

RE: 251853
Lot 45 Harnett Lakes

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: A & G Residential, LLC Project Name: 251853
Lot/Block: Model: Havilland
Address: Subdivision:
City: State: NC

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

Design Code: IRC2021/TPI2014 Design Program: MiTek 20/20 25.3
Wind Code: ASCE 7-16 Wind Speed: 130 mph
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 5 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	I76151708	A1	9/8/2025
2	I76151709	A2	9/8/2025
3	I76151710	A3	9/8/2025
4	I76151711	A4	9/8/2025
5	I76151712	A6	9/8/2025

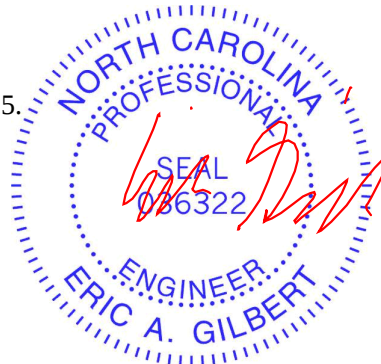
The truss drawing(s) referenced above have been prepared by
Truss Engineering Co. under my direct supervision
based on the parameters provided by Comtech, Inc - Fayetteville.

Truss Design Engineer's Name: Gilbert, Eric

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

North Carolina COA: C-0844

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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

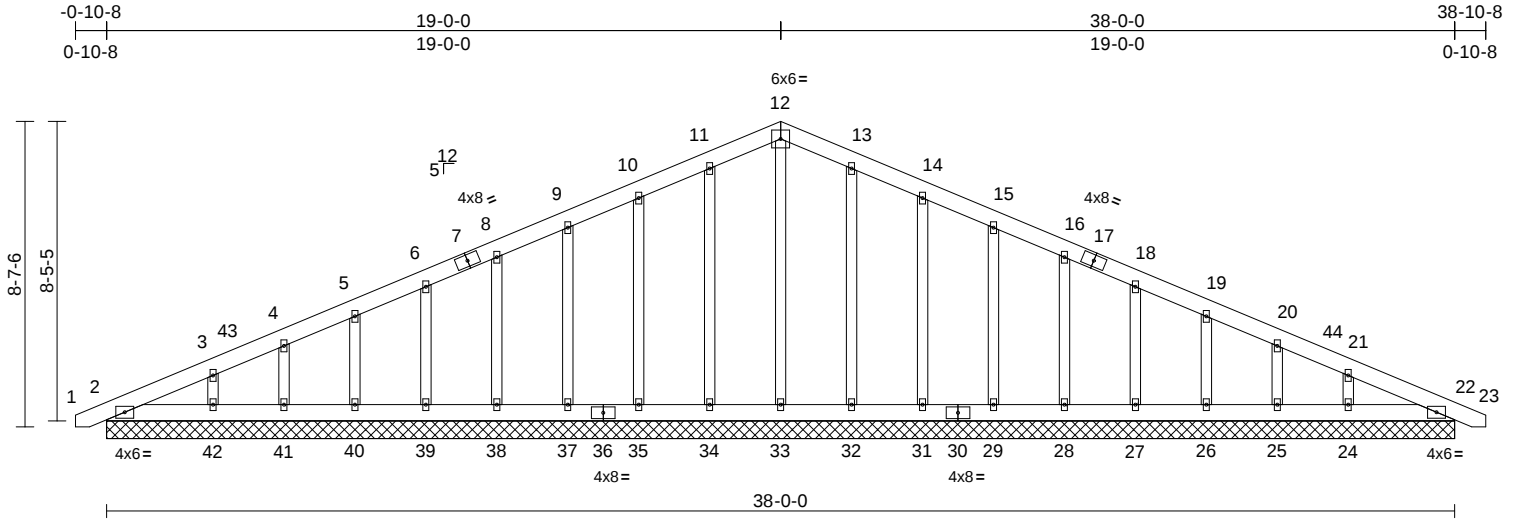


Job	Truss	Truss Type	Qty	Ply	Lot 45 Harnett Lakes
251853	A1	GABLE	2	1	176151708
Job Reference (optional)					

