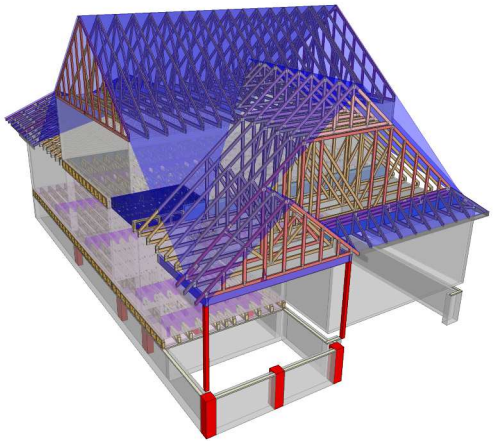
Carter Sanford Component Plant
298 Harvey Faulk Rd
Sanford, NC 27332

Phone #:919-775-1450



Builder: HH HUNT
Model: LOT 54MA

THE PLACEMENT PLAN NOTES:

1. The Placement Plan is a diagram for truss installation. It is not an engineered drawing and has not been reviewed by an engineer. The Owner/Building Designer is responsible for obtaining an engineer's review if one is required by the local jurisdiction.
2. The responsibilities of the Owner, Contractor, Building Designer, Component Designer and Component Manufacturer shall be as set forth in ANSI/TPI 1. Capitalized terms shall be as defined in ANSI/TP 1 unless otherwise indicated.
3. Each Component is designed as an individual component utilizing information provided by others. The Owner/Building Designer is responsible for reviewing all Component Submittal Packages and individual Component Design Drawings for compliance with the Construction Documents and compatibility with the overall Building design.
4. Contractor will not proceed with component installation until the Owner/Building Designer has reviewed the Component Submittal Package. Questions on the suitability of any Component will be resolved by the Building Designer.
5. The Building Designer and Contractor are responsible for all temporary and permanent bracing.
6. The Placement Plan assumes the building is dimensionally correct, structurally sound, and in a suitable condition to support each Component during installation and thereafter, including but not limited to installation of all bearing points. Proper design and construction of all structural components, including foundations, headers, beams, walls and columns are the responsibility of the Owner, Building Designer and Contractor.
7. Do not cut, drill, or modify any Component without first consulting the Component Manufacturer or Building Designer. Damaged Components shall not be installed unless directed by the Building Designer or approved by the Component Manufacturer.
8. Components must be handled and installed following all applicable safety standards and best practices, including but not limited to BCSI, OSHA, TPI and local codes. Failure to properly handle, brace or otherwise install Component can result in serious injury or death.

Apprved by: _____ **Date:** _____

General Notes:

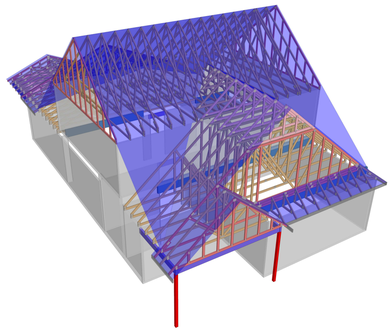
** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION.

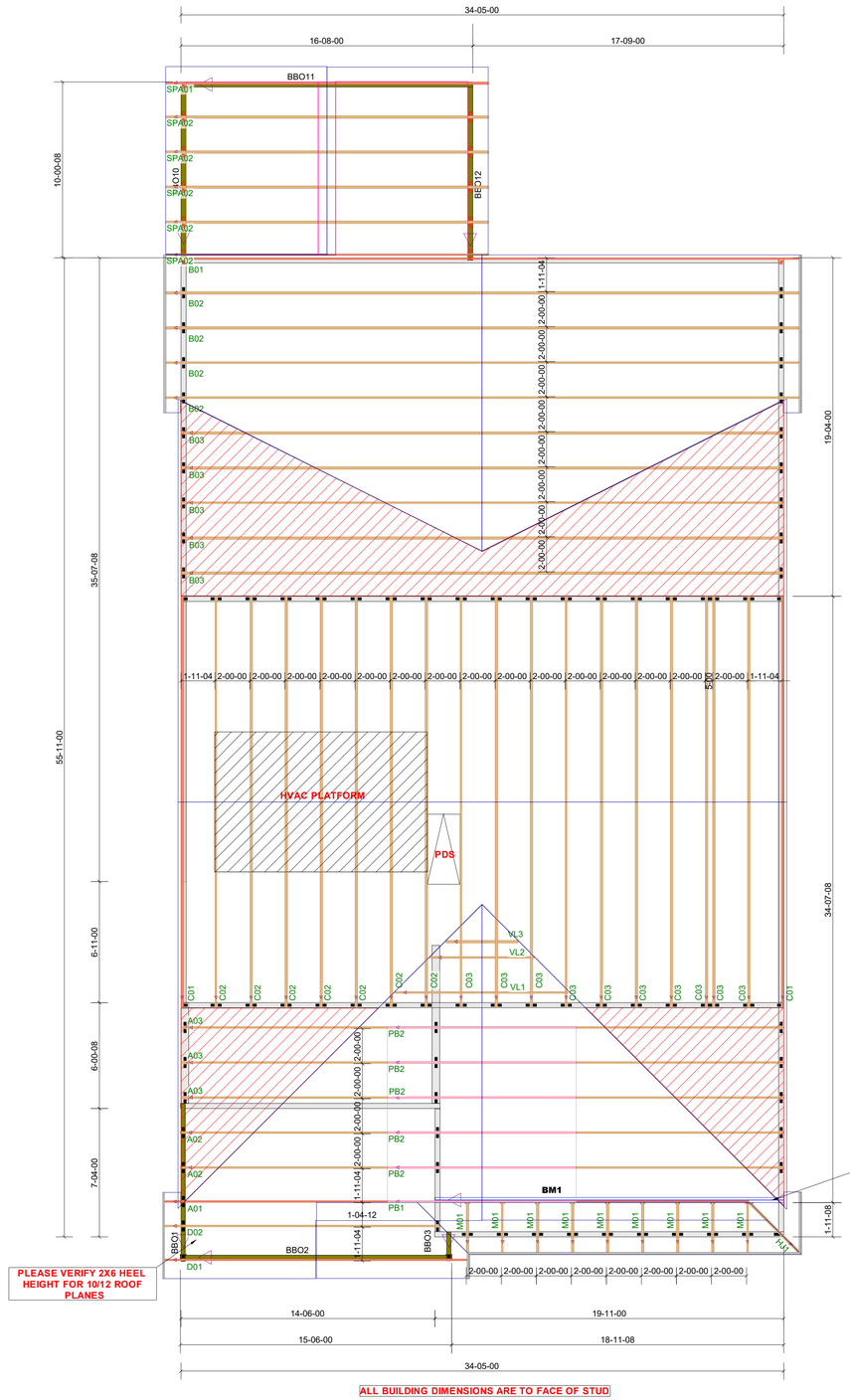
** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.

** TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE.

** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT.

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.



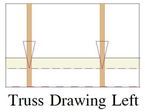


Products

PlotID	Length	Product	Plies	Net Qty	Fab Type
BM1	20-00-00	2.1 RigidLam SP LVL 1-3/4 x 14	2	2	FF

Truss Connector Total List

Manuf	Product	Qty
Simpson	One HZ.5A	86



Truss Drawing Left End Indicator

PRELIMINARY - NOT FOR CONSTRUCTION

** TRIANGULAR SYMBOL NEAR END OF TRUSS INDICATES LEFT END OF TRUSS AS SHOWN ON INDIVIDUAL TRUSS DRAWINGS.

** PLUMBING DROPS NOTED ARE IN THE APPROXIMATE LOCATIONS PER PLAN. BUILDER TO VERIFY LOCATIONS BEFORE SETTING TRUSSES.

** REFER TO FINAL TRUSS ENGINEERING SHEETS FOR PLY TO PLY CONNECTIONS.

** All uplift connectors shown within these documents are recommendations only. Per ANSI/TPI 1, all uplift connectors are the responsibility of the bldg designer and or contractor.

** DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH.

** GIRDERS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS.

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual components to be incorporated into the building design at the specification of the building designer. See Individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor systems and for the overall structure. The design of the truss support structure including headers, beams, and columns is the responsibility of the building designer. For general guidance regarding the bracing, consult "Bracing of Wood Trusses" available from the Truss Plate Institute, 583 D'Onofrio Drive; Madison, WI 53179

CARTER Lumber

HH HUNT

LOT 54MA

ROOF PLACEMENT PLAN

Scale: *NTS*

Date: 6/11/2025

Designer: TL

Project Number: 25060054

Sheet Number: **3/3**

ENGINEERING BY TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 25060054-01
54 Magnolia Acers-Roof-Taylor BB RH FL

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: I74128819 thru I74128838

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

North Carolina COA: C-0844

June 12,2025

Gilbert, Eric

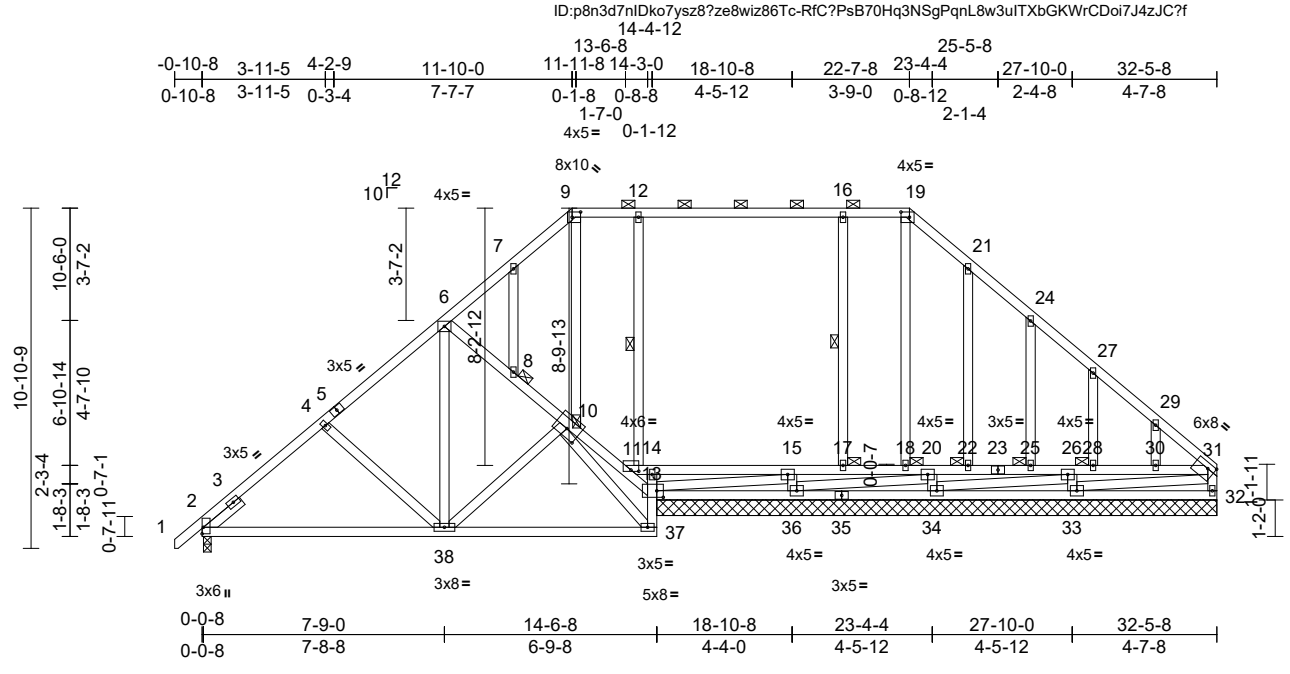
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	A01	Piggyback Base Structural Gable	1	1	I74128819 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. Wed Jun 11 09:26:03 Page: 1

