

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 24090147-01
49 Serenity-Roof-B330 E CP TMB GLH

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

Pages or sheets covered by this seal: I68686553 thru I68686595

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

North Carolina COA: C-0844



October 7, 2024

Gilbert, Eric

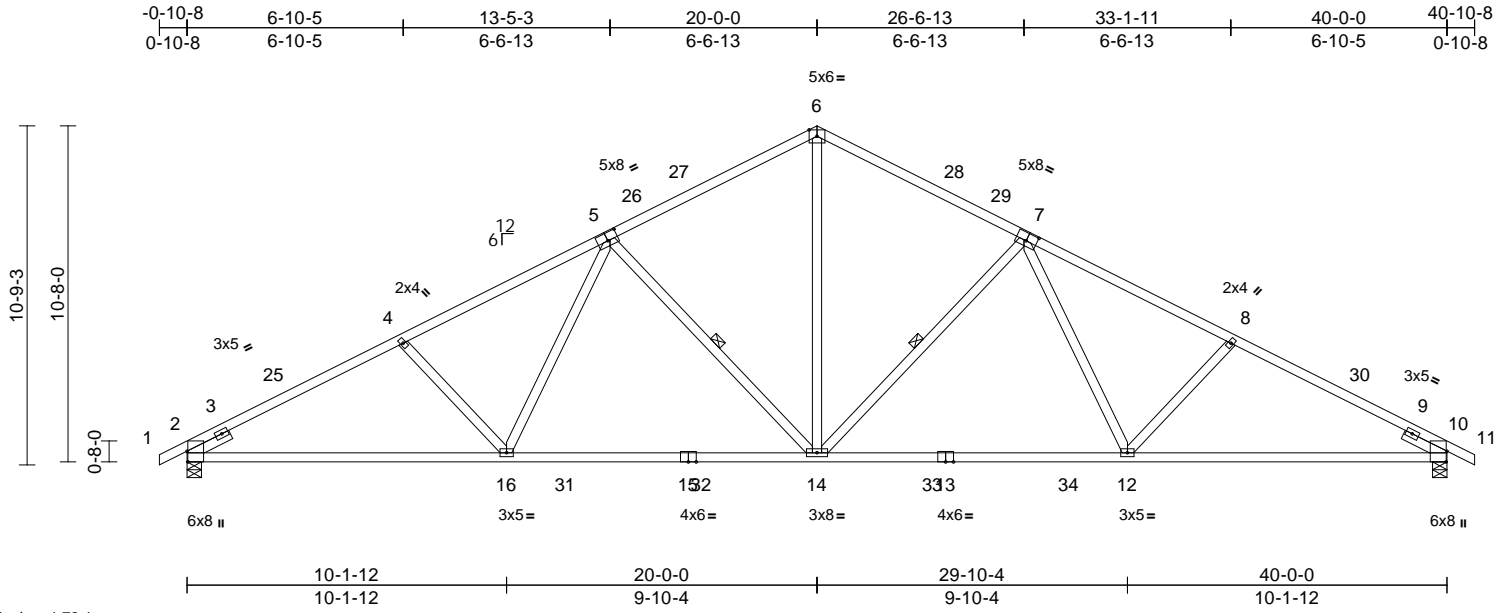
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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 24090147-01	Truss A01	Truss Type Common	Qty 4	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686553
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:46
ID:CttcSzqGwNcSj9X9hY?FsHzF_uO-RfC?PsB70Hq3NSgPqnL8w3uITxBGKWrCdoi7J4zJC?f

Page: 1



Scale = 1:73.1

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	0.87	Vert(LL)	-0.37	14-16	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.64	14-16	>754	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.15	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 213 lb	FT = 20%

LUMBER
TOP CHORD 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 or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 7-14, 5-14

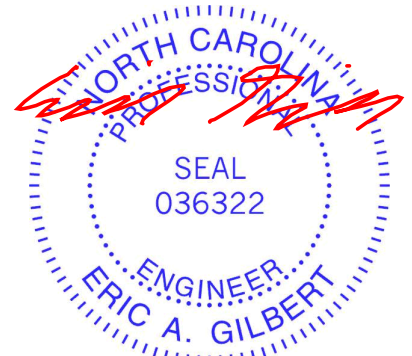
REACTIONS (size) 2=0-5-8, 10=0-5-8
Max Horiz 2=-165 (LC 15)
Max Uplift 2=-170 (LC 14), 10=-170 (LC 15)
Max Grav 2=1809 (LC 3), 10=1809 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-3431/321, 4-6=-3226/333, 6-8=-3226/333, 8-10=-3431/321, 10-11=0/23
BOT CHORD 2-16=-330/2978, 14-16=-191/2524, 12-14=-109/2524, 10-12=-185/2978
WEBS 6-14=-114/1658, 7-14=-853/247, 7-12=-25/626, 8-12=-301/191, 5-14=-853/247, 5-16=-25/626, 4-16=-301/191

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 3-1-8, Interior (1) 3-1-8 to 16-0-0, Exterior(2R) 16-0-0 to 24-0-0, Interior (1) 24-0-0 to 36-10-8, Exterior(2E) 36-10-8 to 40-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.

LOAD CASE(S) Standard



October 7, 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)



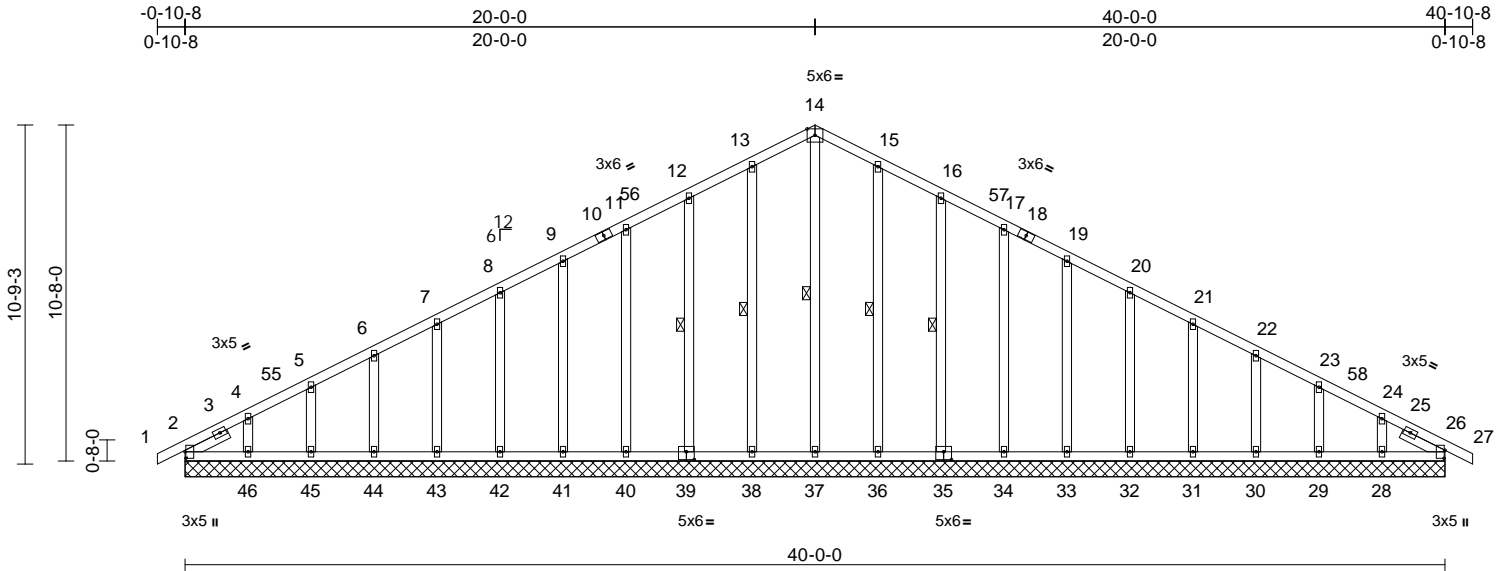
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss A02	Truss Type Common Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686554
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:47
ID:94aeZ53wRfHxaJ4LIBSgWSzF_tZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRcDoi7J4zJC7f

Page: 1



Scale = 1:73.1

Plate Offsets (X, Y): [2:0-2-8,0-0-5], [26:0-3-1,0-0-5], [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	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 286 lb	FT = 20%

LUMBER		Max Grav	2=162 (LC 27), 26=139 (LC 1), 28=161 (LC 37), 29=160 (LC 1), 30=160 (LC 37), 31=160 (LC 1), 32=161 (LC 22), 33=160 (LC 37), 34=179 (LC 22), 35=233 (LC 22), 36=247 (LC 22), 37=200 (LC 28), 38=247 (LC 21), 39=233 (LC 21), 40=179 (LC 21), 41=160 (LC 36), 42=161 (LC 21), 43=160 (LC 1), 44=160 (LC 36), 45=160 (LC 1), 46=161 (LC 36), 47=162 (LC 27), 51=139 (LC 1)	WEBS	14-37=205/45, 13-38=205/66, 12-39=193/83, 11-40=140/76, 9-41=126/77, 8-42=126/77, 7-43=126/77, 6-44=127/77, 5-45=126/80, 4-46=131/135, 15-36=205/66, 16-35=193/83, 17-34=140/76, 19-33=126/77, 20-32=126/77, 21-31=126/77, 22-30=127/77, 23-29=126/80, 24-28=131/135
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=40-0-0, 26=40-0-0, 28=40-0-0, 29=40-0-0, 30=40-0-0, 31=40-0-0, 32=40-0-0, 33=40-0-0, 34=40-0-0, 35=40-0-0, 36=40-0-0, 37=40-0-0, 38=40-0-0, 39=40-0-0, 40=40-0-0, 41=40-0-0, 42=40-0-0, 43=40-0-0, 44=40-0-0, 45=40-0-0, 46=40-0-0, 47=40-0-0, 51=40-0-0				
Max Horiz	2=165 (LC 14), 47=165 (LC 14)				
Max Uplift	2=-21 (LC 10), 28=-80 (LC 15), 29=-36 (LC 15), 30=-46 (LC 15), 31=-43 (LC 15), 32=-44 (LC 15), 33=-44 (LC 15), 34=-44 (LC 15), 35=-48 (LC 15), 36=-35 (LC 15), 38=-39 (LC 14), 39=-47 (LC 14), 40=-44 (LC 14), 41=-43 (LC 14), 42=-44 (LC 14), 43=-43 (LC 14), 44=-46 (LC 14), 45=-33 (LC 14), 46=-96 (LC 14), 47=-21 (LC 10)				
FORCES	(lb) - Maximum Compression/Maximum Tension				
TOP CHORD	1-2=0/23, 2-4=-216/79, 4-5=-167/82, 5-6=-129/94, 6-7=-96/108, 7-8=-74/131, 8-9=-62/154, 9-11=-72/178, 11-12=-85/222, 12-13=-104/271, 13-14=-121/311, 14-15=-121/311, 15-16=-104/271, 16-17=-85/222, 17-19=-72/177, 19-20=-60/132, 20-21=-48/86, 21-22=-44/41, 22-23=-66/27, 23-24=-99/35, 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=-44/166, 36-37=-44/166, 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				

- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) 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 3-1-8, Exterior(2N) 3-1-8 to 16-0-0, Corner(3R) 16-0-0 to 24-0-0, Exterior(2N) 24-0-0 to 36-10-8, Corner(3E) 36-10-8 to 40-10-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



October 7, 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)

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

Job 24090147-01	Truss A02	Truss Type Common Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	I68686554
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:47
ID:94aeZ53wRfHxaJ4LIBSgWSzF_tZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f

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) 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); ls=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, 44 lb uplift at joint 40, 43 lb uplift at joint 41, 44 lb uplift at joint 42, 43 lb uplift at joint 43, 46 lb uplift at joint 44, 33 lb uplift at joint 45, 96 lb uplift at joint 46, 35 lb uplift at joint 36, 48 lb uplift at joint 35, 44 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, 36 lb uplift at joint 29, 80 lb uplift at joint 28 and 21 lb uplift at joint 2.

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 24090147-01	Truss B01	Truss Type Common	Qty 6	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686555
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1

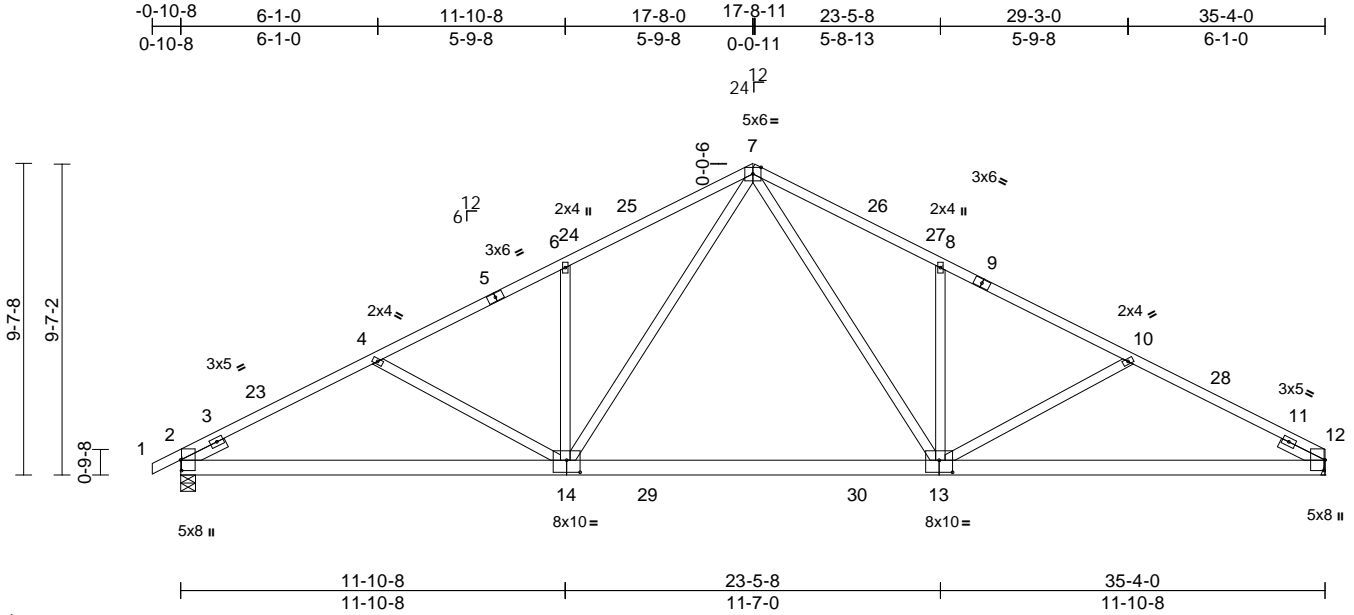


Plate Offsets (X, Y): [2:0-3-15,0-0-5], [12:0-3-15,0-0-5], [13:0-5-0,0-4-8], [14:0-5-0,0-4-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	-0.30	13-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.48	13-14	>880	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.07	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 216 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 14-7,13-7:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

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

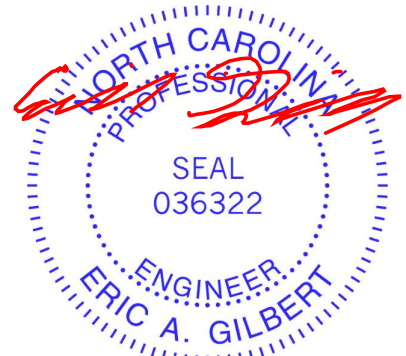
REACTIONS (size) 2=0-5-8, 12= Mechanical
Max Horiz 2=153 (LC 18)
Max Uplift 2=-152 (LC 14), 12=-135 (LC 15)
Max Grav 2=1595 (LC 3), 12=1550 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-2917/301, 4-6=-2630/264, 6-7=-2662/368, 7-8=-2664/370, 8-10=-2632/267, 10-12=-2920/307
BOT CHORD 2-12=-308/2536
WEBS 6-14=-477/215, 7-14=-195/1154, 4-14=-320/188, 7-13=-195/1157, 8-13=-476/215, 10-13=-323/189

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 2-7-14, Interior (1) 2-7-14 to 14-1-10, Exterior(2R) 14-1-10 to 21-2-6, Interior (1) 21-2-6 to 31-9-10, Exterior(2E) 31-9-10 to 35-4-0 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, 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 135 lb uplift at joint 12.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



October 7, 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

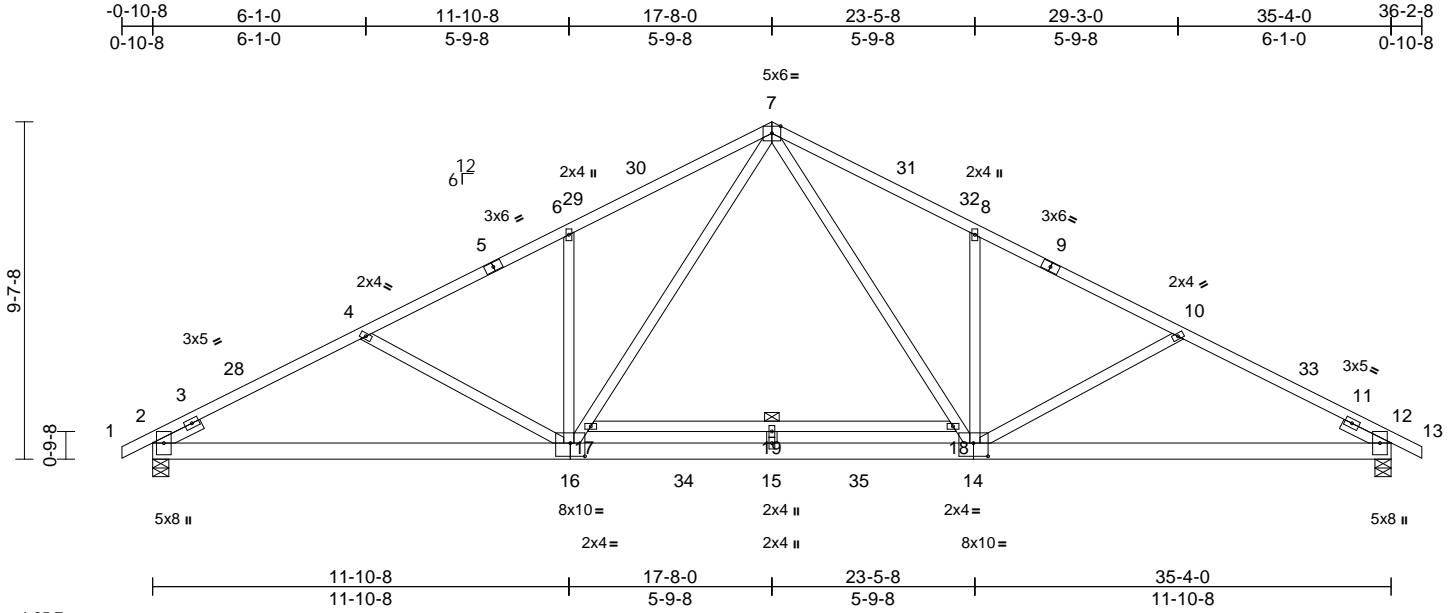
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss B02	Truss Type Common	Qty 4	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686556
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:47
ID:IG0yRRsNWU?INSJE84?yfiyX0Aq-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:65.7

Plate Offsets (X, Y): [2:0-4-1,0-1-5], [12:0-4-1,0-1-5], [14:0-5-0,0-4-8], [16:0-5-0,0-4-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.16	15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.50	15	>851	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.38	Horz(CT)	0.08	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 234 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x6 SP No.2
 WEBS 2x4 SP No.3 *Except* 16-7,14-7,17-18:2x4 SP No.2
 SLIDER Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
 WEBS 1 Row at midpt 17-18

