



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

Re: THK2012  
3129 SW BLUE RIBBON ST, LEE'S SUMMIT

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Quality Truss Company-Smithville, MO.

Pages or sheets covered by this seal: I43434379 thru I43434379

My license renewal date for the state of Missouri is December 31, 2021.

Missouri COA: Engineering 001193



October 30, 2020

Johnson, Andrew ,Engineer

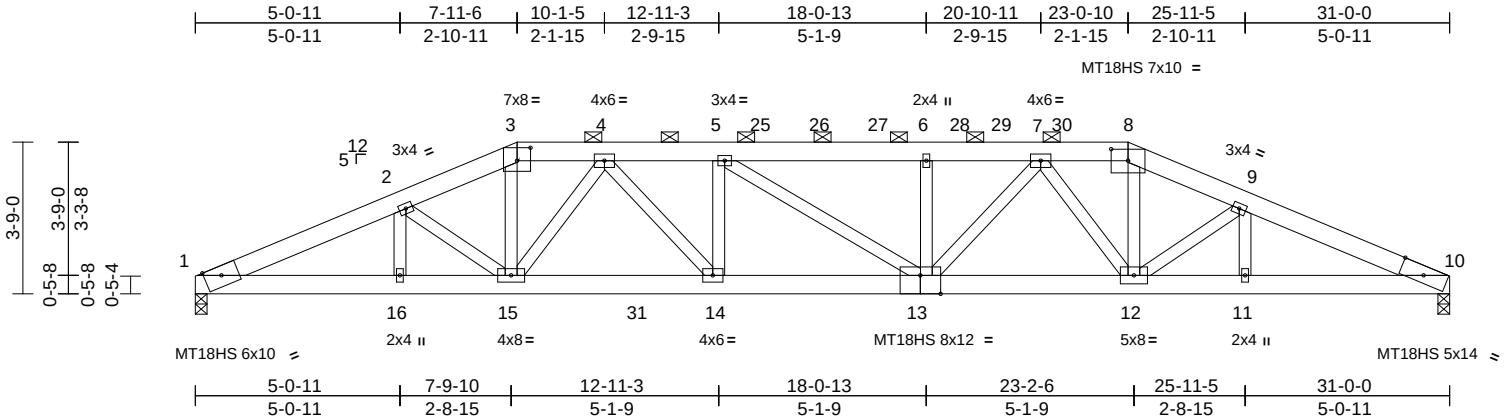
**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), 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 | 3129 SW BLUE RIBBON ST, LEE'S SUMMIT<br>I43434379 |
| THK2012 | GR1   | Hip        | 1   | 3   | Job Reference (optional)                          |

Quality Truss Company, LLC (MO), Smithville, MO - 64089,

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Scale = 1:56.9

Plate Offsets (X, Y): [3:0-4-0,0-3-13], [8:0-5-0,0-3-7], [10:0-7-0,Edge], [13:0-6-0,Edge]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       |      | DEFL     | in    | (loc) | l/defl | L/d | PLATES         | GRIP    |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|-------|--------|-----|----------------|---------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.82 | Vert(LL) | -0.43 | 13-14 | >856   | 240 | MT18HS         | 244/190 |
| Snow (Pf)   | 25.0  | Lumber DOL      | 1.15            | BC        | 0.80 | Vert(CT) | -0.87 | 13-14 | >428   | 180 | MT20           | 244/190 |
| TCDL        | 10.0  | Rep Stress Incr | NO              | WB        | 0.81 | Horz(CT) | 0.23  | 10    | n/a    | n/a |                |         |
| BCLL        | 0.0   | Code            | IRC2018/TPI2014 | Matrix-MR |      | Wind(LL) | 0.22  | 13-14 | >999   | 360 |                |         |
| BCDL        | 10.0  |                 |                 |           |      |          |       |       |        |     |                |         |
|             |       |                 |                 |           |      |          |       |       |        |     | Weight: 626 lb | FT = 0% |

