RE: Lot 20 OS
Lot 20 OS

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

Site Information:

Customer: Project Name: Lot 20 OS
Lot/Block: Model:
Address: Subdivision:
City: State:

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.4
Wind Code: ASCE 7 - 16[Low Rise] Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 22 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I47537473	B1	8/20/2021	21	I47537493	V7	8/20/2021
2	I47537474	B2	8/20/2021	22	I47537494	V8	8/20/2021
3	I47537475	D1	8/20/2021				
4	I47537476	D2	8/20/2021				
5	I47537477	D3	8/20/2021				
6	I47537478	D4	8/20/2021				
7	I47537479	E1	8/20/2021				
8	I47537480	E2	8/20/2021				
9	I47537481	E3	8/20/2021				
10	I47537482	E4	8/20/2021				
11	I47537483	E5	8/20/2021				
12	I47537484	E6	8/20/2021				
13	I47537485	G1	8/20/2021				
14	I47537486	G2	8/20/2021				
15	I47537487	V1	8/20/2021				
16	I47537488	V2	8/20/2021				
17	I47537489	V3	8/20/2021				
18	I47537490	V4	8/20/2021				
19	I47537491	V5	8/20/2021				
20	I47537492	V6	8/20/2021				

The truss drawing(s) referenced above have been prepared by MiTek USA, Inc under my direct supervision based on the parameters provided by Wheeler - Waverly.

Truss Design Engineer's Name: Garcia, Juan

My license renewal date for the state of Kansas is April 30, 2022.

Kansas COA: E-943

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. Any project specific information included is for MiTek customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek 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.

August 20, 2021

Garcia, Juan

RE: Lot 20 OS
Lot 20 OS

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

Site Information:

Customer: Project Name: Lot 20 OS
Lot/Block: Model:
Address: Subdivision:
City: State:

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.4
Wind Code: ASCE 7 - 16[Low Rise] Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 22 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I47537473	B1	8/20/2021	21	I47537493	V7	8/20/2021
2	I47537474	B2	8/20/2021	22	I47537494	V8	8/20/2021
3	I47537475	D1	8/20/2021				
4	I47537476	D2	8/20/2021				
5	I47537477	D3	8/20/2021				
6	I47537478	D4	8/20/2021				
7	I47537479	E1	8/20/2021				
8	I47537480	E2	8/20/2021				
9	I47537481	E3	8/20/2021				
10	I47537482	E4	8/20/2021				
11	I47537483	E5	8/20/2021				
12	I47537484	E6	8/20/2021				
13	I47537485	G1	8/20/2021				
14	I47537486	G2	8/20/2021				
15	I47537487	V1	8/20/2021				
16	I47537488	V2	8/20/2021				
17	I47537489	V3	8/20/2021				
18	I47537490	V4	8/20/2021				
19	I47537491	V5	8/20/2021				
20	I47537492	V6	8/20/2021				

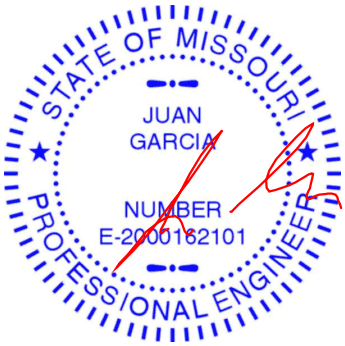
The truss drawing(s) referenced above have been prepared by MiTek USA, Inc under my direct supervision based on the parameters provided by Wheeler - Waverly.

Truss Design Engineer's Name: Garcia, Juan

My license renewal date for the state of Missouri is December 31, 2022.

Missouri COA: 001193

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. Any project specific information included is for MiTek customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek 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.



August 20, 2021

Garcia, Juan

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537473
Lot 20 OS	B1	GABLE	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:50 Page: 1
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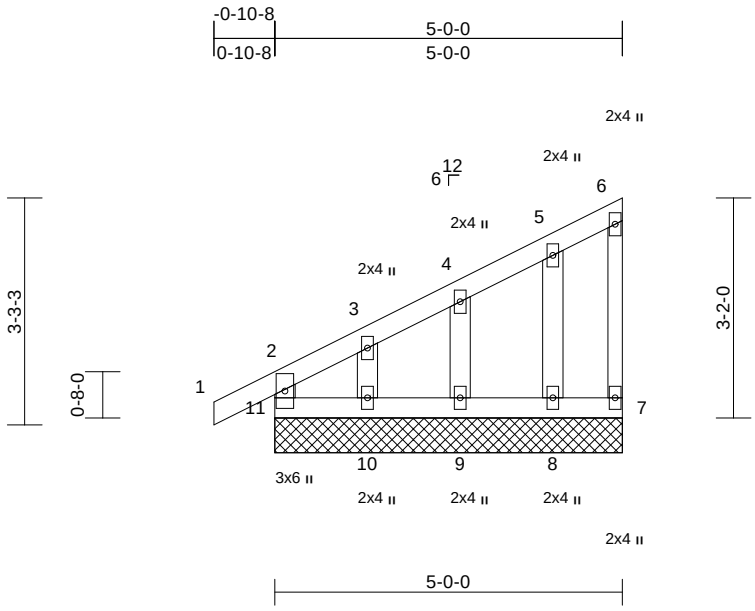

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 21 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 6-7:2x3 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 7=29/5-0-0, 8=107/5-0-0, 9=132/5-0-0, 10=81/5-0-0, 11=151/5-0-0
Max Horiz 11=125 (LC 5)
Max Uplift 7=-16 (LC 5), 8=-33 (LC 8), 9=-31 (LC 8), 10=-62 (LC 8), 11=-18 (LC 4)
Max Grav 7=31 (LC 15), 8=107 (LC 1), 9=132 (LC 1), 10=81 (LC 15), 11=151 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-11=-134/23, 1-2=0/32, 2-3=-96/21, 3-4=-70/30, 4-5=-63/27, 5-6=-45/28, 6-7=-23/10
BOT CHORD 10-11=-40/30, 9-10=-40/30, 8-9=-40/30, 7-8=-40/30
WEBS 3-10=-62/62, 4-9=-103/53, 5-8=-82/35

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 1-4-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 11, 16 lb uplift at joint 7, 62 lb uplift at joint 10, 31 lb uplift at joint 9 and 33 lb uplift at joint 8.
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.

LOAD CASE(S) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537474
Lot 20 OS	B2	Monopitch	12	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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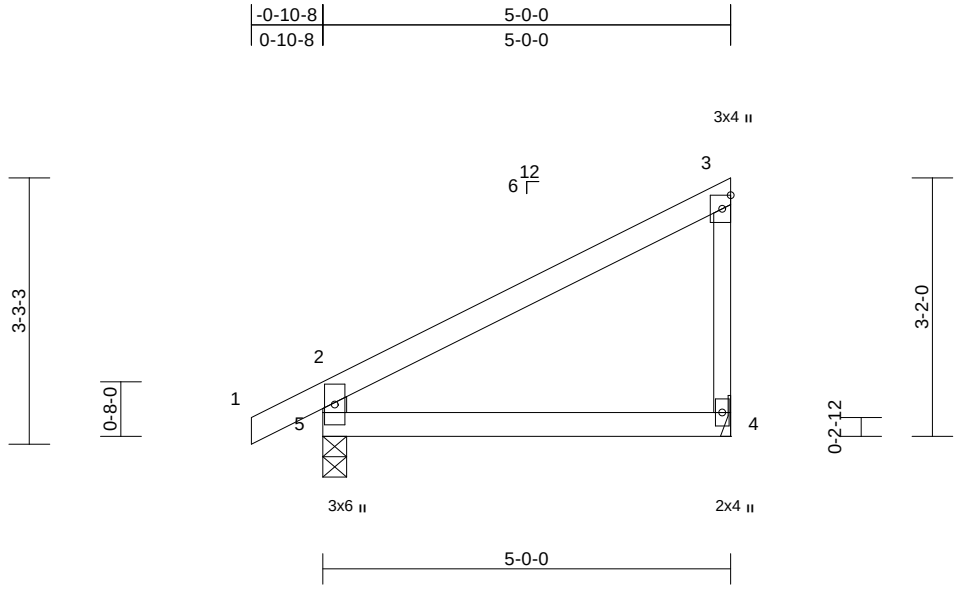

Scale = 1:28.2

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	0.30	Vert(LL)	-0.02	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.05	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 16 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 5-2:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 4=206/ Mechanical, 5=293/0-3-8
Max Horiz 5=125 (LC 5)
Max Uplift 4=-54 (LC 8), 5=-49 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-128/45, 3-4=-147/73, 2-5=-257/88
BOT CHORD 4-5=-36/33

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 54 lb uplift at joint 4 and 49 lb uplift at joint 5.
6) 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) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	D1	Monopitch Supported Gable	1	1	Job Reference (optional) I47537475

Wheeler Lumber, Waverly, KS - 66871,

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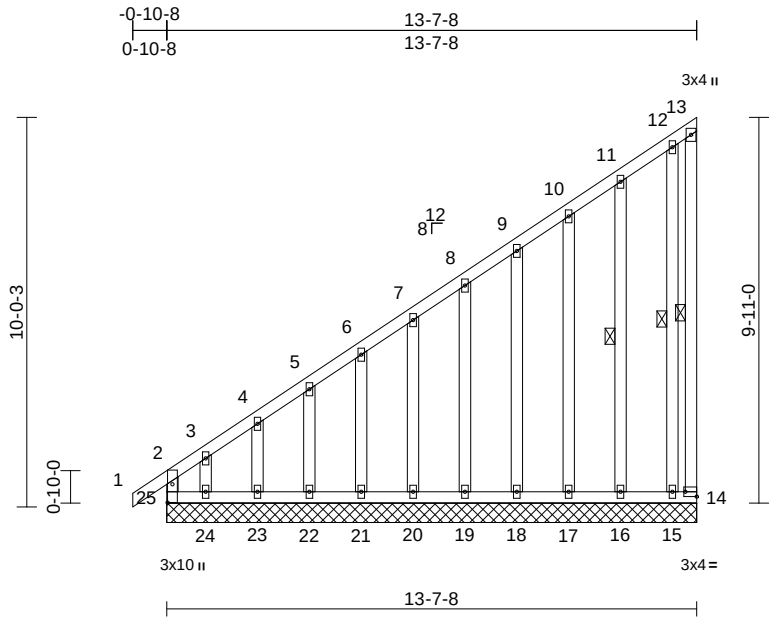

Scale = 1:59.2

Plate Offsets (X, Y): [14:Edge,0-1-8], [25:0-5-10,0-1-8]

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	0.40	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 103 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 13-14, 11-16, 12-15

REACTIONS (lb/size) 14=15/13-7-8, 15=81/13-7-8, 16=127/13-7-8, 17=120/13-7-8, 18=120/13-7-8, 19=120/13-7-8, 20=120/13-7-8, 21=120/13-7-8, 22=118/13-7-8, 23=129/13-7-8, 24=54/13-7-8, 25=147/13-7-8
Max Horiz 25=389 (LC 5)
Max Uplift 14=-242 (LC 7), 15=-166 (LC 8), 16=-57 (LC 5), 17=-58 (LC 8), 18=-45 (LC 8), 19=-47 (LC 8), 20=-47 (LC 8), 21=-45 (LC 8), 22=-54 (LC 8), 23=-16 (LC 8), 24=-286 (LC 5), 25=-208 (LC 6)
Max Grav 14=186 (LC 4), 15=237 (LC 7), 16=151 (LC 15), 17=121 (LC 15), 18=125 (LC 15), 19=124 (LC 15), 20=125 (LC 15), 21=124 (LC 15), 22=127 (LC 15), 23=129 (LC 1), 24=229 (LC 6), 25=426 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-25=-301/140, 1-2=0/40, 2-3=-406/250, 3-4=-311/199, 4-5=-294/186, 5-6=-268/170, 6-7=-243/154, 7-8=-227/141, 8-9=-215/138, 9-10=-203/135, 10-11=-196/136, 11-12=-157/112, 12-13=-63/46, 13-14=-95/79
BOT CHORD 24-25=-136/103, 23-24=-136/103, 22-23=-136/103, 21-22=-136/103, 20-21=-136/103, 19-20=-136/103, 18-19=-136/103, 17-18=-136/103, 16-17=-136/103, 15-16=-136/103, 14-15=-136/103
WEBS 3-24=-120/169, 4-23=-100/52, 5-22=-98/64, 6-21=-98/62, 7-20=-98/63, 8-19=-98/62, 9-18=-98/63, 10-17=-96/70, 11-16=-117/59, 12-15=-123/141

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 1-4-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 208 lb uplift at joint 25, 242 lb uplift at joint 14, 286 lb uplift at joint 24, 16 lb uplift at joint 23, 54 lb uplift at joint 22, 45 lb uplift at joint 21, 47 lb uplift at joint 20, 47 lb uplift at joint 19, 45 lb uplift at joint 18, 58 lb uplift at joint 17, 57 lb uplift at joint 16 and 166 lb uplift at joint 15.
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.

