ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 24060177-01
186 Serenity-Roof-B330 B COP BNS GRH

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

Pages or sheets covered by this seal: I66830096 thru I66830140

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

North Carolina COA: C-0844

July 16,2024

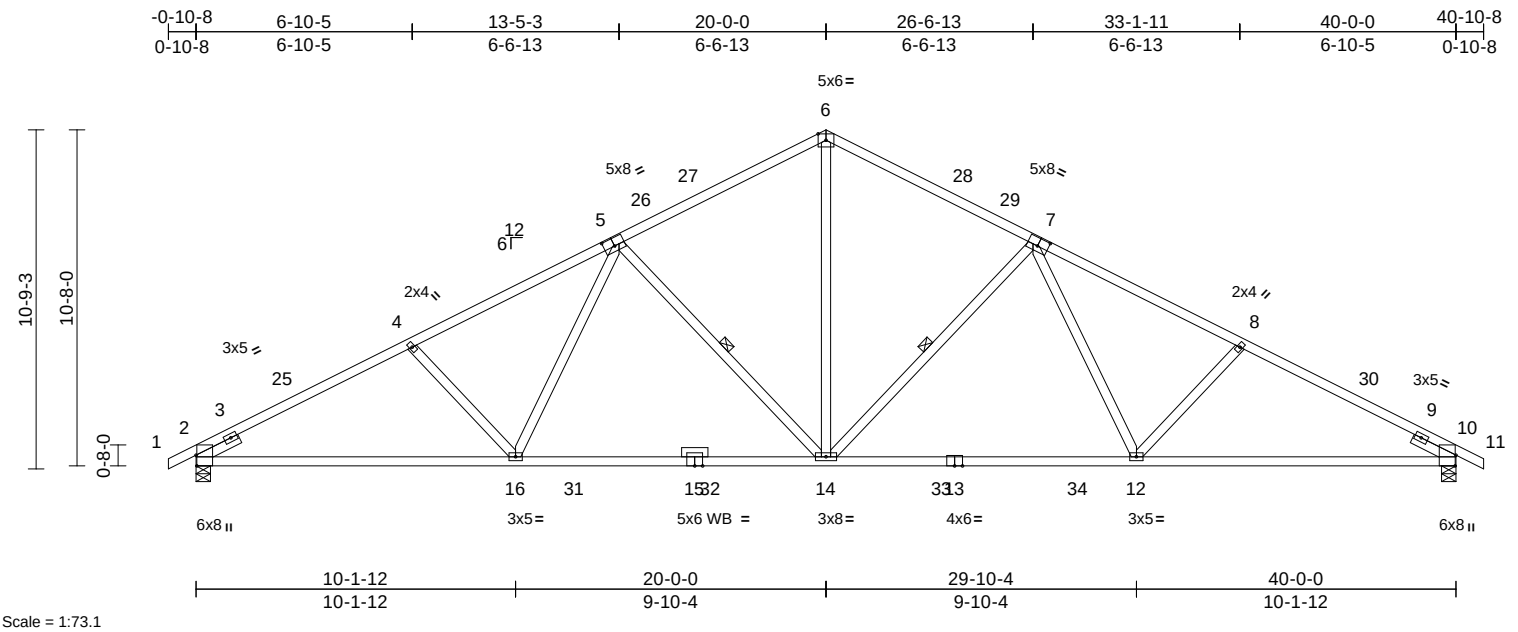
Gilbert, Eric

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	A	Common	4	1	I66830096 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:21 ID:CttcSzQgwNcSj9X9hY?FsHzF_uO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:73.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.37	12-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.64	12-14	>755	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.15	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 214 lb	FT = 20%

LUMBER

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

BRACING

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

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

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-4=-3430/320, 4-6=-3226/333, 6-8=-3226/333, 8-10=-3430/320, 10-11=0/23
BOT CHORD	2-16=-329/2977, 14-16=-193/2531, 12-14=-109/2531, 10-12=-185/2977
WEBS	6-14=-112/1652, 7-14=-855/247, 7-12=-24/622, 8-12=-297/189, 5-14=-855/247, 5-16=-24/622, 4-16=-297/189

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 3-1-6, Interior (1) 3-1-6 to 16-0-2, Exterior(2R) 16-0-2 to 23-11-14, Interior (1) 23-11-14 to 36-10-10, Exterior(2E) 36-10-10 to 40-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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, with BCDL = 10.0psf.
8) 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.
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

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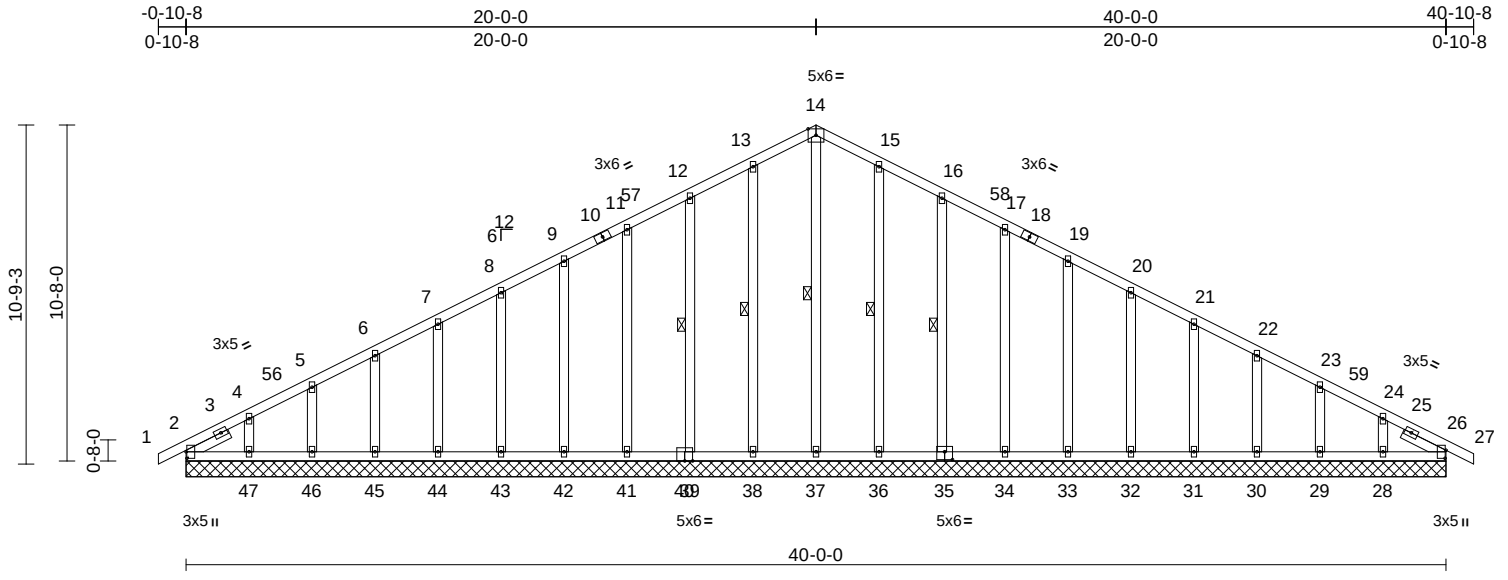
Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	AGE	Common Supported Gable	1	1	I66830097 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:22 Page: 1
ID:94aeZ53wRfHxaJ4LIBSgWSzF_tZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:73.1

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

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: 286 lb	FT = 20%

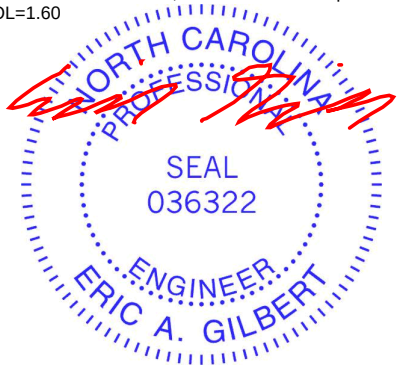
LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 37-14:2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

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

REACTIONS (size) 2=40-0-0, 26=40-0-0, 28=40-0-0, 29=40-0-0, 30=40-0-0, 31=40-0-0, 32=40-0-0, 33=40-0-0, 34=40-0-0, 35=40-0-0, 36=40-0-0, 37=40-0-0, 38=40-0-0, 39=40-0-0, 41=40-0-0, 42=40-0-0, 43=40-0-0, 44=40-0-0, 45=40-0-0, 46=40-0-0, 47=40-0-0, 48=40-0-0, 52=40-0-0
Max Horiz 2=165 (LC 14), 48=165 (LC 14)
Max Uplift 2=-21 (LC 10), 28=-81 (LC 15), 29=-36 (LC 15), 30=-46 (LC 15), 31=-43 (LC 15), 32=-44 (LC 15), 33=-44 (LC 15), 34=-44 (LC 15), 35=-48 (LC 15), 36=-36 (LC 15), 38=-39 (LC 14), 39=-47 (LC 14), 41=-43 (LC 14), 42=-44 (LC 14), 43=-44 (LC 14), 44=-43 (LC 14), 45=-46 (LC 14), 46=-33 (LC 14), 47=-96 (LC 14), 48=-21 (LC 10)
Max Grav 2=162 (LC 27), 26=139 (LC 22), 28=161 (LC 37), 29=160 (LC 1), 30=160 (LC 37), 31=160 (LC 1), 32=161 (LC 22), 33=160 (LC 37), 34=179 (LC 22), 35=233 (LC 22), 36=246 (LC 22), 37=200 (LC 28), 38=245 (LC 21), 39=233 (LC 21), 41=180 (LC 21), 42=160 (LC 36), 43=161 (LC 21), 44=160 (LC 1), 45=160 (LC 36), 46=160 (LC 21), 47=161 (LC 36), 48=162 (LC 27), 52=139 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-216/79, 4-5=-167/82, 5-6=-128/94, 6-7=-96/108, 7-8=-74/131, 8-9=-62/155, 9-11=-73/178, 11-12=-85/222, 12-13=-104/270, 13-14=-121/310, 14-15=-121/310, 15-16=-104/270, 16-17=-84/222, 17-19=-71/177, 19-20=-60/131, 20-21=-48/86, 21-22=-44/41, 22-23=-66/27, 23-24=-99/35, 24-26=-144/59, 26-27=0/23
BOT CHORD 2-47=-44/166, 46-47=-44/166, 45-46=-44/166, 44-45=-44/166, 43-44=-44/166, 42-43=-44/166, 41-42=-44/166, 39-41=-44/166, 38-39=-44/166, 37-38=-44/166, 36-37=-44/166, 34-36=-45/167, 33-34=-45/167, 32-33=-45/167, 31-32=-45/167, 30-31=-45/167, 29-30=-45/167, 28-29=-45/167, 26-28=-45/167
WEBS 14-37=-205/45, 13-38=-205/66, 12-39=-193/83, 11-41=-140/76, 9-42=-126/77, 8-43=-126/77, 7-44=-126/77, 6-45=-127/77, 5-46=-126/80, 4-47=-131/135, 15-36=-205/66, 16-35=-193/83, 17-34=-140/76, 19-33=-126/77, 20-32=-126/77, 21-31=-126/77, 22-30=-127/77, 23-29=-126/80, 24-28=-131/135

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 16-0-0, Corner(3R) 16-0-0 to 24-0-0, Exterior(2N) 24-0-0 to 36-10-10, Corner(3E) 36-10-10 to 40-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



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3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) 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 41, 44 lb uplift at joint 42, 44 lb uplift at joint 43, 43 lb uplift at joint 44, 46 lb uplift at joint 45, 33 lb uplift at joint 46, 96 lb uplift at joint 47, 36 lb uplift at joint 36, 48 lb uplift at joint 35, 44 lb uplift at joint 34, 44 lb uplift at joint 33, 44 lb uplift at joint 32, 43 lb uplift at joint 31, 46 lb uplift at joint 30, 36 lb uplift at joint 29, 81 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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	B	Attic Structural Gable	3	1	I66830098 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:22 Page: 1

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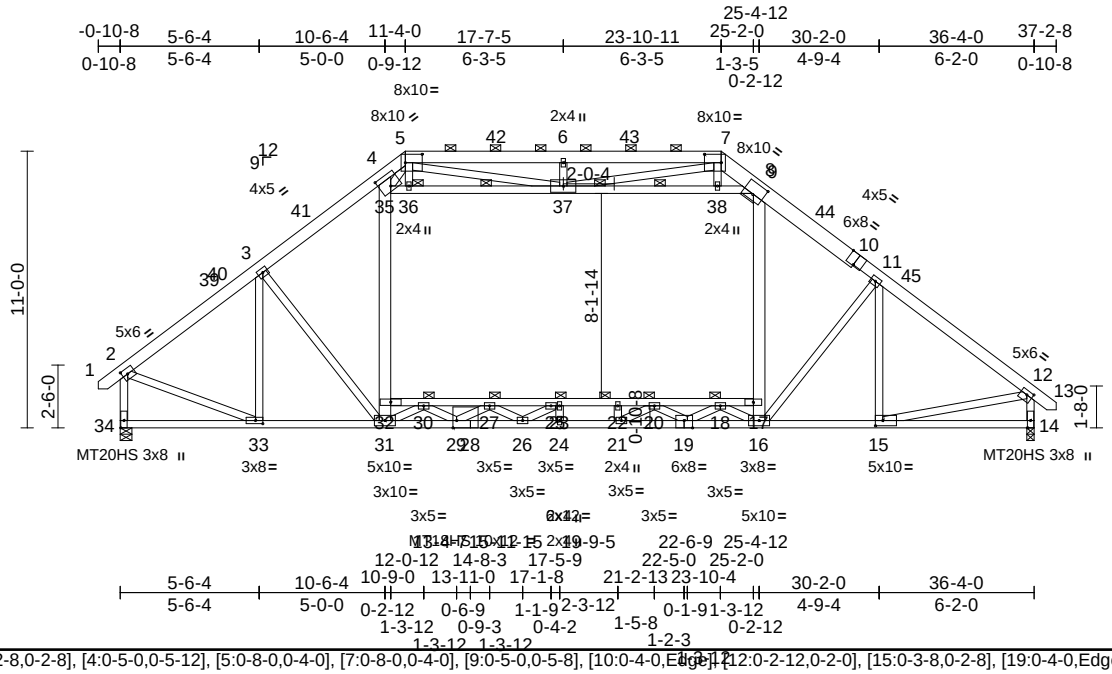

Scale = 1:91.6

Plate Offsets (X, Y): [2:0-2-8,0-2-8], [4:0-5-0,0-5-12], [5:0-8-0,0-4-0], [7:0-8-0,0-4-0], [9:0-5-0,0-5-8], [10:0-4-0,Edge], [12:0-2-12,0-2-0], [15:0-3-8,0-2-8], [19:0-4-0,Edge], [28:0-1-12,Edge], [33:0-3-8,0-1-8]

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	0.56	Vert(LL)	-0.24	22-23	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.44	22-23	>983	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.09	14	n/a	n/a	MT18HS	244/190
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.19	17-32	>944	360		
BCDL	10.0										Weight: 355 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 7-10:2x8 SP 2400F 2.0E

BOT CHORD 2x4 SP No.1 *Except* 32-17:2x4 SP No.2, 28-19:2x4 SP 2400F 2.0E

WEBS 2x4 SP No.3 *Except* 4-31:2x6 SP 2400F 2.0E, 9-16:2x6 SP No.2, 35-8:2x4 SP No.2

OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-3-1 oc purlins, except end verticals, and 2-0-0 oc purlins (4-1-15 max.): 5-7.

BOT CHORD Rigid ceiling directly applied or 3-0-0 oc bracing.

WEBS 1 Row at midpt 36-37, 8-37

JOINTS 1 Brace at Jt(s): 30, 27, 25, 18, 20, 36, 37

REACTIONS (size) 14=0-3-8, 34=0-5-8
Max Horiz 34=-289 (LC 12)
Max Grav 14=2172 (LC 48), 34=2192 (LC 48)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/30, 2-3=-2498/0, 3-4=-2732/0, 4-5=-1807/282, 5-6=-2562/325, 6-7=-2562/325, 2-34=-2390/0, 12-14=-2365/0, 7-8=-1509/202, 8-9=-2257/23, 9-11=-2922/0, 11-12=-2889/0, 12-13=0/30

BOT CHORD 33-34=-242/290, 31-33=0/1931, 29-31=0/2444, 26-29=0/3987, 24-26=0/4767, 21-24=0/4767, 16-21=0/4244, 15-16=0/2242, 14-15=-21/175, 30-32=-124/1253, 27-30=-1338/60, 25-27=-2741/0, 23-25=-3053/0, 22-23=-3053/0, 20-22=-3053/0, 18-20=-1755/0, 17-18=-72/463

WEBS 3-33=-679/0, 3-31=-72/468, 31-32=0/794, 32-35=0/948, 4-35=-230/698, 16-17=0/925, 9-17=0/1071, 11-16=-310/291, 35-36=-1413/89, 36-37=-1399/93, 37-38=-1325/8, 8-38=-1350/4, 2-33=0/1973, 11-15=-385/7, 30-31=-1630/0, 29-30=0/1038, 27-29=-1125/0, 26-27=0/586, 25-26=-441/26, 16-18=-1503/0, 18-19=0/975, 19-20=-933/0, 20-21=0/639, 21-22=-216/0, 23-24=-67/68, 5-36=0/171, 6-37=-550/165, 7-37=-508/1336, 7-38=0/185, 5-35=-226/1015, 5-37=-548/1448, 12-15=0/2119

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) -0-8-4 to 2-11-4, Interior (1) 2-11-4 to 7-8-8, Exterior(2R) 7-8-8 to 14-11-8, Interior (1) 14-11-8 to 20-3-3, Exterior(2R) 20-3-3 to 27-6-3, Interior (1) 27-6-3 to 33-4-12, Exterior(2E) 33-4-12 to 37-0-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
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) Ceiling dead load (5.0 psf) on member(s). 35-36, 36-37, 37-38, 8-38, 8-9; Wall dead load (5.0psf) on member (s).32-35, 9-17

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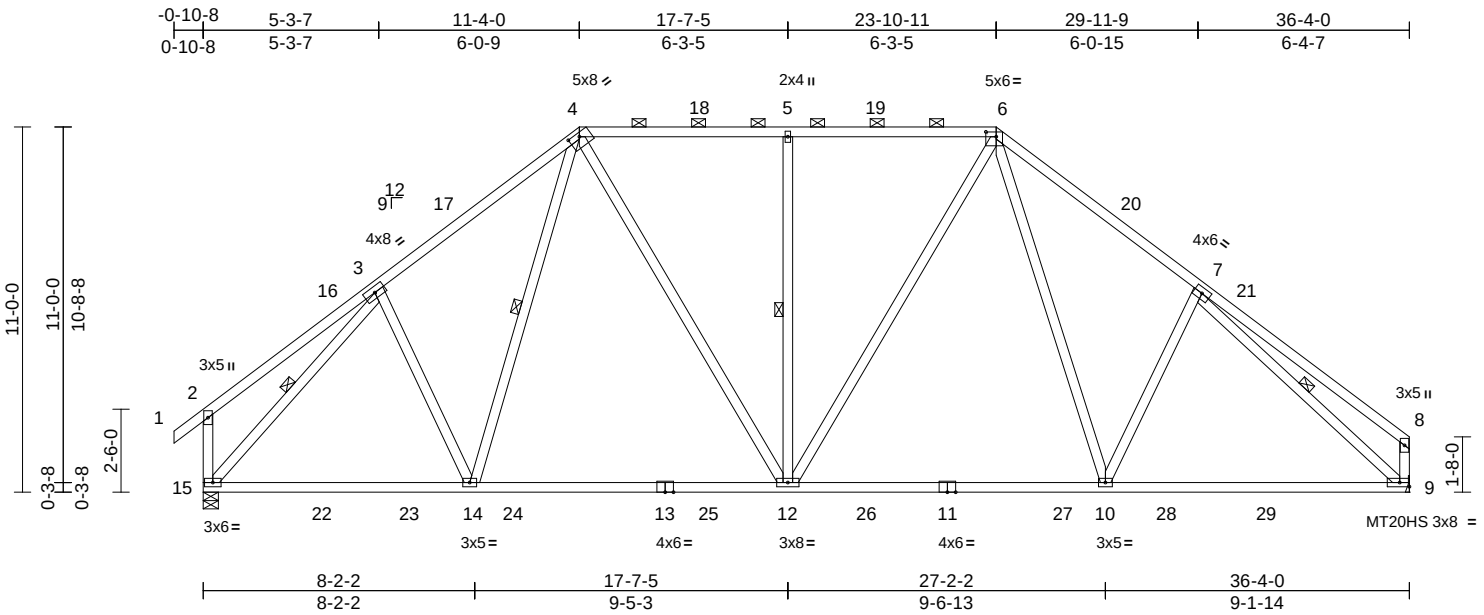
11) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 30-32, 27-30, 25-27, 23-25, 22-23, 20-22, 18-20, 17-18
12) Bearings are assumed to be: , Joint 14 SP No.1 .
13) This truss is designed in accordance with the 2018 International Residential Code 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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	B1	Piggyback Base	5	1	I66830099 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:23 ID:jCQDRPFmxy5us2K9CGvbovzF_Un-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:69.4

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

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	0.93	Vert(LL)	-0.22	12-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.80	Vert(CT)	-0.37	12-14	>999	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.07	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 250 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 14-4,12-4,12-5,12-6,10-6:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-5-15 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-15, 7-9, 4-14, 5-12

REACTIONS (size) 9= Mechanical, 15=0-5-8
Max Horiz 15=-283 (LC 12)
Max Uplift 9=-81 (LC 15), 15=-90 (LC 14)
Max Grav 9=1712 (LC 47), 15=1771 (LC 47)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-224/101, 3-4=-2113/282, 4-5=-1879/281, 5-6=-1879/281, 6-7=-2306/304, 7-8=-331/130, 2-15=-277/116, 8-9=-325/118
BOT CHORD 14-15=-197/1473, 12-14=-141/1423, 10-12=-36/1490, 9-10=-43/1731
WEBS 3-15=-2136/140, 7-9=-2167/95, 4-14=-103/452, 3-14=-86/389, 4-12=-136/685, 5-12=-690/184, 6-12=-143/553, 6-10=-121/669, 7-10=-258/263

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C 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 20-3-3, Exterior(2R) 20-3-3 to 27-6-3, Interior (1) 27-6-3 to 32-6-12, Exterior(2E) 32-6-12 to 36-2-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 81 lb uplift at joint 9.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 15. This connection is for uplift only and does not consider lateral forces.
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.

