ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 25030171-01
900 Serenity-Roof-B326 A CP TRAY GLH

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

Pages or sheets covered by this seal: I72213077 thru I72213114

My license renewal date for the state of North Carolina is December 31, 2025.

North Carolina COA: C-0844

March 25,2025

Johnson, Andrew

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	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLB8	Valley	1	1	I72213077 Job Reference (optional)

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

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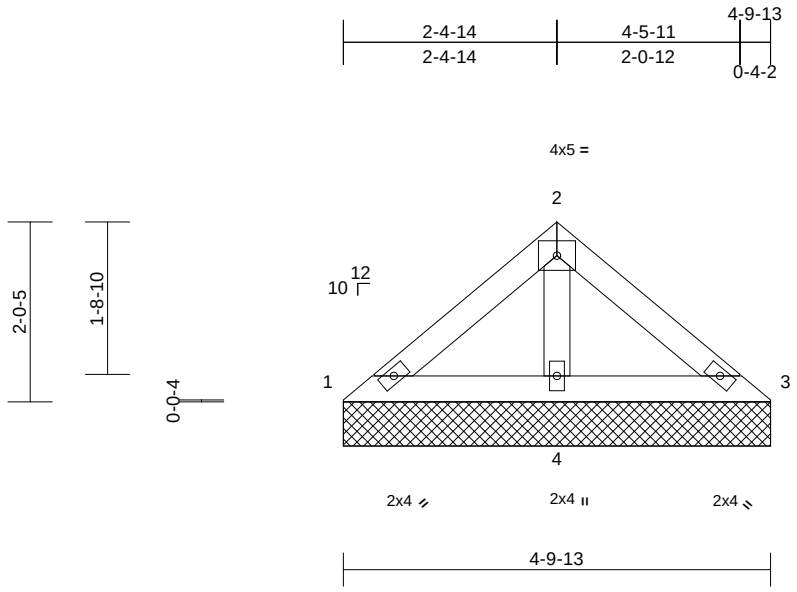

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 17 lb	FT = 20%

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

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

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

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-80/102, 2-3=-80/102
BOT CHORD 1-4=-82/87, 3-4=-82/87
WEBS 2-4=-207/95

NOTES
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 7 lb uplift at joint 3 and 33 lb uplift at joint 4.

LOAD CASE(S) Standard

March 25,2025

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Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLD6	Valley	1	1	I72213078 Job Reference (optional)

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

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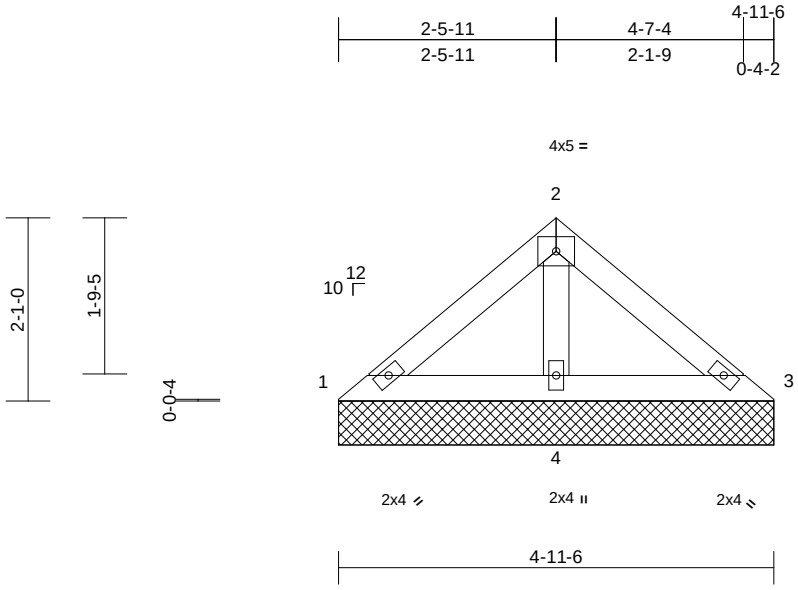

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 18 lb	FT = 20%

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

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

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

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-82/108, 2-3=-82/108
BOT CHORD 1-4=-87/91, 3-4=-87/91
WEBS 2-4=-218/101

NOTES
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 7 lb uplift at joint 3 and 35 lb uplift at joint 4.

LOAD CASE(S) Standard

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Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLB7	Valley	1	1	I72213079 Job Reference (optional)

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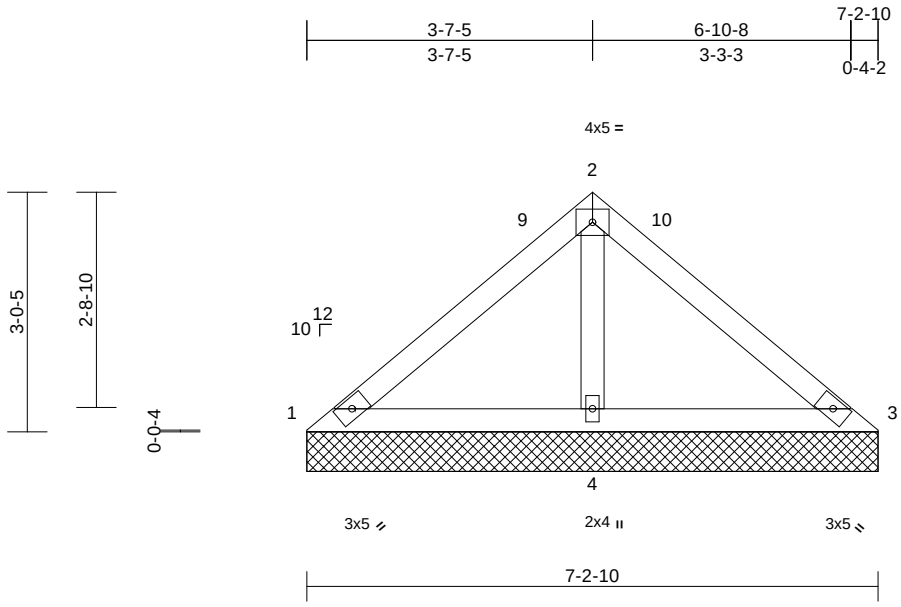

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.26	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 27 lb	FT = 20%

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

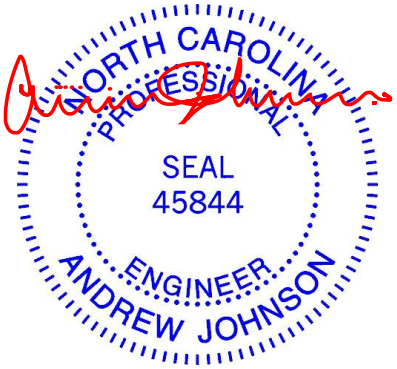
BRACING
TOP CHORD Structural wood sheathing directly applied or 7-2-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

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

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 4-2-14, Exterior(2E) 4-2-14 to 7-2-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 17 lb uplift at joint 1, 17 lb uplift at joint 3 and 73 lb uplift at joint 4.

LOAD CASE(S) Standard



March 25,2025

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLD5	Valley	1	1	I72213080 Job Reference (optional)

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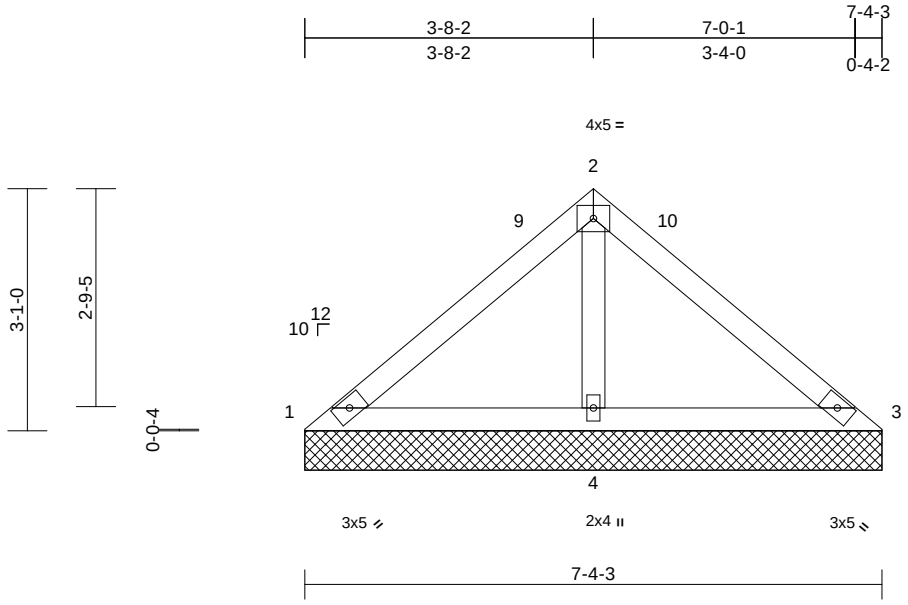

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 27 lb	FT = 20%

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

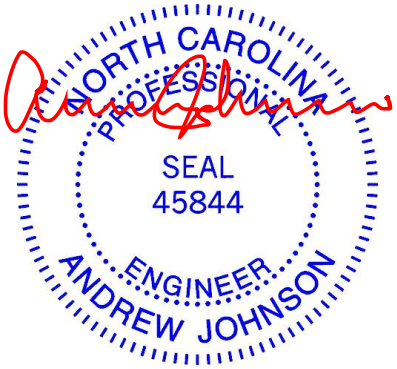
BRACING
TOP CHORD Structural wood sheathing directly applied or 7-4-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

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

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 4-4-8, Exterior(2E) 4-4-8 to 7-4-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 19 lb uplift at joint 1, 19 lb uplift at joint 3 and 76 lb uplift at joint 4.

LOAD CASE(S) Standard



March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	PBA2	Piggyback	2	4	I72213081 Job Reference (optional)

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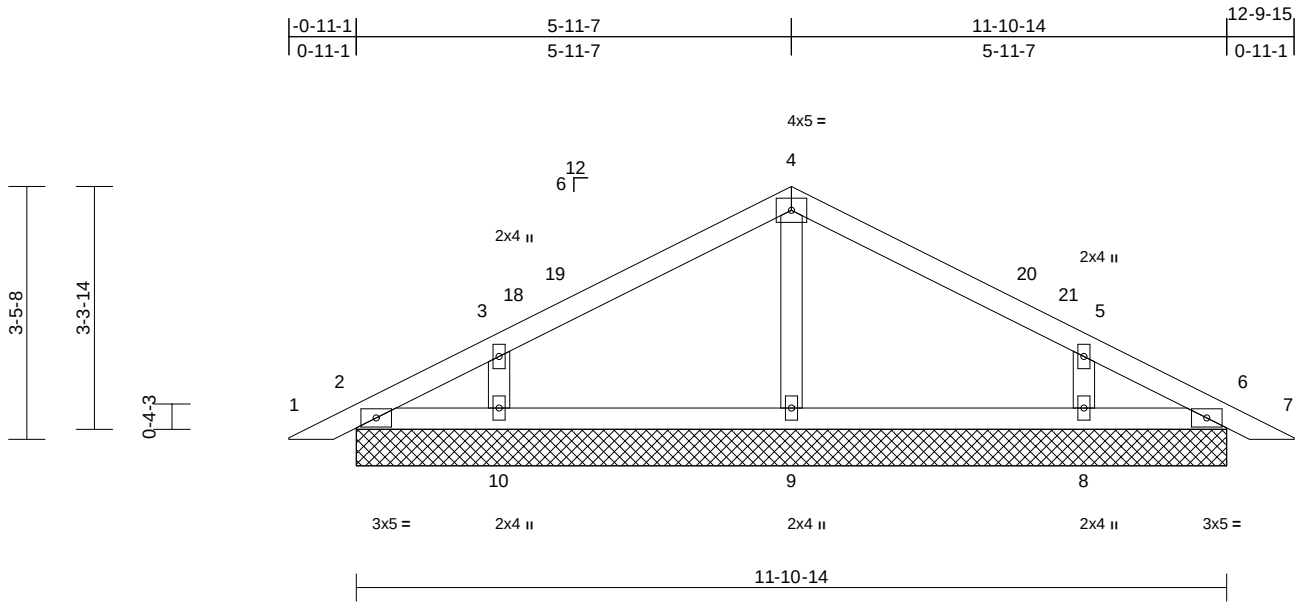

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 188 lb	FT = 20%

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

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

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

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

NOTES
1) 4-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
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) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) N/A
14) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

March 25,2025

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	PBA	Piggyback	2	1	I72213082 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:04 Page: 1
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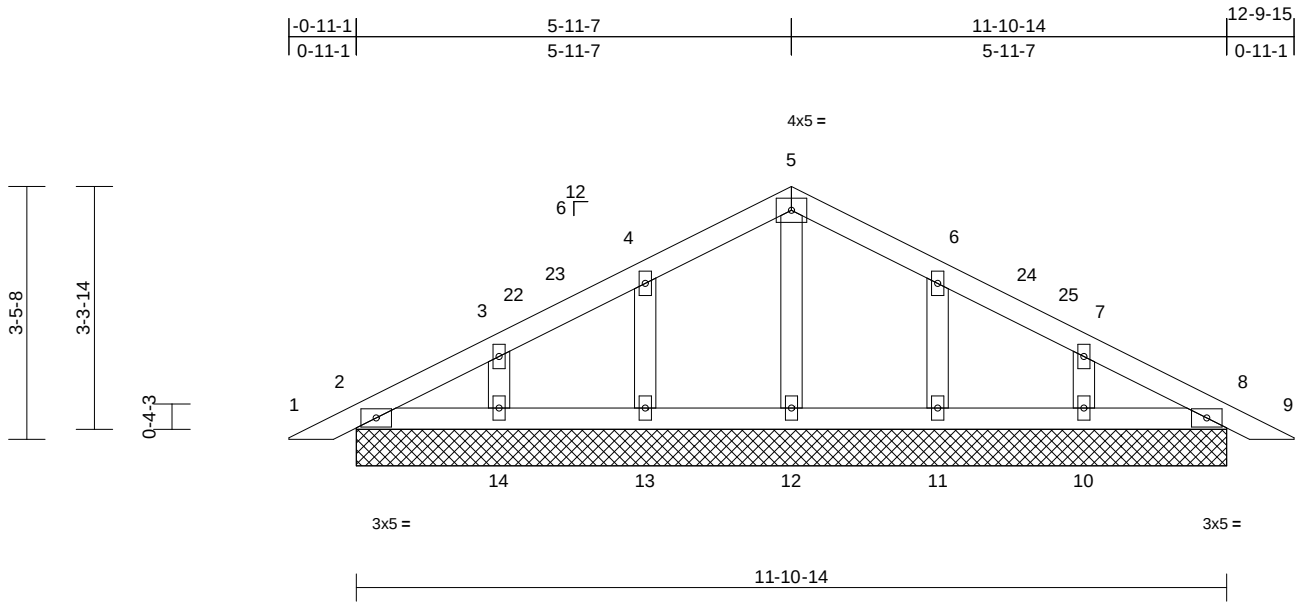

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 52 lb	FT = 20%

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

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

REACTIONS (size) 2=11-10-14, 8=11-10-14, 10=11-10-14, 11=11-10-14, 12=11-10-14, 13=11-10-14, 14=11-10-14
Max Horiz 2=52 (LC 18)
Max Uplift 2=-9 (LC 15), 8=-12 (LC 15), 10=-45 (LC 15), 11=-47 (LC 15), 13=-47 (LC 14), 14=-46 (LC 14)
Max Grav 2=125 (LC 21), 8=125 (LC 22), 10=240 (LC 22), 11=243 (LC 22), 12=143 (LC 22), 13=243 (LC 21), 14=240 (LC 21)

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) N/A
13) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	PBA1	Piggyback	18	1	I72213083 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:04 Page: 1
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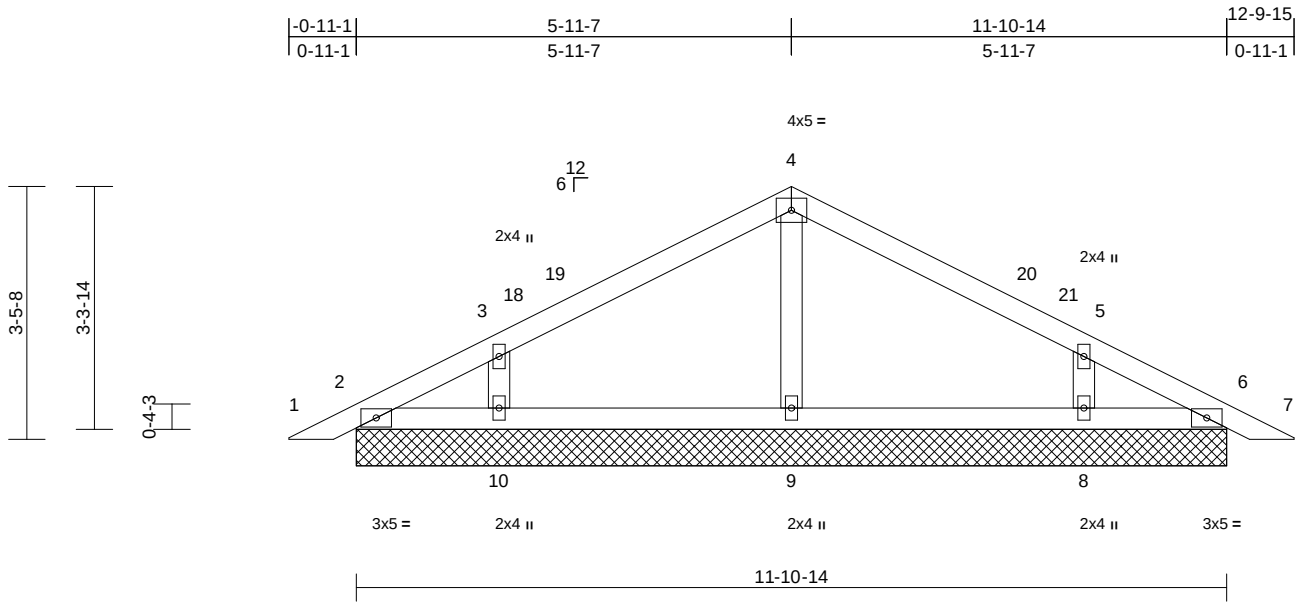


Scale = 1:31.5

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

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

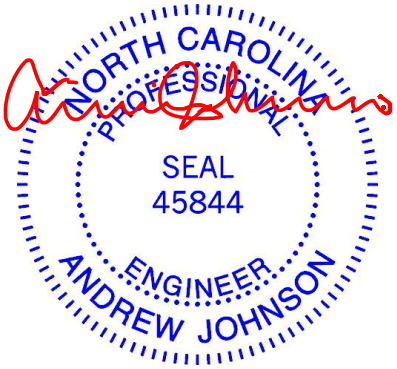
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

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

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) N/A
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	H01	Monopitch Supported Gable	2	1	I72213084 Job Reference (optional)

