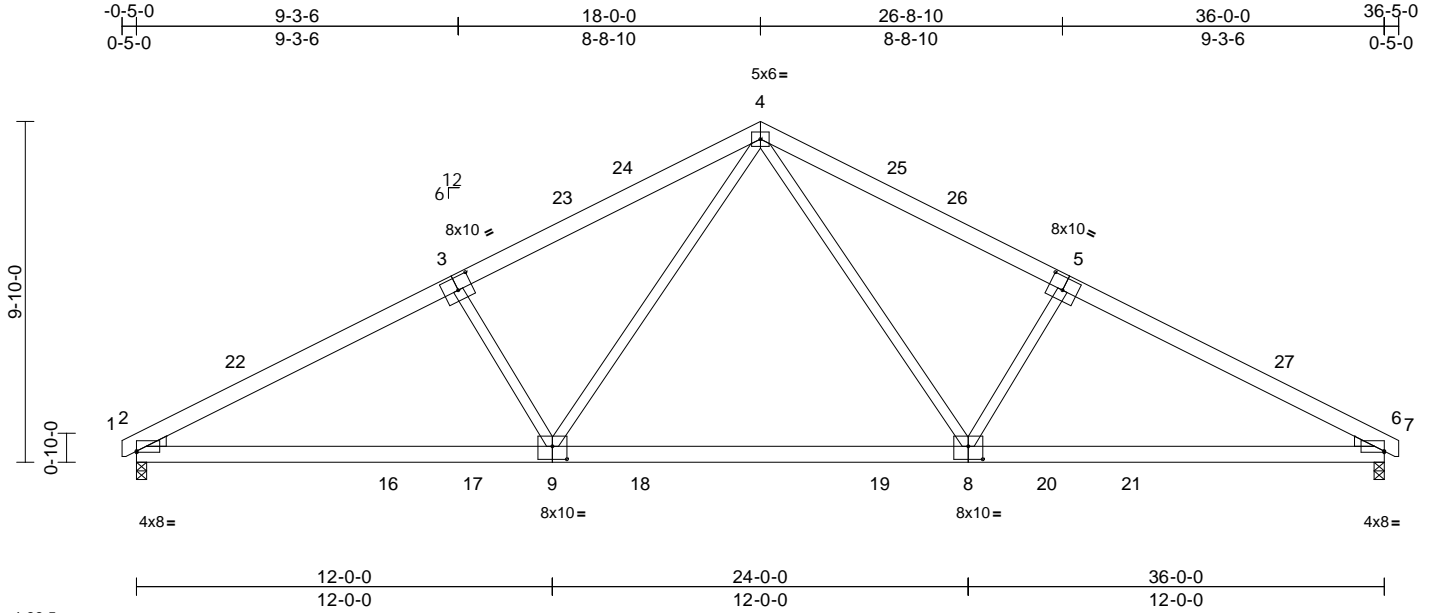
818 Soundside Road  
 Edenton, NC 27932

Job 24100227	Truss A02	Truss Type Common	Qty 4	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015967
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:66.5

Plate Offsets (X, Y): [2:Edge,0-0-7], [3:0-5-0,0-4-8], [5:0-5-0,0-4-8], [6:Edge,0-0-7], [8:0-5-0,0-4-8], [9:0-5-0,0-4-8]

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	0.70	Vert(LL)	-0.25	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.41	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.07	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 231 lb	FT = 20%

**LUMBER**

TOP CHORD 2x6 SP No.2  
 BOT CHORD 2x6 SP No.2  
 WEBS 2x4 SP No.3 \*Except\* 9-4,8-4:2x4 SP No.2  
 WEDGE Left: 2x4 SP No.3  
 Right: 2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 3-7-0 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-3-8, 6=0-3-8  
 Max Horiz 2=146 (LC 14), 6=-145 (LC 15)  
 Max Uplift 2=-145 (LC 14), 6=-145 (LC 15)  
 Max Grav 2=1637 (LC 3), 6=1637 (LC 3)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/10, 2-4=-2709/339, 4-6=-2709/339, 6-7=0/10  
 BOT CHORD 2-6=-281/2334  
 WEBS 3-9=-568/296, 5-8=-568/296, 4-9=-138/1074, 4-8=-139/1074

**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) 0-4-6 to 3-2-12, Interior (1) 3-2-12 to 14-4-15, Exterior(2R) 14-4-15 to 21-7-2, Interior (1) 21-7-2 to 32-9-4, Exterior(2E) 32-9-4 to 36-4-6 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* 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.
- 8) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 6. This connection is for uplift only and does not consider lateral forces.
- 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 21, 2024

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

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



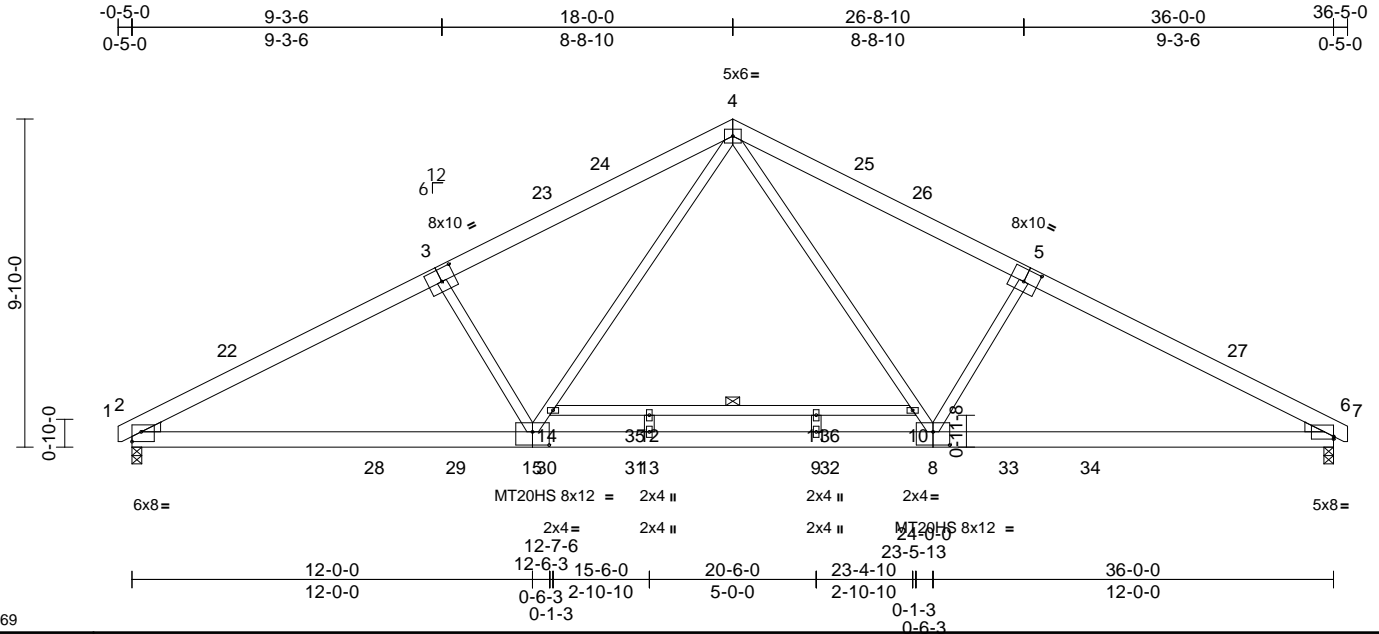
818 Soundside Road  
 Edenton, NC 27932

Job 24100227	Truss A03	Truss Type Common	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015968
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:69

Plate Offsets (X, Y): [2:Edge,0-3-8], [3:0-5-0,0-4-8], [5:0-5-0,0-4-8], [6:Edge,0-0-15], [8:0-6-0,0-4-12], [15:0-6-0,0-4-12]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.83	Vert(LL)	-0.39	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.78	11-12	>554	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.07	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 248 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x6 SP No.2  
BOT CHORD 2x6 SP 2400F 2.0E \*Except\* 14-10:2x4 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 8-4,15-4:2x4 SP No.2  
WEDGE Left: 2x4 SP No.3  
Right: 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-5-6 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-8, 6=0-3-8  
Max Horiz 2=146 (LC 14)  
Max Grav 2=1967 (LC 3), 6=1967 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/10, 2-4=-3444/0, 4-6=-3455/0, 6-7=0/10  
BOT CHORD 2-13=-61/2988, 9-13=0/2232, 6-9=-23/2988, 12-14=-202/0, 11-12=-202/0, 10-11=-202/0  
WEBS 3-15=-540/312, 4-10=0/1467, 8-10=0/1306, 14-15=0/1309, 4-14=0/1471, 5-8=-544/316, 9-11=-199/0, 12-13=-199/0

- 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, 18-0-0 from left end, supported at two points, 5-0-0 apart.
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-4-6 to 3-2-12, Interior (1) 3-2-12 to 14-4-15, Exterior(2R) 14-4-15 to 21-7-2, Interior (1) 21-7-2 to 32-9-4, Exterior(2E) 32-9-4 to 36-4-6 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



