



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

Phone #:919-775-1450

**Builder: DAVID WEEKLEY
HOMES
Model: 109 SERENITY
B330 A**



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.

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.

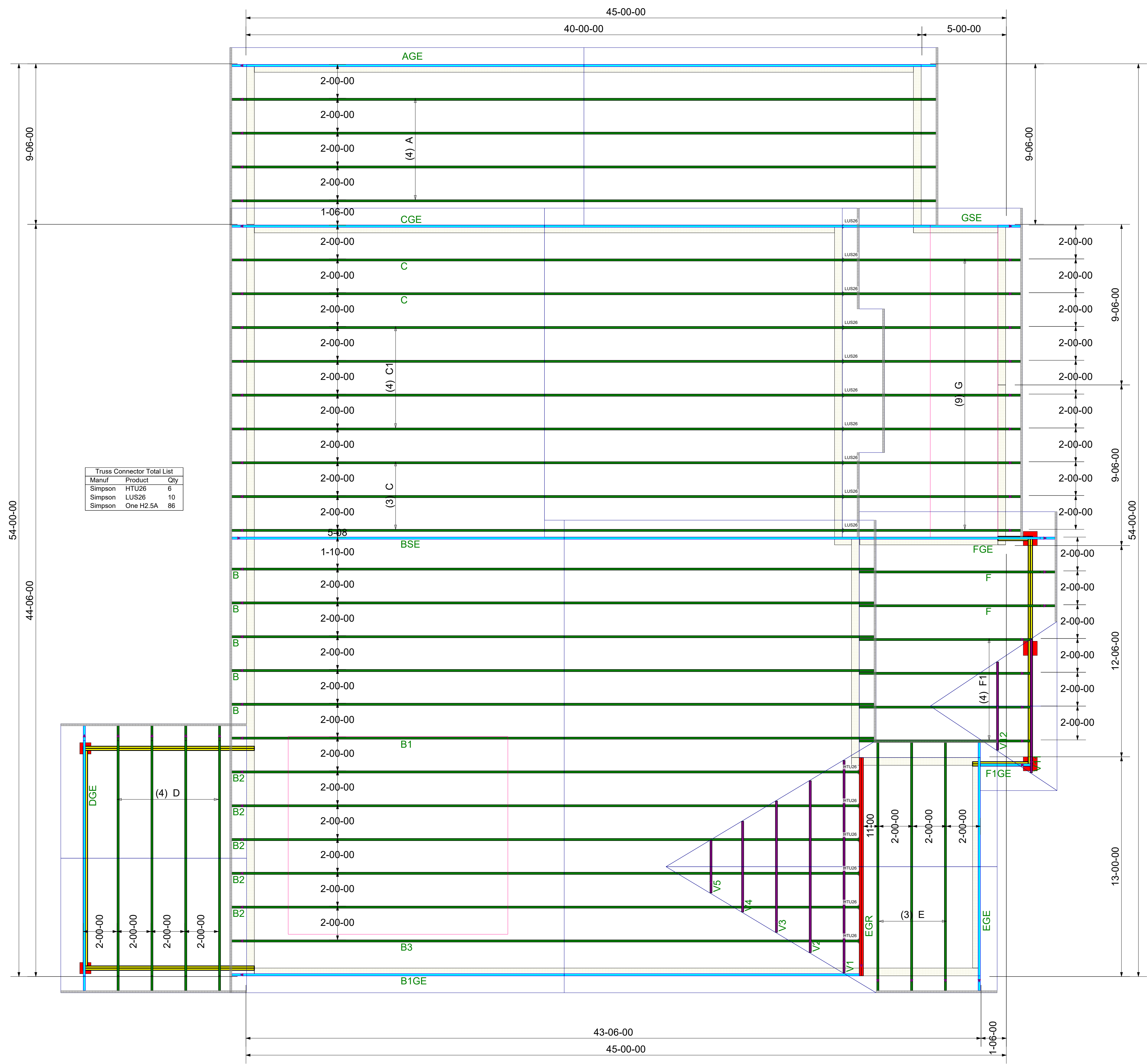
Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

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.

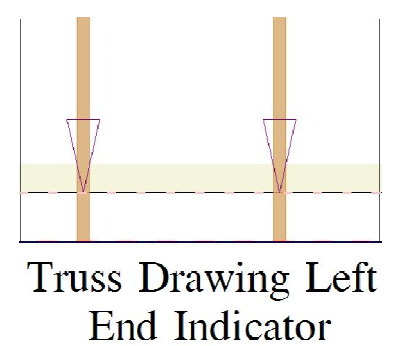


Davis Weekley Homes
109 Serenity
COMPONENT PLAN
PLACEMENT PLAN

Scale:	NTS
Date:	10/13/2023
Designer:	ND
Project Number:	23100018
Sheet Number:	1/1



Truss Connector Total List		
Manuf.	Product	Qty
Simpson	HTU26	6
Simpson	LUS26	10
Simpson	One H2.5A	86



** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS. ** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT. ** GIRDERS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS. ** TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE. ** DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH.

** 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.

Trenco

818 Soundside Rd
Edenton, NC 27932

Re: 23100018
109 Serenity

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

Pages or sheets covered by this seal: I61412506 thru I61412534

My license renewal date for the state of North Carolina is December 31, 2023.

North Carolina COA: C-0844



October 16, 2023

Gilbert, Eric

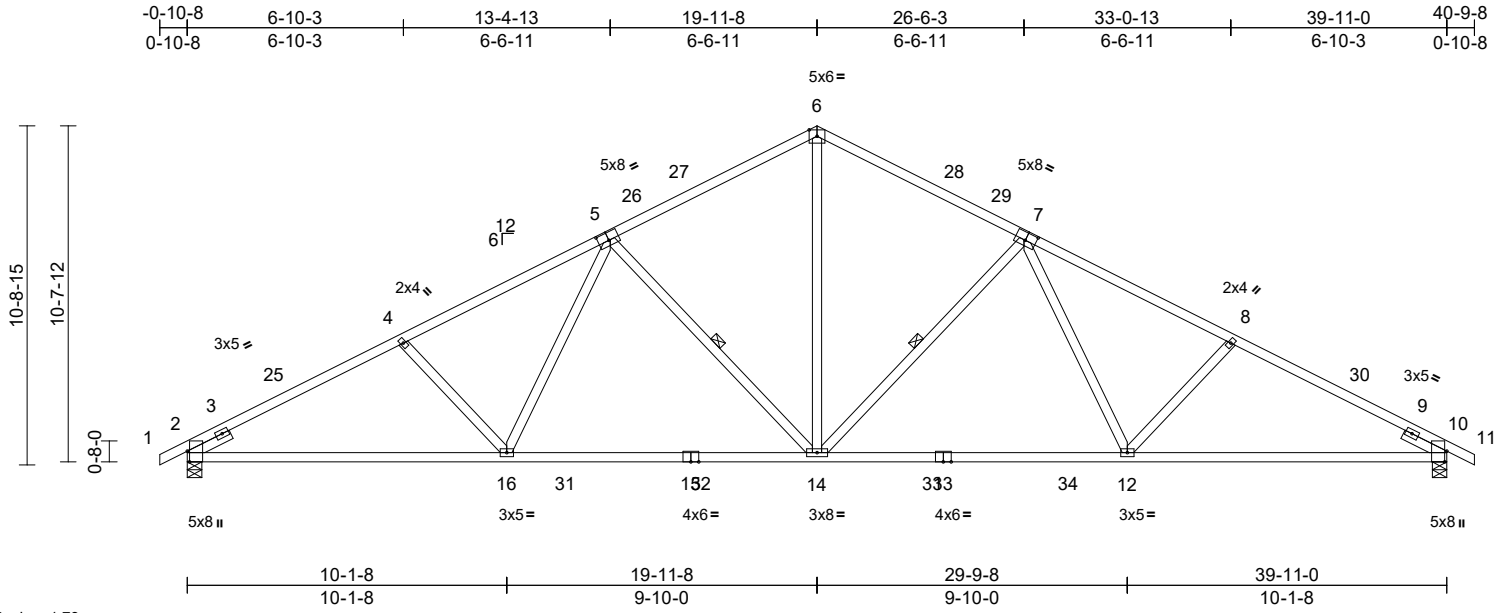
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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

Job 23100018	Truss A	Truss Type Common	Qty 4	Ply 1	109 Serenity Job Reference (optional)	161412506
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:35
ID:CttcSzQgwNcSj9X9hY?FsHzF_uO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?F

Page: 1



Scale = 1:73
Plate Offsets (X, Y): [2:0-4-1,Edge], [5:0-4-0,0-3-0], [7:0-4-0,0-3-0], [10:0-4-1,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.37	12-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.64	12-14	>751	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.14	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 213 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 1-5,7-11:2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 14-6:2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 7-14, 5-14

REACTIONS (size) 2=0-5-8, 10=0-5-8
Max Horiz 2=165 (LC 14), 10=-170 (LC 15)
Max Uplift 2=-170 (LC 14), 10=-170 (LC 15)
Max Grav 2=1805 (LC 3), 10=1805 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-3052/320, 4-6=-2866/333, 6-8=-2866/333, 8-10=-3052/320, 10-11=0/233
BOT CHORD 2-16=-329/2658, 14-16=-190/2271, 12-14=-108/2271, 10-12=-184/2658
WEBS 6-14=-116/1474, 7-14=-799/247, 7-12=-26/590, 8-12=-301/191, 5-14=-799/247, 5-16=-25/590, 4-16=-301/191

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 10. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 3-1-6, Interior (1) 3-1-6 to 15-11-10, Exterior(2R) 15-11-10 to 23-11-6, Interior (1) 23-11-6 to 36-9-10, Exterior(2E) 36-9-10 to 40-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



October 16, 2023

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.sbccomponents.com)



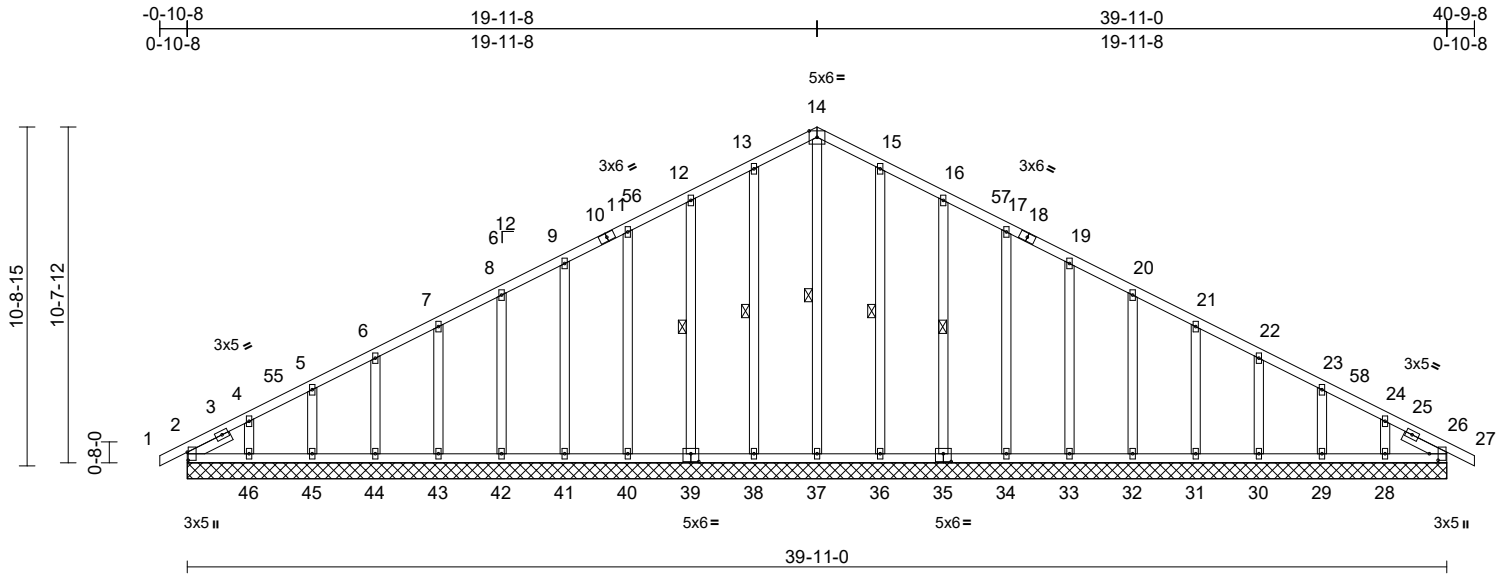
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss AGE	Truss Type Common Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412507
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:73
Plate Offsets (X, Y): [2:0-3-1,0-0-5], [26:0-2-8,0-3-5], [35:0-3-0,0-3-0], [39:0-3-0,0-3-0]

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	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	26	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 285 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 37-14:2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 14-37, 13-38, 12-39, 15-36, 16-35

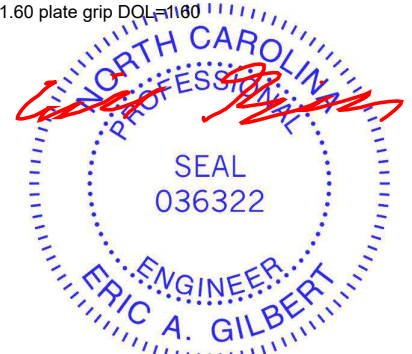
REACTIONS (size)
2=39-11-0, 26=39-11-0,
28=39-11-0, 29=39-11-0,
30=39-11-0, 31=39-11-0,
32=39-11-0, 33=39-11-0,
34=39-11-0, 35=39-11-0,
36=39-11-0, 37=39-11-0,
38=39-11-0, 39=39-11-0,
40=39-11-0, 41=39-11-0,
42=39-11-0, 43=39-11-0,
44=39-11-0, 45=39-11-0,
46=39-11-0, 47=39-11-0,
51=39-11-0
Max Horiz 2=-165 (LC 15), 51=-165 (LC 15)
Max Uplift 2=-21 (LC 10), 28=-80 (LC 15),
29=-37 (LC 15), 30=-46 (LC 15),
31=-43 (LC 15), 32=-44 (LC 15),
33=-44 (LC 15), 34=-43 (LC 15),
35=-48 (LC 15), 36=-36 (LC 15),
38=-39 (LC 14), 39=-47 (LC 14),
40=-43 (LC 14), 41=-44 (LC 14),
42=-44 (LC 14), 43=-43 (LC 14),
44=-46 (LC 14), 45=-34 (LC 14),
46=-96 (LC 14), 51=-21 (LC 10)

Max Grav 2=161 (LC 26), 26=138 (LC 22),
28=158 (LC 35), 29=160 (LC 22),
30=160 (LC 35), 31=160 (LC 1),
32=161 (LC 22), 33=160 (LC 35),
34=180 (LC 22), 35=232 (LC 22),
36=245 (LC 22), 37=201 (LC 27),
38=245 (LC 21), 39=232 (LC 21),
40=180 (LC 21), 41=160 (LC 34),
42=161 (LC 21), 43=160 (LC 1),
44=160 (LC 34), 45=160 (LC 21),
46=158 (LC 34), 47=138 (LC 22),
51=161 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-216/79, 4-5=-168/81,
5-6=-129/94, 6-7=-96/107, 7-8=-74/130,
8-9=-61/154, 9-11=-66/177, 11-12=-84/221,
12-13=-103/269, 13-14=-120/309,
14-15=-120/309, 15-16=-103/269,
16-17=-84/221, 17-19=-66/176,
19-20=-49/131, 20-21=-41/86, 21-22=-44/40,
22-23=-66/27, 23-24=-100/35,
24-26=-144/59, 26-27=0/23
BOT CHORD 2-46=-44/167, 45-46=-44/167,
44-45=-44/167, 43-44=-44/167,
42-43=-44/167, 41-42=-44/167,
40-41=-44/167, 38-40=-44/167,
37-38=-44/167, 36-37=-44/167,
34-36=-44/167, 33-34=-44/167,
32-33=-44/167, 31-32=-44/167,
30-31=-44/167, 29-30=-44/167,
28-29=-44/167, 26-28=-44/167