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

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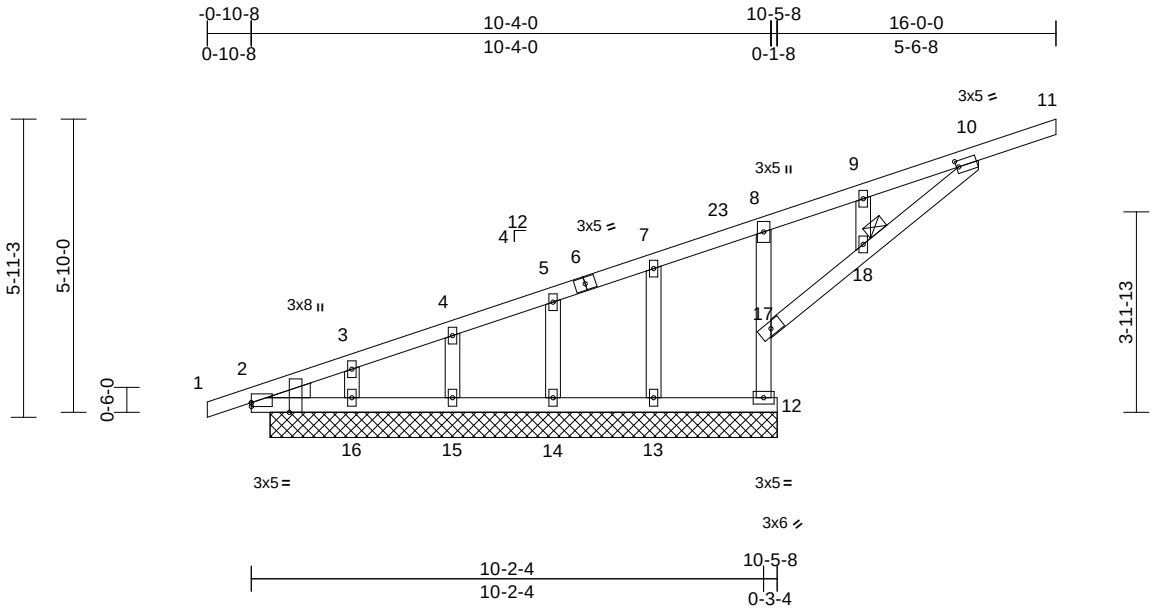

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Plate Offsets (X, Y): [2:Edge,0-0-14], [2:0-2-5,Edge], [10:0-0-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	-0.07	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 68 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals. Except: 9-5-0 oc bracing: 12-17
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
JOINTS	1 Brace at Jt(s): 18

REACTIONS (size) 2=10-1-0, 12=10-1-0, 13=10-1-0, 14=10-1-0, 15=10-1-0, 16=10-1-0, 17=10-1-0
Max Horiz 2=180 (LC 10)
Max Uplift 2=-3 (LC 14), 12=-69 (LC 21), 14=-18 (LC 10), 15=-155 (LC 14), 17=-278 (LC 14)
Max Grav 2=1 (LC 21), 12=34 (LC 10), 13=131 (LC 1), 14=172 (LC 1), 15=203 (LC 21), 16=234 (LC 27), 17=877 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/17, 2-3=-665/417, 3-4=-664/425, 4-5=-584/421, 5-7=-529/403, 7-8=-532/474, 8-9=-624/628, 9-10=-624/695, 10-11=-45/0, 12-17=0/0, 8-17=-368/305
BOT CHORD	2-16=-380/356, 15-16=-380/356, 14-15=-380/356, 13-14=-380/356, 12-13=-380/356
WEBS	3-16=-144/0, 4-15=-135/227, 5-14=-163/151, 7-13=-35/60, 17-18=-791/645, 10-18=-800/661, 9-18=-25/25

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-0-0, Exterior(2N) 2-0-0 to 16-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Bearing at joint(s) 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 69 lb uplift at joint 12.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	H02	Monopitch	6	1	I72213085 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:04

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Page: 1

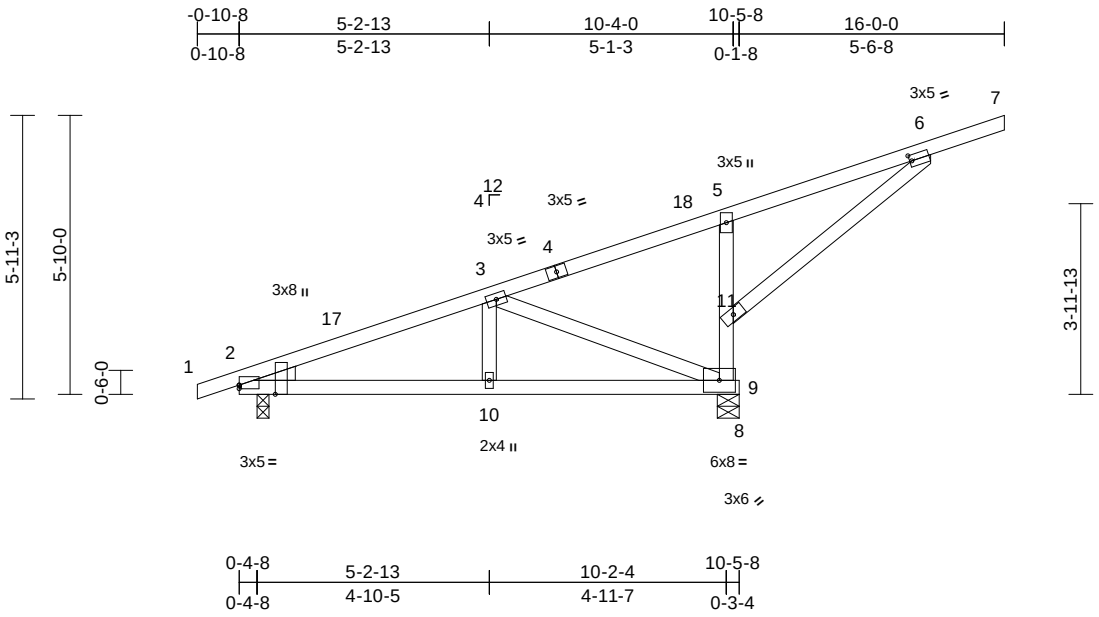

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Plate Offsets (X, Y): [2:Edge,0-0-14], [2:0-2-5,Edge], [6:0-0-8,0-1-8]

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

LUMBER

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

BRACING

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

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

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

NOTES

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 16-0-0 zone; cantilever left exposed ; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9 and 2. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLB6	Valley	1	1	I72213086 Job Reference (optional)

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

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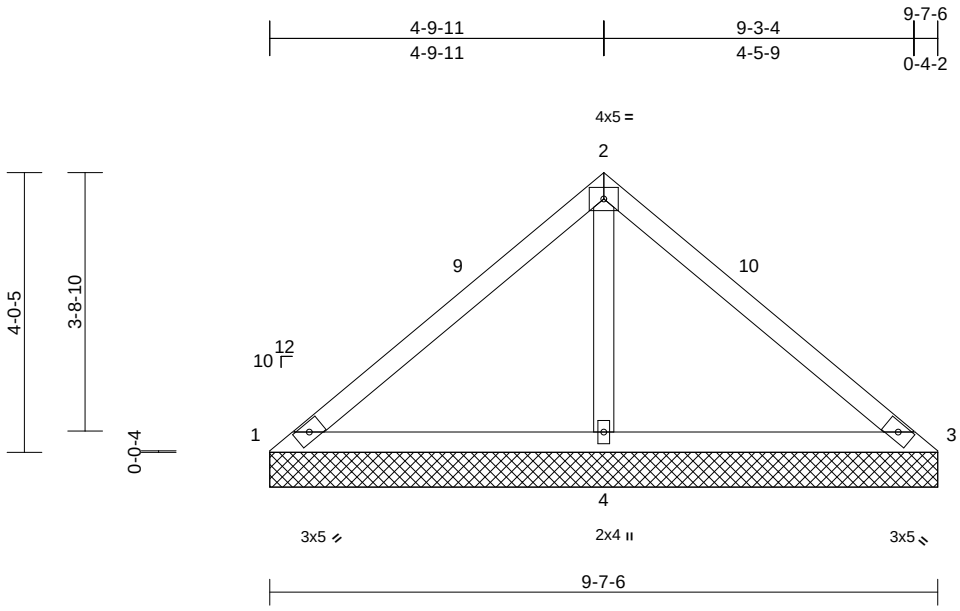

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.45	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 37 lb	FT = 20%

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

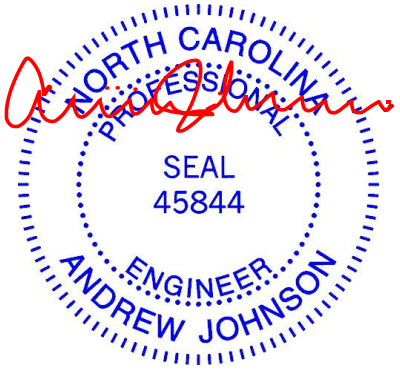
BRACING
TOP CHORD Structural wood sheathing directly applied or 9-7-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

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

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 6-7-11, Exterior(2E) 6-7-11 to 9-7-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 49 lb uplift at joint 1, 49 lb uplift at joint 3 and 108 lb uplift at joint 4.

LOAD CASE(S) Standard



March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLD4	Valley	1	1	I72213087 Job Reference (optional)

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

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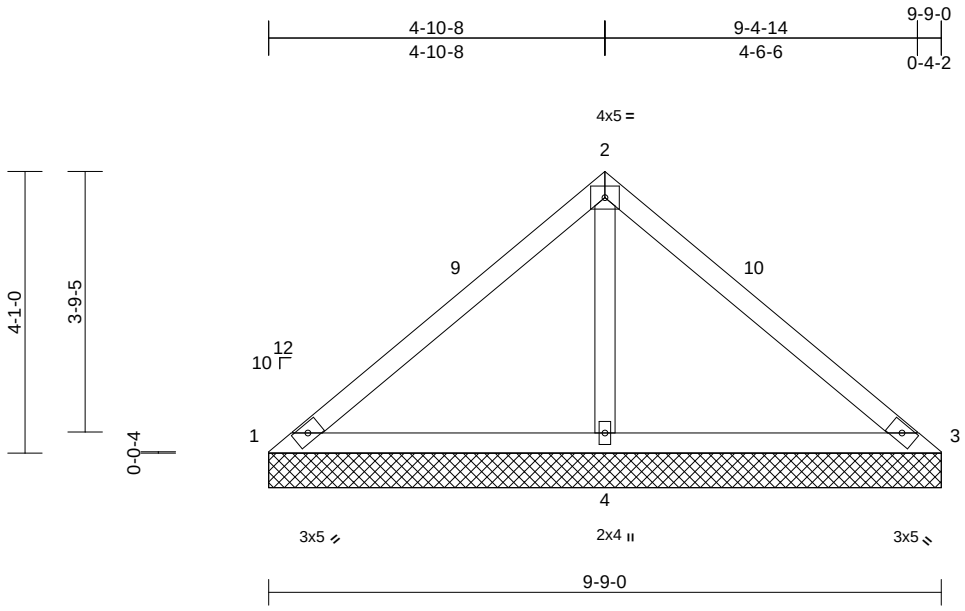

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.44	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 37 lb	FT = 20%

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

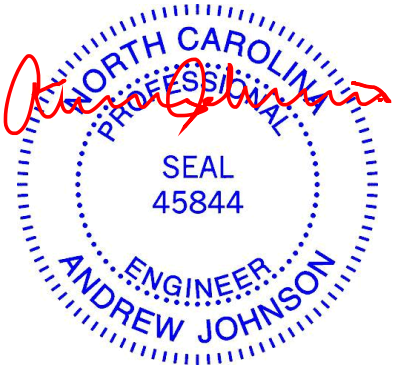
BRACING
TOP CHORD Structural wood sheathing directly applied or 9-9-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

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

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-117/382, 2-3=-117/382
BOT CHORD 1-4=-249/175, 3-4=-249/175
WEBS 2-4=-650/275

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 6-9-5, Exterior(2E) 6-9-5 to 9-9-5 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 1, 52 lb uplift at joint 3 and 111 lb uplift at joint 4.

LOAD CASE(S) Standard



March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	J01	Common	5	1	I72213088
					Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:04 Page: 1

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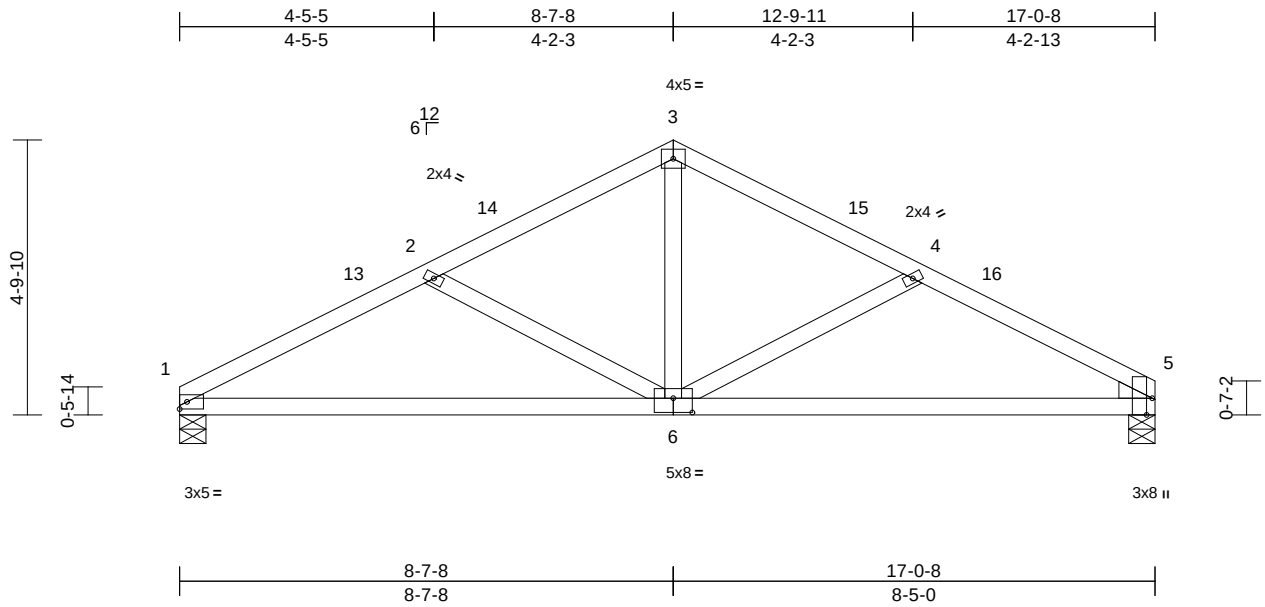

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Plate Offsets (X, Y): [5:0-3-8,Edge], [6:0-4-0,0-3-0]

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

LUMBER

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

BRACING

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

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

FORCES (lb) - Maximum Compression/Maximum Tension

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

NOTES

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) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 5-7-8, Exterior(2R) 5-7-8 to 11-7-8, Interior (1) 11-7-8 to 14-0-8, Exterior(2E) 14-0-8 to 17-0-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Bearings are assumed to be: , Joint 5 SP No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 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) 5. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLB5	Valley	1	1	I72213089 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:05 Page: 1
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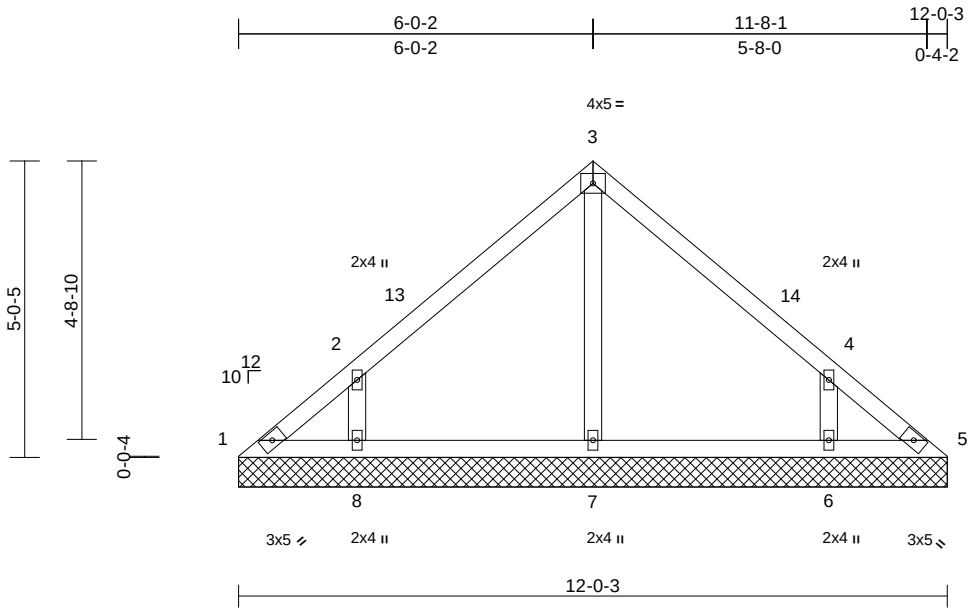


Scale = 1:39.1

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

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

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

REACTIONS (size) 1=12-0-3, 5=12-0-3, 6=12-0-3, 7=12-0-3, 8=12-0-3
Max Horiz 1=114 (LC 11)
Max Uplift 1=-34 (LC 10), 5=-6 (LC 11), 6=-136 (LC 15), 8=-139 (LC 14)
Max Grav 1=91 (LC 30), 5=70 (LC 24), 6=434 (LC 21), 7=259 (LC 20), 8=434 (LC 20)

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 9-0-8, Exterior(2E) 9-0-8 to 12-0-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 1, 6 lb uplift at joint 5, 139 lb uplift at joint 8 and 136 lb uplift at joint 6.

LOAD CASE(S) Standard

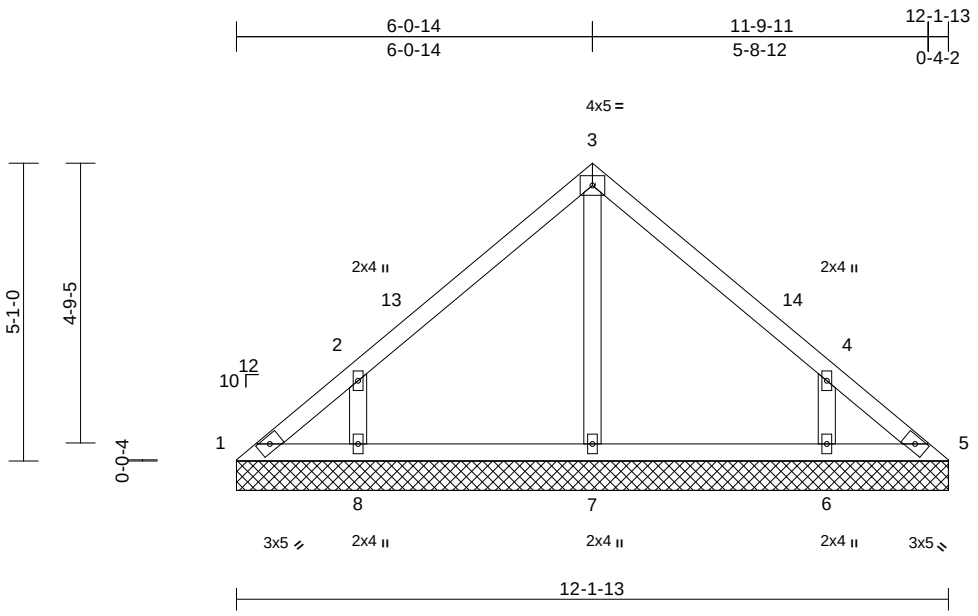
March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLD3	Valley	1	1	I72213090 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:05 ID:kUxM45s?bF21LX?KCRTFVAzRQqU-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?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	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 50 lb	FT = 20%

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

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

REACTIONS (size) 1=12-1-13, 5=12-1-13, 6=12-1-13, 7=12-1-13, 8=12-1-13
Max Horiz 1=-115 (LC 12)
Max Uplift 1=-33 (LC 10), 5=-5 (LC 11), 6=-136 (LC 15), 8=-140 (LC 14)
Max Grav 1=94 (LC 25), 5=73 (LC 24), 6=434 (LC 21), 7=261 (LC 21), 8=434 (LC 20)

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 9-2-2, Exterior(2E) 9-2-2 to 12-2-2 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 1, 5 lb uplift at joint 5, 140 lb uplift at joint 8 and 136 lb uplift at joint 6.

