

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 24010049
130 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: I63245132 thru I63245172

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

North Carolina COA: C-0844



January 26, 2024

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 24010049	Truss A	Truss Type Common	Qty 4	Ply 1	130 Serenity Job Reference (optional)	163245132
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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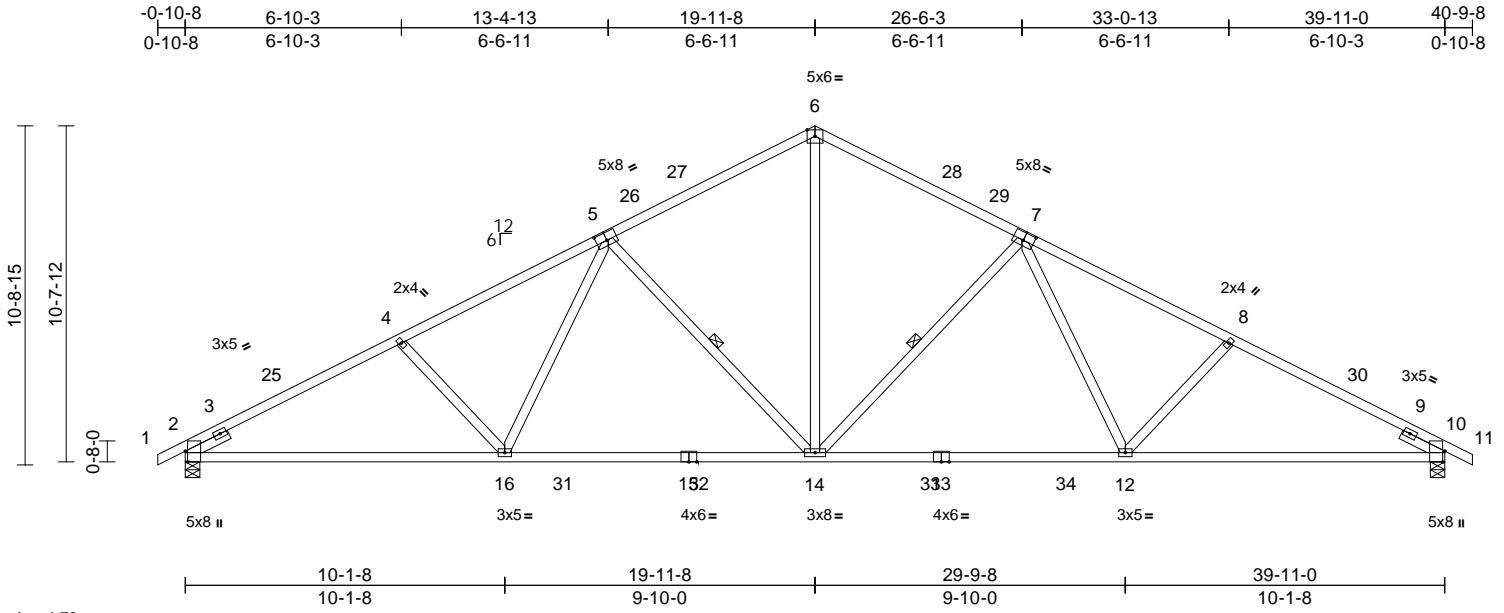


Plate Offsets (X, Y): [2:0-4-1,Edge], [5:0-4-0,0-3-0], [7:0-4-0,0-3-0], [10:0-4-1,Edge]

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)
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

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) -0-10-8 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

- 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



January 26, 2024

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

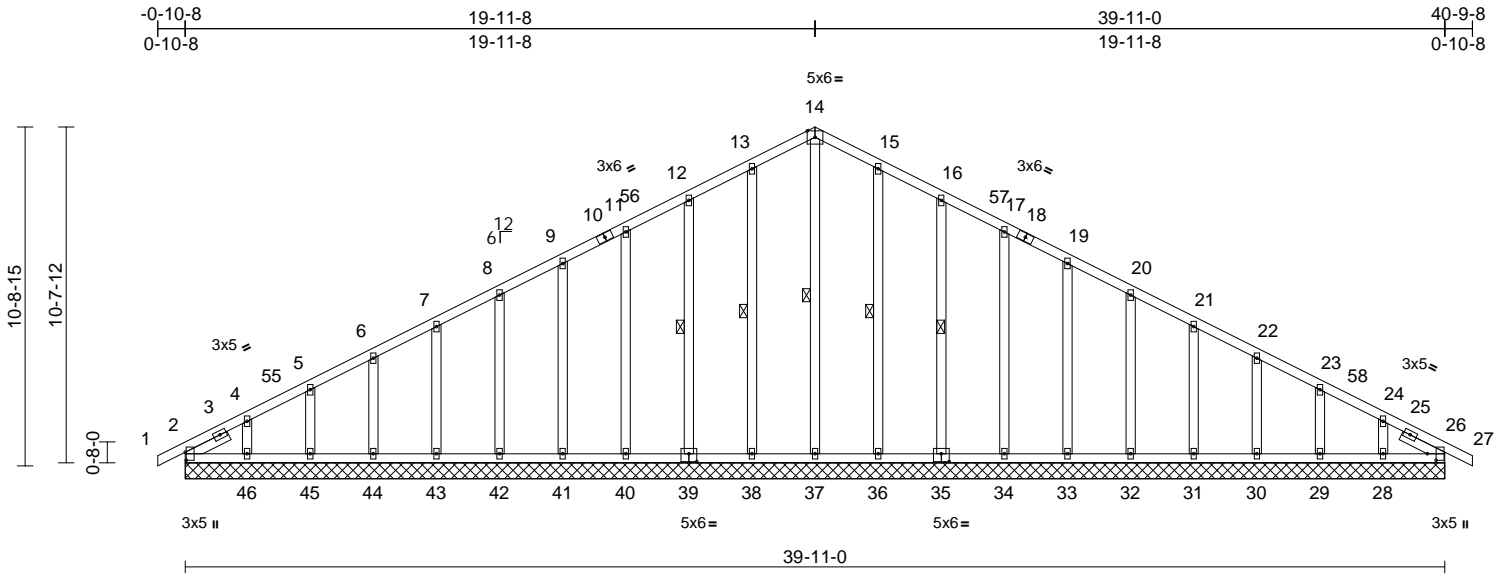
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss AGE	Truss Type Common Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245133
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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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



January 26, 2024

Continued on page 2

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPH 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 24010049	Truss AGE	Truss Type Common Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	I63245133
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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- 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.

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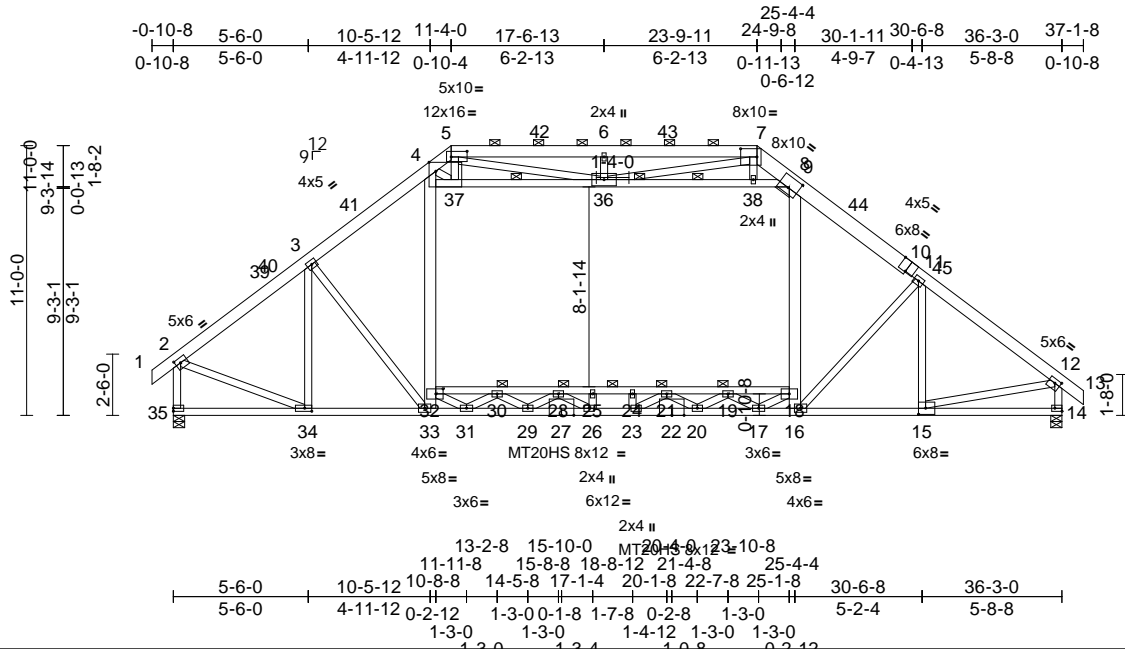
Job 24010049	Truss B	Truss Type Attic	Qty 3	Ply 1	130 Serenity Job Reference (optional)	163245134
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Scale = 1:94

Plate Offsets (X, Y): [2:0-2-8,0-2-4], [4:0-3-5,Edge], [5:0-7-12,0-2-12], [7:0-8-0,0-4-0], [9:0-5-0,0-5-4], [10:0-4-0,Edge], [12:0-2-12,0-2-0], [14:Edge,0-1-8], [15:0-3-8,0-3-0], [32:0-3-8,0-2-8], [34:0-3-8,0-1-8]

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	0.48	Vert(LL)	-0.29	18-19	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.51	19-21	>853	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.10	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.23	18-32	>788	360		
BCDL	10.0											

Weight: 356 lb FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 7-10:2x8 SP 2400F 2.0E, 8-9:2x4 SP No.2
BOT CHORD 2x4 SP No.1 *Except* 32-18:2x4 SP No.2, 27-22:2x4 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 4-33,9-16:2x6 SP No.2, 4-8:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-8 oc purlins, except end verticals, and 2-0-0 oc purlins (4-0-4 max.): 5-7
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 26-29,20-23.
3-0-0 oc bracing: 21-28
3-5-0 oc bracing: 19-21
3-7-0 oc bracing: 28-30
5-7-0 oc bracing: 18-19
6-0-0 oc bracing: 30-32

WEBS 1 Row at midpt 4-36, 8-36
JOINTS 1 Brace at J(s): 19, 30, 21, 28, 36

REACTIONS (size) 14=0-5-8, 35=0-5-8
Max Horiz 35=292 (LC 12)
Max Grav 14=2181 (LC 46), 35=2204 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-2211/0, 3-4=2423/0, 4-5=-1580/67, 5-6=-2628/392, 6-7=-2628/392, 7-8=-1501/270, 8-9=-1918/24, 9-11=-2591/0, 11-12=-2553/0, 12-13=0/37, 2-35=-2139/0, 12-14=-2120/0

BOT CHORD 34-35=-241/292, 33-34=0/1797, 31-33=-105/1487, 29-31=0/3338, 26-29=0/4561, 23-26=0/4915, 20-23=0/4688, 17-20=0/3595, 16-17=0/1789, 15-16=0/1979, 14-15=-10/112, 30-32=-529/312, 28-30=-2307/0, 25-28=-3245/0, 24-25=-3245/0, 21-24=-3245/0, 19-21=-2513/0, 18-19=-986/85
WEBS 3-34=-634/0, 3-33=-88/540, 32-33=-85/187, 4-32=0/913, 16-18=-74/327, 9-18=0/1091, 11-16=-359/288, 11-15=-368/2, 4-37=-1393/10, 36-37=-1137/14, 36-38=-1221/135, 8-38=-1244/133, 2-34=0/1781, 12-15=0/1931, 17-18=0/1302, 31-32=0/1241, 17-19=-1310/0, 30-31=-1422/0, 19-20=0/745, 29-30=0/841, 20-21=-617/0, 28-29=-713/0, 21-23=-49/309, 26-28=0/481, 25-26=-187/0, 23-24=-132/17, 6-36=-548/162, 5-37=0/722, 7-38=0/166, 5-36=-526/1454, 7-36=-503/1316

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDC=6.0psf; BCDC=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 7-8-8, Exterior(2R) 7-8-8 to 14-11-8, Interior (1) 14-11-8 to 20-2-3, Exterior(2R) 20-2-3 to 27-5-3, Interior (1) 27-5-3 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.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- All plates are 3x5 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Ceiling dead load (5.0 psf) on member(s) 8-9, 4-37, 36-37, 36-38, 8-38; Wall dead load (5.0psf) on member (s) 4-32, 9-18



January 26, 2024

Continued on page 2

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

Job 24010049	Truss B	Truss Type Attic	Qty 3	Ply 1	130 Serenity Job Reference (optional)	I63245134
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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

Page: 2

- 12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 30-32, 28-30, 25-28, 24-25, 21-24, 19-21, 18-19
- 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.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 15) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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Edenton, NC 27932

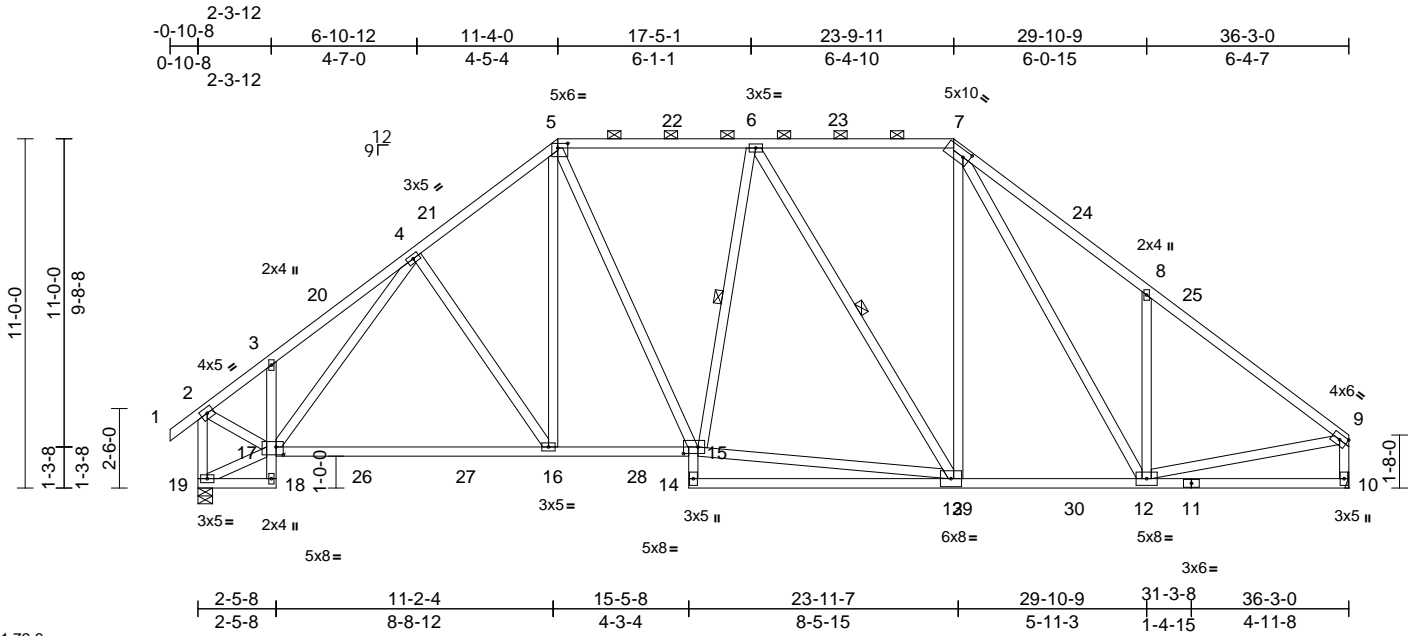
Job 24010049	Truss B1	Truss Type Piggyback Base	Qty 5	Ply 1	130 Serenity Job Reference (optional)	163245135
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:30

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Scale = 1:72.6

Plate Offsets (X, Y): [5:0-3-12,0-1-12], [7:0-2-8,0-2-8], [15:0-5-8,0-2-8], [17:0-2-12,0-3-0]

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	0.90	Vert(LL)	-0.23	16-17	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.40	16-17	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.08	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 283 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 18-3,15-14:2x4 SP No.3, 17-15:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 15-5,13-7,12-7,13-6:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-1-0 max.): 5-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 18-19.
WEBS 1 Row at midpt 6-13, 6-15

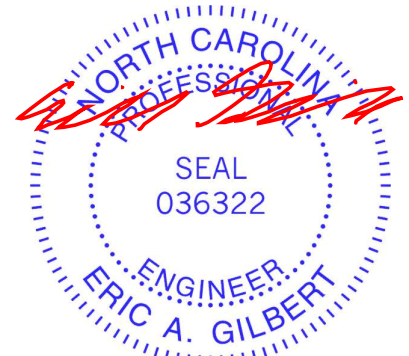
REACTIONS (size) 10= Mechanical, 19=0-5-8
Max Horiz 19=283 (LC 12)
Max Uplift 10=81 (LC 15), 19=90 (LC 14)
Max Grav 10=1640 (LC 45), 19=1716 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1545/109, 3-4=-1660/233, 4-5=-1769/269, 5-6=-1542/274, 6-7=-1283/273, 7-8=-1973/389, 8-9=-1900/201, 2-19=-1720/129, 9-10=-1535/158
BOT CHORD 18-19=-99/0, 17-18=0/39, 3-17=-245/155, 16-17=-209/1502, 15-16=-143/1365, 14-15=0/153, 13-14=0/169, 12-13=-27/1281, 10-12=-40/105
WEBS 4-17=-420/177, 4-16=-325/218, 5-16=-78/638, 5-15=-155/478, 7-13=-63/627, 7-12=-287/595, 8-12=-580/321, 9-12=-39/1396, 2-17=-64/1386, 17-19=-233/303, 13-15=-165/1399, 6-13=-578/206, 6-15=-195/214

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 2-9-0, Interior (1) 2-9-0 to 7-8-8, Exterior(2R) 7-8-8 to 14-11-8, Interior (1) 14-11-8 to 20-2-3, Exterior(2R) 20-2-3 to 27-5-3, Interior (1) 27-5-3 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 live load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 81 lb uplift at joint 10.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 19. This connection is for uplift only and does not consider lateral forces.

- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 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



January 26, 2024

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

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



818 Soundside Road
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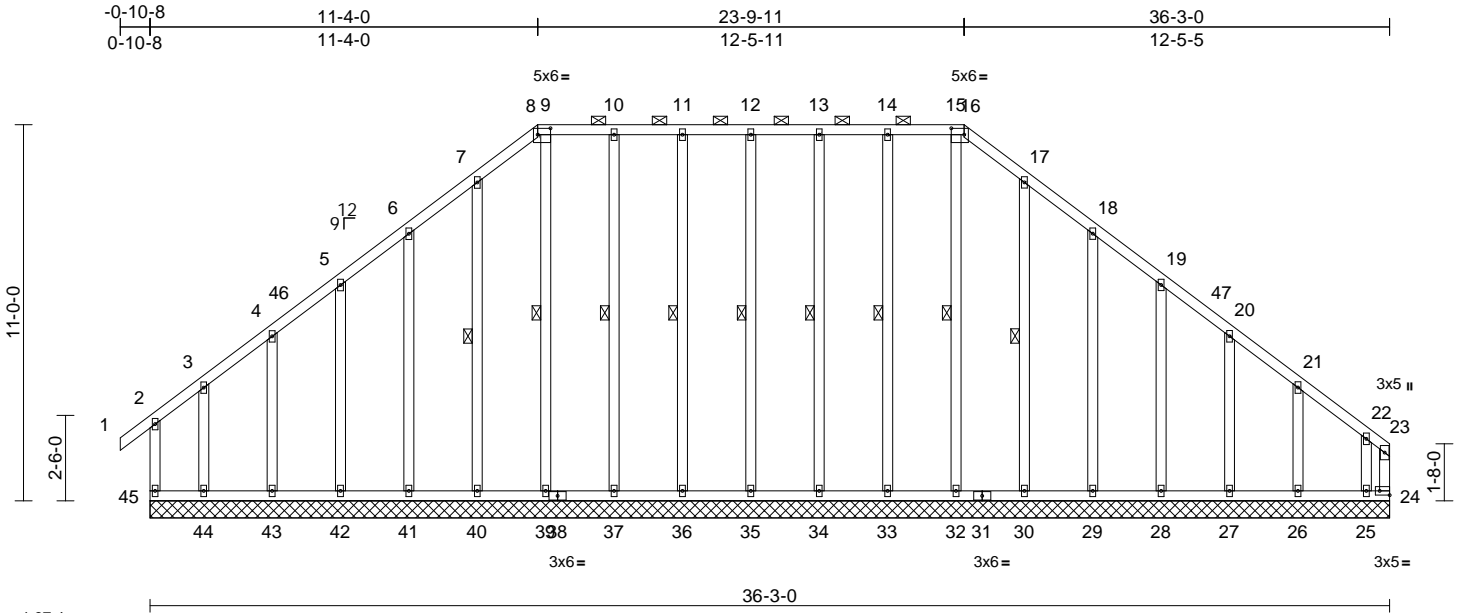
Job 24010049	Truss B1GE	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245136
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:31

Page: 1

ID:va6oJ_bKLZdDLTYr9P9wpzF_UL-RFC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f



Scale = 1:67.4

Plate Offsets (X, Y): [8:0-4-8,0-2-4], [16:0-4-8,0-2-4], [24:Edge,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	0.48	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.23	Horz(CT)	-0.01	24	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 326 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3 *Except*
35-12,34-13,33-14,32-15,36-11,37-10,39-9:2
x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 8-16.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

WEBS 1 Row at midpt 12-35, 13-34, 14-33, 15-32, 17-30, 11-36, 10-37, 9-39, 7-40

REACTIONS (size)
24=36-3-0, 25=36-3-0, 26=36-3-0, 27=36-3-0, 28=36-3-0, 29=36-3-0, 30=36-3-0, 32=36-3-0, 33=36-3-0, 34=36-3-0, 35=36-3-0, 36=36-3-0, 37=36-3-0, 39=36-3-0, 40=36-3-0, 41=36-3-0, 42=36-3-0, 43=36-3-0, 44=36-3-0, 45=36-3-0
Max Horiz 45=-283 (LC 12)
Max Uplift 24=-660 (LC 13), 25=-540 (LC 10), 26=-64 (LC 15), 27=-68 (LC 15), 28=-65 (LC 15), 29=-74 (LC 15), 30=-49 (LC 15), 32=-22 (LC 12), 33=-34 (LC 11), 34=-26 (LC 11), 35=-25 (LC 10), 36=-26 (LC 11), 37=-31 (LC 10), 40=-45 (LC 14), 41=-75 (LC 14), 42=-68 (LC 14), 43=-55 (LC 14), 44=-164 (LC 11), 45=-131 (LC 10)

Max Grav 24=644 (LC 10), 25=634 (LC 13), 26=169 (LC 25), 27=182 (LC 49), 28=230 (LC 43), 29=231 (LC 43), 30=235 (LC 43), 32=228 (LC 50), 33=238 (LC 38), 34=229 (LC 38), 35=230 (LC 38), 36=229 (LC 38), 37=238 (LC 38), 39=213 (LC 50), 40=235 (LC 41), 41=232 (LC 41), 42=229 (LC 41), 43=181 (LC 41), 44=247 (LC 12), 45=202 (LC 49)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-45=-143/83, 1-2=0/37, 2-3=-92/97, 3-4=-71/113, 4-5=-108/158, 5-6=-145/221, 6-7=-186/290, 7-8=-215/341, 8-9=-179/297, 9-10=-179/297, 10-11=-179/297, 11-12=-179/297, 12-13=-179/297, 13-14=-179/297, 14-15=-179/297, 15-16=-179/297, 16-17=-215/341, 17-18=-186/298, 18-19=-158/255, 19-20=-177/217, 20-21=-194/204, 21-22=-217/211, 22-23=-352/351, 23-24=-353/353
BOT CHORD 44-45=-202/196, 43-44=-202/196, 42-43=-202/196, 41-42=-202/196, 40-41=-202/196, 39-40=-202/196, 37-39=-202/196, 36-37=-202/196, 35-36=-202/196, 34-35=-202/196, 33-34=-202/196, 32-33=-202/196, 30-32=-202/196, 29-30=-202/196, 28-29=-202/196, 27-28=-202/196, 26-27=-202/196, 25-26=-202/196, 24-25=-202/196

WEBS 12-35=-190/49, 13-34=-189/50, 14-33=-198/58, 15-32=-188/62, 17-30=-195/73, 18-29=-191/98, 19-28=-190/90, 20-27=-140/89, 21-26=-138/96, 22-25=-287/253, 11-36=-189/50, 10-37=-198/55, 9-39=-173/40, 7-40=-195/69, 6-41=-192/99, 5-42=-189/90, 4-43=-140/88, 3-44=-150/121

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 2-9-0, Exterior(2N) 2-9-0 to 7-6-13, Corner(3R) 7-6-13 to 14-11-8, Exterior (2N) 14-11-8 to 20-2-3, Corner(3R) 20-2-3 to 27-6-13, Exterior(2N) 27-6-13 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



Continued on page 2

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

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	130 Serenity	I63245136
24010049	B1GE	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:31
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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) TLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) Gable requires continuous bottom chord bearing.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 13) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 131 lb uplift at joint 45, 660 lb uplift at joint 24, 25 lb uplift at joint 35, 26 lb uplift at joint 34, 34 lb uplift at joint 33, 22 lb uplift at joint 32, 49 lb uplift at joint 30, 74 lb uplift at joint 29, 65 lb uplift at joint 28, 68 lb uplift at joint 27, 64 lb uplift at joint 26, 540 lb uplift at joint 25, 26 lb uplift at joint 36, 31 lb uplift at joint 37, 45 lb uplift at joint 40, 75 lb uplift at joint 41, 68 lb uplift at joint 42, 55 lb uplift at joint 43 and 164 lb uplift at joint 44.
- 15) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

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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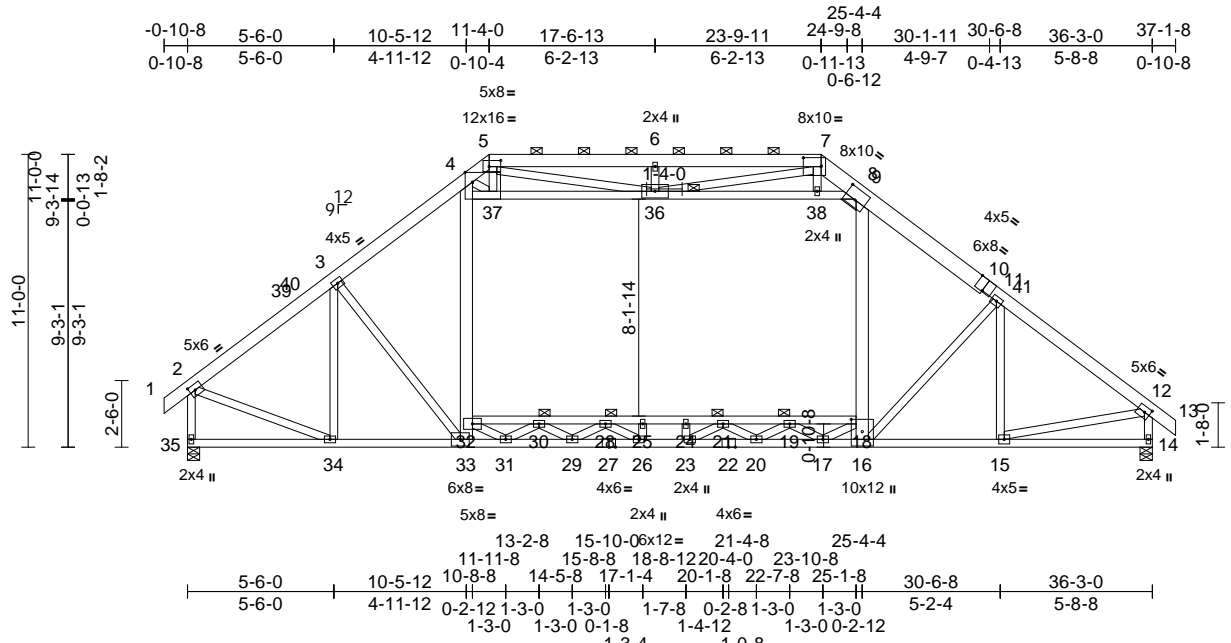
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss BGR	Truss Type Attic Girder	Qty 1	Ply 2	130 Serenity Job Reference (optional)	163245137
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:33
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Page: 1



Scale = 1:86.6

Plate Offsets (X, Y): [2:0-2-8,0-2-8], [4:0-3-5,Edge], [5:0-5-4,0-2-12], [7:0-8-0,0-4-0], [9:0-5-0,0-5-0], [10:0-4-0,Edge], [12:0-2-8,0-2-8], [18:0-5-8,0-5-0]

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	0.35	Vert(LL)	-0.18	18-19	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.30	19-21	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.60	Horz(CT)	0.06	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.13	18-32	>999	360		
BCDL	10.0											
											Weight: 711 lb	FT = 20%

LUMBER
 TOP CHORD 2x6 SP No.2 *Except* 7-10:2x8 SP 2400F 2.0E, 8-9:2x4 SP No.2
 BOT CHORD 2x4 SP No.1 *Except* 32-18:2x4 SP No.2, 22-27:2x4 SP 2400F 2.0E
 WEBS 2x4 SP No.3 *Except* 4-33,9-16:2x6 SP No.2, 4-8:2x4 SP No.2

BRACING
 TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-7.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

JOINTS
 1 Brace at Jt(s): 19, 30, 21, 28, 36

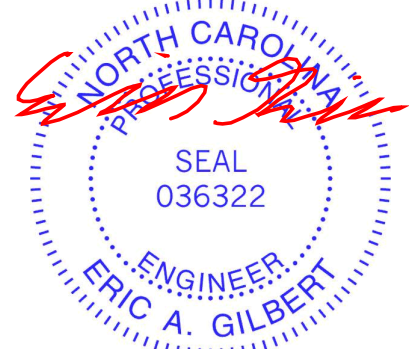
REACTIONS
 (size) 14=0-5-8, 35=0-5-8
 Max Horiz 35=292 (LC 10)
 Max Grav 14=2906 (LC 48), 35=2982 (LC 46)

FORCES
 (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/37, 2-3=-3043/0, 3-4=-3405/0, 4-5=-1965/102, 5-6=-2784/417, 6-7=-2784/417, 7-8=-1683/294, 8-9=-2552/46, 9-11=-3617/0, 11-12=-3465/0, 12-13=0/37, 2-35=-2916/0, 12-14=-2846/1
 BOT CHORD 34-35=-237/297, 33-34=-14/2523, 31-33=-171/2261, 29-31=0/4103, 26-29=0/5207, 23-26=0/5594, 20-23=0/5387, 17-20=0/4392, 16-17=0/2616, 15-16=0/2709, 14-15=-12/128, 30-32=-387/399, 28-30=-2203/0, 25-28=-3191/0, 24-25=-3191/0, 21-24=-3191/0, 19-21=-2496/0, 18-19=-1014/88

WEBS
 3-34=900/1, 3-33=-111/797, 32-33=-125/856, 4-32=0/1568, 2-34=0/2454, 16-18=-127/1021, 9-18=0/1784, 11-15=-551/26, 4-37=-2016/108, 36-37=-1656/93, 36-38=-1804/249, 8-38=-1833/249, 17-18=0/1296, 31-32=0/1216, 17-19=-1282/0, 30-31=-1439/0, 19-20=0/721, 29-30=0/858, 20-21=-595/0, 28-29=-732/0, 21-23=-64/284, 26-28=0/524, 25-26=-202/1, 23-24=-126/21, 6-36=-540/161, 5-37=-28/1016, 7-38=0/208, 5-36=-521/1417, 7-36=-500/1296, 11-16=-298/367, 12-15=0/2662

NOTES
 1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
 Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
 Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
 Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
 2) 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.
 3) Unbalanced roof live loads have been considered for this design.
 4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60

5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 6) Unbalanced snow loads have been considered for this design.
 7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 8) Provide adequate drainage to prevent water ponding.
 9) All plates are 3x5 MT20 unless otherwise indicated.
 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) Ceiling dead load (5.0 psf) on member(s): 8-9, 4-37, 36-37, 36-38, 8-38; Wall dead load (5.0psf) on member (s):4-32, 9-18



January 26, 2024

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
 Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPH 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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TRENCO
 A MiTek Affiliate
 818 Soundside Road
 Edenton, NC 27932

Job 24010049	Truss BGR	Truss Type Attic Girder	Qty 1	Ply 2	130 Serenity Job Reference (optional)	I63245137
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:33
ID:HiLQkPKHOQTU5G6uHHvM5iy8nJN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 2

- 13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 30-32, 28-30, 25-28, 24-25, 21-24, 19-21, 18-19
- 14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 16) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 839 lb down and 71 lb up at 10-5-12, and 839 lb down and 71 lb up at 25-4-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 17) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-5=-60, 5-7=-60, 7-8=-60, 8-9=-70, 9-12=-60, 12-13=-60, 14-35=-20, 18-32=-30, 4-37=-10, 36-37=-10, 36-38=-10, 8-38=-10
Drag: 4-32=-10, 9-18=-10
Concentrated Loads (lb)
Vert: 33=-450 (F), 16=-450 (F)

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

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Edenton, NC 27932

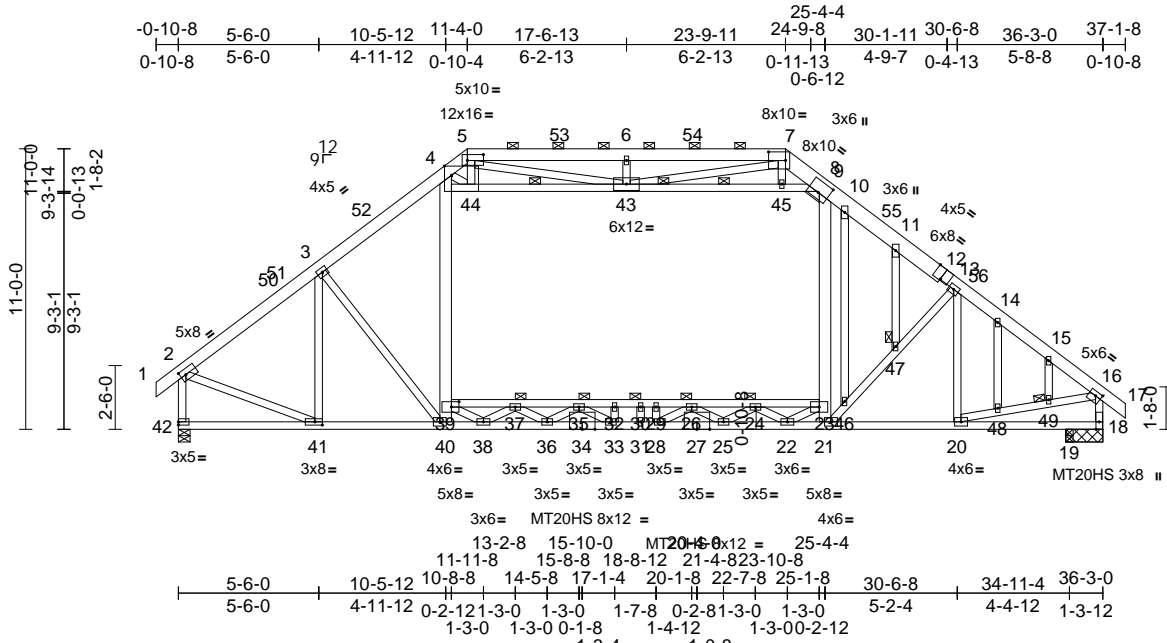
Job 24010049	Truss BSE	Truss Type Attic Structural Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245138
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:35

Page: 1

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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	0.51	Vert(LL)	-0.29	24-26	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.49	24-26	>844	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.94	Horz(CT)	0.10	18	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.22	23-39	>823	360		
BCDL	10.0											
											Weight: 382 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 7-12:2x8 SP 2400F 2.0E, 8-9:2x4 SP No.2

BOT CHORD 2x4 SP No.1 *Except* 39-23:2x4 SP No.2, 27-34:2x4 SP 2400F 2.0E

WEBS 2x4 SP No.3 *Except* 4-40,9-21:2x6 SP No.2, 4-8,20-16:2x4 SP No.2

OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-4-6 oc purlins, except end verticals, and 2-0-0 oc purlins (4-0-6 max.): 5-7.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing. Except:
3-0-0 oc bracing: 26-35
3-5-0 oc bracing: 24-26
3-7-0 oc bracing: 35-37
5-9-0 oc bracing: 23-24
6-0-0 oc bracing: 37-39

WEBS 1 Row at midpt 4-43, 8-43

JOINTS 1 Brace at Jt(s): 24, 37, 26, 35, 43, 47, 49

REACTIONS (size) 18=1-5-8, 19=0-3-8, 42=0-5-8
Max Horiz 42=292 (LC 12)
Max Uplift 19=16 (LC 10)
Max Grav 18=1904 (LC 46), 19=367 (LC 38), 42=2195 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=2202/0, 3-4=2410/0, 4-5=1576/67, 5-6=2616/392, 6-7=2616/392, 7-8=1483/270, 8-9=1909/26, 9-10=2439/0, 10-11=2465/0, 11-13=2569/0, 13-14=2283/0, 14-15=2487/0, 15-16=2485/0, 16-17=0/37, 2-42=2130/0, 16-18=2076/0

BOT CHORD 41-42=241/292, 40-41=0/1792, 38-40=100/1491, 36-38=0/3338, 33-36=0/4551, 31-33=0/4892, 28-31=0/4892, 25-28=0/4659, 22-25=0/3541, 21-22=0/1745, 20-21=0/1935, 19-20=46/80, 18-19=46/80, 37-39=541/282, 35-37=2314/0, 32-35=3234/0, 30-32=3234/0, 29-30=3234/0, 26-29=3234/0, 24-26=2487/0, 23-24=924/83

WEBS 3-41=629/0, 13-20=587/0, 2-41=0/1775, 39-40=86/186, 4-39=0/913, 3-40=87/530, 21-23=76/365, 9-23=0/1108, 4-44=1362/11, 43-44=1111/15, 43-45=1238/131, 8-45=1261/129, 22-23=0/1272, 38-39=0/1243, 22-24=1321/0, 37-38=1412/0, 24-25=0/754, 36-37=0/834, 25-26=628/0, 35-36=708/0, 26-28=33/312, 33-35=0/461, 32-33=168/2, 28-29=113/16, 6-43=548/162, 5-44=0/707, 7-45=0/168, 5-43=526/1438, 7-43=491/1333, 21-46=331/288, 46-47=298/282, 13-47=292/296, 20-48=0/2003, 48-49=0/1943, 16-49=0/1967, 30-31=41/0, 10-46=48/35, 11-47=23/0, 14-48=0/258, 15-49=119/10

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 7-8-8, Exterior(2R) 7-8-8 to 14-11-8, Interior (1) 14-11-8 to 20-2-3, Exterior(2R) 20-2-3 to 27-5-3, Interior (1) 27-5-3 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.



