

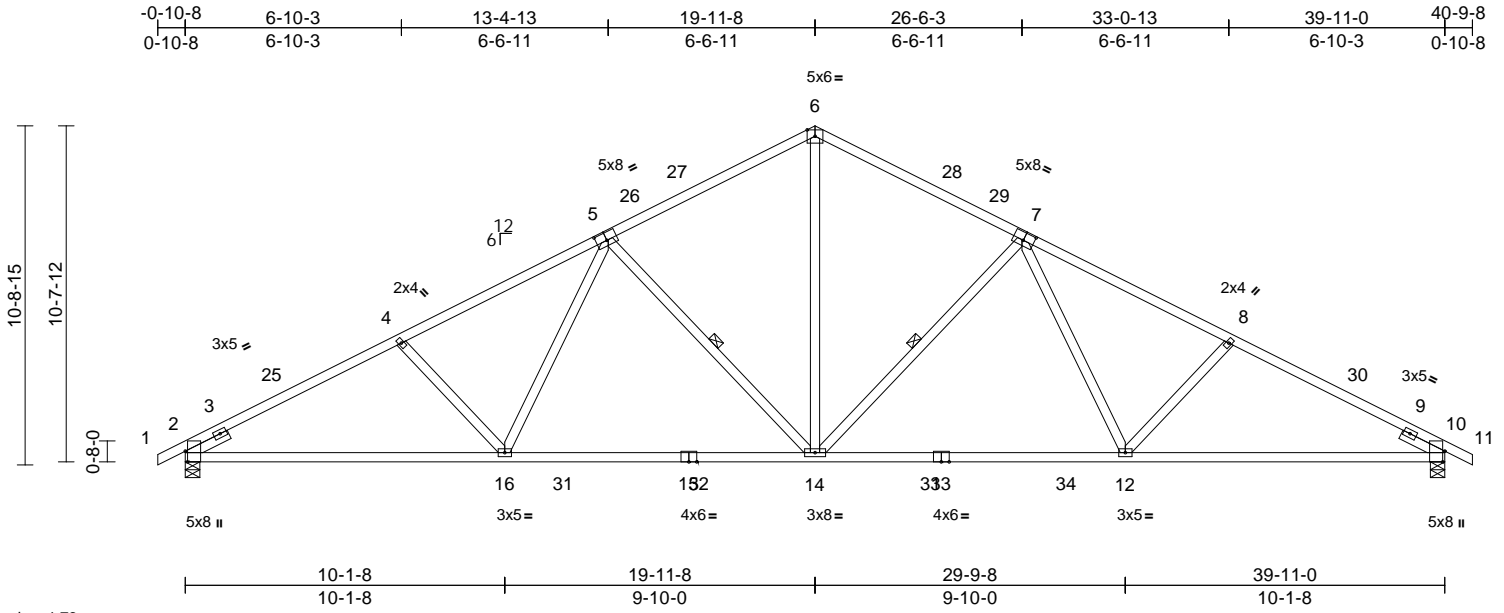
Job 23110111-01	Truss A	Truss Type Common	Qty 4	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584892
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:32

Page: 1

ID:CttcSzQgwNcSj9XhY?FsHzF_uO-RfC?PsB70Hq3NSgPqnL8w3uITxbGKwRCDoi7J4zJC?f



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

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

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

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

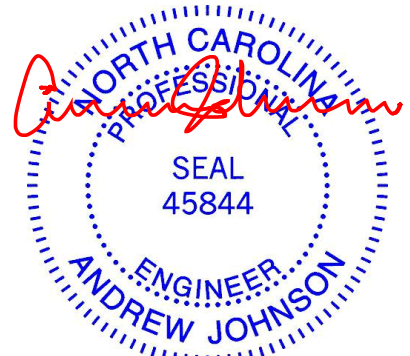
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-3052/320, 4-6=-2866/333, 6-8=-2866/333, 8-10=-3052/320, 10-11=0/233
BOT CHORD 2-16=-329/2658, 14-16=-190/2271, 12-14=-108/2271, 10-12=-184/2658
WEBS 6-14=-116/1474, 7-14=-799/247, 7-12=-26/590, 8-12=-301/191, 5-14=-799/247, 5-16=-25/590,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

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

LOAD CASE(S) Standard

NOTES

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



December 18, 2023

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

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



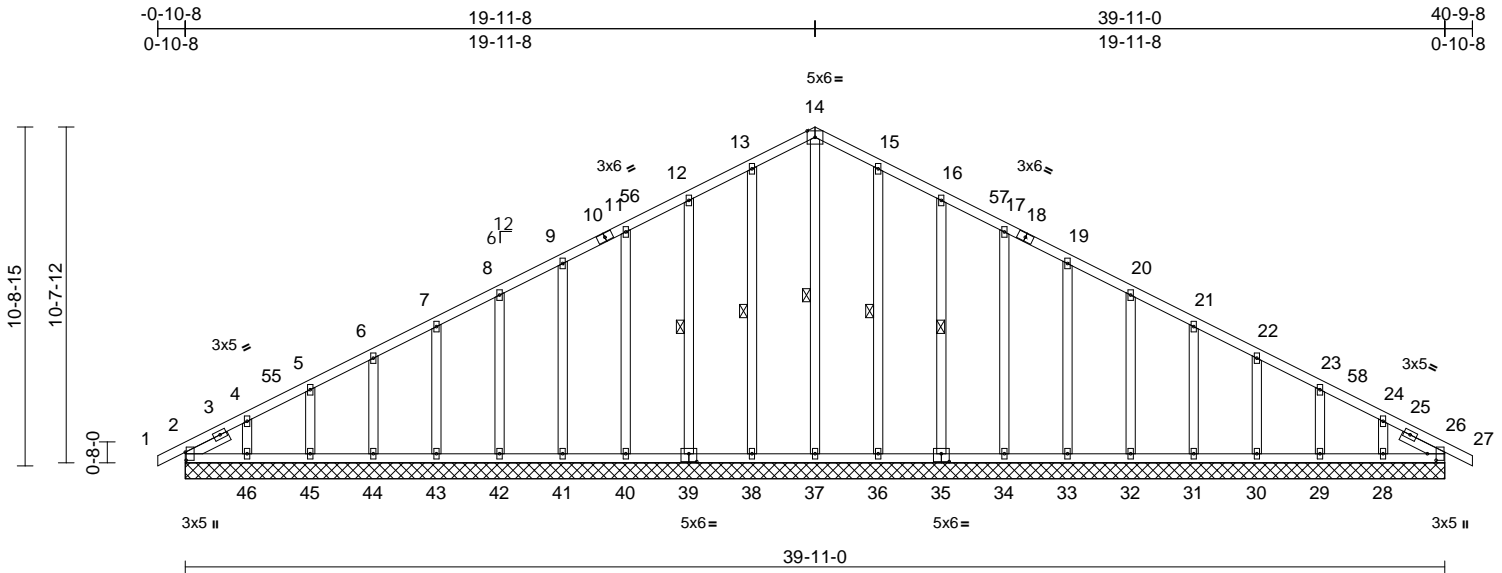
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss AGE	Truss Type Common Supported Gable	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584893
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:34
ID:94aeZ53wRfHxaJ4LIBSgWSzF_tZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRcDoi7J4zJC7f

Page: 1

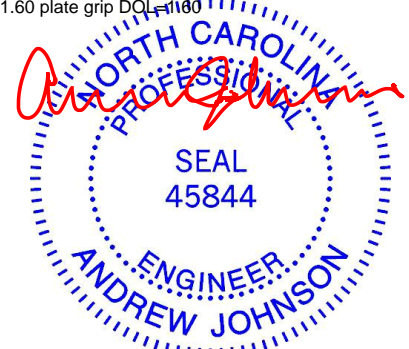


Scale = 1:73

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	26	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 285 lb	FT = 20%

LUMBER		Max Grav	2=161 (LC 26), 26=138 (LC 22), 28=158 (LC 35), 29=160 (LC 22), 30=160 (LC 35), 31=160 (LC 1), 32=161 (LC 22), 33=160 (LC 35), 34=180 (LC 22), 35=232 (LC 22), 36=245 (LC 22), 37=201 (LC 27), 38=245 (LC 21), 39=232 (LC 21), 40=180 (LC 21), 41=160 (LC 34), 42=161 (LC 21), 43=160 (LC 1), 44=160 (LC 34), 45=160 (LC 21), 46=158 (LC 34), 47=138 (LC 22), 51=161 (LC 26)	WEBS	14-37=204/45, 13-38=205/66, 12-39=192/83, 11-40=140/76, 9-41=120/77, 8-42=121/77, 7-43=120/77, 6-44=120/77, 5-45=121/81, 4-46=114/135, 15-36=205/66, 16-35=192/83, 17-34=140/76, 19-33=120/77, 20-32=121/77, 21-31=120/77, 22-30=120/77, 23-29=121/81, 24-28=114/135
TOP CHORD	2x4 SP No.2				
BOT CHORD	2x4 SP No.2				
OTHERS	2x4 SP No.3 *Except* 37-14:2x4 SP No.2				
SLIDER	Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0				
BRACING					
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.				
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.				
WEBS	1 Row at midpt	14-37, 13-38, 12-39, 15-36, 16-35			
REACTIONS (size)	2=39-11-0, 26=39-11-0, 28=39-11-0, 29=39-11-0, 30=39-11-0, 31=39-11-0, 32=39-11-0, 33=39-11-0, 34=39-11-0, 35=39-11-0, 36=39-11-0, 37=39-11-0, 38=39-11-0, 39=39-11-0, 40=39-11-0, 41=39-11-0, 42=39-11-0, 43=39-11-0, 44=39-11-0, 45=39-11-0, 46=39-11-0, 47=39-11-0, 51=39-11-0				
Max Horiz	2=-165 (LC 15), 51=-165 (LC 15)				
Max Uplift	2=-21 (LC 10), 28=-80 (LC 15), 29=-37 (LC 15), 30=-46 (LC 15), 31=-43 (LC 15), 32=-44 (LC 15), 33=-44 (LC 15), 34=-43 (LC 15), 35=-48 (LC 15), 36=-36 (LC 15), 38=-39 (LC 14), 39=-47 (LC 14), 40=-43 (LC 14), 41=-44 (LC 14), 42=-44 (LC 14), 43=-43 (LC 14), 44=-46 (LC 14), 45=-34 (LC 14), 46=-96 (LC 14), 51=-21 (LC 10)				
FORCES	(lb) - Maximum Compression/Maximum Tension				
TOP CHORD	1-2=0/23, 2-4=-216/79, 4-5=-168/81, 5-6=-129/94, 6-7=-96/107, 7-8=-74/130, 8-9=-61/154, 9-11=-66/177, 11-12=-84/221, 12-13=-103/269, 13-14=-120/309, 14-15=-120/309, 15-16=-103/269, 16-17=-84/221, 17-19=-66/176, 19-20=-49/131, 20-21=-41/86, 21-22=-44/40, 22-23=-66/27, 23-24=-100/35, 24-26=-144/59, 26-27=0/23				
BOT CHORD	2-46=-44/167, 45-46=-44/167, 44-45=-44/167, 43-44=-44/167, 42-43=-44/167, 41-42=-44/167, 40-41=-44/167, 38-40=-44/167, 37-38=-44/167, 36-37=-44/167, 34-36=-44/167, 33-34=-44/167, 32-33=-44/167, 31-32=-44/167, 30-31=-44/167, 29-30=-44/167, 28-29=-44/167, 26-28=-44/167				
NOTES					
1)	Unbalanced roof live loads have been considered for this design.				
2)	Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 3-1-6, Exterior(2N) 3-1-6 to 15-11-8, Corner(3R) 15-11-8 to 23-11-8, Exterior(2N) 23-11-8 to 36-9-10, Corner(3E) 36-9-10 to 40-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60				



December 18, 2023

Continued on page 2

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

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	93 Serenity-Roof-B330 A CP BNS w/ B4	I62584893
23110111-01	AGE	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:34
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Page: 2

- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLK: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 9) Gable studs spaced at 2-0-0 oc.
- 10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 2, 39 lb uplift at joint 38, 47 lb uplift at joint 39, 43 lb uplift at joint 40, 44 lb uplift at joint 41, 44 lb uplift at joint 42, 43 lb uplift at joint 43, 46 lb uplift at joint 44, 34 lb uplift at joint 45, 96 lb uplift at joint 46, 36 lb uplift at joint 36, 48 lb uplift at joint 35, 43 lb uplift at joint 34, 44 lb uplift at joint 33, 44 lb uplift at joint 32, 43 lb uplift at joint 31, 46 lb uplift at joint 30, 37 lb uplift at joint 29, 80 lb uplift at joint 28 and 21 lb uplift at joint 2.
- 13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

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

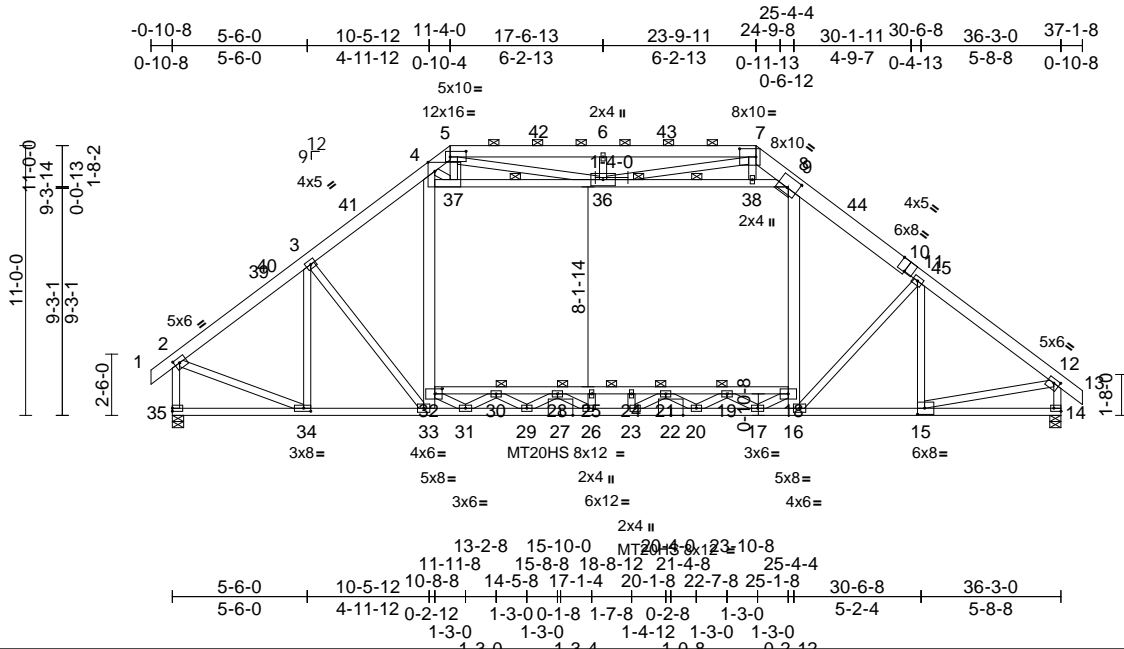
Job 23110111-01	Truss B	Truss Type Attic	Qty 3	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584894
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:35

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Scale = 1:94
 [2:0-2-8,0-2-4], [4:0-3-5,Edge], [5:0-7-12,0-2-12], [7:0-8-0,0-4-0], [9:0-5-0,0-5-4], [10:0-4-0,Edge], [12:0-2-12,0-2-0], [14:Edge,0-1-8], [15:0-3-8,0-3-0], [32:0-3-8,0-2-8],
 Plate Offsets (X, Y): [34:0-3-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	-0.29	18-19	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.51	19-21	>853	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.10	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.23	18-32	>788	360		
BCDL	10.0											

Weight: 356 lb FT = 20%

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

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

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

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

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

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

WEBS

NOTES
 1) Unbalanced roof live loads have been considered for this design.
 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-9-0, Interior (1) 2-9-0 to 7-8-8, Exterior(2R) 7-8-8 to 14-11-8, Interior (1) 14-11-8 to 20-2-3, Exterior(2R) 20-2-3 to 27-5-3, Interior (1) 27-5-3 to 33-6-0, Exterior(2E) 33-6-0 to 37-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- All plates are 3x5 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Ceiling dead load (5.0 psf) on member(s). 8-9, 4-37, 36-37, 36-38, 8-38; Wall dead load (5.0psf) on member (s).4-32, 9-18



December 18, 2023

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	93 Serenity-Roof-B330 A CP BNS w/ B4	I62584894
23110111-01	B	Attic	3	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:35
 ID:6tPM5lr?FJUMxDStPvqO5SzF_Wb-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?#

Page: 2

- 12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 30-32, 28-30, 25-28, 24-25, 21-24, 19-21, 18-19
- 13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 15) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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