LOAD CASE(S) Standard

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	B1GE	Piggyback Base Supported Gable	1	1	I66830100 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:23 Page: 1
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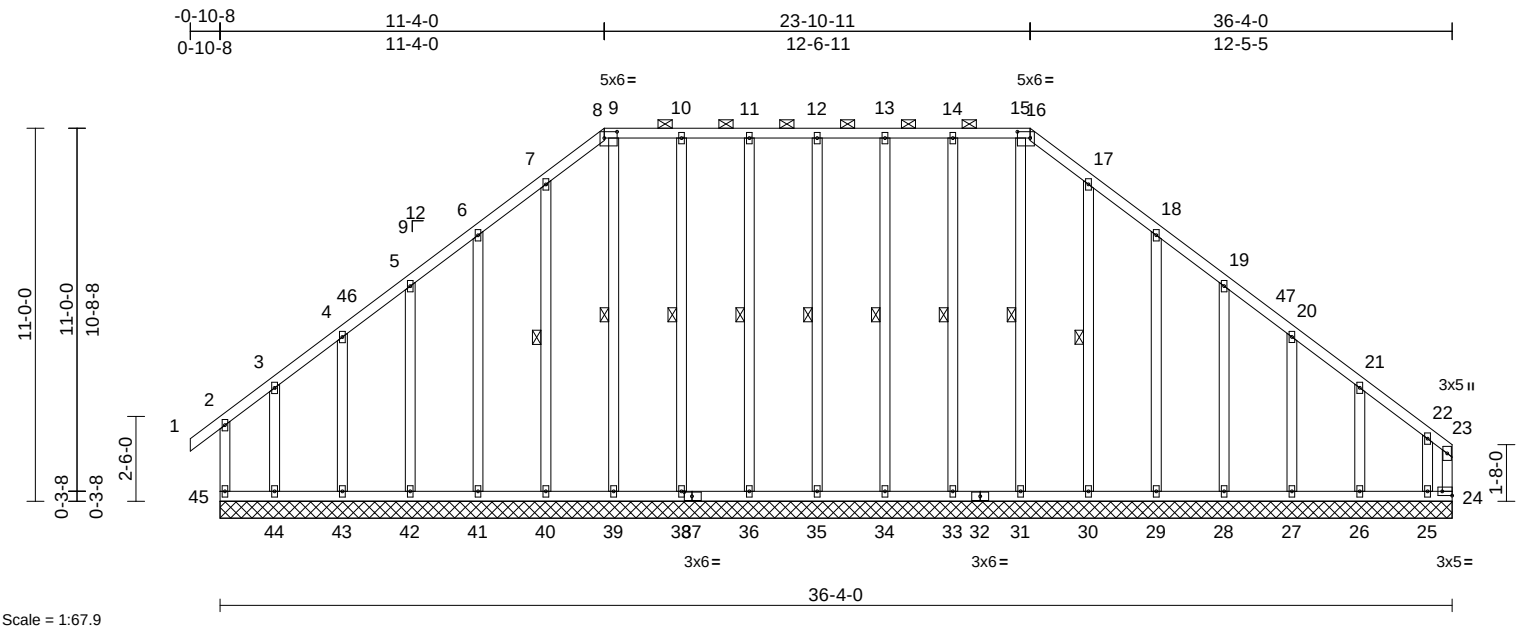


Scale = 1:67.9

Plate Offsets (X, Y): [8:0-4-8,0-2-4], [16:0-4-8,0-2-4], [24:Edge,0-1-8], [37:0-2-11,0-1-8]

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	0.24	Horz(CT)	-0.01	24	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 327 lb	FT = 20%

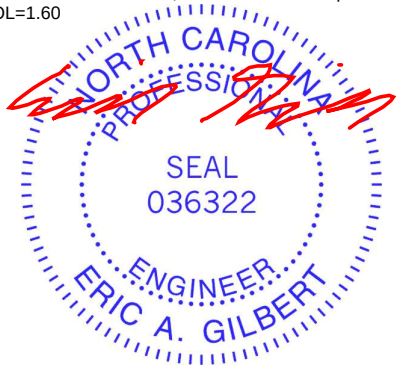
LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3 *Except* 35-12,34-13,33-14,31-15,36-11,38-10,39-9:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 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, 15-31, 17-30, 11-36, 10-38, 9-39, 7-40

REACTIONS (size) 24=36-4-0, 25=36-4-0, 26=36-4-0, 27=36-4-0, 28=36-4-0, 29=36-4-0, 30=36-4-0, 31=36-4-0, 33=36-4-0, 34=36-4-0, 35=36-4-0, 36=36-4-0, 38=36-4-0, 39=36-4-0, 40=36-4-0, 41=36-4-0, 42=36-4-0, 43=36-4-0, 44=36-4-0, 45=36-4-0
Max Horiz 45=-283 (LC 12)
Max Uplift 24=-624 (LC 13), 25=-511 (LC 10), 26=-62 (LC 15), 27=-68 (LC 15), 28=-65 (LC 15), 29=-75 (LC 15), 30=-46 (LC 15), 31=-22 (LC 12), 33=-35 (LC 11), 34=-25 (LC 11), 35=-25 (LC 10), 36=-26 (LC 11), 38=-31 (LC 11), 40=-41 (LC 14), 41=-76 (LC 14), 42=-68 (LC 14), 43=-54 (LC 14), 44=-162 (LC 11), 45=-127 (LC 10)
Max Grav 24=612 (LC 10), 25=603 (LC 13), 26=167 (LC 26), 27=184 (LC 53), 28=231 (LC 45), 29=232 (LC 45), 30=234 (LC 45), 31=230 (LC 54), 33=238 (LC 40), 34=229 (LC 40), 35=230 (LC 40), 36=229 (LC 40), 38=238 (LC 40), 39=215 (LC 54), 40=234 (LC 43), 41=232 (LC 43), 42=229 (LC 43), 43=183 (LC 43), 44=246 (LC 12), 45=202 (LC 53)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-45=-143/83, 1-2=0/37, 2-3=-92/97, 3-4=-73/114, 4-5=-109/159, 5-6=-146/222, 6-7=-187/292, 7-8=-214/340, 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=-214/340, 17-18=-187/299, 18-19=-157/255, 19-20=-177/217, 20-21=-196/204, 21-22=-215/210, 22-23=-345/343, 23-24=-342/340
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, 38-39=-202/196, 36-38=-202/196, 35-36=-202/196, 34-35=-202/196, 33-34=-202/196, 31-33=-202/196, 30-31=-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=-189/49, 14-33=-198/59, 15-31=-190/62, 17-30=-194/70, 18-29=-204/99, 19-28=-198/89, 20-27=-157/90, 21-26=-152/95, 22-25=-277/244, 11-36=-189/50, 10-38=-198/55, 9-39=-175/40, 7-40=-194/65, 6-41=-204/100, 5-42=-197/90, 4-43=-162/88, 3-44=-151/122

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 7-7-5, Corner(3R) 7-7-5 to 14-11-8, Exterior(2N) 14-11-8 to 20-3-3, Corner(3R) 20-3-3 to 27-7-5, Exterior (2N) 27-7-5 to 32-6-12, Corner(3E) 32-6-12 to 36-2-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



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3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) 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 127 lb uplift at joint 45, 624 lb uplift at joint 24, 25 lb uplift at joint 35, 25 lb uplift at joint 34, 35 lb uplift at joint 33, 22 lb uplift at joint 31, 46 lb uplift at joint 30, 75 lb uplift at joint 29, 65 lb uplift at joint 28, 68 lb uplift at joint 27, 62 lb uplift at joint 26, 511 lb uplift at joint 25, 26 lb uplift at joint 36, 31 lb uplift at joint 38, 41 lb uplift at joint 40, 76 lb uplift at joint 41, 68 lb uplift at joint 42, 54 lb uplift at joint 43 and 162 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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	BGR	Attic Structural Gable	1	2	I66830101 Job Reference (optional)

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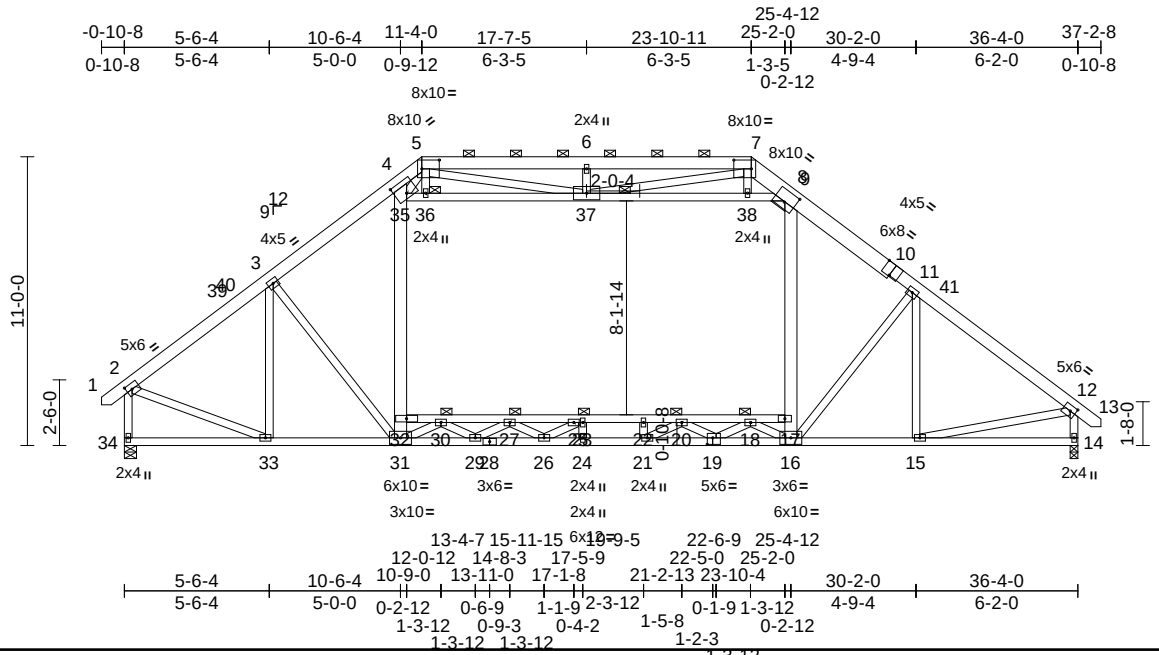

Scale = 1:87.8

Plate Offsets (X, Y): [2:0-2-8,0-2-8], [4:0-5-0,0-5-12], [5:0-8-0,0-4-0], [7:0-8-0,0-4-0], [9:0-5-0,0-5-4], [10:0-4-0,Edge], [12:0-2-8,0-2-8], [19:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.34	Vert(LL)	-0.17	20	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.30	22-23	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.76	Horz(CT)	0.07	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.12	17-32	>999	360		
BCDL	10.0										Weight: 710 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 7-10:2x8 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 4-31,9-16:2x6 SP No.2, 35-8:2x4 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 (6-0-0 max.): 5-7.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 30, 27, 25, 18, 20, 36, 37

REACTIONS (size) 14=0-3-8, 34=0-5-8
Max Horiz 34=-289 (LC 10)
Max Grav 14=2895 (LC 48), 34=2968 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-3050/0, 3-4=-3400/0, 4-5=-2625/387, 5-6=-2663/332, 6-7=-2663/332, 2-34=-2906/0, 12-14=-2828/0, 7-8=-1578/240, 8-9=-2596/33, 9-11=-3622/0, 11-12=-3514/0, 12-13=0/30
BOT CHORD 33-34=-239/294, 31-33=-14/2531, 29-31=0/3178, 26-29=0/4681, 24-26=0/5422, 21-24=0/5422, 16-21=0/4868, 15-16=0/2738, 14-15=-23/147, 30-32=-111/1294, 27-30=-1213/90, 25-27=-2663/0, 23-25=-2974/0, 22-23=-2974/0, 20-22=-2974/0, 18-20=-1686/0, 17-18=-73/521
WEBS 3-33=-877/5, 3-31=-96/720, 31-32=0/1441, 32-35=0/1603, 4-35=-137/680, 16-17=-1/1638, 9-17=0/1793, 11-16=-276/374, 35-36=-1912/181, 36-37=-1897/183, 37-38=-1882/150, 8-38=-1913/149, 2-33=0/2473, 12-15=0/2656, 11-15=-509/26, 30-31=-1594/0, 29-30=0/1017, 27-29=-1153/0, 26-27=0/614, 25-26=-436/28, 16-18=-1489/0, 18-19=0/964, 19-20=-914/0, 20-21=0/646, 21-22=-227/0, 23-24=-59/57, 5-36=0/173, 6-37=-540/163, 7-37=-521/1295, 7-38=0/219, 5-35=-174/1658, 5-37=-541/1420

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-4-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
9) All plates are 3x5 MT20 unless otherwise indicated.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
12) Ceiling dead load (5.0 psf) on member(s). 35-36, 36-37, 37-38, 8-38, 8-9; Wall dead load (5.0psf) on member (s).32-35, 9-17

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13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 30-32, 27-30, 25-27, 23-25, 22-23, 20-22, 18-20, 17-18
14) Bearings are assumed to be: , Joint 14 SP No.2 .
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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 839 lb down and 71 lb up at 10-6-4, and 839 lb down and 71 lb up at 25-4-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
18) 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, 14-34=-20, 17-32=-30, 35-36=-10, 36-37=-10, 37-38=-10, 8-38=-10, 7-8=-60, 8-9=-70, 9-12=-60, 12-13=-60
   Drag: 32-35=-10, 9-17=-10
   Concentrated Loads (lb)
   Vert: 31=-450 (F), 16=-450 (F)

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	BSE	Attic Structural Gable	1	1	I66830102 Job Reference (optional)

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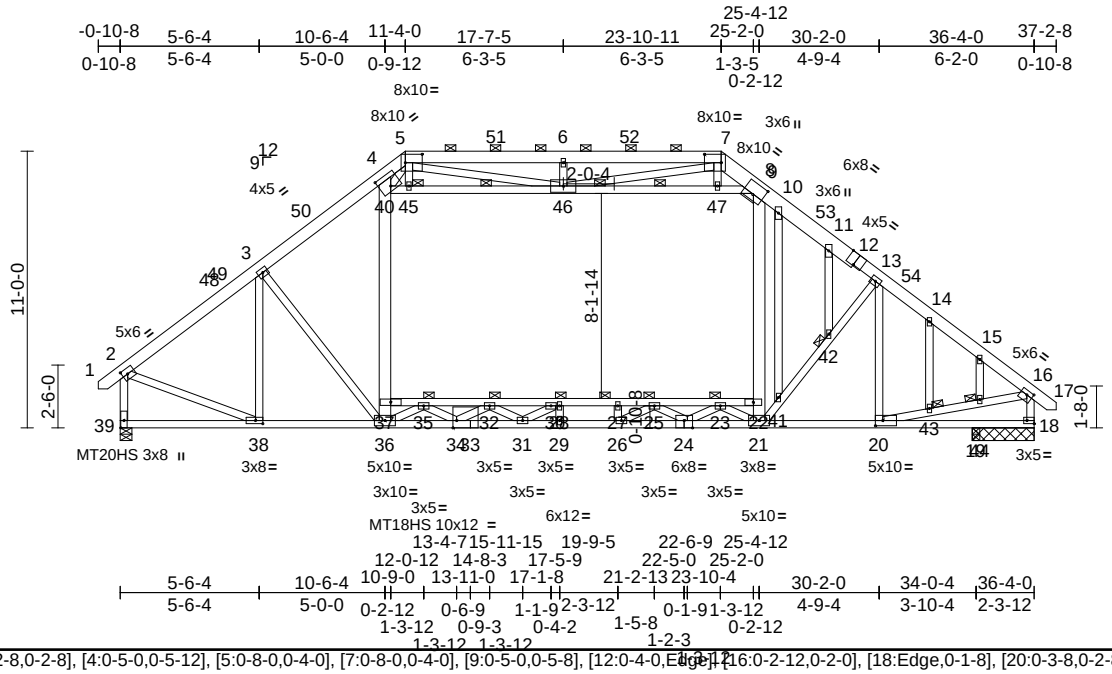


Scale = 1:91.6

Plate Offsets (X, Y): [2:0-2-8,0-2-8], [4:0-5-0,0-5-12], [5:0-8-0,0-4-0], [7:0-8-0,0-4-0], [9:0-5-0,0-5-8], [12:0-4-0,Edge], [16:0-2-12,0-2-0], [18:Edge,0-1-8], [20:0-3-8,0-2-8], [24:0-4-0,Edge], [33:0-1-12,Edge], [38:0-3-8,0-1-8]

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	0.45	Vert(LL)	-0.24	27-28	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.44	27-28	>928	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.09	18	n/a	n/a	MT18HS	244/190
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.19	22-37	>945	360		
BCDL	10.0										Weight: 380 lb	FT = 20%

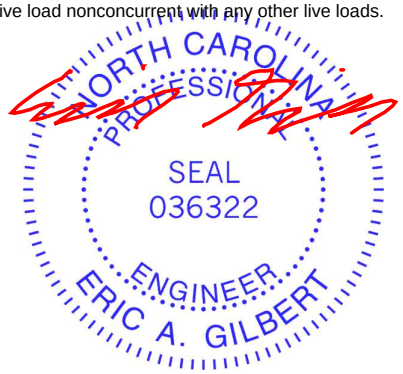
LUMBER
TOP CHORD 2x6 SP No.2 *Except* 7-12:2x8 SP 2400F 2.0E
BOT CHORD 2x4 SP No.1 *Except* 37-22:2x4 SP No.2, 33-24:2x4 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 4-36:2x6 SP 2400F 2.0E, 9-21:2x6 SP No.2, 40-8:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-3-6 oc purlins, except end verticals, and 2-0-0 oc purlins (4-2-1 max.): 5-7.
BOT CHORD Rigid ceiling directly applied or 3-0-0 oc bracing.
WEBS 1 Row at midpt 45-46, 8-46
JOINTS 1 Brace at Jt(s): 42, 43, 44, 35, 32, 30, 23, 25, 45, 46

REACTIONS (size) 18=2-5-8, 19=0-3-8, 39=0-5-8
Max Horiz 39=-289 (LC 12)
Max Grav 18=2001 (LC 48), 19=216 (LC 40), 39=2181 (LC 48)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-2486/0, 3-4=-2716/0, 4-5=-1818/267, 5-6=-2543/327, 6-7=-2543/327, 2-39=-2378/0, 16-18=-2308/0, 7-8=-1476/204, 8-9=-2247/27, 9-10=-2753/0, 10-11=-2795/0, 11-13=-2880/0, 13-14=-2667/0, 14-15=-2768/0, 15-16=-2753/0, 16-17=0/30
BOT CHORD 38-39=-243/290, 36-38=0/1922, 34-36=0/2448, 31-34=0/3985, 29-31=0/4747, 26-29=0/4747, 21-26=0/4206, 20-21=0/2168, 19-20=-22/80, 18-19=-22/80, 35-37=-126/1212, 32-35=-1358/32, 30-32=-2747/0, 28-30=-3050/0, 27-28=-3050/0, 25-27=-3050/0, 23-25=-1726/0, 22-23=-60/468
WEBS 3-38=-674/0, 3-36=-73/462, 36-37=0/794, 37-40=0/948, 4-40=-235/683, 21-22=0/886, 9-22=0/1032, 21-41=-229/348, 41-42=-224/342, 13-42=-214/360, 40-45=-1376/96, 45-46=-1363/99, 46-47=-1353/7, 8-47=-1378/4, 2-38=0/1963, 20-43=0/2144, 43-44=0/2128, 16-44=0/2158, 10-41=-14/30, 11-42=-26/0, 13-20=-489/0, 14-43=0/78, 15-44=-136/6, 35-36=-1624/0, 34-35=0/1033, 32-34=-1118/0, 31-32=0/574, 30-31=-425/27, 21-23=-1491/0, 23-24=0/962, 24-25=-947/0, 25-26=0/657, 26-27=-218/0, 28-29=-71/62, 5-45=0/169, 6-46=-550/165, 7-46=-493/1362, 7-47=0/188, 5-40=-216/1027, 5-46=-551/1425

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) -0-8-4 to 2-11-4, Interior (1) 2-11-4 to 7-8-8, Exterior(2R) 7-8-8 to 14-11-8, Interior (1) 14-11-8 to 20-3-3, Exterior(2R) 20-3-3 to 27-6-3, Interior (1) 27-6-3 to 33-4-12, Exterior(2E) 33-4-12 to 37-0-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 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.



