

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 24090009-01
3 Serenity-Roof-B326 A CP 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: I68160396 thru I68160431

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

North Carolina COA: C-0844



September 13, 2024

Gilbert, Eric

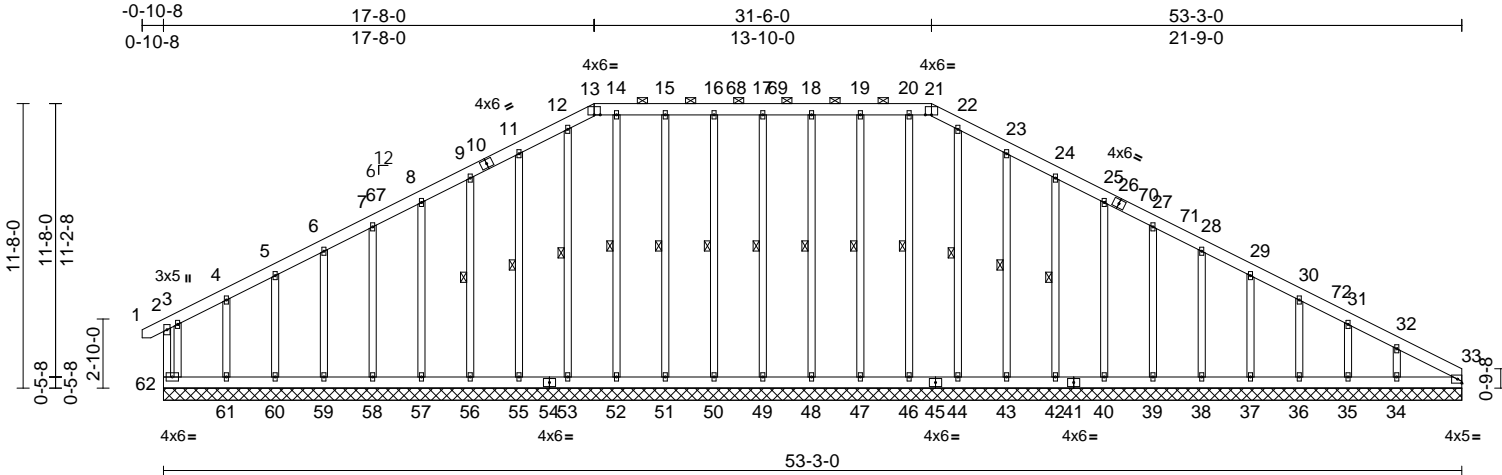
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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 24090009-01	Truss A01	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160396
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:33
ID:HvYYHe4LpHmiz2Dld9nw5TzRQov-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwKRCDoi7J4zJC?f

Page: 1



Scale = 1:94.5

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	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.01	33	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 546 lb	FT = 20%

LUMBER		Max Grav		BOT CHORD	
TOP CHORD	2x6 SP No.2	34=419 (LC 1), 35=81 (LC 13),		61-62=-81/150, 60-61=-81/150,	
BOT CHORD	2x6 SP No.2	36=197 (LC 41), 37=152 (LC 59),		59-60=-81/150, 58-59=-81/150,	
WEBS	2x4 SP No.3	38=174 (LC 45), 39=221 (LC 45),		57-58=-81/150, 56-57=-81/150,	
OTHERS	2x4 SP No.3 *Except*	40=230 (LC 45), 42=229 (LC 45),		55-56=-81/150, 53-55=-81/150,	
	49-17,48-18,47-19,46-20,44-22,50-16,51-15,	43=230 (LC 45), 44=217 (LC 45),		52-53=-81/150, 51-52=-81/150,	
	52-14,53-12:2x4 SP No.2	46=199 (LC 40), 47=220 (LC 40),		50-51=-81/150, 49-50=-81/150,	
		48=217 (LC 40), 49=216 (LC 40),		48-49=-81/150, 47-48=-81/150,	
		50=217 (LC 40), 51=220 (LC 40),		46-47=-81/150, 44-46=-81/150,	
		52=199 (LC 40), 53=218 (LC 43),		43-44=-81/150, 42-43=-81/150,	
		55=234 (LC 43), 56=233 (LC 43),		40-42=-81/150, 39-40=-81/150,	
		57=233 (LC 43), 58=233 (LC 43),		38-39=-81/150, 37-38=-81/150,	
		59=199 (LC 43), 60=150 (LC 58),		36-37=-81/150, 35-36=-81/150,	
		61=257 (LC 51), 62=133 (LC 58)		34-35=-81/150, 33-34=-81/150	

BRACING		FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 13-21.	TOP CHORD	2-62=-245/191, 1-2=0/23, 2-3=-100/91, 3-4=-74/121, 4-5=-48/115, 5-6=-58/156, 6-7=-75/201, 7-8=-90/246, 8-9=-106/291, 9-11=-124/338, 11-12=-144/387, 12-13=-146/383, 13-14=-140/380, 14-15=-140/380, 15-16=-140/380, 16-17=-140/380, 17-18=-140/380, 18-19=-140/380, 19-20=-140/380, 20-21=-140/380, 21-22=-146/383, 22-23=-144/387, 23-24=-124/338, 24-25=-106/291, 25-27=-90/246, 27-28=-75/201, 28-29=-59/160, 29-30=-63/137, 30-31=-71/112, 31-32=-124/100, 32-33=-134/117
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.		
WEBS	1 Row at midpt 17-49, 18-48, 19-47, 20-46, 22-44, 23-43, 24-42, 16-50, 15-51, 14-52, 12-53, 11-55, 9-56		
REACTIONS (size)	33=53-3-0, 34=53-3-0, 35=53-3-0, 36=53-3-0, 37=53-3-0, 38=53-3-0, 39=53-3-0, 40=53-3-0, 42=53-3-0, 43=53-3-0, 44=53-3-0, 46=53-3-0, 47=53-3-0, 48=53-3-0, 49=53-3-0, 50=53-3-0, 51=53-3-0, 52=53-3-0, 53=53-3-0, 55=53-3-0, 56=53-3-0, 57=53-3-0, 58=53-3-0, 59=53-3-0, 60=53-3-0, 61=53-3-0, 62=53-3-0, 66=53-3-0		
Max Horiz	62=-186 (LC 12)		
Max Uplift	34=-66 (LC 14), 35=-170 (LC 15), 36=-15 (LC 14), 37=-50 (LC 15), 38=-42 (LC 15), 39=-44 (LC 15), 40=-43 (LC 15), 42=-46 (LC 15), 43=-52 (LC 15), 47=-29 (LC 11), 48=-28 (LC 11), 49=-25 (LC 10), 50=-28 (LC 11), 51=-29 (LC 10), 55=-52 (LC 14), 56=-46 (LC 14), 57=-43 (LC 14), 58=-44 (LC 14), 59=-46 (LC 14), 60=-22 (LC 14), 61=-137 (LC 14), 62=-88 (LC 15)		



September 13, 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/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 24090009-01	Truss A01	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	I68160396
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:33
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Page: 2

WEBS
17-49=-176/57, 18-48=-177/62,
19-47=-180/61, 20-46=-159/6, 22-44=-177/2,
23-43=-190/87, 24-42=-189/81,
25-40=-190/77, 27-39=-181/77,
28-38=-132/77, 29-37=-125/77,
30-36=-138/78, 31-35=-65/120,
32-34=-244/137, 16-50=-177/62,
15-51=-180/61, 14-52=-159/1, 12-53=-178/0,
11-55=-194/87, 9-56=-193/81, 8-57=-193/77,
7-58=-194/77, 6-59=-157/77, 5-60=-115/91,
4-61=-186/159, 3-62=-226/263

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-8-6 to 4-7-0, Exterior(2N) 4-7-0 to 12-4-2, Corner(3R) 12-4-2 to 22-11-14, Exterior(2N) 22-11-14 to 26-2-2, Corner(3R) 26-2-2 to 36-7-0, Exterior(2N) 36-7-0 to 47-11-2, Corner(3E) 47-11-2 to 53-3-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - 5) Unbalanced snow loads have been considered for this design.
 - 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 - 7) Provide adequate drainage to prevent water ponding.
 - 8) All plates are 2x4 MT20 unless otherwise indicated.
 - 9) Gable requires continuous bottom chord bearing.
 - 10) Gable studs spaced at 2-0-0 oc.
 - 11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 13) N/A
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

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

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)



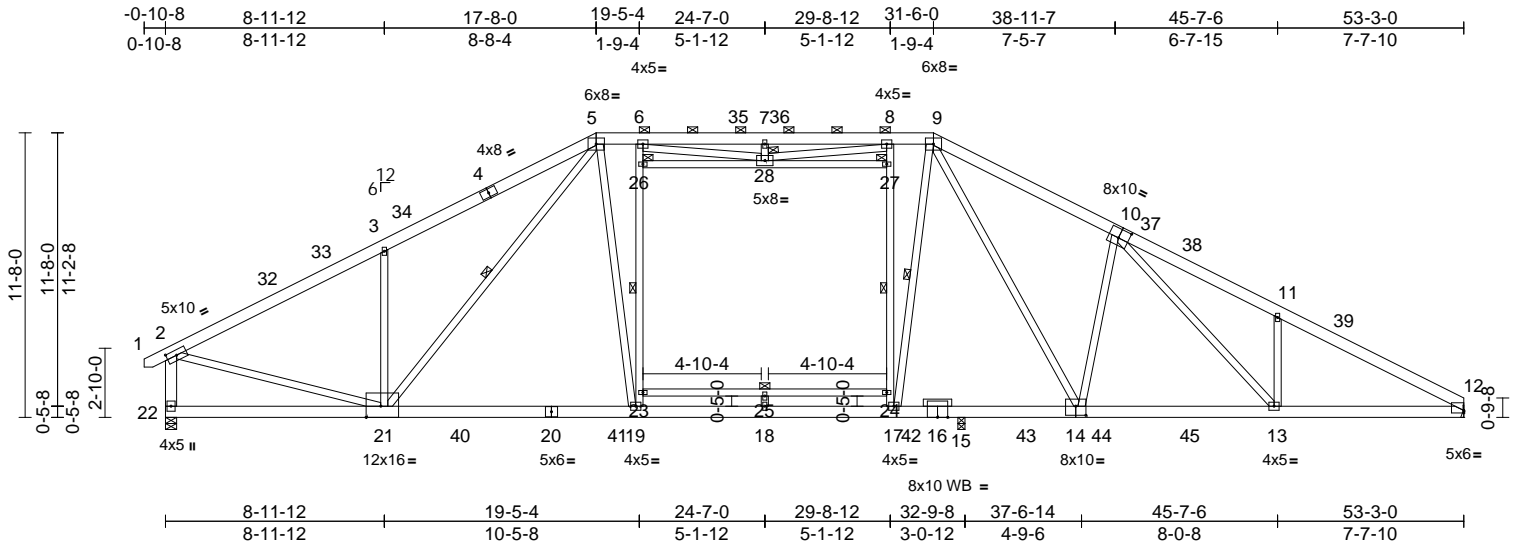
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss A03	Truss Type Piggyback Base	Qty 8	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160397
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:35
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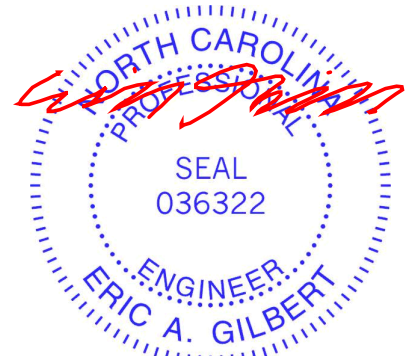
Page: 1



Scale = 1:94.5
Plate Offsets (X, Y): [2:0-4-14,0-2-8], [10:0-5-0,0-4-8], [12:Edge,0-1-3], [14:0-5-0,0-4-8], [21:0-7-4,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	0.70	Vert(LL)	-0.36	19-21	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.56	19-21	>691	180		
TCDL	10.0	Rep Stress Incr	YES	WB	1.00	Horz(CT)	0.11	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 471 lb	FT = 20%

- LUMBER**
- TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 16-14:2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 22-2:2x6 SP No.2, 6-19,8-17,21-5,19-5,17-9,14-9:2x4 SP No.2
OTHERS 2x4 SP No.3
- BRACING**
- TOP CHORD Structural wood sheathing directly applied or 3-2-15 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-7 max.): 5-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 19-26, 17-27, 5-21, 9-17, 23-24
JOINTS 1 Brace at Jt(s): 26, 27, 28
- REACTIONS** (size) 12= Mechanical, 15=0-3-8, 22=0-5-8
Max Horiz 22=187 (LC 12)
Max Uplift 12=107 (LC 14), 15=223 (LC 15), 22=269 (LC 14)
Max Grav 12=2012 (LC 47), 15=829 (LC 39), 22=2270 (LC 37)
- FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-3090/354, 3-5=-3206/547, 5-6=-2534/403, 6-7=-3068/590, 7-8=-3068/590, 8-9=-2512/401, 9-11=-4015/460, 11-12=-4055/352, 2-22=-2317/313
BOT CHORD 21-22=-138/274, 19-21=-189/2334, 18-19=-183/2429, 17-18=-183/2429, 15-17=-147/2312, 13-15=-192/2990, 12-13=-228/3505
- WEBS** 2-21=-183/2547, 19-23=-482/256, 23-26=-469/261, 6-26=-456/264, 17-24=-867/224, 24-27=-858/226, 8-27=-837/222, 3-21=-817/328, 5-21=-205/545, 5-19=-107/788, 9-17=-196/830, 10-14=-916/318, 9-14=-143/1007, 10-13=-216/806, 11-13=-337/230, 23-25=-63/45, 24-25=-63/45, 18-25=0/27, 26-28=-15/52, 27-28=-139/30, 7-28=-261/85, 6-28=-281/725, 8-28=-268/841
- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-8-6 to 4-7-9, Interior (1) 4-7-9 to 10-1-10, Exterior(2R) 10-1-10 to 39-2-5, Interior (1) 39-2-5 to 47-11-2, Exterior(2E) 47-11-2 to 53-3-0 zone; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 - 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.
- 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) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 107 lb uplift at joint 12.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 22 and 15. This connection is for uplift only and does not consider lateral forces.
13) 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



September 13, 2024

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

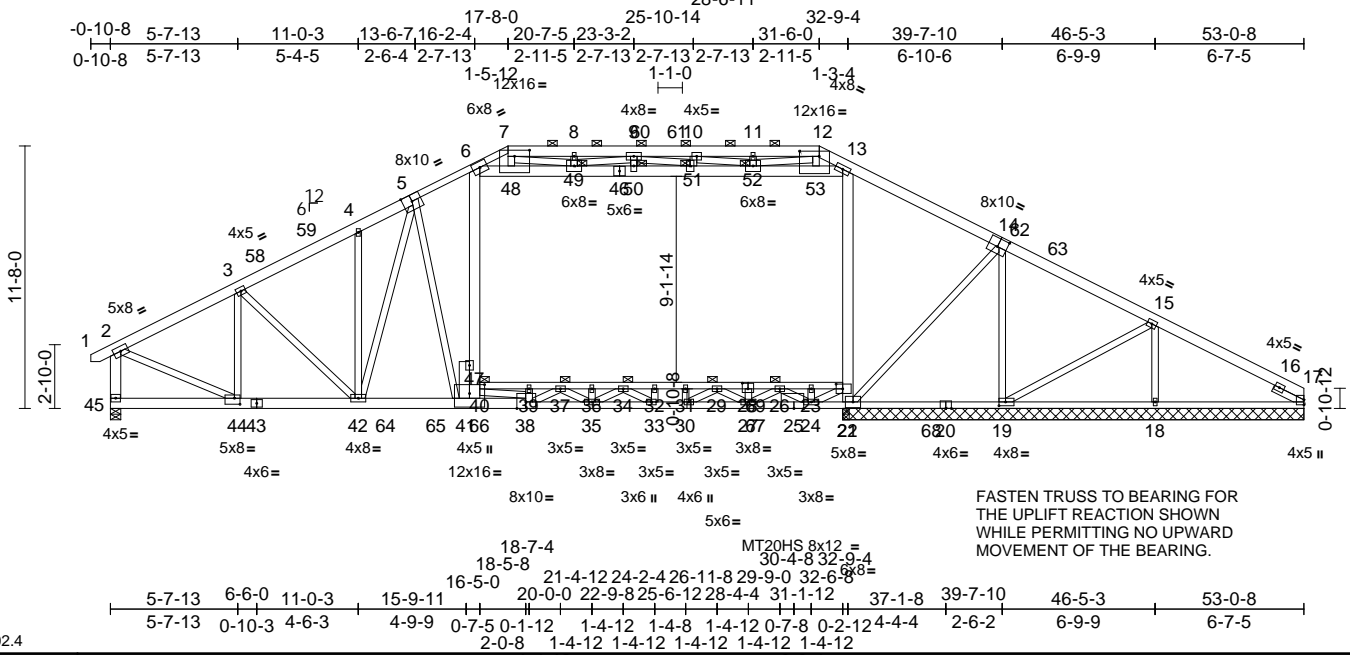
Job 24090009-01	Truss A05	Truss Type Attic Girder	Qty 1	Ply 4	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160399
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:36

Page: 1

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Scale = 1:102.4

[7:0-8-0,0-3-4], [12:0-10-8,0-2-12], [14:0-5-0,0-4-8], [19:0-5-8,0-2-0], [22:0-3-8,0-2-8], [25:0-5-4,Edge], [28:0-3-0,0-3-0], [38:0-4-12,Edge], [41:0-8-0,0-4-12],
Plate Offsets (X, Y): [44:0-3-0,0-3-4]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.42	38-41	>926	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.63	38-41	>617	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	NO	WB	0.97	Horz(CT)	0.17	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.21	22-40	>931	360		
BCDL	10.0											

Weight: 2005 lb FT = 20%

LUMBER		TOP CHORD	
TOP CHORD	2x6 SP No.2 *Except* 5-7:2x4 SP No.1	1-2=0/24, 2-3=-13894/811, 3-4=-17855/1068,	
BOT CHORD	2x4 SP 2400F 2.0E *Except* 43-38,43-45:2x6 SP No.2, 28-22,20-17:2x4 SP No.2	4-6=-19196/1164, 6-7=-5749/483, 7-8=-3024/527, 8-9=-3021/526, 9-10=-3792/720, 10-11=-1853/1232, 11-12=-1853/1232, 12-13=-5041/447, 13-15=-18603/1151, 15-17=-4060/262, 2-45=-11891/728	
WEBS	2x4 SP No.3 *Except* 13-21:2x6 SP 2400F 2.0E, 6-46,45-2,41-47,41-6,46-13:2x6 SP No.2, 44-2:2x4 SP No.2		
SLIDER	Right 2x4 SP No.3 -- 1-6-0	BOT CHORD	44-45=-126/446, 42-44=-761/12424, 41-42=-877/16595, 35-41=-660/17142, 33-35=0/18682, 30-33=0/19483, 27-30=0/18806, 24-27=-281/16626, 21-24=-805/13168, 19-21=-553/10974, 18-19=-179/3511, 17-18=-179/3511, 39-40=-515/594, 37-39=-518/546, 36-37=-2880/0, 34-36=-2880/0, 32-34=-3769/0, 31-32=-3769/0, 29-31=-3769/0, 26-29=-2830/0, 23-26=-322/1917, 22-23=-322/1917
BRACING			
TOP CHORD	Structural wood sheathing directly applied or 4-3-4 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-12.		
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.		
JOINTS	1 Brace at Jt(s): 49, 50, 51, 52, 40, 26, 37, 29, 34		
REACTIONS	(size)	17=20-6-0, 18=20-6-0, 19=20-6-0, 21=20-6-0, 45=0-5-8, 54=20-6-0	
	Max Horiz	45=-188 (LC 10)	
	Max Uplift	17=-141 (LC 13), 18=-383 (LC 12), 19=-265 (LC 12), 21=-11735 (LC 46), 45=-708 (LC 12), 54=-141 (LC 13)	
	Max Grav	17=2267 (LC 46), 18=7963 (LC 23), 19=5365 (LC 46), 21=1104 (LC 12), 45=12082 (LC 46), 54=2267 (LC 46)	
FORCES	(lb) - Maximum Compression/Maximum Tension		