ID:p8n3d7nIDko7ysz8?ze8wiz86Tc-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:73.7

Plate Offsets (X, Y): [2:Edge,0-0-8], [9:0-3-4,0-2-0], [10:0-5-0,0-3-0], [11:0-3-0,0-0-8], [13:0-2-8,0-2-8], [19:0-3-4,0-2-0], [31:0-2-12,0-2-0]

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	0.84	Vert(LL)	-0.09	37	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	-0.20	37-38	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.56	Horz(CT)	0.04	32	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 286 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 32-31:2x4 SP No.2
OTHERS	2x4 SP No.3
SLIDER	Left 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-9-3 oc purlins, except end verticals, and 2-0-0 oc purlins (5-11-13 max.): 9-19, 6-13, 11-31.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS	1 Row at midpt 11-12, 16-17
JOINTS	1 Brace at Jt(s): 17, 8, 18, 22, 25, 28, 10

REACTIONS (size) 2=0-3-0, 32=17-11-0, 33=17-11-0, 34=17-11-0, 36=17-11-0
Max Horiz 2=196 (LC 10)
Max Uplift 32=-18 (LC 10), 33=-115 (LC 14), 34=-306 (LC 29), 36=-12 (LC 10)
Max Grav 2=1032 (LC 2), 32=721 (LC 2), 33=408 (LC 30), 34=115 (LC 10), 36=723 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/46, 2-4=-1272/208, 4-6=-1163/221, 6-7=-987/225, 7-9=-972/275, 9-12=-751/240, 12-16=-760/243, 16-19=-759/243, 19-21=-951/270, 21-24=-990/223, 24-27=-951/152, 27-29=-867/99, 29-31=-893/89, 31-32=-690/47, 6-8=-228/108, 8-10=-276/142, 10-11=-127/910, 11-13=-52/805, 11-14=-153/31, 14-15=-127/78, 15-17=-226/1436, 17-18=-226/1436, 18-20=-224/1428, 20-22=-63/676, 22-25=-63/676, 25-26=-63/676, 26-28=-56/513, 28-30=-56/513, 30-31=-56/515
BOT CHORD	2-38=-161/943, 37-38=-58/527, 13-37=-60/709, 13-14=0/77, 13-36=-791/259, 34-36=-55/103, 33-34=-22/147, 32-33=-34/54
WEBS	11-12=-280/103, 16-17=-367/114, 9-10=-131/488, 7-8=-93/54, 18-19=-126/497, 21-22=-51/51, 24-25=-159/90, 27-28=-217/134, 29-30=-74/39, 6-38=-41/89, 10-38=-52/394, 10-37=-815/117, 15-36=-468/96, 20-34=-64/418, 26-33=-370/232, 13-15=-198/1458, 20-36=-765/163, 26-34=-165/48, 31-33=-41/135, 4-38=-149/116

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -0-9-14 to 2-5-1, Exterior(2N) 2-5-1 to 11-10-0, Corner(3R) 11-10-0 to 15-0-15, Exterior(2N) 15-0-15 to 22-7-8, Corner(3R) 22-7-8 to 25-10-7, Exterior(2N) 25-10-7 to 32-4-2 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=1.33
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); Pg=20.0 psf; Pf=18.9 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, Lu=50-0-0
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.

June 12,2025

Continued on page 2

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

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 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) All bearings are assumed to be SP No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 2.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 32, 12 lb uplift at joint 36, 306 lb uplift at joint 34 and 115 lb uplift at joint 33.
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

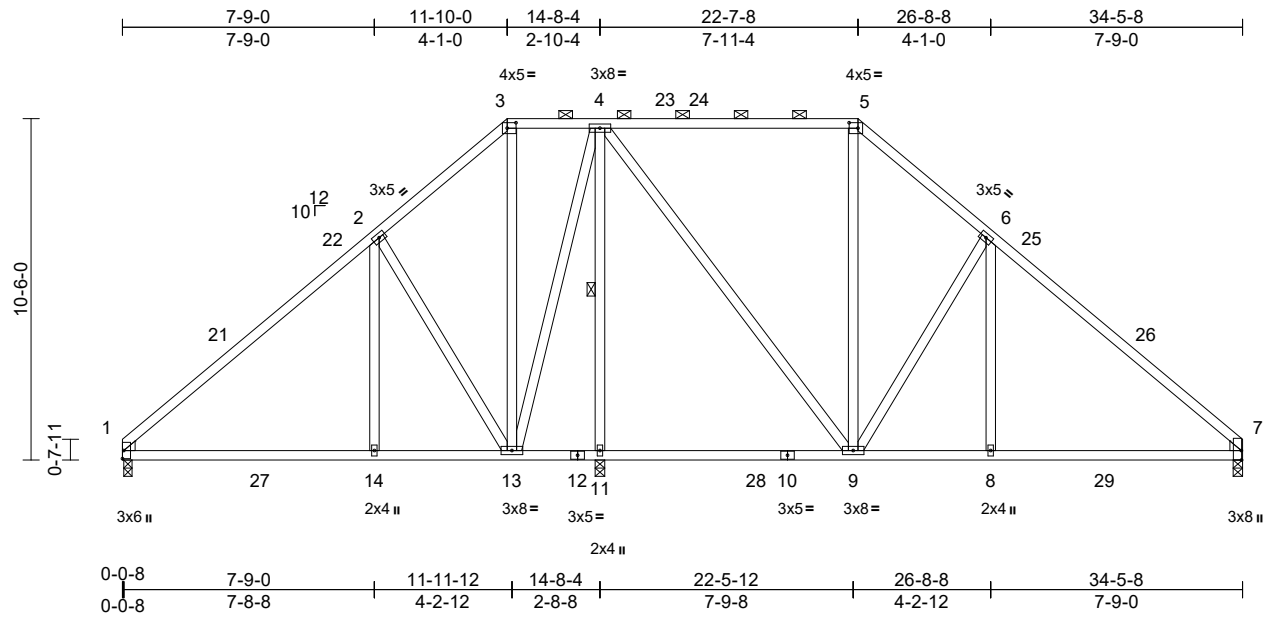
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	A02	Piggyback Base	2	1	I74128820 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. Wed Jun 11 09:26:04 Page: 1
ID:Y3qzhpozlkse5JVkRX?NLFz7slp-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:70.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.81	Vert(LL)	-0.14	9-11	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.25	8-20	>958	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.03	1	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 235 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 4-9,13-4:2x4 SP No.2
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-9-13 oc purlins, except
2-0-0 oc purlins (5-5-11 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-11

REACTIONS (size) 1=0-3-0, 7=0-3-8, 11=0-3-8
Max Horiz 1=-186 (LC 11)
Max Uplift 1=-29 (LC 13), 7=-18 (LC 14)
Max Grav 1=834 (LC 28), 7=1033 (LC 29), 11=1307 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1020/171, 2-3=-644/252, 3-4=-424/217, 4-5=-698/216, 5-6=-977/234, 6-7=-1320/157
BOT CHORD 1-14=-167/721, 13-14=-73/721, 11-13=-48/317, 9-11=-48/317, 8-9=-15/896, 7-8=-81/896
WEBS 5-9=-64/276, 6-9=-578/151, 6-8=0/302, 4-9=0/521, 2-14=0/380, 2-13=-668/146, 3-13=-142/334, 4-13=-3/246, 4-11=-1050/58

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) and C-C Exterior(2E) 0-0-0 to 3-5-6, Interior (1) 3-5-6 to 11-10-0, Exterior(2R) 11-10-0 to 16-8-8, Interior (1) 16-8-8 to 22-7-8, Exterior(2R) 22-7-8 to 27-6-0, Interior (1) 27-6-0 to 34-5-8 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 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, Lu=50-0-0
4) Provide adequate drainage to prevent water ponding.
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) All bearings are assumed to be SP No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 1 and 18 lb uplift at joint 7.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) 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

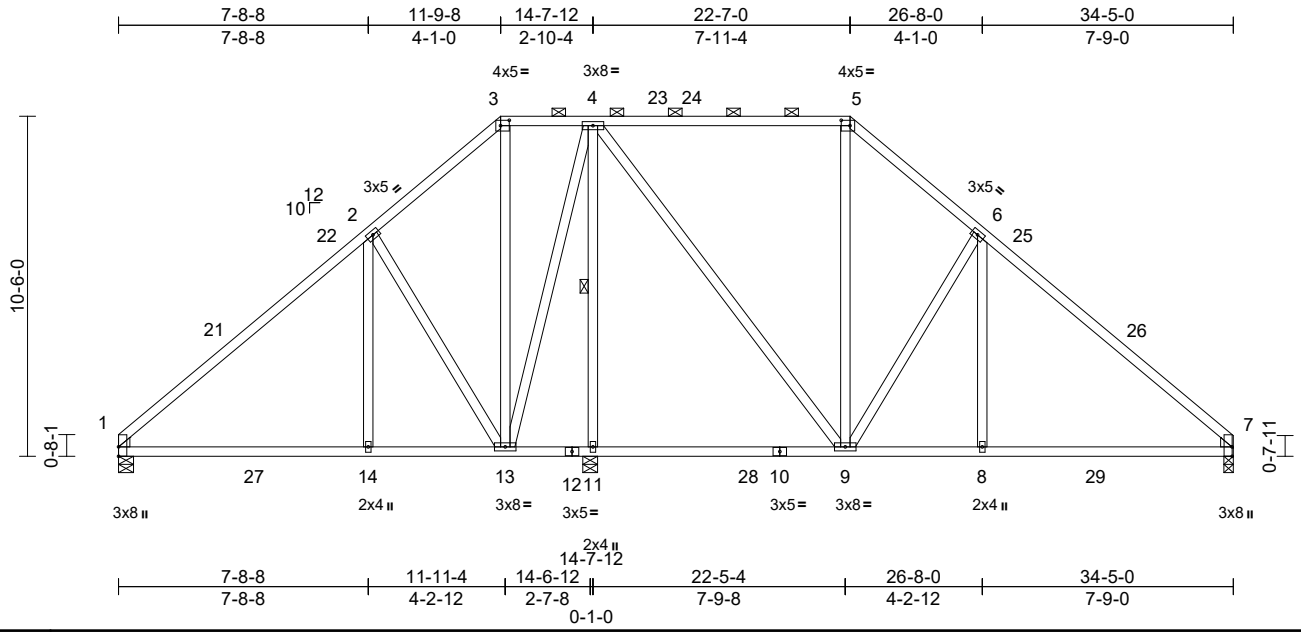
June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	A03	Piggyback Base	3	1	I74128821 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. Wed Jun 11 09:26:04 ID:2VjSivHZUjhYBpg7y4BS9Uz7sic-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:71.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.81	Vert(LL)	-0.14	9-11	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.25	8-20	>958	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.80	Horz(CT)	0.03	1	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 235 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 13-4,4-9:2x4 SP No.2
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-9-11 oc purlins, except 2-0-0 oc purlins (5-5-7 max.): 3-5.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 4-11