REACTIONS

(size) 2=0-5-8, 12=0-5-8
 Max Horiz 2=147 (LC 14)
 Max Uplift 2=-52 (LC 14), 12=-52 (LC 15)
 Max Grav 2=1566 (LC 1), 12=1566 (LC 1)

FORCES

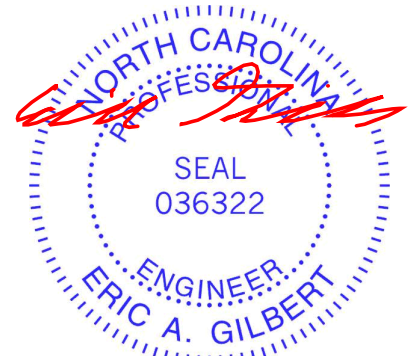
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/23, 2-4=-2623/82, 4-6=-2344/35, 6-7=-2392/139, 7-8=-2392/139, 8-10=-2344/35, 10-12=-2623/82, 12-13=0/23
 BOT CHORD 2-15=-154/2269, 12-15=-27/2269
 WEBS 6-16=-503/215, 16-17=-91/1093, 7-17=-77/1123, 4-16=-307/208, 7-18=-77/1123, 14-18=-90/1093, 8-14=-503/215, 10-14=-308/208, 17-19=-29/0, 18-19=-29/0, 15-19=0/40

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 2-7-14, Interior (1) 2-7-14 to 14-1-10, Exterior(2R) 14-1-10 to 21-2-6, Interior (1) 21-2-6 to 32-8-2, Exterior(2E) 32-8-2 to 36-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 200.0lb AC unit load placed on the bottom chord, 17-8-0 from left end, supported at two points, 5-0-0 apart.
- All plates are 2x4 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 12. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



October 7, 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)



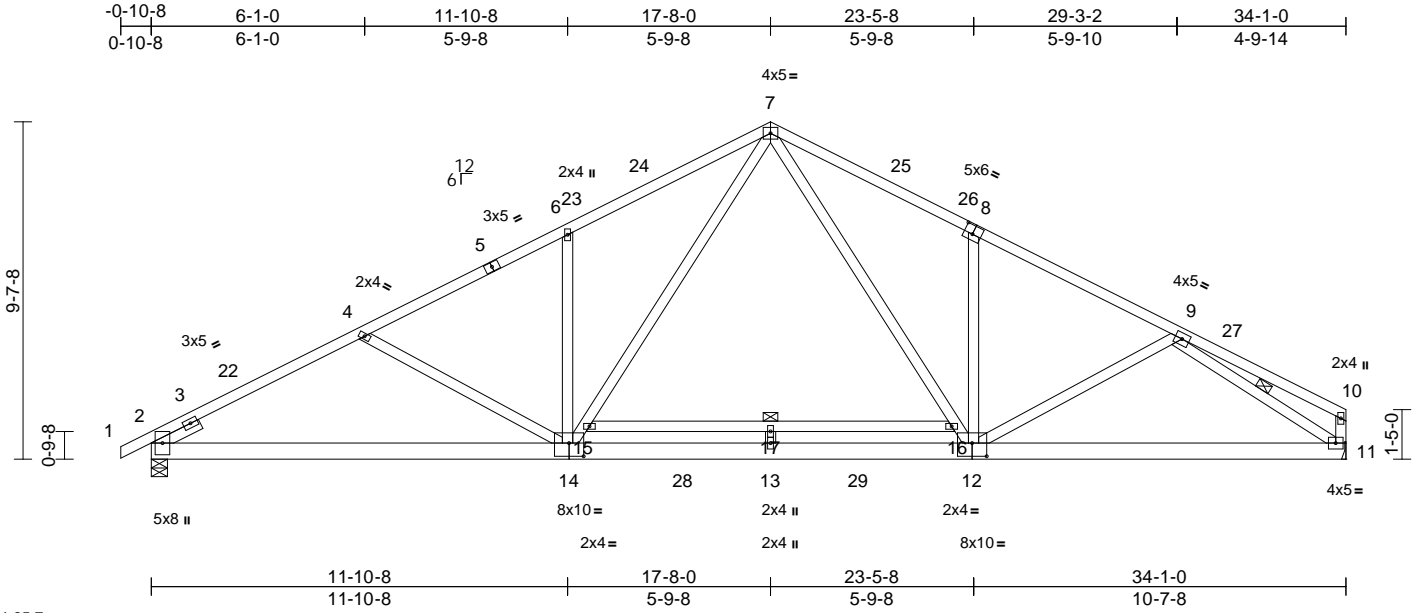
818 Soundside Road
 Edenton, NC 27932

Job 24090147-01	Truss B03	Truss Type Common	Qty 6	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686557
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:47
ID:WZHWCDC72QEsB6KIziqQApLyX0D4-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:65.7

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

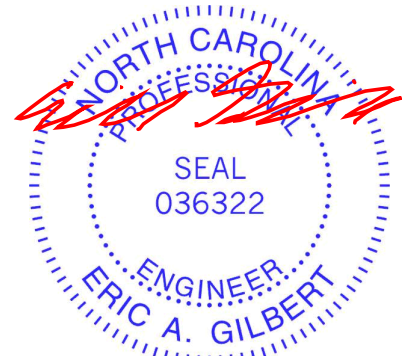
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.12	13-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.41	13-14	>987	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.06	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 234 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 14-7,12-7,15-16:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-6-0
BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 9-11, 15-16
REACTIONS (size) 2=0-5-8, 11= Mechanical
Max Horiz 2=153 (LC 18)
Max Uplift 2=-55 (LC 14), 11=-19 (LC 15)
Max Grav 2=1507 (LC 1), 11=1461 (LC 1)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-2500/80, 4-6=-2216/32, 6-7=-2263/136, 7-9=-2151/136, 9-10=-216/83, 10-11=-201/76
BOT CHORD 2-13=-158/2188, 11-13=-6/1767
WEBS 9-11=-2010/0, 6-14=-501/215, 14-15=-91/1090, 7-15=-77/1116, 4-14=-315/208, 7-16=-68/934, 12-16=-81/908, 8-12=-486/215, 9-12=0/202, 15-17=-26/0, 16-17=-26/0, 13-17=0/38

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 2-6-6, Interior (1) 2-6-6 to 14-3-2, Exterior(2R) 14-3-2 to 21-0-14, Interior (1) 21-0-14 to 30-6-6, Exterior(2E) 30-6-6 to 33-11-4 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 200.0lb AC unit load placed on the bottom chord, 17-8-0 from left end, supported at two points, 5-0-0 apart.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 11.
- 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.

LOAD CASE(S) Standard



October 7, 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)

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A MiTek Affiliate

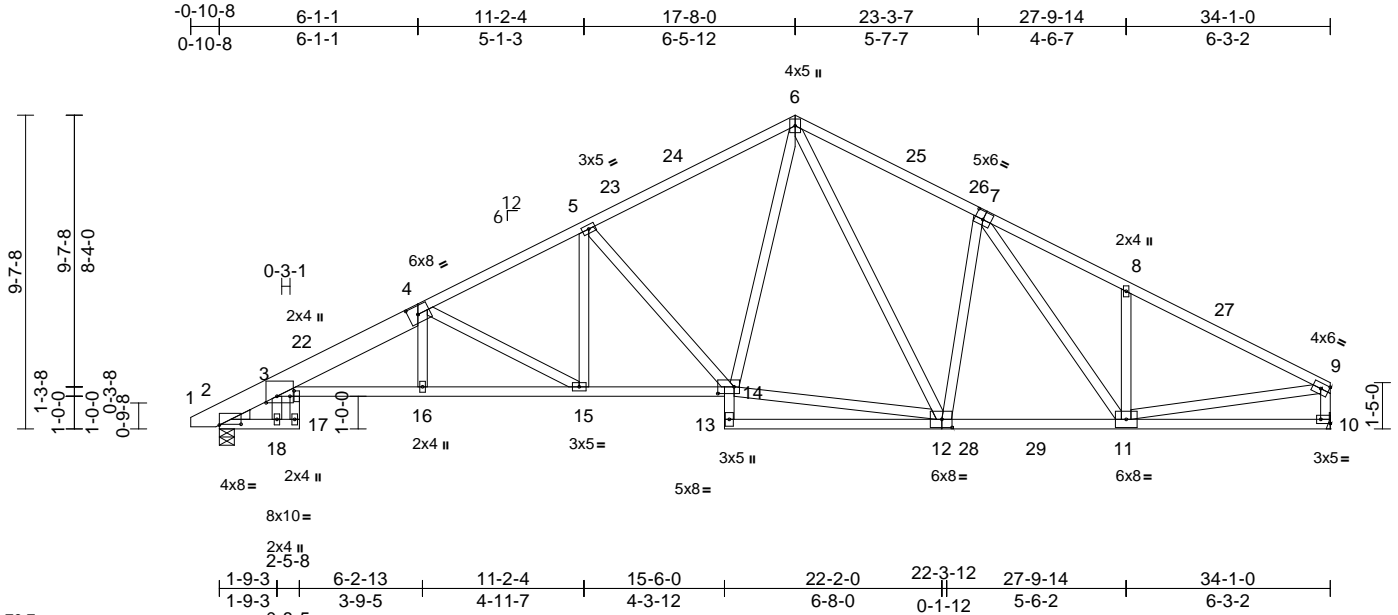
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss B04	Truss Type Roof Special	Qty 2	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686558
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:48
ID: _9?Jy9N9loTo44KDIVOFwgyX0JC-RfC?PsB70Hq3NSgPqnL8w3uITXbGkWrCDoi7J4zJC?f

Page: 1



Scale = 1:70.7

Plate Offsets (X, Y): [2:0-8-0,0-0-5], [3:0-4-0,0-2-6], [3:0-2-0,0-1-8], [4:0-3-8,0-3-0], [7:0-3-0,0-3-0], [10:Edge,0-1-8], [12:0-3-12,0-3-0], [14:0-6-0,0-2-8]

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	0.87	Vert(LL)	-0.17	14-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.34	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.21	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 229 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 4-6:2x4 SP No.1, 1-4:2x8 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2 *Except* 17-3,14-13:2x4 SP No.3, 3-14:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 12-6:2x4 SP No.2
WEDGE Left: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 2-18.

REACTIONS (size) 2=0-5-8, 10= Mechanical
Max Horiz 2=151 (LC 18)
Max Uplift 2=-131 (LC 14), 10=-122 (LC 15)
Max Grav 2=1512 (LC 3), 10=1466 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/13, 2-3=-679/111, 3-5=-3617/310, 5-6=-2214/304, 6-8=-2326/334, 8-9=-2321/227, 9-10=-1539/174
BOT CHORD 2-18=-91/212, 17-18=0/0, 3-16=-354/3346, 15-16=-351/3360, 14-15=-199/2480, 13-14=0/122, 11-13=-63/1889, 10-11=-41/186
WEBS 4-16=0/231, 4-15=-982/170, 6-14=-114/1130, 9-11=-89/1871, 3-18=0/128, 7-12=-471/223, 6-12=-169/503, 12-14=-43/1530, 7-11=-114/237, 8-11=-332/182, 5-15=-12/612, 5-14=-930/216

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-5-14 to 2-11-0, Interior (1) 2-11-0 to 14-3-2, Exterior(2R) 14-3-2 to 21-0-14, Interior (1) 21-0-14 to 30-6-6, Exterior(2E) 30-6-6 to 33-11-4 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 122 lb uplift at joint 10.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



October 7, 2024

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

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



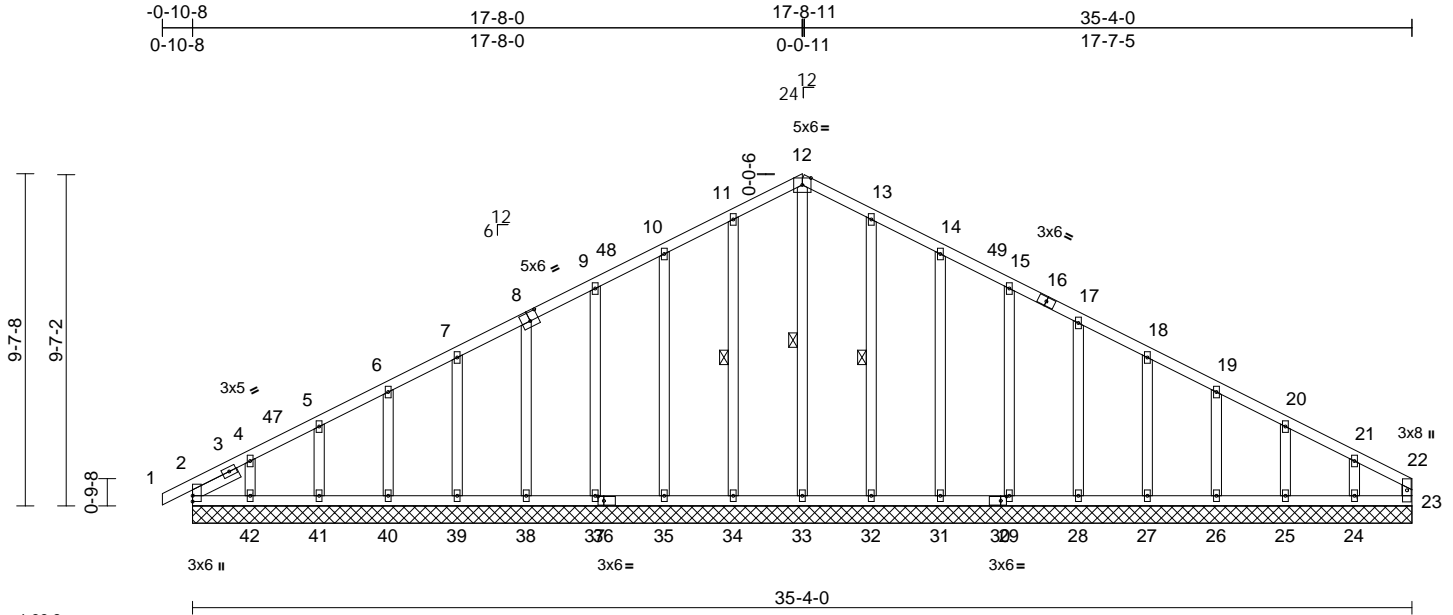
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss B05	Truss Type Common Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686559
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:48
ID:0xNlYvGSiW51dfXzhUf3asyX0FU-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwCRDci7J4zJC7f

Page: 1



Scale = 1:66.8

Plate Offsets (X, Y): [8:0-3-0,0-3-0], [30:0-2-0,0-1-8], [36:0-2-0,0-1-8]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.01	23	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 238 lb	FT = 20%

LUMBER	TOP CHORD	BOT CHORD	WEBS	OTHERS	SLIDER	BRACING	TOP CHORD	BOT CHORD	WEBS	REACTIONS	Max Horiz	Max Uplift	FORCES	TOP CHORD	BOT CHORD	WEBS
2x4 SP No.2	2x4 SP No.2	2x4 SP No.2	2x4 SP No.3	2x4 SP No.3	Left 2x4 SP No.3 -- 1-6-0	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.	Rigid ceiling directly applied or 10-0-0 oc bracing.	1 Row at midpt	(size) 2=35-4-0, 23=35-4-0, 24=35-4-0, 25=35-4-0, 26=35-4-0, 27=35-4-0, 28=35-4-0, 29=35-4-0, 31=35-4-0, 32=35-4-0, 33=35-4-0, 34=35-4-0, 35=35-4-0, 37=35-4-0, 38=35-4-0, 39=35-4-0, 40=35-4-0, 41=35-4-0, 42=35-4-0, 43=35-4-0	2=146 (LC 18), 43=146 (LC 18)	2=-35 (LC 10), 24=-93 (LC 15), 25=-33 (LC 15), 26=-45 (LC 15), 27=-42 (LC 15), 28=-43 (LC 15), 29=-42 (LC 15), 31=-46 (LC 15), 32=-36 (LC 15), 34=-39 (LC 14), 35=-45 (LC 14), 37=-41 (LC 14), 38=-43 (LC 14), 39=-43 (LC 14), 40=-44 (LC 14), 41=-33 (LC 14), 42=-103 (LC 14), 43=-35 (LC 10)	(lb) - Maximum Compression/Maximum Tension	1-2=0/23, 2-4=-182/79, 4-5=-132/80, 5-6=-103/93, 6-7=-77/115, 7-9=-67/167, 9-10=-76/210, 10-11=-95/256, 11-12=-112/296, 12-13=-112/296, 13-14=-95/256, 14-15=-76/210, 15-17=-61/167, 17-18=-50/123, 18-19=-39/79, 19-20=-51/36, 20-21=-70/28, 21-22=-114/43, 22-23=-62/6	2-42=-27/118, 41-42=-27/118, 40-41=-27/118, 39-40=-27/118, 38-39=-27/118, 37-38=-26/117, 35-37=-26/117, 34-35=-26/117, 33-34=-26/117, 32-33=-26/117, 31-32=-26/117, 29-31=-26/117, 28-29=-26/117, 27-28=-26/117, 26-27=-26/117, 25-26=-26/117, 24-25=-26/117, 23-24=-26/117	12-33=-195/39, 11-34=-198/64, 10-35=-183/80, 9-37=-129/72, 8-38=-123/75, 7-39=-125/77, 6-40=-121/74, 5-41=-124/78, 4-42=-116/123, 13-32=-198/64, 14-31=-182/80, 15-29=-131/74, 17-28=-122/75, 18-27=-123/75, 19-26=-122/73, 20-25=-123/93, 21-24=-121/141

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BC DL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-7-14, Exterior(2N) 2-7-14 to 14-1-10, Corner(3R) 14-1-10 to 21-2-6, Exterior(2N) 21-2-6 to 31-7-14, Corner(3E) 31-7-14 to 35-2-4 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
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15) Plate DOL=1.15; Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.



October 7, 2024

Continued on page 2

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

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

Job 24090147-01	Truss B05	Truss Type Common Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	I68686559
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:48
ID:0xNlvYGSiwS1dfXzhUf3asyX0FU-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCdoi7J4zJC?f

Page: 2

- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 9) 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 35 lb uplift at joint 2, 39 lb uplift at joint 34, 45 lb uplift at joint 35, 41 lb uplift at joint 37, 43 lb uplift at joint 38, 43 lb uplift at joint 39, 44 lb uplift at joint 40, 33 lb uplift at joint 41, 103 lb uplift at joint 42, 36 lb uplift at joint 32, 46 lb uplift at joint 31, 42 lb uplift at joint 29, 43 lb uplift at joint 28, 42 lb uplift at joint 27, 45 lb uplift at joint 26, 33 lb uplift at joint 25, 93 lb uplift at joint 24 and 35 lb uplift at joint 2.