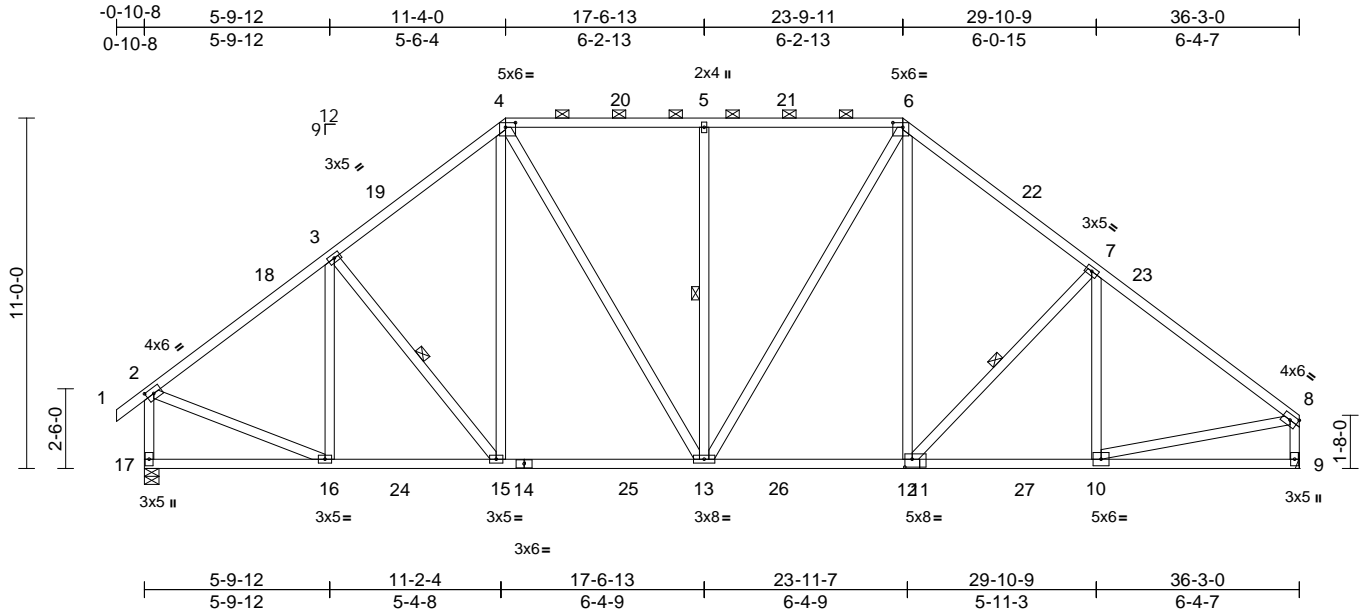
Job 23110111-01	Truss B1	Truss Type Piggyback Base	Qty 5	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584895
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:36

Page: 1

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Scale = 1:72.3

Plate Offsets (X, Y): [2:0-2-14,0-2-0], [4:0-3-12,0-1-12], [6:0-3-12,0-1-12], [12:0-2-12,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.11	12-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.18	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.59	Horz(CT)	0.05	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 266 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3 *Except*
 15-4,13-4,5-13,13-6,12-6:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-4-4 oc purlins, except end verticals, and 2-0-0 oc purlins (3-6-14 max.): 4-6.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
 WEBS 1 Row at midpt 3-15, 5-13, 7-12

REACTIONS

(size) 9= Mechanical, 17=0-5-8
 Max Horiz 17=283 (LC 12)
 Max Uplift 9=81 (LC 15), 17=90 (LC 14)
 Max Grav 9=1671 (LC 45), 17=1731 (LC 45)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/37, 2-3=-1683/182, 3-4=-1649/275,
 4-5=-1514/285, 5-6=-1514/285,
 6-7=-1744/281, 7-8=-1937/200,
 2-17=-1640/196, 8-9=-1569/157
 BOT CHORD 16-17=-262/290, 15-16=-179/1362,
 13-15=-134/1247, 12-13=-30/1303,
 10-12=-28/1488, 9-10=-40/101
 WEBS 3-16=-334/96, 3-15=-251/184, 4-15=-74/447,
 4-13=-153/541, 5-13=-688/183,
 6-13=-162/447, 6-12=-74/571,
 7-12=-432/202, 7-10=-169/88,
 2-16=-62/1331, 8-10=-38/1432

NOTES

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-9-0, Interior (1) 2-9-0 to 7-8-8, Exterior(2R) 7-8-8 to 14-11-8, Interior (1) 14-11-8 to 20-2-3, Exterior(2R) 20-2-3 to 27-5-3, Interior (1) 27-5-3 to 32-5-12, Exterior(2E) 32-5-12 to 36-1-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 81 lb uplift at joint 9.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 17. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

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



December 18, 2023

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

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



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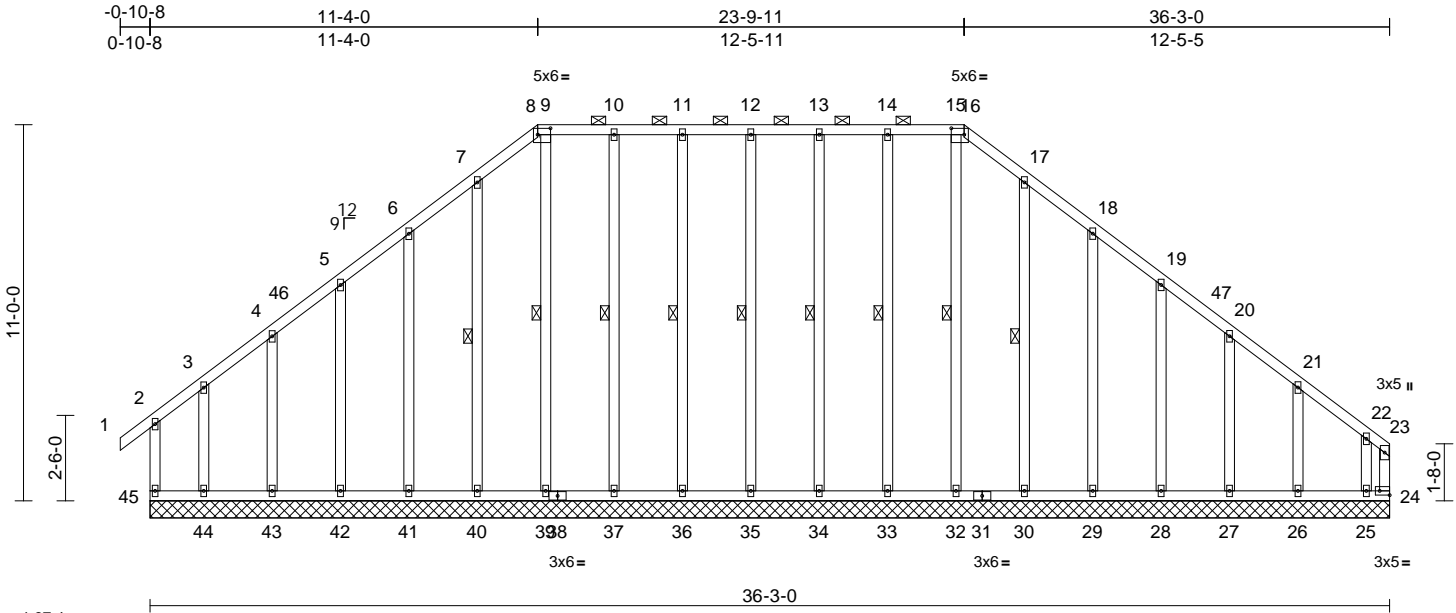
Job 23110111-01	Truss B1GE	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584896
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:37

Page: 1

ID:va60j_bKLZdDLTYr9P9wpzF_UL-RFC?PsB70Hq3NSgPqnL8w3uITXbKwKRCDoi7J4zJC?f



Scale = 1:67.4

Plate Offsets (X, Y): [8:0-4-8,0-2-4], [16:0-4-8,0-2-4], [24:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.23	Horz(CT)	-0.01	24	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 326 lb	FT = 20%

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

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

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

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

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

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

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-10-8 to 2-9-0, Exterior(2N) 2-9-0 to 7-6-13, Corner(3R) 7-6-13 to 14-11-8, Exterior (2N) 14-11-8 to 20-2-3, Corner(3R) 20-2-3 to 27-6-13, Exterior(2N) 27-6-13 to 32-5-12, Corner(3E) 32-5-12 to 36-1-4 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



December 18, 2023

Continued on page 2

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	93 Serenity-Roof-B330 A CP BNS w/ B4	I62584896
23110111-01	B1GE	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

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

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Page: 2

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

LOAD CASE(S) Standard

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

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818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss BGR	Truss Type Attic Girder	Qty 1	Ply 2	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	I62584897
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:38
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Page: 2

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

LOAD CASE(S) Standard

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

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

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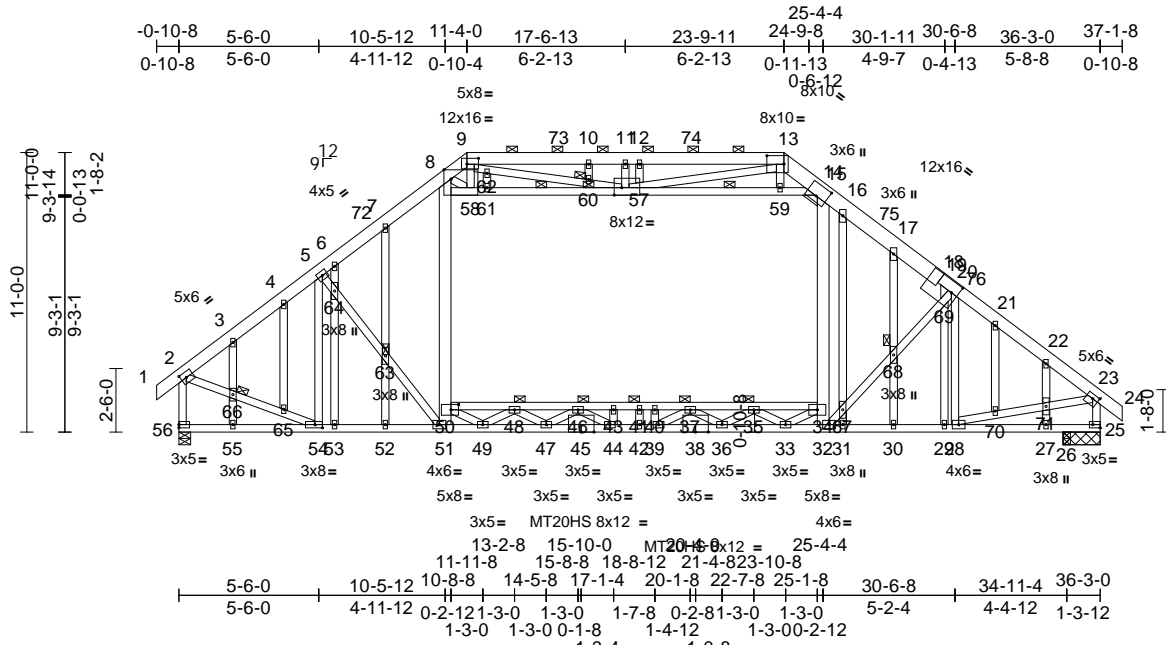
Job 23110111-01	Truss BSE	Truss Type Attic Structural Gable	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584898
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:39

Page: 1

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Scale = 1:90.7

[2:0-2-8,0-2-8], [8:0-3-5,Edge], [9:0-5-8,0-2-12], [13:0-8-0,0-4-0], [15:0-5-0,0-5-8], [18:0-3-0,0-5-0], [23:0-2-12,0-2-0], [25:Edge,0-1-8], [50:0-3-8,0-2-8],

Plate Offsets (X, Y): [54:0-3-8,0-1-8], [57:0-3-8,0-3-8]

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	0.55	Vert(LL)	-0.27	35-37	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.47	35-37	>897	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.09	26	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.20	34-50	>895	360		
BCDL	10.0											

Weight: 430 lb FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 13-18:2x8 SP 2400F 2.0E, 14-15:2x4 SP No.2
BOT CHORD 2x4 SP No.1 *Except* 50-34:2x4 SP No.2, 38-45:2x4 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 8-51,15-32:2x6 SP No.2, 8-14,9-57,13-57,28-23:2x4 SP No.2
OTHERS 2x4 SP No.3
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-4-14 oc purlins, except end verticals, and 2-0-0 oc purlins (4-0-10 max.): 9-13.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 44-47,36-39
6-0-0 oc bracing: 27-28,26-27,25-26.
3-1-0 oc bracing: 37-46
3-6-0 oc bracing: 35-37
3-7-0 oc bracing: 46-48
6-0-0 oc bracing: 48-50, 34-35
WEBS 1 Row at midpt 8-57, 14-57
JOINTS 1 Brace at Jt(s): 35, 48, 37, 46, 57, 60, 63, 66, 68

TOP CHORD 1-2=0/37, 2-3=-2165/0, 3-4=-2157/0, 4-5=-2078/0, 5-6=-2312/0, 6-7=-2342/0, 7-8=-2318/0, 8-9=-1489/45, 9-10=-2412/346, 10-11=-2412/346, 11-12=-2596/503, 12-13=-2596/503, 13-14=-1373/230, 14-15=-1904/27, 15-16=-2460/0, 16-17=-2398/0, 17-19=-2455/0, 19-20=-2410/0, 20-21=-2238/0, 21-22=-2423/0, 22-23=-2213/0, 23-24=0/37, 2-56=-2114/0, 23-25=-1730/0
BOT CHORD 55-56=-244/290, 54-55=-244/290, 53-54=0/1786, 52-53=0/1786, 51-52=0/1786, 49-51=-87/1492, 47-49=0/3268, 44-47=0/4465, 42-44=0/4789, 39-42=0/4789, 36-39=0/4542, 33-36=0/3420, 32-33=0/1707, 31-32=0/1818, 30-31=0/1818, 29-30=0/1818, 28-29=0/1818, 27-28=-166/79, 26-27=-166/79, 25-26=-166/79, 48-50=-470/264, 46-48=-2257/0, 43-46=-3149/0, 41-43=-3149/0, 40-41=-3149/0, 37-40=-3149/0, 35-37=-2382/0, 34-35=-781/122

REACTIONS (size) 25=1-5-8, 26=0-3-8, 56=0-5-8
Max Horiz 56=-292 (LC 12)
Max Uplift 26=-181 (LC 15)
Max Grav 25=1478 (LC 48), 26=1020 (LC 38), 56=2184 (LC 46)
FORCES (lb) - Maximum Compression/Maximum Tension



December 18, 2023

Continued on page 2

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

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	93 Serenity-Roof-B330 A CP BNS w/ B4	I62584898
23110111-01	BSE	Attic Structural Gable	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:39

Page: 2

ID: jfMMLnrRxWjnpkdD7ldQkzF_VJ-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?f

- WEBS 5-54=-491/0, 20-28=-354/0, 2-66=0/1778, 65-66=0/1750, 54-65=0/1765, 50-51=-92/325, 8-50=0/992, 5-64=-99/553, 63-64=-78/518, 51-63=-96/539, 32-34=0/527, 15-34=0/1202, 8-58=-1260/12, 58-61=-1018/26, 57-61=-1022/27, 57-59=-1224/126, 14-59=-1248/124, 33-34=0/1105, 49-50=0/1146, 33-35=-1351/0, 48-49=-1411/0, 35-36=0/780, 47-48=0/830, 36-37=-635/0, 46-47=-692/0, 37-39=-16/322, 44-46=0/436, 43-44=-162/2, 39-40=-120/11, 11-57=-312/548, 9-58=0/697, 13-59=0/225, 9-62=-578/1479, 60-62=-549/1386, 57-60=-541/1366, 13-57=-516/1466, 32-67=-153/393, 67-68=-134/357, 68-69=-116/388, 20-69=-134/385, 28-70=0/1998, 70-71=0/1945, 23-71=0/1950, 12-57=-649/297, 41-42=-38/0, 10-60=-329/132, 61-62=-117/342, 7-63=-127/28, 52-63=-118/13, 6-64=-111/23, 53-64=-80/5, 4-65=0/56, 3-66=-107/57, 55-66=-29/57, 16-67=-223/0, 31-67=-300/0, 17-68=-68/18, 30-68=-13/50, 19-69=-127/1, 29-69=-155/0, 21-70=0/208, 22-71=-532/123, 27-71=-524/143
- 18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
19) Attic room checked for L/360 deflection.
LOAD CASE(S) Standard

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-9-0, Interior (1) 2-9-0 to 7-8-8, Exterior(2R) 7-8-8 to 14-11-8, Interior (1) 14-11-8 to 20-2-3, Exterior(2R) 20-2-3 to 27-5-3, Interior (1) 27-5-3 to 33-6-0, Exterior(2E) 33-6-0 to 37-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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) 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
- 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 MT20 plates unless otherwise indicated.
- 9) All plates are 2x4 MT20 unless otherwise indicated.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 13) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 14) Ceiling dead load (5.0 psf) on member(s). 14-15, 8-58, 58-61, 57-61, 57-59, 14-59; Wall dead load (5.0psf) on member(s). 8-50, 15-34
- 15) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 48-50, 46-48, 43-46, 41-43, 40-41, 37-40, 35-37, 34-35
- 16) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 181 lb uplift at joint 26.
- 17) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