LOAD CASE(S) Standard

NORTH CAROLINA PROFESSIONAL SEAL 45844 ENGINEER ANDREW JOHNSON

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLB4	Valley	1	1	I72213091 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:05 Page: 1
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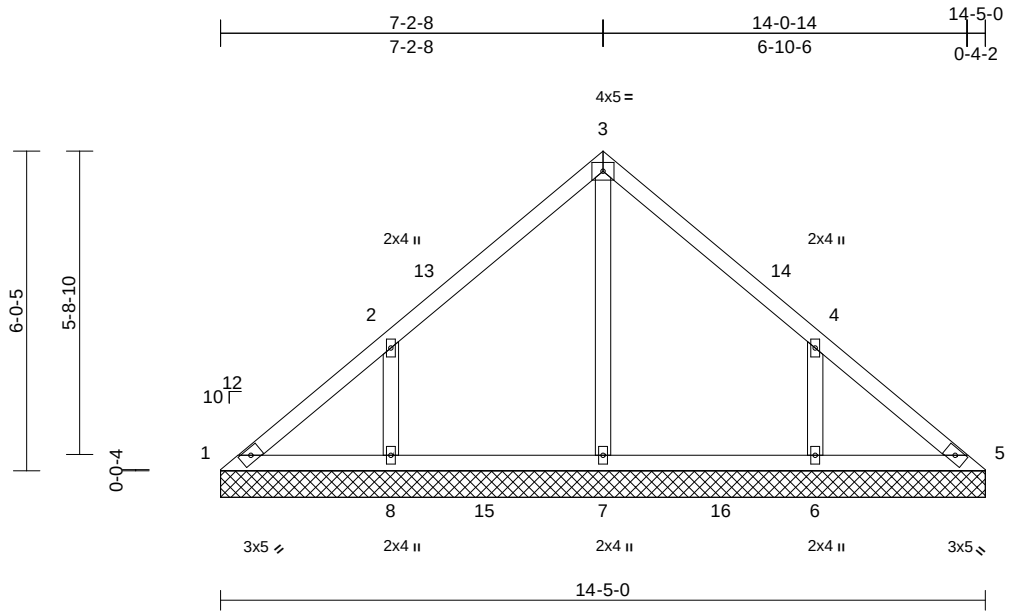

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 62 lb	FT = 20%

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

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

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

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-2-13, Interior (1) 3-2-13 to 4-2-13, Exterior(2R) 4-2-13 to 10-2-13, Interior (1) 10-2-13 to 11-2-13, Exterior(2E) 11-2-13 to 14-5-5 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 1, 157 lb uplift at joint 8 and 154 lb uplift at joint 6.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLD2	Valley	1	1	I72213092 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:05 Page: 1
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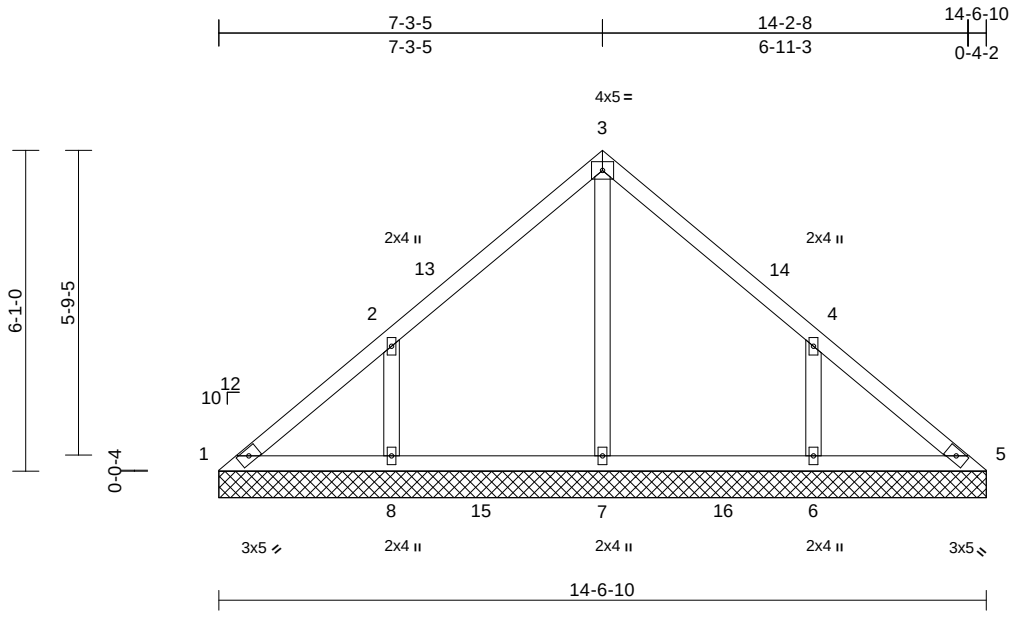

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 63 lb	FT = 20%

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

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

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

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-3-10, Interior (1) 3-3-10 to 4-3-10, Exterior(2R) 4-3-10 to 10-3-10, Interior (1) 10-3-10 to 11-3-10, Exterior(2E) 11-3-10 to 14-6-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 1, 159 lb uplift at joint 8 and 156 lb uplift at joint 6.

LOAD CASE(S) Standard

NORTH CAROLINA PROFESSIONAL SEAL 45844 ENGINEER ANDREW JOHNSON

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLB3	Valley	1	1	I72213093 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:04 Page: 1
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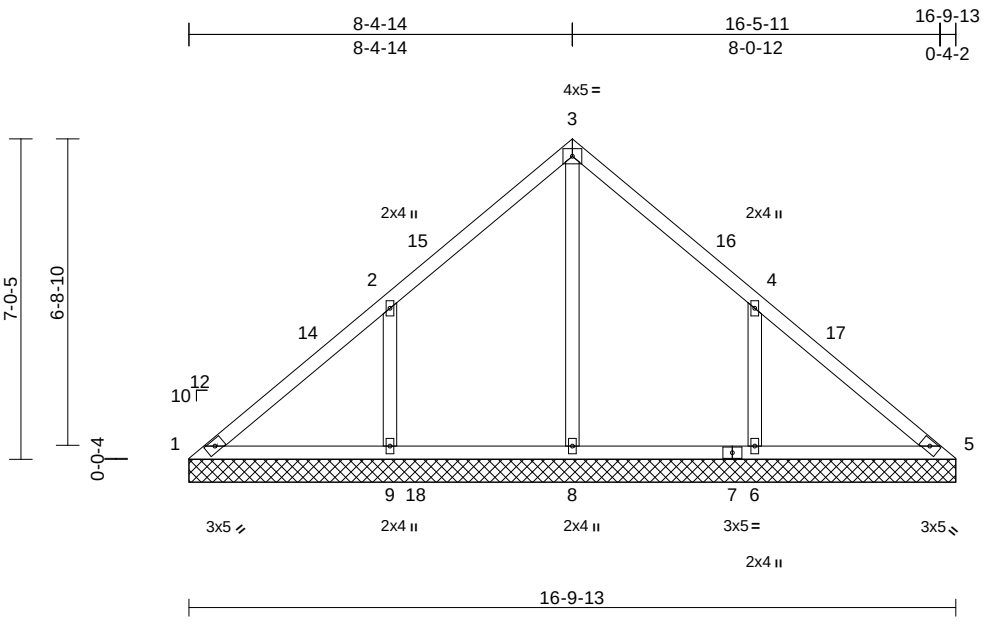

Scale = 1:50.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.26	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 75 lb	FT = 20%

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

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

REACTIONS (size) 1=16-9-13, 5=16-9-13, 6=16-9-13, 8=16-9-13, 9=16-9-13
Max Horiz 1=-161 (LC 10)
Max Uplift 1=-22 (LC 10), 6=-182 (LC 15), 9=-185 (LC 14)
Max Grav 1=124 (LC 30), 5=106 (LC 21), 6=519 (LC 6), 8=493 (LC 24), 9=520 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-145/248, 2-3=-111/187, 3-4=-111/167, 4-5=-120/211
BOT CHORD 1-9=-128/136, 8-9=-128/136, 6-8=-128/136, 5-6=-128/136
WEBS 3-8=-307/0, 2-9=-395/219, 4-6=-395/218

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-5-3, Exterior(2R) 5-5-3 to 11-5-3, Interior (1) 11-5-3 to 13-10-2, Exterior(2E) 13-10-2 to 16-10-2 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 1, 185 lb uplift at joint 9 and 182 lb uplift at joint 6.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLD1	Valley	1	1	I72213094 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:05 Page: 1
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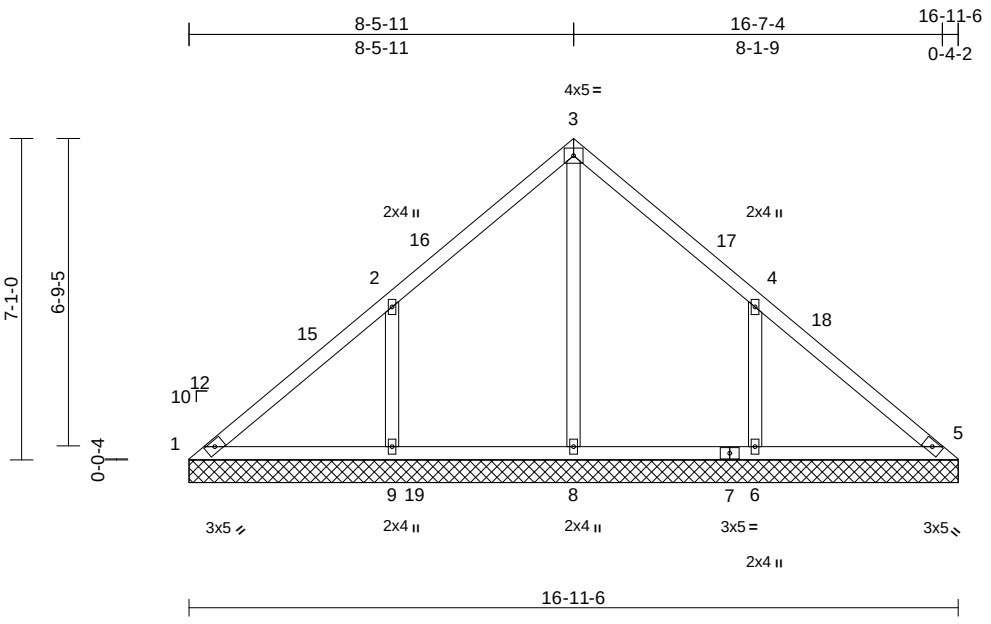

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.39	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.42	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 76 lb	FT = 20%

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

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

REACTIONS (size) 1=16-11-6, 5=16-11-6, 6=16-11-6, 8=16-11-6, 9=16-11-6
Max Horiz 1=161 (LC 11)
Max Uplift 1=-58 (LC 10), 6=-184 (LC 15), 9=-190 (LC 14)
Max Grav 1=83 (LC 35), 5=1 (LC 25), 6=513 (LC 25), 8=657 (LC 24), 9=516 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-105/376, 2-3=-23/323, 3-4=-1/302, 4-5=-144/307
BOT CHORD 1-9=-201/77, 8-9=-201/75, 6-8=-201/75, 5-6=-201/75
WEBS 3-8=-476/0, 2-9=-394/222, 4-6=-394/220

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-6-0, Exterior(2R) 5-6-0 to 11-6-0, Interior (1) 11-6-0 to 13-7-3, Exterior(2E) 13-7-3 to 16-7-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 1, 190 lb uplift at joint 9 and 184 lb uplift at joint 6.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLB2	Valley	1	1	I72213095 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:04 Page: 1
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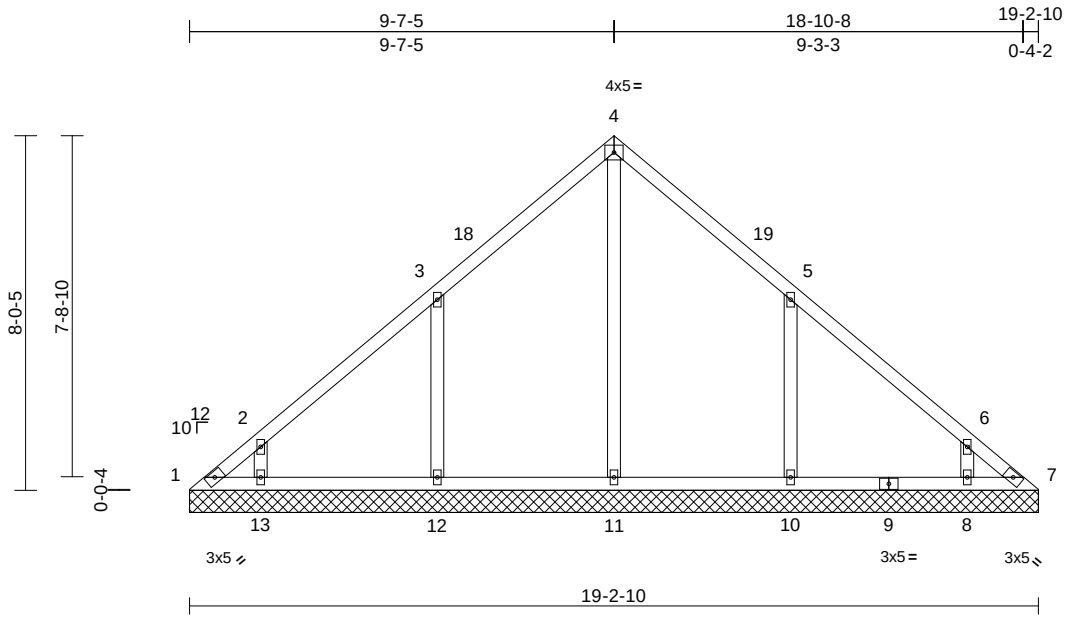

Scale = 1:52.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	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	0.21	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 90 lb	FT = 20%

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

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

REACTIONS (size) 1=19-2-10, 7=19-2-10, 8=19-2-10, 10=19-2-10, 11=19-2-10, 12=19-2-10, 13=19-2-10
Max Horiz 1=-184 (LC 10)
Max Uplift 1=-71 (LC 12), 7=-26 (LC 13), 8=-89 (LC 15), 10=-175 (LC 15), 12=-174 (LC 14), 13=-95 (LC 14)
Max Grav 1=113 (LC 14), 7=82 (LC 15), 8=318 (LC 25), 10=480 (LC 6), 11=374 (LC 27), 12=480 (LC 5), 13=326 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-220/155, 2-3=-184/117, 3-4=-209/163, 4-5=-209/139, 5-6=-142/63, 6-7=-180/97
BOT CHORD 1-13=-78/140, 12-13=-61/140, 11-12=-61/140, 10-11=-61/140, 8-10=-61/140, 7-8=-61/140
WEBS 4-11=-181/5, 3-12=-379/222, 2-13=-258/170, 5-10=-379/222, 6-8=-258/168

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 6-7-10, Exterior(2R) 6-7-10 to 12-7-10, Interior (1) 12-7-10 to 16-2-14, Exterior(2E) 16-2-14 to 19-2-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 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, with BCDL = 10.0psf.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 71 lb uplift at joint 1, 26 lb uplift at joint 7, 174 lb uplift at joint 12, 95 lb uplift at joint 13, 175 lb uplift at joint 10 and 89 lb uplift at joint 8.

LOAD CASE(S) Standard

NORTH CAROLINA PROFESSIONAL SEAL 45844 ENGINEER ANDREW JOHNSON

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	E01	Common Supported Gable	1	1	I72213096 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:03 Page: 1
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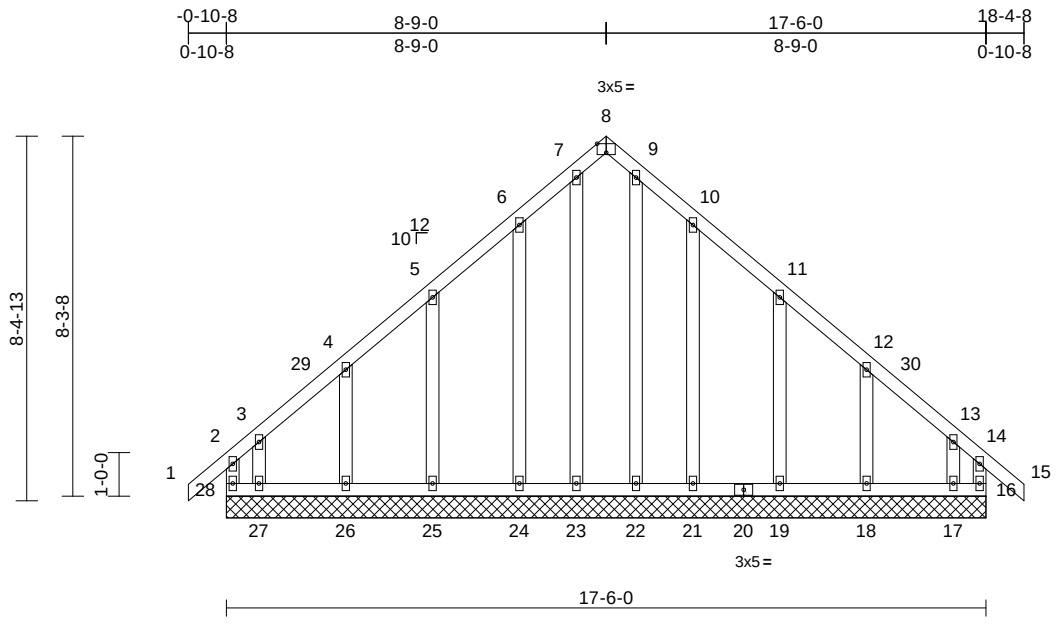

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Plate Offsets (X, Y): [8:0-2-8,Edge]

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.00	16	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 130 lb	FT = 20%

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

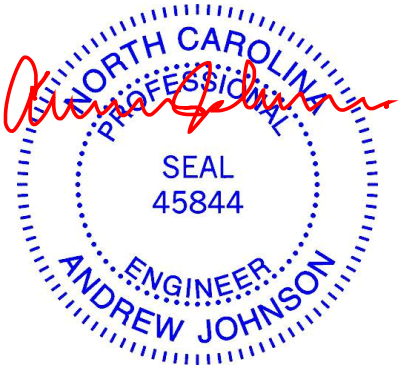
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 16=17-6-0, 17=17-6-0, 18=17-6-0, 19=17-6-0, 21=17-6-0, 22=17-6-0, 23=17-6-0, 24=17-6-0, 25=17-6-0, 26=17-6-0, 27=17-6-0, 28=17-6-0
Max Horiz 28=209 (LC 13)
Max Uplift 16=-135 (LC 13), 17=-215 (LC 15), 18=-70 (LC 15), 19=-77 (LC 15), 21=-84 (LC 15), 24=-83 (LC 14), 25=-77 (LC 14), 26=-69 (LC 14), 27=-231 (LC 14), 28=-187 (LC 12)
Max Grav 16=226 (LC 15), 17=200 (LC 13), 18=170 (LC 31), 19=206 (LC 22), 21=214 (LC 22), 22=136 (LC 22), 23=136 (LC 21), 24=214 (LC 21), 25=206 (LC 21), 26=169 (LC 25), 27=233 (LC 12), 28=261 (LC 11)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-28=-168/112, 1-2=0/38, 2-3=-204/166, 3-4=-116/115, 4-5=-92/94, 5-6=-76/160, 6-7=-104/251, 7-8=-76/166, 8-9=-76/166, 9-10=-104/251, 10-11=-72/160, 11-12=-69/73, 12-13=-90/87, 13-14=-185/126, 14-15=0/38, 14-16=-142/80
BOT CHORD 27-28=-98/172, 26-27=-98/172, 25-26=-98/172, 24-25=-98/172, 23-24=-98/172, 22-23=-98/172, 21-22=-98/172, 19-21=-98/172, 18-19=-98/172, 17-18=-98/172, 16-17=-98/172
WEBS 7-23=-141/22, 9-22=-141/22, 6-24=-181/127, 5-25=-167/114, 4-26=-150/120, 3-27=-124/148, 10-21=-181/127, 11-19=-167/114, 12-18=-150/120, 13-17=-111/144

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 Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 5-9-0, Corner(3R) 5-9-0 to 11-9-0, Exterior(2N) 11-9-0 to 15-4-8, Corner(3E) 15-4-8 to 18-4-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 187 lb uplift at joint 28, 135 lb uplift at joint 16, 83 lb uplift at joint 24, 77 lb uplift at joint 25, 69 lb uplift at joint 26, 231 lb uplift at joint 27, 84 lb uplift at joint 21, 77 lb uplift at joint 19, 70 lb uplift at joint 18 and 215 lb uplift at joint 17.