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/TP1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss B06	Truss Type Hip	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686560
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:48
ID:07ZmBgGCLJRRnETvX0gdUyX0fi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCoD7J4zJC?f

Page: 1

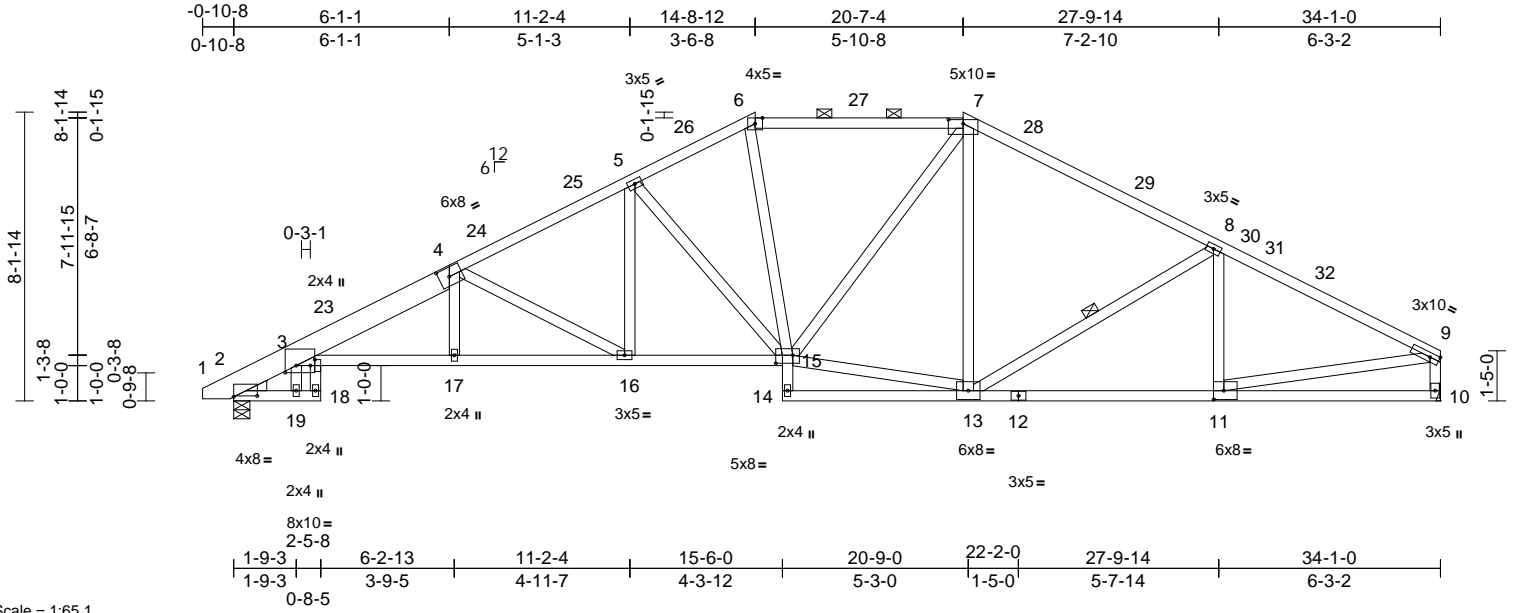


Plate Offsets (X, Y): [2:0-8-0,0-0-5], [3:0-3-12,0-2-6], [3:0-2-0,0-1-8], [4:0-3-8,0-3-0], [7:0-5-0,0-1-7], [11:0-3-8,0-3-0], [15:0-5-12,0-2-12]

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	0.97	Vert(LL)	-0.18	15-16	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.34	15-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.22	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 223 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 7-9:2x4 SP No.1, 1-4:2x8 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2 *Except* 18-3,15-14:2x4 SP No.3, 3-15:2x4 SP No.1
WEBS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 2-19.
WEBS 1 Row at midpt 8-13

REACTIONS (size) 2=0-5-8, 10= Mechanical
Max Horiz 2=126 (LC 18)
Max Uplift 2=-137 (LC 14), 10=-129 (LC 15)
Max Grav 2=1563 (LC 41), 10=1525 (LC 41)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/13, 2-3=-661/96, 3-5=-3454/327, 5-6=-2046/298, 6-7=-1869/292, 7-8=-1944/277, 8-9=-2235/243, 9-10=-1465/177
BOT CHORD 2-19=-80/198, 18-19=0/0, 3-17=-346/3171, 16-17=-343/3179, 15-16=-170/2314, 14-15=0/86, 13-14=0/48, 11-13=-128/1944, 10-11=-28/127
WEBS 4-17=0/231, 5-15=-817/154, 6-15=-27/650, 13-15=-33/1587, 7-15=-91/516, 7-13=-92/160, 8-13=-423/161, 8-11=-226/109, 9-11=-121/1878, 3-19=0/109, 4-16=-966/193, 5-16=-23/529

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-5-14 to 2-11-0, Interior (1) 2-11-0 to 9-10-15, Exterior(2R) 9-10-15 to 25-5-1, Interior (1) 25-5-1 to 30-6-6, Exterior(2E) 30-6-6 to 33-11-4 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
- 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 10.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

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



October 7, 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)



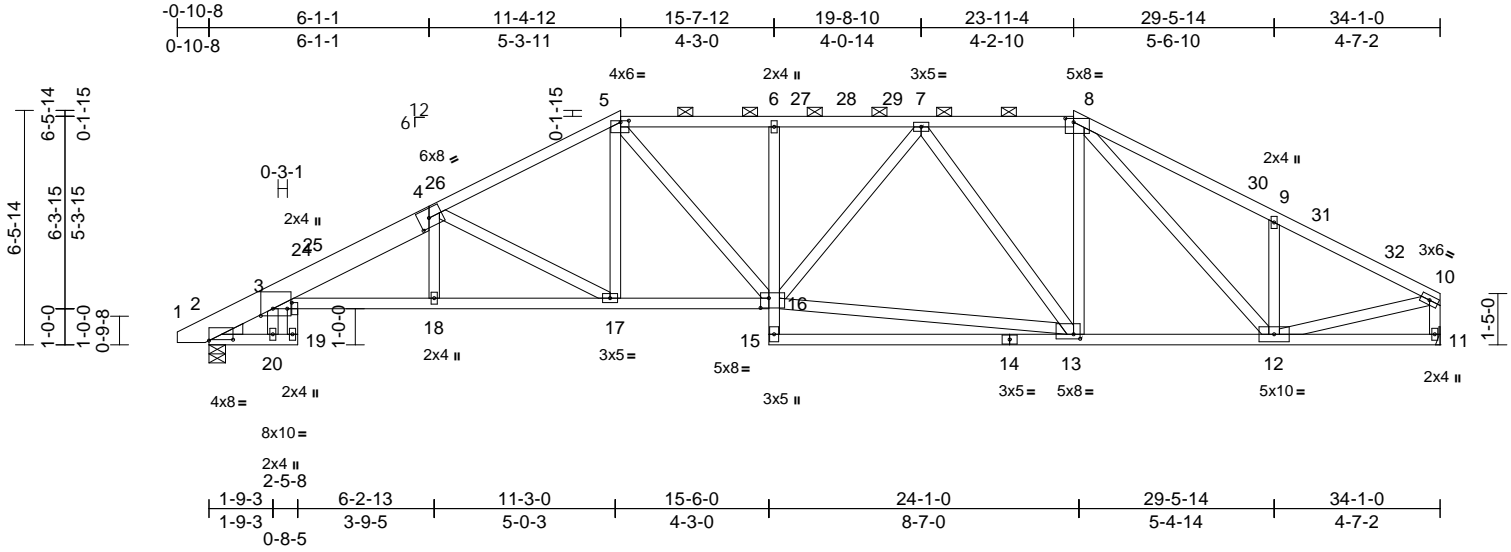
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss B07	Truss Type Hip	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686561
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:48
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Page: 1



Scale = 1:63.8

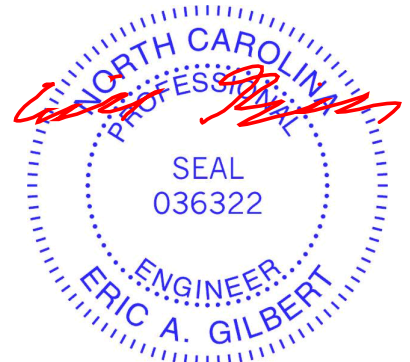
Plate Offsets (X, Y): [2:0-8-0,0-0-5], [3:0-4-0,0-2-6], [3:0-2-0,0-1-8], [4:0-3-8,0-3-0], [5:0-2-12,0-0-8], [8:0-2-12,0-1-4], [13:0-2-3,0-1-8], [16:0-2-12,0-3-4]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.63	Vert(LL)	-0.18	13-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.43	13-15	>950	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.23	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 225 lb	FT = 20%

- LUMBER**
- TOP CHORD 2x4 SP No.2 *Except* 4-1:2x8 SP 2400F 2.0E
- BOT CHORD 2x4 SP No.2 *Except* 19-3,6-15:2x4 SP No.3
- WEBS 2x4 SP No.3
- WEDGE Left: 2x4 SP No.3
- BRACING**
- TOP CHORD Structural wood sheathing directly applied or 3-2-10 oc purlins, except end verticals, and 2-0-0 oc purlins (3-5-1 max.): 5-8.
- BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 2-20
2-2-0 oc bracing: 3-18.
- REACTIONS** (size) 2=0-5-8, 11= Mechanical
Max Horiz 2=102 (LC 13)
Max Uplift 2=-142 (LC 14), 11=-134 (LC 15)
Max Grav 2=1470 (LC 41), 11=1430 (LC 41)
- FORCES** (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/13, 2-3=-619/101, 3-5=-3175/347, 5-6=-2462/346, 6-7=-2437/343, 7-8=-1688/281, 8-9=-1969/347, 9-10=-1916/247, 10-11=-1378/182
- BOT CHORD 2-20=-67/189, 19-20=0/0, 3-18=-327/2923, 17-18=-324/2931, 16-17=-145/2118, 15-16=0/155, 6-16=-420/112, 13-15=0/209, 12-13=-73/1651, 11-12=-18/91
- WEBS 4-17=-1026/198, 5-17=-27/563, 5-16=-118/568, 13-16=-162/1972, 7-16=-84/455, 7-13=-899/165, 8-13=-20/657, 8-12=-238/228, 9-12=-477/190, 10-12=-150/1639, 4-18=0/225, 3-20=0/109

- 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) -0-5-14 to 2-11-0, Interior (1) 2-11-0 to 6-6-15, Exterior(2R) 6-6-15 to 16-2-9, Interior (1) 16-2-9 to 19-1-7, Exterior(2R) 19-1-7 to 28-9-1, Interior (1) 28-9-1 to 30-6-6, Exterior(2E) 30-6-6 to 33-11-4 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
- 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) Provide adequate drainage to prevent water ponding.
- 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) Refer to girder(s) for truss to truss connections.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 134 lb uplift at joint 11.
- 11) 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.
- 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



October 7, 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)



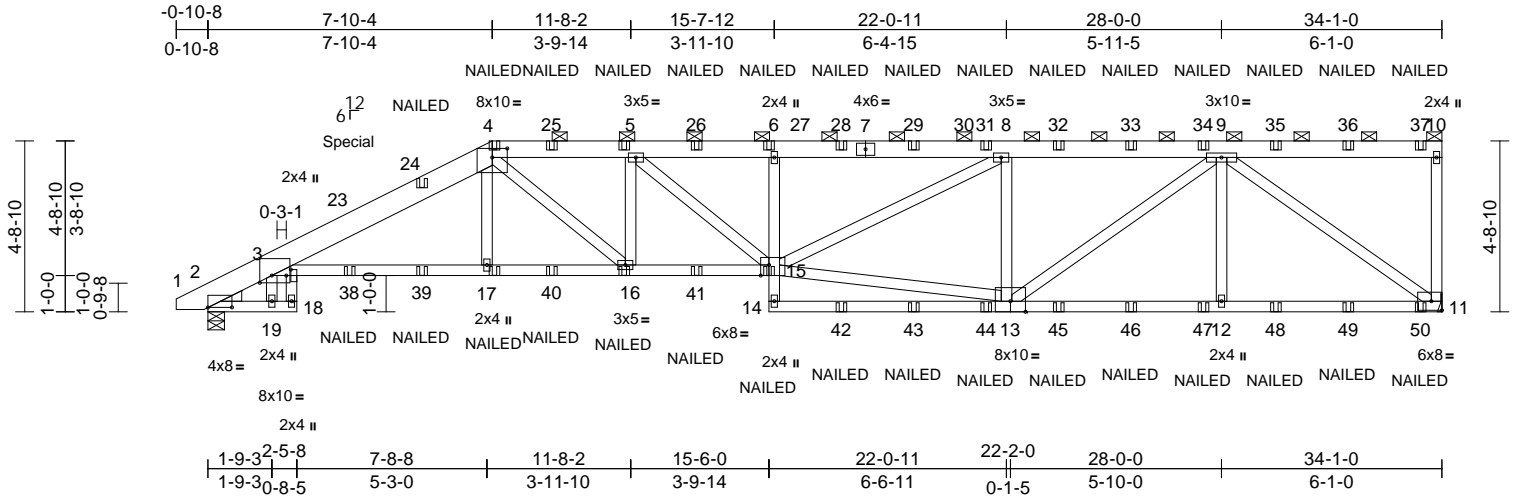
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss B08	Truss Type Half Hip Girder	Qty 1	Ply 2	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686562
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:50
ID:GjP6QJza?RNHjySeiY6DZvyX06p-RfC?PsB70Hq3NSgPqnL8w3uITxBGKWrCDoi7J4zJC7f

Page: 1



Scale = 1:63.6

Plate Offsets (X, Y): [2:0-8-0,0-0-1], [3:0-4-0,0-2-6], [3:0-2-0,0-1-8], [4:0-5-0,0-3-0], [15:0-2-12,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	0.52	Vert(LL)	-0.29	15-16	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.46	15-16	>894	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.99	Horz(CT)	0.26	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 465 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 1-4:2x8 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2 *Except* 18-3,6-14:2x4 SP No.3, 3-15:2x4 SP No.1
WEBS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-6-6 max.): 4-10.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

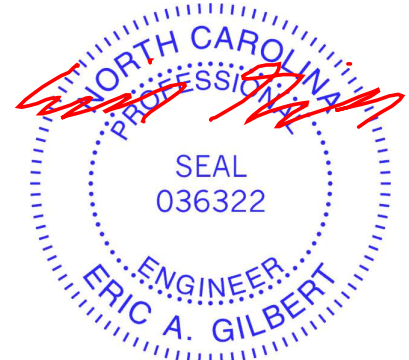
REACTIONS (size) 2=0-5-8, 11= Mechanical
Max Horiz 2=163 (LC 11)
Max Uplift 2=-814 (LC 12), 11=-1029 (LC 9)
Max Grav 2=2736 (LC 19), 11=2967 (LC 33)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/20, 2-3=-1178/372, 3-4=-5909/1897, 4-5=-6578/2220, 5-6=-7293/2496, 6-8=-7212/2471, 8-9=-5165/1786, 9-10=-76/53, 10-11=-405/186
BOT CHORD 2-19=-171/291, 18-19=0/0, 3-17=-1852/5372, 16-17=-1848/5353, 15-16=-2285/6578, 14-15=0/166, 6-15=-685/307, 12-14=-1198/3366, 11-12=-1198/3366
WEBS 4-17=-97/443, 4-16=-628/1628, 5-16=-864/366, 5-15=-385/934, 3-19=-21/150, 8-13=-1829/749, 13-15=-1726/4799, 8-15=-778/2256, 9-12=0/358, 9-11=-4126/1435, 9-13=-784/2256

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc, 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.
- 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.
- Provide adequate drainage to prevent water ponding.
- All plates are 2x4 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1029 lb uplift at joint 11.
- LGT2 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- LGT2 Hurricane ties must have two studs in line below the truss.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 288 lb down and 87 lb up at 3-11-0 on top chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard



October 7, 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 24090147-01	Truss B08	Truss Type Half Hip Girder	Qty 1	Ply 2	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	I68686562
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:50
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Page: 2

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-60, 4-10=-60, 18-20=-20, 3-15=-20, 11-14=-20
Concentrated Loads (lb)
Vert: 4=-96 (F), 15=-74 (F), 6=-96 (F), 17=-74 (F), 16=-74 (F), 5=-96 (F), 23=-248 (F), 24=-17 (F), 25=-96 (F), 26=-96 (F), 28=-125 (F), 29=-125 (F), 31=-125 (F), 32=-125 (F), 33=-125 (F), 34=-125 (F), 35=-125 (F), 36=-125 (F), 37=-142 (F), 38=-57 (F), 39=-95 (F), 40=-74 (F), 41=-74 (F), 42=-39 (F), 43=-39 (F), 44=-39 (F), 45=-39 (F), 46=-39 (F), 47=-39 (F), 48=-39 (F), 49=-39 (F), 50=-45 (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/TP1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



818 Soundside Road
Edenton, NC 27932

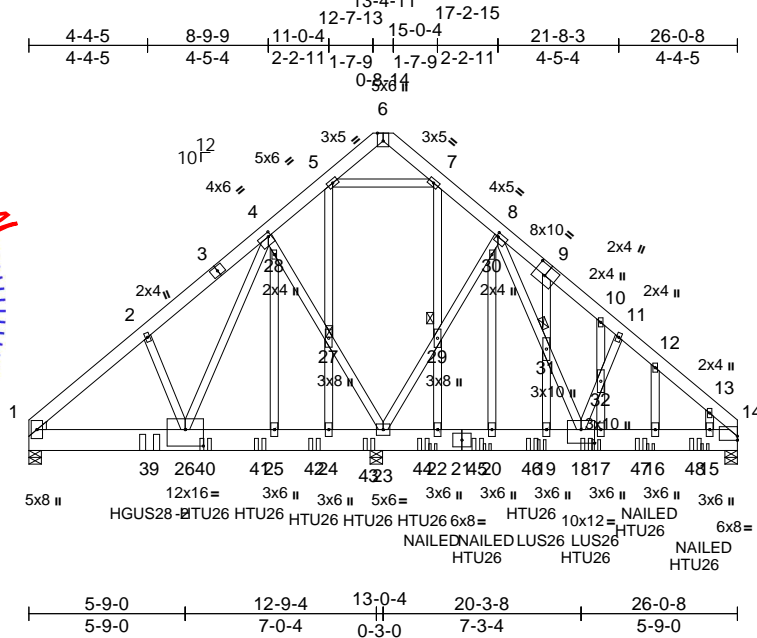
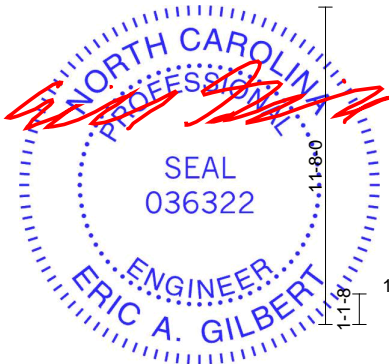
Job 24090147-01	Truss C01	Truss Type Common Girder	Qty 1	Ply 2	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686563
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:50

Page: 1

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Scale = 1:84.7

Plate Offsets (X, Y): [4:0-1-4,0-1-12], [6:0-3-7,Edge], [8:0-0-12,0-1-12], [9:0-5-0,0-4-8], [14:Edge,0-1-13], [18:0-6-0,0-6-0], [26:0-8-0,0-7-4]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	-0.04	26-35	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.07	25-26	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.98	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											

Weight: 625 lb FT = 20%

LUMBER	WEBS	NOTES
TOP CHORD 2x6 SP No.2 BOT CHORD 2x10 SP 2400F 2.0E WEBS 2x4 SP No.3 *Except* 23-4,23-8:2x4 SP No.2 OTHERS 2x4 SP No.3 WEDGE Left: 2x4 SP No.3	4-26=-1219/4631, 2-26=-151/217, 4-28=-2404/755, 27-28=-3325/783, 23-27=-3216/781, 23-29=-3152/243, 29-30=-3250/242, 8-30=-2423/252, 8-31=-311/4008, 18-31=-326/4084, 18-32=-1123/192, 11-32=-880/154, 5-27=-583/55, 24-27=-711/57, 25-28=-42/929, 7-29=-457/98, 22-29=-574/98, 20-30=0/837, 9-31=-10/527, 19-31=-9/449, 10-32=-42/310, 17-32=-49/557, 12-16=-38/579, 13-15=-20/316, 5-7=-55/557	6) 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 7) Unbalanced snow loads have been considered for this design. 8) All plates are 3x6 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) LGT2 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 23. This connection is for uplift only and does not consider lateral forces. 13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 14. This connection is for uplift only and does not consider lateral forces.