LOAD CASE(S) Standard

August 20,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	D2	Monopitch Girder	2	2	Job Reference (optional) I47537476

Wheeler Lumber, Waverly, KS - 66871,

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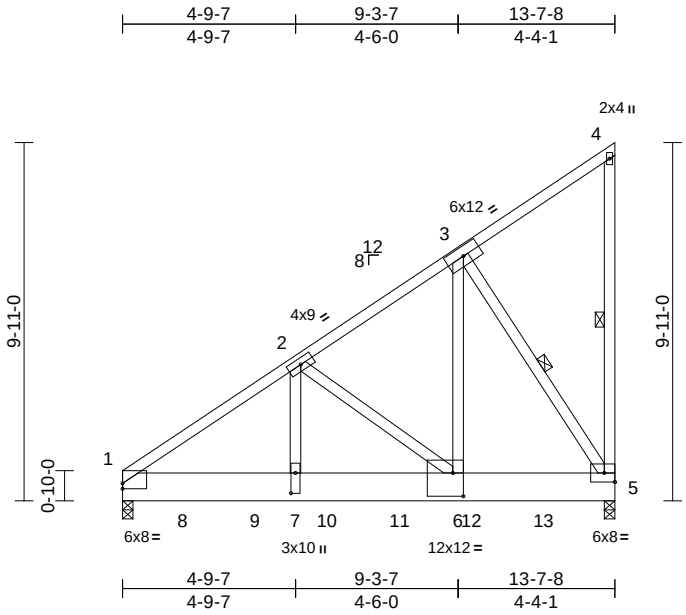

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Plate Offsets (X, Y): [1:Edge,0-1-13], [6:0-3-8,0-7-12], [7:0-6-12,0-1-8]

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	0.64	Vert(LL)	-0.07	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.13	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	6-7	>999	240	Weight: 214 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x10 SP 2400F 2.0E
WEBS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-4-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-5, 3-5

REACTIONS (lb/size) 1=4963/0-3-8, 5=6313/0-3-8
Max Horiz 1=369 (LC 22)
Max Uplift 1=-283 (LC 8), 5=-308 (LC 8)
Max Grav 1=5448 (LC 16), 5=7085 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-7590/246, 2-3=-4434/138, 3-4=-200/115, 4-5=-140/70
BOT CHORD 1-7=-327/6104, 6-7=-327/6104, 5-6=-181/3625
WEBS 3-5=-6579/340, 2-7=-108/3703, 2-6=-3128/279, 3-6=-213/7548

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 0-6-0 oc.
Bottom chords connected as follows: 2x10 - 2 rows staggered at 0-5-0 oc.
Web connected as follows: 2x4 - 1 row 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) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 283 lb uplift at joint 1 and 308 lb uplift at joint 5.
7) 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.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 900 lb down and 167 lb up at 1-8-0, 882 lb down and 48 lb up at 3-8-0, 2386 lb down and 38 lb up at 5-8-0, 2386 lb down and 38 lb up at 7-8-0, and 2386 lb down and 38 lb up at 9-8-0, and 2386 lb down and 38 lb up at 11-8-0 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 (lb/ft)
Vert: 1-4=-70, 1-5=-20
Concentrated Loads (lb)
Vert: 8=-804 (B), 9=-811 (B), 10=-2115 (B), 11=-2115 (B), 12=-2115 (B), 13=-2115 (B)

August 20,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537477
Lot 20 OS	D3	Monopitch Structural Gable	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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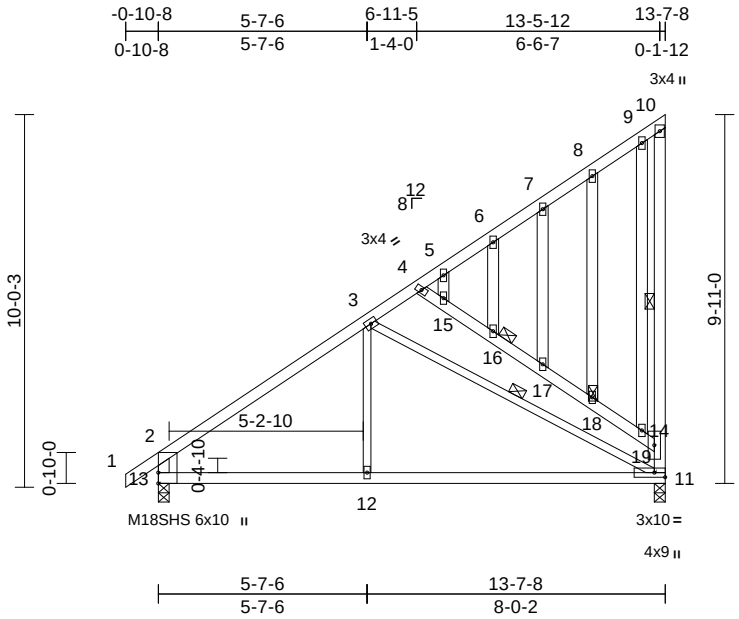


Scale = 1:61.9

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	0.45	Vert(LL)	-0.11	11-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.21	11-12	>748	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.01	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	-0.07	11-12	>999	240	Weight: 91 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 12-3,11-3:2x3 SPF No.2
OTHERS 2x4 SPF No.2

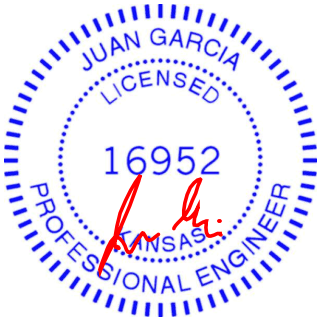
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 10-11, 3-11
JOINTS 1 Brace at Jt(s): 16, 18

REACTIONS (lb/size) 11=597/0-3-8, 13=674/0-3-8
Max Horiz 13=389 (LC 5)
Max Uplift 11=-182 (LC 8), 13=-66 (LC 8)
Max Grav 11=650 (LC 15), 13=674 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-710/36, 3-4=-403/103, 4-5=-280/127, 5-6=-206/122, 6-7=-199/125, 7-8=-186/128, 8-9=-167/129, 9-10=-106/107, 11-14=-391/196, 10-14=-139/96, 2-13=-615/102
BOT CHORD 12-13=-172/567, 11-12=-172/567
WEBS 3-12=0/296, 3-11=-358/137, 4-15=-331/214, 15-16=-263/160, 16-17=-288/185, 17-18=-305/202, 18-19=-323/214, 14-19=-335/189, 5-15=-97/123, 6-16=-63/44, 7-17=-48/32, 8-18=-42/20, 9-19=-68/85

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) All plates are MT20 plates unless otherwise indicated.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 1-4-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 182 lb uplift at joint 11 and 66 lb uplift at joint 13.
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.

LOAD CASE(S) Standard



August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	D4	Common Supported Gable	1	1	Job Reference (optional) I47537478

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:53 Page: 1
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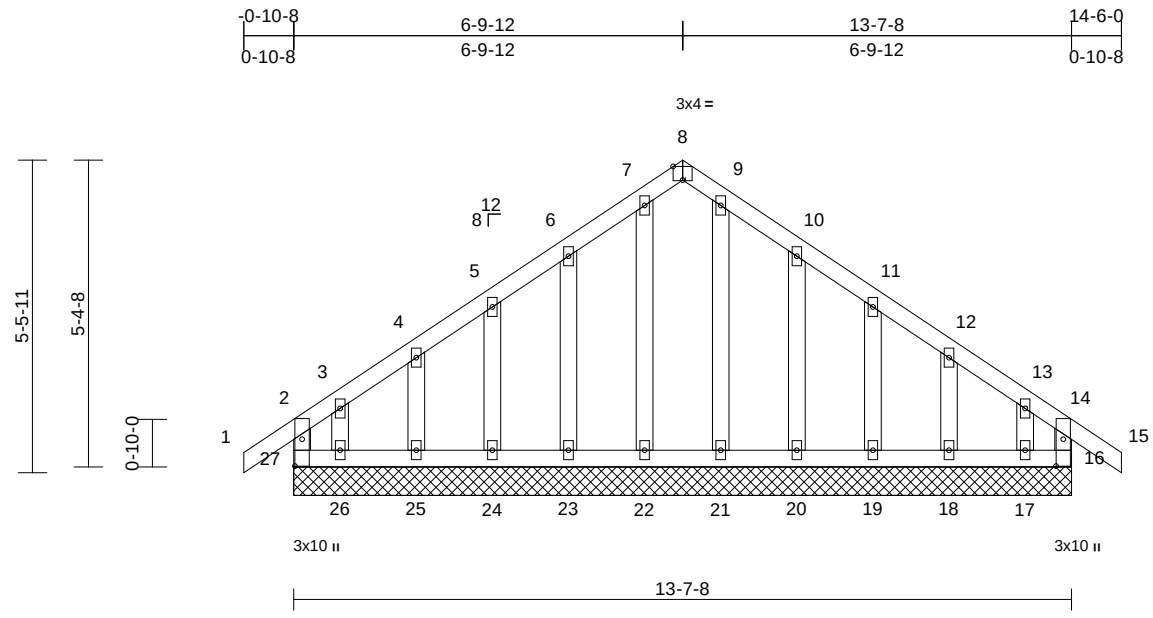

Scale = 1:40.4

Plate Offsets (X, Y): [8:0-2-0,Edge], [16:0-5-10,0-1-8], [27:0-5-10,0-1-8]

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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 68 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (lb/size) 16=142/13-7-8, 17=41/13-7-8, 18=128/13-7-8, 19=119/13-7-8, 20=119/13-7-8, 21=123/13-7-8, 22=123/13-7-8, 23=119/13-7-8, 24=119/13-7-8, 25=128/13-7-8, 26=41/13-7-8, 27=142/13-7-8
Max Horiz 27=-157 (LC 6)
Max Uplift 16=-56 (LC 5), 17=-106 (LC 9), 18=-42 (LC 9), 19=-46 (LC 9), 20=-63 (LC 9), 23=-61 (LC 8), 24=-47 (LC 8), 25=-41 (LC 8), 26=-118 (LC 8), 27=-94 (LC 4)
Max Grav 16=155 (LC 15), 17=109 (LC 7), 18=128 (LC 16), 19=124 (LC 16), 20=127 (LC 16), 21=123 (LC 1), 22=127 (LC 18), 23=124 (LC 15), 24=124 (LC 15), 25=128 (LC 21), 26=136 (LC 6), 27=186 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-27=-145/65, 1-2=0/40, 2-3=-117/101, 3-4=-76/78, 4-5=-66/68, 5-6=-53/85, 6-7=-44/118, 7-8=-33/93, 8-9=-29/89, 9-10=-25/104, 10-11=-32/73, 11-12=-41/49, 12-13=-49/57, 13-14=-94/65, 14-15=0/40, 14-16=-130/39
BOT CHORD 26-27=-71/87, 25-26=-71/87, 24-25=-71/87, 23-24=-71/87, 22-23=-71/87, 21-22=-71/87, 20-21=-71/87, 19-20=-71/87, 18-19=-71/87, 17-18=-71/87, 16-17=-71/87
WEBS 3-26=-69/80, 4-25=-102/63, 5-24=-97/61, 6-23=-98/78, 7-22=-101/4, 9-21=-96/0, 10-20=-101/79, 11-19=-97/61, 12-18=-102/63, 13-17=-59/74

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 1-4-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 27, 56 lb uplift at joint 16, 118 lb uplift at joint 26, 41 lb uplift at joint 25, 47 lb uplift at joint 24, 61 lb uplift at joint 23, 63 lb uplift at joint 20, 46 lb uplift at joint 19, 42 lb uplift at joint 18 and 106 lb uplift at joint 17.
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.