LOAD CASE(S) Standard



March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	D02	Common Girder	1	**2**	I72213097 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:03 Page: 1

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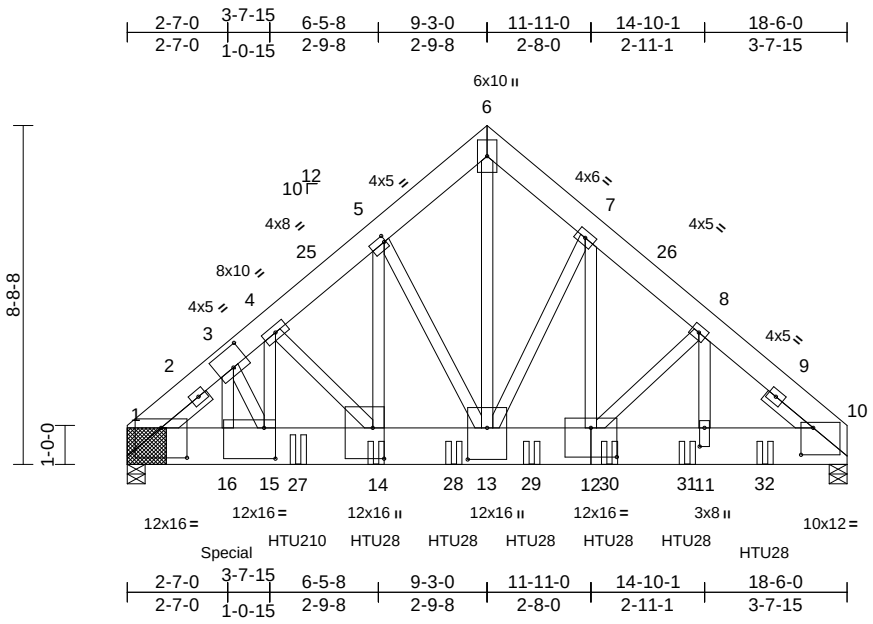

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Plate Offsets (X, Y): [1:0-8-0,0-9-4], [3:0-5-0,0-5-12], [5:0-0-8,0-2-0], [10:0-3-12,0-8-5], [11:0-5-12,0-1-8], [12:0-8-0,0-9-0], [13:0-9-12,0-6-0], [14:0-9-8,0-3-8], [15:0-3-8,0-9-8]

Loading	(psf)	**Spacing**	2-0-0	**CSI**		**DEFL**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.10	14-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.17	14-15	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.04	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 487 lb	FT = 20%

LUMBER

TOP CHORD	2x8 SP 2400F 2.0E
BOT CHORD	2x12 SP 2400F 2.0E
WEBS	2x4 SP No.3 *Except* 13-6:2x4 SP No.1, 5-14:2x4 SP No.2
SLIDER	Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-11-12 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

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

FORCES (lb) - Maximum Compression/Maximum Tension

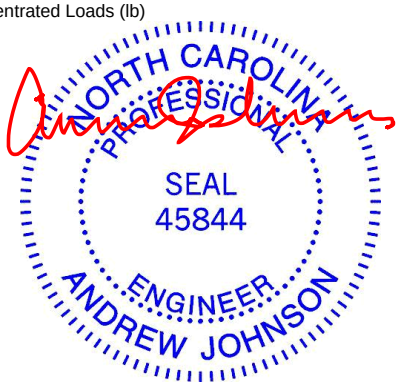
TOP CHORD	1-3=-15578/0, 3-4=-14258/0, 4-5=-12125/0, 5-6=-9492/0, 6-7=-9463/0, 7-8=-11050/0, 8-10=-12158/0
BOT CHORD	1-16=0/10988, 15-16=0/10988, 14-15=0/11862, 13-14=0/9117, 11-13=0/9123, 10-11=0/9123
WEBS	6-13=0/10728, 7-13=-1571/0, 7-12=0/2918, 8-12=-1103/0, 8-11=0/1625, 4-14=-4425/101, 4-15=-208/3373,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

NOTES

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x12 - 6 rows staggered at 0-5-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 5-14 2x4 - 1 row at 0-5-0 oc, member 3-16 2x4 - 2 rows staggered at 0-2-0 oc.
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) 2x12 SP 2400F 2.0E bearing block 12" long at jt. 1 attached to each face with 6 rows of 10d (0.131"x3") nails spaced 3" o.c. 24 Total fasteners per block. Bearing is assumed to be SP 2400F 2.0E.
4) Unbalanced roof live loads have been considered for this design.
5) 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
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 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) Use Simpson Strong-Tie HTU210 (32-10dx1 1/2 Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent at 4-4-12 from the left end to connect truss(es) to back face of bottom chord.
11) Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 6-4-12 from the left end to 16-4-12 to connect truss(es) to back face of bottom chord.
12) Fill all nail holes where hanger is in contact with lumber.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 8867 lb down and 535 lb up at 2-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-60, 6-10=-60, 17-21=-20
Concentrated Loads (lb)



March 25,2025

Continued on page 2

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	D01	Common Supported Gable	1	1	I72213098 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:03 Page: 1
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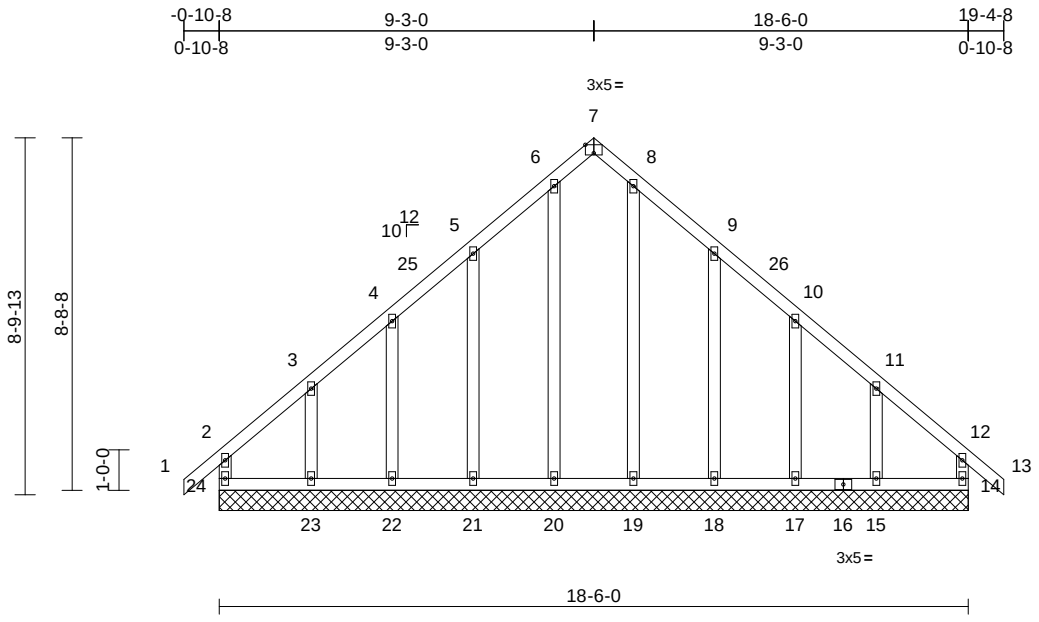

Scale = 1:56.9

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

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

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

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

REACTIONS (size) 14=18-6-0, 15=18-6-0, 17=18-6-0, 18=18-6-0, 19=18-6-0, 20=18-6-0, 21=18-6-0, 22=18-6-0, 23=18-6-0, 24=18-6-0
Max Horiz 24=-225 (LC 12)
Max Uplift 14=-50 (LC 11), 15=-163 (LC 15), 17=-47 (LC 15), 18=-116 (LC 15), 21=-115 (LC 14), 22=-46 (LC 14), 23=-168 (LC 14), 24=-69 (LC 10)
Max Grav 14=190 (LC 25), 15=221 (LC 26), 17=172 (LC 22), 18=253 (LC 22), 19=224 (LC 22), 20=224 (LC 21), 21=253 (LC 21), 22=172 (LC 21), 23=228 (LC 25), 24=205 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-24=-168/63, 1-2=0/39, 2-3=-164/140, 3-4=-105/90, 4-5=-92/118, 5-6=-116/235, 6-7=-94/171, 7-8=-94/171, 8-9=-116/235, 9-10=-77/117, 10-11=-90/72, 11-12=-152/117, 12-13=0/39, 12-14=-155/47
BOT CHORD 23-24=-106/187, 22-23=-106/187, 21-22=-106/187, 20-21=-106/187, 19-20=-106/187, 18-19=-106/187, 17-18=-106/187, 15-17=-106/187, 14-15=-106/187
WEBS 6-20=-185/8, 8-19=-185/7, 5-21=-213/162, 4-22=-142/93, 3-23=-174/160, 9-18=-213/163, 10-17=-143/91, 11-15=-168/168

NOTES
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 2-3-4, Exterior(2N) 2-3-4 to 6-3-0, Corner(3R) 6-3-0 to 12-2-12, Exterior(2N) 12-2-12 to 16-2-12, Corner(3E) 16-2-12 to 19-4-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 69 lb uplift at joint 24, 50 lb uplift at joint 14, 115 lb uplift at joint 21, 46 lb uplift at joint 22, 168 lb uplift at joint 23, 116 lb uplift at joint 18, 47 lb uplift at joint 17 and 163 lb uplift at joint 15.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	VLB1	Valley	1	1	I72213099 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:04 Page: 1
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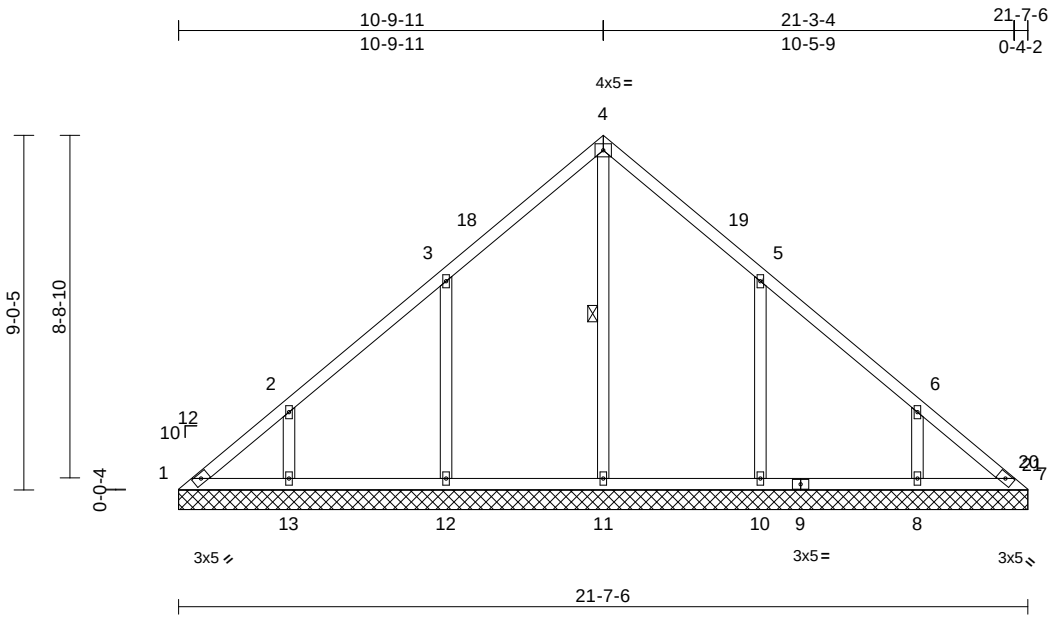

Scale = 1:58.7

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	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 106 lb	FT = 20%

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

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

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

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

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 2-10-0, Interior (1) 2-10-0 to 7-10-0, Exterior(2R) 7-10-0 to 13-10-0, Interior (1) 13-10-0 to 18-3-3, Exterior(2E) 18-3-3 to 21-3-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 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, with BCDL = 10.0psf.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 1, 6 lb uplift at joint 7, 173 lb uplift at joint 12, 120 lb uplift at joint 13, 174 lb uplift at joint 10 and 114 lb uplift at joint 8.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	G01	Monopitch	5	1	I72213100 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:03 Page: 1
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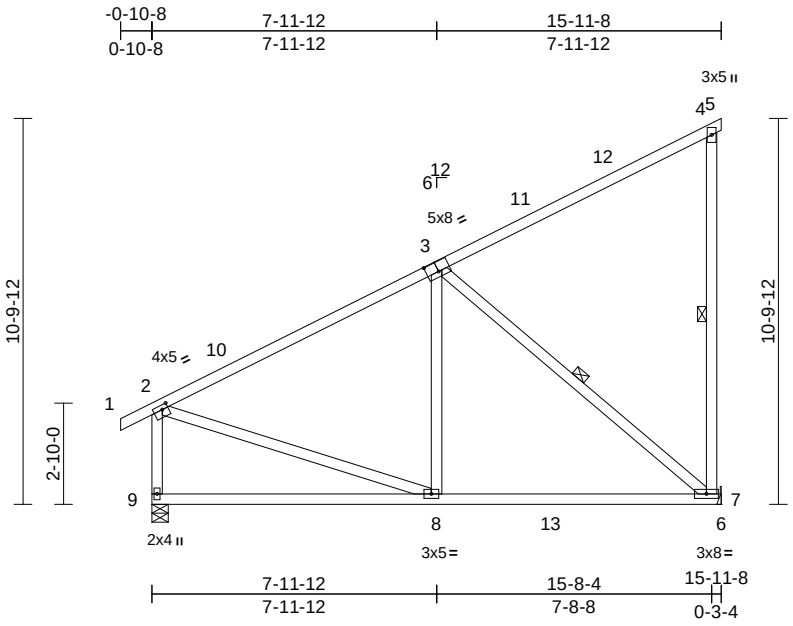

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Plate Offsets (X, Y): [2:0-2-0,0-1-8], [3:0-4-0,0-3-4]

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

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

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

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

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-4=-677/119, 4-5=-12/0, 4-7=-328/122, 2-9=-655/84
BOT CHORD 8-9=-334/218, 7-8=-195/603, 6-7=0/0
WEBS 3-8=0/313, 3-7=-768/250, 2-8=0/486

NOTES
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 12-11-8, Exterior(2E) 12-11-8 to 15-11-8 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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, with BCDL = 10.0psf.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 221 lb uplift at joint 7.

LOAD CASE(S) Standard

March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	C01	Half Hip	4	1	I72213101 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:02 Page: 1
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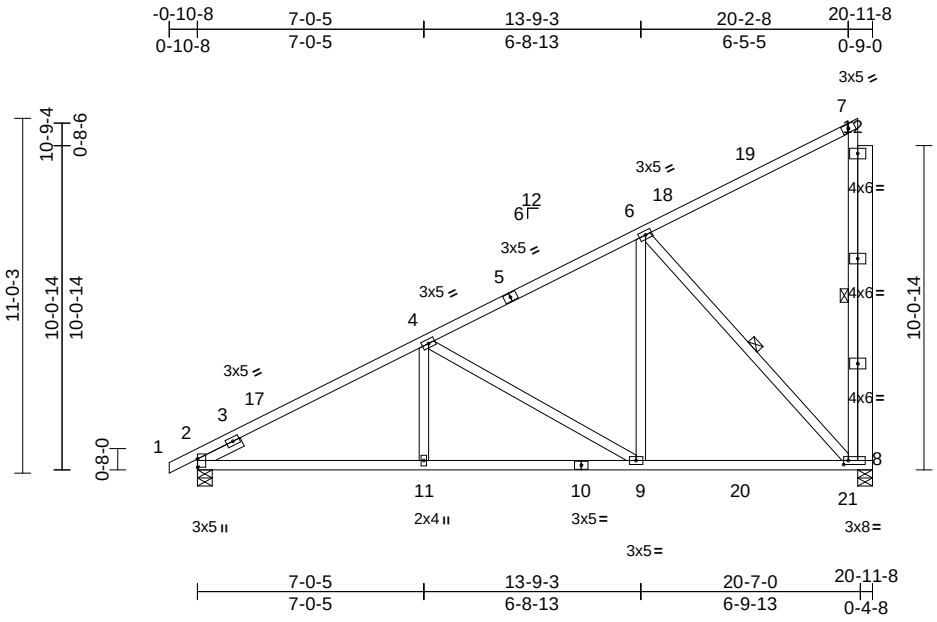


Scale = 1:71.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.83	Vert(LL)	-0.08	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.14	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 148 lb	FT = 20%

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

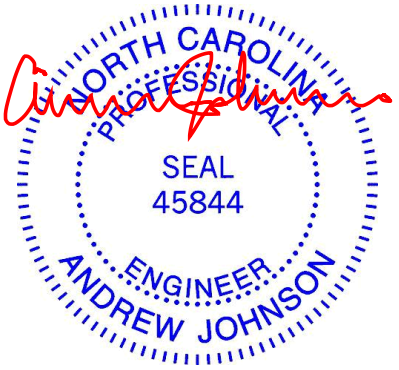
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-8-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-8, 6-8

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

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

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 17-4-4, Exterior(2E) 17-4-4 to 20-4-4 zone; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) All plates are 3x5 MT20 unless otherwise indicated.
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) 8 and 2. This connection is for uplift only and does not consider lateral forces.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 752 lb down and 128 lb up at 20-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

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



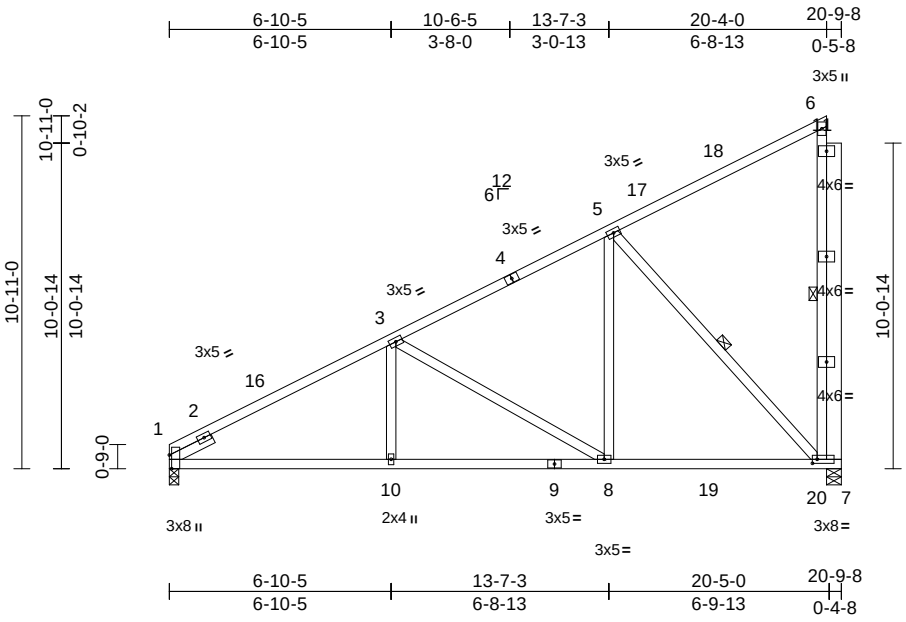
March 25,2025

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	C02	Half Hip	1	1	I72213102 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:03 Page: 1
ID:EGq646Pbf2EXC6nWlJzpaiyfjwU-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:71.3

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

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

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-7-1 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 6-7, 5-7