REACTIONS (size) 1=0-5-8, 7=0-3-8, 11=0-5-8
Max Horiz 1=-186 (LC 9)
Max Uplift 1=-33 (LC 13), 7=-19 (LC 14)
Max Grav 1=839 (LC 28), 7=1035 (LC 29), 11=1298 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-1024/175, 2-3=-651/256, 3-4=-431/219, 4-5=-703/219, 5-6=-984/238, 6-7=-1326/159
BOT CHORD	1-14=-181/724, 13-14=-77/724, 11-13=-52/326, 9-11=-52/326, 8-9=-17/901, 7-8=-82/901
WEBS	3-13=-145/336, 5-9=-66/280, 4-11=-1039/54, 4-13=0/239, 4-9=-1/518, 2-14=0/376, 6-8=0/302, 6-9=-578/150, 2-13=-659/145

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-5-5, Interior (1) 3-5-5 to 11-9-8, Exterior(2R) 11-9-8 to 16-7-15, Interior (1) 16-7-15 to 22-7-0, Exterior(2R) 22-7-0 to 27-5-6, Interior (1) 27-5-6 to 34-5-0 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 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, Lu=50-0-0
4) Provide adequate drainage to prevent water ponding.
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) All bearings are assumed to be SP No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 1 and 19 lb uplift at joint 7.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

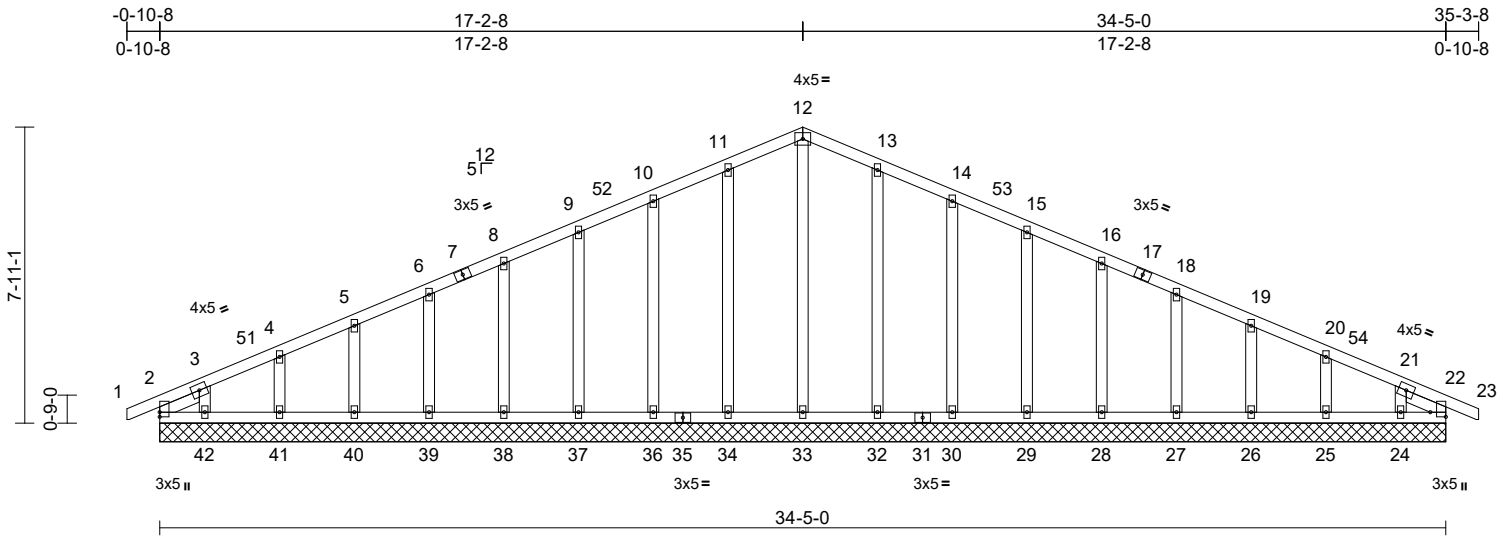
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	B01	Common Supported Gable	1	1	I74128822 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. Wed Jun 11 09:26:05 Page: 1
ID:?iQVq1wp??N12yDJYjdtofz7shn-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:61.7

Plate Offsets (X, Y): [22:Edge,0-5-0]

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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.00	22	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 210 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-2-8, Right 2x4 SP No.3 -- 1-2-8

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=34-5-0, 22=34-5-0, 24=34-5-0, 25=34-5-0, 26=34-5-0, 27=34-5-0, 28=34-5-0, 29=34-5-0, 30=34-5-0, 32=34-5-0, 33=34-5-0, 34=34-5-0, 36=34-5-0, 37=34-5-0, 38=34-5-0, 39=34-5-0, 40=34-5-0, 41=34-5-0, 42=34-5-0
Max Horiz 2=-68 (LC 16)
Max Uplift 24=-34 (LC 16), 25=-11 (LC 16), 26=-12 (LC 16), 27=-11 (LC 16), 28=-12 (LC 16), 29=-11 (LC 16), 30=-13 (LC 16), 32=-10 (LC 16), 34=-11 (LC 15), 36=-13 (LC 15), 37=-11 (LC 15), 38=-12 (LC 15), 39=-11 (LC 15), 40=-12 (LC 15), 41=-10 (LC 15), 42=-45 (LC 15)
Max Grav 2=107 (LC 35), 22=104 (LC 2), 24=116 (LC 40), 25=160 (LC 2), 26=154 (LC 40), 27=155 (LC 2), 28=155 (LC 40), 29=155 (LC 40), 30=177 (LC 23), 32=193 (LC 23), 33=145 (LC 36), 34=193 (LC 22), 36=177 (LC 22), 37=155 (LC 39), 38=155 (LC 39), 39=155 (LC 2), 40=154 (LC 39), 41=160 (LC 2), 42=116 (LC 39)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/24, 2-3=-44/37, 3-4=-76/40, 4-5=-59/44, 5-6=-49/53, 6-8=-41/76, 8-9=-51/112, 9-10=-60/147, 10-11=-74/183, 11-12=-88/217, 12-13=-88/217, 13-14=-74/183, 14-15=-60/147, 15-16=-51/112, 16-18=-41/76, 18-19=-32/41, 19-20=-36/18, 20-21=-52/27, 21-22=-39/36, 22-23=0/24
BOT CHORD 2-42=-35/109, 41-42=-35/109, 40-41=-35/109, 39-40=-35/109, 38-39=-35/109, 37-38=-35/109, 36-37=-35/109, 34-36=-35/109, 33-34=-35/109, 32-33=-35/109, 30-32=-35/109, 29-30=-35/109, 28-29=-35/109, 27-28=-35/109, 26-27=-35/109, 25-26=-35/109, 24-25=-35/109, 22-24=-35/109
WEBS 12-33=-106/11, 11-34=-154/65, 10-36=-139/71, 9-37=-121/68, 8-38=-121/69, 6-39=-121/69, 5-40=-120/68, 4-41=-125/80, 3-42=-98/116, 13-32=-154/65, 14-30=-139/71, 15-29=-121/68, 16-28=-121/69, 18-27=-121/69, 19-26=-120/68, 20-25=-125/80, 21-24=-99/112

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) and C-C Corner (3E) -0-10-2 to 2-7-2, Exterior(2N) 2-7-2 to 17-2-8, Corner(3R) 17-2-8 to 20-7-13, Exterior(2N) 20-7-13 to 35-3-2 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=1.33
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); Pg=20.0 psf; Pf=13.9 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 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.

June 12,2025

Continued on page 2

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

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 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) All bearings are assumed to be SP No.2 .
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 34, 13 lb uplift at joint 36, 11 lb uplift at joint 37, 12 lb uplift at joint 38, 11 lb uplift at joint 39, 12 lb uplift at joint 40, 10 lb uplift at joint 41, 45 lb uplift at joint 42, 10 lb uplift at joint 32, 13 lb uplift at joint 30, 11 lb uplift at joint 29, 12 lb uplift at joint 28, 11 lb uplift at joint 27, 12 lb uplift at joint 26, 11 lb uplift at joint 25 and 34 lb uplift at joint 24.
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