January 26, 2024

Continued on page 2

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

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



818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	130 Serenity	I63245138
24010049	BSE	Attic Structural Gable	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:35
 ID:jfMMLnrRxWpjnpkdD7ldQkzF_VJ-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?#

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) Provide adequate drainage to prevent water ponding.
- 8) All plates are MT20 plates unless otherwise indicated.
- 9) All plates are 2x4 MT20 unless otherwise indicated.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 13) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 14) Ceiling dead load (5.0 psf) on member(s). 8-9, 4-44, 43-44, 43-45, 8-45; Wall dead load (5.0psf) on member (s).4-39, 9-23
- 15) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 37-39, 35-37, 32-35, 30-32, 29-30, 26-29, 24-26, 23-24
- 16) N/A

- 17) 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.
- 18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 19) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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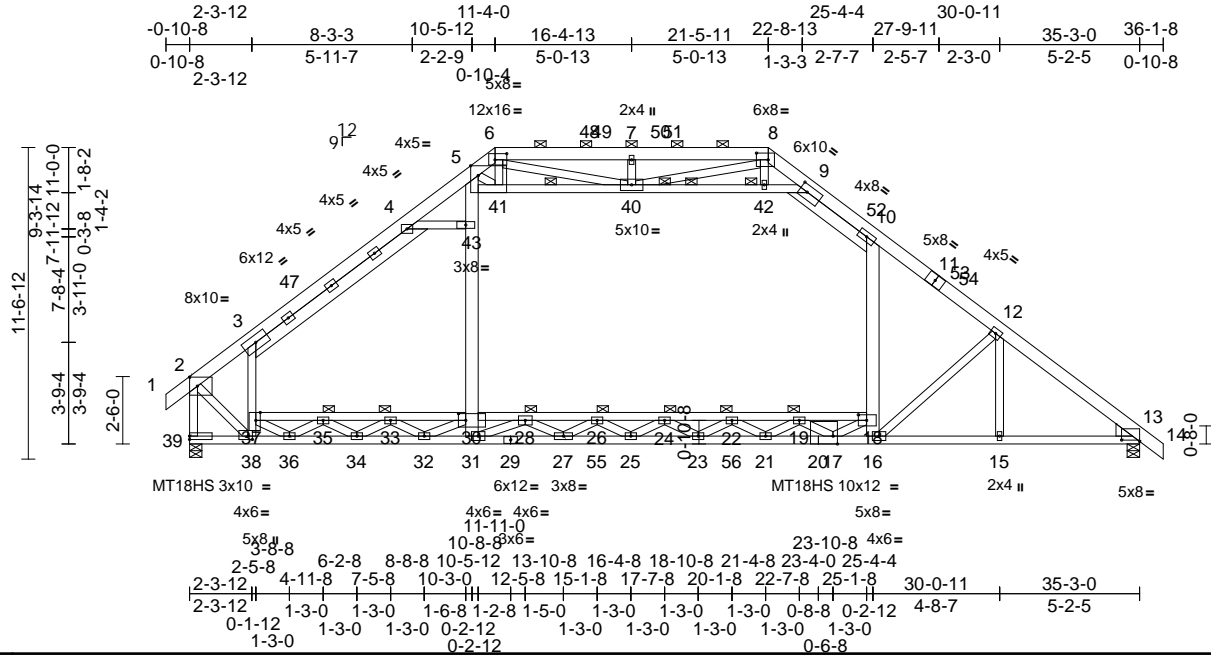
Job 24010049	Truss C	Truss Type Attic	Qty 3	Ply 1	130 Serenity Job Reference (optional)	163245139
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:37

Page: 1

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Scale = 1:85.5

[2:0-3-8,0-4-0], [5:0-3-5,Edge], [6:0-5-4,0-2-12], [8:0-5-4,0-3-0], [9:0-3-7,0-3-0], [13:0-8-0,0-0-10], [17:0-2-0,Edge], [18:0-3-12,0-2-8], [30:0-3-4,0-3-0], [37:Edge,0-2-0], Plate Offsets (X, Y): [38:0-2-0,0-1-8]

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	0.81	Vert(LL)	-0.29	24-26	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.60	22-24	>702	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.12	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	0.18	18-30	>999	360		
BCDL	10.0											

Weight: 361 lb FT = 20%

LUMBER
TOP CHORD 2x6 SP 2400F 2.0E *Except* 6-8,11-14:2x6 SP No.2
BOT CHORD 2x4 SP No.1 *Except* 37-30:2x4 SP No.2, 29-20:2x4 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 3-38:2x4 SP 2400F 2.0E, 10-16:2x6 SP No.2, 5-9,38-2:2x4 SP No.2, 31-5:2x6 SP 2400F 2.0E
WEDGE Right: 2x6 SP No.2
BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-3-0 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 38-39,31-32.
WEBS 1 Row at midpt 5-40
WEBS 2 Rows at 1/3 pts 9-40
JOINTS 1 Brace at Jt(s): 40, 35, 19, 22, 33, 24, 26, 28

REACTIONS (size) 13=0-5-8, 39=0-5-8
Max Horiz 39=290 (LC 12)
Max Grav 13=2417 (LC 46), 39=2980 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-2246/0, 3-4=-3322/0, 4-5=-3318/0, 5-6=-1669/0, 6-7=-1756/307, 7-8=-1756/307, 8-9=-835/377, 9-10=-2462/0, 10-12=-3344/0, 12-13=-3575/0, 13-14=0/31, 2-39=-3133/0

BOT CHORD 38-39=-275/257, 36-38=0/1665, 34-36=0/2030, 32-34=-90/2066, 31-32=-506/1172, 27-31=-127/2449, 25-27=0/4333, 23-25=0/5218, 21-23=0/5089, 17-21=0/4012, 16-17=0/2284, 15-16=0/2783, 13-15=0/2783, 35-37=0/1025, 33-35=-156/1050, 30-33=-170/1583, 28-30=-85/3159, 26-28=-1202/879, 24-26=-2620/0, 22-24=-2982/0, 19-22=-2363/0, 18-19=-825/58
WEBS 12-15=-21/141, 37-38=-1715/0, 3-37=-1654/0, 16-18=0/512, 10-18=0/1271, 5-41=-1584/92, 40-41=-1309/79, 40-42=-3090/0, 9-42=-3117/0, 2-38=0/3127, 30-31=0/1045, 30-43=0/1825, 5-43=0/1847, 7-40=-447/134, 6-41=-24/783, 8-42=0/212, 6-40=-913/485, 8-40=0/1568, 17-18=0/1255, 36-37=-358/118, 35-36=-562/0, 19-21=0/813, 34-35=-110/129, 21-22=-603/29, 33-34=-50/243, 22-23=-158/204, 32-33=-662/0, 23-24=-80/324, 30-32=0/843, 24-25=-556/8, 25-26=0/739, 28-31=-2262/0, 26-27=-1200/0, 4-43=-121/440, 17-19=-1365/0, 27-28=0/1461, 12-16=-536/215

- 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 2-7-13, Interior (1) 2-7-13 to 7-9-11, Exterior(2R) 7-9-11 to 14-10-5, Interior (1) 14-10-5 to 17-11-6, Exterior(2R) 17-11-6 to 24-11-15, Interior (1) 24-11-15 to 32-7-3, Exterior(2E) 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
- 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.

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



January 26, 2024

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
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ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss C	Truss Type Attic	Qty 3	Ply 1	130 Serenity Job Reference (optional)	I63245139
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:37
ID:VP5mnZE7ejtTka?ri?H4b3zEzov-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?f

Page: 2

- 6) 200.0lb AC unit load placed on the bottom chord, 17-7-8 from left end, supported at two points, 5-0-0 apart.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are MT20 plates unless otherwise indicated.
- 9) All plates are 3x5 MT20 unless otherwise indicated.
- 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) Ceiling dead load (5.0 psf) on member(s). 3-4, 9-10, 5-41, 40-41, 40-42, 9-42, 4-43; Wall dead load (5.0psf) on member(s).3-37, 10-18, 30-43, 5-43
- 13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 35-37, 33-35, 30-33, 28-30, 26-28, 24-26, 22-24, 19-22, 18-19
- 14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 16) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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)



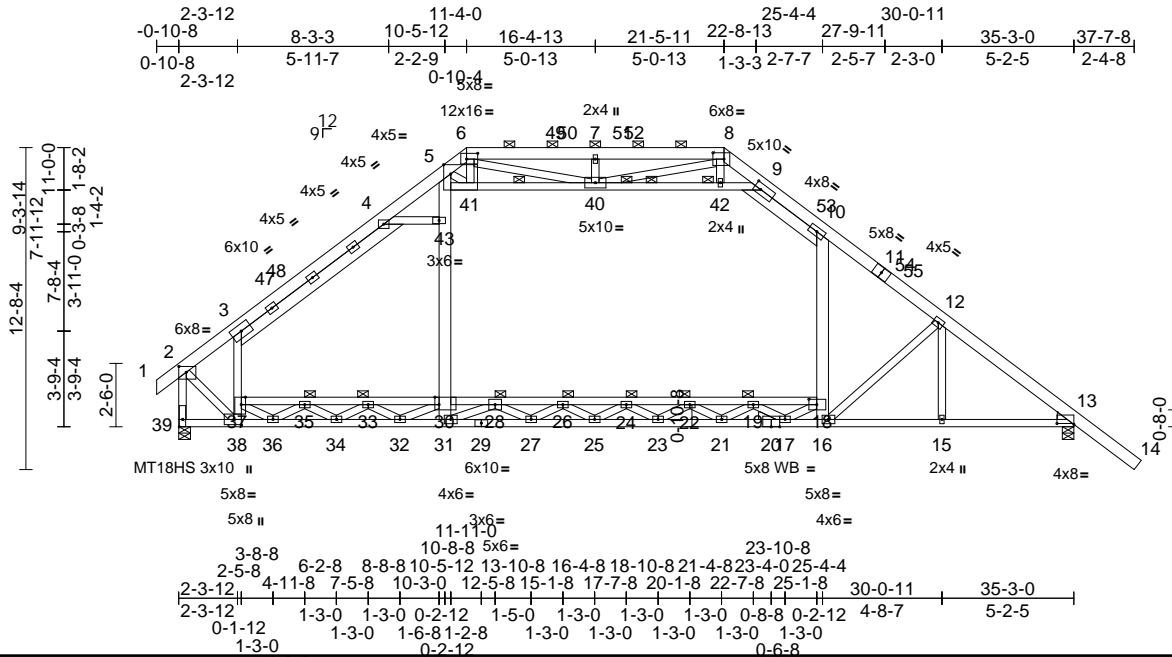
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss C1	Truss Type Attic	Qty 4	Ply 1	130 Serenity Job Reference (optional)	163245140
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:40
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Page: 1



Scale = 1:90.7

Plate Offsets (X, Y): [2:0-3-8,0-2-12], [5:0-3-5,Edge], [6:0-5-4,0-2-12], [8:0-5-4,0-2-12], [9:0-3-3,0-2-12], [13:0-8-0,0-0-7], [18:0-3-12,0-2-8], [30:0-2-0,Edge], [37:Edge,0-2-0], [38:0-3-8,0-2-8]

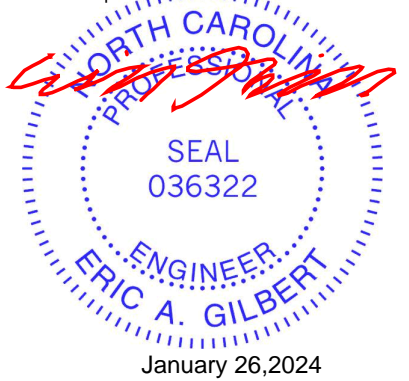
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.32	24-26	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.59	22-24	>718	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.12	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.19	18-30	>928	360		
BCDL	10.0											
											Weight: 365 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 1-6,8-11:2x6 SP 2400F 2.0E
BOT CHORD 2x4 SP No.1 *Except* 37-30,30-18:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 3-38:2x4 SP 2400F 2.0E, 10-16:2x6 SP No.2, 5-9,38-2:2x4 SP No.2, 31-5:2x6 SP 2400F 2.0E
OTHERS 2x4 SP No.3
WEDGE Right: 2x4 SP No.3
BRACING
TOP CHORD Structural wood sheathing directly applied or 2-6-7 oc purlins, except end verticals, and 2-0-0 oc purlins (5-3-0 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 5-40
WEBS 2 Rows at 1/3 pts 9-40
JOINTS 1 Brace at Jt(s): 40, 19, 35, 22, 33, 24, 26, 28
REACTIONS (size) 13=0-5-8, 39=0-5-8
 Max Horiz 39=309 (LC 12)
 Max Grav 13=2403 (LC 46), 39=2872 (LC 46)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-2158/0, 3-4=-3164/0, 4-5=-3137/0, 5-6=-1617/0, 6-7=-1753/305, 7-8=-1753/305, 8-9=-860/348, 9-10=-2354/0, 10-12=-3166/0, 12-13=-3382/0, 13-14=0/90, 2-39=-3017/0

BOT CHORD 38-39=-281/280, 36-38=0/1614, 34-36=0/2004, 32-34=-53/2044, 31-32=-436/1156, 27-31=-237/2243, 25-27=0/3814, 23-25=0/4590, 21-23=0/4486, 17-21=0/3594, 16-17=0/2134, 15-16=0/2618, 13-15=0/2618, 35-37=-80/949, 33-35=-240/914, 30-33=-264/1403, 28-30=-247/2969, 26-28=-920/1045, 24-26=-2128/100, 22-24=-2452/0, 19-22=-1926/0, 18-19=-664/159
WEBS 37-38=-1629/0, 3-37=-1548/0, 16-18=0/483, 10-18=0/1172, 12-16=-483/196, 12-15=-25/141, 5-41=-1501/161, 40-41=-1240/137, 40-42=-2918/0, 9-42=-2944/0, 2-38=0/2976, 30-31=0/948, 30-43=0/1709, 5-43=0/1731, 7-40=-448/133, 6-41=-56/745, 8-42=0/203, 6-40=-857/548, 8-40=-47/1520, 17-18=0/1091, 36-37=-301/152, 17-19=-1211/0, 35-36=-563/0, 19-21=-4/654, 34-35=-86/129, 21-22=-545/75, 33-34=-56/217, 22-23=-204/145, 32-33=-647/0, 23-24=-101/289, 30-32=0/817, 24-25=-528/26, 25-26=0/622, 28-31=-2016/0, 26-27=-1075/0, 4-43=-157/407, 27-28=0/1225

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 2-7-13, Interior (1) 2-7-13 to 7-9-11, Exterior(2R) 7-9-11 to 14-10-5, Interior (1) 14-10-5 to 17-11-6, Exterior(2R) 17-11-6 to 24-11-15, Interior (1) 24-11-15 to 34-2-14, Exterior(2E) 34-2-14 to 37-9-2 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.



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/TPH 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 MITTEK AFFILIATE
 818 Soundside Road
 Edenton, NC 27932

Job 24010049	Truss C1	Truss Type Attic	Qty 4	Ply 1	130 Serenity Job Reference (optional)	I63245140
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:40
ID: MV7Qc?M0dtQGkhooWQpRIZzEzeQ-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?fi

Page: 2

- 8) All plates are 3x5 MT20 unless otherwise indicated.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 11) Ceiling dead load (5.0 psf) on member(s). 3-4, 9-10, 5-41, 40-41, 40-42, 9-42, 4-43; Wall dead load (5.0psf) on member(s).3-37, 10-18, 30-43, 5-43
- 12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 35-37, 33-35, 30-33, 28-30, 26-28, 24-26, 22-24, 19-22, 18-19
- 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.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 15) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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



818 Soundside Road
Edenton, NC 27932

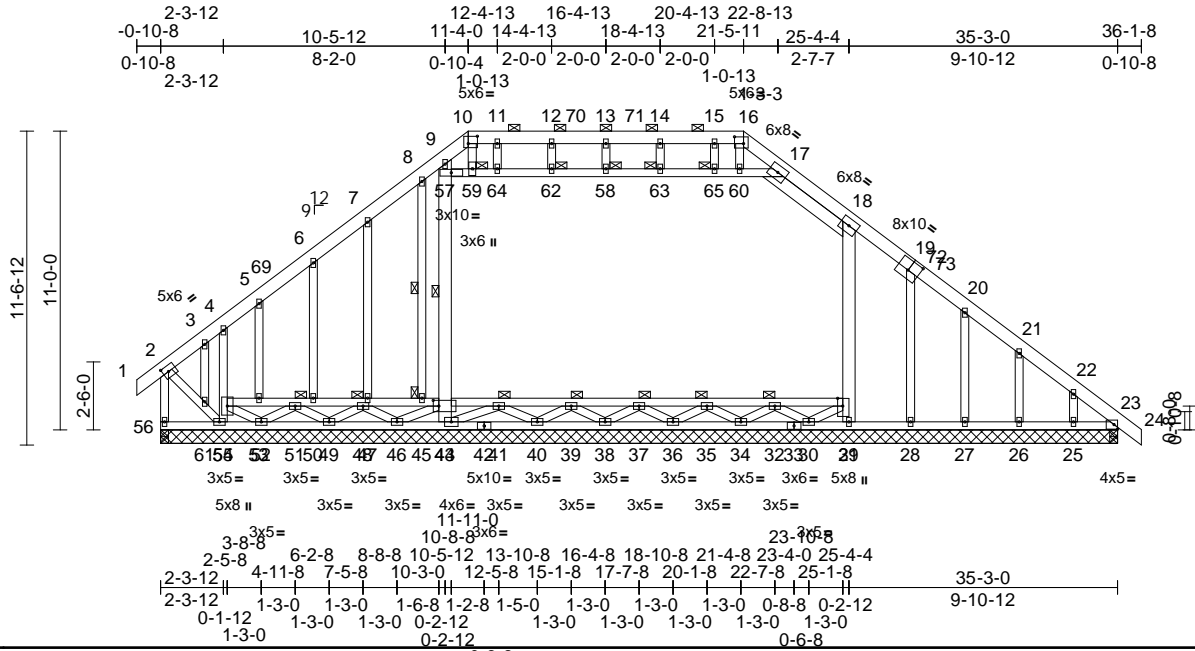
Job 24010049	Truss CGE	Truss Type Attic Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245141
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 E Aug 30 2023 Print: 8.630 E Aug 30 2023 MiTek Industries, Inc. Fri Jan 26 16:35:32

Page: 1

ID:HSLV\MXIBUOhUln9Dc1gJzEzgn-XnSojT5?E?jil3eOWB_l5nB24JiPzCWZy_1R2zrcCP



Scale = 1:84.9

Plate Offsets (X, Y): [2:0-2-8,0-2-8], [10:0-4-0,0-3-4], [16:0-4-0,0-3-0], [19:0-5-0,0-4-8], [31:0-3-6,0-2-4], [43:0-2-8,0-2-8]

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	0.57	Vert(LL)	-0.01	31-32	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.01	31-32	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.02	23	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 372 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP 2400F 2.0E *Except* 10-16,19-24:2x6 SP No.2
BOT CHORD 2x4 SP No.1 *Except* 55-43,43-31:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 18-29,44-9,17-18:2x6 SP No.2, 57-17:2x4 SP No.2
OTHERS 2x4 SP No.3
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-4-1 max.): 10-16.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 43-57, 8-45
JOINTS 1 Brace at Jt(s): 58, 59, 51, 32, 35, 48, 37, 39, 41, 45, 62, 63, 65

TOP CHORD 2-56=-1256/327, 2-3=-875/241, 3-4=-850/246, 4-5=-920/230, 5-69=-899/231, 6-69=-878/241, 6-7=-892/235, 7-8=-835/231, 8-9=-737/244, 9-10=-1407/251, 10-11=-1178/230, 11-12=-1178/230, 12-70=-1178/230, 13-70=-1178/230, 14-71=-1178/230, 14-15=-1178/230, 15-16=-1178/230, 16-17=-1309/239, 17-18=-936/234, 18-19=-754/161, 19-72=-819/128, 72-73=-819/123, 20-73=-848/121, 20-21=-840/133, 21-22=-827/137, 22-23=-873/150
BOT CHORD 54-56=-246/262, 52-54=-114/659, 49-52=-89/569, 46-49=-59/399, 44-46=-44/256, 42-44=-32/474, 40-42=-32/474, 38-40=-39/401, 36-38=-39/414, 34-36=-42/421, 33-34=-47/545, 30-33=-47/545, 29-30=-96/618, 28-29=-104/656, 27-28=-103/655, 26-27=-103/655, 25-26=-103/655, 23-25=-103/655, 50-51=-49/368, 48-50=-49/368, 47-48=-44/311, 45-47=-44/311, 43-45=-44/311, 41-43=-34/268, 39-41=-30/419, 37-39=-33/374, 35-37=-34/364, 32-35=-30/351, 29-31=-590/18, 18-31=-614/74, 57-59=-72/448, 59-64=-82/517, 62-64=-82/517, 58-62=-82/517, 58-63=-82/517, 63-65=-82/517, 60-65=-82/517, 17-60=-75/478, 2-61=-280/968, 54-61=-281/963, 43-44=-489/0, 43-57=-441/100, 9-57=-604/149, 10-59=-97/622, 16-60=-62/327, 32-34=-334/0, 49-51=-393/73, 48-49=-323/99, 39-40=-281/0, 40-41=-354/0, 11-64=-264/55
WEBS

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 2-7-13, Exterior (2N) 2-7-13 to 7-7-8, Corner(3R) 7-7-8 to 14-10-5, Exterior(2N) 14-10-5 to 17-11-6, Corner(3R) 17-11-6 to 24-11-15, Exterior(2N) 24-11-15 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
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; Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10

REACTIONS All bearings 35-3-0.
(lb) - Max Horiz 56=-290 (LC 12)
Max Uplift All uplift 100 (lb) or less at joint(s) 23, 26, 27, 28, 46, 49, 66 except 25=-101 (LC 15), 54=-557 (LC 51), 56=-321 (LC 10)
Max Grav All reactions 250 (lb) or less at joint (s) 25, 26, 27, 28, 30, 46 except 23=674 (LC 39), 29=626 (LC 50), 34=374 (LC 21), 36=316 (LC 21), 38=319 (LC 21), 40=410 (LC 21), 44=599 (LC 53), 49=470 (LC 40), 54=323 (LC 12), 56=1280 (LC 39), 66=674 (LC 39)
FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.