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

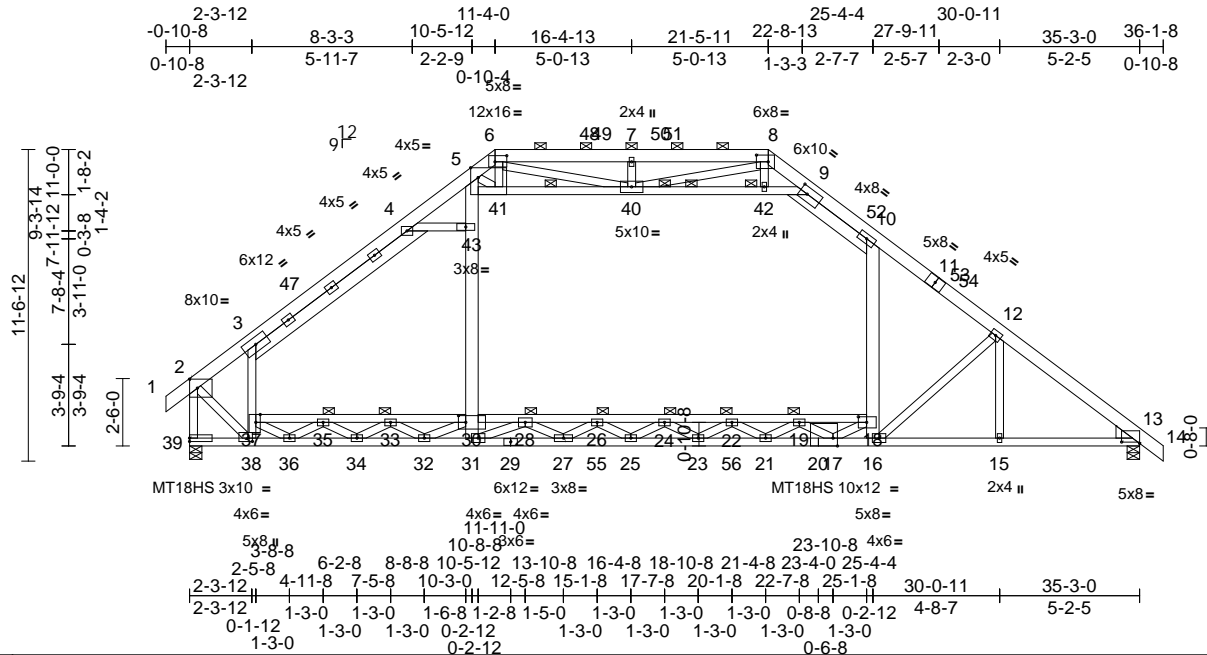
Job 23110111-01	Truss C	Truss Type Attic	Qty 3	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584899
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:42

Page: 1

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Scale = 1:85.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.81	Vert(LL)	-0.29	24-26	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.60	22-24	>702	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.12	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	0.18	18-30	>999	360		
BCDL	10.0											

Weight: 361 lb FT = 20%

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

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

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

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E)-0-10-8 to 2-7-13, Interior (1) 2-7-13 to 7-9-11, Exterior(2R) 7-9-11 to 14-10-5, Interior (1) 14-10-5 to 17-11-6, Exterior(2R) 17-11-6 to 24-11-15, Interior (1) 24-11-15 to 32-7-3, Exterior(2E) 32-7-3 to 36-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.

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



Continued on page 2

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



Job 23110111-01	Truss C	Truss Type Attic	Qty 3	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 I62584899 Job Reference (optional)
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 2

- 6) 200.0lb AC unit load placed on the bottom chord, 17-7-8 from left end, supported at two points, 5-0-0 apart.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are MT20 plates unless otherwise indicated.
- 9) All plates are 3x5 MT20 unless otherwise indicated.
- 10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 12) Ceiling dead load (5.0 psf) on member(s). 3-4, 9-10, 5-41, 40-41, 40-42, 9-42, 4-43; Wall dead load (5.0psf) on member(s).3-37, 10-18, 30-43, 5-43
- 13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 35-37, 33-35, 30-33, 28-30, 26-28, 24-26, 22-24, 19-22, 18-19
- 14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 16) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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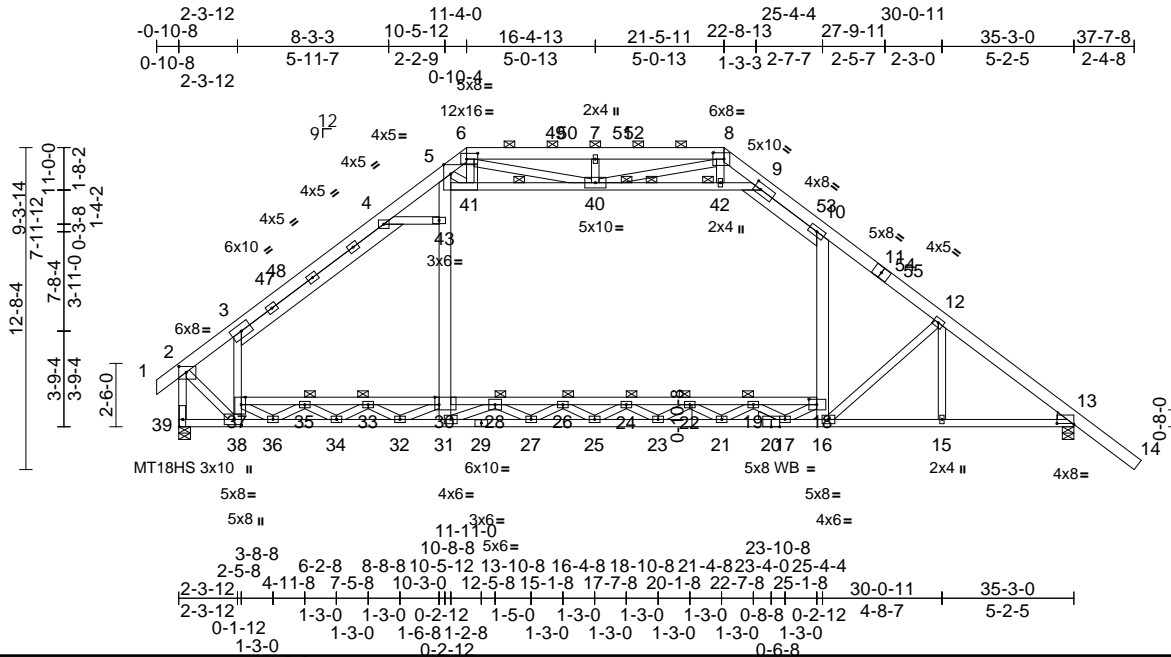
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss C1	Truss Type Attic	Qty 4	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584900
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:44
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Page: 1



Scale = 1:90.7

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

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

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

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

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-7-13, Interior (1) 2-7-13 to 7-9-11, Exterior(2R) 7-9-11 to 14-10-5, Interior (1) 14-10-5 to 17-11-6, Exterior(2R) 17-11-6 to 24-11-15, Interior (1) 24-11-15 to 34-2-14, Exterior(2E) 34-2-14 to 37-9-2 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.



Continued on page 2

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

Job 23110111-01	Truss C1	Truss Type Attic	Qty 4	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	I62584900
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:44

Page: 2

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

LOAD CASE(S) Standard

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

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



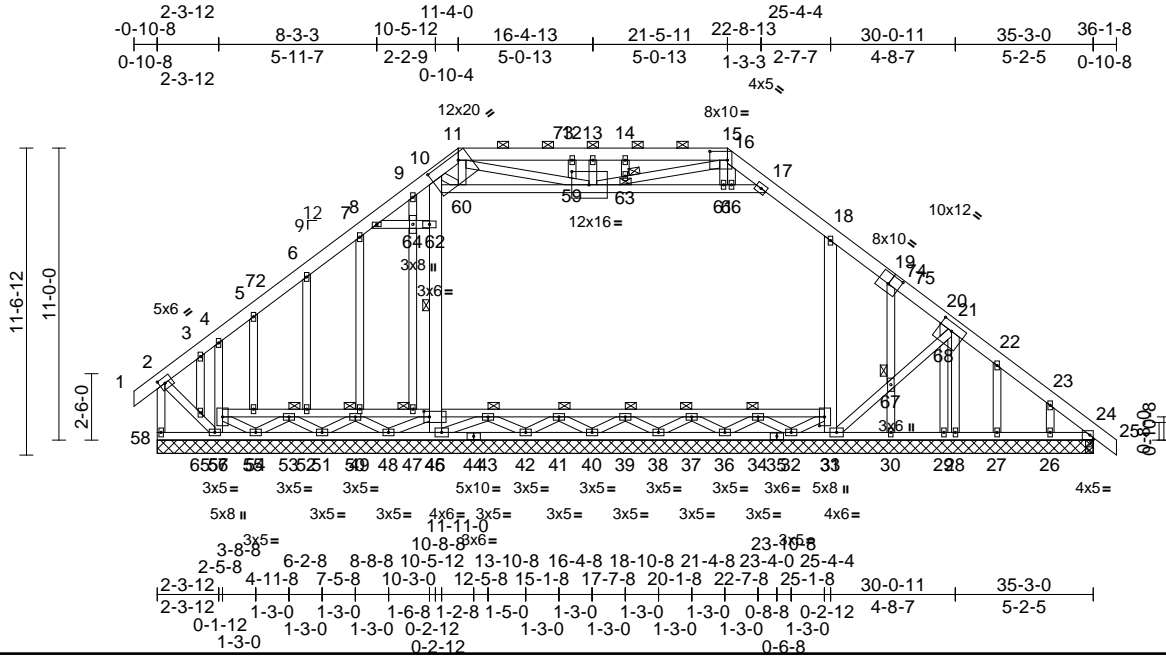
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss CGE	Truss Type Attic Supported Gable	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584901
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 E Nov 1 2023 Print: 8.630 E Nov 1 2023 MiTek Industries, Inc. Mon Dec 18 11:31:00
ID:HSVLvMXIBUOh6Uln9Dc1gjeEzgn-wHUQRQh0DjWQcse5YUifJgU8PTxnb9CN?xaqDy7l0h

Page: 1



Scale = 1:86.8

Plate Offsets (X, Y): [2:0-2-8,0-2-8], [11:1-2-15,0-3-0], [15:0-8-0,0-4-0], [19:0-5-0,0-6-8], [21:0-6-0,0-3-8], [33:0-4-0,0-2-4], [45:0-2-8,0-2-8], [59:0-7-12,0-6-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	-0.01	33-34	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.01	33-34	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.02	24	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 393 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP 2400F 2.0E *Except* 11-15,19-25:2x6 SP No.2
BOT CHORD 2x4 SP No.1 *Except* 57-45,45-33:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 18-31,46-10:2x6 SP No.2, 10-17:2x4 SP No.2
OTHERS 2x4 SP No.3
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-0-9 max.): 11-15.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 10-45
JOINTS 1 Brace at Jt(s): 59, 53, 34, 37, 50, 39, 41, 43, 63, 47, 67
REACTIONS All bearings 35-3-0.
 (lb) - Max Horiz 58=290 (LC 12)
 Max Uplift All uplift 100 (lb) or less at joint(s) 24, 26, 27, 28, 30, 31, 48, 51, 69 except 56=417 (LC 51), 58=276 (LC 10)
 Max Grav All reactions 250 (lb) or less at joint (s) 26, 27, 29, 30, 32, 48 except 24=384 (LC 23), 28=269 (LC 23), 31=561 (LC 50), 36=372 (LC 21), 38=316 (LC 21), 40=319 (LC 21), 42=404 (LC 21), 46=677 (LC 53), 51=470 (LC 40), 56=320 (LC 12), 58=1001 (LC 39), 69=384 (LC 23)
FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD 2-58=978/282, 2-3=676/209, 3-4=650/214, 4-5=713/196, 5-6=690/208, 6-7=687/202, 7-8=663/219, 8-9=694/231, 9-10=594/243, 10-11=849/206, 11-12=1867/326, 12-13=1867/326, 13-14=1832/333, 14-15=1832/333, 15-16=1070/156, 16-17=1041/174, 17-18=827/237, 18-20=710/161, 20-21=598/94, 21-22=422/78, 22-23=386/62, 23-24=412/74
BOT CHORD 56-58=246/262, 54-56=97/506, 51-54=75/451, 48-51=57/345, 46-48=47/276, 42-46=20/390, 40-42=32/351, 38-40=33/364, 36-38=36/370, 32-36=39/484, 31-32=87/522, 30-31=46/304, 29-30=46/304, 28-29=46/304, 27-28=46/304, 26-27=46/304, 24-26=46/304, 52-53=42/304, 50-52=42/304, 43-45=39/292, 41-43=25/377, 39-41=28/331, 37-39=28/321, 34-37=25/310
WEBS 21-28=260/26, 31-33=578/19, 18-33=601/79, 59-61=18/371, 61-66=22/351, 17-66=22/352, 2-65=244/743, 56-65=245/738, 45-46=553/0, 45-62=487/67, 10-62=448/90, 11-59=211/1321, 59-63=207/915, 15-63=213/945, 34-36=330/0, 51-53=387/76, 50-51=323/80, 41-42=281/0, 42-43=341/0, 31-67=61/318, 67-68=62/322, 21-68=64/335, 14-63=288/65, 12-59=278/74

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-7-13, Exterior (2N) 2-7-13 to 7-7-8, Corner(3R) 7-7-8 to 14-10-5, Exterior(2N) 14-10-5 to 17-11-6, Corner(3R) 17-11-6 to 24-11-15, Exterior(2N) 24-11-15 to 32-7-3, Corner(3E) 32-7-3 to 36-1-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.



December 18, 2023

Continued on page 2

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



818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	93 Serenity-Roof-B330 A CP BNS w/ B4	I62584901
23110111-01	CGE	Attic Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.63 E Nov 1 2023 Print: 8.630 E Nov 1 2023 MiTek Industries, Inc. Mon Dec 18 11:31:00
 ID:HSVLMXIBUOh6Uln9Dc1gjzEzgn-wHUQRQh0DjWQce5IY5UIFJgU8PTxnb9CN?xaqDy7l0h

Page: 2

- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) Gable studs spaced at 2-0-0 oc.
- 10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 12) Ceiling dead load (5.0 psf) on member(s). 17-18, 10-60, 59-60, 59-61, 61-66, 17-66, 8-64, 62-64; Wall dead load (5.0psf) on member(s).18-33, 45-62, 10-62
- 13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 43-45, 41-43, 39-41, 37-39, 34-37, 33-34
- 14) N/A

- 15) N/A

- 16) N/A

- 17) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 19) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

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818 Soundside Road
 Edenton, NC 27932

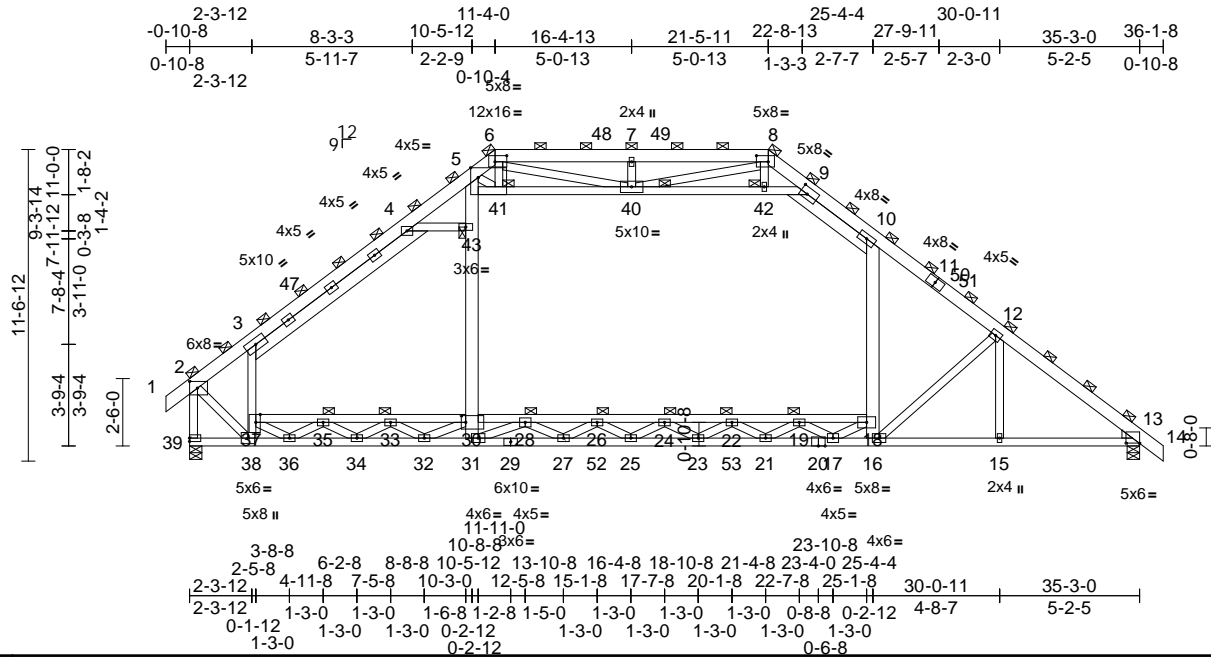
Job 23110111-01	Truss CGR	Truss Type Attic Girder	Qty 2	Ply 2	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584902
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:46