LOAD CASE(S) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	E1	Common Structural Gable	2	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/31/2021

I47537479

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:33 Page: 1
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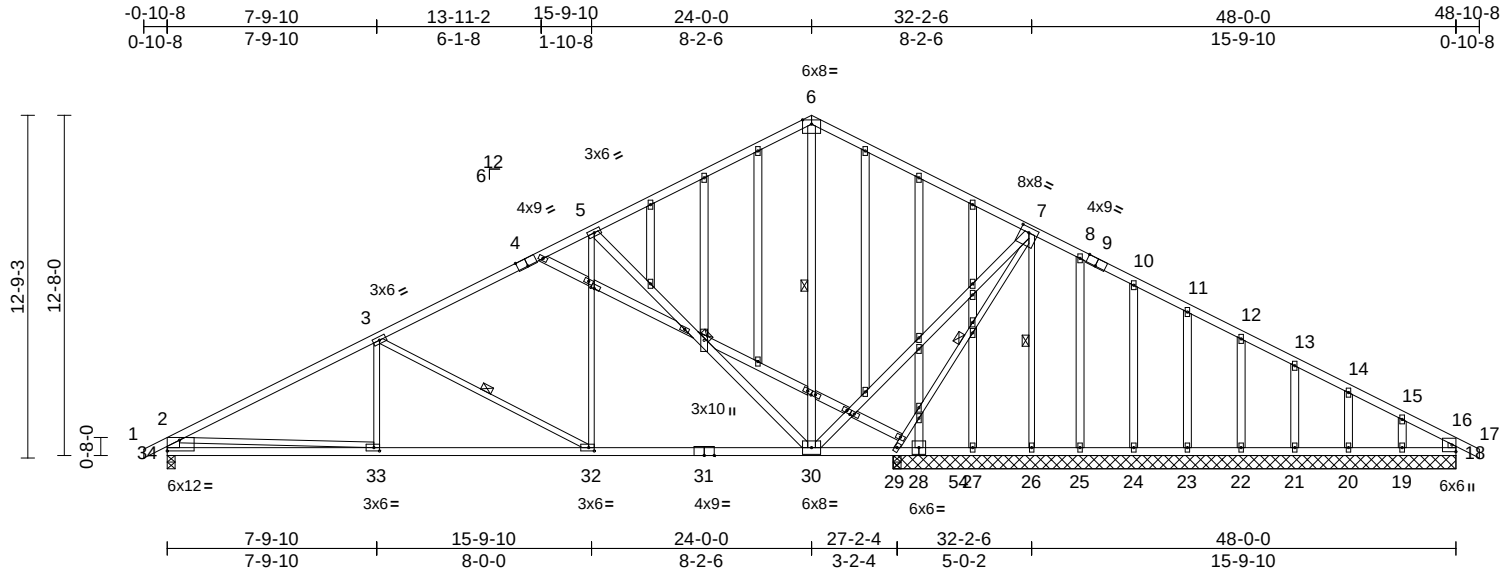

Scale = 1:85.8

Plate Offsets (X, Y): [4:0-4-8,Edge], [7:0-4-0,0-2-4], [9:0-4-8,Edge], [32:0-2-8,0-1-8], [33:0-2-8,0-1-8], [34:Edge,0-4-13], [36:0-1-10,0-0-4], [38:0-1-12,0-1-0], [39:0-1-11,0-1-0]

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	0.86	Vert(LL)	-0.19	30-32	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.32	30-32	>998	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.04	29	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	32-33	>999	240	Weight: 297 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 34-2:2x6 SPF No.2, 3-32,3-33,5-32,26-7,33-2,29-7:2x3 SPF No.2
OTHERS 2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-5-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
9-0-13 oc bracing: 33-34
9-8-7 oc bracing: 32-33
10-0-0 oc bracing: 30-32.
WEBS 1 Row at midpt 6-30, 3-32, 5-30, 7-26, 7-29

REACTIONS (lb/size) 18=55/20-11-8, 19=212/20-11-8, 20=172/20-11-8, 21=182/20-11-8, 22=181/20-11-8, 23=174/20-11-8, 24=219/20-11-8, 25=-106/20-11-8, 26=963/20-11-8, 27=20/20-11-8, 29=1065/0-3-8, 34=1298/0-3-8
Max Horiz 34=-204 (LC 13)
Max Uplift 18=-105 (LC 23), 19=-80 (LC 9), 20=-48 (LC 9), 21=-55 (LC 9), 22=-55 (LC 9), 23=-49 (LC 9), 24=-87 (LC 9), 25=-135 (LC 22), 26=-88 (LC 8), 29=-172 (LC 8), 34=-209 (LC 8)
Max Grav 18=153 (LC 22), 19=235 (LC 2), 20=183 (LC 22), 21=188 (LC 2), 22=186 (LC 24), 23=180 (LC 2), 24=227 (LC 22), 25=130 (LC 9), 26=963 (LC 1), 27=139 (LC 14), 29=1097 (LC 2), 34=1337 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-2036/297, 3-5=-1340/250, 5-6=-486/246, 6-7=-484/218, 7-8=0/360, 8-10=-38/291, 10-11=-17/275, 11-12=-21/253, 12-13=-20/252, 13-14=-28/253, 14-15=-52/249, 15-16=-84/268, 16-17=0/32, 2-34=-1225/252, 16-18=-136/106
BOT CHORD 33-34=-417/899, 32-33=-363/1803, 30-32=-162/1183, 29-30=-790/202, 27-29=-218/95, 26-27=-218/95, 25-26=-218/95, 24-25=-218/95, 23-24=-218/95, 22-23=-218/95, 21-22=-218/95, 20-21=-218/95, 19-20=-218/95, 18-19=-218/95
WEBS 6-30=-215/66, 3-32=-703/228, 3-33=0/280, 5-32=-8/681, 5-30=-1123/331, 7-30=-186/1603, 7-26=-913/104, 2-33=0/944, 7-29=-1182/206, 8-25=-106/171, 10-24=-186/111, 11-23=-134/72, 12-22=-141/79, 13-21=-141/79, 14-20=-143/75, 15-19=-154/91

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 209 lb uplift at joint 34, 105 lb uplift at joint 18, 88 lb uplift at joint 26, 135 lb uplift at joint 25, 87 lb uplift at joint 24, 49 lb uplift at joint 23, 55 lb uplift at joint 22, 55 lb uplift at joint 21, 48 lb uplift at joint 20, 80 lb uplift at joint 19 and 172 lb uplift at joint 29.
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.

LOAD CASE(S) Standard

JUAN GARCIA NUMBER E-2000162101 LICENSED PROFESSIONAL ENGINEER

JUAN GARCIA LICENSED 16952 KANSAS PROFESSIONAL ENGINEER

August 20,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537480
Lot 20 OS	E2	Common	8	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:54 Page: 1
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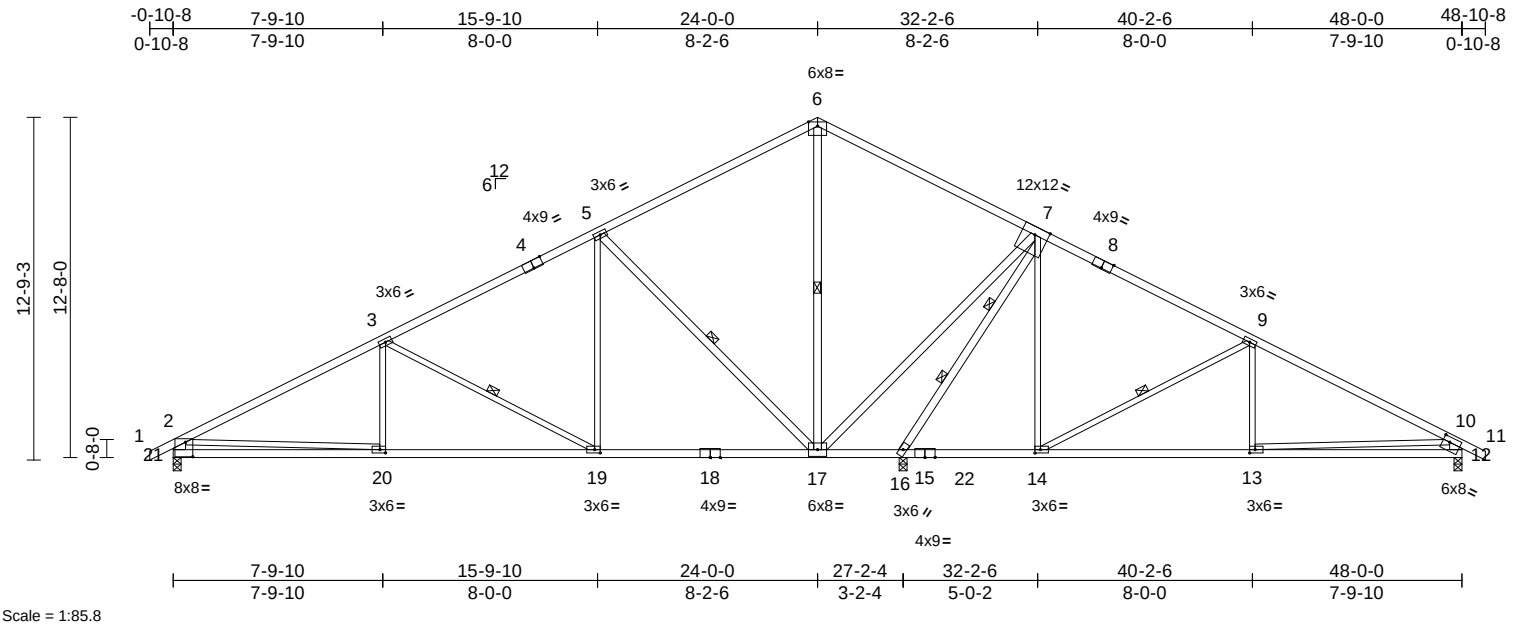

Scale = 1:85.8

Plate Offsets (X, Y): [4:0-4-8,Edge], [8:0-4-8,Edge], [12:0-3-0,0-2-4], [13:0-2-8,0-1-8], [14:0-2-8,0-1-8], [19:0-2-8,0-1-8], [20:0-2-8,0-1-8], [21:0-3-4,0-6-8]

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	0.86	Vert(LL)	-0.19	17-19	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.33	17-19	>985	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.06	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	17-19	>999	240	Weight: 215 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 18-15:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 21-2,12-10:2x6 SPF No.2, 17-6,17-5,7-17,7-16:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-4-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 6-17, 3-19, 5-17, 9-14
WEBS 2 Rows at 1/3 pts 7-16

