



MiTek USA, Inc.
16023 Swingley Ridge Rd
Chesterfield, MO 63017
314-434-1200

Re: 2928314
SUMMIT/HAWTHORN RIDGE #134/MO

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Builders FirstSource (Valley Center).

Pages or sheets covered by this seal: I50822854 thru I50822854

My license renewal date for the state of Missouri is December 31, 2023.

Missouri COA: Engineering 001193



March 21, 2022

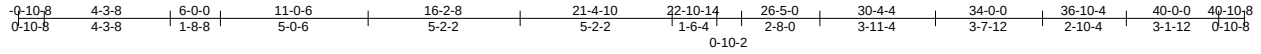
Sevier, Scott ,Engineer

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 2928314	Truss A18	Truss Type HIP GIRDER	Qty 1	Ply 2	SUMMIT/HAWTHORN RIDGE #134/MO UNITS: 1.0 ENG: AK 150822854
----------------	--------------	--------------------------	----------	----------	---

Builders First Source, Valley Center, KS 67147

8.430 e Oct 22 2021 MiTek Industries, Inc. Fri Mar 18 14:38:48 2022 Page 1
ID:ggMHuYjvKTSNSqRK_pqYByzXhju-54Ioj1a0ezjB9xSVLj1_U0LZePVZ8EolugF?2pzZglr

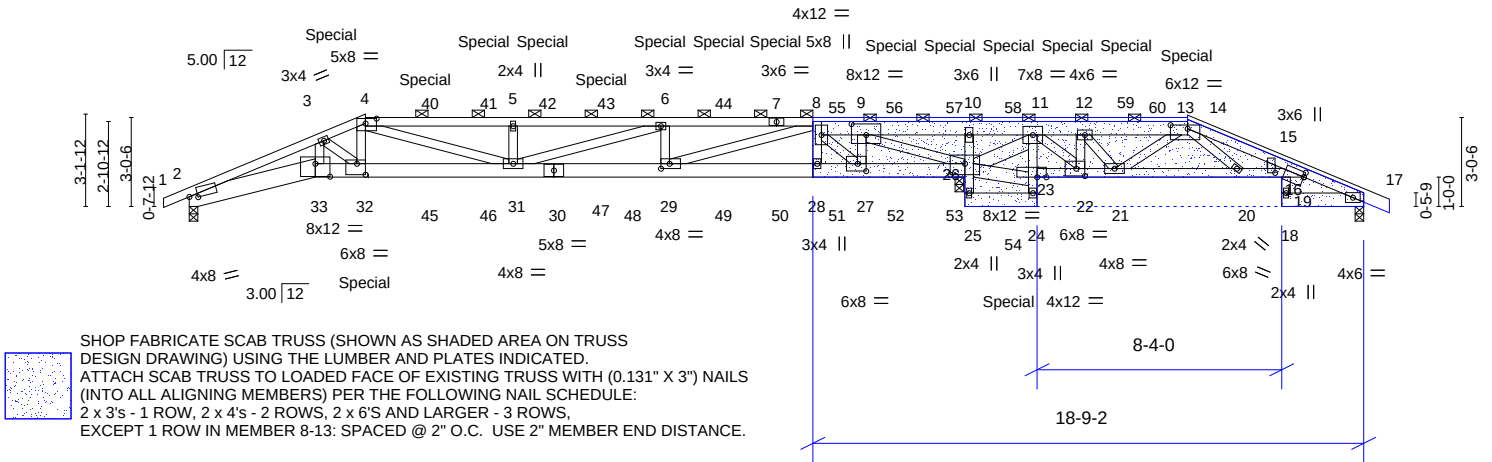


Scale = 1:78.5

REPAIR:
MODIFY PROFILE OF TRUSS AS SHOWN

Special

FOR EASE OF INSTALLATION SCAB TRUSS
MAY BE FABRICATED WITH AN OVERALL HEIGHT
0-1-10 LOWER THAN THE ORIGINAL TRUSS.



SHOP FABRICATE SCAB TRUSS (SHOWN AS SHADED AREA ON TRUSS
DESIGN DRAWING) USING THE LUMBER AND PLATES INDICATED.
ATTACH SCAB TRUSS TO LOADED FACE OF EXISTING TRUSS WITH (0.131" X 3") NAILS
(INTO ALL ALIGNING MEMBERS) PER THE FOLLOWING NAIL SCHEDULE:
2 x 3's - 1 ROW, 2 x 4's - 2 ROWS, 2 x 6's AND LARGER - 3 ROWS,
EXCEPT 1 ROW IN MEMBER 8-13: SPACED @ 2" O.C. USE 2" MEMBER END DISTANCE.