WEBS 14-37=-204/45, 13-38=-205/66,
12-39=-192/83, 11-40=-140/76,
9-41=-120/77, 8-42=-121/77, 7-43=-120/77,
6-44=-120/77, 5-45=-121/81, 4-46=-114/135,
15-36=-205/66, 16-35=-192/83,
17-34=-140/76, 19-33=-120/77,
20-32=-121/77, 21-31=-120/77,
22-30=-120/77, 23-29=-121/81,
24-28=-114/135

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 3-1-6, Exterior(2N) 3-1-6 to 15-11-8, Corner(3R) 15-11-8 to 23-11-8, Exterior(2N) 23-11-8 to 36-9-10, Corner(3E) 36-9-10 to 40-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



October 16, 2023

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)



818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss AGE	Truss Type Common Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412507
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:37
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Page: 2

- 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) TCLK: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 2, 39 lb uplift at joint 38, 47 lb uplift at joint 39, 43 lb uplift at joint 40, 44 lb uplift at joint 41, 44 lb uplift at joint 42, 43 lb uplift at joint 43, 46 lb uplift at joint 44, 34 lb uplift at joint 45, 96 lb uplift at joint 46, 36 lb uplift at joint 36, 48 lb uplift at joint 35, 43 lb uplift at joint 34, 44 lb uplift at joint 33, 44 lb uplift at joint 32, 43 lb uplift at joint 31, 46 lb uplift at joint 30, 37 lb uplift at joint 29, 80 lb uplift at joint 28 and 21 lb uplift at joint 2.
- 13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

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



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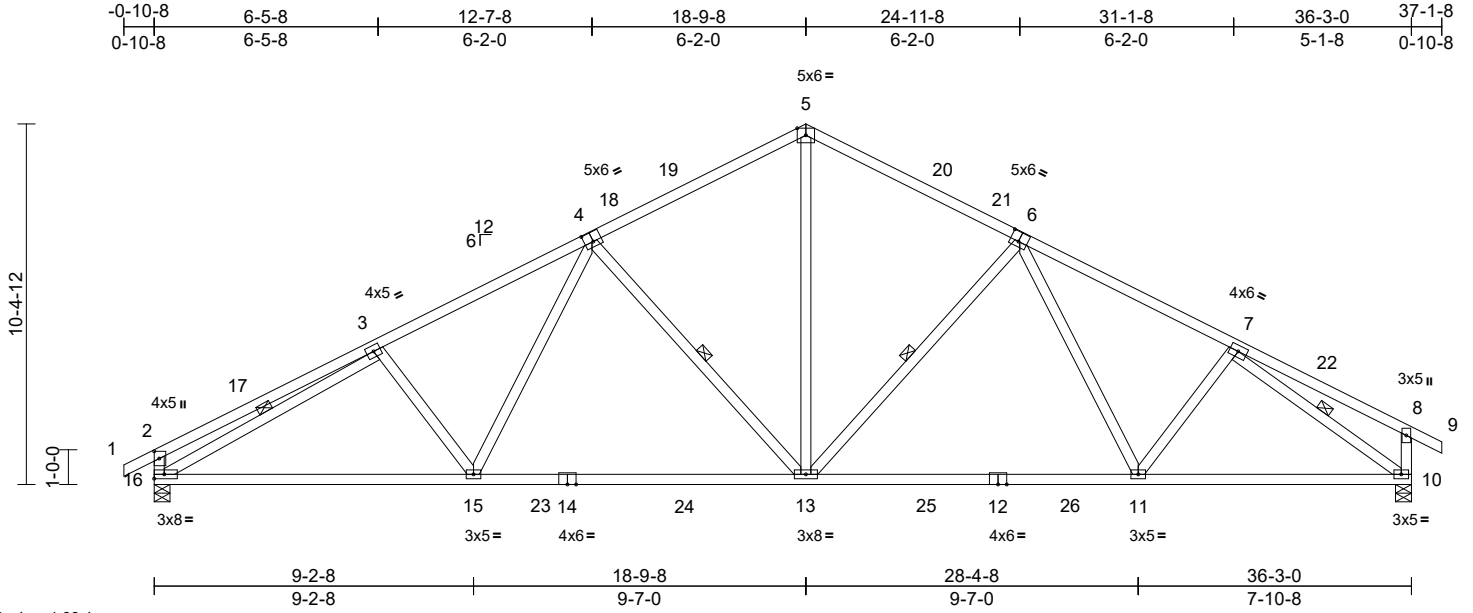
Job 23100018	Truss B	Truss Type Common	Qty 5	Ply 1	109 Serenity Job Reference (optional)	161412508
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:38

Page: 1

ID:6tPM5lr?FJUMxDStPvqO5SzF_Wb-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?F



Scale = 1:66.4

Plate Offsets (X, Y): [2:0-2-8,0-1-12], [4:0-3-0,0-3-4], [6:0-3-0,0-3-4]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.26	11-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.45	11-13	>952	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.66	Horz(CT)	0.10	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 217 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.1
 WEBS 2x4 SP No.3

BRACING

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

WEBS 1 Row at midpt 4-13, 6-13, 3-16, 7-10

REACTIONS

(size) 10=0-5-8, 16=0-5-8
 Max Horiz 16=157 (LC 13)
 Max Uplift 10=-150 (LC 15), 16=-160 (LC 14)
 Max Grav 10=1644 (LC 3), 16=1639 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/27, 2-3=-550/149, 3-5=-2405/299, 5-7=-2158/299, 7-8=-191/109, 8-9=0/27, 2-16=-457/167, 8-10=-261/140
 BOT CHORD 15-16=-278/2144, 13-15=-157/1885, 11-13=-51/1777, 10-11=-127/1755
 WEBS 3-15=-177/182, 4-15=-29/499, 4-13=-681/229, 5-13=-98/1198, 6-13=-539/217, 6-11=-4/262, 7-11=0/248, 3-16=-2024/134, 7-10=-2098/144

NOTES

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E)-0-10-8 to 2-9-0, Interior (1) 2-9-0 to 15-2-0, Exterior(2R) 15-2-0 to 22-5-0, Interior (1) 22-5-0 to 33-6-0, Exterior(2E) 33-6-0 to 37-1-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 16 and 10. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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

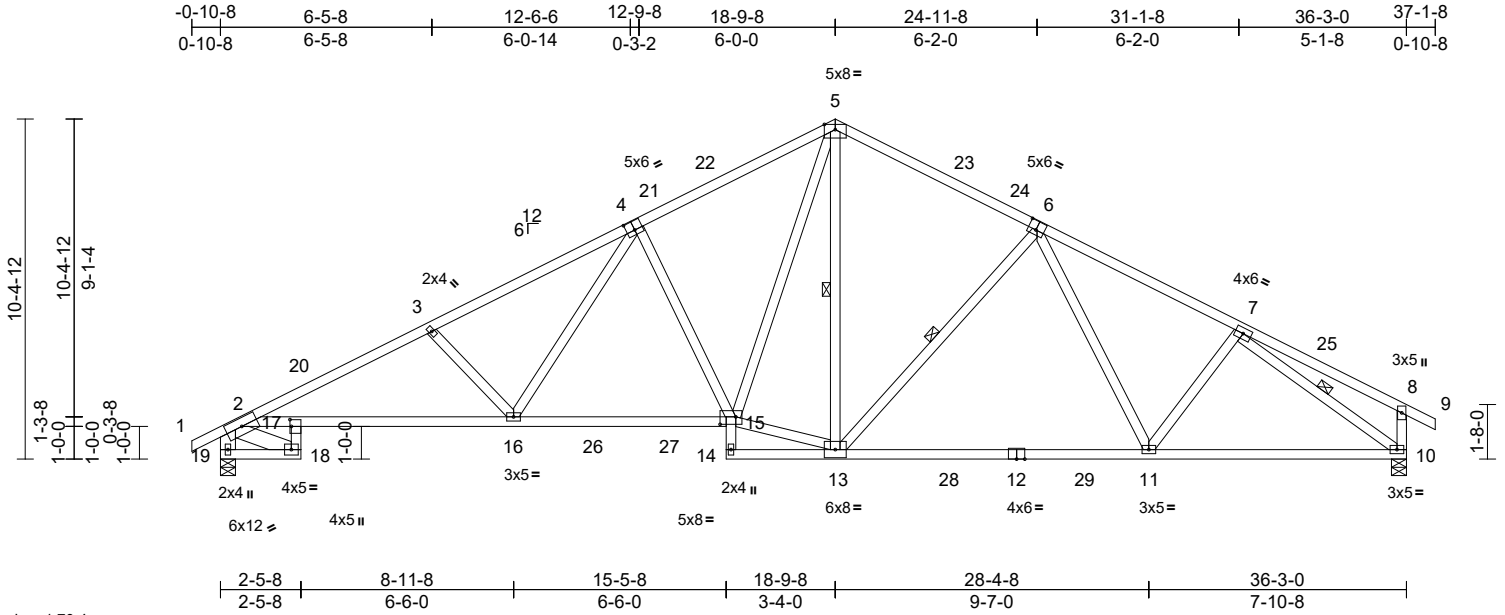
Job 23100018	Truss B1	Truss Type Roof Special	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412509
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:38

Page: 1

ID:6tPM5lr?FJUMxDStPvQ5Szf_Wb-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?



Scale = 1:70.4
Plate Offsets (X, Y): [4:0-3:0,0-3:4], [6:0-3:0,0-3:4], [15:0-5:12,0-2:12], [17:0-2:8,0-0:8]

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	0.97	Vert(LL)	-0.31	11-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.57	16-17	>760	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.29	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 228 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.3 *Except* 19-18:2x4 SP No.2, 2-15:2x4 SP 2400F 2.0E, 14-12,12-10:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 19-2,18-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 14-15,13-14.
WEBS 1 Row at midpt 5-13, 6-13, 7-10

REACTIONS
(size) 10=0-5-8, 19=0-5-8
Max Horiz 19=160 (LC 13)
Max Uplift 10=150 (LC 15), 19=155 (LC 14)
Max Grav 10=1630 (LC 3), 19=1649 (LC 3)

FORCES
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-3=-3160/339, 3-5=-2949/335, 5-7=-2140/300, 7-8=-188/116, 8-9=0/27, 2-19=-1686/230, 8-10=-260/144
BOT CHORD 18-19=-217/498, 17-18=-84/201, 2-17=-309/2577, 16-17=-360/2821, 15-16=-182/2165, 14-15=-42/0, 13-14=-65/25, 11-13=-40/1755, 10-11=-126/1740
WEBS 4-15=-776/250, 13-15=0/1543, 5-15=-191/1244, 5-13=-100/331, 6-13=-541/215, 6-11=-1/278, 7-11=0/246, 2-18=-292/189, 7-10=-2083/142, 3-16=-389/196, 4-16=-89/808

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E)-0-10-8 to 2-9-0, Interior (1) 2-9-0 to 15-2-0, Exterior(2R) 15-2-0 to 22-5-0, Interior (1) 22-5-0 to 33-6-0, Exterior(2E) 33-6-0 to 37-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
 - One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 19 and 10. 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
1) Unbalanced roof live loads have been considered for this design.



October 16, 2023

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)



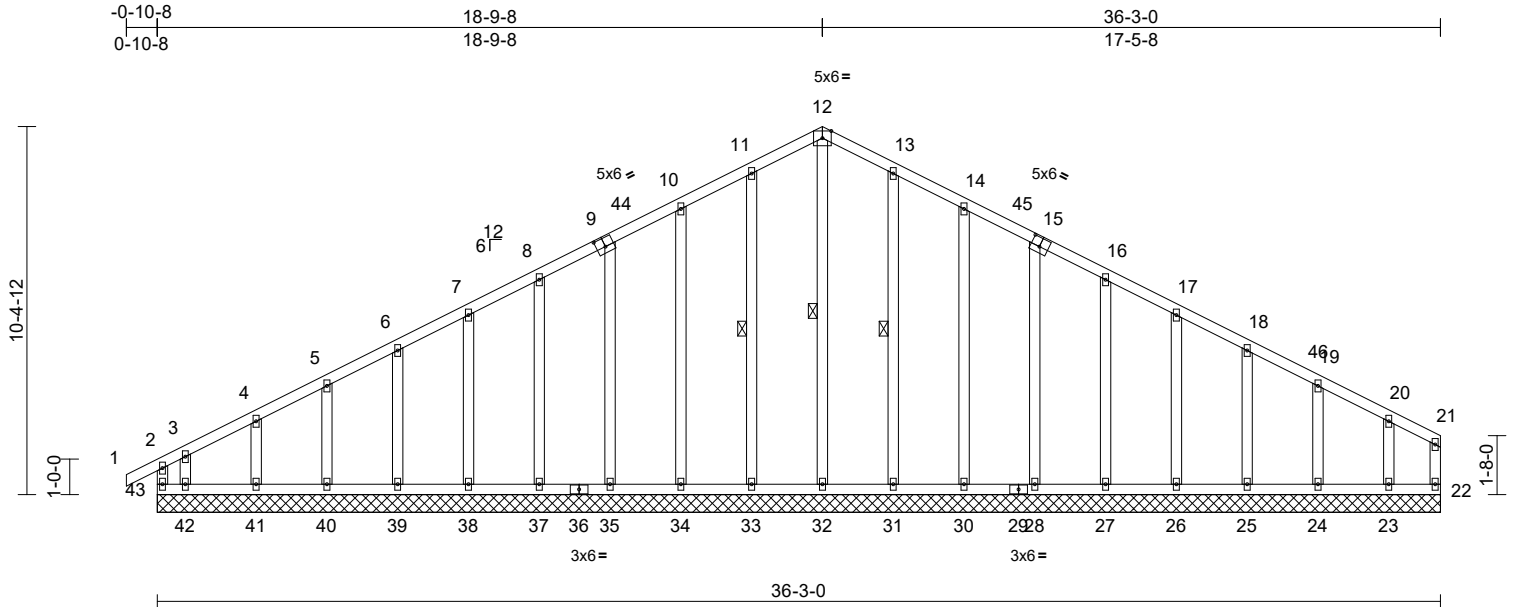
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss B1GE	Truss Type Common Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412510
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:39
ID:va60j_bKLZdDLTYr9P9wpzF_UL-RFC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:65.1

Plate Offsets (X, Y): [9:0-3-0,0-3-0], [15:0-3-0,0-3-0]

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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horz(CT)	0.00	22	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 262 lb	FT = 20%