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ENGINEERING BY TRENCO A MiTek Affiliate
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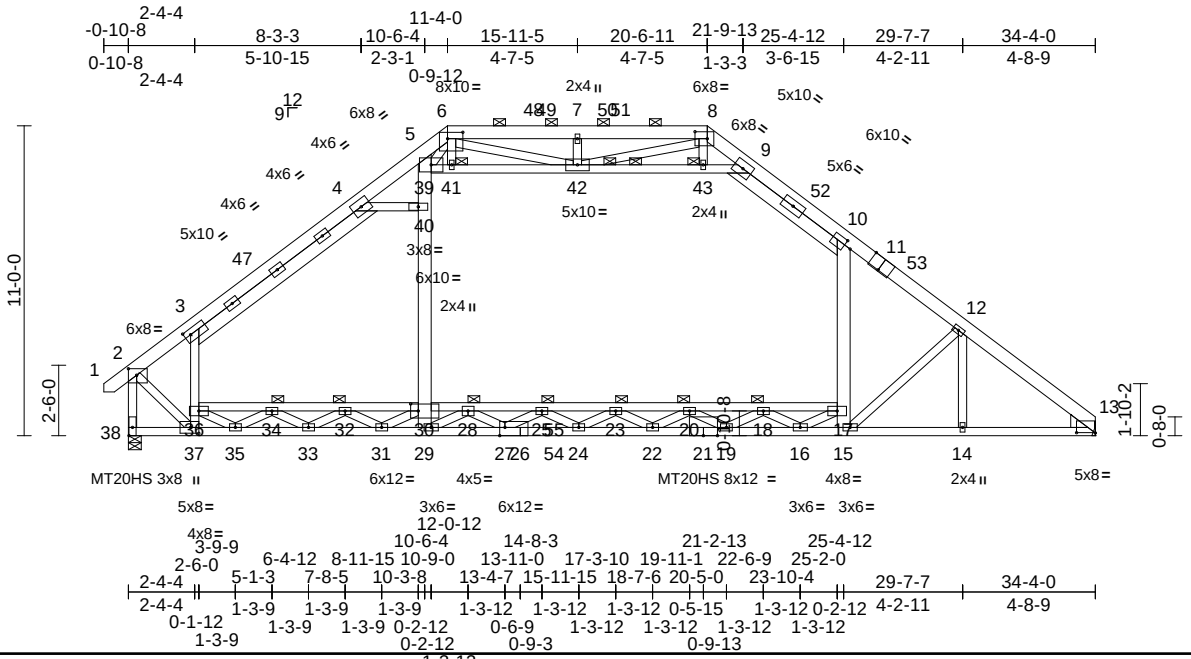
13) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
14) Ceiling dead load (5.0 psf) on member(s). 40-45, 45-46, 46-47, 8-47, 8-9; Wall dead load (5.0psf) on member (s).37-40, 9-22
15) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 35-37, 32-35, 30-32, 28-30, 27-28, 25-27, 23-25, 22-23
16) 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.
17) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
18) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	C	Attic Girder	6	1	I66830103 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:25 Page: 1

ID:VP5mnZE7ejtTka?ri?H4b3zEzov-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:81.8

Plate Offsets (X, Y): [2:0-3-8,0-2-12], [3:0-2-9,0-2-4], [6:0-6-8,0-2-12], [8:0-5-4,0-3-0], [10:0-2-15,0-2-4], [11:0-5-0,Edge], [13:0-8-0,0-0-2], [26:0-2-4,Edge], [30:0-3-4,0-3-0], [37:0-3-8,0-2-8]

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	0.88	Vert(LL)	-0.30	20-23	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.62	20-23	>663	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.09	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.15	17-30	>999	360		
BCDL	10.0										Weight: 352 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP 2400F 2.0E *Except* 6-8:2x6 SP No.2

BOT CHORD 2x4 SP 2400F 2.0E *Except* 30-17:2x4 SP No.1, 30-36:2x4 SP No.2

WEBS 2x4 SP No.3 *Except* 3-37:2x4 SP 2400F 2.0E, 10-15,9-10:2x6 SP No.2, 39-9,37-2,6-39:2x4 SP No.2, 5-29,4-3:2x6 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 (5-8-12 max.): 6-8.

BOT CHORD Rigid ceiling directly applied or 3-4-14 oc bracing.

WEBS 2 Rows at 1/3 pts 9-42

JOINTS 1 Brace at Jt(s): 34, 32, 28, 25, 23, 20, 18, 41, 42

REACTIONS (size) 13= Mechanical, 38=0-5-8
Max Horiz 38=-279 (LC 12)
Max Grav 13=2374 (LC 48), 38=2903 (LC 48)

FORCES (lb) - Maximum Compression/Maximum Tension

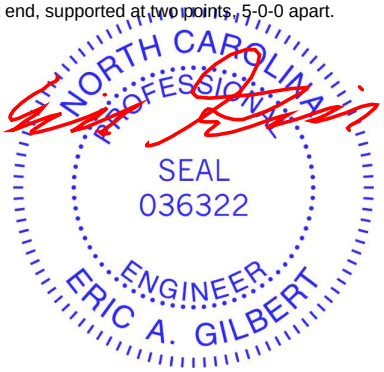
TOP CHORD 1-2=0/30, 2-3=-2438/0, 3-4=-3575/0, 4-5=-3555/0, 5-6=-3630/0, 6-7=-1533/210, 7-8=-1533/210, 8-9=-705/339, 9-10=-2782/0, 10-12=-3713/0, 12-13=-3972/0, 2-38=-3318/0

BOT CHORD 37-38=-268/249, 35-37=0/1703, 33-35=-14/1910, 31-33=-169/1691, 29-31=-617/676, 27-29=-350/1662, 24-27=0/3707, 22-24=0/4939, 19-22=0/5057, 16-19=0/4364, 15-16=0/2634, 14-15=0/3089, 13-14=0/3089, 28-30=0/3363, 25-28=-643/1057, 23-25=-2254/0, 20-23=-2885/0, 18-20=-2503/0, 17-18=-1075/11, 34-36=0/1039, 32-34=-69/1031, 30-32=0/1790

WEBS 36-37=-1758/0, 3-36=-1778/0, 15-17=0/573, 10-17=0/1305, 12-15=-654/179, 12-14=-39/120, 39-41=-1164/321, 41-42=-1153/323, 42-43=-3294/0, 9-43=-3324/0, 2-37=0/3270, 29-30=0/1109, 30-40=0/1932, 39-40=0/1951, 5-39=-434/222, 4-40=0/615, 35-36=-391/73, 34-35=-458/0, 33-34=-165/47, 32-33=0/301, 31-32=-794/0, 30-31=0/886, 28-29=-1988/0, 27-28=0/1514, 25-27=-1410/0, 24-25=0/925, 23-24=-705/0, 22-23=-44/355, 20-22=-220/133, 19-20=-473/83, 18-19=0/725, 16-18=-1322/0, 16-17=0/1270, 6-41=0/113, 7-42=-401/124, 8-42=0/1731, 8-43=0/234, 6-39=0/2534, 6-42=-1165/217

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-8-4 to 2-10-1, Interior (1) 2-10-1 to 7-9-11, Exterior(2R) 7-9-11 to 14-10-5, Interior (1) 14-10-5 to 17-0-6, Exterior(2R) 17-0-6 to 24-0-15, Interior (1) 24-0-15 to 30-9-11, Exterior(2E) 30-9-11 to 34-4-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) 200.0lb AC unit load placed on the bottom chord, 17-7-8 from left end, supported at two points, 5-0-0 apart.



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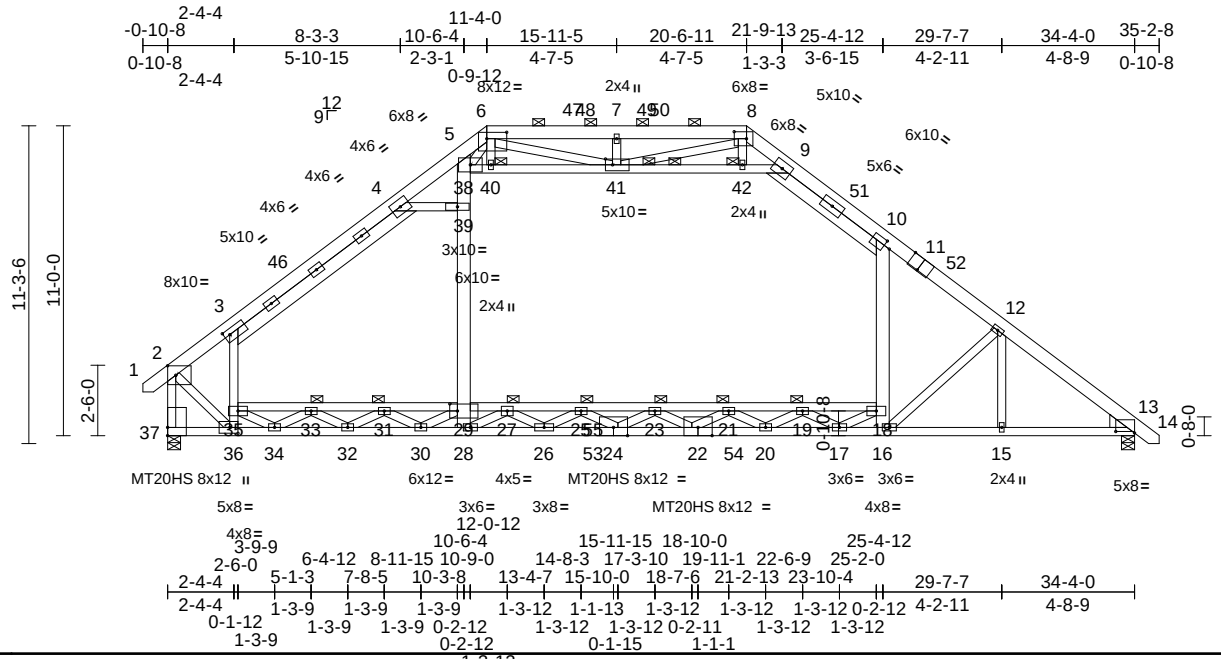
7) Provide adequate drainage to prevent water ponding.
8) All plates are MT20 plates unless otherwise indicated.
9) All plates are 3x5 MT20 unless otherwise indicated.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has 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, 39-41, 41-42, 42-43, 9-43, 4-40; Wall dead load (5.0psf) on member(s).3-36, 10-17, 30-40, 39-40
13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 28-30, 25-28, 23-25, 20-23, 18-20, 17-18, 34-36, 32-34, 30-32
14) Refer to girder(s) for truss to truss connections.
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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	C1	Attic Girder	1	1	I66830104 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:25 Page: 1

ID:VP5mnZE7ejtTka?ri?H4b3zEzov-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:81.8

Plate Offsets (X, Y): [2:0-3-8,0-4-0], [3:0-2-5,0-2-4], [6:0-8-8,0-2-12], [8:0-5-4,0-3-0], [10:0-2-11,0-2-4], [11:0-5-0,Edge], [13:0-8-0,0-0-10], [29:0-3-4,0-3-0], [36:0-3-8,0-2-8], [41:0-3-0,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.88	Vert(LL)	-0.31	21-23	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.63	21-23	>647	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.10	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.16	18-29	>999	360		
BCDL	10.0										Weight: 354 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP 2400F 2.0E *Except* 6-8:2x6 SP No.2

BOT CHORD 2x4 SP No.1 *Except* 29-35:2x4 SP No.2, 22-13:2x4 SP 2400F 2.0E

WEBS 2x4 SP No.3 *Except* 3-36:2x4 SP 2400F 2.0E, 10-16,9-10:2x6 SP No.2, 38-9,36-2,6-38:2x4 SP No.2, 5-28,4-3:2x6 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 (5-8-5 max.): 6-8.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

WEBS 2 Rows at 1/3 pts 9-41

JOINTS 1 Brace at Jt(s): 33, 31, 27, 25, 23, 21, 19, 40, 41

REACTIONS (size) 13=0-5-8, 37=0-5-8
Max Horiz 37=-287 (LC 12)
Max Grav 13=2408 (LC 48), 37=2907 (LC 48)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/30, 2-3=-2422/0, 3-4=-3593/0, 4-5=-3595/0, 5-6=-3738/0, 6-7=-1558/207, 7-8=-1558/207, 8-9=-709/337, 9-10=-2792/0, 10-12=-3713/0, 12-13=-3968/0, 13-14=0/25, 2-37=-3294/0

BOT CHORD 36-37=-272/257, 34-36=0/1687, 32-34=0/1887, 30-32=-157/1611, 28-30=-640/578, 26-28=-350/1520, 20-26=0/4997, 17-20=0/4304, 16-17=0/2610, 15-16=0/3090, 13-15=0/3090, 27-29=0/3475, 25-27=-579/1088, 23-25=-2080/0, 21-23=-2824/0, 19-21=-2416/0, 18-19=-1024/46, 33-35=0/1014, 31-33=-31/1028, 29-31=0/1858

WEBS 35-36=-1831/0, 3-35=-1822/0, 16-18=0/577, 10-18=0/1295, 12-16=-644/182, 12-15=-43/118, 38-40=-1123/344, 40-41=-1111/346, 41-42=-3301/0, 9-42=-3331/0, 2-36=0/3269, 28-29=0/1108, 29-39=0/1958, 38-39=0/1976, 5-38=-479/205, 4-39=0/645, 34-35=-333/71, 33-34=-416/0, 32-33=-193/31, 31-32=0/327, 30-31=-826/0, 29-30=0/933, 27-28=-2008/0, 26-27=0/1536, 25-26=-1438/0, 24-25=0/863, 23-24=-765/0, 22-23=-33/412, 21-22=-178/135, 20-21=-496/54, 19-20=0/713, 17-19=-1307/0, 17-18=0/1239, 6-40=-1/113, 7-41=-400/124, 8-41=0/1755, 8-42=0/234, 6-38=0/2612, 6-41=-1194/199

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) -0-8-4 to 2-10-1, Interior (1) 2-10-1 to 7-9-11, Exterior(2R) 7-9-11 to 14-10-5, Interior (1) 14-10-5 to 17-0-6, Exterior(2R) 17-0-6 to 24-0-15, Interior (1) 24-0-15 to 31-5-15, Exterior(2E) 31-5-15 to 35-0-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 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.

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12) Ceiling dead load (5.0 psf) on member(s). 3-4, 9-10, 38-40, 40-41, 41-42, 9-42, 4-39; Wall dead load (5.0psf) on member(s).3-35, 10-18, 29-39, 38-39
13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 27-29, 25-27, 23-25, 21-23, 19-21, 18-19, 33-35, 31-33, 29-31
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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	CGE	Attic Structural Gable	1	1	I66830105 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 E May 9 2024 Print: 8.730 E May 9 2024 MiTek Industries, Inc. Mon Jul 15 16:46:10 Page: 1

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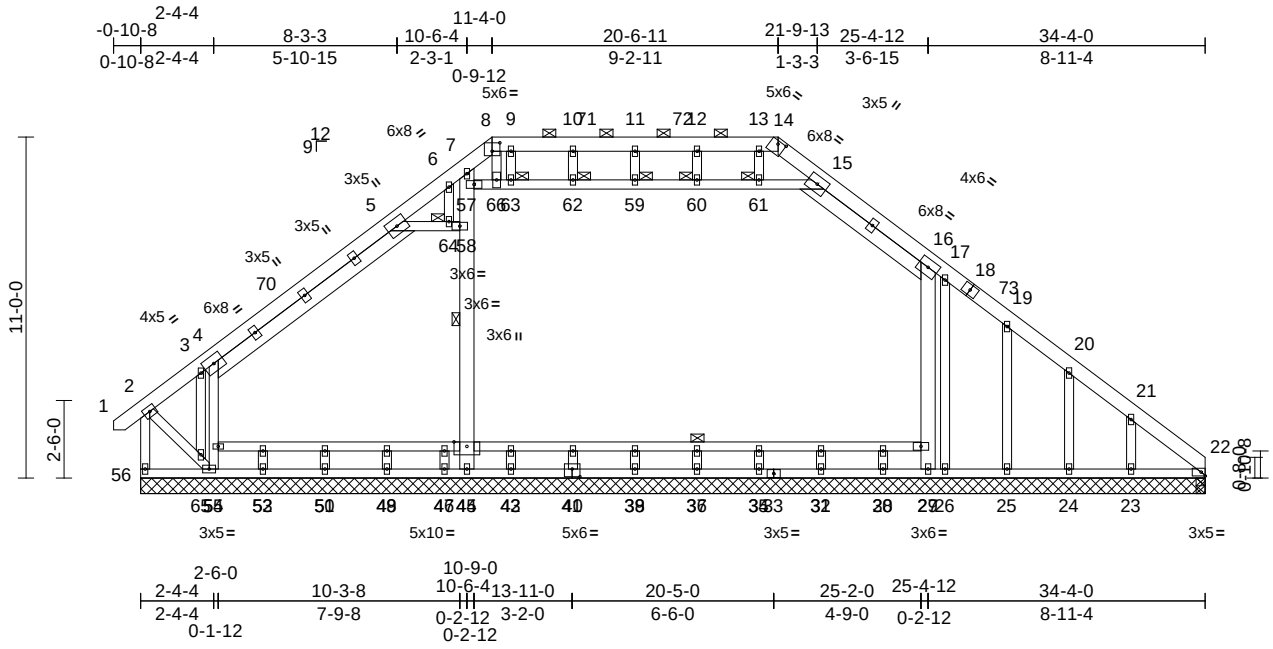

Scale = 1:74.3

Plate Offsets (X, Y): [8:0-3-0,0-3-4], [14:0-3-0,0-1-3], [41:0-3-0,0-3-0]

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	0.48	Vert(LL)	0.00	16	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	0.00	16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.03	22	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 330 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x6 SP No.2 *Except* 4-55,56-2,8-66:2x4 SP No.3, 57-15,55-2,5-58:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-8-15 oc purlins, except end verticals, and 2-0-0 oc purlins (5-10-12 max.): 8-14.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 55-56.
WEBS 1 Row at midpt 45-57
JOINTS 1 Brace at Jt(s): 59, 60, 61, 62, 63, 64

REACTIONS All bearings 34-4-0.

(lb) - Max Horiz 56=-279 (LC 12)
Max Uplift All uplift 100 (lb) or less at joint(s) 22, 24, 25, 26, 27, 44, 67 except 23=-112 (LC 15), 55=-325 (LC 14), 56=-281 (LC 10)
Max Grav All reactions 250 (lb) or less at joint (s) 23, 24, 25, 26, 28, 43, 47 except 22=571 (LC 23), 27=673 (LC 46), 31=264 (LC 21), 35=260 (LC 21), 36=261 (LC 21), 38=260 (LC 21), 41=264 (LC 21), 44=619 (LC 44), 49=260 (LC 21), 51=263 (LC 21), 53=253 (LC 21), 55=444 (LC 12), 56=1042 (LC 22), 67=571 (LC 23)

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

TOP CHORD 2-3=-709/216, 3-4=-671/218, 4-70=-911/166, 5-70=-795/196, 5-6=-815/270, 6-7=-721/272, 7-8=-1301/263, 8-9=-1088/255, 9-10=-1088/255, 10-71=-1088/255, 11-71=-1088/255, 11-72=-1088/255, 12-72=-1088/255, 12-13=-1088/255, 13-14=-1088/255, 14-15=-1188/257, 15-16=-923/240, 16-17=-635/173, 17-18=-691/141, 18-73=-701/136, 19-73=-722/130, 19-20=-764/77, 20-21=-741/80, 21-22=-775/96, 2-56=-1018/289
BOT CHORD 53-55=-67/524, 51-53=-67/524, 49-51=-67/524, 47-49=-67/524, 44-47=-67/524, 43-44=-61/484, 41-43=-61/484, 38-41=-59/486, 36-38=-59/486, 35-36=-59/486, 33-35=-59/486, 31-33=-59/486, 28-31=-59/486, 27-28=-59/486, 26-27=-67/586, 25-26=-67/586, 24-25=-67/586, 23-24=-67/586, 22-23=-67/586
WEBS 54-55=-674/187, 4-54=-622/225, 27-29=-663/25, 16-29=-649/89, 57-66=-221/396, 63-66=-188/487, 62-63=-188/487, 59-62=-188/487, 59-60=-188/487, 60-61=-188/487, 15-61=-189/487, 2-65=-233/809, 55-65=-234/816, 44-45=-603/45, 45-58=-557/117, 57-58=-492/141, 7-57=-639/192, 9-63=-456/94, 8-66=-139/825

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-8-4 to 2-10-1, Exterior(2N) 2-10-1 to 7-9-11, Corner(3R) 7-9-11 to 14-10-5, Exterior (2N) 14-10-5 to 17-0-6, Corner(3R) 17-0-6 to 24-0-15, Exterior(2N) 24-0-15 to 30-9-11, Corner(3E) 30-9-11 to 34-4-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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.