#### LUMBER

TOP CHORD 2x6 SP 2400F 2.0E  
BOT CHORD 2x6 SP 2400F 2.0E  
WEBS 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-10-1 oc purlins, except 2-0-0 oc purlins (4-5-2 max.): 3-8.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 1=0-3-8, 10=0-3-8, (req. 0-3-11)  
Max Horiz 1=-38 (LC 17)  
Max Grav 1=12197 (LC 36), 10=13452 (LC 36)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-28961/0, 2-3=-29736/0, 3-4=-27408/0, 4-5=-36428/0, 5-25=-39588/0, 25-26=-39588/0, 26-27=-39588/0, 6-27=-39588/0, 6-28=-39792/0, 28-29=-39792/0, 7-29=-39792/0, 7-30=-30334/0, 8-30=-30334/0, 8-9=-32963/0, 9-10=-31929/0  
BOT CHORD 1-16=0/26590, 15-16=0/26590, 15-31=0/31618, 14-31=0/31618, 13-14=0/36428, 12-13=0/37143, 11-12=0/29301, 10-11=0/29301  
WEBS 3-15=0/6297, 8-12=0/9951, 2-15=-271/1376, 9-12=-321/1848, 5-14=-4878/158, 5-13=-135/3906, 6-13=-4553/183, 4-14=0/7384, 7-13=0/3951, 7-12=-11872/0, 4-15=-7341/0, 2-16=-340/336, 9-11=-395/365

#### NOTES

- 3-ply truss to be connected together with 10d (0.148"x3") nails as follows:  
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
- 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.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60  
TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 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
- Unbalanced snow loads have been considered for this design.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- WARNING: Required bearing size at joint(s) 10 greater than input bearing size.
- 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.
- Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 3100 lb down and 101 lb up at 7-11-6, 2000 lb down and 65 lb up at 18-11-11, 2000 lb down and 65 lb up at 20-0-0, and 3500 lb down and 114 lb up at 21-0-0, and 3000 lb down and 98 lb up at 21-6-0 on top chord. The design/selection of such connection device(s) is the responsibility of others.

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)



October 30, 2020

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



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| Job     | Truss | Truss Type | Qty | Ply | 3129 SW BLUE RIBBON ST, LEE'S SUMMIT<br>I43434379 |
| THK2012 | GR1   | Hip        | 1   | 3   | Job Reference (optional)                          |