September 13, 2024

Continued on page 2

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

Job	Truss	Truss Type	Qty	Ply	3 Serenity-Roof-B326 A CP GLH	168160399
24090009-01	A05	Attic Girder	1	4	Job Reference (optional)	

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

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:36

Page: 2

ID:VIY0g5gMUgWQZRYxiBXYltzRA_fRfC?PsB70Hq3NSgPqnl8w3uTXhGKwRCDoi7J4zJc7f

- WEBS
- 3-44=-5422/380, 3-42=-243/5049,
4-42=-776/166, 5-41=-150/1931,
21-22=-715/6617, 13-22=-547/7714,
6-48=-11763/751, 48-49=-11346/727,
49-50=-11312/680, 50-51=-11353/682,
51-52=-16183/978, 52-53=-12452/790,
13-53=-13084/827, 2-44=-701/13155,
40-41=-699/7786, 6-40=-547/8776,
7-48=-156/2528, 8-49=-546/66,
9-50=-137/2538, 10-51=-241/36,
11-52=-238/66, 12-53=-207/3427,
22-24=0/2405, 38-40=0/2734, 23-24=-541/0,
38-39=-594/0, 24-26=-2137/0,
37-38=-1092/0, 26-27=0/2655, 35-37=0/1905,
27-28=-765/12, 35-36=-942/22,
27-29=-229/226, 34-35=-202/159,
29-30=0/879, 33-34=-17/945, 30-31=-431/0,
32-33=-391/12, 7-49=-4489/251,
9-49=-4763/367, 9-51=-4992/308,
10-52=-2393/279, 12-52=-5783/334,
14-19=-9336/551, 15-19=-442/8385,
14-21=-441/8353, 5-42=-2558/146,
15-18=-7758/466
- 15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11735 lb uplift at joint 21.
- 16) LGT4-SDS3 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 45. This connection is for uplift only and does not consider lateral forces.
- 17) N/A
- 18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 19) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
- 20) LGT4 Hurricane ties must have four studs in line below the truss.
- 21) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 608 lb down and 52 lb up at 28-8-4, and 9100 lb down and 774 lb up at 16-1-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

NOTES

- 4-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-7-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc, Except member 41-47 2x6 - 3 rows staggered at 0-4-0 oc, member 6-41 2x6 - 2 rows staggered at 0-4-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- 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 MT20 plates unless otherwise indicated.
- All plates are 2x4 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Ceiling dead load (5.0 psf) on member(s). 6-48, 48-49, 49-50, 50-51, 51-52, 52-53, 13-53; Wall dead load (5.0psf) on member(s).13-22, 6-40
- Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 39-40, 37-39, 36-37, 34-36, 32-34, 31-32, 29-31, 28-29, 26-28, 23-26, 22-23

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-7=-60, 7-12=-60, 12-17=-60,
45-54=-20, 22-40=-30, 6-48=-10, 48-49=-10,
46-49=-10, 46-50=-10, 50-51=-10, 51-52=-10,
52-53=-10, 13-53=-10
Drag: 13-22=-10, 40-47=-10, 6-47=-10
Concentrated Loads (lb)
Vert: 41=-4881 (F), 67=-326 (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/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 24090009-01	Truss A06	Truss Type Attic Girder	Qty 1	Ply 4	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160400
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:36

Page: 1

ID:pGeZv1t?lwruiNEY_xH4fkzRrP7-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRcDoi7J4zC?f

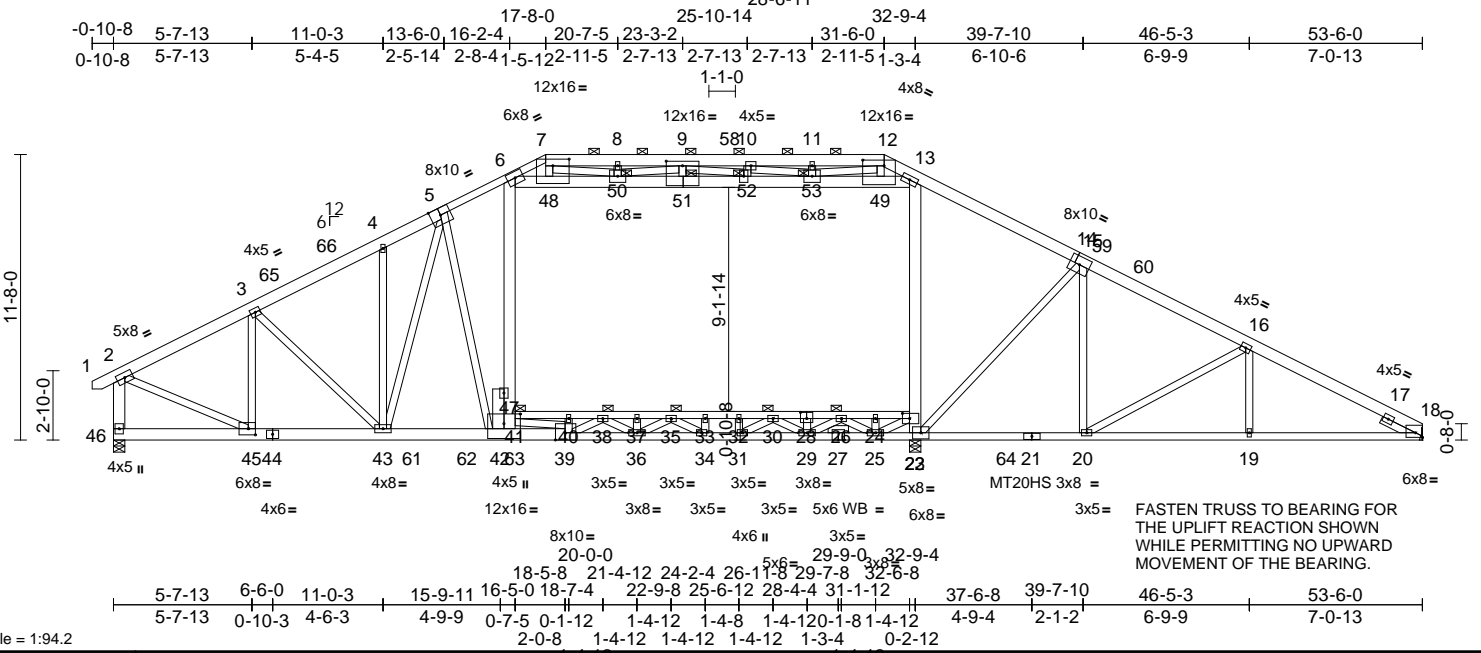


Plate Offsets (X, Y): [7:0-8-0,0-3-4], [9:0-8-0,0-2-4], [12:0-10-8,0-2-12], [18:Edge,0-2-4], [23:0-3-8,0-2-8], [28:0-3-0,0-3-0], [39:0-4-12,Edge], [42:0-8-0,0-4-12], [45:0-3-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.93	Vert(LL)	-0.49	39-42	>803	240	MT20HS	187/143
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.73	39-42	>532	180	MT20	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.21	18	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.24	23-41	>812	360		
BCDL	10.0											

Weight: 2017 lb FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 7-5:2x4 SP 2400F 2.0E

BOT CHORD 2x4 SP 2400F 2.0E *Except* 28-23,28-41:2x4 SP No.2, 44-46:2x6 SP No.2, 44-39:2x6 SP 2400F 2.0E

WEBS 2x4 SP No.3 *Except* 46-2,42-47,6-42,6-51,51-13:2x6 SP No.2, 13-22:2x6 SP 2400F 2.0E, 45-2:2x4 SP No.2

OTHERS 2x4 SP No.3

SLIDER Right 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-12.

BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

JOINTS 1 Brace at Jt.(s): 50, 51, 52, 53, 41, 38, 35, 30, 26

REACTIONS (size) 18= Mechanical, 22=0-5-8, 46=0-5-8

Max Horiz 46=190 (LC 10)

Max Uplift 18=420 (LC 12), 22=-5361 (LC 45), 46=-683 (LC 12)

Max Grav 18=8887 (LC 46), 22=792 (LC 12), 46=11746 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 7-8=-3092/528, 8-9=-3089/526, 9-10=-3727/713, 10-11=-1715/1441, 11-12=-1715/1441, 12-13=-4561/424, 13-15=-17753/1087, 15-16=-17925/1006, 16-18=-17697/900, 2-46=-11550/702, 1-2=0/24, 2-3=-13497/782, 3-4=-17366/1032, 4-6=-18564/1120, 6-7=-5994/479

BOT CHORD 45-46=-123/440, 43-45=-731/12074, 42-43=-832/16073, 36-42=-684/17253, 34-36=0/17880, 31-34=0/17942, 29-31=0/16739, 25-29=-151/14334, 22-25=-772/12128, 20-22=-780/16089, 19-20=-741/15543, 18-19=-741/15543, 40-41=-1028/0, 38-40=-1102/0, 37-38=-2921/0, 35-37=-2921/0, 33-35=-3019/0, 32-33=-3019/0, 30-32=-3019/0, 26-30=-1178/736, 24-26=-370/3083, 23-24=-370/3083

WEBS 3-45=-5311/373, 4-43=-700/162, 41-42=-617/143, 6-41=-530/8717, 22-23=-712/6595, 13-23=-513/7229, 6-48=-10655/685, 48-50=-10276/663, 50-52=-11090/661, 52-53=-15532/928, 49-53=-12360/771, 13-49=-12997/808, 2-45=-673/12777, 15-20=-220/184, 16-19=-11/162, 16-20=-132/757, 15-22=-640/213, 3-43=-237/4930, 7-48=-147/2364, 12-49=-204/3451, 8-50=-471/64, 9-51=-120/2271, 10-52=-109/92, 11-53=-268/67, 12-53=-5376/307, 10-53=-2531/278, 9-52=-4653/281, 9-50=-4233/347, 7-50=-4773/262, 39-40=-446/0, 39-41=0/2886, 38-39=-859/135, 36-38=0/1265, 36-37=-671/19, 35-36=-160/340, 34-35=-22/133, 33-34=-116/0, 31-32=-558/0, 30-31=0/1422, 29-30=-818/0, 28-29=-736/19, 26-29=0/2289, 25-26=-1725/0, 24-25=-569/0, 23-25=0/1636, 5-42=-124/1475, 5-43=-2258/111

NOTES

- 1) 4-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 3 rows staggered at 0-4-0 oc, Except member 6-42 2x6 - 2 rows staggered at 0-4-0 oc, member 13-22 2x6 - 2 rows staggered at 0-9-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.
- 2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- 3) Unbalanced roof live loads have been considered for this design.



September 13, 2024

Continued on page 2

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

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



818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss A06	Truss Type Attic Girder	Qty 1	Ply 4	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	I68160400
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:36
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Page: 2

- 4) 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; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 5) T CLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 6) Unbalanced snow loads have been considered for this design.
- 7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 8) Provide adequate drainage to prevent water ponding.
- 9) All plates are MT20 plates unless otherwise indicated.
- 10) All plates are 2x4 MT20 unless otherwise indicated.
- 11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 13) Ceiling dead load (5.0 psf) on member(s). 6-48, 48-50, 50-51, 51-52, 52-53, 49-53, 13-49; Wall dead load (5.0psf) on member(s).6-41, 13-23
- 14) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 40-41, 38-40, 37-38, 35-37, 33-35, 32-33, 30-32, 28-30, 26-28, 24-26, 23-24
- 15) Refer to girder(s) for truss to truss connections.
- 16) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 420 lb uplift at joint 18 and 5361 lb uplift at joint 22.
- 17) LGT4-SDS3 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 46. This connection is for uplift only and does not consider lateral forces.
- 18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 19) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
- 20) LGT4 Hurricane ties must have four studs in line below the truss.
- 21) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 9100 lb down and 774 lb up at 16-1-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 22) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 7-12=-60, 12-18=-60, 46-54=-20, 23-41=-30, 6-48=-10, 48-50=-10, 50-51=-10, 51-52=-10, 52-53=-10, 49-53=-10, 13-49=-10, 1-2=-60, 2-7=-60
Drag: 41-47=-10, 6-47=-10, 13-23=-10
Concentrated Loads (lb)
Vert: 42=-4881 (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

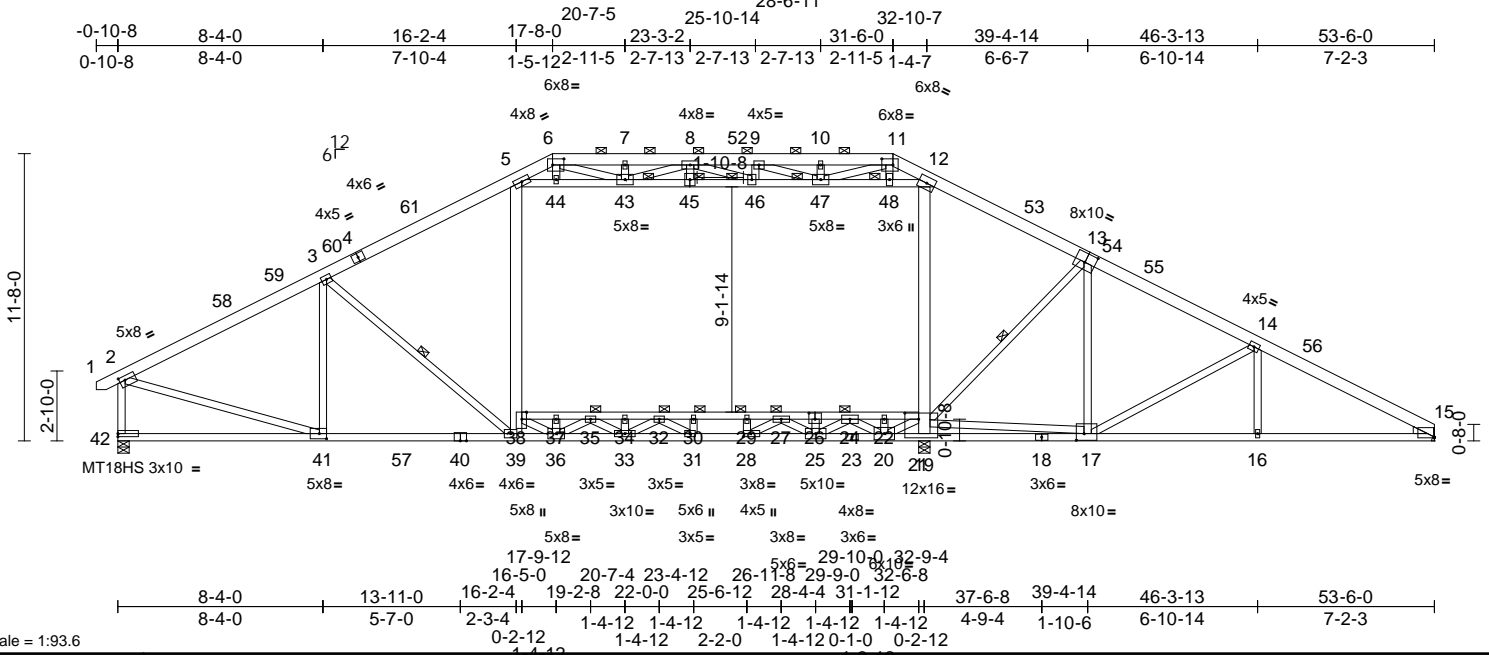
Job 24090009-01	Truss A07	Truss Type Attic	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160401
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:37

Page: 1

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[2:0-2-12,0-2-0], [6:0-5-8,0-3-0], [11:0-5-8,0-3-0], [13:0-5-0,0-4-8], [15:Edge,0-0-7], [17:0-3-12,0-3-4], [19:0-6-12,0-3-0], [26:0-3-0,0-3-0], [28:0-3-8,0-1-8],

Plate Offsets (X, Y): [38:Edge,0-2-4], [41:0-3-8,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.97	Vert(LL)	-0.47	31-33	>833	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.77	31-33	>509	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.94	Horz(CT)	0.15	15	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.32	21-38	>604	360		
BCDL	10.0											

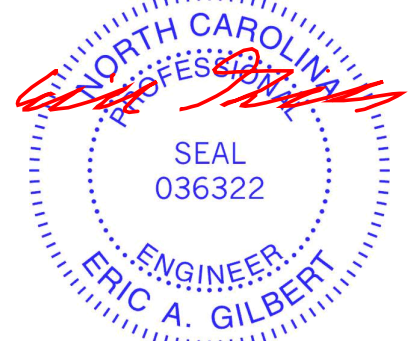
Weight: 454 lb FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP 2400F 2.0E *Except* 26-21,40-42:2x4 SP No.1, 18-23,26-38:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 5-39,12-19:2x6 SP No.2, 41-2,45-12,20-21,36-38,45-5,36-35,35-33,33-32,32-31,28-27,27-25,25-24,24-20:2x4 SP No.2, 21-17:2x4 SP No.1
WEDGE Right: 2x4 SP No.3
BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-3 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-8 max.): 6-11.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 12-47, 13-21, 3-39
JOINTS 1 Brace at Jt(s): 43, 45, 46, 47, 35, 32, 27, 24
REACTIONS (size) 15= Mechanical, 19=0-5-8, 42=0-5-8
Max Horiz 42=190 (LC 12)
Max Grav 15=2298 (LC 48), 19=1793 (LC 40), 42=3002 (LC 38)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 6-7=-2981/411, 7-8=-2981/411, 8-9=-3607/536, 9-10=-2740/425, 10-11=-2740/425, 11-12=-1776/184, 12-14=-4116/100, 14-15=-4686/98, 2-42=-2999/91, 1-2=0/22, 2-3=-3961/16, 3-5=-4084/38, 5-6=-2144/162

BOT CHORD 41-42=-107/220, 39-41=0/3431, 36-39=0/3347, 33-36=0/5184, 31-33=0/6303, 28-31=0/6100, 25-28=0/4804, 20-25=0/1822, 19-20=-2299/0, 17-19=-2104/0, 16-17=-11/4069, 15-16=-72/4069, 37-38=-1135/0, 35-37=-1135/0, 34-35=-3123/0, 32-34=-3123/0, 30-32=-3176/0, 29-30=-3176/0, 27-29=-3176/0, 24-27=-690/956, 22-24=0/3300, 21-22=0/3300
WEBS 3-41=-681/82, 13-17=-267/96, 14-17=-578/208, 14-16=0/247, 38-39=-47/336, 5-38=0/1190, 19-21=-1403/103, 12-21=-46/1140, 2-41=0/3476, 5-44=2083/54, 43-44=-2008/54, 43-46=-1597/1328, 46-47=-1799/1221, 47-48=-2471/0, 12-48=-2567/0, 7-43=-138/122, 6-44=0/354, 8-45=0/62, 9-46=0/131, 10-47=-170/78, 11-48=0/450, 20-21=0/2699, 36-38=0/1559, 36-37=-230/0, 20-22=-352/0, 25-26=-320/0, 33-34=-185/0, 28-29=-533/0, 30-31=-2/95, 13-21=-579/324, 3-39=-149/379, 17-21=0/5329, 6-43=-342/1277, 8-43=-876/124, 8-46=-285/0, 11-47=-314/1438, 9-47=-923/118, 35-36=-1294/0, 33-35=0/1052, 32-33=-303/181, 31-32=-363/11, 27-28=0/1529, 25-27=-1405/0, 24-25=0/2106, 20-24=-2165/0

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-8-2 to 4-8-2, Interior (1) 4-8-2 to 12-3-13, Exterior(2R) 12-3-13 to 23-3-2, Interior (1) 23-3-2 to 25-10-14, Exterior(2R) 25-10-14 to 36-10-3, Interior (1) 36-10-3 to 48-1-13, Exterior(2E) 48-1-13 to 53-6-0 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.
- Provide adequate drainage to prevent water ponding.



