



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

Re: 2701162  
SUMMIT/STONEY CREEK #79/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: I51211171 thru I51211172

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

Missouri COA: Engineering 001193



April 7, 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 2701162	Truss A8	Truss Type COMMON GIRDER	Qty 1	Ply 2	SUMMIT/STONE CREEK #79/MO	151211171
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Builders FirstSource (Valley Center), Valley Center, KS - 67147,

8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Apr 6 10:38:00 2022 Page 1  
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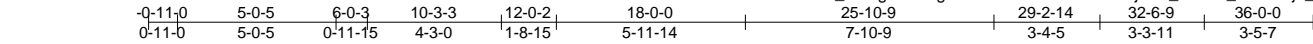


PLATE AT JONT 15 CUT AS SHOWN

NO REPAIR REQUIRED

Scale = 1:73.0

CONNECTOR PLATES MUST BE CUT CLEANLY AND ACCURATELY  
AND THE REMAINING PLATE MUST BE FULLY EMBEDDED AND UNDISTURBED.

	6-0-3	10-3-3	12-0-2	18-0-0	25-10-9	29-2-14	32-6-9	36-0-0
	6-0-3	4-3-0	1-8-15	5-11-14	7-10-9	3-4-5	3-3-11	3-5-7
Plate Offsets (X,Y)--	[2:0-0-15,0-2-10], [11:0-1-11,0-3-1], [13:0-3-8,0-4-4], [14:0-6-4,0-1-8]							

LOADING (psf)	SPACING-		CSL	DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 25.0	Plate Grip DOL	2-0-0	TC 0.86	Vert(LL)	-0.15	16-18	>999	240	MT20	197/144
TCDL 10.0	Lumber DOL	1.15	BC 0.91	Vert(CT)	-0.48	14-16	>894	180	MT20HS	148/108
BCLL 0.0	Rep Stress Incr	NO	WB 0.99	Horz(CT)	0.14	11	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-MS						Weight: 354 lb	FT = 20%

#### LUMBER-

TOP CHORD 2x4 SPF 1650F 1.5E \*Except\*  
7-11: 2x4 SPF No.2  
BOT CHORD 2x4 SPF 1650F 1.5E \*Except\*  
11-15: 2x8 SP 2400F 2.0E  
WEBS 2x4 SPF No.2  
WEDGE  
Left: 2x6 SPF No.2 , Right: 2x4 SP No.3

#### BRACING-

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
WEBS 1 Row at midpt 8-16

#### REACTIONS.

(size) 2=0-3-8, 11=0-5-8  
Max Horz 2=175(LC 12)  
Max Grav 2=3190(LC 1), 11=6598(LC 1)

#### FORCES.

(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-5882/0, 3-4=-5731/0, 4-6=-5185/0, 6-8=-5180/0, 8-9=-10679/0, 9-10=-12136/0,  
10-11=-12044/0  
BOT CHORD 2-18=0/5112, 16-18=0/5108, 14-16=0/9552, 13-14=0/10819, 12-13=0/10710,  
11-12=0/10710  
WEBS 6-16=0/3993, 8-16=-6114/0, 8-14=0/5444, 9-14=-1835/218, 9-13=-184/1820,  
10-12=-797/0, 10-13=0/864, 4-18=-108/267, 4-16=-743/390, 3-18=-39/320

#### NOTES-

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x4 - 1 row at 0-4-0 oc.  
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x8 - 2 rows staggered at 0-2-0 oc.  
Webs 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=4.2psf; h=25ft; 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
- 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.
- 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.
- Use Simpson Strong-Tie HGUS28-2 (36-16d Girder, 6-16d Truss) or equivalent at 25-10-6 from the left end to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 27-11-4 from the left end to 33-11-4 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

Continued on page 2

#### LOAD CASE(S) Standard

**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



April 7, 2022



16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	SUMMIT/STONE CREEK #79/MO	I51211171
2701162	A8	COMMON GIRDER	1	2	Job Reference (optional)	

**LOAD CASE(S)** Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (plf)

Vert: 1-6=-70, 6-11=-70, 19-22=-20

Concentrated Loads (lb)

Vert: 14=-4225(B) 25=-565(B) 26=-565(B) 27=-565(B) 28=-565(B)

