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

Re: B210102
123 MN

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

Pages or sheets covered by this seal: I49388336 thru I49388377

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

Missouri COA: Engineering 001193

December 22,2021

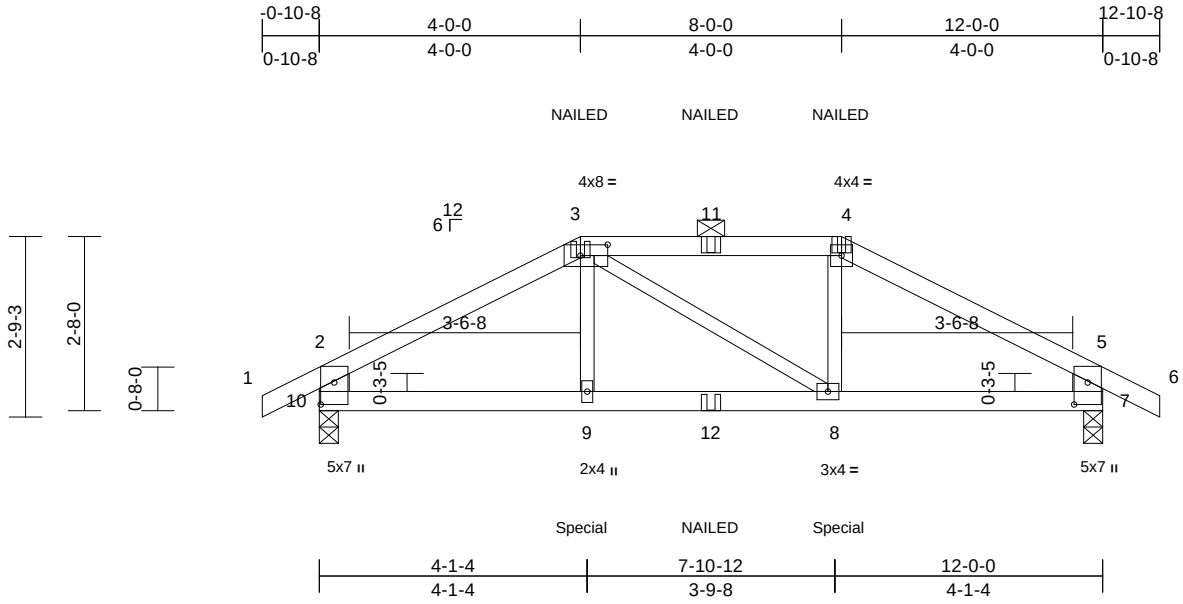
Sevier, Scott ,Engineer

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	Truss	Truss Type	Qty	Ply	123 MN	I49388336
B210102	A1	Hip Girder	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:39 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:35.3

Plate Offsets (X, Y): [3:0-5-0,0-2-0], [7:0-4-1,0-2-8], [10:0-4-1,0-2-8]

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	0.71	Vert(LL)	-0.07	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.13	8-9	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.10	Horz(CT)	0.02	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	8-9	>999	240	Weight: 39 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-2,7-5:2x6 SP DSS

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

REACTIONS (lb/size) 7=899/0-3-8, 10=899/0-3-8
Max Horiz 10=50 (LC 7)
Max Uplift 7=-201 (LC 9), 10=-201 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-1231/277, 3-4=-1024/269, 4-5=-1232/276, 5-6=0/35, 2-10=-806/214, 5-7=-806/213
BOT CHORD 9-10=-219/1012, 8-9=-219/1023, 7-8=-196/1013
WEBS 3-9=0/271, 3-8=-50/52, 4-8=-5/279

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) Provide adequate drainage to prevent water ponding.
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 201 lb uplift at joint 10 and 201 lb uplift at joint 7.
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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 220 lb down and 57 lb up at 4-0-0, and 220 lb down and 57 lb up at 7-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 3-4=-70, 4-5=-70, 5-6=-70, 7-10=-20
Concentrated Loads (lb)
Vert: 3=-46 (F), 4=-46 (F), 9=-220 (F), 8=-220 (F), 11=-46 (F), 12=-25 (F)

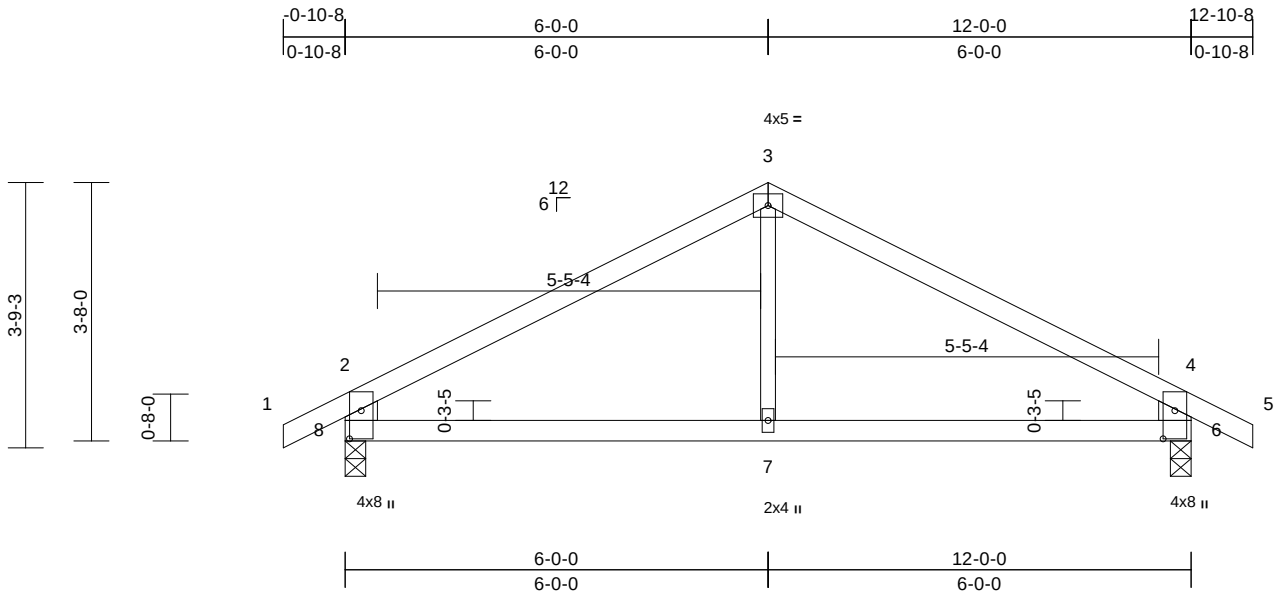
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388337
B210102	A2	Common	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:41 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:32.7

Plate Offsets (X, Y): [6:0-4-13,0-2-0], [8:0-4-13,0-2-0]

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	0.42	Vert(LL)	-0.02	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.05	7-8	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	7-8	>999	240	Weight: 35 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x6 SPF No.2 *Except* 7-3:2x3 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) 6=597/0-3-8, 8=597/0-3-8
Max Horiz 8=62 (LC 7)
Max Uplift 6=-89 (LC 9), 8=-89 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-638/89, 3-4=-638/89, 4-5=0/35, 2-8=-544/131, 4-6=-544/131
BOT CHORD 7-8=-14/480, 6-7=-14/480
WEBS 3-7=0/246

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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 89 lb uplift at joint 8 and 89 lb uplift at joint 6.
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

STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER PE-2001018807
PROFESSIONAL ENGINEER

December 22,2021

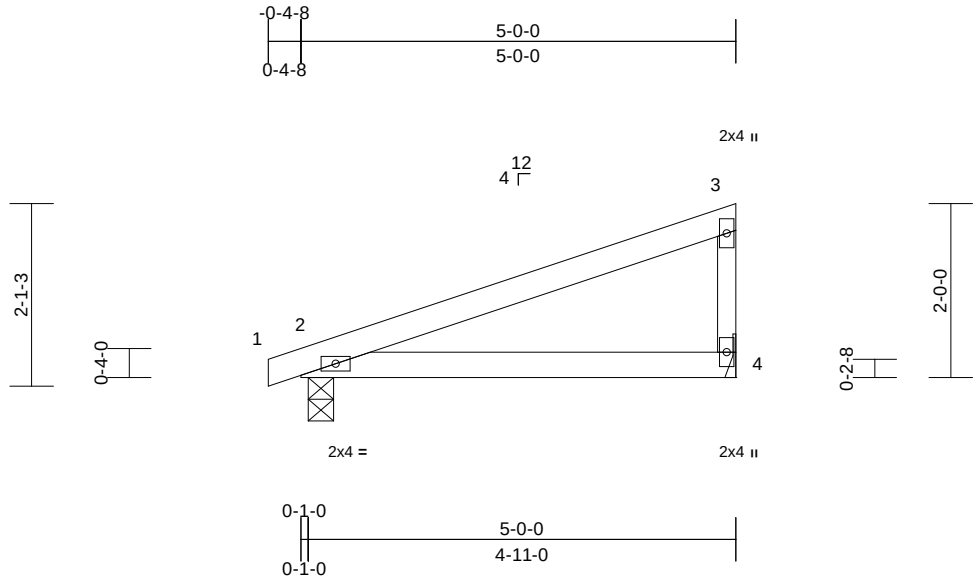
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	B1	Monopitch	7	1	I49388338

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:41 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:26.5

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	0.42	Vert(LL)	-0.03	2-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	-0.06	2-4	>933	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-P							Weight: 13 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 5-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 2=252/0-3-8, 4=212/ Mechanical
Max Horiz 2=76 (LC 5)
Max Uplift 2=-58 (LC 4), 4=-45 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-66/43, 3-4=-164/74
BOT CHORD 2-4=-24/18

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 45 lb uplift at joint 4 and 58 lb uplift at joint 2.
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

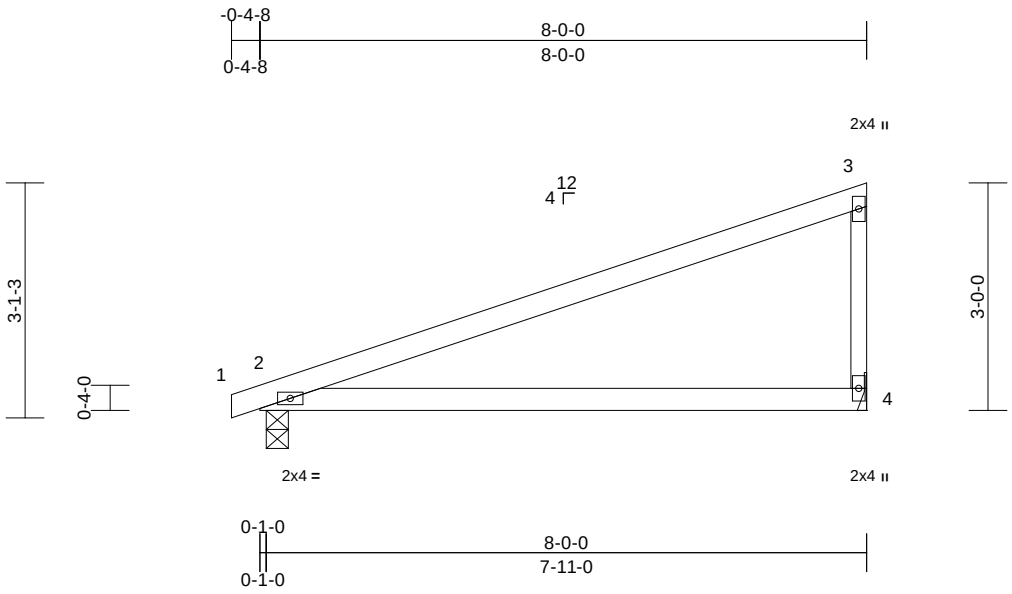
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	B2	Monopitch	3	1	Job Reference (optional) I49388339

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:42 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:30.4

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	0.77	Vert(LL)	-0.17	2-4	>553	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.34	2-4	>276	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-P							Weight: 21 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF 2100F 1.8E
WEBS 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) 2=386/0-3-8, 4=348/ Mechanical
Max Horiz 2=121 (LC 5)
Max Uplift 2=-79 (LC 4), 4=-74 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-105/70, 3-4=-270/121
BOT CHORD 2-4=-38/29

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 74 lb uplift at joint 4 and 79 lb uplift at joint 2.
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

December 22,2021

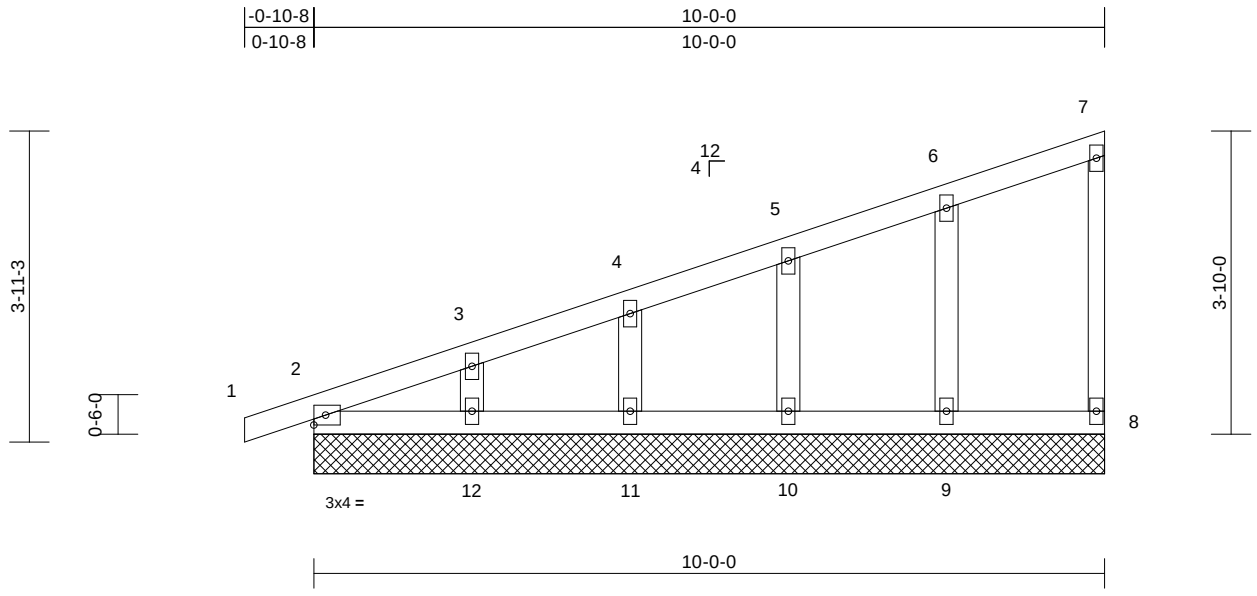
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	C1	GABLE	1	1	I49388340

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:42 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:29.1

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	0.09	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 35 lb	FT = 10%

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

REACTIONS (lb/size) 2=150/10-0-0, 8=69/10-0-0, 9=194/10-0-0, 10=177/10-0-0, 11=180/10-0-0, 12=182/10-0-0
Max Horiz 2=158 (LC 7)
Max Uplift 2=-22 (LC 4), 8=-16 (LC 5), 9=-46 (LC 4), 10=-42 (LC 8), 11=-44 (LC 4), 12=-52 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-129/27, 3-4=-102/21, 4-5=-86/21, 5-6=-76/22, 6-7=-61/29, 7-8=-53/22
BOT CHORD 2-12=-50/37, 11-12=-50/37, 10-11=-50/37, 9-10=-50/37, 8-9=-50/37
WEBS 3-12=-140/77, 4-11=-141/67, 5-10=-138/68, 6-9=-151/62

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) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 8, 22 lb uplift at joint 2, 52 lb uplift at joint 12, 44 lb uplift at joint 11, 42 lb uplift at joint 10 and 46 lb uplift at joint 9.
9) 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