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|    |                                                                                                                |     |                                                                                                               |     |                                                                                                                   |
|----|----------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------|
|    | Vert: 3-19=-70, 3-28=-570, 8-28=-70, 8-23=-70, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)             |     | Vert: 3=101, 7=114, 28=65, 29=65, 30=98                                                                       |     | Vert: 3=-1511, 7=-1706, 28=-975, 29=-975, 30=-1463                                                                |
|    | Concentrated Loads (lb)                                                                                        |     |                                                                                                               |     |                                                                                                                   |
|    | Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000                                                           |     |                                                                                                               |     |                                                                                                                   |
| 2) | Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15                                         | 10) | Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60                         | 18) | Dead + Snow (Unbal. Left): Lumber Increase=1.15, Plate Increase=1.15                                              |
|    | Uniform Loads (lb/ft)                                                                                          |     | Uniform Loads (lb/ft)                                                                                         |     | Uniform Loads (lb/ft)                                                                                             |
|    | Vert: 3-19=-70, 3-28=-570, 8-28=-70, 8-23=-70, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)             |     | Vert: 3-19=-8, 3-28=-245, 8-28=-1, 8-23=-10, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)              |     | Vert: 3-19=-70, 3-25=-570, 25-28=-596, 8-28=-96, 8-23=-35, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)    |
|    | Concentrated Loads (lb)                                                                                        |     | Concentrated Loads (lb)                                                                                       |     | Concentrated Loads (lb)                                                                                           |
|    | Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000                                                           |     | Vert: 3=-1511, 7=-1706, 28=-975, 29=-975, 30=-1463                                                            |     | Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000                                                              |
| 3) | Dead + 0.75 Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15                                    | 11) | Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60                        | 19) | Dead + Snow (Unbal. Right): Lumber Increase=1.15, Plate Increase=1.15                                             |
|    | Uniform Loads (lb/ft)                                                                                          |     | Uniform Loads (lb/ft)                                                                                         |     | Uniform Loads (lb/ft)                                                                                             |
|    | Vert: 3-19=-58, 3-28=-488, 8-28=-58, 8-23=-57, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)             |     | Vert: 3-19=-10, 3-28=-245, 8-28=-1, 8-23=-8, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)              |     | Vert: 3-19=-35, 3-27=-596, 27-28=-570, 8-28=-70, 8-23=-70, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)    |
|    | Concentrated Loads (lb)                                                                                        |     | Concentrated Loads (lb)                                                                                       |     | Concentrated Loads (lb)                                                                                           |
|    | Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583                                                           |     | Vert: 3=-1511, 7=-1706, 28=-975, 29=-975, 30=-1463                                                            |     | Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000                                                              |
| 4) | Dead + 0.75 Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15                                         | 12) | Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60                 | 20) | Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90                                                   |
|    | Uniform Loads (lb/ft)                                                                                          |     | Uniform Loads (lb/ft)                                                                                         |     | Uniform Loads (lb/ft)                                                                                             |
|    | Vert: 3-19=-58, 3-28=-488, 8-28=-58, 8-23=-57, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)             |     | Vert: 3-19=15, 3-26=31, 26-28=20, 8-28=3, 8-23=3, 1-31=-122 (F=-55, B=-55), 10-31=-132 (F=-65, B=-55)         |     | Vert: 3-19=-20, 3-28=-242, 8-28=-20, 8-23=-20, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)                |
|    | Concentrated Loads (lb)                                                                                        |     | Concentrated Loads (lb)                                                                                       |     | Concentrated Loads (lb)                                                                                           |
|    | Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583                                                           |     | Vert: 3=101, 7=114, 28=65, 29=65, 30=98                                                                       |     | Vert: 3=-1378, 7=-1556, 28=-889, 29=-889, 30=-1333                                                                |
| 5) | Dead + 0.75 Snow (Unbal. Left): Lumber Increase=1.15, Plate Increase=1.15                                      | 13) | Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60                 | 21) | Dead + 0.75 Snow (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60         |
|    | Uniform Loads (lb/ft)                                                                                          |     | Uniform Loads (lb/ft)                                                                                         |     | Uniform Loads (lb/ft)                                                                                             |
|    | Vert: 3-19=-58, 3-25=-488, 25-28=-508, 8-28=-77, 8-23=-31, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55) |     | Vert: 3-19=3, 3-26=20, 26-28=31, 8-28=15, 8-23=15, 1-31=-122 (F=-55, B=-55), 10-31=-132 (F=-65, B=-55)        |     | Vert: 3-19=-49, 3-28=-490, 8-28=-43, 8-23=-50, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)                |
|    | Concentrated Loads (lb)                                                                                        |     | Concentrated Loads (lb)                                                                                       |     | Concentrated Loads (lb)                                                                                           |