Page: 1

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Scale = 1:85.5

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

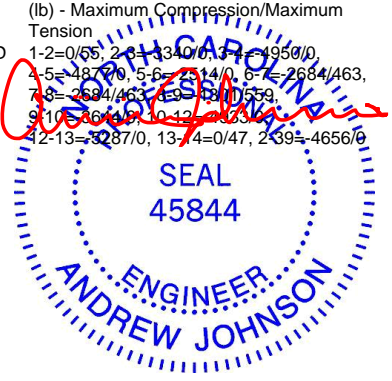
Loading	(psf)	Spacing	3-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.24	24-26	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.49	22-24	>859	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.99	Horz(CT)	0.10	13	n/a	n/a		
BCLL	0.0*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

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 1-6,8-11:2x6 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2 *Except* 29-20:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 3-38:2x4 SP No.1, 10-16,31-5:2x6 SP No.2, 5-9:2x4 SP No.2
WEDGE Right: 2x4 SP No.3
BRACING
TOP CHORD 2-0-0 oc purlins (5-7-3 max.), except end verticals
 (Switched from sheeted: Spacing > 2-8-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
 6-0-0 oc bracing: 38-39,31-32,27-31.
JOINTS 1 Brace at Jt(s): 6, 8, 2, 40, 41, 42, 35, 19, 22, 33, 24, 26, 28, 43
REACTIONS (size) 13=0-5-8, 39=0-5-8
 Max Horiz 39=435 (LC 10)
 Max Grav 13=3576 (LC 44), 39=4420 (LC 44)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/55, 2-3=340/0, 3-4=1950/0, 4-5=487/0, 5-6=2514/0, 6-7=2684/463, 7-8=2694/463, 8-9=4311/559, 9-10=2664/0, 10-11=2636/0, 12-13=5287/0, 13-14=0/47, 2-39=4656/0

BOT CHORD 38-39=-414/388, 36-38=0/2572, 34-36=0/3016, 32-34=-169/2964, 31-32=-882/1490, 27-31=-247/3426, 25-27=0/6133, 23-25=0/7419, 21-23=0/7253, 17-21=0/5763, 16-17=0/3331, 15-16=0/4112, 13-15=0/4112, 35-37=-43/1501, 33-35=-263/1593, 30-33=-263/2454, 28-30=-136/4734, 26-28=-1525/1396, 24-26=-3577/0, 22-24=-4117/0, 19-22=-3251/0, 18-19=-1134/189
WEBS 12-15=-19/220, 37-38=-2556/0, 3-37=-2508/0, 16-18=0/768, 10-18=0/1857, 5-41=-2250/198, 40-41=-1859/169, 40-42=-4532/0, 9-42=-4573/0, 2-38=0/4689, 30-31=0/1521, 30-43=0/2722, 5-43=0/2756, 7-40=-669/201, 6-41=-64/1116, 8-42=0/313, 6-40=-1357/747, 8-40=-13/2342, 17-18=0/1813, 36-37=-601/177, 35-36=-784/0, 19-21=0/1131, 34-35=-192/159, 21-22=-866/71, 33-34=-63/398, 22-23=-263/273, 32-33=-1056/0, 23-24=-127/472, 30-32=0/1349, 24-25=-827/17, 25-26=0/1054, 28-31=-3296/0, 26-27=-1740/0, 4-43=-168/561, 17-19=-1962/0, 27-28=0/2087, 12-16=-811/325

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

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



December 18, 2023

Continued on page 2

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

Job 23110111-01	Truss CGR	Truss Type Attic Girder	Qty 2	Ply 2	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	I62584902
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:46
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Page: 2

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

LOAD CASE(S) Standard

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

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818 Soundside Road
Edenton, NC 27932

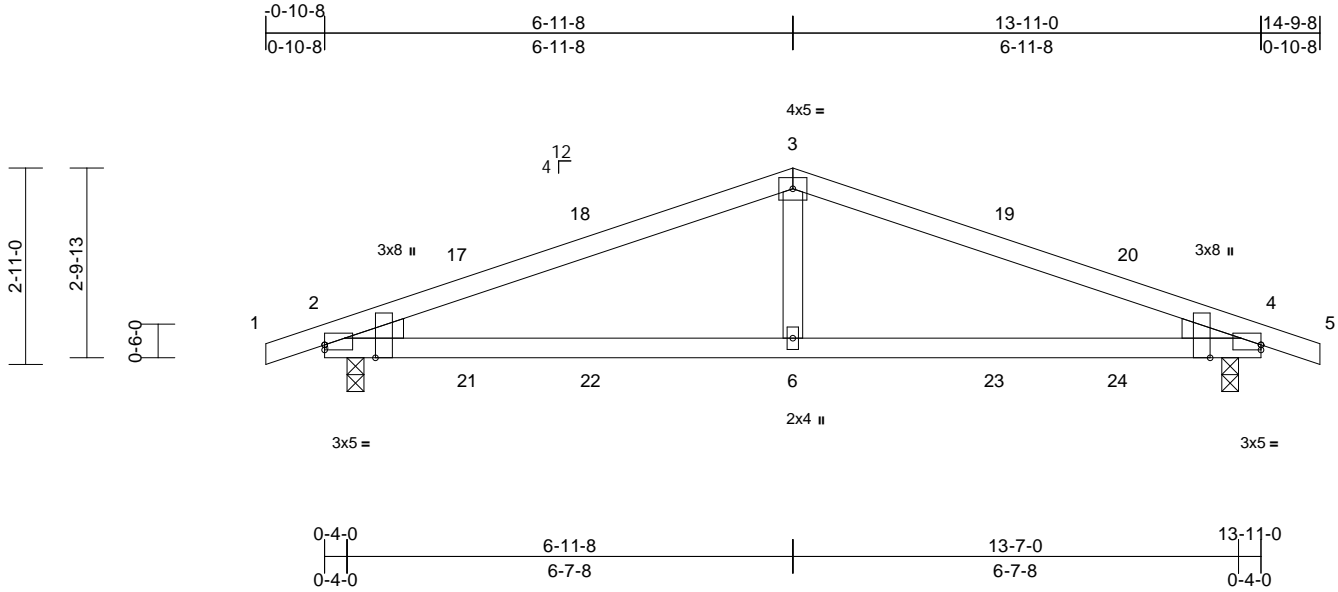
Job 23110111-01	Truss D	Truss Type Common	Qty 4	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584903
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:48

Page: 1

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Scale = 1:34.2

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

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

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

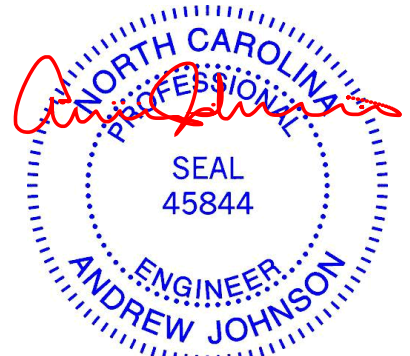
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/17, 2-3=-901/1104, 3-4=-901/1104, 4-5=0/17
 BOT CHORD 2-6=-943/775, 4-6=-943/775
 WEBS 3-6=-425/268

NOTES

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

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

LOAD CASE(S) Standard



December 18, 2023

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

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



818 Soundside Road
 Edenton, NC 27932

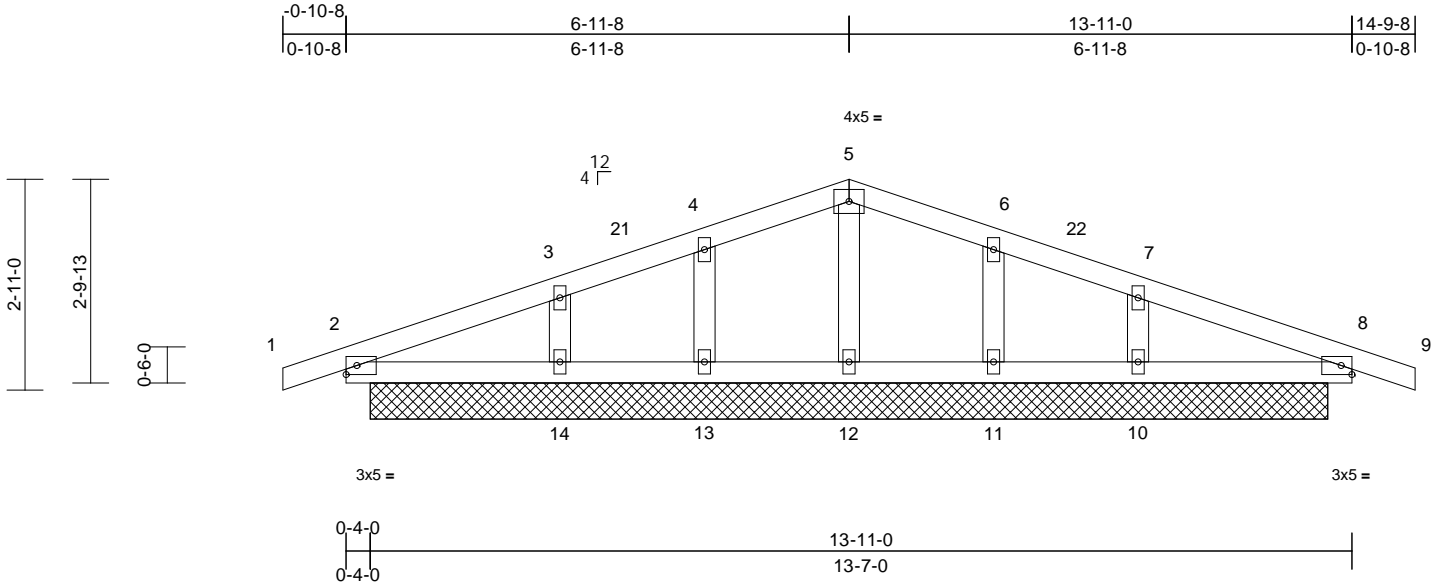
Job 23110111-01	Truss DGE	Truss Type Common Supported Gable	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584904
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:48

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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 56 lb	FT = 20%

LUMBER
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP 2400F 2.0E
 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=13-3-0, 8=13-3-0, 10=13-3-0, 11=13-3-0, 12=13-3-0, 13=13-3-0, 14=13-3-0, 17=13-3-0, 20=13-3-0
 Max Horiz 2=61 (LC 10), 8=61 (LC 11), 17=61 (LC 10), 20=61 (LC 11)
 Max Uplift 2=45 (LC 10), 8=45 (LC 11), 10=40 (LC 15), 11=36 (LC 15), 13=36 (LC 14), 14=40 (LC 14), 17=45 (LC 10), 20=45 (LC 11)
 Max Grav 2=232 (LC 21), 8=232 (LC 22), 10=255 (LC 22), 11=220 (LC 22), 12=144 (LC 21), 13=220 (LC 21), 14=255 (LC 21), 17=232 (LC 21), 20=232 (LC 22)
 Max Mom 2=260 (LC 7), 8=172 (LC 20), 17=260 (LC 7), 20=172 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/17, 2-3=-92/95, 3-4=-44/22, 4-5=-46/70, 5-6=-46/70, 6-7=-44/22, 7-8=-92/95, 8-9=0/17
 BOT CHORD 2-14=-43/46, 13-14=0/0, 12-13=0/0, 11-12=0/0, 10-11=0/0, 8-10=-43/46
 WEBS 5-12=-103/63, 4-13=-182/126, 3-14=-208/128, 6-11=-182/126, 7-10=-208/128

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

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

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



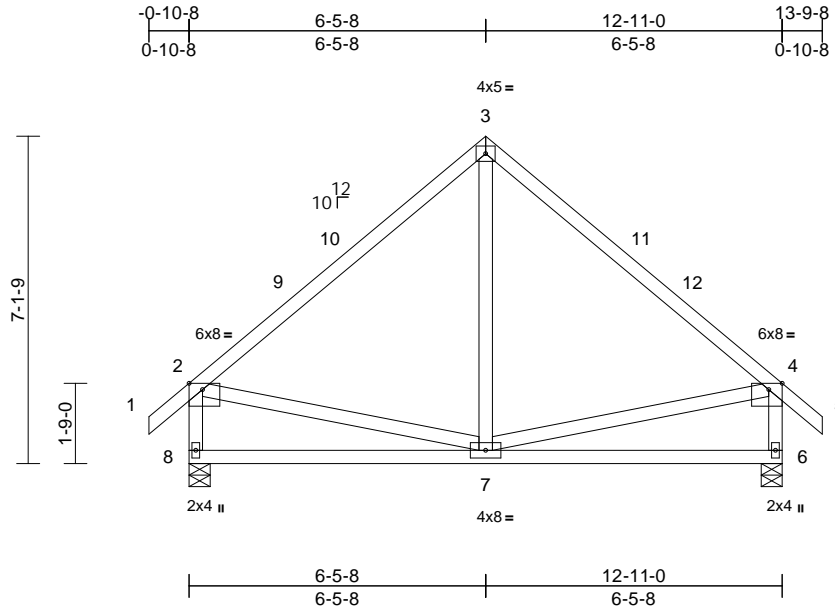
December 18, 2023

Job 23110111-01	Truss E	Truss Type Common	Qty 3	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584905
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:50.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	-0.03	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	-0.07	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 80 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 6=0-5-8, 8=0-5-8
 Max Horiz 8=196 (LC 13)
 Max Uplift 6=-50 (LC 15), 8=-50 (LC 14)
 Max Grav 6=649 (LC 22), 8=649 (LC 21)

FORCES

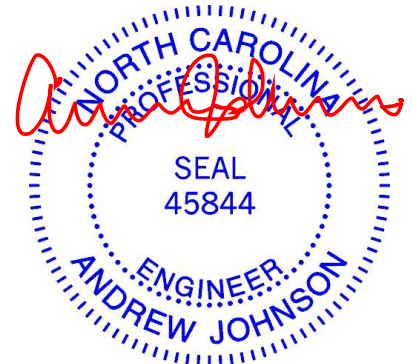
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/39, 2-3=-542/139, 3-4=-542/139,
 4-5=0/39, 2-8=-591/174, 4-6=-591/163
 BOT CHORD 7-8=-206/281, 6-7=-96/204
 WEBS 3-7=0/224, 2-7=-57/223, 4-7=-60/223

NOTES

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

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

LOAD CASE(S) Standard



December 18, 2023

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

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



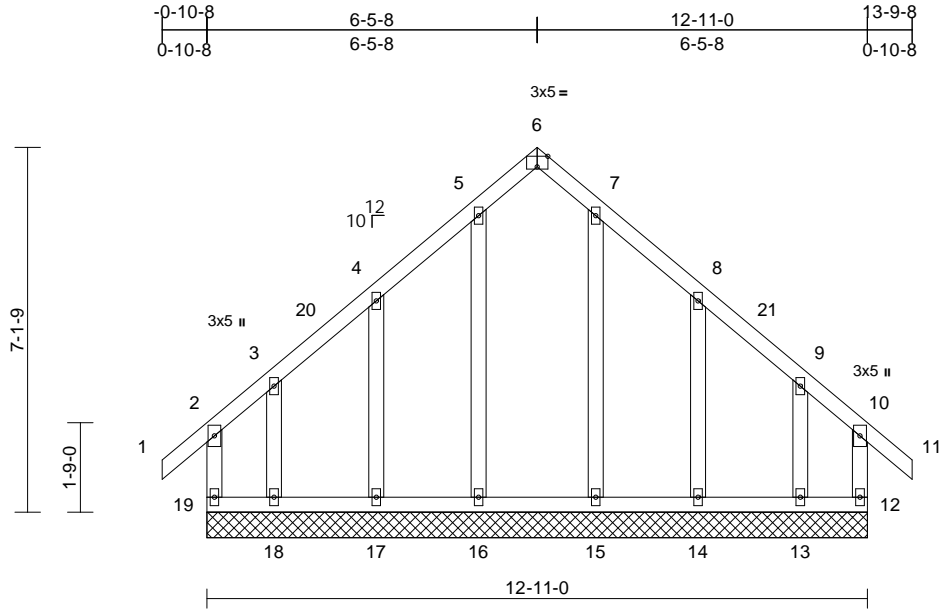
818 Soundside Road
 Edenton, NC 27932

Job 23110111-01	Truss EGE	Truss Type Common Supported Gable	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584906
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:49
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Page: 1



Scale = 1:45.1

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.25	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 88 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size)	12=12-11-0, 13=12-11-0, 14=12-11-0, 15=12-11-0, 16=12-11-0, 17=12-11-0, 18=12-11-0, 19=12-11-0
Max Horiz	19=196 (LC 12)
Max Uplift	12=134 (LC 11), 13=162 (LC 10), 14=104 (LC 15), 17=104 (LC 14), 18=169 (LC 11), 19=143 (LC 10)
Max Grav	12=216 (LC 24), 13=254 (LC 25), 14=250 (LC 22), 15=265 (LC 6), 16=265 (LC 5), 17=250 (LC 21), 18=260 (LC 24), 19=224 (LC 25)

FORCES

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

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 3-3-12, Corner(3R) 3-3-12 to 9-7-4, Exterior(2N) 9-7-4 to 10-9-8, Corner(3E) 10-9-8 to 13-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 143 lb uplift at joint 19, 134 lb uplift at joint 12, 104 lb uplift at joint 17, 169 lb uplift at joint 18, 104 lb uplift at joint 14 and 162 lb uplift at joint 13.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 18, 2023