December 22,2021

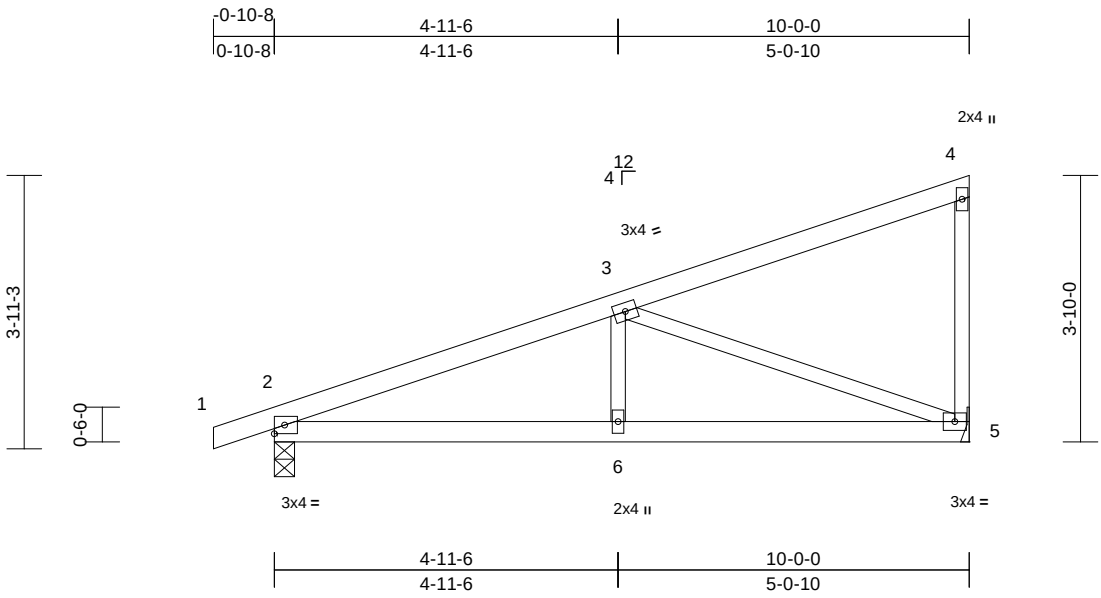
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	C2	Monopitch	10	1	I49388341

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:42 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:33.2

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	2-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.04	5-6	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	2-6	>999	240	Weight: 33 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 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 2=514/0-3-8, 5=435/ Mechanical
Max Horiz 2=158 (LC 5)
Max Uplift 2=-115 (LC 4), 5=-94 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-782/113, 3-4=-109/21, 4-5=-141/57
BOT CHORD 2-6=-134/682, 5-6=-134/682
WEBS 3-6=0/228, 3-5=-714/178

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 94 lb uplift at joint 5 and 115 lb uplift at joint 2.
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

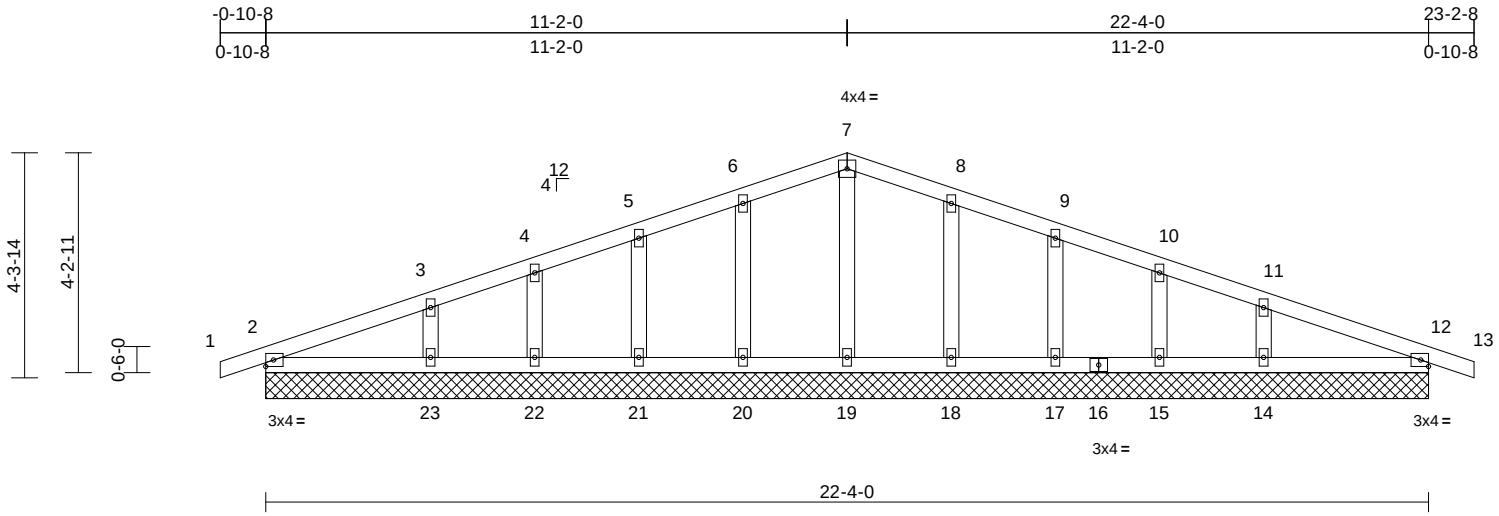
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	D1	Common Supported Gable	1	1	Job Reference (optional) I49388342

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:42 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:44.3

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	0.09	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 77 lb	FT = 10%

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

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

REACTIONS (lb/size) 2=191/22-4-0, 12=191/22-4-0, 14=275/22-4-0, 15=145/22-4-0, 17=187/22-4-0, 18=186/22-4-0, 19=163/22-4-0, 20=186/22-4-0, 21=187/22-4-0, 22=145/22-4-0, 23=275/22-4-0
Max Horiz 2=71 (LC 8)
Max Uplift 2=-45 (LC 4), 12=-54 (LC 5), 14=-68 (LC 9), 15=-36 (LC 5), 17=-44 (LC 9), 18=-46 (LC 9), 20=-46 (LC 8), 21=-44 (LC 8), 22=-36 (LC 4), 23=-70 (LC 8)
Max Grav 2=191 (LC 1), 12=191 (LC 1), 14=275 (LC 22), 15=145 (LC 22), 17=187 (LC 1), 18=189 (LC 22), 19=163 (LC 1), 20=189 (LC 21), 21=187 (LC 1), 22=145 (LC 21), 23=275 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-81/59, 3-4=-47/60, 4-5=-28/75, 5-6=-29/92, 6-7=-31/110, 7-8=-31/106, 8-9=-29/77, 9-10=-28/47, 10-11=-35/28, 11-12=-56/38, 12-13=0/6
BOT CHORD 2-23=-3/57, 22-23=-3/57, 21-22=-3/57, 20-21=-3/57, 19-20=-3/57, 18-19=-3/57, 17-18=-3/57, 15-17=-3/57, 14-15=-3/57, 12-14=-3/57
WEBS 7-19=-123/0, 6-20=-150/70, 5-21=-144/69, 4-22=-117/57, 3-23=-205/101, 8-18=-150/69, 9-17=-144/69, 10-15=-117/57, 11-14=-205/99

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) 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.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 2, 46 lb uplift at joint 20, 44 lb uplift at joint 21, 36 lb uplift at joint 22, 70 lb uplift at joint 23, 46 lb uplift at joint 18, 44 lb uplift at joint 17, 36 lb uplift at joint 15, 68 lb uplift at joint 14 and 54 lb uplift at joint 12.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 12.
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

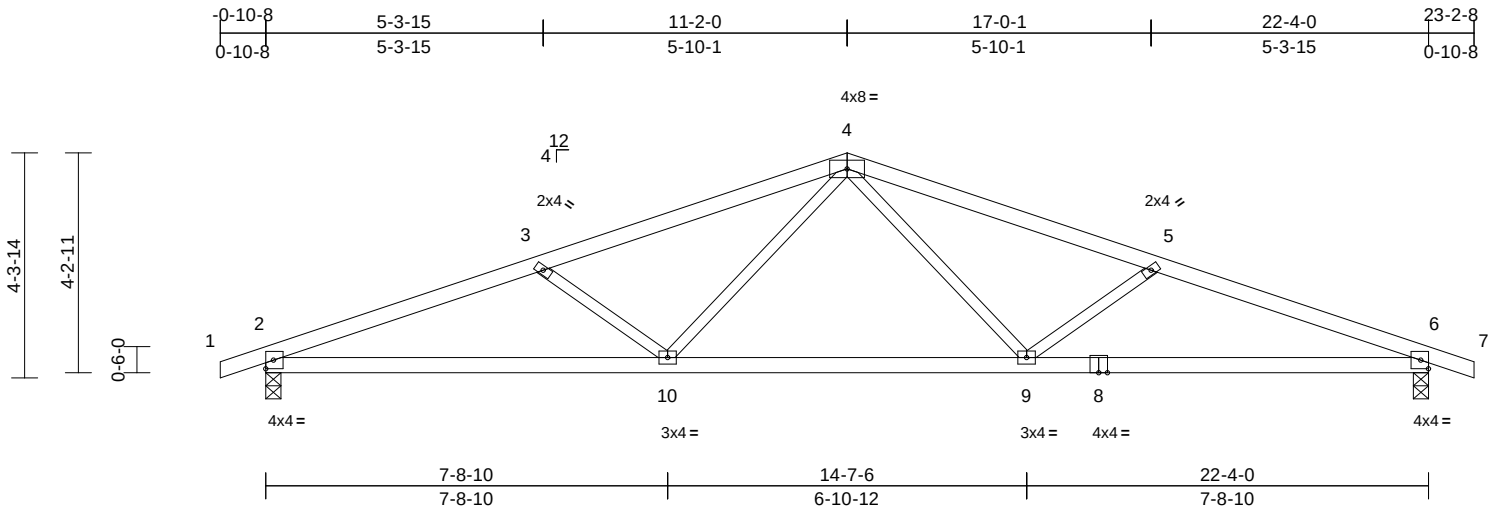
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388343
B210102	D2	Common	5	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:43 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:44.3

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	0.47	Vert(LL)	-0.12	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.25	6-9	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.07	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.08	9-10	>999	240	Weight: 68 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 3-7-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 2=1063/0-3-8, 6=1063/0-3-8
Max Horiz 2=71 (LC 8)
Max Uplift 2=-189 (LC 4), 6=-189 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-2232/355, 3-4=-1909/259, 4-5=-1909/260, 5-6=-2232/355, 6-7=0/6
BOT CHORD 2-10=-333/2049, 9-10=-127/1406, 6-9=-280/2049
WEBS 4-9=-59/541, 5-9=-418/221, 4-10=-58/541, 3-10=-418/221

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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 189 lb uplift at joint 2 and 189 lb uplift at joint 6.
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

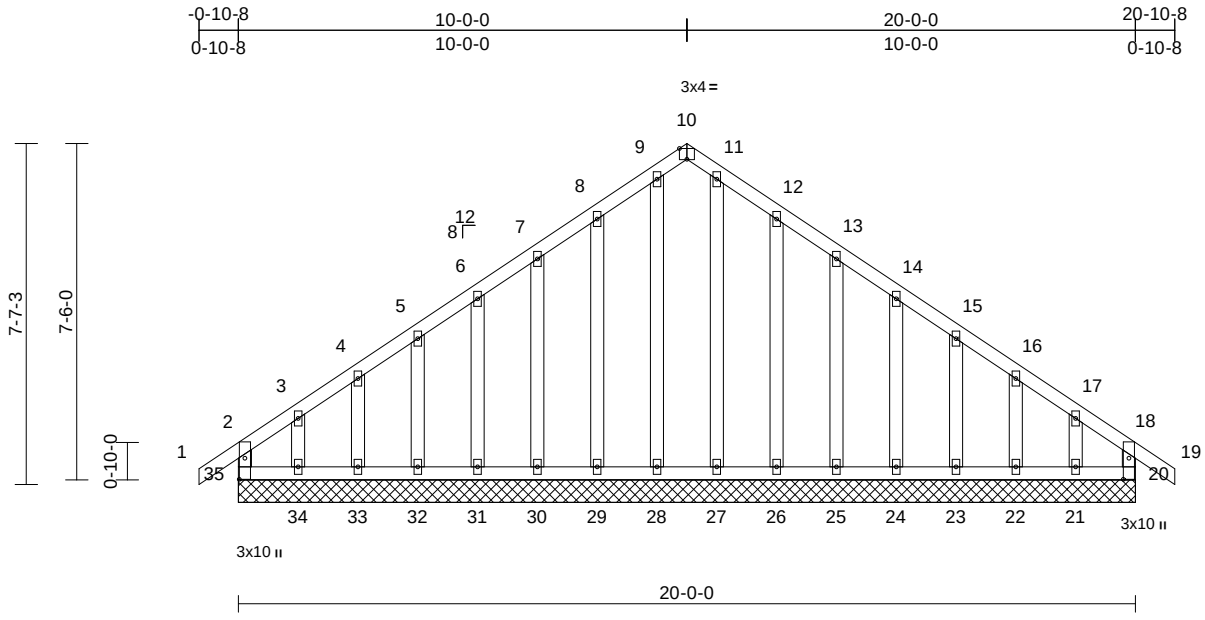
December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	E1	GABLE	1	1	I49388344

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:43 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:51.4

Plate Offsets (X, Y): [10:0-2-0,Edge], [20:0-5-10,0-1-8], [35:0-5-10,0-1-8]

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	0.08	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	20	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 115 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) 20=148/20-0-0, 21=83/20-0-0, 22=127/20-0-0, 23=119/20-0-0, 24=120/20-0-0, 25=120/20-0-0, 26=119/20-0-0, 27=122/20-0-0, 28=122/20-0-0, 29=119/20-0-0, 30=120/20-0-0, 31=120/20-0-0, 32=119/20-0-0, 33=127/20-0-0, 34=83/20-0-0, 35=148/20-0-0
Max Horiz 35=213 (LC 7)
Max Uplift 20=-53 (LC 5), 21=-120 (LC 9), 22=-31 (LC 9), 23=-50 (LC 9), 24=-45 (LC 9), 25=-47 (LC 9), 26=-66 (LC 9), 29=-64 (LC 8), 30=-47 (LC 8), 31=-45 (LC 8), 32=-51 (LC 8), 33=-28 (LC 8), 34=-133 (LC 8), 35=-96 (LC 4)
Max Grav 20=166 (LC 15), 21=137 (LC 16), 22=127 (LC 22), 23=125 (LC 16), 24=124 (LC 16), 25=125 (LC 16), 26=128 (LC 16), 27=135 (LC 17), 28=146 (LC 18), 29=125 (LC 15), 30=125 (LC 15), 31=124 (LC 15), 32=126 (LC 15), 33=127 (LC 21), 34=158 (LC 15), 35=201 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-35=-162/77, 1-2=0/40, 2-3=-161/143, 3-4=-110/109, 4-5=-102/100, 5-6=-89/100, 6-7=-76/125, 7-8=-64/150, 8-9=-54/184, 9-10=-39/137, 10-11=-35/133, 11-12=-34/165, 12-13=-31/128, 13-14=-40/103, 14-15=-49/79, 15-16=-59/60, 16-17=-71/69, 17-18=-129/94, 18-19=0/40, 18-20=-136/43
BOT CHORD 34-35=-93/121, 33-34=-93/121, 32-33=-93/121, 31-32=-93/121, 30-31=-93/121, 29-30=-93/121, 28-29=-93/121, 27-28=-93/121, 26-27=-93/121, 25-26=-93/121, 24-25=-93/121, 23-24=-93/121, 22-23=-93/121, 21-22=-93/121, 20-21=-93/121
WEBS 3-34=-104/103, 4-33=-99/55, 5-32=-98/64, 6-31=-98/62, 7-30=-98/63, 8-29=-98/80, 9-28=-119/9, 11-27=-108/0, 12-26=-101/82, 13-25=-98/63, 14-24=-98/62, 15-23=-98/64, 16-22=-99/57, 17-21=-94/95

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 96 lb uplift at joint 35, 53 lb uplift at joint 20, 133 lb uplift at joint 34, 28 lb uplift at joint 33, 51 lb uplift at joint 32, 45 lb uplift at joint 31, 47 lb uplift at joint 30, 64 lb uplift at joint 29, 66 lb uplift at joint 26, 47 lb uplift at joint 25, 45 lb uplift at joint 24, 50 lb uplift at joint 23, 31 lb uplift at joint 22 and 120 lb uplift at joint 21.
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.