LUMBER	Max Grav	22=79 (LC 31), 23=142 (LC 25), 24=165 (LC 22), 25=159 (LC 1), 26=163 (LC 22), 27=151 (LC 35), 28=174 (LC 22), 30=238 (LC 22), 31=242 (LC 22), 32=224 (LC 15), 33=242 (LC 21), 34=238 (LC 21), 35=174 (LC 21), 37=151 (LC 34), 38=162 (LC 21), 39=160 (LC 1), 40=158 (LC 34), 41=167 (LC 21), 42=171 (LC 12), 43=241 (LC 26)	2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-9-8, Exterior(2N) 2-9-8 to 15-2-0, Corner(3R) 15-2-0 to 22-5-0, Exterior (2N) 22-5-0 to 32-5-12, Corner(3E) 32-5-12 to 36-1-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
BRACING	FORCES	(lb) - Maximum Compression/Maximum Tension	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.
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.	TOP CHORD	2-43=-168/102, 1-2=0/27, 2-3=-203/116, 3-4=-140/104, 4-5=-112/125, 5-6=-94/148, 6-7=-81/174, 7-8=-69/220, 8-10=-92/305, 10-11=-112/355, 11-12=-129/394, 12-13=-129/394, 13-14=-112/355, 14-16=-92/305, 16-17=-59/220, 17-18=-40/174, 18-19=-33/129, 19-20=-42/72, 20-21=-67/39, 21-22=-51/15	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
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.	BOT CHORD	42-43=-35/75, 41-42=-35/75, 40-41=-35/75, 39-40=-35/75, 38-39=-35/75, 37-38=-35/75, 35-37=-35/75, 34-35=-35/77, 33-34=-35/77, 32-33=-35/77, 31-32=-35/77, 30-31=-35/77, 28-30=-35/77, 27-28=-34/75, 26-27=-34/75, 25-26=-34/75, 24-25=-34/75, 23-24=-34/75, 22-23=-34/75	5) Unbalanced snow loads have been considered for this design.
WEBS 1 Row at midpt 12-32, 11-33, 13-31	WEBS	12-32=-275/51, 11-33=-202/61, 10-34=-198/90, 9-35=-134/75, 8-37=-111/72, 7-38=-122/78, 6-39=-120/78, 5-40=-119/74, 4-41=-125/103, 3-42=-90/142, 13-31=-202/61, 14-30=-198/89, 15-28=-134/78, 16-27=-111/70, 17-26=-122/79, 18-25=-119/75, 19-24=-123/105, 20-23=-107/139	
REACTIONS (size)			
22=36-3-0, 23=36-3-0, 24=36-3-0, 25=36-3-0, 26=36-3-0, 27=36-3-0, 28=36-3-0, 30=36-3-0, 31=36-3-0, 32=36-3-0, 33=36-3-0, 34=36-3-0, 35=36-3-0, 37=36-3-0, 38=36-3-0, 39=36-3-0, 40=36-3-0, 41=36-3-0, 42=36-3-0, 43=36-3-0			
Max Horiz 43=160 (LC 13)			
Max Uplift 22=8 (LC 14), 23=-105 (LC 15), 24=-35 (LC 15), 25=-46 (LC 15), 26=-45 (LC 15), 27=-37 (LC 15), 28=-45 (LC 15), 30=-52 (LC 15), 31=-33 (LC 15), 33=-37 (LC 14), 34=-51 (LC 14), 35=-44 (LC 14), 37=-37 (LC 14), 38=-45 (LC 14), 39=-43 (LC 14), 40=-46 (LC 14), 41=-37 (LC 14), 42=-225 (LC 14), 43=-149 (LC 10)			

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



October 16, 2023

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)

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

Job	Truss	Truss Type	Qty	Ply	109 Serenity	I61412510
23100018	B1GE	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:39
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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 8 lb uplift at joint 22, 149 lb uplift at joint 43, 37 lb uplift at joint 33, 51 lb uplift at joint 34, 44 lb uplift at joint 35, 37 lb uplift at joint 37, 45 lb uplift at joint 38, 43 lb uplift at joint 39, 46 lb uplift at joint 40, 37 lb uplift at joint 41, 225 lb uplift at joint 42, 33 lb uplift at joint 31, 52 lb uplift at joint 30, 45 lb uplift at joint 28, 37 lb uplift at joint 27, 45 lb uplift at joint 26, 46 lb uplift at joint 25, 35 lb uplift at joint 24 and 105 lb uplift at joint 23.
- 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

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

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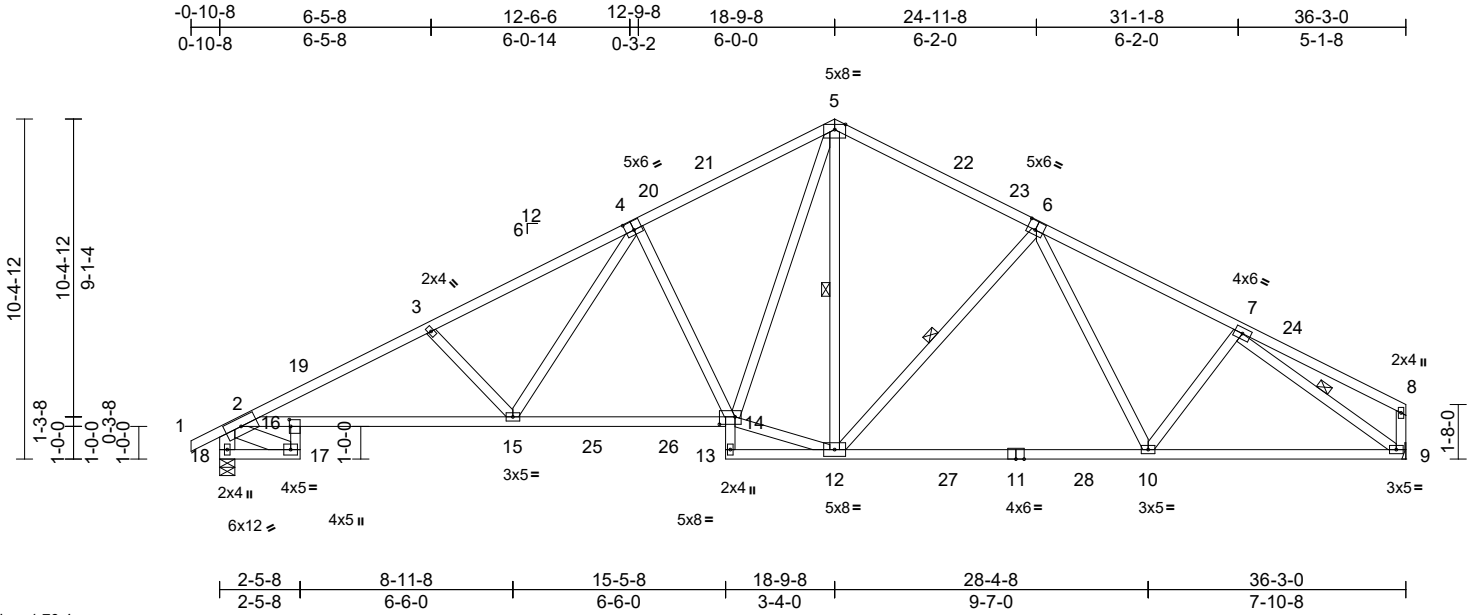
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss B2	Truss Type Roof Special	Qty 5	Ply 1	109 Serenity Job Reference (optional)	I61412511
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:40
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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	0.97	Vert(LL)	-0.32	10-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.57	15-16	>759	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.29	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 227 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.3 *Except* 18-17:2x4 SP No.2, 2-14:2x4 SP 2400F 2.0E, 13-11,11-9:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 18-2,17-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 13-14,12-13.
WEBS 1 Row at midpt 5-12, 6-12, 7-9

REACTIONS
(size) 9= Mechanical, 18=0-5-8
Max Horiz 18=163 (LC 11)
Max Uplift 9=-130 (LC 15), 18=-155 (LC 14)
Max Grav 9=1579 (LC 3), 18=1650 (LC 3)

FORCES
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-3=-3162/341, 3-5=-2951/339, 5-7=-2146/300, 7-8=-169/91, 2-18=-1687/230, 8-9=-180/82
BOT CHORD 17-18=-223/493, 16-17=-87/198, 2-16=-317/2579, 15-16=-371/2814, 14-15=-191/2164, 13-14=-50/0, 12-13=-68/24, 10-12=-67/1756, 9-10=-141/1749
WEBS 4-14=-776/251, 12-14=0/1549, 5-14=-196/1251, 5-12=-93/324, 6-12=-544/214, 6-10=-1/284, 7-10=0/242, 2-17=-287/195, 7-9=-2112/167, 3-15=-389/197, 4-15=-91/806

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E)-0-10-8 to 2-9-0, Interior (1) 2-9-0 to 15-2-0, Exterior(2R) 15-2-0 to 22-5-0, Interior (1) 22-5-0 to 32-5-12, Exterior(2E) 32-5-12 to 36-1-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 130 lb uplift at joint 9.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 18. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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)



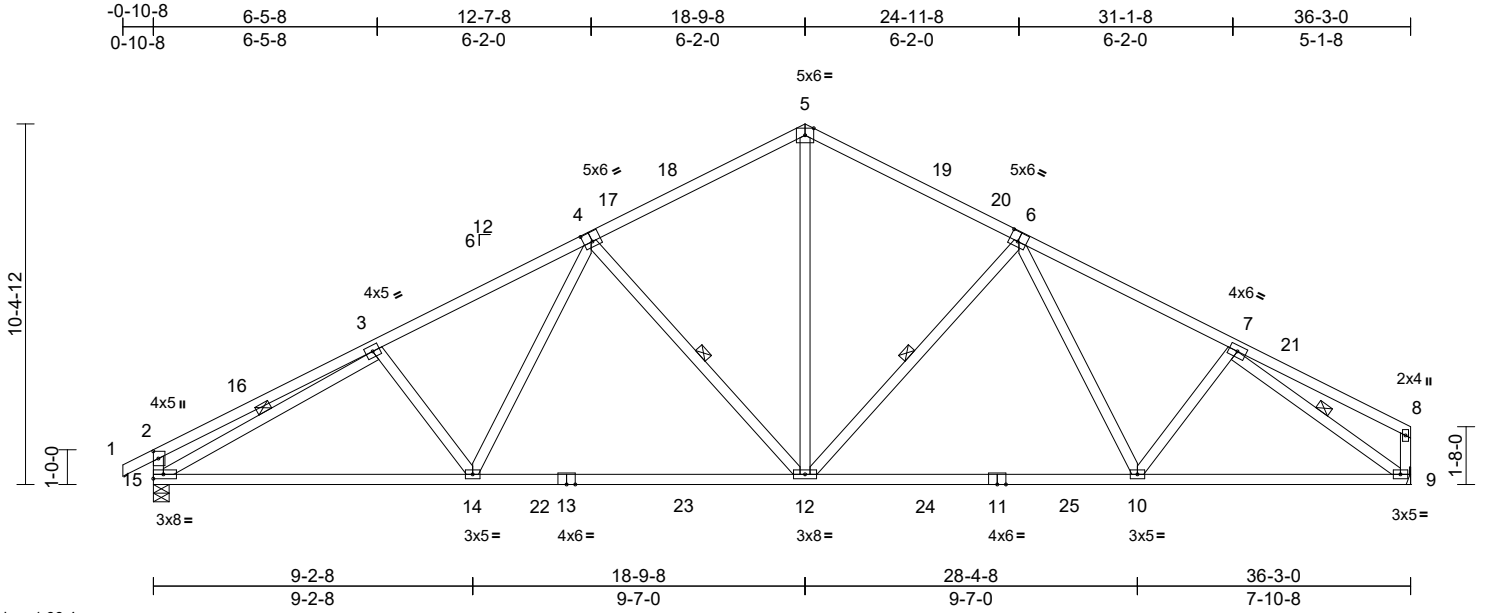
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss B3	Truss Type Common	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412512
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:40
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Page: 1



Scale = 1:66.4

Plate Offsets (X, Y): [2:0-2-8,0-1-12], [4:0-3-0,0-3-4], [6:0-3-0,0-3-4]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.26	10-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.45	10-12	>951	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.66	Horz(CT)	0.10	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
												Weight: 215 lb FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3

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

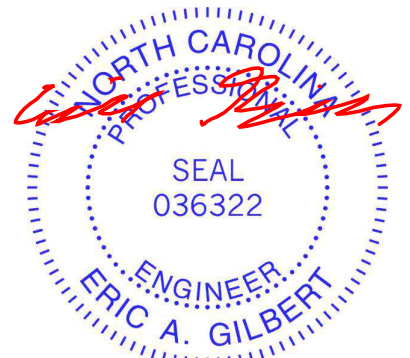
REACTIONS
(size) 9= Mechanical, 15=0-5-8
Max Horiz 15=160 (LC 11)
Max Uplift 9=-130 (LC 15), 15=-160 (LC 14)
Max Grav 9=1592 (LC 3), 15=1640 (LC 3)

FORCES
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-550/149, 3-5=-2406/299, 5-7=-2164/299, 7-8=-173/90, 2-15=-457/158, 8-9=-180/81
BOT CHORD 14-15=-285/2138, 12-14=-164/1885, 10-12=-68/1779, 9-10=-142/1763
WEBS 3-14=-177/182, 4-14=-29/499, 4-12=-681/229, 5-12=-98/1198, 6-12=-540/216, 7-10=0/244, 3-15=-2025/152, 7-9=-2125/170, 6-10=-4/267

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E)-0-10-8 to 2-9-0, Interior (1) 2-9-0 to 15-2-0, Exterior(2R) 15-2-0 to 22-5-0, Interior (1) 22-5-0 to 32-5-12, Exterior(2E) 32-5-12 to 36-1-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 130 lb uplift at joint 9.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 15. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

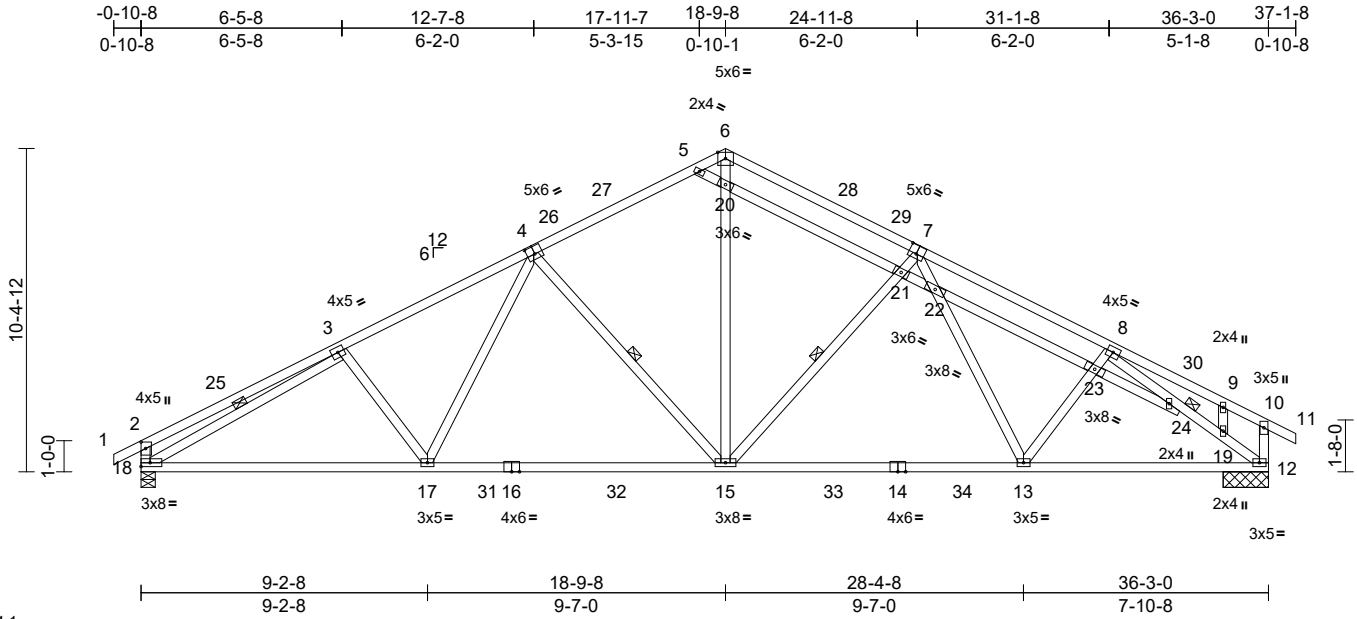
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss BSE	Truss Type Common Structural Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412513
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:41
ID: jfMMLnrRxWpjnpkdD7ldQkzF_VJ-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRcDoi7J4zJC?f

