ENGINEERING BY TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

RE: Cooper III Rev. 4-Elev - 1-Roof

Site Information:

Project Customer: DRB Raleigh Project Name: DRB Raleigh Model Track
Lot/Block: 00.0174 Subdivision: The Farm at Neill's Creek
Model: Cooper III Rev. 4
Address: 193 Appleseed Dr LILLINGTON,NC 27546
City: State: NC

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2021/TPI2014
Wind Code: ASCE 7-16
Wind Speed: 120 mph
Roof Load: 37.0 psf
Mean Roof Height (feet): 25

Design Program: MiTek 20/20 25.3
Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16
Floor Load: N/A psf

Exposure Category: B

No.	Seal#	Truss Name	Date
1	I75869567	A1A	8/25/25
2	I75869611	A1CT	8/25/25
3	I75869585	A1T	8/25/25
4	I75869584	A3	8/25/25
5	I75869586	A3GE	8/25/25
6	I75869595	A4A	8/25/25
7	I75869617	A4AT	8/25/25
8	I75869610	A4T	8/25/25
9	I75869608	A5	8/25/25
10	I75869609	A5GE	8/25/25
11	I75869564	B1	8/25/25
12	I75869566	B1GE	8/25/25
13	I75869590	C1	8/25/25
14	I75869591	C1A	8/25/25
15	I75869589	C1SGE	8/25/25
16	I75869615	F1GE	8/25/25
17	I75869616	F1	8/25/25
18	I75869597	G2GE	8/25/25
19	I75869598	G2	8/25/25
20	I75869599	G2A	8/25/25
21	I75869622	H2GE	8/25/25
22	I75869623	H2	8/25/25
23	I75869620	H1	8/25/25
24	I75869568	P1	8/25/25
25	I75869581	P1SGE	8/25/25
26	I75869571	PB1	8/25/25
27	I75869572	PB1GE	8/25/25
28	I75869600	PB4	8/25/25
29	I75869606	PB5	8/25/25
30	I75869593	VA1	8/25/25
31	I75869592	VA2	8/25/25
32	I75869604	VB1	8/25/25
33	I75869601	VB4	8/25/25
34	I75869602	VB3	8/25/25
35	I75869603	VB2	8/25/25
36	I75869605	VG4	8/25/25

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Structural, LLC.

Truss Design Engineer's Name: Gilbert, Eric
My license renewal date for the state of North Carolina is December 31, 2025.

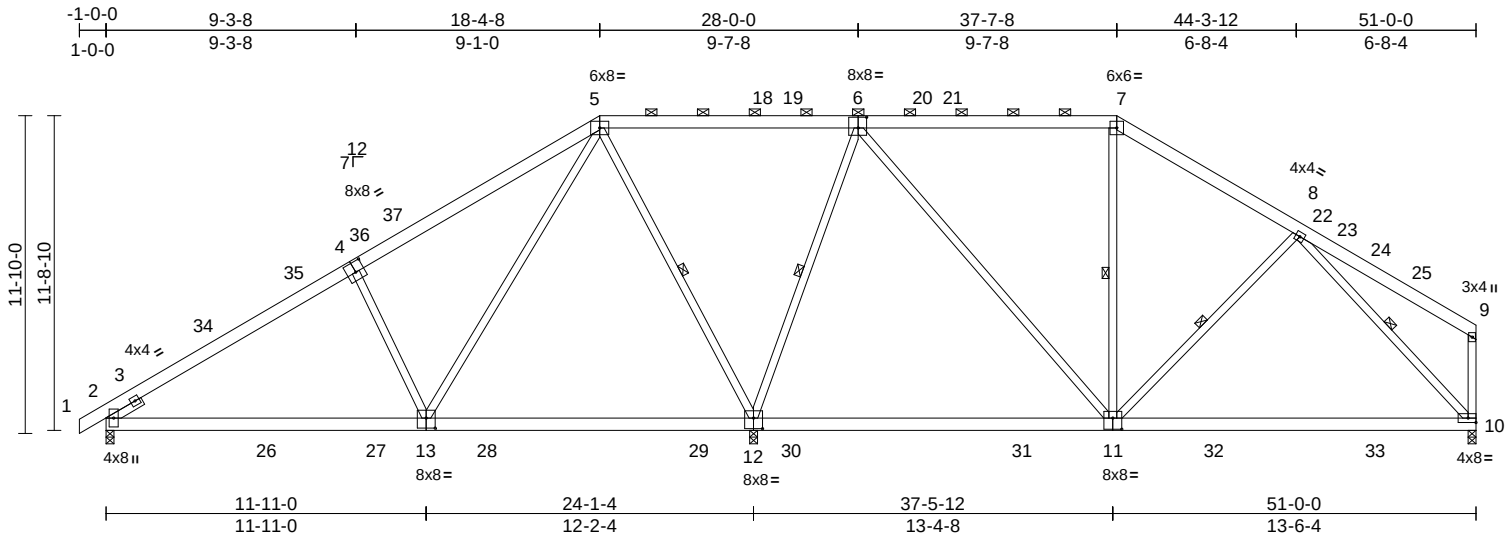
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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.

August 25,2025

Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A1A	Piggyback Base	1	1	I75869567 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:23 Page: 1
ID:bFWe8TNxnA2q4vi43k0QCqyAQoy-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:85.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.83	Vert(LL)	-0.32	10-11	>989	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.93	Vert(CT)	-0.52	10-11	>612	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.95	Horz(CT)	0.02	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 389 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 10-9,5-12,13-5,11-6:2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-7.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 5-12, 6-12, 7-11, 8-11, 8-10

REACTIONS (size) 2=0-3-8, 10=0-3-8, 12=0-3-8
Max Horiz 2=176 (LC 13)
Max Uplift 2=-1 (LC 16)
Max Grav 2=986 (LC 33), 10=1101 (LC 54), 12=2538 (LC 49)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 5-7=-689/368, 7-8=-843/98, 8-9=-201/79, 9-10=-218/56, 1-2=0/38, 2-5=-1156/102
BOT CHORD 2-10=-158/1062
WEBS 5-12=-1133/123, 6-12=-1333/117, 4-13=-626/177, 5-13=-23/1235, 7-11=-126/175, 6-11=0/952, 8-11=-272/202, 8-10=-885/90

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 4-1-3, Interior (1) 4-1-3 to 18-4-8, Exterior(2R) 18-4-8 to 25-7-1, Interior (1) 25-7-1 to 37-7-8, Exterior(2R) 37-7-8 to 44-10-1, Interior (1) 44-10-1 to 50-10-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) Plates checked for a plus or minus 5 degree rotation about its center.
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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
12) 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

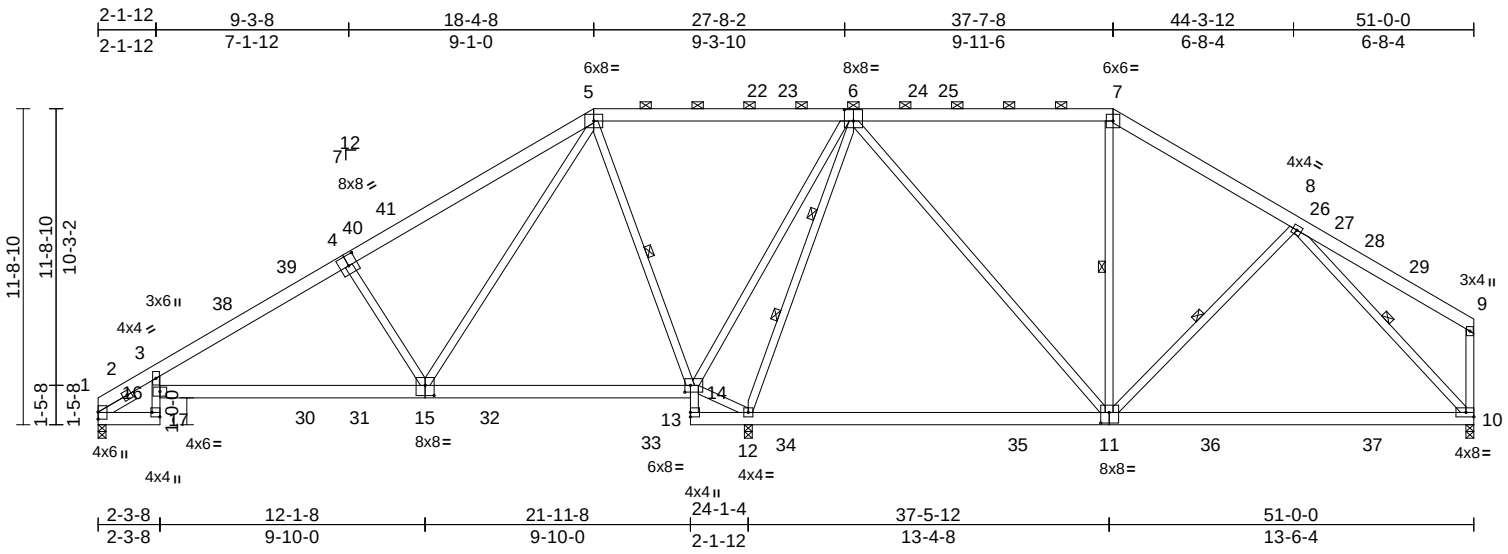
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4 -Elev - 1-Roof
	A1CT	Piggyback Base	1	1	I75869611
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:23 Page: 1

ID:bFWe8TNxnA2q4vi43k0QCqyAQoy-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:85.4

Plate Offsets (X, Y): [4:0-4-0,0-4-8], [6:0-4-0,0-5-0], [11:0-3-12,0-4-12], [14:0-2-8,0-3-0], [15:0-4-0,0-4-8], [17:Edge,0-3-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.88	Vert(LL)	-0.32	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.92	Vert(CT)	-0.52	10-11	>616	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.12	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 405 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2

BOT CHORD 2x6 SP No.2 *Except* 17-3:2x4 SP No.2, 14-13:2x4 SP No.3, 11-13:2x6 SP DSS

WEBS 2x4 SP No.3 *Except* 10-9,12-6,11-6:2x4 SP No.2

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

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-7.

BOT CHORD Rigid ceiling directly applied.

WEBS 1 Row at midpt 7-11, 5-14, 8-11, 8-10

WEBS 2 Rows at 1/3 pts 6-12

REACTIONS (size) 1=0-3-8, 10=0-3-8, 12=0-3-8

Max Horiz 1=170 (LC 13)

Max Uplift 10=-51 (LC 12)

Max Grav 1=609 (LC 51), 10=898 (LC 53), 12=3016 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 5-7=-482/859, 7-8=-593/169, 8-9=-197/81, 9-10=-214/57, 1-3=-690/32, 3-5=-736/88

BOT CHORD 1-17=-111/485, 16-17=-17/249, 3-16=0/391, 14-16=-348/690, 13-14=-422/0, 12-13=-341/0, 10-12=-609/514

WEBS 7-11=-267/89, 5-14=-1390/109, 6-12=-2014/144, 12-14=-1015/191, 6-14=-41/742, 6-11=0/1237, 8-11=-356/142, 4-15=-698/176, 5-15=-25/1304, 8-10=-695/135

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 5-1-3, Interior (1) 5-1-3 to 18-4-8, Exterior(2R) 18-4-8 to 25-7-1, Interior (1) 25-7-1 to 37-7-8, Exterior(2R) 37-7-8 to 44-10-1, Interior (1) 44-10-1 to 50-10-4 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
5) Provide adequate drainage to prevent water ponding.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) 10. This connection is for uplift only and does not consider lateral forces.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
11) 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

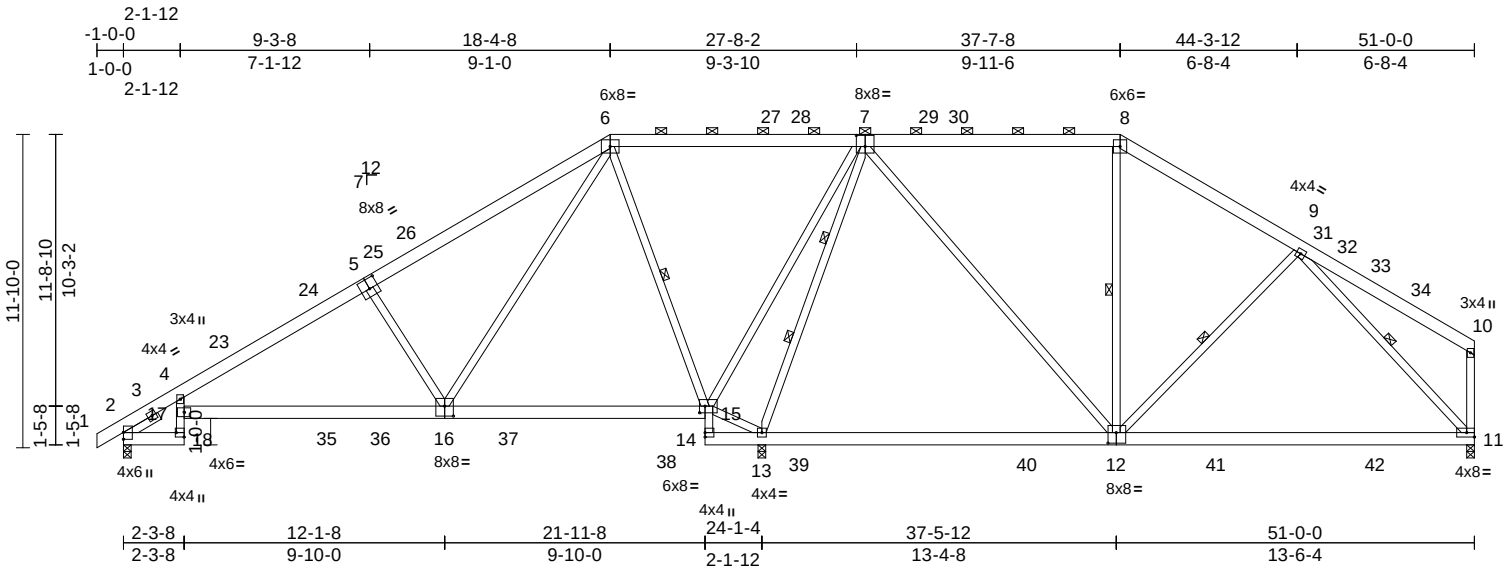
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A1T	Piggyback Base	1	1	I75869585 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:24 Page: 1

ID:bFWe8TNxnA2q4vi43k0QCqyAQoy-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:87

Plate Offsets (X, Y): [5:0-4-0,0-4-8], [7:0-4-0,0-5-0], [12:0-3-12,0-4-12], [15:0-2-8,0-3-0], [16:0-4-0,0-4-8], [18:Edge,0-3-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.88	Vert(LL)	-0.32	11-12	>999	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.92	Vert(CT)	-0.52	11-12	>616	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.11	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 407 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2

BOT CHORD 2x6 SP No.2 *Except* 18-4:2x4 SP No.2, 15-14:2x4 SP No.3, 12-14:2x6 SP DSS

WEBS 2x4 SP No.3 *Except* 11-10,13-7,12-7:2x4 SP No.2

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

BRACING

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

BOT CHORD Rigid ceiling directly applied.