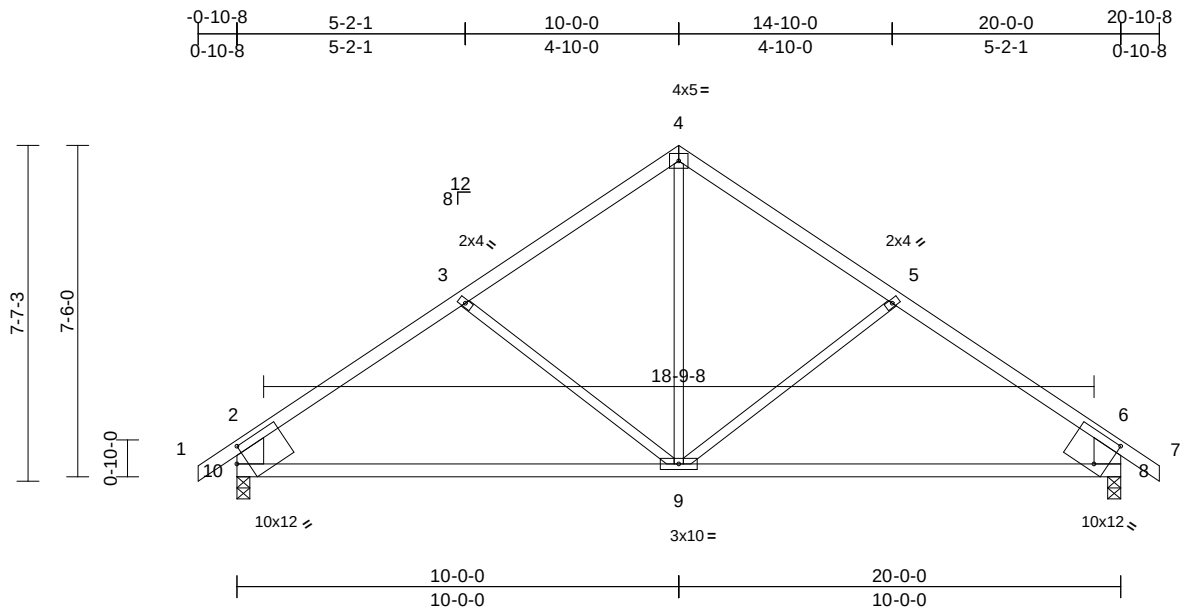
LOAD CASE(S) Standard

December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	E2	Common	3	1	Job Reference (optional) I49388345

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:48 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:52.1

Plate Offsets (X, Y): [8:0-3-6,0-8-1], [10:0-2-11,0-4-0]

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	0.77	Vert(LL)	-0.17	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.34	9-10	>677	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.02	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	9-10	>999	240	Weight: 72 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-2,8-6:2x8 SP DSS

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 8=955/0-3-8, 10=955/0-3-8
Max Horiz 10=-217 (LC 6)
Max Uplift 8=-125 (LC 9), 10=-125 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/46, 2-3=-1079/161, 3-4=-828/155, 4-5=-828/154, 5-6=-1079/161, 6-7=0/46, 2-10=-853/175, 6-8=-853/175
BOT CHORD 9-10=-143/819, 8-9=-40/783
WEBS 4-9=-46/479, 5-9=-255/212, 3-9=-254/211

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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 125 lb uplift at joint 10 and 125 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

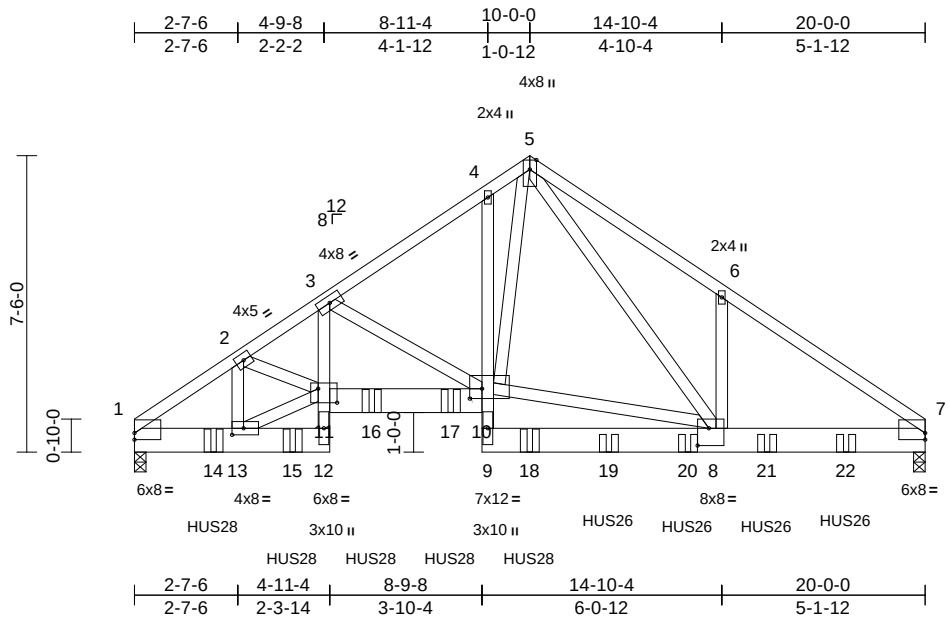
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	E3	ROOF SPECIAL GIRDER	1	3	Job Reference (optional) I49388346

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:44 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:58.3

Plate Offsets (X, Y): [1:Edge,0-2-0], [7:Edge,0-2-0], [8:0-3-7,0-5-4], [10:0-3-12,0-3-0], [11:0-5-12,0-4-4], [13:0-3-8,0-2-0]

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	0.70	Vert(LL)	-0.12	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.21	8-9	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.66	Horz(CT)	0.09	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	8-9	>999	240	Weight: 412 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x8 SP 2400F 2.0E
WEBS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-8-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=6997/0-3-8, (req. 0-3-11), 7=6989/0-3-8, (req. 0-3-10)
Max Horiz 1=183 (LC 7)
Max Uplift 1=-377 (LC 8), 7=-247 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-9602/472, 2-3=-13567/633, 3-4=-8496/371, 4-5=-8247/460, 5-6=-9385/496, 6-7=-9764/337
BOT CHORD 1-13=-432/7260, 12-13=-12/239, 10-11=-546/11491, 8-9=-7/391, 7-8=-206/7720
WEBS 11-12=-24/1267, 3-11=-250/5364, 9-10=-11/1718, 4-10=-77/305, 2-13=-3052/144, 11-13=-481/8029, 2-11=-114/4353, 3-10=-5247/385, 8-10=-143/5388, 5-10=-378/6373, 5-8=-289/3753, 6-8=-91/599

NOTES
1) 3-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: 2x8 - 3 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) Unbalanced roof live loads have been considered for this design.
4) 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
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) WARNING: Required bearing size at joint(s) 1, 7 greater than input bearing size.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 377 lb uplift at joint 1 and 247 lb uplift at joint 7.
9) 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.
10) Use Simpson Strong-Tie HUS28 (22-10d Girder, 4-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-0 from the left end to 10-0-0 to connect truss(es) to back face of bottom chord.
11) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 12-0-0 from the left end to 18-0-0 to connect truss(es) to back face of bottom chord.
12) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-5=-70, 5-7=-70, 1-12=-20, 10-11=-20, 7-9=-20
Concentrated Loads (lb)
Vert: 14=-1353 (B), 15=-1358 (B), 16=-1363 (B), 17=-1363 (B), 18=-1361 (B), 19=-1358 (B), 20=-1353 (B), 21=-1353 (B), 22=-1353 (B)

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

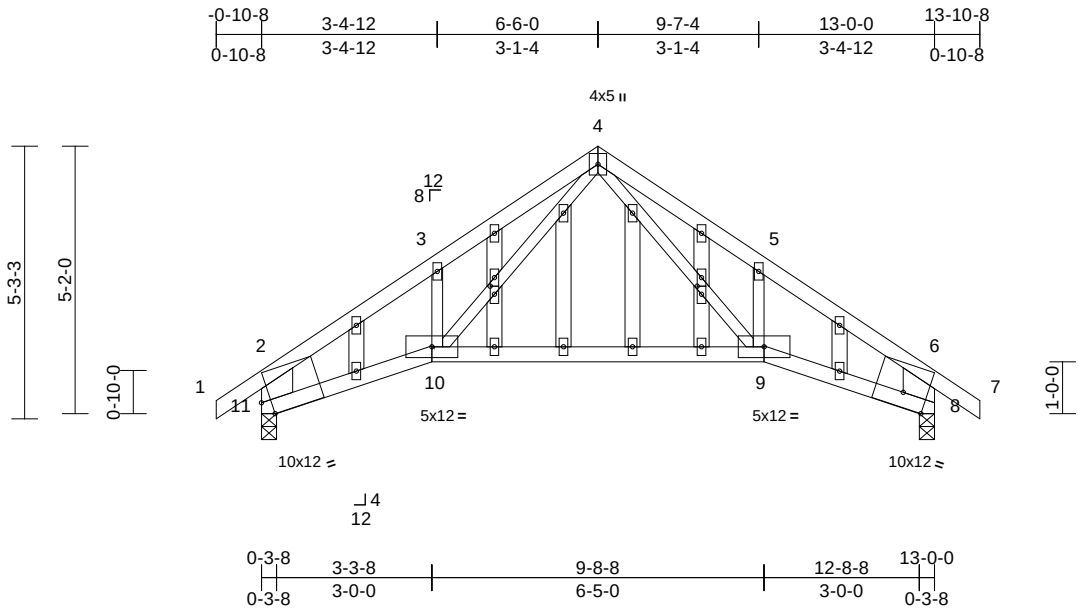
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	G1	GABLE	1	1	Job Reference (optional) I49388347

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:44 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:44.5

Plate Offsets (X, Y): [8:0-5-7,Edge], [11:0-2-3,Edge], [14:0-1-14,0-1-0], [23:0-1-14,0-1-0]

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	0.72	Vert(LL)	-0.10	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.50	Vert(CT)	-0.23	9-10	>641	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.09	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	9-10	>999	240	Weight: 64 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-2,8-6:2x8 SP DSS
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-5-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 8=640/0-3-8, 11=640/0-3-8
Max Horiz 11=-155 (LC 6)
Max Uplift 8=-89 (LC 9), 11=-89 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/46, 2-3=-934/109, 3-4=-816/224, 4-5=-816/188, 5-6=-934/67, 6-7=0/46, 2-11=-773/127, 6-8=-773/99
BOT CHORD 10-11=-91/750, 9-10=0/443, 8-9=0/687
WEBS 4-9=-133/395, 5-9=-74/167, 4-10=-155/437, 3-10=-67/157

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 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) Bearing at joint(s) 11, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 89 lb uplift at joint 11 and 89 lb uplift at joint 8.
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

December 22,2021

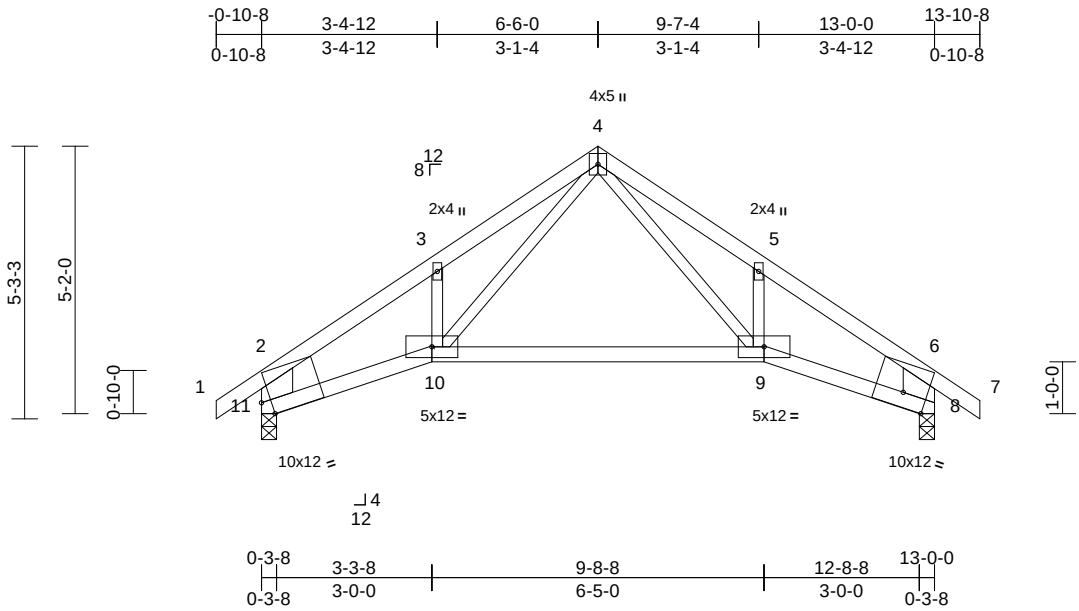
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	G2	Roof Special	1	1	I49388348

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:44 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:44.5

Plate Offsets (X, Y): [8:0-5-7,Edge], [11:0-2-3,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	0.72	Vert(LL)	-0.10	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.50	Vert(CT)	-0.23	9-10	>641	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.09	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	9-10	>999	240	Weight: 50 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-2,8-6:2x8 SP DSS

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-5-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 8=640/0-3-8, 11=640/0-3-8
Max Horiz 11=-155 (LC 6)
Max Uplift 8=-89 (LC 9), 11=-89 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/46, 2-3=-934/109, 3-4=-816/224, 4-5=-816/188, 5-6=-934/67, 6-7=0/46, 2-11=-773/127, 6-8=-773/99
BOT CHORD 10-11=-91/750, 9-10=0/443, 8-9=0/687
WEBS 4-9=-133/395, 5-9=-74/167, 4-10=-155/437, 3-10=-67/157

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.
5) Bearing at joint(s) 11, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 89 lb uplift at joint 11 and 89 lb uplift at joint 8.
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

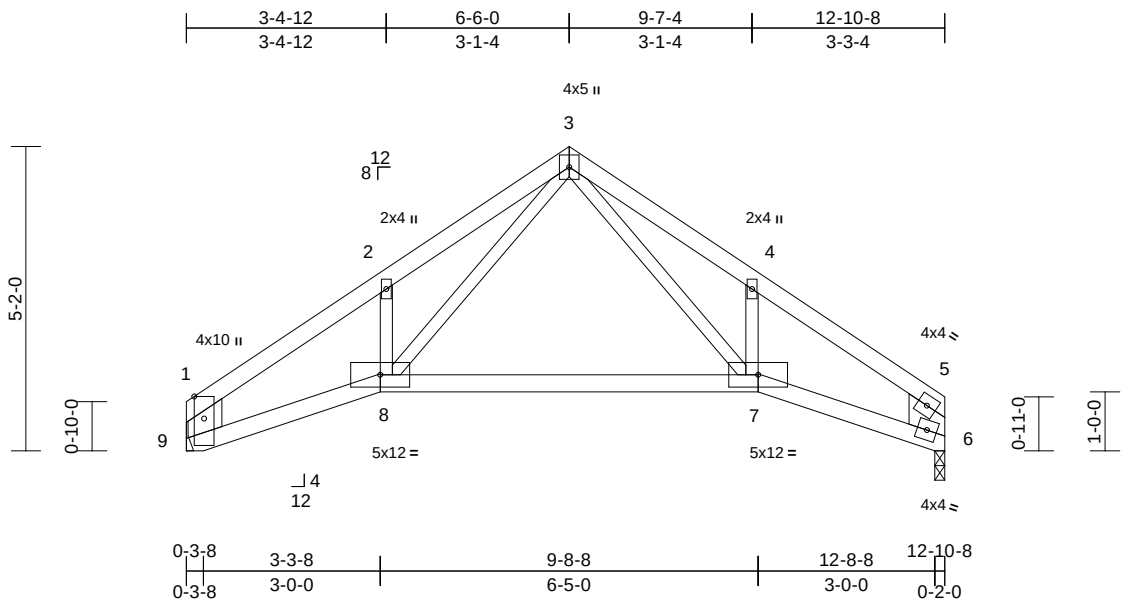
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388349
B210102	G3	Roof Special	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:46 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:39.1