Page: 1



Scale = 1:74.1

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.72	Vert(LL)	-0.26	15-17	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.45	13-15	>966	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.10	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 243 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-3-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-15, 7-15, 3-18
JOINTS 1 Brace at Jt(s): 24

REACTIONS (size) 12=1-5-8, 18=0-5-8
Max Horiz 18=157 (LC 13)
Max Uplift 12=-150 (LC 15), 18=-160 (LC 34)
Max Grav 12=1644 (LC 3), 18=1639 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-537/144, 3-5=-2407/295, 5-6=-1456/228, 6-8=-1828/191, 8-9=-160/104, 9-10=-207/67, 10-11=0/27, 2-18=-445/155, 10-12=-276/107
BOT CHORD 17-18=-279/2147, 15-17=-153/1877, 13-15=-57/1829, 12-13=-141/1867
WEBS 3-17=-190/187, 4-17=-34/509, 4-15=-616/209, 15-20=-90/1185, 6-20=-91/1168, 15-21=-556/221, 7-21=-539/215, 13-23=0/207, 8-23=0/233, 3-18=-2037/157, 8-24=-1720/94, 19-24=-2182/169, 12-19=-2177/191, 7-22=-3/246, 13-22=-9/298, 9-19=-34/37, 5-20=-486/130, 20-21=-488/123, 21-22=-506/129, 22-23=-517/124, 23-24=-522/115

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-9-0, Interior (1) 2-9-0 to 15-2-0, Exterior(2R) 15-2-0 to 22-5-0, Interior (1) 22-5-0 to 33-6-0, Exterior(2E) 33-6-0 to 37-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 18. This connection is for uplift only and does not consider lateral forces.

- One RT8A MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 12. This connection is for uplift only and does not consider lateral forces.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



October 16, 2023

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 23100018	Truss C	Truss Type Common	Qty 5	Ply 1	109 Serenity Job Reference (optional)	I61412514
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:41
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Page: 1

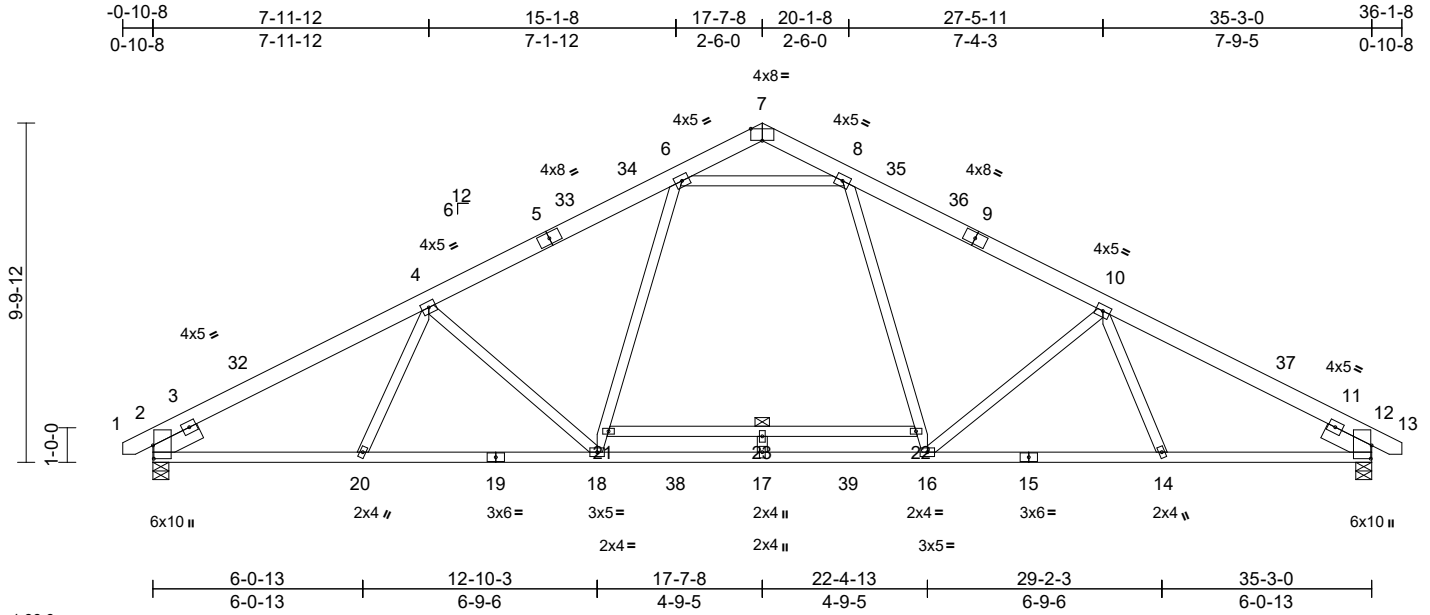


Plate Offsets (X, Y): [2:0-4-10,0-0-5], [7:0-4-0,Edge], [12:0-4-10,0-0-5]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	-0.26	14-16	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.44	17	>970	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.09	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 235 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x4 SP No.3
SLIDER Left 2x6 SP No.2 -- 1-6-0, Right 2x6 SP No.2 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 21-22

REACTIONS (size) 2=0-5-8, 12=0-5-8
Max Horiz 2=145 (LC 14)
Max Uplift 2=-47 (LC 14), 12=-47 (LC 15)
Max Grav 2=1551 (LC 1), 12=1551 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/19, 2-4=-2444/70, 4-6=-2135/76, 6-7=-95/96, 7-8=-1077/101, 8-10=-2136/73, 10-12=-2449/71, 12-13=0/19
BOT CHORD 2-20=-193/2078, 18-20=-98/2070, 17-18=0/1689, 16-17=0/1689, 14-16=0/2077, 12-14=-62/2085
WEBS 8-22=0/603, 16-22=0/575, 4-18=-450/294, 4-20=0/147, 10-16=-451/295, 10-14=0/146, 18-21=0/586, 6-21=0/612, 6-8=-1717/159, 21-23=-22/0, 22-23=-22/0, 17-23=0/66

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) -0-8-5 to 2-10-0, Interior (1) 2-10-0 to 14-1-3, Exterior(2R) 14-1-3 to 21-1-13, Interior (1) 21-1-13 to 32-5-0, Exterior(2E) 32-5-0 to 35-11-5 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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, 17-7-8 from left end, supported at two points, 5-0-0 apart.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 12. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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)



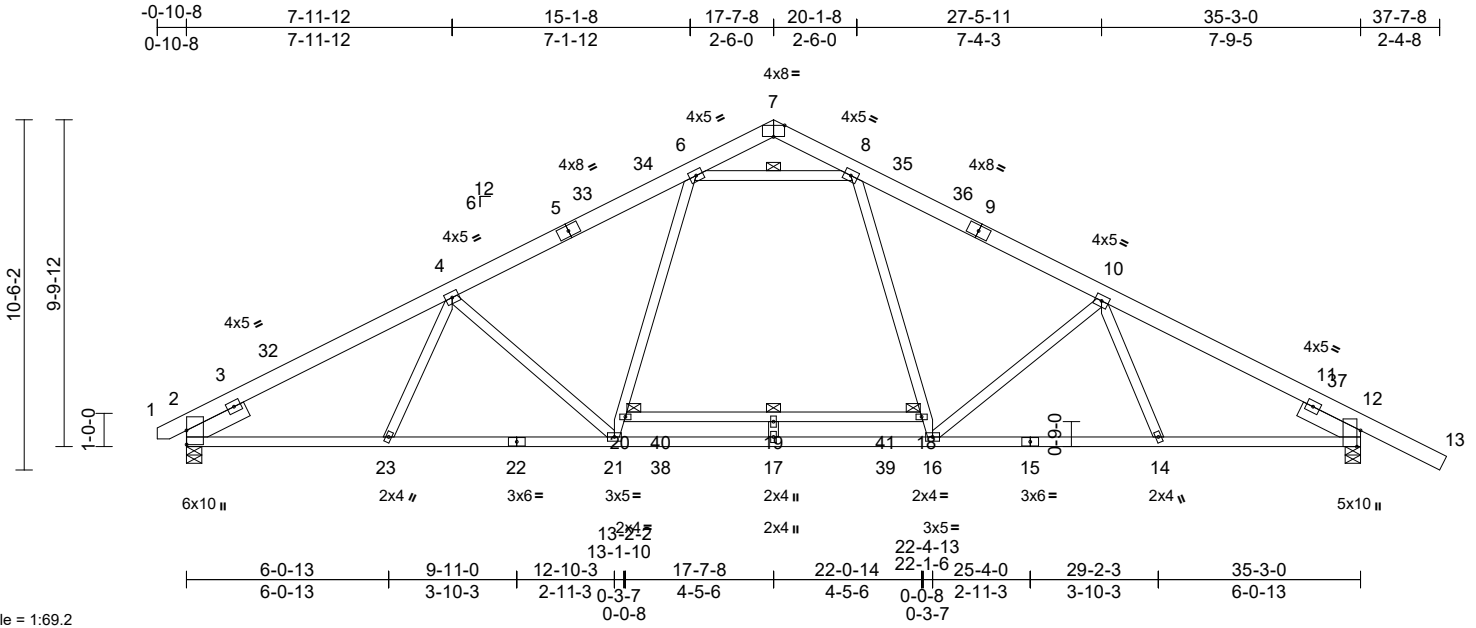
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss C1	Truss Type Common	Qty 4	Ply 1	109 Serenity Job Reference (optional)	I61412515
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:42
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Page: 1



Scale = 1:69.2
Plate Offsets (X, Y): [2:0-5-2,0-0-1], [7:0-4-0,Edge], [12:0-5-14,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.49	19	>867	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.79	19	>538	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.11	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 242 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP 2400F 2.0E *Except* 20-18:2x4 SP No.2
WEBS 2x4 SP No.3
SLIDER Left 2x6 SP No.2 -- 2-0-0, Right 2x6 SP No.2 -- 2-0-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except: 6-0-0 oc bracing: 18-20
WEBS 1 Row at midpt 6-8

REACTIONS (size) 2=0-5-8, 12=0-5-8
Max Horiz 2=-173 (LC 15)
Max Uplift 2=-92 (LC 14), 12=-129 (LC 15)
Max Grav 2=1791 (LC 3), 12=1888 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/19, 2-4=-2867/140, 4-6=-2573/166, 6-7=-87/101, 7-8=-104/101, 8-10=-2566/154, 10-12=-2841/113, 12-13=0/66
BOT CHORD 2-23=-205/2475, 21-23=-161/2451, 17-21=0/2070, 16-17=0/2070, 14-16=0/2420, 12-14=-30/2439, 19-20=-57/0, 18-19=-57/0
WEBS 4-23=0/141, 4-21=-459/276, 10-14=-11/79, 10-16=-427/265, 20-21=-44/731, 6-20=-7/875, 8-18=0/851, 16-18=-31/707, 17-19=-181/0, 6-8=-2059/231

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) -0-8-5 to 2-10-0, Interior (1) 2-10-0 to 14-1-3, Exterior(2R) 14-1-3 to 21-1-13, Interior (1) 21-1-13 to 34-2-7, Exterior(2E) 34-2-7 to 37-8-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 12 and 2. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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)



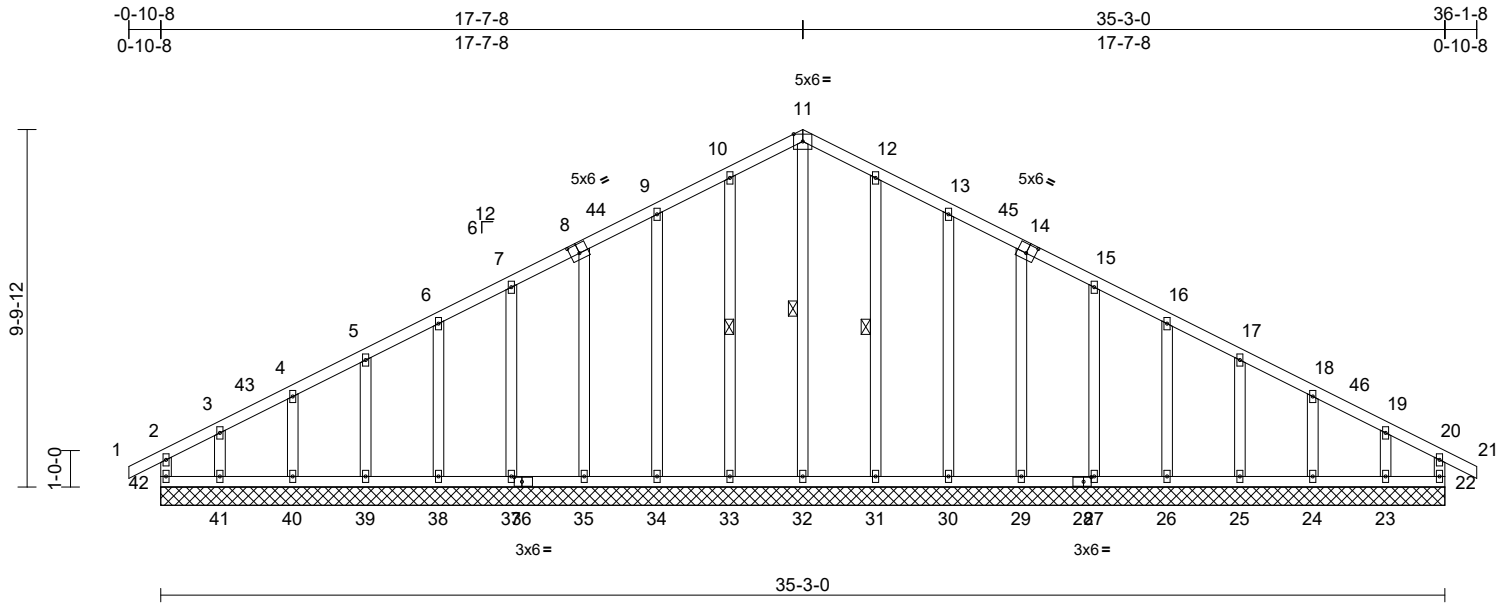
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss CGE	Truss Type Common Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412516
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:43
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Page: 1



Scale = 1:63.2

Plate Offsets (X, Y): [8:0-3-0,0-3-0], [14:0-3-0,0-3-0], [28:0-2-8,0-1-8], [36:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	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	0.22	Horz(CT)	0.01	22	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 243 lb	FT = 20%

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

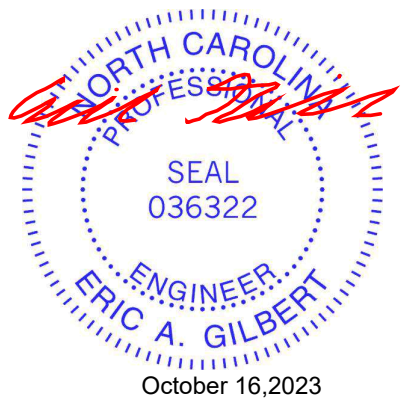
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 11-32, 10-33, 12-31