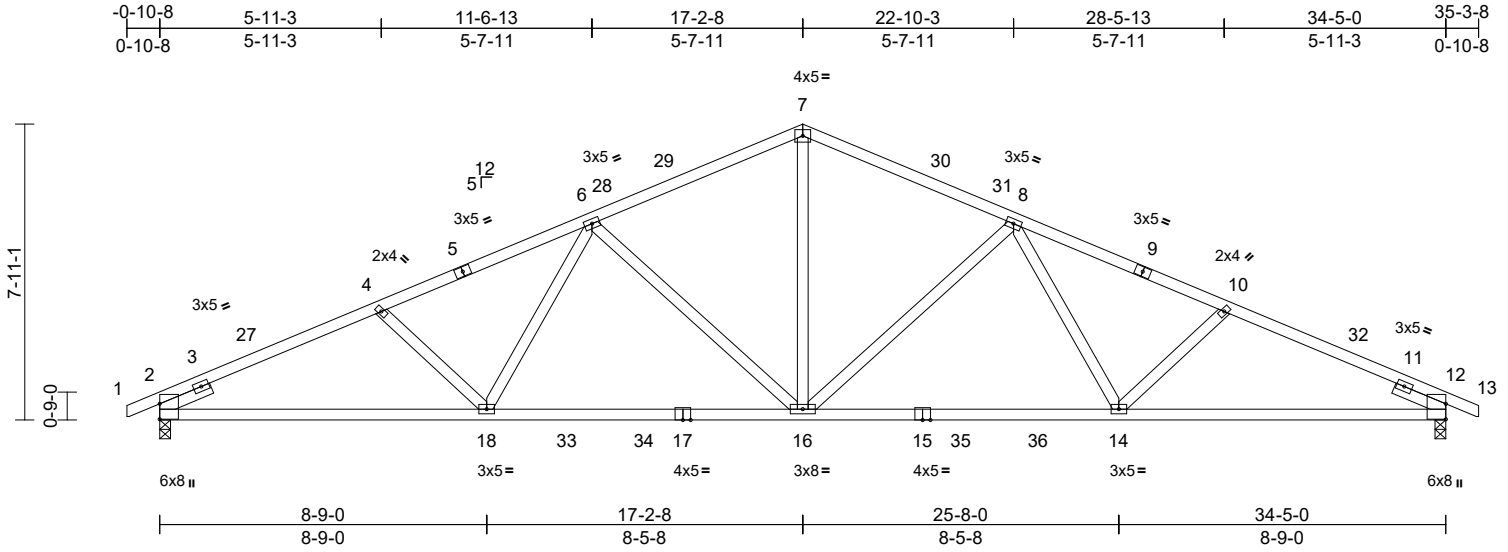
June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	B02	Common	4	1	I74128823 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. Wed Jun 11 09:26:05 Page: 1
ID:E6Ddmn3g3vfT9x9B93fh7Tz86Zi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:61.7

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	1.00	Vert(LL)	-0.29	16-18	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.52	16-18	>791	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.83	Horz(CT)	0.13	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 176 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 1-5,9-13:2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

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

REACTIONS (size) 2=0-3-8, 12=0-3-8
Max Horiz 2=-71 (LC 16)
Max Grav 2=1536 (LC 3), 12=1536 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-4=-3121/252, 4-6=-2949/237, 6-7=-2209/246, 7-8=-2209/246, 8-10=-2949/237, 10-12=-3121/252, 12-13=0/25
BOT CHORD 2-18=-158/2789, 16-18=-108/2454, 14-16=-110/2454, 12-14=-160/2790
WEBS 7-16=-64/1359, 8-16=-733/128, 8-14=0/437, 10-14=-218/106, 6-16=-733/128, 6-18=0/437, 4-18=-218/106

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) and C-C Exterior(2E) -0-10-2 to 2-7-2, Interior (1) 2-7-2 to 17-2-8, Exterior(2R) 17-2-8 to 20-7-13, Interior (1) 20-7-13 to 35-3-2 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 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 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) All plates are 3x5 MT20 unless otherwise indicated.
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) All bearings are assumed to be SP No.1 .
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

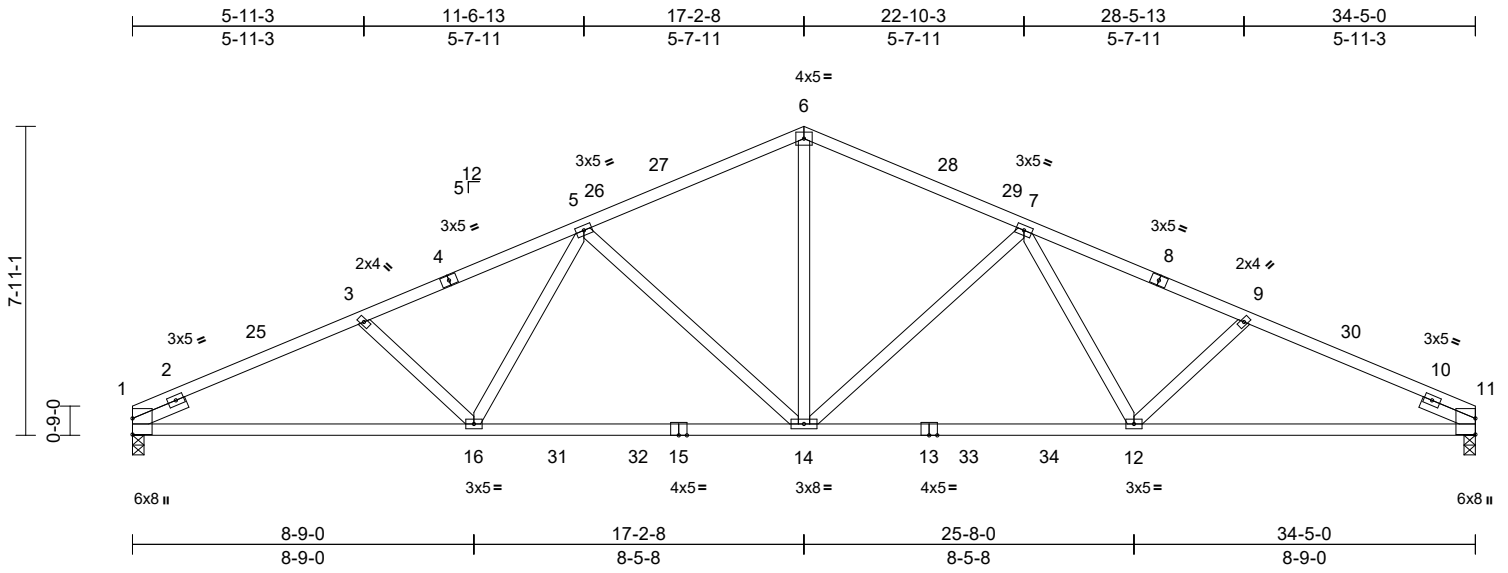
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	B03	Common	5	1	I74128824 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. Wed Jun 11 09:26:05 Page: 1
ID:XS8HEA83Q3YTV?BX31HKvxz86Zb-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:59.1

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	0.99	Vert(LL)	-0.29	14-16	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.52	14-16	>794	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.13	11	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 173 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 1-4,8-11:2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

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

REACTIONS (size) 1=0-3-8, 11=0-3-8
Max Horiz 1=67 (LC 15)
Max Grav 1=1494 (LC 3), 11=1494 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-3127/261, 3-5=-2954/244, 5-6=-2211/249, 6-7=-2211/249, 7-9=-2954/244, 9-11=-3127/261
BOT CHORD 1-16=-179/2795, 14-16=-128/2455, 12-14=-120/2455, 11-12=-181/2795
WEBS 6-14=-65/1360, 7-14=-734/128, 7-12=0/440, 9-12=-222/111, 5-14=-734/128, 5-16=0/440, 3-16=-222/111

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) and C-C Exterior(2E) 0-0-0 to 3-5-5, Interior (1) 3-5-5 to 17-2-8, Exterior(2R) 17-2-8 to 20-7-13, Interior (1) 20-7-13 to 34-5-0 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) All plates are 3x5 MT20 unless otherwise indicated.
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) All bearings are assumed to be SP No.1 .
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

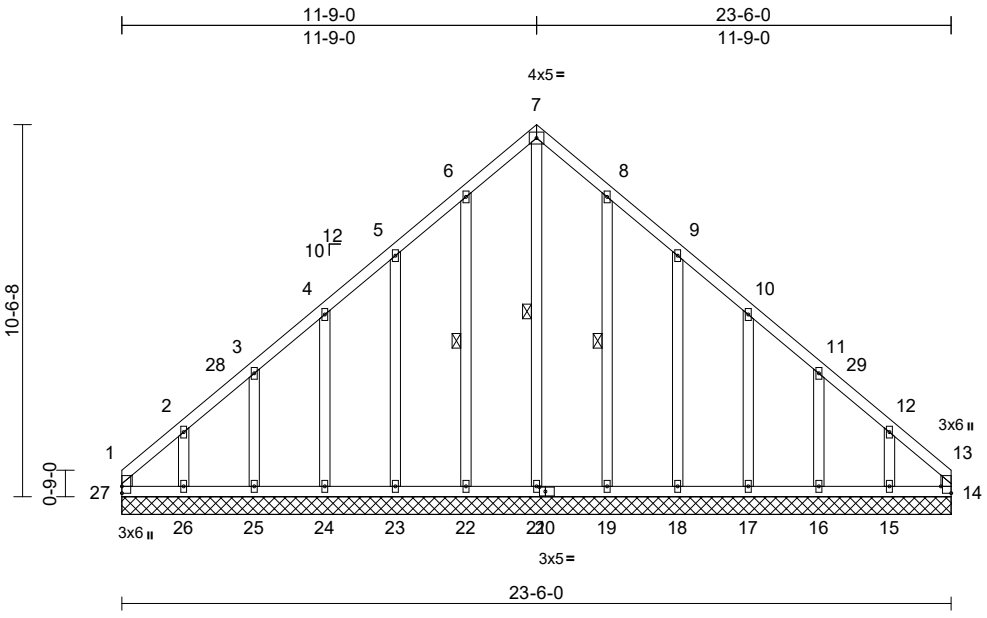
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	C01	Common Supported Gable	2	1	I74128825 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. Wed Jun 11 09:26:05 Page: 1
ID:He_A4rCmYPrPmApk3MOGHiz86ao-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:65.3

Plate Offsets (X, Y): [13:Edge,0-3-8], [20:0-2-0,0-1-8]

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 171 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-21, 6-22, 8-19

REACTIONS (size) 14=23-6-0, 15=23-6-0, 16=23-6-0, 17=23-6-0, 18=23-6-0, 19=23-6-0, 21=23-6-0, 22=23-6-0, 23=23-6-0, 24=23-6-0, 25=23-6-0, 26=23-6-0, 27=23-6-0
Max Horiz 27=-190 (LC 9)
Max Uplift 14=-58 (LC 12), 15=-85 (LC 14), 16=-28 (LC 14), 17=-39 (LC 14), 18=-41 (LC 14), 19=-30 (LC 14), 22=-31 (LC 13), 23=-40 (LC 13), 24=-39 (LC 13), 25=-27 (LC 13), 26=-91 (LC 13), 27=-93 (LC 11)
Max Grav 14=124 (LC 9), 15=188 (LC 29), 16=160 (LC 29), 17=165 (LC 29), 18=163 (LC 29), 19=169 (LC 29), 21=199 (LC 14), 22=171 (LC 28), 23=163 (LC 28), 24=166 (LC 28), 25=157 (LC 28), 26=198 (LC 28), 27=159 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-27=-120/79, 1-2=-177/148, 2-3=-127/110, 3-4=-118/101, 4-5=-106/127, 5-6=-133/206, 6-7=-171/272, 7-8=-171/272, 8-9=-133/206, 9-10=-100/127, 10-11=-90/64, 11-12=-100/74, 12-13=-136/108, 13-14=-92/50