Comtech, Inc, Fayetteville, NC - 28314,

Run: 25.30 S Aug 20 2025 Print: 25.3.0 S Aug 20 2025 MiTek Industries, Inc. Fri Sep 05 12:57:12
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Page: 1



Scale = 1:64.9

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.04	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.02	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.01	22	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S							
Weight: 292 lb FT = 20%											

LUMBER	
TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
OTHERS	2x4 SP No.2
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size)	
2=38-0-0, 22=38-0-0, 24=38-0-0, 25=38-0-0, 26=38-0-0, 27=38-0-0, 28=38-0-0, 29=38-0-0, 31=38-0-0, 32=38-0-0, 33=38-0-0, 34=38-0-0, 35=38-0-0, 37=38-0-0, 38=38-0-0, 39=38-0-0, 40=38-0-0, 41=38-0-0, 42=38-0-0	
Max Horiz	2=166 (LC 12)
Max Uplift	2=-26 (LC 13), 22=-13 (LC 9), 24=-92 (LC 13), 25=-53 (LC 13), 26=-63 (LC 13), 27=-62 (LC 13), 28=-62 (LC 13), 29=-62 (LC 13), 31=-70 (LC 13), 32=-40 (LC 13), 34=-47 (LC 12), 35=-68 (LC 12), 37=-62 (LC 12), 38=-62 (LC 12), 39=-62 (LC 12), 40=-63 (LC 12), 41=-53 (LC 12), 42=-93 (LC 12)
Max Grav	2=151 (LC 1), 22=151 (LC 1), 24=236 (LC 26), 25=135 (LC 26), 26=165 (LC 1), 27=159 (LC 26), 28=160 (LC 1), 29=160 (LC 1), 31=162 (LC 26), 32=163 (LC 26), 33=171 (LC 22), 34=163 (LC 25), 35=162 (LC 25), 37=160 (LC 1), 38=160 (LC 1), 39=159 (LC 25), 40=165 (LC 1), 41=135 (LC 25), 42=236 (LC 25)

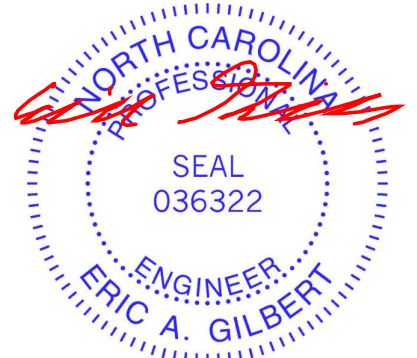
FORCES	(lb) - Maximum Compression/Maximum Tension
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TOP CHORD	
1-2=0/13, 2-3=-197/82, 3-4=-136/91, 4-5=-103/103, 5-6=-77/128, 6-8=-54/152, 8-9=-64/176, 9-10=-81/219, 10-11=-98/268, 11-12=-111/305, 12-13=-111/305, 13-14=-98/268, 14-15=-81/219, 15-16=-64/172, 16-18=-48/125, 18-19=-38/79, 19-20=-45/31, 20-21=-70/19, 21-22=-125/46, 22-23=0/13	
BOT CHORD	
2-42=-41/163, 41-42=-41/163, 40-41=-41/163, 39-40=-41/163, 38-39=-41/163, 37-38=-41/163, 35-37=-41/163, 34-35=-41/163, 33-34=-41/163, 32-33=-41/163, 31-32=-41/163, 29-31=-41/163, 28-29=-41/163, 27-28=-41/163, 26-27=-41/163, 25-26=-41/163, 24-25=-41/163, 22-24=-41/163	
WEBS	
12-33=-131/7, 11-34=-123/71, 10-35=-122/107, 9-37=-120/97, 8-38=-120/97, 6-39=-120/97, 5-40=-122/100, 4-41=-105/87, 3-42=-169/197, 13-32=-123/71, 14-31=-122/107, 15-29=-120/97, 16-28=-120/97, 18-27=-120/97, 19-26=-122/100, 20-25=-105/87, 21-24=-169/197	

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-8-2 to 3-8-10, Exterior(2N) 3-8-10 to 19-0-0, Corner(3R) 19-0-0 to 23-4-13, Exterior (2N) 23-4-13 to 38-8-2 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- All plates are 2x4 (||) MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 30.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 2, 13 lb uplift at joint 22, 47 lb uplift at joint 34, 68 lb uplift at joint 35, 62 lb uplift at joint 37, 62 lb uplift at joint 38, 62 lb uplift at joint 39, 63 lb uplift at joint 40, 53 lb uplift at joint 41, 93 lb uplift at joint 42, 40 lb uplift at joint 32, 70 lb uplift at joint 31, 62 lb uplift at joint 29, 62 lb uplift at joint 28, 62 lb uplift at joint 27, 63 lb uplift at joint 26, 53 lb uplift at joint 25 and 92 lb uplift at joint 24.