October 21, 2024

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

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



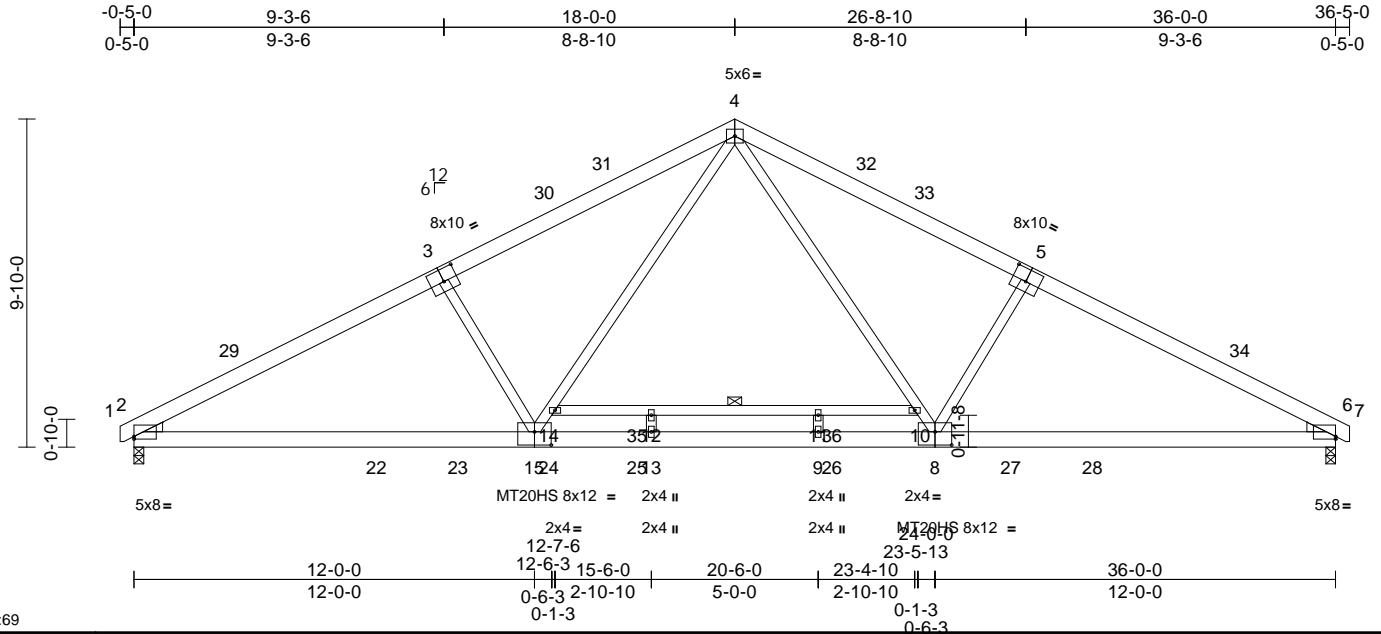
818 Soundside Road  
Edenton, NC 27932

Job 24100227	Truss A04	Truss Type Common	Qty 3	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015969
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:46  
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Page: 1



Scale = 1:69

Plate Offsets (X, Y): [2:Edge,0-0-15], [3:0-5-0,0-4-8], [5:0-5-0,0-4-8], [6:Edge,0-0-15], [8:0-6-0,0-4-12], [15:0-6-0,0-4-12]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.83	Vert(LL)	-0.39	11-12	>999	240	MT20HS	187/143
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.78	11-12	>550	180	MT20	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.07	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 248 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x6 SP No.2  
BOT CHORD 2x6 SP 2400F 2.0E \*Except\* 14-10:2x4 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 8-4,15-4:2x4 SP No.2  
WEDGE Left: 2x4 SP No.3  
Right: 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-6-7 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

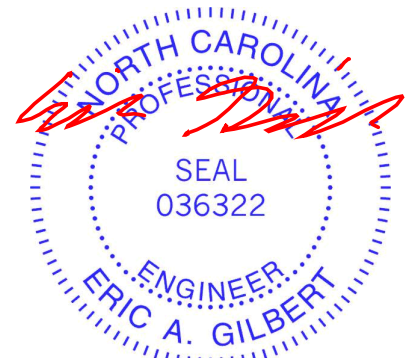
**REACTIONS** (size) 2=0-3-8, 6=0-3-8  
Max Horiz 2=-146 (LC 15)  
Max Grav 2=1967 (LC 3), 6=1967 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/10, 2-4=-3455/0, 4-6=-3455/0, 6-7=0/10  
BOT CHORD 2-13=-159/2988, 9-13=0/2231, 6-9=-23/2988, 12-14=-202/0, 11-12=-202/0, 10-11=-202/0  
WEBS 3-15=-544/316, 4-10=0/1469, 8-10=0/1307, 14-15=0/1307, 4-14=0/1469, 5-8=-544/316, 12-13=-199/0, 9-11=-199/0

- 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, 18-0-0 from left end, supported at two points, 5-0-0 apart.
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-4-6 to 3-2-12, Interior (1) 3-2-12 to 14-4-15, Exterior(2R) 14-4-15 to 21-7-2, Interior (1) 21-7-2 to 32-9-4, Exterior(2E) 32-9-4 to 36-4-6 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



October 21, 2024

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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

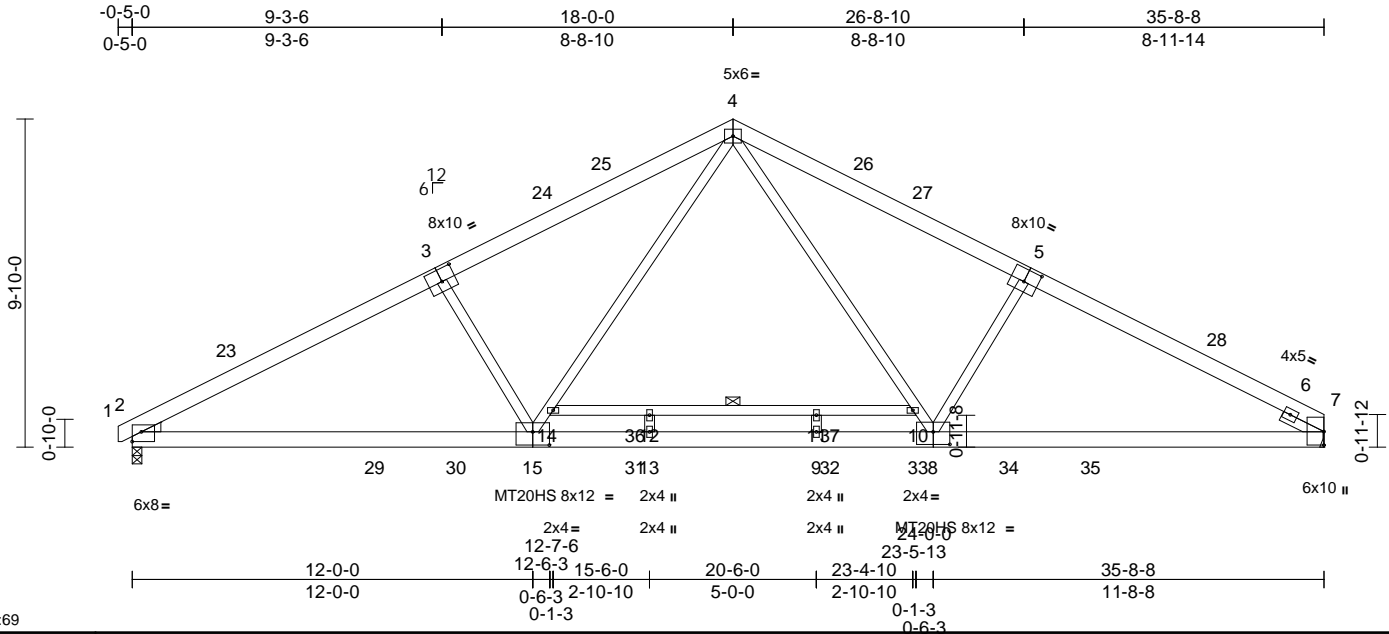


Job 24100227	Truss A05	Truss Type Common	Qty 2	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015970
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:46  
ID:ZxUg4o5WaT\_uCnUoMvmmxzyTIV-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWRCDoi7J4zJC?f

Page: 1



Scale = 1:69

Plate Offsets (X, Y): [2:Edge,0-3-8], [3:0-5-0,0-4-8], [5:0-5-0,0-4-8], [7:0-4-14,0-0-1], [8:0-6-0,0-4-8], [15:0-6-0,0-4-12]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.39	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.80	11-12	>538	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.47	Horz(CT)	0.08	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 247 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x6 SP No.2  
BOT CHORD 2x6 SP 2400F 2.0E \*Except\* 14-10:2x4 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 15-4,8-4:2x4 SP No.2  
WEDGE Left: 2x4 SP No.3  
SLIDER Right 2x4 SP No.3 -- 1-4-4

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

**REACTIONS** (size) 2=0-3-8, 7= Mechanical  
Max Horiz 2=151 (LC 14)  
Max Grav 2=1951 (LC 3), 7=1940 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/10, 2-4=-3413/0, 4-7=-3341/0  
BOT CHORD 2-13=-67/2961, 9-13=0/2197, 7-9=0/2888, 12-14=-198/0, 11-12=-198/0, 10-11=-198/0  
14-15=0/1319, 4-14=0/1478, 4-10=0/1384, 8-10=0/1222, 5-8=-503/312, 3-15=-538/312, 12-13=-202/0, 9-11=-194/0