BOT CHORD 26-27=-83/120, 25-26=-83/120, 24-25=-83/120, 23-24=-83/120, 22-23=-83/120, 21-22=-83/120, 19-21=-83/120, 18-19=-83/120, 17-18=-83/120, 16-17=-83/120, 15-16=-83/120, 14-15=-83/120

WEBS 7-21=-283/123, 6-22=-145/79, 5-23=-148/100, 4-24=-146/92, 3-25=-146/94, 2-26=-151/131, 8-19=-145/79, 9-18=-148/100, 10-17=-146/92, 11-16=-146/94, 12-15=-150/131

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) and C-C Corner (3E) 0-1-12 to 3-1-12, Exterior(2N) 3-1-12 to 11-9-0, Corner(3R) 11-9-0 to 14-9-0, Exterior(2N) 14-9-0 to 23-4-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
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); Pg=20.0 psf; Pf=13.9 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) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 2-0-0 oc.
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) All bearings are assumed to be SP No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 93 lb uplift at joint 27, 58 lb uplift at joint 14, 31 lb uplift at joint 22, 40 lb uplift at joint 23, 39 lb uplift at joint 24, 27 lb uplift at joint 25, 91 lb uplift at joint 26, 30 lb uplift at joint 19, 41 lb uplift at joint 18, 39 lb uplift at joint 17, 28 lb uplift at joint 16 and 85 lb uplift at joint 15.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

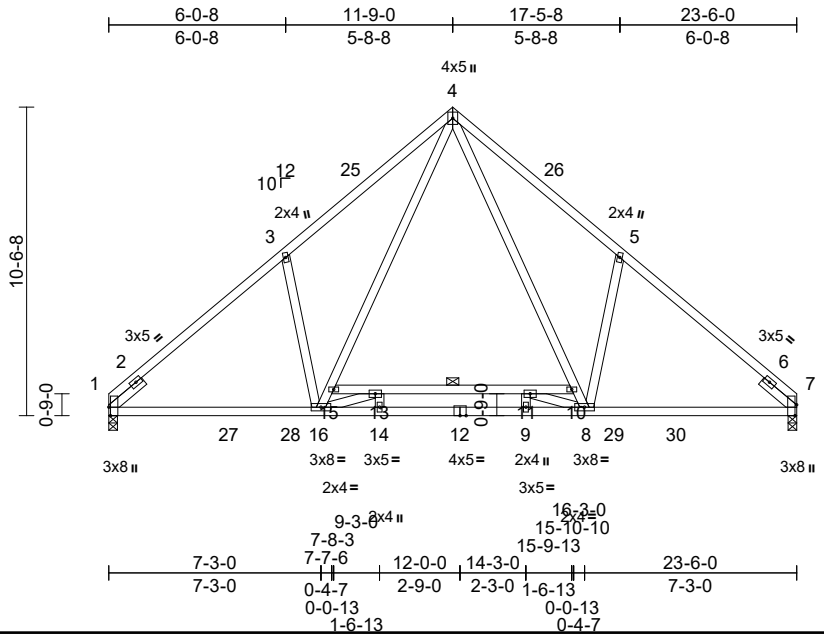
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	C02	Common	7	1	I74128826 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. Wed Jun 11 09:26:05 Page: 1
ID:1ZJdLi4ohW?kUkdgYdiDTtz86cG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:78.7

Plate Offsets (X, Y): [1:0-3-8,Edge], [7:0-4-7,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	0.47	Vert(LL)	-0.12	9-14	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.25	9-14	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.06	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 153 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 8-4,16-4:2x4 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 3-7-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
4-9-10 oc bracing: 11-13.

REACTIONS (size) 1=0-3-8, 7=0-3-8
Max Horiz 1=184 (LC 12)
Max Grav 1=1382 (LC 28), 7=1382 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-1900/0, 3-4=-1910/57, 4-5=-1910/57, 5-7=-1900/0
BOT CHORD 1-16=-95/1365, 14-16=0/1908, 9-14=0/1908, 8-9=0/1908, 7-8=-48/1359, 13-15=0/49, 11-13=-1196/0, 10-11=0/49
WEBS 4-10=0/1077, 8-10=0/1090, 15-16=0/1090, 4-15=0/1077, 3-16=-373/219, 5-8=-373/219, 13-14=0/234, 9-11=0/234, 13-16=-1324/0, 8-11=-1324/0

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) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 11-9-0, Exterior(2R) 11-9-0 to 14-9-0, Interior (1) 14-9-0 to 23-6-0 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 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) 200.0lb AC unit load placed on the bottom chord, 11-9-0 from left end, supported at two points, 5-0-0 apart.
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) All bearings are assumed to be SP No.2 .
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

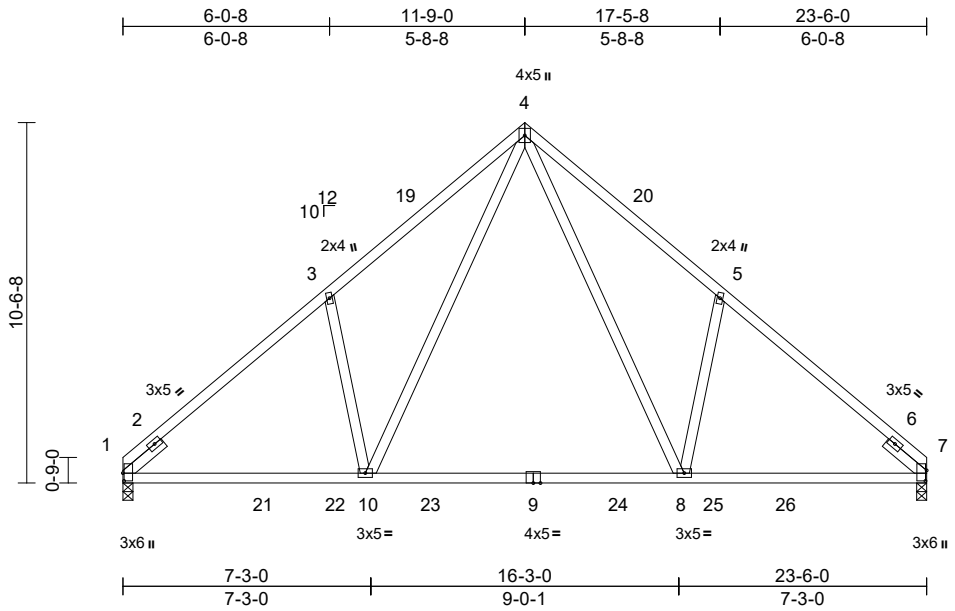
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	C03	Common	10	1	I74128827 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. Wed Jun 11 09:26:05 Page: 1
ID:1ZJdLi4ohW?kUkdgYdiDTtz86cG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:67.4

Plate Offsets (X, Y): [1:0-2-12,0-0-7], [7:0-3-11,0-0-7]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.41	Vert(LL)	-0.29	8-10	>973	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.45	8-10	>624	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 134 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 10-3,8-5:2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

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

REACTIONS (size) 1=0-3-8, 7=0-3-8
Max Horiz 1=184 (LC 10)
Max Grav 1=1100 (LC 28), 7=1100 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-1516/129, 3-4=-1529/266, 4-5=-1529/266, 5-7=-1516/129
BOT CHORD 1-10=-139/1073, 8-10=0/692, 7-8=-91/1067
WEBS 4-8=-122/813, 4-10=-122/813, 3-10=-381/212, 5-8=-381/212

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) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 11-9-0, Exterior(2R) 11-9-0 to 14-9-0, Interior (1) 14-9-0 to 23-6-0 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 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) * 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.
5) All bearings are assumed to be SP No.2 .
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

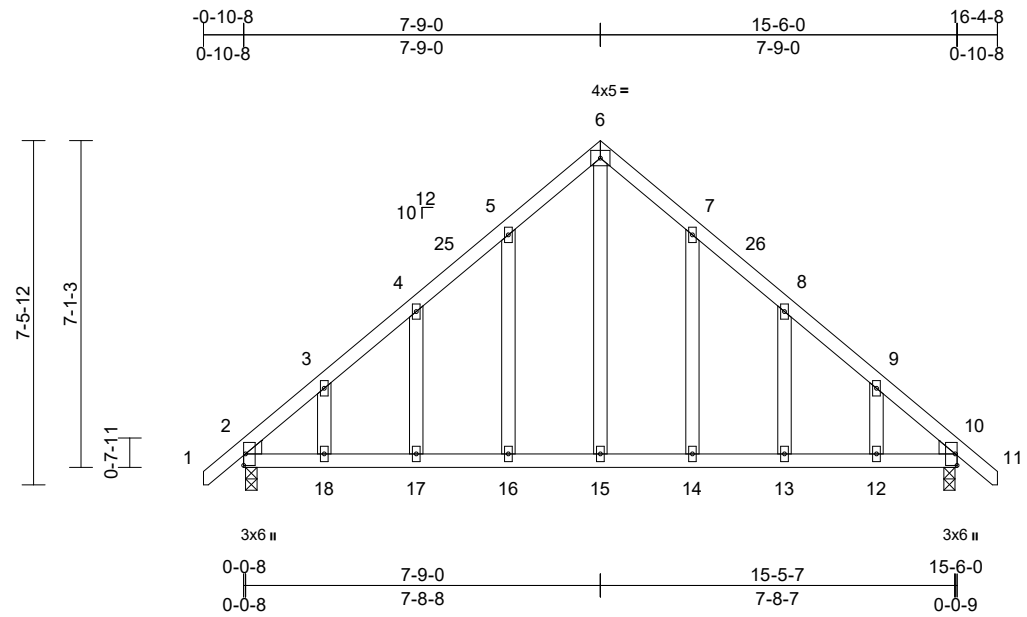
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	D01	Common Structural Gable	1	1	I74128828 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. Wed Jun 11 09:26:05 Page: 1
ID:mxIgHlg8E3n3ZyYj_1SUWFz7sv?-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:50.1

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	0.40	Vert(LL)	-0.16	13	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.24	12-13	>769	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.03	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 96 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
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

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

REACTIONS (size) 2=0-3-0, 10=0-2-15
Max Horiz 2=130 (LC 12)
Max Grav 2=648 (LC 2), 10=648 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-3=-623/30, 3-4=-616/76, 4-5=-595/126, 5-6=-607/190, 6-7=-607/190, 7-8=-595/126, 8-9=-616/76, 9-10=-623/30, 10-11=0/38
BOT CHORD 2-18=-55/416, 17-18=0/416, 16-17=0/416, 15-16=0/416, 14-15=0/416, 13-14=0/416, 12-13=0/416, 10-12=0/416
WEBS 6-15=-145/503, 5-16=-122/88, 4-17=-57/53, 3-18=-65/50, 7-14=-122/88, 8-13=-57/53, 9-12=-65/50