REACTIONS (size)
22=35-3-0, 23=35-3-0, 24=35-3-0,
25=35-3-0, 26=35-3-0, 27=35-3-0,
29=35-3-0, 30=35-3-0, 31=35-3-0,
32=35-3-0, 33=35-3-0, 34=35-3-0,
35=35-3-0, 37=35-3-0, 38=35-3-0,
39=35-3-0, 40=35-3-0, 41=35-3-0,
42=35-3-0
Max Horiz 42=133 (LC 12)
Max Uplift 22=27 (LC 11), 23=107 (LC 15),
24=33 (LC 15), 25=46 (LC 15),
26=45 (LC 15), 27=38 (LC 15),
29=44 (LC 15), 30=52 (LC 15),
31=36 (LC 15), 33=37 (LC 14),
34=51 (LC 14), 35=44 (LC 14),
37=37 (LC 14), 38=44 (LC 14),
39=47 (LC 14), 40=30 (LC 14),
41=125 (LC 14), 42=55 (LC 10)
Max Grav 22=134 (LC 27), 23=131 (LC 25),
24=167 (LC 22), 25=158 (LC 1),
26=163 (LC 22), 27=151 (LC 35),
29=173 (LC 22), 30=238 (LC 22),
31=242 (LC 22), 32=203 (LC 27),
33=242 (LC 21), 34=238 (LC 21),
35=173 (LC 21), 37=151 (LC 34),
38=163 (LC 21), 39=158 (LC 1),
40=167 (LC 21), 41=145 (LC 24),
42=154 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-42=-121/65, 1-2=0/27, 2-3=-142/78,
3-4=-91/82, 4-5=-65/104, 5-6=-51/127,
6-7=-52/167, 7-9=-85/252, 9-10=-105/303,
10-11=-122/342, 11-12=-122/342,
12-13=-105/303, 13-15=-85/252,
15-16=-52/167, 16-17=-33/121,
17-18=-43/77, 18-19=-65/59, 19-20=-111/47,
20-21=0/27, 20-22=-117/57
BOT CHORD 41-42=-44/119, 40-41=-44/119,
39-40=-44/119, 38-39=-44/119,
37-38=-44/119, 35-37=-44/119,
34-35=-44/122, 33-34=-44/122,
32-33=-44/122, 31-32=-44/122,
30-31=-44/122, 29-30=-44/122,
27-29=-43/119, 26-27=-43/119,
25-26=-43/119, 24-25=-43/119,
23-24=-43/119, 22-23=-43/119
WEBS 11-32=-232/46, 10-33=-202/64,
9-34=-198/88, 8-35=-133/76, 7-37=-111/71,
6-38=-123/79, 5-39=-118/76, 4-40=-126/83,
3-41=-95/113, 12-31=-202/64,
13-30=-198/88, 14-29=-133/77,
15-27=-111/71, 16-26=-123/79,
17-25=-118/76, 18-24=-126/81,
19-23=-91/123

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 Corner(3E) -0-10-8 to 2-7-13, Exterior (2N) 2-7-13 to 14-1-3, Corner(3R) 14-1-3 to 21-1-13, Exterior(2N) 21-1-13 to 32-7-3, Corner(3E) 32-7-3 to 36-1-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.



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)

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

Job 23100018	Truss CGE	Truss Type Common Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412516
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:43
ID:HSVLvMXIBUOh6Uln9Dc1gjzEzgn-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

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 27 lb uplift at joint 22, 55 lb uplift at joint 42, 37 lb uplift at joint 33, 51 lb uplift at joint 34, 44 lb uplift at joint 35, 37 lb uplift at joint 37, 44 lb uplift at joint 38, 47 lb uplift at joint 39, 30 lb uplift at joint 40, 125 lb uplift at joint 41, 36 lb uplift at joint 31, 52 lb uplift at joint 30, 44 lb uplift at joint 29, 38 lb uplift at joint 27, 45 lb uplift at joint 26, 46 lb uplift at joint 25, 33 lb uplift at joint 24 and 107 lb uplift at joint 23.
- 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

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

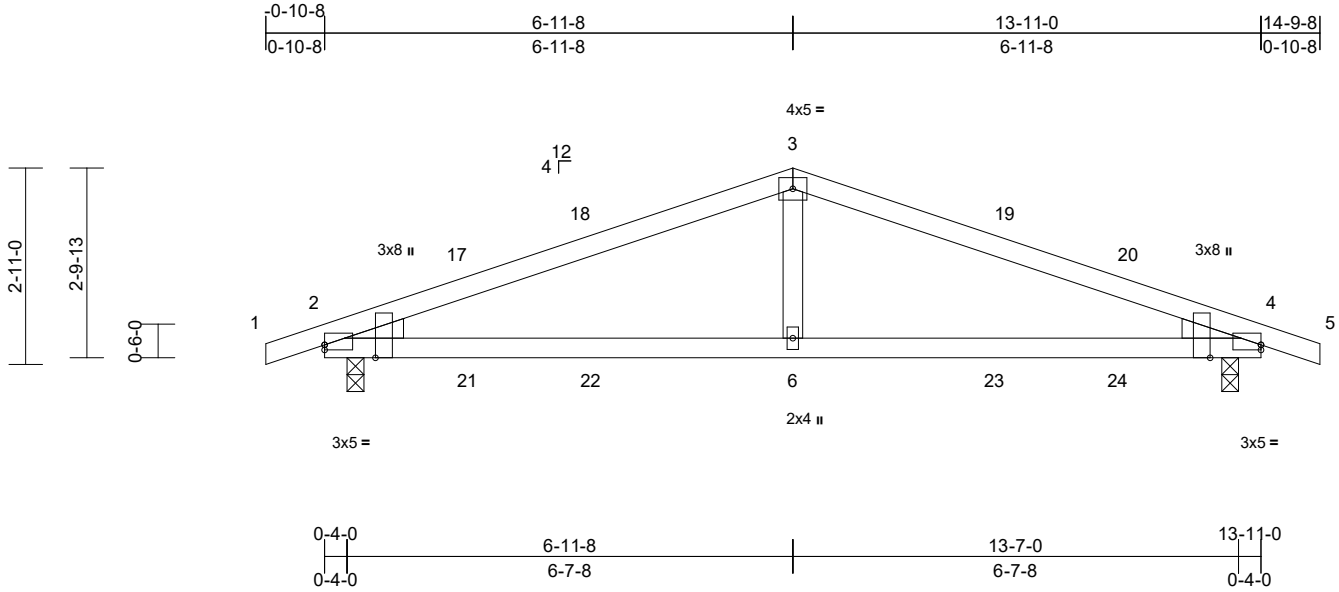
Job 23100018	Truss D	Truss Type Common	Qty 4	Ply 1	109 Serenity Job Reference (optional)	161412517
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:43

Page: 1

ID:nqLL14Jf5JAmMe82YAnWAZF_pM-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?F



Scale = 1:34.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.72	Vert(LL)	-0.09	6-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.13	6-11	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.02	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 51 lb	FT = 20%

LUMBER

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

BRACING

- TOP CHORD Structural wood sheathing directly applied or 4-1-1 oc purlins.
- BOT CHORD Rigid ceiling directly applied or 5-9-4 oc bracing.

REACTIONS

- (size) 2=0-3-0, 4=0-3-0
- Max Horiz 2=41 (LC 14)
- Max Uplift 2=-221 (LC 10), 4=-221 (LC 11)
- Max Grav 2=708 (LC 21), 4=708 (LC 22)

FORCES

- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/17, 2-3=-901/1104, 3-4=-901/1104, 4-5=0/17
- BOT CHORD 2-6=-943/775, 4-6=-943/775
- WEBS 3-6=-425/268

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 3-11-8, Exterior(2R) 3-11-8 to 9-11-8, Interior (1) 9-11-8 to 11-9-8, Exterior(2E) 11-9-8 to 14-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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

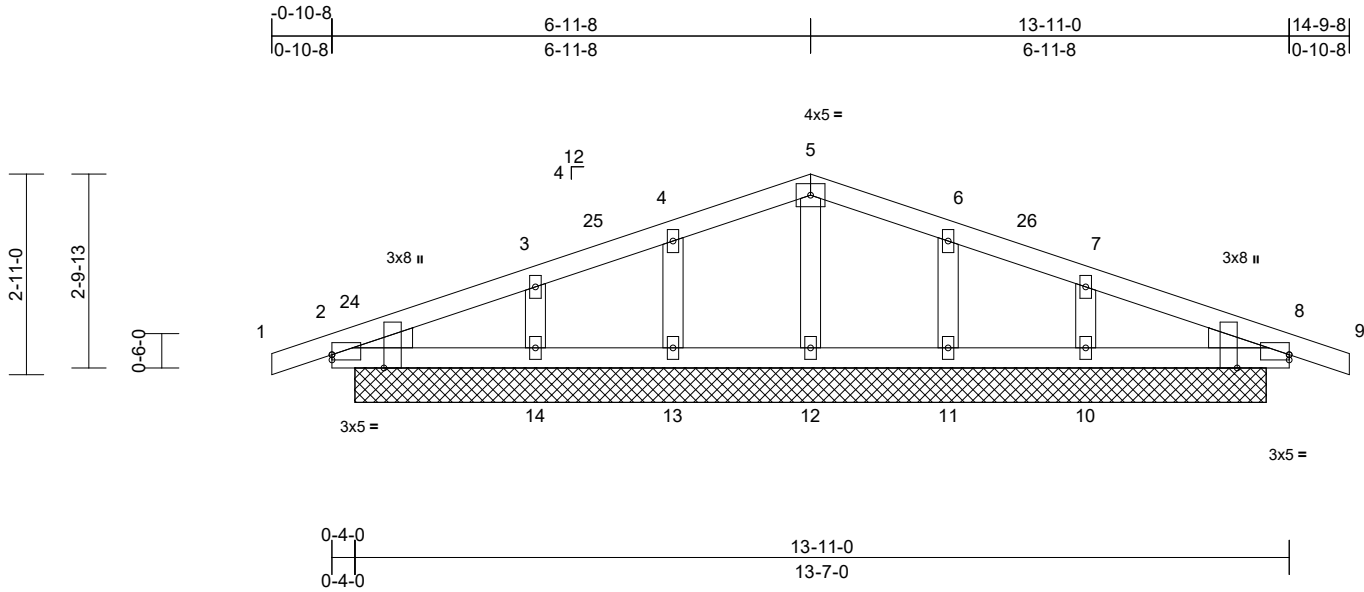
Job 23100018	Truss DGE	Truss Type Common Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412518
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:43

Page: 1

ID:UUQhZhEGk9Im0a6ieC968izF_pT-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCdoi7J4zJC7f



Scale = 1:33.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	-0.01	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 59 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3
Right: 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.

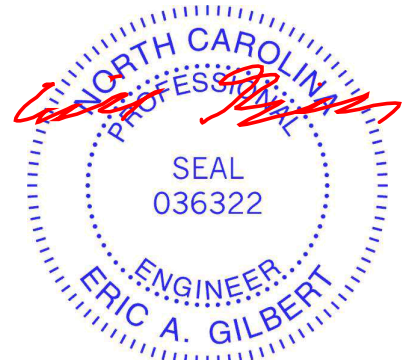
REACTIONS (size) 2=13-3-0, 8=13-3-0, 10=13-3-0, 11=13-3-0, 12=13-3-0, 13=13-3-0, 14=13-3-0, 18=13-3-0, 21=13-3-0
Max Horiz 2=41 (LC 14), 18=41 (LC 14)
Max Uplift 2=-1 (LC 21), 8=-71 (LC 34), 10=-44 (LC 15), 11=-35 (LC 11), 12=-47 (LC 10), 13=-23 (LC 14), 14=-75 (LC 10), 18=-1 (LC 21), 21=-71 (LC 34)
Max Grav 2=0 (LC 10), 8=128 (LC 22), 10=302 (LC 22), 11=205 (LC 22), 12=420 (LC 21), 13=123 (LC 21), 14=437 (LC 21), 18=0 (LC 10), 21=128 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-220/432, 3-4=-165/401, 4-5=-123/411, 5-6=-122/395, 6-7=-170/392, 7-8=-217/405, 8-9=0/17
BOT CHORD 2-14=-365/260, 13-14=-365/260, 12-13=-365/260, 11-12=-365/260, 10-11=-365/260, 8-10=-365/260
WEBS 5-12=-360/181, 4-13=-146/110, 3-14=-275/153, 6-11=-183/128, 7-10=-212/127

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 3-11-8, Corner(3R) 3-11-8 to 9-11-8, Exterior (2N) 9-11-8 to 11-9-8, Corner(3E) 11-9-8 to 14-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

- Non Standard bearing condition. Review required.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



October 16, 2023

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)



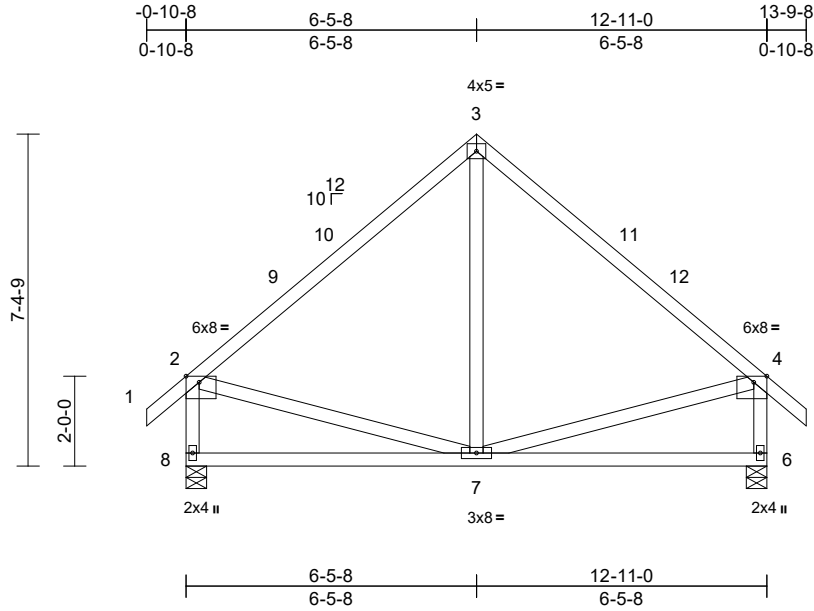
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss E	Truss Type Common	Qty 3	Ply 1	109 Serenity Job Reference (optional)	I61412519
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:44
ID:wb1oEU3ot9zDodjclXhweSzF_Yu-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:51.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	1.00	Vert(LL)	-0.03	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	-0.07	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 81 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 5-1-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 6=0-5-8, 8=0-5-8
Max Horiz 8=205 (LC 13)
Max Uplift 6=-49 (LC 15), 8=-49 (LC 14)
Max Grav 6=649 (LC 22), 8=649 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/39, 2-3=-528/142, 3-4=-528/142, 4-5=0/39, 2-8=-591/175, 4-6=-591/160
BOT CHORD 7-8=-205/268, 6-7=-82/168
WEBS 3-7=0/211, 2-7=-50/227, 4-7=-51/227

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 3-5-8, Exterior(2R) 3-5-8 to 9-5-8, Interior (1) 9-5-8 to 10-9-8, Exterior(2E) 10-9-8 to 13-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 8 and 6. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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)