January 26, 2024

Continued on page 2

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

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818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss CGE	Truss Type Attic Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	I63245141
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 E Aug 30 2023 Print: 8.630 E Aug 30 2023 MiTek Industries, Inc. Fri Jan 26 16:35:32
ID:HSVlVnMXIBUOh6Uln9Dc1gjzEzgn-XnSojT5?E?jil3eOWB_l5nB24tJiPzCWZy_1R2zrcCP

Page: 2

- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) Gable 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) Ceiling dead load (5.0 psf) on member(s). 17-18, 57-59, 59-64, 62-64, 58-62, 58-63, 63-65, 60-65, 17-60; Wall dead load (5.0psf) on member(s).18-31, 43-57
- 13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 41-43, 39-41, 37-39, 35-37, 32-35, 31-32
- 14) N/A

- 15) N/A

- 16) N/A

- 17) 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.
- 18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 19) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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818 Soundside Road
Edenton, NC 27932

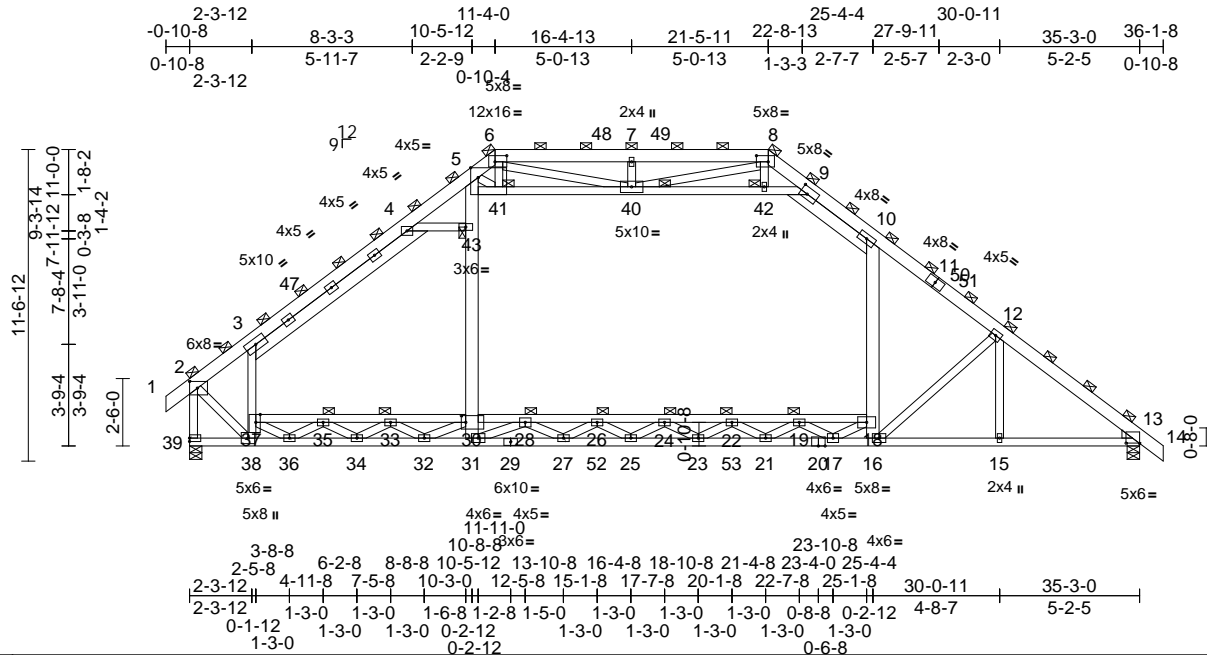
Job 24010049	Truss CGR	Truss Type Attic Girder	Qty 2	Ply 2	130 Serenity Job Reference (optional)	163245142
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:44

Page: 1

ID:VP5mnZE7ejTka?ri?H4b3zEzov-RfC?PsB70Hq3NSgPqnL8w3ulTxbGKwRCDoi7J4zJC?f



Scale = 1:85.5

Plate Offsets (X, Y): [2:0-3-8,0-3-0], [5:0-3-5,Edge], [6:0-5-4,0-2-12], [8:0-5-4,0-2-12], [9:0-3-3,0-3-0], [13:0-6-0,0-0-2], [30:0-2-0,0-3-0], [37:Edge,0-2-0]

Loading	(psf)	Spacing	3-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.24	24-26	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.49	22-24	>859	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.99	Horz(CT)	0.10	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.15	18-30	>999	360		
BCDL	10.0											
											Weight: 719 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 1-6,8-11:2x6 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2 *Except* 29-20:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 3-38:2x4 SP No.1, 10-16,31-5:2x6 SP No.2, 5-9:2x4 SP No.2
WEDGE Right: 2x4 SP No.3

BRACING
TOP CHORD 2-0-0 oc purlins (5-7-3 max.), except end verticals
(Switched from sheeted: Spacing > 2-8-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 38-39,31-32,27-31.

JOINTS
1 Brace at Jt(s): 6, 8, 2, 40, 41, 42, 35, 19, 22, 33, 24, 26, 28, 43

REACTIONS (size) 13=0-5-8, 39=0-5-8
Max Horiz 39=435 (LC 10)
Max Grav 13=3576 (LC 44), 39=4420 (LC 44)

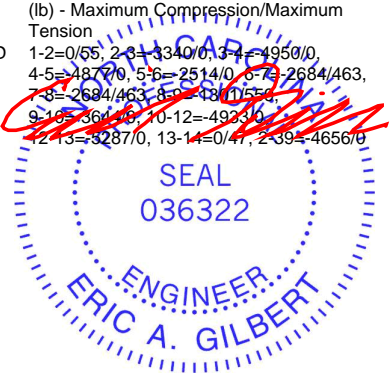
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/55, 2-3=3340/0, 3-4=1950/0, 4-5=487/0, 5-6=2514/0, 6-7=2684/463, 7-8=2684/463, 8-9=481/550, 9-10=361/0, 10-12=493/0, 12-13=3287/0, 13-14=0/47, 2-39=4656/0

BOT CHORD 38-39=-414/388, 36-38=0/2572, 34-36=0/3016, 32-34=-169/2964, 31-32=-882/1490, 27-31=-247/3426, 25-27=0/6133, 23-25=0/7419, 21-23=0/7253, 17-21=0/5763, 16-17=0/3331, 15-16=0/4112, 13-15=0/4112, 35-37=-43/1501, 33-35=-263/1593, 30-33=-263/2454, 28-30=-136/4734, 26-28=-1525/1396, 24-26=-3577/0, 22-24=-4117/0, 19-22=-3251/0, 18-19=-1134/189

WEBS 12-15=-19/220, 37-38=-2556/0, 3-37=-2508/0, 16-18=0/768, 10-18=0/1857, 5-41=-2250/198, 40-41=-1859/169, 40-42=-4532/0, 9-42=-4573/0, 2-38=0/4689, 30-31=0/1521, 30-43=0/2722, 5-43=0/2756, 7-40=-669/201, 6-41=-64/1116, 8-42=0/313, 6-40=-1357/747, 8-40=-13/2342, 17-18=0/1813, 36-37=-601/177, 35-36=-784/0, 19-21=0/1131, 34-35=-192/159, 21-22=-866/71, 33-34=-63/398, 22-23=-263/273, 32-33=-1056/0, 23-24=-127/472, 30-32=0/1349, 24-25=-827/17, 25-26=0/1054, 28-31=-3296/0, 26-27=-1740/0, 4-43=-168/561, 17-19=-1962/0, 27-28=0/2087, 12-16=-811/325

- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.

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



January 26, 2024

Continued on page 2

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



Job 24010049	Truss CGR	Truss Type Attic Girder	Qty 2	Ply 2	130 Serenity Job Reference (optional)	I63245142
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:44
ID:VP5mnZE7ejTka?ri?H4b3zEzov-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 2

- 8) 200.0lb AC unit load placed on the bottom chord, 17-7-8 from left end, supported at two points, 5-0-0 apart.
- 9) Provide adequate drainage to prevent water ponding.
- 10) All plates are 3x5 MT20 unless otherwise indicated.
- 11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 13) Ceiling dead load (5.0 psf) on member(s). 3-4, 9-10, 5-41, 40-41, 40-42, 9-42, 4-43; Wall dead load (5.0psf) on member(s).3-37, 10-18, 30-43, 5-43
- 14) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 35-37, 33-35, 30-33, 28-30, 26-28, 24-26, 22-24, 19-22, 18-19
- 15) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 17) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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



818 Soundside Road
Edenton, NC 27932

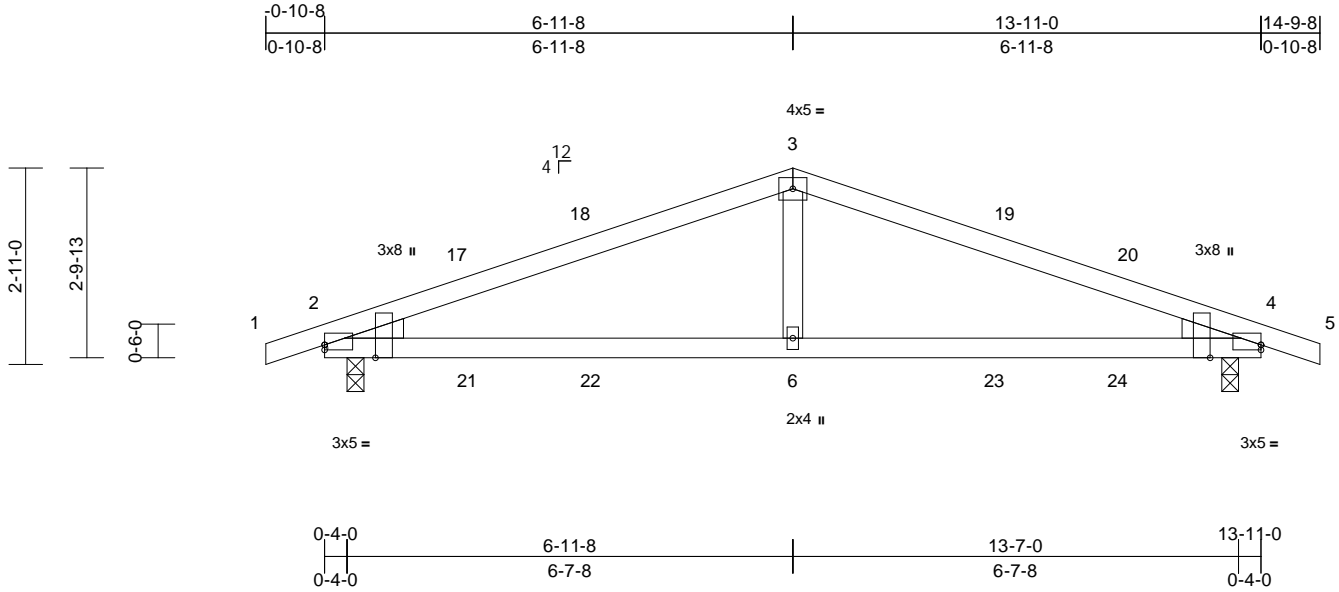
Job 24010049	Truss D	Truss Type Common	Qty 4	Ply 1	130 Serenity Job Reference (optional)	I63245143
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:46

Page: 1

ID:nqLL14Jf5JAmMe82YAnlwAzF_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

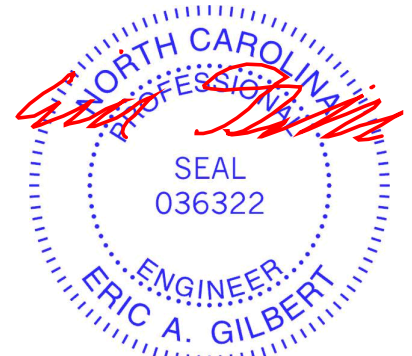
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/17, 2-3=-901/1104, 3-4=-901/1104, 4-5=0/17
 BOT CHORD 2-6=-943/775, 4-6=-943/775
 WEBS 3-6=-425/268

NOTES

- 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) -0-10-8 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

- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) 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.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



January 26, 2024

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

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



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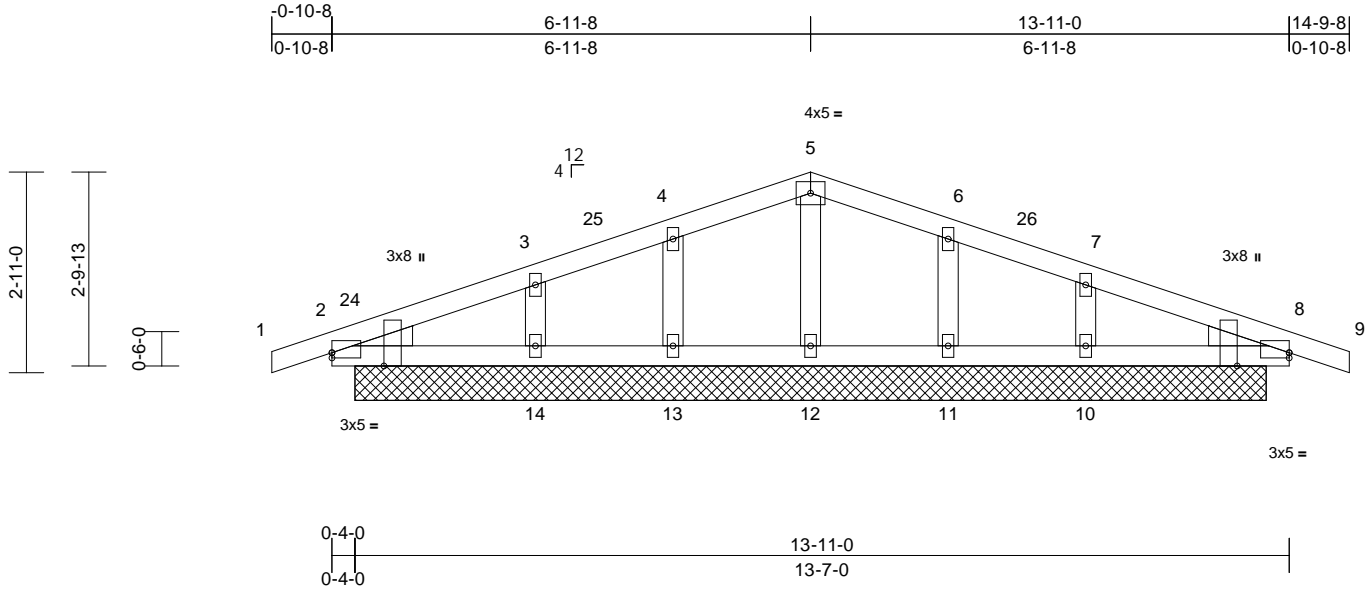
Job 24010049	Truss DGE	Truss Type Common Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245144
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:47

Page: 1

ID:UUQhZhEGk9Im0a6ieC968izF_pT-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCdoi7J4zJC?f



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)

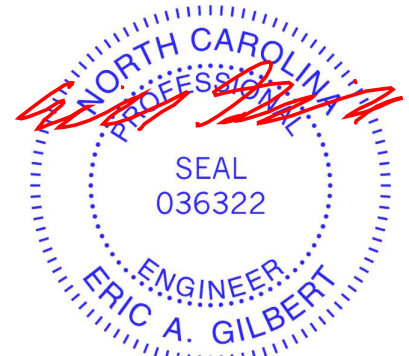
FORCES

(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

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



January 26, 2024

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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/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



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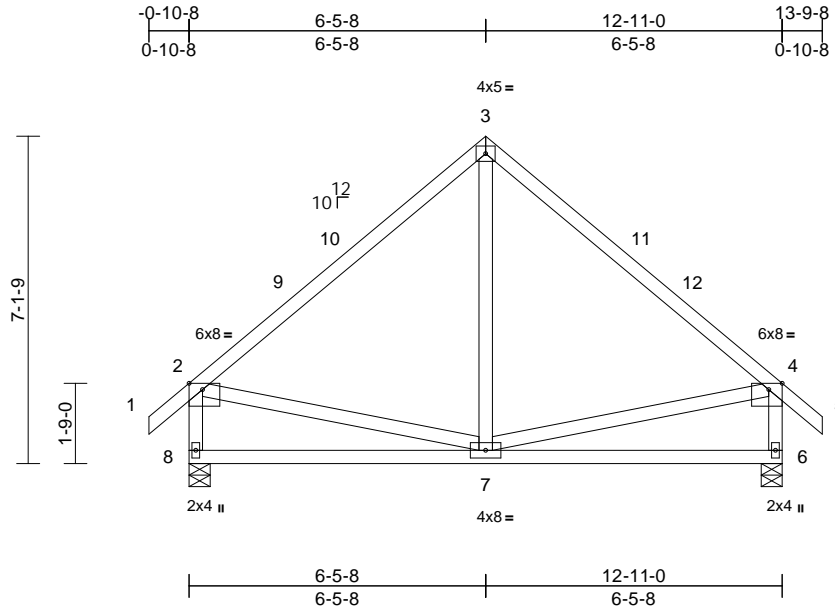
Job 24010049	Truss E	Truss Type Common	Qty 3	Ply 1	130 Serenity Job Reference (optional)	I63245145
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:47

Page: 1

ID:wb1oEU3ot9zDodjclXhweSzF_Yu-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f



Scale = 1:50.2

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	0.76	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: 80 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3 *Except* 8-2,6-4:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-10-6 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=196 (LC 13)
 Max Uplift 6=-50 (LC 15), 8=-50 (LC 14)
 Max Grav 6=649 (LC 22), 8=649 (LC 21)

FORCES

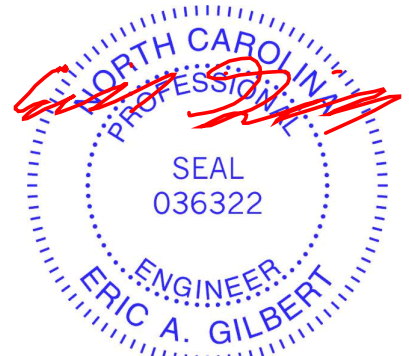
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/39, 2-3=-542/139, 3-4=-542/139,
 4-5=0/39, 2-8=-591/174, 4-6=-591/163
 BOT CHORD 7-8=-206/281, 6-7=-96/204
 WEBS 3-7=0/224, 2-7=-57/223, 4-7=-60/223

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



January 26, 2024

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPH 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)



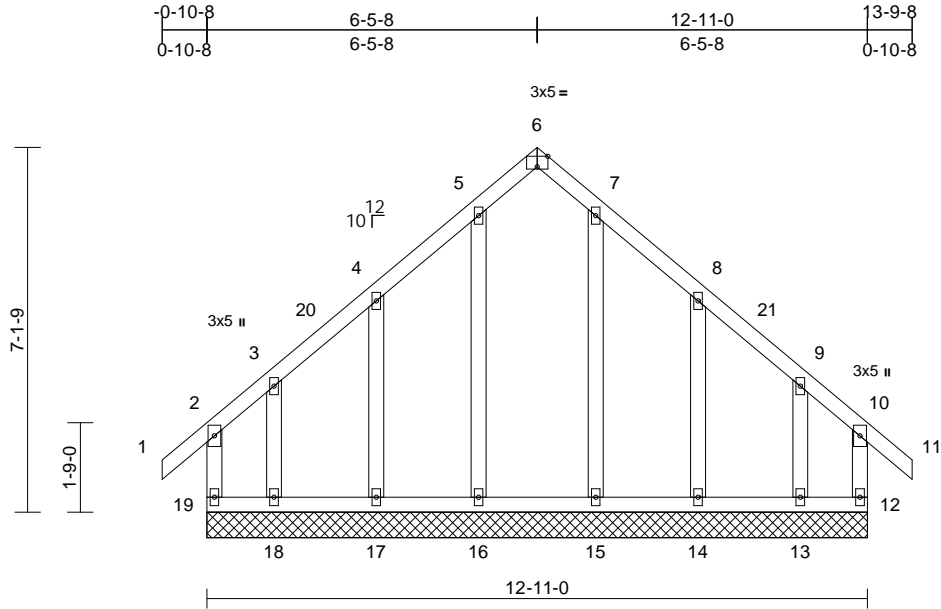
818 Soundside Road
 Edenton, NC 27932

Job 24010049	Truss EGE	Truss Type Common Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245146
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:48
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Page: 1