WEBS 1 Row at midpt 6-15, 8-12, 9-11, 9-12

WEBS 2 Rows at 1/3 pts 7-13

REACTIONS (size) 2=0-3-8, 11=0-3-8, 13=0-3-8

Max Horiz 2=176 (LC 13)

Max Uplift 11=-51 (LC 12)

Max Grav 2=654 (LC 52), 11=900 (LC 54), 13=3009 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/38, 2-4=-685/30, 4-6=-739/88, 6-8=-483/852, 8-9=-594/169, 9-10=-197/81, 10-11=-214/57

BOT CHORD 2-18=-111/479, 17-18=-17/243, 4-17=0/387, 15-17=-343/692, 14-15=-421/0, 13-14=-341/0, 11-13=-604/521

WEBS 6-15=-1386/109, 8-12=-264/88, 9-11=-704/135, 7-13=-2013/144, 13-15=-1008/185, 7-15=-41/741, 9-12=-354/140, 7-12=0/1234, 5-16=-696/176, 6-16=-25/1301

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 4-1-3, Interior (1) 4-1-3 to 18-4-8, Exterior(2R) 18-4-8 to 25-7-1, Interior (1) 25-7-1 to 37-7-8, Exterior(2R) 37-7-8 to 44-10-1, Interior (1) 44-10-1 to 50-10-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) Plates checked for a plus or minus 5 degree rotation about its center.
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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 11. This connection is for uplift only and does not consider lateral forces.
11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

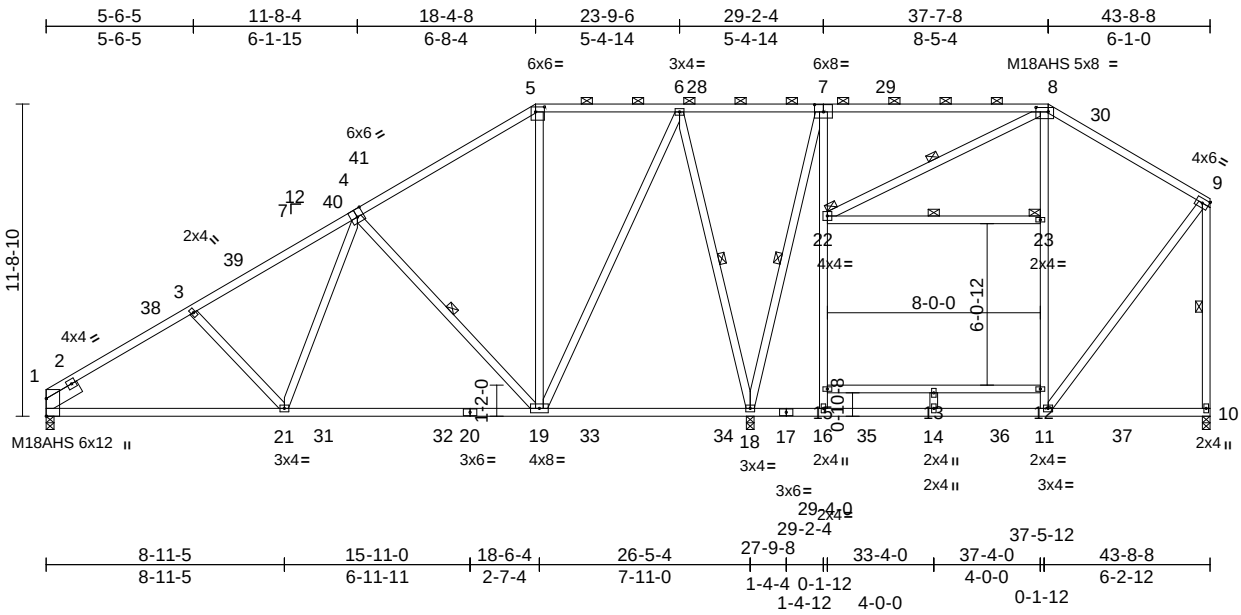
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A3	Attic	6	1	I75869584 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:25 Page: 1
ID:eW?e6daPLXKyNUOUDcC2wYyATYH-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:86.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	1.00	Vert(LL)	-0.29	19-21	>999	240	M18AHS	186/179
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	1.00	Vert(CT)	-0.47	19-21	>678	180	MT20	244/190
TCDL	7.0	Rep Stress Incr	YES	WB	0.67	Horz(CT)	0.05	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Attic	-0.06	11-16	>999	360		
BCDL	10.0										Weight: 339 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 7-8,4-1:2x4 SP SS
BOT CHORD 2x4 SP No.2 *Except* 15-12:2x4 SP No.3, 17-20:2x4 SP SS
WEBS 2x4 SP No.3 *Except* 7-16,8-11,22-23,6-19:2x4 SP No.2
SLIDER Left 2x6 SP No.2 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins: 5-8.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 4-19, 22-23, 9-10, 8-22, 7-18, 6-18
JOINTS 1 Brace at Jt(s): 22, 23

REACTIONS (size) 1=0-3-8, 10=0-3-8, 18=0-3-8
Max Horiz 1=186 (LC 16)
Max Grav 1=1287 (LC 53), 10=985 (LC 55), 18=1909 (LC 50)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 5-6=-783/86, 6-8=-397/55, 8-9=-524/0, 9-10=-870/0, 1-3=-1822/190, 3-5=-1704/53
BOT CHORD 1-21=-200/1574, 19-21=-74/1351, 18-19=0/429, 16-18=0/390, 14-16=0/386, 11-14=0/386, 10-11=-4/19
WEBS 4-19=-814/108, 5-19=0/238, 15-16=0/303, 15-22=0/338, 7-22=0/347, 11-12=-242/119, 12-23=-217/139, 8-23=-217/139, 9-11=0/642, 13-15=0/9, 12-13=0/9, 22-23=-2/10, 13-14=0/70, 8-22=-26/0, 6-19=-42/905, 7-18=-943/0, 6-18=-919/81, 4-21=0/474, 3-21=-156/105

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 4-4-7, Interior (1) 4-4-7 to 18-4-8, Exterior(2R) 18-4-8 to 24-6-11, Interior (1) 24-6-11 to 37-7-8, Exterior(2E) 37-7-8 to 43-6-12 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
5) 200.0lb AC unit load placed on the bottom chord, 33-4-0 from left end, supported at two points, 5-0-0 apart.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
8) The Fabrication Tolerance at joint 8 = 16%
9) Plates checked for a plus or minus 5 degree rotation about its center.
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, with BCDL = 10.0psf.
12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

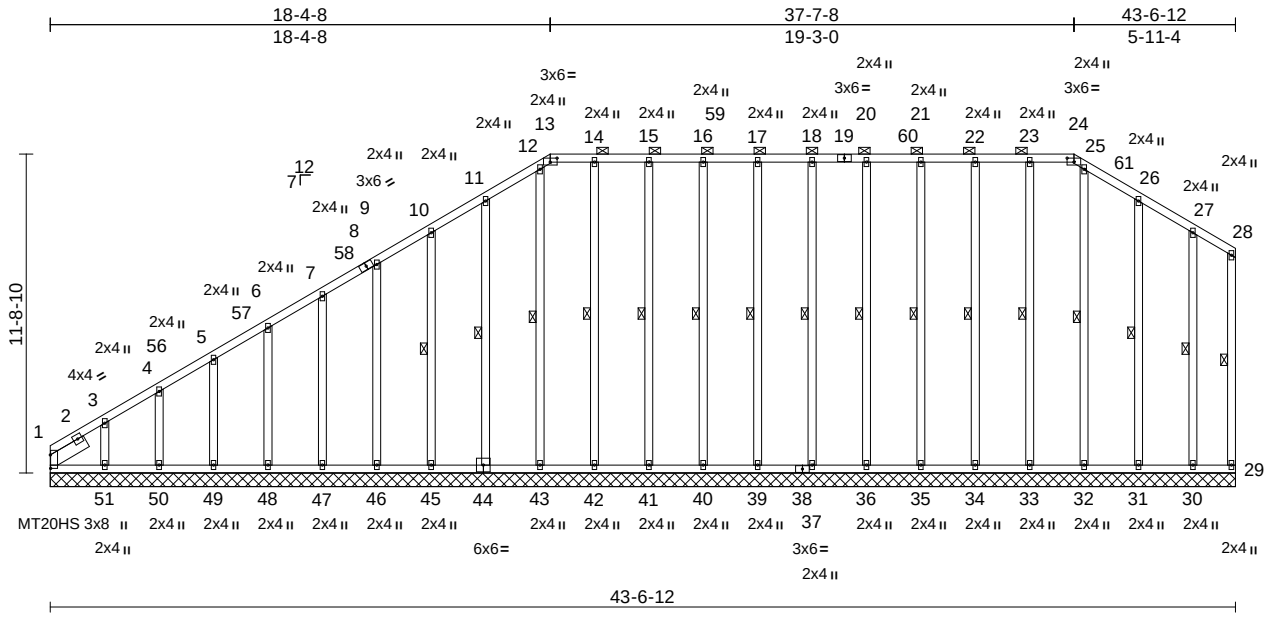
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A3GE	Piggyback Base Supported Gable	1	1	I75869586 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:26 Page: 1
ID:Jj4xyVLkTXkyNltxh_nWisyAQ0e-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:84.7

Plate Offsets (X, Y): [1:0-5-15,0-0-2], [13:0-3-0,0-1-12], [24:0-3-0,0-1-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.05	Vert(TL)	n/a	-	n/a	999	MT20HS	187/143
TCDL	7.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.00	1	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 428 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 2x6 SP No.2 -- 1-7-0

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 13-24.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 28-29, 18-37, 17-39, 16-40, 15-41, 14-42, 12-43, 11-44, 10-45, 20-36, 21-35, 22-34, 23-33, 25-32, 26-31, 27-30

REACTIONS (size) 1=43-6-12, 29=43-6-12, 30=43-6-12, 31=43-6-12, 32=43-6-12, 33=43-6-12, 34=43-6-12, 35=43-6-12, 36=43-6-12, 37=43-6-12, 39=43-6-12, 40=43-6-12, 41=43-6-12, 42=43-6-12, 43=43-6-12, 44=43-6-12, 45=43-6-12, 46=43-6-12, 47=43-6-12, 48=43-6-12, 49=43-6-12, 50=43-6-12, 51=43-6-12
Max Horiz 1=187 (LC 16)
Max Uplift 1=-88 (LC 14), 29=-5 (LC 17), 30=-16 (LC 17), 31=-22 (LC 17), 33=-4 (LC 13), 34=-4 (LC 12), 35=-3 (LC 13), 36=-3 (LC 13), 37=-3 (LC 12), 39=-3 (LC 12), 40=-3 (LC 13), 41=-5 (LC 12), 42=-3 (LC 13), 43=-2 (LC 13), 44=-20 (LC 16), 45=-18 (LC 16), 46=-17 (LC 16), 47=-18 (LC 16), 48=-16 (LC 16), 49=-23 (LC 16), 51=-113 (LC 16)
Max Grav 1=179 (LC 16), 29=59 (LC 43), 30=188 (LC 43), 31=221 (LC 43), 32=165 (LC 43), 33=211 (LC 42), 34=210 (LC 42), 35=209 (LC 42), 36=209 (LC 42), 37=209 (LC 42), 39=209 (LC 42), 40=209 (LC 42), 41=210 (LC 42), 42=210 (LC 42), 43=167 (LC 43), 44=216 (LC 43), 45=207 (LC 43), 46=209 (LC 43), 47=212 (LC 43), 48=188 (LC 43), 49=151 (LC 32), 50=143 (LC 2), 51=214 (LC 32)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-230/168, 3-4=-171/129, 4-5=-149/121, 5-6=-125/107, 6-7=-104/101, 7-9=-85/89, 9-10=-79/80, 10-11=-72/70, 11-12=-70/85, 12-13=-60/82, 13-14=-56/83, 14-15=-56/83, 15-16=-56/83, 16-17=-56/83, 17-18=-56/83, 18-20=-56/83, 20-21=-56/83, 21-22=-56/83, 22-23=-56/83, 23-24=-56/83, 24-25=-60/79, 25-26=-60/79, 26-27=-44/50, 27-28=-24/36, 28-29=-47/14
BOT CHORD 1-51=-1/0, 50-51=-1/0, 49-50=-1/0, 48-49=-1/0, 47-48=-1/0, 46-47=-1/0, 45-46=-1/0, 43-45=-1/1, 42-43=0/1, 41-42=0/1, 40-41=0/1, 39-40=0/1, 37-39=0/1, 36-37=0/1, 35-36=0/1, 34-35=0/1, 33-34=0/1, 32-33=0/1, 31-32=0/1, 30-31=0/1, 29-30=0/1
WEBS 18-37=-169/27, 17-39=-169/27, 16-40=-169/34, 15-41=-170/46, 14-42=-171/30, 12-43=-126/26, 11-44=-176/67, 10-45=-168/64, 9-46=-168/46, 7-47=-172/42, 6-48=-148/41, 5-49=-109/44, 4-50=-106/34, 3-51=-150/108, 20-36=-169/27, 21-35=-169/34, 22-34=-170/46, 23-33=-171/31, 25-32=-125/0, 26-31=-180/54, 27-30=-152/45

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

August 25,2025

Continued on page 2

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

2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 4-4-4, Interior (1) 4-4-4 to 18-4-8, Exterior(2R) 18-4-8 to 24-6-7, Interior (1) 24-6-7 to 37-7-8, Exterior(2E) 37-7-8 to 43-5-0 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
5) Unbalanced snow loads have been considered for this design.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
8) Plates checked for a plus or minus 5 degree rotation about its center.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
15) 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