LOAD CASE(S) Standard



September 8, 2025

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

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

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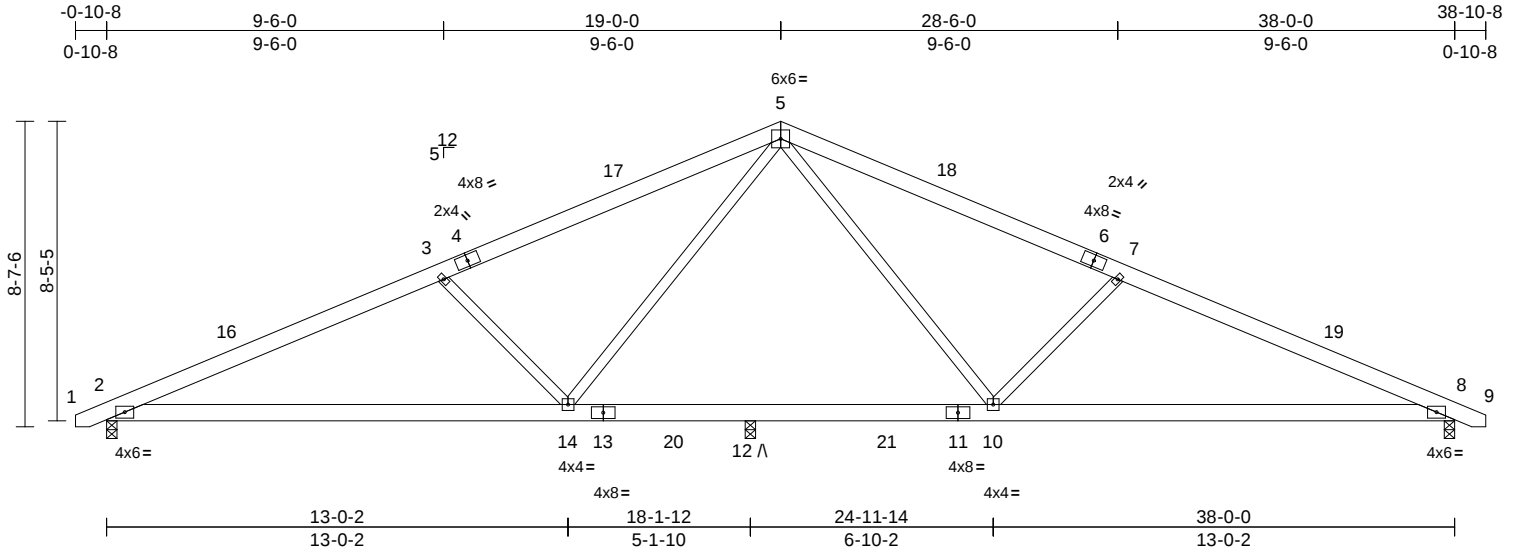
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 45 Harnett Lakes
251853	A2	COMMON	3	1	176151709
Job Reference (optional)					

Comtech, Inc, Fayetteville, NC - 28314,

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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.27	2-14	>801	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.55	2-14	>390	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.08	8	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S		Wind(LL)	0.11	2-14	>999	240	Weight: 233 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