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) and C-C Exterior(2E) -0-9-14 to 2-2-2, Interior (1) 2-2-2 to 7-9-0, Exterior(2R) 7-9-0 to 10-9-0, Interior (1) 10-9-0 to 16-3-14 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=1.33
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); Pg=20.0 psf; Pf=13.9 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) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 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 live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 10.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

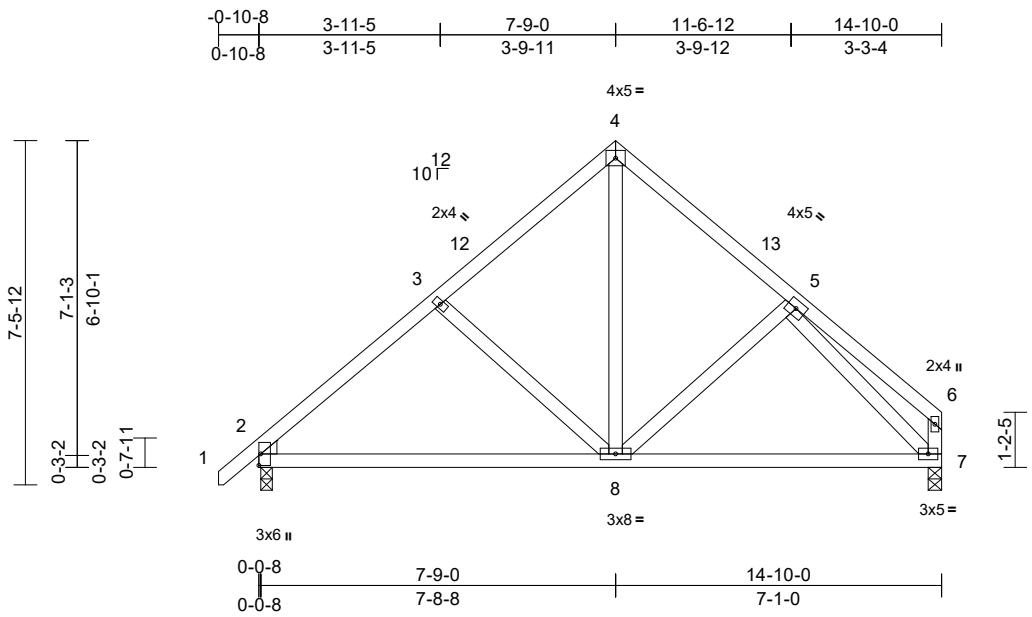
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	D02	Common	1	1	I74128829 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. Wed Jun 11 09:26:06 Page: 1
ID:I0GjeDtAT_ooUPmowOkE9dz7sul-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:50.1

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	0.18	Vert(LL)	-0.01	7-8	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	-0.06	8-11	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.23	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 85 lb	FT = 20%

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

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

REACTIONS (size) 2=0-3-0, 7=0-3-8
Max Horiz 2=143 (LC 12)
Max Grav 2=638 (LC 2), 7=586 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-728/137, 3-4=-581/148, 4-5=-580/146, 5-6=-168/59, 6-7=-163/50
BOT CHORD 2-8=-93/530, 7-8=-72/448
WEBS 4-8=-78/414, 5-8=-143/134, 5-7=-563/108, 3-8=-249/141

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) and C-C Exterior(2E) -0-9-14 to 2-2-2, Interior (1) 2-2-2 to 7-9-0, Exterior(2R) 7-9-0 to 10-9-0, Interior (1) 10-9-0 to 14-8-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 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) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SP No.2 .
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

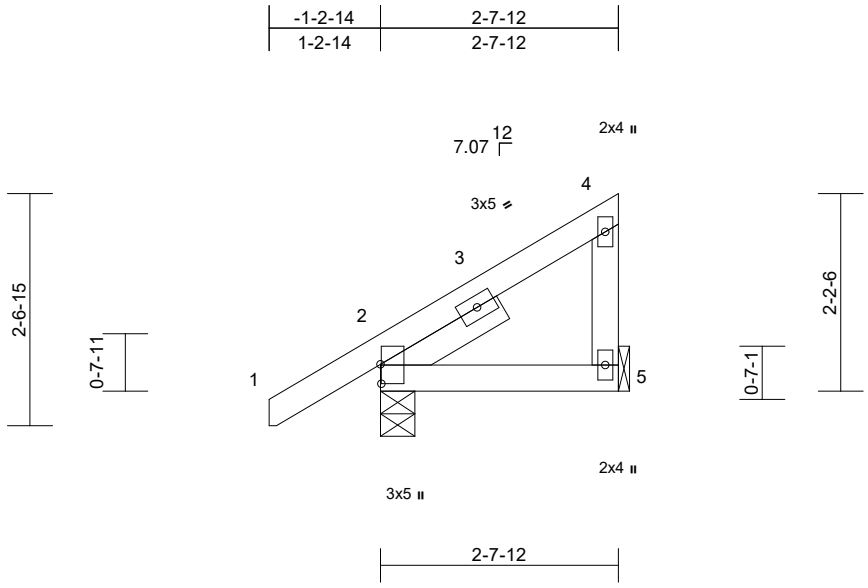
June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	HJ1	Monopitch	1	1	I74128830 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. Wed Jun 11 09:26:06 Page: 1
ID:Jx17H6RrKjF9AKrXxAuQvEz7sfp-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:25.6

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

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	0.12	Vert(LL)	0.00	5-8	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	0.00	5-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 15 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-7-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-4-9, 5= Mechanical
Max Horiz 2=59 (LC 12)
Max Uplift 2=-7 (LC 13), 5=-10 (LC 10)
Max Grav 2=189 (LC 2), 5=91 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/46, 2-4=-87/64, 4-5=-97/77
BOT CHORD 2-5=-78/99

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) and C-C Exterior(2E) -1-2-6 to 1-9-10, Interior (1) 1-9-10 to 2-6-0 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 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) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
4) * 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.
5) Bearings are assumed to be: Joint 2 SP No.2 .
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 5 and 7 lb uplift at joint 2.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

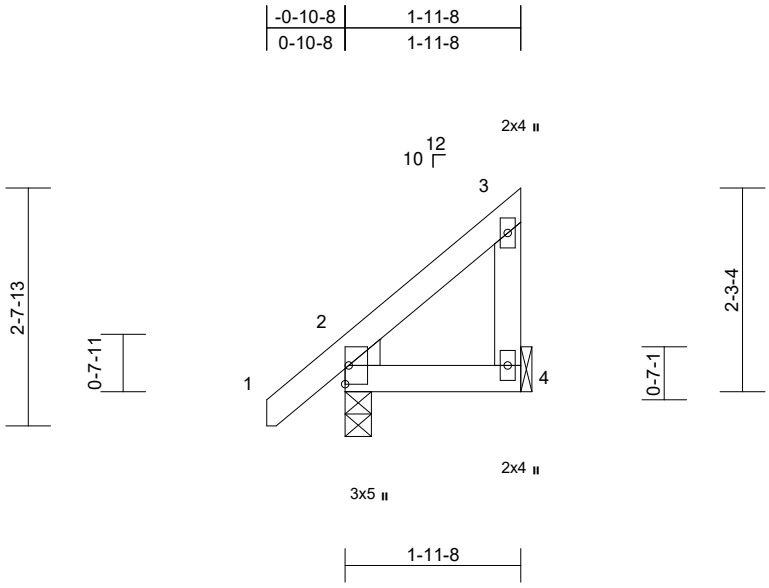
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	M01	Monopitch	9	1	I74128831 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. Wed Jun 11 09:26:06 Page: 1
ID:fvq0KpV_8FtRG5kVjjUbcHz7sfk-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:25.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	0.00	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 12 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-11-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4= Mechanical
Max Horiz 2=59 (LC 12)
Max Uplift 4=-20 (LC 10)
Max Grav 2=133 (LC 2), 4=72 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-87/69, 3-4=-84/95
BOT CHORD 2-4=-108/76

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) 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 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) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
4) * 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.
5) Bearings are assumed to be: Joint 2 SP No.2 .
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 4.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

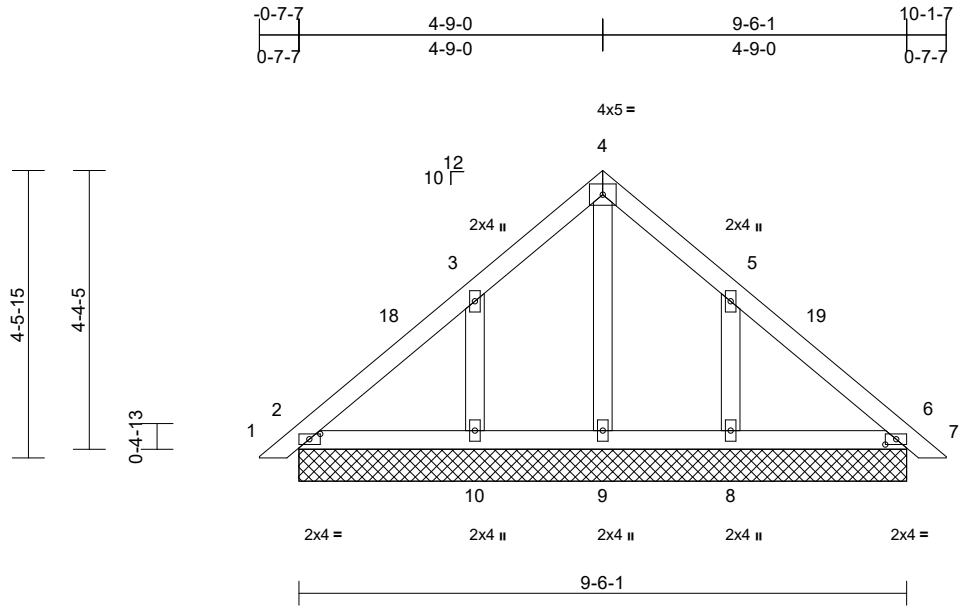
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	PB1	Piggyback	1	1	I74128832 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. Wed Jun 11 09:26:06 Page: 1
ID:tmfJCRl2h7YQiZpluYcgrHz86Te-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:36

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

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 47 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 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=9-6-1, 6=9-6-1, 8=9-6-1, 9=9-6-1, 10=9-6-1
Max Horiz 2=-78 (LC 11)
Max Uplift 8=-57 (LC 14), 10=-57 (LC 13)
Max Grav 2=133 (LC 2), 6=133 (LC 2), 8=240 (LC 30), 9=80 (LC 32), 10=241 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/19, 2-3=-83/53, 3-4=-111/110, 4-5=-111/108, 5-6=-66/35, 6-7=0/19
BOT CHORD 2-10=-33/85, 9-10=-33/85, 8-9=-33/85, 6-8=-33/85
WEBS 4-9=-73/26, 3-10=-212/171, 5-8=-212/170