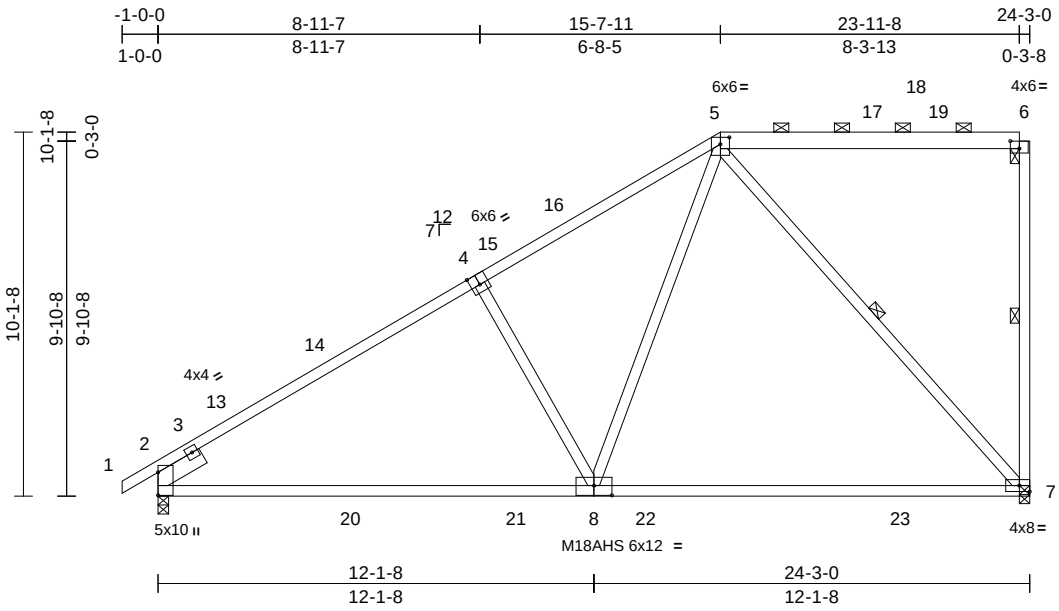
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A4A	Piggyback Base	1	1	I75869595 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:26 Page: 1

ID:X6fz5k6uCWTc9dlojlyCKbyAQcN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:64.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.74	Vert(LL)	-0.66	7-8	>438	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.74	Vert(CT)	-1.01	7-8	>285	180	M18AHS	186/179
TCDL	7.0	Rep Stress Incr	YES	WB	0.71	Horz(CT)	0.03	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 145 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 5-6:2x6 SP No.2
BOT CHORD 2x4 SP DSS
WEBS 2x4 SP No.2 *Except* 8-5,4-8:2x4 SP No.3
SLIDER Left 2x6 SP No.2 -- 1-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 6-7, 5-7

REACTIONS (size) 2=0-3-8, 7=0-3-8
Max Horiz 2=208 (LC 16)
Max Uplift 7=-13 (LC 13)
Max Grav 2=1200 (LC 45), 7=1091 (LC 42)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-5=-1491/79, 5-6=-38/0, 6-7=-350/55
BOT CHORD 2-7=-267/1265
WEBS 5-7=-951/95, 5-8=0/1096, 4-8=-538/153

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 15-7-11, Exterior(2R) 15-7-11 to 19-10-10, Interior (1) 19-10-10 to 24-1-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
8) Plates checked for a plus or minus 5 degree rotation about its center.
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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7. This connection is for uplift only and does not consider lateral forces.
12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

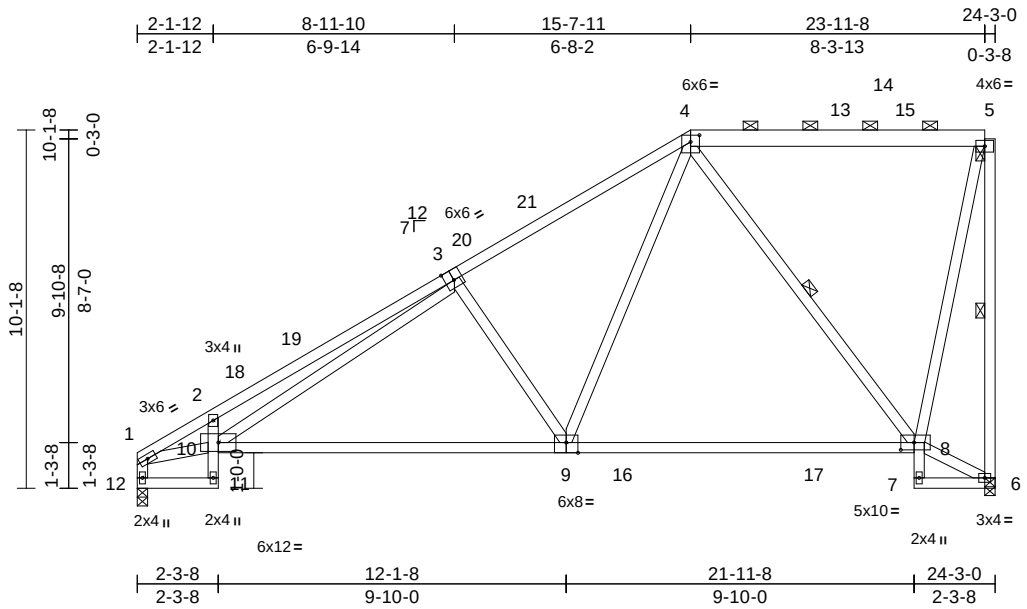
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A4AT	Piggyback Base	1	1	I75869617 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:26 Page: 1
ID:X6fz5k6uCWTc9dlojlyCKbyAQcN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:65.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.85	Vert(LL)	-0.32	8-9	>899	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.91	Vert(CT)	-0.49	8-9	>589	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.13	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 170 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 4-5:2x6 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 11-2,8-7:2x4 SP No.3, 9-8,9-10:2x4 SP SS
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 5-6, 4-8

REACTIONS (size) 6=0-3-8, 12=0-3-8
Max Horiz 12=192 (LC 16)
Max Uplift 6=-14 (LC 13)
Max Grav 6=1045 (LC 41), 12=1101 (LC 44)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 4-5=-223/0, 5-6=-1105/38, 1-12=-1068/6, 1-2=-2393/65, 2-4=-2784/178
BOT CHORD 11-12=-115/163, 10-11=-23/45, 2-10=-293/125, 8-10=-123/1423, 7-8=-9/25, 6-7=-293/0
WEBS 4-8=-788/108, 1-10=-134/1935, 6-8=0/332, 5-8=0/985, 3-10=-184/1217, 3-9=-639/151, 4-9=0/1047

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 15-7-11, Exterior(2R) 15-7-11 to 19-10-10, Interior (1) 19-10-10 to 24-1-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
5) Provide adequate drainage to prevent water ponding.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) 6. This connection is for uplift only and does not consider lateral forces.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

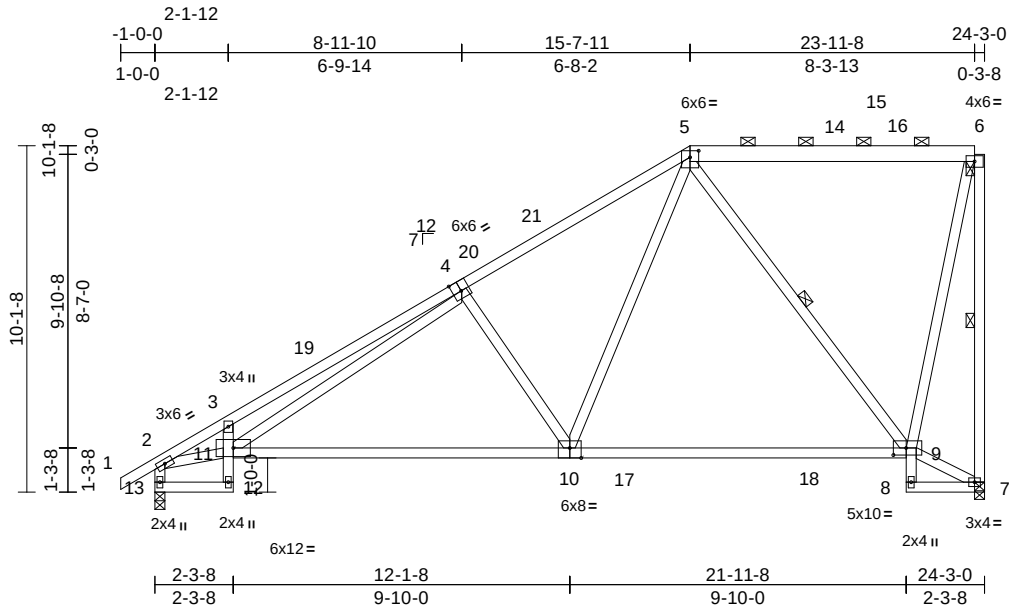
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A4T	Piggyback Base	1	1	I75869610 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:27 Page: 1
ID:X6fz5k6uCWTc9dlojlyCKbyAQcN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:67.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.85	Vert(LL)	-0.32	9-10	>899	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.91	Vert(CT)	-0.49	9-10	>589	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.13	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 171 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 5-6:2x6 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 12-3,9-8:2x4 SP No.3, 10-9,10-11:2x4 SP SS
WEBS 2x4 SP No.3

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

REACTIONS (size) 7=0-3-8, 13=0-3-8
Max Horiz 13=203 (LC 16)
Max Uplift 7=-14 (LC 13)
Max Grav 7=1044 (LC 42), 13=1149 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 5-6=-222/0, 6-7=-1104/38, 2-13=-1115/30, 1-2=0/44, 2-3=-2365/66, 3-5=-2757/177
BOT CHORD 12-13=-113/159, 11-12=-23/45, 3-11=-281/125, 9-11=-123/1420, 8-9=-9/25, 7-8=-293/0
WEBS 5-9=-786/109, 2-11=-139/1908, 7-9=0/332, 6-9=0/984, 4-11=-184/1193, 4-10=-636/151, 5-10=0/1044

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-14, Interior (1) 2-0-14 to 15-7-11, Exterior(2R) 15-7-11 to 19-10-10, Interior (1) 19-10-10 to 24-1-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) Plates checked for a plus or minus 5 degree rotation about its center.
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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7. This connection is for uplift only and does not consider lateral forces.
11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
12) 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

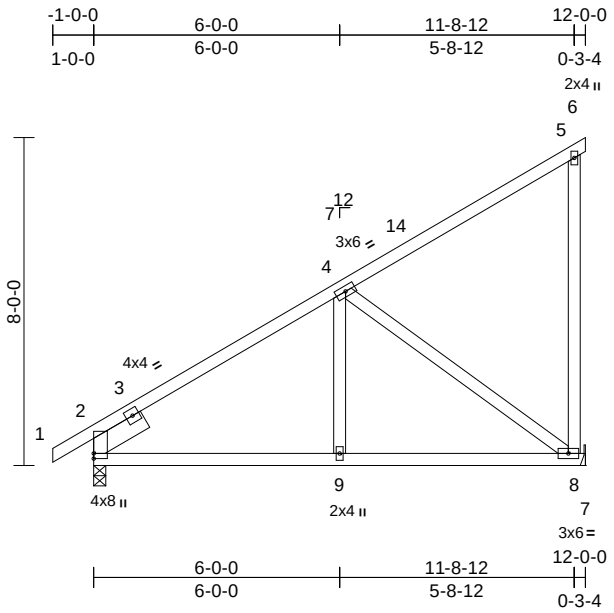
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A5	Monopitch	7	1	I75869608
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:27 Page: 1

ID:X6fz5k6uCWTc9dlojlyCKbyAQcN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:56.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.46	Vert(LL)	-0.03	8-9	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.33	Vert(CT)	-0.07	8-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.43	Horz(CT)	-0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 71 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
SLIDER	Left 2x6 SP No.2 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

REACTIONS (size) 2=0-3-8, 8= Mechanical
Max Horiz 2=162 (LC 16)
Max Uplift 8=-61 (LC 16)
Max Grav 2=490 (LC 2), 8=509 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/38, 2-4=-386/40, 4-5=-103/67, 5-6=-10/0
BOT CHORD	2-9=-244/364, 8-9=-141/364, 7-8=0/0
WEBS	4-9=0/260, 4-8=-451/175, 5-8=-198/84

NOTES

1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 12-0-0 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
5) Plates checked for a plus or minus 5 degree rotation about its center.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 61 lb uplift at joint 8.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

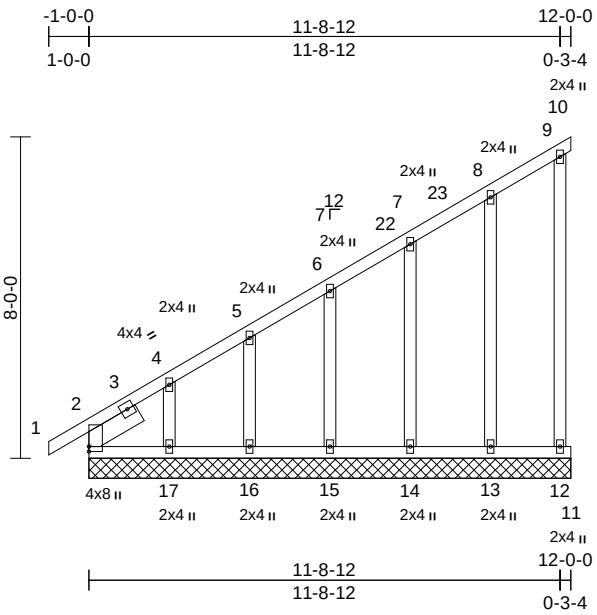
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	A5GE	Monopitch Supported Gable	1	1	I75869609 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:27 Page: 1
ID:edDe3RcDvYg7BT2hCWrvl5yATeh-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:57.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	-0.01	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 84 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 2x6 SP No.2 -- 1-6-3

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 2=12-0-0, 10=12-0-0, 11=12-0-0, 12=12-0-0, 13=12-0-0, 14=12-0-0, 15=12-0-0, 16=12-0-0, 17=12-0-0
Max Horiz 2=162 (LC 16)
Max Uplift 2=-6 (LC 14), 10=-3 (LC 16), 11=-23 (LC 7), 13=-20 (LC 16), 14=-16 (LC 16), 15=-22 (LC 16), 17=-96 (LC 16)
Max Grav 2=150 (LC 32), 10=11 (LC 23), 11=-7 (LC 12), 12=94 (LC 23), 13=197 (LC 23), 14=171 (LC 23), 15=149 (LC 30), 16=148 (LC 2), 17=175 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-4=-369/180, 4-5=-264/126, 5-6=-219/104, 6-7=-161/75, 7-8=-104/48, 8-9=-41/19, 9-10=-5/4
BOT CHORD 2-17=0/0, 16-17=0/0, 15-16=0/0, 14-15=0/0, 13-14=0/0, 12-13=0/0, 11-12=0/0
WEBS 8-13=-159/117, 7-14=-131/96, 6-15=-108/99, 5-16=-109/73, 4-17=-138/205, 9-12=-61/47

NOTES

1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-0-0, Exterior(2N) 2-0-0 to 12-0-0 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) 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 2, 23 lb uplift at joint 11, 3 lb uplift at joint 10, 20 lb uplift at joint 13, 16 lb uplift at joint 14, 22 lb uplift at joint 15, 96 lb uplift at joint 17 and 6 lb uplift at joint 2.
12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