|    | Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583                                                           |     | Vert: 3=101, 7=114, 28=65, 29=65, 30=98                                                                       |     | Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680                                                              |
| 6) | Dead + 0.75 Snow (Unbal. Right): Lumber Increase=1.15, Plate Increase=1.15                                     | 14) | Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60                 | 22) | Dead + 0.75 Snow (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60        |
|    | Uniform Loads (lb/ft)                                                                                          |     | Uniform Loads (lb/ft)                                                                                         |     | Uniform Loads (lb/ft)                                                                                             |
|    | Vert: 3-19=-31, 3-27=-508, 27-28=-488, 8-28=-58, 8-23=-57, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55) |     | Vert: 3-19=7, 3-26=-22, 26-28=-29, 8-28=0, 8-23=0, 1-31=-122 (F=-55, B=-55), 10-31=-132 (F=-65, B=-55)        |     | Vert: 3-19=-50, 3-28=-490, 8-28=-43, 8-23=-49, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)                |
|    | Concentrated Loads (lb)                                                                                        |     | Concentrated Loads (lb)                                                                                       |     | Concentrated Loads (lb)                                                                                           |
|    | Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583                                                           |     | Vert: 3=-181, 7=-204, 28=-117, 29=-117, 30=-175                                                               |     | Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680                                                              |
| 7) | Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25                          | 15) | Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60                 | 23) | Dead + 0.75 Snow (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60 |
|    | Uniform Loads (lb/ft)                                                                                          |     | Uniform Loads (lb/ft)                                                                                         |     | Uniform Loads (lb/ft)                                                                                             |
|    | Vert: 3-19=-20, 3-28=-353, 8-28=-20, 8-23=-20, 1-31=-150 (F=-55, B=-55), 10-31=-160 (F=-65, B=-55)             |     | Vert: 3-19=0, 3-26=-29, 26-28=-22, 8-28=7, 8-23=7, 1-31=-122 (F=-55, B=-55), 10-31=-132 (F=-65, B=-55)        |     | Vert: 3-19=-43, 3-26=-490, 26-28=-499, 8-28=-52, 8-23=-52, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)    |
|    | Concentrated Loads (lb)                                                                                        |     | Concentrated Loads (lb)                                                                                       |     | Concentrated Loads (lb)                                                                                           |
|    | Vert: 3=-2067, 7=-2333, 28=-1333, 29=-1333, 30=-2000                                                           |     | Vert: 3=-181, 7=-204, 28=-117, 29=-117, 30=-175                                                               |     | Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680                                                              |
| 8) | Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60                          | 16) | Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60                 | 24) | Dead + 0.75 Snow (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60 |
|    | Uniform Loads (lb/ft)                                                                                          |     | Uniform Loads (lb/ft)                                                                                         |     | Uniform Loads (lb/ft)                                                                                             |
|    | Vert: 3-19=7, 3-28=31, 8-28=15, 8-23=6, 1-31=-122 (F=-55, B=-55), 10-31=-132 (F=-65, B=-55)                    |     | Vert: 3-19=-1, 3-26=-245, 26-28=-256, 8-28=-12, 8-23=-12, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55) |     | Vert: 3-19=-52, 3-26=-499, 26-28=-490, 8-28=-43, 8-23=-43, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)    |
|    | Horz: 3-19=-19, 8-23=18                                                                                        |     | Concentrated Loads (lb)                                                                                       |     | Concentrated Loads (lb)                                                                                           |
|    | Concentrated Loads (lb)                                                                                        |     | Vert: 3=-1511, 7=-1706, 28=-975, 29=-975, 30=-1463                                                            |     | Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680                                                              |
|    | Vert: 3=101, 7=114, 28=65, 29=65, 30=98                                                                        | 17) | Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60                 |     |                                                                                                                   |
| 9) | Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60                         |     | Uniform Loads (lb/ft)                                                                                         |     |                                                                                                                   |
|    | Uniform Loads (lb/ft)                                                                                          |     | Vert: 3-19=-12, 3-26=-256, 26-28=-245, 8-28=-1, 8-23=-1, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  |     |                                                                                                                   |
|    | Vert: 3-19=6, 3-28=31, 8-28=15, 8-23=7, 1-31=-122 (F=-55, B=-55), 10-31=-132 (F=-65, B=-55)                    |     | Horz: 3-19=-8, 8-23=19                                                                                        |     |                                                                                                                   |
|    | Horz: 3-19=-18, 8-23=19                                                                                        |     | Concentrated Loads (lb)                                                                                       |     |                                                                                                                   |
|    | Concentrated Loads (lb)                                                                                        |     | Vert: 3=-1511, 7=-1706, 28=-975, 29=-975, 30=-1463                                                            |     |                                                                                                                   |
|    | Vert: 3=101, 7=114, 28=65, 29=65, 30=98                                                                        |     |                                                                                                               |     |                                                                                                                   |