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

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



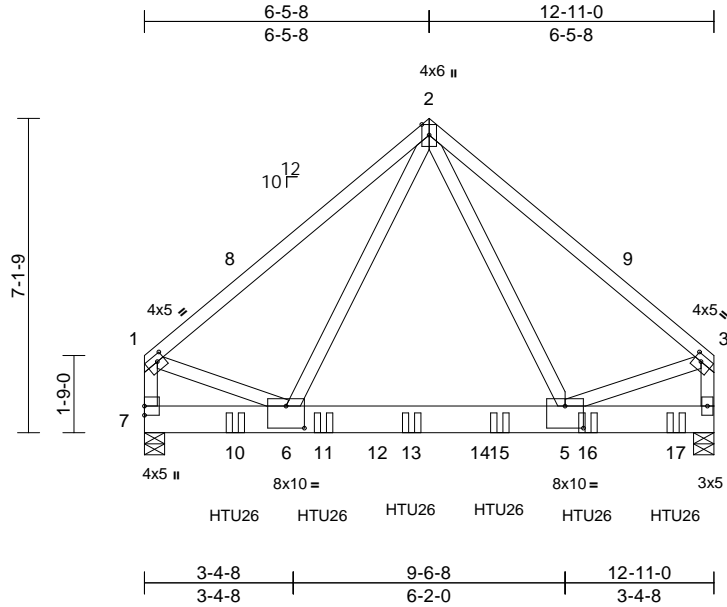
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss EGR	Truss Type Common Girder	Qty 1	Ply 2	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584907
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:52.3

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.08	5-6	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.14	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.82	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 197 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.1
BOT CHORD	2x8 SP 2400F 2.0E
WEBS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
REACTIONS	(size)
	4=0-5-8, 7=0-5-8
	Max Horiz 7=166 (LC 9)
	Max Uplift 4=-138 (LC 13), 7=-272 (LC 12)
	Max Grav 4=4805 (LC 6), 7=4974 (LC 5)
FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-4985/324, 2-3=-4874/299, 1-7=-4901/276, 3-4=-4724/251
BOT CHORD	6-7=-201/282, 5-6=-133/2305, 4-5=-94/207
WEBS	2-5=-149/3175, 2-6=-193/3248, 1-6=-221/3972, 3-5=-206/3860

NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-6-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) interior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7 and 4. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 12-0-12 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-3=-60, 4-7=-20
Concentrated Loads (lb)

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



December 18, 2023

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

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818 Soundside Road
Edenton, NC 27932

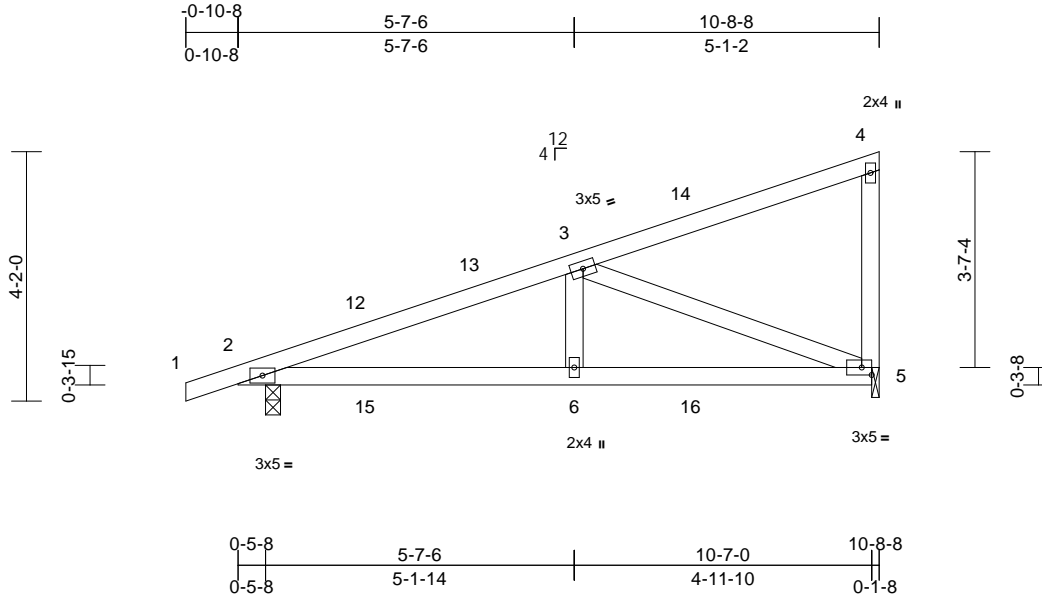
Job 23110111-01	Truss F	Truss Type Monopitch	Qty 2	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584908
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:49

Page: 1

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Scale = 1:38.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	0.06	5-6	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	0.05	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.44	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 49 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 2=0-3-0, 5=0-1-8

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

FORCES (lb) - Maximum Compression/Maximum Tension

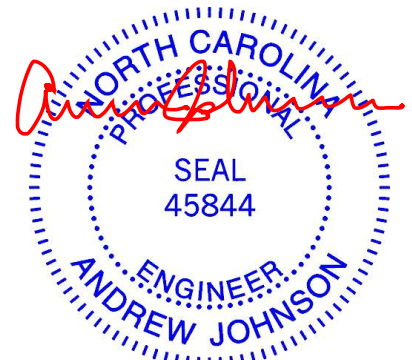
TOP CHORD 1-2=0/17, 2-3=-862/772, 3-4=-104/51, 4-5=-188/105
 BOT CHORD 2-6=-743/778, 5-6=-743/778
 WEBS 3-6=-309/217, 3-5=-806/832

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust)
 Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
 Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 7-6-12, Exterior(2E) 7-6-12 to 10-6-12 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.

- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 7) Bearings are assumed to be: , Joint 5 SP No.3 crushing capacity of 565 psi.
- 8) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 9) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 5.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 5. This connection is for uplift only and does not consider lateral forces.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 18, 2023

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 Edenton, NC 27932

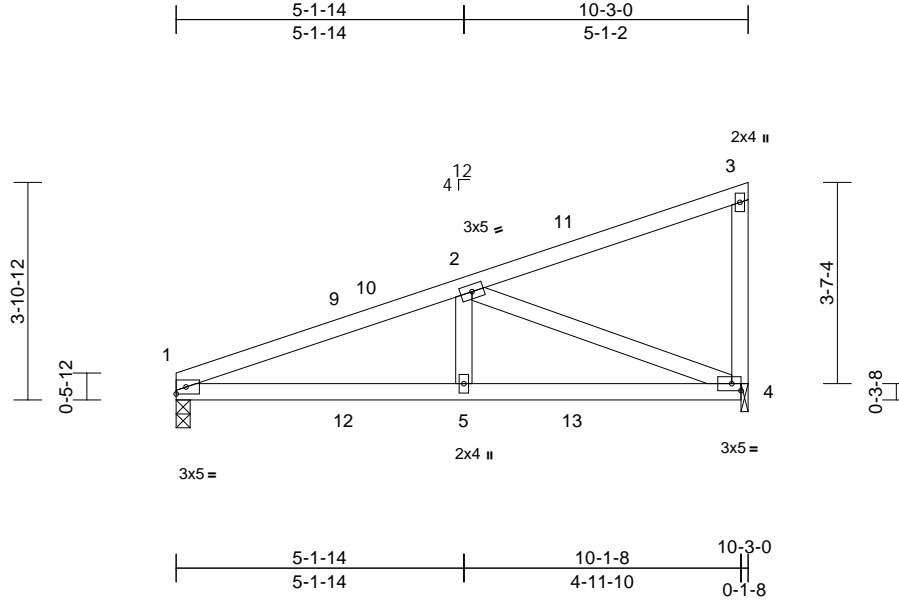
Job	Truss	Truss Type	Qty	Ply	93 Serenity-Roof-B330 A CP BNS w/ B4	162584909
23110111-01	F1	Monopitch	4	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:50

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	Vert(LL)	0.05	4-5	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	Vert(CT)	0.04	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	Horz(CT)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 46 lb	FT = 20%

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

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

REACTIONS (size) 1=0-3-0, 4=0-1-8
Max Horiz 1=139 (LC 13)
Max Uplift 1=-142 (LC 10), 4=-163 (LC 10)
Max Grav 1=465 (LC 21), 4=532 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-883/851, 2-3=-104/50, 3-4=-187/103
BOT CHORD 1-5=-826/799, 4-5=-826/799
WEBS 2-5=-337/220, 2-4=-830/924

- * 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 4 SP No.3 crushing capacity of 565 psi.
 - Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
 - Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
 - One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 4. This connection is for uplift only and does not consider lateral forces.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

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



December 18, 2023

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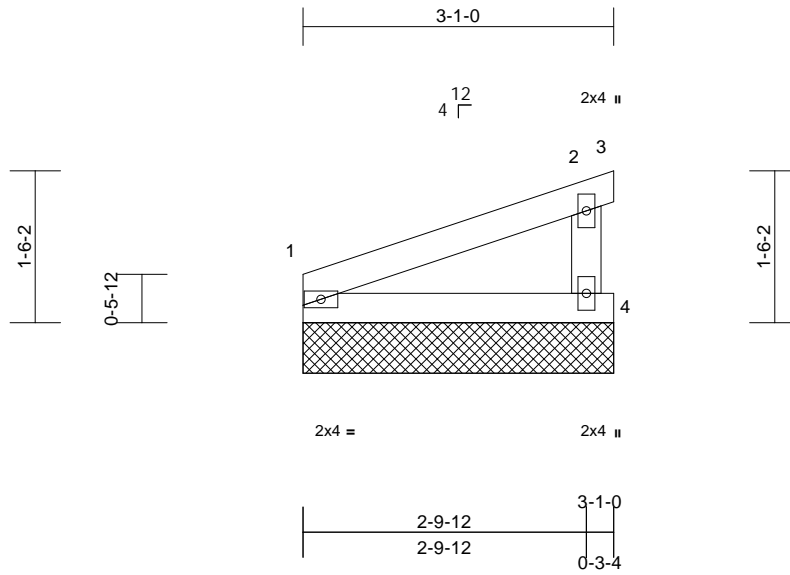
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss F1GE	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584910
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Scale = 1:22.9

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	1	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 11 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

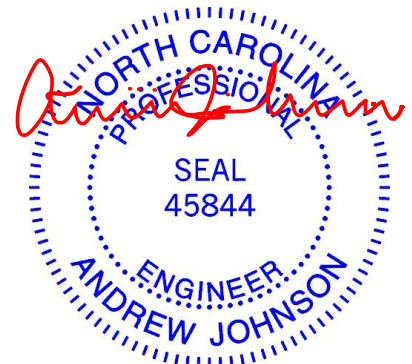
(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-31/40, 2-3=-65/56, 2-4=-332/326
BOT CHORD 1-4=-52/40

NOTES

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

- 6) Gable studs spaced at 2-0-0 oc.
 - 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 8 lb uplift at joint 1, 183 lb uplift at joint 3, 80 lb uplift at joint 4 and 8 lb uplift at joint 1.
 - 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



December 18, 2023

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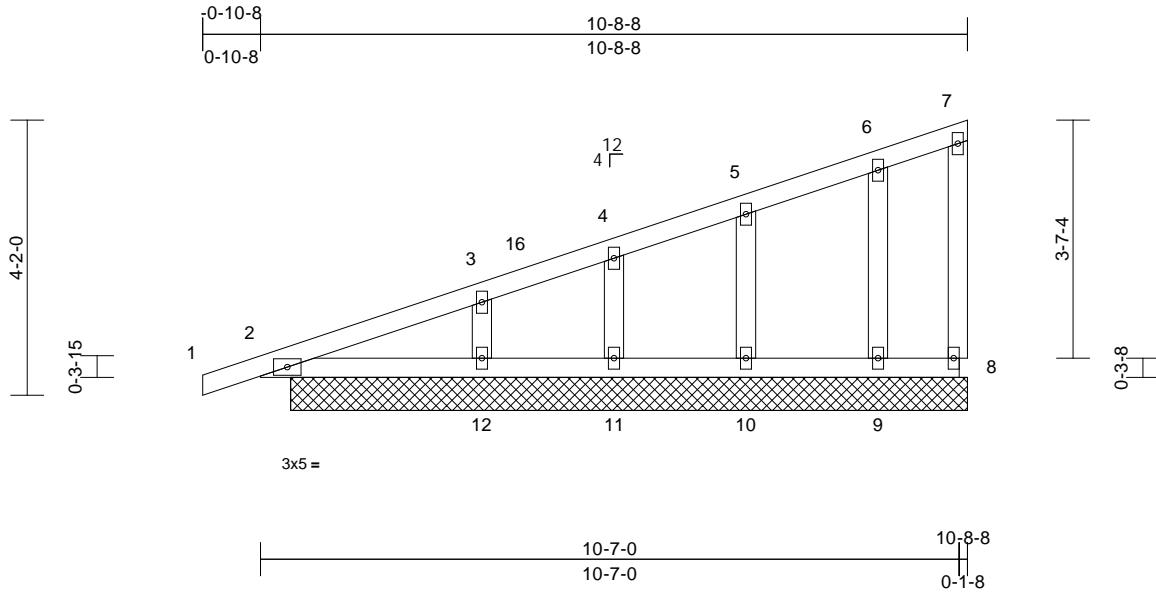
Job 23110111-01	Truss FGE	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584911
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Scale = 1:34.9

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 50 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)	2=10-3-0, 8=10-3-0, 9=10-3-0, 10=10-3-0, 11=10-3-0, 12=10-3-0, 15=10-3-0
Max Horiz	2=147 (LC 13), 15=147 (LC 13)
Max Uplift	2=-41 (LC 10), 8=-13 (LC 11), 9=-29 (LC 10), 10=-36 (LC 14), 11=-34 (LC 10), 12=-46 (LC 14), 15=-41 (LC 10)
Max Grav	2=247 (LC 1), 8=44 (LC 21), 9=191 (LC 21), 10=224 (LC 21), 11=221 (LC 21), 12=161 (LC 21), 15=247 (LC 1)

FORCES	
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-131/90, 3-4=-85/28, 4-5=-75/28, 5-6=-65/28, 6-7=-56/60, 7-8=-37/25
BOT CHORD	2-12=-75/116, 11-12=-56/71, 10-11=-56/71, 9-10=-56/71, 8-9=-56/71
WEBS	4-11=-177/124, 3-12=-133/141, 5-10=-184/137, 6-9=-155/87

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 7-4-4, Corner(3E) 7-4-4 to 10-6-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 6) All plates are 2x4 MT20 unless otherwise indicated.
- 7) Gable studs spaced at 2-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) N/A
- 11) N/A
- 12) Non Standard bearing condition. Review required.
- 13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 18, 2023

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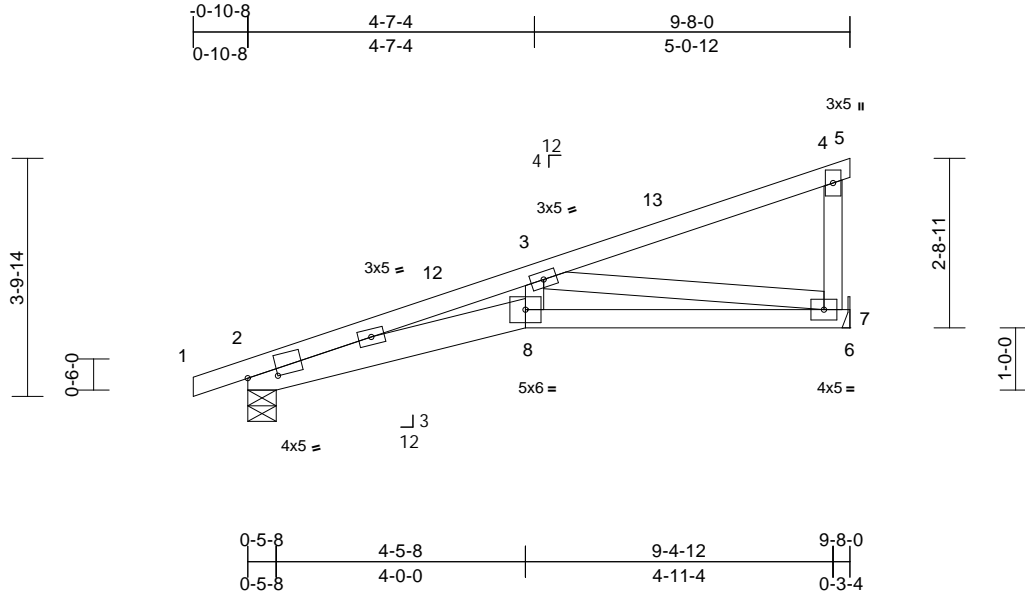
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss G	Truss Type Monopitch	Qty 9	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	I62584912
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:37
Plate Offsets (X, Y): [2:0-5-12,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	Vert(LL)	-0.08	8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	Vert(CT)	-0.13	7-8	>872	180		
TCDL	10.0	Rep Stress Incr	YES	WB	Horz(CT)	0.05	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 46 lb	FT = 20%

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

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

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

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-1714/550, 3-4=-154/32, 4-5=-8/0, 4-7=-224/120
BOT CHORD 2-8=-580/1652, 7-8=-550/1531, 6-7=0/0
WEBS 3-8=-71/407, 3-7=-1460/563

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint 7.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 18, 2023