Continued on page 2

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

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



818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss A07	Truss Type Attic	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH I68160401 Job Reference (optional)
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:37
ID:1d5INYb_SnpjifH0e1reGzRBHO-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCDoi7J4zJC?f

Page: 2

- 7) All plates are MT20 plates unless otherwise indicated.
- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 11) Ceiling dead load (5.0 psf) on member(s). 5-44, 43-44, 43-45, 45-46, 46-47, 47-48, 12-48; Wall dead load (5.0psf) on member(s).5-38, 12-21
- 12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 37-38, 35-37, 34-35, 32-34, 30-32, 29-30, 27-29, 26-27, 24-26, 22-24, 21-22
- 13) Refer to girder(s) for truss to truss connections.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 15) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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818 Soundside Road
Edenton, NC 27932

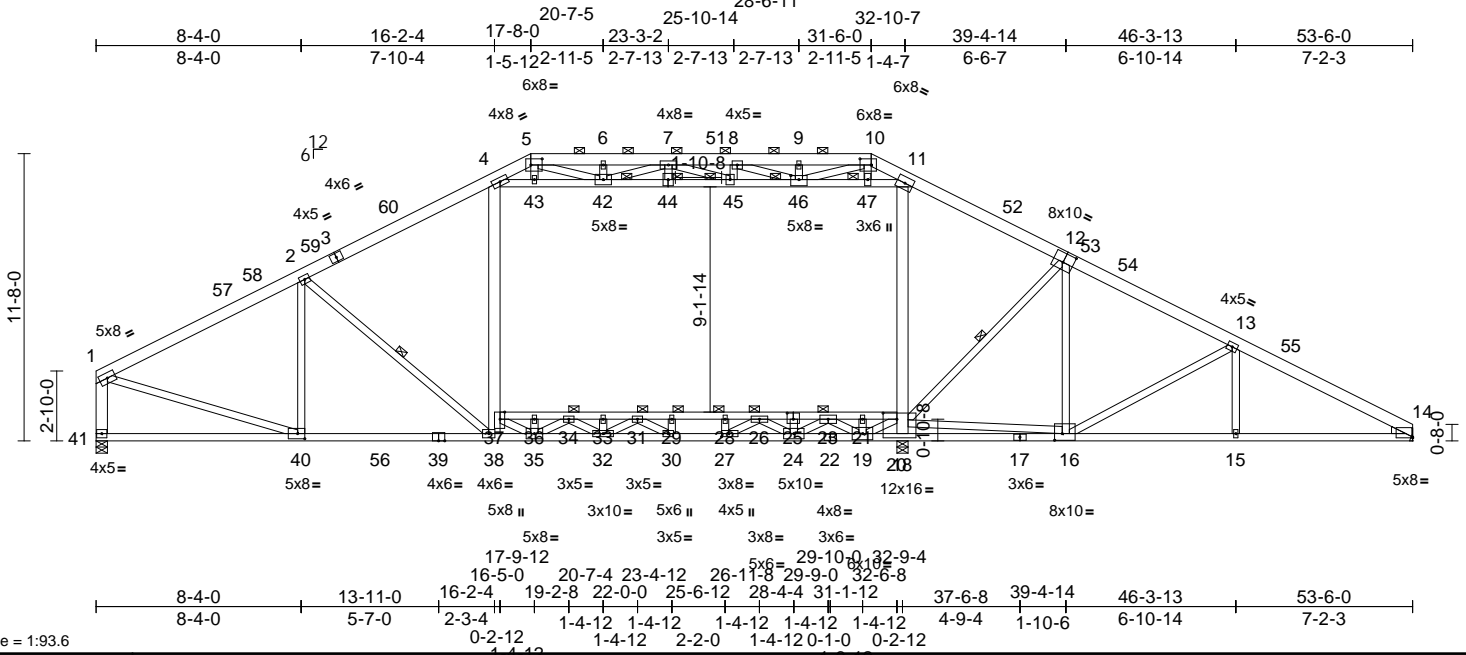
Job 24090009-01	Truss A08	Truss Type Attic	Qty 6	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160402
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:39

Page: 1

ID:1d51NYb_SnpjiffH0e1reGzRBHO-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWRcDoi7J4zJc?F28-6-11



Scale = 1:93.6

[5:0-5-8,0-3-0], [10:0-5-8,0-3-0], [12:0-5-0,0-4-8], [14:Edge,0-0-7], [16:0-3-12,0-3-4], [18:0-3-12,0-3-0], [25:0-3-0,0-3-0], [27:0-3-8,0-1-8], [37:Edge,0-2-4],

Plate Offsets (X, Y): [40:0-3-8,0-2-8], [46:0-4-0,0-2-0]

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	0.65	Vert(LL)	-0.47	30-32	>837	240
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.76	30-32	>513	180
TCDL	10.0	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.15	14	n/a	n/a
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.32	20-37	>605	360
BCDL	10.0									

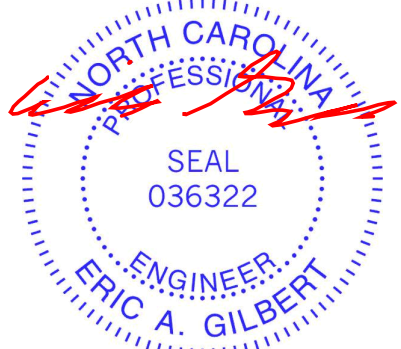
Weight: 454 lb FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP 2400F 2.0E *Except* 25-20,39-41:2x4 SP No.1, 17-22,25-37:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 41-1,4-38,11-18:2x6 SP No.2, 40-1,44-11,19-20,35-37,44-4,35-34,34-32,32-31,31-30,27-26,26-24,24-23,23-19:2x4 SP No.2, 20-16:2x4 SP No.1
WEDGE Right: 2x4 SP No.3
BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-2 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-9 max.): 5-10.
BOT CHORD Rigid ceiling directly applied or 2-6-0 oc bracing.
WEBS 1 Row at midpt 11-46, 12-20, 2-38
JOINTS 1 Brace at Jt(s): 42, 44, 45, 46, 34, 31, 26, 23
REACTIONS (size) 14= Mechanical, 18=0-5-8, 41=0-5-8
Max Horiz 41=-222 (LC 15)
Max Grav 14=2292 (LC 47), 18=1790 (LC 39), 41=2957 (LC 37)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 5-6=-2972/412, 6-7=-2972/412, 7-8=-3601/537, 8-9=-2737/426, 9-10=-2737/426, 10-11=-1773/186, 11-13=-4095/106, 13-14=-4666/103, 1-41=-2958/58, 1-2=-3909/28, 2-4=-4057/44, 4-5=-2133/163

BOT CHORD 40-41=-106/246, 38-40=0/3385, 35-38=0/3319, 32-35=0/5160, 30-32=0/6294, 27-30=0/6096, 24-27=0/4806, 19-24=0/1830, 18-19=-2285/0, 16-18=-2093/0, 15-16=-16/4051, 14-15=-74/4051, 36-37=-1129/0, 34-36=-1129/0, 33-34=-3124/0, 31-33=-3124/0, 29-31=-3185/0, 28-29=-3185/0, 26-28=-3185/0, 23-26=-708/939, 21-23=0/3264, 20-21=0/3264
WEBS 2-40=-705/77, 12-16=-264/99, 13-16=-579/209, 13-15=0/247, 37-38=-45/325, 4-37=0/1182, 18-20=-1401/105, 11-20=-47/1134, 1-40=0/3451, 4-43=-2073/58, 42-43=-1999/58, 42-45=-1586/1333, 45-46=-1785/1228, 46-47=-2450/0, 11-47=-2546/0, 6-42=-139/121, 5-43=0/353, 7-44=0/62, 8-45=0/130, 9-46=-171/78, 10-47=0/447, 19-20=0/2695, 35-37=0/1556, 35-36=-230/0, 19-21=-351/0, 24-25=-319/0, 32-33=-185/0, 27-28=-531/0, 29-30=-3/94, 12-20=-573/324, 2-38=-131/398, 16-20=0/5298, 5-42=-342/1280, 7-42=-875/124, 7-45=-283/0, 10-46=-314/1437, 8-46=-920/118, 34-35=-1298/0, 32-34=0/1056, 31-32=-307/177, 30-31=-355/12, 26-27=0/1522, 24-26=-1401/0, 23-24=0/2101, 19-23=-2162/0

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) 0-2-12 to 5-6-15, Interior (1) 5-6-15 to 12-3-13, Exterior(2R) 12-3-13 to 23-3-2, Interior (1) 23-3-2 to 25-10-14, Exterior(2R) 25-10-14 to 36-10-3, Interior (1) 36-10-3 to 48-1-13, Exterior(2E) 48-1-13 to 53-6-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- 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.



September 13, 2024

Continued on page 2

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

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



818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss A08	Truss Type Attic	Qty 6	Ply 1	3 Serenity-Roof-B326 A CP GLH I68160402 Job Reference (optional)
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:39
ID:1d5INYb_SnpjifH0e1reGzRBHO-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?f

Page: 2

- 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 9) Ceiling dead load (5.0 psf) on member(s). 4-43, 42-43, 42-44, 44-45, 45-46, 46-47, 11-47; Wall dead load (5.0psf) on member(s).4-37, 11-20
- 10) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 36-37, 34-36, 33-34, 31-33, 29-31, 28-29, 26-28, 25-26, 23-25, 21-23, 20-21
- 11) Refer to girder(s) for truss to truss connections.
- 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 13) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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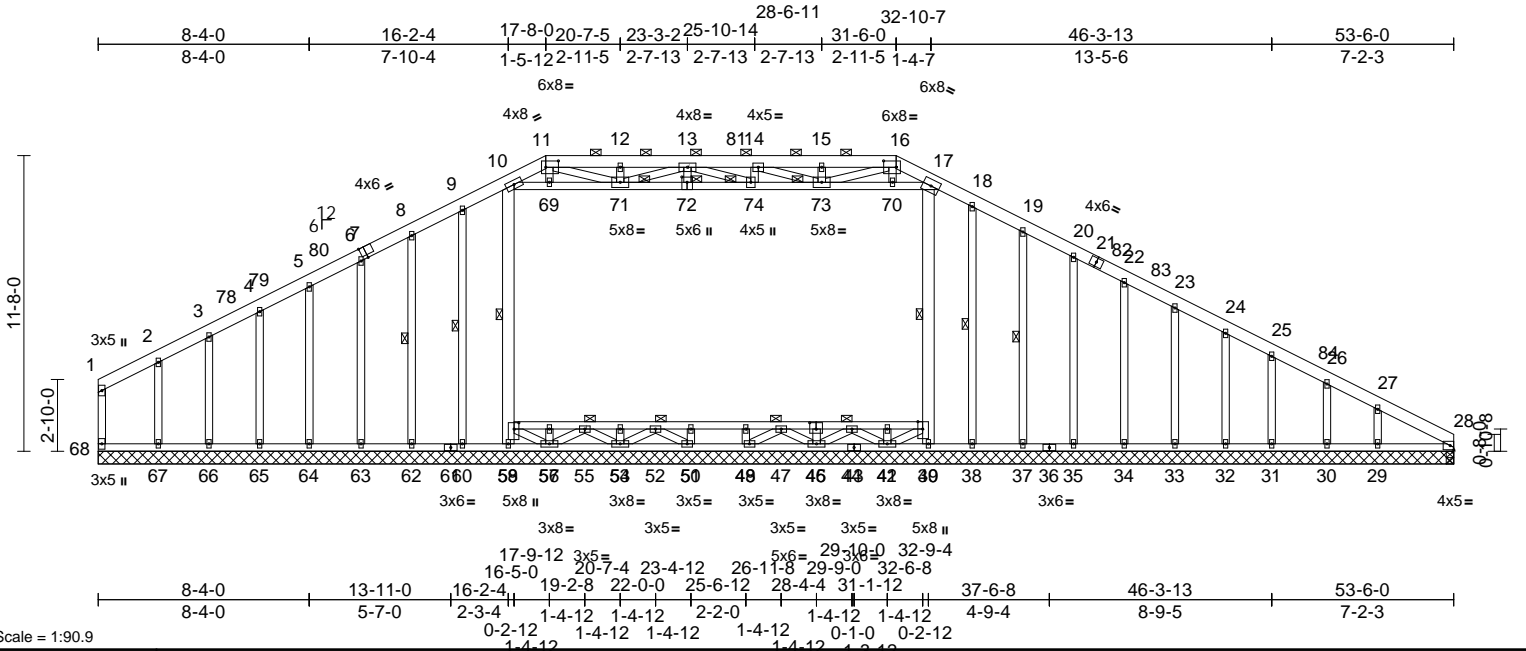
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss A09	Truss Type Attic Supported Gable	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160403
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Fri Sep 13 17:37:50
ID:8kdnANvfrYx7X5iJovJ26tzRBB2-P7LXzmj_K2iwXj510HRieyE5bRNgA6skE8cGkye8G?

Page: 1



Scale = 1:90.9

Plate Offsets (X, Y): [7:0-2-6,Edge], [11:0-6-0,0-3-0], [16:0-6-0,0-3-0], [40:Edge,0-2-4], [46:0-3-0,0-3-0], [58:0-3-0,0-2-4], [72:0-2-8,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.44	Vert(LL)	-0.01	10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.65	Horz(CT)	0.02	28	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 504 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 10-59,17-39:2x6 SP No.2, 72-17,72-10:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-1-8 max.): 11-16.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 48-51.
WEBS 1 Row at midpt 10-58, 17-40, 18-38, 19-37, 9-60, 8-62
JOINTS 1 Brace at Jt(s): 71, 72, 73, 74, 55, 52, 47, 44

TOP CHORD 5-80=100/260, 6-80=94/267, 6-7=120/303, 7-8=119/313, 8-9=135/359, 9-10=115/375, 10-11=903/328, 11-12=2147/593, 12-13=2147/593, 13-81=2804/764, 14-81=2804/764, 14-15=2132/593, 15-16=2132/593, 16-17=894/327, 17-18=121/375, 18-19=143/366, 19-20=137/322, 20-21=105/275, 21-82=107/270, 22-82=121/265
WEBS 58-59=1090/31, 10-58=1096/109, 39-40=1083/62, 17-40=1093/151, 10-69=39/644, 69-71=37/638, 71-72=441/2725, 72-74=441/2725, 73-74=447/2775, 70-73=42/627, 17-70=44/635, 12-71=256/67, 11-71=325/1558, 13-71=654/189, 14-73=715/182, 16-73=327/1553

- Unbalanced snow loads have been considered for this design.
- Provide adequate drainage to prevent water ponding.
- 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.
- Ceiling dead load (5.0 psf) on member(s). 10-69, 69-71, 71-72, 72-74, 73-74, 70-73, 17-70; Wall dead load (5.0psf) on member(s).10-58, 17-40
- Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 57-58, 55-57, 54-55, 52-54, 50-52, 49-50, 47-49, 46-47, 44-46, 41-44, 40-41

REACTIONS All bearings 53-6-0.
(lb) - Max Horiz 68=221 (LC 15)
Max Uplift All uplift 100 (lb) or less at joint(s) 28, 29, 30, 31, 32, 33, 34, 35, 37, 39, 59, 62, 63, 64, 65, 66, 67, 68, 75 except 38=133 (LC 40), 60=128 (LC 40)
Max Grav All reactions 250 (lb) or less at joint (s) 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 60, 62, 63, 64, 65, 66, 67, 68, 75 except 39=1111 (LC 40), 42=334 (LC 20), 45=369 (LC 20), 48=320 (LC 20), 51=320 (LC 20), 53=368 (LC 20), 56=330 (LC 20), 59=1119 (LC 40)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

- 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) 0-1-12 to 5-5-15, Exterior(2N) 5-5-15 to 12-3-13, Corner(3R) 12-3-13 to 23-3-2, Exterior(2N) 23-3-2 to 25-10-14, Corner(3R) 25-10-14 to 36-10-3, Exterior(2N) 36-10-3 to 48-1-13, Corner(3E) 48-1-13 to 53-6-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10



September 13, 2024

Continued on page 2

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

Job	Truss	Truss Type	Qty	Ply	3 Serenity-Roof-B326 A CP GLH	I68160403
24090009-01	A09	Attic Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Fri Sep 13 17:37:50
 ID:8kdnaNVfrXy7X5iJovJ26tzRBB2-P7LXzmj_K2iwXj510HRleyE5bRBngA6skE8cGkye8G?