- 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, 18-0-0 from left end, supported at two points, 5-0-0 apart.
  - All plates are MT20 plates unless otherwise indicated.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
  - Refer to girder(s) for truss to truss connections.
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-4-6 to 3-2-6, Interior (1) 3-2-6 to 14-5-4, Exterior(2R) 14-5-4 to 21-6-12, Interior (1) 21-6-12 to 32-1-12, Exterior(2E) 32-1-12 to 35-8-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



October 21, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

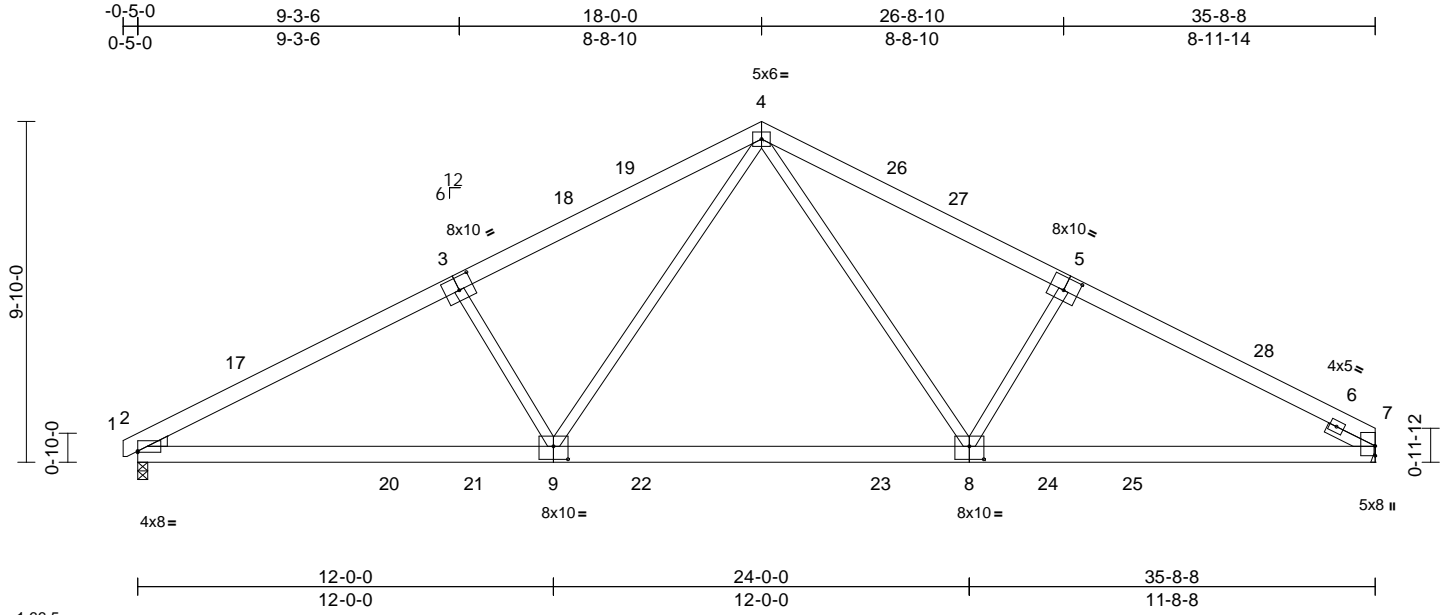


Job 24100227	Truss A06	Truss Type Common	Qty 9	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015971
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:46  
ID:hqzSxsf\_WwwDL?aqct6oirzyTkm-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:66.5

Plate Offsets (X, Y): [2:Edge,0-0-7], [3:0-5-0,0-4-8], [5:0-5-0,0-4-8], [8:0-5-0,0-4-8], [9:0-5-0,0-4-8]

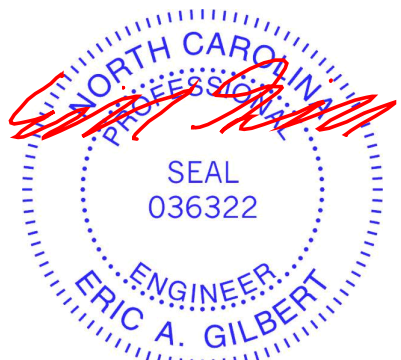
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	-0.26	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.43	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.07	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 229 lb	FT = 20%

- LUMBER**
- TOP CHORD 2x6 SP No.2
  - BOT CHORD 2x6 SP No.2
  - WEBS 2x4 SP No.2 \*Except\* 9-3,8-5:2x4 SP No.3
  - WEDGE Left: 2x4 SP No.3
  - SLIDER Right 2x4 SP No.3 -- 1-6-0
- BRACING**
- TOP CHORD Structural wood sheathing directly applied or 3-2-15 oc purlins.
  - BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
- REACTIONS** (size) 2=0-3-8, 7= Mechanical
- Max Horiz 2=151 (LC 14)
  - Max Uplift 2=-145 (LC 14), 7=-135 (LC 15)
  - Max Grav 2=1624 (LC 3), 7=1607 (LC 3)
- FORCES** (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/10, 2-4=-2683/336, 4-7=-2609/334
  - BOT CHORD 2-7=-286/2311
  - WEBS 4-9=-137/1081, 4-8=-133/1006, 3-9=-567/296, 5-8=-530/287

- 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.
- Refer to girder(s) for truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 135 lb uplift at joint 7.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-4-6 to 3-2-6, Interior (1) 3-2-6 to 14-5-4, Exterior(2R) 14-5-4 to 21-6-12, Interior (1) 21-6-12 to 32-1-12, Exterior(2E) 32-1-12 to 35-8-8 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



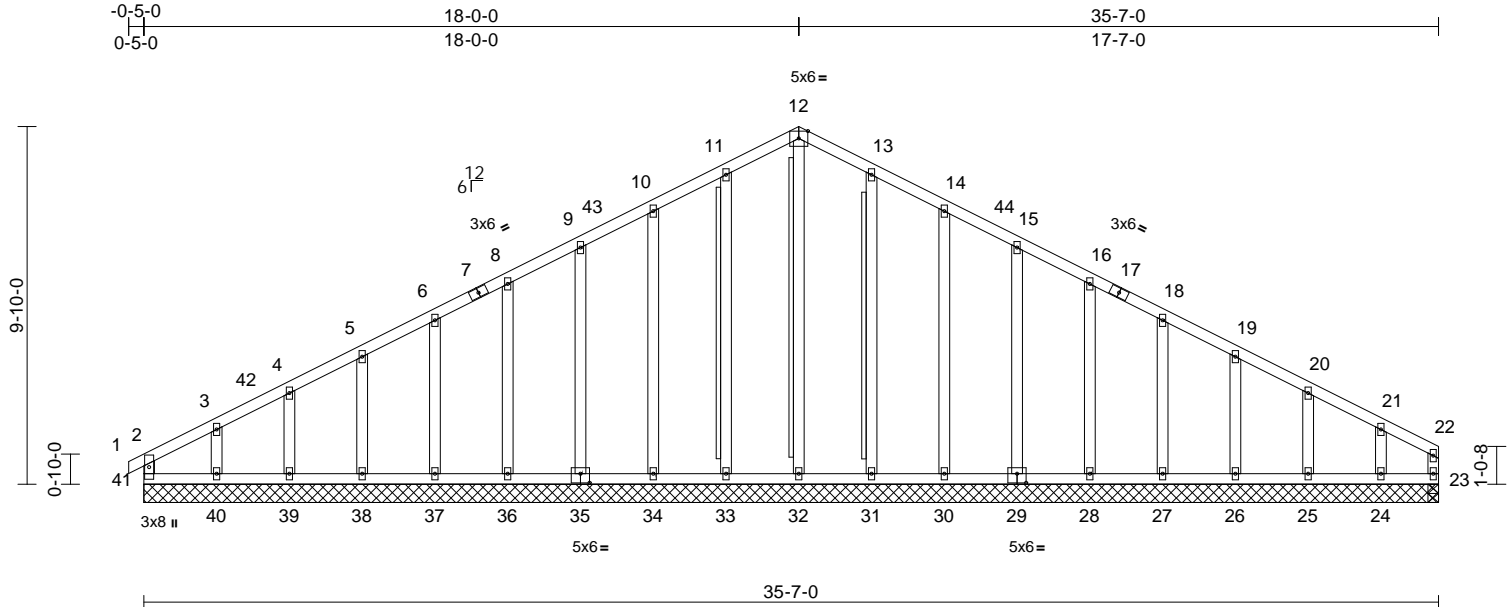
October 21, 2024

Job 24100227	Truss A07	Truss Type Common Supported Gable	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015972
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:46  
ID:ISABUwJkJelkMZSOkGIQ2yTwq-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJc?f

Page: 1



Scale = 1:63.3  
Plate Offsets (X, Y): [29:0-3-0,0-3-0], [35:0-3-0,0-3-0]

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	0.13	Vert(LL)	0.00	40-41	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	0.00	40-41	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.01	23	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 242 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 23-22:2x4 SP No.2  
OTHERS 2x4 SP No.3 \*Except\* 0-0,0-0,0-0:2x4 SP No.2(flat)

**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 T-Brace: 2x4 SP No.2 - 12-32, 11-33, 13-31  
Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c., with 3in minimum end distance.  
Brace must cover 90% of web length.