October 7, 2024

Continued on page 2

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

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

Job 24090147-01	Truss C01	Truss Type Common Girder	Qty 1	Ply 2	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	I68686563
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:50
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Page: 2

- 14) Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 18-10-3 from the left end to 20-10-3 to connect truss(es) to front face of bottom chord.
- 15) Use Simpson Strong-Tie HGUS28-2 (36-16d Girder, 6-16d Truss) or equivalent at 4-5-4 from the left end to connect truss(es) to back face of bottom chord.
- 16) Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 6-0-0 oc max. starting at 6-6-0 from the left end to 24-6-0 to connect truss(es) to back face of bottom chord.
- 17) Use Simpson Strong-Tie HTU26 (20-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 18-6-0 from the left end to 20-6-0 to connect truss(es) to back face of bottom chord.
- 18) Fill all nail holes where hanger is in contact with lumber.
- 19) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- 20) LGT2 Hurricane ties must have two studs in line below the truss.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-58, 6-14=-58, 33-36=-19
Concentrated Loads (lb)
Vert: 18=-1442 (B), 22=4 (F), 20=4 (F), 19=4 (F), 17=-38 (F), 16=-38 (F), 15=-38 (F), 39=-2948 (B), 40=-1410 (B), 41=-1505 (B), 42=-1339 (B), 43=-1339 (B), 44=-1442 (B), 45=-1442 (B), 46=-1442 (B), 47=-1442 (B), 48=-1442 (B)

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

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



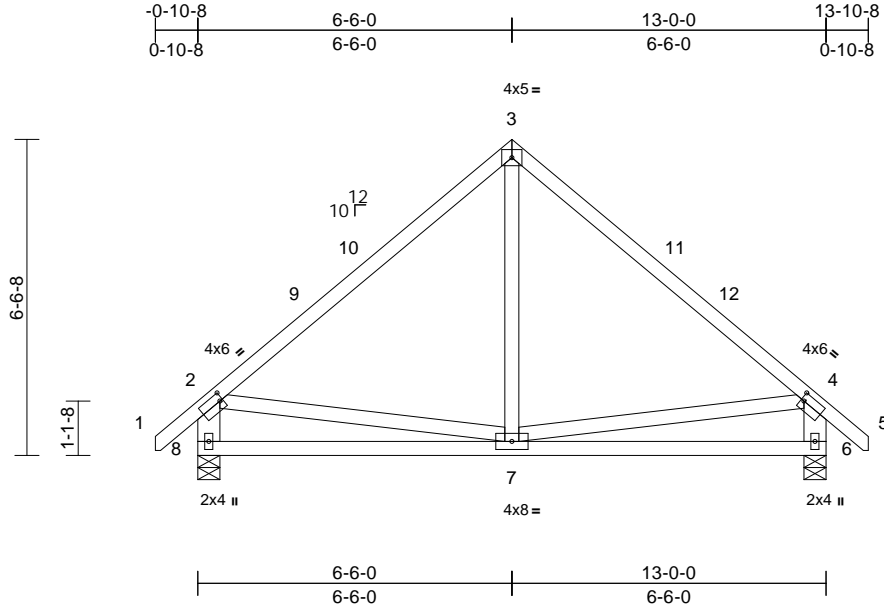
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss D01	Truss Type Common	Qty 4	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	I68686564
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:51
ID:wb1oEU3ot9zDodjclXhweSzF_Yu-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWwRCDoi7J4zJC?#

Page: 1



Scale = 1:47.7

Plate Offsets (X, Y): [2:0-0-12,0-2-0], [4:0-0-12,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.03	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	-0.06	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 79 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 8-2,6-4:2x6 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.

REACTIONS

(size) 6=0-5-8, 8=0-5-8
Max Horiz 8=177 (LC 13)
Max Uplift 6=-53 (LC 15), 8=-53 (LC 14)
Max Grav 6=648 (LC 22), 8=648 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-577/133, 3-4=-577/133, 4-5=0/40, 2-8=-593/173, 4-6=-593/169
BOT CHORD 7-8=-226/387, 6-7=-161/370
WEBS 3-7=0/255, 2-7=-121/263, 4-7=-127/265

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-14 to 2-2-2, Interior (1) 2-2-2 to 3-6-0, Exterior(2R) 3-6-0 to 9-6-0, Interior (1) 9-6-0 to 10-9-14, Exterior(2E) 10-9-14 to 13-9-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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'-0-0 tall by 2'-0-0 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.

LOAD CASE(S) Standard



October 7, 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
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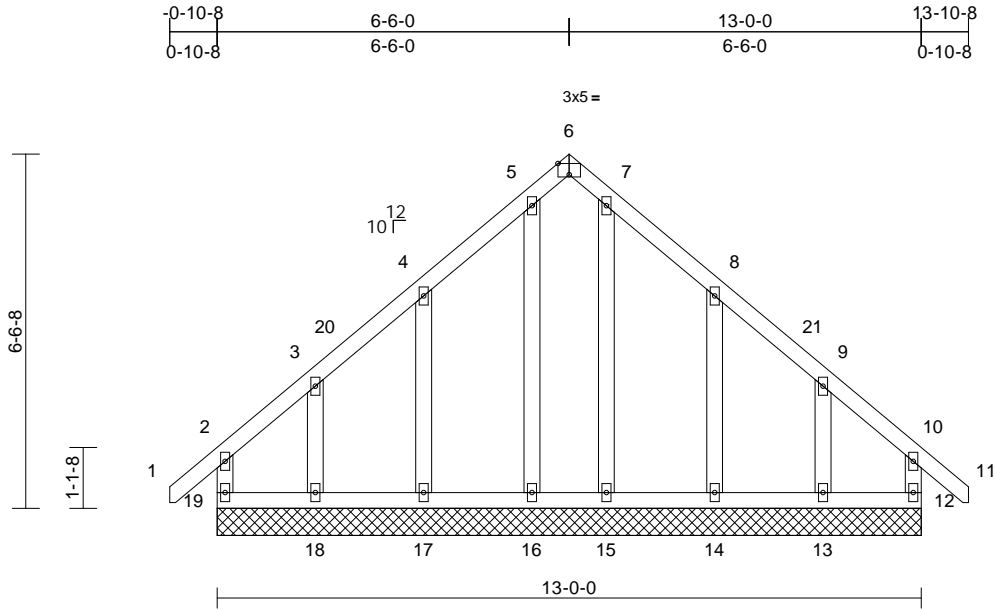
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss D02	Truss Type Common Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686565
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:51
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Page: 1



Scale = 1:42.5

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	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 84 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=13-0-0, 13=13-0-0, 14=13-0-0, 15=13-0-0, 16=13-0-0, 17=13-0-0, 18=13-0-0, 19=13-0-0
Max Horiz	19=175 (LC 12)
Max Uplift	12=59 (LC 11), 13=122 (LC 15), 14=87 (LC 15), 17=86 (LC 14), 18=125 (LC 14), 19=73 (LC 10)
Max Grav	12=155 (LC 25), 13=197 (LC 26), 14=268 (LC 22), 15=199 (LC 22), 16=199 (LC 21), 17=268 (LC 21), 18=203 (LC 25), 19=166 (LC 26)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	2-19=-132/101, 1-2=0/37, 2-3=-107/103, 3-4=-70/128, 4-5=-101/252, 5-6=-81/184, 6-7=-81/185, 7-8=-102/252, 8-9=-60/129, 9-10=-92/88, 10-11=0/37, 10-12=-123/90
BOT CHORD	18-19=-86/128, 17-18=-86/128, 16-17=-86/128, 15-16=-86/128, 14-15=-86/128, 13-14=-86/128, 12-13=-86/128
WEBS	5-16=-167/7, 7-15=-167/0, 4-17=-226/172, 3-18=-156/146, 8-14=-226/170, 9-13=-147/159

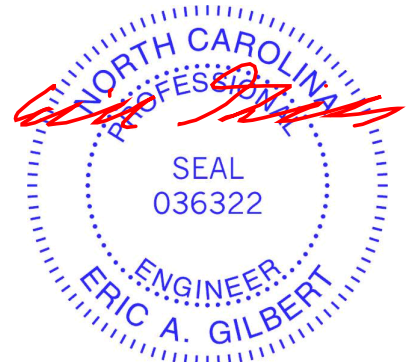
NOTES

- 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) -0-9-14 to 2-2-2, Exterior(2N) 2-2-2 to 3-6-0, Corner(3R) 3-6-0 to 9-6-0, Exterior(2N) 9-6-0 to 10-9-14, Corner(3E) 10-9-14 to 13-9-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 73 lb uplift at joint 19, 59 lb uplift at joint 12, 86 lb uplift at joint 17, 125 lb uplift at joint 18, 87 lb uplift at joint 14 and 122 lb uplift at joint 13.

LOAD CASE(S) Standard



October 7, 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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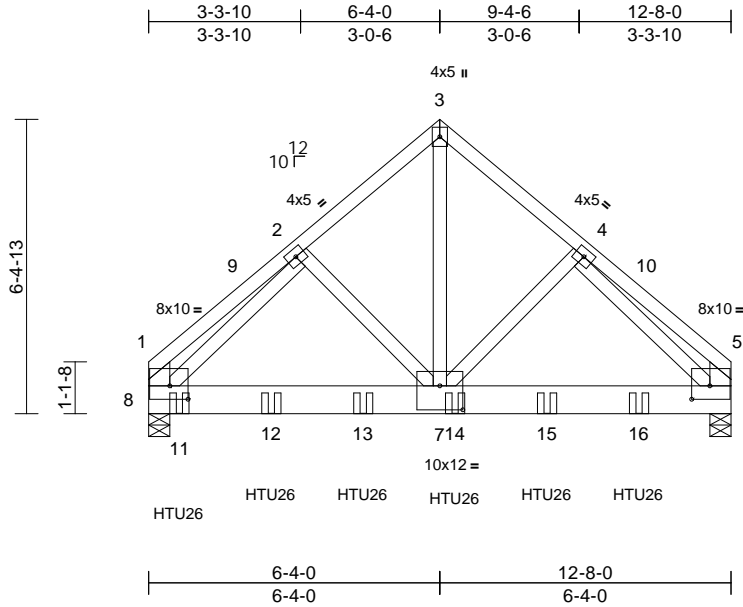
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss E01	Truss Type Common Girder	Qty 1	Ply 2	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686566
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:51
ID:22T36Dt8B0CinE4y4jVg5VypZpe-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRcDoi7J4zJC?f

Page: 1



Scale = 1:50.1

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

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	0.56	Vert(LL)	-0.04	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.08	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.60	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 197 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x8 SP 2400F 2.0E
 WEBS 2x4 SP No.3 *Except* 8-1,6-5:2x6 SP No.2, 7-3:2x4 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.

REACTIONS

(size) 6=0-5-8, 8=0-5-8
 Max Horiz 8=-148 (LC 8)
 Max Uplift 6=-425 (LC 13), 8=-519 (LC 12)
 Max Grav 6=4578 (LC 6), 8=5586 (LC 5)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-1830/211, 2-3=-4085/452, 3-4=-4085/452, 4-5=-1766/206, 1-8=-1231/160, 5-6=-1190/156
 BOT CHORD 7-8=-315/2959, 6-7=-260/2951
 WEBS 2-8=-2398/227, 4-6=-2462/233, 3-7=-500/4928, 2-7=-76/329, 4-7=-77/339

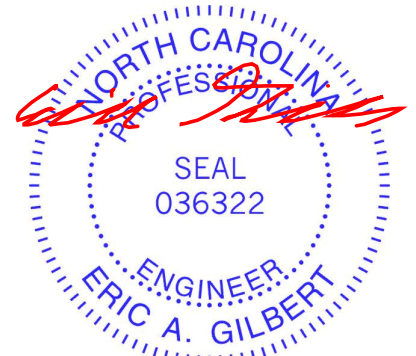
NOTES

- 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, 2x6 - 2 rows staggered at 0-9-0 oc.
 Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-5-0 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) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 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.
- Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-8-0 from the left end to 10-8-0 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: 1-3=-60, 3-5=-60, 6-8=-20
 Concentrated Loads (lb)
 Vert: 11=-1398 (B), 12=-1393 (B), 13=-1393 (B), 14=-1393 (B), 15=-1393 (B), 16=-1393 (B)



October 7, 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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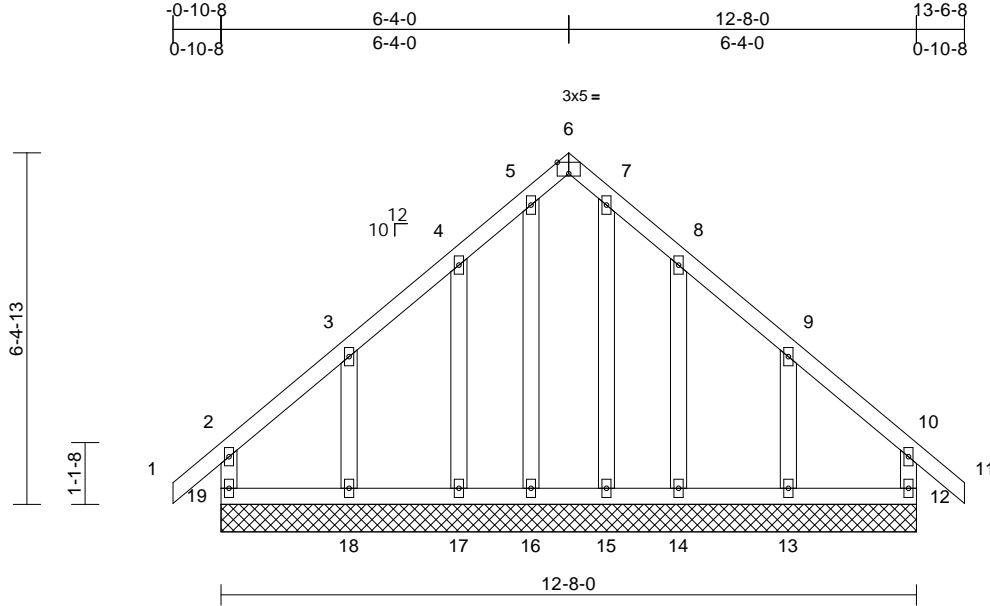
818 Soundside Road
 Edenton, NC 27932

Job 24090147-01	Truss E02	Truss Type Common Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686567
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:51
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Page: 1



Scale = 1:42

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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 85 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=12-8-0, 13=12-8-0, 14=12-8-0, 15=12-8-0, 16=12-8-0, 17=12-8-0, 18=12-8-0, 19=12-8-0
Max Horiz	19=172 (LC 12)
Max Uplift	12=45 (LC 11), 13=126 (LC 15), 14=73 (LC 15), 17=72 (LC 14), 18=129 (LC 14), 19=56 (LC 10)
Max Grav	12=168 (LC 25), 13=226 (LC 26), 14=221 (LC 22), 15=140 (LC 22), 16=140 (LC 21), 17=221 (LC 21), 18=230 (LC 25), 19=177 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	2-19=-142/145, 1-2=0/39, 2-3=-107/98, 3-4=-84/187, 4-5=-123/294, 5-6=-89/194, 6-7=-89/194, 7-8=-123/293, 8-9=-83/188, 9-10=-97/86, 10-11=0/39, 10-12=-135/137
BOT CHORD	18-19=-82/115, 17-18=-82/115, 16-17=-82/115, 15-16=-82/115, 14-15=-82/115, 13-14=-82/115, 12-13=-82/115
WEBS	5-16=-164/27, 7-15=-163/28, 4-17=-188/152, 3-18=-185/171, 8-14=-188/149, 9-13=-177/182

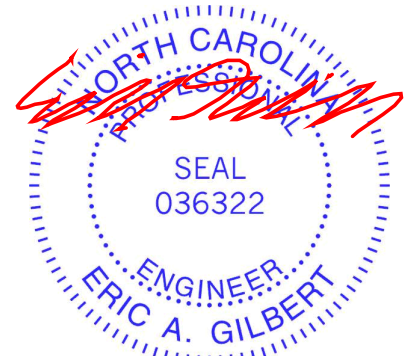
NOTES

- 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 2-4-0, Exterior(2N) 2-4-0 to 3-4-0, Corner(3R) 3-4-0 to 9-4-0, Exterior(2N) 9-4-0 to 10-4-0, Corner(3E) 10-4-0 to 13-6-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 56 lb uplift at joint 19, 45 lb uplift at joint 12, 72 lb uplift at joint 17, 129 lb uplift at joint 18, 73 lb uplift at joint 14 and 126 lb uplift at joint 13.