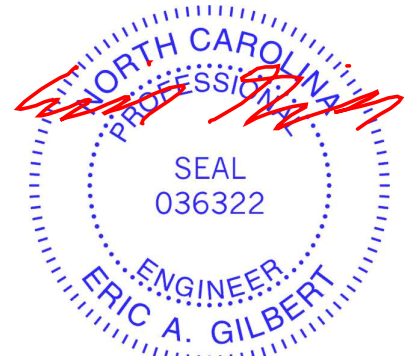
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-0-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 8=0-3-8, 12=0-3-8
Max Horiz 2=98 (LC 12)
Max Uplift 2=-107 (LC 12), 8=-109 (LC 13), 12=REL
Max Grav 2=1516 (LC 2), 8=1534 (LC 2), 12=418 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/13, 2-3=-2821/656, 3-5=-2476/592, 5-7=-2535/592, 7-8=-2879/656, 8-9=0/13
BOT CHORD 2-14=-513/2550, 12-14=-217/1682, 10-12=-217/1682, 8-10=-507/2603
WEBS 5-10=-113/973, 7-10=-638/334, 5-14=-113/890, 3-14=-640/334

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -0-8-2 to 3-8-10, Interior (1) 3-8-10 to 19-0-0, Exterior(2R) 19-0-0 to 23-4-13, Interior (1) 23-4-13 to 38-8-2 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 30.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.

5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 107 lb uplift at joint 2 and 109 lb uplift at joint 8.
6) "A" indicates Released bearing: allow for upward movement at joint(s) 12.
LOAD CASE(S) Standard



September 8, 2025

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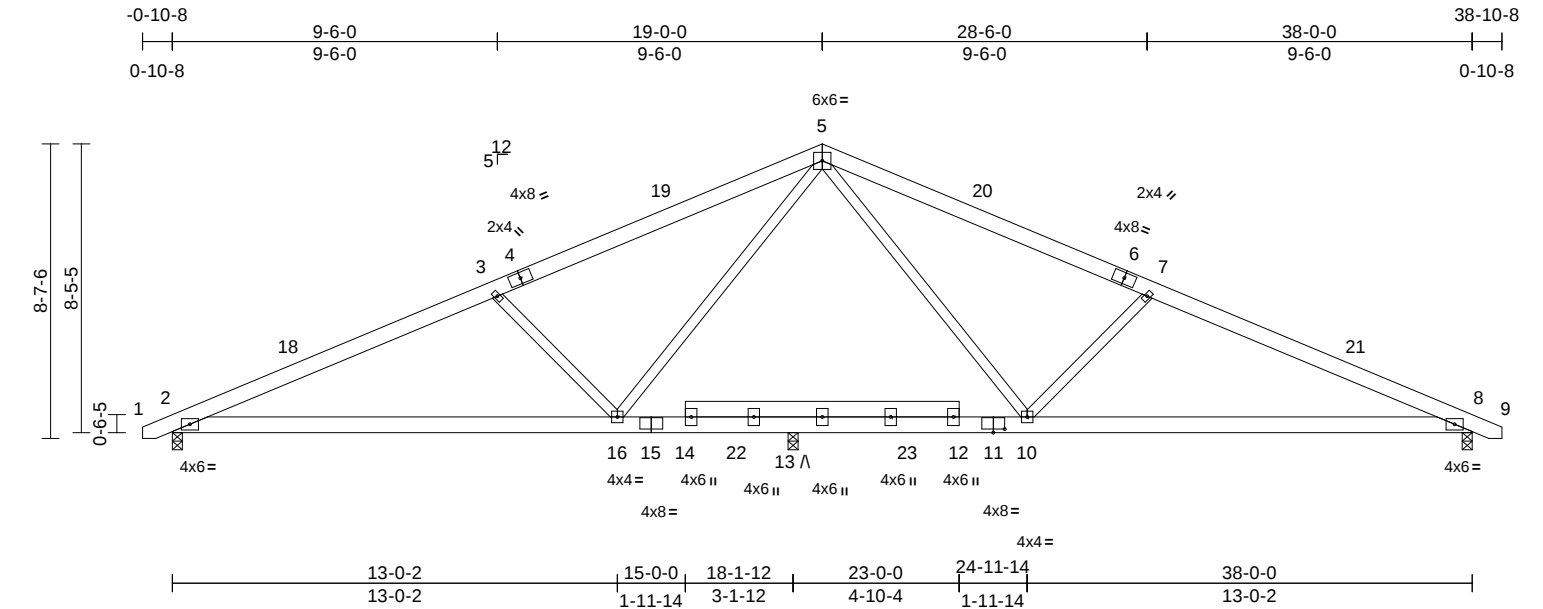
Job	Truss	Truss Type	Qty	Ply	Lot 45 Harnett Lakes	
251853	A3	COMMON	7	1	Job Reference (optional)	I76151710