REACTIONS (size) 1=0-3-8, 7=0-5-8
Max Horiz 1=370 (LC 14)
Max Uplift 1=-30 (LC 14), 7=-342 (LC 14)
Max Grav 1=900 (LC 5), 7=1714 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-3=-1401/30, 3-5=-812/0, 5-6=-162/100, 6-7=-265/93
BOT CHORD	1-10=-405/1286, 8-10=-319/1286, 7-8=-159/716
WEBS	3-10=0/254, 3-8=-658/185, 5-8=0/624, 5-7=-1018/227

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) 0-2-0 to 3-2-0, Interior (1) 3-2-0 to 17-4-4, Exterior(2E) 17-4-4 to 20-4-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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, with BCDL = 10.0psf.
6) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7 and 1. This connection is for uplift only and does not consider lateral forces.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 752 lb down and 129 lb up at 20-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

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

March 25,2025

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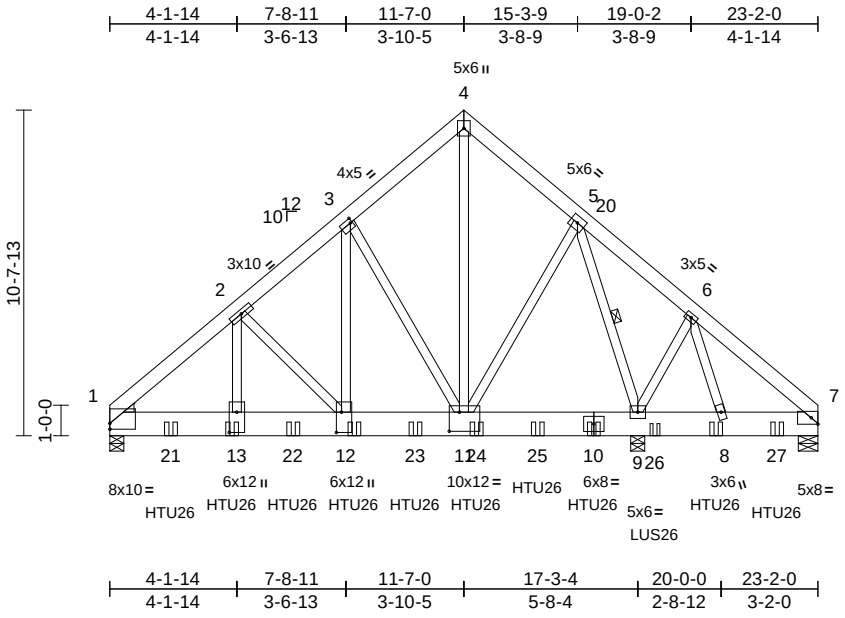
Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	B02	Common Girder	1	2	I72213103 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:02 Page: 1

ID:iFFKd9_s5HOVK9vBFwqTAGzRAMn-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:75.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	-0.08	12-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	-0.16	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.02	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 479 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-9-7 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS	1 Row at midpt 5-9

REACTIONS (size) 1=0-5-8, 7=0-7-12, 9=0-5-8
Max Horiz 1=-227 (LC 35)
Max Uplift 1=-178 (LC 12), 7=-209 (LC 12), 9=-722 (LC 13)
Max Grav 1=8363 (LC 5), 7=679 (LC 19), 9=11648 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-9914/224, 2-3=-7502/211, 3-4=-4644/202, 4-5=-4588/219, 5-6=-66/182, 6-7=-154/503
BOT CHORD	1-13=-246/7510, 12-13=-246/7510, 11-12=-146/5754, 9-11=-24/1717, 8-9=-165/77, 7-8=-316/57
WEBS	2-13=-48/3318, 2-12=-2569/179, 3-12=-149/5505, 3-11=-4474/268, 4-11=-181/5497, 5-11=-101/3899, 5-9=-6639/232, 6-9=-278/313, 6-8=-548/17

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.
Bottom chords connected as follows: 2x10 - 2 rows staggered at 0-5-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc,
Except member 2-13 2x4 - 2 rows staggered at 0-7-0 oc, member 3-12 2x4 - 1 row at 0-7-0 oc.
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, with BCDL = 10.0psf.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 7. This connection is for uplift only and does not consider lateral forces.
10) LGT2 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9. This connection is for uplift only and does not consider lateral forces.
11) Use Simpson Strong-Tie HTU26 (20-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-0 from the left end to 15-10-0 to connect truss(es) to back face of bottom chord.
12) Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent at 17-10-0 from the left end to connect truss(es) to back face of bottom chord.
13) Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 2-0-0 oc max. starting at 19-10-0 from the left end to 21-10-0 to connect truss(es) to back face of bottom chord.
14) Fill all nail holes where hanger is in contact with lumber.
15) LGT2 Hurricane ties must have two studs in line below the truss.

LOAD CASE(S) Standard

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Continued on page 2

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1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-60, 4-7=-60, 14-17=-20
Concentrated Loads (lb)
Vert: 10=-1868 (B), 13=-1877 (B), 12=-1877 (B), 8=-839 (B), 21=-1877 (B), 22=-1877 (B), 23=-1877 (B), 24=-1868 (B), 25=-1868 (B), 26=-839 (B), 27=-875 (B)

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	B01	Common	1	1	I72213104 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:02 Page: 1

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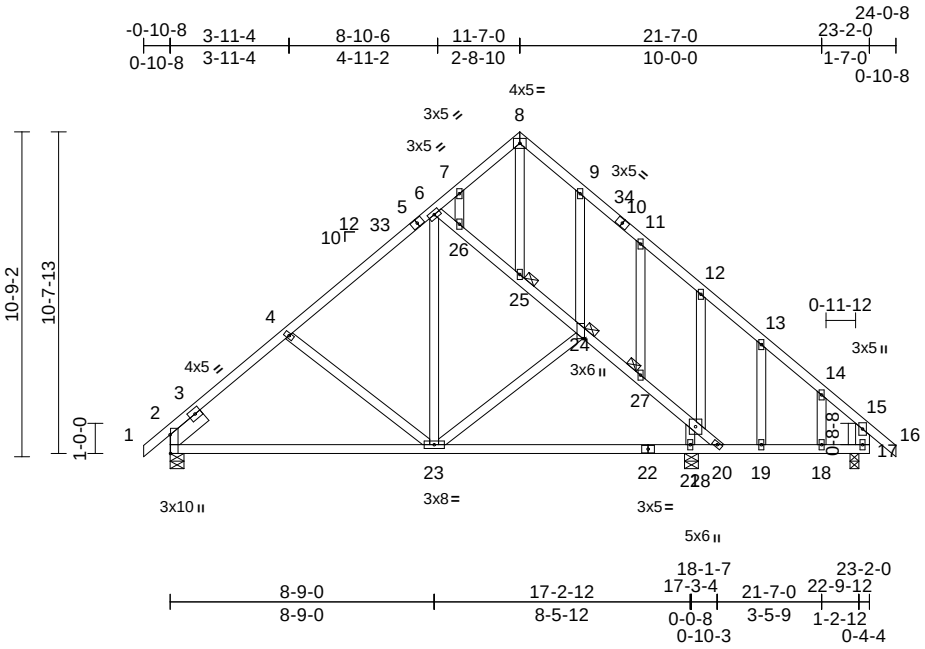


Scale = 1:76.3

Plate Offsets (X, Y): [2:0-7-7,Edge], [24:0-0-0,0-0-10]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	0.07	18-19	>917	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.16	23-31	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.51	Horz(CT)	0.02	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 173 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 17-15:2x6 SP No.2, 6-20:2x4 SP No.2
OTHERS	2x4 SP No.3
SLIDER	Left 2x6 SP No.2 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-5-4 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS	1 Brace at Jt(s): 24, 25, 27

REACTIONS (size) 2=0-5-8, 17=0-3-8, 21=0-5-8
Max Horiz 2=265 (LC 13)
Max Uplift 2=-50 (LC 14), 21=-225 (LC 15)
Max Grav 2=853 (LC 21), 17=446 (LC 22), 21=753 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/34, 2-4=-911/79, 4-6=-760/90, 6-7=-332/144, 7-8=-315/186, 8-9=-280/153, 9-11=-301/119, 11-12=-323/75, 12-13=-203/16, 13-14=-293/12, 14-15=-345/1, 15-16=0/42, 15-17=-343/0

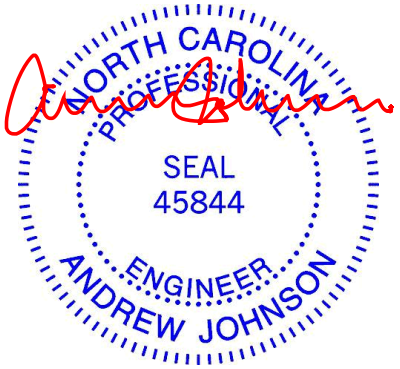
BOT CHORD 2-23=-214/696, 21-23=-41/499, 20-21=-11/617, 19-20=-37/231, 18-19=-37/231, 17-18=-37/231

WEBS 4-23=-237/181, 21-28=-541/345, 6-26=-463/113, 25-26=-468/121, 24-25=-413/70, 24-27=-407/54, 27-28=-419/70, 20-28=-471/86, 23-24=-69/89, 6-23=0/345, 8-25=-128/164, 7-26=-31/42, 9-24=-184/31, 11-27=-81/63, 12-28=-382/221, 13-19=-20/49, 14-18=-65/82

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 8-7-0, Exterior(2R) 8-7-0 to 14-7-0, Interior (1) 14-7-0 to 21-0-8, Exterior(2E) 21-0-8 to 24-0-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 and 21. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



March 25,2025

ENGINEERING BY TRENCO
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Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A05	Attic Girder	1	4	I72213105 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:39:58 Page: 1

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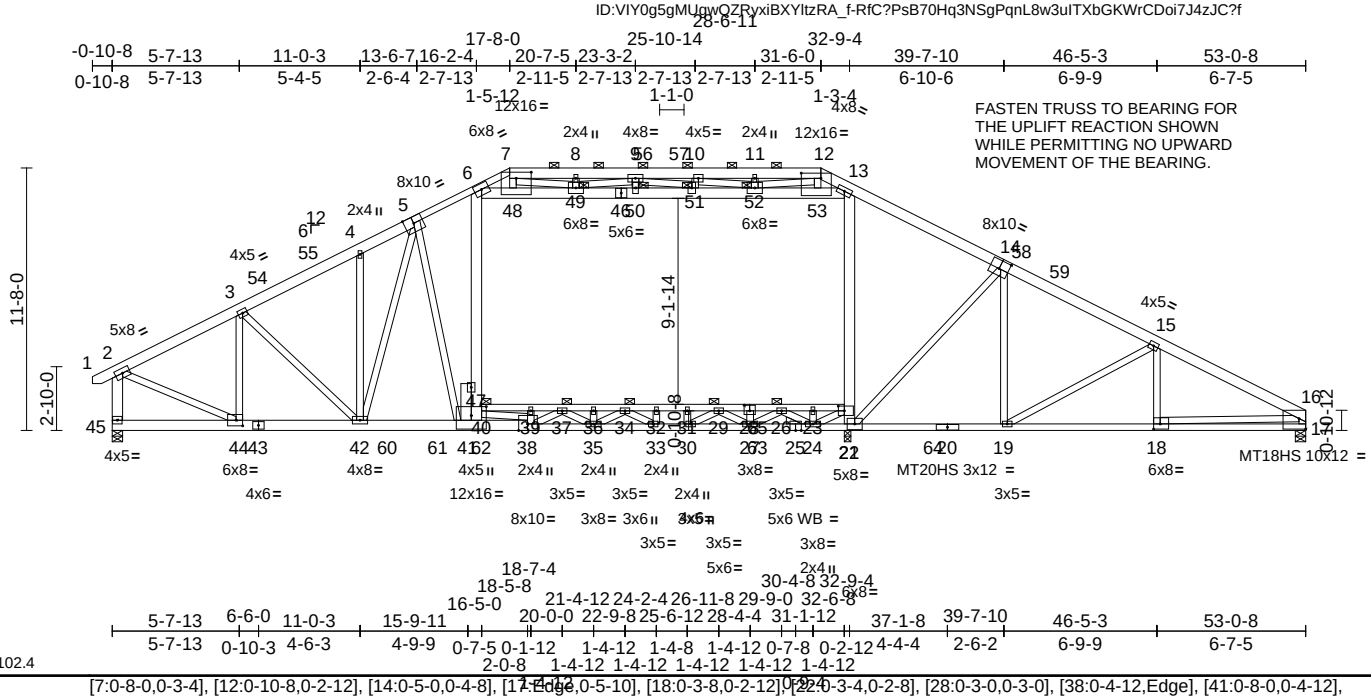

[7:0-8-0,0-3-4], [12:0-10-8,0-2-12], [14:0-5-0,0-4-8], [17:Edge,0-5-10], [18:0-3-8,0-2-12], [22:0-3-4,0-2-8], [28:0-3-0,0-3-0], [38:0-4-12,Edge], [41:0-8-0,0-4-12], [44:0-3-8,0-3-0]

Plate Offsets (X, Y):

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)	-0.50	38-41	>786	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.75	37-39	>521	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	Yes	WB	0.90	Horz(CT)	0.19	17	n/a	n/a	MT18HS	244/190
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.25	22-40	>786	360		
BCDL	10.0										Weight: 2038 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 5-7:2x4 SP No.1

BOT CHORD 2x4 SP No.1 *Except* 43-38,43-45:2x6 SP No.2, 28-22:2x4 SP No.2, 20-25:2x4 SP 2400F 2.0E

WEBS 2x4 SP No.3 *Except* 13-21:2x6 SP 2400F 2.0E, 6-46,45-2,41-47,41-6,46-13:2x6 SP No.2, 44-2,17-16,18-16:2x4 SP No.2

OTHERS 2x4 SP No.3

BRACING

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

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

JOINTS 1 Brace at Jt(s): 49, 50, 51, 52, 40, 26, 37, 29, 34

REACTIONS (size) 17=0-5-8, 21=0-3-8, 45=0-5-8
Max Horiz 45=-192 (LC 10)
Max Uplift 17=-453 (LC 12), 21=-5416 (LC 45), 45=-702 (LC 12)
Max Grav 17=9309 (LC 46), 21=791 (LC 12), 45=11962 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/24, 2-3=-13751/804, 3-4=-17677/1059, 4-6=-18994/1151, 6-7=-5812/482, 7-8=-3051/527, 8-9=-3048/525, 9-10=-3645/710, 10-11=-1646/1592, 11-12=-1646/1592, 12-13=-4646/432, 13-15=-18211/1130, 15-16=-17291/899, 2-45=-11768/721, 16-17=-9139/483

BOT CHORD 44-45=-135/447, 42-44=-746/12300, 41-42=-859/16424, 35-41=-691/17026, 33-35=0/18312, 30-33=0/18937, 27-30=0/18075, 24-27=-276/15568, 21-24=-796/12213, 19-21=-801/16246, 18-19=-744/15345, 17-18=-116/2119, 39-40=-463/400, 37-39=-484/352, 36-37=-2838/0, 34-36=-2838/0, 32-34=-3460/0, 31-32=-3460/0, 29-31=-3460/0, 26-29=-2304/11, 23-26=-334/2811, 22-23=-334/2811

WEBS 3-44=-5379/378, 3-42=-243/5005, 4-42=-738/165, 5-41=-143/1775, 21-22=-702/6462, 13-22=-533/7444, 6-48=-11396/734, 48-49=-10999/710, 49-50=-11217/674, 50-51=-11256/676, 51-52=-16199/977, 52-53=-12725/800, 13-53=-13377/838, 2-44=-694/13017, 40-41=-669/7654, 6-40=-544/8799, 7-48=-152/2425, 8-49=-517/66, 9-50=-135/2511, 10-51=-208/56, 11-52=-259/67, 12-53=-210/3528, 22-24=0/2232, 38-40=0/2717, 23-24=-618/0, 38-39=-599/0, 24-26=-2199/0, 37-38=-951/52, 26-27=0/2939, 35-37=0/1803, 27-28=-844/13, 35-36=-959/22, 27-29=-306/163, 34-35=-126/263, 29-30=0/1059, 33-34=-8/744, 30-31=-512/0, 32-33=-320/10, 7-49=-4545/252, 9-49=-4572/360, 9-51=-5105/312, 10-52=-2495/281, 12-52=-5632/326, 14-19=-486/150, 15-19=-142/1131, 14-21=-406/499, 5-42=-2504/138, 15-18=-968/147, 16-18=-656/13277

NOTES

1) 4-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-7-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc, Except member 41-47 2x6 - 3 rows staggered at 0-4-0 oc, member 6-41 2x6 - 2 rows staggered at 0-4-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.
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.

March 25,2025

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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 MT20 plates unless otherwise indicated.
10) All plates are 2x4 MT20 unless otherwise indicated.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
13) Ceiling dead load (5.0 psf) on member(s). 6-48, 48-49, 49-50, 50-51, 51-52, 52-53, 13-53; Wall dead load (5.0psf) on member(s).13-22, 6-40
14) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 39-40, 37-39, 36-37, 34-36, 32-34, 31-32, 29-31, 28-29, 26-28, 23-26, 22-23
15) Bearings are assumed to be: , Joint 17 SP No.1 .
16) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5416 lb uplift at joint 21.
17) LGT4-SDS3 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 45. This connection is for uplift only and does not consider lateral forces.
18) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 17. This connection is for uplift only and does not consider lateral forces.
19) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
20) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
21) LGT4 Hurricane ties must have four studs in line below the truss.
22) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 608 lb down and 52 lb up at 28-8-4, and 9100 lb down and 774 lb up at 16-1-4 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.
23) 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, 2-7=-60, 7-12=-60, 12-16=-60, 17-45=-20, 22-40=-30, 6-48=-10, 48-49=-10, 46-49=-10, 46-50=-10, 50-51=-10, 51-52=-10, 52-53=-10, 13-53=-10
   Drag: 13-22=-10, 40-47=-10, 6-47=-10
   Concentrated Loads (lb)
   Vert: 41=-4881 (F), 63=-326 (F)

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A03T	Piggyback Base	3	1	I72213106 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:39:57 Page: 1
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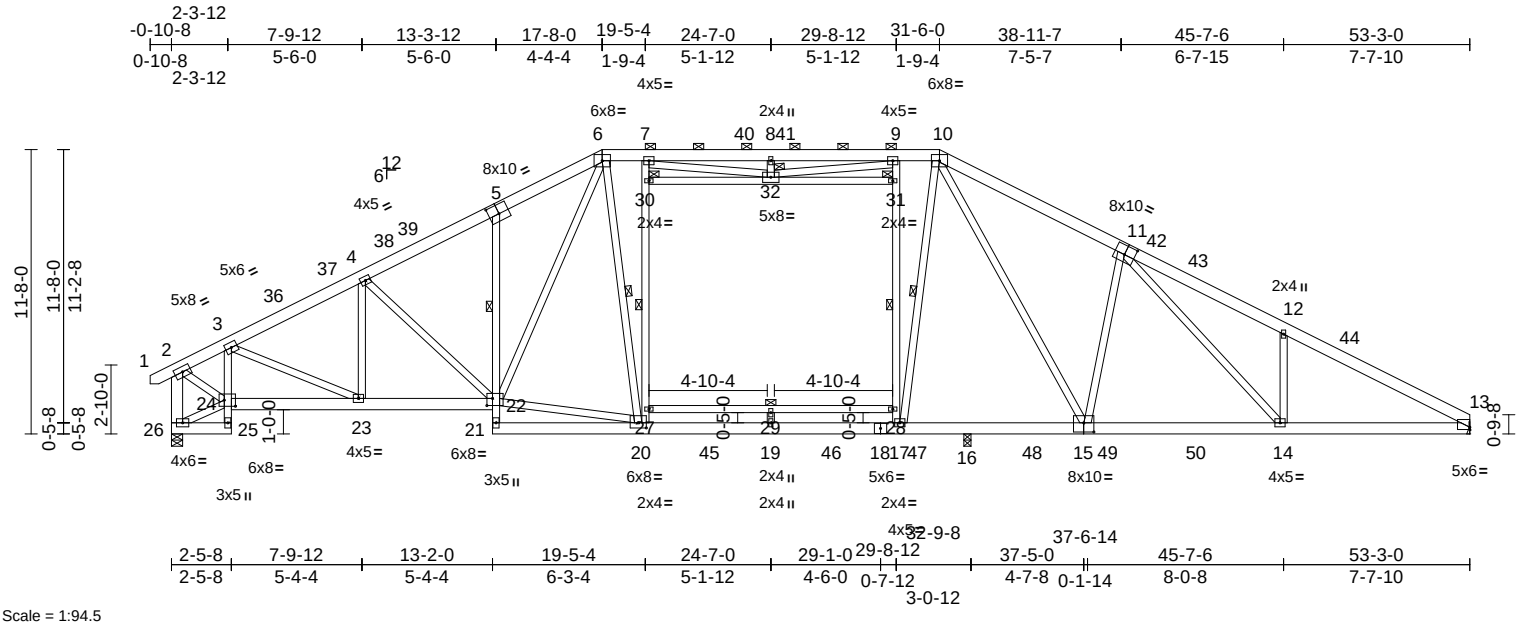