Page: 2

- 13) One RT4 MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 68, 28, 64, 31, 30, 29, 59, 39, 38, 37, 35, 34, 33, 32, 60, 62, 63, 65, 66, and 67. This connection is for uplift only and does not consider lateral forces.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 15) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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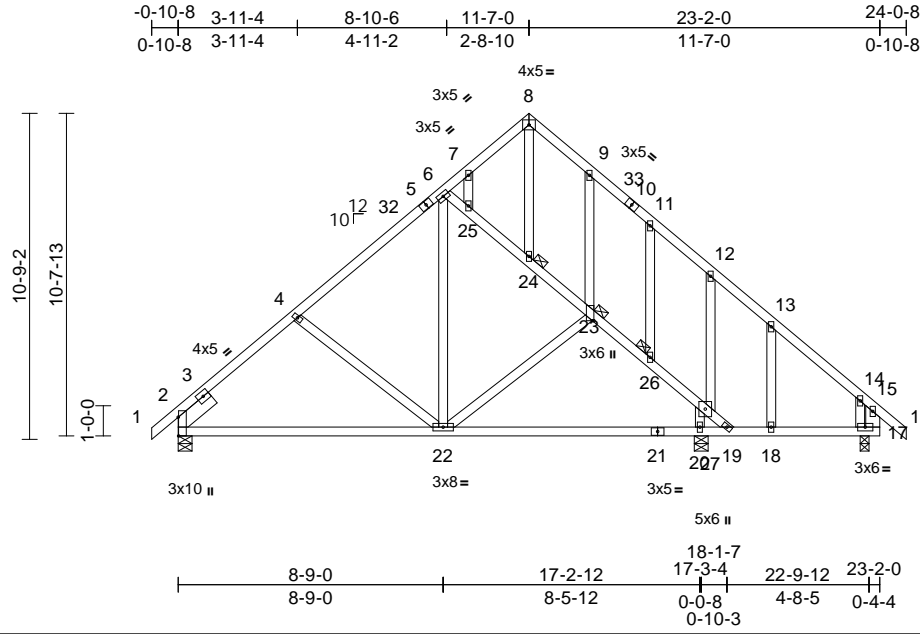
818 Soundside Road
 Edenton, NC 27932

Job 24090009-01	Truss B01	Truss Type Common	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160404
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:40
ID:N5eaq6A9EjNfxKX1O6yXny7LSU-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:76.1

Plate Offsets (X, Y): [2:0-7-7,Edge], [23:0-0-0,0-0-10]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	0.06	17-18	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.16	22-30	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.02	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 172 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 17-15:2x6 SP No.2, 6-19:2x4 SP No.2
OTHERS 2x4 SP No.3
SLIDER Left 2x6 SP No.2 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-5-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 23, 24, 26

REACTIONS (size) 2=0-5-8, 17=0-3-8, 20=0-5-8
Max Horiz 2=265 (LC 13)
Max Uplift 2=-52 (LC 14), 20=-209 (LC 15)
Max Grav 2=850 (LC 21), 17=451 (LC 22), 20=746 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/34, 2-4=-907/84, 4-6=-756/94, 6-7=-319/158, 7-8=-300/205, 8-9=-266/165, 9-11=-281/132, 11-12=-303/87, 12-13=-173/16, 13-14=-309/12, 14-15=-43/52, 15-16=0/42, 15-17=-58/178
BOT CHORD 2-22=-213/692, 20-22=-39/516, 19-20=-6/623, 18-19=-40/208, 17-18=-40/208
WEBS 4-22=-236/182, 20-27=-511/335, 6-25=-483/105, 24-25=-483/116, 23-24=-439/59, 23-26=-446/39, 26-27=-457/56, 19-27=-513/67, 22-23=-96/81, 6-22=0/356, 14-17=-462/0, 8-24=-146/151, 7-25=-31/50, 9-23=-200/24, 11-26=-81/66, 12-27=-365/203, 13-18=-30/97

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-10-8 to 2-1-8, Interior (1) 2-1-8 to 8-7-0, Exterior(2R) 8-7-0 to 14-7-0, Interior (1) 14-7-0 to 21-0-8, Exterior(2E) 21-0-8 to 24-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with 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 20. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



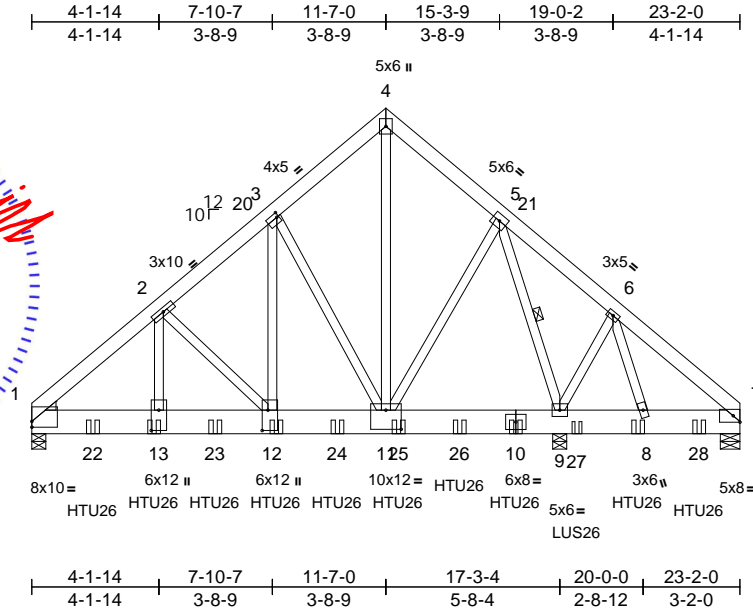
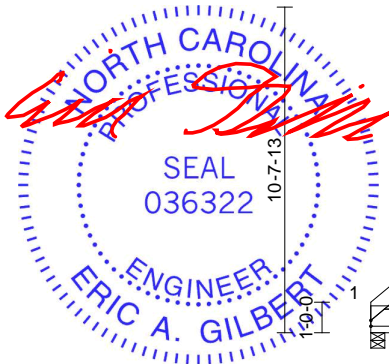
September 13, 2024

Job 24090009-01	Truss B02	Truss Type Common Girder	Qty 1	Ply 2	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160405
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:40
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Page: 1



Scale = 1:75.4

Plate Offsets (X, Y): [1:Edge,0-2-5], [3:0-0-12,0-1-12], [11:0-6-0,0-7-8], [12:0-8-0,0-2-4], [13:0-8-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	-0.09	12-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	-0.15	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.02	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 480 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-10-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

WEBS 1 Row at midpt 5-9

REACTIONS

(size) 1=0-5-8, 7=0-7-12, 9=0-5-8
Max Horiz 1=-227 (LC 8)
Max Uplift 1=-469 (LC 12), 7=-199 (LC 12), 9=-1127 (LC 13)
Max Grav 1=8097 (LC 5), 7=726 (LC 21), 9=11690 (LC 6)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-9625/571, 2-3=-7184/470, 3-4=-4546/368, 4-5=-4495/383, 5-6=-67/181, 6-7=-171/425
BOT CHORD 1-13=-511/7292, 12-13=-511/7292, 11-12=-343/5503, 9-11=-84/1683, 8-9=-137/86, 7-8=-257/85
WEBS 2-13=-173/3283, 2-12=-2563/277, 3-12=-343/5248, 3-11=-4288/419, 4-11=-392/5382, 5-11=-243/3823, 5-9=-6506/469, 6-9=-341/301, 6-8=-438/67

NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x10 - 3 rows staggered at 0-5-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 2-13 2x4 - 2 rows staggered at 0-7-0 oc, member 3-12 2x4 - 1 row at 0-7-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 7. This connection is for uplift only and does not consider lateral forces.
- LGT2 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.
- 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 2-0-0 from the left end to 15-10-0 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss) or equivalent at 17-10-0 from the left end to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 2-0-0 oc max. starting at 19-10-0 from the left end to 21-10-0 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.
- LGT2 Hurricane ties must have two studs in line below the truss.

LOAD CASE(S) Standard

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

September 13, 2024

Continued on page 2

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

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



818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss B02	Truss Type Common Girder	Qty 1	Ply 2	3 Serenity-Roof-B326 A CP GLH I68160405 Job Reference (optional)
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 2

Uniform Loads (lb/ft)

Vert: 1-4=-60, 4-7=-60, 14-17=-20

Concentrated Loads (lb)

Vert: 10=-1799 (B), 13=-1799 (B), 12=-1799 (B),
8=-863 (B), 22=-1799 (B), 23=-1799 (B), 24=-1799
(B), 25=-1799 (B), 26=-1799 (B), 27=-863 (B),
28=-863 (B)

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

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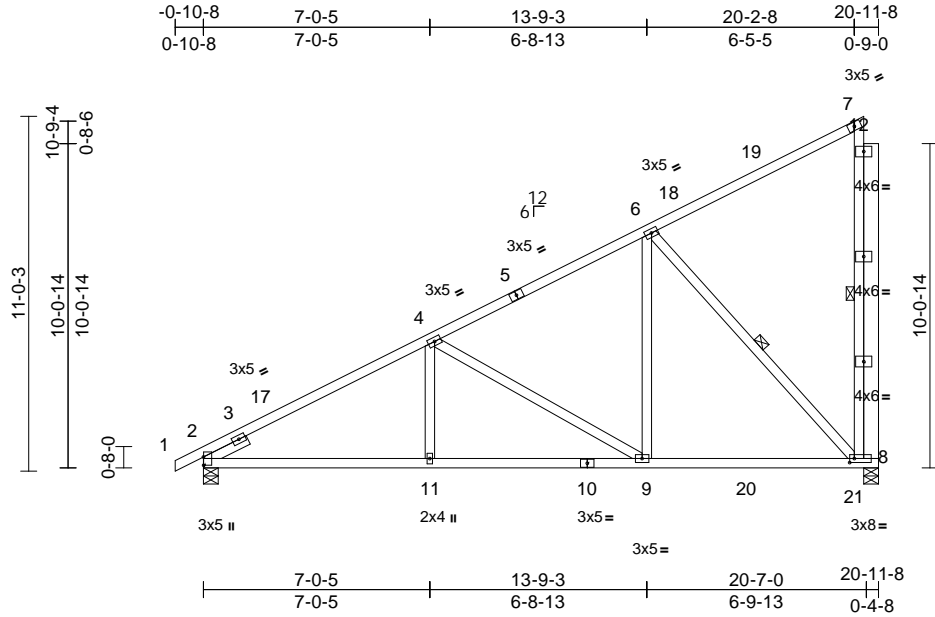
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss C01	Truss Type Half Hip	Qty 4	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	I68160406
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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	0.83	Vert(LL)	-0.08	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.14	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 148 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-8:2x4 SP No.2
OTHERS 2x6 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-8-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-8, 6-8

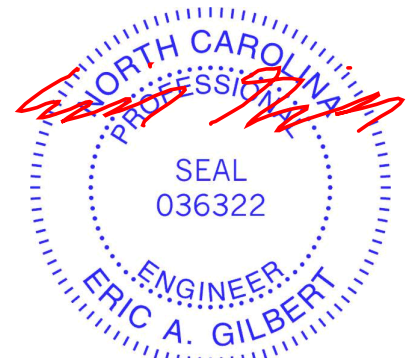
REACTIONS (size) 2=0-5-8, 8=0-5-8
Max Horiz 2=387 (LC 14)
Max Uplift 2=-49 (LC 14), 8=-342 (LC 14)
Max Grav 2=954 (LC 5), 8=1731 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-1437/30, 4-6=-824/0, 6-7=-166/102, 7-8=-270/93
BOT CHORD 2-11=-399/1321, 9-11=-320/1321, 8-9=-159/721
WEBS 4-11=0/263, 4-9=-691/185, 6-9=0/637, 6-8=-1026/227

- 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 3x5 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 8 and 2. This connection is for uplift only and does not consider lateral forces.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 752 lb down and 128 lb up at 20-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-7=-60, 8-13=-20
Concentrated Loads (lb)
Vert: 8=-747

- NOTES**
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-10-8 to 2-1-8, Interior (1) 2-1-8 to 17-4-4, Exterior(2E) 17-4-4 to 20-4-4 zone; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10



September 13, 2024

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818 Soundside Road
Edenton, NC 27932

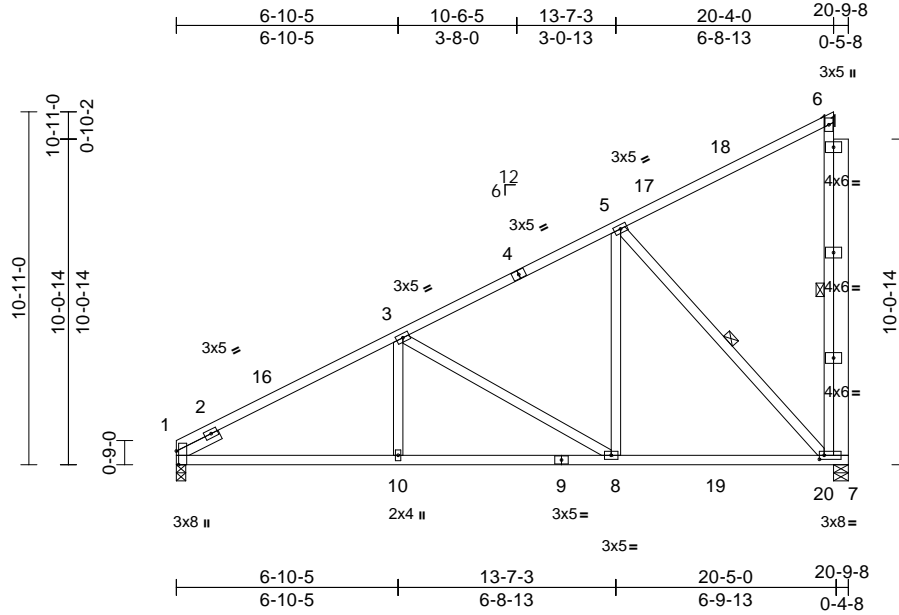
Job 24090009-01	Truss C02	Truss Type Half Hip	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160407
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:41

Page: 1

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Scale = 1:71.3

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.08	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.14	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.75	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 146 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 6-7:2x4 SP No.2
OTHERS	2x6 SP No.2
SLIDER	Left 2x4 SP No.3 -- 1-6-0
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 4-7-1 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 6-7, 5-7
REACTIONS	
(size)	1=0-3-8, 7=0-5-8
Max Horiz	1=370 (LC 14)
Max Uplift	1=-30 (LC 14), 7=-342 (LC 14)
Max Grav	1=900 (LC 5), 7=1714 (LC 20)
FORCES	
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-3=-1401/30, 3-5=-812/0, 5-6=-162/100, 6-7=-265/93
BOT CHORD	1-10=-405/1286, 8-10=-319/1286, 7-8=-159/716
WEBS	3-10=0/254, 3-8=-658/185, 5-8=0/624, 5-7=-1018/227

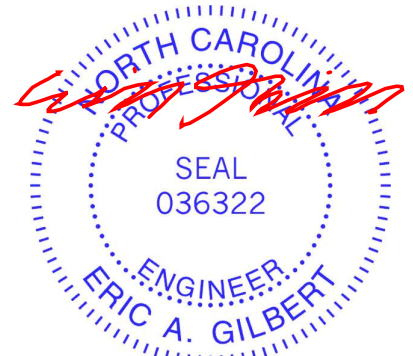
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7 and 1. This connection is for uplift only and does not consider lateral forces.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 752 lb down and 129 lb up at 20-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

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

NOTES

- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-2-0 to 3-2-0, Interior (1) 3-2-0 to 17-4-4, Exterior(2E) 17-4-4 to 20-4-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10



September 13, 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)



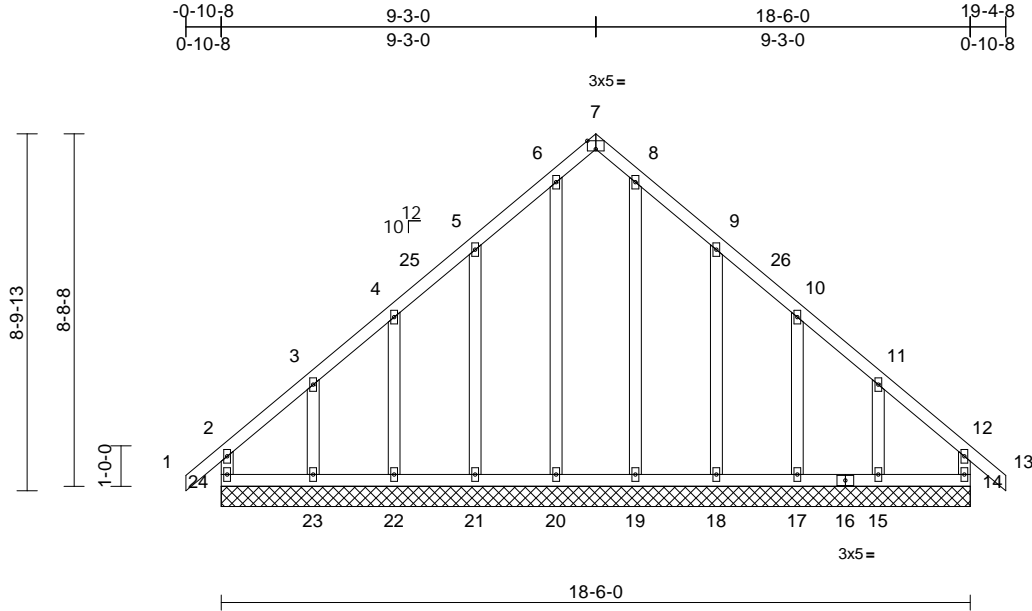
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss D01	Truss Type Common Supported Gable	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160408
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:41
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Page: 1



Scale = 1:56.9

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.20	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 127 lb	FT = 20%

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

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

REACTIONS	(size)
Max Horiz	24=225 (LC 12)
Max Uplift	14=50 (LC 11), 15=163 (LC 15), 17=47 (LC 15), 18=116 (LC 15), 21=115 (LC 14), 22=46 (LC 14), 23=168 (LC 14), 24=69 (LC 10)
Max Grav	14=190 (LC 25), 15=221 (LC 26), 17=172 (LC 22), 18=253 (LC 22), 19=224 (LC 22), 20=224 (LC 21), 21=253 (LC 21), 22=172 (LC 21), 23=228 (LC 25), 24=205 (LC 26)

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-24=-168/63, 1-2=0/39, 2-3=-164/140, 3-4=-105/90, 4-5=-92/118, 5-6=-116/235, 6-7=-94/171, 7-8=-94/171, 8-9=-116/235, 9-10=-77/117, 10-11=-90/72, 11-12=-152/117, 12-13=0/39, 12-14=-155/47
BOT CHORD	23-24=-106/187, 22-23=-106/187, 21-22=-106/187, 20-21=-106/187, 19-20=-106/187, 18-19=-106/187, 17-18=-106/187, 15-17=-106/187, 14-15=-106/187

WEBS	
6-20=-185/8, 8-19=-185/7, 5-21=-213/162, 4-22=-142/93, 3-23=-174/160, 9-18=-213/163, 10-17=-143/91, 11-15=-168/168	

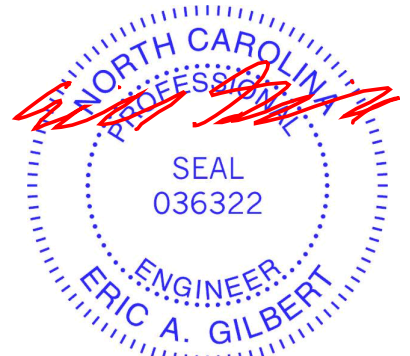
NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-3-4, Exterior(2N) 2-3-4 to 6-3-0, Corner(3R) 6-3-0 to 12-2-12, Exterior(2N) 12-2-12 to 16-2-12, Corner(3E) 16-2-12 to 19-4-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 69 lb uplift at joint 24, 50 lb uplift at joint 14, 115 lb uplift at joint 21, 46 lb uplift at joint 22, 168 lb uplift at joint 23, 116 lb uplift at joint 18, 47 lb uplift at joint 17 and 163 lb uplift at joint 15.