Comtech, Inc, Fayetteville, NC - 28314,

Run: 25.20 E May 15 2025 Print: 25.2.0 E May 15 2025 MiTek Industries, Inc. Mon Sep 08 13:33:37

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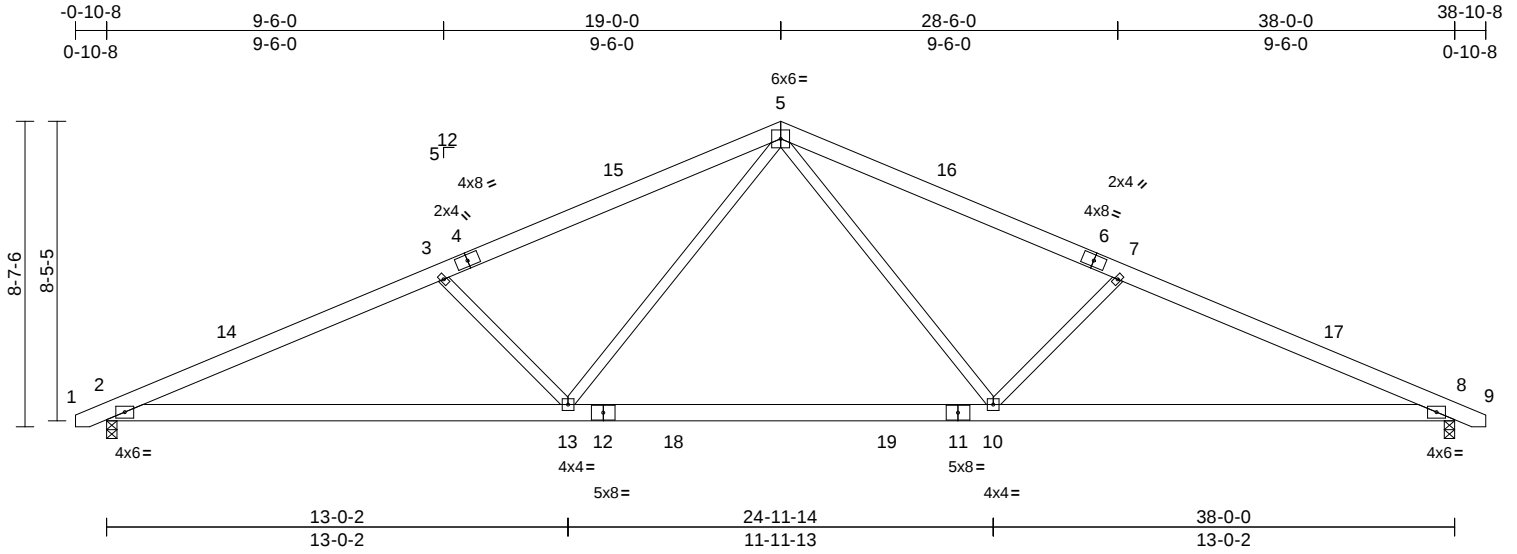
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Plate Offsets (X, Y): [11:0-4-0,0-1-4], [15:0-4-0,0-1-4]												
Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.25	2-16	>860	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.52	2-16	>413	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.05	8	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S		Wind(LL)	0.10	2-16	>999	240	Weight: 252 lb	FT = 20%

Job	Truss	Truss Type	Qty	Ply	Lot 45 Harnett Lakes
251853	A4	COMMON	11	1	176151711
Job Reference (optional)					

Comtech, Inc, Fayetteville, NC - 28314,

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Page: 1



Scale = 1:64.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.41	Vert(LL)	-0.33	10-13	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.47	10-13	>961	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.10	8	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S		Wind(LL)	0.09	2-13	>999	240	Weight: 233 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 107 lb uplift at joint 2 and 107 lb uplift at joint 8.