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) and C-C Exterior(2E) 0-2-14 to 3-4-12, Interior (1) 3-4-12 to 5-4-12, Exterior(2R) 5-4-12 to 8-4-12, Interior (1) 8-4-12 to 10-6-10 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=1.33
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); Pg=20.0 psf; Pf=13.9 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) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 57 lb uplift at joint 10 and 57 lb uplift at joint 8.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

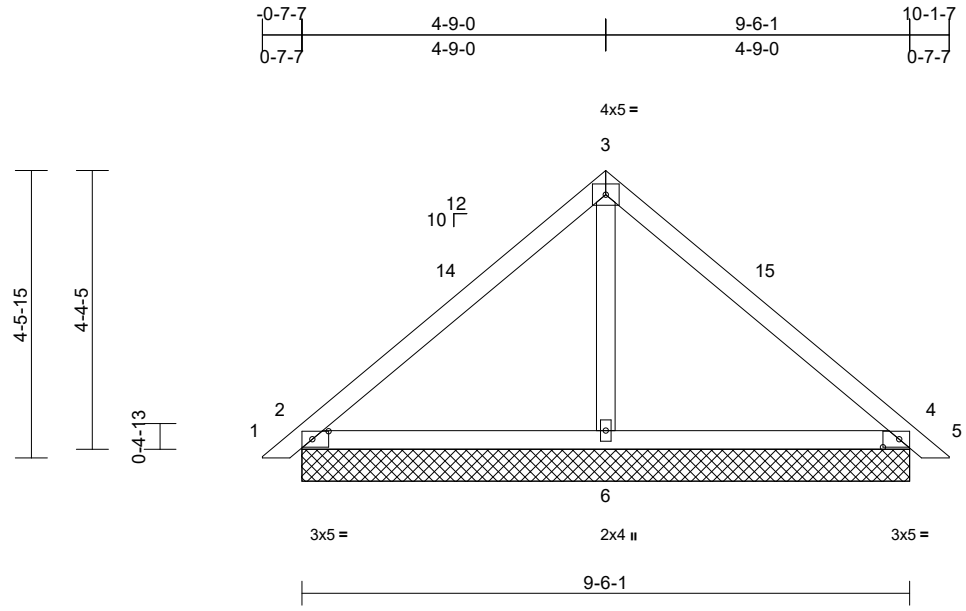
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	PB2	Piggyback	5	1	I74128833 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. Wed Jun 11 09:26:06 Page: 1
ID:4tGaTTnL?QknU9wYtpU8o1z7slq-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:36

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

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	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 40 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=9-6-1, 4=9-6-1, 6=9-6-1
Max Horiz 2=81 (LC 12)
Max Uplift 2=-12 (LC 13), 4=-19 (LC 14)
Max Grav 2=265 (LC 2), 4=265 (LC 2), 6=278 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/19, 2-3=-243/177, 3-4=-243/171, 4-5=0/19
BOT CHORD 2-6=-65/111, 4-6=-53/111
WEBS 3-6=-111/1

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) and C-C Corner (3E) 0-2-14 to 3-2-14, Exterior(2N) 3-2-14 to 5-4-12, Corner(3R) 5-4-12 to 8-4-12, Exterior(2N) 8-4-12 to 10-6-10 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=1.33
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); Pg=20.0 psf; Pf=13.9 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) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 2, 19 lb uplift at joint 4, 12 lb uplift at joint 2 and 19 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

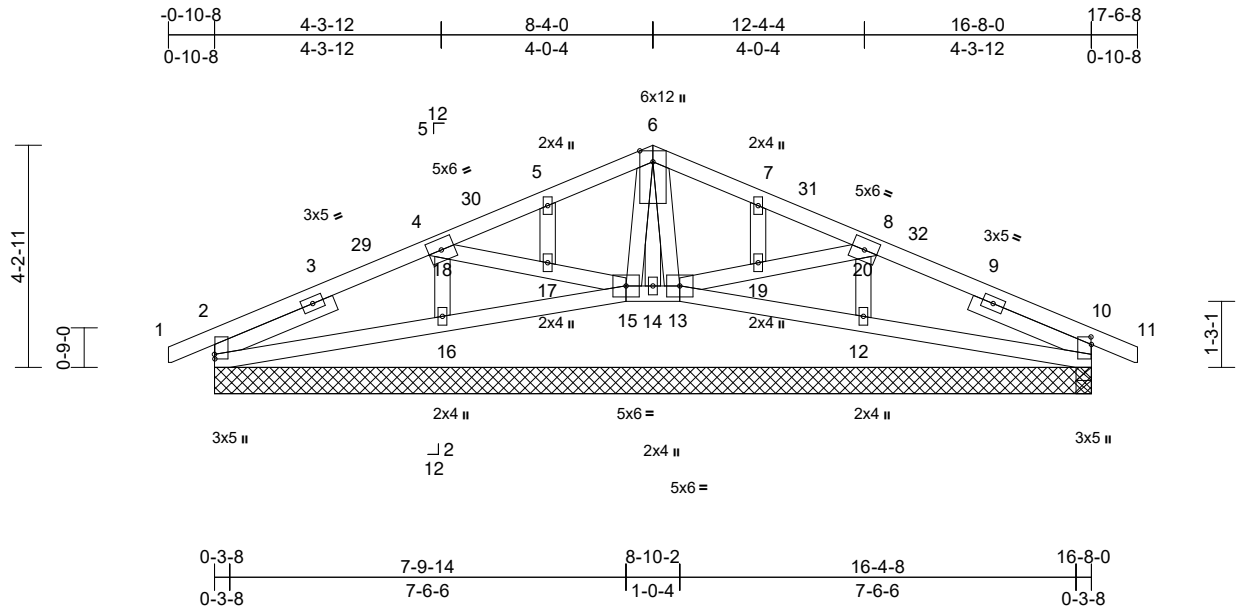
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	SPA01	Roof Special Structural Gable	1	1	I74128834 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. Wed Jun 11 09:26:06 Page: 1
ID:_RIQxb0AMrge4?BPCiuEngz7PCt-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.8

Plate Offsets (X, Y): [2:0-1-1,0-0-2], [6:0-2-8,0-3-0], [10:0-1-12,0-0-2]

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	0.15	Vert(LL)	0.00	16-23	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.01	16-23	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.00	25	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 92 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
SLIDER Left 2x4 SP No.3 -- 2-6-0, Right 2x4 SP No.3 -- 2-6-0

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

REACTIONS (size) 2=16-8-0, 10=16-8-0, 12=16-8-0, 13=16-8-0, 14=16-8-0, 15=16-8-0, 16=16-8-0
Max Horiz 2=-34 (LC 16)
Max Uplift 2=-12 (LC 11), 10=-22 (LC 16), 14=-26 (LC 19)
Max Grav 2=252 (LC 2), 10=249 (LC 40), 12=309 (LC 23), 13=160 (LC 2), 14=21 (LC 2), 15=199 (LC 22), 16=290 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/24, 2-4=-197/104, 4-5=-86/61, 5-6=-65/82, 6-7=-63/79, 7-8=-87/54, 8-10=-192/99, 10-11=0/24
BOT CHORD 2-16=-38/181, 15-16=-38/177, 14-15=-3/61, 13-14=-4/62, 12-13=-31/177, 10-12=-32/181
WEBS 6-13=-20/6, 13-19=-162/96, 19-20=-144/88, 8-20=-176/101, 6-15=-65/22, 4-18=-175/103, 17-18=-144/87, 15-17=-159/98, 6-14=-44/10, 5-17=-86/45, 16-18=-202/85, 7-19=-106/50, 12-20=-223/90

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) and C-C Exterior(2E) -0-10-2 to 2-1-14, Interior (1) 2-1-14 to 8-1-2, Exterior(2R) 8-1-2 to 11-1-2, Interior (1) 11-1-2 to 17-6-2 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=1.33
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); Pg=20.0 psf; Pf=13.9 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 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
7) Gable studs spaced at 2-0-0 oc.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 2, 22 lb uplift at joint 10, 26 lb uplift at joint 14, 12 lb uplift at joint 2 and 22 lb uplift at joint 10.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

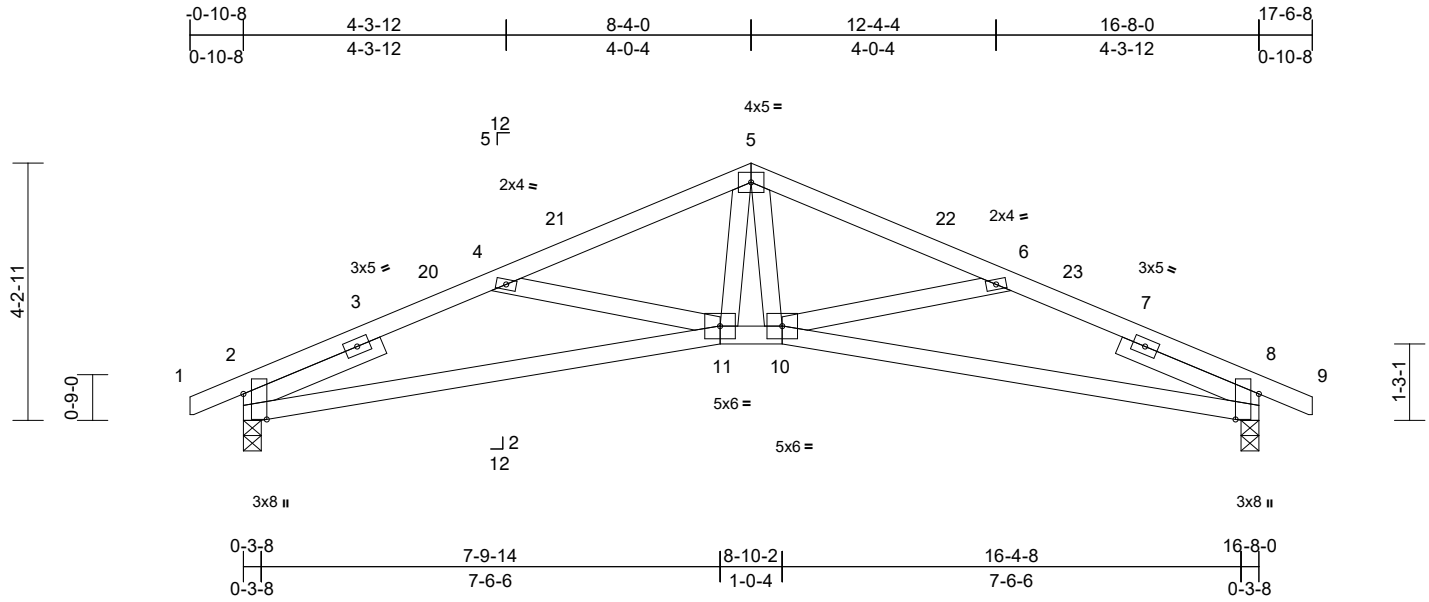
June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	SPA02	Roof Special	5	1	I74128835 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. Wed Jun 11 09:26:06 Page: 1
ID:9YTaFL93mE34viXWLWapk_z7PCi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:37.8