LOAD CASE(S) Standard



September 13, 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)



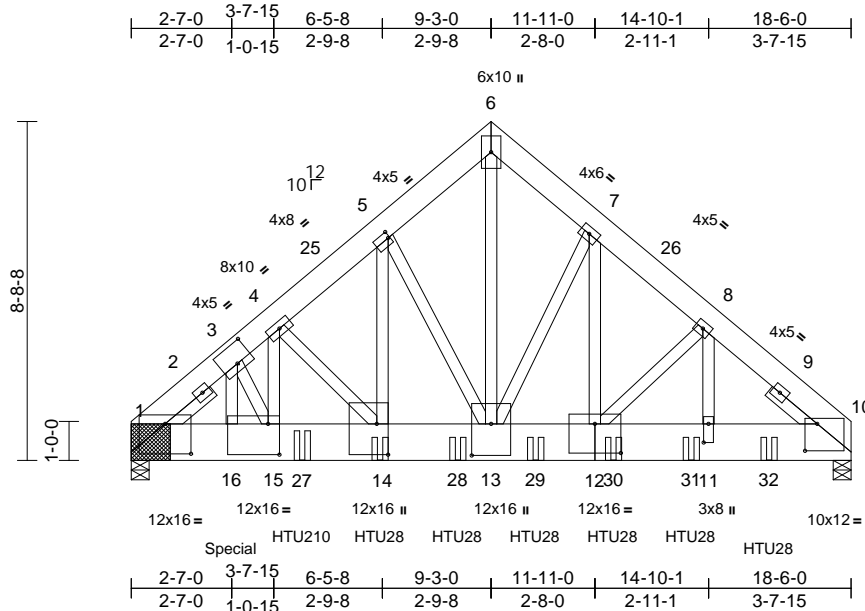
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss D02	Truss Type Common Girder	Qty 1	Ply 2	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160409
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:41
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Page: 1



Scale = 1:59.2

Plate Offsets (X, Y): [1:0-8-0,0-9-4], [3:0-5-0,0-5-12], [5:0-0-8,0-2-0], [10:0-3-12,0-8-5], [11:0-5-12,0-1-8], [12:0-8-0,0-9-0], [13:0-9-12,0-6-0], [14:0-9-8,0-3-8], [15:0-3-8,0-9-8]

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	0.43	Vert(LL)	-0.10	14-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.17	14-15	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.04	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 487 lb	FT = 20%

LUMBER
TOP CHORD 2x8 SP 2400F 2.0E
BOT CHORD 2x12 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 13-6:2x4 SP No.1, 5-14:2x4 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 5-11-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

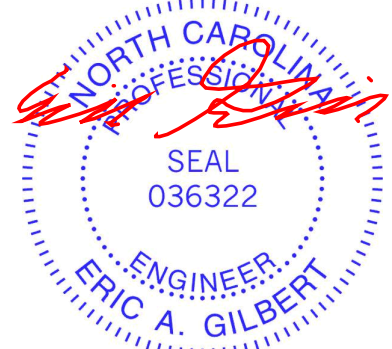
REACTIONS (size) 1=(0-5-8 + bearing block), (req. 0-6-2), 10=0-5-8
Max Horiz 1=-176 (LC 10)
Max Grav 1=14865 (LC 21), 10=10712 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-15578/0, 3-4=-14258/0, 4-5=-12125/0, 5-6=-9492/0, 6-7=-9463/0, 7-8=-11050/0, 8-10=-12158/0
BOT CHORD 1-16=0/10988, 15-16=0/10988, 14-15=0/11862, 13-14=0/9117, 11-13=0/9123, 10-11=0/9123
WEBS 6-13=0/10728, 7-13=-1571/0, 7-12=0/2918, 8-12=-1103/0, 8-11=0/1625, 4-14=-4425/101, 4-15=-208/3373, 5-14=0/5105, 5-13=-3189/0, 3-16=-421/1446, 3-15=0/2222

NOTES

- 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.
Bottom chords connected as follows: 2x12 - 6 rows staggered at 0-5-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 5-14 2x4 - 1 row at 0-5-0 oc, member 3-16 2x4 - 2 rows staggered at 0-2-0 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.
- 2x12 SP 2400F 2.0E bearing block 12" long at jt. 1 attached to each face with 6 rows of 10d (0.131"x3") nails spaced 3" o.c. 24 Total fasteners per block. Bearing is assumed to be SP 2400F 2.0E.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left 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.

- Use Simpson Strong-Tie HTU210 (32-10dx1 1/2 Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent at 4-4-12 from the left end to connect truss(es) to back face of bottom chord.
 - Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 6-4-12 from the left end to 16-4-12 to connect truss(es) to back face of bottom chord.
 - Fill all nail holes where hanger is in contact with lumber.
 - Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 8867 lb down and 535 lb up at 2-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- LOAD CASE(S)** Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-60, 6-10=-60, 17-21=-20
Concentrated Loads (lb)



September 13, 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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Job 24090009-01	Truss D02	Truss Type Common Girder	Qty 1	Ply 2	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	I68160409
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:41
ID:ahvaep5BsMWascBuTkn6buzRAib-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 2

Vert: 14=-1893 (B), 16=-5499 (B), 27=-1897 (B),
28=-1893 (B), 29=-1893 (B), 30=-1893 (B), 31=-1893
(B), 32=-1893 (B)

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

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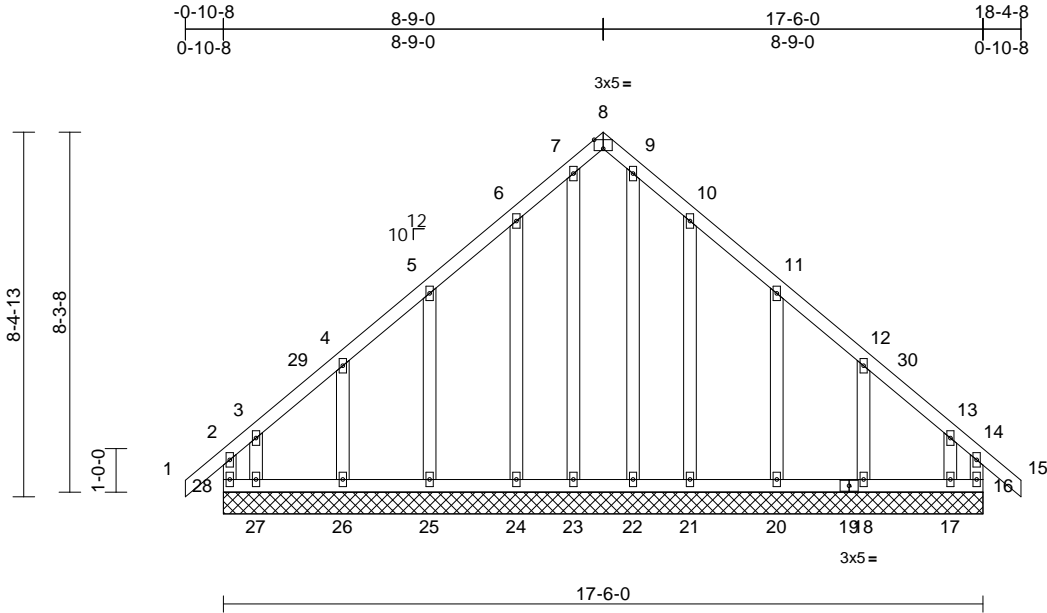
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss E01	Truss Type Common Supported Gable	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160410
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:42
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Page: 1



Scale = 1:53.1

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

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	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	0.15	Horz(CT)	0.00	16	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 130 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)
Max Horiz	28=209 (LC 13)
Max Uplift	16=-135 (LC 13), 17=-215 (LC 15), 18=-70 (LC 15), 20=-77 (LC 15), 21=-84 (LC 15), 24=-83 (LC 14), 25=-77 (LC 14), 26=-69 (LC 14), 27=-231 (LC 14), 28=-187 (LC 12)
Max Grav	16=226 (LC 15), 17=200 (LC 13), 18=170 (LC 31), 20=206 (LC 22), 21=214 (LC 22), 22=136 (LC 22), 23=136 (LC 21), 24=214 (LC 21), 25=206 (LC 21), 26=169 (LC 25), 27=233 (LC 12), 28=261 (LC 11)

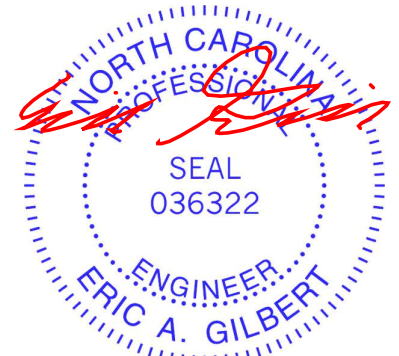
FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-28=-168/112, 1-2=0/38, 2-3=-204/166, 3-4=-116/115, 4-5=-92/94, 5-6=-76/160, 6-7=-104/251, 7-8=-76/166, 8-9=-76/166, 9-10=-104/251, 10-11=-72/160, 11-12=-69/73, 12-13=-90/87, 13-14=-185/126, 14-15=0/38, 14-16=-142/80

BOT CHORD	WEBS
27-28=-98/172, 26-27=-98/172, 25-26=-98/172, 24-25=-98/172, 23-24=-98/172, 22-23=-98/172, 21-22=-98/172, 20-21=-98/172, 18-20=-98/172, 17-18=-98/172, 16-17=-98/172	7-23=-141/22, 9-22=-141/22, 6-24=-181/127, 5-25=-167/114, 4-26=-150/120, 3-27=-124/148, 10-21=-181/127, 11-20=-167/114, 12-18=-150/120, 13-17=-111/144

- 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 5-9-0, Corner(3R) 5-9-0 to 11-9-0, Exterior(2N) 11-9-0 to 15-4-8, Corner(3E) 15-4-8 to 18-4-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 - All plates are 2x4 MT20 unless otherwise indicated.

- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 187 lb uplift at joint 28, 135 lb uplift at joint 16, 83 lb uplift at joint 24, 77 lb uplift at joint 25, 69 lb uplift at joint 26, 231 lb uplift at joint 27, 84 lb uplift at joint 21, 77 lb uplift at joint 20, 70 lb uplift at joint 18 and 215 lb uplift at joint 17.

LOAD CASE(S) Standard



September 13, 2024

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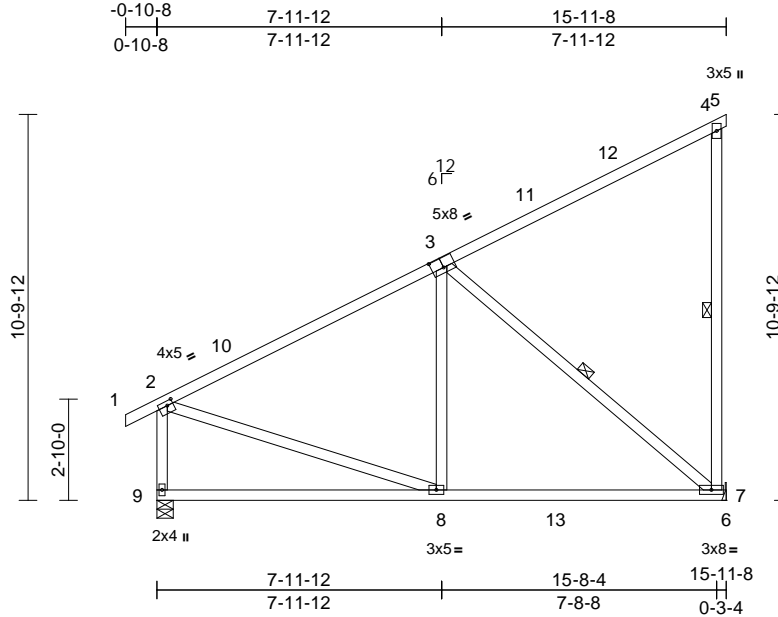
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss G01	Truss Type Monopitch	Qty 5	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	I68160411
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:42
ID: PdAAD85_ICJN?UaWrZnF5zRQu2-RfC?PsB70Hq3NSgPqL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:64.6

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.12	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.20	7-8	>923	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.39	Horz(CT)	-0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 106 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.1 *Except* 1-3:2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3 *Except* 4-7:2x4 SP No.2

BRACING

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

REACTIONS

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

FORCES

(lb) - Maximum Compression/Maximum Tension

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

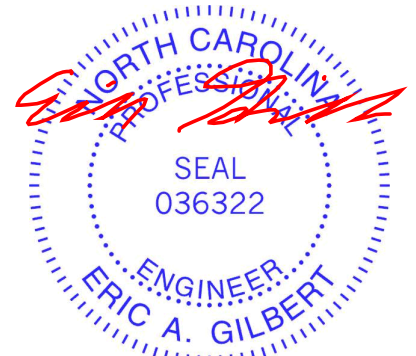
BOT CHORD 8-9=-334/218, 7-8=-195/603, 6-7=0/0
 WEBS 3-8=0/313, 3-7=-768/250, 2-8=0/486

NOTES

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 12-11-8, Exterior(2E) 12-11-8 to 15-11-8 zone; cantilever left and right exposed; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 221 lb uplift at joint 7.

LOAD CASE(S) Standard



September 13, 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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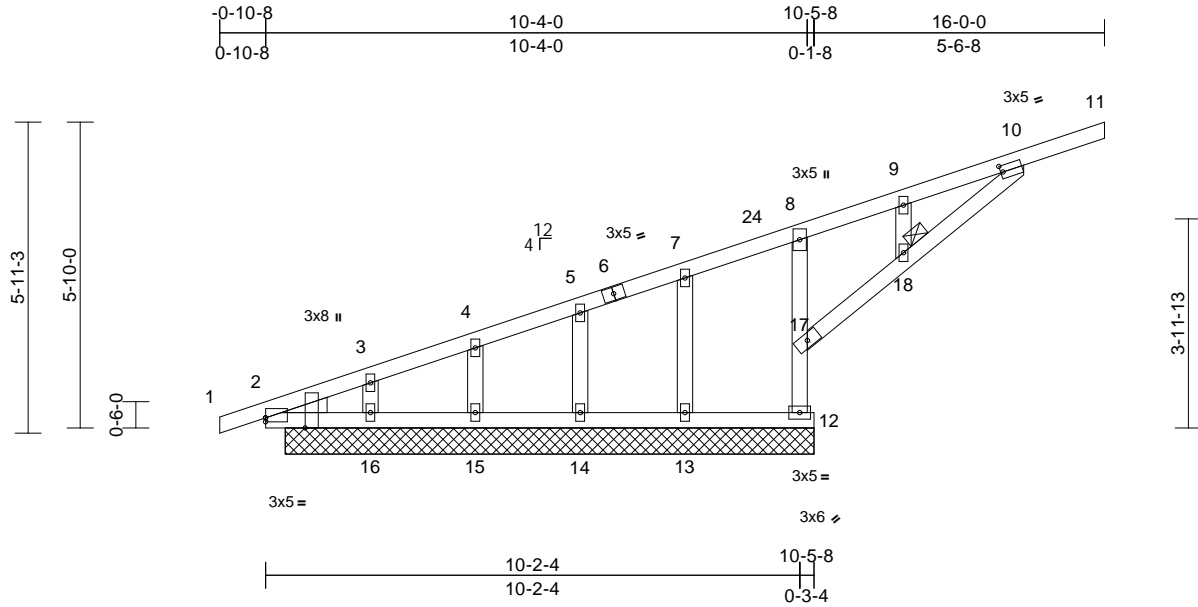
818 Soundside Road
 Edenton, NC 27932

Job 24090009-01	Truss H01	Truss Type Monopitch Supported Gable	Qty 2	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160412
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:42
ID:kX6Xm09Jm8Rk_RkgNonK3zRRGV-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:43.9

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	-0.08	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 68 lb	FT = 20%	

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 8-12:2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3

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

BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

JOINTS 1 Brace at Jt(s): 18

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

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-710/428, 3-4=-650/422, 4-5=-606/425, 5-7=-544/407, 7-8=-542/476, 8-9=-633/630, 9-10=-632/697, 10-11=-45/0, 12-17=0/0, 8-17=-364/285
BOT CHORD 2-16=-383/370, 15-16=-383/370, 14-15=-383/370, 13-14=-383/370, 12-13=-383/370

WEBS 3-16=-145/179, 4-15=-125/117, 5-14=-168/172, 7-13=-33/56, 17-18=-793/656, 10-18=-801/669, 9-18=-21/26

- NOTES**
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-0-0, Exterior(2N) 2-0-0 to 16-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 - All plates are 2x4 MT20 unless otherwise indicated.
 - Gable studs spaced at 2-0-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - Bearing at joint(s) 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 12, 98 lb uplift at joint 16 and 9 lb uplift at joint 13.
- N/A

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



September 13, 2024

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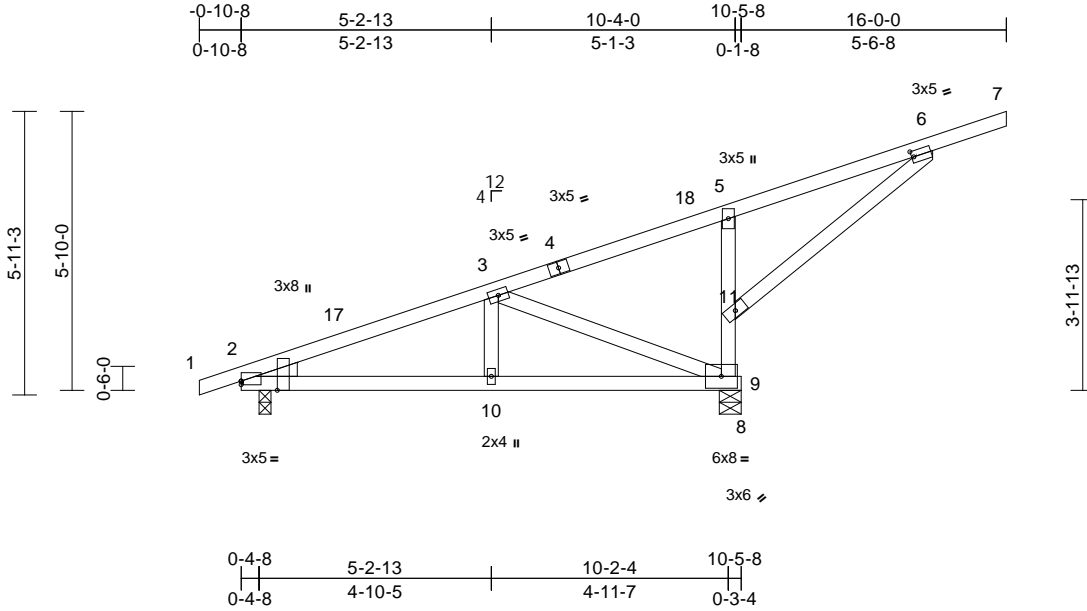
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss H02	Truss Type Monopitch	Qty 6	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160413
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:42
ID:nLPVeuW3K4TytrtY3ILLguzRRHK-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC7f

Page: 1



Scale = 1:48.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.78	Vert(LL)	0.03	9-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.05	9-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 66 lb	FT = 20%

LUMBER

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

BRACING

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

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

FORCES

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

NOTES

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

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9 and 2. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



September 13, 2024

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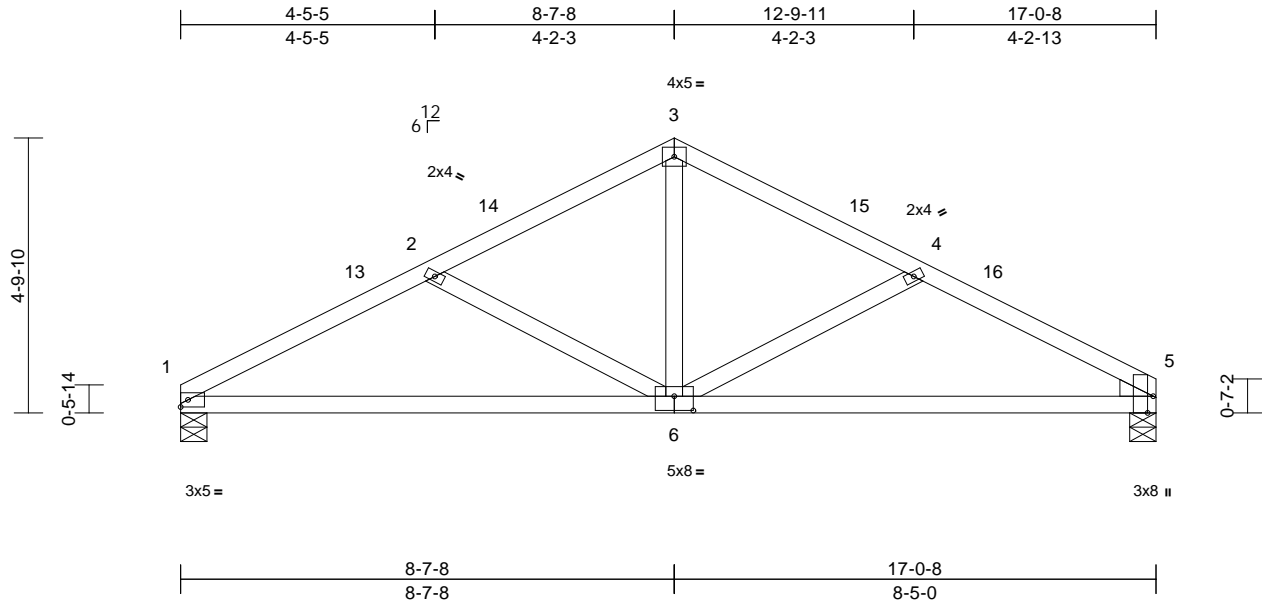
818 Soundside Road
 Edenton, NC 27932

