MiTek, Inc.
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200

Re: 241087-I
WILSHIRE HILLS III

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Mattingly Millwork & Lumber.

Pages or sheets covered by this seal: I75438169 thru I75438170

My license renewal date for the state of Missouri is December 31, 2026.

Missouri COA: Engineering 001193

August 7,2025

Lu, Jie ,Engineer

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	WILSHIRE HILLS III
241087-I	E10-REP	Roof Special	1	1	I75438169
					Job Reference (optional)

Mattingly Millwork & Lumber, Madison, IL - 62040, 8.830 s Jul 24 2025 MiTek Industries, Inc. Wed Aug 6 08:43:05 2025 Page 1
ID:pSm_?aVyCMVhzVh4dGKTcBzWQWs-pdJpeamxzGX6JpLWSRbIxtt_i67j7b8ayrZS0Fyqd6K

REPAIR:
SEE NOTES 1 AND 2 BELOW FOR DAMAGE CONDITION(S) AND REPAIR DETAILS

Scale = 1:71.6

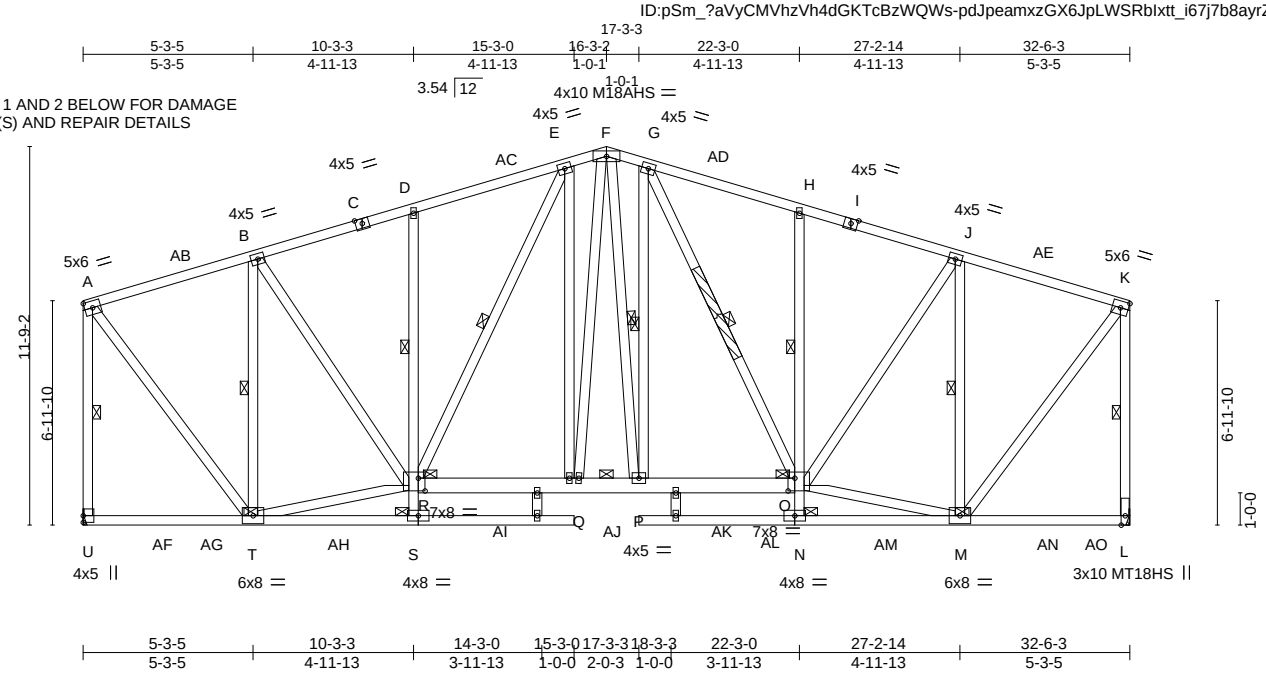

Plate Offsets (X,Y)-- [O:0-2-8,0-4-12], [R:0-2-8,0-4-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	30.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	-0.13	S-T	>999	480	MT20	197/144
Snow (Pf)	15.4	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.21	S-T	>999	360	M18AHS	142/136
TCDL	10.0	Rep Stress Incr	YES	WB	0.70	Horz(CT)	0.06	L	n/a	n/a	MT18HS	197/144
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-AS		Wind(LL)	0.03	R	>999	240	Weight: 272 lb	FT = 20%
BCDL	15.0											

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
O-R: 2x6 SPF No.2
WEBS 2x4 SPF No.3 *Except*
F-Q,E-R,G-O,F-P: 2x4 SPF No.2
OTHERS 2x4 SPF No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD 6-0-0 oc bracing.
WEBS 1 Row at midpt G-P, H-O, J-M, D-R, B-T, A-U, K-L, E-R, G-O, F-P
JOINTS 1 Brace at Jt(s): S, R, O, N