LOAD CASE(S) Standard



October 7, 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)



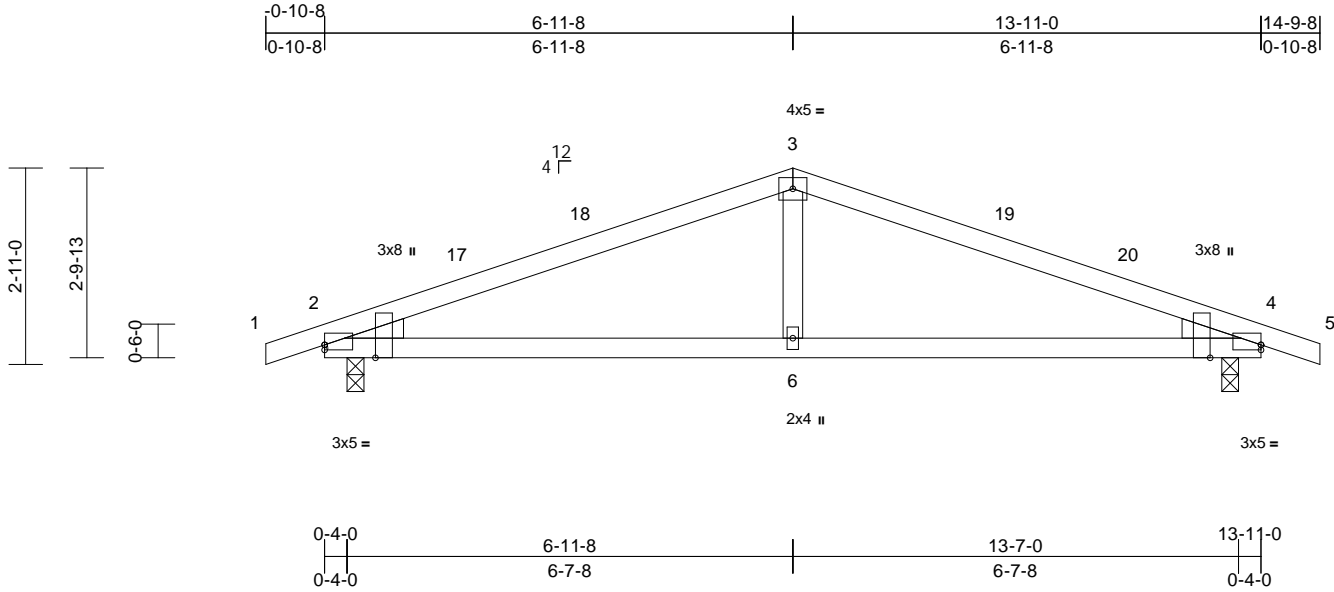
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss F01	Truss Type Common	Qty 4	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686568
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:51
ID:nqLL14Jf5JAmMe82YAnIwAzF_pM-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f

Page: 1



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	IRC2021/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 8-6-15 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

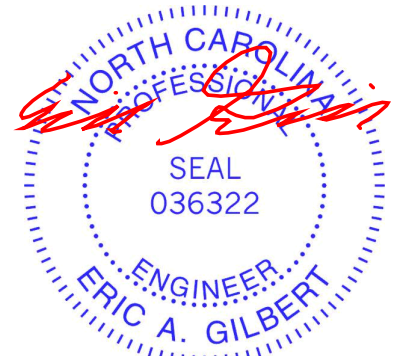
TOP CHORD 1-2=0/17, 2-3=-901/594, 3-4=-901/594, 4-5=0/17
 BOT CHORD 2-6=-458/775, 4-6=-458/775
 WEBS 3-6=-116/268

NOTES

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

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

LOAD CASE(S) Standard



October 7, 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)



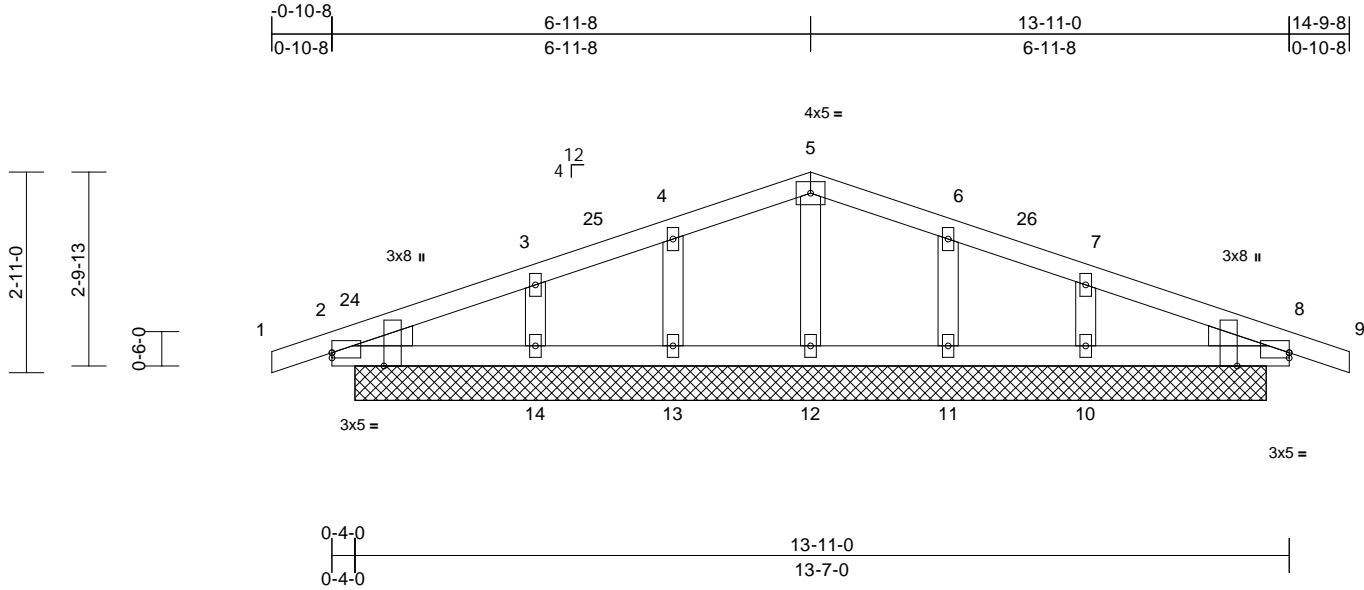
818 Soundside Road
 Edenton, NC 27932

Job 24090147-01	Truss F02	Truss Type Common Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686569
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:51
ID:UUQhZhEGK9Im0a6ieC968izF_pT-RfC?PsB70Hq3NSgPqnl8w3uITxBGKWrCDoi7J4zJC?f

Page: 1



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	IRC2021/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 36), 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 36)
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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 8, 12, 13, 14, 11, 10, and 8. This connection is for uplift only and does not consider lateral forces.

12) Non Standard bearing condition. Review required.
LOAD CASE(S) Standard



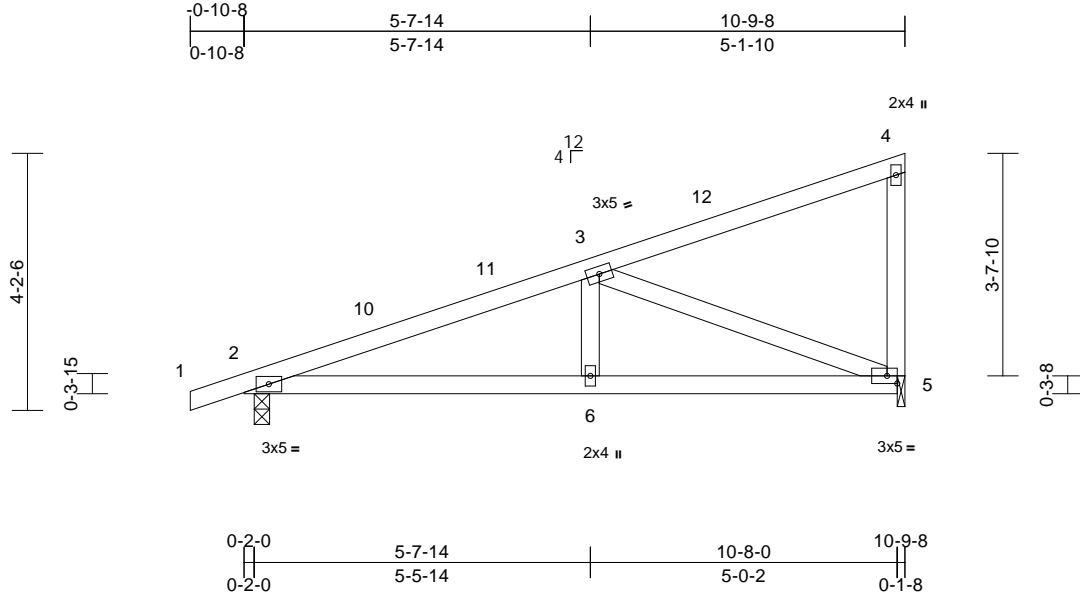
October 7, 2024

Job 24090147-01	Truss G01	Truss Type Monopitch	Qty 6	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686570
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:52
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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	0.45	Vert(LL)	0.05	6-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.08	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.51	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/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 5-8-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-3-12 oc bracing.

REACTIONS

(size) 2=0-3-0, 5=0-1-8
Max Horiz 2=148 (LC 13)
Max Uplift 2=-184 (LC 10), 5=-169 (LC 10)
Max Grav 2=539 (LC 21), 5=555 (LC 21)

FORCES

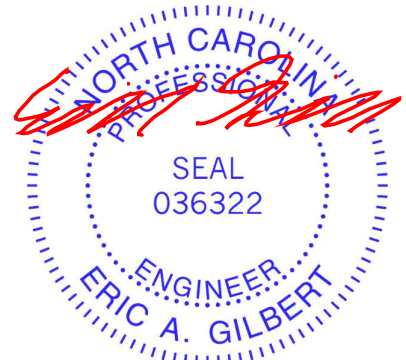
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-952/493, 3-4=-104/66, 4-5=-184/101
BOT CHORD 2-6=-472/880, 5-6=-472/880
WEBS 3-6=-105/242, 3-5=-918/562

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 7-7-12, Exterior(2E) 7-7-12 to 10-7-12 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 .
- 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) 2, 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.

LOAD CASE(S) Standard



October 7, 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)



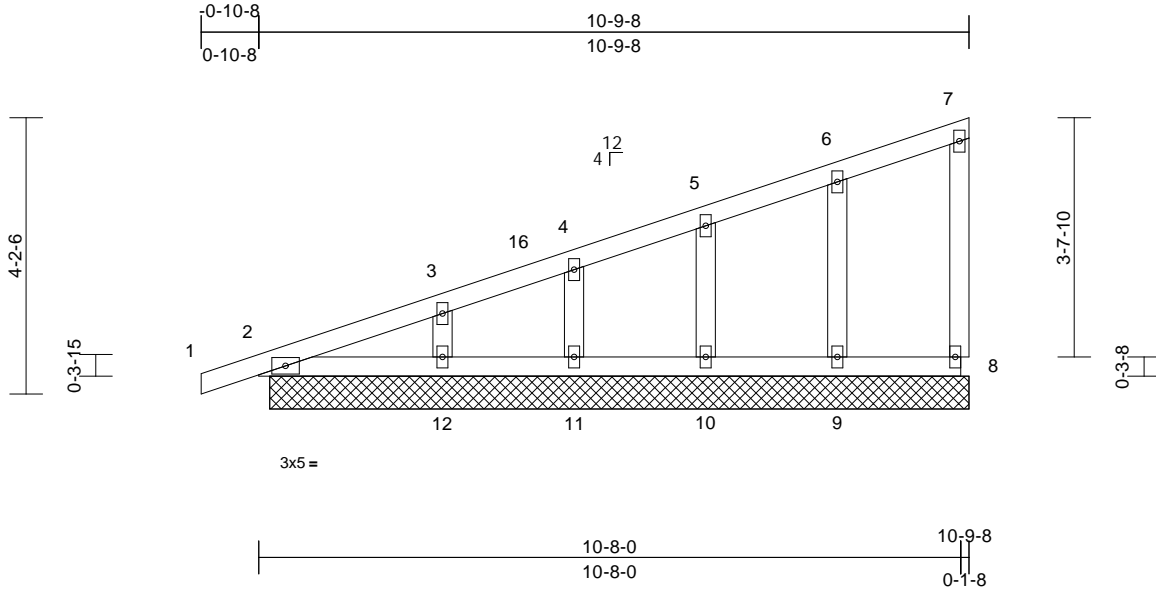
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss G02	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686571
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:52
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Page: 1



Scale = 1:35

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	0.18	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	0.05	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/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.

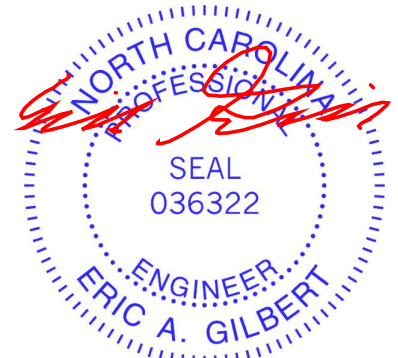
REACTIONS	
(size)	2=10-7-8, 8=10-7-8, 9=10-7-8, 10=10-7-8, 11=10-7-8, 12=10-7-8, 13=10-7-8
Max Horiz	2=148 (LC 13), 13=148 (LC 13)
Max Uplift	2=-26 (LC 10), 8=-13 (LC 11), 9=-34 (LC 10), 10=-34 (LC 14), 11=-32 (LC 10), 12=-44 (LC 14), 13=-26 (LC 10)
Max Grav	2=155 (LC 21), 8=84 (LC 21), 9=227 (LC 21), 10=223 (LC 21), 11=189 (LC 21), 12=216 (LC 1), 13=155 (LC 21)

FORCES	
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-132/137, 3-4=-92/116, 4-5=-78/105, 5-6=-70/92, 6-7=-56/71, 7-8=-68/38
BOT CHORD	2-12=-46/82, 11-12=-46/82, 10-11=-46/82, 9-10=-46/82, 8-9=-46/82
WEBS	6-9=-186/114, 5-10=-181/133, 4-11=-159/123, 3-12=-164/143

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 7-7-12, Corner(3E) 7-7-12 to 10-7-12 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 2 and 26 lb uplift at joint 2.
- 11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 8, 9, 10, 11, and 12. This connection is for uplift only and does not consider lateral forces.
- 12) Non Standard bearing condition. Review required.

LOAD CASE(S) Standard



October 7, 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

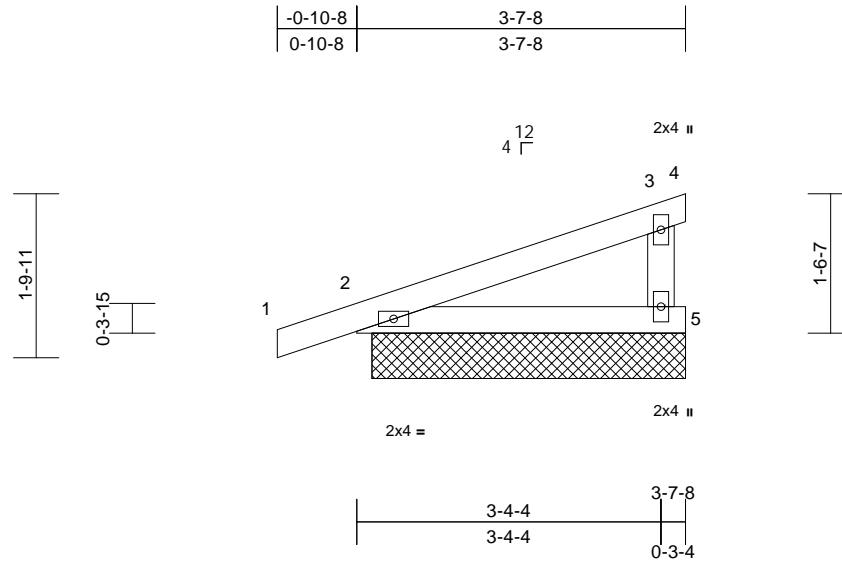
Job 24090147-01	Truss G03	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686572
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:52

Page: 1

ID:05Rb2nqdzWbg0FxFJai2r9FzF_oh-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?f



Scale = 1:25.4

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	0.16	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 14 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 3-7-8 oc purlins, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=3-5-8, 4=3-5-8, 5=3-5-8, 6=3-5-8
 Max Horiz 2=53 (LC 11), 6=53 (LC 11)
 Max Uplift 2=-50 (LC 10), 4=-255 (LC 21),
 5=-87 (LC 14), 6=-50 (LC 10)
 Max Grav 2=246 (LC 21), 4=53 (LC 14),
 5=471 (LC 21), 6=246 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

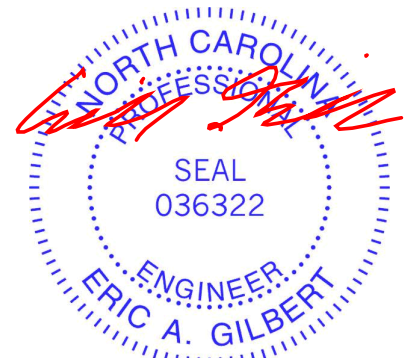
TOP CHORD 1-2=0/24, 2-3=-61/58, 3-4=-88/63,
 3-5=-428/353
 BOT CHORD 2-5=-15/66

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 3-7-8 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
- 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) 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 255 lb uplift at joint 4, 50 lb uplift at joint 2 and 50 lb uplift at joint 2.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. This connection is for uplift only and does not consider lateral forces.
- 11) Non Standard bearing condition. Review required.

LOAD CASE(S) Standard



October 7, 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)



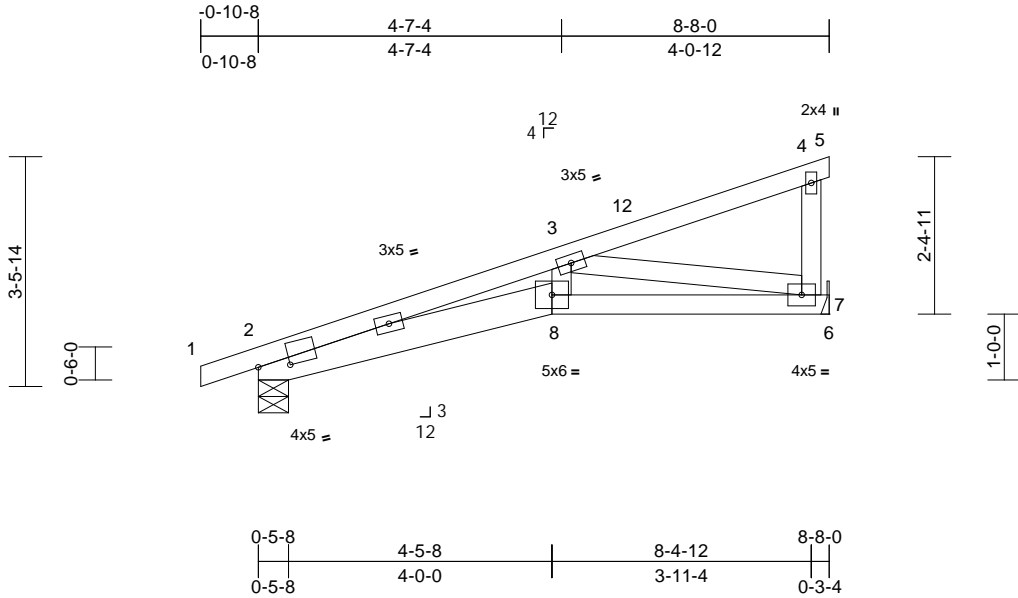
818 Soundside Road
 Edenton, NC 27932

Job 24090147-01	Truss H01	Truss Type Monopitch	Qty 9	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686573
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:52
ID:Dy_jjEEKvGAptckEgqDBdczF_tK-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f

Page: 1



Scale = 1:35

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.33	Vert(LL)	-0.06	8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.09	8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.43	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 41 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 4-8-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-10-7 oc bracing.

REACTIONS

(size) 2=0-5-8, 7= Mechanical
Max Horiz 2=108 (LC 11)
Max Uplift 2=-75 (LC 10), 7=-67 (LC 14)
Max Grav 2=462 (LC 21), 7=478 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-1495/573, 3-4=-60/53, 4-5=-8/0, 4-7=-179/94
BOT CHORD 2-8=-600/1432, 7-8=-558/1308, 6-7=0/0
WEBS 3-8=-108/410, 3-7=-1332/607

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 5-8-0, Exterior(2E) 5-8-0 to 8-8-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.

- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 7) Refer to girder(s) for truss to truss connections.
- 8) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 7.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



October 7, 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

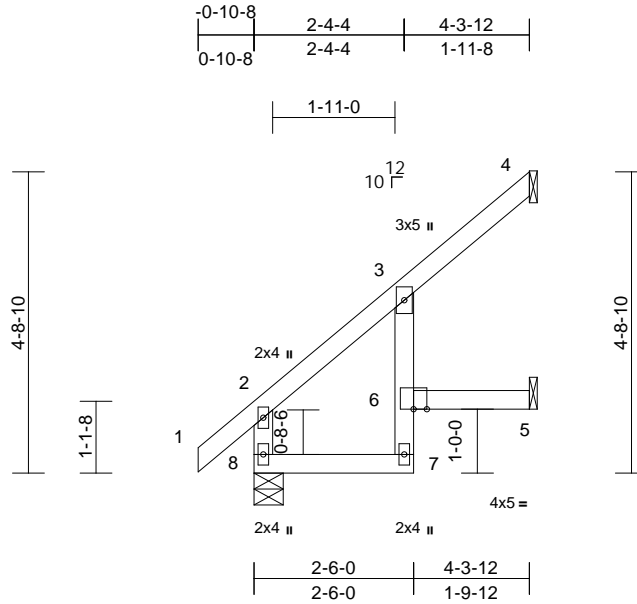
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss J02	Truss Type Jack-Open	Qty 5	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686576
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:52
ID:v4QigB16ac_HhtWxtyIRNOyX0oe-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRcDoi7J4zJCf

Page: 1



Scale = 1:36.1

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	0.27	Vert(LL)	-0.03	7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.05	7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.03	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 22 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 7-3:2x4 SP No.3
WEBS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-3-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical,
8=0-5-8
Max Horiz 8=141 (LC 14)
Max Uplift 4=-71 (LC 14), 5=-35 (LC 14)
Max Grav 4=156 (LC 21), 5=94 (LC 21),
8=327 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-8=-296/67, 1-2=0/39, 2-3=-211/0,
3-4=-95/87
BOT CHORD 7-8=-104/83, 6-7=-28/40, 3-6=-47/69, 5-6=0/0

NOTES

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

- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 7) Bearings are assumed to be: , Joint 8 User Defined .
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 71 lb uplift at joint 4 and 35 lb uplift at joint 5.