REACTIONS (lb/size) 12=880/0-3-8, 16=2366/0-3-8, 21=1188/0-3-8
Max Horiz 21=203 (LC 12)
Max Uplift 12=-175 (LC 9), 16=-212 (LC 8), 21=-200 (LC 8)
Max Grav 12=919 (LC 22), 16=2529 (LC 2), 21=1224 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-1811/278, 3-5=-1103/230, 5-6=-268/203, 6-7=-247/198, 7-9=-481/180, 9-10=-1219/228, 10-11=0/35, 2-21=-1126/242, 10-12=-853/216
BOT CHORD 20-21=-414/867, 19-20=-345/1609, 17-19=-144/975, 16-17=-1224/244, 14-16=0/325, 13-14=-97/988, 12-13=-228/681
WEBS 10-13=0/330, 6-17=-422/4, 9-13=0/327, 2-20=0/773, 3-20=0/289, 3-19=-718/228, 5-19=-9/691, 5-17=-1130/332, 9-14=-786/228, 7-17=-213/1870, 7-16=-2790/268, 7-14=-20/622

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
3) All plates are 3x6 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 200 lb uplift at joint 21, 175 lb uplift at joint 12 and 212 lb uplift at joint 16.
7) 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) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537481
Lot 20 OS	E3	Roof Special	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:54 Page: 1
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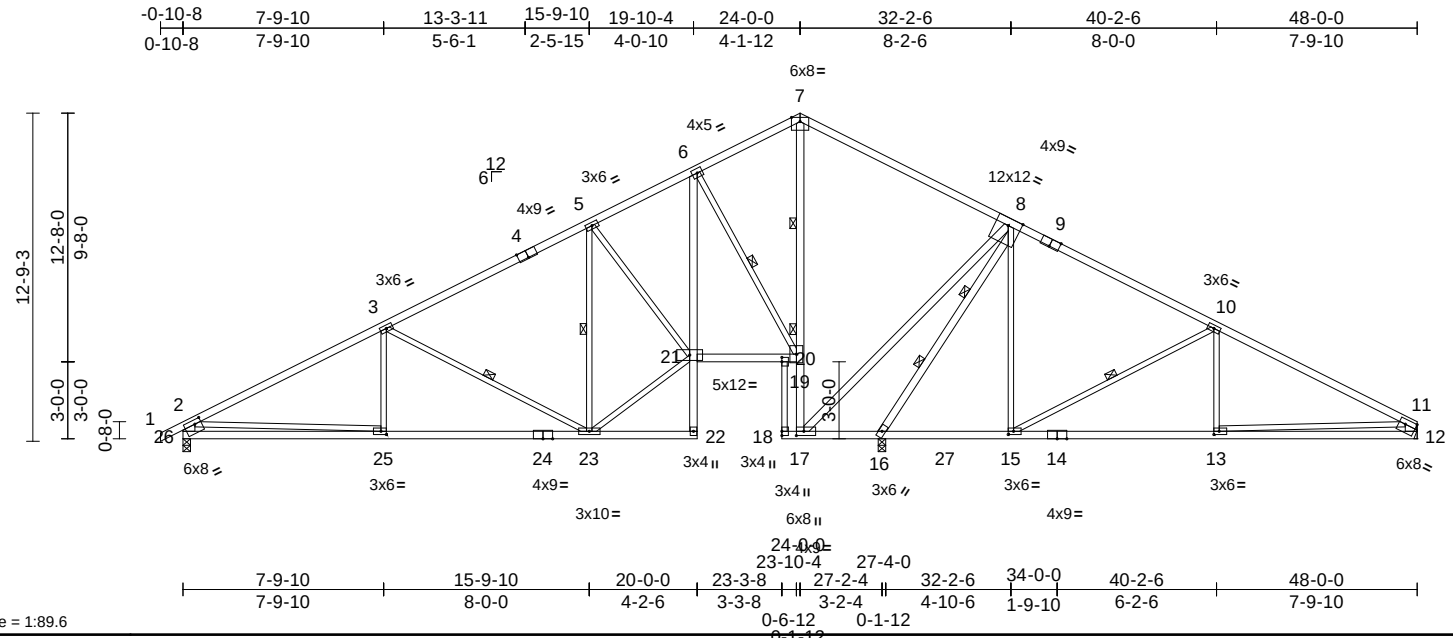

Scale = 1:89.6

Plate Offsets (X, Y): [4:0-4-8,Edge], [9:0-4-8,Edge], [12:Edge,0-2-4], [13:0-2-8,0-1-8], [15:0-2-8,0-1-8], [17:0-3-8,0-2-0], [20:0-2-0,Edge], [25:0-2-8,0-1-8], [26:0-3-0,0-2-0]

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	0.84	Vert(LL)	-0.14	23-25	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.27	23-25	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.07	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	23-25	>999	240	Weight: 231 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 20-18:2x3 SPF No.2, 18-14:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 26-2,12-11:2x6 SPF No.2, 17-7,17-8,16-8:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-9-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 6-19, 10-15, 3-23, 5-23
WEBS 2 Rows at 1/3 pts 7-17, 8-16

REACTIONS (lb/size) 12=734/ Mechanical, 16=2486/0-3-8, 26=1136/0-3-8
Max Horiz 26=157 (LC 7)
Max Uplift 12=-155 (LC 9), 26=-83 (LC 8)
Max Grav 12=826 (LC 22), 16=2607 (LC 13), 26=1155 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-1688/149, 3-5=-941/237, 5-6=-641/283, 6-7=-61/339, 7-8=-132/319, 8-10=-450/356, 10-11=-1192/312, 2-26=-1072/124, 11-12=-756/194
BOT CHORD 25-26=-221/803, 23-25=-180/1471, 22-23=-5/6, 21-22=0/41, 6-21=-69/1018, 20-21=-56/519, 19-20=-59/533, 18-20=-37/33, 17-18=-20/8, 16-17=-1407/0, 15-16=-139/295, 13-15=-214/970, 12-13=-82/511
WEBS 6-19=-1069/128, 11-13=-132/466, 17-19=-1401/0, 7-19=-440/0, 8-17=0/1979, 8-15=0/631, 10-15=-821/84, 10-13=0/325, 21-23=-105/957, 3-25=0/304, 3-23=-802/104, 5-23=-59/146, 5-21=-404/54, 2-25=-13/731, 8-16=-2805/0

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 83 lb uplift at joint 26 and 155 lb uplift at joint 12.
7) 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) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537482
Lot 20 OS	E4	Common	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:55 Page: 1
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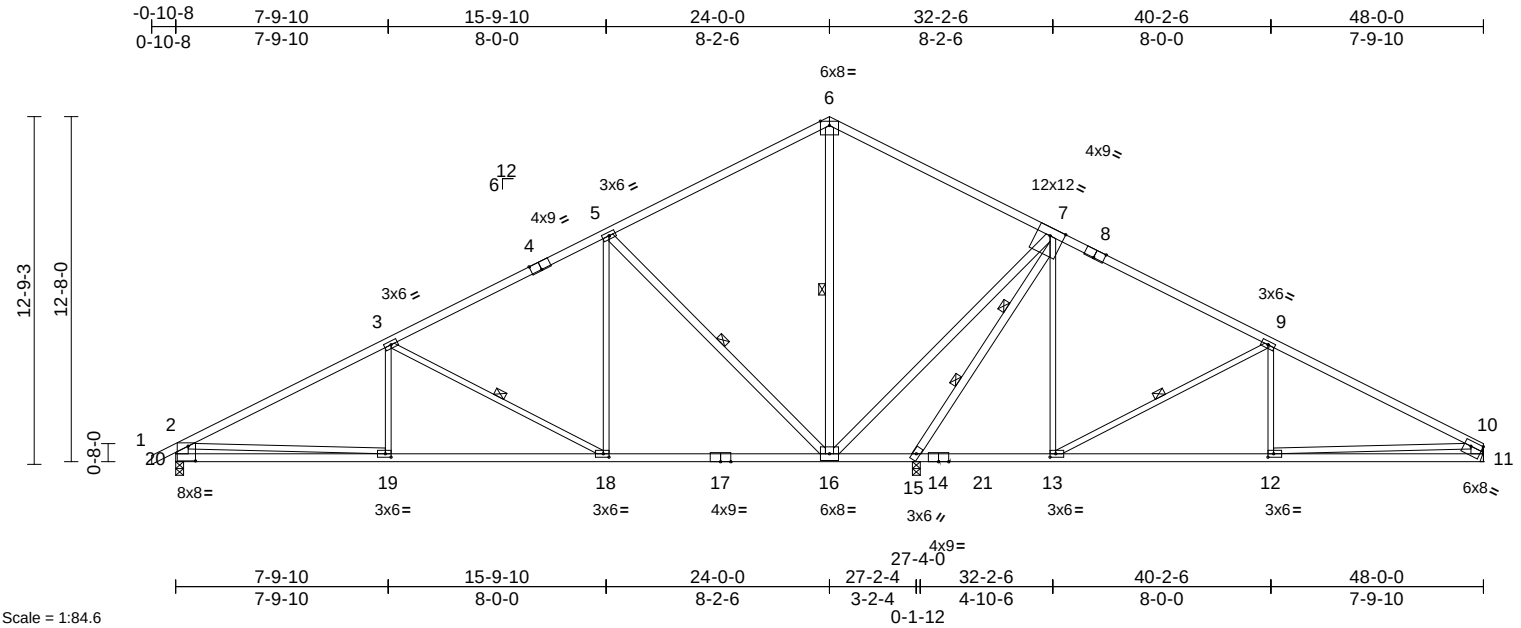

Scale = 1:84.6

Plate Offsets (X, Y): [4:0-4-8,Edge], [8:0-4-8,Edge], [11:Edge,0-2-4], [12:0-2-8,0-1-8], [13:0-2-8,0-1-8], [18:0-2-8,0-1-8], [19:0-2-8,0-1-8], [20:0-3-4,0-6-8]

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	0.86	Vert(LL)	-0.19	16-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.33	16-18	>985	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.88	Horz(CT)	0.05	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	16-18	>999	240	Weight: 214 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 17-14:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 20-2,11-10:2x6 SPF No.2, 16-6,16-5,7-16,7-15:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-1-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 15-16.
WEBS 1 Row at midpt 6-16, 3-18, 5-16, 9-13
WEBS 2 Rows at 1/3 pts 7-15

REACTIONS (lb/size) 11=792/ Mechanical, 15=2383/0-3-8, 20=1181/0-3-8
Max Horiz 20=157 (LC 7)
Max Uplift 11=-36 (LC 9), 20=-46 (LC 8)
Max Grav 11=840 (LC 22), 15=2541 (LC 2), 20=1222 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-1808/73, 3-5=-1099/97, 5-6=-264/136, 6-7=-232/137, 7-9=-466/103, 9-10=-1207/75, 2-20=-1124/88, 10-11=-763/76
BOT CHORD 19-20=-220/869, 18-19=-111/1616, 16-18=-22/962, 15-16=-1246/92, 13-15=0/309, 12-13=-2/986, 11-12=-54/514
WEBS 9-12=0/323, 6-16=-436/0, 3-19=0/289, 2-19=0/770, 5-18=0/701, 3-18=-741/101, 5-16=-1156/146, 10-12=0/477, 7-13=0/635, 7-16=-12/1913, 7-15=-2806/11, 9-13=-820/101