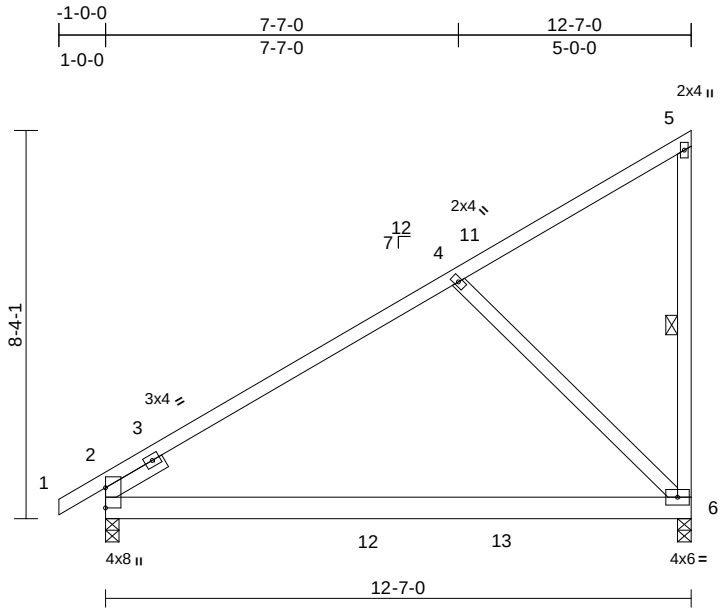
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	B1	Monopitch	6	1	I75869564 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:27 Page: 1
ID:PG_85eDjrFYDCiYm7klD4syAUC2-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:49.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.84	Vert(LL)	-0.32	6-9	>462	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.82	Vert(CT)	-0.57	6-9	>262	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.07	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 76 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 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, except end verticals.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 5-6

REACTIONS (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=168 (LC 16)
Max Uplift 6=-62 (LC 16)
Max Grav 2=587 (LC 30), 6=577 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-4=-990/0, 4-5=-126/54, 5-6=-137/61
BOT CHORD 2-6=-330/299
WEBS 4-6=-386/201

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 12-5-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) 6. This connection is for uplift only and does not consider lateral forces.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

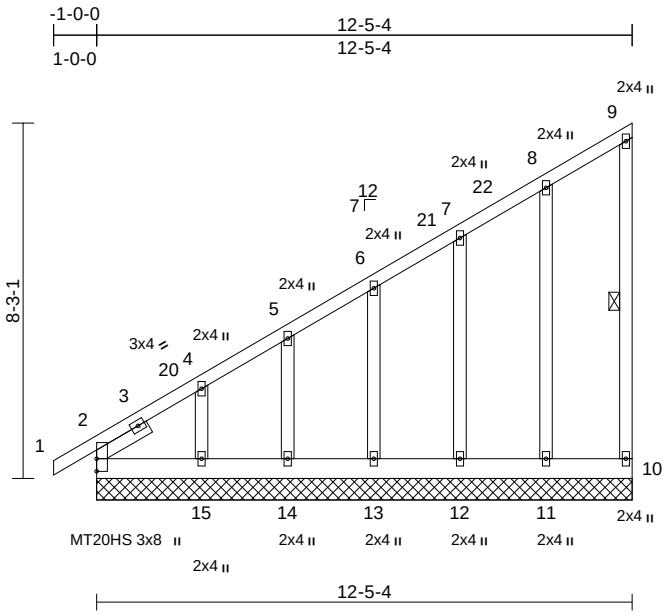
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	B1GE	Monopitch Supported Gable	1	1	I75869566
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:27 Page: 1

ID:TcLy68?pJP9wQnb6WFvmpsyAUCL-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:53.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20HS	187/143
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.08	Vert(CT)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 96 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x6 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x4 SP No.3
SLIDER	Left 2x4 SP No.3 -- 1-5-3

BRACING

TOP CHORD	Structural wood sheathing directly applied, except end verticals.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 9-10

REACTIONS (size) 2=12-5-4, 10=12-5-4, 11=12-5-4, 12=12-5-4, 13=12-5-4, 14=12-5-4, 15=12-5-4
Max Horiz 2=166 (LC 16)
Max Uplift 10=-9 (LC 16), 11=-16 (LC 16), 12=-17 (LC 16), 13=-23 (LC 16), 15=-86 (LC 16)
Max Grav 2=152 (LC 32), 10=74 (LC 23), 11=203 (LC 23), 12=173 (LC 23), 13=152 (LC 30), 14=140 (LC 2), 15=197 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/38, 2-4=-339/165, 4-5=-257/122, 5-6=-210/99, 6-7=-153/71, 7-8=-97/45, 8-9=-42/22, 9-10=-58/45
BOT CHORD	2-15=-1/1, 14-15=-1/1, 13-14=-1/1, 12-13=-1/1, 11-12=-1/1, 10-11=-1/1
WEBS	8-11=-161/116, 7-12=-134/95, 6-13=-109/96, 5-14=-106/77, 4-15=-123/155

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-0-0, Exterior(2N) 2-0-0 to 12-3-8 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
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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
7) All plates are MT20 plates unless otherwise indicated.
8) Plates checked for a plus or minus 5 degree rotation about its center.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 10, 16 lb uplift at joint 11, 17 lb uplift at joint 12, 23 lb uplift at joint 13 and 86 lb uplift at joint 15.
14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

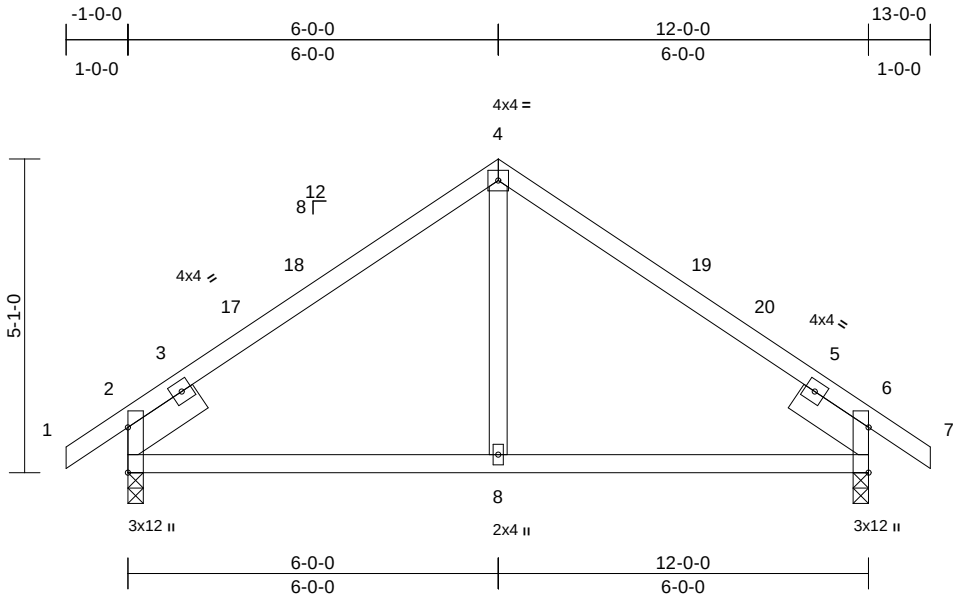
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof	
	C1	Common	4	1	Job Reference (optional)	I75869590

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:27 Page: 1

ID:HVv5MQfmTnPHdoydAL6hibzjYlA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:37.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.38	Vert(LL)	0.03	8-11	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.27	Vert(CT)	-0.05	8-11	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 57 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
SLIDER	Left 2x6 SP No.2 -- 1-6-0, Right 2x6 SP No.2 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

REACTIONS (size) 2=0-3-0, 6=0-3-0
Max Horiz 2=-75 (LC 14)
Max Uplift 2=-22 (LC 13), 6=-22 (LC 12)
Max Grav 2=498 (LC 2), 6=498 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/42, 2-4=-447/225, 4-6=-447/225, 6-7=0/42
BOT CHORD	2-8=-88/309, 6-8=-87/309
WEBS	4-8=-87/238

NOTES

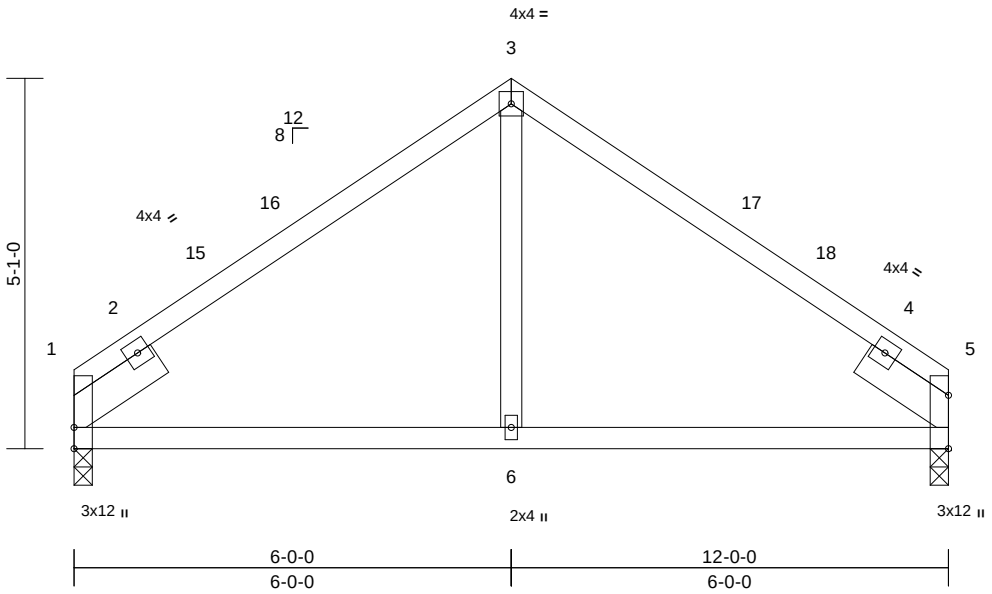
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior (1) 9-0-0 to 13-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 2 and 22 lb uplift at joint 6.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4 -Elev - 1-Roof
	C1A	Common	1	1	I75869591
					Job Reference (optional)



Scale = 1:31.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.72	Vert(LL)	0.14	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.82	Vert(CT)	-0.13	6-9	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.09	Horz(CT)	-0.08	1	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 53 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
SLIDER Left 2x6 SP No.2 -- 1-6-0, Right 2x6 SP No.2 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=0-3-0, 5=0-3-0
Max Horiz 1=-64 (LC 49)
Max Uplift 1=-496 (LC 47), 5=-496 (LC 46)
Max Grav 1=743 (LC 38), 5=743 (LC 39)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-881/843, 3-5=-881/846
BOT CHORD 1-6=-694/730, 5-6=-694/730
WEBS 3-6=-88/240

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; 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 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior (1) 9-0-0 to 12-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Plates checked for a plus or minus 5 degree rotation about its center.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 496 lb uplift at joint 1 and 496 lb uplift at joint 5.
9) This truss has been designed for a total drag load of 100 plf. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 12-0-0 for 100.0 plf.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

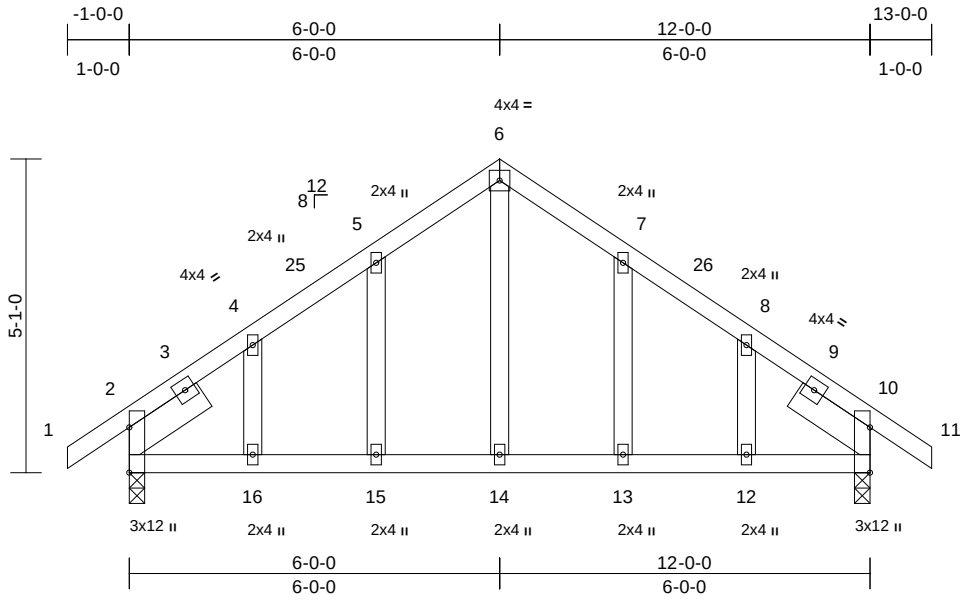
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	C1SGE	Common Supported Gable	1	1	I75869589
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:28 Page: 1

ID:DcVRCIUL0AWPKUIlnhLAbRzjYIP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:37.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.25	Vert(LL)	-0.06	15-16	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.34	Vert(CT)	-0.08	15-16	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.02	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 72 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 2x6 SP No.2 -- 1-6-9, Right 2x6 SP No.2 -- 1-6-9

BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

REACTIONS (size) 2=0-3-0, 10=0-3-0
Max Horiz 2=-75 (LC 14)
Max Uplift 2=-22 (LC 13), 10=-22 (LC 12)
Max Grav 2=498 (LC 2), 10=498 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/42, 2-4=-441/196, 4-5=-400/214, 5-6=-377/247, 6-7=-377/247, 7-8=-400/214, 8-10=-441/196, 10-11=0/42
BOT CHORD	2-16=-92/314, 15-16=-92/314, 14-15=-92/314, 13-14=-92/314, 12-13=-92/314, 10-12=-92/314
WEBS	6-14=-155/201, 5-15=-84/45, 4-16=-30/48, 7-13=-84/45, 8-12=-28/48

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior (1) 9-0-0 to 13-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
7) Plates checked for a plus or minus 5 degree rotation about its center.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 2 and 22 lb uplift at joint 10.
12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

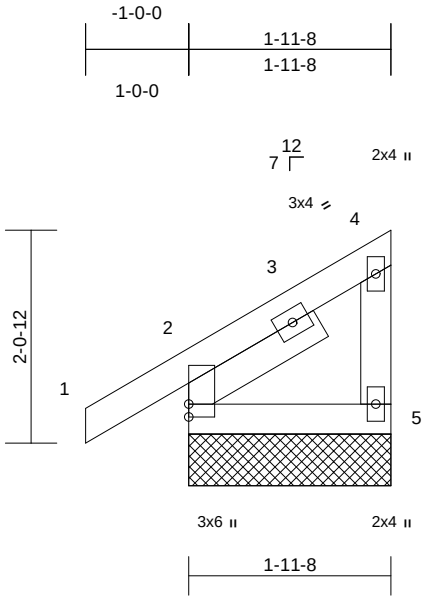
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	F1GE	Monopitch Supported Gable	2	1	I75869615 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:28 Page: 1
ID:yEL_0esNbjOqZGuHrfXdvgzhCGX-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/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
SLIDER Left 2x4 SP No.3 -- 1-6-0

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=1-11-8, 5=1-11-8
Max Horiz 2=33 (LC 16)
Max Uplift 5=-13 (LC 16)
Max Grav 2=167 (LC 23), 5=61 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-4=-45/40, 4-5=-48/79
BOT CHORD 2-5=0/0

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; 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 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
7) Plates checked for a plus or minus 5 degree rotation about its center.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 5.
13) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 6.