LOAD CASE(S) Standard



October 7, 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)



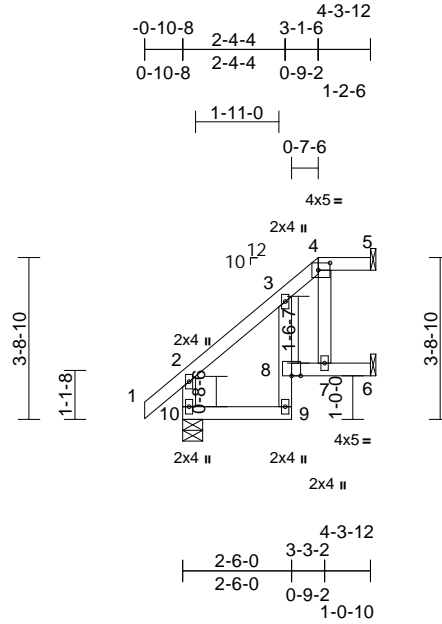
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss J03	Truss Type Jack-Open	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686577
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:52
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Page: 1



Scale = 1:52.9

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.03	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.03	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	-0.03	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 24 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-3:2x4 SP No.3
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-3-12 oc purlins, except end verticals, and 2-0-0 oc purlins: 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

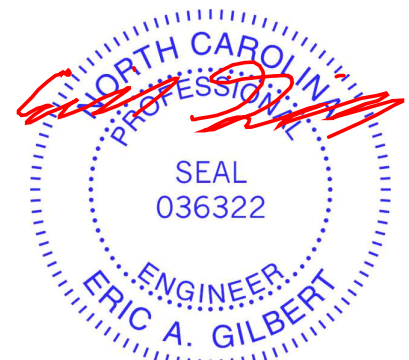
REACTIONS (size) 5= Mechanical, 6= Mechanical, 10=0-5-8
Max Horiz 10=108 (LC 14)
Max Uplift 5=-21 (LC 11), 6=-40 (LC 14)
Max Grav 5=77 (LC 37), 6=115 (LC 38), 10=340 (LC 38)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-10=-310/107, 1-2=0/63, 2-3=-181/0, 3-4=-55/68, 4-5=0/0
BOT CHORD 9-10=-86/88, 8-9=-18/40, 3-8=0/66, 7-8=-5/6, 6-7=0/0
WEBS 4-7=-105/76

- 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.
- Bearings are assumed to be: , Joint 10 User Defined .
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 5 and 40 lb uplift at joint 6.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

- NOTES**
- 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
 - 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



October 7, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



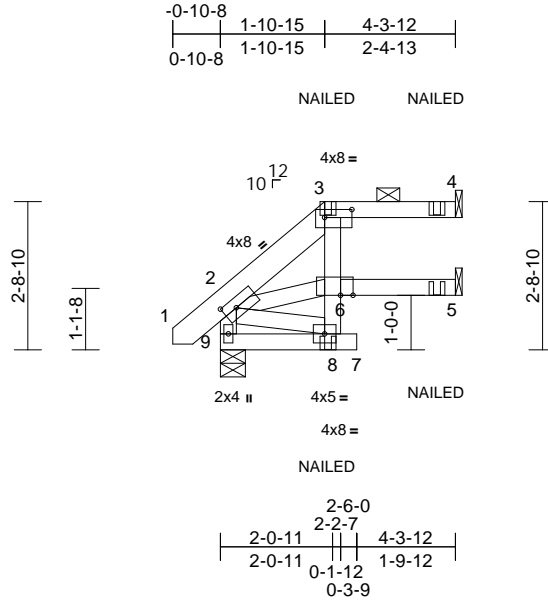
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss J04	Truss Type Jack-Open Girder	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686578
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:52
ID:XhtzWA7?n34ikbRAdmSN_3yX0r6-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?F

Page: 1



Scale = 1:42.3

Plate Offsets (X, Y): [2:0-2-14,0-2-0], [3:0-6-0,0-1-12], [6:0-2-12,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	0.85	Vert(LL)	-0.07	7	>726	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	-0.11	7	>436	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.06	Horz(CT)	0.12	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 28 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 3-4:2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-3-12 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 9=0-5-8
Max Horiz 9=71 (LC 53)
Max Uplift 4=-85 (LC 9), 5=-7 (LC 8), 9=-33 (LC 12)
Max Grav 4=308 (LC 33), 5=77 (LC 1), 9=362 (LC 34)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-9=-337/47, 1-2=0/52, 2-3=-175/35, 3-4=0/0
BOT CHORD 8-9=-89/109, 7-8=0/0, 5-6=0/0
WEBS 6-8=-8/119, 3-6=0/156, 2-8=-100/94, 2-6=-51/3

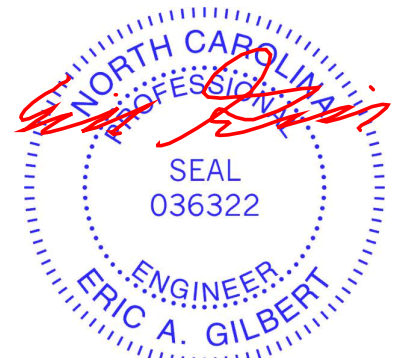
- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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.
- 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.
- Bearings are assumed to be: , Joint 9 User Defined .
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 85 lb uplift at joint 4 and 7 lb uplift at joint 5.
- 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 99 lb down and 35 lb up at 4-3-0 on top chord, and 56 lb down and 19 lb up at 4-3-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 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, 2-3=-60, 3-4=-60, 7-9=-20, 5-6=-20
Concentrated Loads (lb)
Vert: 3=-101 (B), 4=-81 (B), 5=-56 (B), 8=-32 (B)



October 7, 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)



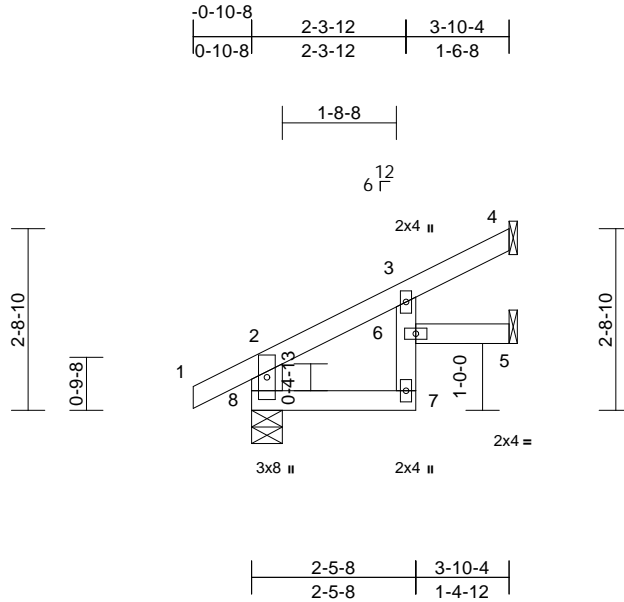
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss J05	Truss Type Jack-Open	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686579
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:52
ID:I3HEZACKhiVUdwZAo5Zu1yX0sI-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCdoi7J4zJC?f

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	0.18	Vert(LL)	-0.01	7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.02	7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 17 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 7-3:2x4 SP No.3
WEBS 2x6 SP No.2

BRACING

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

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-5-8
Max Horiz 8=75 (LC 14)
Max Uplift 4=-36 (LC 14), 5=-11 (LC 14), 8=-19 (LC 14)
Max Grav 4=119 (LC 21), 5=69 (LC 21), 8=325 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-8=-300/127, 1-2=0/47, 2-3=-155/0, 3-4=-42/47
BOT CHORD 7-8=-71/84, 6-7=-3/41, 3-6=-30/55, 5-6=0/0

NOTES

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

- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 7) Bearings are assumed to be: , Joint 8 User Defined .
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 4 and 11 lb uplift at joint 5.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 8. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



October 7, 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)



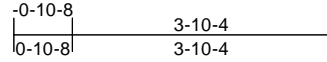
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss J06	Truss Type Jack-Open	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686580
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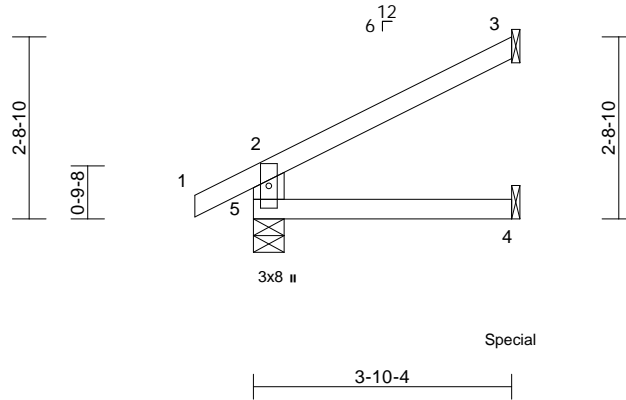
Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:53
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Page: 1



Special



Special

Scale = 1:34.4

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	0.27	Vert(LL)	0.01	4-5	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.02	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 15 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 3= Mechanical, 4= Mechanical,
5=0-5-8
Max Horiz 5=75 (LC 14)
Max Uplift 3=-76 (LC 14), 5=-19 (LC 14)
Max Grav 3=161 (LC 21), 4=84 (LC 7), 5=325 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-298/144, 1-2=0/47, 2-3=-87/49
BOT CHORD 4-5=0/0

NOTES

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

- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 7) Bearings are assumed to be: , Joint 5 User Defined .
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 3.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. This connection is for uplift only and does not consider lateral forces.
- 11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 77 lb down and 61 lb up at 3-9-8 on top chord, and 19 lb down and 3 lb up at 3-9-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 12) 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, 2-3=-60, 4-5=-20
Concentrated Loads (lb)
Vert: 3=-50 (F), 4=-7 (F)



October 7, 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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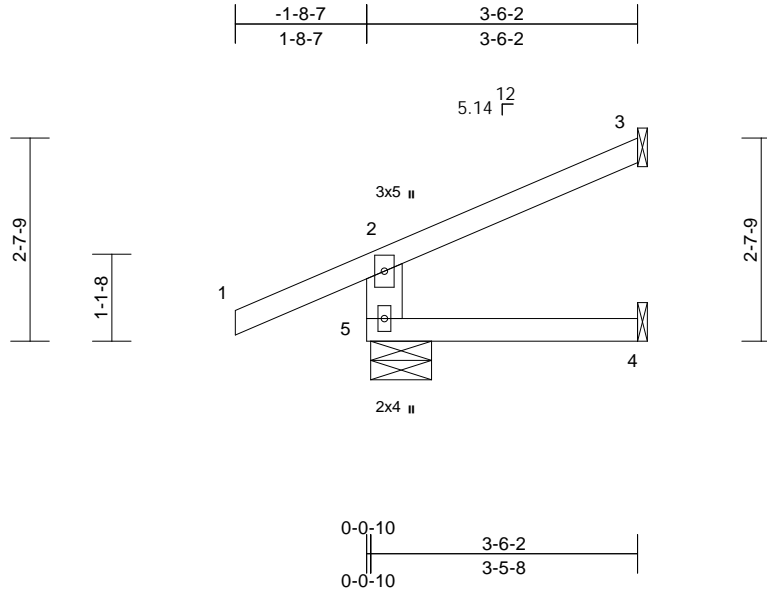
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss J07	Truss Type Jack-Open	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686581
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:53
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Page: 1



Scale = 1:29.8

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	0.40	Vert(LL)	-0.01	4-5	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	4-5	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a	
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR							
BCDL	10.0									Weight: 15 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-6-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 3= Mechanical, 4= Mechanical,
5=0-9-7
Max Horiz 5=66 (LC 11)
Max Uplift 3=-45 (LC 14), 5=-42 (LC 10)
Max Grav 3=107 (LC 21), 4=56 (LC 7), 5=415 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-371/240, 1-2=0/71, 2-3=-76/33
BOT CHORD 4-5=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-8-7 to 2-6-8, Exterior(2R) 2-6-8 to 3-5-6 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 User Defined .
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 5 and 45 lb uplift at joint 3.

LOAD CASE(S) Standard



October 7, 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/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)



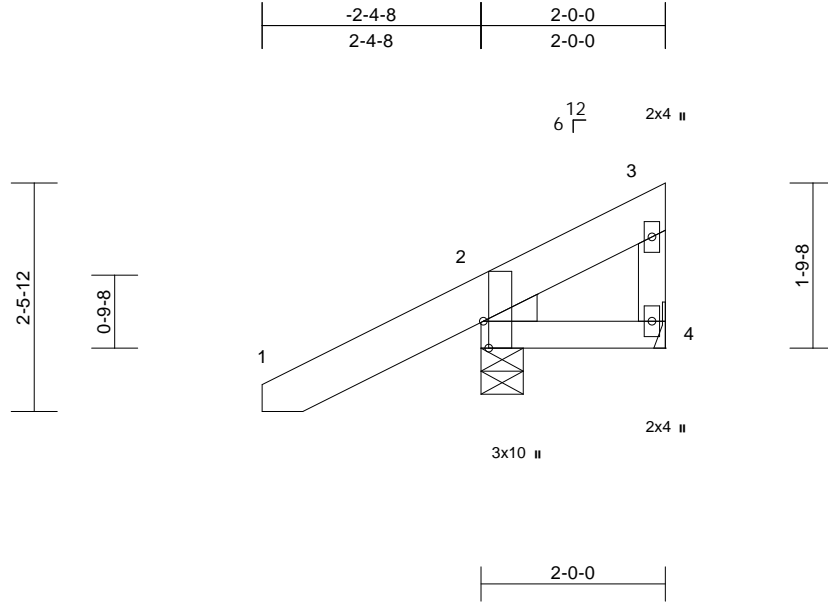
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss K01	Truss Type Jack-Closed	Qty 3	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686582
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:53
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Page: 1



Scale = 1:25

Plate Offsets (X, Y): [2:0-3-8,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	0.22	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	0.00	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 17 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3
 WEDGE Left: 2x4 SP No.3

BRACING

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

REACTIONS (size) 2=0-5-8, 4= Mechanical
 Max Horiz 2=63 (LC 13)
 Max Uplift 2=-73 (LC 14), 4=-38 (LC 20)
 Max Grav 2=417 (LC 21), 4=32 (LC 10)

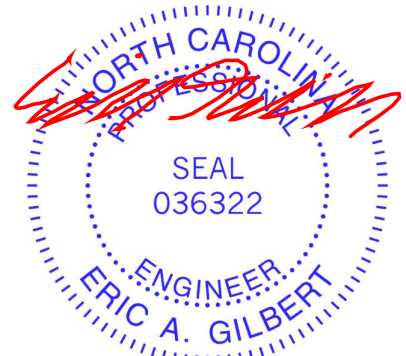
FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/89, 2-3=-90/137, 3-4=-66/32
 BOT CHORD 2-4=-69/40

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) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 7) All bearings are assumed to be User Defined .
 - 8) Refer to girder(s) for truss to truss connections.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 4.
 - 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- LOAD CASE(S)** Standard



October 7, 2024

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818 Soundside Road
 Edenton, NC 27932

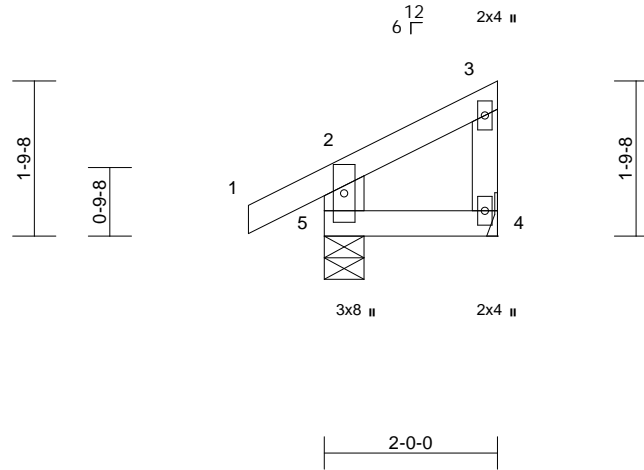
Job 24090147-01	Truss K02	Truss Type Jack-Closed	Qty 3	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686583
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:53
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Page: 1

-0-10-8	2-0-0
0-10-8	2-0-0



Scale = 1:26.6

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)	0.00	4-5	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 11 lb	FT = 20%

LUMBER

- TOP CHORD 2x4 SP No.2
- BOT CHORD 2x4 SP No.2
- WEBS 2x6 SP No.2 *Except* 3-4:2x4 SP No.3

BRACING

- TOP CHORD Structural wood sheathing directly applied or 2-0-0 oc purlins, except end verticals.
- BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

- (size) 4= Mechanical, 5=0-5-8
- Max Horiz 5=60 (LC 13)
- Max Uplift 4=-21 (LC 11), 5=-30 (LC 14)
- Max Grav 4=54 (LC 21), 5=214 (LC 21)

FORCES

- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 2-5=-191/120, 1-2=0/43, 2-3=-42/31, 3-4=-60/32
- BOT CHORD 4-5=-21/32

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) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 7) All bearings are assumed to be User Defined .
 - 8) Refer to girder(s) for truss to truss connections.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 4.
 - 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. This connection is for uplift only and does not consider lateral forces.
- LOAD CASE(S)** Standard



October 7, 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)



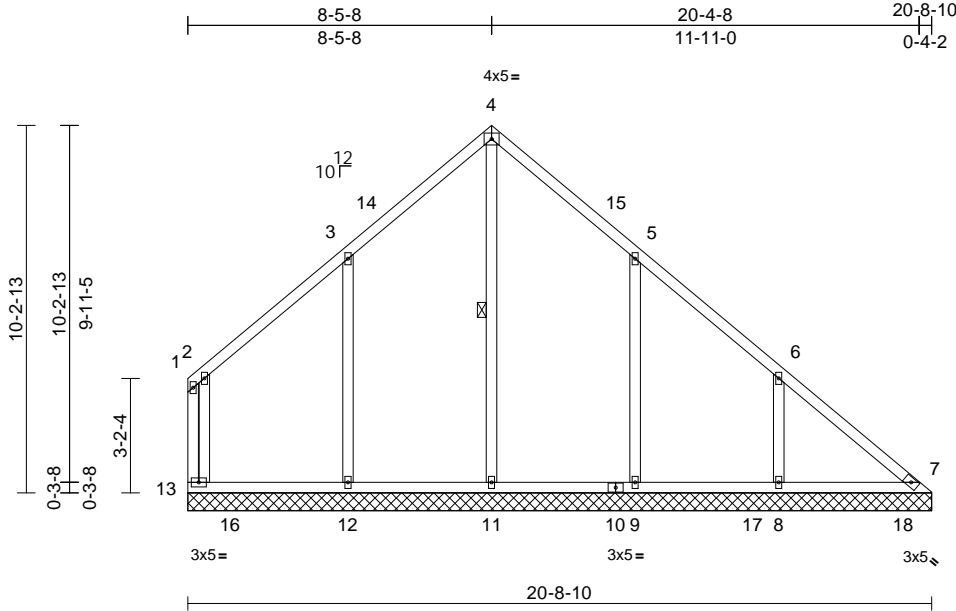
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V1	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686584
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:53
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Page: 1



Scale = 1:64.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.32	Horiz(TL)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-SH								
BCDL	10.0											
											Weight: 117 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 4-11

REACTIONS (size)

7=20-8-10, 8=20-8-10, 9=20-8-10, 11=20-8-10, 12=20-8-10, 13=20-8-10
Max Horiz 13=-269 (LC 10)
Max Uplift 7=-119 (LC 11), 8=-167 (LC 15), 9=-162 (LC 15), 11=-72 (LC 12), 12=-175 (LC 14), 13=-76 (LC 14)
Max Grav 7=267 (LC 24), 8=465 (LC 25), 9=493 (LC 6), 11=448 (LC 26), 12=528 (LC 5), 13=255 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension

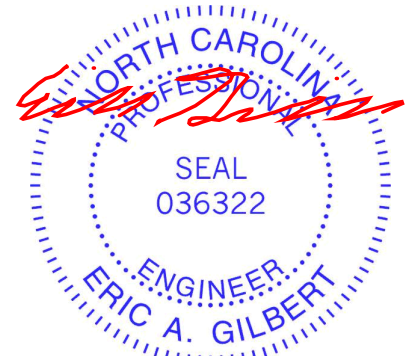
TOP CHORD	1-13=-107/104, 1-2=-94/67, 2-3=-182/108, 3-4=-266/266, 4-5=-264/292, 5-6=-274/254, 6-7=-310/268
BOT CHORD	12-13=-203/247, 11-12=-203/247, 9-11=-203/247, 8-9=-203/247, 7-8=-203/247
WEBS	4-11=-279/149, 3-12=-380/228, 2-13=-272/189, 5-9=-366/213, 6-8=-316/203

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) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 5-5-8, Exterior(2R) 5-5-8 to 11-5-8, Interior (1) 11-5-8 to 17-4-1, Exterior(2E) 17-4-1 to 20-4-1 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 13, 119 lb uplift at joint 7, 72 lb uplift at joint 11, 175 lb uplift at joint 12, 162 lb uplift at joint 9 and 167 lb uplift at joint 8.