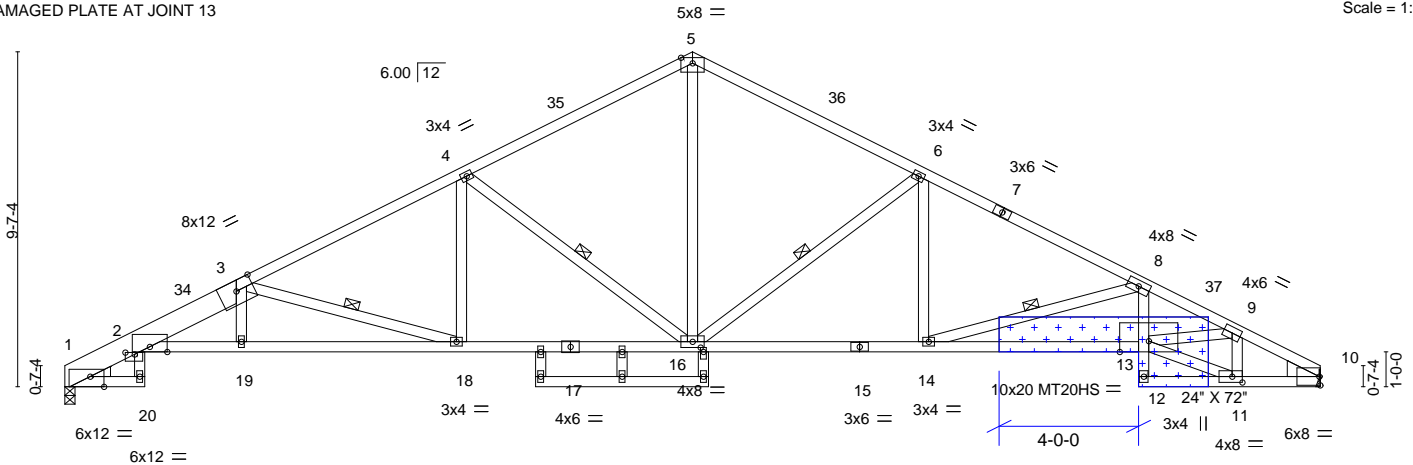
Job	Truss	Truss Type	Qty	Ply	SUMMIT/STONE CREEK #79/MO	151211172
2701162	A13	ROOF SPECIAL	1	1	Job Reference (optional)	

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Aug 16 2021 MiTek Industries, Inc. Wed Apr 6 10:37:58 2022 Page 1  
ID:4rXHhD3\_rtbCgQSIY2gdJuzGwv6-4mLoeDEnYEn?4sSb9T\_tuZzuITM67B7?S6mdCkzTT2d

0-11-0 2-3-8 5-2-8 7-10-12 11-6-4 13-6-0 18-0-0 18-5-8 24-7-8 30-9-8 33-7-7 36-0-0  
0-11-0 2-3-8 2-11-0 2-8-4 3-7-8 1-11-12 4-6-0 0-5-8 6-2-0 6-2-0 2-9-15 2-4-9

DAMAGED PLATE AT JOINT 13

Scale = 1:66.1



ATTACH 3/4" PLYWOOD OR OSB GUSSET (23/32" RATED SHEATHING 48/24 EXP 1)  
TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE:  
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 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.

2-3-8 5-2-8 7-10-12 11-6-4 13-6-0 15-11-12 18-0-0 18-5-8 24-7-8 30-9-8 33-7-7 36-0-0  
2-3-8 2-11-0 2-8-4 3-7-8 1-11-12 2-5-12 2-0-4 0-5-8 6-2-0 6-2-0 2-9-15 2-4-9

Plate Offsets (X,Y)-- [1:0-4-12,Edge], [2:0-3-3,0-0-10], [11:0-3-8,0-2-0], [16:0-1-8,0-1-0]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 25.0	Plate Grip DOL	1.15	TC 0.67	Vert(LL)	-0.29 16-18	>999	240	MT20	197/144
TCDL 10.0	Lumber DOL	1.15	BC 0.85	Vert(CT)	-0.55 16-18	>789	180	MT20HS	148/108
BCLL 0.0	Rep Stress Incr	YES	WB 0.53	Horz(CT)	0.33 10	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-AS					Weight: 174 lb	FT = 20%