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are 3x6 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 46 lb uplift at joint 20 and 36 lb uplift at joint 11.
8) 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) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537483
Lot 20 OS	E5	Common	8	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:55 Page: 1
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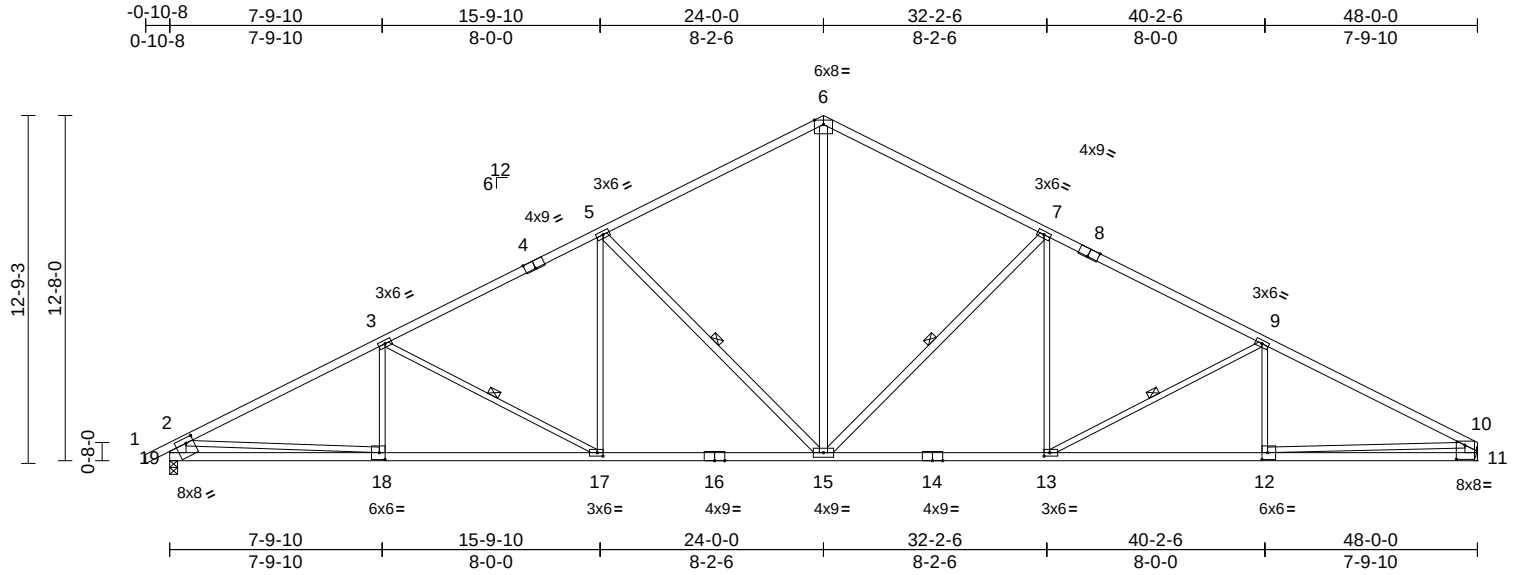

Scale = 1:84.6

Plate Offsets (X, Y): [4:0-4-8,Edge], [8:0-4-8,Edge], [11:0-3-12,0-6-4], [12:0-2-8,0-3-0], [13:0-2-8,0-1-8], [17:0-2-8,0-1-8], [18:0-2-8,0-3-0], [19:0-3-4,0-2-4]

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	0.66	Vert(LL)	-0.32	13-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.58	Vert(CT)	-0.56	13-15	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.88	Horz(CT)	0.15	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.11	15-17	>999	240	Weight: 204 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 19-2:2x8 SP DSS, 11-10:2x6 SP DSS, 15-6,15-5,7-15:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-1-13 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-17, 5-15, 7-15, 9-13

REACTIONS (lb/size) 11=2135/ Mechanical, 19=2220/0-3-8
Max Horiz 19=158 (LC 5)
Max Uplift 11=-26 (LC 9), 19=-38 (LC 8)
Max Grav 11=2257 (LC 2), 19=2327 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-3952/56, 3-5=-3404/80, 5-6=-2609/119, 6-7=-2609/118, 7-9=-3415/81, 9-10=-3988/57, 2-19=-2189/80, 10-11=-2115/67
BOT CHORD 18-19=-208/1189, 17-18=-96/3498, 15-17=-6/2997, 13-15=0/2968, 12-13=0/3481, 11-12=-48/936
WEBS 9-12=-14/210, 6-15=0/1802, 3-18=-9/207, 2-18=0/2363, 5-17=0/606, 3-17=-577/101, 5-15=-1070/148, 10-12=0/2550, 7-13=0/624, 7-15=-1080/148, 9-13=-614/105

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 19 and 26 lb uplift at joint 11.
7) 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) Standard

August 20,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	E6	Common Supported Gable	2	1	Job Reference (optional) I47537484

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:56 Page: 1
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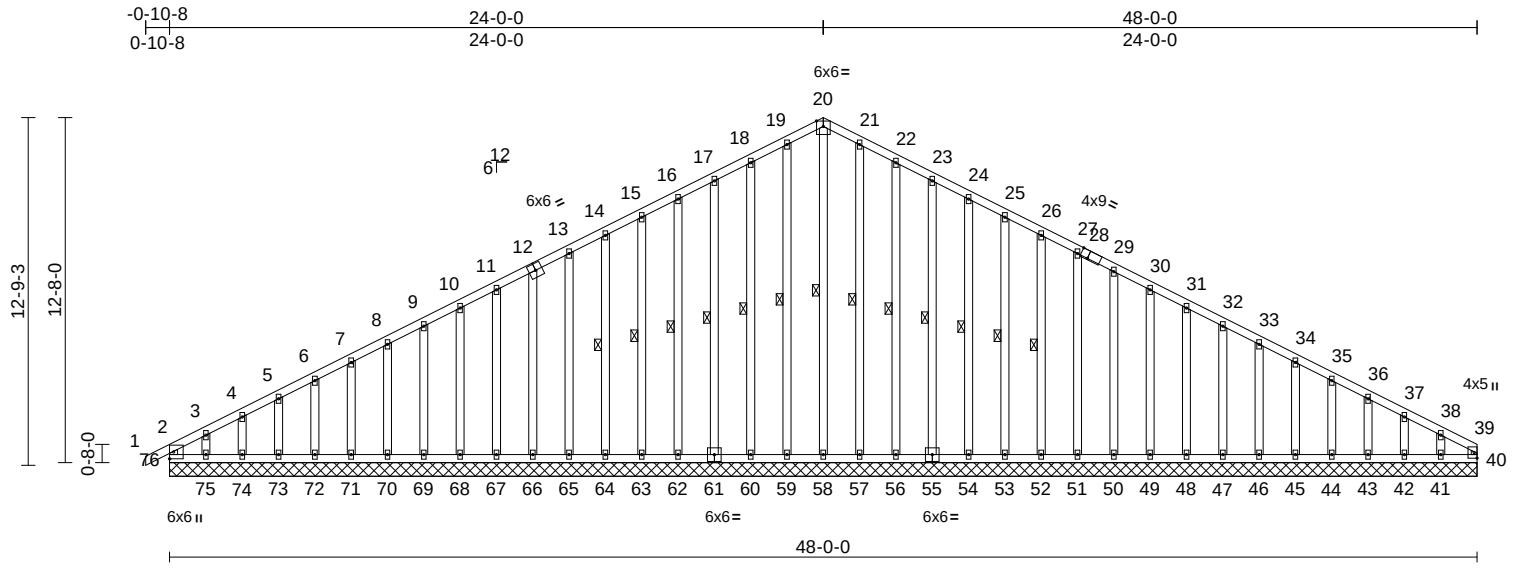

Scale = 1:84.6

Plate Offsets (X, Y): [28:0-3-7,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	0.10	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	40	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 369 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF 2400F 2.0E *Except* 39-40:2x3 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 20-58, 19-59, 18-60, 17-61, 16-62, 15-63, 14-64, 21-57, 22-56, 23-55, 24-54, 25-53, 26-52

REACTIONS (lb/size) 40=48/48-0-0, 41=126/48-0-0, 42=119/48-0-0, 43=120/48-0-0, 44=120/48-0-0, 45=120/48-0-0, 46=120/48-0-0, 47=120/48-0-0, 48=120/48-0-0, 49=120/48-0-0, 50=120/48-0-0, 51=120/48-0-0, 52=120/48-0-0, 53=120/48-0-0, 54=120/48-0-0, 55=120/48-0-0, 56=120/48-0-0, 57=123/48-0-0, 58=109/48-0-0, 59=123/48-0-0, 60=120/48-0-0, 61=120/48-0-0, 62=120/48-0-0, 63=120/48-0-0, 64=120/48-0-0, 65=118/48-0-0, 66=120/48-0-0, 67=122/48-0-0, 68=120/48-0-0, 69=120/48-0-0, 70=120/48-0-0, 71=120/48-0-0, 72=120/48-0-0, 73=118/48-0-0, 74=129/48-0-0, 75=78/48-0-0, 76=155/48-0-0
Max Horiz 76=213 (LC 12)
Max Uplift 40=-3 (LC 20), 41=-127 (LC 9), 42=-16 (LC 9), 43=-41 (LC 9), 44=-35 (LC 9), 45=-36 (LC 9), 46=-36 (LC 9), 47=-36 (LC 9), 48=-36 (LC 9), 49=-36 (LC 9), 50=-36 (LC 9), 51=-36 (LC 9), 52=-36 (LC 9), 53=-36 (LC 9), 54=-36 (LC 9), 55=-37 (LC 9), 56=-48 (LC 9), 59=-6 (LC 8), 60=-46 (LC 8), 61=-37 (LC 8), 62=-36 (LC 8), 63=-36 (LC 8), 64=-36 (LC 8), 65=-36 (LC 8), 66=-35 (LC 8), 67=-37 (LC 8), 68=-36 (LC 8), 69=-36 (LC 8), 70=-36 (LC 8), 71=-36 (LC 8), 72=-35 (LC 8), 73=-42 (LC 8), 74=-10 (LC 9), 75=-161 (LC 8), 76=-58 (LC 4)
Max Grav 40=148 (LC 9), 41=127 (LC 22), 42=119 (LC 1), 43=120 (LC 22), 44=120 (LC 1), 45=120 (LC 22), 46=120 (LC 1), 47=120 (LC 22), 48=120 (LC 1), 49=120 (LC 22), 50=120 (LC 1), 51=120 (LC 1), 52=120 (LC 22), 53=120 (LC 22), 54=120 (LC 1), 55=120 (LC 1), 56=122 (LC 22), 57=123 (LC 1), 58=233 (LC 9), 59=123 (LC 1), 60=121 (LC 21), 61=120 (LC 1), 62=120 (LC 1), 63=120 (LC 21), 64=120 (LC 1), 65=118 (LC 21), 66=120 (LC 1), 67=122 (LC 21), 68=120 (LC 1), 69=120 (LC 21), 70=120 (LC 1), 71=120 (LC 21), 72=120 (LC 1), 73=118 (LC 21), 74=129 (LC 1), 75=108 (LC 15), 76=227 (LC 17)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-76=-181/54, 1-2=0/32, 2-3=-295/105, 3-4=-236/96, 4-5=-211/104, 5-6=-180/113, 6-7=-149/121, 7-8=-127/134, 8-9=-106/151, 9-10=-84/168, 10-11=-73/185, 11-13=-64/220, 13-14=-49/237, 14-15=-41/255, 15-16=-34/272, 16-17=-34/289, 17-18=-34/307, 18-19=-34/329, 19-20=-33/328, 20-21=-32/322, 21-22=-30/309, 22-23=-27/274, 23-24=-27/243, 24-25=-27/213, 25-26=-27/182, 26-27=-27/156, 27-29=-27/139, 29-30=-27/122, 30-31=-27/105, 31-32=-27/87, 32-33=-35/70, 33-34=-51/53, 34-35=-69/40, 35-36=-98/33, 36-37=-130/30, 37-38=-156/30, 38-39=-206/33, 39-40=-104/5

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	E6	Common Supported Gable	2	1	Job Reference (optional) I47537484