Job 24090009-01	Truss J01	Truss Type Common	Qty 5	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160414
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:42
ID:yPXMLbyKekkHSiWSIZLGINzRR58-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:40.3

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	-0.09	6-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.19	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.02	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 75 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

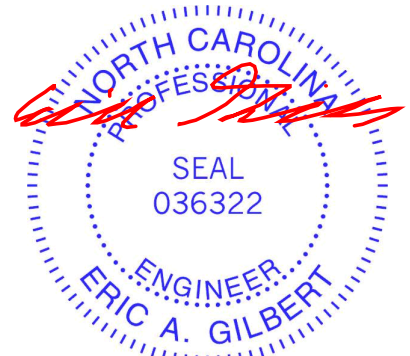
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-1256/309, 2-3=-879/232, 3-4=-871/231,
 4-5=-1211/300
 BOT CHORD 1-5=-221/1083
 WEBS 3-6=-51/474, 4-6=-401/159, 2-6=-439/174

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
 Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 5-7-8, Exterior(2R) 5-7-8 to 11-7-8, Interior (1) 11-7-8 to 14-0-8, Exterior(2E) 14-0-8 to 17-0-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: , Joint 5 SP No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 1.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



September 13, 2024

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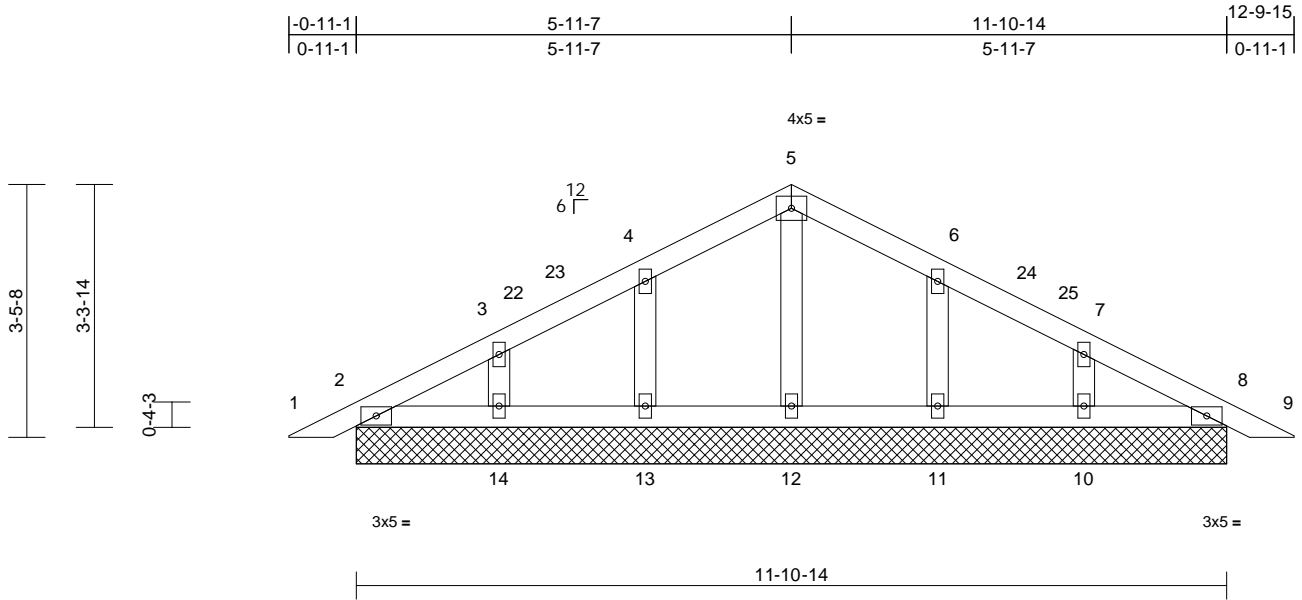
818 Soundside Road
 Edenton, NC 27932

Job 24090009-01	Truss PBA	Truss Type Piggyback	Qty 2	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160415
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:42
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Page: 1



Scale = 1:31.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	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)
2=11-10-14, 8=11-10-14,
10=11-10-14, 11=11-10-14,
12=11-10-14, 13=11-10-14,
14=11-10-14, 15=11-10-14,
19=11-10-14
Max Horiz 2=52 (LC 18), 15=52 (LC 18)
Max Uplift 2=9 (LC 15), 8=12 (LC 15),
10=45 (LC 15), 11=47 (LC 15),
13=47 (LC 14), 14=46 (LC 14),
15=9 (LC 15), 19=12 (LC 15)
Max Grav 2=125 (LC 21), 8=125 (LC 22),
10=240 (LC 22), 11=243 (LC 22),
12=143 (LC 22), 13=243 (LC 21),
14=240 (LC 21), 15=125 (LC 21),
19=125 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-46/33, 3-4=-56/49,
4-5=-64/107, 5-6=-64/107, 6-7=-56/42,
7-8=-30/26, 8-9=0/17
BOT CHORD 2-14=-9/58, 13-14=-9/58, 12-13=-9/58,
11-12=-9/58, 10-11=-9/58, 8-10=-9/58
WEBS 5-12=-102/0, 4-13=-207/121, 3-14=-183/88,
6-11=-207/121, 7-10=-183/88

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

LOAD CASE(S) Standard

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



September 13, 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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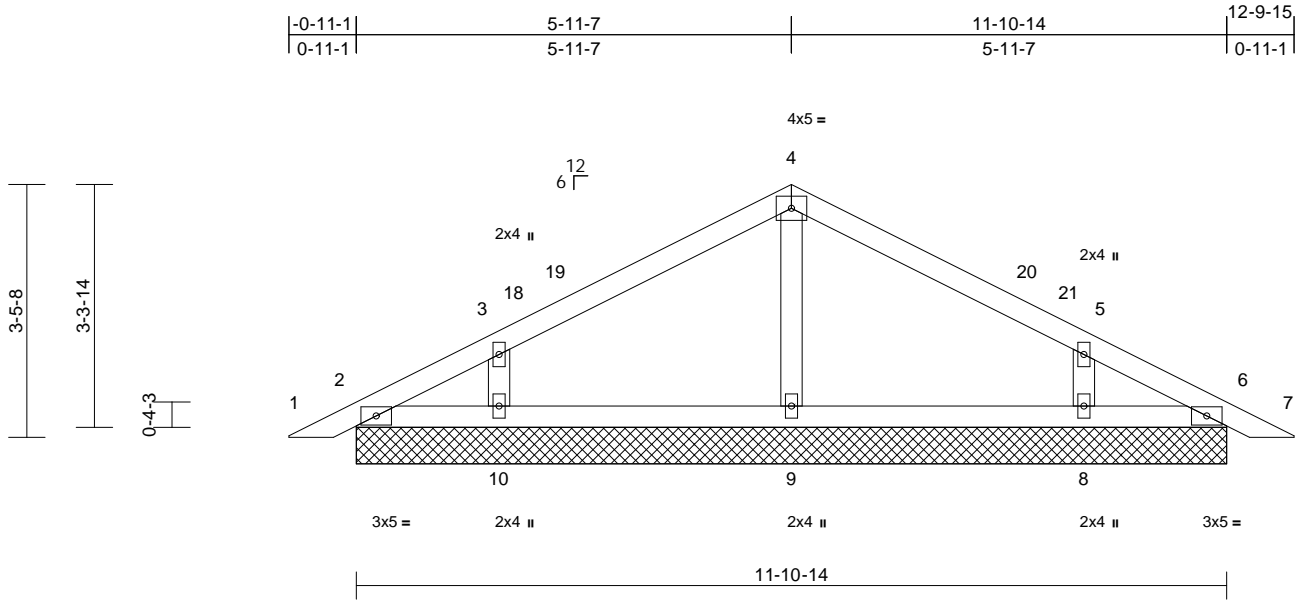
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss PBA1	Truss Type Piggyback	Qty 18	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160416
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:43
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Page: 1



Scale = 1:31.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 47 lb	FT = 20%

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

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

REACTIONS (size)
2=11-10-14, 6=11-10-14, 8=11-10-14, 9=11-10-14, 10=11-10-14, 11=11-10-14, 15=11-10-14
Max Horiz 2=52 (LC 18), 11=52 (LC 18)
Max Uplift 2=-11 (LC 15), 6=-4 (LC 11), 8=-87 (LC 15), 10=-87 (LC 14), 11=-11 (LC 15), 15=-4 (LC 11)
Max Grav 2=87 (LC 1), 6=87 (LC 1), 8=423 (LC 22), 9=301 (LC 21), 10=423 (LC 21), 11=87 (LC 1), 15=87 (LC 1)

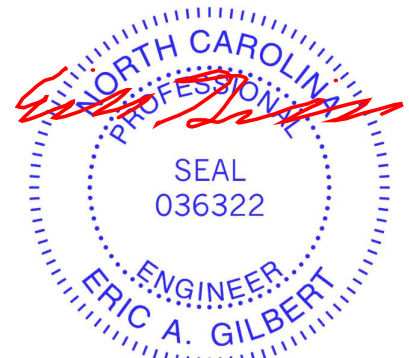
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-54/45, 3-4=-124/96, 4-5=-124/96, 5-6=-34/45, 6-7=0/17
BOT CHORD 2-10=-7/46, 9-10=-2/46, 8-9=-2/46, 6-8=-7/46
WEBS 4-9=-214/91, 3-10=-377/199, 5-8=-377/199

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

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

LOAD CASE(S) Standard



September 13, 2024

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

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

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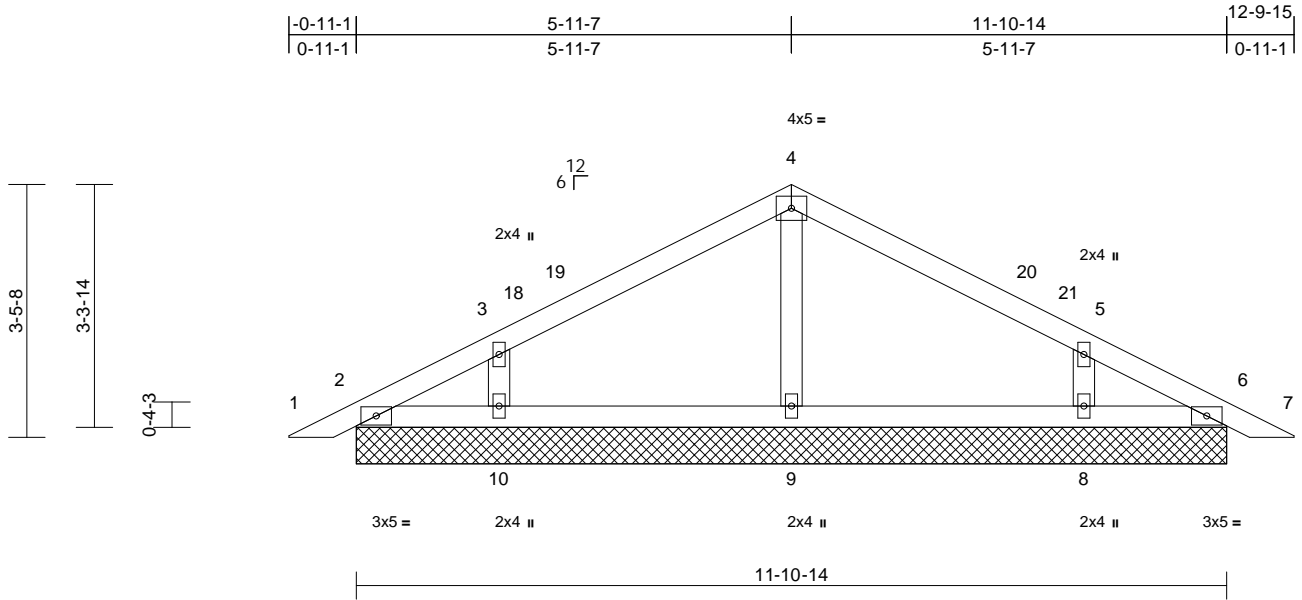
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss PBA2	Truss Type Piggyback	Qty 2	Ply 4	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160417
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:43
ID:m2dQdjyppkexqPVgwg5aZpRCX1-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f

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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 188 lb	FT = 20%

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

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

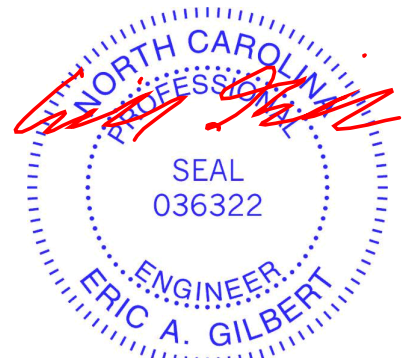
REACTIONS (size) 2=11-10-14, 6=11-10-14, 8=11-10-14, 9=11-10-14, 10=11-10-14, 11=11-10-14, 15=11-10-14
Max Horiz 2=52 (LC 18), 11=52 (LC 18)
Max Uplift 2=-11 (LC 15), 6=-4 (LC 11), 8=-87 (LC 15), 10=-87 (LC 14), 11=-11 (LC 15), 15=-4 (LC 11)
Max Grav 2=86 (LC 1), 6=86 (LC 1), 8=423 (LC 22), 9=302 (LC 21), 10=423 (LC 21), 11=86 (LC 1), 15=86 (LC 1)

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

NOTES
1) 4-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

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



September 13, 2024

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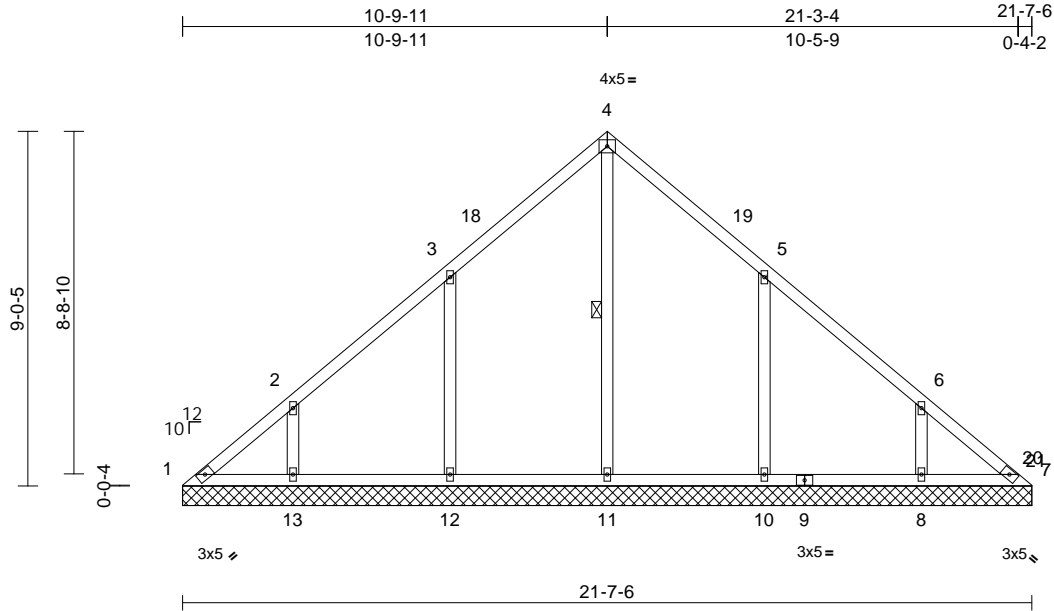
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLB1	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160418
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:43
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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	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.01	7	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 106 lb	FT = 20%

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

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

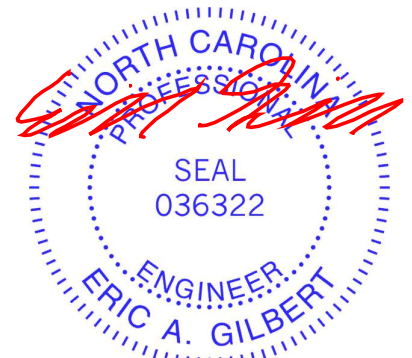
WEBS 1 Row at midpt 4-11
REACTIONS (size) 1=21-7-6, 7=21-7-6, 8=21-7-6, 10=21-7-6, 11=21-7-6, 12=21-7-6, 13=21-7-6
Max Horiz 1=207 (LC 11)
Max Uplift 1=-48 (LC 10), 7=-6 (LC 11), 8=-114 (LC 15), 10=-174 (LC 15), 12=-173 (LC 14), 13=-120 (LC 14)
Max Grav 1=149 (LC 25), 7=109 (LC 32), 8=362 (LC 25), 10=473 (LC 6), 11=414 (LC 27), 12=473 (LC 5), 13=370 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-213/174, 2-3=-164/132, 3-4=-188/181, 4-5=-188/154, 5-6=-116/82, 6-7=-168/107
BOT CHORD 1-13=-76/154, 12-13=-76/154, 11-12=-76/154, 10-11=-76/154, 8-10=-76/154, 7-8=-76/154
WEBS 4-11=-208/3, 3-12=-376/222, 2-13=-265/163, 5-10=-376/222, 6-8=-264/161

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 2-10-0, Interior (1) 2-10-0 to 7-10-0, Exterior(2R) 7-10-0 to 13-10-0, Interior (1) 13-10-0 to 18-3-3, Exterior(2E) 18-3-3 to 21-3-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- 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 48 lb uplift at joint 1, 6 lb uplift at joint 7, 173 lb uplift at joint 12, 120 lb uplift at joint 13, 174 lb uplift at joint 10 and 114 lb uplift at joint 8.