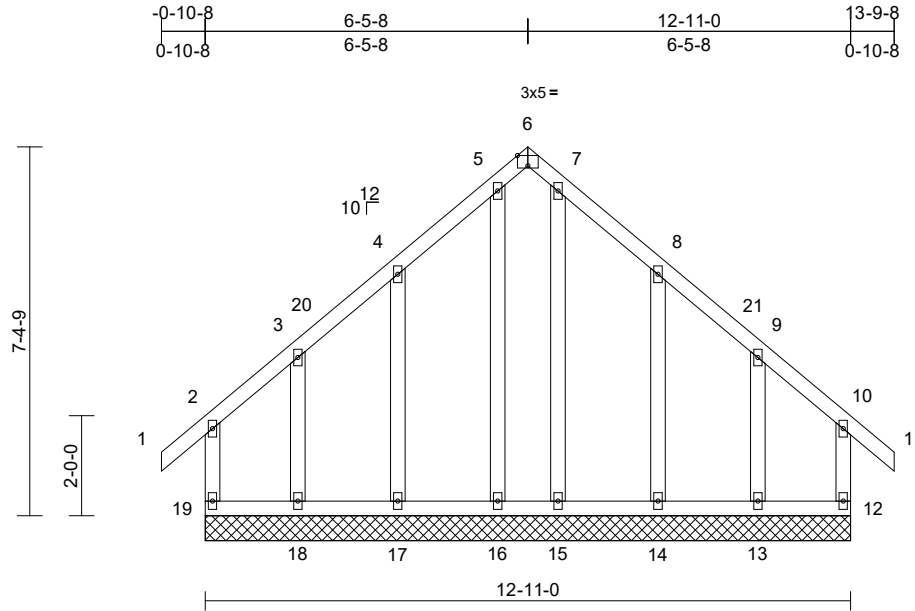
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss EGE	Truss Type Common Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	161412520
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:44
ID:hs_OLPz9_QoUDEXuG81pmYzF_Z1-RfC?PsB70Hq3NSgPqnL8w3uITxbGKwRCDoi7J4zJC?F

Page: 1



Scale = 1:46.1

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 95 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size)	12=12-11-0, 13=12-11-0, 14=12-11-0, 15=12-11-0, 16=12-11-0, 17=12-11-0, 18=12-11-0, 19=12-11-0
Max Horiz	19=205 (LC 12)
Max Uplift	12=132 (LC 11), 13=144 (LC 10), 14=85 (LC 15), 17=84 (LC 14), 18=149 (LC 11), 19=138 (LC 10)
Max Grav	12=206 (LC 24), 13=253 (LC 25), 14=270 (LC 22), 15=191 (LC 22), 16=191 (LC 21), 17=270 (LC 21), 18=257 (LC 24), 19=212 (LC 25)

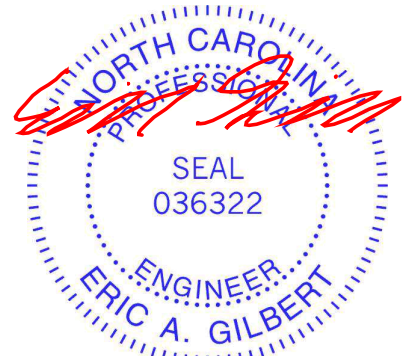
FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	2-19=-157/201, 1-2=0/39, 2-3=-125/137, 3-4=-64/218, 4-5=-117/346, 5-6=-89/237, 6-7=-88/237, 7-8=-118/345, 8-9=-60/222, 9-10=-119/126, 10-11=0/39, 10-12=-153/158
BOT CHORD	18-19=-108/102, 17-18=-108/102, 16-17=-108/102, 15-16=-108/102, 14-15=-108/102, 13-14=-108/102, 12-13=-108/102
WEBS	5-16=-181/10, 7-15=-178/7, 4-17=-228/178, 3-18=-165/120, 8-14=-228/170, 9-13=-163/156

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-10-8 to 1-10-4, Exterior (2N) 1-10-4 to 3-5-8, Corner(3R) 3-5-8 to 9-5-8, Exterior (2N) 9-5-8 to 10-9-8, Corner(3E) 10-9-8 to 13-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 any other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 138 lb uplift at joint 19, 132 lb uplift at joint 12, 84 lb uplift at joint 17, 149 lb uplift at joint 18, 85 lb uplift at joint 14 and 144 lb uplift at joint 13.
 - 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 16, 2023

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)



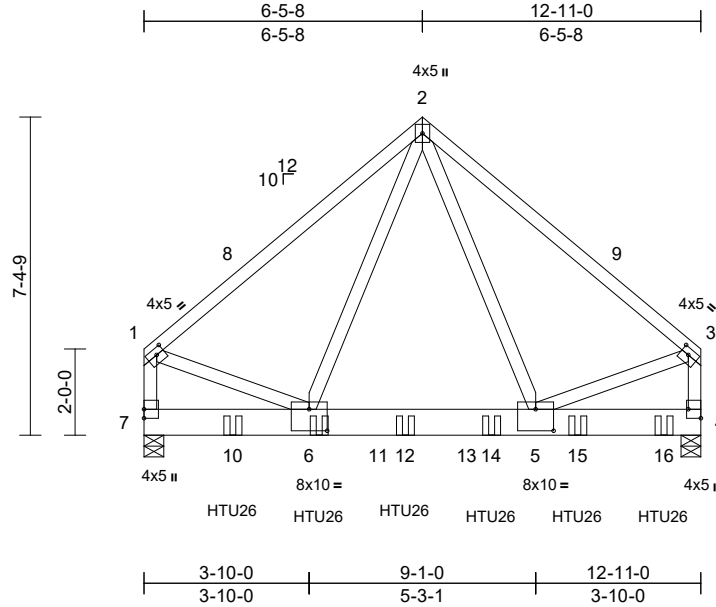
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss EGR	Truss Type Common Girder	Qty 1	Ply 2	109 Serenity Job Reference (optional)	I61412521
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:44
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Page: 1



Scale = 1:53.4

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.05	5-6	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	-0.09	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.70	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 202 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.1
BOT CHORD 2x8 SP 2400F 2.0E
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-2-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

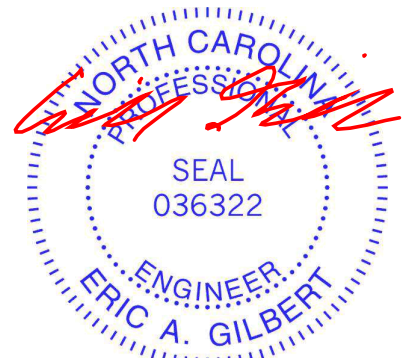
REACTIONS (size) 4=0-5-8, 7=0-5-8
Max Horiz 7=174 (LC 9)
Max Uplift 4=-495 (LC 12), 7=-419 (LC 13)
Max Grav 4=5658 (LC 6), 7=4833 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4324/435, 2-3=-4349/439,
1-7=-4234/385, 3-4=-4252/387
BOT CHORD 6-7=-202/285, 5-6=-213/2268, 4-5=-90/215
WEBS 2-5=-255/2742, 2-6=-248/2687,
1-6=-309/3396, 3-5=-312/3403

- 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) interior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
 - One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7 and 4. This connection is for uplift only and does not consider lateral forces.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 12-0-12 to connect truss(es) to back face of bottom chord.
 - Fill all nail holes where hanger is in contact with lumber.
- LOAD CASE(S)** Standard
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-3=-60, 4-7=-20
Concentrated Loads (lb)

Vert: 6=-1414 (B), 10=-1417 (B), 12=-1414 (B),
14=-1414 (B), 15=-1414 (B), 16=-1417 (B)

- 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: 2x8 - 2 rows staggered at 0-6-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
 - All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
 - Unbalanced roof live loads have been considered for this design.



October 16, 2023

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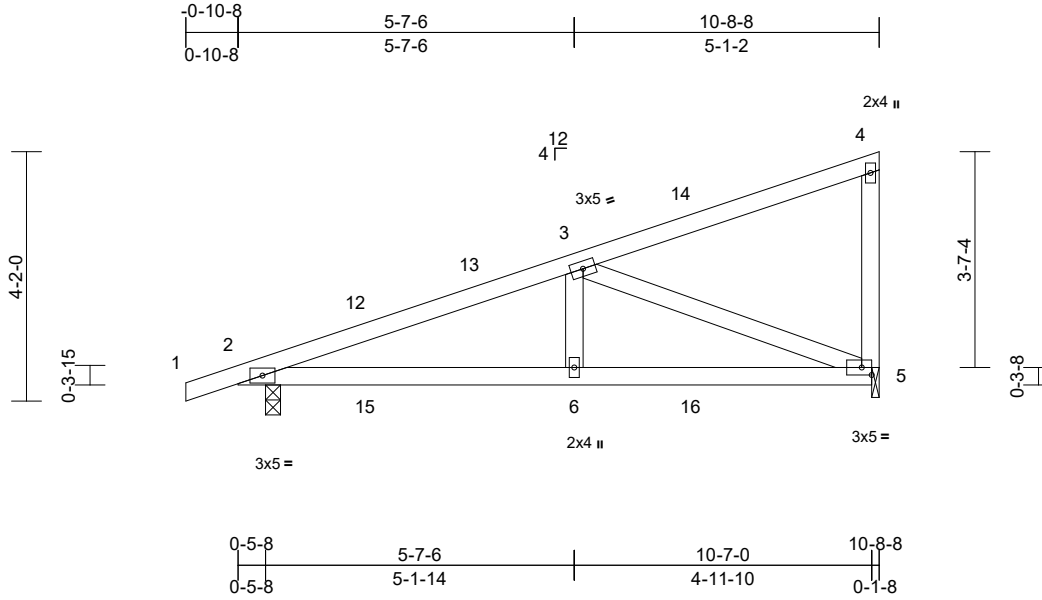
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss F	Truss Type Monopitch	Qty 2	Ply 1	109 Serenity Job Reference (optional)	161412522
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:45
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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	0.40	Vert(LL)	0.06	5-6	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	0.05	5-6	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.44	Horz(CT)	0.01	5	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 49 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 6-5-13 oc bracing.

REACTIONS

(size) 2=0-3-0, 5=0-1-8
Max Horiz 2=147 (LC 13)
Max Uplift 2=-191 (LC 10), 5=-160 (LC 10)
Max Grav 2=560 (LC 21), 5=527 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/17, 2-3=-862/778, 3-4=-104/63, 4-5=-188/103
BOT CHORD 2-6=-737/778, 5-6=-737/778
WEBS 3-6=-309/217, 3-5=-806/832

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 7-6-12, Exterior(2E) 7-6-12 to 10-6-12 zone; cantilever left and right exposed; end vertical left and right 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) Bearings are assumed to be: , Joint 5 SP No.3 crushing capacity of 565 psi.
- 8) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 9) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 5.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 5. This connection is for uplift only and does not consider lateral forces.
- 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 16, 2023

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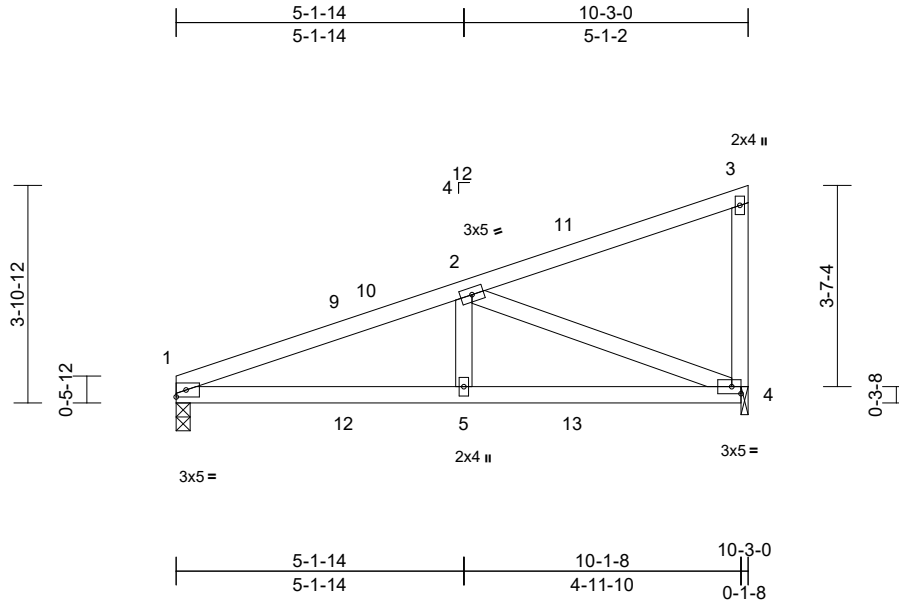
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss F1	Truss Type Monopitch	Qty 4	Ply 1	109 Serenity Job Reference (optional)	161412523
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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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	Vert(LL)	0.05	4-5	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	Vert(CT)	0.04	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	Horz(CT)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 46 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 6-2-4 oc bracing.

REACTIONS (size) 1=0-3-0, 4=0-1-8

Max Horiz 1=139 (LC 13)
Max Uplift 1=-142 (LC 10), 4=-163 (LC 10)
Max Grav 1=465 (LC 21), 4=532 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-883/851, 2-3=-104/50, 3-4=-187/103
BOT CHORD 1-5=-826/799, 4-5=-826/799
WEBS 2-5=-337/220, 2-4=-830/924

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) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 7-1-4, Exterior(2E) 7-1-4 to 10-1-4 zone; cantilever left and right exposed; end vertical left and right 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 a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 5) * 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.
- 6) Bearings are assumed to be: Joint 4 SP No.3 crushing capacity of 565 psi.
- 7) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 8) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- 9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 4. 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 16, 2023

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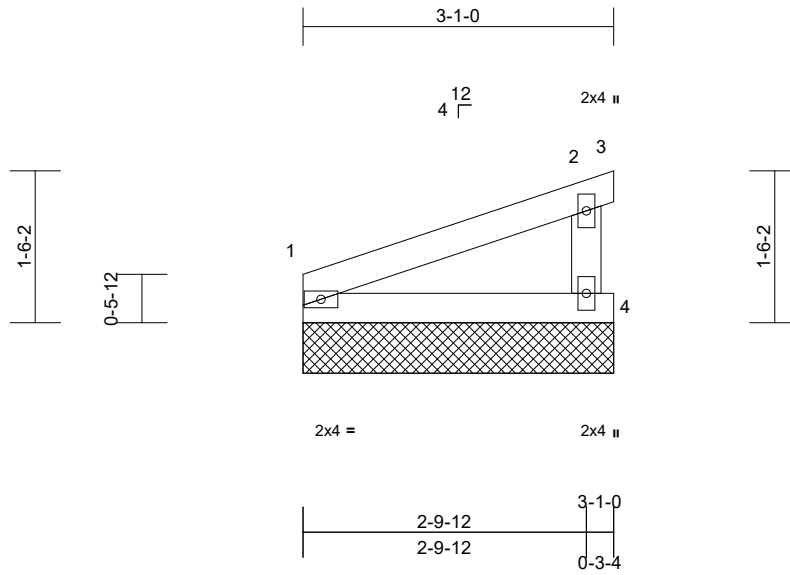
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss F1GE	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	161412524
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:45
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Page: 1



Scale = 1:22.9

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	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	1	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 11 lb	FT = 20%	