**REACTIONS** (size)  
23=35-7-0, 24=35-7-0, 25=35-7-0,  
26=35-7-0, 27=35-7-0, 28=35-7-0,  
29=35-7-0, 30=35-7-0, 31=35-7-0,  
32=35-7-0, 33=35-7-0, 34=35-7-0,  
35=35-7-0, 36=35-7-0, 37=35-7-0,  
38=35-7-0, 39=35-7-0, 40=35-7-0,  
41=35-7-0  
Max Horiz 41=155 (LC 14)  
Max Uplift 23=4 (LC 18), 24=111 (LC 15),  
25=-32 (LC 15), 26=-47 (LC 15),  
27=-43 (LC 15), 28=-44 (LC 15),  
29=-43 (LC 15), 30=-48 (LC 15),  
31=-36 (LC 15), 33=-39 (LC 14),  
34=-47 (LC 14), 35=-43 (LC 14),  
36=-44 (LC 14), 37=-43 (LC 14),  
38=-48 (LC 14), 39=-26 (LC 14),  
40=-119 (LC 14), 41=-43 (LC 15)

Max Grav 23=96 (LC 27), 24=147 (LC 35),  
25=164 (LC 22), 26=159 (LC 35),  
27=161 (LC 22), 28=160 (LC 35),  
29=175 (LC 22), 30=228 (LC 22),  
31=244 (LC 22), 32=202 (LC 27),  
33=244 (LC 21), 34=228 (LC 21),  
35=175 (LC 21), 36=160 (LC 34),  
37=161 (LC 21), 38=160 (LC 34),  
39=160 (LC 1), 40=162 (LC 24),  
41=144 (LC 26)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/15, 2-3=-164/89, 3-4=-108/92,  
4-5=-83/113, 5-6=-64/136, 6-8=-59/159,  
8-9=-77/199, 9-10=-95/244, 10-11=-114/292,  
11-12=-131/332, 12-13=-131/332,  
13-14=-114/292, 14-15=-95/244,  
15-16=-77/199, 16-18=-59/154,  
18-19=-41/109, 19-20=-45/64, 20-21=-63/40,  
21-22=-103/34, 2-41=-111/46, 22-23=-64/9  
BOT CHORD 40-41=-21/88, 39-40=-21/88, 38-39=-21/88,  
37-38=-21/88, 36-37=-21/88, 34-36=-21/88,  
33-34=-21/88, 32-33=-21/88, 31-32=-21/88,  
30-31=-21/88, 28-30=-21/88, 27-28=-21/88,  
26-27=-21/88, 25-26=-21/88, 24-25=-21/88,  
23-24=-21/88  
WEBS 12-32=-224/54, 11-33=-204/65,  
10-34=-188/83, 9-35=-135/76, 8-36=-120/77,  
6-37=-121/77, 5-38=-120/77, 4-39=-120/77,  
3-40=-119/144, 13-31=-204/65,  
14-30=-188/83, 15-29=-135/76,  
16-28=-120/77, 18-27=-121/78,  
19-26=-119/75, 20-25=-123/97,  
21-24=-110/142

- 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) -0-5-0 to 3-1-12, Exterior(2N) 3-1-12 to 14-5-4, Corner(3R) 14-5-4 to 21-6-12, Exterior (2N) 21-6-12 to 31-10-8, Corner(3E) 31-10-8 to 35-5-4 zone; 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); 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.

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



October 21, 2024

Job	Truss	Truss Type	Qty	Ply	Hayden-F-SLAB-Roof-All Levels	I69015972
24100227	A07	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:46  
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Page: 2

- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 9) Gable studs spaced at 2-0-0 oc.
- 10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 11) \* 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.
- 12) Bearings are assumed to be: , Joint 23 User Defined .
- 13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 41, 33, 34, 35, 36, 37, 38, 39, 40, 31, 30, 29, 28, 27, 26, 25, 24, and 23. 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) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

**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](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcacomponents.com](http://www.sbcacomponents.com))



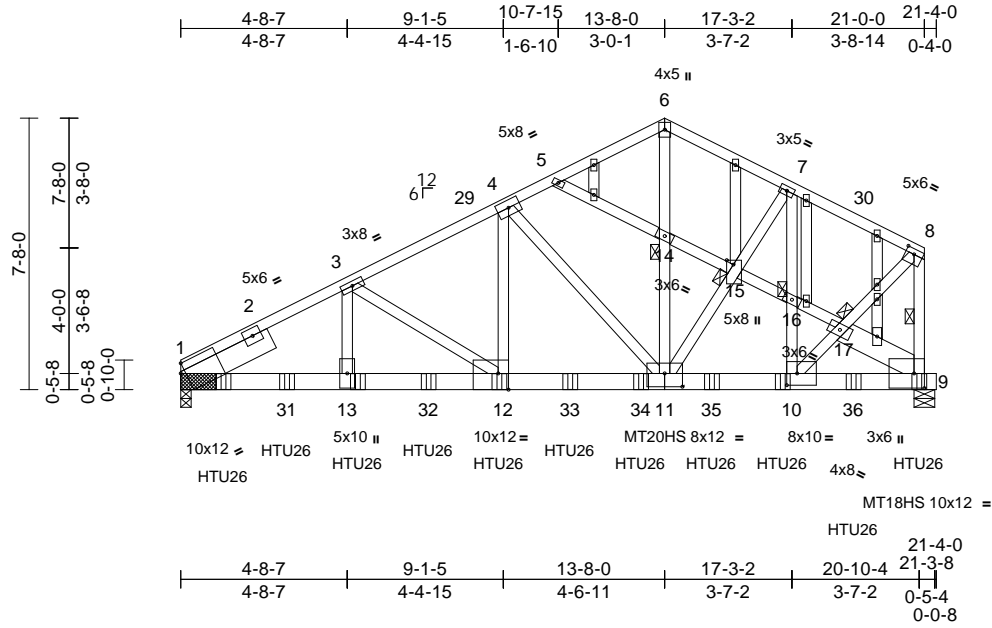
818 Soundside Road  
 Edenton, NC 27932

Job 24100227	Truss B01	Truss Type Common Girder	Qty 1	Ply 2	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015973
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:47  
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Page: 1



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Plate Offsets (X, Y): [1:Edge,0-3-1], [8:Edge,0-1-12], [9:0-3-8,0-5-0], [10:0-3-8,0-4-0], [11:0-6-0,0-4-8], [12:0-3-8,Edge], [15:0-1-8,0-2-4]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.15	12-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.28	12-13	>905	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.06	9	n/a	n/a	MT20HS	187/143
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 397 lb	FT = 20%

LUMBER		WEBS	
TOP CHORD	2x4 SP 2400F 2.0E *Except* 6-8:2x4 SP No.2		11-14=-390/5494, 6-14=-388/5470, 10-17=-251/6662, 8-17=-238/6544, 10-16=-1575/456, 7-16=-1709/469, 11-15=-371/1393, 7-15=-372/1402, 4-11=-4517/491, 4-12=-471/5389, 3-12=-2902/373, 3-13=-242/2881, 5-14=-1184/142, 14-15=-1235/145, 15-16=-1312/156, 16-17=-1452/164, 9-17=-1340/158
BOT CHORD	2x6 SP 2400F 2.0E		
WEBS	2x4 SP No.3 *Except* 11-6,8-10,4-12:2x4 SP No.2, 17-9:2x8 SP 2400F 2.0E		
OTHERS	2x4 SP No.3		
SLIDER	Left 2x8 SP 2400F 2.0E -- 2-8-14		
BRACING			
TOP CHORD	Structural wood sheathing directly applied or 3-9-14 oc purlins, except end verticals.		
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.		
WEBS	1 Row at midpt 8-9		
JOINTS	1 Brace at Jt(s): 14, 15, 16, 17		
REACTIONS	(size) 1=(0-3-8 + bearing block), (req. 0-3-12), 9=0-7-0 Max Horiz 1=170 (LC 12) Max Uplift 1=-781 (LC 12) Max Grav 1=9014 (LC 5), 9=10591 (LC 6)		
FORCES	(lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-3=-13516/1164, 3-4=-10682/887, 4-5=-6951/550, 5-6=-6194/493, 6-7=-6089/486, 7-8=-5198/211, 8-9=-7115/287		
BOT CHORD	1-13=-1145/11944, 12-13=-1145/11944, 10-12=-829/9509, 9-10=-125/1161		

- NOTES**
- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-6-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 7-10 2x4 - 1 row at 0-7-0 oc, Except member 4-12 2x4 - 1 row at 0-7-0 oc, member 3-13 2x4 - 1 row at 0-3-0 oc, 2x8 - 2 rows staggered 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.
  - 2x6 SP 2400F 2.0E bearing block 12" long at jt. 1 attached to each face with 3 rows of 10d (0.131"x3") nails spaced 3" o.c. Total fasteners per block. Bearing is assumed to be SP 2400F 2.0E.
  - 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 exposed; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- All plates are MT20 plates unless otherwise indicated.
- 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.