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

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

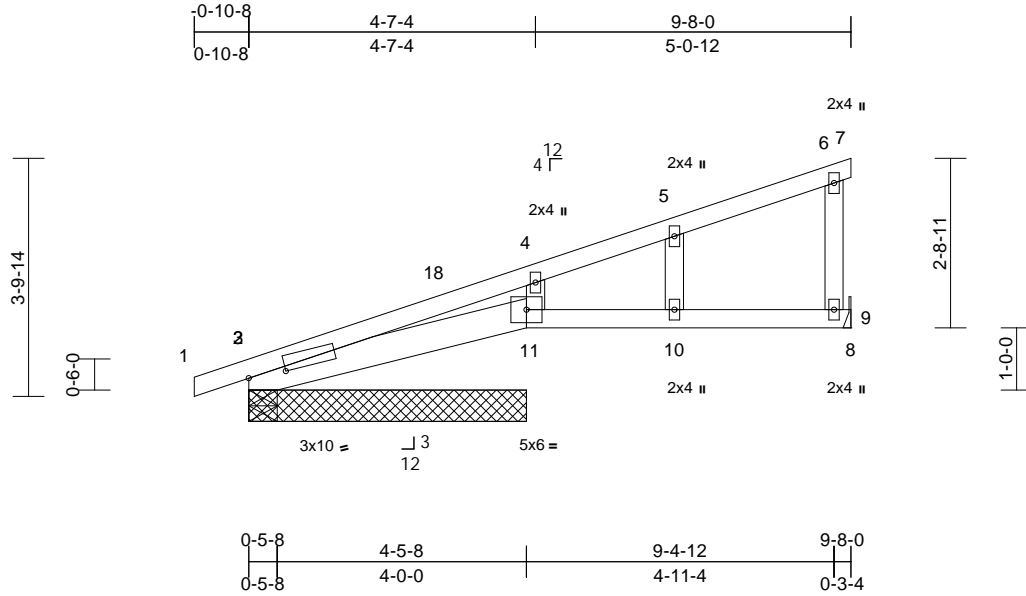
Job 23110111-01	Truss GSE	Truss Type Monopitch	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584913
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:51

Page: 1

ID:j7LOAWWFe1s7RV5MhJbHFGzF_qO-RIC?PsB70Hq3NSgPqnL8w3uITXbGKWRCDoi7J4zJC?f



Scale = 1:37

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.02	10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.03	9-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 41 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x6 SP No.2 *Except* 11-8:2x4 SP No.2
 WEBS 2x4 SP No.3
 OTHERS 2x4 SP No.3

BRACING

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

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

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/17, 2-3=-149/123, 3-4=-400/445, 4-5=-114/0, 5-6=-70/33, 6-7=-8/0, 6-9=-168/74
 BOT CHORD 3-11=-634/467, 10-11=-18/53, 9-10=-18/53, 8-9=0/0
 WEBS 4-11=-397/209, 5-10=-81/83

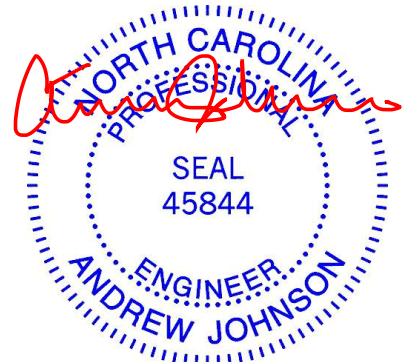
NOTES

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

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: Joint 3 SP No.2 crushing capacity of 565 psi, Joint 2 SP No.2 crushing capacity of 565 psi.
- Refer to girder(s) for truss to truss connections.
- Bearing at joint(s) 3, 11, 2, 3 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 9 and 36 lb uplift at joint 2.
- N/A
- N/A

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

LOAD CASE(S) Standard



December 18, 2023

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

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



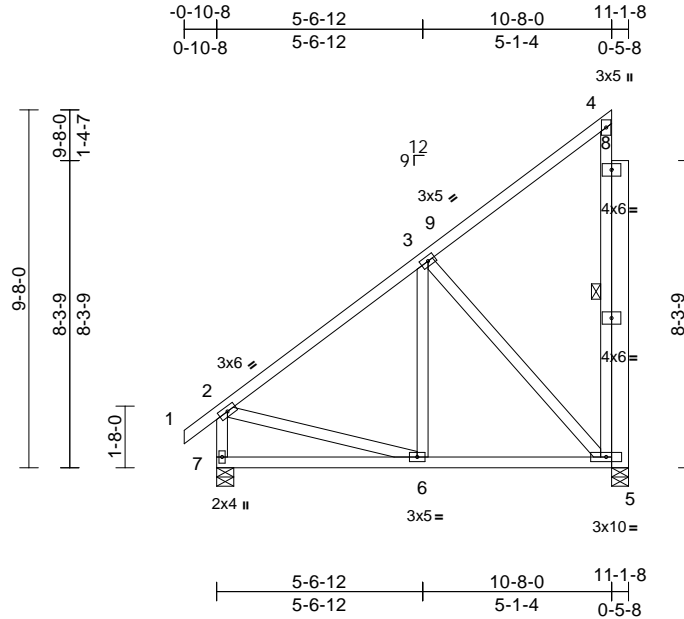
818 Soundside Road
 Edenton, NC 27932

Job 23110111-01	Truss H1	Truss Type Monopitch	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584914
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:52
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Page: 1



Scale = 1:62.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	Vert(LL)	-0.02	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	Vert(CT)	-0.04	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 98 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

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

- NOTES**
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 7-6-4, Exterior(2E) 7-6-4 to 10-6-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7 and 5. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

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



December 18, 2023

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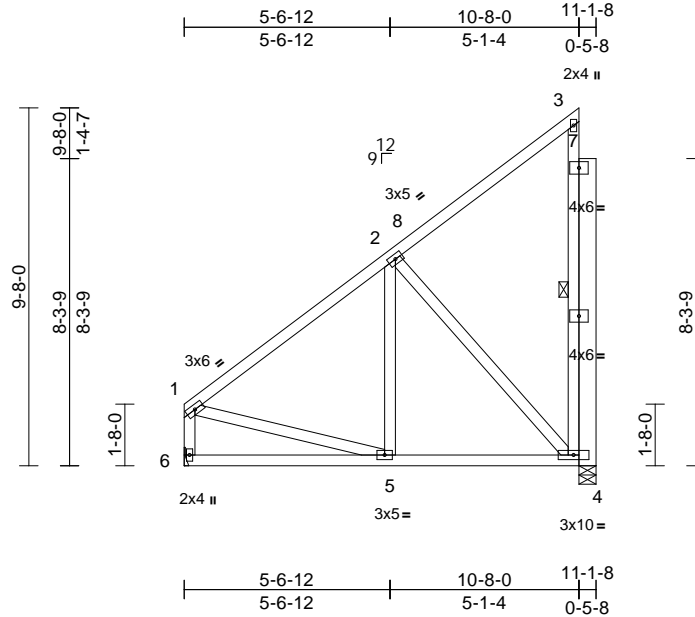
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss H2	Truss Type Monopitch	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584915
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:52
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Page: 1



Scale = 1:62.2

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

LUMBER

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

BRACING

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

REACTIONS (size) 4=0-5-8, 6= Mechanical

Max Horiz	6=328 (LC 11)
Max Uplift	4=-196 (LC 14)
Max Grav	4=951 (LC 20), 6=468 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension

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

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 7-6-4, Exterior(2E) 7-6-4 to 10-6-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.

- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 6) Refer to girder(s) for truss to truss connections.
- 7) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 8) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 4. This connection is for uplift only and does not consider lateral forces.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

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



December 18, 2023

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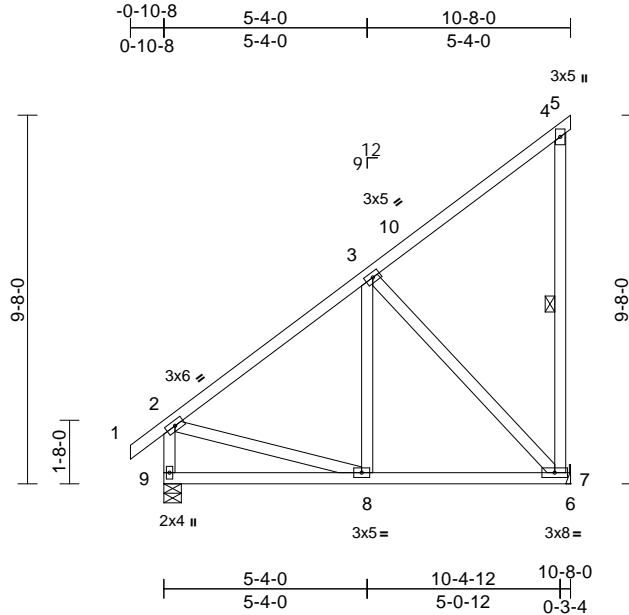
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss H3	Truss Type Monopitch	Qty 2	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584916
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:52
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Page: 1



Scale = 1:60.4

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.03	7-8	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.05	7-8	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.01	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 78 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

(lb) - Maximum Compression/Maximum Tension

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

NOTES

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

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-06-00 tall by 2'-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 146 lb uplift at joint 7.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 18, 2023

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

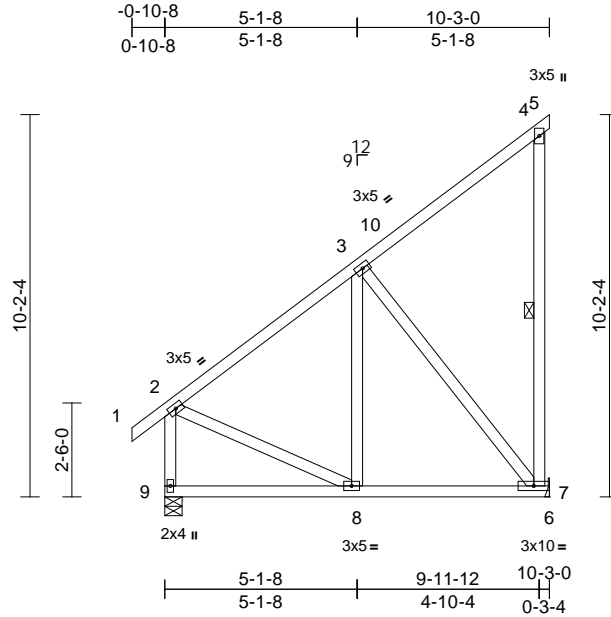
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss I1	Truss Type Monopitch	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584917
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:53
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Page: 1



Scale = 1:61.4

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	0.61	Vert(LL)	-0.03	7-8	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.04	7-8	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.01	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 81 lb	FT = 20%

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

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

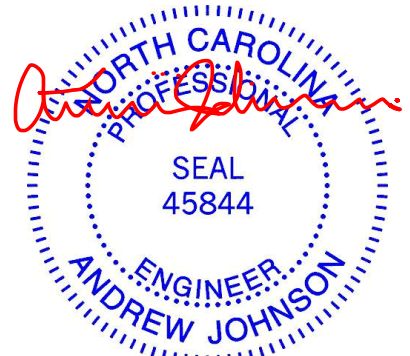
REACTIONS (size) 7= Mechanical, 9=0-5-8
Max Horiz 9=357 (LC 11)
Max Uplift 7=157 (LC 11)
Max Grav 7=565 (LC 21), 9=494 (LC 21)

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

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - Refer to girder(s) for truss to truss connections.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 157 lb uplift at joint 7.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

NOTES

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



December 18, 2023

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

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



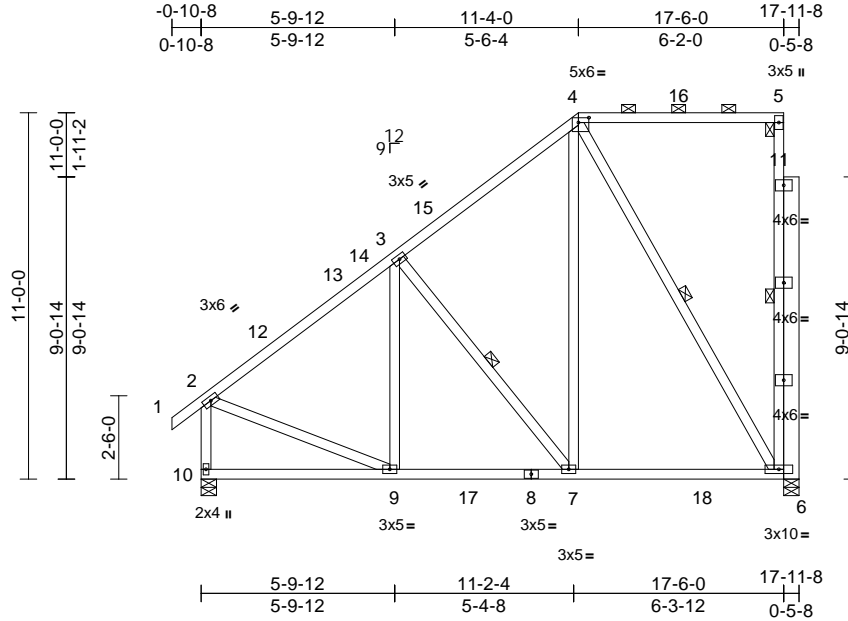
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss J1	Truss Type Piggyback Base	Qty 3	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	I62584918
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:53
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Page: 1



Scale = 1:69.2

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

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

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

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

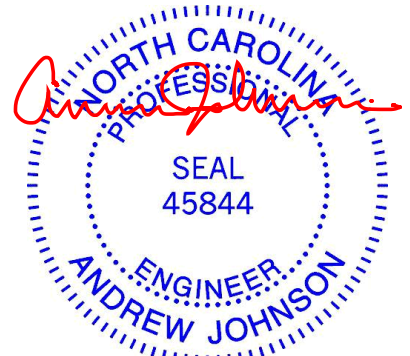
NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 7-1-1, Exterior(2R) 7-1-1 to 14-4-4, Exterior(2E) 14-4-4 to 17-4-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Bearing at joint(s) 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 10 and 6. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

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



December 18, 2023

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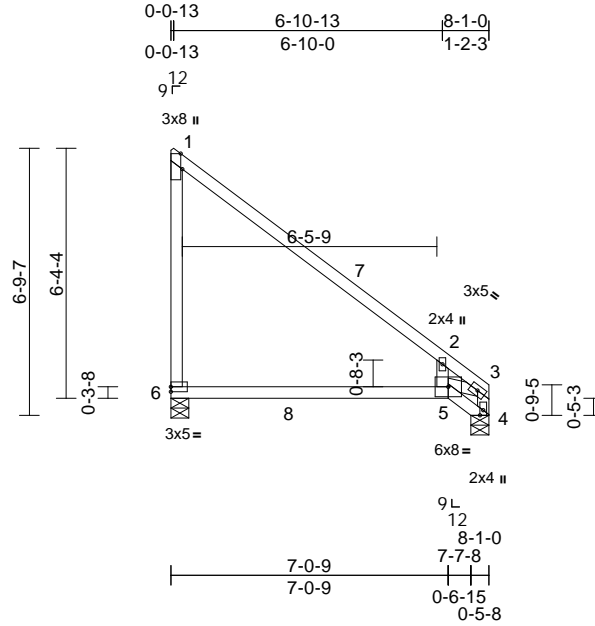
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss K1	Truss Type Roof Special	Qty 4	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584919
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:54
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Page: 1



Scale = 1:58.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.24	5-6	>398	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.40	5-6	>233	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	-0.15	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 39 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 6-1:2x4 SP No.2

BRACING

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

REACTIONS

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

FORCES

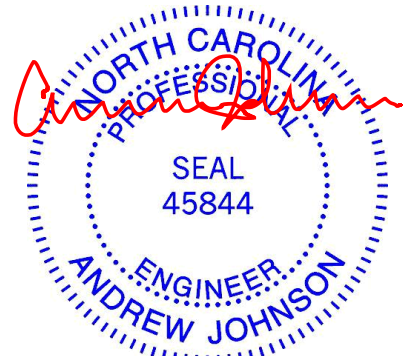
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-237/154, 2-3=-283/0, 3-4=-238/0, 1-6=-331/280
BOT CHORD 5-6=-110/77, 4-5=-434/158
WEBS 2-5=-199/147, 3-5=-136/433

- 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.
- Bearings are assumed to be: , Joint 6 SP No.2 crushing capacity of 565 psi.
- Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 6. This connection is for uplift only and does not consider lateral forces.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

NOTES

- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 4-11-4, Exterior(2E) 4-11-4 to 7-11-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.