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	0.52	Vert(LL)	-0.11	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.27	7-8	>554	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.11	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	7-8	>999	240	Weight: 48 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 9-1,6-5:2x8 SP DSS

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-3-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 6=552/0-2-0, 9=552/ Mechanical
Max Horiz 9=108 (LC 5)
Max Uplift 6=-2 (LC 9), 9=-2 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-932/17, 2-3=-836/106, 3-4=-804/89, 4-5=-904/0, 1-9=-665/22, 5-6=-652/9
BOT CHORD 8-9=-24/716, 7-8=0/430, 6-7=0/668
WEBS 3-7=-64/375, 4-7=-90/115, 3-8=-75/436, 2-8=-102/113

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.
5) Refer to girder(s) for truss to truss connections.
6) Bearing at joint(s) 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 6.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 2 lb uplift at joint 9 and 2 lb uplift at joint 6.
9) 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

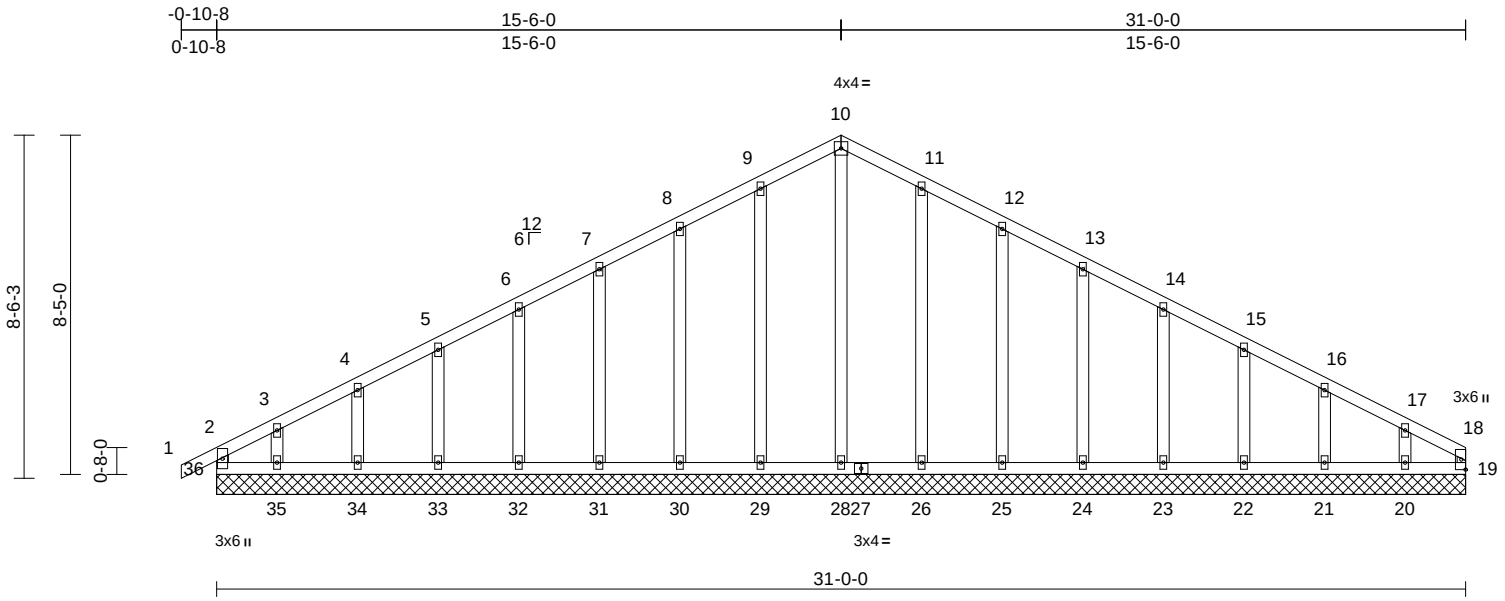
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	H1	Common Supported Gable	2	1	Job Reference (optional) I49388350

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:46 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:57.2

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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.01	19	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 147 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 18-19:2x3 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.

REACTIONS (lb/size) 19=49/31-0-0, 20=167/31-0-0, 21=183/31-0-0, 22=179/31-0-0, 23=180/31-0-0, 24=180/31-0-0, 25=179/31-0-0, 26=187/31-0-0, 28=161/31-0-0, 29=187/31-0-0, 30=179/31-0-0, 31=180/31-0-0, 32=181/31-0-0, 33=178/31-0-0, 34=190/31-0-0, 35=127/31-0-0, 36=151/31-0-0
Max Horiz 36=138 (LC 8)
Max Uplift 20=-94 (LC 9), 21=-48 (LC 9), 22=-56 (LC 9), 23=-54 (LC 9), 24=-54 (LC 9), 25=-57 (LC 9), 26=-51 (LC 9), 29=-52 (LC 8), 30=-56 (LC 8), 31=-54 (LC 8), 32=-54 (LC 8), 33=-56 (LC 8), 34=-46 (LC 8), 35=-106 (LC 8), 36=-43 (LC 4)
Max Grav 19=84 (LC 18), 20=167 (LC 22), 21=183 (LC 1), 22=179 (LC 22), 23=180 (LC 22), 24=180 (LC 1), 25=179 (LC 1), 26=190 (LC 22), 28=201 (LC 18), 29=190 (LC 21), 30=179 (LC 1), 31=180 (LC 21), 32=181 (LC 1), 33=178 (LC 21), 34=190 (LC 1), 35=133 (LC 15), 36=161 (LC 17)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-36=-134/43, 1-2=0/32, 2-3=-171/69, 3-4=-119/75, 4-5=-88/92, 5-6=-66/118, 6-7=-56/144, 7-8=-45/170, 8-9=-38/196, 9-10=-41/219, 10-11=-42/211, 11-12=-38/167, 12-13=-39/122, 13-14=-38/97, 14-15=-38/71, 15-16=-52/45, 16-17=-75/37, 17-18=-121/31, 18-19=-62/0
BOT CHORD 35-36=-25/103, 34-35=-25/103, 33-34=-25/103, 32-33=-25/103, 31-32=-25/103, 30-31=-25/103, 29-30=-25/103, 28-29=-25/103, 26-28=-25/103, 25-26=-25/103, 24-25=-25/103, 23-24=-25/103, 22-23=-25/103, 21-22=-25/103, 20-21=-25/103, 19-20=-25/103
WEBS 10-28=-161/0, 9-29=-150/76, 8-30=-139/80, 7-31=-140/78, 6-32=-140/78, 5-33=-138/79, 4-34=-147/75, 3-35=-100/100, 11-26=-150/75, 12-25=-139/81, 13-24=-140/77, 14-23=-140/78, 15-22=-139/78, 16-21=-143/76, 17-20=-129/93

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 43 lb uplift at joint 36, 52 lb uplift at joint 29, 56 lb uplift at joint 30, 54 lb uplift at joint 31, 54 lb uplift at joint 32, 56 lb uplift at joint 33, 46 lb uplift at joint 34, 106 lb uplift at joint 35, 51 lb uplift at joint 26, 57 lb uplift at joint 25, 54 lb uplift at joint 24, 54 lb uplift at joint 23, 56 lb uplift at joint 22, 48 lb uplift at joint 21 and 94 lb uplift at joint 20.
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.

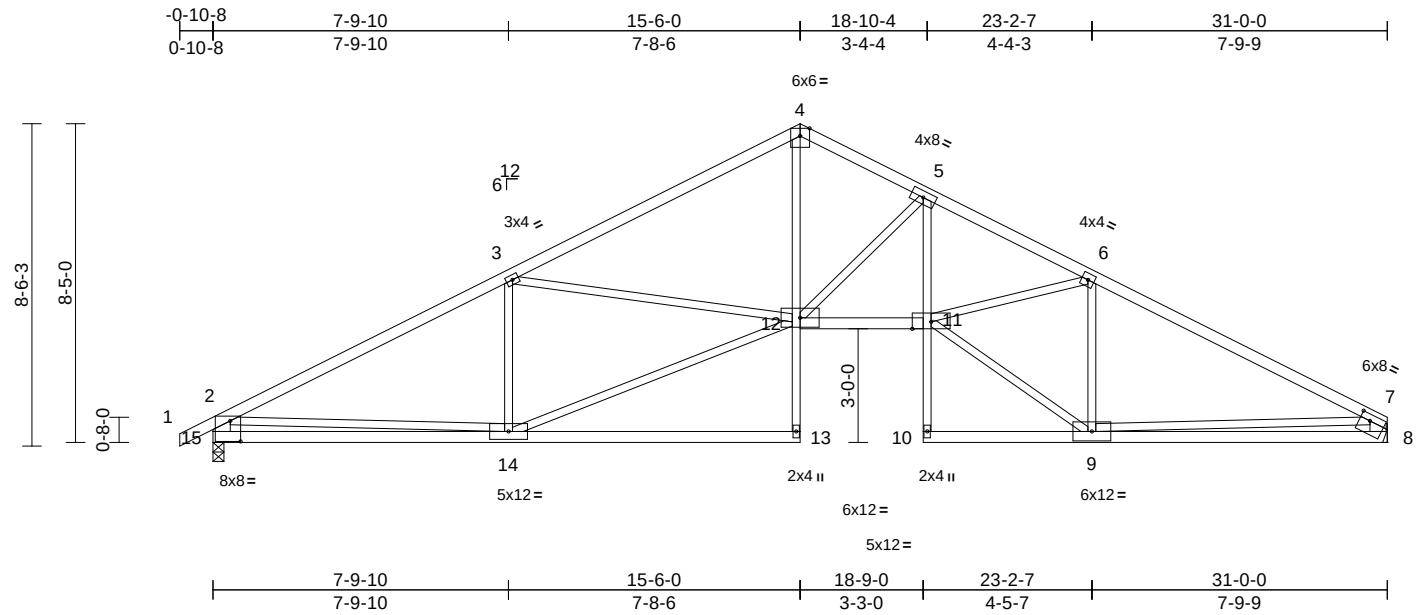
LOAD CASE(S) Standard

December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	H2	Roof Special	1	1	Job Reference (optional) I49388351

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:46 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:60.8

Plate Offsets (X, Y): [7:0-3-4,0-2-0], [15:0-3-4,0-6-8]

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	0.57	Vert(LL)	-0.21	11-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.39	13-14	>933	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.80	Horz(CT)	0.22	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.13	11-12	>999	240	Weight: 131 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2 *Except* 13-4,5-10:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-2,8-7:2x6 SPF No.2

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

REACTIONS (lb/size) 8=1373/ Mechanical, 15=1453/0-3-8
Max Horiz 15=138 (LC 8)
Max Uplift 8=-170 (LC 9), 15=-196 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-2285/274, 3-4=-2473/271, 4-5=-2321/300, 5-6=-3446/307, 6-7=-2258/269, 2-15=-1381/236, 7-8=-1293/213
BOT CHORD 14-15=-325/810, 13-14=0/25, 12-13=0/128, 4-12=-111/1663, 11-12=-136/2998, 10-11=0/52, 5-11=-103/1249, 9-10=-3/17, 8-9=-148/687
WEBS 3-14=-665/214, 12-14=-305/2063, 3-12=-85/305, 5-12=-1318/199, 9-11=-188/2338, 6-11=-45/1114, 6-9=-1315/197, 2-14=0/1130, 7-9=-60/1232

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) The Fabrication Tolerance at joint 2 = 6%
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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 196 lb uplift at joint 15 and 170 lb uplift at joint 8.
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
SCOTT M. SEVIER
NUMBER
PE-2001018807
PROFESSIONAL ENGINEER

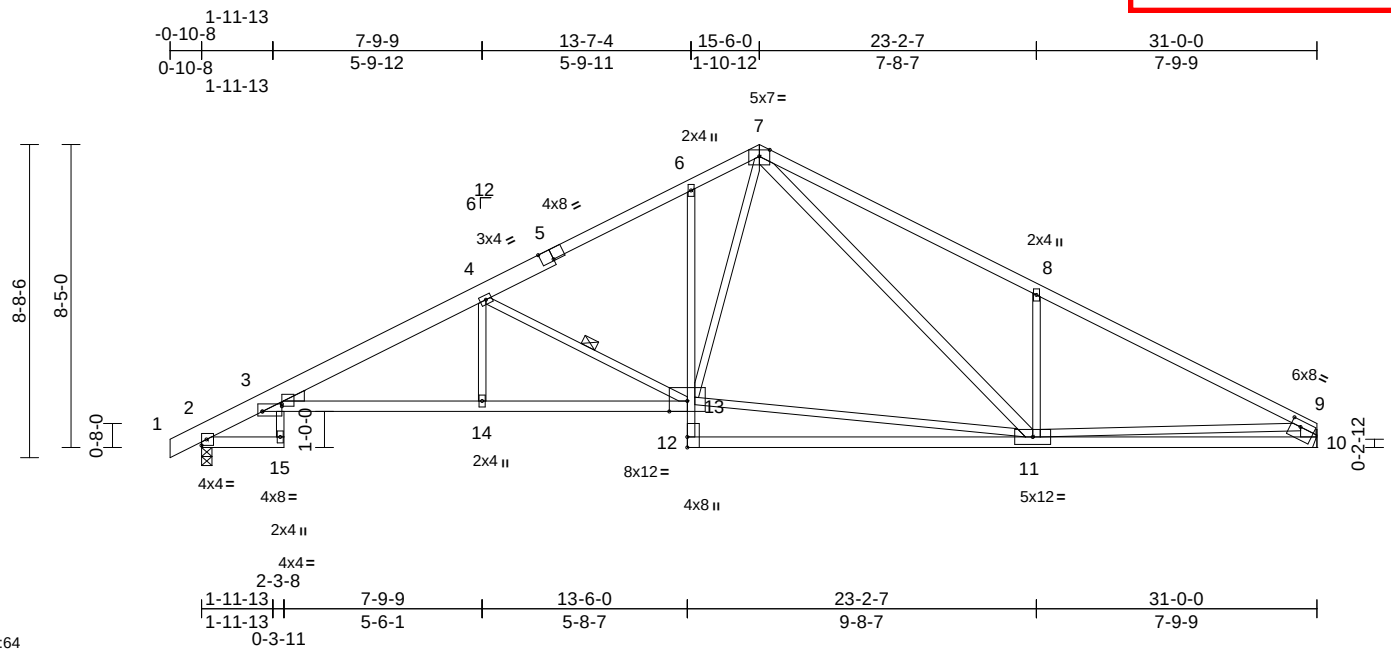
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388352
B210102	H3	Roof Special	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:46 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:64

Plate Offsets (X, Y): [3:0-6-8,0-2-8], [3:0-6-8,0-1-12], [5:0-4-0,Edge], [9:0-3-4,0-2-0]

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	0.80	Vert(LL)	-0.26	3-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.50	3-14	>740	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.33	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	3-14	>999	240	Weight: 141 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 7-9:2x4 SPF 2100F 1.8E, 5-1:2x6 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 3-13:2x4 SPF 2100F 1.8E, 6-12:2x3 SPF No.2, 12-10:2x4 SPF 2400F 2.0E

WEBS 2x3 SPF No.2 *Except* 11-7:2x4 SPF No.2, 10-9:2x6 SPF No.2

WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-3-3 oc purlins, except end verticals.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 2-15.