Scale = 1:94.5

Plate Offsets (X, Y): [5:0-5-0,0-4-8], [11:0-5-0,0-4-8], [13:Edge,0-1-3], [15:0-5-0,0-4-8], [20:0-4-0,0-2-8], [22:0-2-12,0-3-8], [24:0-5-8,0-3-0]

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	0.59	Vert(LL)	-0.24	20-21	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.55	19-20	>711	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.16	13	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 500 lb	FT = 20%

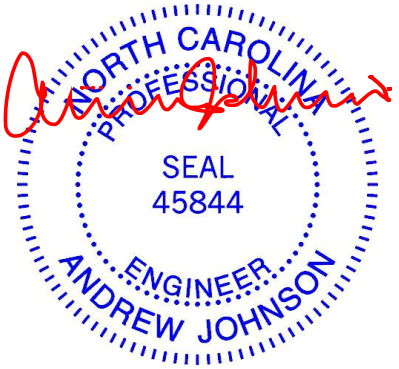
LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 25-3,5-21:2x4 SP No.3, 18-15:2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 22-6,20-6,7-20,17-10,10-15,9-17:2x4 SP No.2, 26-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-2 oc purlins, except end verticals, and 2-0-0 oc purlins (3-10-0 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
1 Row at midpt 5-22
WEBS 1 Row at midpt 6-20, 20-30, 10-17, 17-31, 27-28
JOINTS 1 Brace at Jt(s): 30, 31, 32

REACTIONS (size) 13= Mechanical, 16=0-3-8, 26=0-5-8
Max Horiz 26=-187 (LC 12)
Max Uplift 13=-25 (LC 14), 16=-196 (LC 15), 26=-168 (LC 14)
Max Grav 13=2019 (LC 47), 16=915 (LC 39), 26=2271 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-2253/192, 3-4=-3433/248, 4-6=-3373/359, 6-7=-2575/221, 7-8=-3092/426, 8-9=-3092/426, 9-10=-2560/220, 10-12=-4030/301, 12-13=-4071/191, 2-26=-2398/217
BOT CHORD 25-26=-20/37, 24-25=0/25, 3-24=-1152/125, 23-24=-254/1996, 22-23=-216/2976, 21-22=-22/81, 5-22=-489/170, 20-21=-56/218, 19-20=-5/2486, 17-19=-5/2486, 16-17=0/2353, 14-16=-39/2994, 13-14=-85/3518
WEBS 4-22=-192/133, 20-22=0/2236, 6-22=-269/1125, 6-20=-100/524, 20-27=-541/210, 27-30=-520/215, 7-30=-507/212, 10-17=-91/900, 10-15=-194/937, 11-15=-918/319, 11-14=-220/819, 12-14=-331/236, 17-28=-857/228, 28-31=-838/236, 9-31=-819/232, 4-23=-294/78, 3-23=-2/1077, 24-26=-110/203, 2-24=-192/2298, 27-29=-71/37, 28-29=-71/37, 19-29=0/48, 30-32=-21/40, 31-32=-122/27, 8-32=-252/89, 7-32=-298/701, 9-32=-285/802

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) -0-8-6 to 4-7-9, Interior (1) 4-7-9 to 10-1-10, Exterior(2R) 10-1-10 to 39-2-5, Interior (1) 39-2-5 to 47-11-2, Exterior(2E) 47-11-2 to 53-3-0 zone; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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, 24-7-0 from left end, supported at two points, 5-0-0 apart.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 25 lb uplift at joint 13.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 26 and 16. This connection is for uplift only and does not consider lateral forces.



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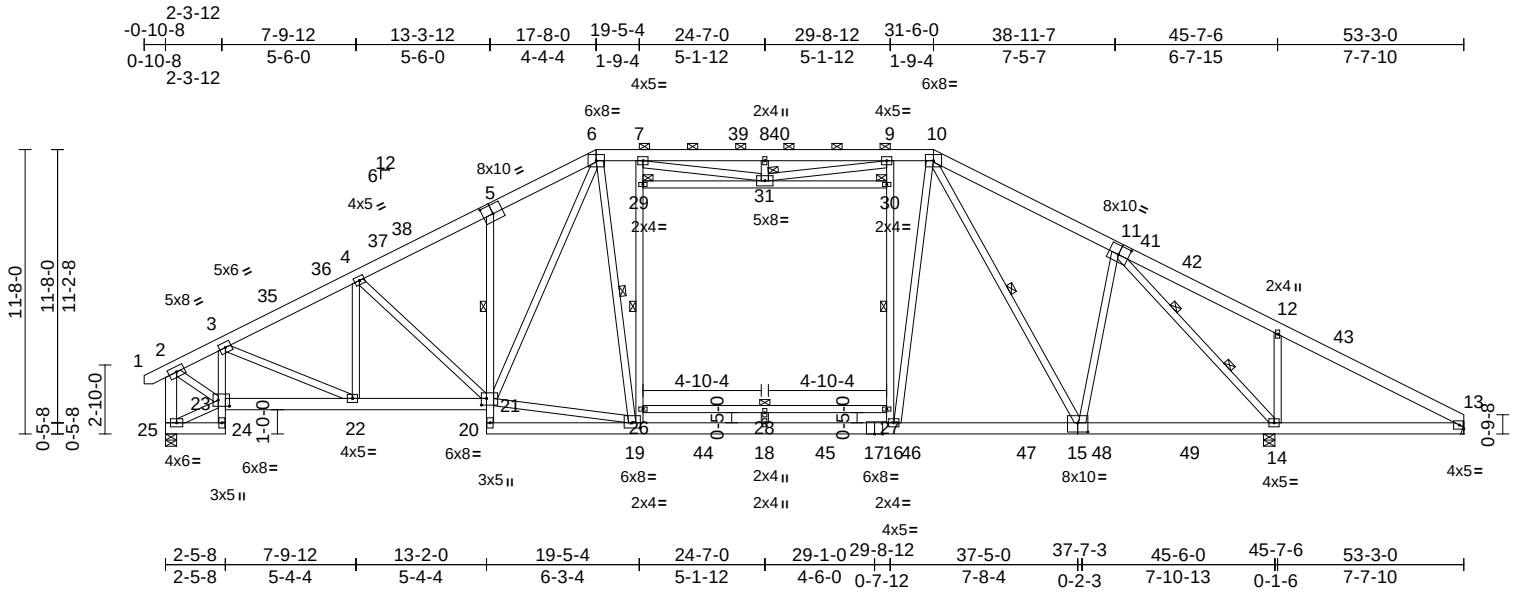
Edenton, NC 27932

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A04T	Piggyback Base	2	1	I72213107 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:39:58 Page: 1
ID:DGN6a6f8caCKWpHw1clz1BzRCZx-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:94.5

Plate Offsets (X, Y): [5:0-5-0,0-4-8], [11:0-5-0,0-4-8], [15:0-5-0,0-4-8], [19:0-4-0,0-2-8], [21:0-2-8,0-3-4], [23:0-5-8,0-3-0]

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	0.62	Vert(LL)	-0.32	19-20	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.50	18-19	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.91	Horz(CT)	0.14	13	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 500 lb	FT = 20%

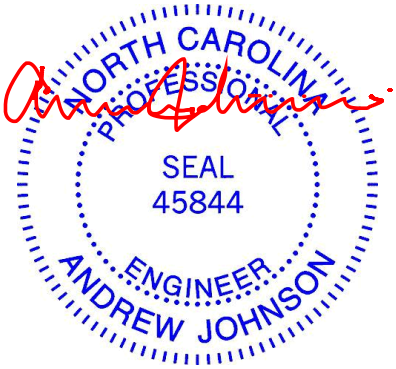
LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 24-3,5-20:2x4 SP No.3
WEBS 2x4 SP No.3 *Except* 21-6,19-6,9-16,16-10,15-10,19-7:2x4 SP No.2, 25-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-11 oc purlins, except end verticals, and 2-0-0 oc purlins (3-10-10 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing. Except:
1 Row at midpt 5-21
WEBS 1 Row at midpt 6-19, 16-30, 10-15, 19-29, 26-27
WEBS 2 Rows at 1/3 pts 11-14
JOINTS 1 Brace at Jt(s): 29, 30, 31

REACTIONS (size) 13= Mechanical, 14=0-5-8, 25=0-5-8
Max Horiz 25=-187 (LC 12)
Max Uplift 13=-198 (LC 14), 14=-380 (LC 15), 25=-152 (LC 14)
Max Grav 13=859 (LC 43), 14=2516 (LC 39), 25=2216 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-2214/177, 3-4=-3368/222, 4-6=-3298/330, 6-7=-2497/230, 7-8=-3107/435, 8-9=-3107/435, 9-10=-2481/231, 10-12=-2653/513, 12-13=-1480/444, 2-25=-2357/201
BOT CHORD 24-25=-20/36, 23-24=0/26, 3-23=-1130/127, 22-23=-240/1962, 21-22=-193/2917, 20-21=-26/102, 5-21=-487/169, 19-20=-59/232, 18-19=0/2417, 16-18=0/2417, 14-16=-90/2202, 13-14=-333/1271
WEBS 4-21=-211/137, 19-21=0/2155, 6-21=-271/1137, 6-19=-292/537, 16-27=-832/233, 27-30=-821/241, 9-30=-804/238, 10-16=-21/1309, 11-15=0/612, 11-14=-2325/258, 12-14=-458/257, 10-15=-366/8, 19-26=-494/262, 26-29=-478/269, 7-29=-467/266, 4-22=-275/80, 3-22=-5/1051, 23-25=-110/203, 2-23=-176/2258, 26-28=-67/38, 27-28=-67/38, 18-28=0/35, 29-31=-44/87, 30-31=-151/38, 7-31=-299/750, 8-31=-305/98, 9-31=-274/850

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) -0-8-6 to 4-7-9, Interior (1) 4-7-9 to 10-1-10, Exterior(2R) 10-1-10 to 39-2-5, Interior (1) 39-2-5 to 47-11-2, Exterior(2E) 47-11-2 to 53-3-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch 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, 24-7-0 from left end, supported at two points, 5-0-0 apart.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 198 lb uplift at joint 13.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 14 and 25. This connection is for uplift only and does not consider lateral forces.



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818 Soundside Road
Edenton, NC 27932

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A06	Attic Girder	1	4	I72213108 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:39:59 Page: 1

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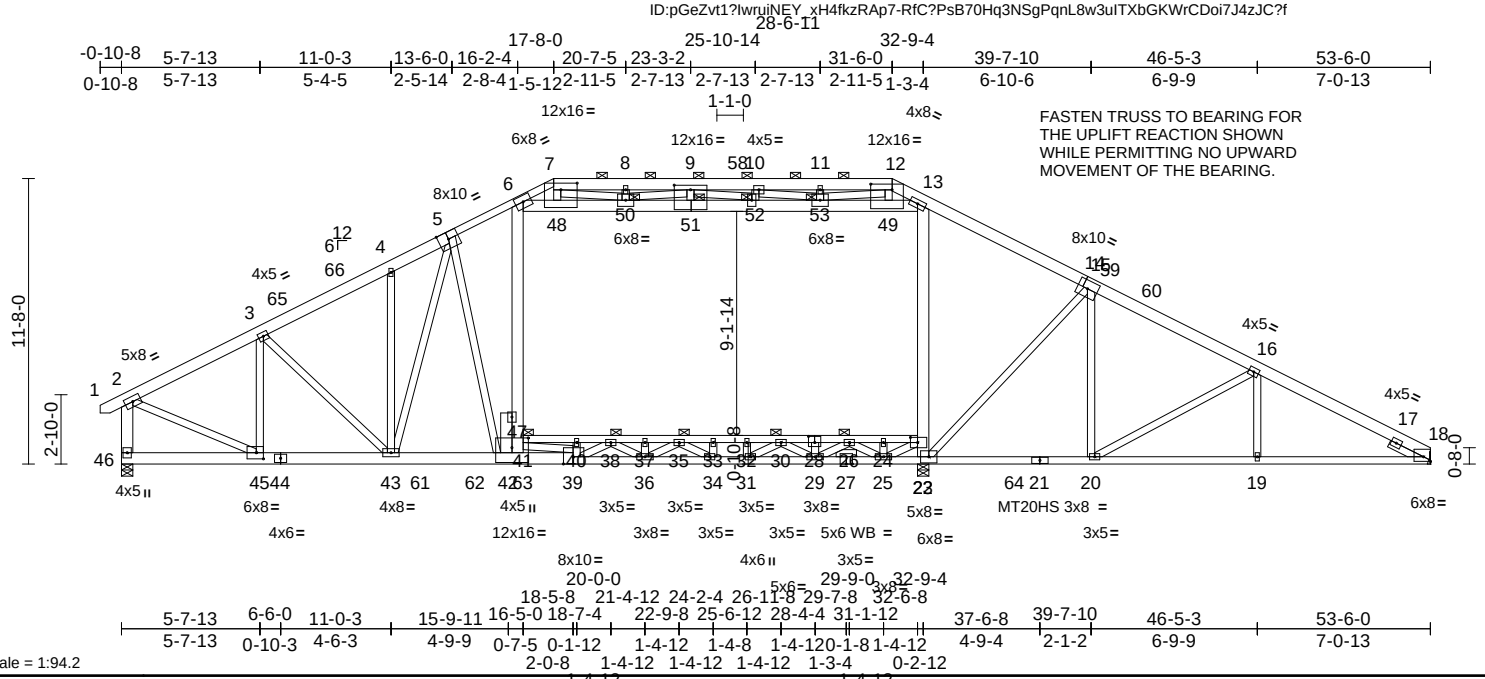

Scale = 1:94.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.93	Vert(LL)	-0.49	39-42	>803	240	MT20HS	187/143
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.73	39-42	>532	180	MT20	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.21	18	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.24	23-41	>812	360		
BCDL	10.0										Weight: 2017 lb	FT = 20%

LUMBER

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

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

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

OTHERS 2x4 SP No.3

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

BRACING

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

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

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

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

Max Horiz 46=-190 (LC 10)

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

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

FORCES (lb) - Maximum Compression/Maximum Tension

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

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

WEBS 3-45=-5311/373, 4-43=-700/162, 41-42=-617/7143, 6-41=-530/8717, 22-23=-712/6595, 13-23=-513/7229, 6-48=-10655/685, 48-50=-10276/663, 50-52=-11090/661, 52-53=-15532/928, 49-53=-12360/771, 13-49=-12997/808, 2-45=-673/12777, 15-20=-220/184, 16-19=-11/162, 16-20=-132/757, 15-22=-640/213, 3-43=-237/4930, 7-48=-147/2364, 12-49=-204/3451, 8-50=-471/64, 9-51=-120/2271, 10-52=-109/92, 11-53=-268/67, 12-53=-5376/307, 10-53=-2531/278, 9-52=-4653/281, 9-50=-4233/347, 7-50=-4773/262, 39-40=-446/0, 39-41=0/2886, 38-39=-859/135, 36-38=0/1265, 36-37=-671/19, 35-36=-160/340, 34-35=-22/133, 33-34=-116/0, 31-32=-558/0, 30-31=0/1422, 29-30=-818/0, 28-29=-736/19, 26-29=0/2289, 25-26=-1725/0, 24-25=-569/0, 23-25=0/1636, 5-42=-124/1475, 5-43=-2258/111

NOTES

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

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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 MT20 plates unless otherwise indicated.
10) All plates are 2x4 MT20 unless otherwise indicated.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
13) Ceiling dead load (5.0 psf) on member(s). 6-48, 48-50, 50-51, 51-52, 52-53, 49-53, 13-49; Wall dead load (5.0psf) on member(s).6-41, 13-23
14) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 40-41, 38-40, 37-38, 35-37, 33-35, 32-33, 30-32, 28-30, 26-28, 24-26, 23-24
15) Refer to girder(s) for truss to truss connections.
16) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 420 lb uplift at joint 18 and 5361 lb uplift at joint 22.
17) LGT4-SDS3 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 46. This connection is for uplift only and does not consider lateral forces.
18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
19) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
20) LGT4 Hurricane ties must have four studs in line below the truss.
21) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 9100 lb down and 774 lb up at 16-1-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
22) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A09	Attic Supported Gable	1	1	I72213109 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 E Dec 5 2024 Print: 8.730 E Dec 5 2024 MiTek Industries, Inc. Tue Mar 25 14:36:20 Page: 1

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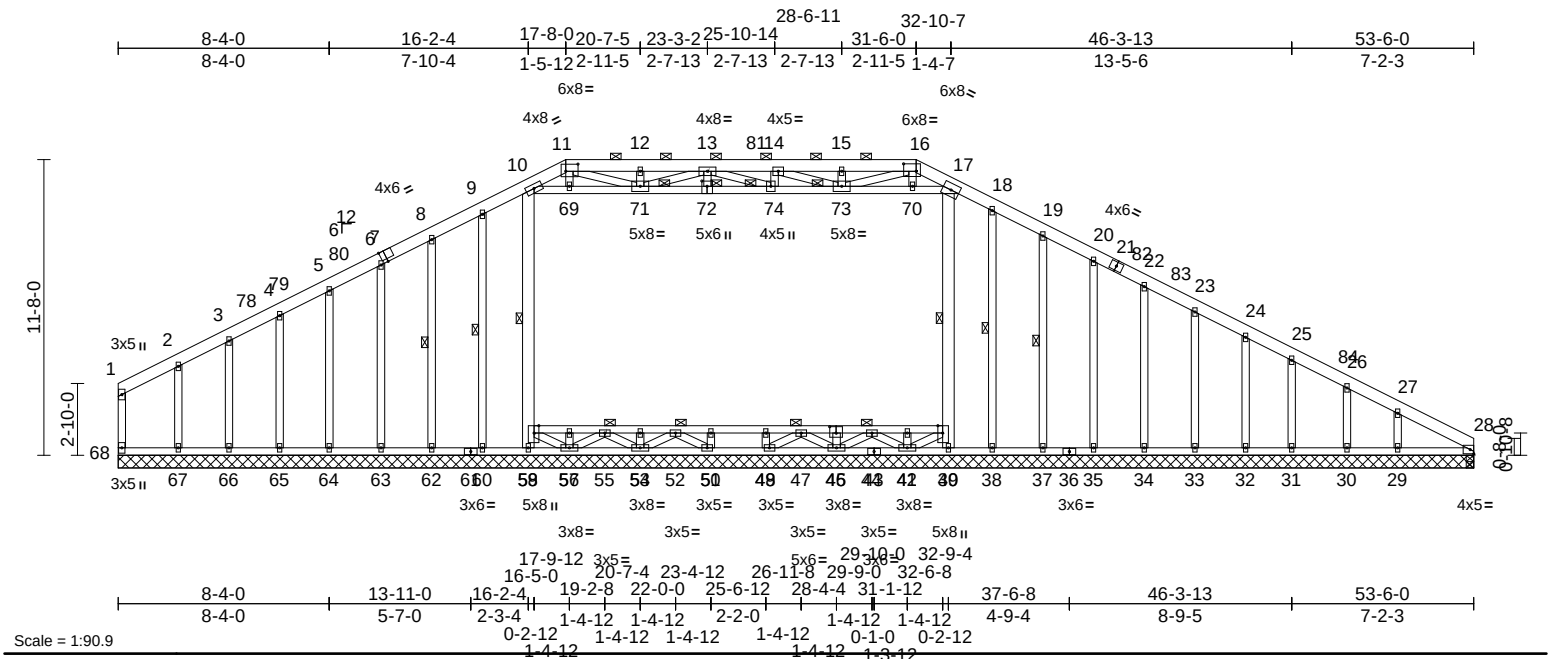