LOAD CASE(S) Standard



September 13, 2024

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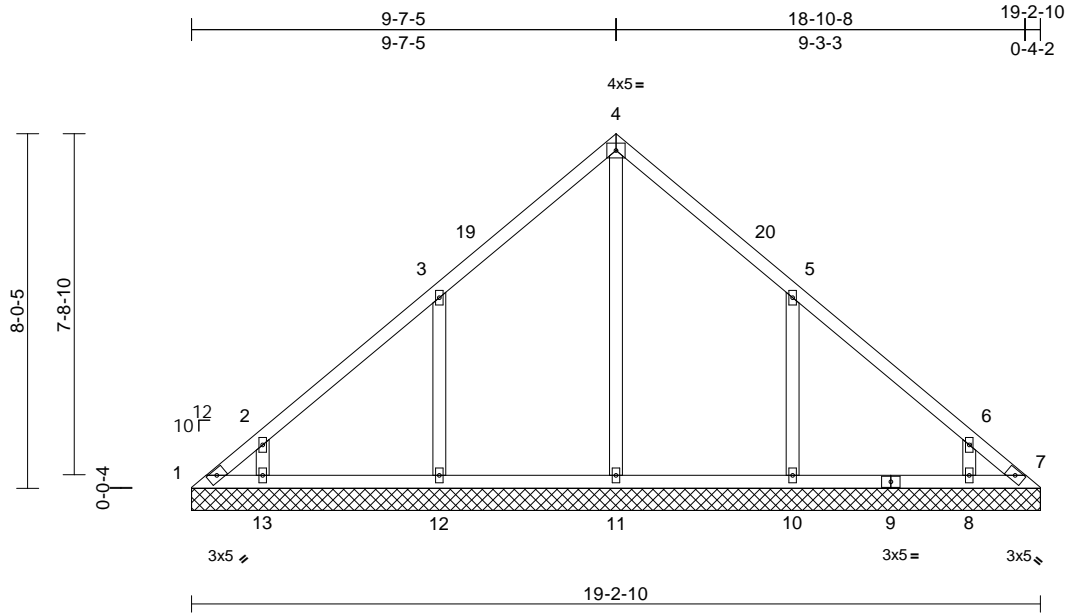
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLB2	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160419
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:43
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Page: 1



Scale = 1:52.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a		
TCDL	10.0	Rep Stress Incr	YES	WB	0.29	Horiz(TL)	0.00	7	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 90 lb	FT = 20%

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

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

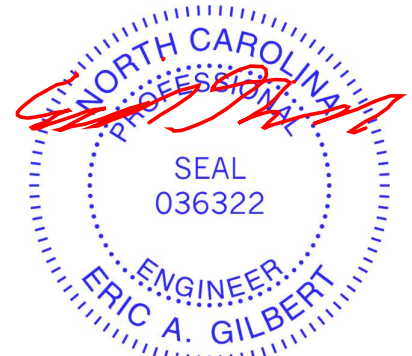
REACTIONS (size)
1=19-2-10, 7=19-2-10, 8=19-2-10, 10=19-2-10, 11=19-2-10, 12=19-2-10, 13=19-2-10, 18=19-2-10
Max Horiz 1=184 (LC 11)
Max Uplift 1=-96 (LC 10), 8=-53 (LC 15), 10=-193 (LC 15), 12=-174 (LC 14), 13=-102 (LC 14)
Max Grav 1=123 (LC 13), 7=0 (LC 13), 8=303 (LC 25), 10=477 (LC 25), 11=463 (LC 27), 12=480 (LC 5), 13=317 (LC 24), 18=0 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-218/205, 2-3=-217/187, 3-4=-207/267, 4-5=-207/241, 5-6=-124/66, 6-7=-72/42
BOT CHORD 1-13=-45/64, 12-13=-18/55, 11-12=-18/55, 10-11=-18/55, 8-10=-18/55, 7-8=-18/55
WEBS 4-11=-255/59, 3-12=-379/222, 2-13=-260/173, 5-10=-376/229, 6-8=-252/154

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 6-7-10, Exterior(2R) 6-7-10 to 12-7-10, Interior (1) 12-7-10 to 15-10-6, Exterior(2E) 15-10-6 to 18-10-6 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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 96 lb uplift at joint 1, 174 lb uplift at joint 12, 102 lb uplift at joint 13, 193 lb uplift at joint 10 and 53 lb uplift at joint 8.

LOAD CASE(S) Standard



September 13, 2024

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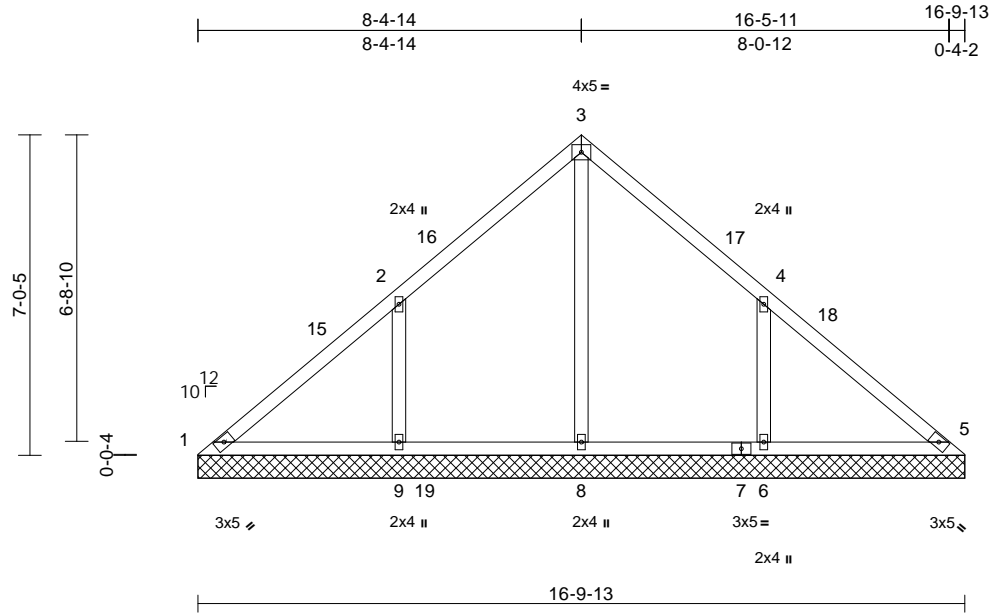
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLB3	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160420
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:43
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Page: 1



Scale = 1:50.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 75 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

- (size) 1=16-9-13, 5=16-9-13, 6=16-9-13, 8=16-9-13, 9=16-9-13, 14=16-9-13
- Max Horiz 1=160 (LC 11)
- Max Uplift 1=-58 (LC 10), 6=-183 (LC 15), 9=-188 (LC 14)
- Max Grav 1=82 (LC 35), 5=1 (LC 25), 6=510 (LC 6), 8=654 (LC 24), 9=510 (LC 5), 14=1 (LC 25)

FORCES

(lb) - Maximum Compression/Maximum Tension

- TOP CHORD 1-2=-105/370, 2-3=-25/319, 3-4=-2/298, 4-5=-139/301
- BOT CHORD 1-9=-197/76, 8-9=-197/74, 6-8=-197/74, 5-6=-197/74
- WEBS 3-8=-470/0, 2-9=-392/220, 4-6=-392/218

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-5-3, Exterior(2R) 5-5-3 to 11-5-3, Interior (1) 11-5-3 to 13-5-9, Exterior(2E) 13-5-9 to 16-5-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- 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, 188 lb uplift at joint 9 and 183 lb uplift at joint 6.

LOAD CASE(S) Standard



September 13, 2024

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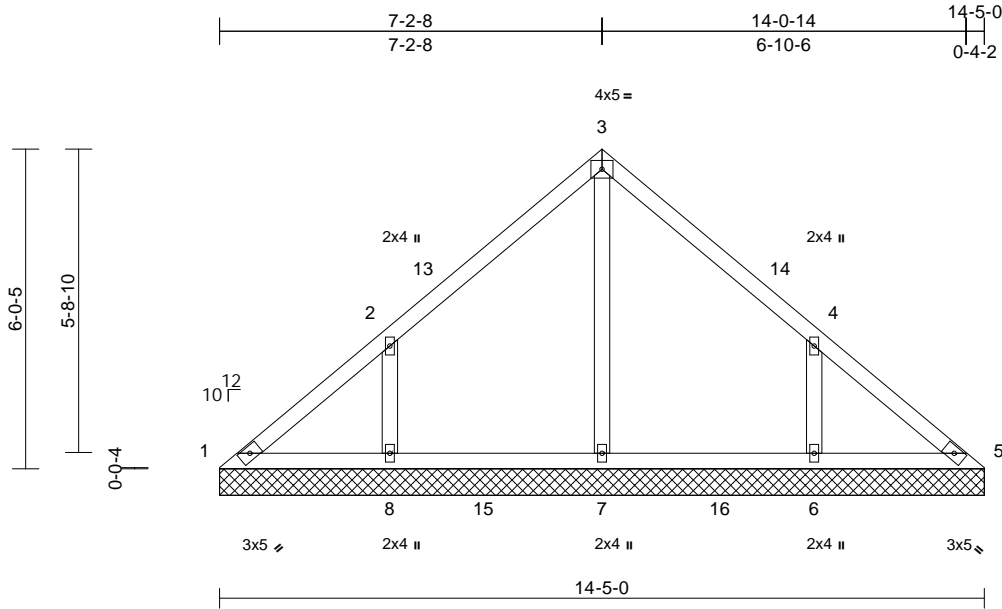
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLB4	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160421
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:44
ID:CKtcSNrNSSyGdaBHoyYSzRQro-RFC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f

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	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 62 lb	FT = 20%

LUMBER

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

BRACING

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

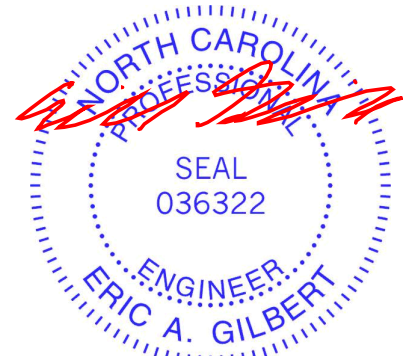
REACTIONS (size) 1=14-5-0, 5=14-5-0, 6=14-5-0, 7=14-5-0, 8=14-5-0
Max Horiz 1=-137 (LC 10)
Max Uplift 1=-24 (LC 10), 6=-154 (LC 15), 8=-157 (LC 14)
Max Grav 1=123 (LC 25), 5=99 (LC 24), 6=454 (LC 21), 7=403 (LC 24), 8=454 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-152/140, 2-3=-177/118, 3-4=-177/112, 4-5=-121/105
BOT CHORD 1-8=-59/126, 7-8=-59/100, 6-7=-59/100, 5-6=-59/100
WEBS 3-7=-223/0, 2-8=-374/196, 4-6=-374/195

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 1, 157 lb uplift at joint 8 and 154 lb uplift at joint 6.

LOAD CASE(S) Standard

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



September 13, 2024

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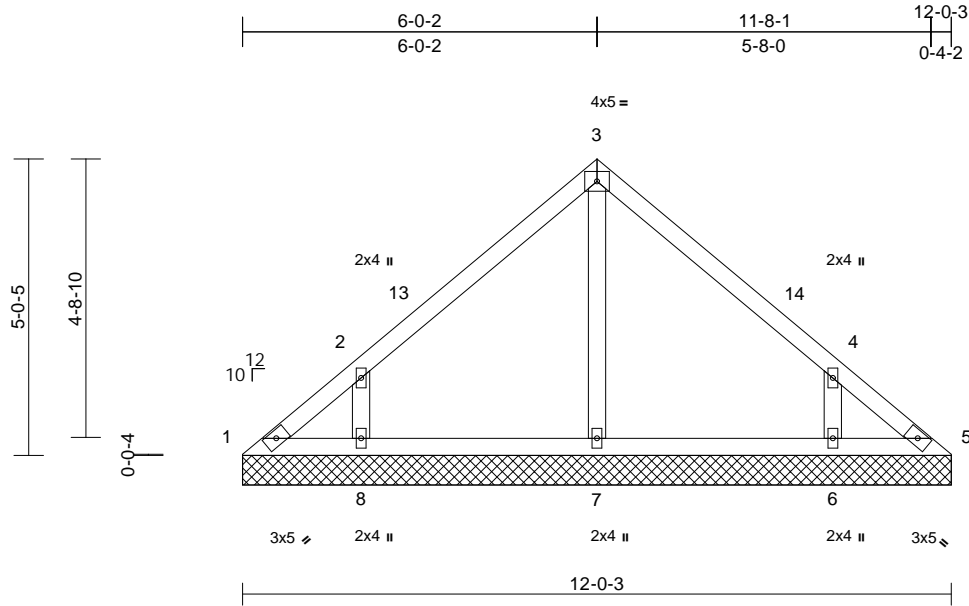
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLB5	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160422
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:44
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Page: 1



Scale = 1:39.1

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	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=12-0-3, 5=12-0-3, 6=12-0-3,
7=12-0-3, 8=12-0-3
Max Horiz 1=114 (LC 11)
Max Uplift 1=-34 (LC 10), 5=-6 (LC 11),
6=-136 (LC 15), 8=-139 (LC 14)
Max Grav 1=91 (LC 30), 5=70 (LC 24), 6=434
(LC 21), 7=259 (LC 20), 8=434 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

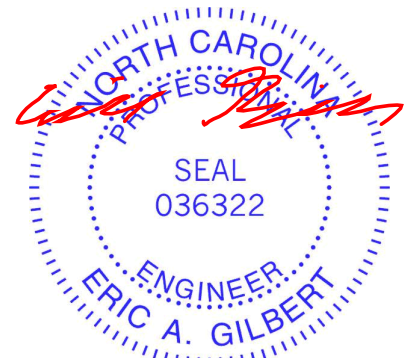
TOP CHORD 1-2=-114/101, 2-3=-218/115, 3-4=-218/115,
4-5=-88/63
BOT CHORD 1-8=-32/75, 7-8=-31/73, 6-7=-31/73,
5-6=-31/73
WEBS 3-7=-172/0, 2-8=-401/220, 4-6=-401/220

NOTES

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

- 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 34 lb uplift at joint 1, 6 lb uplift at joint 5, 139 lb uplift at joint 8 and 136 lb uplift at joint 6.

LOAD CASE(S) Standard



September 13, 2024

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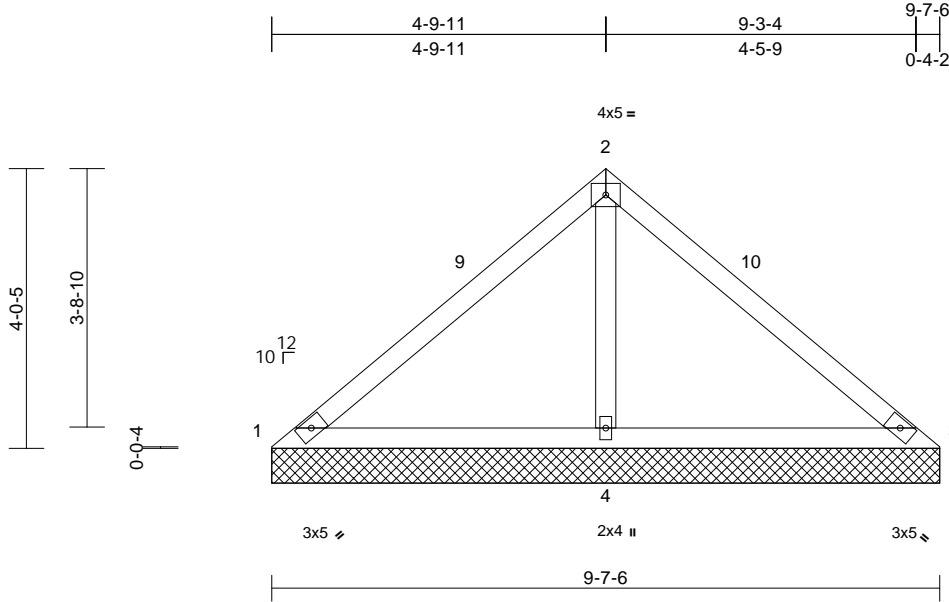
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLB6	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160423
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:44
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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	0.45	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	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

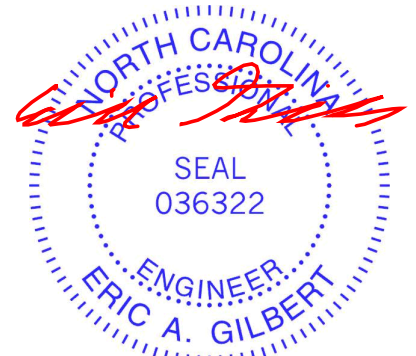
BRACING
TOP CHORD Structural wood sheathing directly applied or 9-7-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=9-7-6, 3=9-7-6, 4=9-7-6
Max Horiz 1=90 (LC 11)
Max Uplift 1=-49 (LC 21), 3=-49 (LC 20), 4=-108 (LC 14)
Max Grav 1=95 (LC 20), 3=95 (LC 21), 4=771 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-114/372, 2-3=-114/372
BOT CHORD 1-4=-243/172, 3-4=-243/172
WEBS 2-4=-636/271

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 4-0-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 1, 49 lb uplift at joint 3 and 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) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 6-7-11, Exterior(2E) 6-7-11 to 9-7-11 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.



September 13, 2024

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ENGINEERING BY
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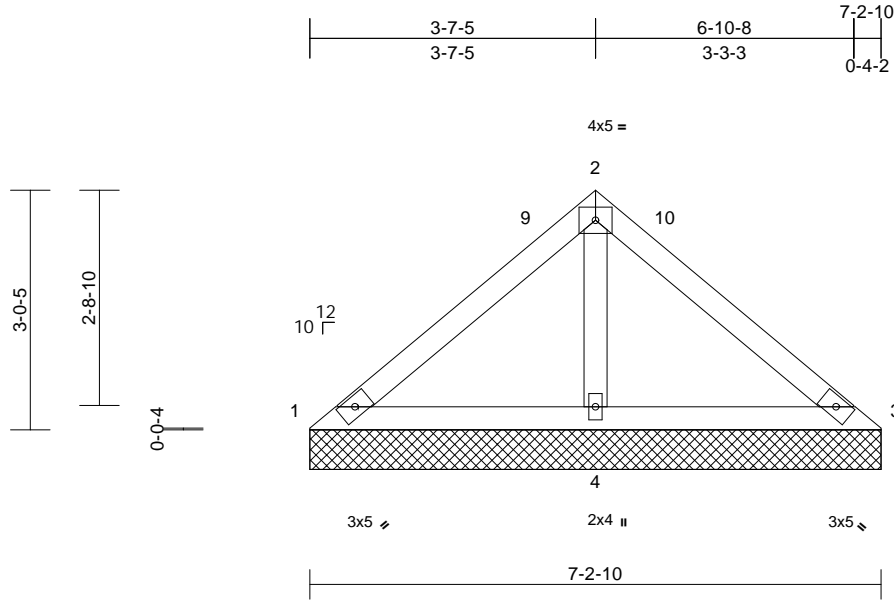
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLB7	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160424
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:44
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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	0.26	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 7-2-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=7-2-10, 3=7-2-10, 4=7-2-10
Max Horiz 1=-67 (LC 10)
Max Uplift 1=-17 (LC 21), 3=-17 (LC 20), 4=-73 (LC 14)
Max Grav 1=105 (LC 20), 3=105 (LC 21), 4=530 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-88/228, 2-3=-88/228
BOT CHORD 1-4=-178/151, 3-4=-178/151
WEBS 2-4=-419/199

- 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 17 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) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 4-2-14, Exterior(2E) 4-2-14 to 7-2-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.



