

Trenco

818 Soundside Rd
Edenton, NC 27932

Re: Repairs_09-16
RLH-VK-0021

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by NVR - Thurmont.

Pages or sheets covered by this seal: I76435694 thru I76435694

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

North Carolina COA: C-0844



September 17, 2025

Gilbert, Eric

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

Job	Truss	Truss Type	Qty	Ply	RLH-VK-0021	176435694
REPAIRS_09-16	SE-20633	COMN	1	1	Job Reference (optional)	

NVR, Thurmont, MD - 21788,

8.630 s Sep 26 2024 MiTek Industries, Inc. Wed Sep 17 13:27:06 2025 Page 1

ID:5lb56nez?NGp7jN5pS3vTuyrxGa-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

0-11-4 4-1-12 5-7-12 10-9-3 15-10-9 21-0-0 26-1-7 31-2-13 36-4-4 37-10-4 42-0-0 42-11-4
0-11-4 4-1-12 1-6-0 5-1-7 5-1-7 5-1-7 5-1-7 5-1-7 5-1-7 1-6-0 4-1-12 0-11-4

REPAIR:
SEE NOTES 1-4 BELOW FOR DAMAGE
CONDITION(S) AND REPAIR DETAILS

Scale = 1:72.8

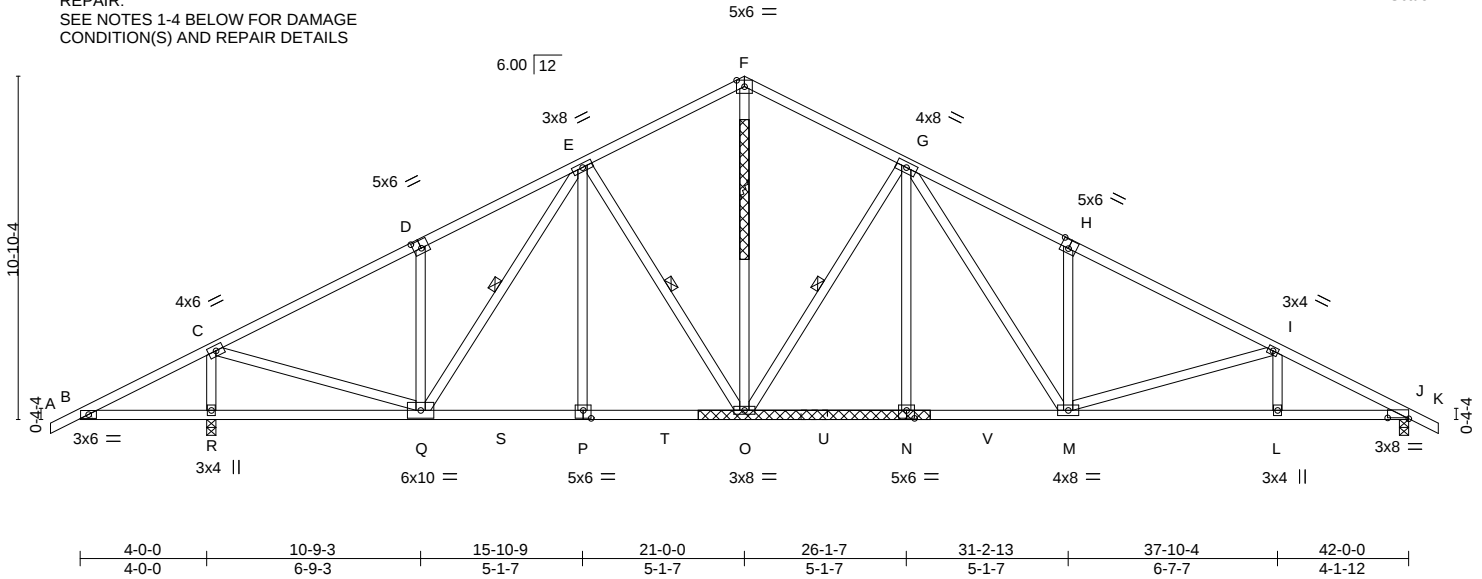


Plate Offsets (X,Y)--		[D:0-3-0,0-3-0], [H:0-3-0,0-3-4], [J:0-8-0,0-0-5], [N:0-3-0,0-3-0], [P:0-3-0,0-3-0]									
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL 20.0	Plate Grip DOL	1.15	TC 0.61	Vert(LL)	-0.15	M-N	>999	360	MT20	197/144	
TCDL 10.0	Lumber DOL	1.15	BC 0.98	Vert(CT)	-0.30	L-M	>999	240			
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.78	Horz(CT)	-0.10	R	n/a	n/a			
BCDL 10.0	Code IBC2021/TPI2014		Matrix-S	Wind(LL)	0.13	M	>999	240	Weight: 304 lb	FT = 5%	

LUMBER-

TOP CHORD 2x4 SP No.2 or 2x4 SPF No.2
BOT CHORD 2x4 SP No.3 or 2x4 SPF Stud *Except*
J-N,B-P: 2x4 SP No.2 or 2x4 SPF No.2
WEBS 2x4 SP No.3 or 2x4 SPF Stud

BRACING-

TOP CHORD Structural wood sheathing directly applied or 2-10-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt E-Q, E-O, G-O

REACTIONS.