October 21, 2024

Continued on page 2

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

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



818 Soundside Road  
Edenton, NC 27932

Job 24100227	Truss B01	Truss Type Common Girder	Qty 1	Ply <b>2</b>	Hayden-F-SLAB-Roof-All Levels I69015973 Job Reference (optional)
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:47

Page: 2

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- 14) LGT2 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1. 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) Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 2-0-0 oc max. starting at 1-2-8 from the left end to 17-0-0 to connect truss(es) to back face of bottom chord.
- 17) Use Simpson Strong-Tie HTU26 (20-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 1-10-4 oc max. starting at 19-0-0 from the left end to 20-10-4 to connect truss(es) to back face of bottom chord.
- 18) Fill all nail holes where hanger is in contact with lumber.
- 19) LGT2 Hurricane ties must have two studs in line below the truss.

**LOAD CASE(S)** Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-6=-58, 6-8=-58, 9-25=-19  
Concentrated Loads (lb)  
Vert: 9=-1628 (B), 10=-1409 (B), 12=-1409 (B), 13=-1409 (B), 27=-1409 (B), 31=-1409 (B), 32=-1409 (B), 33=-1409 (B), 34=-1409 (B), 35=-1409 (B), 36=-1622 (B)

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

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



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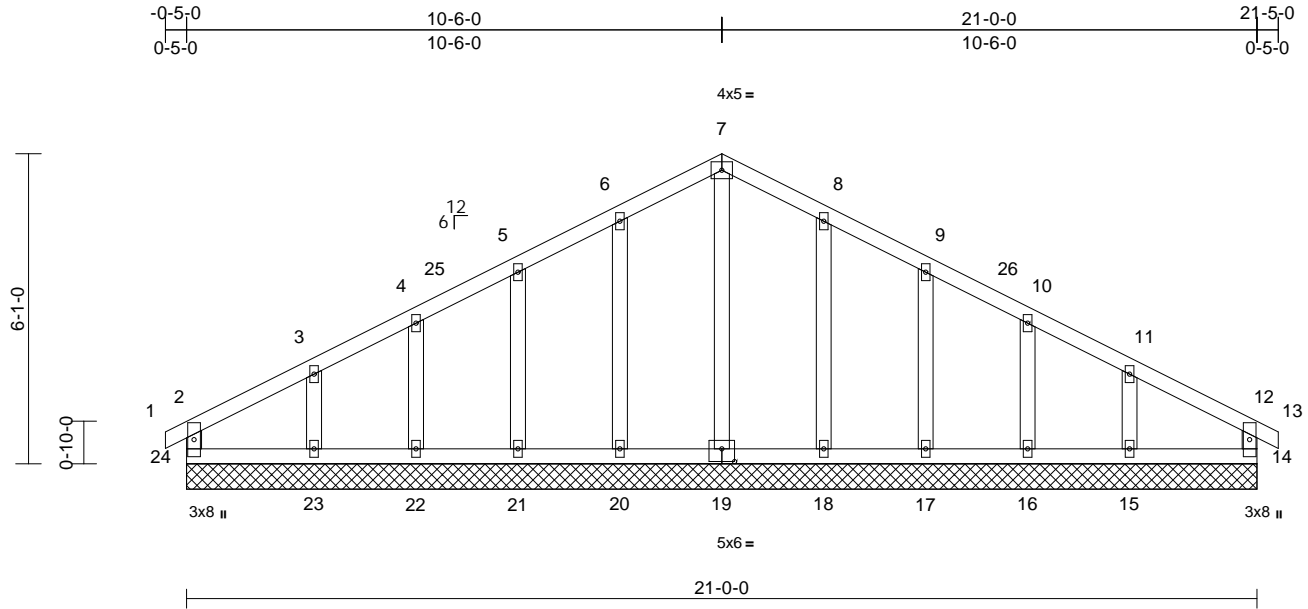
Job 24100227	Truss C01	Truss Type Common Supported Gable	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015974
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:47

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Scale = 1:45.2

Plate Offsets (X, Y): [19:0-3-0,0-3-0]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	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	0.09	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 113 lb	FT = 20%

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

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

**REACTIONS** (size)  
14=21-0-0, 15=21-0-0, 16=21-0-0,  
17=21-0-0, 18=21-0-0, 19=21-0-0,  
20=21-0-0, 21=21-0-0, 22=21-0-0,  
23=21-0-0, 24=21-0-0  
Max Horiz 24=84 (LC 15)  
Max Uplift 14=18 (LC 14), 15=74 (LC 15),  
16=33 (LC 15), 17=46 (LC 15),  
18=42 (LC 15), 20=42 (LC 14),  
21=46 (LC 14), 22=31 (LC 14),  
23=81 (LC 14), 24=30 (LC 15)  
Max Grav 14=129 (LC 1), 15=183 (LC 35),  
16=162 (LC 22), 17=223 (LC 22),  
18=237 (LC 22), 19=146 (LC 27),  
20=237 (LC 21), 21=223 (LC 21),  
22=162 (LC 21), 23=183 (LC 34),  
24=129 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-24=-109/84, 1-2=0/15, 2-3=-81/57,  
3-4=-56/90, 4-5=-54/129, 5-6=-69/175,  
6-7=-87/218, 7-8=-87/218, 8-9=-69/175,  
9-10=-54/129, 10-11=-52/90, 11-12=-68/40,  
12-13=0/15, 12-14=-109/84  
BOT CHORD 23-24=-13/56, 22-23=-13/56, 21-22=-13/56,  
20-21=-13/56, 18-20=-13/56, 17-18=-13/56,  
16-17=-13/56, 15-16=-13/56, 14-15=-13/56

**WEBS** 7-19=-132/20, 6-20=-198/72, 5-21=-184/80,  
4-22=-126/65, 3-23=-134/124, 8-18=-198/72,  
9-17=-184/80, 10-16=-126/65,  
11-15=-134/124

**NOTES**

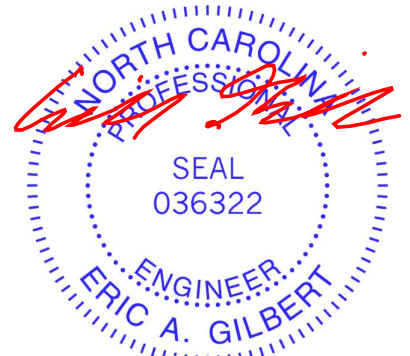
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCCL=6.0psf; BCCL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 7-6-0 to 13-6-0, Exterior(2N) 2-6-0 to 7-6-0, Corner(3R) 7-6-0 to 13-6-0, Exterior(2N) 13-6-0 to 18-5-0, Corner(3E) 18-5-0 to 21-5-0 zone;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.

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 14, 30 lb uplift at joint 24, 42 lb uplift at joint 20, 46 lb uplift at joint 21, 31 lb uplift at joint 22, 81 lb uplift at joint 23, 42 lb uplift at joint 18, 46 lb uplift at joint 17, 33 lb uplift at joint 16 and 74 lb uplift at joint 15.

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.

**LOAD CASE(S)** Standard



October 21, 2024

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

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



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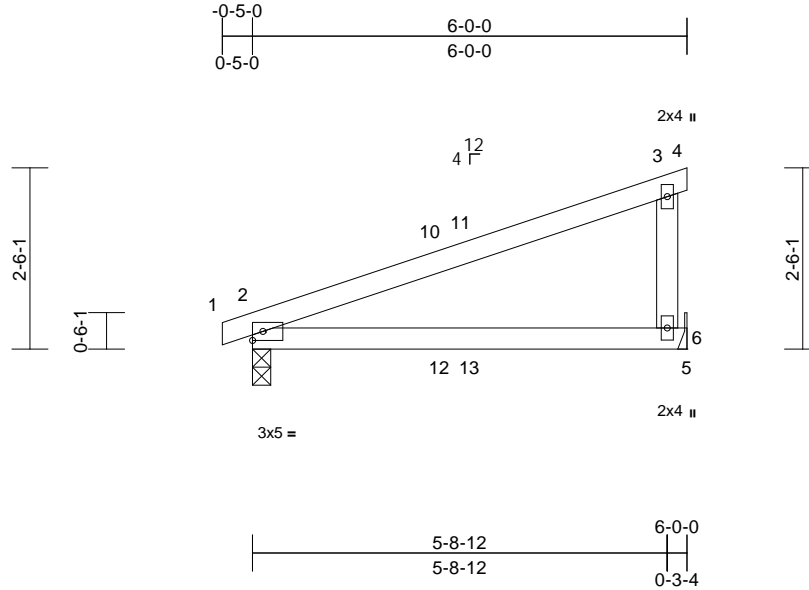


Job 24100227	Truss D02	Truss Type Monopitch	Qty 9	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015977
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:31.8