BOT CHORD 75-76=-31/172, 74-75=-31/172, 73-74=-31/172, 72-73=-31/172, 71-72=-31/172, 70-71=-31/172, 69-70=-31/172, 68-69=-31/172, 67-68=-31/172, 66-67=-31/172, 65-66=-31/172, 64-65=-31/172, 63-64=-31/172, 62-63=-31/172, 60-62=-31/172, 59-60=-31/172, 58-59=-31/172, 57-58=-31/172, 56-57=-31/172, 54-56=-31/172, 53-54=-31/172, 52-53=-31/172, 51-52=-31/172, 50-51=-31/172, 49-50=-31/172, 48-49=-31/172, 47-48=-31/172, 46-47=-31/172, 45-46=-31/172, 44-45=-31/172, 43-44=-31/172, 42-43=-31/172, 41-42=-31/172, 40-41=-31/172

WEBS 20-58=-217/4, 19-59=-96/22, 18-60=-95/62, 17-61=-93/53, 16-62=-93/52, 15-63=-93/52, 14-64=-93/52, 13-65=-92/52, 12-66=-94/51, 11-67=-95/53, 10-68=-93/52, 9-69=-93/52, 8-70=-93/52, 7-71=-93/52, 6-72=-94/52, 5-73=-92/55, 4-74=-100/39, 3-75=-72/118, 21-57=-96/13, 22-56=-95/64, 23-55=-93/53, 24-54=-93/52, 25-53=-93/52, 26-52=-93/52, 27-51=-93/52, 29-50=-93/52, 30-49=-93/52, 31-48=-93/52, 32-47=-93/52, 33-46=-93/52, 34-45=-93/52, 35-44=-93/52, 36-43=-93/54, 37-42=-93/43, 38-41=-98/96

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 1-4-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 76, 3 lb uplift at joint 40, 6 lb uplift at joint 59, 46 lb uplift at joint 60, 37 lb uplift at joint 61, 36 lb uplift at joint 62, 36 lb uplift at joint 63, 36 lb uplift at joint 64, 36 lb uplift at joint 65, 35 lb uplift at joint 66, 37 lb uplift at joint 67, 36 lb uplift at joint 68, 36 lb uplift at joint 69, 36 lb uplift at joint 70, 36 lb uplift at joint 71, 35 lb uplift at joint 72, 42 lb uplift at joint 73, 10 lb uplift at joint 74, 161 lb uplift at joint 75, 48 lb uplift at joint 56, 37 lb uplift at joint 55, 36 lb uplift at joint 54, 36 lb uplift at joint 53, 36 lb uplift at joint 52, 36 lb uplift at joint 51, 36 lb uplift at joint 50, 36 lb uplift at joint 49, 36 lb uplift at joint 48, 36 lb uplift at joint 47, 36 lb uplift at joint 46, 36 lb uplift at joint 45, 35 lb uplift at joint 44, 41 lb uplift at joint 43, 16 lb uplift at joint 42 and 127 lb uplift at joint 41.
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.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	G1	Common Supported Gable	2	1	Job Reference (optional) I47537485

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:56 Page: 1
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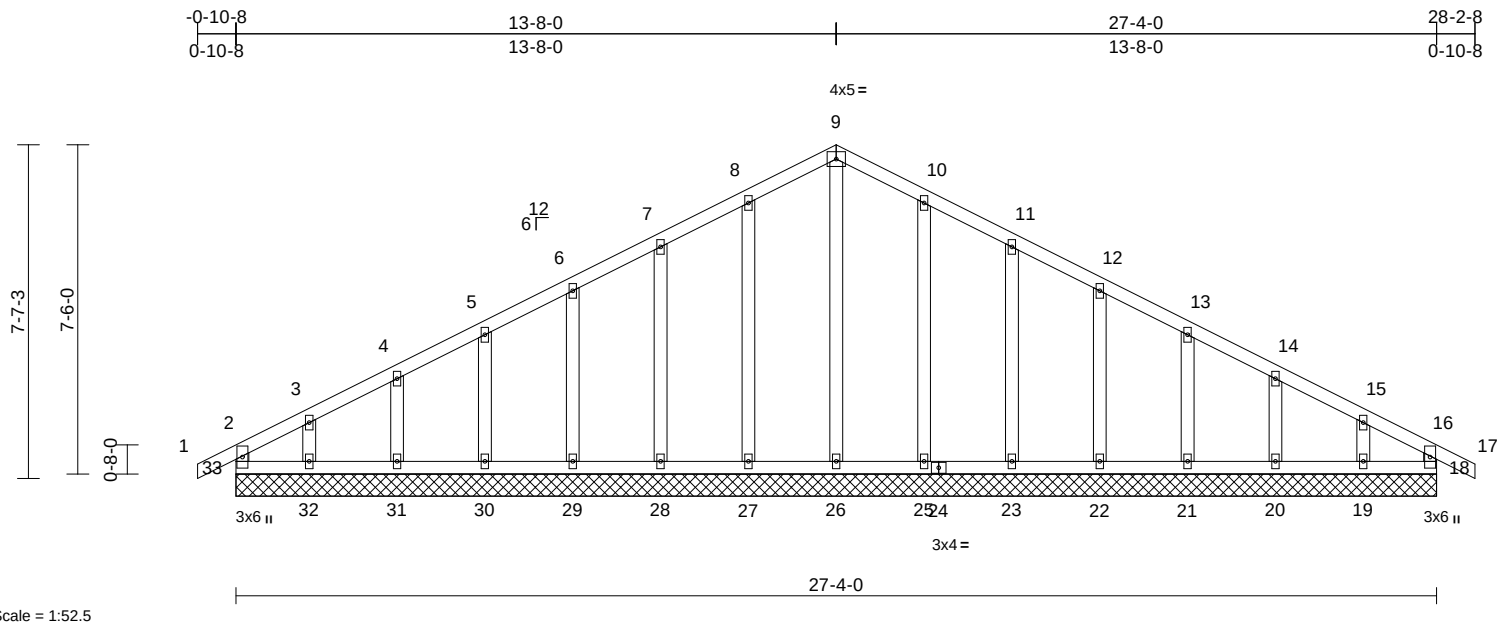


Scale = 1:52.5

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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.00	18	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 124 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF 2400F 2.0E *Except* 18-16:2x4 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

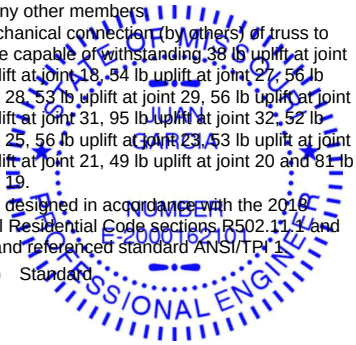
REACTIONS (lb/size) 18=151/27-4-0, 19=141/27-4-0, 20=188/27-4-0, 21=178/27-4-0, 22=181/27-4-0, 23=178/27-4-0, 25=188/27-4-0, 26=167/27-4-0, 27=188/27-4-0, 28=178/27-4-0, 29=181/27-4-0, 30=178/27-4-0, 31=188/27-4-0, 32=141/27-4-0, 33=151/27-4-0
Max Horiz 33=-114 (LC 13)
Max Uplift 18=-13 (LC 5), 19=-81 (LC 9), 20=-49 (LC 9), 21=-55 (LC 9), 22=-53 (LC 9), 23=-56 (LC 9), 25=-52 (LC 9), 27=-54 (LC 8), 28=-56 (LC 8), 29=-53 (LC 8), 30=-56 (LC 8), 31=-46 (LC 8), 32=-95 (LC 8), 33=-38 (LC 4)
Max Grav 18=151 (LC 22), 19=141 (LC 1), 20=188 (LC 22), 21=178 (LC 1), 22=181 (LC 22), 23=178 (LC 1), 25=190 (LC 22), 26=195 (LC 18), 27=190 (LC 21), 28=178 (LC 1), 29=181 (LC 21), 30=178 (LC 1), 31=188 (LC 21), 32=141 (LC 1), 33=151 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-33=-134/40, 1-2=0/32, 2-3=-140/64, 3-4=-91/74, 4-5=-64/92, 5-6=-50/118, 6-7=-40/144, 7-8=-31/171, 8-9=-36/194, 9-10=-36/186, 10-11=-31/141, 11-12=-32/106, 12-13=-31/80, 13-14=-36/54, 14-15=-58/46, 15-16=-99/30, 16-17=0/32, 16-18=-134/20
BOT CHORD 32-33=-23/106, 31-32=-23/106, 30-31=-23/106, 29-30=-23/106, 28-29=-23/106, 27-28=-23/106, 26-27=-23/106, 25-26=-23/106, 23-25=-23/106, 22-23=-23/106, 21-22=-23/106, 20-21=-23/106, 19-20=-23/106, 18-19=-23/106
WEBS 9-26=-155/0, 8-27=-150/78, 7-28=-138/80, 6-29=-141/78, 5-30=-138/79, 4-31=-146/75, 3-32=-110/96, 10-25=-150/76, 11-23=-138/80, 12-22=-141/77, 13-21=-138/78, 14-20=-146/77, 15-19=-109/88

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 33, 13 lb uplift at joint 18, 54 lb uplift at joint 27, 56 lb uplift at joint 28, 53 lb uplift at joint 29, 56 lb uplift at joint 30, 46 lb uplift at joint 31, 95 lb uplift at joint 32, 52 lb uplift at joint 25, 56 lb uplift at joint 23, 53 lb uplift at joint 22, 55 lb uplift at joint 21, 49 lb uplift at joint 20 and 81 lb uplift at joint 19.
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.

LOAD CASE(S) Standard



August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537486
Lot 20 OS	G2	Common	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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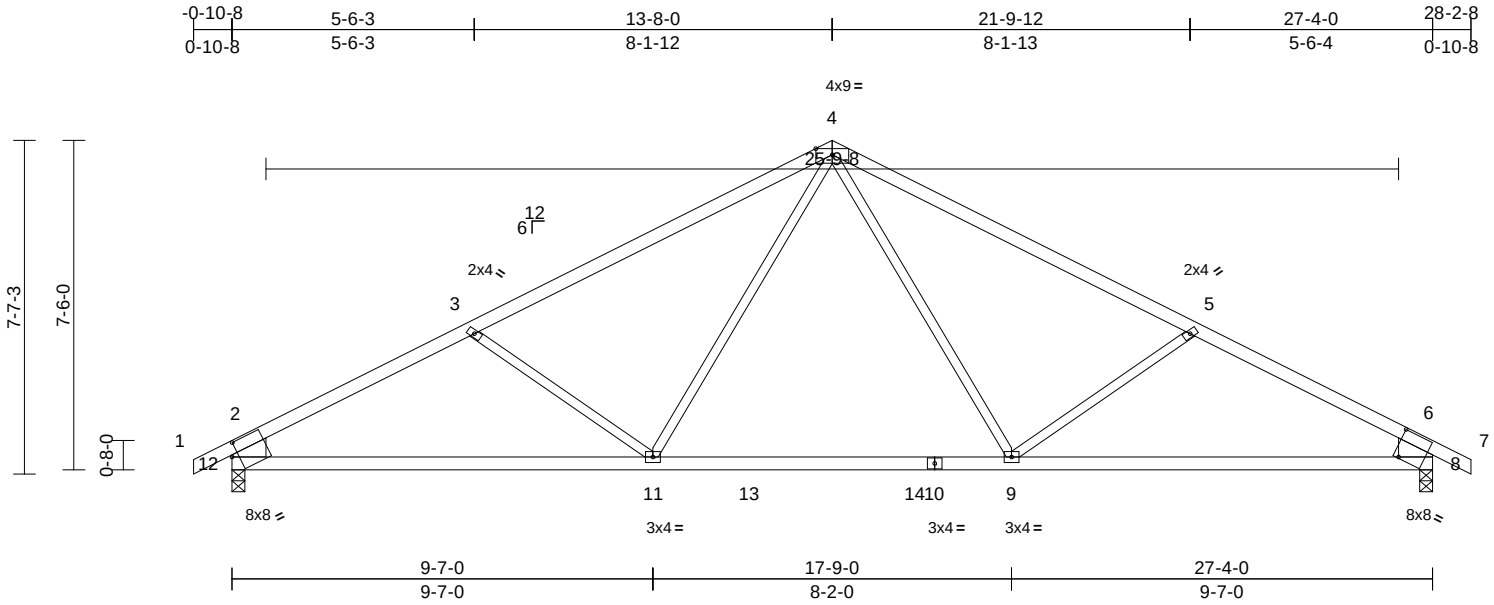