WEBS 1 Row at midpt 4-13

REACTIONS (lb/size) 2=1462/0-3-8, 10=1378/ Mechanical
Max Horiz 2=105 (LC 5)
Max Uplift 2=-21 (LC 8), 10=-16 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/12, 2-3=-806/49, 3-4=-2963/54, 4-6=-2030/58, 6-7=-1851/103, 7-8=-2299/156, 8-9=-2304/34, 9-10=-1302/53

BOT CHORD 2-15=-35/0, 3-14=-56/2703, 13-14=-56/2703, 12-13=0/170, 6-13=-127/102, 11-12=0/158, 10-11=-46/663

WEBS 3-15=0/70, 4-14=0/304, 4-13=-1169/116, 11-13=0/1295, 7-13=-54/902, 7-11=-132/819, 8-11=-581/201, 9-11=0/1304

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.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 2 and 16 lb uplift at joint 10.
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

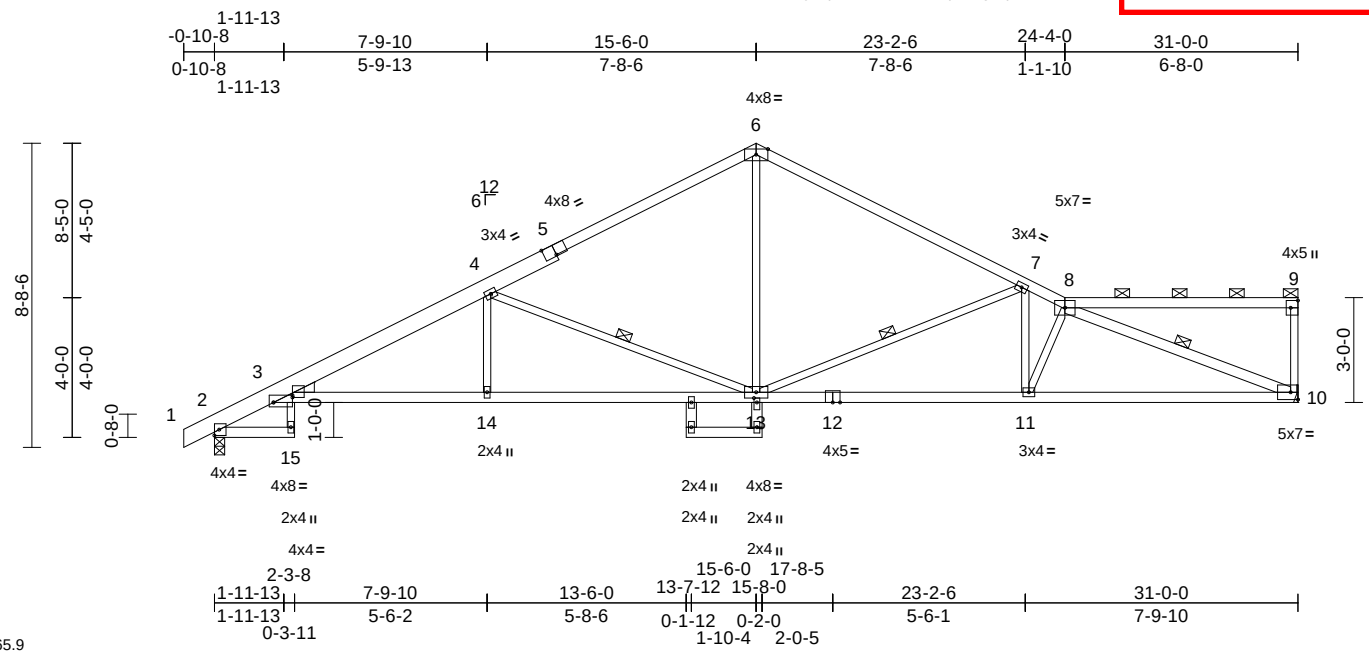
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388353
B210102	H4	Roof Special	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:46 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:65.9

Plate Offsets (X, Y): [3:0-6-8,0-2-8], [3:0-6-8,0-1-12], [5:0-4-0,Edge], [9:Edge,0-2-8], [13:0-1-8,0-1-0]

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	0.95	Vert(LL)	-0.28	3-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.53	3-14	>698	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.36	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	3-14	>999	240	Weight: 131 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 5-1:2x6 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 3-12:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 10-8,16-18,17-13:2x4 SPF No.2

WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 8-9.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 2-15.

WEBS 1 Row at midpt 4-13, 7-13, 8-10

REACTIONS (lb/size) 2=1468/0-3-8, 10=1383/ Mechanical
Max Horiz 2=162 (LC 5)
Max Uplift 2=-20 (LC 8), 10=-24 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/12, 2-3=-809/0, 3-4=-2989/77, 4-6=-1877/49, 6-7=-1845/61, 7-8=-2796/2, 8-9=-67/20, 9-10=-228/51

BOT CHORD 2-15=-35/0, 3-14=-108/2732, 13-14=-108/2732, 11-13=-44/2582, 10-11=-38/2684

WEBS 3-15=0/70, 4-14=0/312, 4-13=-1298/171, 6-13=0/1095, 7-13=-1141/98, 7-11=0/461, 8-11=-263/73, 8-10=-2842/29

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) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 10 and 20 lb uplift at joint 2.
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.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

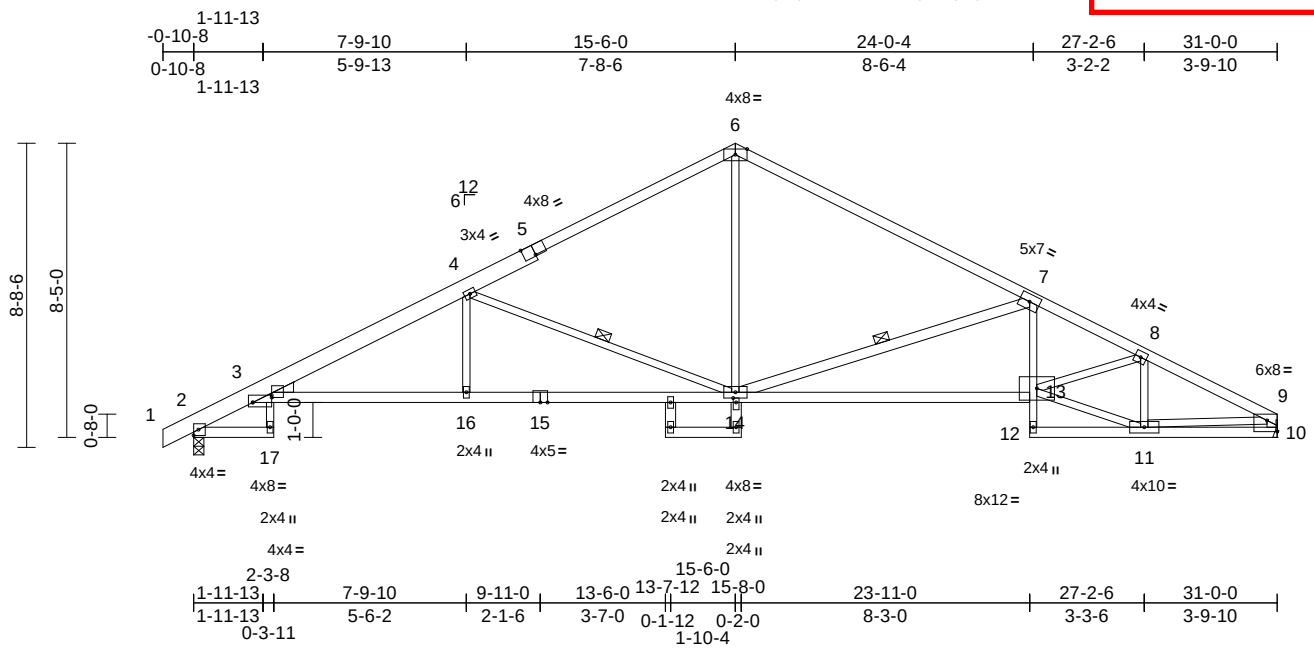
December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	H5	Roof Special	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I49388354
01/07/2022

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:46 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4r



Scale = 1:65.9

Plate Offsets (X, Y): [3:0-6-8,0-2-8], [3:0-6-8,0-1-12], [5:0-4-0,Edge], [9:Edge,0-3-13], [14:0-1-8,0-1-0]

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	0.80	Vert(LL)	-0.28	3-16	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.54	13-14	>687	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.83	Horz(CT)	0.41	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	3-16	>999	240	Weight: 134 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 6-9:2x4 SPF 2100F 1.8E, 5-1:2x6 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 3-15:2x4 SPF 2100F 1.8E, 7-12:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 14-7,10-9,18-20,19-14:2x4 SPF No.2

WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

WEBS 1 Row at midpt 4-14, 7-14

REACTIONS (lb/size) 2=1466/0-3-8, 10=1381/ Mechanical

Max Horiz 2=104 (LC 7)

Max Uplift 2=-20 (LC 8), 10=-16 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/12, 2-3=-808/50, 3-4=-2976/73, 4-6=-1878/48, 6-7=-1861/56, 7-8=-3196/49, 8-9=-2246/22, 9-10=-1320/36

BOT CHORD 2-17=-35/0, 3-16=-78/2719, 14-16=-78/2719, 13-14=0/2918, 12-13=0/63, 7-13=0/569, 11-12=-27/62, 10-11=-24/442

WEBS 3-17=0/70, 4-16=0/299, 4-14=-1280/168, 6-14=0/1065, 7-14=-1456/152, 11-13=0/2003, 8-13=0/973, 8-11=-848/30, 9-11=0/1508

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.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 2 and 16 lb uplift at joint 10.
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

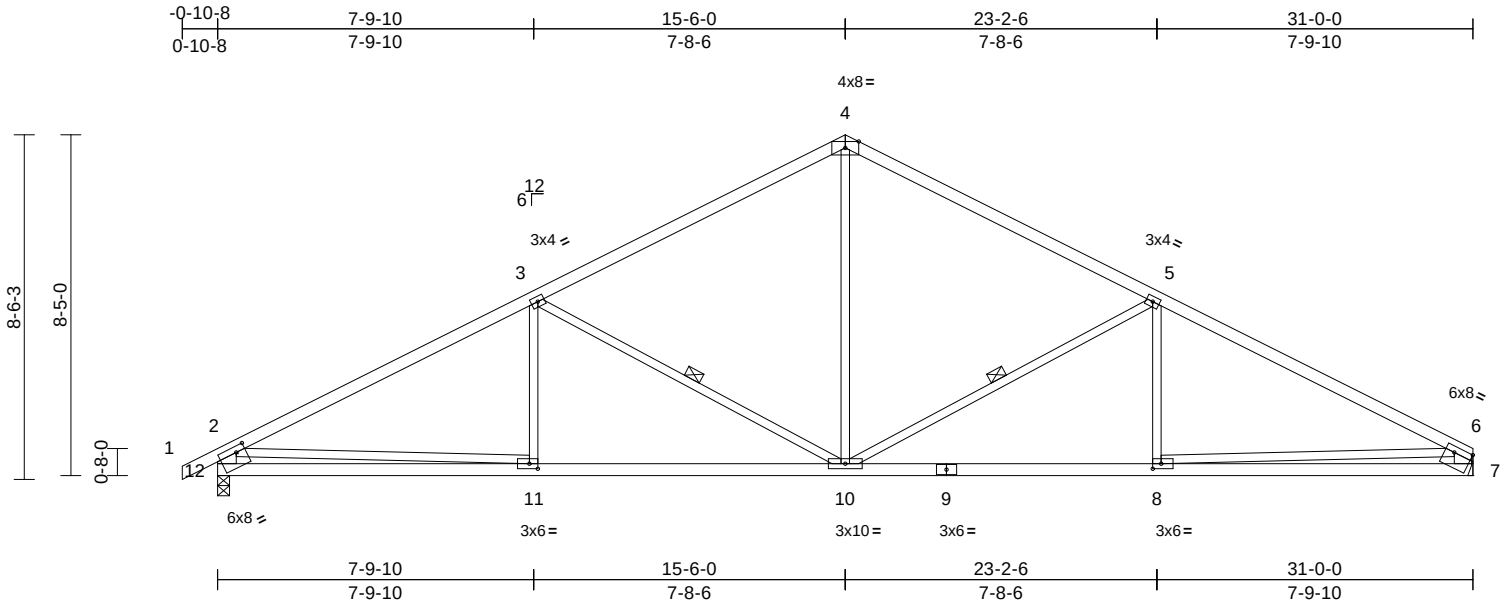
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388355
B210102	H6	Common	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:47 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:56.9

Plate Offsets (X, Y): [6:Edge,0-1-12], [8:0-2-8,0-1-8], [11:0-2-8,0-1-8], [12:0-2-12,0-1-12]

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)	-0.12	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.25	8-10	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.54	Horz(CT)	0.07	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	8-10	>999	240	Weight: 116 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-2,7-6:2x6 SPF No.2

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

REACTIONS (lb/size) 7=1373/ Mechanical, 12=1453/0-3-8
Max Horiz 12=109 (LC 5)
Max Uplift 7=-16 (LC 9), 12=-28 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-2280/42, 3-4=-1615/72, 4-5=-1617/72, 5-6=-2283/42, 2-12=-1378/70, 6-7=-1295/57
BOT CHORD 11-12=-159/805, 10-11=-41/1934, 8-10=0/1946, 7-8=-38/616
WEBS 4-10=0/838, 5-10=-747/123, 5-8=0/260, 3-10=-733/120, 3-11=0/266, 2-11=0/1131, 6-8=0/1333

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.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 12 and 16 lb uplift at joint 7.
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

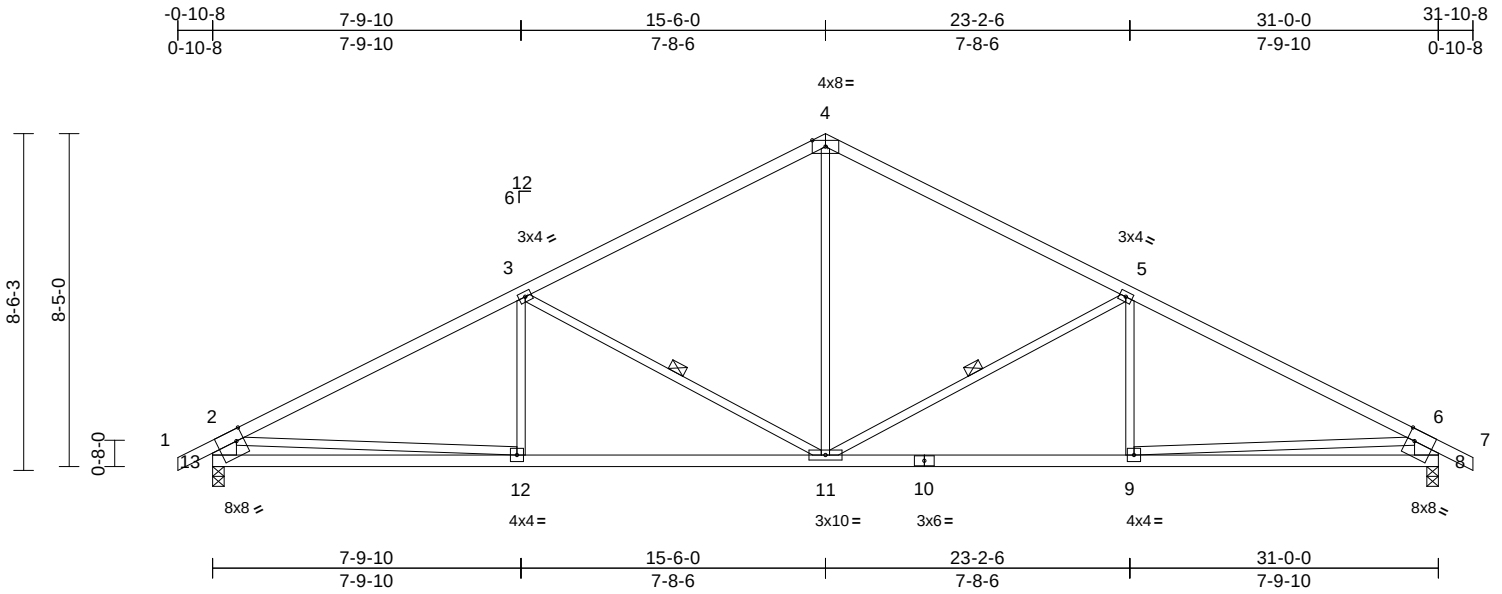
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	H7	Common	3	1	Job Reference (optional) I49388356

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:47 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:58.3

Plate Offsets (X, Y): [8:0-2-4,Edge], [13:0-2-4,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	0.81	Vert(LL)	-0.11	11-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.24	9-11	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.07	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	11-12	>999	240	Weight: 118 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-2,8-6:2x8 SP DSS