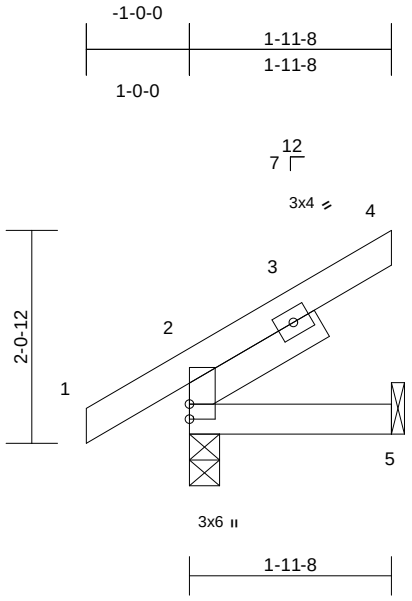
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	F1	Monopitch	2	1	I75869616 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:28 Page: 1
ID:q?aVs?vufxuG2uC24VcZ4WzhCGT-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



VERTICAL SUPPORT OF FREE END OF CHORD IS REQUIRED.

Scale = 1:22.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.15	Vert(LL)	0.00	5-8	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.23	Vert(CT)	-0.01	5-8	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 10 lb	FT = 20%

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

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

REACTIONS (size) 2=0-3-8, 5= Mechanical
Max Horiz 2=34 (LC 13)
Max Uplift 5=-21 (LC 13)
Max Grav 2=175 (LC 22), 5=74 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-4=-400/311
BOT CHORD 2-5=-202/106

NOTES
1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; 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 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
5) Plates checked for a plus or minus 5 degree rotation about its center.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 5.

LOAD CASE(S) Standard

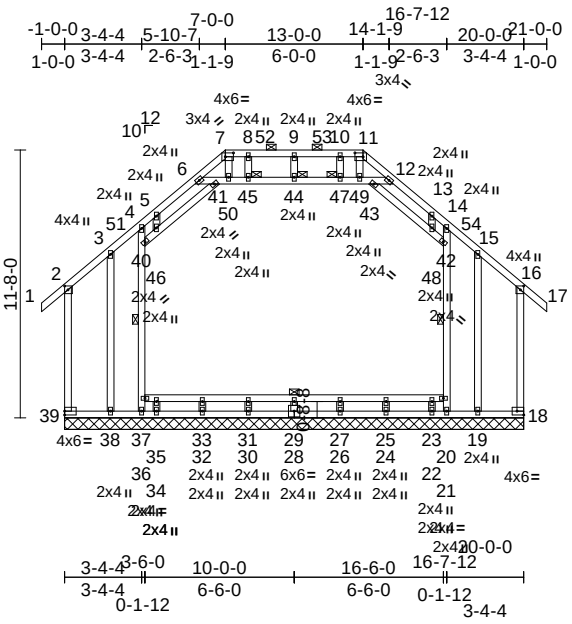
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	G2GE	Attic Supported Gable	1	1	I75869597 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:29 Page: 1

ID:mxq81MBDPzMru0edlruQkezjYAL-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:100.4

Plate Offsets (X, Y): [2:0-2-0,0-1-12], [7:0-4-4,0-2-0], [11:0-4-4,0-2-0], [16:0-2-0,0-1-12], [18:Edge,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.95	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.42	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.00	18	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 189 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 4-37,14-20,6-12:2x4 SP No.2
OTHERS	2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (5-6-2 max.): 7-11.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 4-37, 14-20
JOINTS	1 Brace at Jt(s): 44, 45, 47

REACTIONS (size) 18=20-0-0, 19=20-0-0, 20=20-0-0, 23=20-0-0, 25=20-0-0, 27=20-0-0, 29=20-0-0, 31=20-0-0, 33=20-0-0, 35=20-0-0, 37=20-0-0, 38=20-0-0, 39=20-0-0

Max Horiz 39=-238 (LC 14)

Max Uplift 18=-261 (LC 13), 19=-531 (LC 49), 20=-3 (LC 13), 23=-3 (LC 12), 35=-3 (LC 13), 37=-4 (LC 12), 38=-533 (LC 51), 39=-263 (LC 12)

Max Grav 18=504 (LC 50), 19=314 (LC 15), 20=878 (LC 42), 23=204 (LC 52), 25=246 (LC 23), 27=238 (LC 23), 29=241 (LC 23), 31=238 (LC 23), 33=246 (LC 23), 35=204 (LC 50), 37=878 (LC 42), 38=317 (LC 14), 39=506 (LC 52)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-39=-333/193, 1-2=0/68, 2-3=-207/139, 3-4=-2/213, 4-5=-235/295, 5-6=-256/290, 6-7=-934/42, 7-8=-932/44, 8-9=-932/44, 9-10=-932/44, 10-11=-932/44, 11-12=-934/66, 12-13=-260/296, 13-14=-241/301, 14-15=0/213, 15-16=-206/138, 16-17=0/68, 16-18=-332/192

BOT CHORD 38-39=-148/180, 37-38=-148/180, 35-37=-191/142, 33-35=-191/142, 31-33=-191/142, 27-31=-191/142, 25-27=-191/142, 23-25=-191/142, 20-23=-191/142, 19-20=-125/155, 18-19=-125/155, 34-36=0/166, 32-34=0/166, 30-32=0/166, 28-30=0/166, 26-28=0/166, 24-26=0/166, 22-24=0/166, 21-22=0/166

WEBS 36-37=-838/37, 36-40=-852/37, 4-40=-642/68, 20-21=-838/0, 21-42=-852/0, 14-42=-642/72, 6-41=-25/1011, 41-50=0/861, 45-50=0/877, 44-45=0/877, 44-47=0/877, 47-49=0/877, 43-49=0/861, 12-43=-24/1011, 40-46=-326/139, 41-46=-266/139, 43-48=-270/144, 42-48=-330/144, 9-44=-77/31, 28-29=-120/0, 8-45=-32/69, 30-31=-119/0, 32-33=-122/0, 5-46=-121/13, 34-35=-105/0, 3-38=-92/388, 10-47=-32/69, 26-27=-119/0, 24-25=-122/0, 13-48=-121/10, 22-23=-105/0, 15-19=-90/387, 11-49=-75/132, 7-50=-72/132

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 7-0-0, Exterior(2R) 7-0-0 to 11-2-15, Interior (1) 11-2-15 to 13-0-0, Exterior(2R) 13-0-0 to 17-2-15, Interior (1) 17-2-15 to 21-0-0 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
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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
5) Unbalanced snow loads have been considered for this design.

August 25,2025

Continued on page 2

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

6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.
8) Plates checked for a plus or minus 5 degree rotation about its center.
9) Gable requires continuous bottom chord bearing.
10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
11) Gable studs spaced at 2-0-0 oc.
12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
13) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
14) Ceiling dead load (10.0 psf) on member(s). 6-41, 41-50, 45-50, 44-45, 44-47, 47-49, 43-49, 12-43
15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 263 lb uplift at joint 39, 261 lb uplift at joint 18, 4 lb uplift at joint 37, 3 lb uplift at joint 20, 3 lb uplift at joint 35, 533 lb uplift at joint 38, 3 lb uplift at joint 23 and 531 lb uplift at joint 19.
16) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
17) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
18) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

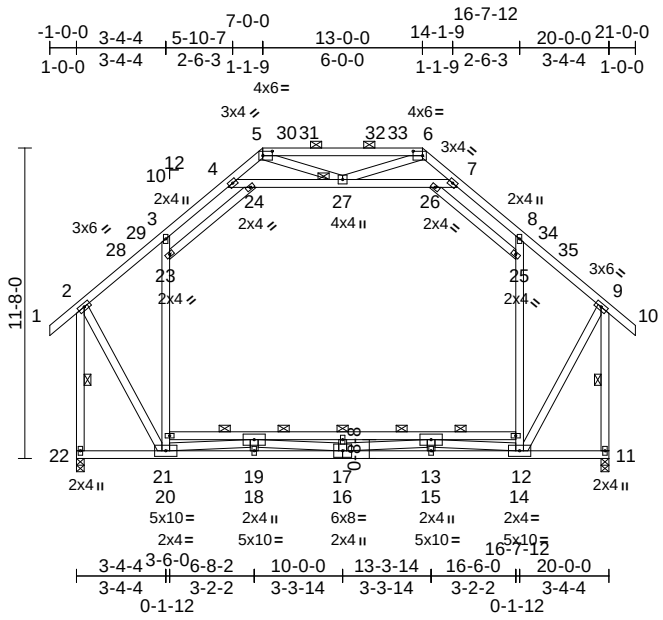
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	G2	Attic	2	1	I75869598 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:28 Page: 1

ID:xPlKG2y7xqRWZPhGNyFo7xzjYOr-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:86.6

Plate Offsets (X, Y): [5:0-4-4,0-2-0], [6:0-4-4,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.67	Vert(LL)	-0.31	16	>759	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.95	Vert(CT)	-0.49	16	>481	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.05	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Attic	-0.25	14-20	>626	360		
BCDL	10.0										Weight: 203 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP SS *Except* 20-14:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 3-21,8-12,4-7:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (5-0-8 max.): 5-6.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 2-22, 9-11
JOINTS 1 Brace at Jt(s): 27

REACTIONS (size) 11=0-3-8, 22=0-3-8
Max Horiz 22=-238 (LC 14)
Max Grav 11=1572 (LC 48), 22=1572 (LC 48)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/68, 2-3=-800/28, 3-4=-748/214, 4-5=-700/98, 5-6=-696/99, 6-7=-700/100, 7-8=-749/216, 8-9=-800/27, 9-10=0/68, 2-22=-1619/0, 9-11=-1621/0
BOT CHORD 21-22=-226/239, 19-21=0/2990, 13-19=0/2990, 12-13=0/2990, 11-12=-75/85, 18-20=-159/315, 16-18=-3522/0, 15-16=-3522/0, 14-15=-165/320
WEBS 20-21=-386/121, 20-23=-346/194, 3-23=-286/232, 12-14=-386/92, 14-25=-346/194, 8-25=-286/232, 4-24=-572/344, 24-27=-559/246, 26-27=-562/246, 7-26=-571/344, 23-24=-247/163, 25-26=-249/166, 2-21=0/1107, 9-12=0/1109, 18-19=-73/68, 13-15=-79/68, 16-17=-324/0, 12-15=-2747/0, 15-17=0/1031, 17-18=0/1012, 18-21=-2747/0, 5-27=-8/153, 6-27=-8/151

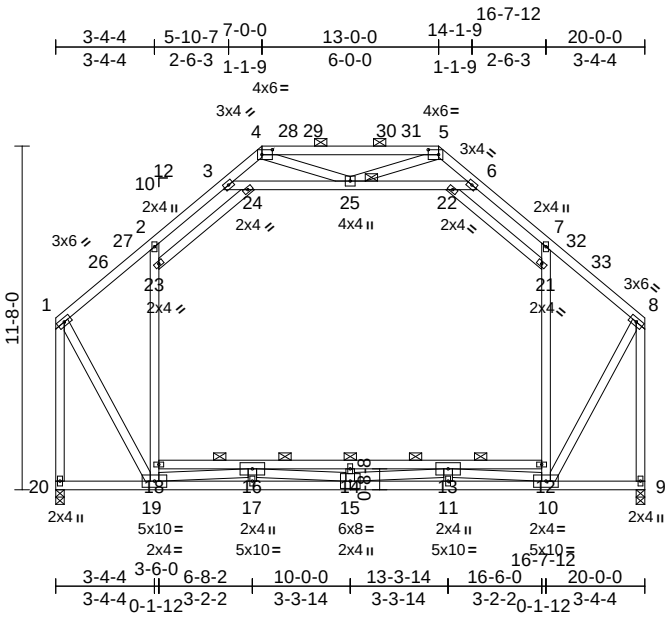
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 7-0-0, Exterior(2R) 7-0-0 to 11-2-15, Interior (1) 11-2-15 to 13-0-0, Exterior(2R) 13-0-0 to 17-2-15, Interior (1) 17-2-15 to 21-0-0 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 15.4 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) Plates checked for a plus or minus 5 degree rotation about its center.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Ceiling dead load (10.0 psf) on member(s). 3-4, 7-8, 4-24, 24-27, 26-27, 7-26
11) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 18-20, 16-18, 15-16, 14-15
12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	G2A	Attic	8	1	I75869599 Job Reference (optional)



Scale = 1:78.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.67	Vert(LL)	-0.31	14	>764	240	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.25	BC	0.94	Vert(CT)	-0.49	14	>484	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.05	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Attic	-0.25	12-18	>627	360		
BCDL	10.0										Weight: 199 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP SS *Except* 18-12:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 2-19,7-10,3-6:2x4 SP No.2, 20-1,9-8:2x4 SP SS

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (5-0-8 max.): 4-5.
BOT CHORD Rigid ceiling directly applied.
JOINTS 1 Brace at Jt(s): 25

REACTIONS (size) 9=0-3-8, 20=0-3-8
Max Horiz 20=-196 (LC 14)
Max Grav 9=1488 (LC 51), 20=1488 (LC 51)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-802/19, 2-3=-746/188, 3-4=-698/114, 4-5=-695/110, 5-6=-698/117, 6-7=-708/124, 7-8=-789/0, 1-20=-1527/0, 8-9=-1543/0
BOT CHORD 19-20=-134/152, 17-19=0/2986, 11-17=0/2986, 10-11=0/2986, 9-10=-4/14, 16-18=-129/277, 14-16=-3519/0, 13-14=-3519/0, 12-13=-140/302
WEBS 18-19=-392/134, 18-23=-352/194, 2-23=-295/232, 10-12=-392/101, 12-21=-352/194, 7-21=-295/232, 3-24=-584/339, 24-25=-552/242, 22-25=-579/242, 6-22=-538/339, 21-22=-231/142, 23-24=-211/136, 14-15=-324/0, 11-13=-77/67, 16-17=-69/67, 1-19=0/1089, 8-10=0/1092, 10-13=-2741/0, 13-15=0/1015, 15-16=0/1012, 16-19=-2741/0, 4-25=0/148, 5-25=0/151

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-4-4, Interior (1) 3-4-4 to 7-0-0, Exterior(2R) 7-0-0 to 11-2-15, Interior (1) 11-2-15 to 13-0-0, Exterior(2R) 13-0-0 to 17-2-15, Interior (1) 17-2-15 to 19-10-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=20.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
5) Provide adequate drainage to prevent water ponding.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Ceiling dead load (10.0 psf) on member(s). 2-3, 6-7, 3-24, 24-25, 22-25, 6-22
10) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 16-18, 14-16, 13-14, 12-13
11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
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.