Scale = 1:45.1

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	0.25	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	0.14	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 88 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=196 (LC 12)
Max Uplift	12=134 (LC 11), 13=162 (LC 10), 14=104 (LC 15), 17=104 (LC 14), 18=169 (LC 11), 19=143 (LC 10)
Max Grav	12=216 (LC 24), 13=254 (LC 25), 14=250 (LC 22), 15=265 (LC 6), 16=265 (LC 5), 17=250 (LC 21), 18=260 (LC 24), 19=224 (LC 25)

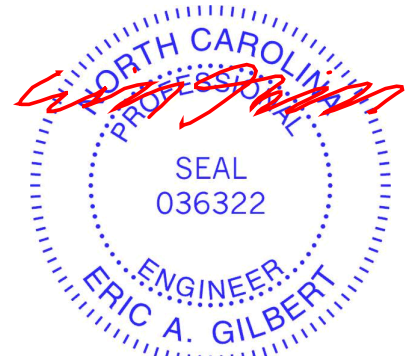
FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	2-19=-159/103, 1-2=0/39, 2-3=-128/119, 3-4=-71/120, 4-5=-89/271, 5-6=-84/198, 6-7=-84/199, 7-8=-89/270, 8-9=-66/122, 9-10=-120/112, 10-11=0/39, 10-12=-154/89
BOT CHORD	18-19=-103/141, 17-18=-103/141, 16-17=-103/141, 15-16=-103/141, 14-15=-103/141, 13-14=-103/141, 12-13=-103/141
WEBS	5-16=-211/0, 7-15=-211/0, 4-17=-209/214, 3-18=-143/123, 8-14=-209/209, 9-13=-140/158

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TC DL=6.0psf; 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 3-3-12, Corner(3R) 3-3-12 to 9-7-4, Exterior(2N) 9-7-4 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 other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 143 lb uplift at joint 19, 134 lb uplift at joint 12, 104 lb uplift at joint 17, 169 lb uplift at joint 18, 104 lb uplift at joint 14 and 162 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



January 26, 2024

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

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



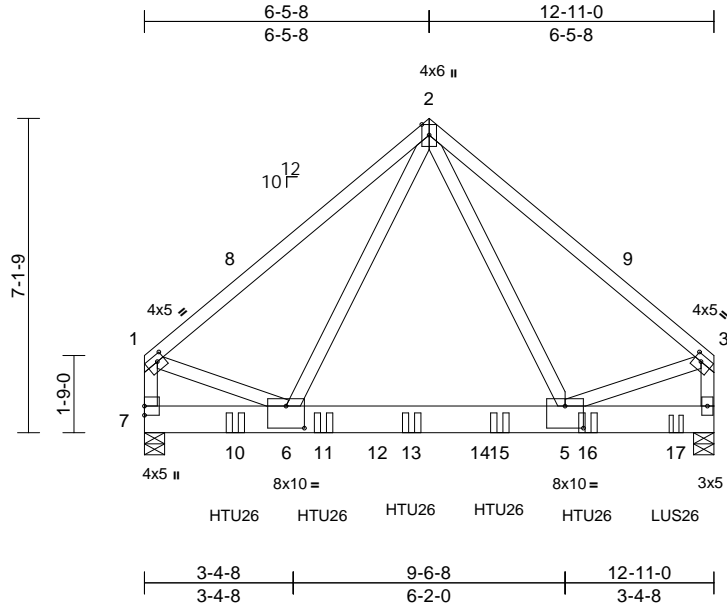
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss EGR	Truss Type Common Girder	Qty 1	Ply 2	130 Serenity Job Reference (optional)	I63245147
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:48
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Page: 1



Scale = 1:52.3

Plate Offsets (X, Y): [1:0-2-0,0-1-12], [3:0-2-0,0-1-12], [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	0.87	Vert(LL)	-0.08	5-6	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.14	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 197 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, 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=166 (LC 9)
Max Uplift 4=-138 (LC 13), 7=-272 (LC 12)
Max Grav 4=4732 (LC 6), 7=4892 (LC 5)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4902/324, 2-3=-4794/299,
1-7=-4820/276, 3-4=-4646/251
BOT CHORD 6-7=-201/281, 5-6=-133/2268, 4-5=-94/207
WEBS 2-5=-149/3119, 2-6=-193/3188,
1-6=-221/3903, 3-5=-206/3794

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.

- 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 10-0-12 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent at 12-0-12 from the left end to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (lb/ft)

Vert: 1-2=-60, 2-3=-60, 4-7=-20

Concentrated Loads (lb)

Vert: 10=-1487 (B), 11=-1487 (B), 13=-1487 (B), 15=-1487 (B), 16=-1487 (B), 17=-451 (B)



January 26, 2024

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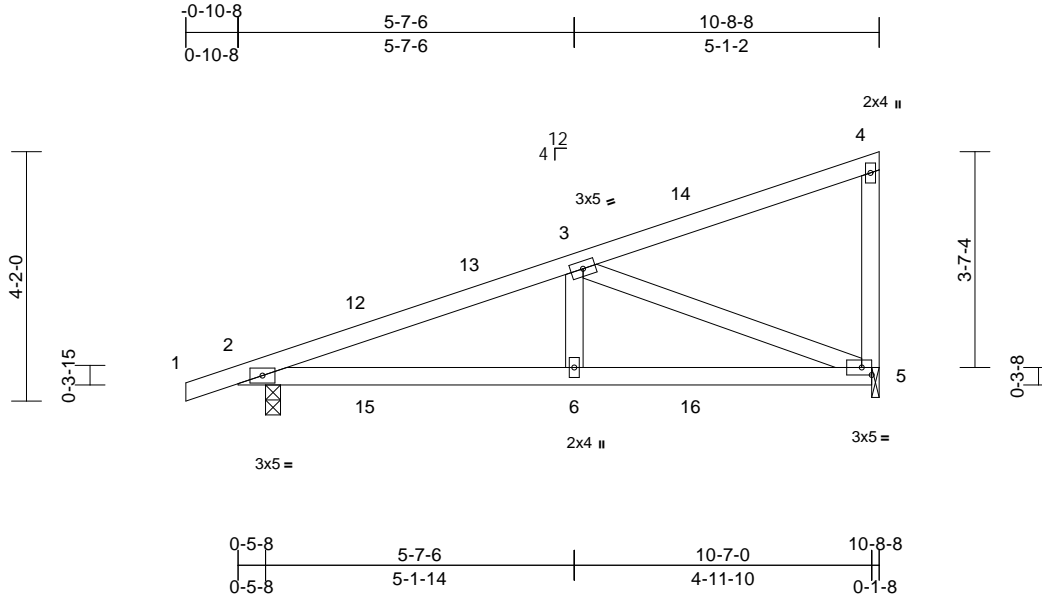
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss F	Truss Type Monopitch	Qty 2	Ply 1	130 Serenity Job Reference (optional)	163245148
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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	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



January 26, 2024

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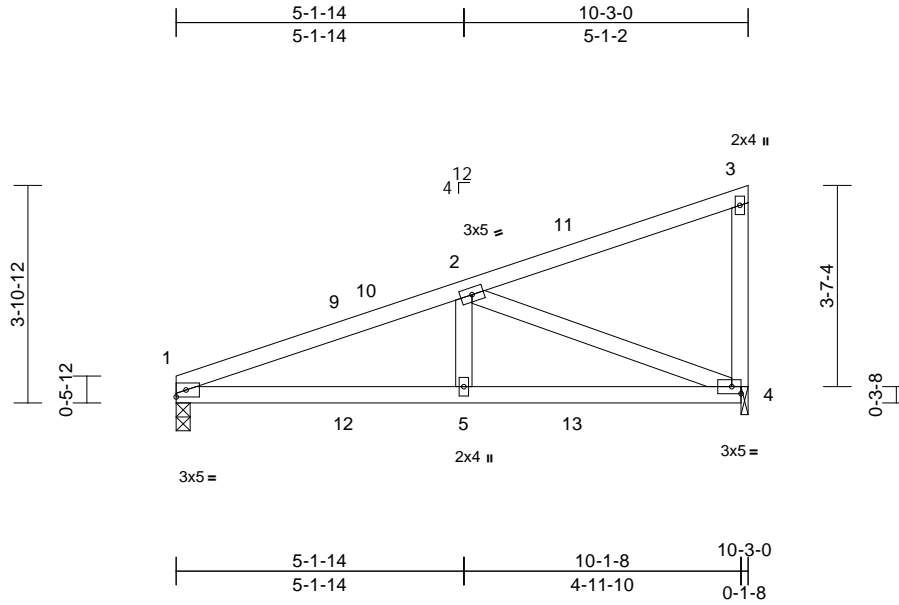
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss F1	Truss Type Monopitch	Qty 4	Ply 1	130 Serenity Job Reference (optional)	I63245149
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:49
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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)	0.06	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 6-2-8 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

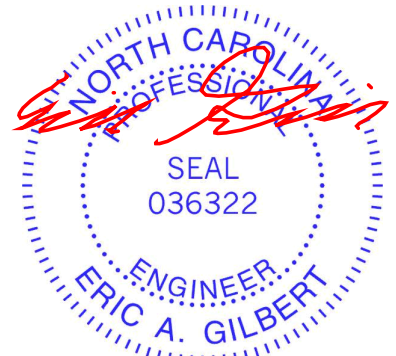
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-883/856, 2-3=-104/64, 3-4=-187/101
BOT CHORD 1-5=-821/799, 4-5=-821/799
WEBS 2-5=-337/220, 2-4=-830/923

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



January 26, 2024

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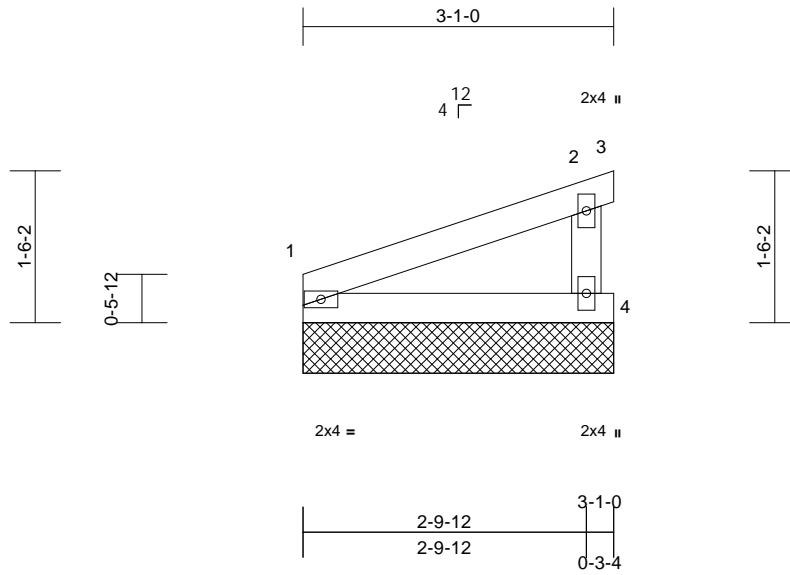
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss F1GE	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	I63245150
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



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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	0.12	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



January 26, 2024

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ENGINEERING BY
TRENCO
A MiTek Affiliate

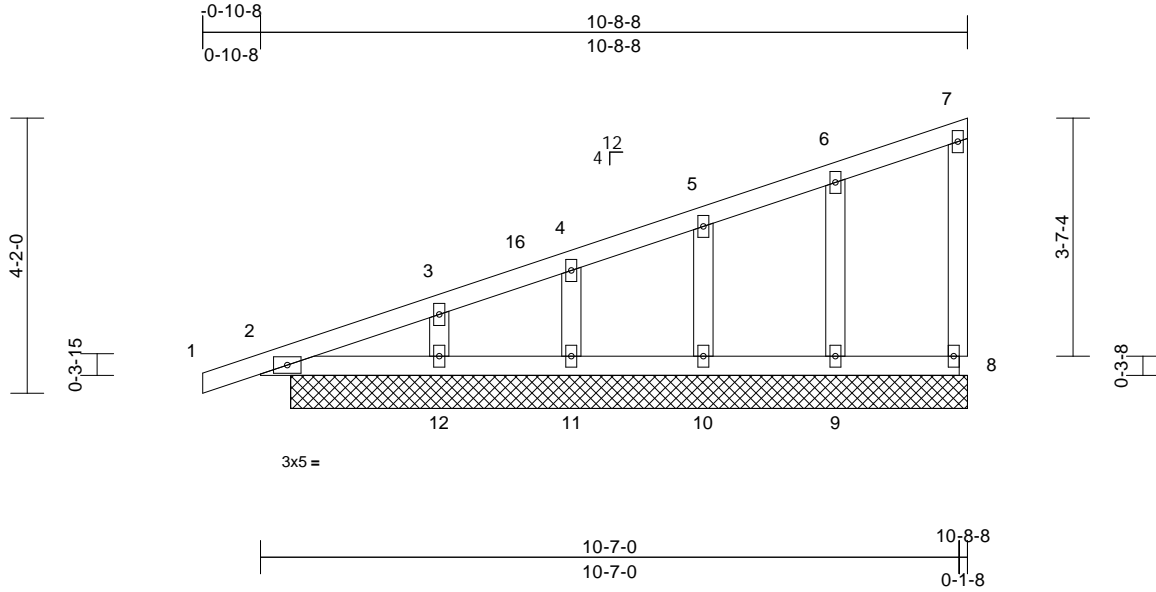
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss FGE	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245151
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



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.

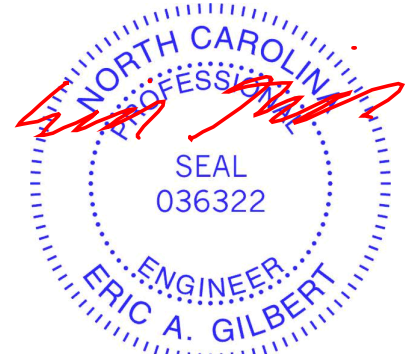
REACTIONS	
(size)	2=10-3-0, 8=10-3-0, 9=10-3-0, 10=10-3-0, 11=10-3-0, 12=10-3-0, 15=10-3-0
Max Horiz	2=147 (LC 13), 15=147 (LC 13)
Max Uplift	2=-40 (LC 10), 8=-13 (LC 11), 9=-35 (LC 10), 10=-34 (LC 14), 11=-37 (LC 10), 12=-38 (LC 14), 15=-40 (LC 10)
Max Grav	2=239 (LC 21), 8=83 (LC 21), 9=230 (LC 21), 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) N/A
- 12) N/A
- 13) N/A
- 14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



January 26, 2024

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

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



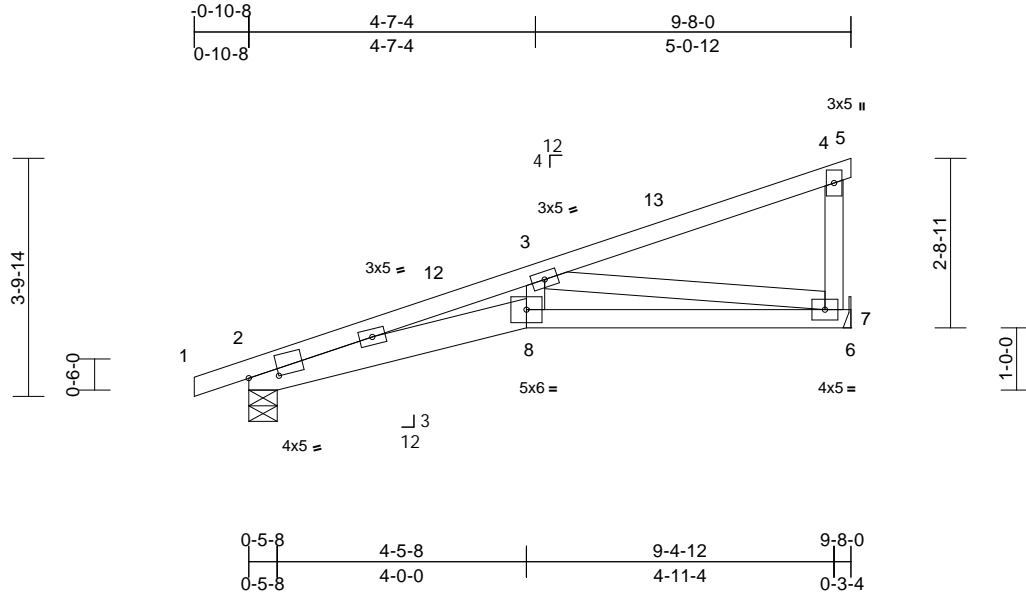
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss G	Truss Type Monopitch	Qty 9	Ply 1	130 Serenity Job Reference (optional)	I63245152
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:50
ID:Dy_jJEKvGApctkEgqDBdczF_tK-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWwCDoi7J4zJC?f

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	Vert(LL)	-0.08	8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	Vert(CT)	-0.13	7-8	>872	180		
TCDL	10.0	Rep Stress Incr	YES	WB	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

- 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
- 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.
- Refer to girder(s) for truss to truss connections.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint 7.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



January 26, 2024

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

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ENGINEERING BY
TRENCO
A MiTek Affiliate

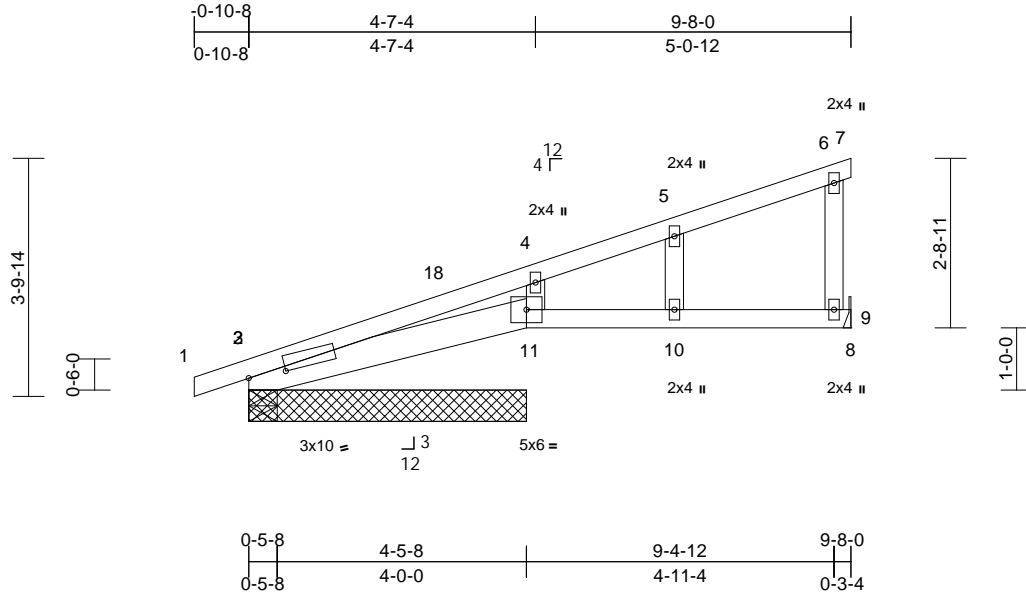
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss GSE	Truss Type Monopitch	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245153
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:50
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Page: 1



Scale = 1:37
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	10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.03	9-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 41 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 11-8:2x4 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.