September 13, 2024

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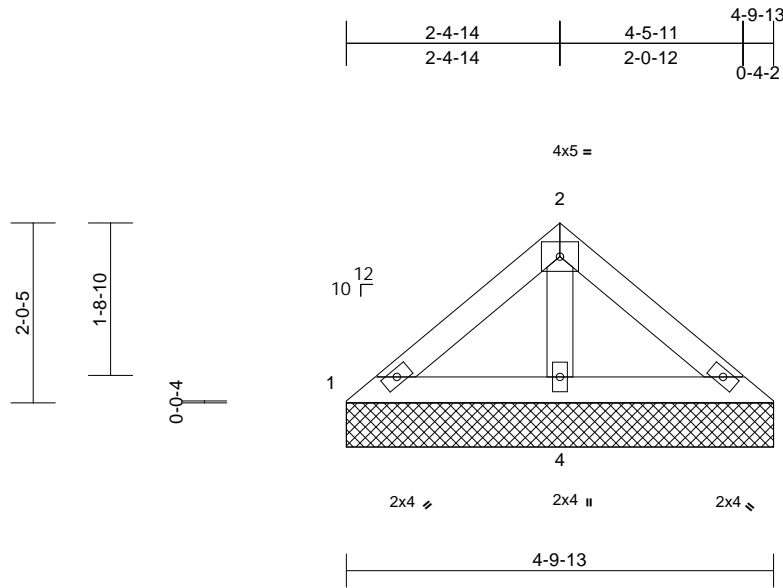
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLB8	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160425
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:44
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Page: 1



Scale = 1:26

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	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 17 lb	FT = 20%	

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-9-13 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=4-9-13, 3=4-9-13, 4=4-9-13
Max Horiz 1=-43 (LC 10)
Max Uplift 3=-7 (LC 15), 4=-33 (LC 14)
Max Grav 1=88 (LC 20), 3=88 (LC 21), 4=292 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-80/102, 2-3=-80/102
BOT CHORD 1-4=-82/87, 3-4=-82/87
WEBS 2-4=-207/95

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 33 lb uplift at joint 4.
- LOAD CASE(S)** Standard



September 13, 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

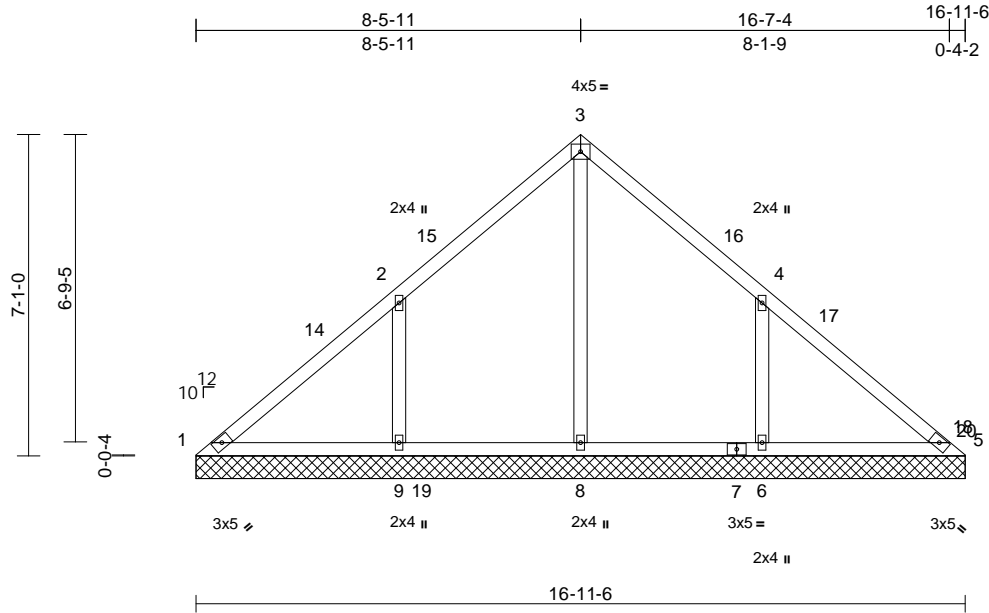
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLD1	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160426
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:44
ID:?VRASUfm0qfd3oFPBHC5FHzRQud-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

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	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 76 lb	FT = 20%	

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
REACTIONS (size)	
	1=16-11-6, 5=16-11-6, 6=16-11-6, 8=16-11-6, 9=16-11-6
Max Horiz	1=161 (LC 11)
Max Uplift	1=-21 (LC 10), 6=-183 (LC 15), 9=-187 (LC 14)
Max Grav	1=123 (LC 25), 5=86 (LC 21), 6=520 (LC 25), 8=496 (LC 24), 9=526 (LC 24)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-145/253, 2-3=-108/190, 3-4=-109/170, 4-5=-111/218
BOT CHORD	1-9=-130/131, 8-9=-130/131, 6-8=-130/131, 5-6=-130/131
WEBS	3-8=-312/0, 2-9=-397/221, 4-6=-396/219

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1, 187 lb uplift at joint 9 and 183 lb uplift at joint 6.

LOAD CASE(S) Standard

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-6-0, Exterior(2R) 5-6-0 to 11-6-0, Interior (1) 11-6-0 to 13-7-3, Exterior(2E) 13-7-3 to 16-7-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



September 13, 2024

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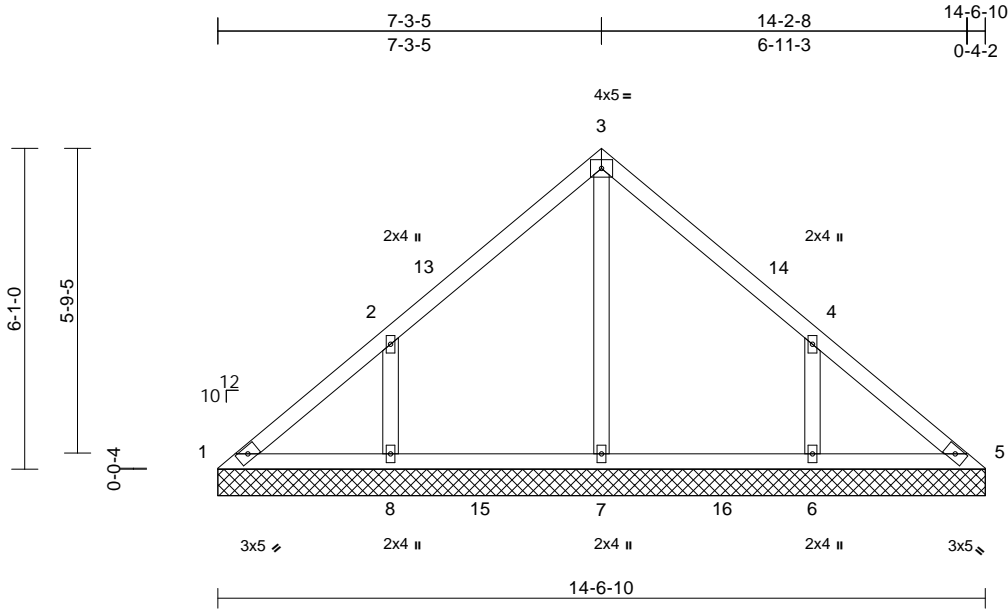
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLD2	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160427
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:45
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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	0.31	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	0.15	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 63 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

- (size) 1=14-6-10, 5=14-6-10, 6=14-6-10, 7=14-6-10, 8=14-6-10
- Max Horiz 1=138 (LC 11)
- Max Uplift 1=-24 (LC 10), 6=-156 (LC 15), 8=-159 (LC 14)
- Max Grav 1=124 (LC 25), 5=99 (LC 24), 6=456 (LC 21), 7=407 (LC 24), 8=456 (LC 20)

FORCES

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

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-3-10, Interior (1) 3-3-10 to 4-3-10, Exterior(2R) 4-3-10 to 10-3-10, Interior (1) 10-3-10 to 11-3-10, Exterior(2E) 11-3-10 to 14-6-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 1, 159 lb uplift at joint 8 and 156 lb uplift at joint 6.

LOAD CASE(S) Standard



September 13, 2024

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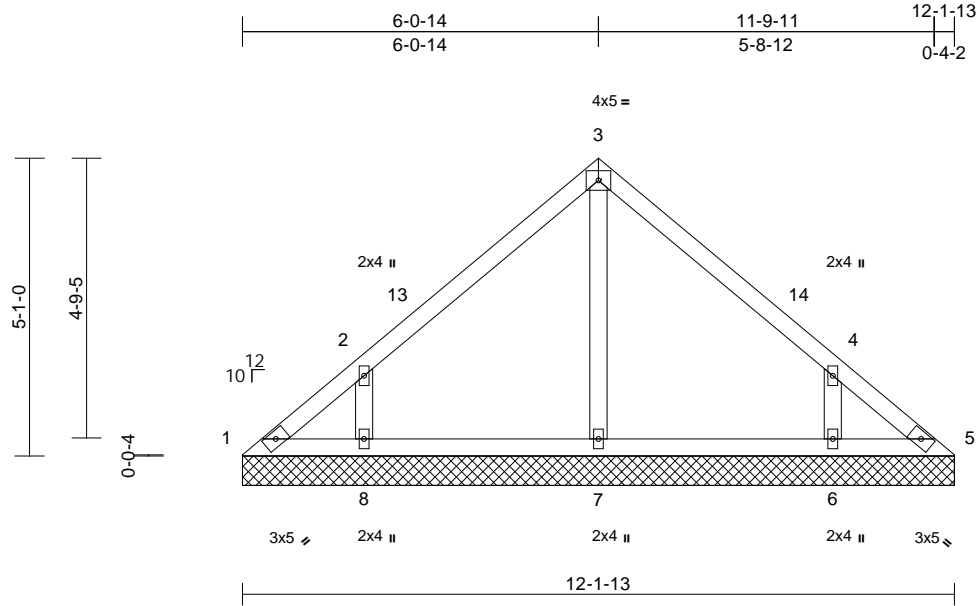
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLD3	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160428
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:45
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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=12-1-13, 5=12-1-13, 6=12-1-13,
7=12-1-13, 8=12-1-13
Max Horiz 1=-115 (LC 12)
Max Uplift 1=-33 (LC 10), 5=-5 (LC 11),
6=-136 (LC 15), 8=-140 (LC 14)
Max Grav 1=94 (LC 25), 5=73 (LC 24), 6=434
(LC 21), 7=261 (LC 21), 8=434 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

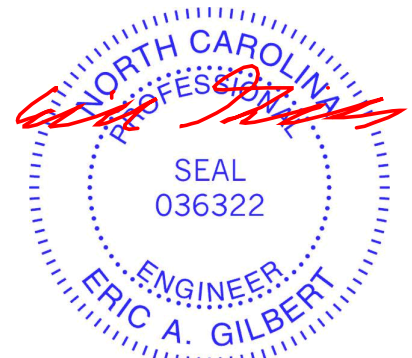
TOP CHORD 1-2=-117/101, 2-3=-216/116, 3-4=-216/116,
4-5=-91/63
BOT CHORD 1-8=-32/79, 7-8=-32/74, 6-7=-32/74,
5-6=-32/74
WEBS 3-7=-174/0, 2-8=-397/217, 4-6=-397/217

NOTES

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

- 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 33 lb uplift at joint 1, 5 lb uplift at joint 5, 140 lb uplift at joint 8 and 136 lb uplift at joint 6.

LOAD CASE(S) Standard



September 13, 2024

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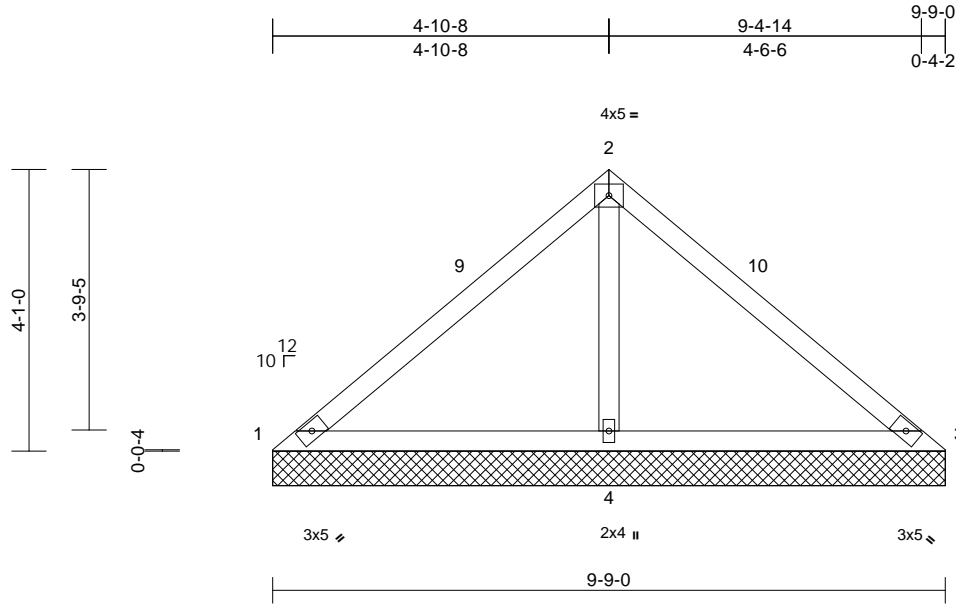
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLD4	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160429
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:45
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Page: 1



Scale = 1:33.4

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.44	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	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 9-9-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

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

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-117/382, 2-3=-117/382
BOT CHORD 1-4=-249/175, 3-4=-249/175
WEBS 2-4=-650/275

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 6-9-5, Exterior(2E) 6-9-5 to 9-9-5 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 52 lb uplift at joint 1, 52 lb uplift at joint 3 and 111 lb uplift at joint 4.

LOAD CASE(S) Standard



September 13, 2024

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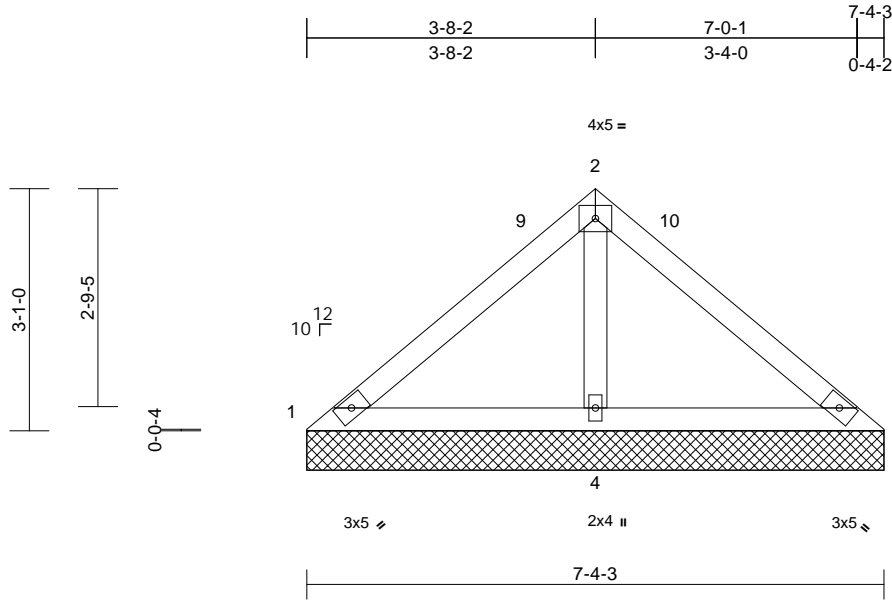
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLD5	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160430
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:45
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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	0.27	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

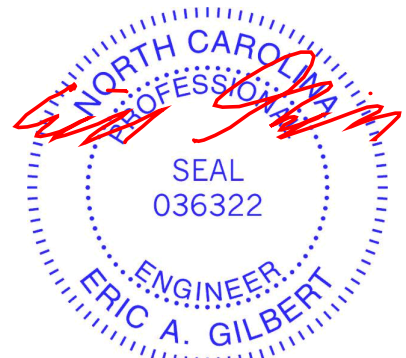
BRACING
TOP CHORD Structural wood sheathing directly applied or 7-4-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

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

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

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 4-0-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 1, 19 lb uplift at joint 3 and 76 lb uplift at joint 4.
- LOAD CASE(S)** Standard

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



September 13, 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)



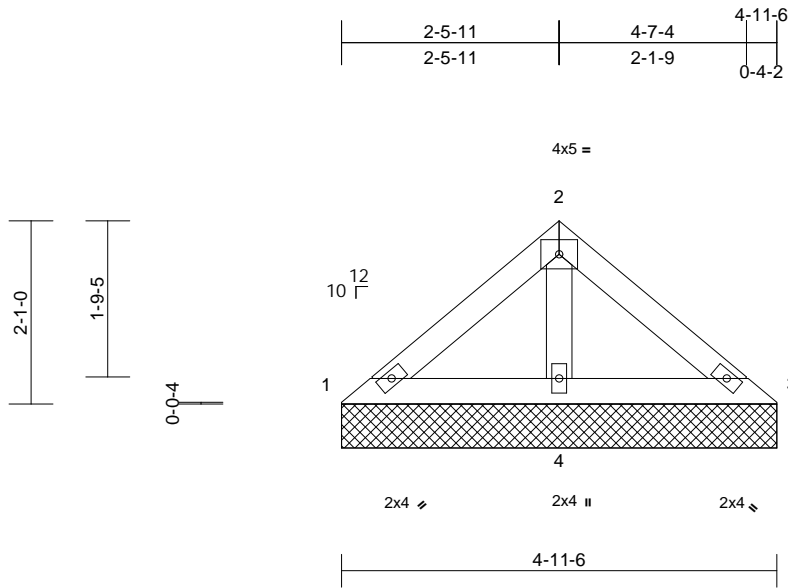
818 Soundside Road
Edenton, NC 27932

Job 24090009-01	Truss VLD6	Truss Type Valley	Qty 1	Ply 1	3 Serenity-Roof-B326 A CP GLH Job Reference (optional)	168160431
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Wed Sep 11 15:16:45
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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	4	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 4-11-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=4-11-6, 3=4-11-6, 4=4-11-6
Max Horiz 1=44 (LC 13)
Max Uplift 3=-7 (LC 15), 4=-35 (LC 14)
Max Grav 1=89 (LC 20), 3=89 (LC 21), 4=303 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

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

NOTES

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

- Unbalanced snow loads have been considered for this design.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 4-0-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 3 and 35 lb uplift at joint 4.
- LOAD CASE(S)** Standard



September 13, 2024

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

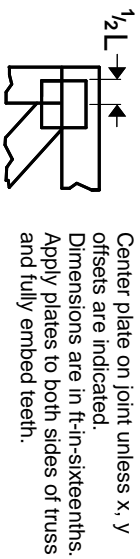
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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



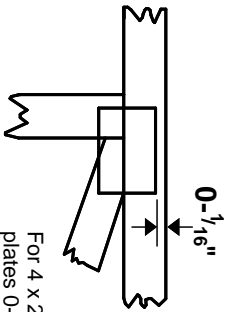
818 Soundside Road
Edenton, NC 27932

Symbols

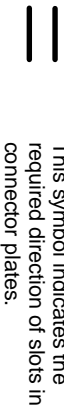
PLATE LOCATION AND ORIENTATION



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

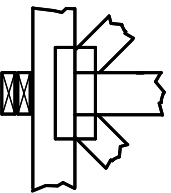
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

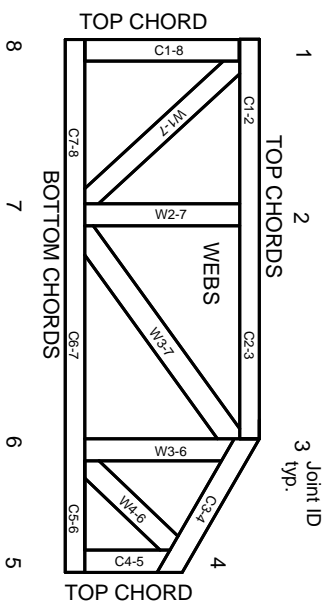


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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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General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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

MITek

ENGINEERING BY
TRENGO
A MITek Affiliate

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