LOAD CASE(S) Standard



October 7, 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)



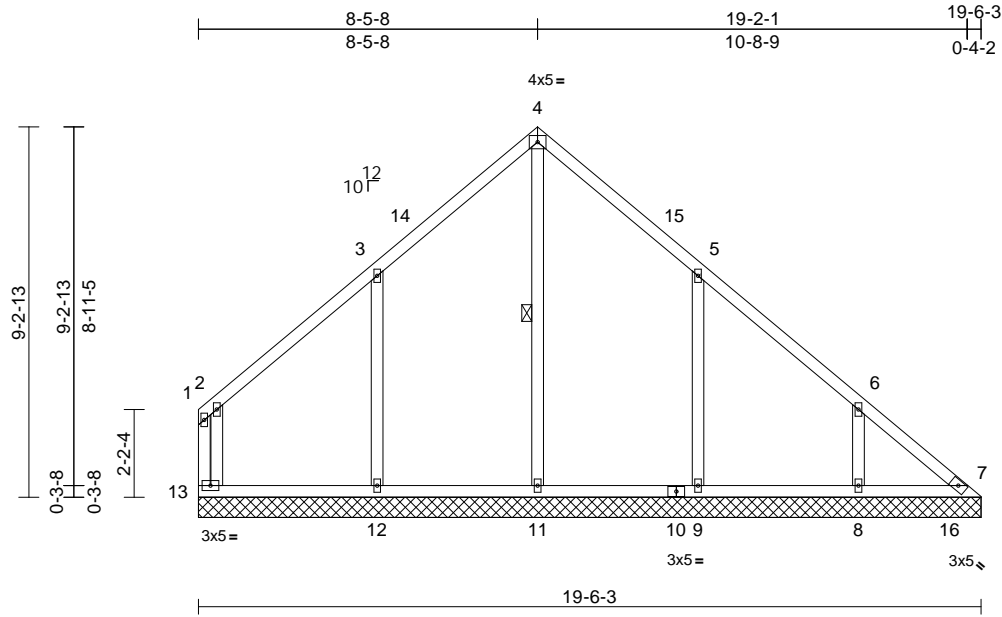
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V2	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686585
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:53
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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	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.23	Horiz(TL)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-SH								
BCDL	10.0											
											Weight: 104 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-11

REACTIONS (size)
7=19-6-3, 8=19-6-3, 9=19-6-3, 11=19-6-3, 12=19-6-3, 13=19-6-3
Max Horiz 13=233 (LC 10)
Max Uplift 7=122 (LC 11), 8=138 (LC 15), 9=169 (LC 15), 11=58 (LC 12), 12=180 (LC 14), 13=77 (LC 14)
Max Grav 7=219 (LC 24), 8=367 (LC 30), 9=475 (LC 6), 11=454 (LC 26), 12=490 (LC 5), 13=237 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-82/107, 1-2=-70/63, 2-3=-182/100, 3-4=-267/274, 4-5=-266/300, 5-6=-269/236, 6-7=-285/241
BOT CHORD 12-13=-178/219, 11-12=-178/219, 9-11=-178/219, 8-9=-178/219, 7-8=-178/219
WEBS 4-11=-289/135, 3-12=-379/230, 2-13=-300/176, 5-9=-376/220, 6-8=-269/175

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) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 5-5-8, Exterior(2R) 5-5-8 to 11-5-8, Interior (1) 11-5-8 to 16-1-11, Exterior(2E) 16-1-11 to 19-1-11 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 77 lb uplift at joint 13, 122 lb uplift at joint 7, 58 lb uplift at joint 11, 180 lb uplift at joint 12, 169 lb uplift at joint 9 and 138 lb uplift at joint 8.

LOAD CASE(S) Standard



October 7, 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)



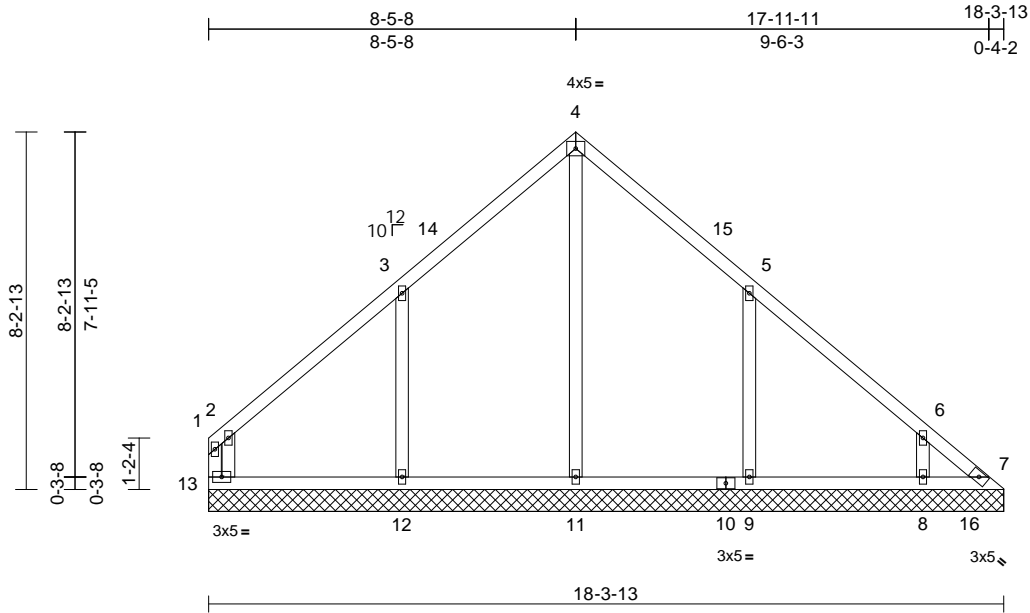
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V3	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686586
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:53
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Page: 1



Scale = 1:53.1

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.32	Horiz(TL)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-SH								
BCDL	10.0											
											Weight: 91 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)

7=18-3-13, 8=18-3-13, 9=18-3-13, 11=18-3-13, 12=18-3-13, 13=18-3-13
Max Horiz 13=197 (LC 10)
Max Uplift 7=-116 (LC 11), 8=-122 (LC 15), 9=-172 (LC 15), 11=-33 (LC 12), 12=-192 (LC 14), 13=-59 (LC 14)
Max Grav 7=161 (LC 12), 8=324 (LC 25), 9=481 (LC 6), 11=413 (LC 26), 12=497 (LC 24), 13=235 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-13=-53/94, 1-2=-57/43, 2-3=-197/91, 3-4=-284/261, 4-5=-284/286, 5-6=-276/195, 6-7=-248/196
BOT CHORD	12-13=-143/193, 11-12=-143/193, 9-11=-143/193, 8-9=-143/193, 7-8=-143/193
WEBS	4-11=-273/127, 3-12=-380/236, 2-13=-305/141, 5-9=-379/221, 6-8=-249/166

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) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 5-5-8, Exterior(2R) 5-5-8 to 11-5-8, Interior (1) 11-5-8 to 14-11-4, Exterior(2E) 14-11-4 to 17-11-4 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
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 59 lb uplift at joint 13, 116 lb uplift at joint 7, 33 lb uplift at joint 11, 192 lb uplift at joint 12, 172 lb uplift at joint 9 and 122 lb uplift at joint 8.

LOAD CASE(S) Standard



October 7, 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)

ENGINEERING BY
TRENCO
A MiTek Affiliate

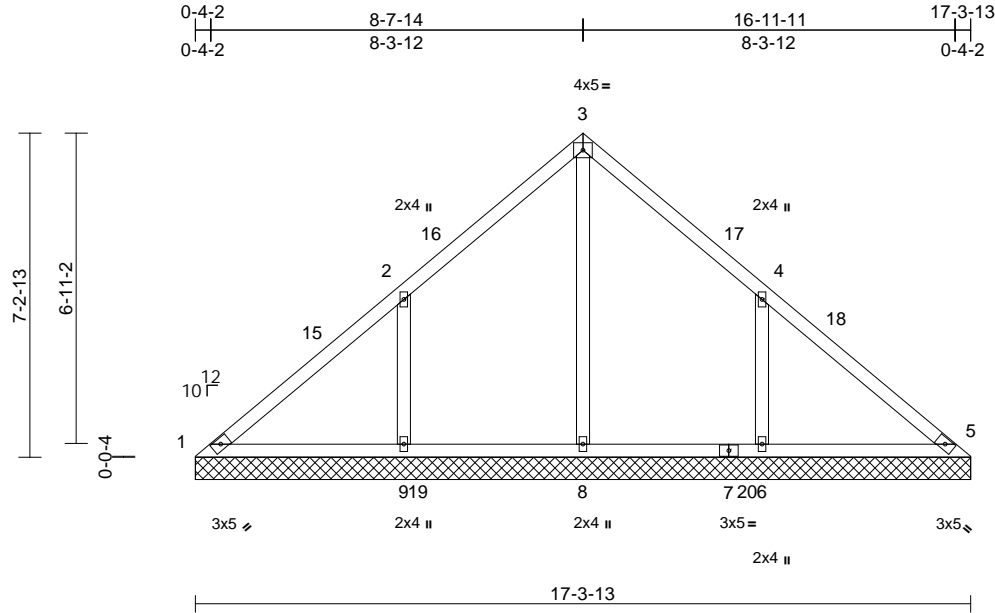
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V4	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686587
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:51.5

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	0.40	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.45	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 78 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

- (size) 1=17-3-13, 5=17-3-13, 6=17-3-13, 8=17-3-13, 9=17-3-13, 14=17-3-13
- Max Horiz 1=165 (LC 11)
- Max Uplift 1=-58 (LC 10), 6=-189 (LC 15), 9=-195 (LC 14)
- Max Grav 1=87 (LC 35), 5=1 (LC 25), 6=529 (LC 25), 8=666 (LC 24), 9=532 (LC 24), 14=1 (LC 25)

FORCES

- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=-105/391, 2-3=-17/334, 3-4=0/313, 4-5=-159/324
- BOT CHORD 1-9=-213/81, 8-9=-213/79, 6-8=-213/79, 5-6=-213/79
- WEBS 3-8=-489/0, 2-9=-399/227, 4-6=-399/225

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) -0-2-6 to 2-9-10, Interior (1) 2-9-10 to 5-5-8, Exterior(2R) 5-5-8 to 11-5-8, Interior (1) 11-5-8 to 13-8-14, Exterior(2E) 13-8-14 to 16-8-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 1.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9 and 6. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



October 7, 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)



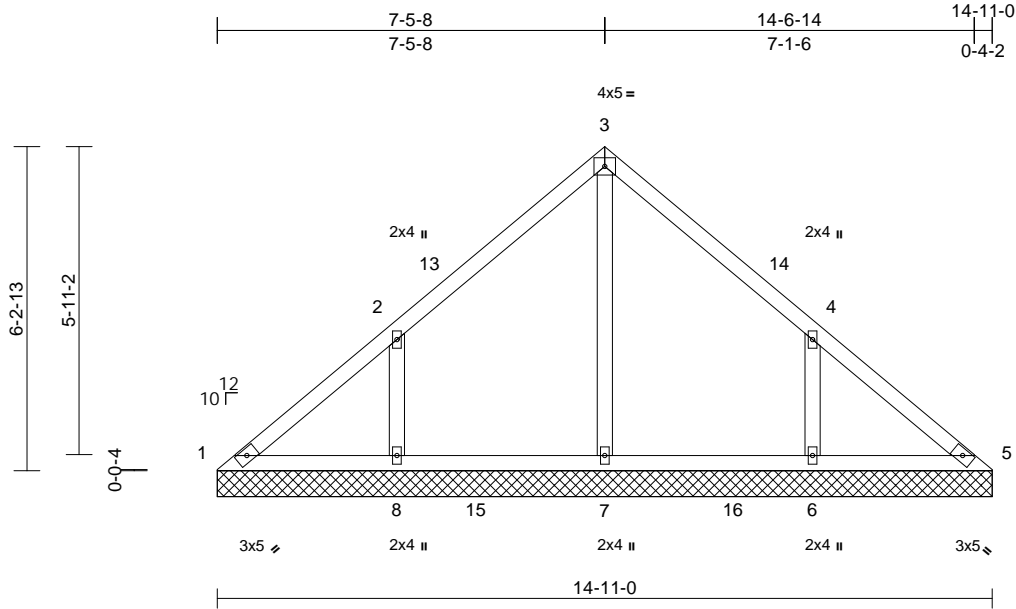
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V5	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686588
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:53
ID:04m3Z_55H64Kctd8erPf9yX0wR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:44.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.16	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 65 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 1=14-11-0, 5=14-11-0, 6=14-11-0,
7=14-11-0, 8=14-11-0
Max Horiz 1=142 (LC 13)
Max Uplift 1=-23 (LC 10), 6=-159 (LC 15),
8=-162 (LC 14)
Max Grav 1=126 (LC 25), 5=100 (LC 24),
6=463 (LC 21), 7=421 (LC 24),
8=463 (LC 20)

FORCES

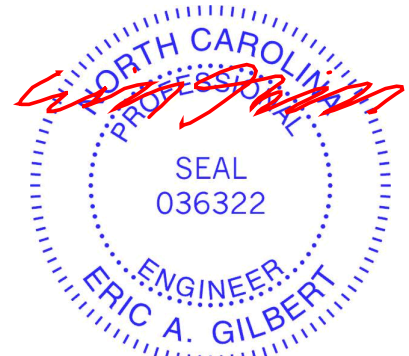
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-154/159, 2-3=-165/130, 3-4=-165/110,
4-5=-123/123
BOT CHORD 1-8=-68/130, 7-8=-68/107, 6-7=-68/107,
5-6=-68/107
WEBS 3-7=-238/0, 2-8=-377/200, 4-6=-377/198

NOTES

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

- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 23 lb uplift at joint 1, 162 lb uplift at joint 8 and 159 lb uplift at joint 6.

LOAD CASE(S) Standard



October 7, 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)



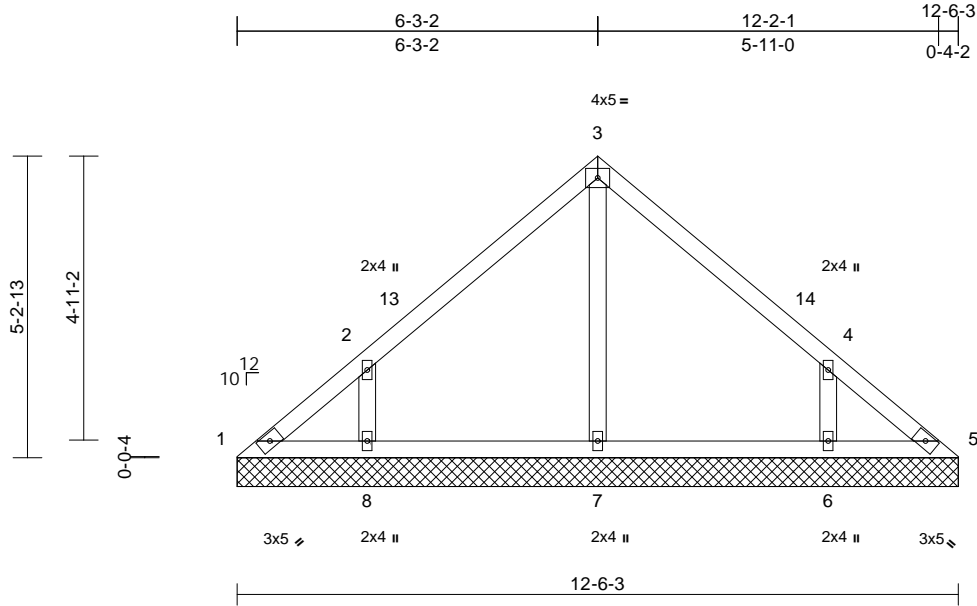
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V6	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686589
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:54
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Page: 1



Scale = 1:40

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.32	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	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 52 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size)	1=12-6-3, 5=12-6-3, 6=12-6-3, 7=12-6-3, 8=12-6-3
Max Horiz	1=-118 (LC 12)
Max Uplift	1=-31 (LC 10), 5=-2 (LC 11), 6=-138 (LC 15), 8=-142 (LC 14)
Max Grav	1=100 (LC 25), 5=78 (LC 24), 6=434 (LC 21), 7=267 (LC 20), 8=434 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

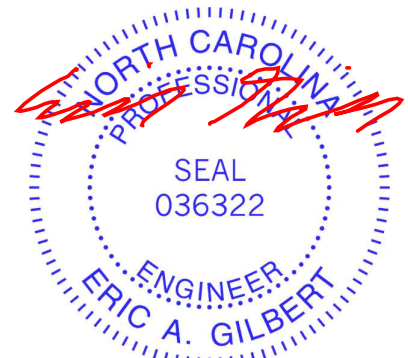
TOP CHORD	1-2=-125/104, 2-3=-211/117, 3-4=-211/117, 4-5=-98/65
BOT CHORD	1-8=-35/89, 7-8=-35/77, 6-7=-35/77, 5-6=-35/77
WEBS	3-7=-180/0, 2-8=-388/210, 4-6=-388/210

NOTES

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

- 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 31 lb uplift at joint 1, 2 lb uplift at joint 5, 142 lb uplift at joint 8 and 138 lb uplift at joint 6.