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A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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). 4-5, 15-16, 57-66, 63-66, 62-63, 59-62, 59-60, 60-61, 15-61, 5-64, 58-64; Wall dead load (5.0psf) on member(s).4-54, 16-29, 45-58, 57-58
13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 42-45, 40-42, 39-40, 37-39, 34-37, 32-34, 30-32, 29-30, 52-54, 50-52, 48-50, 46-48, 45-46
14) One RT4 MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 56, 27, 44, 26, 25, 24, 23, and 22. This connection is for uplift only and does not consider lateral forces.
15) One RT5 MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 55. This connection is for uplift only and does not consider lateral forces.
16) 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.
17) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
18) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	CGR	Attic Girder	1	2	I66830106 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:26 Page: 1

ID:VP5mnZE7ejtTka?ri?H4b3zEzov-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

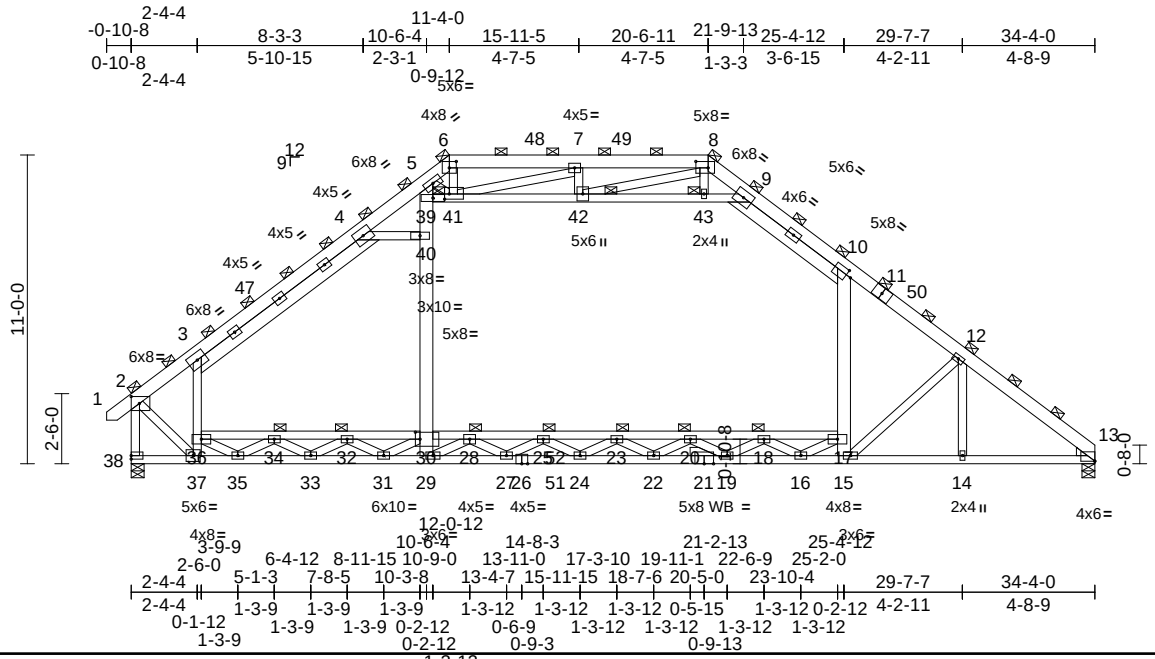


Plate Offsets (X, Y): [2:0-3-8,0-3-0], [6:0-3-0,0-2-12], [8:0-5-4,0-2-12], [10:0-2-3,0-2-4], [13:Edge,0-0-1], [30:0-2-0,0-3-0], [41:0-2-0,0-2-4]

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	0.72	Vert(LL)	-0.25	20-23	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.50	20-23	>814	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.97	Horz(CT)	0.09	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.13	17-30	>999	360		
BCDL	10.0										Weight: 703 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP 2400F 2.0E *Except* 6-8:2x6 SP No.2

BOT CHORD 2x4 SP No.1 *Except* 30-17,30-36:2x4 SP No.2

WEBS 2x4 SP No.3 *Except* 3-37,39-9:2x4 SP No.2, 10-15,5-29,9-10:2x6 SP No.2, 4-3:2x6 SP 2400F 2.0E

OTHERS 2x4 SP No.3

WEDGE Right: 2x4 SP No.3

BRACING

TOP CHORD 2-0-0 oc purlins (6-0-0 max.), except end verticals
(Switched from sheeted: Spacing > 2-8-0).

BOT CHORD Rigid ceiling directly applied or 5-11-8 oc bracing.

JOINTS 1 Brace at Jt(s): 6, 8, 39, 2, 34, 32, 28, 25, 23, 20, 18, 42, 43

REACTIONS (size) 13=0-5-8, 38=0-5-8
Max Horiz 38=-418 (LC 10)
Max Grav 13=3509 (LC 44), 38=4306 (LC 44)

FORCES (lb) - Maximum Compression/Maximum Tension

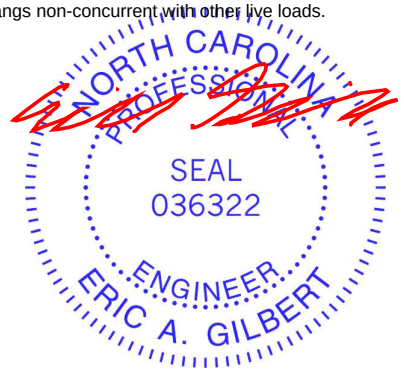
TOP CHORD 1-2=0/45, 2-3=-3309/0, 3-4=-4865/0, 4-5=-5121/0, 5-6=-3061/0, 6-7=-2743/0, 7-8=-2413/257, 8-9=-1110/507, 9-10=-3681/0, 10-12=-4974/0, 12-13=-5329/0, 2-38=-4537/0

BOT CHORD 37-38=-404/377, 35-37=0/2702, 33-35=0/2893, 31-33=-264/2425, 29-31=-1050/877, 27-29=-557/2229, 24-27=0/5186, 22-24=0/6989, 19-22=0/7189, 16-19=0/5963, 15-16=0/3525, 14-15=0/4163, 13-14=0/4163, 28-30=0/5097, 25-28=-816/1667, 23-25=-3012/0, 20-23=-3966/0, 18-20=-3433/0, 17-18=-1490/108, 34-36=-58/1388, 32-34=-153/1514, 30-32=0/2835

WEBS 36-37=-2476/0, 3-36=-2500/0, 15-17=0/804, 10-17=0/1901, 12-15=-980/277, 12-14=-38/192, 39-41=-278/1862, 41-42=-2733/0, 42-43=-4588/0, 9-43=-4627/0, 2-37=0/4599, 29-30=0/1615, 30-40=0/2900, 39-40=0/2926, 5-39=0/2941, 4-40=0/1038, 35-36=-642/127, 34-35=-597/1, 33-34=-332/55, 32-33=0/550, 31-32=-1286/0, 30-31=0/1444, 28-29=-2909/0, 27-28=0/2191, 25-27=-2054/0, 24-25=0/1323, 23-24=-1057/0, 22-23=-70/523, 20-22=-342/184, 19-20=-685/136, 18-19=0/990, 16-18=-1886/0, 16-17=0/1835, 6-41=0/1518, 7-42=-662/9, 8-42=0/2528, 8-43=0/301, 5-41=-3294/0, 7-41=-513/1410

NOTES

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.



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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, 39-41, 41-42, 42-43, 9-43, 4-40; Wall dead load (5.0psf) on member(s).3-36, 10-17, 30-40, 39-40
14) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 28-30, 25-28, 23-25, 20-23, 18-20, 17-18, 34-36, 32-34, 30-32
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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	CGR1	Attic Girder	1	2	I66830107 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:27 Page: 1
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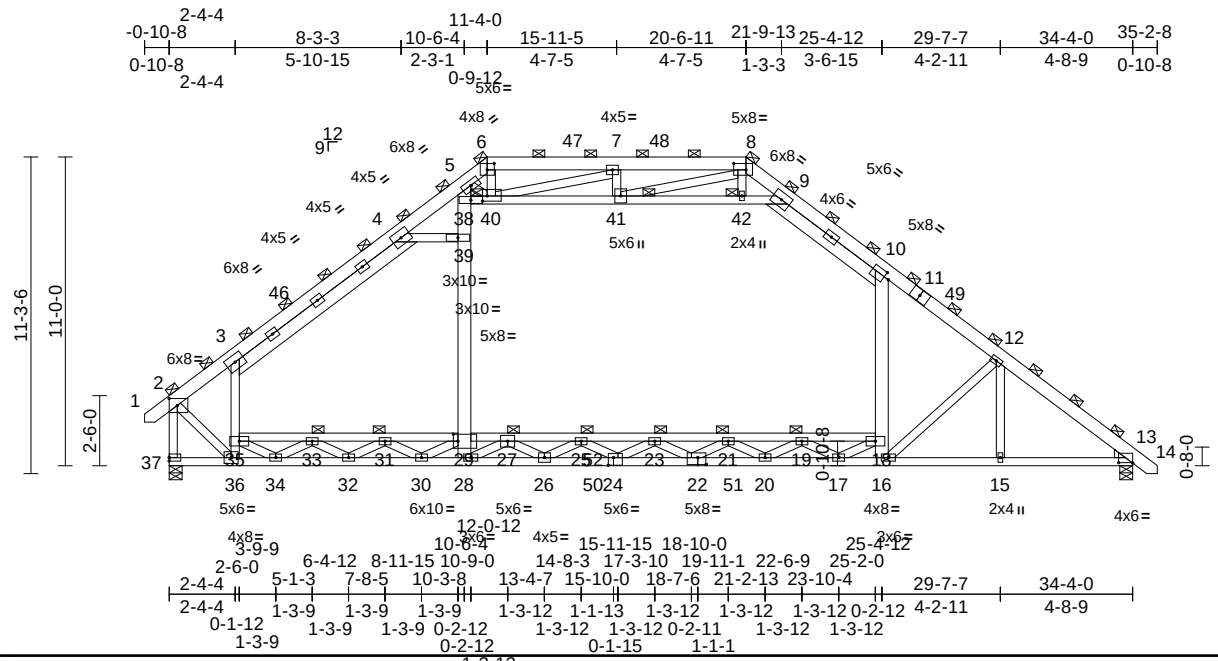


Scale = 1:82.1

Plate Offsets (X, Y): [2:0-3-8,0-3-0], [6:0-3-0,0-2-12], [8:0-5-4,0-2-12], [10:0-2-8,0-2-4], [13:0-6-0,0-0-3], [22:0-3-8,0-3-0], [24:0-2-4,0-3-4], [29:0-2-0,0-3-0], [40:0-2-0,0-2-4]

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	0.73	Vert(LL)	-0.25	21-23	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.51	21-23	>811	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.97	Horz(CT)	0.09	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.13	18-29	>999	360		
BCDL	10.0										Weight: 705 lb	FT = 20%

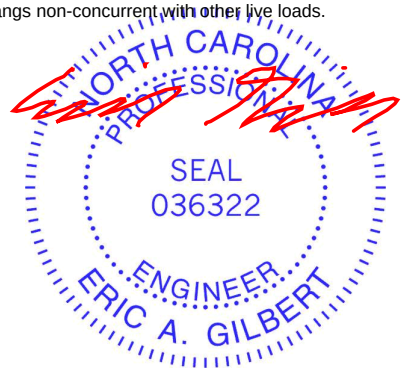
LUMBER
TOP CHORD 2x6 SP 2400F 2.0E *Except* 6-8:2x6 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 22-13,24-22:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 3-36,38-9:2x4 SP No.2, 10-16,5-28,9-10:2x6 SP No.2, 4-3:2x6 SP 2400F 2.0E
WEDGE Right: 2x4 SP No.3

BRACING
TOP CHORD 2-0-0 oc purlins (6-0-0 max.), except end verticals
(Switched from sheeted: Spacing > 2-8-0).
BOT CHORD Rigid ceiling directly applied or 5-11-9 oc bracing.
JOINTS 1 Brace at Jt(s): 6, 8, 38, 2, 33, 31, 27, 25, 23, 21, 19, 41, 42

REACTIONS (size) 13=0-5-8, 37=0-5-8
Max Horiz 37=-430 (LC 10)
Max Grav 13=3561 (LC 44), 37=4311 (LC 44)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/45, 2-3=-3297/0, 3-4=-4876/0, 4-5=-5145/0, 5-6=-3097/0, 6-7=-2784/0, 7-8=-2425/248, 8-9=-1113/506, 9-10=-3686/0, 10-12=-4971/0, 12-13=-5326/0, 13-14=0/37, 2-37=-4517/0
BOT CHORD 36-37=-409/389, 34-36=0/2695, 32-34=0/2892, 30-32=-242/2387, 28-30=-1050/823, 26-28=-540/2153, 20-26=0/7168, 17-20=0/5930, 16-17=0/3509, 15-16=0/4157, 13-15=0/4157, 27-29=0/5143, 25-27=-770/1668, 23-25=-2863/0, 21-23=-3961/0, 19-21=-3388/0, 18-19=-1469/130, 33-35=-44/1352, 31-33=-124/1496, 29-31=0/2856
WEBS 35-36=-2539/0, 3-35=-2533/0, 16-18=0/800, 10-18=0/1892, 12-16=-972/279, 12-15=-36/193, 38-40=-254/1934, 40-41=-2722/0, 41-42=-4594/0, 9-42=-4633/0, 2-36=0/4596, 28-29=0/1614, 29-39=0/2916, 38-39=0/2942, 5-38=0/2958, 4-39=0/1060, 34-35=-584/119, 33-34=-565/13, 32-33=-350/44, 31-32=0/565, 30-31=-1305/0, 29-30=0/1474, 27-28=-2923/0, 26-27=0/2204, 25-26=-2076/0, 24-25=0/1233, 23-24=-1149/0, 22-23=-67/591, 21-22=-279/185, 20-21=-709/104, 19-20=0/981, 17-19=-1875/0, 17-18=0/1821, 6-40=0/1534, 7-40=-501/1431, 7-41=-667/9, 8-41=0/2545, 8-42=0/301, 5-40=-3335/0

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.



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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, 38-40, 40-41, 41-42, 9-42, 4-39; Wall dead load (5.0psf) on member(s).3-35, 10-18, 29-39, 38-39
14) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 27-29, 25-27, 23-25, 21-23, 19-21, 18-19, 33-35, 31-33, 29-31
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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	D	Common	4	1	I66830108 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:27 Page: 1
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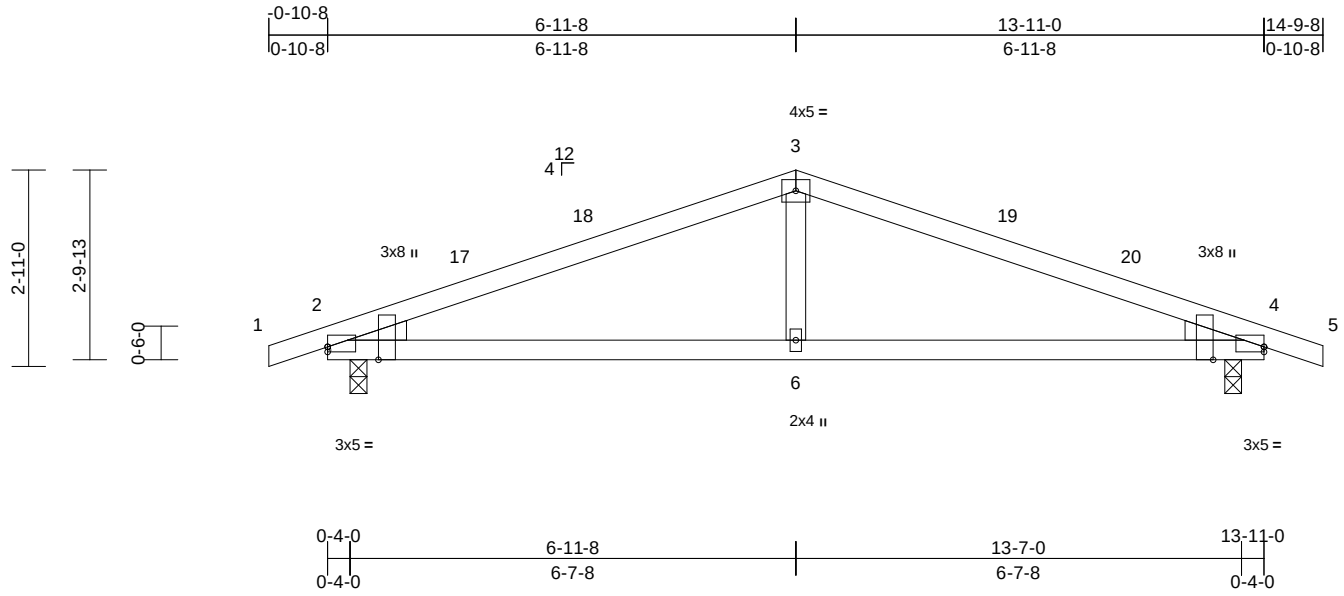

Scale = 1:34.2

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 8-6-15 oc bracing.

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

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-901/594, 3-4=-901/594, 4-5=0/17
BOT CHORD 2-6=-458/775, 4-6=-458/775
WEBS 3-6=-116/268

NOTES
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	DGE	Common Supported Gable	1	1	I66830109 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:28 Page: 1
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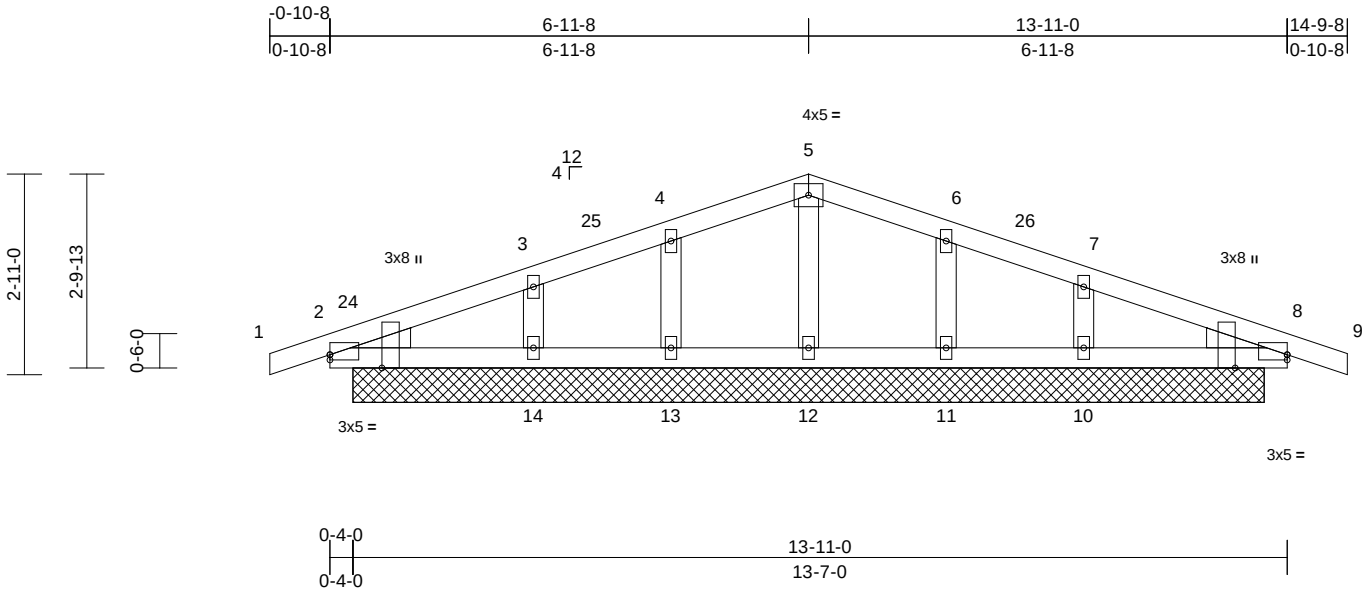

Scale = 1:33.5

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

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

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

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

REACTIONS (size) 2=13-3-0, 8=13-3-0, 10=13-3-0, 11=13-3-0, 12=13-3-0, 13=13-3-0, 14=13-3-0, 18=13-3-0, 21=13-3-0
Max Horiz 2=41 (LC 14), 18=41 (LC 14)
Max Uplift 2=-1 (LC 21), 8=-71 (LC 36), 10=-44 (LC 15), 11=-35 (LC 11), 12=-47 (LC 10), 13=-23 (LC 14), 14=-75 (LC 10), 18=-1 (LC 21), 21=-71 (LC 36)
Max Grav 2=0 (LC 10), 8=128 (LC 22), 10=302 (LC 22), 11=205 (LC 22), 12=420 (LC 21), 13=123 (LC 21), 14=437 (LC 21), 18=0 (LC 10), 21=128 (LC 22)

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

NOTES
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 2-1-8, 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
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 8, 12, 13, 14, 11, 10, and 8. This connection is for uplift only and does not consider lateral forces.
12) Non Standard bearing condition. Review required.
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	E	Common	3	1	I66830110
					Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:28 Page: 1

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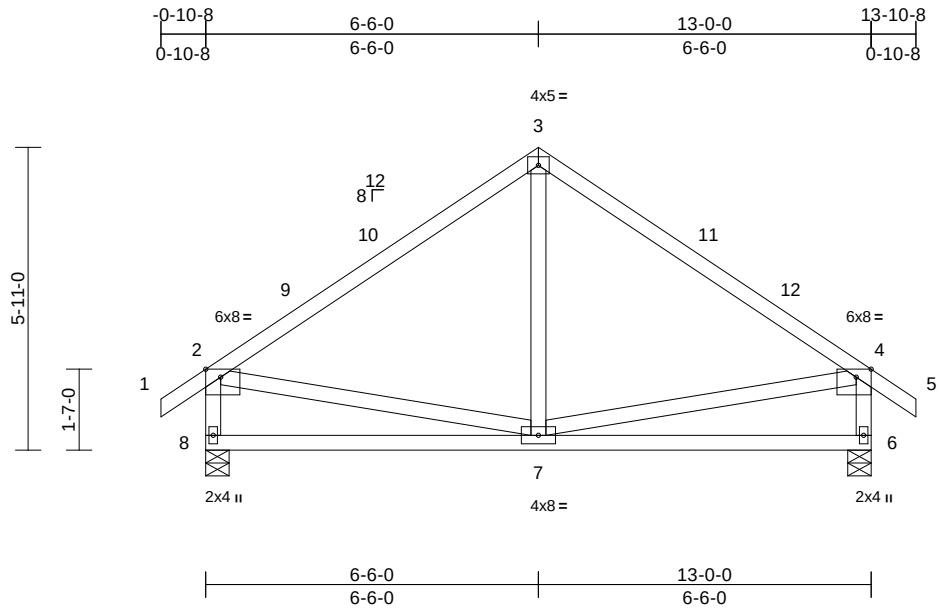

Scale = 1:45

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	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.07	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 76 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 5-11-7 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=162 (LC 13)
Max Uplift 6=-59 (LC 15), 8=-59 (LC 14)
Max Grav 6=655 (LC 22), 8=655 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/34, 2-3=-567/121, 3-4=-567/121, 4-5=0/34, 2-8=-597/164, 4-6=-597/156
BOT CHORD 7-8=-169/273, 6-7=-87/239
WEBS 3-7=0/218, 2-7=-37/271, 4-7=-40/271

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 3-6-0, Exterior(2R) 3-6-0 to 9-6-0, Interior (1) 9-6-0 to 10-10-8, Exterior(2E) 10-10-8 to 13-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) 8 and 6. 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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	EGE	Common Supported Gable	1	1	I66830111 Job Reference (optional)