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-11, 3-11

REACTIONS (lb/size) 8=1450/0-3-8, 13=1450/0-3-8
Max Horiz 13=127 (LC 8)
Max Uplift 8=-197 (LC 9), 13=-197 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-2246/274, 3-4=-1598/245, 4-5=-1598/245, 5-6=-2246/274, 6-7=0/37, 2-13=-1375/238, 6-8=-1375/238
BOT CHORD 12-13=-304/738, 11-12=-269/1905, 9-11=-141/1905, 8-9=-189/738
WEBS 4-11=-50/815, 5-11=-719/252, 5-9=0/258, 3-11=-719/252, 3-12=0/258, 2-12=0/1170, 6-9=-12/1170

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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 197 lb uplift at joint 13 and 197 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

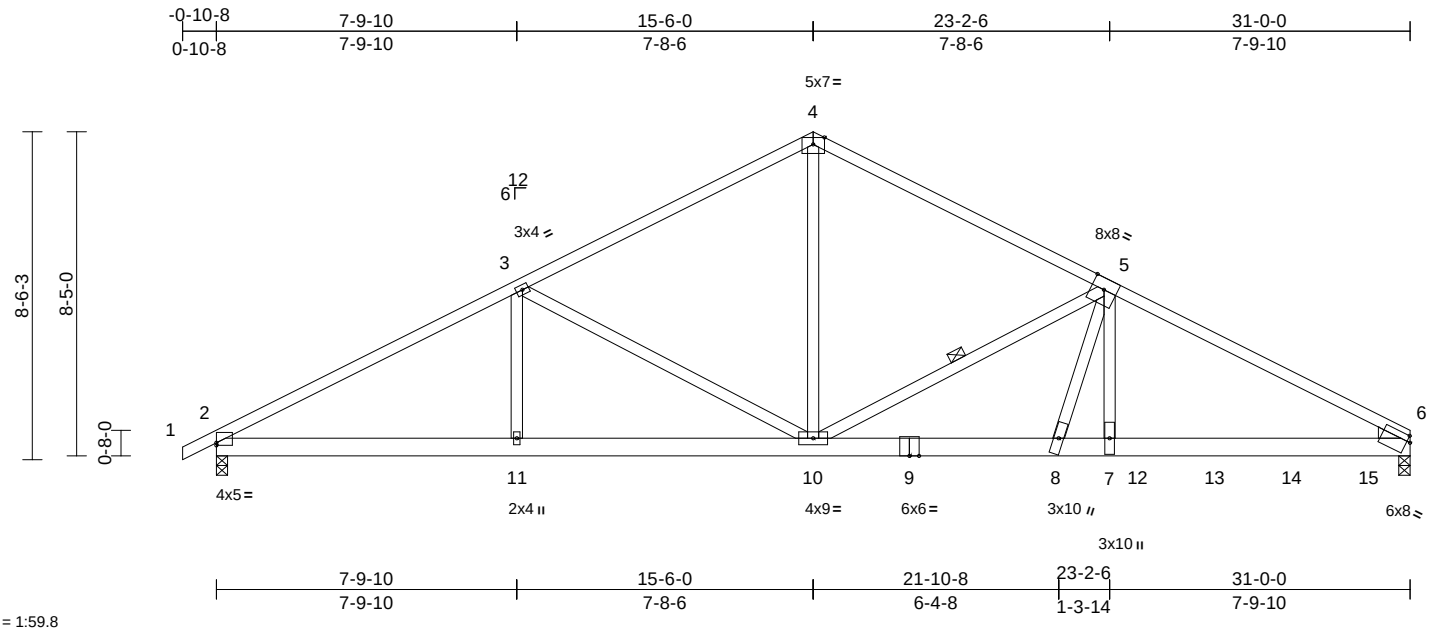
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	H8	COMMON GIRDER	1	2	Job Reference (optional) I49388357

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 E Aug 16 2021 Print: 8.430 E Aug 16 2021 MiTek Industries, Inc. Wed Dec 22 14:57:10 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-Thkht5ToIvD_zO?kbzGoiMnC05hjD3oYvS7UTdyoNdN



Scale = 1:59.8

Plate Offsets (X, Y): [2:Edge,0-0-13], [6:0-1-1,0-1-14]

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	0.90	Vert(LL)	-0.16	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.29	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.07	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.10	8-10	>999	240	Weight: 310 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2 *Except* 4-6:2x4 SPF 2400F 2.0E
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2
WEDGE Right: 2x4 SPF No.2

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 5-10

REACTIONS (lb/size) 2=2712/0-3-8, 6=5598/0-3-8, (req. 0-4-6)
Max Horiz 2=93 (LC 7)
Max Uplift 2=-148 (LC 8), 6=-337 (LC 9)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-5002/290, 3-4=-4362/333, 4-5=-4364/332, 5-6=-9395/666
BOT CHORD 2-11=-262/4286, 10-11=-262/4286, 9-10=-611/8881, 8-9=-611/8881, 7-8=-513/8232, 7-12=-512/8180, 12-13=-512/8180, 13-14=-512/8180, 14-15=-512/8180, 6-15=-512/8180
WEBS 4-10=-197/3292, 5-10=-5808/596, 5-7=-34/2850, 3-10=-606/106, 3-11=0/305, 5-8=-314/1977

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-3-0 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) Unbalanced roof live loads have been considered for this design.
4) 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
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) WARNING: Required bearing size at joint(s) 6 greater than input bearing size.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 337 lb uplift at joint 6 and 148 lb uplift at joint 2.
9) 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.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 3345 lb down and 385 lb up at 21-10-7, 532 lb down and 14 lb up at 23-11-4, 532 lb down and 14 lb up at 25-11-4, and 532 lb down and 14 lb up at 27-11-4, and 533 lb down and 13 lb up at 29-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

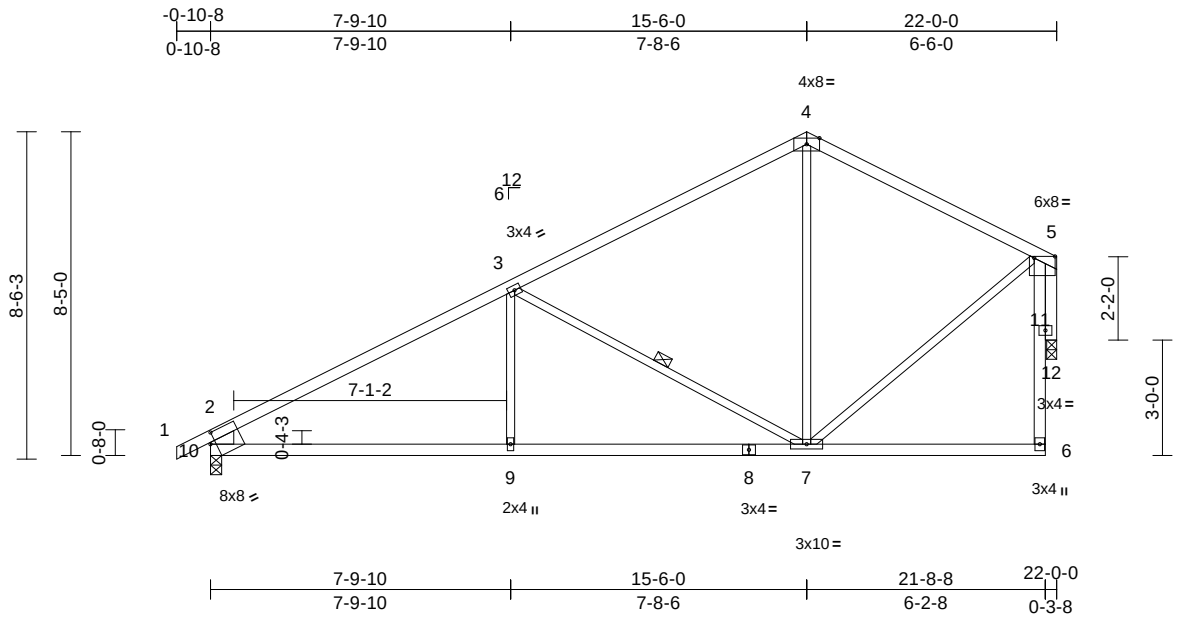
LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 4-6=-70, 2-6=-20
Concentrated Loads (lb)
Vert: 8=-3345 (B), 12=-532 (B), 13=-532 (B), 14=-532 (B), 15=-533 (B)

December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	H9	Roof Special	6	1	Job Reference (optional) I49388358

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:48 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC?f



Scale = 1:59.9

Plate Offsets (X, Y): [5:0-6-8,0-0-8], [10:0-1-10,0-3-4]

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	0.88	Vert(LL)	-0.09	7-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.20	7-9	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.53	Horz(CT)	0.09	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	7-9	>999	240	Weight: 86 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 6-5:2x4 SPF No.2, 10-2:2x8 SP DSS
OTHERS 2x4 SPF No.2

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.
WEBS 1 Row at midpt 3-7

REACTIONS (lb/size) 10=1055/0-3-8, 12=941/0-3-2
Max Horiz 10=223 (LC 5)
Max Uplift 10=-156 (LC 8), 12=-122 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1463/195, 3-4=-765/129, 4-5=-723/160, 6-11=0/100, 5-11=0/100, 2-10=-965/200
BOT CHORD 9-10=-269/1194, 7-9=-269/1194, 6-7=-46/83
WEBS 3-9=0/302, 3-7=-733/262, 4-7=0/242, 5-7=-94/635, 5-12=-954/124

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.
5) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 156 lb uplift at joint 10 and 122 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

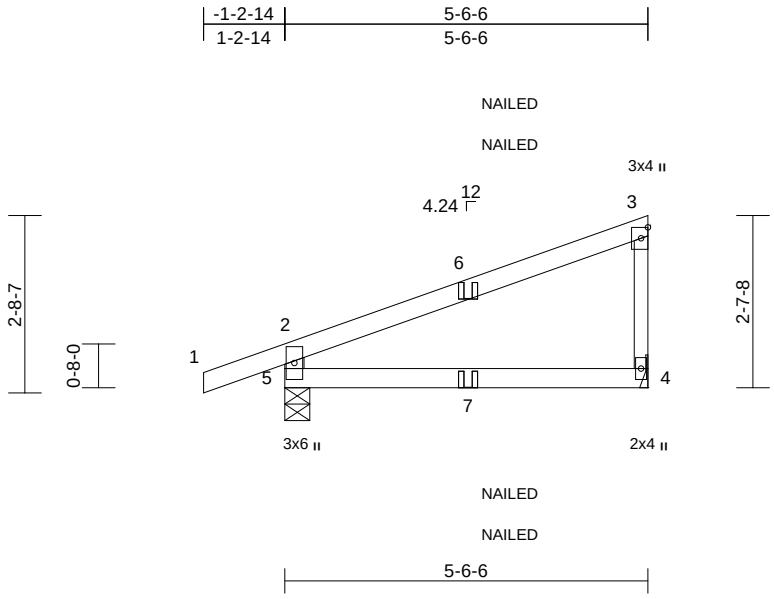
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	J1	Diagonal Hip Girder	2	1	Job Reference (optional) I49388359

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:48 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:35.1

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	0.41	Vert(LL)	-0.03	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.07	4-5	>967	240		
BCLL	0.0*	Rep Stress Incr	NO	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 2x4 SPF No.2 *Except* 3-4:2x3 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) 4=224/ Mechanical, 5=346/0-4-9
Max Horiz 5=111 (LC 5)
Max Uplift 4=-50 (LC 8), 5=-101 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-306/140, 1-2=0/32, 2-3=-139/14, 3-4=-160/73
BOT CHORD 4-5=-26/45

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 101 lb uplift at joint 5 and 50 lb uplift at joint 4.
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.
7) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 4-5=-20
Concentrated Loads (lb)
Vert: 7=2 (F=1, B=1)

December 22,2021

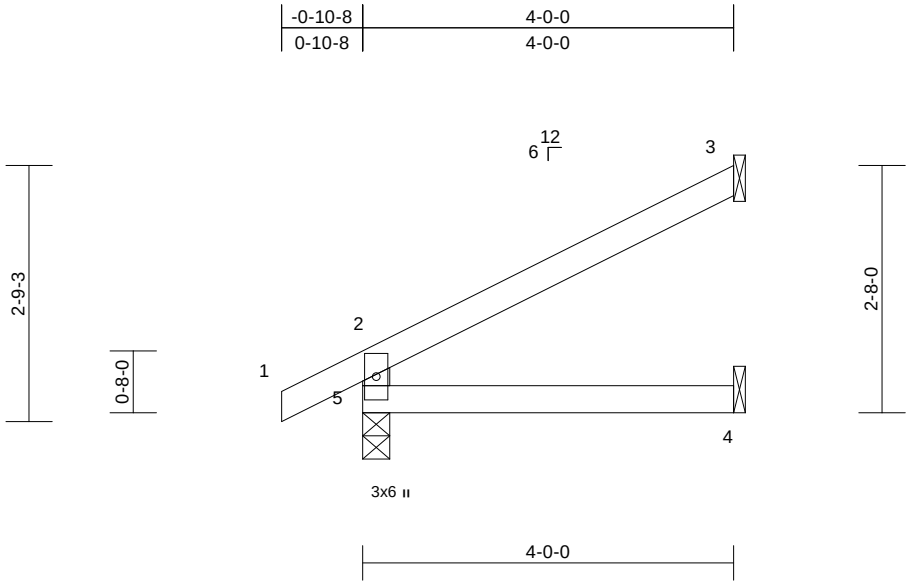
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	J2	Jack-Open	3	1	I49388360

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:48 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:24.8

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	0.20	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.02	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 11 lb	FT = 10%

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

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

REACTIONS (lb/size) 3=116/ Mechanical, 4=45/ Mechanical, 5=252/0-3-8
Max Horiz 5=89 (LC 8)
Max Uplift 3=-66 (LC 8), 5=-30 (LC 8)
Max Grav 3=116 (LC 1), 4=71 (LC 3), 5=252 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-221/67, 1-2=0/32, 2-3=-75/40
BOT CHORD 4-5=0/0

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 30 lb uplift at joint 5 and 66 lb uplift at joint 3.
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

December 22,2021

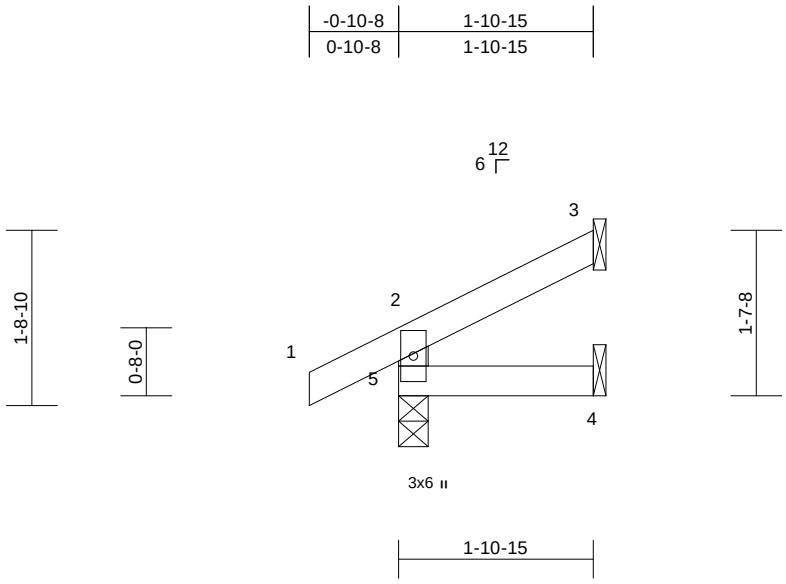
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	J3	Jack-Open	4	1	I49388361

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:48 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:22.6

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)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 6 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 3=44/ Mechanical, 4=14/ Mechanical, 5=171/0-3-8
Max Horiz 5=48 (LC 8)
Max Uplift 3=-30 (LC 8), 5=-26 (LC 8)
Max Grav 3=44 (LC 1), 4=31 (LC 3), 5=171 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-150/44, 1-2=0/32, 2-3=-37/14
BOT CHORD 4-5=0/0

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 26 lb uplift at joint 5 and 30 lb uplift at joint 3.
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