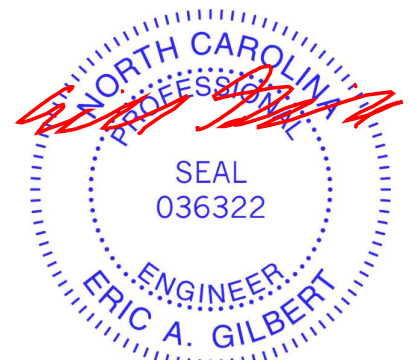
REACTIONS (size)
2=0-5-8, 3=4-5-8, 9= Mechanical, 11=4-5-8, 12=4-5-8
Max Horiz 3=164 (LC 11), 12=164 (LC 11)
Max Uplift 2=-36 (LC 10), 3=-120 (LC 10), 9=-26 (LC 14), 11=-148 (LC 14), 12=-120 (LC 10)
Max Grav 2=88 (LC 21), 3=330 (LC 1), 9=256 (LC 21), 11=628 (LC 21), 12=330 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-149/123, 3-4=-400/446, 4-5=-114/19, 5-6=-70/36, 6-7=-8/0, 6-9=-168/73
BOT CHORD 3-11=-631/467, 10-11=-18/62, 9-10=-18/62, 8-9=0/0
WEBS 4-11=-397/209, 5-10=-81/83

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, 11, 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 26 lb uplift at joint 9 and 36 lb uplift at joint 2.
- N/A
- N/A

- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 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



January 26, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
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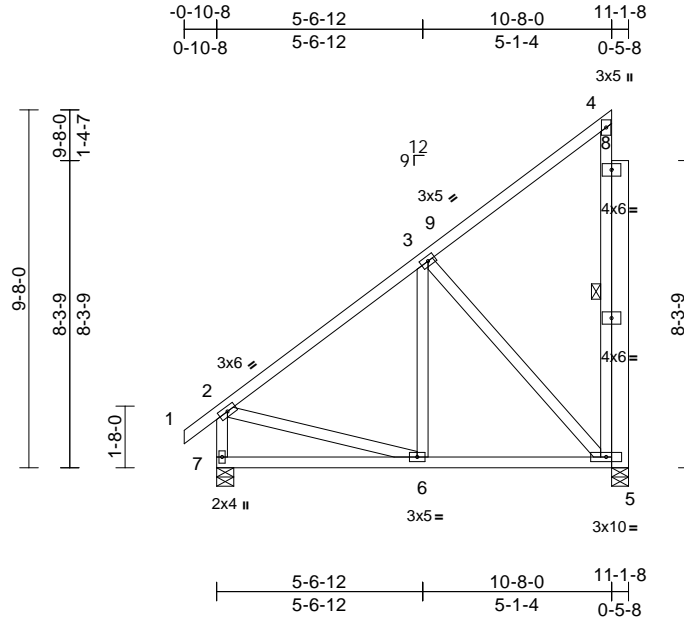
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss H1	Truss Type Monopitch	Qty 1	Ply 1	130 Serenity Job Reference (optional)	I63245154
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:51
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Page: 1



Scale = 1:62.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.60	Vert(LL)	-0.02	6-7	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.29	Vert(CT)	-0.04	6-7	>999	180	
TCDL	10.0	Rep Stress Incr	NO	WB	0.43	Horz(CT)	0.01	5	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 98 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x6 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 4-5

REACTIONS

(size)	5=0-5-8, 7=0-5-8
Max Horiz	7=340 (LC 11)
Max Uplift	5=-198 (LC 14), 7=-15 (LC 14)
Max Grav	5=948 (LC 21), 7=532 (LC 21)

FORCES

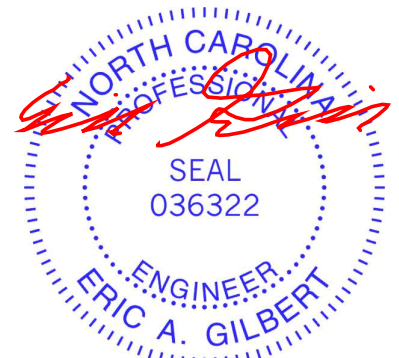
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/37, 2-3=-451/98, 3-4=-222/185, 4-5=-605/96, 2-7=-483/146
BOT CHORD	6-7=-332/507, 5-6=-128/396
WEBS	3-6=0/203, 3-5=-406/195, 2-6=-115/269

- NOTES**
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 7-6-4, Exterior(2E) 7-6-4 to 10-6-4 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.
- 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7 and 5. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-4=-60, 5-7=-20
Concentrated Loads (lb)
Vert: 4=-380 (F)



January 26, 2024

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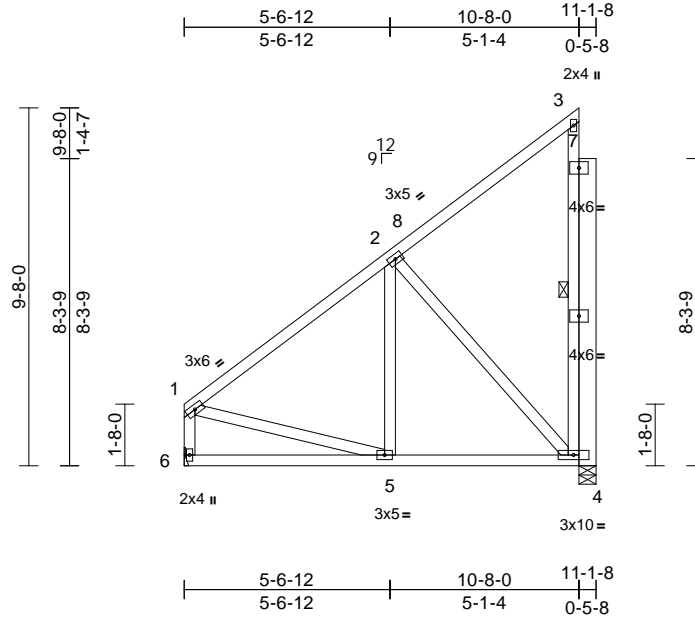
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss H2	Truss Type Monopitch	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245155
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:51
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Page: 1



Scale = 1:62.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.60	Vert(LL)	-0.02	5-6	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.04	5-6	>999	180	
TCDL	10.0	Rep Stress Incr	NO	WB	0.43	Horz(CT)	0.01	4	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 97 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x6 SP No.2

BRACING

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

REACTIONS

(size)	4=0-5-8, 6= Mechanical
Max Horiz	6=328 (LC 11)
Max Uplift	4=-196 (LC 14)
Max Grav	4=951 (LC 20), 6=468 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-451/92, 2-3=-223/184, 3-4=-602/95, 1-6=-419/101
BOT CHORD	5-6=-316/495, 4-5=-128/399
WEBS	2-5=0/202, 2-4=-414/195, 1-5=-99/275

- 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) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 7-6-4, Exterior(2E) 7-6-4 to 10-6-4 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
 - 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) Refer to girder(s) for truss to truss connections.
- 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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 4. This connection is for uplift only and does not consider lateral forces.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-60, 4-6=-20
Concentrated Loads (lb)
Vert: 3=-380 (F)



January 26, 2024

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

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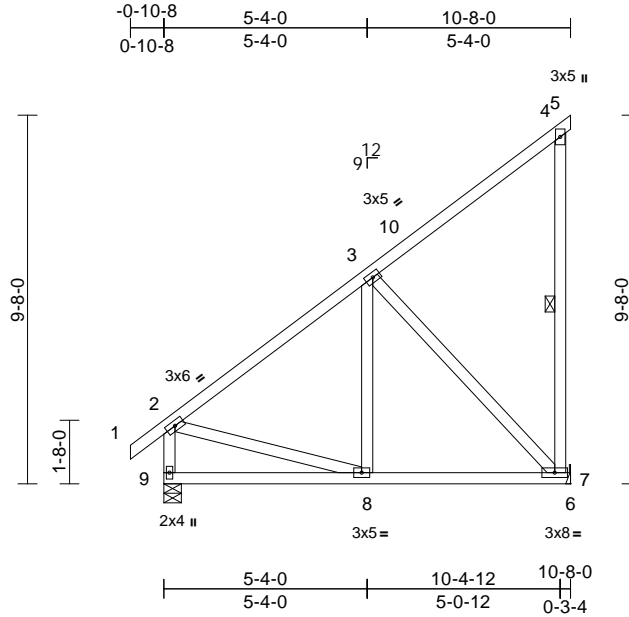
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss H3	Truss Type Monopitch	Qty 2	Ply 1	130 Serenity Job Reference (optional)	I63245156
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:52
ID:A?EbZVSK3TRLQ4LGGcFRfy94Xe-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:60.4

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	0.90	Vert(LL)	-0.03	7-8	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.05	7-8	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.01	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 78 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 7= Mechanical, 9=0-5-8
Max Horiz 9=340 (LC 11)
Max Uplift 7=-146 (LC 14), 9=-6 (LC 14)
Max Grav 7=583 (LC 21), 9=509 (LC 21)

FORCES

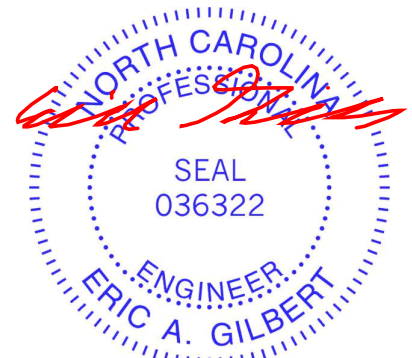
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-429/97, 3-4=-210/188, 4-5=-17/0, 4-7=-248/82, 2-9=-462/150
BOT CHORD 8-9=-328/494, 7-8=-128/390, 6-7=0/0
WEBS 3-8=0/200, 3-7=-395/199, 2-8=-108/269

NOTES

- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 7-8-0, Exterior(2E) 7-8-0 to 10-8-0 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
- 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 146 lb uplift at joint 7.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 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.

LOAD CASE(S) Standard



January 26, 2024

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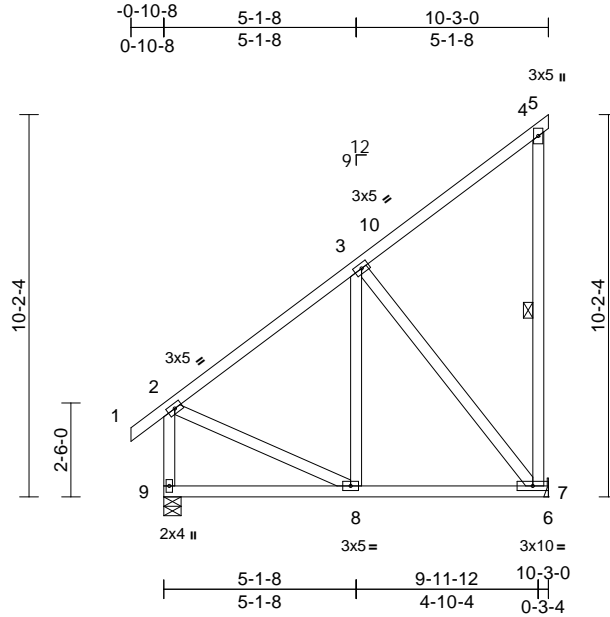
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss I1	Truss Type Monopitch	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245157
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:52
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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	0.61	Vert(LL)	-0.03	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.04	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.01	7	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 *Except* 4-7:2x4 SP No.2

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

REACTIONS (size) 7= Mechanical, 9=0-5-8
Max Horiz 9=357 (LC 11)
Max Uplift 7=157 (LC 11)
Max Grav 7=565 (LC 21), 9=494 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-379/96, 3-4=-209/190, 4-5=-17/0, 4-7=-240/81, 2-9=-450/148
BOT CHORD 8-9=-337/482, 7-8=-142/374, 6-7=0/0
WEBS 3-8=0/173, 3-7=-399/200, 2-8=-120/275

- 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.
 - Refer to girder(s) for truss to truss connections.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 157 lb uplift at joint 7.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

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



January 26, 2024

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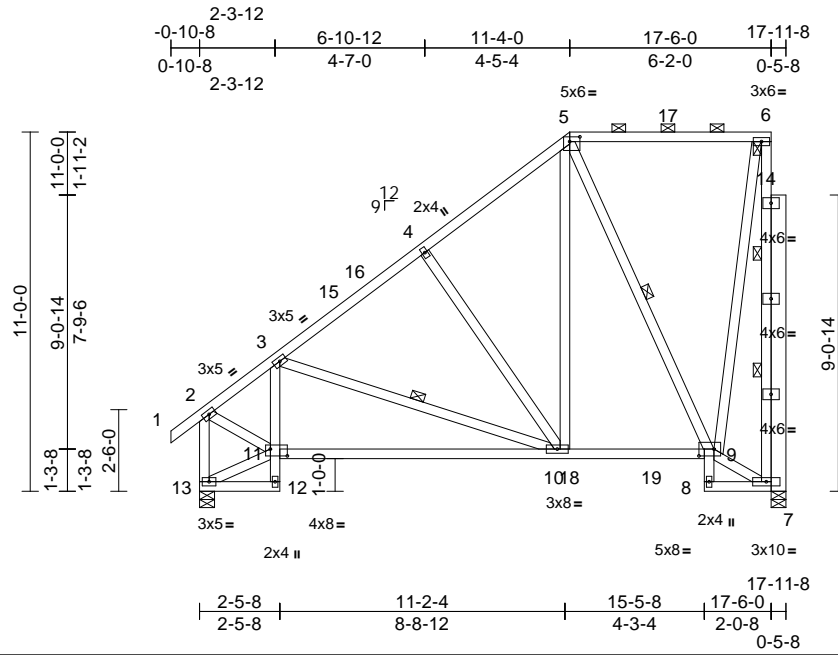
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss J1	Truss Type Piggyback Base	Qty 2	Ply 1	130 Serenity Job Reference (optional)	163245158
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:53
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Page: 1



Scale = 1:70.6

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.14	10-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.28	10-11	>739	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 182 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 12-3,9-8:2x4 SP No.3
WEBS 2x4 SP No.3 *Except* 6-7,9-5:2x4 SP No.2
OTHERS 2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-1-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 3-10, 5-9
WEBS 2 Rows at 1/3 pts 6-7

REACTIONS (size) 7=0-5-8, 13=0-5-8
Max Horiz 13=392 (LC 11)
Max Uplift 7=-235 (LC 11), 13=-69 (LC 14)
Max Grav 7=1285 (LC 39), 13=886 (LC 40)

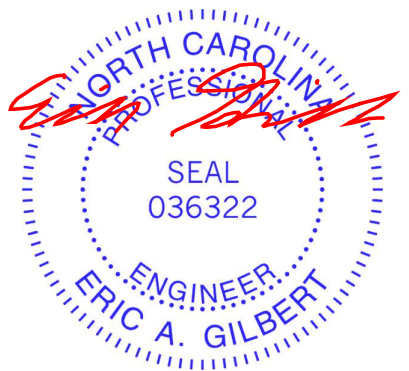
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-846/107, 3-4=-780/137, 4-5=-613/180, 5-6=-191/174, 6-7=-1255/266, 2-13=-957/125
BOT CHORD 12-13=-75/0, 11-12=0/40, 3-11=-220/121, 10-11=-372/835, 9-10=-173/435, 8-9=-53/67, 7-8=-15/17
WEBS 3-10=-262/166, 4-10=-366/181, 5-10=-89/672, 5-9=-639/149, 7-9=-175/229, 6-9=-131/685, 11-13=-359/470, 2-11=-59/713

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 2-3-12, Interior (1) 2-3-12 to 6-9-12, Exterior(2R) 6-9-12 to 14-4-4, Exterior (2E) 14-4-4 to 17-4-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 13 and 7. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

13) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-5=-60, 5-6=-60, 12-13=-20, 9-11=-20, 7-8=-20
Concentrated Loads (lb)
Vert: 6=-436 (F)



January 26, 2024

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

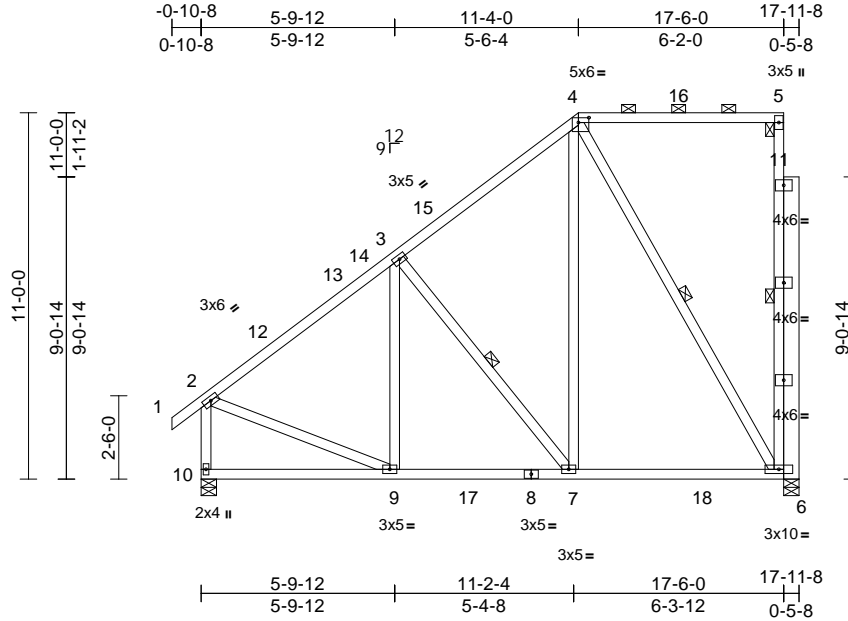
Job 24010049	Truss J2	Truss Type Piggyback Base	Qty 1	Ply 1	130 Serenity Job Reference (optional)	I63245159
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:54

Page: 1

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Scale = 1:69.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.07	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.12	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 161 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 5-6,7-4,6-4:2x4 SP No.2
OTHERS	2x6 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-10-14 max.); 4-5.
BOT CHORD	Rigid ceiling directly applied or 9-6-15 oc bracing.
WEBS	1 Row at midpt 5-6, 3-7, 4-6

REACTIONS

(size)	6=0-5-8, 10=0-5-8
Max Horiz	10=392 (LC 13)
Max Uplift	6=-235 (LC 11), 10=-69 (LC 14)
Max Grav	6=1315 (LC 39), 10=910 (LC 40)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/37, 2-3=-808/114, 3-4=-613/196, 4-5=-143/186, 5-6=-717/151, 2-10=-820/133
BOT CHORD	9-10=-375/448, 7-9=-219/702, 6-7=-158/406
WEBS	3-9=-88/121, 3-7=-452/188, 4-7=-77/618, 4-6=-714/151, 2-9=-7/621

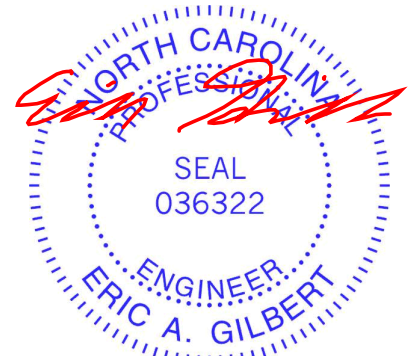
NOTES

- 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 7-1-1, Exterior(2R) 7-1-1 to 14-4-4, Exterior(2E) 14-4-4 to 17-4-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Bearing at joint(s) 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 10 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-4=-60, 4-5=-60, 6-10=-20
Concentrated Loads (lb)
Vert: 5=-436 (F)



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)



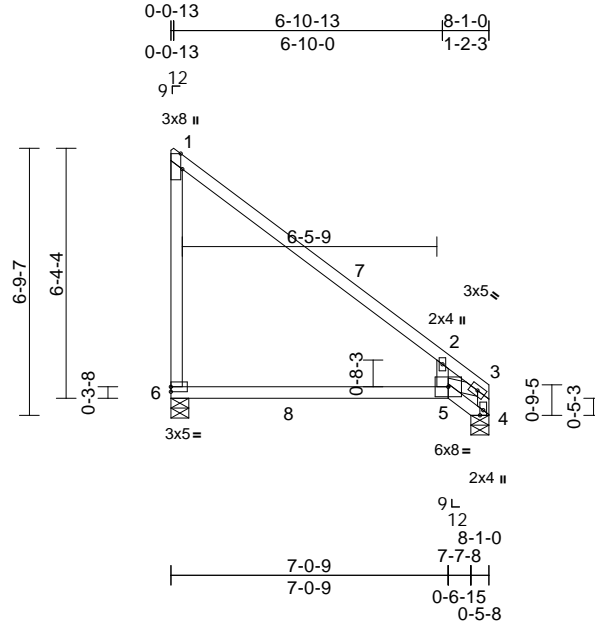
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss K1	Truss Type Roof Special	Qty 4	Ply 1	130 Serenity Job Reference (optional)	I63245160
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:54
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Page: 1



Scale = 1:58.5

Plate Offsets (X, Y): [1:0-4-12,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	0.95	Vert(LL)	-0.24	5-6	>398	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.40	5-6	>233	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	-0.15	6	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.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 6-1:2x4 SP No.2

BRACING

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

REACTIONS (size) 4=0-5-8, 6=0-5-8
Max Horiz 4=-226 (LC 10)
Max Uplift 6=-101 (LC 15)
Max Grav 4=383 (LC 23), 6=468 (LC 6)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-237/154, 2-3=-283/0, 3-4=-238/0, 1-6=-331/280
BOT CHORD 5-6=-110/77, 4-5=-434/158
WEBS 2-5=-199/147, 3-5=-136/433

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) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 4-11-4, Exterior(2E) 4-11-4 to 7-11-4 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
- 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) Provide adequate drainage to prevent water ponding.

- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 7) Bearings are assumed to be: , Joint 6 SP No.2 crushing capacity of 565 psi.
- 8) 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.
- 9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 6. 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



January 26, 2024

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

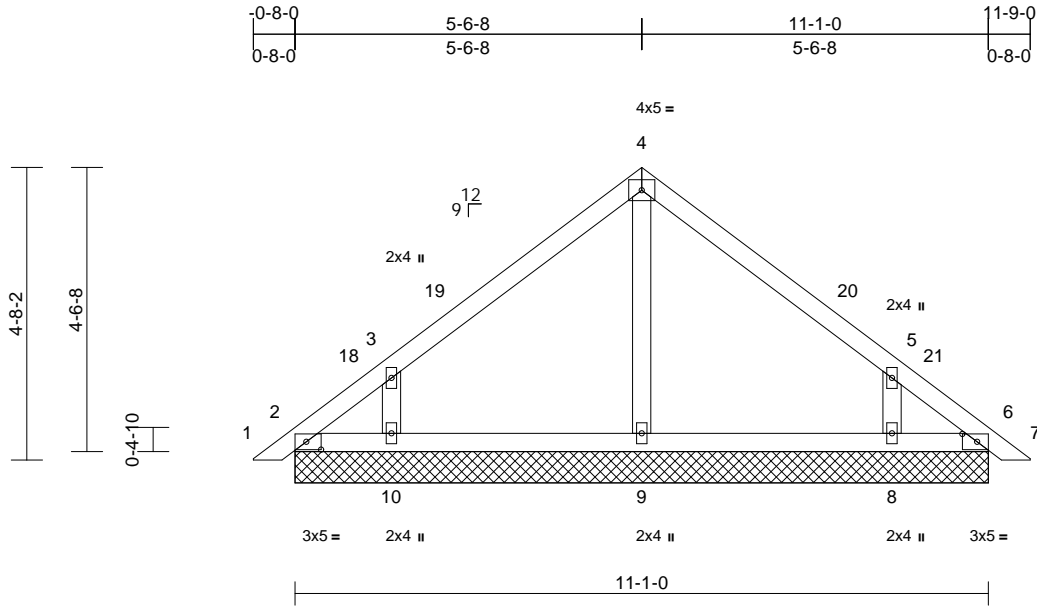
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss PB1	Truss Type Piggyback	Qty 8	Ply 1	130 Serenity Job Reference (optional)	163245161
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:55
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Page: 1



Scale = 1:36.8

Plate Offsets (X, Y): [2:0-2-13,0-1-8], [6:0-2-13,0-1-8]

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	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 48 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 2=11-1-0, 6=11-1-0, 8=11-1-0, 9=11-1-0, 10=11-1-0, 11=11-1-0, 15=11-1-0
Max Horiz 2=-105 (LC 12), 11=-105 (LC 12)
Max Uplift 2=-37 (LC 10), 6=-17 (LC 11), 8=-132 (LC 15), 10=-133 (LC 14), 11=-37 (LC 10), 15=-17 (LC 11)
Max Grav 2=83 (LC 25), 6=67 (LC 24), 8=433 (LC 22), 9=281 (LC 22), 10=433 (LC 21), 11=83 (LC 25), 15=67 (LC 24)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-107/92, 3-4=-189/96, 4-5=-189/96, 5-6=-84/58, 6-7=0/16
BOT CHORD 2-10=-28/72, 9-10=-28/72, 8-9=-28/72, 6-8=-28/72
WEBS 4-9=-193/19, 3-10=-407/211, 5-8=-407/211

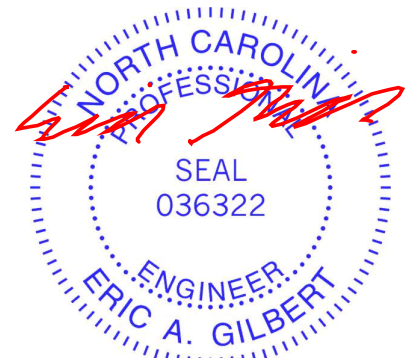
NOTES

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) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 9-2-9, Exterior(2E) 9-2-9 to 12-2-9 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof live load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Gable requires continuous bottom chord bearing.
- 8) Gable studs spaced at 4'-0-0 oc.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-06-00 tall by 2'-00-00 wide will fit between the bottom chord and any other members.
- 11) N/A

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

LOAD CASE(S) Standard



January 26, 2024

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

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



818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss PB1GE	Truss Type Piggyback	Qty 2	Ply 1	130 Serenity Job Reference (optional)	I63245162
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:55
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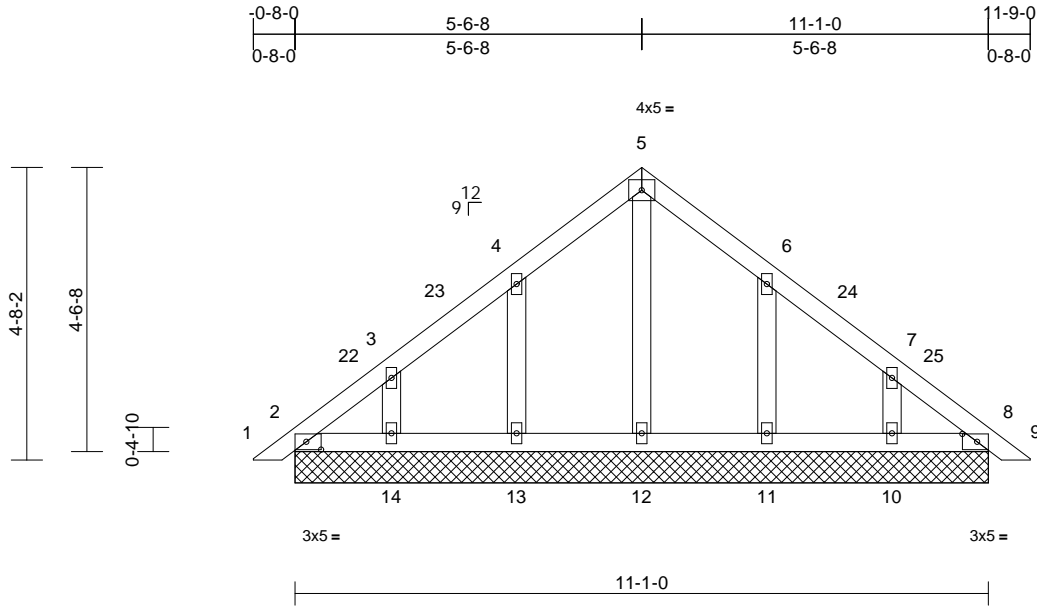


Plate Offsets (X, Y): [2:0-2-13,0-1-8], [8:0-2-13,0-1-8]												
Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in (loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 56 lb	FT = 20%

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

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

REACTIONS (size)
2=11-1-0, 8=11-1-0, 10=11-1-0,
11=11-1-0, 12=11-1-0, 13=11-1-0,
14=11-1-0, 15=11-1-0, 19=11-1-0
Max Horiz 2=-105 (LC 12), 15=-105 (LC 12)
Max Uplift 2=-18 (LC 10), 10=-66 (LC 15),
11=-71 (LC 15), 13=-71 (LC 14),
14=-67 (LC 14), 15=-18 (LC 10)
Max Grav 2=100 (LC 25), 8=91 (LC 1),
10=207 (LC 22), 11=269 (LC 22),
12=131 (LC 27), 13=269 (LC 21),
14=207 (LC 21), 15=100 (LC 25),
19=91 (LC 1)

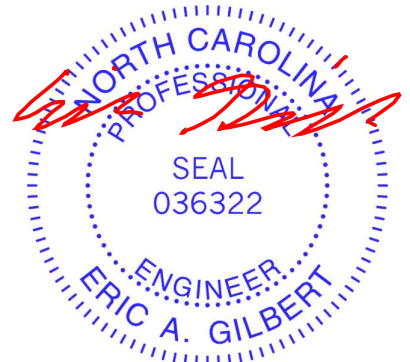
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-89/75, 3-4=-86/57,
4-5=-97/106, 5-6=-97/106, 6-7=-83/41,
7-8=-66/42, 8-9=0/16
BOT CHORD 2-14=-34/83, 13-14=-34/83, 12-13=-34/83,
11-12=-34/83, 10-11=-34/83, 8-10=-34/83
WEBS 5-12=-91/0, 4-13=-229/117, 3-14=-167/91,
6-11=-229/117, 7-10=-167/91

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) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 9-2-9, Exterior(2E) 9-2-9 to 12-2-9 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 live load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

14) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
LOAD CASE(S) Standard

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.



January 26, 2024

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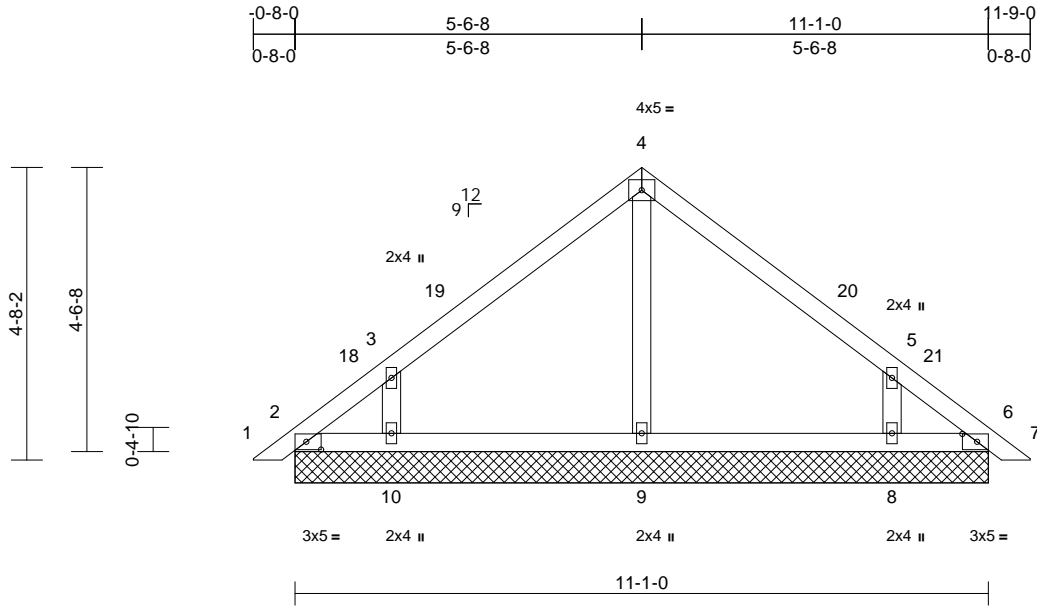
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss PB1GR	Truss Type Piggyback	Qty 1	Ply 2	130 Serenity Job Reference (optional)	I63245163
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:56
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Page: 1



Scale = 1:36.8

Plate Offsets (X, Y): [2:0-2-13,0-1-8], [6:0-2-13,0-1-8]

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	0.06	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 97 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 2=11-1-0, 6=11-1-0, 8=11-1-0, 9=11-1-0, 10=11-1-0, 11=11-1-0, 15=11-1-0
Max Horiz 2=-105 (LC 12), 11=-105 (LC 12)
Max Uplift 2=-37 (LC 10), 6=-17 (LC 11), 8=-132 (LC 15), 10=-133 (LC 14), 11=-37 (LC 10), 15=-17 (LC 11)
Max Grav 2=83 (LC 25), 6=67 (LC 24), 8=433 (LC 22), 9=282 (LC 22), 10=433 (LC 21), 11=83 (LC 25), 15=67 (LC 24)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-106/92, 3-4=-189/97, 4-5=-189/97, 5-6=-83/58, 6-7=0/16
BOT CHORD 2-10=-29/71, 9-10=-28/71, 8-9=-28/71, 6-8=-28/71
WEBS 4-9=-193/19, 3-10=-406/210, 5-8=-406/210

NOTES

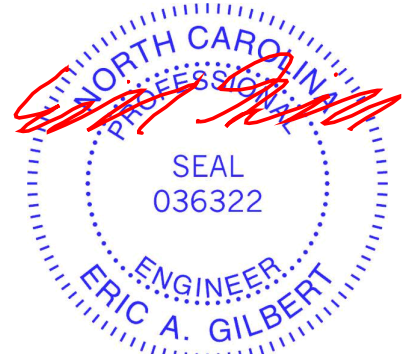
1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.

- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCCL=6.0psf; BCCL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 9-2-9, Exterior(2E) 9-2-9 to 12-2-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

13) N/A

- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



January 26, 2024

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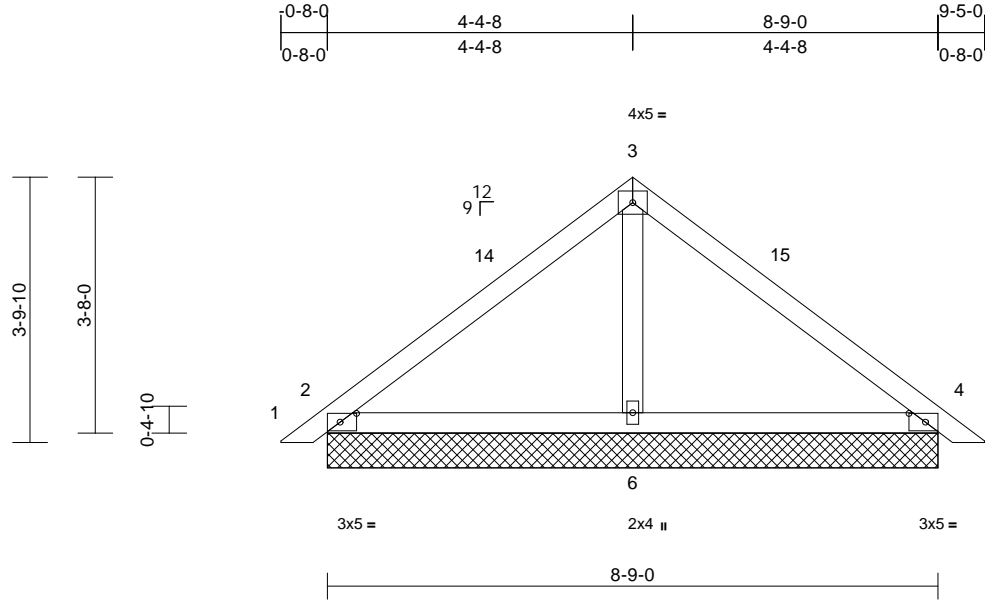
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss PB2	Truss Type Piggyback	Qty 7	Ply 1	130 Serenity Job Reference (optional)	I63245164
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:56
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Page: 1



Scale = 1:33

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

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	0.44	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 36 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 2=8-9-0, 4=8-9-0, 6=8-9-0, 7=8-9-0, 11=8-9-0
Max Horiz 2=-85 (LC 12), 7=-85 (LC 12)
Max Uplift 2=-46 (LC 14), 4=-57 (LC 15), 7=-46 (LC 14), 11=-57 (LC 15)
Max Grav 2=346 (LC 21), 4=346 (LC 22), 6=282 (LC 21), 7=346 (LC 21), 11=346 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/16, 2-3=-255/121, 3-4=-255/121, 4-5=0/16
BOT CHORD 2-6=-39/112, 4-6=-27/112
WEBS 3-6=-101/2

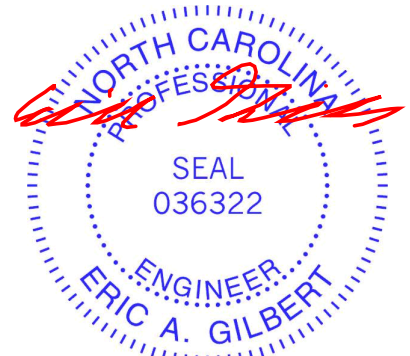
NOTES

- 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) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 6-10-9, Exterior(2E) 6-10-9 to 9-10-9 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



January 26, 2024

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818 Soundside Road
Edenton, NC 27932

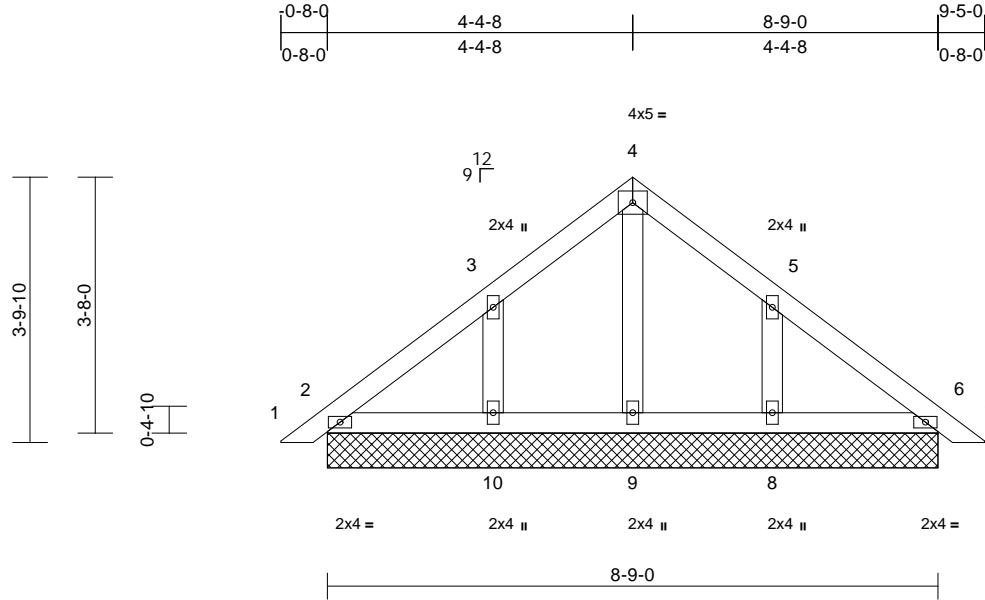
Job 24010049	Truss PB2GE	Truss Type Piggyback	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245165
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:57

Page: 1

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Scale = 1:33

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	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 41 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

(size) 2=8-9-0, 6=8-9-0, 8=8-9-0,
 9=8-9-0, 10=8-9-0, 11=8-9-0,
 15=8-9-0
 Max Horiz 2=-85 (LC 12), 11=-85 (LC 12)
 Max Uplift 2=-7 (LC 15), 8=-94 (LC 15),
 10=-95 (LC 14), 11=-7 (LC 15)
 Max Grav 2=162 (LC 21), 6=162 (LC 22),
 8=331 (LC 22), 9=102 (LC 27),
 10=331 (LC 21), 11=162 (LC 21),
 15=162 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/16, 2-3=-73/57, 3-4=-105/95,
 4-5=-105/95, 5-6=-63/49, 6-7=0/16
 BOT CHORD 2-10=-25/75, 9-10=-25/75, 8-9=-25/75,
 6-8=-25/75
 WEBS 4-9=-70/2, 3-10=-257/148, 5-8=-257/148

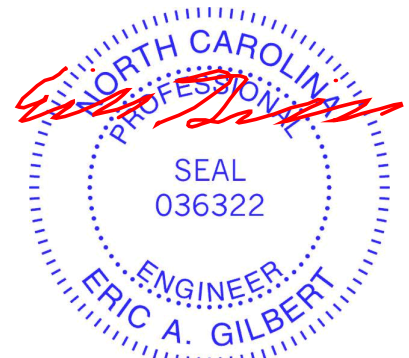
NOTES

- 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) 0-3-1 to 3-0-13, Exterior(2R) 3-0-13 to 7-0-13, Exterior(2E) 7-0-13 to 9-10-9 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