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

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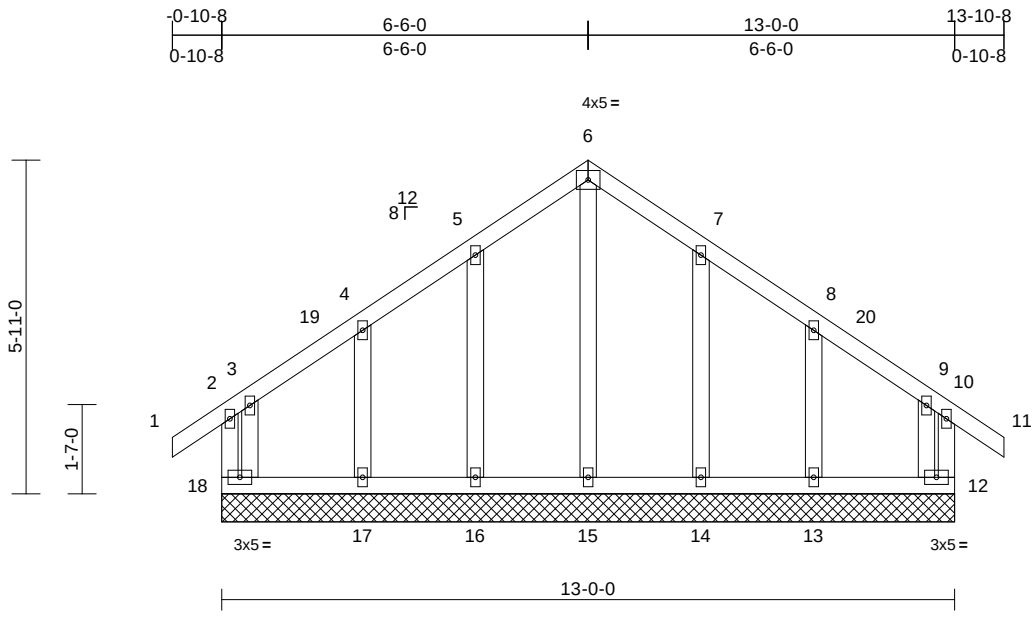

Scale = 1:40.9

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	0.06	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 82 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 12=13-0-0, 13=13-0-0, 14=13-0-0, 15=13-0-0, 16=13-0-0, 17=13-0-0, 18=13-0-0
Max Horiz 18=162 (LC 13)
Max Uplift 12=-59 (LC 14), 13=-94 (LC 15), 14=-49 (LC 15), 16=-48 (LC 14), 17=-95 (LC 14), 18=-61 (LC 15)
Max Grav 12=180 (LC 25), 13=233 (LC 22), 14=257 (LC 22), 15=164 (LC 28), 16=257 (LC 21), 17=233 (LC 21), 18=187 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	2-18=-180/131, 1-2=0/34, 2-3=-72/65, 3-4=-98/117, 4-5=-88/195, 5-6=-117/268, 6-7=-118/268, 7-8=-85/199, 8-9=-91/104, 9-10=-69/138, 10-11=0/34, 10-12=-174/228
BOT CHORD	17-18=-77/80, 16-17=-77/80, 15-16=-77/80, 14-15=-77/80, 13-14=-77/80, 12-13=-77/80
WEBS	6-15=-217/35, 5-16=-220/108, 4-17=-184/116, 3-18=-208/163, 7-14=-220/99, 8-13=-184/148, 9-12=-191/145

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 2-1-8, Exterior(2N) 2-1-8 to 3-6-0, Corner(3R) 3-6-0 to 9-6-0, Exterior(2N) 9-6-0 to 10-10-8, Corner(3E) 10-10-8 to 13-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 61 lb uplift at joint 18, 59 lb uplift at joint 12, 48 lb uplift at joint 16, 95 lb uplift at joint 17, 49 lb uplift at joint 14 and 94 lb uplift at joint 13.
14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	EGR	Common Girder	1	**2**	I66830112 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:28 Page: 1
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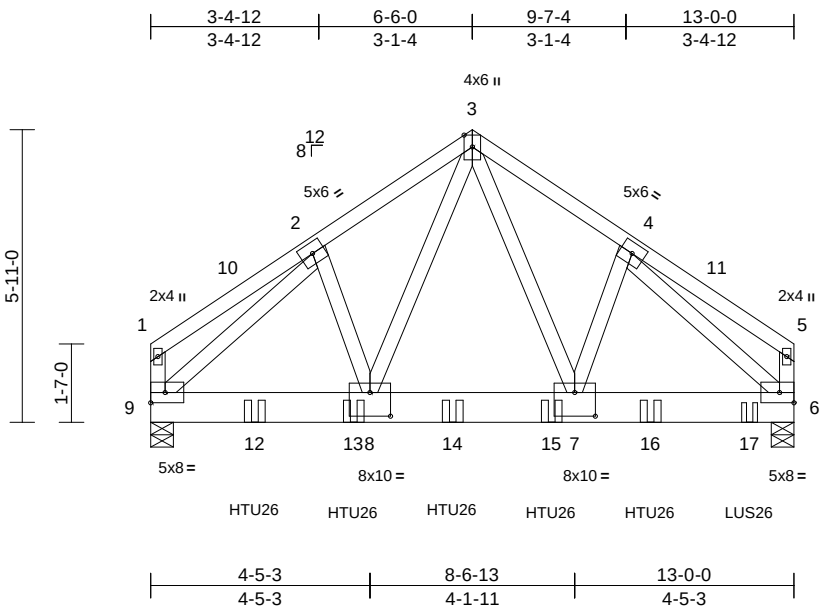

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Plate Offsets (X, Y): [7:0-5-0,0-5-12], [8:0-5-0,0-5-12]

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	0.73	Vert(LL)	-0.04	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.29	Vert(CT)	-0.08	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.62	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 207 lb	FT = 20%

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

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

REACTIONS (size) 6=0-5-8, 9=0-5-8
Max Horiz 9=-141 (LC 8)
Max Uplift 6=-147 (LC 13), 9=-280 (LC 12)
Max Grav 6=4843 (LC 6), 9=5028 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-570/77, 2-3=-5106/355, 3-4=-5008/333, 4-5=-537/65, 1-9=-422/70, 5-6=-402/63
BOT CHORD 8-9=-236/3869, 7-8=-147/3149, 6-7=-189/3793
WEBS 3-7=-175/2766, 4-7=-93/1126, 3-8=-226/2995, 2-8=-96/1143, 2-9=-5030/256, 4-6=-4967/244

NOTES
1) 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.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for 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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9 and 6. This connection is for uplift only and does not consider lateral forces.
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.
11) Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-1-4 from the left end to 10-1-4 to connect truss(es) to back face of bottom chord.
12) Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent at 12-1-4 from the left end to connect truss(es) to back face of bottom chord.
13) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-60, 3-5=-60, 6-9=-20
Concentrated Loads (lb)
Vert: 12=-1489 (B), 13=-1489 (B), 14=-1489 (B), 15=-1489 (B), 16=-1489 (B), 17=-452 (B)

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	F	Monopitch	6	1	I66830113 Job Reference (optional)

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

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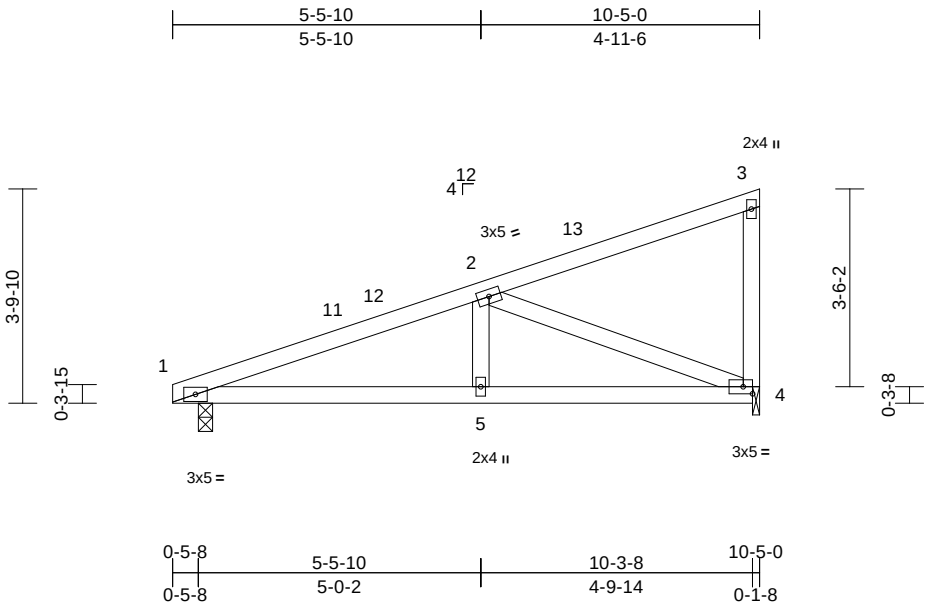

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	0.03	5-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.04	5-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.42	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 8-9-13 oc bracing.

REACTIONS (size) 1=0-3-0, 4=0-1-8
Max Horiz 1=138 (LC 13)
Max Uplift 1=-152 (LC 10), 4=-158 (LC 10)
Max Grav 1=493 (LC 21), 4=518 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-857/455, 2-3=-101/63, 3-4=-181/102
BOT CHORD 1-5=-436/775, 4-5=-436/775
WEBS 2-5=-89/212, 2-4=-805/521

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 7-3-4, Exterior(2E) 7-3-4 to 10-3-4 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Bearings are assumed to be: , Joint 4 SP No.3 .
7) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 4. This connection is for uplift only and does not consider lateral forces.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

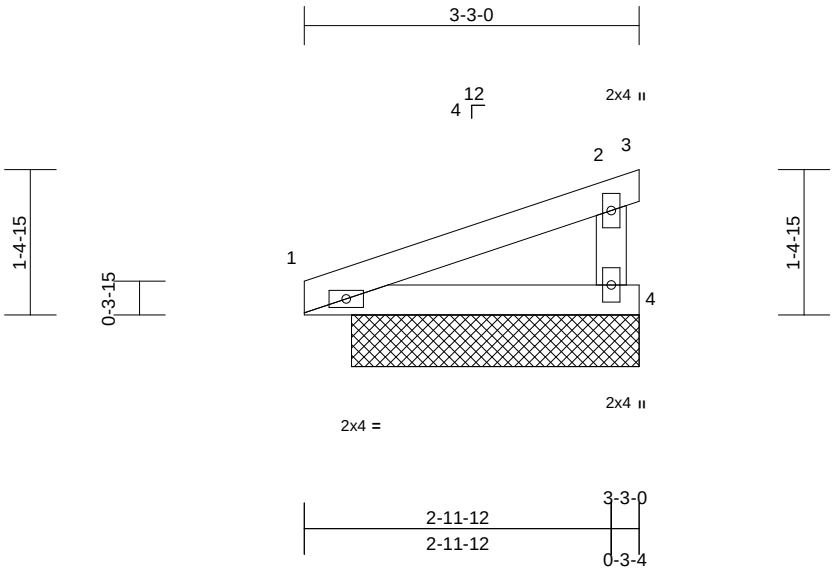
July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	F1GE	Monopitch Supported Gable	1	1	I66830114 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:29 ID:05Rb2nqdzWbg0FxJai2r9FzF_oh-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22.4

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	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	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 3-3-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-9-8, 3=2-9-8, 4=2-9-8, 7=2-9-8
Max Horiz 1=42 (LC 11), 7=42 (LC 11)
Max Uplift 1=-13 (LC 10), 3=-132 (LC 20), 4=-68 (LC 14), 7=-13 (LC 10)
Max Grav 1=167 (LC 20), 3=36 (LC 14), 4=297 (LC 20), 7=167 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-28/47, 2-3=-49/41, 2-4=-265/263
BOT CHORD 1-4=-39/40

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 studs spaced at 2-0-0 oc.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1, 132 lb uplift at joint 3 and 13 lb uplift at joint 1.
9) 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.
10) Non Standard bearing condition. Review required.
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	FGE	Monopitch Supported Gable	1	1	I66830115 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:29 Page: 1

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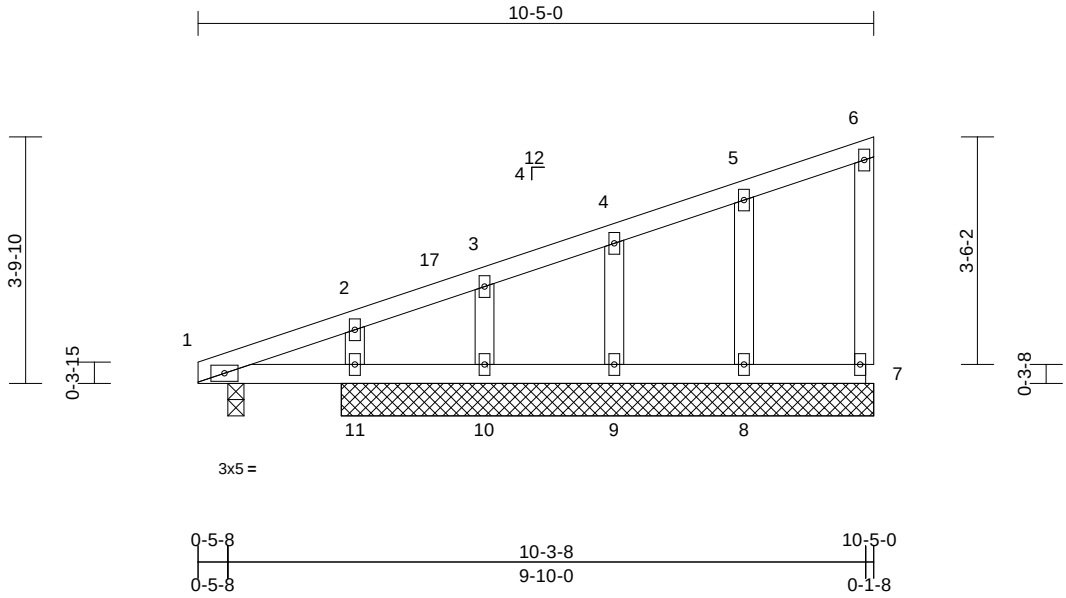

Scale = 1:35.5

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	0.16	Vert(LL)	0.00	11-16	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	0.00	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	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	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) 1=0-3-0, 7=8-2-8, 8=8-2-8, 9=8-2-8, 10=8-2-8, 11=8-2-8
Max Horiz 1=138 (LC 13)
Max Uplift 7=-12 (LC 11), 8=-34 (LC 10), 9=-35 (LC 14), 10=-30 (LC 10), 11=-49 (LC 14)
Max Grav 1=107 (LC 26), 7=84 (LC 21), 8=227 (LC 21), 9=219 (LC 21), 10=204 (LC 21), 11=172 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-135/133, 2-3=-91/116, 3-4=-78/103, 4-5=-68/90, 5-6=-55/69, 6-7=-68/39
BOT CHORD	1-11=-59/87, 10-11=-44/78, 9-10=-44/78, 8-9=-44/78, 7-8=-44/78
WEBS	5-8=-186/119, 4-9=-179/135, 3-10=-167/128, 2-11=-141/140

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) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 7-3-4, Corner(3E) 7-3-4 to 10-3-4 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) 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) All plates are 2x4 MT20 unless otherwise indicated.
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 at joint(s) 1.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7, 8, 9, 10, and 11. 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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	G	Monopitch	9	1	I66830116 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:29
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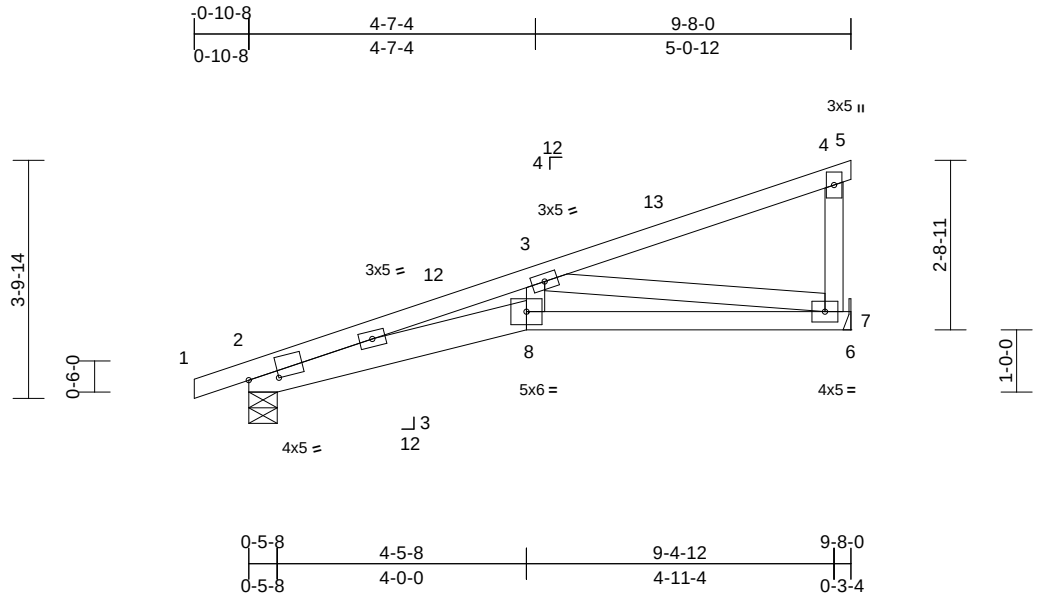

Scale = 1:37

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.60	Vert(LL)	-0.08	8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.13	7-8	>872	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.05	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 46 lb	FT = 20%

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

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

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

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

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 1-11-13, Interior (1) 1-11-13 to 6-8-0, Exterior(2E) 6-8-0 to 9-8-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint 7.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	GSE	Monopitch Structural Gable	1	1	I66830117 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:29 Page: 1
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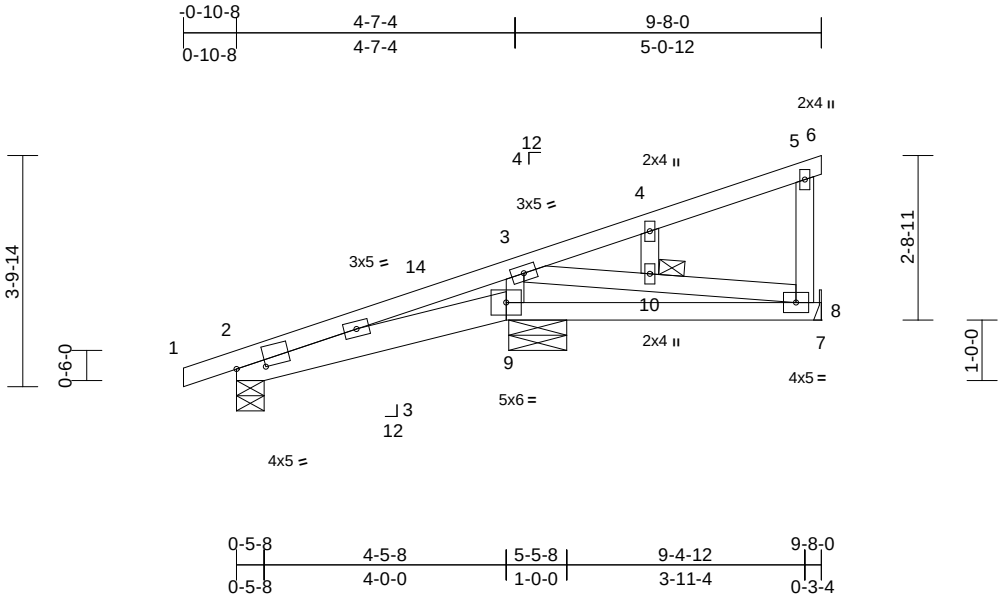

Scale = 1:38.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	-0.02	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	-0.03	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 47 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 9-7:2x4 SP No.2
WEBS 2x4 SP No.3
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.
JOINTS 1 Brace at Jt(s): 10

REACTIONS (size) 2=0-5-8, 8= Mechanical, 9=0-11-8
Max Horiz 2=121 (LC 11)
Max Uplift 2=-43 (LC 10), 8=-39 (LC 14), 9=-73 (LC 14)
Max Grav 2=221 (LC 21), 8=281 (LC 21), 9=513 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-144/55, 3-4=-105/24, 4-5=-65/30, 5-6=-8/0, 5-8=-177/93
BOT CHORD 2-9=-108/202, 8-9=-77/147, 7-8=0/0
WEBS 3-9=-377/185, 3-10=-101/105, 8-10=-111/112, 4-10=-71/47

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 1-11-13, Interior (1) 1-11-13 to 6-8-0, Exterior(2E) 6-8-0 to 9-8-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Refer to girder(s) for truss to truss connections.
10) 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.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 8 and 73 lb uplift at joint 9.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH I66830118
24060177-01	H1	Monopitch	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:29 Page: 1
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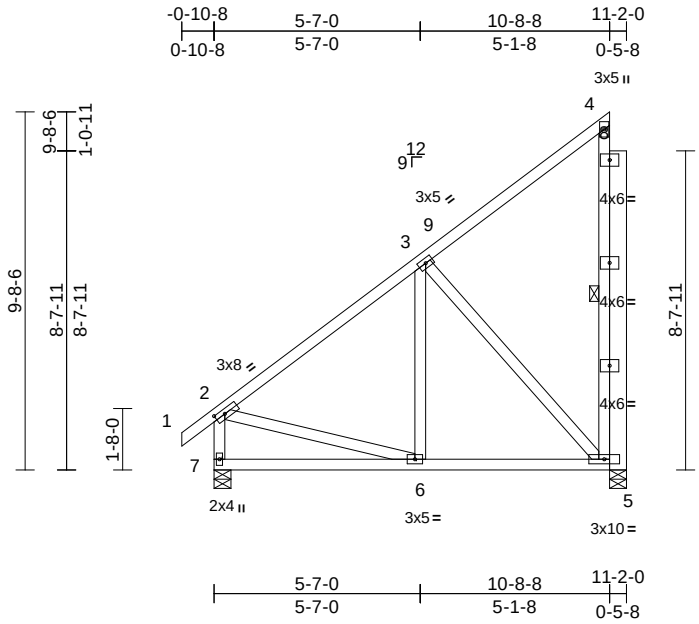