December 22,2021

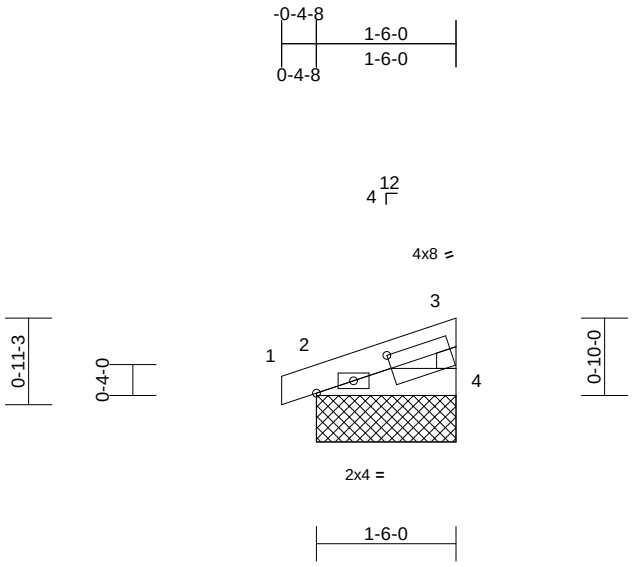
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	J4	Jack-Closed Supported Gable	2	1	I49388362

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:49 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:24.8

Plate Offsets (X, Y): [3:0-10-2,0-1-12]

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	0.03	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	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 4 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 1-6-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 2=93/1-6-0, 4=59/1-6-0
Max Horiz 2=24 (LC 5)
Max Uplift 2=-28 (LC 4), 4=-12 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-23/12, 3-4=-45/21
BOT CHORD 2-4=-7/5

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 2-0-0 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 12 lb uplift at joint 4 and 28 lb uplift at joint 2.
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

December 22,2021

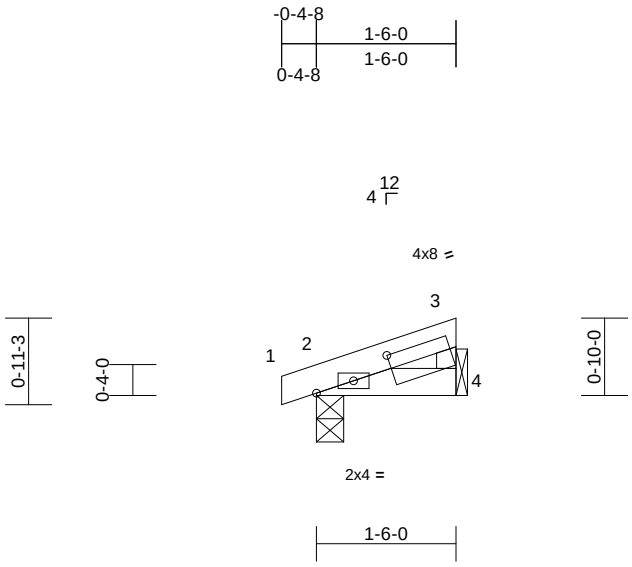
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	J5	Jack-Closed	2	1	I49388363

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:49 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:24.8

Plate Offsets (X, Y): [3:0-10-2,0-1-12]

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	0.02	Vert(LL)	0.00	2-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	2-4	>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-P							Weight: 4 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 1-6-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 2=94/0-3-8, 4=57/ Mechanical
Max Horiz 2=24 (LC 5)
Max Uplift 2=-30 (LC 4), 4=-12 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-23/12, 3-4=-44/20
BOT CHORD 2-4=-7/5

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 12 lb uplift at joint 4 and 30 lb uplift at joint 2.
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

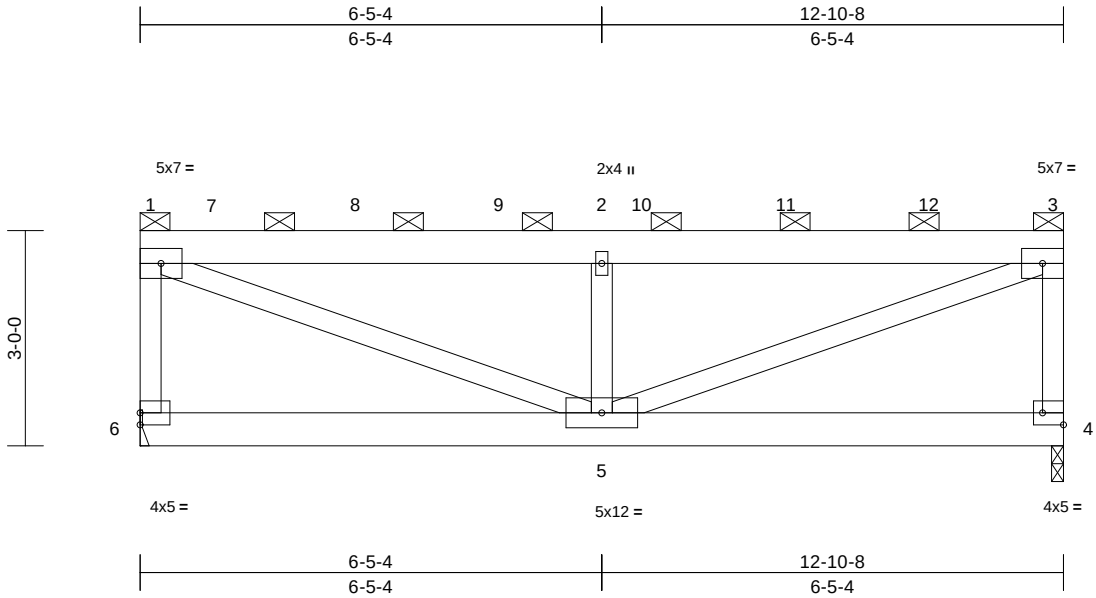
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	R1	FLAT GIRDER	1	2	Job Reference (optional) I49388364

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:49 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:32.1

Plate Offsets (X, Y): [4:Edge,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	0.46	Vert(LL)	-0.06	5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.11	5	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.60	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	5	>999	240	Weight: 150 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SP DSS
BOT CHORD 2x6 SPF No.2
WEBS 2x4 SPF No.2

BRACING
TOP CHORD 2-0-0 oc purlins (6-0-0 max.): 1-3, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 4=2997/0-2-0, (req. 0-2-6), 6=3365/ Mechanical
Max Horiz 6=-77 (LC 4)
Max Uplift 4=-330 (LC 5), 6=-373 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-3237/394, 1-2=-4765/523, 2-3=-4765/523, 3-4=-2869/351
BOT CHORD 5-6=-76/227, 4-5=-37/198
WEBS 1-5=-555/4913, 2-5=-3690/509, 3-5=-557/4925

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 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
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); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
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) WARNING: Required bearing size at joint(s) 4 greater than input bearing size.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 373 lb uplift at joint 6 and 330 lb uplift at joint 4.
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.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 876 lb down and 105 lb up at 1-0-0, 871 lb down and 105 lb up at 3-0-0, 871 lb down and 105 lb up at 5-0-0, 871 lb down and 105 lb up at 7-0-0, and 871 lb down and 105 lb up at 9-0-0, and 871 lb down and 105 lb up at 11-0-0 on top 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: 1-3=-70, 4-6=-20
Concentrated Loads (lb)
Vert: 7=-876, 8=-871, 9=-871, 10=-871, 11=-871, 12=-871

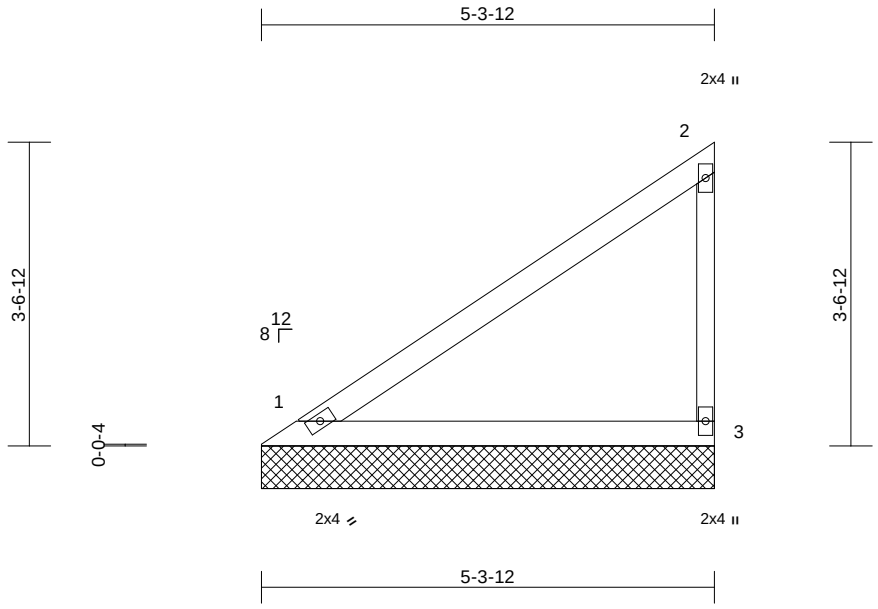
SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED SUPPORT WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER OR THE BUILDING DESIGNER.

December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	V1	Valley	1	1	Job Reference (optional) I49388365

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:49 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:27

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	0.44	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.23	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: 15 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 5-4-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=214/5-3-12, 3=214/5-3-12
Max Horiz 1=126 (LC 5)
Max Uplift 1=-18 (LC 8), 3=-62 (LC 8)
Max Grav 1=214 (LC 1), 3=230 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-118/96, 2-3=-182/91
BOT CHORD 1-3=-45/34

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 18 lb uplift at joint 1 and 62 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

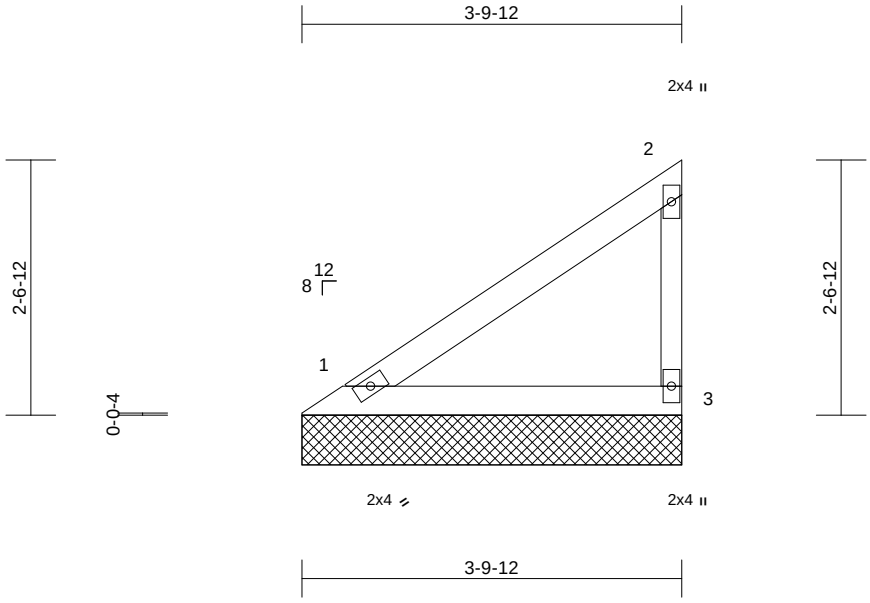
December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	V2	Valley	1	1	I49388366

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:49 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:23.1

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	0.19	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	0.00	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 3-10-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=147/3-9-12, 3=147/3-9-12
Max Horiz 1=86 (LC 5)
Max Uplift 1=-12 (LC 8), 3=-42 (LC 8)
Max Grav 1=147 (LC 1), 3=157 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-81/66, 2-3=-125/62
BOT CHORD 1-3=-31/23

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 12 lb uplift at joint 1 and 42 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

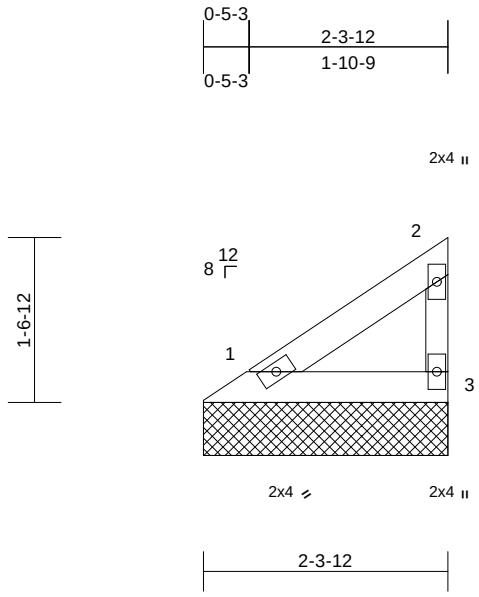
December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	V3	Valley	1	1	I49388367

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:50 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:21.8

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	0.05	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: 6 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 2-4-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=79/2-3-12, 3=79/2-3-12
Max Horiz 1=47 (LC 5)
Max Uplift 1=-7 (LC 8), 3=-23 (LC 8)
Max Grav 1=79 (LC 1), 3=85 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-43/35, 2-3=-67/33
BOT CHORD 1-3=-17/13

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 23 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.

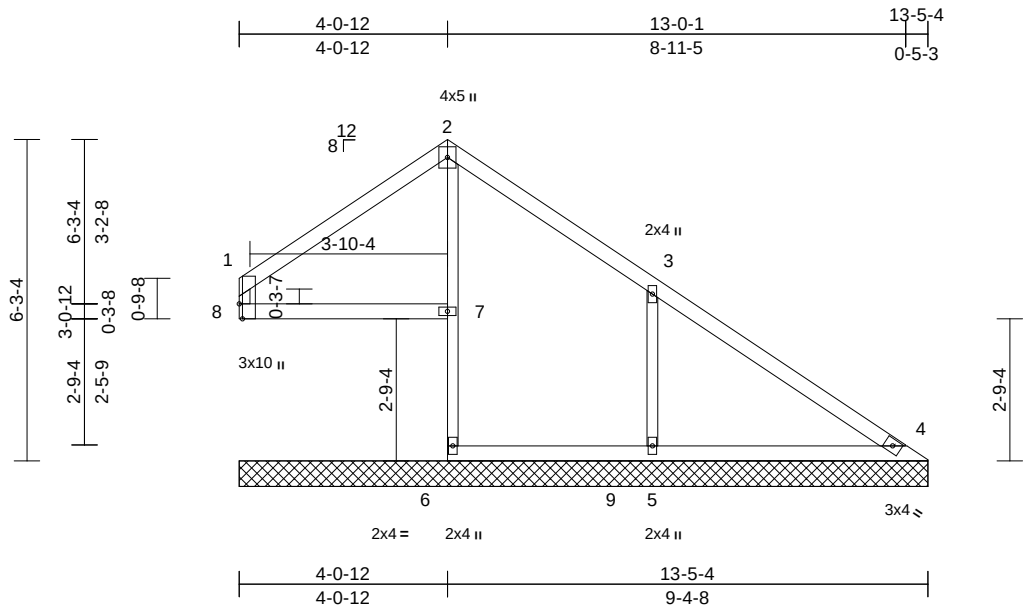
LOAD CASE(S) Standard

December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388368
B210102	V4	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:50 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:45

Plate Offsets (X, Y): [8:0-3-8,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	0.32	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.02	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 41 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-6:2x3 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 6-0-0 oc bracing.