Plate Offsets (X, Y): [7:0-2-6,Edge], [11:0-5-13,0-3-6], [16:0-6-0,0-3-8], [40:Edge,0-2-4], [46:0-3-0,0-3-0], [58:Edge,0-2-4], [72:0-2-8,0-2-8]

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

LUMBER

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

BRACING

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

REACTIONS (lb/size) 28=123/53-6-0, 29=235/53-6-0, 30=147/53-6-0, 31=165/53-6-0, 32=149/53-6-0, 33=161/53-6-0, 34=160/53-6-0, 35=169/53-6-0, 37=126/53-6-0, 38=-22/53-6-0, 39=916/53-6-0, 42=156/53-6-0, 45=138/53-6-0, 48=121/53-6-0, 51=121/53-6-0, 53=135/53-6-0, 56=149/53-6-0, 59=930/53-6-0, 60=-13/53-6-0, 62=142/53-6-0, 63=170/53-6-0, 64=160/53-6-0, 65=157/53-6-0, 66=163/53-6-0, 67=152/53-6-0, 68=115/53-6-0
Max Horiz 68=-221 (LC 15)
Max Uplift 28=-48 (LC 14), 29=-99 (LC 15), 30=-29 (LC 15), 31=-47 (LC 15), 32=-41 (LC 15), 33=-44 (LC 15), 34=-44 (LC 15), 35=-45 (LC 15), 37=-49 (LC 15), 38=-132 (LC 38), 39=-46 (LC 10), 59=-13 (LC 10), 60=-127 (LC 38), 62=-50 (LC 14), 63=-45 (LC 14), 64=-43 (LC 14), 65=-44 (LC 14), 66=-37 (LC 14), 67=-76 (LC 14), 68=-20 (LC 15)
Max Grav 28=160 (LC 27), 29=237 (LC 43), 30=147 (LC 22), 31=165 (LC 39), 32=149 (LC 22), 33=172 (LC 43), 34=219 (LC 43), 35=235 (LC 43), 37=208 (LC 43), 38=113 (LC 49), 39=1110 (LC 38), 42=333 (LC 20), 45=369 (LC 20), 48=319 (LC 20), 51=319 (LC 20), 53=368 (LC 20), 56=330 (LC 20), 59=1119 (LC 38), 60=123 (LC 47), 62=222 (LC 41), 63=242 (LC 41), 64=231 (LC 41), 65=181 (LC 41), 66=165 (LC 21), 67=164 (LC 41), 68=122 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-68=-88/57, 1-2=-63/38, 2-3=-55/112, 3-78=-65/168, 4-78=-58/174, 4-79=-81/212, 5-79=-72/222, 5-80=-100/260, 6-80=-94/267, 6-7=-120/303, 7-8=-119/313, 8-9=-135/359, 9-10=-115/375, 10-11=-903/328, 11-12=-2147/593, 12-13=-2147/593, 13-81=-2804/764, 14-81=-2804/764, 14-15=-2132/593, 15-16=-2132/593, 16-17=-894/327, 17-18=-121/375, 18-19=-143/366, 19-20=-131/322, 20-21=-105/275, 21-82=-106/270, 22-82=-111/265, 22-83=-88/230, 23-83=-94/224, 23-24=-102/205, 24-25=-122/182, 25-84=-141/160, 26-84=-147/150, 26-27=-170/134, 27-28=-220/127

NORTH CAROLINA PROFESSIONAL SEAL 45844 ENGINEER ANDREW JOHNSON

March 25,2025

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

BOT CHORD 67-68=-96/212, 66-67=-96/212, 65-66=-96/212, 64-65=-96/212, 63-64=-96/212, 62-63=-96/212, 61-62=-96/212, 60-61=-96/212, 59-60=-96/212, 56-59=-104/213, 53-56=-52/140, 51-53=-32/126, 48-51=-56/104, 45-48=-32/125, 43-45=-48/139, 42-43=-48/139, 39-42=-82/200, 38-39=-87/212, 37-38=-87/212, 36-37=-87/212, 35-36=-87/212, 34-35=-87/212, 33-34=-87/212, 32-33=-87/212, 31-32=-87/212, 30-31=-87/212, 29-30=-87/212, 28-29=-87/212, 57-58=-11/91, 55-57=-11/91, 54-55=-30/114, 52-54=-30/114, 50-52=-39/108, 49-50=-39/108, 47-49=-39/108, 46-47=-31/112, 44-46=-30/115, 41-44=-11/84, 40-41=-11/84

WEBS 5-64=-191/76, 25-31=-123/79, 26-30=-111/94, 27-29=-177/180, 58-59=-1090/31, 10-58=-1096/109, 39-40=-1083/62, 17-40=-1093/151, 18-38=-74/171, 19-37=-168/77, 20-35=-195/80, 22-34=-179/77, 23-33=-131/78, 24-32=-112/72, 9-60=-84/167, 8-62=-183/80, 6-63=-201/81, 4-65=-142/83, 3-66=-121/114, 2-67=-128/143, 56-58=-91/14, 56-57=-203/0, 41-42=-202/0, 45-46=-181/0, 53-54=-181/0, 48-49=-218/0, 50-51=-218/0, 10-69=-39/644, 69-71=-37/638, 71-72=-441/2725, 72-74=-441/2725, 73-74=-447/2775, 70-73=-42/627, 17-70=-44/635, 11-69=-24/19, 16-70=-27/20, 12-71=-256/67, 13-72=-1/25, 15-73=-236/67, 14-74=-22/53, 11-71=-325/1558, 13-71=-654/189, 13-74=-65/152, 14-73=-715/182, 16-73=-327/1553, 55-56=-118/22, 53-55=-120/0, 52-53=-121/0, 51-52=-100/0, 47-48=-100/0, 45-47=-118/0, 44-45=-125/0, 42-44=-112/20, 40-42=-103/10

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) 0-1-12 to 5-5-15, Exterior(2N) 5-5-15 to 12-3-13, Corner(3R) 12-3-13 to 23-3-2, Exterior(2N) 23-3-2 to 25-10-14, Corner(3R) 25-10-14 to 36-10-3, Exterior(2N) 36-10-3 to 48-1-13, Corner(3E) 48-1-13 to 53-6-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Provide adequate drainage to prevent water ponding.
7) 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) Ceiling dead load (5.0 psf) on member(s). 10-69, 69-71, 71-72, 72-74, 73-74, 70-73, 17-70; Wall dead load (5.0psf) on member(s).10-58, 17-40
12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 57-58, 55-57, 54-55, 52-54, 50-52, 49-50, 47-49, 46-47, 44-46, 41-44, 40-41
13) Bearings are assumed to be: , Joint 28 User Defined crushing capacity of 425 psi.
14) N/A
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	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A08	Attic	6	1	I72213110 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:01 Page: 1

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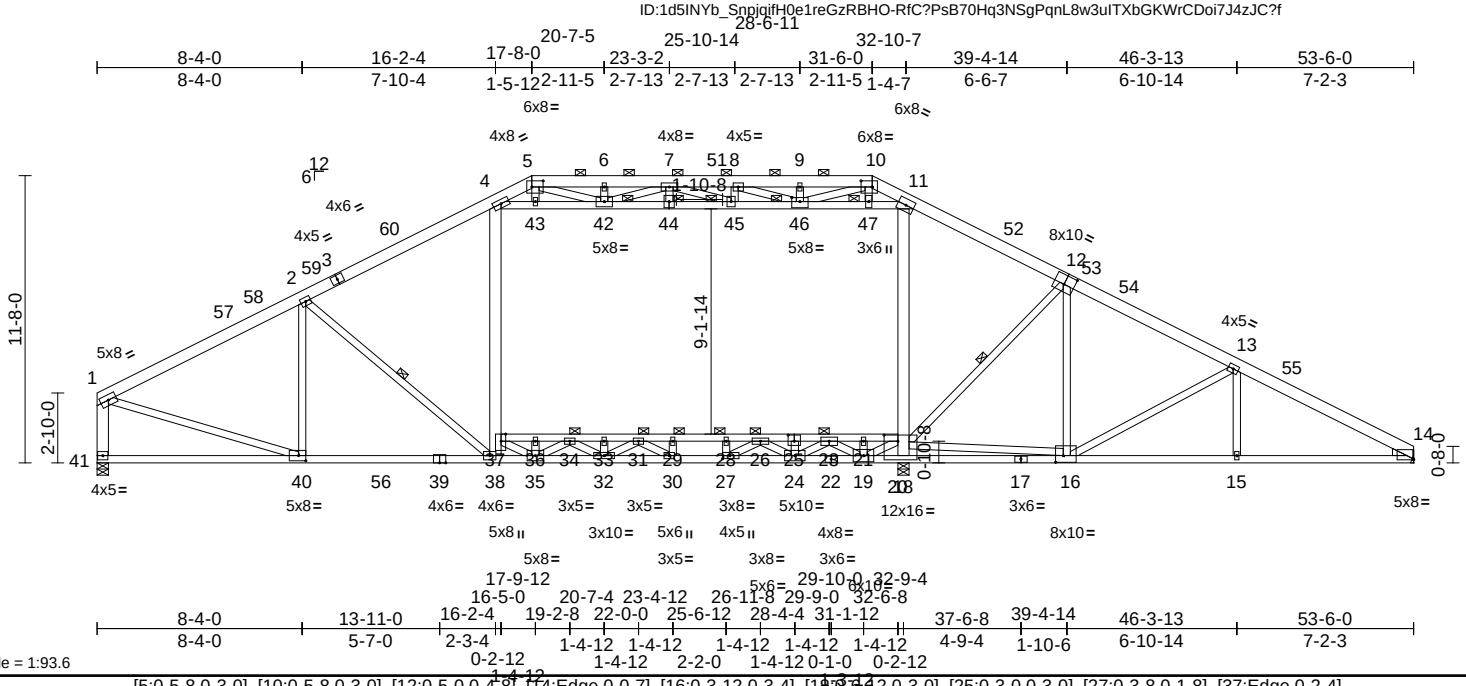

[5:0-5-8,0-3-0], [10:0-5-8,0-3-0], [12:0-5-0,0-4-8], [14:Edge,0-0-7], [16:0-3-12,0-3-4], [18:0-3-12,0-3-0], [25:0-3-0,0-3-0], [27:0-3-8,0-1-8], [37:Edge,0-2-4], [40:0-3-8,0-2-8], [46:0-4-0,0-2-0]

Plate Offsets (X, Y):

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.65	Vert(LL)	-0.47	30-32	>837	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.76	30-32	>513	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.15	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.32	20-37	>605	360		
BCDL	10.0										Weight: 454 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2

BOT CHORD 2x4 SP 2400F 2.0E *Except* 25-20,39-41:2x4 SP No.1, 17-22,25-37:2x4 SP No.2

WEBS 2x4 SP No.3 *Except* 41-1,4-38,11-18:2x6 SP No.2, 40-1,44-11,19-20,35-37,44-4,35-34,34-32,32-31,31-30,27-26,26-24,24-23,23-19:2x4 SP No.2, 20-16:2x4 SP No.1

WEDGE Right: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-10-2 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-9 max.): 5-10.

BOT CHORD Rigid ceiling directly applied or 2-6-0 oc bracing.

WEBS 1 Row at midpt 11-46, 12-20, 2-38

JOINTS 1 Brace at Jt(s): 42, 44, 45, 46, 34, 31, 26, 23

REACTIONS (size) 14= Mechanical, 18=0-5-8, 41=0-5-8

Max Horiz 41=-222 (LC 15)

Max Grav 14=2292 (LC 47), 18=1790 (LC 39), 41=2957 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 5-6=-2972/412, 6-7=-2972/412, 7-8=-3601/537, 8-9=-2737/426, 9-10=-2737/426, 10-11=-1773/186, 11-13=-4095/106, 13-14=-4666/103, 1-41=-2958/58, 1-2=-3909/28, 2-4=-4057/44, 4-5=-2133/163

BOT CHORD 40-41=-106/246, 38-40=0/3385, 35-38=0/3319, 32-35=0/5160, 30-32=0/6294, 27-30=0/6096, 24-27=0/4806, 19-24=0/1830, 18-19=-2285/0, 16-18=-2093/0, 15-16=-16/4051, 14-15=-74/4051, 36-37=-1129/0, 34-36=-1129/0, 33-34=-3124/0, 31-33=-3124/0, 29-31=-3185/0, 28-29=-3185/0, 26-28=-3185/0, 23-26=-708/939, 21-23=0/3264, 20-21=0/3264

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

NOTES

1) Unbalanced roof live loads have been considered for this design.
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) 0-2-12 to 5-6-15, Interior (1) 5-6-15 to 12-3-13, Exterior(2R) 12-3-13 to 23-3-2, Interior (1) 23-3-2 to 25-10-14, Exterior(2R) 25-10-14 to 36-10-3, Interior (1) 36-10-3 to 48-1-13, Exterior(2E) 48-1-13 to 53-6-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) Provide adequate drainage to prevent water ponding.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) 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
818 Soundside Road
Edenton, NC 27932

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

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A07	Attic	1	1	I72213111 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:40:00 Page: 1

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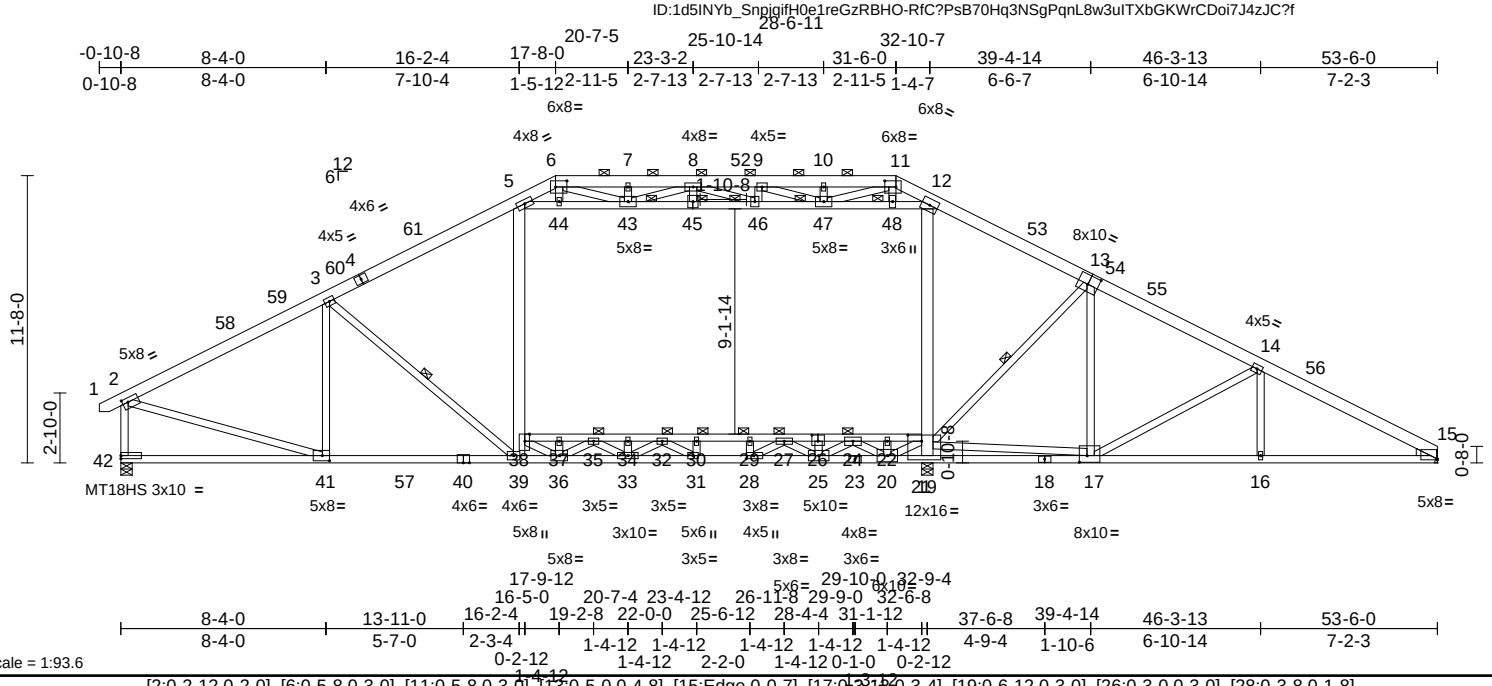

Plate Offsets (X, Y): [2:0-2-12,0-2-0], [6:0-5-8,0-3-0], [11:0-5-8,0-3-0], [13:0-5-0,0-4-8], [15:Edge,0-0-7], [17:0-3-12,0-3-4], [19:0-6-12,0-3-0], [26:0-3-0,0-3-0], [28:0-3-8,0-1-8], [38:Edge,0-2-4], [41:0-3-8,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.97	Vert(LL)	-0.47	31-33	>833	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.77	31-33	>509	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.94	Horz(CT)	0.15	15	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.32	21-38	>604	360		
BCDL	10.0										Weight: 454 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2

BOT CHORD 2x4 SP 2400F 2.0E *Except* 26-21,40-42:2x4 SP No.1, 18-23,26-38:2x4 SP No.2

WEBS 2x4 SP No.3 *Except* 5-39,12-19:2x6 SP No.2, 41-2,45-12,20-21,36-38,45-5,36-35,35-33,33-32,32-31,28-27,27-25,25-24,24-20:2x4 SP No.2, 21-17:2x4 SP No.1

WEDGE Right: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-10-3 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-8 max.): 6-11.

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

WEBS 1 Row at midpt 12-47, 13-21, 3-39

JOINTS 1 Brace at Jt(s): 43, 45, 46, 47, 35, 32, 27, 24

REACTIONS (size) 15= Mechanical, 19=0-5-8, 42=0-5-8

Max Horiz 42=-190 (LC 12)

Max Grav 15=2298 (LC 48), 19=1793 (LC 40), 42=3002 (LC 38)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 6-7=-2981/411, 7-8=-2981/411, 8-9=-3607/536, 9-10=-2740/425, 10-11=-2740/425, 11-12=-1776/184, 12-14=-4116/100, 14-15=-4686/98, 2-42=-2999/91, 1-2=0/22, 2-3=-3961/16, 3-5=-4084/38, 5-6=-2144/162

BOT CHORD 41-42=-107/220, 39-41=0/3431, 36-39=0/3347, 33-36=0/5184, 31-33=0/6303, 28-31=0/6100, 25-28=0/4804, 20-25=0/1822, 19-20=-2299/0, 17-19=-2104/0, 16-17=-11/4069, 15-16=-72/4069, 37-38=-1135/0, 35-37=-1135/0, 34-35=-3123/0, 32-34=-3123/0, 30-32=-3176/0, 29-30=-3176/0, 27-29=-3176/0, 24-27=-690/956, 22-24=0/3300, 21-22=0/3300

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

NOTES

1) Unbalanced roof live loads have been considered for this design.
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) -0-8-2 to 4-8-2, Interior (1) 4-8-2 to 12-3-13, Exterior(2R) 12-3-13 to 23-3-2, Interior (1) 23-3-2 to 25-10-14, Exterior(2R) 25-10-14 to 36-10-3, Interior (1) 36-10-3 to 48-1-13, Exterior(2E) 48-1-13 to 53-6-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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.