Scale = 1:52.5

Plate Offsets (X, Y): [8:0-1-8,0-7-10], [12:0-1-13,0-3-8]

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	0.81	Vert(LL)	-0.31	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.47	9-11	>676	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.07	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	9-11	>999	240	Weight: 93 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-2,8-6:2x10 SP DSS

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 8=1284/0-3-8, 12=1284/0-3-8
Max Horiz 12=-115 (LC 6)
Max Uplift 8=-177 (LC 9), 12=-177 (LC 8)
Max Grav 8=1329 (LC 2), 12=1329 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/39, 2-3=-1975/301, 3-4=-1730/217, 4-5=-1730/218, 5-6=-1975/301, 6-7=0/39, 2-12=-1175/224, 6-8=-1175/224
BOT CHORD 11-12=-304/1675, 9-11=-51/1189, 8-9=-195/1664
WEBS 4-9=-57/573, 5-9=-403/278, 4-11=-57/573, 3-11=-403/278

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 177 lb uplift at joint 12 and 177 lb uplift at joint 8.
6) 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) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537487
Lot 20 OS	V1	Valley	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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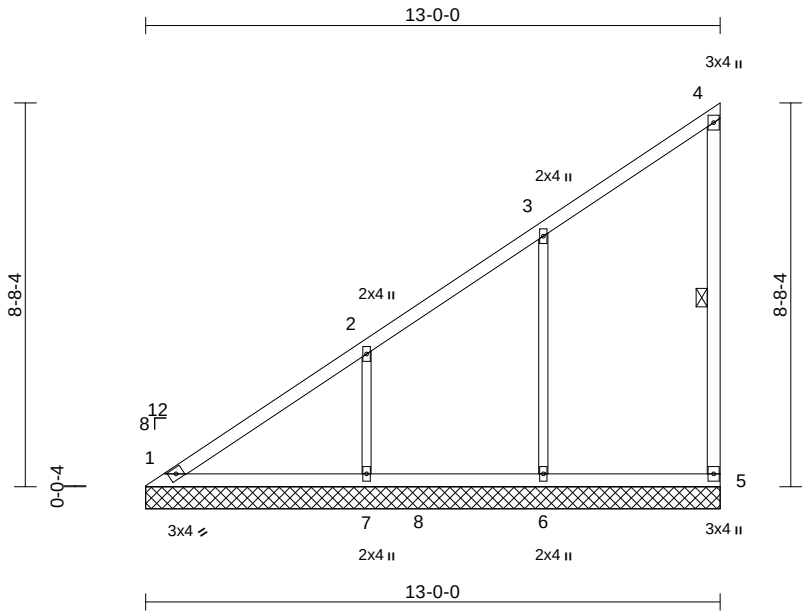

Scale = 1:52.1

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	0.33	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.24	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 48 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-5

REACTIONS (lb/size) 1=167/13-0-0, 5=147/13-0-0, 6=363/13-0-0, 7=439/13-0-0
Max Horiz 1=329 (LC 5)
Max Uplift 1=-23 (LC 4), 5=-63 (LC 5), 6=-141 (LC 8), 7=-170 (LC 8)
Max Grav 1=254 (LC 16), 5=221 (LC 15), 6=503 (LC 15), 7=540 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-287/207, 2-3=-221/142, 3-4=-180/107, 4-5=-132/66
BOT CHORD 1-7=-117/91, 6-7=-117/91, 5-6=-117/91
WEBS 3-6=-307/171, 2-7=-347/223

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 23 lb uplift at joint 1, 63 lb uplift at joint 5, 141 lb uplift at joint 6 and 170 lb uplift at joint 7.
8) 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) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	V2	Valley	2	1	I47537488 Job Reference (optional)

ID:NJO4vsQUCNS?y5JcfNrgeMz_StA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

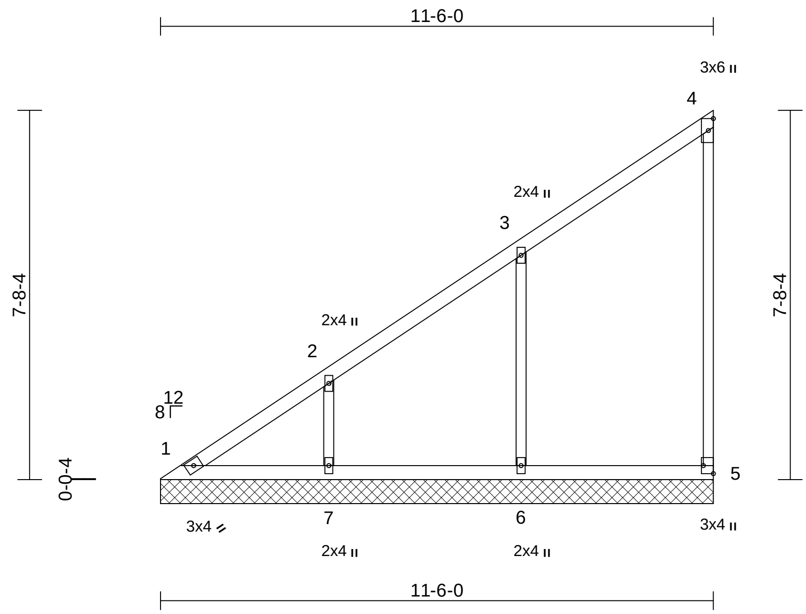

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Plate Offsets (X, Y): [5:Edge,0-2-8]

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	0.48	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 39 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=103/11-6-0, 5=141/11-6-0, 6=398/11-6-0, 7=343/11-6-0
Max Horiz 1=291 (LC 5)
Max Uplift 1=-34 (LC 4), 5=-56 (LC 5), 6=-155 (LC 8), 7=-133 (LC 8)
Max Grav 1=187 (LC 16), 5=213 (LC 15), 6=516 (LC 15), 7=407 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-260/176, 2-3=-204/150, 3-4=-170/95, 4-5=-126/60
BOT CHORD 1-7=-104/79, 6-7=-104/79, 5-6=-104/79
WEBS 3-6=-333/188, 2-7=-274/179

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 1, 56 lb uplift at joint 5, 155 lb uplift at joint 6 and 133 lb uplift at joint 7.
8) 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) Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537489
Lot 20 OS	V3	Valley	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:58 Page: 1
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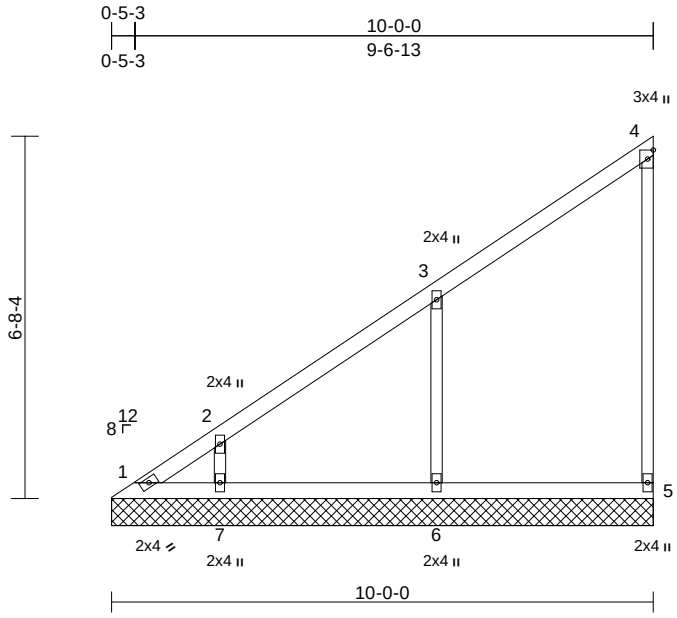

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 33 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=17/10-0-0, 5=139/10-0-0, 6=406/10-0-0, 7=287/10-0-0
Max Horiz 1=251 (LC 7)
Max Uplift 1=-70 (LC 6), 5=-50 (LC 5), 6=-158 (LC 8), 7=-112 (LC 8)
Max Grav 1=130 (LC 5), 5=209 (LC 15), 6=526 (LC 15), 7=338 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-233/159, 2-3=-189/148, 3-4=-161/85, 4-5=-124/58
BOT CHORD 1-7=-89/69, 6-7=-89/69, 5-6=-89/69
WEBS 3-6=-337/197, 2-7=-234/158

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 70 lb uplift at joint 1, 50 lb uplift at joint 5, 158 lb uplift at joint 6 and 112 lb uplift at joint 7.
8) 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) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	V4	Valley	2	1	I47537490 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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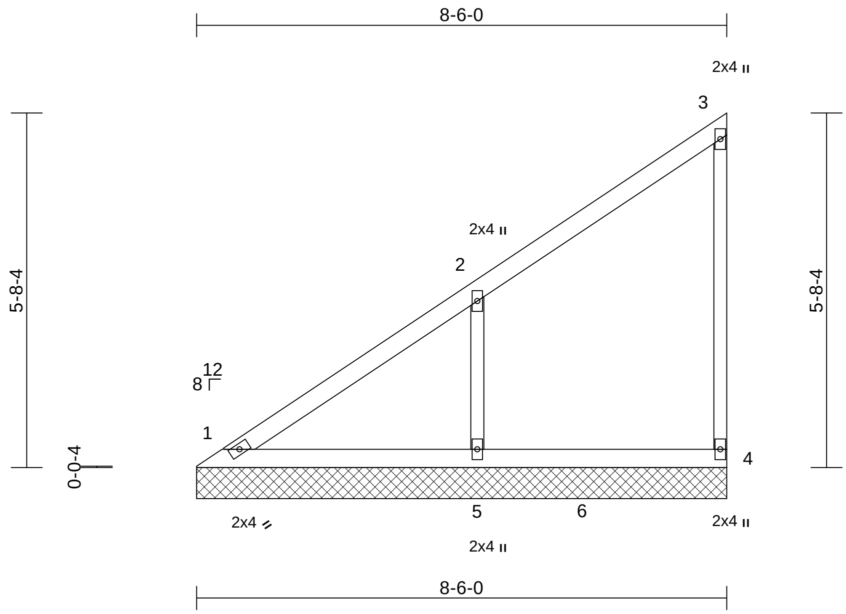

Scale = 1:36.9

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	0.38	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 27 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=139/8-6-0, 4=130/8-6-0, 5=447/8-6-0
Max Horiz 1=211 (LC 5)
Max Uplift 1=-5 (LC 4), 4=-43 (LC 5), 5=-173 (LC 8)
Max Grav 1=189 (LC 16), 4=191 (LC 15), 5=551 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-179/160, 2-3=-156/79, 3-4=-119/60
BOT CHORD 1-5=-75/57, 4-5=-75/57
WEBS 2-5=-364/233

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 1, 43 lb uplift at joint 4 and 173 lb uplift at joint 5.
8) 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) Standard

August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	V5	Valley	2	1	Job Reference (optional) I47537491