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	0.75	Vert(LL)	0.21	6-9	>335	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	0.17	6-9	>414	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 22 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) 2=0-3-0, 6= Mechanical  
Max Horiz 2=80 (LC 10)  
Max Uplift 2=-87 (LC 10), 6=-103 (LC 20)  
Max Grav 2=350 (LC 21), 6=341 (LC 21)

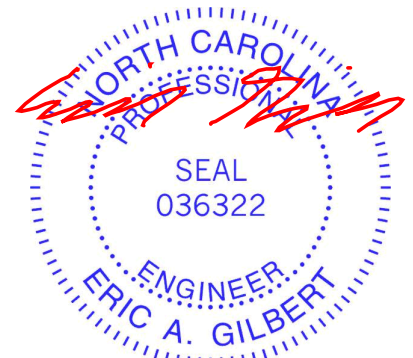
**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/12, 2-3=-87/79, 3-4=-8/0, 3-6=-250/213  
BOT CHORD 2-6=-163/150, 5-6=0/0

**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) -0-5-0 to 2-7-0, Interior (1) 2-7-0 to 3-0-0, Exterior(2E) 3-0-0 to 6-0-0 zone; cantilever left and right exposed; end vertical 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
- 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.
  - 7) Refer to girder(s) for truss to truss connections.
  - 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 103 lb uplift at joint 6.
  - 9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
  - 10) 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 21, 2024

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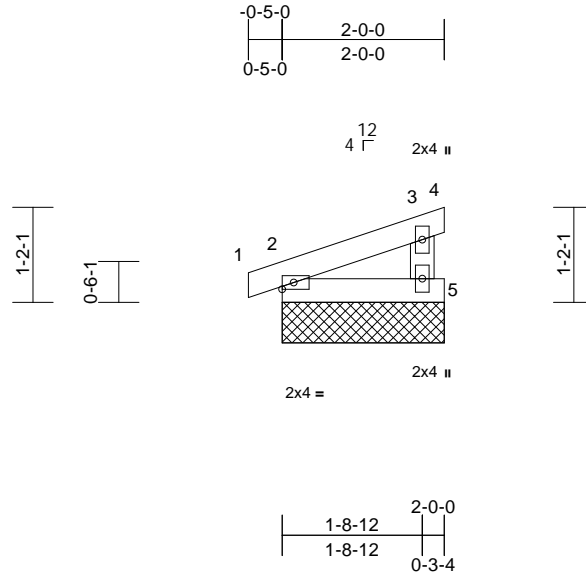
818 Soundside Road  
Edenton, NC 27932

Job 24100227	Truss D03	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015978
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:47  
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Page: 1



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	0.04	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 8 lb	FT = 20%

**LUMBER**

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

**BRACING**

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

**REACTIONS** (size) 2=2-0-0, 4=2-0-0, 5=2-0-0, 6=2-0-0  
Max Horiz 2=30 (LC 10), 6=30 (LC 10)  
Max Uplift 2=-17 (LC 10), 4=-42 (LC 21), 5=-39 (LC 14), 6=-17 (LC 10)  
Max Grav 2=112 (LC 21), 4=13 (LC 14), 5=152 (LC 21), 6=112 (LC 21)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/10, 2-3=-37/21, 3-4=-20/14, 3-5=-131/144  
BOT CHORD 2-5=-44/18

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
  - Gable requires continuous bottom chord bearing.
  - Gable studs spaced at 2-0-0 oc.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 2, 42 lb uplift at joint 4, 39 lb uplift at joint 5 and 17 lb uplift at joint 2.
  - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

- NOTES**
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 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
  - 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.



October 21, 2024

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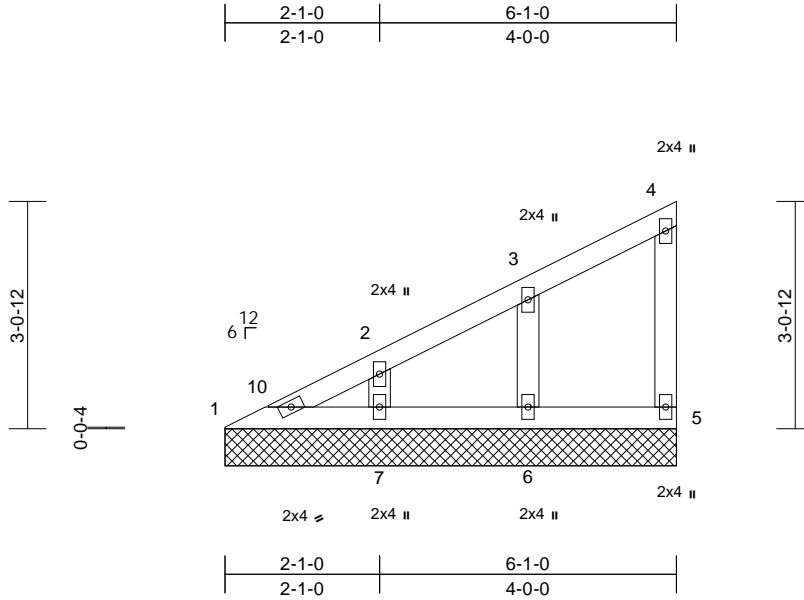
818 Soundside Road  
Edenton, NC 27932

Job 24100227	Truss VL6	Truss Type Valley	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015979
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:47  
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Scale = 1:31

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(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 25 lb	FT = 20%	

#### LUMBER

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

#### BRACING

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

#### REACTIONS

(size)	1=6-1-0, 5=6-1-0, 6=6-1-0, 7=6-1-0
Max Horiz	1=104 (LC 14)
Max Uplift	5=-16 (LC 14), 6=-48 (LC 14), 7=-38 (LC 14)
Max Grav	1=81 (LC 20), 5=85 (LC 20), 6=243 (LC 20), 7=256 (LC 20)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

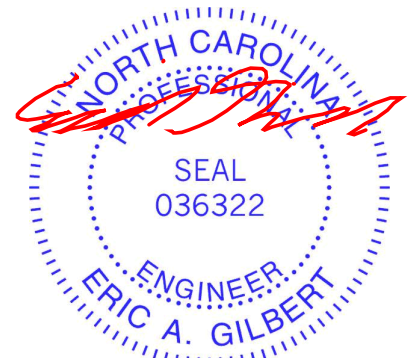
TOP CHORD	1-2=-226/75, 2-3=-148/49, 3-4=-48/23, 4-5=-69/70
BOT CHORD	1-7=-103/80, 6-7=0/0, 5-6=0/0
WEBS	3-6=-206/214, 2-7=-184/166

#### 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 Corner(3E) zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) 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.
- 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) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 2-0-0 oc.
- 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.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 5, 48 lb uplift at joint 6 and 38 lb uplift at joint 7.
- 10) 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 21, 2024

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**TRENCO**  
A MiTek Affiliate

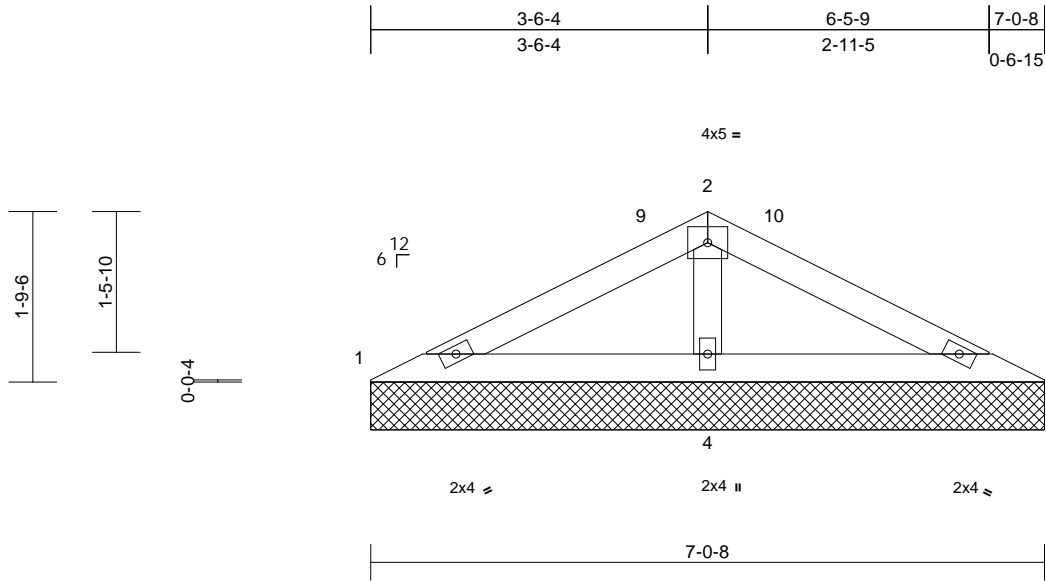
818 Soundside Road  
Edenton, NC 27932

Job 24100227	Truss VL7	Truss Type Valley	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015980
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:47  
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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.22	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 22 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 7-0-8 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 1=7-0-8, 3=7-0-8, 4=7-0-8  
Max Horiz 1=26 (LC 14)  
Max Uplift 1=-10 (LC 14), 3=-16 (LC 15), 4=-35 (LC 14)  
Max Grav 1=109 (LC 20), 3=109 (LC 21), 4=454 (LC 20)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-123/220, 2-3=-123/220  
BOT CHORD 1-4=-161/131, 3-4=-161/131  
WEBS 2-4=-304/179

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Exterior(2R) 3-0-8 to 4-1-0, Exterior(2E) 4-1-0 to 7-1-0 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  
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.