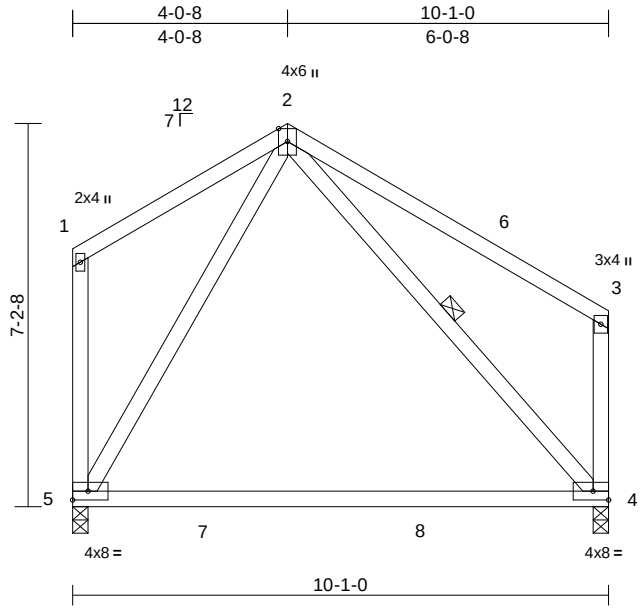
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	H1	Common	3	1	I75869620 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:29 Page: 1
ID:OCYxcFg_g7uhGlMK3K0D69zjXSW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.69	Vert(LL)	-0.36	4-5	>327	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.51	Vert(CT)	-0.58	4-5	>203	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.22	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 68 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP SS
WEBS 2x4 SP No.3 *Except* 5-1,4-3:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 2-4

REACTIONS (size) 4=0-3-8, 5=0-3-8
Max Horiz 5=-54 (LC 12)
Max Uplift 5=-3 (LC 17)
Max Grav 4=421 (LC 30), 5=439 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-132/37, 2-3=-198/80, 1-5=-165/50, 3-4=-222/111
BOT CHORD 4-5=-6/135
WEBS 2-4=-91/50, 2-5=-186/119

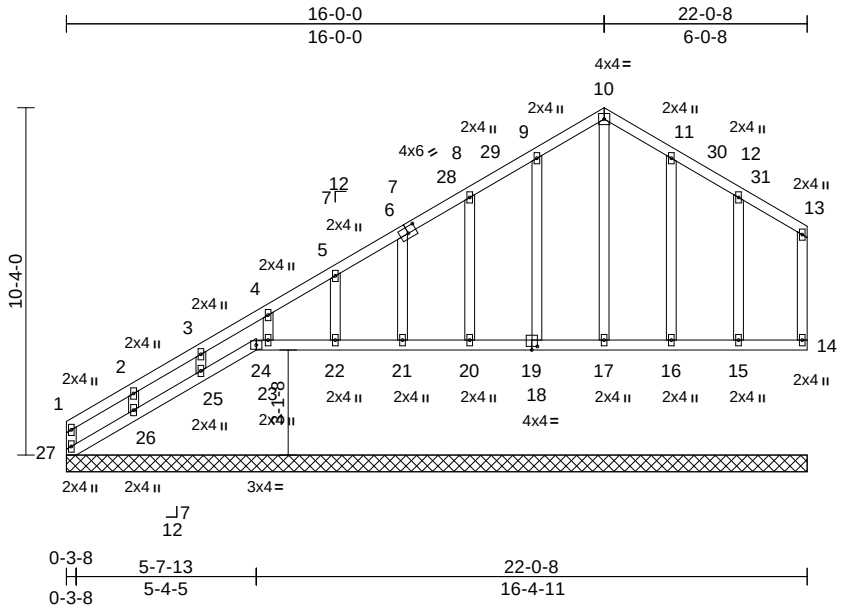
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 6-8-15 to 9-8-15, Interior (1) 9-8-15 to 10-7-11, Exterior(2R) 10-7-11 to 13-7-11, Interior (1) 13-7-11 to 16-6-7 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Plates checked for a plus or minus 5 degree rotation about its center.
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) 5. This connection is for uplift only and does not consider lateral forces.
9) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	H2GE	Roof Special Supported Gable	1	1	I75869622 Job Reference (optional)



Scale = 1:68.6

Plate Offsets (X, Y): [7:0-3-0,0-2-4], [19:0-2-0,0-1-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 128 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, except end verticals.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 14=22-0-8, 15=22-0-8, 16=22-0-8, 17=22-0-8, 18=22-0-8, 20=22-0-8, 21=22-0-8, 22=22-0-8, 23=22-0-8, 24=22-0-8, 25=22-0-8, 26=22-0-8, 27=22-0-8
Max Horiz 27=154 (LC 16)
Max Uplift 14=-14 (LC 16), 15=-16 (LC 17), 16=-16 (LC 17), 18=-17 (LC 16), 20=-18 (LC 16), 21=-18 (LC 16), 22=-16 (LC 16), 23=-21 (LC 16), 24=-7 (LC 16), 26=-122 (LC 16), 27=-91 (LC 14)
Max Grav 14=64 (LC 2), 15=173 (LC 23), 16=203 (LC 23), 17=140 (LC 32), 18=204 (LC 22), 20=169 (LC 22), 21=148 (LC 35), 22=149 (LC 2), 23=141 (LC 2), 24=18 (LC 14), 25=144 (LC 2), 26=214 (LC 29), 27=167 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-27=-112/71, 1-2=-184/141, 2-3=-131/107, 3-4=-115/99, 4-5=-94/84, 5-6=-73/71, 6-8=-67/64, 8-9=-61/68, 9-10=-69/99, 10-11=-69/97, 11-12=-47/59, 12-13=-26/28, 13-14=-47/28
BOT CHORD 26-27=-33/33, 25-26=-19/22, 24-25=-17/16, 23-24=-6/6, 22-23=-6/6, 21-22=-6/6, 20-21=-6/6, 18-20=-6/6, 17-18=-6/6, 16-17=-6/6, 15-16=-6/6, 14-15=-6/6
WEBS 10-17=-100/9, 9-18=-164/59, 8-20=-128/52, 6-21=-108/49, 5-22=-108/48, 4-23=-110/52, 3-25=-107/38, 2-26=-141/101, 11-16=-164/59, 12-15=-132/49

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 16-0-0, Exterior(2R) 16-0-0 to 19-0-0, Interior (1) 19-0-0 to 21-10-12 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) Gable requires continuous bottom chord bearing.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 91 lb uplift at joint 27, 7 lb uplift at joint 24, 14 lb uplift at joint 14, 17 lb uplift at joint 18, 18 lb uplift at joint 20, 18 lb uplift at joint 21, 16 lb uplift at joint 22, 21 lb uplift at joint 23, 122 lb uplift at joint 26, 16 lb uplift at joint 16 and 16 lb uplift at joint 15.
13) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 24, 14, 17, 18, 20, 21, 22, 23, 25, 26, 16, 15.
14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

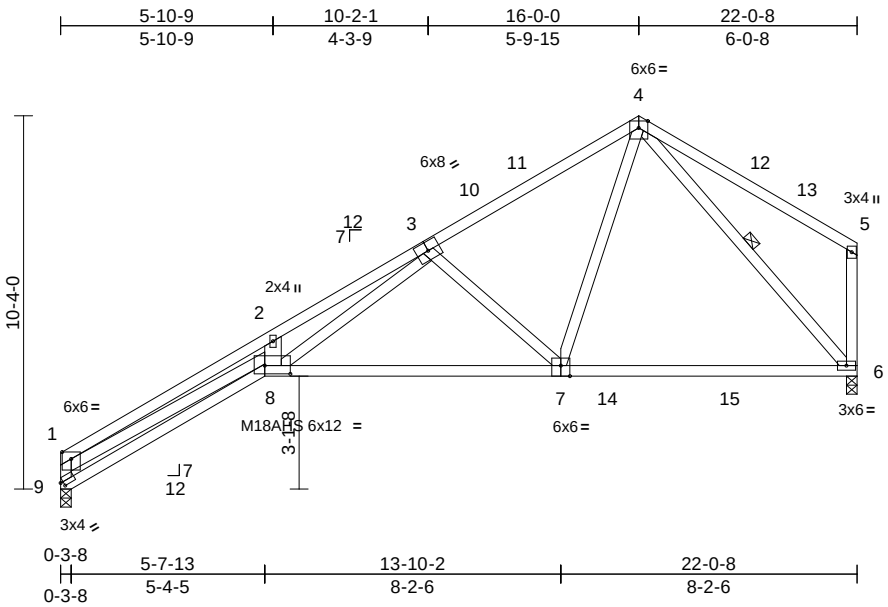
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	H2	Roof Special	7	1	I75869623
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:29 Page: 1
ID:OCYxcFg_g7uhGlMK3K0D69zjXSW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:63.8

Plate Offsets (X, Y): [7:0-3-0,Edge], [8:0-8-8,0-2-12], [9:0-0-14,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.90	Vert(LL)	-0.46	7-8	>572	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.95	Vert(CT)	-0.83	7-8	>314	180	M18AHS	186/179
TCDL	7.0	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.45	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 128 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 1-3:2x4 SP SS
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 8-1,3-8:2x4 SP No.2, 8-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 4-6

REACTIONS (size) 6=0-3-8, 9=0-3-8
Max Horiz 9=154 (LC 16)
Max Uplift 6=-6 (LC 16)
Max Grav 6=940 (LC 29), 9=918 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-9=-1153/170, 1-2=-5019/536, 2-4=-4926/635, 4-5=-154/64, 5-6=-212/73
BOT CHORD 8-9=-260/763, 6-8=-205/1556
WEBS 1-8=-377/3983, 2-8=-104/119, 4-6=-872/77, 4-7=-29/1013, 3-7=-860/199, 3-8=-483/3496

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 16-0-0, Exterior(2R) 16-0-0 to 19-0-0, Interior (1) 19-0-0 to 21-10-12 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) All plates are MT20 plates unless otherwise indicated.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Bearing at joint(s) 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 6. This connection is for uplift only and does not consider lateral forces.
11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

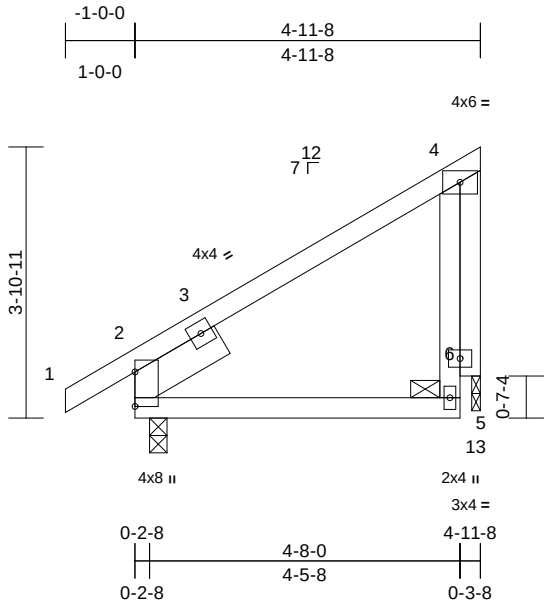
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof	I75869568
	P1	Monopitch	4	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:30 Page: 1
ID:OSB5YkJzx4txW1iFxUKym3zzB_t-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.23	Vert(LL)	0.01	5-9	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.14	Vert(CT)	-0.01	5-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 30 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 2x6 SP No.2 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-0, 13=0-1-8
Max Horiz 2=67 (LC 16)
Max Uplift 2=-10 (LC 13), 13=-36 (LC 13)
Max Grav 2=293 (LC 23), 13=176 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-4=-72/62, 5-6=-51/84, 4-6=-62/74
BOT CHORD 2-5=-65/66
WEBS 4-13=-93/74

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 4-6-4 zone; cantilever left and right exposed ; end vertical 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 13.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 2.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 13. This connection is for uplift only and does not consider lateral forces.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord.

LOAD CASE(S) Standard

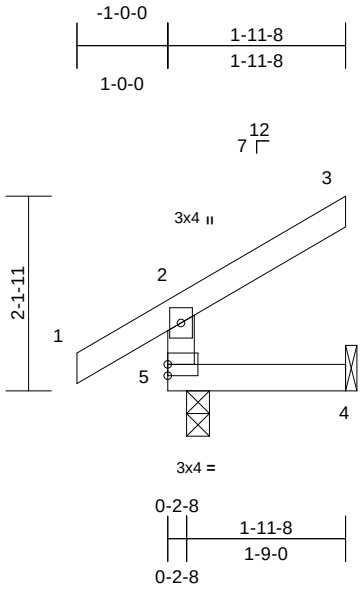
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	P1SGE	Monopitch	1	1	I75869581 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:30 Page: 1
ID:nCF9Psh27DSdS8kGH2d0sAyAPpH-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



VERTICAL SUPPORT OF FREE END OF CHORD IS REQUIRED.

Scale = 1:25.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.28	Vert(LL)	0.01	4-5	>999	240	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.30	Vert(CT)	0.01	4-5	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	n/a	-	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 9 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-11-8 oc purlins, except end verticals.
BOT CHORD 6-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5=0-3-0
Max Horiz 5=55 (LC 13)
Max Uplift 4=-38 (LC 13), 5=-18 (LC 13)
Max Grav 4=62 (LC 37), 5=200 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/44, 2-3=-69/0, 2-5=-224/167
BOT CHORD 4-5=0/0

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; 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 exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 4 and 18 lb uplift at joint 5.