Wheeler Lumber, Waverly, KS - 66871,

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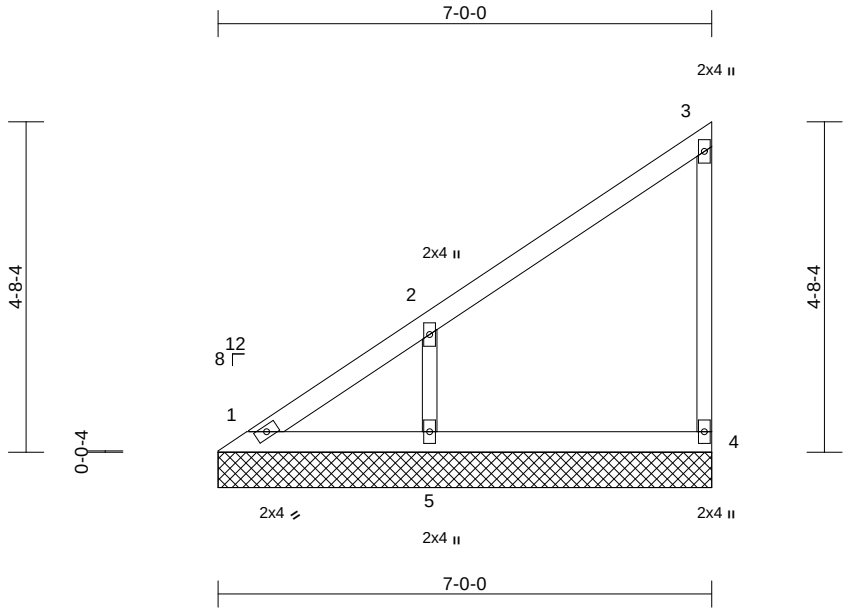

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 21 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=63/7-0-0, 4=142/7-0-0, 5=375/7-0-0
Max Horiz 1=171 (LC 5)
Max Uplift 1=-20 (LC 4), 4=-39 (LC 5), 5=-145 (LC 8)
Max Grav 1=101 (LC 16), 4=158 (LC 15), 5=389 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-153/129, 2-3=-140/71, 3-4=-126/58
BOT CHORD 1-5=-61/46, 4-5=-61/46
WEBS 2-5=-306/195

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 1, 39 lb uplift at joint 4 and 145 lb uplift at joint 5.
8) 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) Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

August 20,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/31/2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS
Lot 20 OS	V6	Valley	2	1	I47537492 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:59 Page: 1
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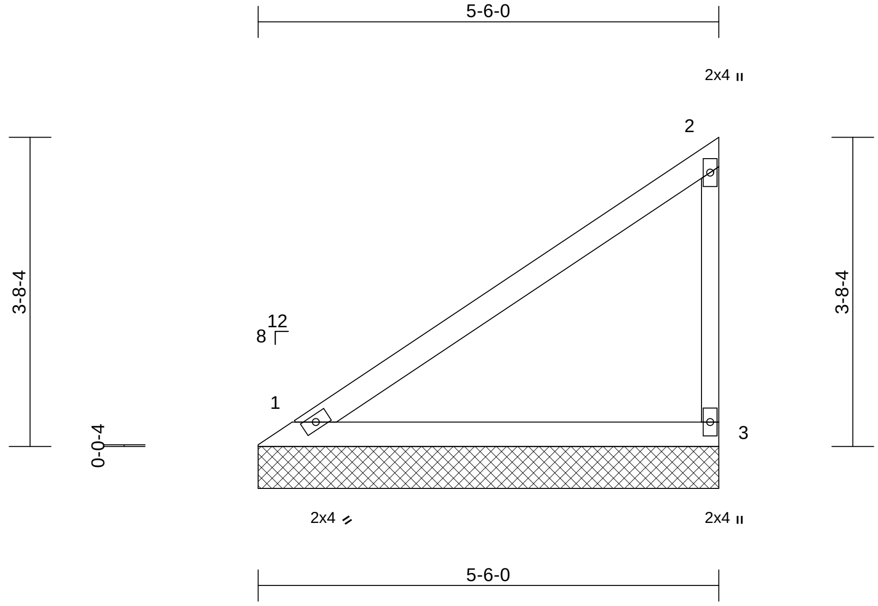


Scale = 1:27.5

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	0.48	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.25	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

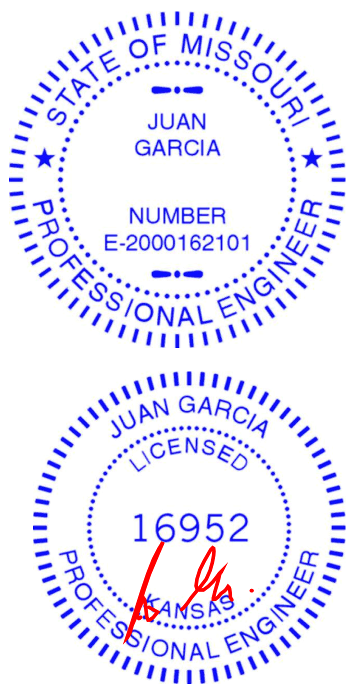
BRACING
TOP CHORD Structural wood sheathing directly applied or 5-6-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=223/5-6-0, 3=223/5-6-0
Max Horiz 1=131 (LC 5)
Max Uplift 1=-19 (LC 8), 3=-65 (LC 8)
Max Grav 1=223 (LC 1), 3=239 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-122/99, 2-3=-190/94
BOT CHORD 1-3=-47/36

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 1 and 65 lb uplift at joint 3.
8) 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) Standard



August 20,2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	I47537493
Lot 20 OS	V7	Valley	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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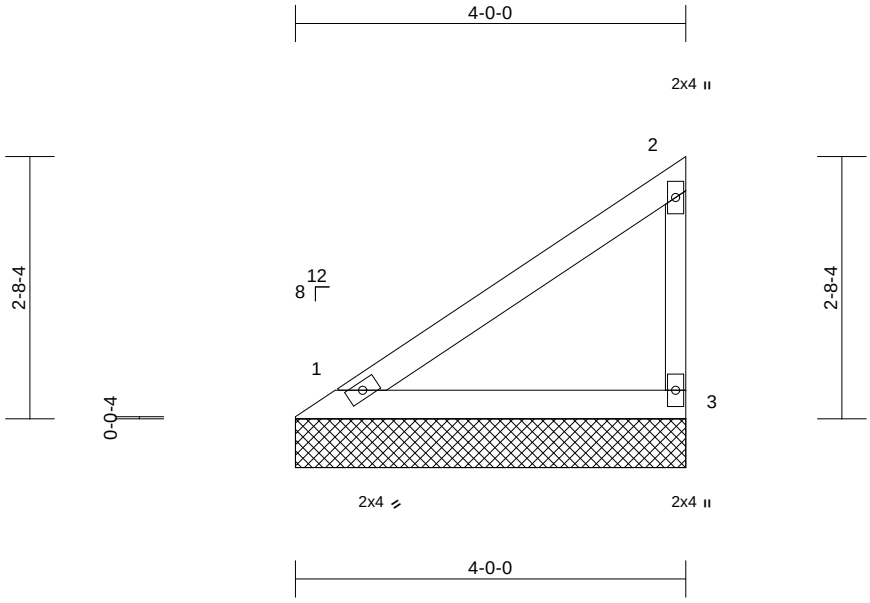

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 11 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

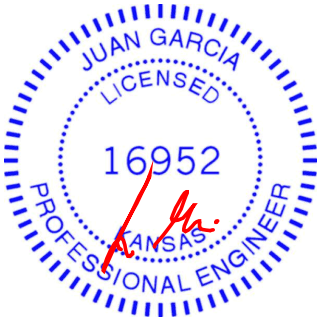
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-0-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=155/4-0-0, 3=155/4-0-0
Max Horiz 1=91 (LC 5)
Max Uplift 1=-13 (LC 8), 3=-45 (LC 8)
Max Grav 1=155 (LC 1), 3=167 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-85/69, 2-3=-132/66
BOT CHORD 1-3=-33/25

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1 and 45 lb uplift at joint 3.
8) 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) Standard



August 20,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/31/2021

Job	Truss	Truss Type	Qty	Ply	Lot 20 OS	
Lot 20 OS	V8	Valley	2	1	Job Reference (optional)	I47537494

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jul 29 2021 Print: 8.430 S Jul 29 2021 MiTek Industries, Inc. Thu Aug 19 15:16:59 Page: 1

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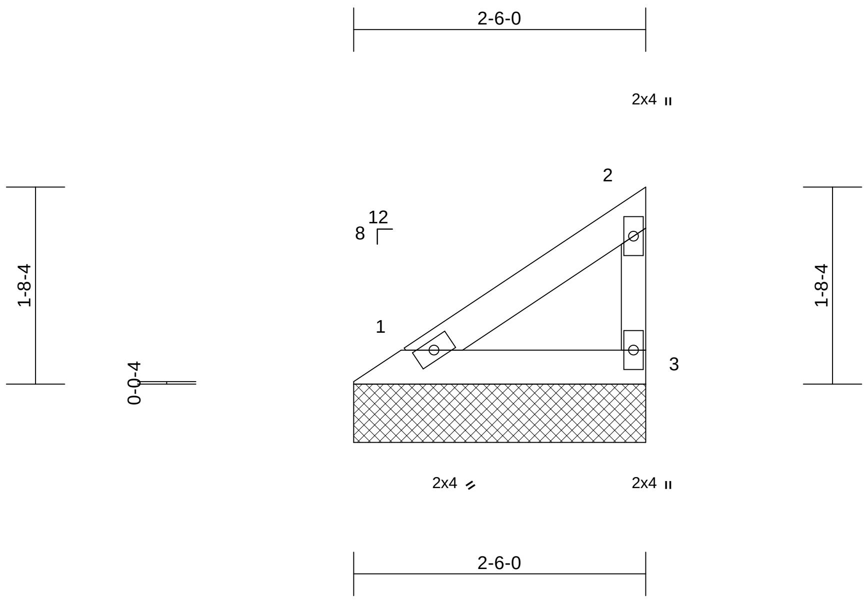


Scale = 1:19.7

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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 7 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-6-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=88/2-6-0, 3=88/2-6-0
Max Horiz 1=52 (LC 5)
Max Uplift 1=-7 (LC 8), 3=-25 (LC 8)
Max Grav 1=88 (LC 1), 3=94 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-48/39, 2-3=-75/37
BOT CHORD 1-3=-18/14

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 1 and 25 lb uplift at joint 3.
8) 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.

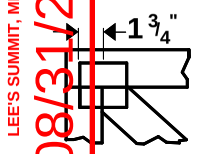
LOAD CASE(S) Standard

August 20,2021

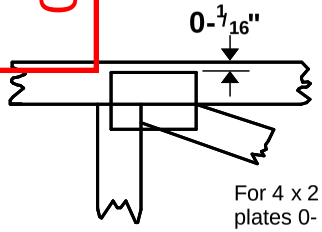
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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.

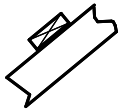
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

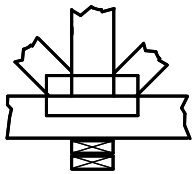
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

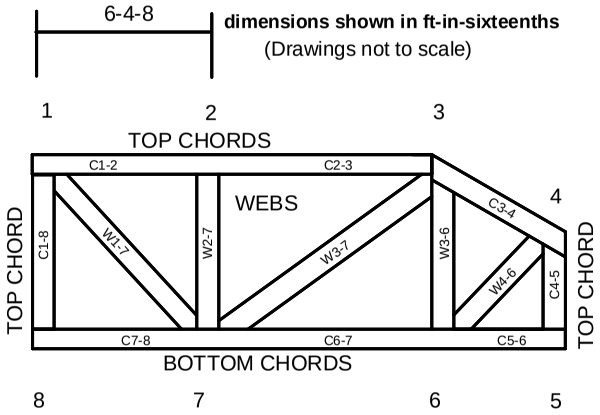


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: 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



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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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/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.