|         |       |            |     |     |                                                   |
|---------|-------|------------|-----|-----|---------------------------------------------------|
| Job     | Truss | Truss Type | Qty | Ply | 3129 SW BLUE RIBBON ST, LEE'S SUMMIT<br>I43434379 |
| THK2012 | GR1   | Hip        | 1   | 3   | Job Reference (optional)                          |

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- 25) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-49, 3-28=-490, 8-28=-43, 8-23=-50, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-9, 8-23=8  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 26) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-50, 3-28=-490, 8-28=-43, 8-23=-49, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-8, 8-23=9  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 27) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-43, 3-26=-490, 26-28=-499, 8-28=-52, 8-23=-52, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-14, 8-23=6  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 28) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-52, 3-26=-499, 26-28=-490, 8-28=-43, 8-23=-43, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-6, 8-23=14  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 29) Dead + 0.6 MWFRS Wind Min. Left: Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-15, 3-28=-145, 8-28=-12, 8-23=-12, 1-31=-122 (F=-55, B=-55), 10-31=-132 (F=-65, B=-55)  
Horz: 3-19=3  
Concentrated Loads (lb)  
Vert: 3=-827, 7=-933, 28=-533, 29=-533, 30=-800
- 30) Dead + 0.6 MWFRS Wind Min. Right: Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-12, 3-28=-145, 8-28=-12, 8-23=-15, 1-31=-122 (F=-55, B=-55), 10-31=-132 (F=-65, B=-55)  
Horz: 8-23=-3  
Concentrated Loads (lb)  
Vert: 3=-827, 7=-933, 28=-533, 29=-533, 30=-800
- 31) 3rd Dead + 0.75 Snow (Unbal. Left): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-31, 3-25=-488, 25-28=-508, 8-28=-77, 8-23=-31, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583
- 32) 4th Dead + 0.75 Snow (Unbal. Left): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-31, 3-27=-508, 27-28=-488, 8-28=-58, 8-23=-31, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583
- 33) 5th Dead + 0.75 Snow (Unbal. Right): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-31, 3-27=-508, 27-28=-488, 8-28=-58, 8-23=-31, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583
- 34) 6th Dead + 0.75 Snow (Unbal. Right): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-31, 3-28=-462, 8-28=-31, 8-23=-79, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583
- 35) 7th Unbal. Dead + Snow (balanced) + Parallel: Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-35, 3-28=-615, 8-28=-115, 8-23=-35, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000
- 36) 8th Unbal. Dead + Snow (balanced) + Parallel: Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-115, 3-28=-535, 8-28=-35, 8-23=-115, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000
- 37) 9th Unbal. Dead + Snow (Unbal. Left) + Parallel: Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-35, 3-25=-570, 25-28=-596, 8-28=-96, 8-23=-35, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000
- 38) 10th Unbal. Dead + Snow (Unbal. Left) + Parallel: Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-99, 3-28=-535, 8-28=-35, 8-23=-35, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000
- 39) 11th Unbal. Dead + Snow (Unbal. Right) + Parallel: Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-35, 3-27=-596, 27-28=-570, 8-28=-70, 8-23=-35, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000
- 40) 12th Unbal. Dead + Snow (Unbal. Right) + Parallel: Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-35, 3-28=-535, 8-28=-35, 8-23=-99, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)
- Concentrated Loads (lb)  
Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000
- 41) 13th Unbal. Dead + 0.75 Snow (balanced) + Parallel: Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-31, 3-28=-522, 8-28=-91, 8-23=-31, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583
- 42) 14th Unbal. Dead + 0.75 Snow (balanced) + Parallel: Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-91, 3-28=-462, 8-28=-31, 8-23=-91, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583
- 43) 15th Unbal. Dead + 0.75 Snow (unbal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left) + Parallel: Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-23, 3-28=-523, 8-28=-77, 8-23=-24, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-9, 8-23=8  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 44) 16th Unbal. Dead + 0.75 Snow (unbal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left) + Parallel: Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-82, 3-28=-464, 8-28=-17, 8-23=-84, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-9, 8-23=8  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 45) 17th Unbal. Dead + 0.75 Snow (unbal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right) + Parallel: Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-24, 3-28=-523, 8-28=-77, 8-23=-23, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-8, 8-23=9  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 46) 18th Unbal. Dead + 0.75 Snow (unbal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right) + Parallel: Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-84, 3-28=-464, 8-28=-17, 8-23=-82, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-8, 8-23=9  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 47) 19th Unbal. Dead + 0.75 Snow (unbal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-17, 3-26=-523, 26-28=-532, 8-28=-85, 8-23=-26, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-14, 8-23=6  
Concentrated Loads (lb)