Scale = 1:62.4

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

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	0.50	Vert(LL)	-0.02	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.04	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 100 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=341 (LC 13)
Max Uplift 5=-198 (LC 14), 7=-15 (LC 14)
Max Grav 5=950 (LC 21), 7=534 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-453/98, 3-4=-223/186, 4-5=-664/96, 2-7=-484/146
BOT CHORD 6-7=-333/509, 5-6=-128/420
WEBS 3-6=0/204, 3-5=-465/195, 2-6=-116/270

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;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) 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.
8) 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.
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: 1-2=-60, 2-4=-60, 5-7=-20
Concentrated Loads (lb)
Vert: 4=-380 (F)

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	H2	Monopitch	1	1	I66830119 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:29
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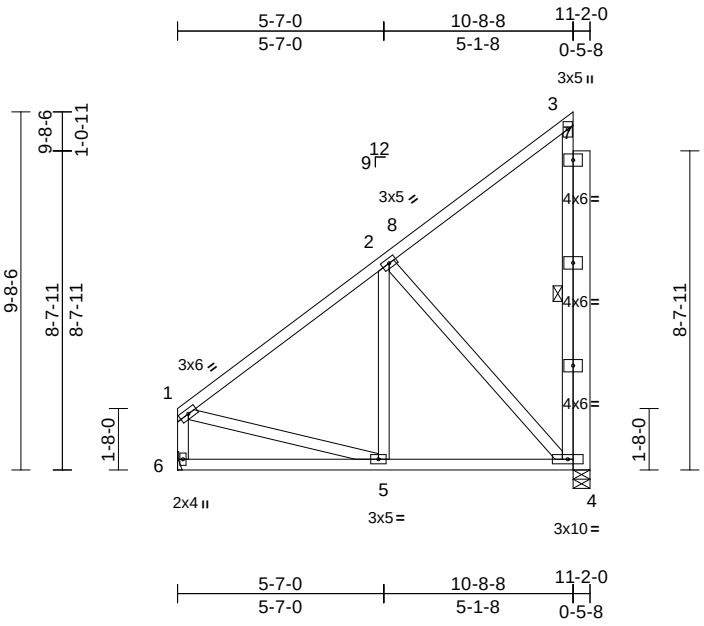


Scale = 1:62.4

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	0.51	Vert(LL)	-0.02	5-6	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.04	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.01	4	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 3-4

REACTIONS (size) 4=0-5-8, 6= Mechanical
Max Horiz 6=329 (LC 11)
Max Uplift 4=-197 (LC 14)
Max Grav 4=953 (LC 20), 6=470 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-453/92, 2-3=-224/185, 3-4=-662/96, 1-6=-420/101
BOT CHORD 5-6=-317/497, 4-5=-128/425
WEBS 2-5=0/203, 2-4=-473/196, 1-5=-100/276

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 7-6-12, Exterior(2E) 7-6-12 to 10-6-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) 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)

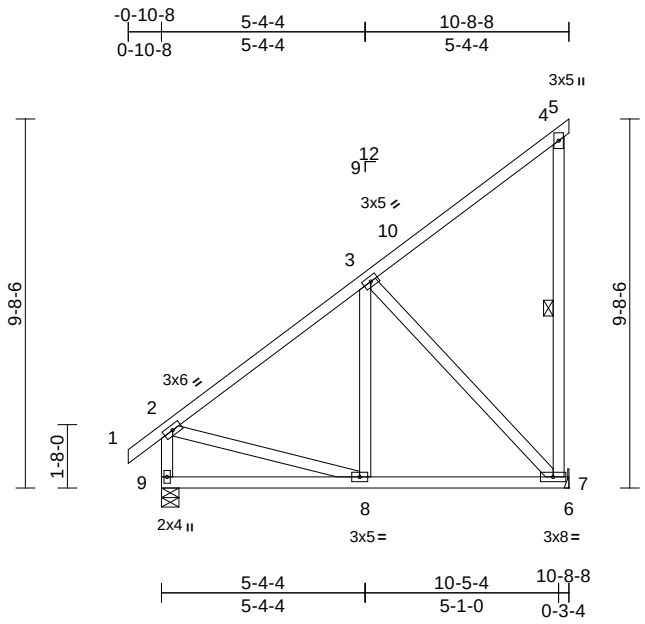
July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	H3	Monopitch	2	1	I66830120 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:29 ID:A?EbZVSK3TRLQ4LGGcpFRfy94Xe-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:60.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.03	7-8	>999	240	MT20	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	0.48	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 79 lb	FT = 20%

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

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=341 (LC 11)
Max Uplift 7=-146 (LC 14), 9=-6 (LC 14)
Max Grav 7=585 (LC 21), 9=511 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-431/98, 3-4=-210/188, 4-5=-17/0, 4-7=-249/82, 2-9=-464/150
BOT CHORD 8-9=-330/496, 7-8=-128/411, 6-7=0/0
WEBS 3-8=0/201, 3-7=-463/200, 2-8=-108/270

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 7-8-8, Exterior(2E) 7-8-8 to 10-8-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 146 lb uplift at joint 7.
9) 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.
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	I1	Monopitch	1	1	I66830121 Job Reference (optional)

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

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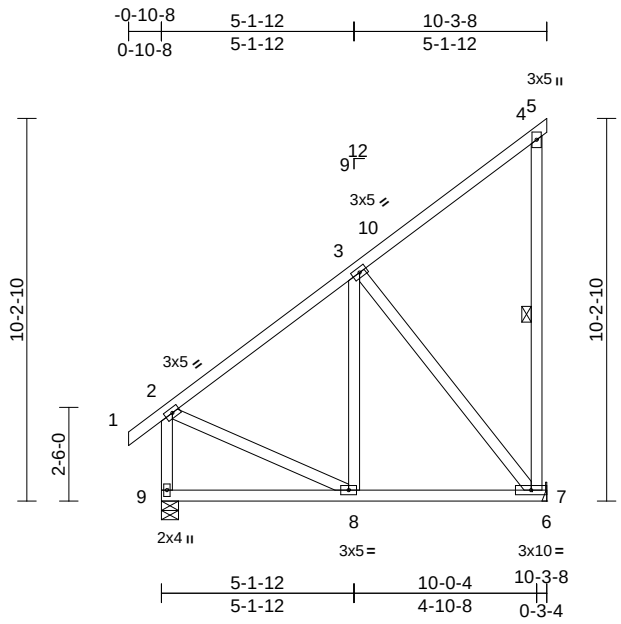

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	-0.03	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.05	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.51	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 9-11-12 oc bracing.
WEBS 1 Row at midpt 4-7

REACTIONS (size) 7= Mechanical, 9=0-5-8
Max Horiz 9=359 (LC 13)
Max Uplift 7=-157 (LC 11)
Max Grav 7=567 (LC 21), 9=496 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-381/97, 3-4=-210/191, 4-5=-17/0, 4-7=-241/81, 2-9=-451/148
BOT CHORD 8-9=-338/484, 7-8=-142/377, 6-7=0/0
WEBS 3-8=0/174, 3-7=-449/200, 2-8=-120/276

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 7-3-8, Exterior(2E) 7-3-8 to 10-3-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 157 lb uplift at joint 7.
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	J2	Piggyback Base	3	1	I66830122 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:30 Page: 1
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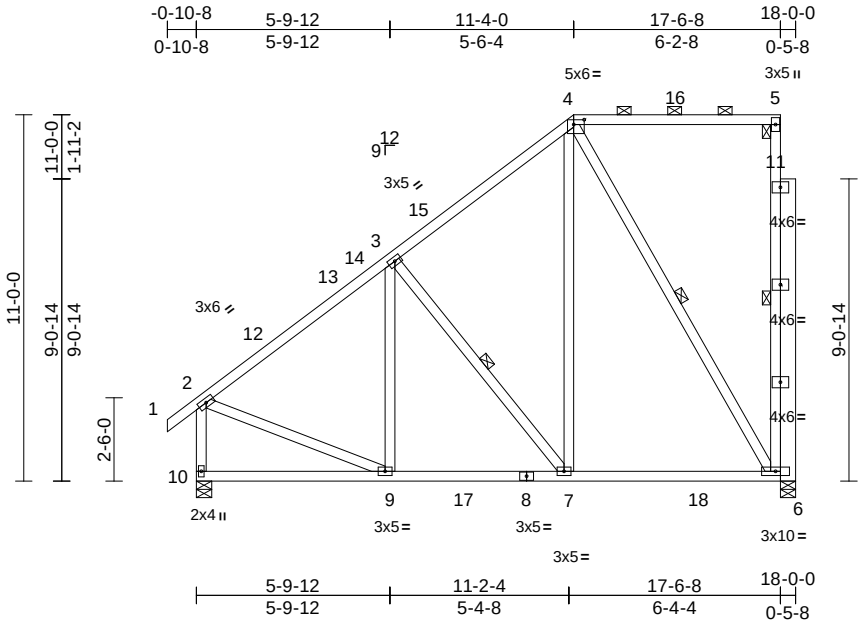

Scale = 1:69.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.07	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.12	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.57	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 (2-4-4 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=-70 (LC 14)
Max Grav 6=1317 (LC 43), 10=912 (LC 44)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-810/114, 3-4=-616/196, 4-5=-143/186, 5-6=-775/151, 2-10=-821/133
BOT CHORD 9-10=-375/448, 7-9=-219/828, 6-7=-158/532
WEBS 3-9=-89/120, 3-7=-452/188, 4-7=-76/619, 4-6=-830/151, 2-9=-7/622

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 7-1-1, Exterior(2R) 7-1-1 to 14-4-12, Exterior(2E) 14-4-12 to 17-4-12 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) 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.
10) 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.
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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	K1	Roof Special	4	1	I66830123 Job Reference (optional)

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

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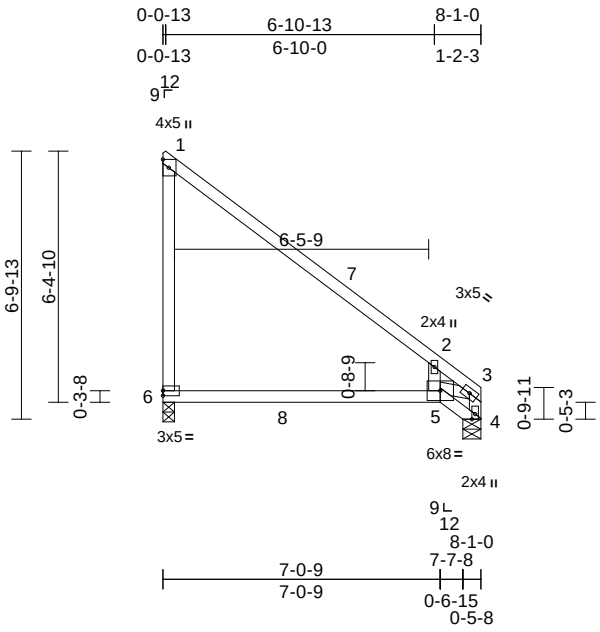


Scale = 1:58.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.95	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=0-3-8
Max Horiz 4=-227 (LC 10)
Max Uplift 6=-101 (LC 15)
Max Grav 4=384 (LC 24), 6=469 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-237/154, 2-3=-277/0, 3-4=-239/0, 1-6=-331/281
BOT CHORD 5-6=-110/77, 4-5=-430/157
WEBS 2-5=-199/145, 3-5=-135/432

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 4-11-4, Exterior(2E) 4-11-4 to 7-11-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) Provide adequate drainage to prevent water ponding.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Bearings are assumed to be: , Joint 6 User Defined .
8) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 6. This connection is for uplift only and does not consider lateral forces.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

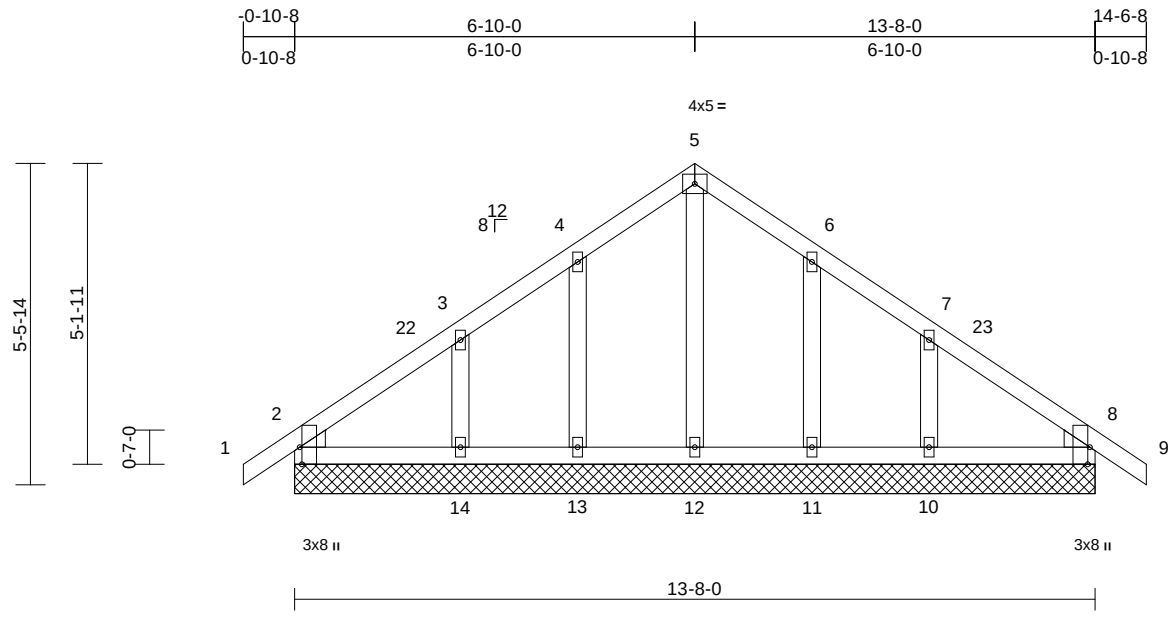
LOAD CASE(S) Standard

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	L01	Common Supported Gable	1	1	I66830124 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:30 Page: 1
ID:KsacwLEQ4aGCSQ1?F_w3tZzGc9R-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:39.3

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

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	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	0.06	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 72 lb	FT = 20%

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

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

REACTIONS (size) 2=13-8-0, 8=13-8-0, 10=13-8-0, 11=13-8-0, 12=13-8-0, 13=13-8-0, 14=13-8-0, 15=13-8-0, 19=13-8-0
Max Horiz 2=117 (LC 13), 15=117 (LC 13)
Max Uplift 2=-17 (LC 15), 8=-4 (LC 15), 10=-88 (LC 15), 11=-48 (LC 15), 13=-47 (LC 14), 14=-91 (LC 14), 15=-17 (LC 15), 19=-4 (LC 15)
Max Grav 2=181 (LC 1), 8=181 (LC 1), 10=267 (LC 22), 11=234 (LC 22), 12=125 (LC 28), 13=234 (LC 21), 14=267 (LC 21), 15=181 (LC 1), 19=181 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/28, 2-3=-117/65, 3-4=-106/98, 4-5=-126/164, 5-6=-126/164, 6-7=-104/98, 7-8=-83/30, 8-9=0/28
BOT CHORD 2-14=-49/96, 13-14=-24/96, 12-13=-24/96, 11-12=-24/96, 10-11=-24/96, 8-10=-24/96
WEBS 5-12=-108/28, 4-13=-204/97, 3-14=-203/138, 6-11=-204/97, 7-10=-203/138

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 2-1-8, Exterior(2N) 2-1-8 to 3-10-0, Corner(3R) 3-10-0 to 9-10-0, Exterior(2N) 9-10-0 to 11-6-8, Corner(3E) 11-6-8 to 14-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) 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 17 lb uplift at joint 2, 4 lb uplift at joint 8, 47 lb uplift at joint 13, 91 lb uplift at joint 14, 48 lb uplift at joint 11, 88 lb uplift at joint 10, 17 lb uplift at joint 2 and 4 lb uplift at joint 8.
13) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 15.
14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	L02	Common Girder	1	2	I66830125 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:30 Page: 1
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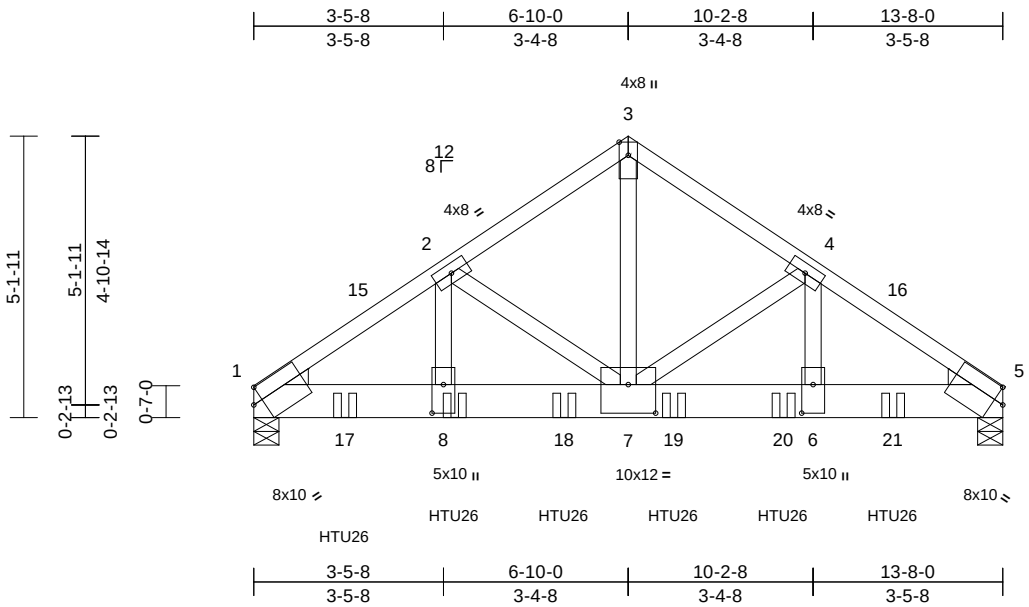


Scale = 1:42

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

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	-0.08	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.16	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.72	Horz(CT)	0.03	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 183 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x8 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 7-3:2x4 SP No.1
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-1 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-5-8, 5=0-5-8
Max Horiz 1=104 (LC 37)
Max Grav 1=7792 (LC 5), 5=7377 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-10737/0, 2-3=-7779/0, 3-4=-7778/0, 4-5=-10620/0
BOT CHORD 1-8=0/8903, 7-8=0/8903, 6-7=0/8799, 5-6=0/8799
WEBS 2-8=0/3226, 2-7=-3028/0, 3-7=0/8320, 4-7=-2901/0, 4-6=0/3097

NOTES
1) 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 - 4 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 2 rows staggered at 0-3-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for 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) 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) Use Simpson Strong-Tie HTU26 (20-10dx1 1/2 Girder, 20-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 1-8-0 from the left end to 11-8-0 to connect truss(es) to back face of bottom chord.
11) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-58, 3-5=-58, 9-12=-19
Concentrated Loads (lb)
Vert: 8=-1996 (B), 17=-1996 (B), 18=-1996 (B), 19=-1996 (B), 20=-1996 (B), 21=-1996 (B)

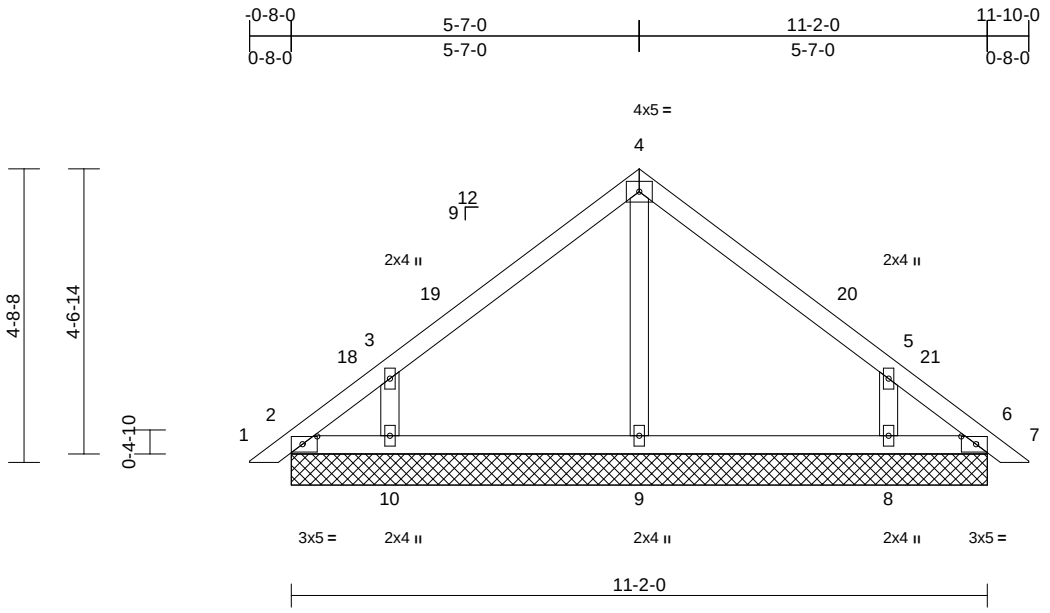
July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	PB1	Piggyback	8	1	I66830126 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:30 ID:iEW3YzpCkaFU49jPj8F7u4y94Qj-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:37

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: 49 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=11-2-0, 6=11-2-0, 8=11-2-0, 9=11-2-0, 10=11-2-0, 11=11-2-0, 15=11-2-0
Max Horiz 2=-106 (LC 12), 11=-106 (LC 12)
Max Uplift 2=-36 (LC 10), 6=-16 (LC 11), 8=-132 (LC 15), 10=-133 (LC 14), 11=-36 (LC 10), 15=-16 (LC 11)
Max Grav 2=86 (LC 26), 6=70 (LC 25), 8=432 (LC 22), 9=281 (LC 21), 10=432 (LC 21), 11=86 (LC 26), 15=70 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-106/91, 3-4=-189/97, 4-5=-189/97, 5-6=-83/57, 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=-193/18, 3-10=-404/209, 5-8=-404/209