- 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 10 lb uplift at joint 1, 16 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 21, 2024

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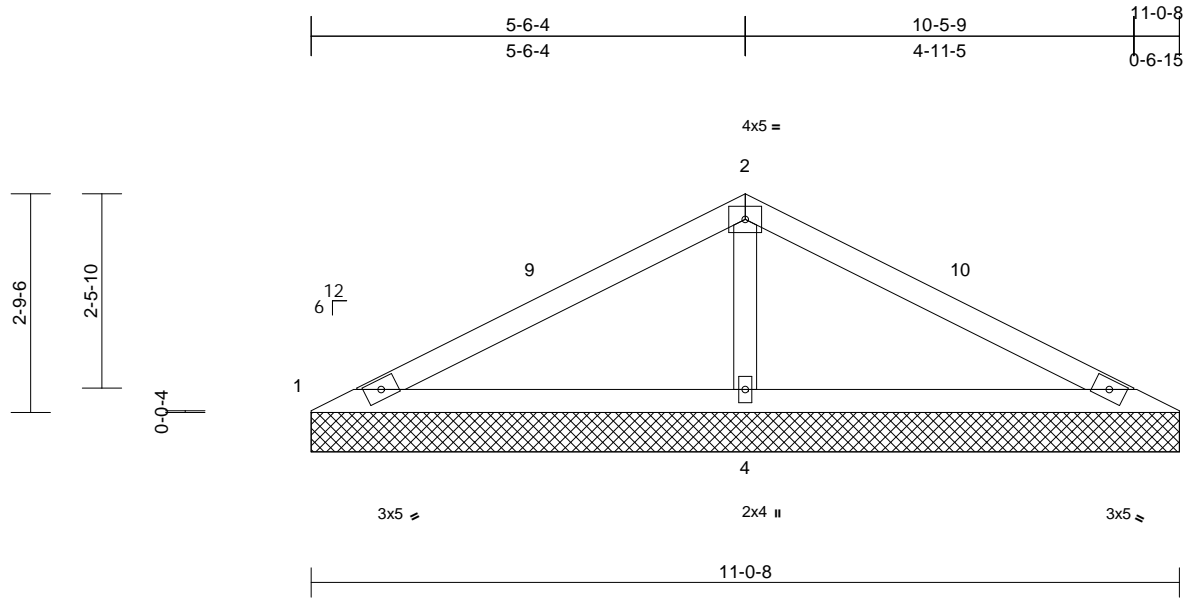
818 Soundside Road  
Edenton, NC 27932

Job 24100227	Truss VL11	Truss Type Valley	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015981
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:48  
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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	0.53	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.50	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 36 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.

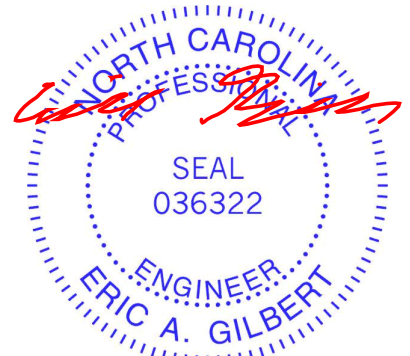
**REACTIONS** (size) 1=11-0-8, 3=11-0-8, 4=11-0-8  
Max Horiz 1=41 (LC 14)  
Max Uplift 1=-49 (LC 21), 3=-49 (LC 20), 4=-71 (LC 14)  
Max Grav 1=126 (LC 20), 3=126 (LC 21), 4=847 (LC 21)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-162/485, 2-3=-162/485  
BOT CHORD 1-4=-344/213, 3-4=-344/213  
WEBS 2-4=-654/338

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Exterior(2R) 3-0-8 to 8-1-0, Exterior(2E) 8-1-0 to 11-1-0 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  
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.

- 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 49 lb uplift at joint 1, 49 lb uplift at joint 3 and 71 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 21, 2024

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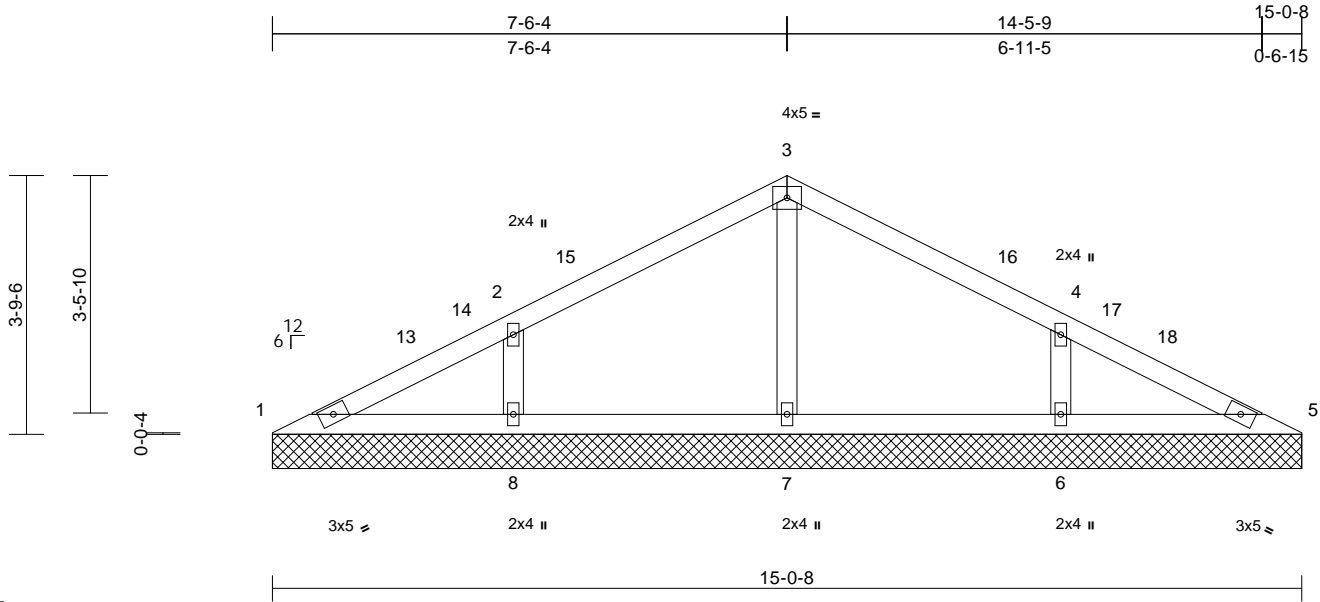
818 Soundside Road  
Edenton, NC 27932

Job 24100227	Truss VL15	Truss Type Valley	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015982
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:48  
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Page: 1



Scale = 1:33.7

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	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 54 lb	FT = 20%

**LUMBER**

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

**BRACING**

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

**REACTIONS**

(size) 1=15-0-8, 5=15-0-8, 6=15-0-8,  
7=15-0-8, 8=15-0-8  
Max Horiz 1=-57 (LC 19)  
Max Uplift 1=-7 (LC 15), 5=-5 (LC 15), 6=-96 (LC 15), 8=-97 (LC 14)  
Max Grav 1=92 (LC 33), 5=92 (LC 34), 6=480 (LC 21), 7=335 (LC 21), 8=480 (LC 20)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-126/106, 2-3=-68/111, 3-4=-68/103, 4-5=-126/106  
BOT CHORD 1-8=-48/104, 7-8=-48/52, 6-7=-48/52, 5-6=-48/104  
WEBS 3-7=-259/76, 2-8=-389/171, 4-6=-389/171

**NOTES**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 4-6-12, Exterior(2R) 4-6-12 to 10-6-12, Interior (1) 10-6-12 to 12-1-0, Exterior(2E) 12-1-0 to 15-1-0 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

- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 1, 5 lb uplift at joint 5, 97 lb uplift at joint 8 and 96 lb uplift at joint 6.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