LOAD CASE(S) Standard

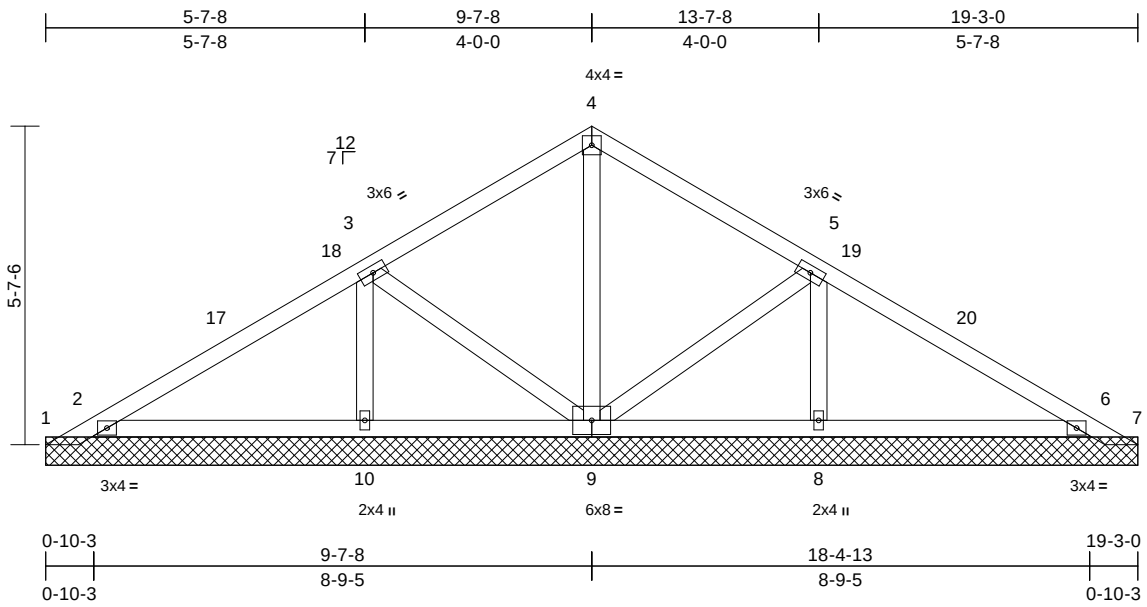
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	PB1	Piggyback	9	1	I75869571
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:30 Page: 1

ID:1g_pehrTMPlq7LuwuRQV2cyATvA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:40.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.23	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 88 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

REACTIONS (size) 1=19-3-0, 2=19-3-0, 6=19-3-0, 7=19-3-0, 8=19-3-0, 9=19-3-0, 10=19-3-0
Max Horiz 1=87 (LC 13)
Max Uplift 1=-237 (LC 30), 2=-36 (LC 16), 6=-32 (LC 17), 7=-200 (LC 2), 9=-2 (LC 16)
Max Grav 1=45 (LC 16), 2=468 (LC 30), 6=447 (LC 2), 7=23 (LC 17), 8=334 (LC 24), 9=303 (LC 2), 10=334 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-97/195, 2-3=-120/105, 3-4=-102/69, 4-5=-102/69, 5-6=-110/86, 6-7=-41/122
BOT CHORD	2-10=-88/70, 8-10=-27/70, 6-8=-93/55
WEBS	4-9=-179/32, 3-10=-241/80, 5-8=-241/79, 5-9=-63/83, 3-9=-59/82

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-3-8 to 3-3-8, Exterior(2N) 3-3-8 to 9-7-8, Corner (3R) 9-7-8 to 12-7-8, Exterior(2N) 12-7-8 to 18-11-8 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 6, 36 lb uplift at joint 2, 237 lb uplift at joint 1, 200 lb uplift at joint 7, 2 lb uplift at joint 9, 32 lb uplift at joint 6 and 36 lb uplift at joint 2.
12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
13) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

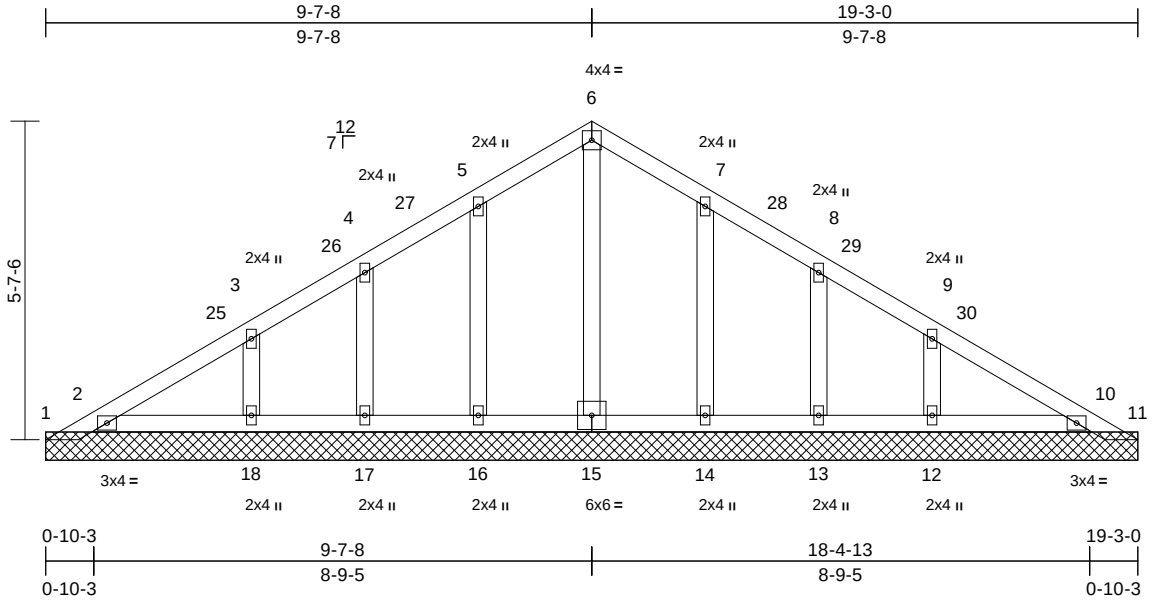
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	PB1GE	Piggyback	1	1	I75869572 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:30 Page: 1
ID:TS?fUnlpBF1wyFUnXlr0o7yAU_T-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:40.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.07	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 90 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=19-3-0, 2=19-3-0, 6=19-3-0, 10=19-3-0, 11=19-3-0, 12=19-3-0, 13=19-3-0, 14=19-3-0, 15=19-3-0, 16=19-3-0, 17=19-3-0, 18=19-3-0
Max Horiz 1=-87 (LC 14)
Max Uplift 1=-87 (LC 30), 2=-3 (LC 16), 11=-50 (LC 31), 12=-23 (LC 17), 13=-16 (LC 17), 14=-19 (LC 17), 16=-19 (LC 16), 17=-16 (LC 16), 18=-22 (LC 16)
Max Grav 1=48 (LC 13), 2=216 (LC 30), 6=102 (LC 2), 10=196 (LC 2), 11=8 (LC 17), 12=188 (LC 37), 13=158 (LC 24), 14=204 (LC 24), 15=79 (LC 7), 16=204 (LC 23), 17=158 (LC 23), 18=189 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-99/127, 2-3=-69/72, 3-4=-64/57, 4-5=-56/67, 5-6=-71/99, 6-7=-71/97, 7-8=-48/63, 8-9=-34/30, 9-10=-39/41, 10-11=-5/46
BOT CHORD 2-18=-29/45, 17-18=-27/45, 16-17=-27/45, 14-16=-27/45, 13-14=-27/45, 12-13=-27/45, 10-12=-27/45
WEBS 6-15=0/0, 5-16=-163/62, 4-17=-124/48, 3-18=-131/56, 7-14=-163/62, 8-13=-124/48, 9-12=-130/56

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-3-8 to 3-3-8, Interior (1) 3-3-8 to 9-7-8, Exterior(2R) 9-7-8 to 12-7-8, Interior (1) 12-7-8 to 18-11-8 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) Bearing at joint(s) 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 3 lb uplift at joint 2, 87 lb uplift at joint 1, 50 lb uplift at joint 11, 19 lb uplift at joint 16, 16 lb uplift at joint 17, 22 lb uplift at joint 18, 19 lb uplift at joint 14, 16 lb uplift at joint 13, 23 lb uplift at joint 12 and 3 lb uplift at joint 2.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
14) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

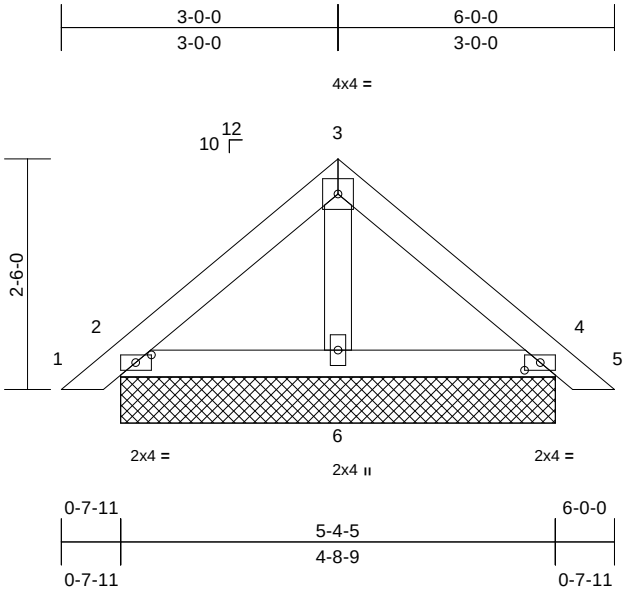
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	PB4	Piggyback	11	1	I75869600 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:31 Page: 1
ID:3eWpRgvcucx44nOV86Asy5zjYOv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:25

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.13	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 21 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 2=4-8-9, 4=4-8-9, 6=4-8-9
Max Horiz 2=-37 (LC 14)
Max Uplift 2=-7 (LC 16), 4=-11 (LC 17)
Max Grav 2=154 (LC 23), 4=154 (LC 24), 6=141 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/20, 2-3=-84/59, 3-4=-84/64, 4-5=0/20
BOT CHORD 2-6=-9/36, 4-6=-6/36
WEBS 3-6=-54/1

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; 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=1.60
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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
7) Plates checked for a plus or minus 5 degree rotation about its center.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 4-0-0 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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
14) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

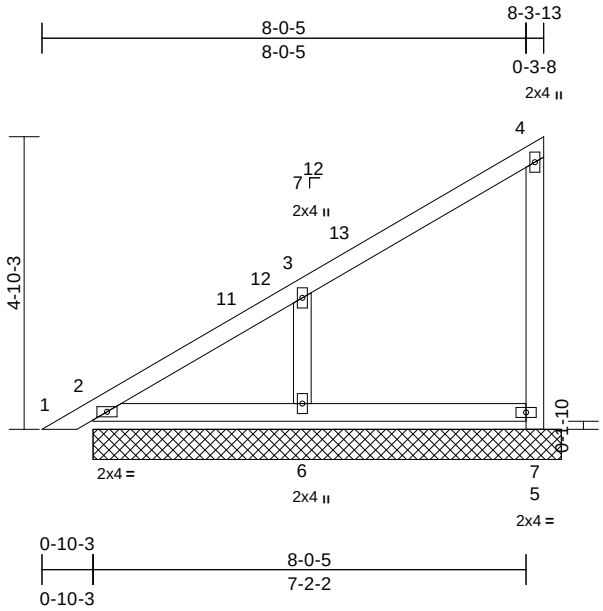
August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof	
	PB5	Piggyback	3	1	Job Reference (optional)	I75869606

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:31 Page: 1

ID:_SUzh1LF2rFSm2?pLkn5FzzjXmJ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.22	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 34 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

REACTIONS (size) 2=7-9-2, 6=7-9-2, 7=7-9-2
Max Horiz 2=99 (LC 16)
Max Uplift 6=-41 (LC 16), 7=-13 (LC 16)
Max Grav 2=126 (LC 2), 6=384 (LC 23), 7=149 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/21, 2-3=-217/111, 3-4=-88/45
BOT CHORD	2-6=-39/38, 5-6=0/0
WEBS	3-6=-293/266, 5-7=-149/88, 4-5=-119/108

NOTES

1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-3-8 to 3-3-8, Exterior(2N) 3-3-8 to 8-2-1 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 15.4 psf on overhangs non-concurrent with other live loads.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 6 and 7. This connection is for uplift only and does not consider lateral forces.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
14) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

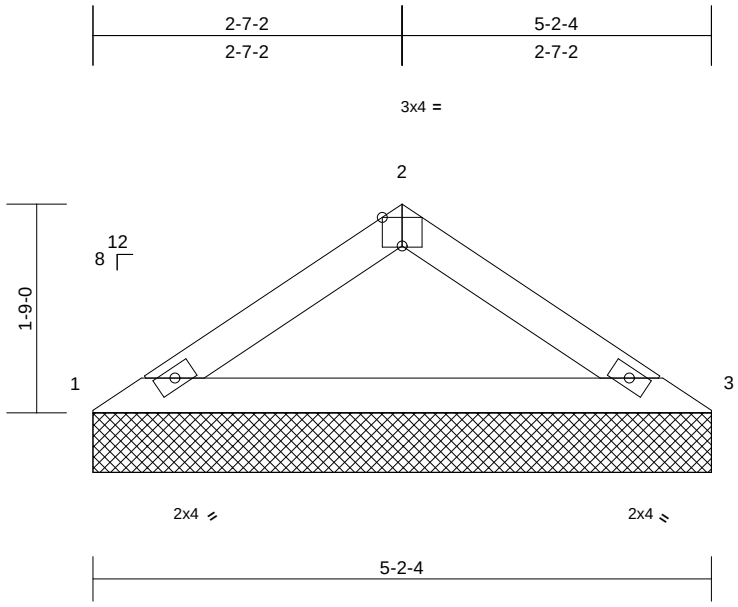
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	VA1	Valley	1	1	I75869593 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:31 Page: 1
ID:S_viFJZgvpxBCpV8LkzLWPzjYmb-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:19.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.22	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 15 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=5-2-4, 3=5-2-4
Max Horiz 1=-25 (LC 14)
Max Grav 1=201 (LC 22), 3=201 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-303/111, 2-3=-303/111
BOT CHORD 1-3=-82/242

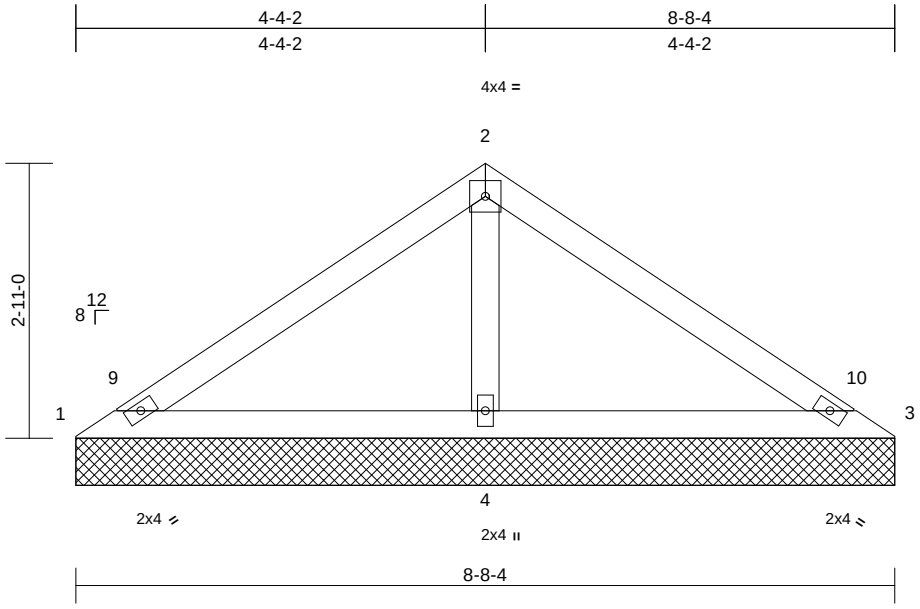
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	VA2	Valley	1	1	I75869592
					Job Reference (optional)