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 9-3-9, Exterior(2E) 9-3-9 to 12-3-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 6, 10, and 8. This connection is for uplift only and does not consider lateral forces.
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	PB1GE	Piggyback	2	1	I66830127 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:30 Page: 1
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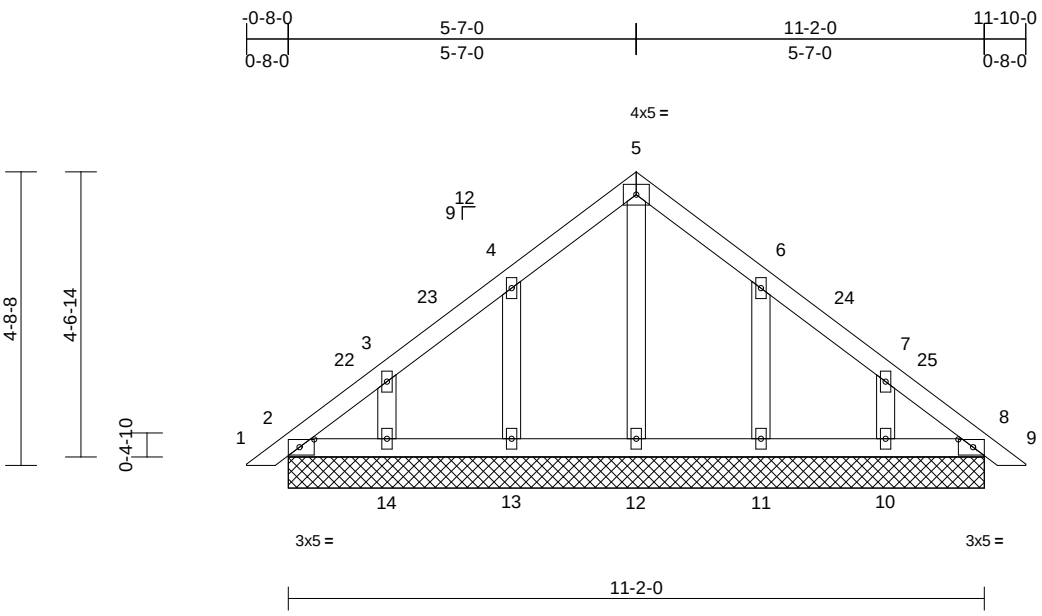

Scale = 1:37

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

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

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

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

REACTIONS (size) 2=11-2-0, 8=11-2-0, 10=11-2-0, 11=11-2-0, 12=11-2-0, 13=11-2-0, 14=11-2-0, 15=11-2-0, 19=11-2-0
Max Horiz 2=-106 (LC 12), 15=-106 (LC 12)
Max Uplift 2=-18 (LC 10), 10=-67 (LC 15), 11=-70 (LC 15), 13=-71 (LC 14), 14=-68 (LC 14), 15=-18 (LC 10)
Max Grav 2=102 (LC 26), 8=93 (LC 1), 10=209 (LC 22), 11=269 (LC 22), 12=132 (LC 28), 13=269 (LC 21), 14=209 (LC 21), 15=102 (LC 26), 19=93 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-89/76, 3-4=-86/57, 4-5=-97/107, 5-6=-97/107, 6-7=-83/41, 7-8=-66/42, 8-9=0/16
BOT CHORD 2-14=-34/84, 13-14=-34/84, 12-13=-34/84, 11-12=-34/84, 10-11=-34/84, 8-10=-34/84
WEBS 5-12=-92/0, 4-13=-229/116, 3-14=-168/91, 6-11=-229/116, 7-10=-168/91

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 9-3-9, Exterior(2E) 9-3-9 to 12-3-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof 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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 13, 14, 11, and 10. This connection is for uplift only and does not consider lateral forces.
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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	PB1GR	Piggyback	1	2	I66830128 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:31 Page: 1
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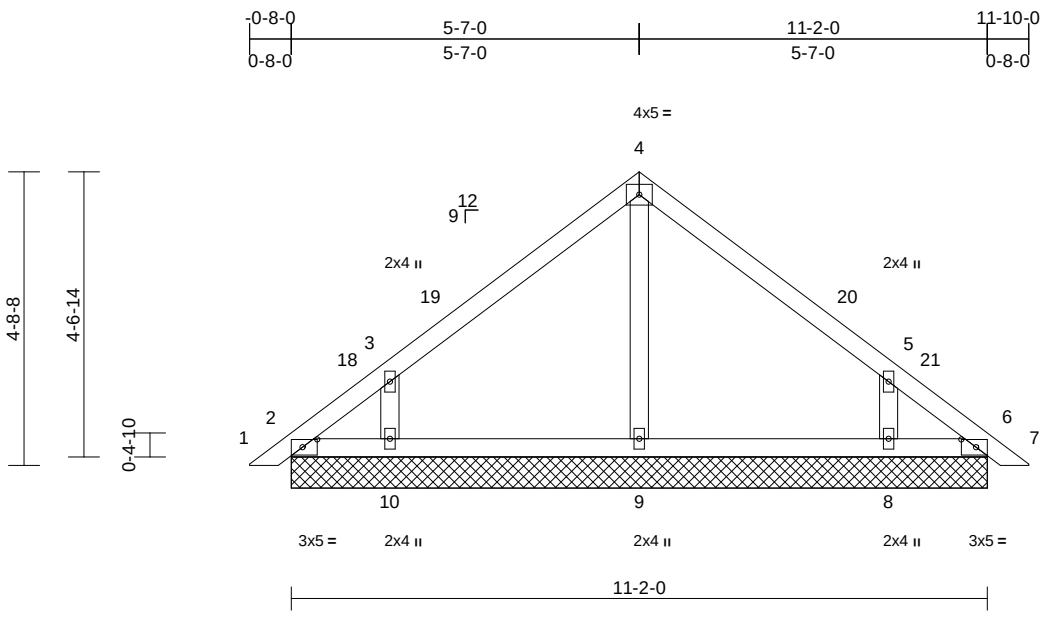


Scale = 1:37

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=11-2-0, 6=11-2-0, 8=11-2-0, 9=11-2-0, 10=11-2-0, 11=11-2-0, 15=11-2-0
Max Horiz 2=-106 (LC 12), 11=-106 (LC 12)
Max Uplift 2=-36 (LC 10), 6=-16 (LC 11), 8=-132 (LC 15), 10=-133 (LC 14), 11=-36 (LC 10), 15=-16 (LC 11)
Max Grav 2=85 (LC 26), 6=69 (LC 25), 8=432 (LC 22), 9=282 (LC 21), 10=432 (LC 21), 11=85 (LC 26), 15=69 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-105/91, 3-4=-189/97, 4-5=-189/97, 5-6=-82/57, 6-7=0/16
BOT CHORD 2-10=-29/72, 9-10=-28/72, 8-9=-28/72, 6-8=-28/72
WEBS 4-9=-193/18, 3-10=-402/208, 5-8=-402/208

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.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 9-3-9, Exterior(2E) 9-3-9 to 12-3-9 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
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) Unbalanced snow loads have been considered for this design.
8) 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.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 4-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 6, 10, and 8. This connection is for uplift only and does not consider lateral forces.
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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

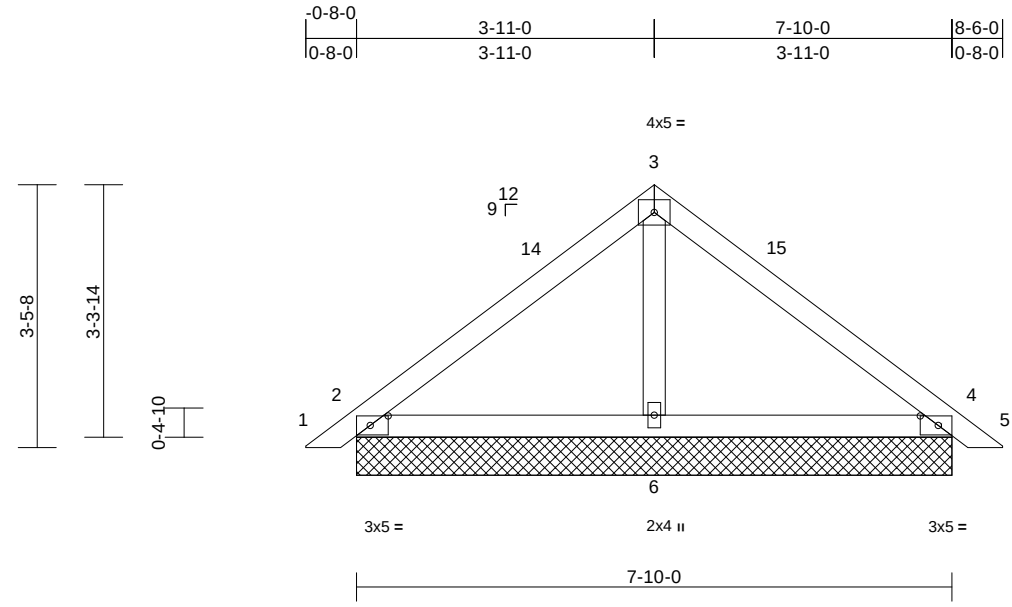
July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	PB2	Piggyback	7	1	I66830129 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:31 ID:9tvbUfm9bkrgXna7Y?YDo6y91zG-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:30.3

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	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 33 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=7-10-0, 4=7-10-0, 6=7-10-0, 7=7-10-0, 11=7-10-0
Max Horiz 2=-77 (LC 12), 7=-77 (LC 12)
Max Uplift 2=-41 (LC 14), 4=-51 (LC 15), 7=-41 (LC 14), 11=-51 (LC 15)
Max Grav 2=322 (LC 21), 4=322 (LC 22), 6=258 (LC 21), 7=322 (LC 21), 11=322 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/26, 2-3=-214/109, 3-4=-214/109, 4-5=0/26
BOT CHORD 2-6=-32/87, 4-6=-20/87
WEBS 3-6=-97/2

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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	PB2GE	Piggyback	1	1	I66830130 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:31 Page: 1
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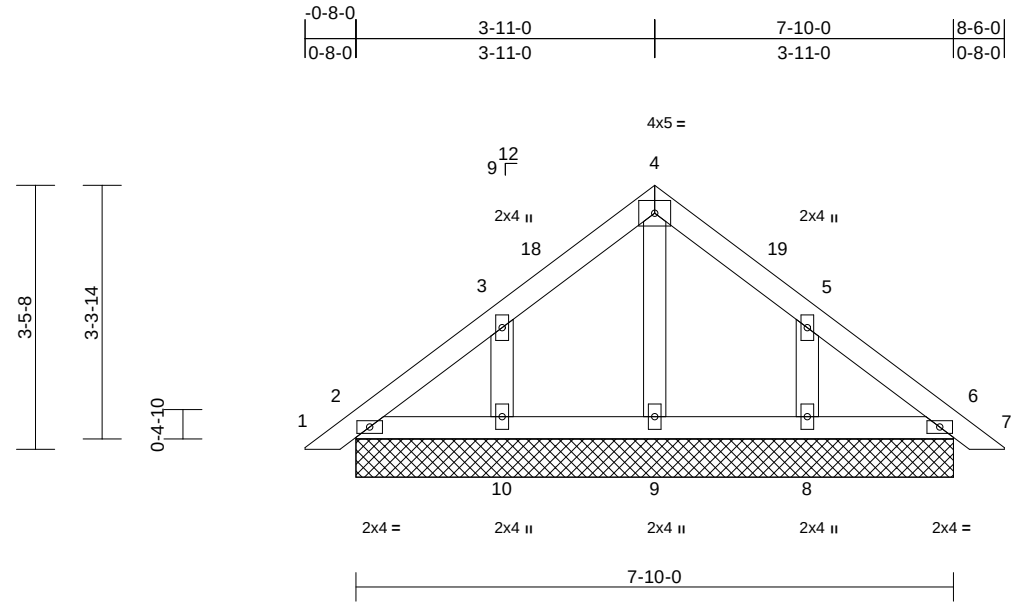

Scale = 1:30.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	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: 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=7-10-0, 6=7-10-0, 8=7-10-0, 9=7-10-0, 10=7-10-0, 11=7-10-0, 15=7-10-0
Max Horiz 2=-77 (LC 12), 11=-77 (LC 12)
Max Uplift 2=-6 (LC 15), 8=-84 (LC 15), 10=-85 (LC 14), 11=-6 (LC 15)
Max Grav 2=153 (LC 21), 6=153 (LC 22), 8=283 (LC 22), 9=111 (LC 21), 10=283 (LC 21), 11=153 (LC 21), 15=153 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/26, 2-3=-62/53, 3-4=-97/86, 4-5=-97/86, 5-6=-46/39, 6-7=0/26
BOT CHORD 2-10=-23/72, 9-10=-23/72, 8-9=-23/72, 6-8=-23/72
WEBS 4-9=-76/0, 3-10=-227/143, 5-8=-227/143

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 5-11-9, Exterior(2E) 5-11-9 to 8-11-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 10, and 8. This connection is for uplift only and does not consider lateral forces.
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	PB2GR	Piggyback	2	2	I66830131 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:31 Page: 1
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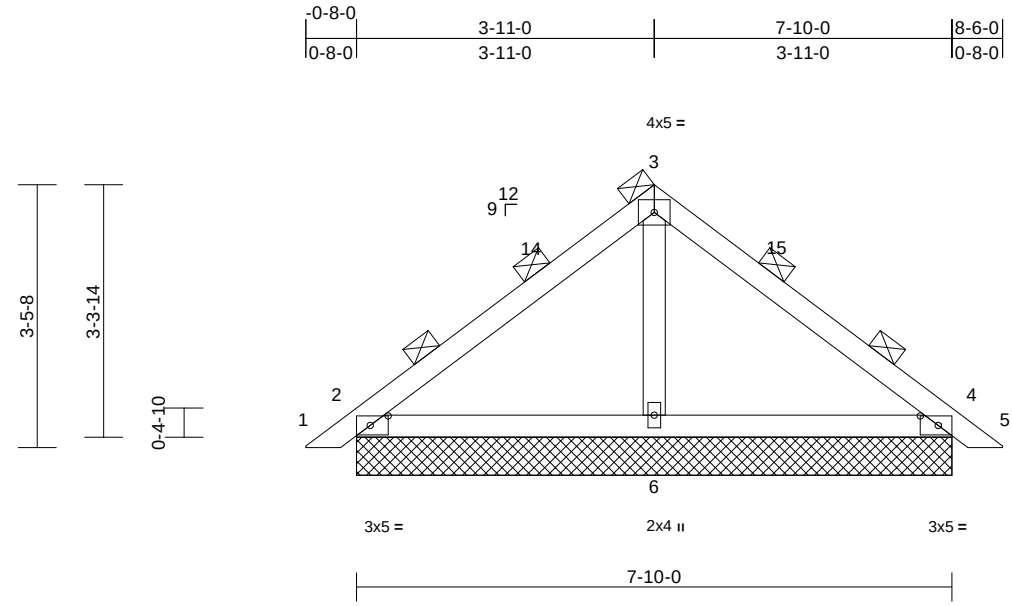

Scale = 1:30.3

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	0.29	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.26	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: 65 lb	FT = 20%

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

BRACING
TOP CHORD 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=7-10-0, 4=7-10-0, 6=7-10-0, 7=7-10-0, 11=7-10-0
Max Horiz 2=-115 (LC 12), 7=-115 (LC 12)
Max Uplift 2=-62 (LC 14), 4=-77 (LC 15), 7=-62 (LC 14), 11=-77 (LC 15)
Max Grav 2=482 (LC 21), 4=482 (LC 22), 6=389 (LC 21), 7=482 (LC 21), 11=482 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-319/158, 3-4=-319/158, 4-5=0/40
BOT CHORD 2-6=-59/161, 4-6=-34/161
WEBS 3-6=-149/2

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.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 5-11-9, Exterior(2E) 5-11-9 to 8-11-9 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
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) Unbalanced snow loads have been considered for this design.
8) 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.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 4-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
13) 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.
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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	PB3	Piggyback	3	1	I66830132 Job Reference (optional)

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

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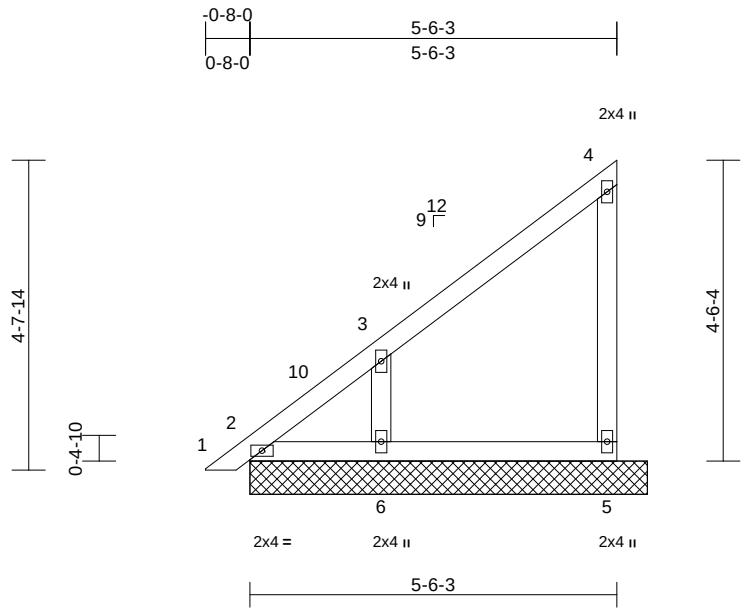

Scale = 1:34.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.25	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	0.08	Horz(CT)	0.00	2	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.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=5-11-11, 5=5-11-11, 6=5-11-11, 7=5-11-11
Max Horiz 2=158 (LC 14), 7=158 (LC 14)
Max Uplift 2=-1 (LC 12), 5=-46 (LC 14), 6=-121 (LC 14), 7=-1 (LC 12)
Max Grav 2=92 (LC 32), 5=172 (LC 21), 6=421 (LC 21), 7=92 (LC 32)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/16, 2-3=-246/131, 3-4=-125/65
BOT CHORD	2-6=-27/21, 5-6=0/0
WEBS	3-6=-360/254, 4-5=-143/97

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Gable 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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 5, and 6. 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.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	V1A	Valley	1	1	I66830133 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:31 Page: 1
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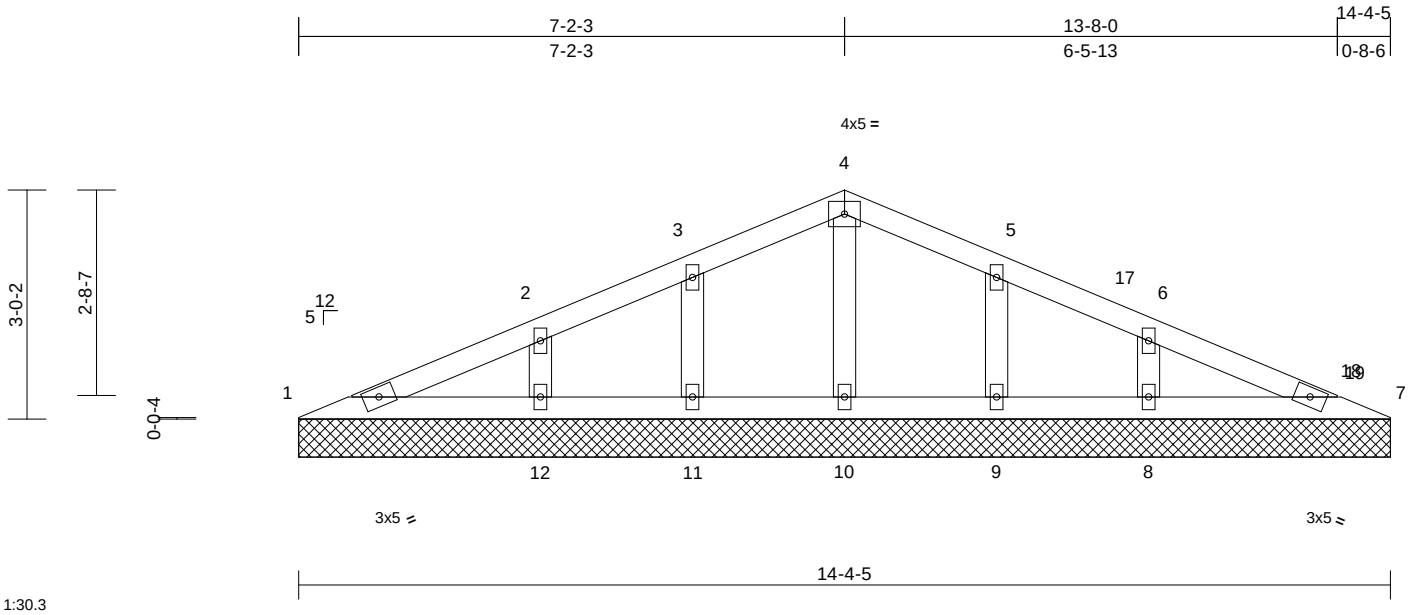

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Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 53 lb	FT = 20%

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

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

REACTIONS (size) 1=14-4-5, 7=14-4-5, 8=14-4-5, 9=14-4-5, 10=14-4-5, 11=14-4-5, 12=14-4-5
Max Horiz 1=48 (LC 14)
Max Uplift 1=-2 (LC 15), 8=-48 (LC 15), 9=-37 (LC 15), 11=-36 (LC 14), 12=-52 (LC 14)
Max Grav 1=98 (LC 20), 7=64 (LC 21), 8=313 (LC 21), 9=198 (LC 21), 10=198 (LC 20), 11=196 (LC 20), 12=320 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-142/98, 2-3=-8/81, 3-4=-1/87, 4-5=-1/82, 5-6=0/80, 6-7=-117/95
BOT CHORD 1-12=-61/125, 11-12=-61/64, 10-11=-61/64, 9-10=-61/64, 8-9=-61/64, 7-8=-61/108
WEBS 4-10=-151/26, 3-11=-178/92, 2-12=-222/116, 5-9=-180/93, 6-8=-218/116

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-0-10 to 3-2-12, Exterior(2N) 3-2-12 to 4-2-12, Corner(3R) 4-2-12 to 10-2-12, Exterior (2N) 10-2-12 to 10-8-12, Corner(3E) 10-8-12 to 13-8-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 2 lb uplift at joint 1, 36 lb uplift at joint 11, 52 lb uplift at joint 12, 37 lb uplift at joint 9 and 48 lb uplift at joint 8.
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.