LOAD CASE(S) Standard

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-8-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=0-3-8, 8=0-3-8
Max Horiz 2=98 (LC 16)
Max Uplift 2=-107 (LC 12), 8=-107 (LC 13)
Max Grav 2=1734 (LC 2), 8=1734 (LC 2)

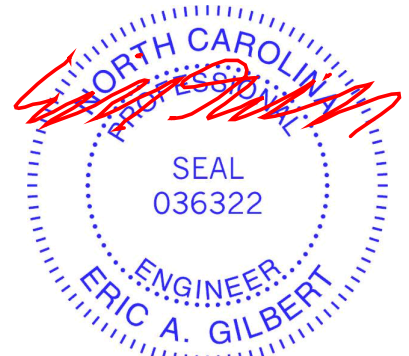
FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/13, 2-3=-3442/656, 3-5=-3105/592, 5-7=-3105/592, 7-8=-3442/656, 8-9=0/13
BOT CHORD 2-13=-513/3116, 10-13=-217/2067, 8-10=-507/3116
WEBS 5-10=-113/1188, 7-10=-629/334, 5-13=-113/1188, 3-13=-629/334

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -0-8-2 to 3-8-10, Interior (1) 3-8-10 to 19-0-0, Exterior(2R) 19-0-0 to 23-4-13, Interior (1) 23-4-13 to 38-8-2 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 30.0psf 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.



September 8, 2025

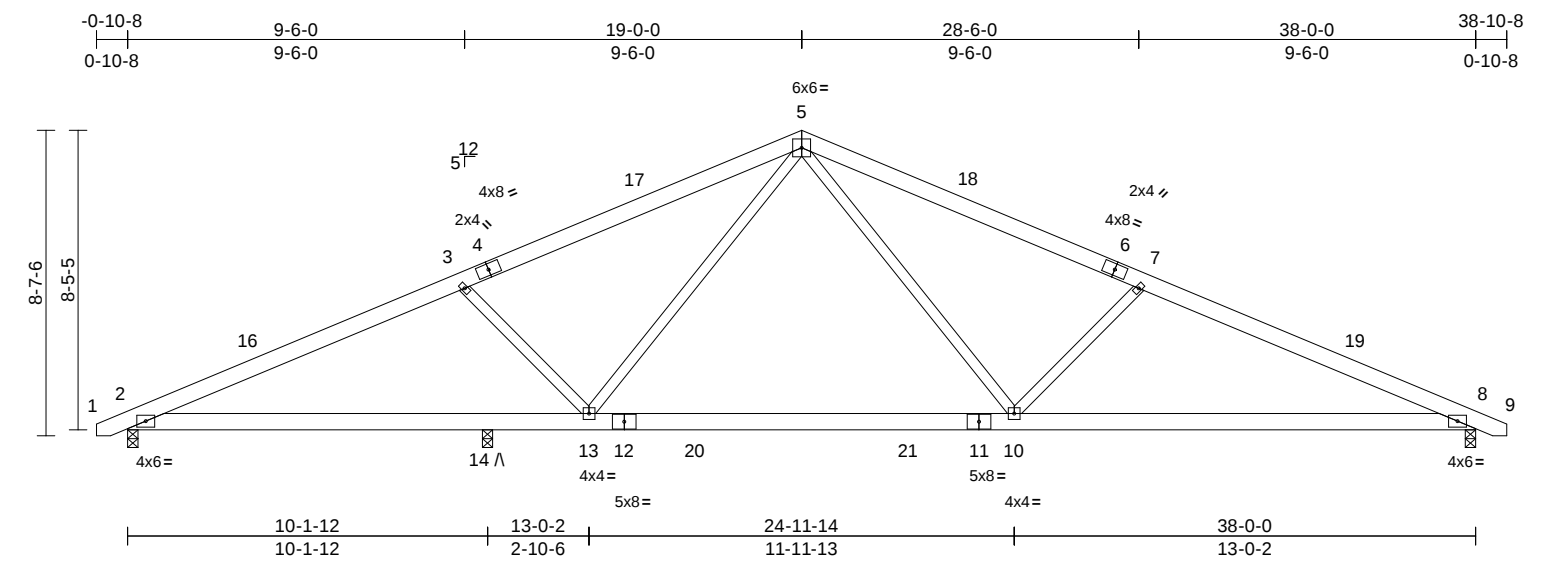
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TRENCO
A MiTek Affiliate

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Job	Truss	Truss Type	Qty	Ply	Lot 45 Harnett Lakes
251853	A6	COMMON	3	1	176151712
Job Reference (optional)					