Scale = 1:24.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.28	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.43	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 30 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=8-8-4, 3=8-8-4, 4=8-8-4
Max Horiz 1=-44 (LC 12)
Max Uplift 1=-27 (LC 23), 3=-27 (LC 22), 4=-1 (LC 16)
Max Grav 1=69 (LC 22), 3=69 (LC 23), 4=583 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-90/266, 2-3=-90/266
BOT CHORD 1-4=-190/136, 3-4=-190/136
WEBS 2-4=-428/183

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-6 to 3-0-6, Interior (1) 3-0-6 to 4-4-8, Exterior(2R) 4-4-8 to 7-4-8, Interior (1) 7-4-8 to 8-8-10 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=1.60
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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 1, 27 lb uplift at joint 3 and 1 lb uplift at joint 4.
12) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

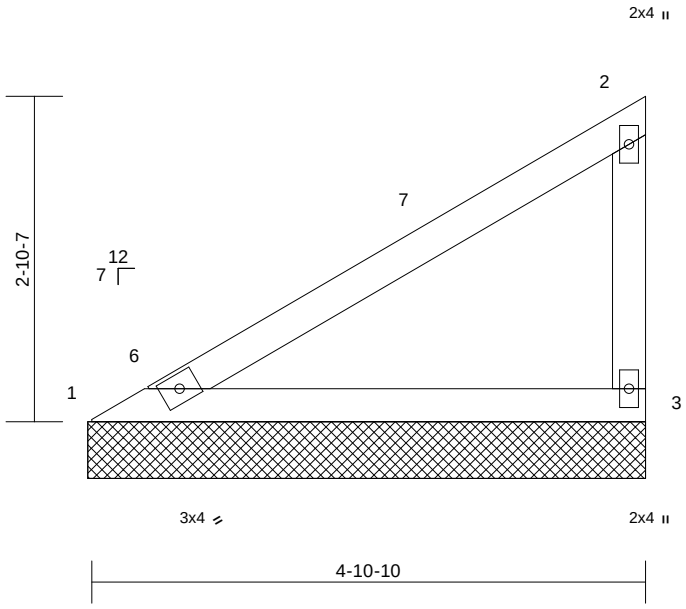
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	VB1	Valley	2	1	I75869604 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:32 Page: 1
ID:R8EgX9mOYDsF689owsl8YGzjY8I-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:20.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.36	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.58	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 18 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=4-11-1, 3=4-11-1
Max Horiz 1=57 (LC 16)
Max Uplift 3=-19 (LC 16)
Max Grav 1=211 (LC 22), 3=226 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-349/63, 2-3=-153/76
BOT CHORD 1-3=-107/299

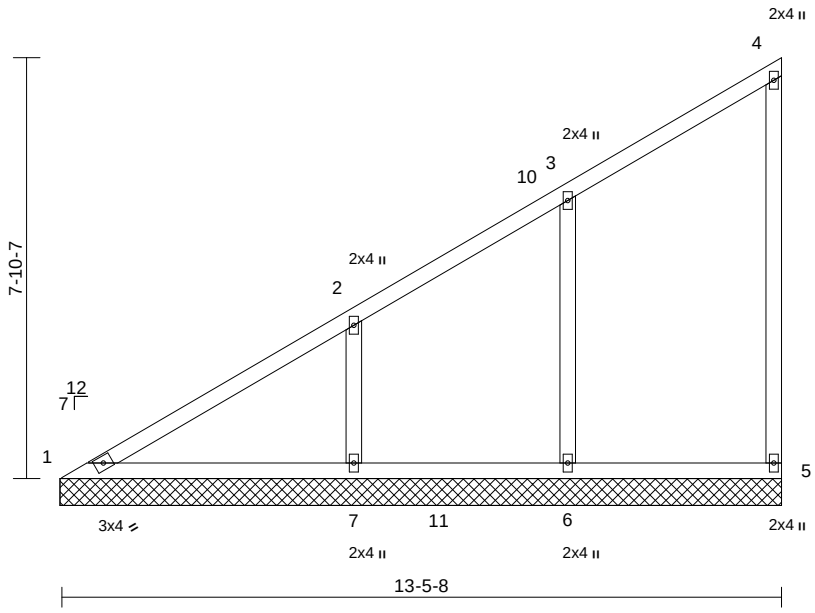
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 4-9-5 zone; cantilever left and 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 3.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	VB4	Valley	1	1	I75869601
					Job Reference (optional)



Scale = 1:43.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.24	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 64 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, except end verticals.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=13-5-15, 5=13-5-15, 6=13-5-15, 7=13-5-15
Max Horiz 1=166 (LC 16)
Max Uplift 5=-15 (LC 16), 6=-35 (LC 16), 7=-40 (LC 16)
Max Grav 1=177 (LC 31), 5=189 (LC 5), 6=395 (LC 5), 7=504 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-297/156, 2-3=-125/81, 3-4=-87/60, 4-5=-129/51
BOT CHORD 1-7=-72/259, 6-7=-1/6, 5-6=-1/6
WEBS 3-6=-259/132, 2-7=-287/141

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; 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 13-4-3 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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 15 lb uplift at joint 5, 35 lb uplift at joint 6 and 40 lb uplift at joint 7.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

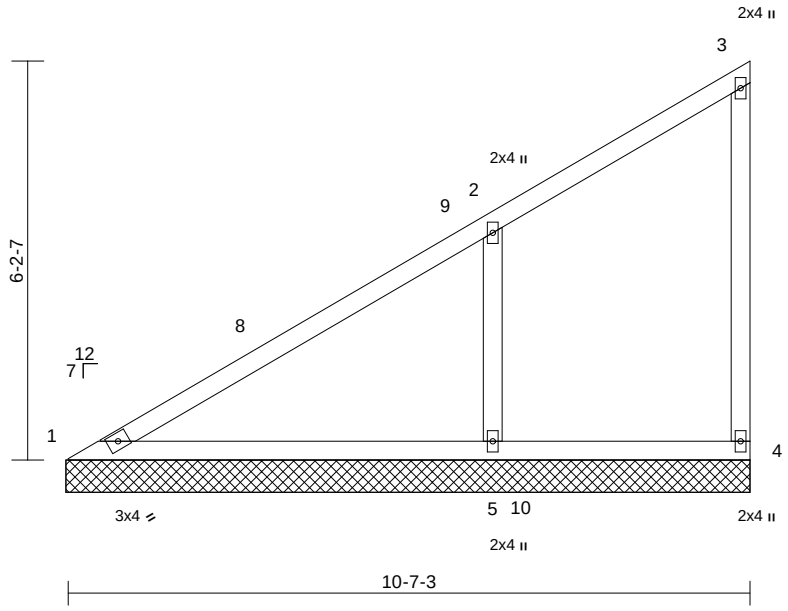
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	VB3	Valley	2	1	I75869602 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:32 Page: 1
ID:1r5yTxxAFWdGnIDUko?Q6DzjY84-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.36	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.59	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 46 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=10-7-10, 4=10-7-10, 5=10-7-10
Max Horiz 1=129 (LC 16)
Max Uplift 4=-10 (LC 16), 5=-54 (LC 16)
Max Grav 1=199 (LC 29), 4=132 (LC 5), 5=638 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-333/121, 2-3=-98/35, 3-4=-100/51
BOT CHORD 1-5=-84/316, 4-5=-2/2
WEBS 2-5=-374/177

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; 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 10-5-14 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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 10 lb uplift at joint 4 and 54 lb uplift at joint 5.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

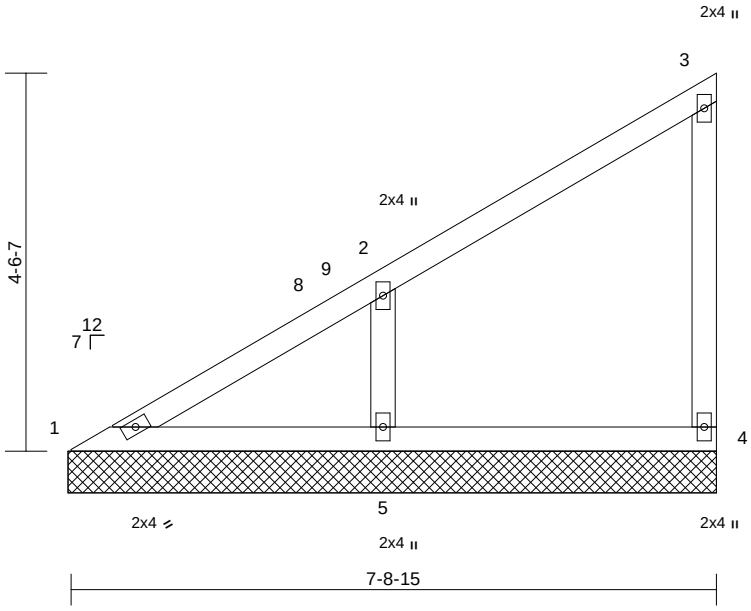
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	VB2	Valley	2	1	I75869603
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:32 Page: 1
ID:kU9J?YsnvMlGSDB8qqNnKlzjY8B-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:27.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.23	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 32 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=7-9-6, 4=7-9-6, 5=7-9-6
Max Horiz 1=93 (LC 16)
Max Uplift 4=-14 (LC 16), 5=-35 (LC 16)
Max Grav 1=105 (LC 2), 4=147 (LC 22), 5=397 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-148/89, 2-3=-88/45, 3-4=-118/63
BOT CHORD 1-5=-57/125, 4-5=0/0
WEBS 2-5=-300/158

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; 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 7-7-10 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 4 and 35 lb uplift at joint 5.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

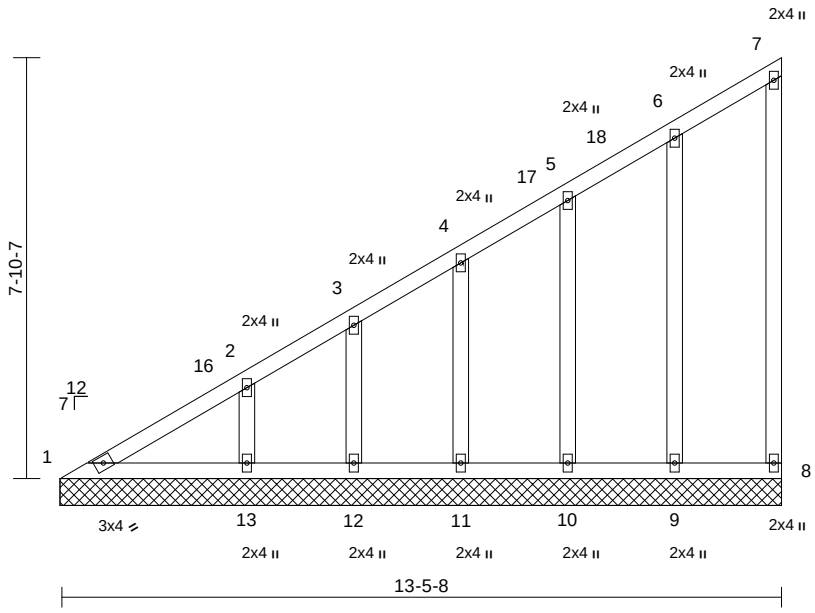
LOAD CASE(S) Standard

August 25,2025

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

Job	Truss	Truss Type	Qty	Ply	Cooper III Rev.4-Elev - 1-Roof
	VG4	Valley	1	1	I75869605 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Mon Aug 25 06:16:32 Page: 1
ID:VZiBpvM70G1IUgODHf7d1bzjY7X-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.25	BC	0.10	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 82 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=13-5-15, 8=13-5-15, 9=13-5-15, 10=13-5-15, 11=13-5-15, 12=13-5-15, 13=13-5-15
Max Horiz 1=166 (LC 16)
Max Uplift 8=-8 (LC 16), 9=-16 (LC 16), 10=-18 (LC 16), 11=-17 (LC 16), 12=-19 (LC 16), 13=-15 (LC 16)
Max Grav 1=112 (LC 31), 8=73 (LC 22), 9=204 (LC 22), 10=171 (LC 22), 11=159 (LC 2), 12=106 (LC 29), 13=261 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-316/161, 2-3=-253/116, 3-4=-202/97, 4-5=-149/69, 5-6=-94/43, 6-7=-43/21, 7-8=-58/43
BOT CHORD 1-13=-100/130, 12-13=-1/1, 11-12=-1/1, 10-11=-1/1, 9-10=-1/1, 8-9=-1/1
WEBS 6-9=-162/112, 5-10=-133/92, 4-11=-113/91, 3-12=-88/85, 2-13=-165/119

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 13-4-3 zone; cantilever 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=1.25 Plate DOL=1.25); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Plates checked for a plus or minus 5 degree rotation about its center.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 8 lb uplift at joint 8, 16 lb uplift at joint 9, 18 lb uplift at joint 10, 17 lb uplift at joint 11, 19 lb uplift at joint 12 and 15 lb uplift at joint 13.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

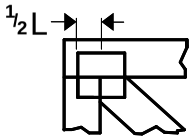
LOAD CASE(S) Standard

August 25,2025

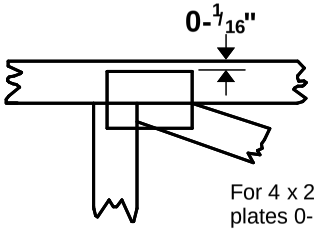
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

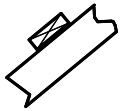
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

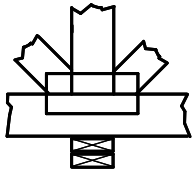
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

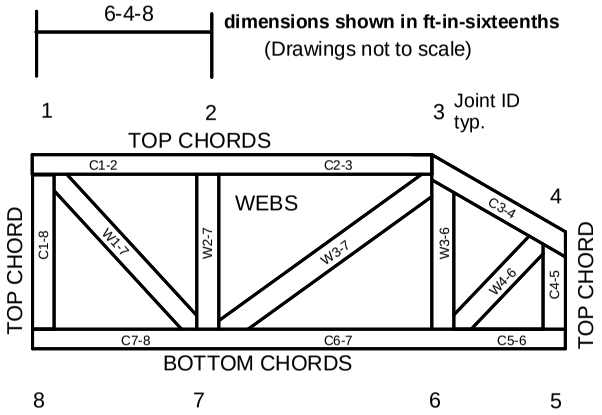


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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
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.