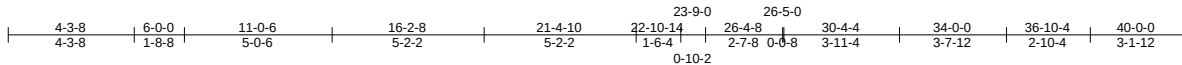


Plate Offsets (X,Y)-- [2:0-3-8,0-1-0], [4:0-4-8,0-2-0], [8:0-0-11,0-2-0], [9:0-6-0,0-4-8], [13:0-7-0,0-1-8], [15:0-1-12,0-11-12], [16:0-0-0,0-2-0], [22:0-3-8,0-3-0], [23:0-3-12,Edge], [26:0-6-0,0-4-8], [27:0-3-8,0-3-0], [29:0-3-8,0-2-0], [32:0-3-8,0-4-8], [33:0-6-0,0-5-4]

LOADING (psf)	SPACING-	CSL	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 25.0	Plate Grip DOL 1.15	TC 0.47	Vert(LL) -0.27	29-31	>999	240	MT20	197/144
TCDL 10.0	Lumber DOL 1.15	BC 0.42	Vert(CT) -0.51	29-31	>624	180		
BCLL 0.0	Rep Stress Incr NO	WB 0.37	Horz(CT) 0.11	26	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014	Matrix-MS					Weight: 371 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF 1650F 1.5E *Except*
8-14: 2x6 SPF 2100F 1.8E, 14-17: 2x4 SPF No.2
BOT CHORD 2x6 SPF No.2 *Except*
2-33: 2x8 SP 2400F 2.0E, 30-33,28-30: 2x6 SPF 2100F 1.8E
10-25: 2x4 SPF 1650F 1.5E, 11-24,16-23,16-18: 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except*
4-31,6-31,8-29,9-26: 2x4 SPF 1650F 1.5E, 11-26,23-26: 2x6 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-8-3 oc purlins, except [PSA]
2-0-0 oc purlins (5-1-14 max.): 4-8, 8-14.
BOT CHORD Rigid ceiling directly applied or 5-9-13 oc bracing.

REACTIONS. (size) 2=0-3-8, 17=0-3-8, 26=0-3-8 (req. 0-3-14)
Max Horz 2=48(LC 12)
Max Uplift 2=-381(LC 4), 17=-123(LC 21), 26=-1066(LC 9)
Max Grav 2=1981(LC 21), 17=154(LC 15), 26=4929(LC 1)

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR
OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED SUPPORT
WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.)
ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER
OR THE BUILDING DESIGNER.

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-6630/1308, 3-4=-6405/1311, 4-40=-7188/1496, 40-41=-7188/1496, 5-41=-7191/1496,
5-42=-7188/1495, 42-43=-7188/1495, 6-43=-7188/1495, 6-44=-5655/1190,
7-44=-5655/1190, 7-8=-5668/1192, 8-55=-400/1739, 9-55=-398/1731, 9-56=-1425/7220,
56-57=-1425/7220, 10-57=-1425/7220, 10-58=-1446/7353, 11-58=-1446/7353,
11-59=-569/3372, 12-59=-569/3372, 12-60=-432/2449, 13-60=-432/2449, 13-14=-82/645,
14-15=-253/1019, 15-16=-225/963
BOT CHORD 2-33=-1174/6113, 32-33=-1154/5996, 32-45=-1160/5915, 45-46=-1160/5915,
31-46=-1160/5915, 31-47=-1125/5655, 30-47=-1125/5655, 30-48=-1125/5655,
29-48=-1125/5655, 29-49=-363/1424, 49-50=-363/1424, 28-50=-363/1424,
28-51=-361/1364, 27-51=-361/1364, 27-52=-1729/486, 52-53=-1729/486, 26-53=-1729/486,
10-26=-953/271, 25-54=-303/57, 24-54=-303/57, 11-23=-131/775, 22-23=-4564/882,
21-22=-3372/626, 20-21=-936/177, 19-20=-946/254, 16-19=-934/254
WEBS 3-33=-67/338, 4-32=-251/1363, 4-31=-285/1345, 5-31=-711/231, 6-31=-326/1719,
6-29=-995/282, 8-29=-919/4555, 8-28=-77/645, 9-26=-5900/1195, 12-22=-1499/361,
13-21=-2022/444, 14-20=-53/343, 12-21=-258/1489, 11-22=-425/1675, 11-26=-3390/802,
8-27=-3683/742, 9-27=-421/2286, 23-26=-4196/814



March 21, 2022

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	SUMMIT/HAWTHORN RIDGE #134/MO	IS0822854
2928314	A18	HIP GIRDER	1	2	Job Reference (optional)	

Builders First Source, Valley Center, KS 67147

8.430 e Oct 22 2021 MiTek Industries, Inc. Fri Mar 18 14:38:48 2022 Page 2
ID:ggMHuYjvKTSNSqRK_pqYByzXhju-54Ioj1a0ezjB9xSvLj1_U0LZePVZ8EolugF?2pzZglr