(size) J=0-3-8, R=0-3-8
Max Horz J=188(LC 10)
Max Uplift J=230(LC 11), R=264(LC 10)
Max Grav J=1549(LC 1), R=1920(LC 1)

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

TOP CHORD B-C=-99/422, C-D=-1696/204, D-E=-1679/330, E-F=-1554/309, F-G=-1554/289,
G-H=-2435/473, H-I=-2449/347, I-J=-2940/400
BOT CHORD B-R=-308/125, Q-R=-308/125, P-Q=-58/1528, O-P=-57/1529, N-O=-185/1766,
M-N=-184/1767, L-M=-485/2561, J-L=-485/2561
WEBS C-Q=-134/1804, D-Q=-354/224, E-O=-403/194, F-O=-165/1092, G-O=-783/253,
G-M=-245/762, H-M=-368/226, I-M=-482/173, C-R=-1782/333, E-P=0/268, G-N=0/265

NOTES- (11-13)

- 1) Repair Condition: web has 0-8-0 long break centered at 3-3-1 below joint F.
- 2) Repair Condition: bottom chord has damaged section 0-10-0 long starting 2-6-0 to the left of joint N.
- 3) Apply 53" long 2x4 SP No.2 or 2x4 SPF No.2 scab to both side(s) of truss centered on damage located 3-3-1 below joint F with 2 row(s) of 10d (0.120"x3") nails spaced 4" o.c. from each face. Minimum 0-3-0 end distance.
- 4) Replace damaged section cut clean with same size and grade of material. Apply 88" long 2x4 SP No.2 or 2x4 SPF No.2 scab to both side(s) of truss centered on damage located 2-11-0 to the left of joint N with 2 row(s) of 10d (0.120"x3") nails spaced 4" o.c. from each face. Minimum 0-3-0 end distance.
- 5) N/A
- 6) Unbalanced roof live loads have been considered for this design.
- 7) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TC DL=6.0psf; BC DL=6.0psf; h=33ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) 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
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 230 lb uplift at joint J and 264 lb uplift at joint R.



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Continued on page 2

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)

ENGINEERING BY
TRENCO
A MiTek Affiliate

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REPAIRS_09-16	SE-20633	COMN	1	1	176435694
Job Reference (optional)					

- 11) Design checked for ASCE 7-16 ultimate wind speed at 130 mph (3-second gust), wind reaction x 0.78 will adjust wind uplift reaction to a wind speed of 115 mph.
- 12) Design checked for ASCE 7-16 ultimate wind speed at 130 mph (3-second gust) meets or exceeds IRC2012 nominal wind speed of 100 mph, wind reaction x 0.78 will adjust wind uplift reaction to a wind speed of 90 mph.
- 13) Metal hangers, of any seat size, can be used in place of wood bearing, of any seat size, provided the hanger has been sized for the required maximum reaction.

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

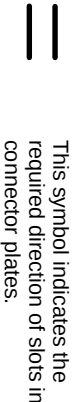
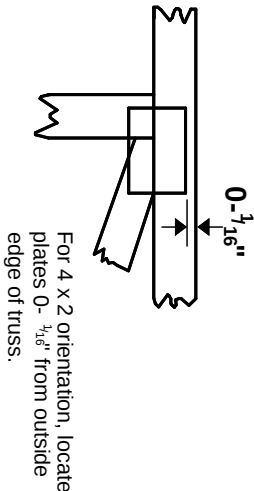
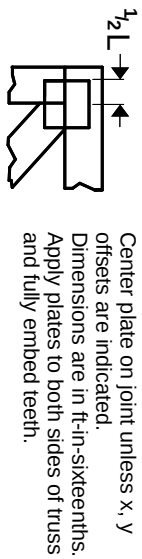
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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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Symbols

PLATE LOCATION AND ORIENTATION



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

PLATE SIZE

4 X 4

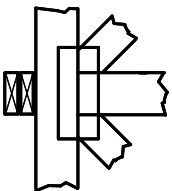
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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.

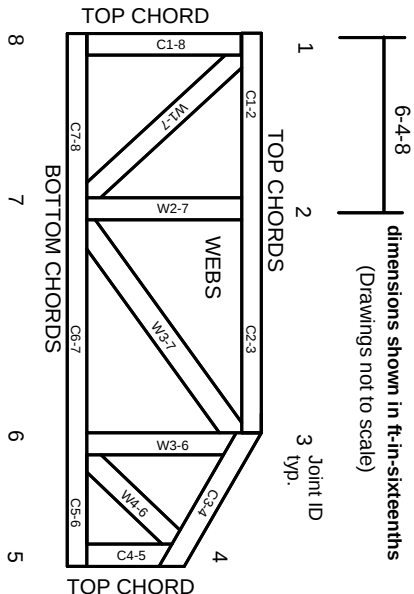
BEARING



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/TPI 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/TPI 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/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.

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