Continued on page 4

**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 | 3129 SW BLUE RIBBON ST, LEE'S SUMMIT |
| THK2012                  | GR1   | Hip        | 1   | 3   | I43434379                            |
| Job Reference (optional) |       |            |     |     |                                      |

Quality Truss Company, LLC (MO), Smithville, MO - 64089,

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Page: 4

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- Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 48) 20th Unbal.Dead + 0.75 Snow (unbal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-77, 3-26=-464, 26-28=-472, 8-28=-26, 8-23=-85, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-14, 8-23=6  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 49) 21st Unbal.Dead + 0.75 Snow (unbal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-26, 3-26=-532, 26-28=-523, 8-28=-77, 8-23=-17, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-6, 8-23=14  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 50) 22nd Unbal.Dead + 0.75 Snow (unbal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60  
Uniform Loads (lb/ft)  
Vert: 3-19=-85, 3-26=-472, 26-28=-464, 8-28=-17, 8-23=-77, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Horz: 3-19=-6, 8-23=14  
Concentrated Loads (lb)  
Vert: 3=-2770, 7=-3127, 28=-1787, 29=-1787, 30=-2680
- 51) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-70, 3-28=-570, 8-28=-70, 8-23=-20, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000
- 52) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-20, 3-28=-570, 8-28=-70, 8-23=-70, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-3100, 7=-3500, 28=-2000, 29=-2000, 30=-3000
- 53) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-58, 3-28=-488, 8-28=-58, 8-23=-20, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583
- 54) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 3-19=-20, 3-28=-488, 8-28=-58, 8-23=-57, 1-31=-130 (F=-55, B=-55), 10-31=-140 (F=-65, B=-55)  
Concentrated Loads (lb)  
Vert: 3=-2669, 7=-3014, 28=-1722, 29=-1722, 30=-2583

 **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

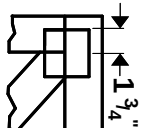


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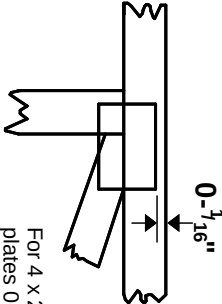


# Symbols

## 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-  $\frac{1}{16}$ " from outside edge of truss.

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

**\* Plate location details available in MITek 20120 software or upon request.**

## PLATE SIZE

4 X 4

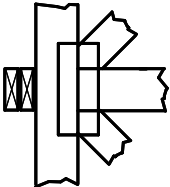
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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



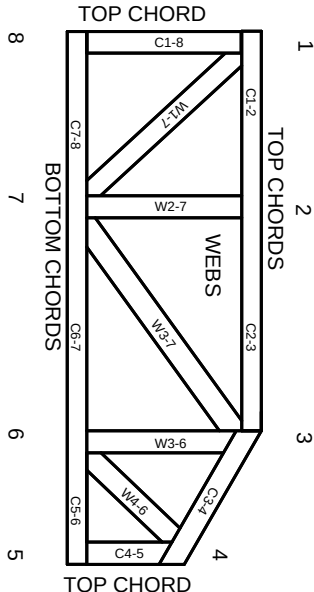
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/TP1.1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: 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.

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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 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.