LOAD CASE(S) Standard

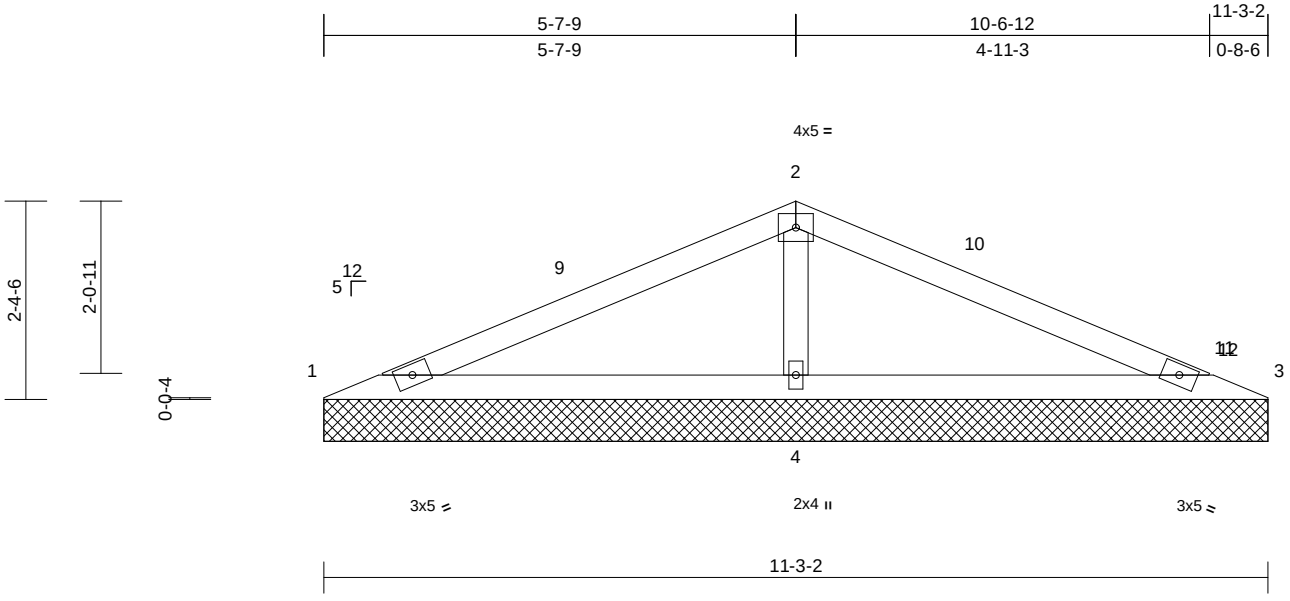
July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	V1B	Valley	1	1	I66830134 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:31 ID:P1QiZn6z3?eyuckDa5nJtxzGcDU-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



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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	0.52	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.51	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 35 lb	FT = 20%

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

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

REACTIONS (size) 1=11-3-2, 3=11-3-2, 4=11-3-2
Max Horiz 1=40 (LC 14)
Max Uplift 1=-25 (LC 21), 3=-49 (LC 20), 4=-61 (LC 14)
Max Grav 1=142 (LC 20), 3=86 (LC 21), 4=811 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-186/488, 2-3=-156/479
BOT CHORD 1-4=-393/190, 3-4=-393/190
WEBS 2-4=-627/310

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) 0-0-10 to 3-0-10, Exterior(2R) 3-0-10 to 7-7-9, Exterior(2E) 7-7-9 to 10-7-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) 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 25 lb uplift at joint 1, 49 lb uplift at joint 3 and 61 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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	V1C	Valley	1	1	I66830135 Job Reference (optional)

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

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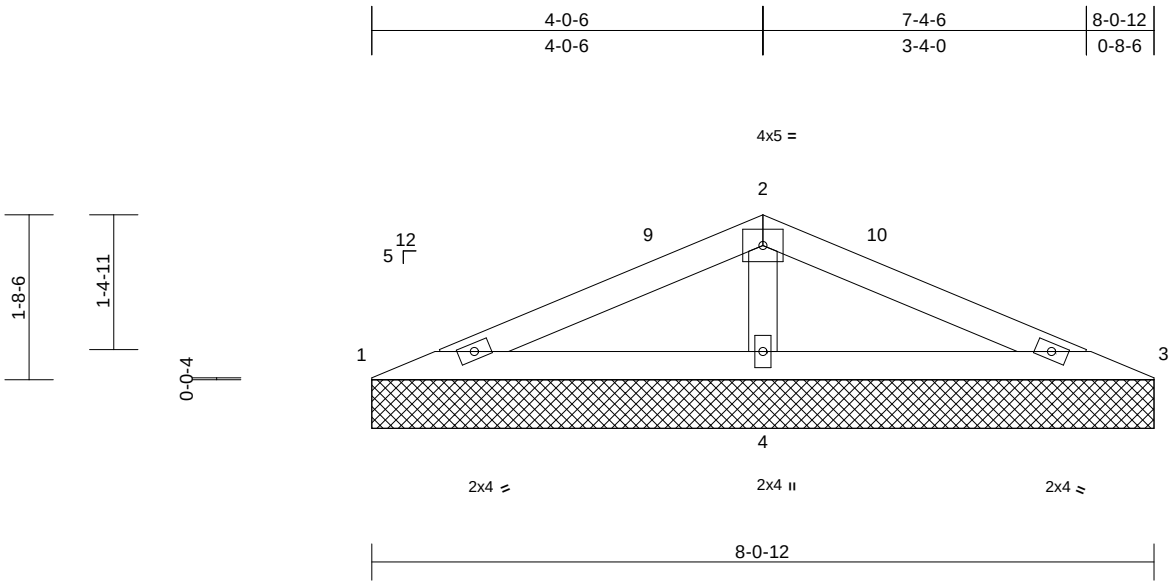

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.28	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 24 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 8-0-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=8-0-12, 3=8-0-12, 4=8-0-12
Max Horiz 1=-24 (LC 15)
Max Uplift 1=-14 (LC 14), 3=-19 (LC 15), 4=-38 (LC 14)
Max Grav 1=123 (LC 20), 3=123 (LC 21), 4=521 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-155/284, 2-3=-155/284
BOT CHORD 1-4=-257/152, 3-4=-257/152
WEBS 2-4=-377/202

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) 0-0-10 to 3-0-10, Exterior(2R) 3-0-10 to 5-1-5, Exterior(2E) 5-1-5 to 8-1-5 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 1, 19 lb uplift at joint 3 and 38 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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	V1D	Valley	1	1	I66830136 Job Reference (optional)

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

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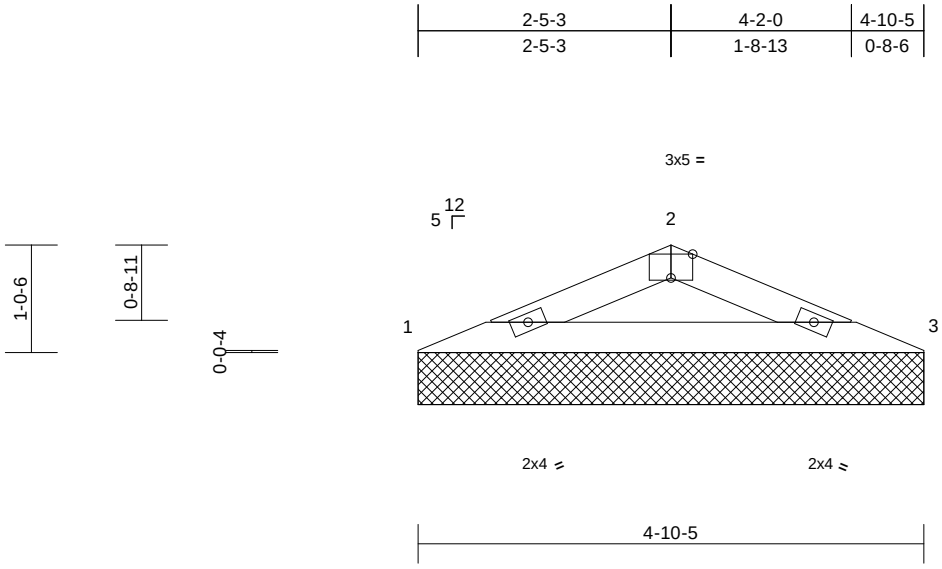

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Plate Offsets (X, Y): [2:0-2-8,Edge]

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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 13 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 4-10-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=4-10-5, 3=4-10-5
Max Horiz 1=-14 (LC 15)
Max Uplift 1=-20 (LC 14), 3=-20 (LC 15)
Max Grav 1=219 (LC 20), 3=219 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-434/193, 2-3=-434/193
BOT CHORD 1-3=-165/391

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

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	V2A	Valley	1	1	I66830137 Job Reference (optional)

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

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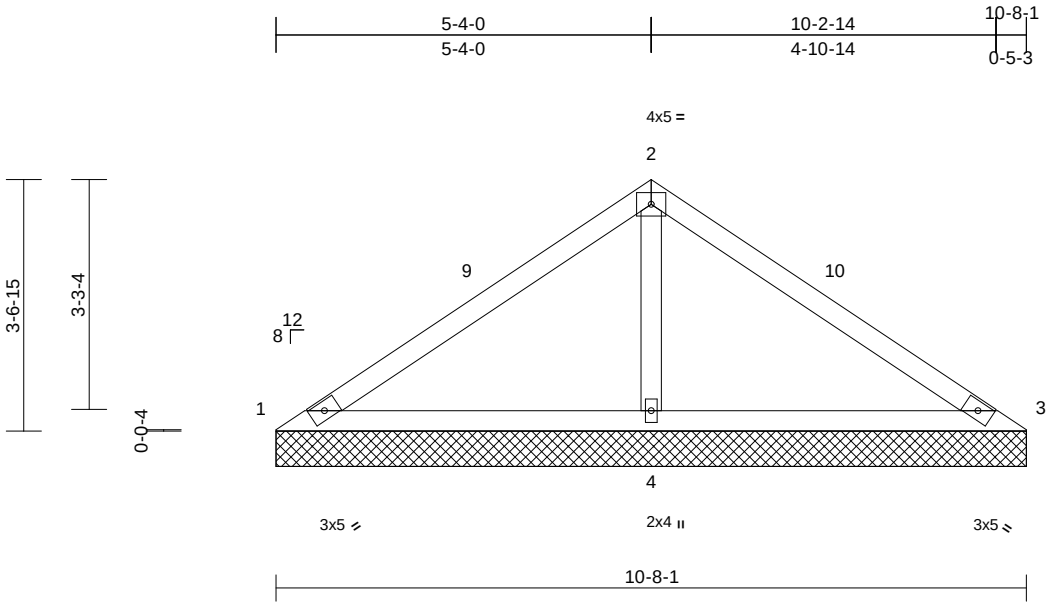

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.53	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.48	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 38 lb	FT = 20%

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

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

REACTIONS (size) 1=10-8-1, 3=10-8-1, 4=10-8-1
Max Horiz 1=-80 (LC 10)
Max Uplift 1=-64 (LC 21), 3=-64 (LC 20), 4=-96 (LC 14)
Max Grav 1=85 (LC 20), 3=85 (LC 21), 4=864 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-113/452, 2-3=-113/452
BOT CHORD 1-4=-332/161, 3-4=-332/161
WEBS 2-4=-723/241

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) 0-0-6 to 3-0-6, Exterior(2R) 3-0-6 to 7-8-7, Exterior(2E) 7-8-7 to 10-8-7 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 64 lb uplift at joint 1, 64 lb uplift at joint 3 and 96 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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	V2B	Valley	1	1	I66830138 Job Reference (optional)

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

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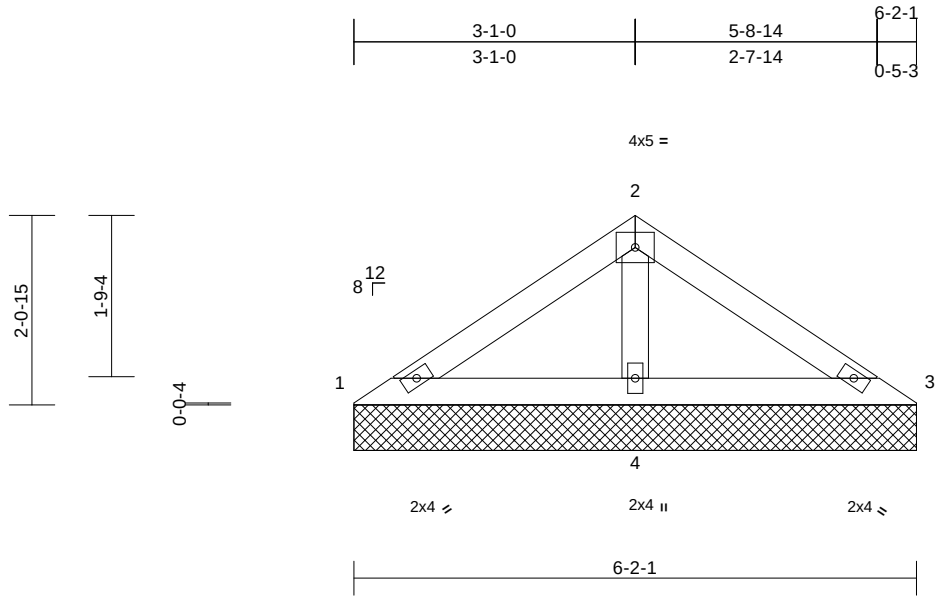

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 21 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 6-2-1 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=6-2-1, 3=6-2-1, 4=6-2-1
Max Horiz 1=45 (LC 11)
Max Uplift 1=-3 (LC 14), 3=-10 (LC 15), 4=-39 (LC 14)
Max Grav 1=98 (LC 20), 3=98 (LC 21), 4=404 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-96/170, 2-3=-96/170
BOT CHORD 1-4=-145/108, 3-4=-145/108
WEBS 2-4=-308/135

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C 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 3 lb uplift at joint 1, 10 lb uplift at joint 3 and 39 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

July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	V3A	Valley	1	1	I66830139 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:32 Page: 1
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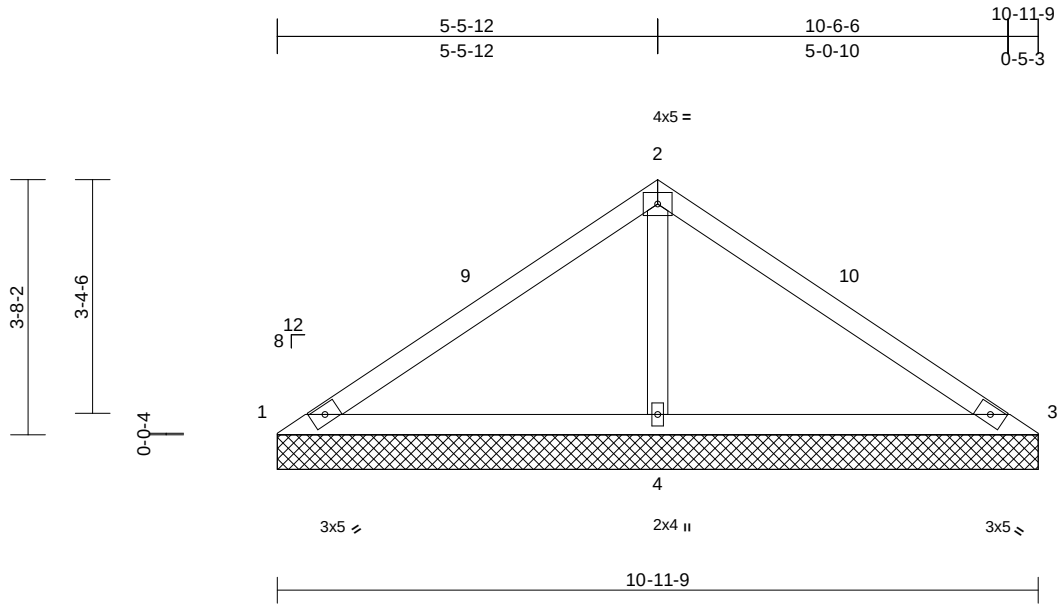


Scale = 1:33.2

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	0.57	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.50	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 39 lb	FT = 20%

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

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

REACTIONS (size) 1=10-11-9, 3=10-11-9, 4=10-11-9
Max Horiz 1=82 (LC 11)
Max Uplift 1=-72 (LC 21), 3=-72 (LC 20), 4=-101 (LC 14)
Max Grav 1=83 (LC 20), 3=83 (LC 21), 4=899 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-118/475, 2-3=-118/475
BOT CHORD 1-4=-349/166, 3-4=-349/166
WEBS 2-4=-754/247

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) 0-0-6 to 3-0-6, Exterior(2R) 3-0-6 to 7-11-15, Exterior(2E) 7-11-15 to 10-11-15 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 72 lb uplift at joint 1, 72 lb uplift at joint 3 and 101 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

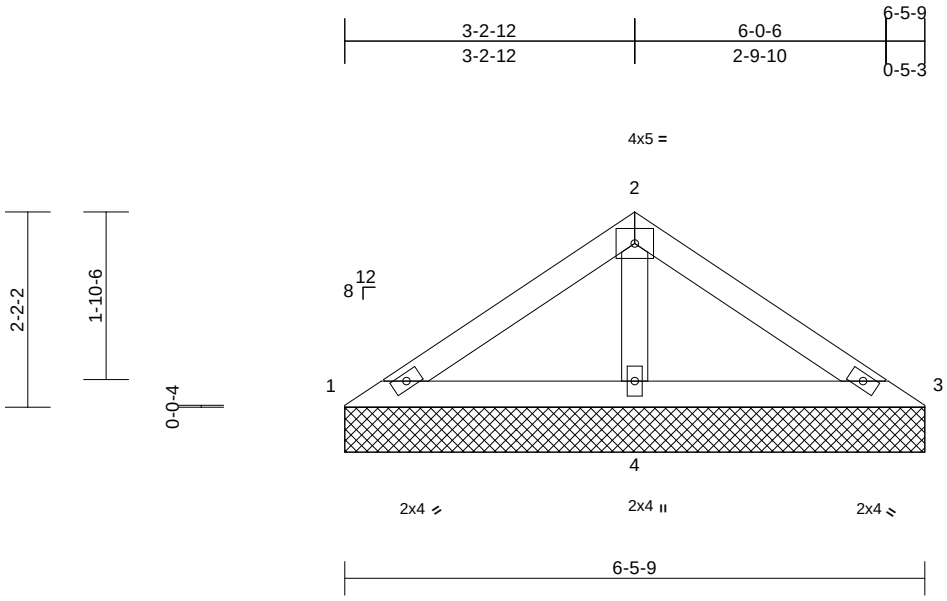
July 16,2024

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

Job	Truss	Truss Type	Qty	Ply	186 Serenity-Roof-B330 B COP BNS GRH
24060177-01	V3B	Valley	1	1	I66830140 Job Reference (optional)

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

Run: 8.73 S Jun 13 2024 Print: 8.730 S Jun 13 2024 MiTek Industries, Inc. Fri Jul 12 08:19:32 ID:iNLL1ABMQ9WyEhmZU3PzfPzGcDN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:25.7

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	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 22 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 6-5-9 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=6-5-9, 3=6-5-9, 4=6-5-9
Max Horiz 1=-47 (LC 10)
Max Uplift 1=-2 (LC 14), 3=-10 (LC 15), 4=-42 (LC 14)
Max Grav 1=100 (LC 20), 3=100 (LC 21), 4=432 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-97/186, 2-3=-97/186
BOT CHORD 1-4=-159/114, 3-4=-159/114
WEBS 2-4=-333/144

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 2 lb uplift at joint 1, 10 lb uplift at joint 3 and 42 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.

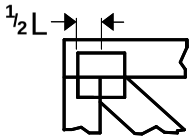
LOAD CASE(S) Standard

July 16,2024

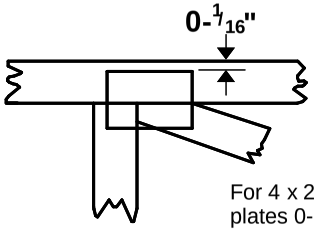
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

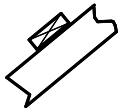
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

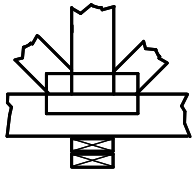
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

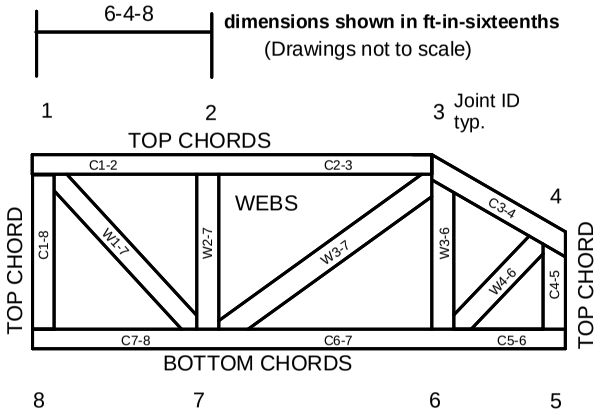


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

MiTek®

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MiTek Engineering Reference Sheet: MII-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/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.