January 26, 2024

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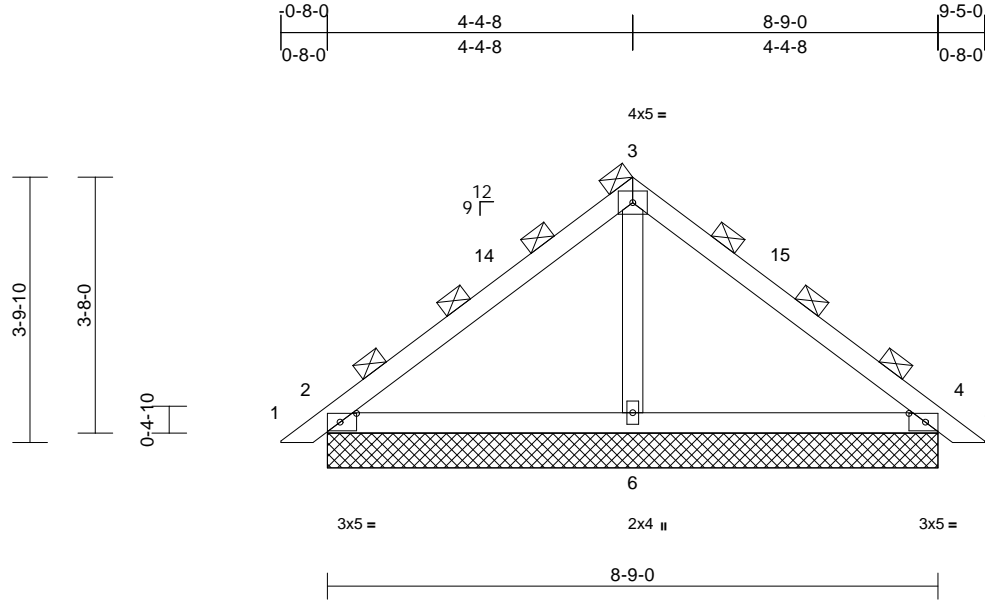
818 Soundside Road
 Edenton, NC 27932

Job 24010049	Truss PB2GR	Truss Type Piggyback	Qty 2	Ply 2	130 Serenity Job Reference (optional)	163245166
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:57
ID:QK7wdrNdUzYeXNZwa6E_Hcy918r-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:33
Plate Offsets (X, Y): [2:0-2-13,0-1-8], [4:0-2-13,0-1-8]

Loading	(psf)	Spacing	3-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	NO	WB	0.02	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 73 lb	FT = 20%

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

BRACING
TOP CHORD 2-0-0 oc purlins (6-0-0 max.)
(Switched from sheeted: Spacing > 2-8-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

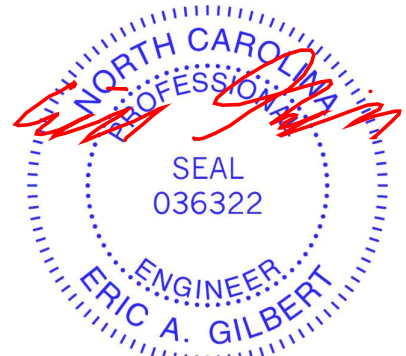
REACTIONS (size)
2=8-9-0, 4=8-9-0, 6=8-9-0,
7=8-9-0, 11=8-9-0
Max Horiz 2=127 (LC 13), 7=127 (LC 13)
Max Uplift 2=-70 (LC 14), 4=-86 (LC 15),
7=-70 (LC 14), 11=-86 (LC 15)
Max Grav 2=518 (LC 21), 4=518 (LC 22),
6=424 (LC 21), 7=518 (LC 21),
11=518 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/24, 2-3=-380/180, 3-4=-380/180,
4-5=0/24
BOT CHORD 2-6=-72/208, 4-6=-49/208
WEBS 3-6=-155/2

- NOTES**
- 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
 - All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
 - Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 6-10-9, Exterior(2E) 6-10-9 to 9-10-9 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 live load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

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



January 26, 2024

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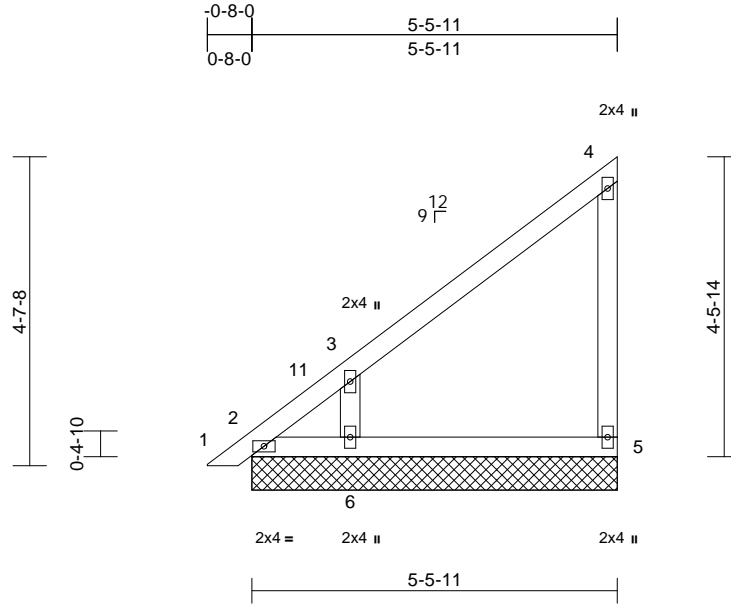
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss PB3	Truss Type Piggyback	Qty 3	Ply 1	130 Serenity Job Reference (optional)	I63245167
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:58
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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	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 27 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
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=5-5-11, 5=5-5-11, 6=5-5-11, 7=5-5-11
Max Horiz 2=150 (LC 13), 7=150 (LC 13)
Max Uplift 2=-55 (LC 12), 5=-36 (LC 11), 6=-135 (LC 14), 7=-55 (LC 12)
Max Grav 2=90 (LC 11), 5=194 (LC 21), 6=472 (LC 21), 7=90 (LC 11)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-192/223, 3-4=-143/117, 4-5=-161/54
BOT CHORD 2-6=-52/76, 5-6=-52/76
WEBS 3-6=-432/310

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

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



January 26, 2024

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ENGINEERING BY
TRENCO
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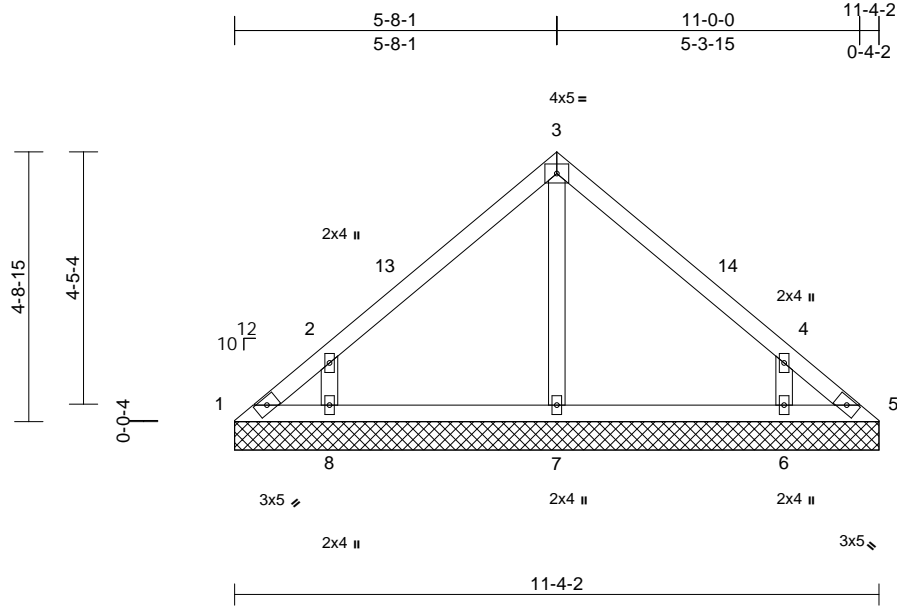
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss V1	Truss Type Valley	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245168
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:58
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Page: 1



Scale = 1:40.5

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	0.32	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	5	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
- OTHERS 2x4 SP No.3

BRACING

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

REACTIONS

- (size) 1=11-4-2, 5=11-4-2, 6=11-4-2, 7=11-4-2, 8=11-4-2
- Max Horiz 1=107 (LC 11)
- Max Uplift 1=-39 (LC 10), 5=-12 (LC 11), 6=-134 (LC 15), 8=-138 (LC 14)
- Max Grav 1=75 (LC 28), 5=56 (LC 26), 6=442 (LC 21), 7=252 (LC 21), 8=442 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

- TOP CHORD 1-2=-124/101, 2-3=-224/112, 3-4=-224/112, 4-5=-100/66
- BOT CHORD 1-8=-33/74, 7-8=-25/74, 6-7=-25/74, 5-6=-34/74
- WEBS 3-7=-163/0, 2-8=-435/244, 4-6=-435/244

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 8-4-6, Exterior(2E) 8-4-6 to 11-4-6 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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 39 lb uplift at joint 1, 12 lb uplift at joint 5, 138 lb uplift at joint 8 and 134 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



January 26, 2024

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

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



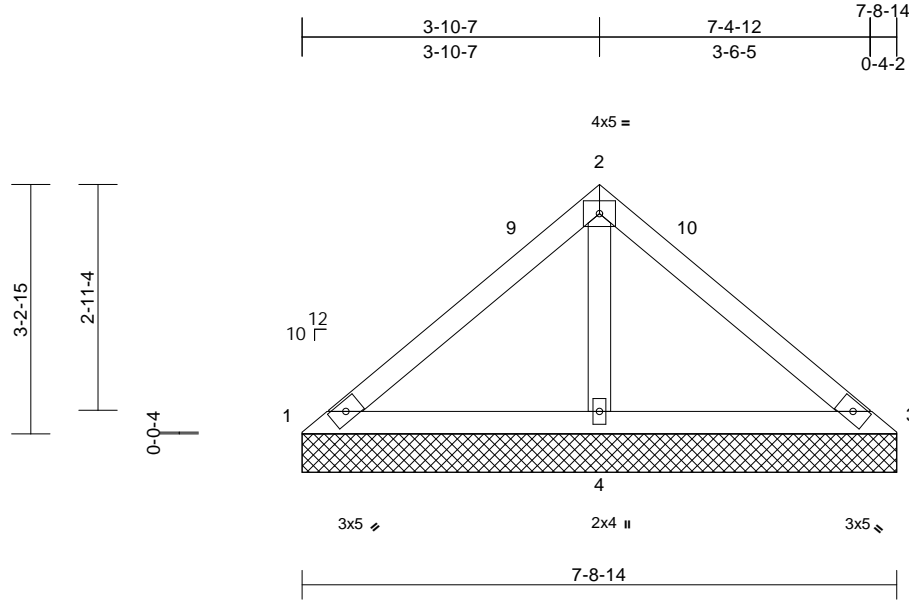
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss V2	Truss Type Valley	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245169
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:59
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Page: 1



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	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.31	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 7-8-14 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=7-8-14, 3=7-8-14, 4=7-8-14
 Max Horiz 1=-72 (LC 10)
 Max Uplift 1=-28 (LC 21), 3=-28 (LC 20),
 4=-84 (LC 14)
 Max Grav 1=105 (LC 20), 3=105 (LC 21),
 4=591 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

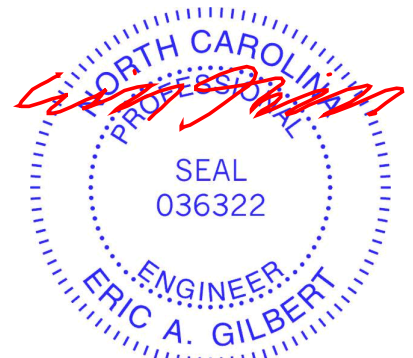
TOP CHORD 1-2=-102/262, 2-3=-102/262
 BOT CHORD 1-4=-180/165, 3-4=-180/165
 WEBS 2-4=-429/221

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 4-9-3, Exterior(2E) 4-9-3 to 7-9-3 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 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 28 lb uplift at joint 1, 28 lb uplift at joint 3 and 84 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



January 26, 2024

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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/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

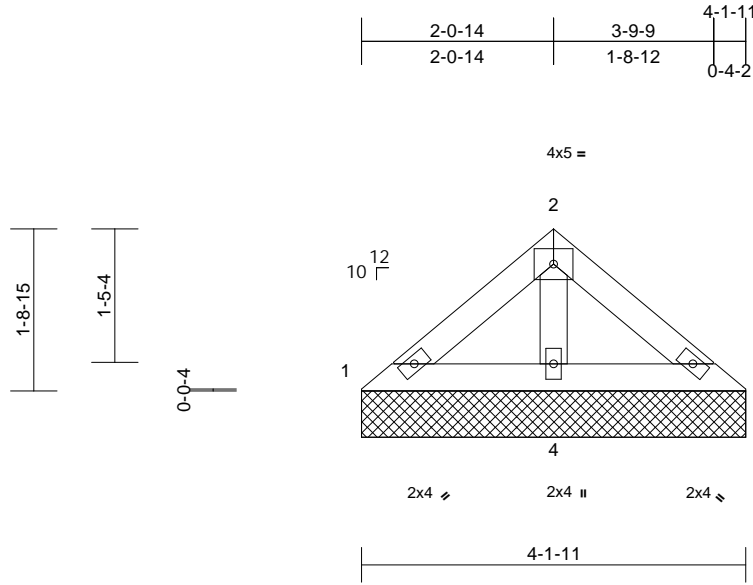
Job 24010049	Truss V3	Truss Type Valley	Qty 1	Ply 1	130 Serenity Job Reference (optional)	163245170
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:59

Page: 1

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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	0.05	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	0.03	Horiz(TL)	0.00	4	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
OTHERS 2x4 SP No.3

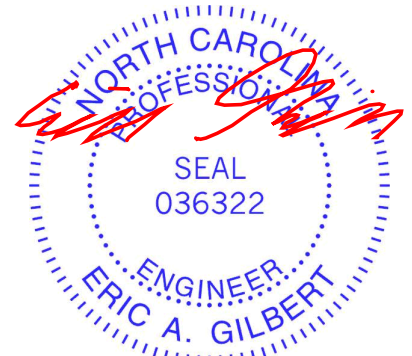
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=4-1-11, 3=4-1-11, 4=4-1-11
Max Horiz 1=-37 (LC 10)
Max Uplift 1=-1 (LC 14), 3=-8 (LC 15), 4=-25 (LC 14)
Max Grav 1=79 (LC 20), 3=79 (LC 21), 4=237 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-72/76, 2-3=-72/76
BOT CHORD 1-4=-59/69, 3-4=-59/69
WEBS 2-4=-136/67

- 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 1 lb uplift at joint 1, 8 lb uplift at joint 3 and 25 lb uplift at joint 4.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10



January 26, 2024

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ENGINEERING BY
TRENCO
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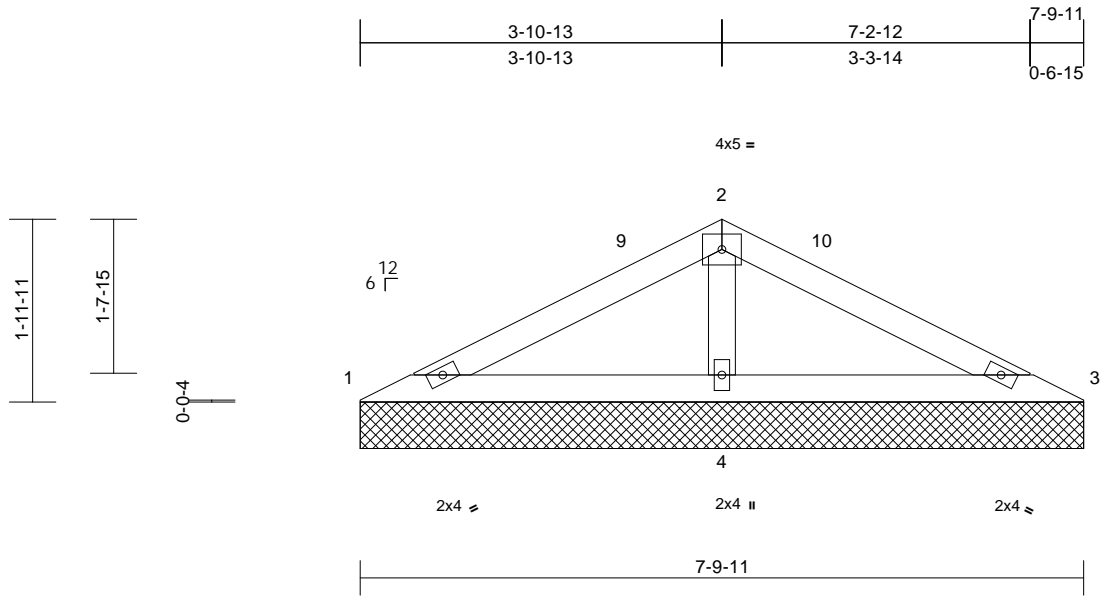
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss V11	Truss Type Valley	Qty 1	Ply 1	130 Serenity Job Reference (optional)	I63245171
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:59
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Page: 1



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



January 26, 2024

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ENGINEERING BY
TRENCO
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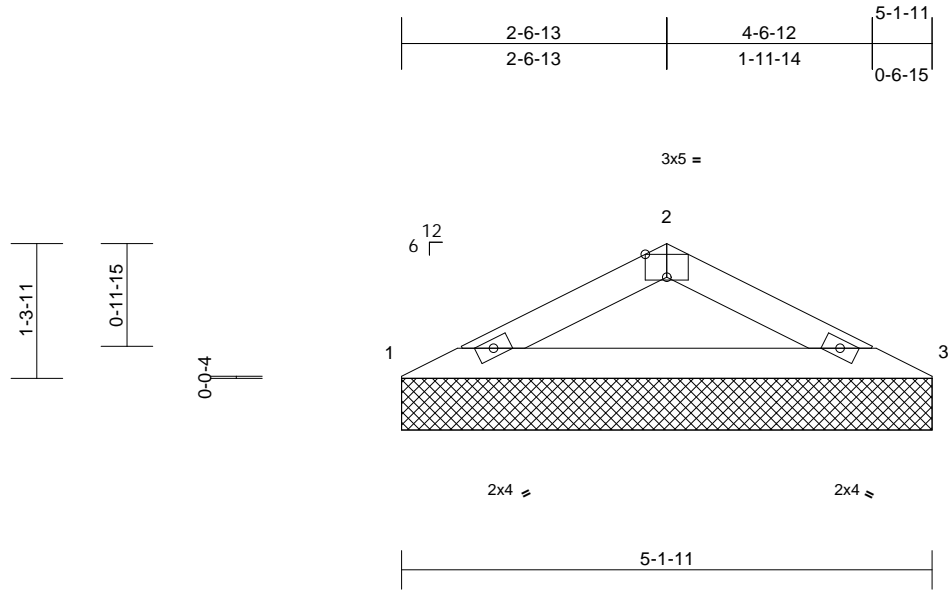
818 Soundside Road
Edenton, NC 27932

Job 24010049	Truss V12	Truss Type Valley	Qty 1	Ply 1	130 Serenity Job Reference (optional)	I63245172
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Thu Jan 25 11:08:59
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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

- 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 20 lb uplift at joint 1 and 20 lb uplift at joint 3.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - Gable requires continuous bottom chord bearing.



January 26, 2024

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

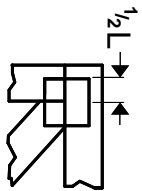
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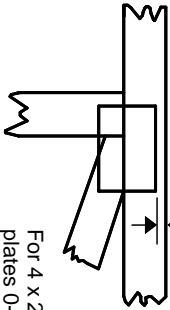
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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



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

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

PLATE SIZE

4 X 4

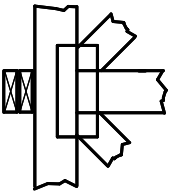
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING



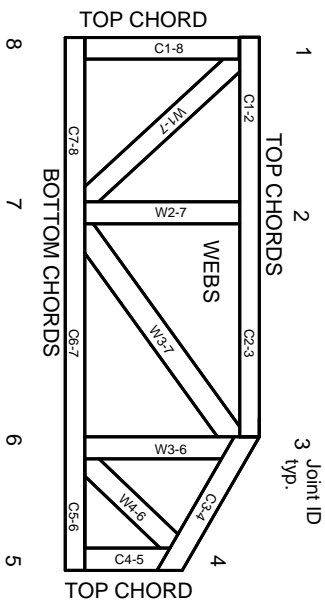
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System

6-4-8 dimensions shown in ft-in-sixteenths (Drawings not to scale)



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

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MITek

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

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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