NOTES-

- 1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-7-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
- 2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- 3) Unbalanced roof live loads have been considered for this design.
- 4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCCL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 5) Provide adequate drainage to prevent water ponding.
- 6) N/A
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) WARNING: Required bearing size at joint(s) 26 greater than input bearing size.
- 9) Bearing at joint(s) 2 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 capable of withstanding 381 lb uplift at joint 2, 123 lb uplift at joint 17 and 1066 lb uplift at joint 26.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 121 lb down and 66 lb up at 6-0-0, 97 lb down and 66 lb up at 8-0-12, 97 lb down and 66 lb up at 10-0-12, 97 lb down and 66 lb up at 12-0-12, 97 lb down and 66 lb up at 14-0-12, 97 lb down and 66 lb up at 16-0-12, 97 lb down and 66 lb up at 18-0-12, 97 lb down and 66 lb up at 20-0-0, 97 lb down and 66 lb up at 21-11-4, 97 lb down and 66 lb up at 23-10-12, 97 lb down and 66 lb up at 25-11-4, 83 lb down and 66 lb up at 27-11-4, 94 lb down and 72 lb up at 29-11-4, and 94 lb down and 72 lb up at 31-11-4, and 506 lb down and 203 lb up at 34-0-0 on top chord, and 380 lb down and 123 lb up at 6-0-0, 101 lb down and 24 lb up at 6-0-12, 101 lb down and 24 lb up at 8-0-12, 101 lb down and 24 lb up at 10-0-12, 101 lb down and 24 lb up at 12-0-12, 101 lb down and 24 lb up at 14-0-12, 101 lb down and 24 lb up at 16-0-12, 101 lb down and 24 lb up at 18-0-12, 101 lb down and 24 lb up at 20-0-0, 101 lb down and 24 lb up at 21-11-4, 101 lb down and 24 lb up at 23-11-4, and 101 lb down and 24 lb up at 25-11-4, and 81 lb down and 34 lb up at 27-11-4 on bottom chord.
The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
- Uniform Loads (plf)
- Vert: 1-4=-70, 4-14=-70, 33-34=-20, 26-33=-20, 24-25=-20, 16-23=-20, 18-37=-20, 14-16=-70, 16-17=-70
- Concentrated Loads (lb)
- Vert: 4=-97(B) 7=-97(B) 32=-473(B=-380) 6=-97(B) 29=-93 13=-447(B) 40=-97(B) 41=-97(B) 42=-97(B) 43=-97(B) 44=-97(B) 45=-93 46=-93 47=-93 48=-93 49=-93 50=-93 51=-93 52=-93 53=-93 54=-81(B) 55=-97(B) 56=-97(B) 57=-97(B) 58=-83(B) 59=-94(B) 60=-94(B)



WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component**

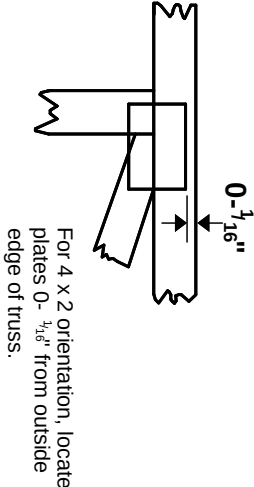
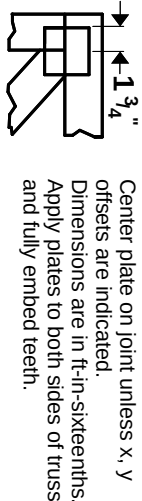
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



For 4 x 2 orientation, locate plates 0- $\frac{3}{16}$ " from outside edge of truss.

This symbol indicates the required direction of slots in connector plates.

PLATE SIZE

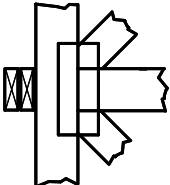
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

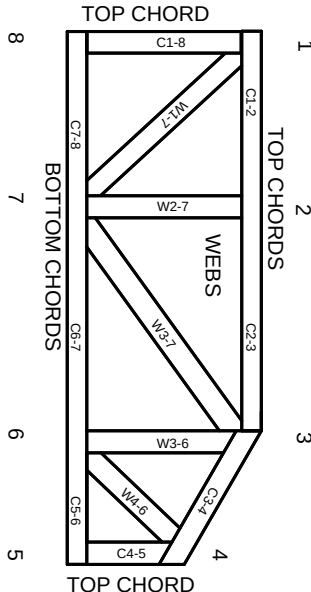


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:
ANSI/TP1.1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

6-4-8 dimensions shown in ft-in-sixteenths (Drawings not to scale)



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-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

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.

© 2012 MITek® All Rights Reserved



Mitek Engineering Reference Sheet: MII-7473 rev. 5/19/2020



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 T or 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.