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-1-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=3-1-0, 3=3-1-0, 4=3-1-0, 5=3-1-0
Max Horiz 1=43 (LC 13), 5=43 (LC 13)
Max Uplift 1=-8 (LC 10), 3=-183 (LC 20),
4=-80 (LC 14), 5=-8 (LC 10)
Max Grav 1=126 (LC 20), 3=49 (LC 14),
4=375 (LC 20), 5=126 (LC 20)

FORCES

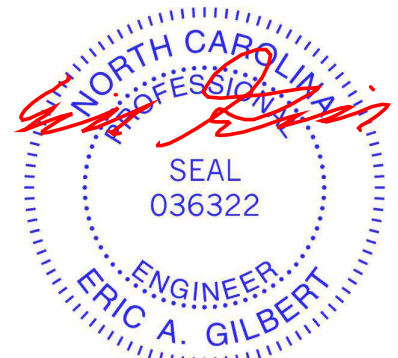
(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-31/49, 2-3=-65/56, 2-4=-332/326
BOT CHORD 1-4=-52/55

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; 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
- 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 8 lb uplift at joint 1, 183 lb uplift at joint 3, 80 lb uplift at joint 4 and 8 lb uplift at joint 1.
 - 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 16, 2023

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

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

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818 Soundside Road
Edenton, NC 27932

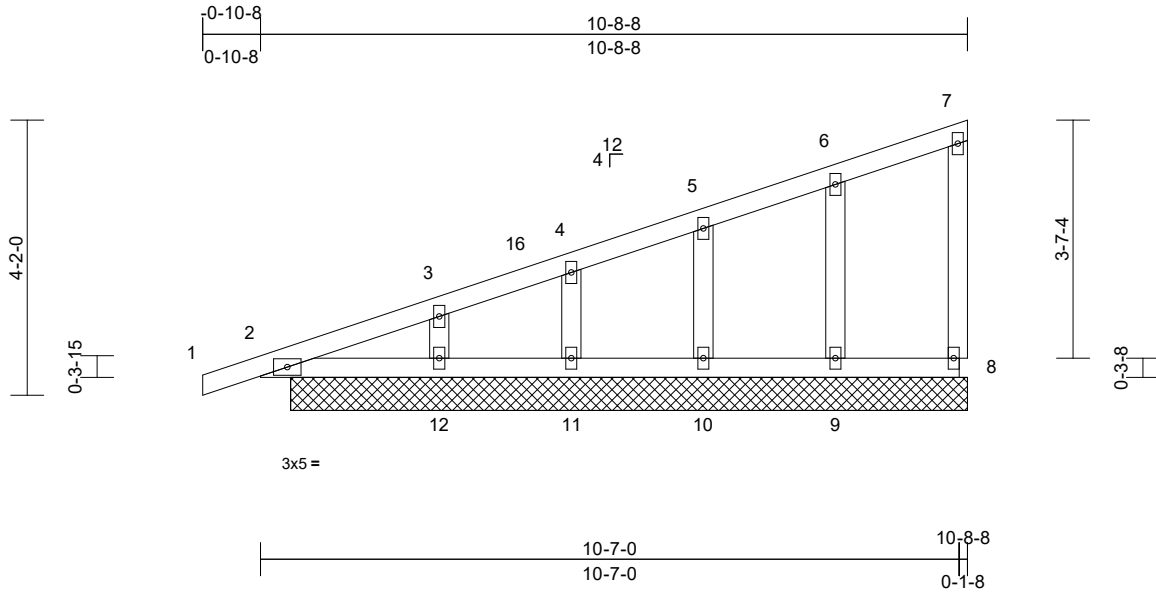
Job 23100018	Truss FGE	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412525
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:46

Page: 1

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Scale = 1:34.9

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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 49 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)	2=10-3-0, 8=10-3-0, 9=10-3-0, 10=10-3-0, 11=10-3-0, 12=10-3-0, 15=10-3-0
Max Horiz	2=147 (LC 13), 15=147 (LC 13)
Max Uplift	2=-40 (LC 10), 8=-13 (LC 11), 9=-35 (LC 10), 10=-34 (LC 14), 11=-37 (LC 10), 12=-38 (LC 14), 15=-40 (LC 10)
Max Grav	2=239 (LC 21), 8=83 (LC 21), 9=230 (LC 21), 10=214 (LC 21), 11=223 (LC 21), 12=99 (LC 1), 15=239 (LC 21)

FORCES	
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-125/133, 3-4=-91/117, 4-5=-79/104, 5-6=-69/92, 6-7=-56/70, 7-8=-67/38
BOT CHORD	2-12=-75/115, 11-12=-45/81, 10-11=-45/81, 9-10=-45/81, 8-9=-45/81
WEBS	6-9=-187/116, 5-10=-177/131, 4-11=-174/133, 3-12=-92/111

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) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 7-6-12, Corner(3E) 7-6-12 to 10-6-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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) 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) All plates are 2x4 MT20 unless otherwise indicated.
- 7) Gable studs spaced at 2-0-0 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) N/A
- 11) One RT8A MiTek 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.
- 12) One RT8A MiTek 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.
- 13) Non Standard bearing condition. Review required.
- 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 16, 2023

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.sbccomponents.com)



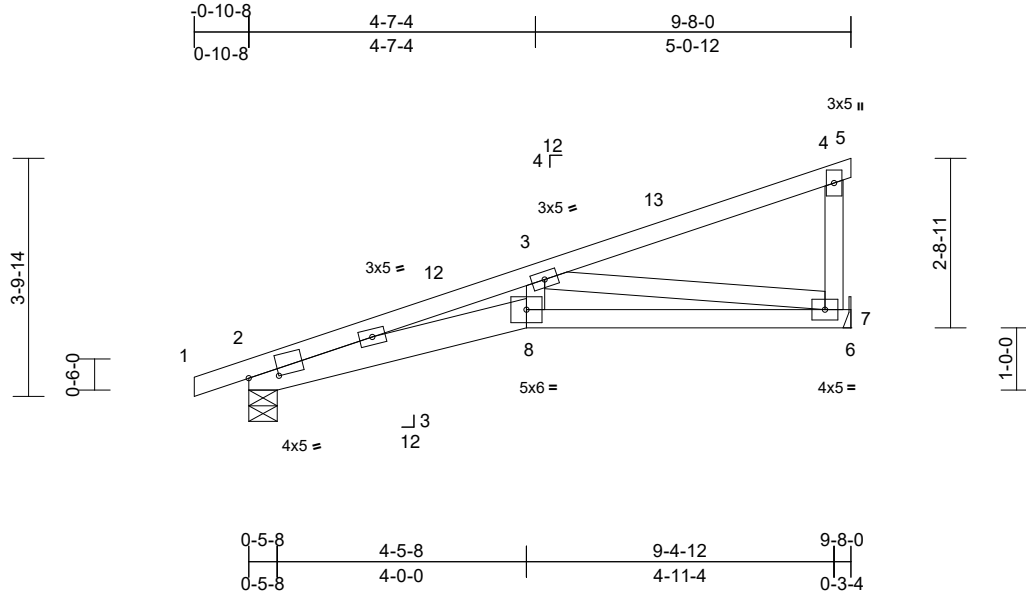
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss G	Truss Type Monopitch	Qty 9	Ply 1	109 Serenity Job Reference (optional)	161412526
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:37

Plate Offsets (X, Y): [2:0-5-12,0-1-0]

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	0.60	Vert(LL)	-0.08	8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.13	7-8	>872	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.05	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 46 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-5-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-11-15 oc bracing.

REACTIONS (size) 2=0-5-8, 7= Mechanical
Max Horiz 2=121 (LC 11)
Max Uplift 2=-81 (LC 10), 7=-74 (LC 14)
Max Grav 2=491 (LC 21), 7=524 (LC 21)

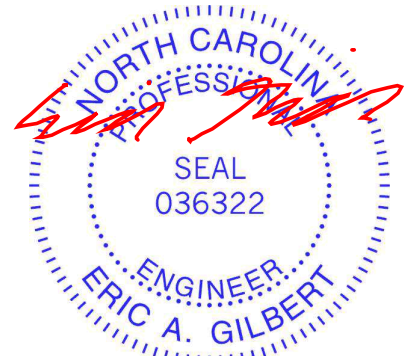
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-1714/550, 3-4=-154/35, 4-5=-8/0, 4-7=-224/119
BOT CHORD 2-8=-574/1652, 7-8=-544/1531, 6-7=0/0
WEBS 3-8=-70/407, 3-7=-1460/561

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 1-11-13, Interior (1) 1-11-13 to 6-8-0, Exterior(2E) 6-8-0 to 9-8-0 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
- 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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint 7.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- 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 16, 2023

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

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Edenton, NC 27932

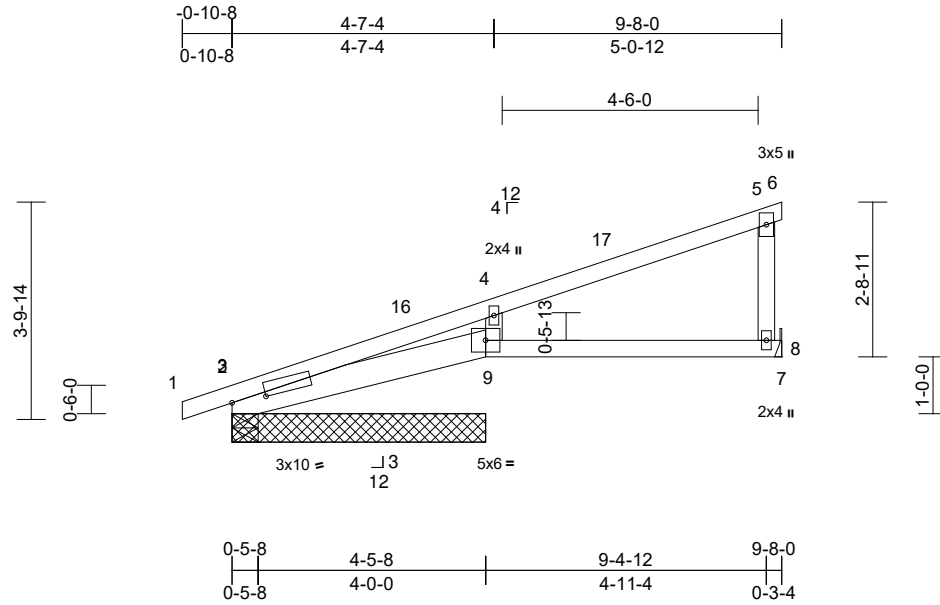
Job 23100018	Truss GSE	Truss Type Monopitch	Qty 1	Ply 1	109 Serenity Job Reference (optional)	161412527
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:46

Page: 1

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Scale = 1:40.5

Plate Offsets (X, Y): [3-0-7-4,0-0-7]

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	0.42	Vert(LL)	-0.02	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.03	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 39 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x6 SP No.2 *Except* 9-7:2x4 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 6-0-0 oc bracing.

REACTIONS

(size) 2=0-5-8, 3=4-5-8, 8= Mechanical, 9=4-5-8, 10=4-5-8
 Max Horiz 3=164 (LC 11), 10=164 (LC 11)
 Max Uplift 2=-37 (LC 10), 3=-117 (LC 10), 8=-24 (LC 14), 9=-151 (LC 14), 10=-117 (LC 10)
 Max Grav 2=87 (LC 21), 3=332 (LC 1), 8=256 (LC 21), 9=628 (LC 21), 10=332 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/17, 2-3=-149/123, 3-4=-405/448, 4-5=-130/29, 5-6=-8/0, 5-8=-202/109
 BOT CHORD 3-9=-634/472, 8-9=-17/62, 7-8=0/0
 WEBS 4-9=-475/292

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 1-11-13, Interior (1) 1-11-13 to 6-8-0, Exterior(2E) 6-8-0 to 9-8-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 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.
- Bearings are assumed to be: Joint 3 SP No.2 crushing capacity of 565 psi, Joint 2 SP No.2 crushing capacity of 565 psi.
- Refer to girder(s) for truss to truss connections.
- Bearing at joint(s) 3, 9, 2, 3 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 8 and 37 lb uplift at joint 2.
- N/A
- One RT8A MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9. This connection is for uplift only and does not consider lateral forces.

- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



October 16, 2023

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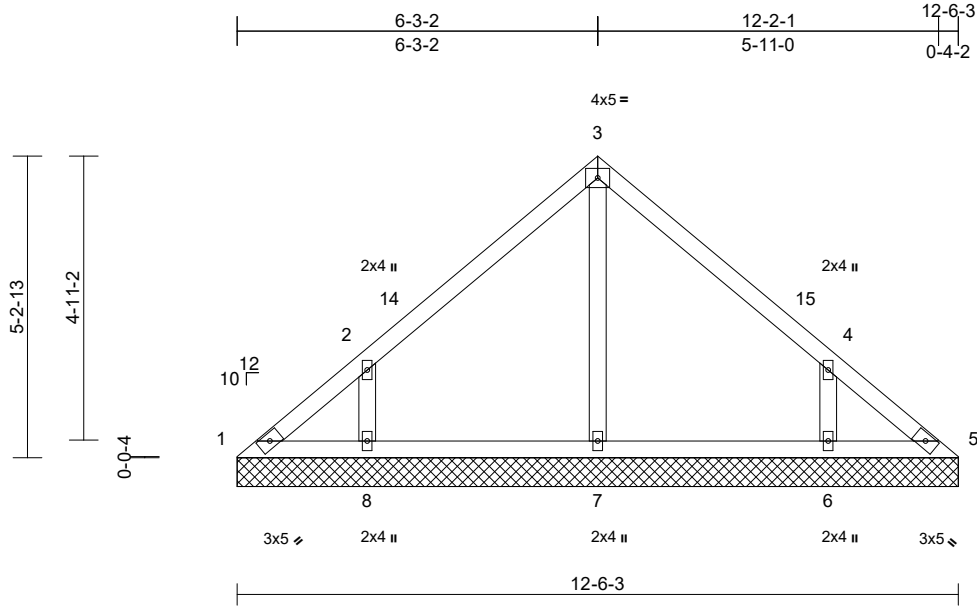
818 Soundside Road
 Edenton, NC 27932

Job 23100018	Truss V1	Truss Type Valley	Qty 1	Ply 1	109 Serenity Job Reference (optional)	161412528
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:40

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 52 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

(size) 1=12-6-3, 5=12-6-3, 6=12-6-3,
7=12-6-3, 8=12-6-3, 13=12-6-3
Max Horiz 1=-118 (LC 12)
Max Uplift 1=-66 (LC 10), 5=-1 (LC 23),
6=-137 (LC 15), 8=-143 (LC 14),
13=-1 (LC 23)
Max Grav 1=75 (LC 13), 6=438 (LC 21),
7=401 (LC 20), 8=421 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-116/212, 2-3=-103/197, 3-4=-125/175,
4-5=-24/137
BOT CHORD 1-8=-61/33, 7-8=-61/32, 6-7=-61/32,
5-6=-61/32
WEBS 3-7=-317/0, 2-8=-382/212, 4-6=-385/208

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 9-6-8, Exterior(2E) 9-6-8 to 12-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) 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 66 lb uplift at joint 1, 1 lb uplift at joint 5, 143 lb uplift at joint 8, 137 lb uplift at joint 6 and 1 lb uplift at joint 5.
- 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 16, 2023