October 21, 2024

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

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



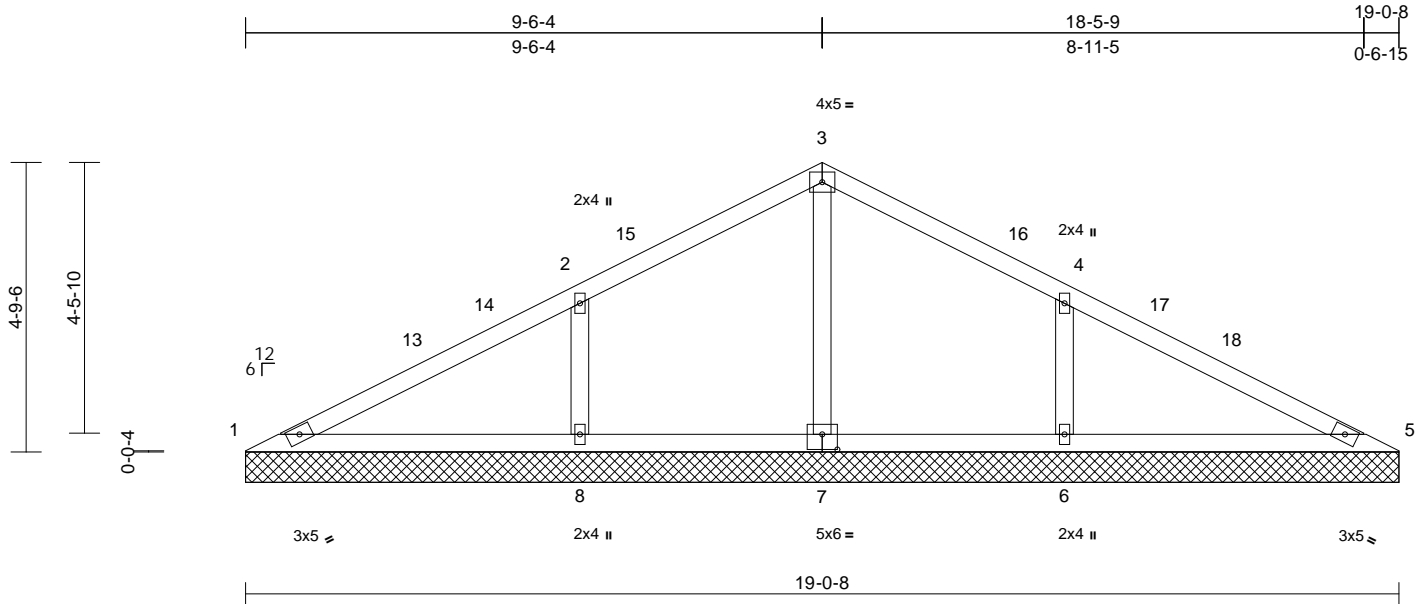
818 Soundside Road  
Edenton, NC 27932

Job 24100227	Truss VL19	Truss Type Valley	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015983
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:48  
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Page: 1



Scale = 1:38  
Plate Offsets (X, Y): [7:0-3-0,0-3-0]

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	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	Horiz(TL)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 71 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=19-0-8, 5=19-0-8, 6=19-0-8, 7=19-0-8, 8=19-0-8  
Max Horiz 1=73 (LC 14)  
Max Uplift 5=-8 (LC 15), 6=-126 (LC 15), 8=-126 (LC 14)  
Max Grav 1=110 (LC 33), 5=110 (LC 34), 6=589 (LC 21), 7=431 (LC 1), 8=589 (LC 20)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-147/306, 2-3=0/273, 3-4=0/273, 4-5=-147/306  
BOT CHORD 1-8=-207/127, 6-8=-207/104, 5-6=-207/127  
WEBS 3-7=-391/68, 2-8=-448/170, 4-6=-448/170

- 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 8 lb uplift at joint 5, 126 lb uplift at joint 8 and 126 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 6-6-12, Exterior(2R) 6-6-12 to 12-6-12, Interior (1) 12-6-12 to 16-1-0, Exterior(2E) 16-1-0 to 19-1-0 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



October 21, 2024

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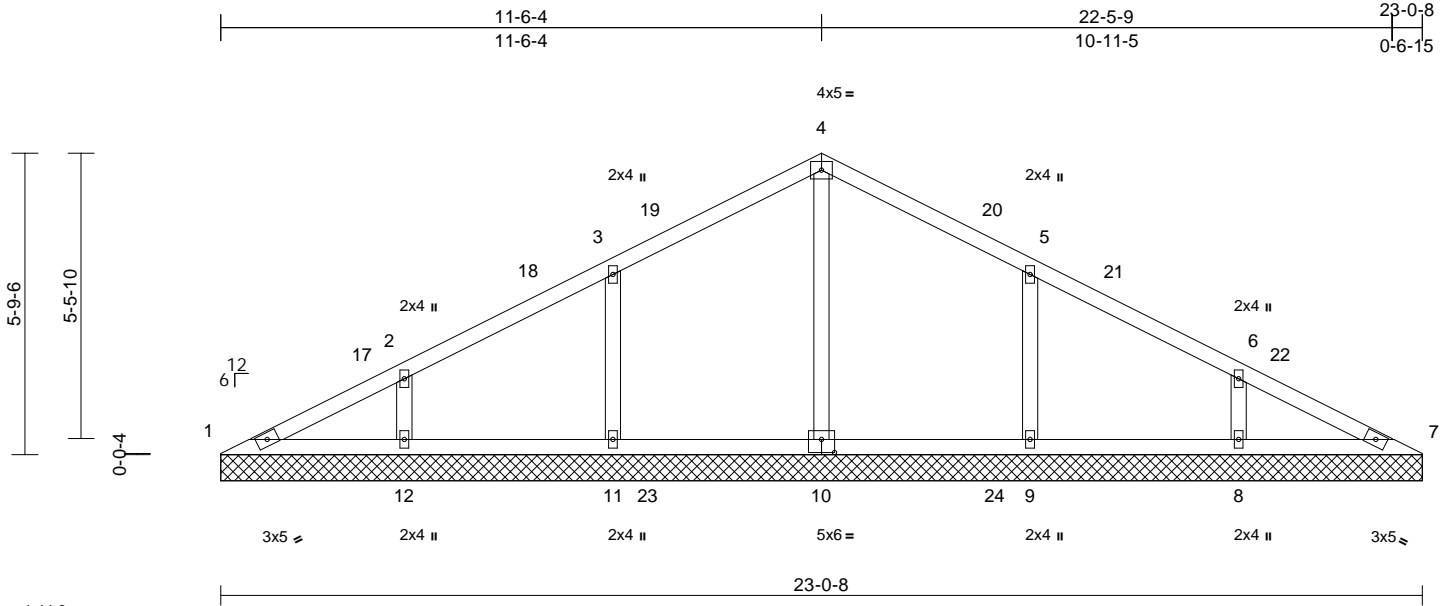


Job 24100227	Truss VL23	Truss Type Valley	Qty 1	Ply 1	Hayden-F-SLAB-Roof-All Levels Job Reference (optional)	169015984
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Fri Oct 18 13:02:48  
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Page: 1



Scale = 1:44.2

Plate Offsets (X, Y): [10:0-3-0,0-3-0]

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	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 92 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=23-0-8, 7=23-0-8, 8=23-0-8, 9=23-0-8, 10=23-0-8, 11=23-0-8, 12=23-0-8  
Max Horiz 1=89 (LC 14)  
Max Uplift 1=-10 (LC 15), 8=-79 (LC 15), 9=-99 (LC 15), 11=-99 (LC 14), 12=-80 (LC 14)  
Max Grav 1=105 (LC 20), 7=105 (LC 21), 8=342 (LC 3), 9=470 (LC 6), 10=420 (LC 5), 11=470 (LC 5), 12=342 (LC 3)

**FORCES**

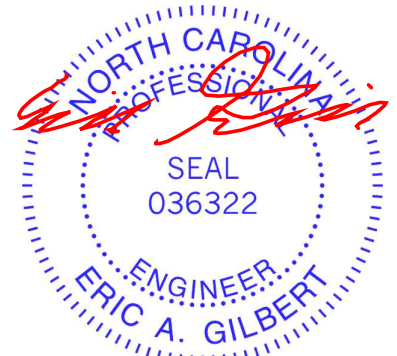
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-153/100, 2-3=-42/117, 3-4=-79/129, 4-5=-79/120, 5-6=-33/95, 6-7=-149/79  
BOT CHORD 1-12=-45/143, 11-12=-45/79, 9-11=-45/79, 8-9=-45/79, 7-8=-45/128  
WEBS 4-10=-248/6, 3-11=-390/150, 2-12=-228/117, 5-9=-390/149, 6-8=-228/116

**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) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 8-6-12, Exterior(2R) 8-6-12 to 14-6-12, Interior (1) 14-6-12 to 20-1-0, Exterior(2E) 20-1-0 to 23-1-0 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.
- 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 10 lb uplift at joint 1, 99 lb uplift at joint 11, 80 lb uplift at joint 12, 99 lb uplift at joint 9 and 79 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 21, 2024

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

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818 Soundside Road  
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# Symbols

## PLATE LOCATION AND ORIENTATION



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



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



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

## PLATE SIZE

4 X 4

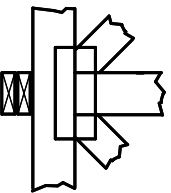
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



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

## BEARING



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

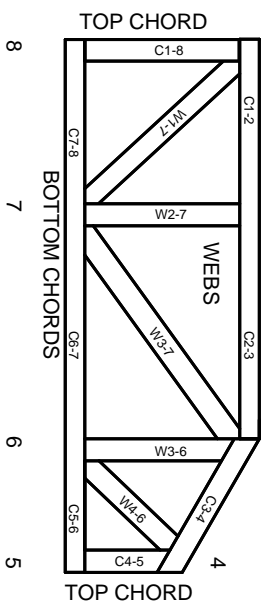
## Industry Standards:

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

# Numbering System



1 TOP CHORDS  
2  
3 Joint ID typ.



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

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

# Product Code Approvals

ICC-ES Reports:

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

# Design General Notes

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

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

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# 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 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

**MITek**

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