December 18, 2023

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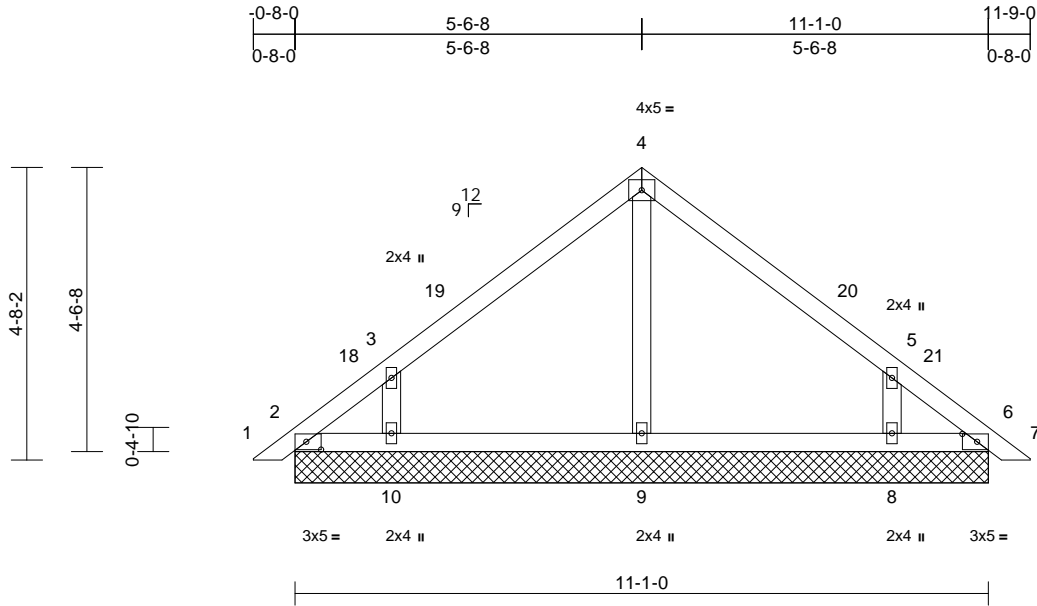
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss PB1	Truss Type Piggyback	Qty 8	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584920
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:54
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Page: 1



Scale = 1:36.8

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 48 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

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

NOTES

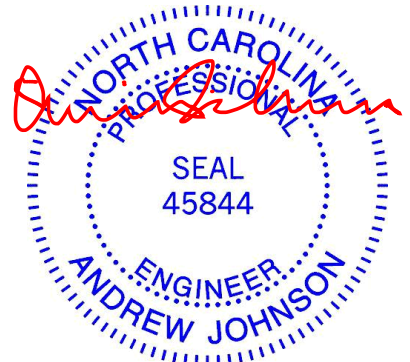
1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 9-2-9, Exterior(2E) 9-2-9 to 12-2-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof live load of 20.0 psf on overhangs non-concurrent with other live loads.
- 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

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

LOAD CASE(S) Standard

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



December 18, 2023

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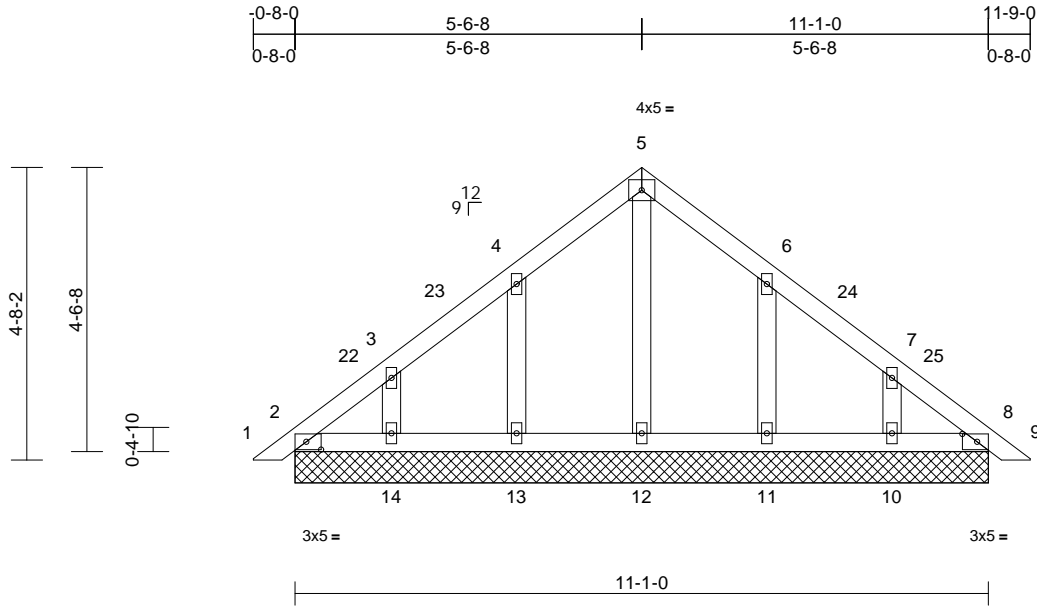
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss PB1GE	Truss Type Piggyback	Qty 2	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584921
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:54
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Page: 1



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

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

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

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

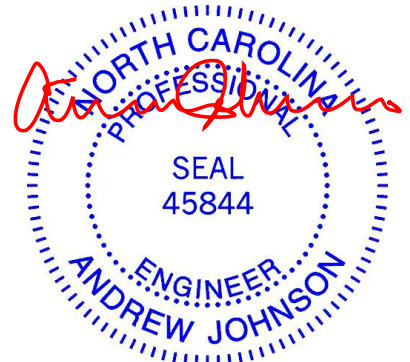
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-89/75, 3-4=-86/57,
4-5=-97/106, 5-6=-97/106, 6-7=-83/41,
7-8=-66/42, 8-9=0/16
BOT CHORD 2-14=-34/83, 13-14=-34/83, 12-13=-34/83,
11-12=-34/83, 10-11=-34/83, 8-10=-34/83
WEBS 5-12=-91/0, 4-13=-229/117, 3-14=-167/91,
6-11=-229/117,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

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 9-2-9, Exterior(2E) 9-2-9 to 12-2-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A

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

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



December 18, 2023

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

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

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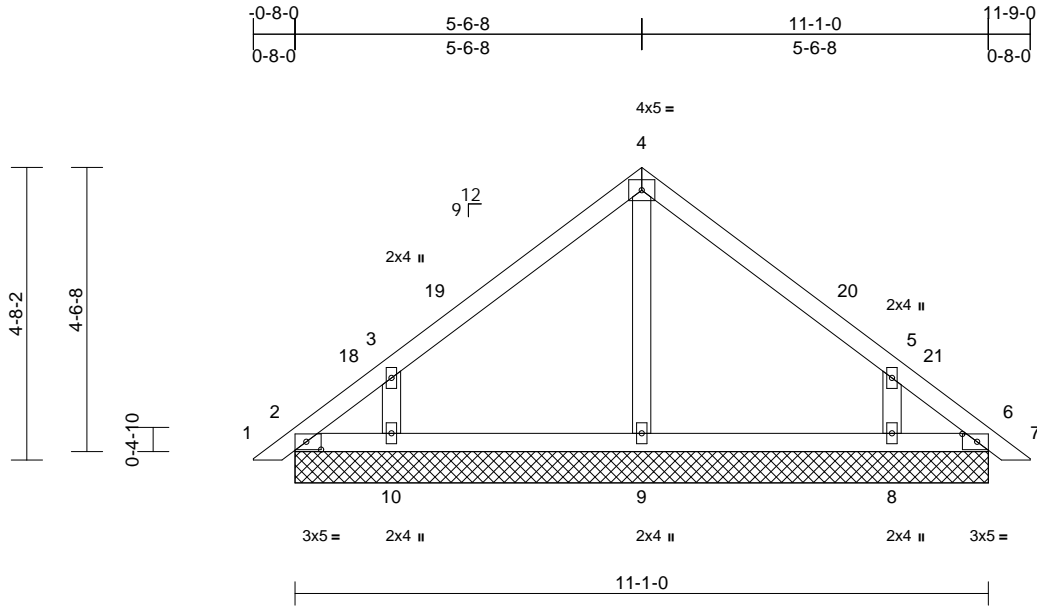
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss PB1GR	Truss Type Piggyback	Qty 1	Ply 2	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	I62584922
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:55
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Page: 1



Scale = 1:36.8

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 97 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

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

NOTES

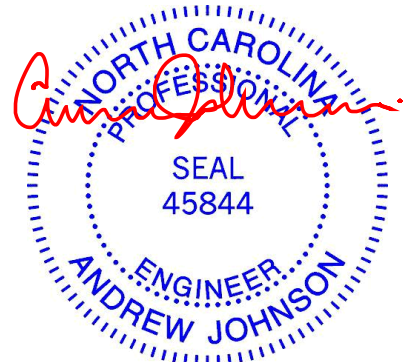
1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.

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

13) N/A

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

LOAD CASE(S) Standard



December 18, 2023

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



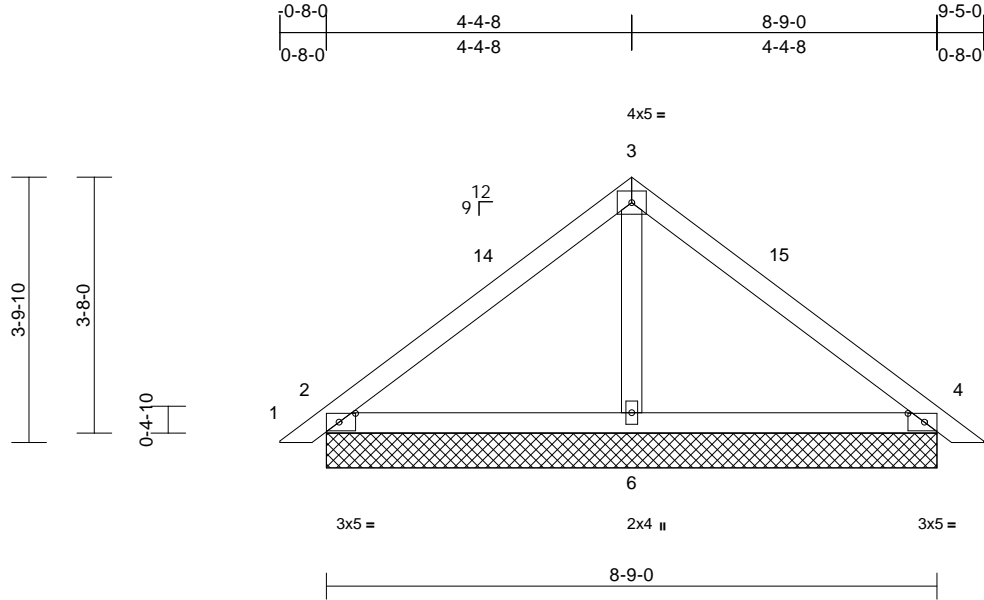
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	93 Serenity-Roof-B330 A CP BNS w/ B4	I62584923
23110111-01	PB2	Piggyback	7	1	Job Reference (optional)	

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

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Page: 1



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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.44	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 36 lb	FT = 20%

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

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

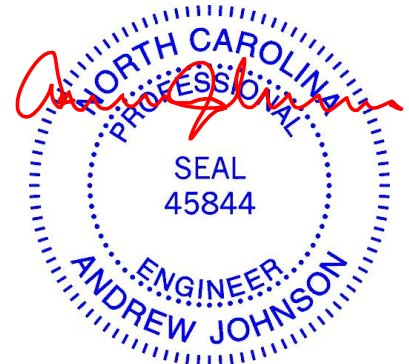
REACTIONS (size) 2=8-9-0, 4=8-9-0, 6=8-9-0, 7=8-9-0, 11=8-9-0
 Max Horiz 2=-85 (LC 12), 7=-85 (LC 12)
 Max Uplift 2=-46 (LC 14), 4=-57 (LC 15), 7=-46 (LC 14), 11=-57 (LC 15)
 Max Grav 2=346 (LC 21), 4=346 (LC 22), 6=282 (LC 21), 7=346 (LC 21), 11=346 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/16, 2-3=-255/121, 3-4=-255/121, 4-5=0/16
 BOT CHORD 2-6=-39/112, 4-6=-27/112
 WEBS 3-6=-101/2

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

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

LOAD CASE(S) Standard



December 18, 2023

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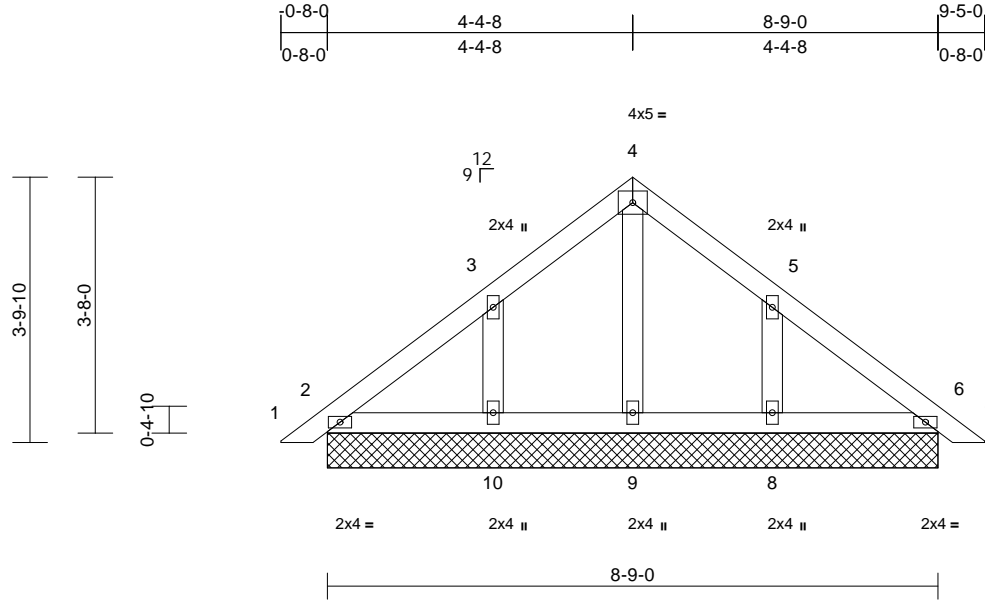
818 Soundside Road
 Edenton, NC 27932

Job 23110111-01	Truss PB2GE	Truss Type Piggyback	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584924
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:33

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 41 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

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

NOTES

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

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

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

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

LOAD CASE(S) Standard



December 18, 2023

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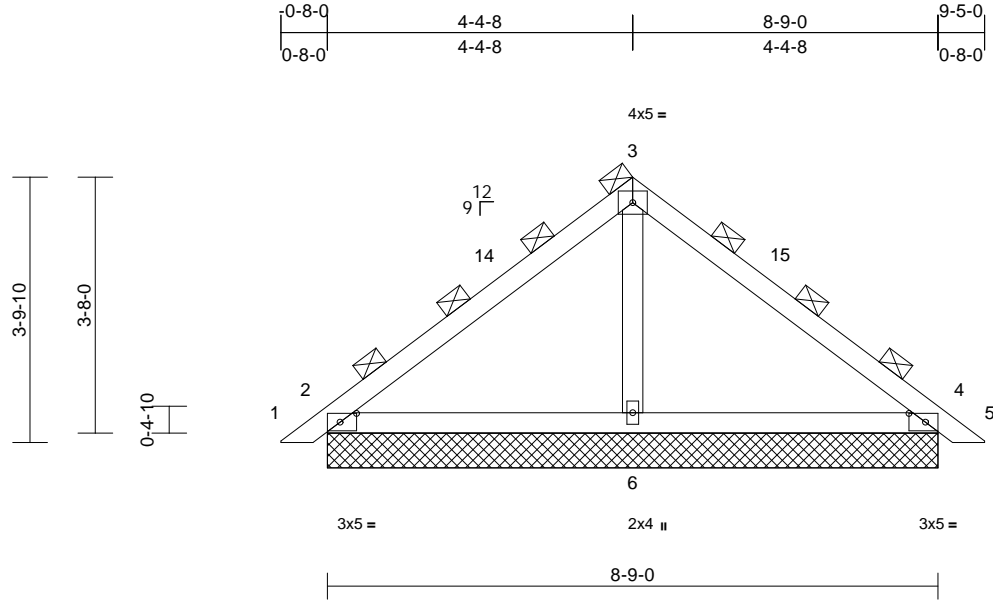
ENGINEERING BY
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818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss PB2GR	Truss Type Piggyback	Qty 2	Ply 2	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584925
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:33

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

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

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/24, 2-3=-380/180, 3-4=-380/180,
4-5=0/24
BOT CHORD 2-6=-72/208, 4-6=-49/208
WEBS 3-6=-155/2

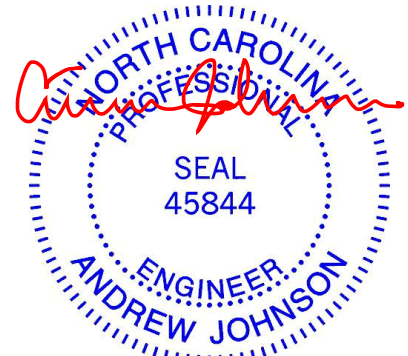
NOTES

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 6-10-9, Exterior(2E) 6-10-9 to 9-10-9 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof live load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- N/A
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