LOAD CASE(S) Standard



October 7, 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)



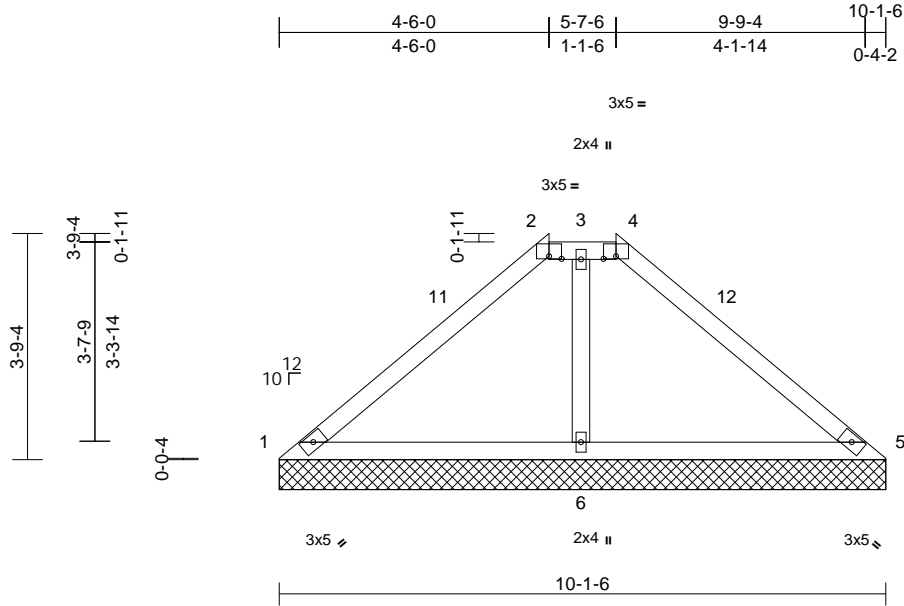
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V7	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	I68686590
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:54
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Page: 1



Scale = 1:38.4
Plate Offsets (X, Y): [2:0-2-8,0-0-8], [4:0-2-8,0-0-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.53	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horiz(TL)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 37 lb	FT = 20%	

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins, except 2-0-0 oc purlins (10-0-0 max.): 2-4.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

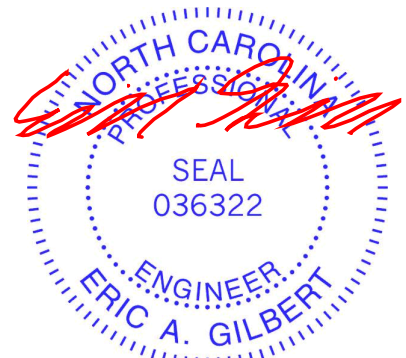
REACTIONS (size) 1=10-1-6, 5=10-1-6, 6=10-1-6
Max Horiz 1=82 (LC 11)
Max Uplift 5=-21 (LC 15), 6=-61 (LC 14)
Max Grav 1=164 (LC 20), 5=187 (LC 21), 6=827 (LC 40)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-162/277, 2-3=0/107, 3-4=0/110, 4-5=-196/274
BOT CHORD 1-6=-163/164, 5-6=-163/164
WEBS 3-6=-636/273

- 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) 0-0-5 to 3-0-5, Corner(3R) 3-0-5 to 7-1-11, Corner(3E) 7-1-11 to 10-1-11 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 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) Provide adequate drainage to prevent water ponding.
- 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 member.
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 5 and 61 lb uplift at joint 6.
- 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



October 7, 2024

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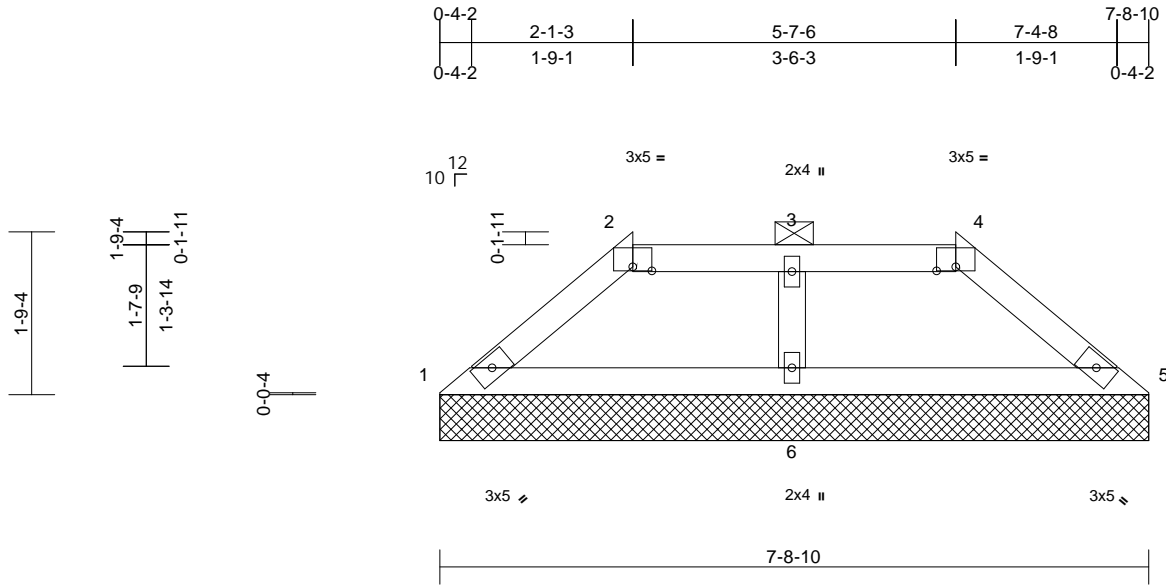
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V8	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686591
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:54
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Page: 1



Scale = 1:25.1

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.24	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/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 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 2-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=7-8-10, 5=7-8-10, 6=7-8-10
Max Horiz 1=35 (LC 13)
Max Uplift 1=-27 (LC 14), 5=-30 (LC 15), 6=-11 (LC 11)
Max Grav 1=219 (LC 40), 5=220 (LC 40), 6=341 (LC 39)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-288/82, 2-3=-148/87, 3-4=-148/87, 4-5=-289/83
BOT CHORD 1-6=-52/213, 5-6=-52/215
WEBS 3-6=-236/105

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 2-1-8, Exterior(2R) 2-1-8 to 5-7-11, Exterior(2E) 5-7-11 to 7-8-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Provide adequate drainage to prevent water ponding.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 1, 30 lb uplift at joint 5 and 11 lb uplift at joint 6.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



October 7, 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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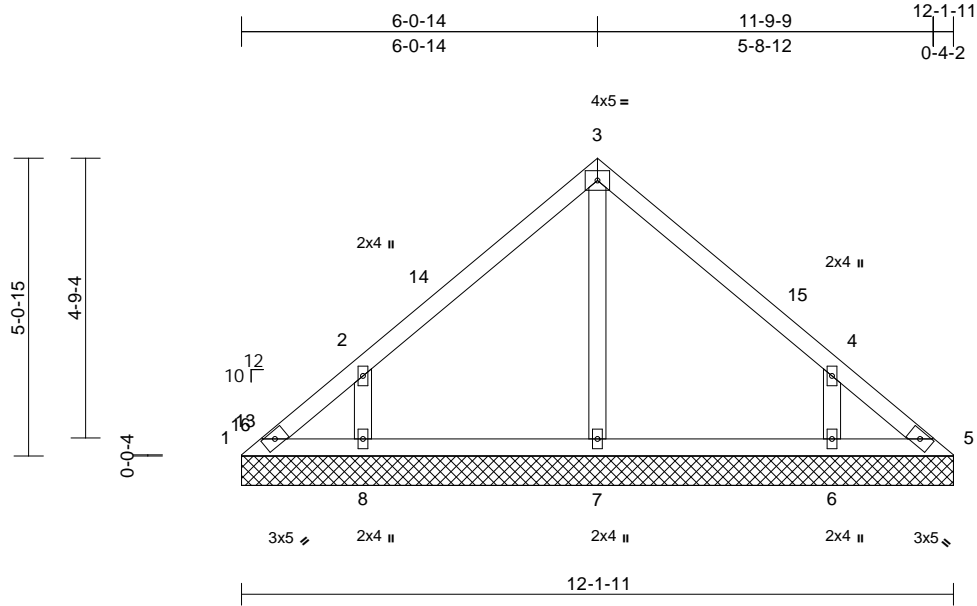
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V9	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686592
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:54
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Page: 1



Scale = 1:39.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 50 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

- (size) 1=12-1-11, 5=12-1-11, 6=12-1-11, 7=12-1-11, 8=12-1-11
- Max Horiz 1=-114 (LC 10)
- Max Uplift 1=-38 (LC 10), 5=-5 (LC 11), 6=-136 (LC 15), 8=-138 (LC 14)
- Max Grav 1=79 (LC 30), 5=73 (LC 24), 6=434 (LC 21), 7=261 (LC 21), 8=432 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

- TOP CHORD 1-2=-114/100, 2-3=-217/116, 3-4=-217/116, 4-5=-91/63
- BOT CHORD 1-8=-32/75, 7-8=-32/73, 6-7=-32/73, 5-6=-32/73
- WEBS 3-7=-173/0, 2-8=-396/212, 4-6=-397/218

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-13 to 3-4-13, Exterior(2R) 3-4-13 to 9-2-0, Exterior(2E) 9-2-0 to 12-2-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 1, 5 lb uplift at joint 5, 138 lb uplift at joint 8 and 136 lb uplift at joint 6.

LOAD CASE(S) Standard



October 7, 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)



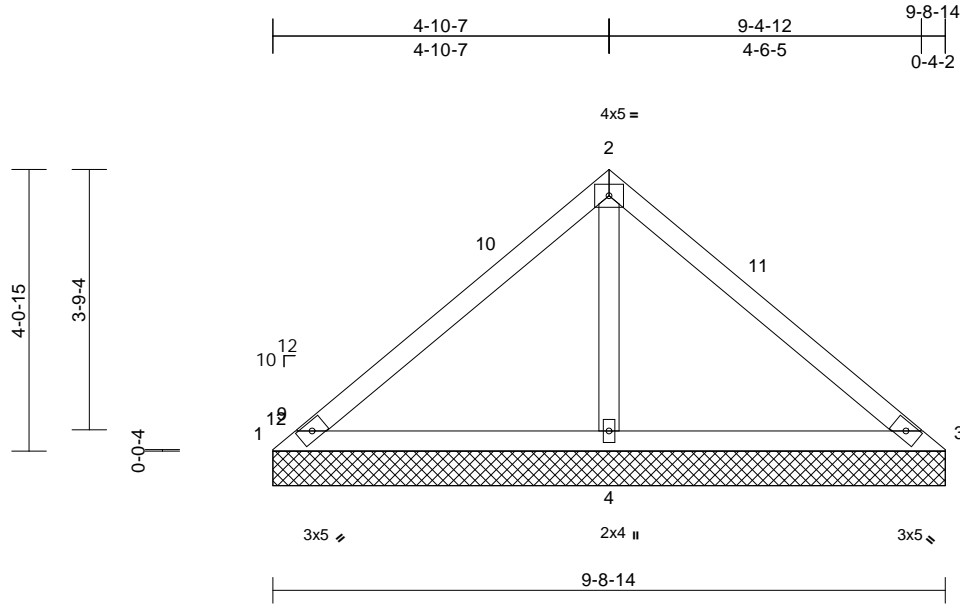
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V10	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686593
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:54
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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	0.46	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.43	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.01	4	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 37 lb	FT = 20%

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

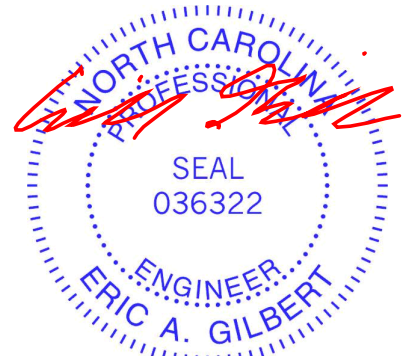
BRACING
TOP CHORD Structural wood sheathing directly applied or 9-8-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=9-8-14, 3=9-8-14, 4=9-8-14
Max Horiz 1=-91 (LC 10)
Max Uplift 1=-61 (LC 21), 3=-50 (LC 20), 4=-108 (LC 14)
Max Grav 1=74 (LC 20), 3=94 (LC 21), 4=783 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-113/379, 2-3=-115/376
BOT CHORD 1-4=-247/173, 3-4=-247/173
WEBS 2-4=-645/270

- 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 61 lb uplift at joint 1, 50 lb uplift at joint 3 and 108 lb uplift at joint 4.
- LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-13 to 3-4-13, Exterior(2R) 3-4-13 to 6-9-3, Exterior(2E) 6-9-3 to 9-9-3 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
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.



October 7, 2024

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ENGINEERING BY
TRENCO
A MiTek Affiliate

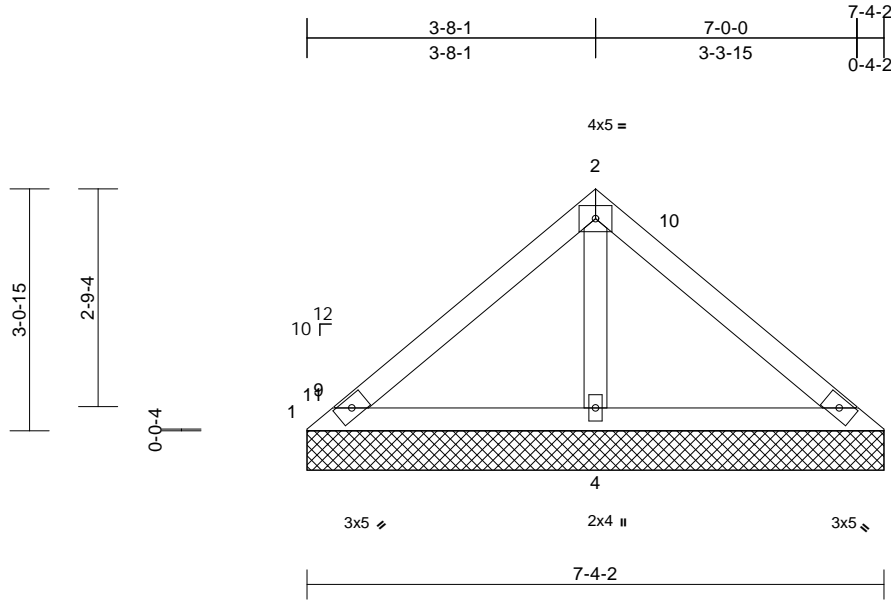
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V11	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686594
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	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	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 27 lb	FT = 20%

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

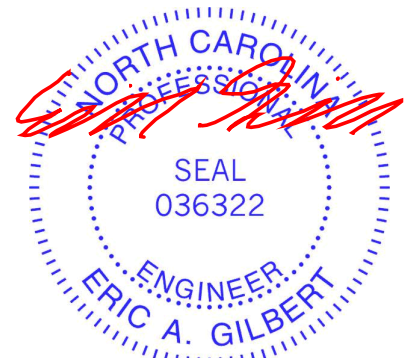
BRACING
TOP CHORD Structural wood sheathing directly applied or 7-4-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=7-4-2, 3=7-4-2, 4=7-4-2
Max Horiz 1=-67 (LC 10)
Max Uplift 1=-29 (LC 21), 3=-17 (LC 20), 4=-73 (LC 14)
Max Grav 1=72 (LC 20), 3=103 (LC 21), 4=538 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-87/231, 2-3=-90/231
BOT CHORD 1-4=-182/153, 3-4=-182/153
WEBS 2-4=-427/197

- 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 29 lb uplift at joint 1, 17 lb uplift at joint 3 and 73 lb uplift at joint 4.
- LOAD CASE(S)** Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-13 to 3-8-6, Exterior(2R) 3-8-6 to 4-4-6, Exterior(2E) 4-4-6 to 7-4-6 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.



October 7, 2024

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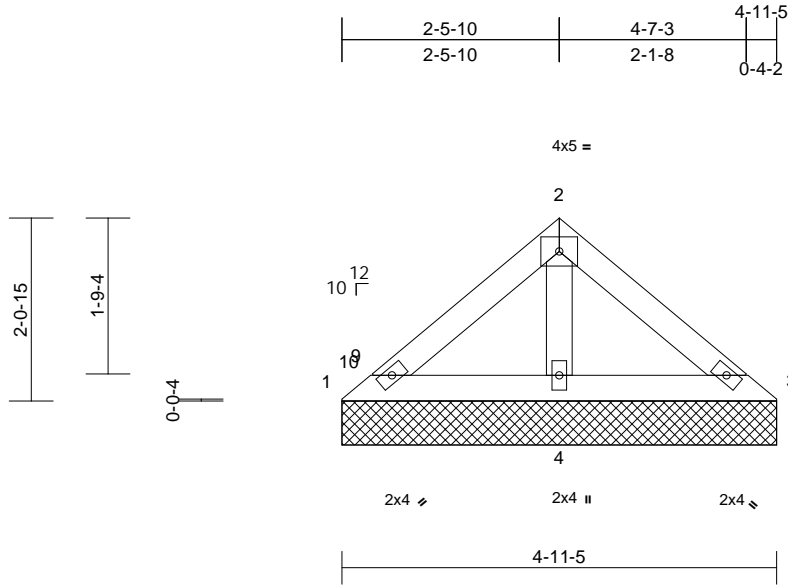
818 Soundside Road
Edenton, NC 27932

Job 24090147-01	Truss V12	Truss Type Valley	Qty 1	Ply 1	49 Serenity-Roof-B330 E CP TMB GLH Job Reference (optional)	168686595
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Sep 25 2024 Print: 8.730 S Sep 25 2024 MiTek Industries, Inc. Thu Oct 03 21:11:54
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Page: 1



Scale = 1:26.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 18 lb	FT = 20%	

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-11-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=4-11-5, 3=4-11-5, 4=4-11-5
Max Horiz 1=-44 (LC 10)
Max Uplift 3=-7 (LC 15), 4=-32 (LC 14)
Max Grav 1=59 (LC 20), 3=88 (LC 21), 4=296 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-62/104, 2-3=-80/104
BOT CHORD 1-4=-85/89, 3-4=-85/89
WEBS 2-4=-213/98

NOTES

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

- Unbalanced snow loads have been considered for this design.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 4-0-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 3 and 32 lb uplift at joint 4.
- LOAD CASE(S)** Standard



October 7, 2024

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

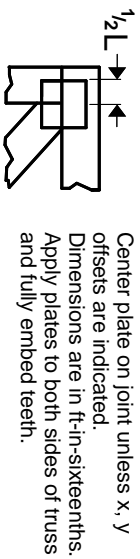
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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



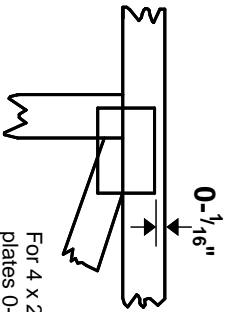
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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



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

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

PLATE SIZE

4 X 4

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

LATERAL BRACING LOCATION



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

BEARING

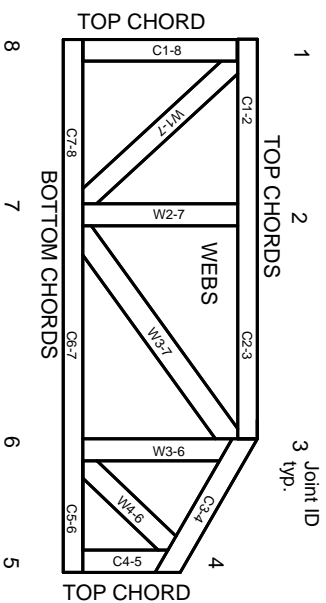


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

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MITek

ENGINEERING BY
TRENGO
A MITek Affiliate

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.