REACTIONS. (size) U=Mechanical, L=Mechanical
Max Horz U=-337(LC 9)
Max Uplift U=-164(LC 8), L=-94(LC 8)
Max Grav U=1934(LC 14), L=1994(LC 14)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-B=-1192/61, B-D=-1756/139, D-E=-1779/181, E-F=-1628/200, F-G=-1654/213, G-H=-1736/231, H-J=-1727/187, J-K=-1109/166, A-U=-1819/177, K-L=-1859/134
BOT CHORD T-U=0/270, Q-R=0/1686, P-Q=0/1666, O-P=0/1690
WEBS G-P=-491/342, H-O=-400/104, J-O=0/962, J-M=-1363/60, F-Q=0/362, R-S=0/312, D-R=-469/102, B-R=-41/906, B-T=-1272/170, A-T=-150/1653, K-M=-26/1756, R-T=0/1198, M-O=0/1131, E-R=-178/256, F-P=-292/594

NOTES-
1) Repair Condition: web has 0-1-0 long break centered at 4-11-9 below joint G.
2) Apply 37" long 2x4 SPF No.2 scab to front side(s) of truss centered on damage located 4-11-9 below joint G with 2 row(s) of 10d (0.131"x3") nails spaced 2" o.c. from front face. Minimum 0-3-0 end distance.
3) N/A
4) Unbalanced roof live loads have been considered for this design.
5) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; C-C Exterior(2E) 0-1-12 to 3-1-12, Interior(1) 3-1-12 to 13-3-2, Exterior(2R) 13-3-2 to 19-3-2, Interior(1) 19-3-2 to 29-4-7, Exterior(2E) 29-4-7 to 32-4-7; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.33 plate grip DOL=1.33
6) TCLL: ASCE 7-16; Pr=30.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) Unbalanced snow loads have been considered for this design.
8) All plates are MT20 plates unless otherwise indicated.
9) All plates are 2x4 MT20 unless otherwise indicated.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 15.0psf.
12) Refer to girder(s) for truss to truss connections.

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NOTES-

13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) L except (jt=lb) U=164.
14) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
15) This truss has been designed for a moving concentrated load of 250.0lb live located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
16) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord.

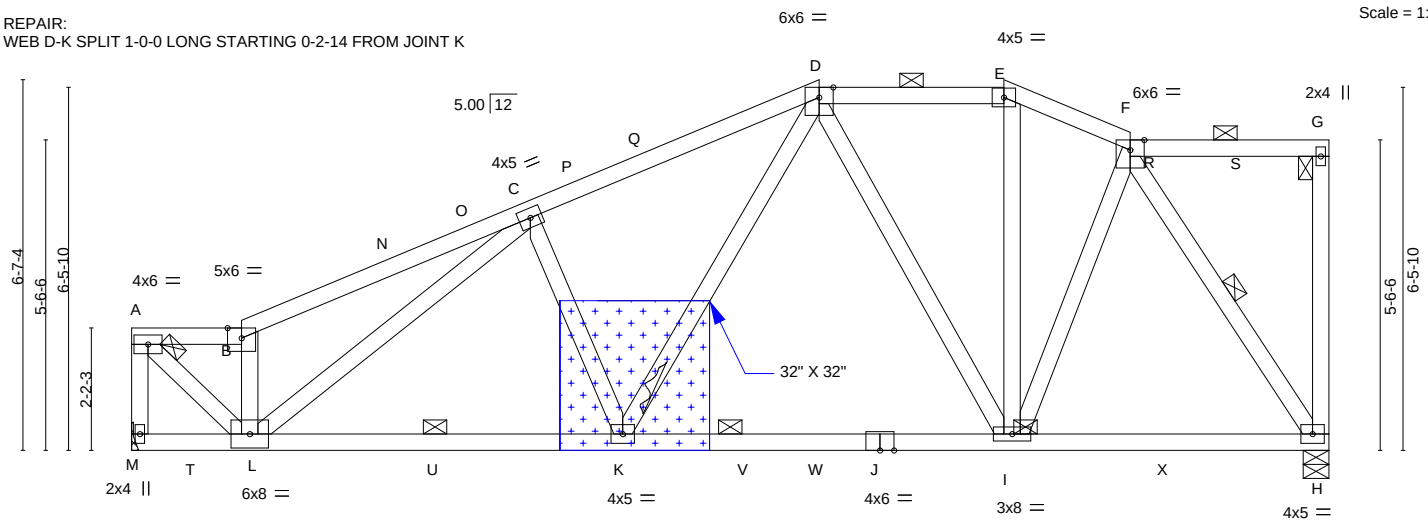
Job	Truss	Truss Type	Qty	Ply	WILSHIRE HILLS III	I75438170
241087-I	N3-REP	Roof Special	1	1	Job Reference (optional)	