Plate Offsets (X, Y): [2:0-5-0,Edge], [8:0-5-0,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	0.39	Vert(LL)	-0.07	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.14	11-14	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.07	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 81 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 2-6-0, Right 2x4 SP No.3 -- 2-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-5-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 8=0-3-8
Max Horiz 2=36 (LC 15)
Max Grav 2=717 (LC 2), 8=717 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-4=-1475/351, 4-5=-1271/258, 5-6=-1271/257, 6-8=-1476/352, 8-9=0/25
BOT CHORD 2-11=-264/1338, 10-11=-107/1069, 8-10=-268/1339
WEBS 5-10=-27/335, 6-10=-248/148, 5-11=-27/334, 4-11=-248/148

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) and C-C Exterior(2E) -0-10-2 to 2-1-14, Interior (1) 2-1-14 to 8-4-0, Exterior(2R) 8-4-0 to 11-4-0, Interior (1) 11-4-0 to 17-6-2 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 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 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 .
8) Bearing at joint(s) 2, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

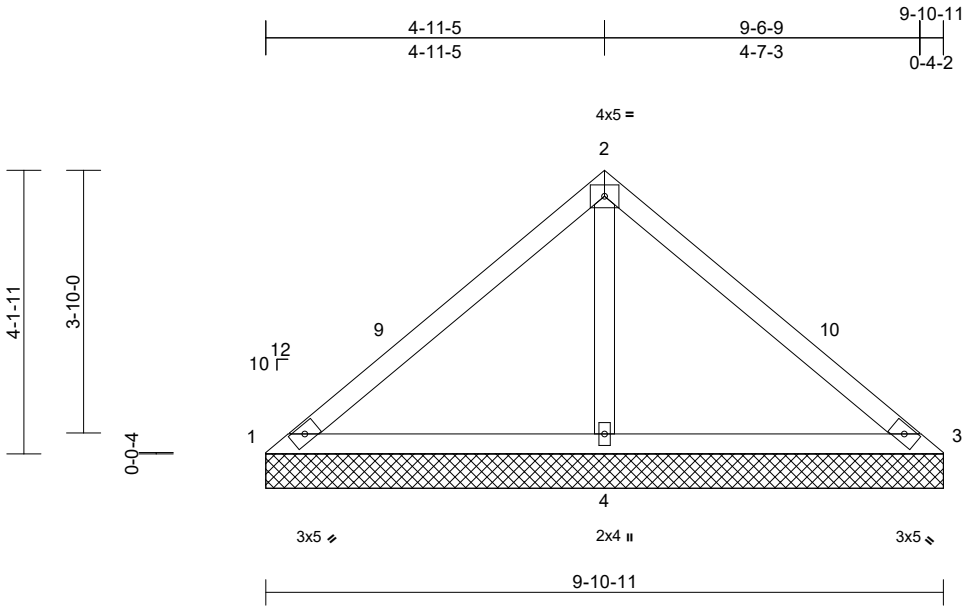
June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	VL1	Valley	1	1	I74128836
					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. Wed Jun 11 09:26:07 Page: 1
ID:2qZd2m_ZPTnuch4CD3fWibz84Pf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.26	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 38 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 9-10-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=9-10-11, 3=9-10-11, 4=9-10-11
Max Horiz 1=-74 (LC 9)
Max Uplift 1=-30 (LC 35), 3=-30 (LC 34), 4=-19 (LC 13)
Max Grav 1=69 (LC 34), 3=69 (LC 35), 4=737 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-131/351, 2-3=-125/351
BOT CHORD 1-4=-256/185, 3-4=-256/185
WEBS 2-4=-665/280

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) and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 4-11-10, Exterior(2R) 4-11-10 to 7-11-10, Interior (1) 7-11-10 to 9-11-0 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=1.33
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); Pg=20.0 psf; Pf=13.9 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) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 1, 30 lb uplift at joint 3 and 19 lb uplift at joint 4.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

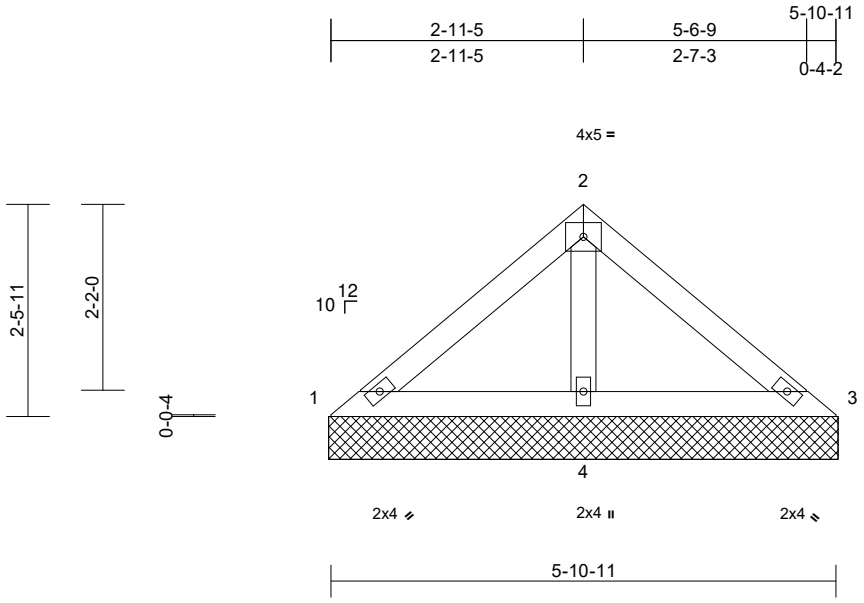
June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	VL2	Valley	1	1	I74128837 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. Wed Jun 11 09:26:07 ID:2qZd2m_ZPTnuch4CD3fWibz84Pf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:26.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.14	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 22 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-10-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=5-11-5, 3=5-11-5, 4=5-11-5
Max Horiz 1=43 (LC 10)
Max Uplift 4=-3 (LC 13)
Max Grav 1=65 (LC 34), 3=65 (LC 35), 4=380 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-87/148, 2-3=-87/148
BOT CHORD 1-4=-128/173, 3-4=-128/173
WEBS 2-4=-306/224

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) and C-C Corner (3E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
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); Pg=20.0 psf; Pf=13.9 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) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 3 lb uplift at joint 4.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

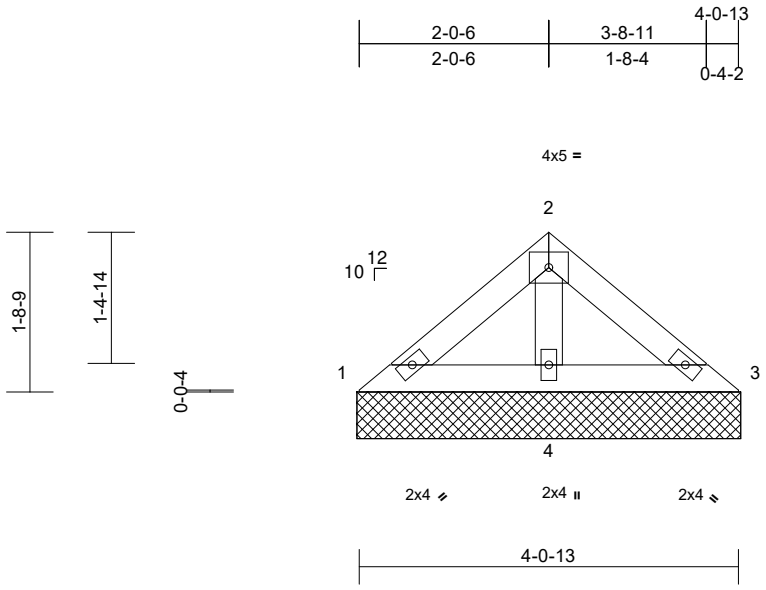
LOAD CASE(S) Standard

June 12,2025

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

Job	Truss	Truss Type	Qty	Ply	54 Magnolia Acers-Roof-Taylor BB RH FL
25060054-01	VL3	Valley	1	1	I74128838 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. Wed Jun 11 09:26:07 Page: 1
ID:2qZd2m_ZPTnuch4CD3fWibz84Pf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:24.7

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	0.04	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 14 lb	FT = 20%

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

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

REACTIONS (size) 1=4-1-6, 3=4-1-6, 4=4-1-6
Max Horiz 1=-29 (LC 11)
Max Uplift 3=-1 (LC 14)
Max Grav 1=56 (LC 34), 3=56 (LC 35), 4=234 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-50/66, 2-3=-50/65
BOT CHORD 1-4=-62/97, 3-4=-62/97
WEBS 2-4=-155/104

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) and C-C Corner (3E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
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); Pg=20.0 psf; Pf=13.9 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) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1 lb uplift at joint 3.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

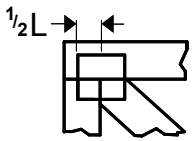
LOAD CASE(S) Standard

June 12,2025

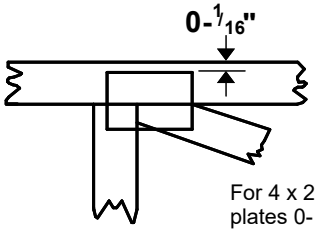
ENGINEERING BY TRENCO A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

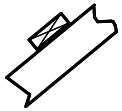
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

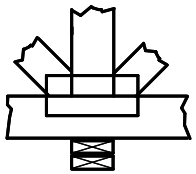
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

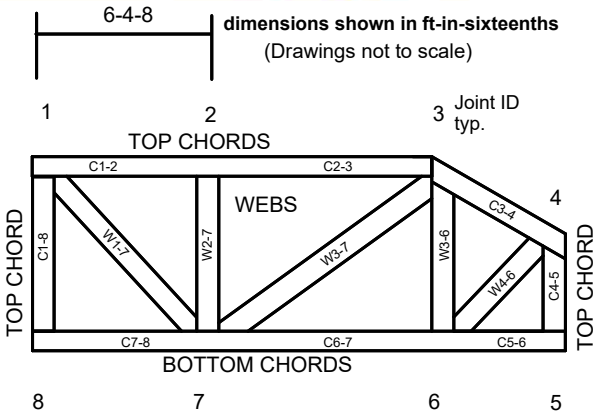


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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
A MiTek Affiliate

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.