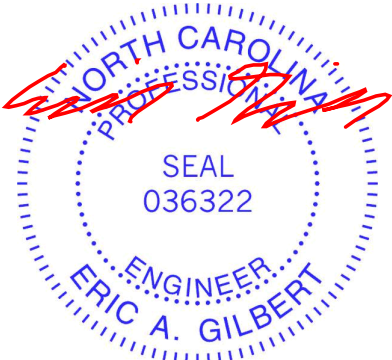


Scale = 1:64.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	-0.39	10-13	>861	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.59	10-13	>559	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.08	8	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S		Wind(LL)	0.12	10-13	>999	240	Weight: 233 lb	FT = 20%

LUMBER		5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 135 lb uplift at joint 2 and 122 lb uplift at joint 8.
TOP CHORD	2x6 SP No.1	6) "A" indicates Released bearing: allow for upward movement at joint(s) 14.
BOT CHORD	2x6 SP No.1	
WEBS	2x4 SP No.2	
BRACING		LOAD CASE(S) Standard
TOP CHORD	Structural wood sheathing directly applied or 3-11-15 oc purlins.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	
REACTIONS	(size)	2=0-3-8, 8=0-3-8, 14=0-3-8
	Max Horiz	2=98 (LC 12)
	Max Uplift	2=-135 (LC 12), 8=-122 (LC 13), 14=REL
	Max Grav	2=1360 (LC 2), 8=1599 (LC 2), 14=509 (LC 2)
	FORCES	
(lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=0/13, 2-3=-2688/655, 3-5=-2340/592, 5-7=-2786/592, 7-8=-3122/655, 8-9=0/13	
BOT CHORD	2-14=-512/2398, 13-14=-512/2398, 10-13=-217/1725, 8-10=-507/2822	
WEBS	5-10=-113/1253, 7-10=-629/334, 5-13=-113/640, 3-13=-615/332	

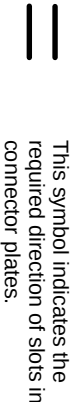
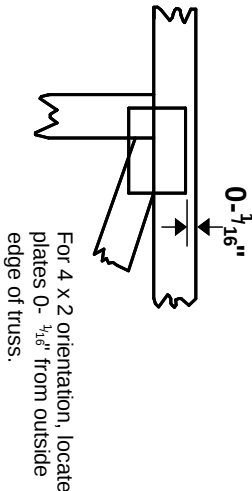
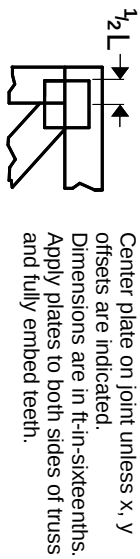
NOTES			1) Unbalanced roof live loads have been considered for this design. 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -0-8-2 to 3-8-10, Interior (1) 3-8-10 to 19-0-0, Exterior(2R) 19-0-0 to 23-4-13, Interior (1) 23-4-13 to 38-8-2 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads. 4) * This truss has been designed for a live load of 30.0psf 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.									
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September 8,2025

Symbols

PLATE LOCATION AND ORIENTATION



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

PLATE SIZE

4 X 4

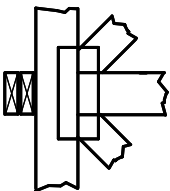
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

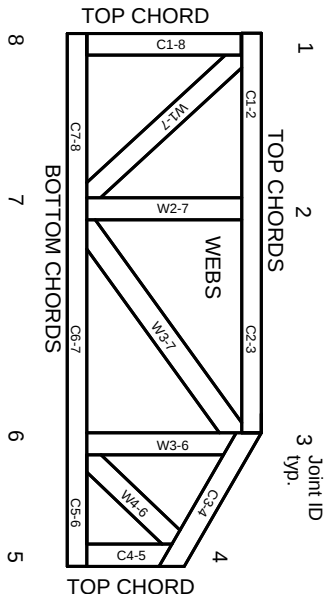


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TP1.1: 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/TP1 1 section 6.3. These truss designs rely on lumber values established by others.

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General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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

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TRENCO
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MITek Engineering Reference Sheet: MIL-7473 rev. 1/2/2023