Mattingly Lumber & Millwork, Inc., Madison, IL 62040 — 8.830 s Feb 1 2025 MiTek Industries, Inc. Wed Aug 6 14:43:10 2025 Page 1
ID:pSm_?aVyCMVhzVh4dGKTcBzWQWs-rUbTCRQ9xvns?vTeP4QHYRBAECpMjspf0fcApUyqXql

1-11-8	7-1-4	12-3-0	15-6-8	17-9-8	21-4-0
1-11-8	5-1-12	5-1-12	3-3-8	2-3-0	3-6-8

REPAIR:
WEB D-K SPLIT 1-0-0 LONG STARTING 0-2-14 FROM JOINT K

Scale = 1:41.1



ATTACH 7/16" OSB GUSSET (7/16" RATED SHEATHING 24/16 EXP 1)
TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 4'S - 3 ROWS: SPACED @ 4" O.C. NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER.
USE 2" MEMBER END DISTANCE.

1-11-8	8-9-0	15-6-8	21-4-0
1-11-8	6-9-8	6-9-8	5-9-8

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL (roof)	30.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.21	I-K	>999	480	MT20	197/144
Snow (Pf)	15.4	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.29	I-K	>877	360		
TCDL	10.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.03	H	n/a	n/a		
BCLL	0.0 *	Code	IBC2018/TPI2014	Matrix-AS		Wind(LL)	0.02	K-L	>999	240	Weight: 110 lb	FT = 20%
BCDL	15.0											

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (5-2-12 max.): A-B, D-E, F-G.
BOT CHORD 6-0-0 oc bracing.
WEBS 1 Row at midpt F-H

REACTIONS. (lb/size) M=850/Mechanical, H=850/0-5-8 (min. 0-2-0)
Max Horz M=-213(LC 9)
Max Uplift M=-74(LC 8), H=-76(LC 8)
Max Grav M=1248(LC 14), H=1289(LC 14)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-M=-1244/63, A-B=-1244/45, B-N=-1360/72, N-O=-1287/75, C-O=-1241/86, C-P=-1554/142, P-Q=-1502/149, D-Q=-1484/162, D-E=-856/144, E-F=-957/144
BOT CHORD L-U=-14/1565, K-U=-14/1565, K-V=0/1129, V-W=0/1129, J-W=0/1129, I-J=0/1129, I-X=0/745, H-X=0/745
WEBS A-L=-83/1668, B-L=-728/95, C-L=-348/54, C-K=-340/102, D-K=-9/720, D-I=-425/49, F-I=0/528, F-H=-1272/74

NOTES-
1) N/A
2) N/A
3) N/A
4) Unbalanced roof live loads have been considered for this design.
5) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; C-C Exterior(2E) 0-1-12 to 1-11-8, Interior(1) 1-11-8 to 9-3-0, Exterior(2R) 9-3-0 to 15-6-8, Exterior(2E) 15-6-8 to 17-9-8, Interior(1) 17-9-8 to 18-2-4, Exterior(2E) 18-2-4 to 21-2-4; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.33 plate grip DOL=1.33
6) TCLL: ASCE 7-16; Pr=30.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10; Min. flat roof snow load governs.
7) Unbalanced snow loads have been considered for this design.
8) Provide adequate drainage to prevent water ponding.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 15.0psf.
11) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint M and 76 lb uplift at joint H.
13) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.

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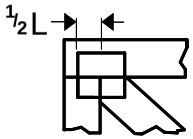
NOTES-

14) This truss has been designed for a moving concentrated load of 250.0lb live located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
15) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord.
16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

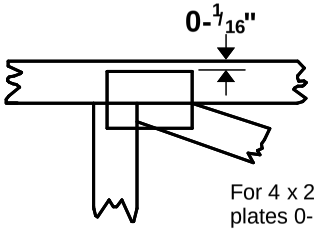
LOAD CASE(S) Standard

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.

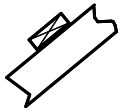
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

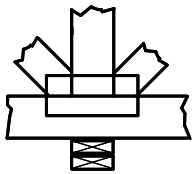
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

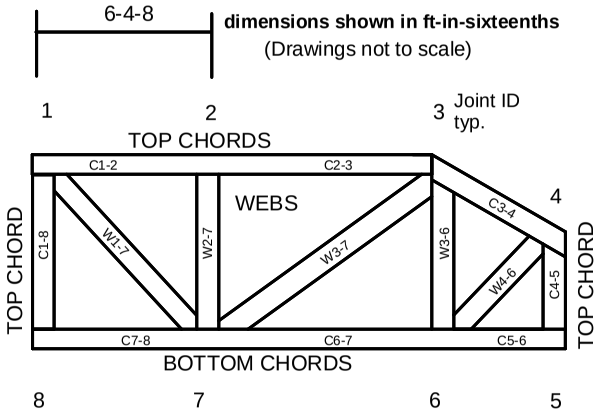


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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®

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.