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

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A01	Piggyback Base Supported Gable	1	1	I72213112 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:39:56 Page: 1
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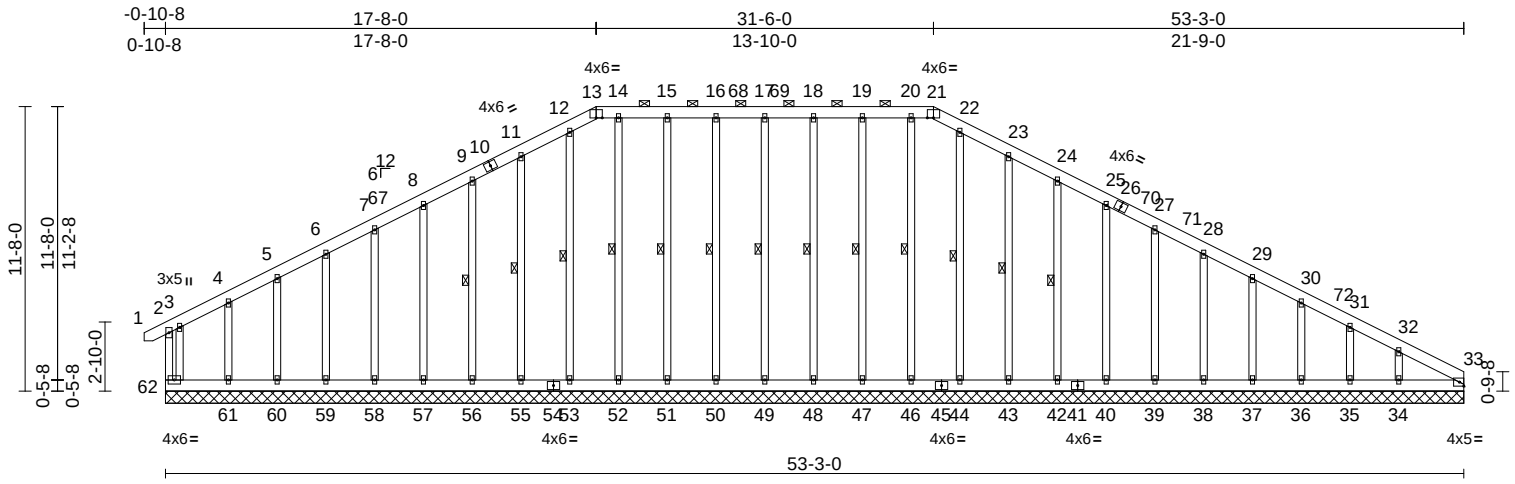

Scale = 1:94.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.01	33	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 546 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3 *Except* 49-17,48-18,47-19,46-20,44-22,50-16,51-15, 52-14,53-12:2x4 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 (10-0-0 max.): 13-21.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 17-49, 18-48, 19-47, 20-46, 22-44, 23-43, 24-42, 16-50, 15-51, 14-52, 12-53, 11-55, 9-56

REACTIONS (size) 33=53-3-0, 34=53-3-0, 35=53-3-0, 36=53-3-0, 37=53-3-0, 38=53-3-0, 39=53-3-0, 40=53-3-0, 42=53-3-0, 43=53-3-0, 44=53-3-0, 46=53-3-0, 47=53-3-0, 48=53-3-0, 49=53-3-0, 50=53-3-0, 51=53-3-0, 52=53-3-0, 53=53-3-0, 55=53-3-0, 56=53-3-0, 57=53-3-0, 58=53-3-0, 59=53-3-0, 60=53-3-0, 61=53-3-0, 62=53-3-0
Max Horiz 62=-186 (LC 12)
Max Uplift 34=-66 (LC 14), 35=-170 (LC 15), 36=-15 (LC 14), 37=-50 (LC 15), 38=-42 (LC 15), 39=-44 (LC 15), 40=-43 (LC 15), 42=-46 (LC 15), 43=-52 (LC 15), 47=-29 (LC 11), 48=-28 (LC 11), 49=-25 (LC 10), 50=-28 (LC 11), 51=-29 (LC 10), 55=-52 (LC 14), 56=-46 (LC 14), 57=-43 (LC 14), 58=-44 (LC 14), 59=-46 (LC 14), 60=-22 (LC 14), 61=-137 (LC 14), 62=-88 (LC 15)
Max Grav 34=419 (LC 1), 35=81 (LC 13), 36=197 (LC 41), 37=152 (LC 59), 38=174 (LC 45), 39=221 (LC 45), 40=230 (LC 45), 42=229 (LC 45), 43=230 (LC 45), 44=217 (LC 45), 46=199 (LC 40), 47=220 (LC 40), 48=217 (LC 40), 49=216 (LC 40), 50=217 (LC 40), 51=220 (LC 40), 52=199 (LC 40), 53=218 (LC 43), 55=234 (LC 43), 56=233 (LC 43), 57=233 (LC 43), 58=233 (LC 43), 59=199 (LC 43), 60=150 (LC 58), 61=257 (LC 51), 62=133 (LC 58)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-62=-245/191, 1-2=0/23, 2-3=-100/91, 3-4=-74/121, 4-5=-48/115, 5-6=-58/156, 6-7=-75/201, 7-8=-90/246, 8-9=-106/291, 9-11=-124/338, 11-12=-144/387, 12-13=-146/383, 13-14=-140/380, 14-15=-140/380, 15-16=-140/380, 16-17=-140/380, 17-18=-140/380, 18-19=-140/380, 19-20=-140/380, 20-21=-140/380, 21-22=-146/383, 22-23=-144/387, 23-24=-124/338, 24-25=-106/291, 25-27=-90/246, 27-28=-75/201, 28-29=-59/160, 29-30=-63/137, 30-31=-71/112, 31-32=-124/100, 32-33=-134/117
BOT CHORD 61-62=-81/150, 60-61=-81/150, 59-60=-81/150, 58-59=-81/150, 57-58=-81/150, 56-57=-81/150, 55-56=-81/150, 53-55=-81/150, 52-53=-81/150, 51-52=-81/150, 50-51=-81/150, 49-50=-81/150, 48-49=-81/150, 47-48=-81/150, 46-47=-81/150, 44-46=-81/150, 43-44=-81/150, 42-43=-81/150, 40-42=-81/150, 39-40=-81/150, 38-39=-81/150, 37-38=-81/150, 36-37=-81/150, 35-36=-81/150, 34-35=-81/150, 33-34=-81/150

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

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-8-6 to 4-7-0, Exterior(2N) 4-7-0 to 12-4-2, Corner(3R) 12-4-2 to 22-11-14, Exterior(2N) 22-11-14 to 26-2-2, Corner(3R) 26-2-2 to 36-7-0, Exterior(2N) 36-7-0 to 47-11-2, Corner(3E) 47-11-2 to 53-3-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
13) N/A

14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A03	Piggyback Base	5	1	I72213113 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:39:57 Page: 1

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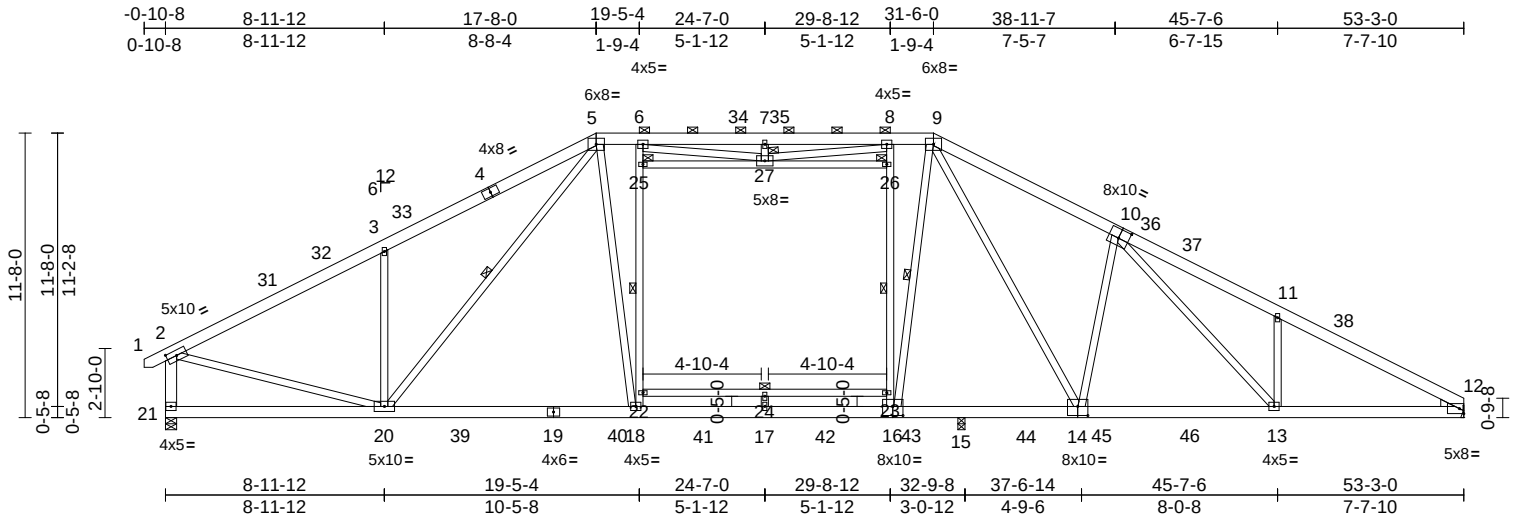


Scale = 1:94.5

Plate Offsets (X, Y): [2:0-4-14,0-2-8], [10:0-5-0,0-4-8], [14:0-5-0,0-4-8], [16:0-5-0,0-4-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.72	Vert(LL)	-0.35	18-20	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.53	18-20	>728	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.11	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 470 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2

BOT CHORD 2x6 SP No.2 *Except* 16-14:2x6 SP 2400F 2.0E

WEBS 2x4 SP No.3 *Except* 21-2:2x6 SP No.2, 20-2,6-18,8-16,20-5,18-5,16-9,14-9:2x4 SP No.2

WEDGE Right: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-1-4 oc purlins, except end verticals, and 2-0-0 oc purlins (3-8-7 max.): 5-9.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 18-25, 16-26, 5-20, 9-16, 22-23

JOINTS 1 Brace at Jt(s): 25, 26, 27

REACTIONS (size) 12= Mechanical, 15=0-3-8, 21=0-5-8

Max Horiz 21=-187 (LC 12)

Max Uplift 12=-29 (LC 14), 15=-198 (LC 15), 21=-170 (LC 14)

Max Grav 12=2089 (LC 47), 15=852 (LC 39), 21=2368 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/25, 2-3=-3226/217, 3-5=-3342/411, 5-6=-2713/224, 6-7=-3232/430, 7-8=-3232/430, 8-9=-2696/223, 9-11=-4171/305, 11-12=-4214/194, 2-21=-2411/219

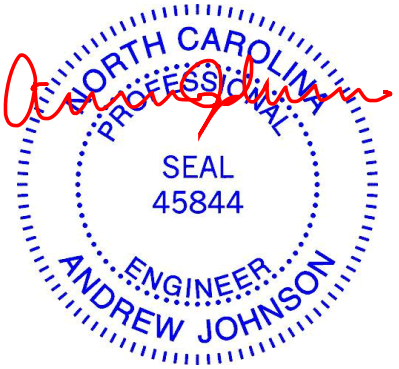
BOT CHORD 20-21=-132/276, 18-20=-26/2497, 17-18=-2/2590, 15-17=-2/2590, 13-15=-46/3134, 12-13=-88/3645

WEBS 2-20=-63/2672, 18-22=-489/243, 22-25=-474/253, 6-25=-460/257, 16-23=-864/226, 23-26=-848/235, 8-26=-827/232, 3-20=-817/329, 5-20=-272/480, 5-18=0/904, 9-16=-92/938, 10-14=-918/319, 9-14=-189/969, 10-13=-222/799, 11-13=-330/236, 22-24=-38/54, 23-24=-38/54, 17-24=0/41, 25-27=-25/40, 26-27=-131/27, 7-27=-257/88, 6-27=-296/722, 8-27=-283/812

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) -0-8-6 to 4-7-9, Interior (1) 4-7-9 to 10-1-10, Exterior(2R) 10-1-10 to 39-2-5, Interior (1) 39-2-5 to 47-11-2, Exterior(2E) 47-11-2 to 53-3-0 zone; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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, 24-7-0 from left end, supported at two points, 5-0-0 apart.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 12.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 21 and 15. This connection is for uplift only and does not consider lateral forces.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



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Job	Truss	Truss Type	Qty	Ply	900 Serenity-Roof-B326 A CP TRAY GLH
25030171-01	A04	Piggyback Base	1	1	I72213114 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Fri Mar 21 12:39:58 Page: 1
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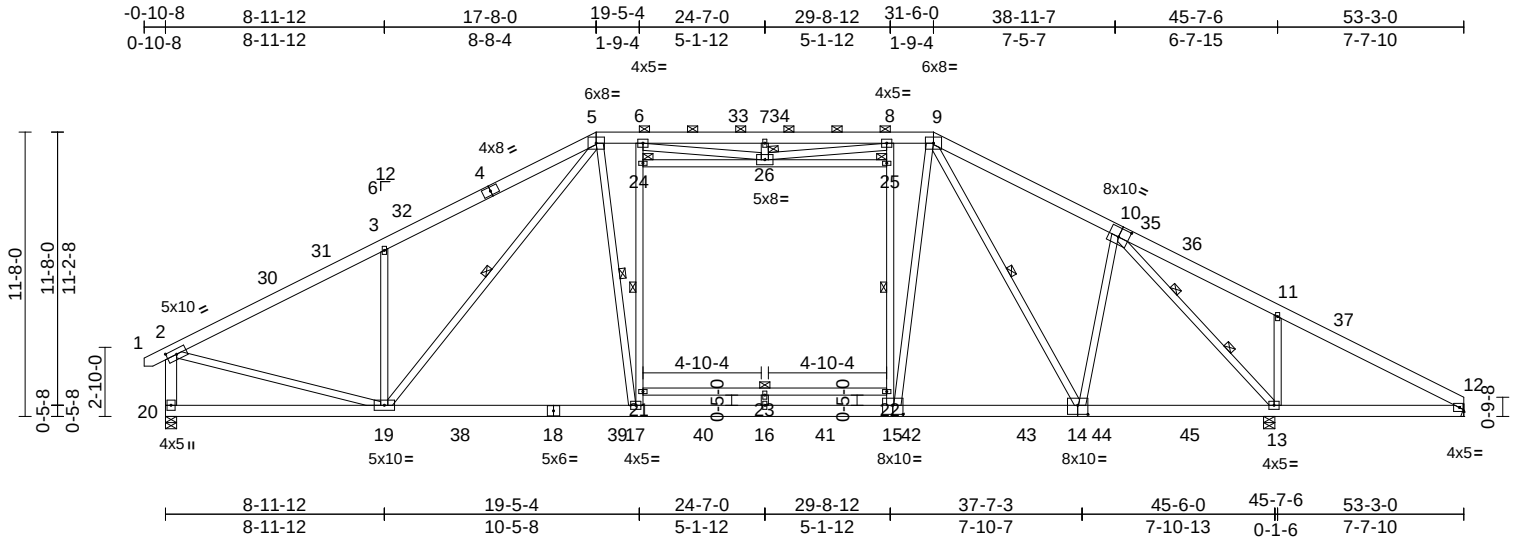


Scale = 1:94.5

Plate Offsets (X, Y): [2:0-4-14,0-2-8], [10:0-5-0,0-4-8], [14:0-5-0,0-4-8], [15:0-5-0,0-4-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.41	17-19	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.60	17-19	>911	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.09	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 469 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 20-2:2x6 SP No.2, 19-2,6-17,15-8,15-9,14-9,19-5,17-5:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-2-8 oc purlins, except end verticals, and 2-0-0 oc purlins (3-8-11 max.): 5-9.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 17-24, 15-25, 9-14, 5-19, 5-17, 21-22
WEBS 2 Rows at 1/3 pts 10-13
JOINTS 1 Brace at Jt(s): 24, 25, 26

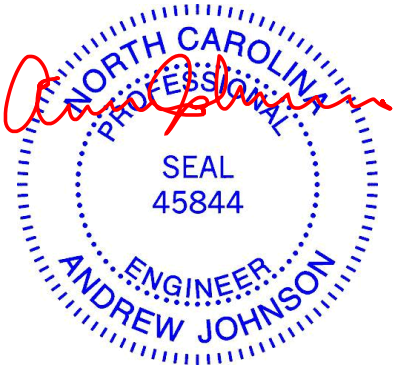
REACTIONS (size) 12= Mechanical, 13=0-5-8, 20=0-5-8
Max Horiz 20=-187 (LC 12)
Max Uplift 12=-211 (LC 14), 13=-386 (LC 15), 20=-154 (LC 14)
Max Grav 12=896 (LC 37), 13=2413 (LC 39), 20=2303 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-3159/195, 3-5=-3275/389, 5-6=-2618/234, 6-7=-3185/440, 7-8=-3185/440, 8-9=-2599/234, 9-11=-2806/538, 11-12=-1552/470, 2-20=-2365/214
BOT CHORD 19-20=-131/273, 17-19=0/2415, 16-17=0/2503, 13-16=-101/2503, 12-13=-357/1335
WEBS 2-19=-55/2613, 17-21=-468/312, 21-24=-457/317, 6-24=-443/319, 15-22=-863/241, 22-25=-855/249, 8-25=-836/246, 9-15=-29/1395, 9-14=-352/52, 10-14=0/565, 10-13=-2213/265, 11-13=-455/258, 3-19=-817/329, 5-19=-283/531, 5-17=-66/856, 21-23=-37/56, 22-23=-37/56, 16-23=0/30, 24-26=-50/91, 25-26=-169/43, 7-26=-264/87, 8-26=-283/842, 6-26=-311/741

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) -0-8-6 to 4-7-9, Interior (1) 4-7-9 to 10-1-10, Exterior(2R) 10-1-10 to 39-2-5, Interior (1) 39-2-5 to 47-11-2, Exterior(2E) 47-11-2 to 53-3-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch 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, 24-7-0 from left end, supported at two points, 5-0-0 apart.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 211 lb uplift at joint 12.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 20 and 13. This connection is for uplift only and does not consider lateral forces.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

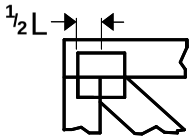


March 25,2025

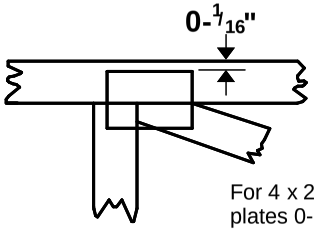
ENGINEERING BY TRENCO A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

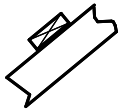
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

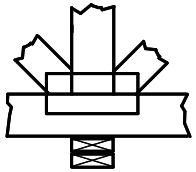
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

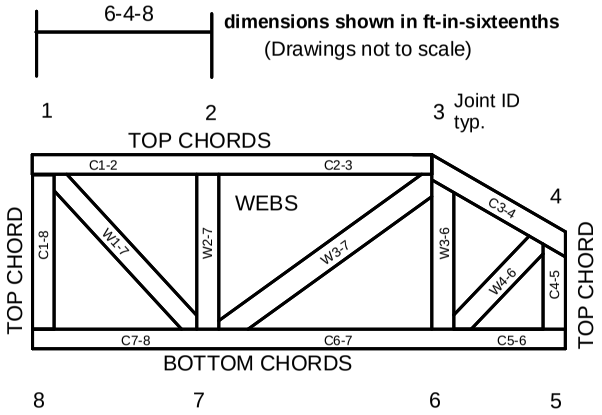


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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®

ENGINEERING BY TRENCO
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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.