December 18, 2023

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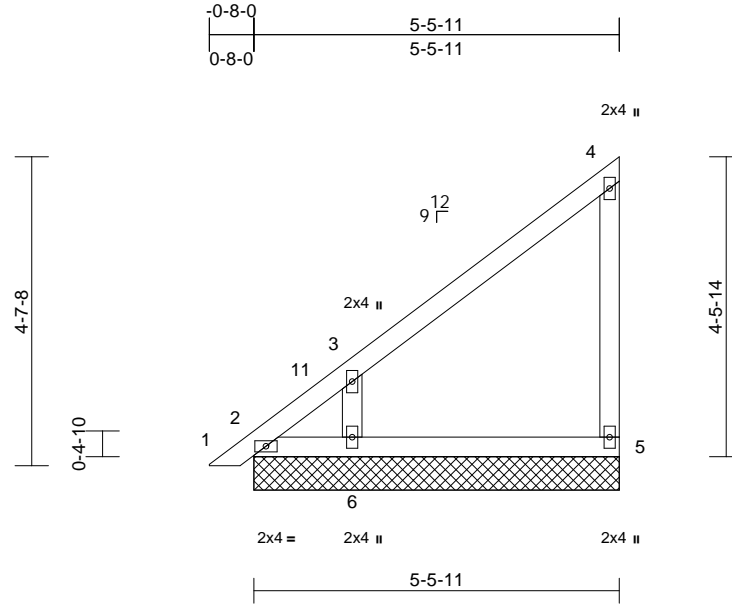
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss PB3	Truss Type Piggyback	Qty 3	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584926
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:56
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Page: 1



Scale = 1:34.5

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	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 27 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size)

2=5-5-11, 5=5-5-11, 6=5-5-11, 7=5-5-11
Max Horiz 2=150 (LC 13), 7=150 (LC 13)
Max Uplift 2=-55 (LC 12), 5=-36 (LC 11), 6=-135 (LC 14), 7=-55 (LC 12)
Max Grav 2=90 (LC 11), 5=194 (LC 21), 6=472 (LC 21), 7=90 (LC 11)

FORCES (lb) - Maximum Compression/Maximum Tension

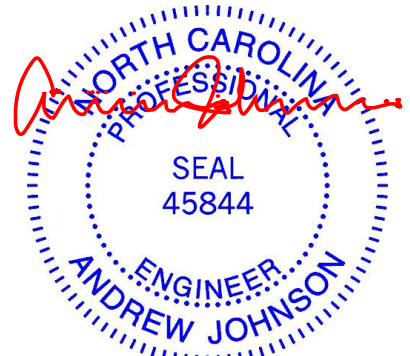
TOP CHORD	1-2=0/16, 2-3=-192/223, 3-4=-143/117, 4-5=-161/54
BOT CHORD	2-6=-52/76, 5-6=-52/76
WEBS	3-6=-432/310

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

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

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

LOAD CASE(S) Standard



December 18, 2023

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



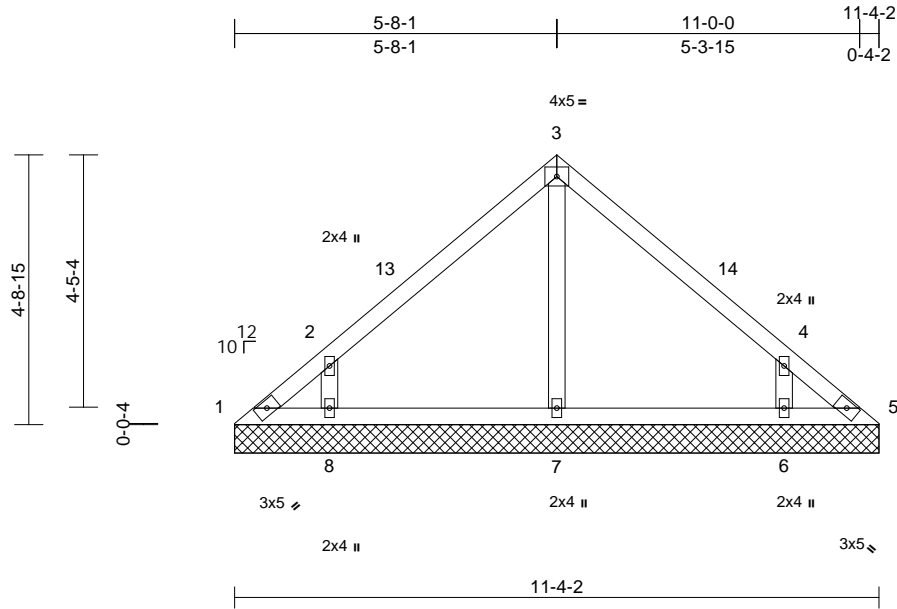
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss V1	Truss Type Valley	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584927
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Scale = 1:40.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 46 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

(lb) - Maximum Compression/Maximum Tension

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

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 8-4-6, Exterior(2E) 8-4-6 to 11-4-6 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 1, 12 lb uplift at joint 5, 138 lb uplift at joint 8 and 134 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 18, 2023

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818 Soundside Road
Edenton, NC 27932

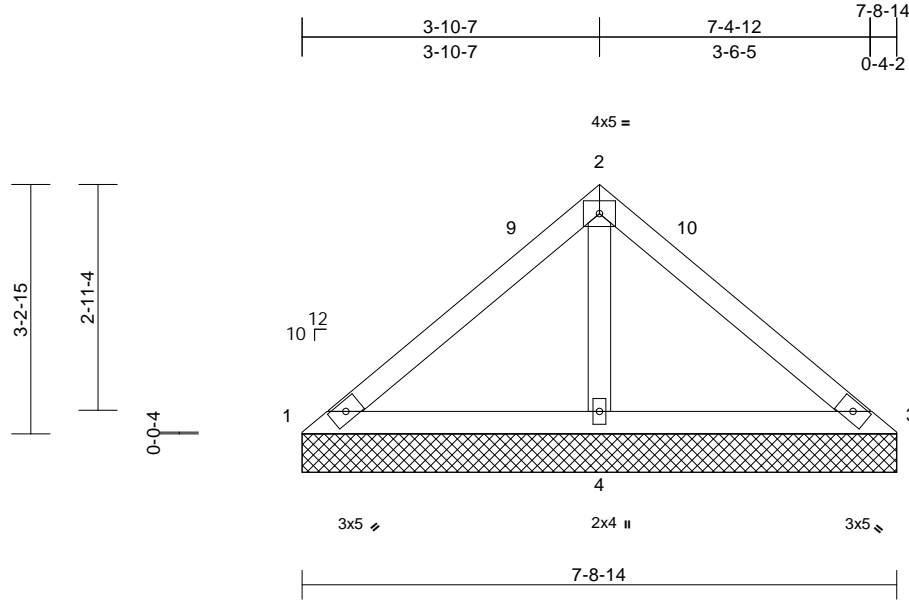
Job 23110111-01	Truss V2	Truss Type Valley	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584928
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Scale = 1:30

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.31	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 29 lb	FT = 20%	

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 7-8-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

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

FORCES

(lb) - Maximum Compression/Maximum Tension

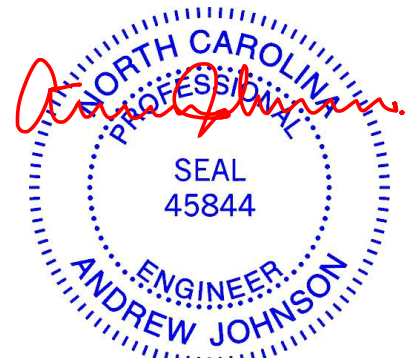
TOP CHORD 1-2=-102/262, 2-3=-102/262
BOT CHORD 1-4=-180/165, 3-4=-180/165
WEBS 2-4=-429/221

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 4-9-3, Exterior(2E) 4-9-3 to 7-9-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 1, 28 lb uplift at joint 3 and 84 lb uplift at joint 4.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 18, 2023

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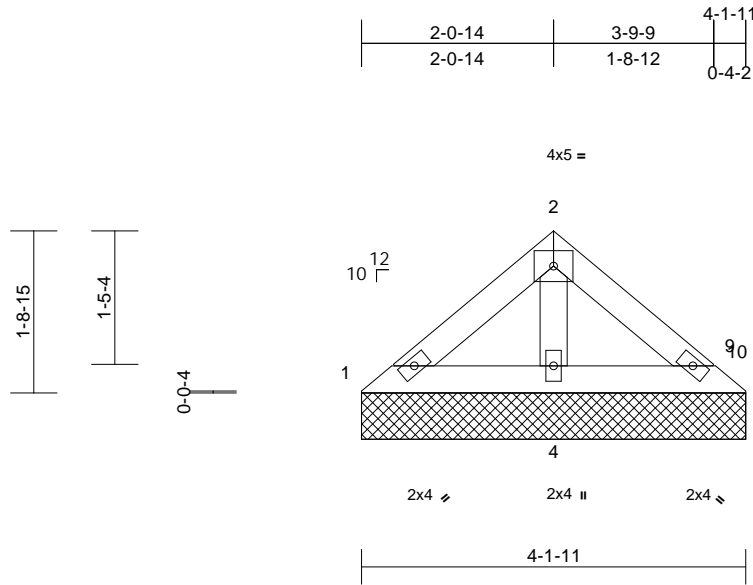
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss V3	Truss Type Valley	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	162584929
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Scale = 1:24.8

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	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 14 lb	FT = 20%	

LUMBER

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

BRACING

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

REACTIONS

(size) 1=4-1-11, 3=4-1-11, 4=4-1-11
Max Horiz 1=36 (LC 11)
Max Uplift 4=-26 (LC 14)
Max Grav 1=77 (LC 20), 3=50 (LC 21), 4=230 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

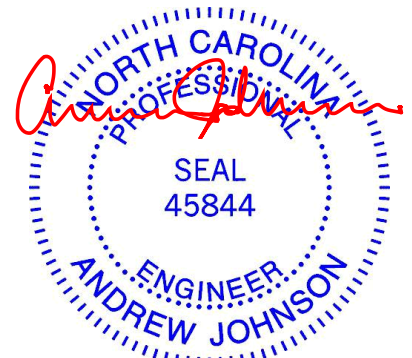
TOP CHORD 1-2=-70/73, 2-3=-54/72
BOT CHORD 1-4=-53/57, 3-4=-53/57
WEBS 2-4=-132/71

NOTES

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

- 5) Unbalanced snow loads have been considered for this design.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 4.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 18, 2023

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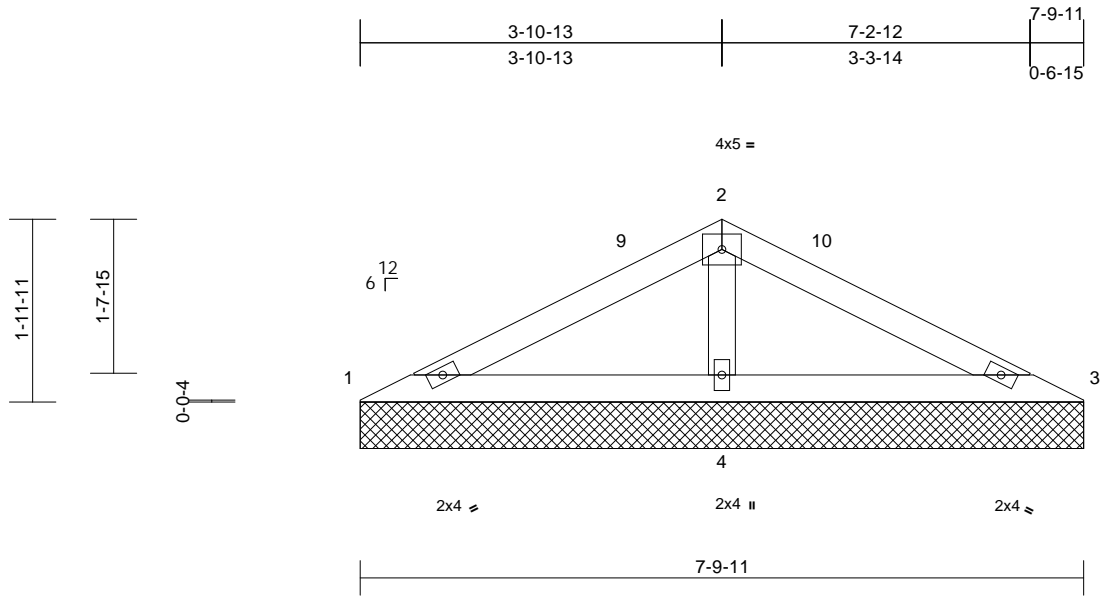
818 Soundside Road
Edenton, NC 27932

Job 23110111-01	Truss V11	Truss Type Valley	Qty 1	Ply 1	93 Serenity-Roof-B330 A CP BNS w/ B4 Job Reference (optional)	I62584930
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 25 lb	FT = 20%

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

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

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

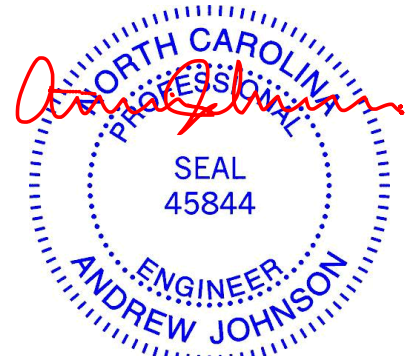
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-127/270, 2-3=-127/270
BOT CHORD 1-4=-201/154, 3-4=-201/154
WEBS 2-4=-366/213

- 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 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 9 lb uplift at joint 1, 16 lb uplift at joint 3 and 43 lb uplift at joint 4.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Exterior(2R) 3-0-8 to 4-10-3, Exterior(2E) 4-10-3 to 7-10-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.



December 18, 2023

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

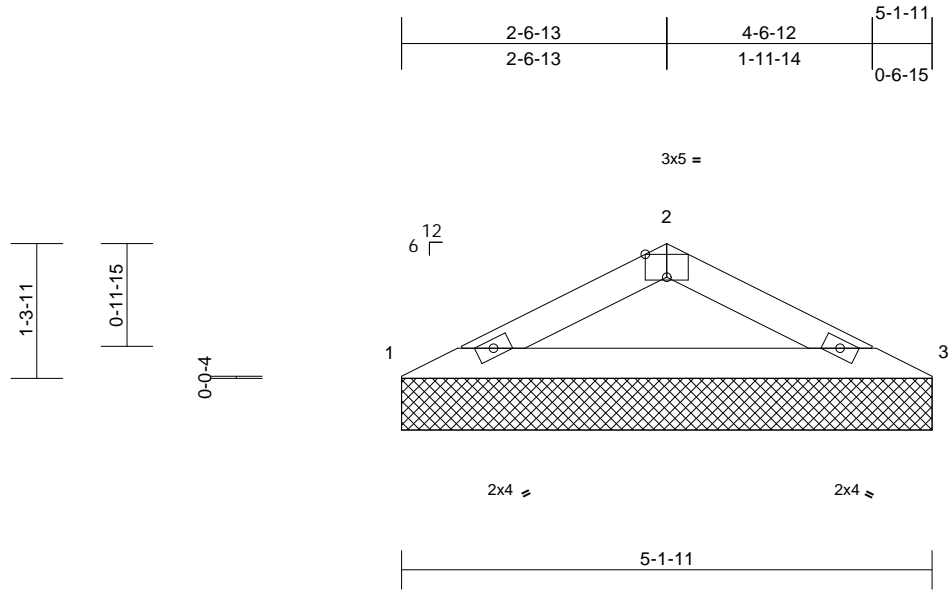
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	93 Serenity-Roof-B330 A CP BNS w/ B4	162584931
23110111-01	V12	Valley	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Fri Dec 15 09:15:57
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Page: 1



Scale = 1:22.3

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

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

LUMBER

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

BRACING

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

REACTIONS

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

FORCES

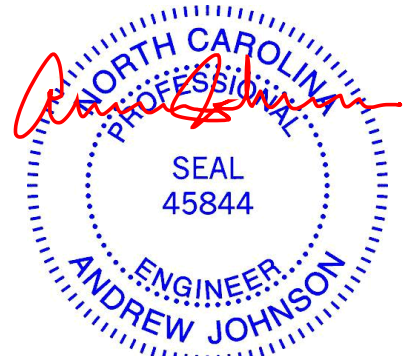
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-419/183, 2-3=-419/183
 BOT CHORD 1-3=-150/364

NOTES

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

- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 1 and 20 lb uplift at joint 3.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



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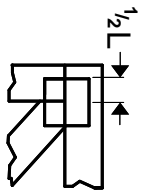
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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



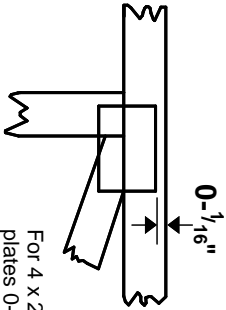
818 Soundside Road
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Symbols

PLATE LOCATION AND ORIENTATION



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



For 4 x 2 orientation, locate plates 0- 1/16\"/>



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

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

PLATE SIZE

4 X 4

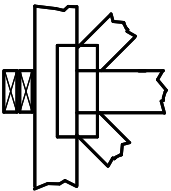
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING



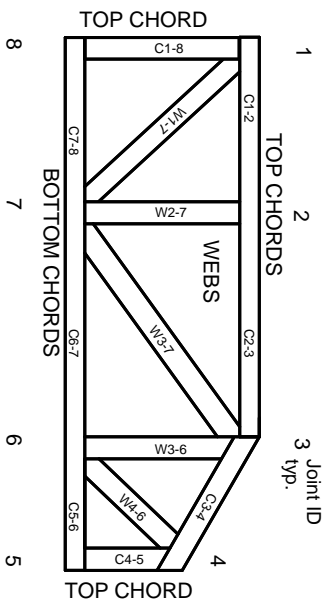
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System

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



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

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

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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