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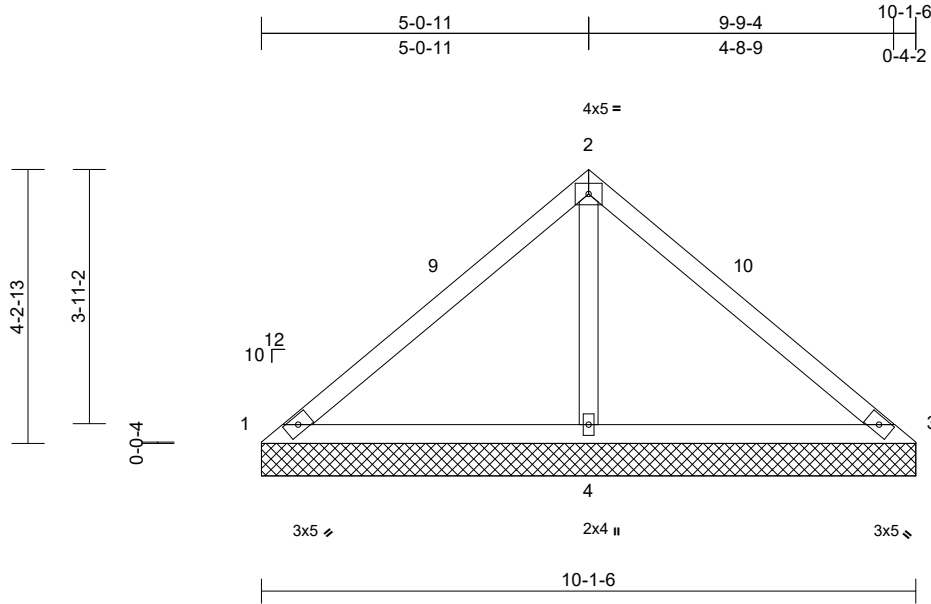
818 Soundside Road
Edenton, NC 27932

Job 23100018	Truss V2	Truss Type Valley	Qty 1	Ply 1	109 Serenity Job Reference (optional)	161412529
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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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	0.50	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.47	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 39 lb	FT = 20%

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

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

REACTIONS (size) 1=10-1-6, 3=10-1-6, 4=10-1-6
Max Horiz 1=-95 (LC 12)
Max Uplift 1=-62 (LC 21), 3=-62 (LC 20), 4=-119 (LC 14)
Max Grav 1=92 (LC 20), 3=92 (LC 21), 4=833 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-126/409, 2-3=-126/409
BOT CHORD 1-4=-233/182, 3-4=-233/182
WEBS 2-4=-648/288

- 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 62 lb uplift at joint 1, 62 lb uplift at joint 3 and 119 lb uplift at joint 4.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 7-1-11, Exterior(2E) 7-1-11 to 10-1-11 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.



October 16, 2023

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

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818 Soundside Road
Edenton, NC 27932

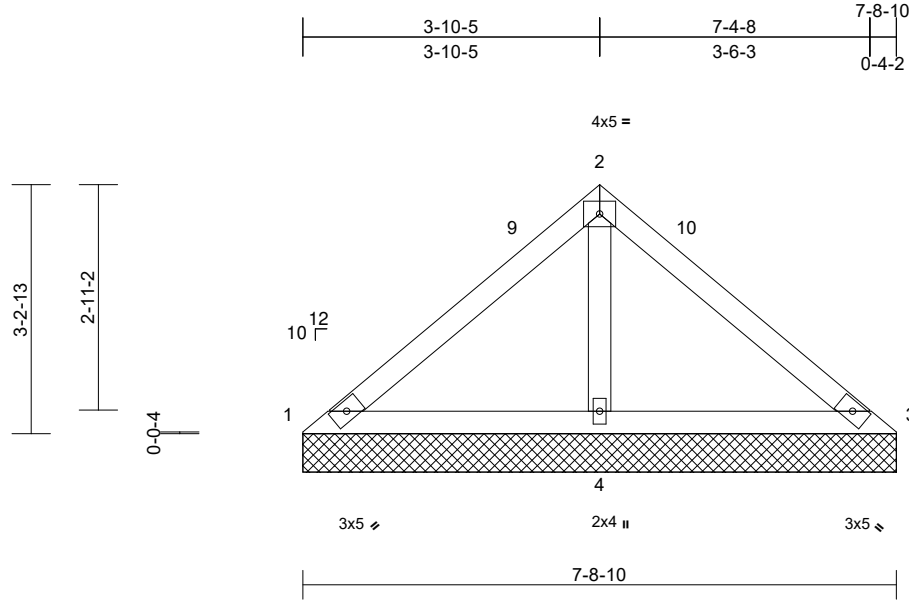
Job 23100018	Truss V3	Truss Type Valley	Qty 1	Ply 1	109 Serenity Job Reference (optional)	161412530
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:47

Page: 1

ID: _Pc1VqtCUIRorSEgzcdUCzF_Jj-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRcDoI7J4zJC?f



Scale = 1:30

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	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.30	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 29 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 7-8-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=7-8-10, 3=7-8-10, 4=7-8-10
Max Horiz 1=72 (LC 11)
Max Uplift 1=-27 (LC 21), 3=-27 (LC 20),
4=-84 (LC 14)
Max Grav 1=105 (LC 20), 3=105 (LC 21),
4=588 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-102/260, 2-3=-102/260
BOT CHORD 1-4=-179/164, 3-4=-179/164
WEBS 2-4=-427/220

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 4-8-14, Exterior(2E) 4-8-14 to 7-8-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 1, 27 lb uplift at joint 3 and 84 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 16, 2023

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818 Soundside Road
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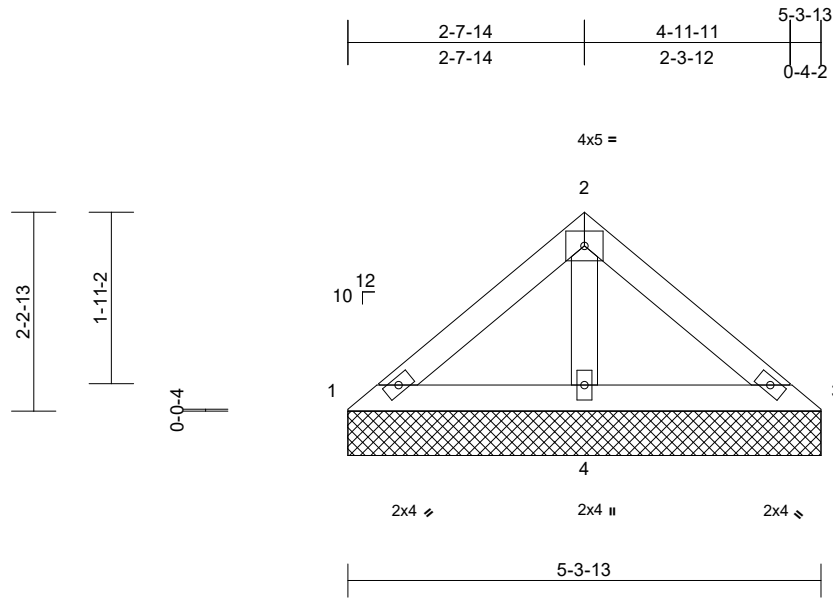
Job 23100018	Truss V4	Truss Type Valley	Qty 1	Ply 1	109 Serenity Job Reference (optional)	161412531
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:47

Page: 1

ID: _Pct1VqtCUIRorSEgzdcUCzF_Jj-Rfc?PsB70Hq3NSgPqnL8w3uITXbGKWRcDoI7J4zJC?f



Scale = 1:25.9

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 19 lb	FT = 20%	

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-3-13 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=5-3-13, 3=5-3-13, 4=5-3-13
Max Horiz 1=-48 (LC 12)
Max Uplift 3=-6 (LC 15), 4=-40 (LC 14)
Max Grav 1=93 (LC 20), 3=93 (LC 21), 4=336 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-85/124, 2-3=-85/124
BOT CHORD 1-4=-94/101, 3-4=-94/101
WEBS 2-4=-216/117

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 6 lb uplift at joint 3 and 40 lb uplift at joint 4.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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Edenton, NC 27932

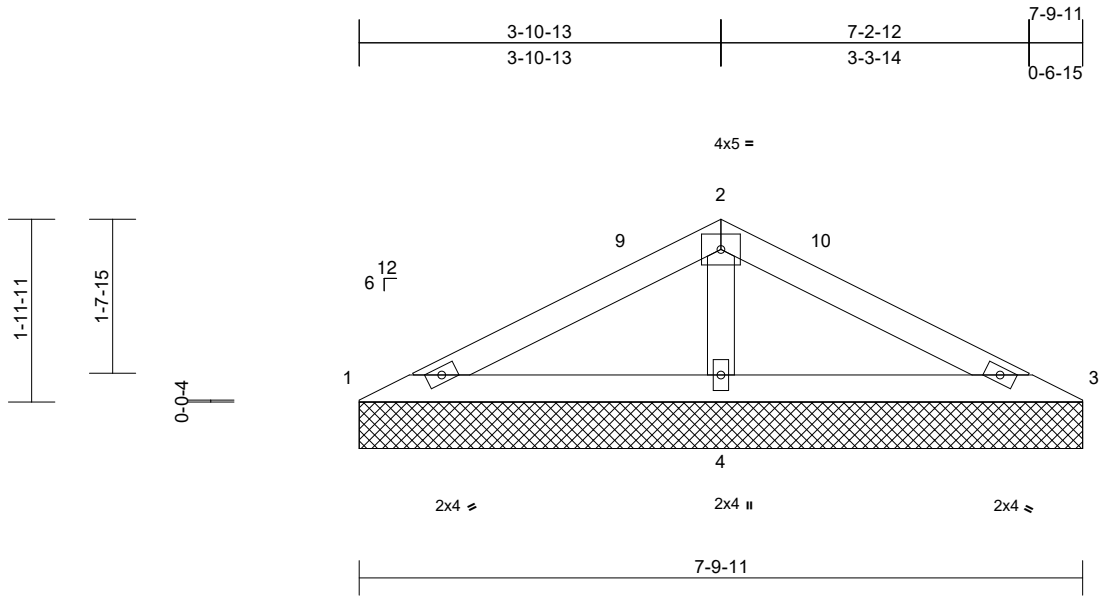
Job 23100018	Truss V11	Truss Type Valley	Qty 1	Ply 1	109 Serenity Job Reference (optional)	161412533
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:48

Page: 1

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Scale = 1:24.9

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	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	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
 OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 7-9-11 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=7-9-11, 3=7-9-11, 4=7-9-11
 Max Horiz 1=29 (LC 14)
 Max Uplift 1=-9 (LC 14), 3=-16 (LC 15), 4=-43 (LC 14)
 Max Grav 1=113 (LC 20), 3=113 (LC 21), 4=528 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-127/270, 2-3=-127/270
 BOT CHORD 1-4=-201/154, 3-4=-201/154
 WEBS 2-4=-366/213

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 4-10-3, Exterior(2E) 4-10-3 to 7-10-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 2-0-0 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 9 lb uplift at joint 1, 16 lb uplift at joint 3 and 43 lb uplift at joint 4.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 16, 2023

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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)



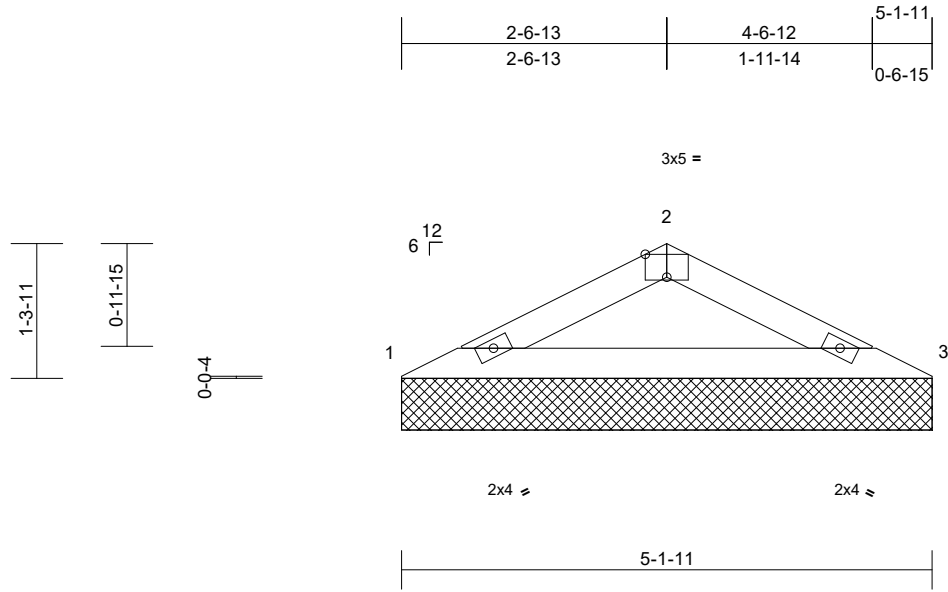
818 Soundside Road
 Edenton, NC 27932

Job 23100018	Truss V12	Truss Type Valley	Qty 1	Ply 1	109 Serenity Job Reference (optional)	I61412534
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Aug 30 2023 Print: 8.630 S Aug 30 2023 MiTek Industries, Inc. Fri Oct 13 15:36:48
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Page: 1



Scale = 1:22.3

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 14 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-1-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=5-1-11, 3=5-1-11
Max Horiz 1=18 (LC 14)
Max Uplift 1=-20 (LC 14), 3=-20 (LC 15)
Max Grav 1=237 (LC 20), 3=237 (LC 21)

FORCES

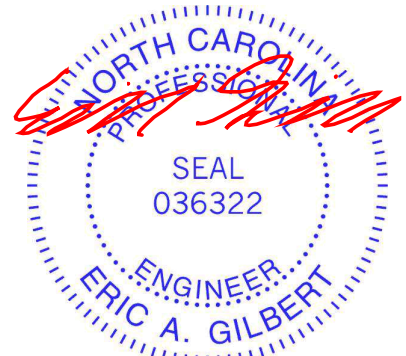
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-419/183, 2-3=-419/183
BOT CHORD 1-3=-150/364

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 20 lb uplift at joint 1 and 20 lb uplift at joint 3.
- 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 16, 2023

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

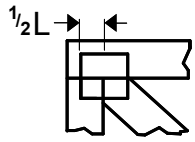
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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)



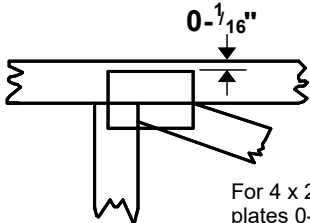
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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



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

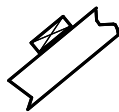
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

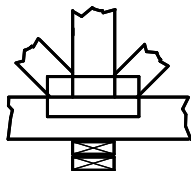
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

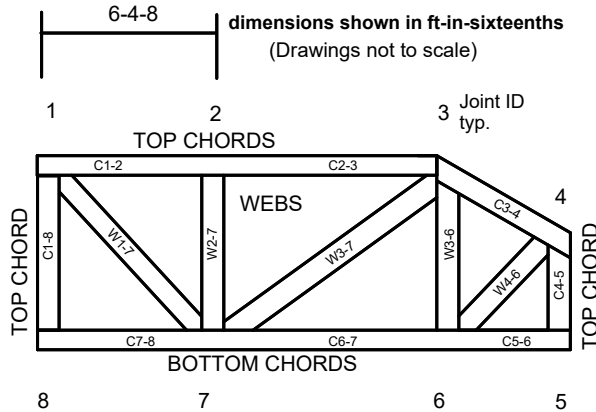


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

- ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
- DSB-22: Design Standard for Bracing.
- BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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ENGINEERING BY
TRENCO
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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/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 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/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.