#### LUMBER-

TOP CHORD 2x4 SPF No.2 "Except"  
1-3: 2x8 SP 2400F 2.0E  
BOT CHORD 2x4 SPF No.2 "Except"  
2-17,13-15: 2x4 SPF 1650F 1.5E  
WEBS 2x4 SPF No.2  
WEDGE  
Left: 2x4 SPF No.2 , Right: 2x6 SPF No.2

#### BRACING-

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 6-16, 8-14, 4-16, 3-18

#### REACTIONS.

(size) 1=0-3-8, 10=Mechanical  
Max Horz 1=163(LC 12)  
Max Uplift 1=265(LC 12), 10=267(LC 13)  
Max Grav 1=1616(LC 1), 10=1614(LC 1)

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

TOP CHORD 2-26=-665/225, 2-3=-4105/719, 3-4=-2963/492, 4-5=-2093/431, 5-6=-2093/432,  
6-8=-2980/497, 8-9=-4367/691, 9-10=-2649/439  
BOT CHORD 2-19=-797/3910, 18-19=-794/3923, 16-18=-418/2566, 14-16=-290/2586, 13-14=-577/4026,  
8-13=-66/732, 11-12=-58/263, 10-11=-351/2283  
WEBS 6-16=-1016/315, 6-14=-37/530, 8-14=-1498/352, 5-16=-203/1337, 4-16=-991/324,  
4-18=-47/515, 3-18=-1407/389, 3-19=0/254, 9-11=-1014/173, 11-13=-315/2173,  
9-13=-200/1632

#### NOTES-

- 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=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-1-12 to 3-8-15, Interior(1) 3-8-15 to 18-0-0, Exterior(2R) 18-0-0 to 21-7-3, Interior(1) 21-7-3 to 36-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- All plates are MT20 plates unless otherwise indicated.
- All plates are 2x4 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- Refer to girder(s) for truss to truss connections.
- Bearing at joint(s) 1 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 265 lb uplift at joint 1 and 267 lb uplift at joint 10.
- 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.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITTEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.**

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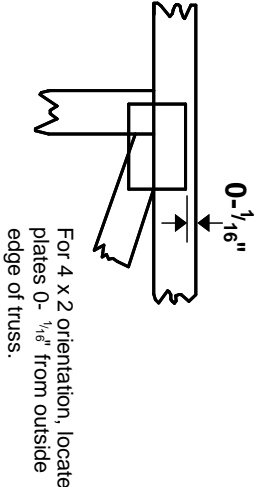
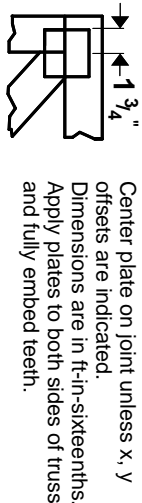
April 7, 2022



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# Symbols

## PLATE LOCATION AND ORIENTATION



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

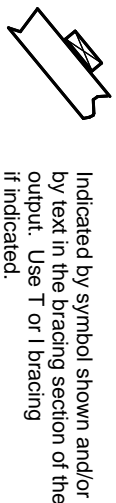
This symbol indicates the required direction of slots in connector plates.

## PLATE SIZE

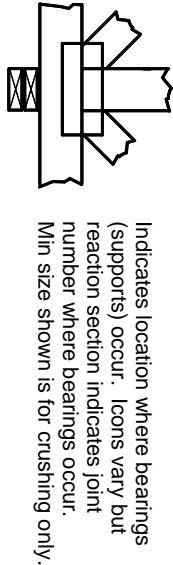
4 X 4

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

## LATERAL BRACING LOCATION

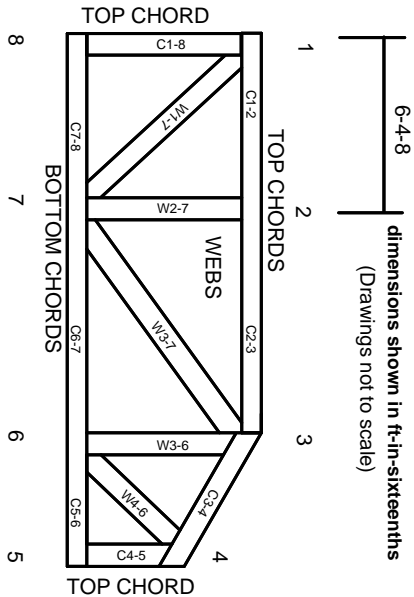


## BEARING



**Industry Standards:**  
ANSI/TP1: 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



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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Mittek 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.