REACTIONS (lb/size) 4=179/13-5-4, 5=487/13-5-4, 6=25/13-5-4, 7=292/13-5-4, 8=176/13-5-4
Max Horiz 8=-171 (LC 9)
Max Uplift 4=-64 (LC 9), 5=-191 (LC 9), 7=-23 (LC 5), 8=-145 (LC 9)
Max Grav 4=210 (LC 16), 5=616 (LC 16), 6=89 (LC 14), 7=376 (LC 18), 8=222 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-150/158, 1-2=-164/245, 2-3=-142/243, 3-4=-84/120
BOT CHORD 7-8=-11/36, 6-7=0/0, 2-7=-292/42, 5-6=-5/7, 4-5=-5/7
WEBS 3-5=-390/243

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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.
8) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 145 lb uplift at joint 8, 64 lb uplift at joint 4, 23 lb uplift at joint 7 and 191 lb uplift at joint 5.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 8.
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

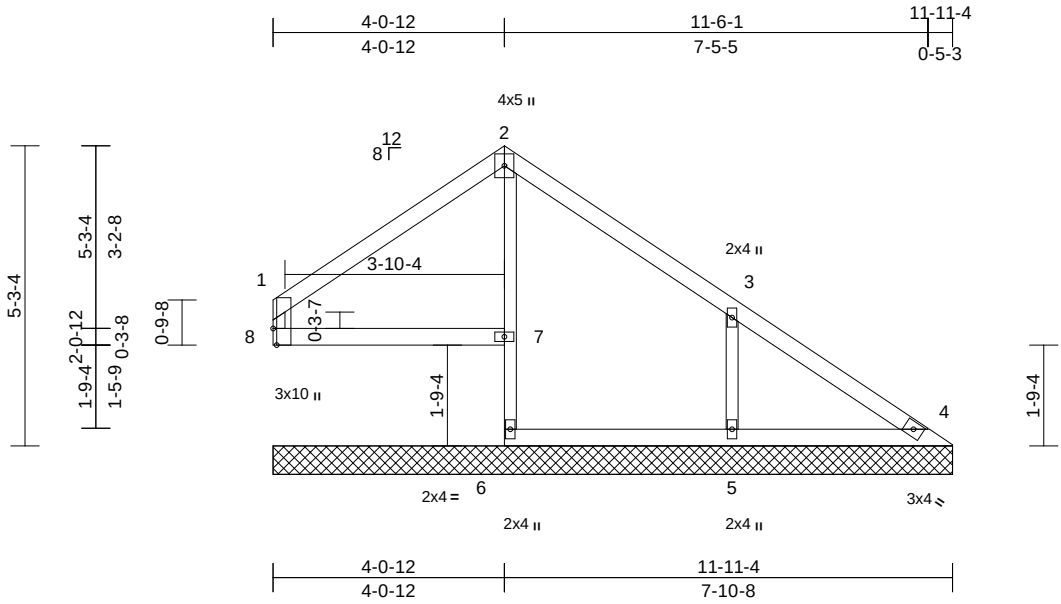
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388369
B210102	V5	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:50 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:40.5

Plate Offsets (X, Y): [8:0-3-8,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	0.21	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.02	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 35 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-6:2x3 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) 4=120/11-11-4, 5=391/11-11-4, 6=33/11-11-4, 7=299/11-11-4, 8=181/11-11-4
Max Horiz 8=-131 (LC 4)
Max Uplift 4=-34 (LC 9), 5=-156 (LC 9), 7=-5 (LC 5), 8=-106 (LC 9)
Max Grav 4=120 (LC 1), 5=413 (LC 16), 6=65 (LC 3), 7=313 (LC 15), 8=185 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-151/123, 1-2=-145/189, 2-3=-118/180, 3-4=-50/79
BOT CHORD 7-8=-17/42, 6-7=0/0, 2-7=-262/23, 5-6=-10/18, 4-5=-10/18
WEBS 3-5=-317/201

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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.
8) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 106 lb uplift at joint 8, 34 lb uplift at joint 4, 5 lb uplift at joint 7 and 156 lb uplift at joint 5.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 8.
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.

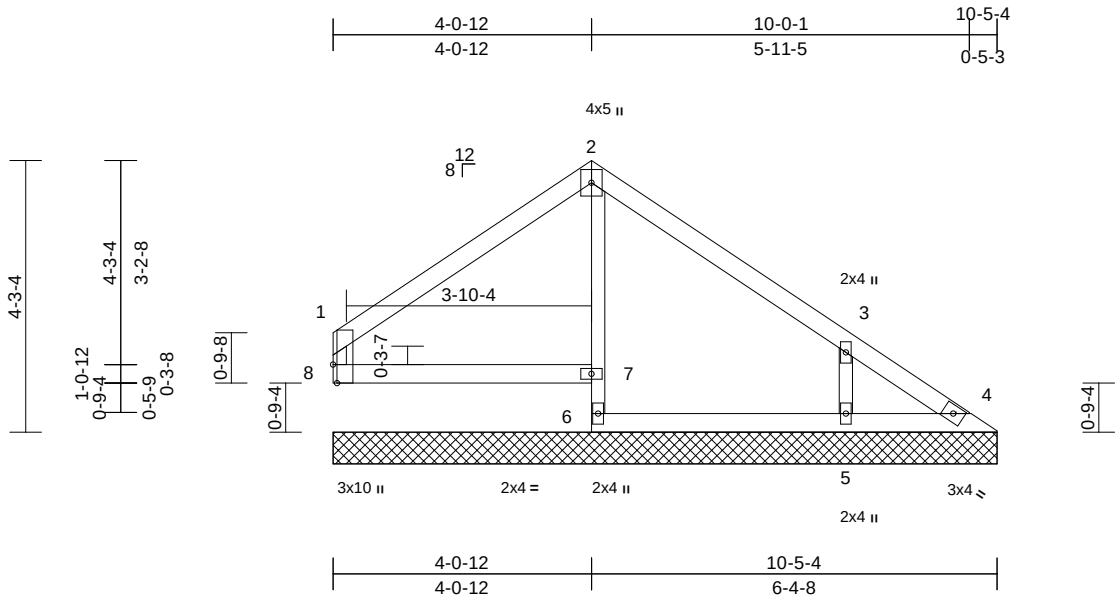
LOAD CASE(S) Standard

December 22,2021

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388370
B210102	V6	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:50 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:36.2

Plate Offsets (X, Y): [8:0-3-8,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	0.21	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 30 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 2-6:2x3 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) 4=60/10-5-4, 5=327/10-5-4, 6=39/10-5-4, 7=256/10-5-4, 8=207/10-5-4
Max Horiz 8=-108 (LC 4)
Max Uplift 4=-18 (LC 5), 5=-136 (LC 9), 8=-67 (LC 8)
Max Grav 4=73 (LC 15), 5=351 (LC 16), 6=72 (LC 3), 7=256 (LC 1), 8=211 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-173/93, 1-2=-145/114, 2-3=-133/106, 3-4=-87/53
BOT CHORD 7-8=-41/91, 6-7=0/0, 2-7=-214/0, 5-6=-35/70, 4-5=-35/70
WEBS 3-5=-277/178

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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.
8) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 8, 18 lb uplift at joint 4 and 136 lb uplift at joint 5.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 8.
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

STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER
PE-2001018807
PROFESSIONAL ENGINEER

December 22,2021

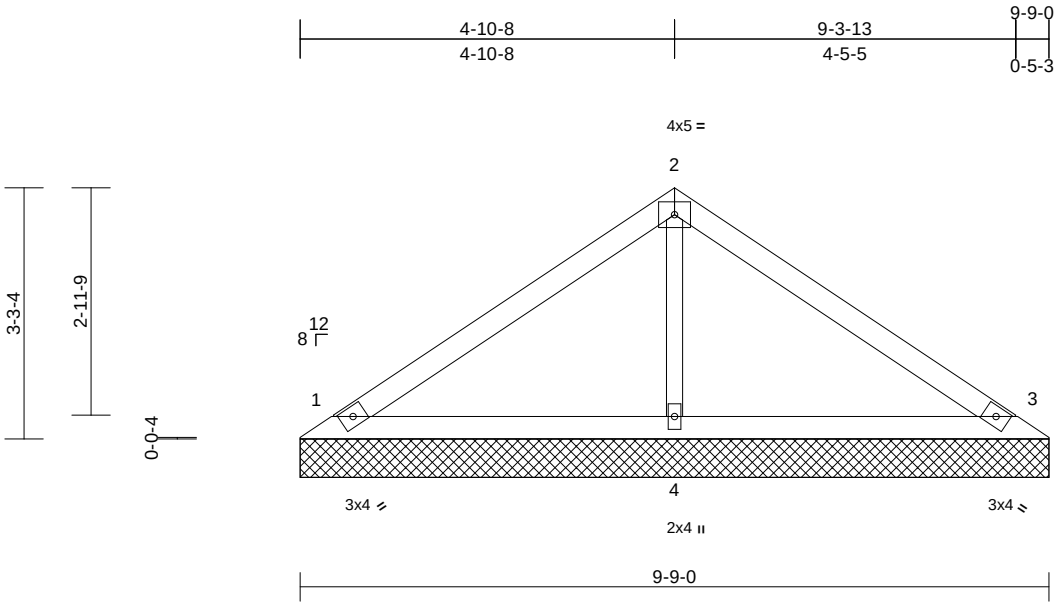
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	V7	Valley	1	1	I49388371

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:51 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:30

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	0.27	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 25 lb	FT = 10%

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

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

REACTIONS (lb/size) 1=205/9-9-0, 3=205/9-9-0, 4=387/9-9-0
Max Horiz 1=-77 (LC 4)
Max Uplift 1=-39 (LC 8), 3=-48 (LC 9), 4=-15 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-153/73, 2-3=-152/55
BOT CHORD 1-4=-15/71, 3-4=-15/71
WEBS 2-4=-252/64

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 1, 48 lb uplift at joint 3 and 15 lb uplift at joint 4.
9) 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
SCOTT M. SEVIER
NUMBER
PE-2001018807
PROFESSIONAL ENGINEER

December 22,2021

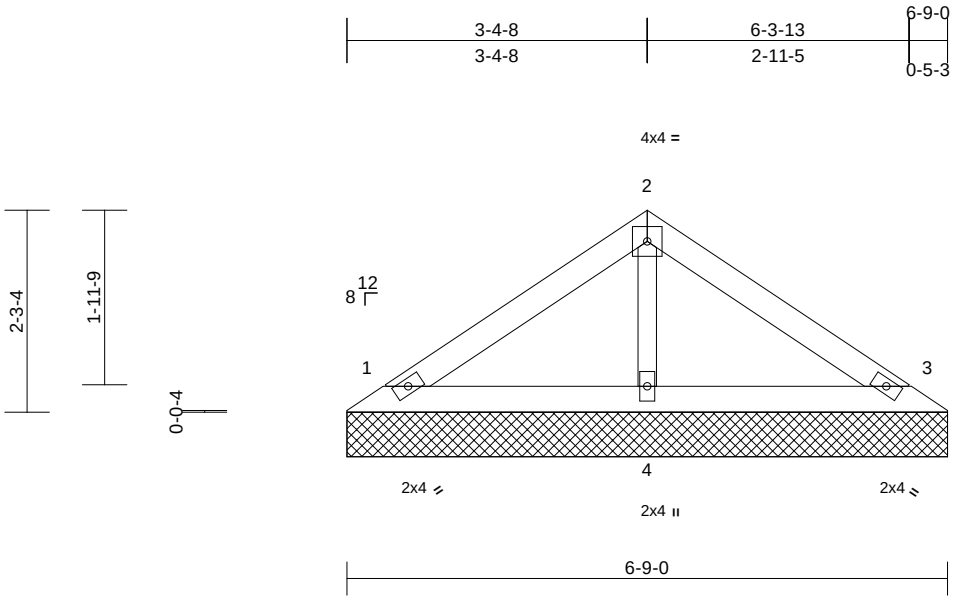
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	V8	Valley	1	1	I49388372

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:51 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:25.9

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	0.15	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 lb	FT = 10%

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

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

REACTIONS (lb/size) 1=148/6-9-0, 3=148/6-9-0, 4=230/6-9-0
Max Horiz 1=51 (LC 5)
Max Uplift 1=-33 (LC 8), 3=-39 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-92/47, 2-3=-88/35
BOT CHORD 1-4=-10/43, 3-4=-10/43
WEBS 2-4=-157/40

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 1 and 39 lb uplift at joint 3.
9) 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

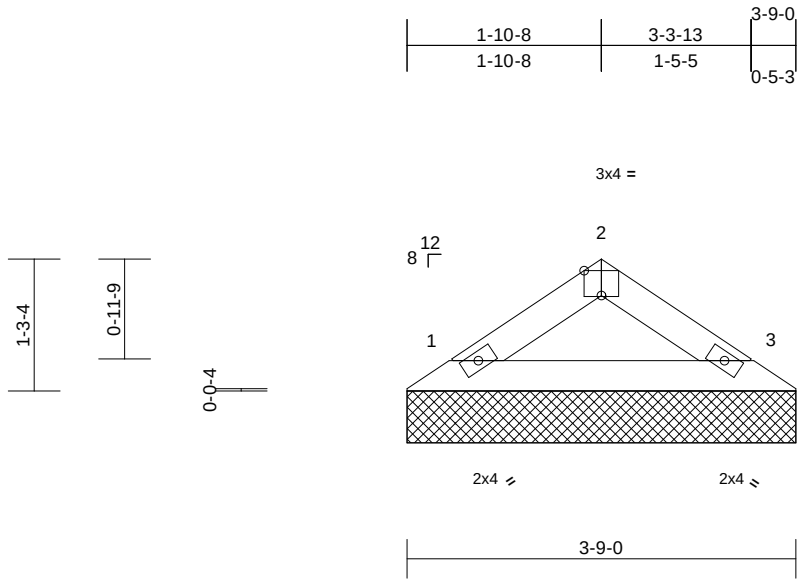
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388373
B210102	V9	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:51 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:22.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.03	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.08	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: 8 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-9-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=128/3-9-0, 3=128/3-9-0
Max Horiz 1=-25 (LC 4)
Max Uplift 1=-15 (LC 8), 3=-15 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-112/34, 2-3=-112/34
BOT CHORD 1-3=-15/75

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 1 and 15 lb uplift at joint 3.
9) 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

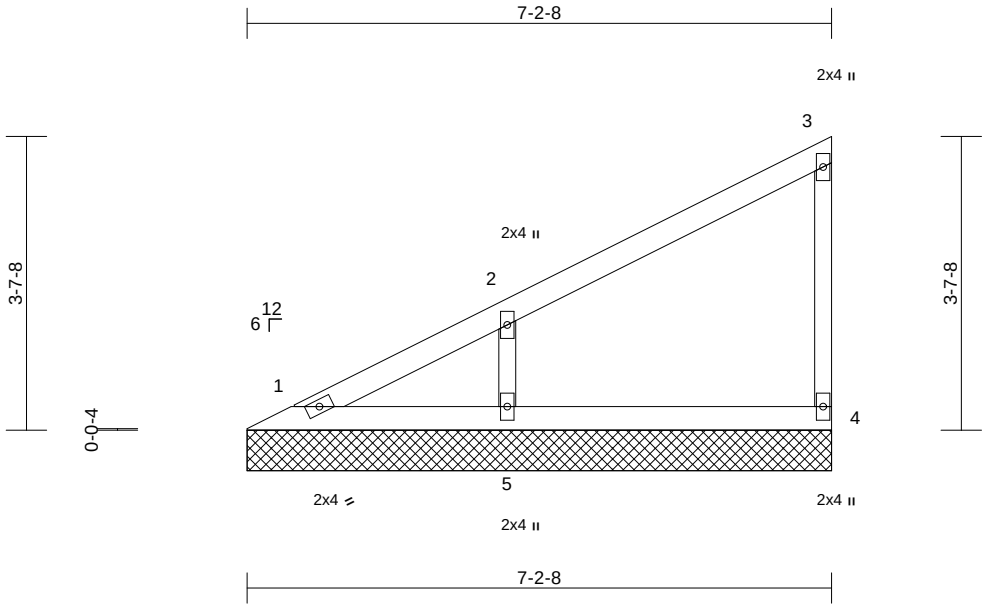
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388374
B210102	V10	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:51 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:28.4

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	0.19	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: 20 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=67/7-2-8, 4=141/7-2-8, 5=378/7-2-8
Max Horiz 1=136 (LC 5)
Max Uplift 4=-26 (LC 8), 5=-113 (LC 8)
Max Grav 1=82 (LC 16), 4=141 (LC 1), 5=378 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-114/61, 2-3=-107/44, 3-4=-110/45
BOT CHORD 1-5=-46/35, 4-5=-46/35
WEBS 2-5=-294/164

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 26 lb uplift at joint 4 and 113 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

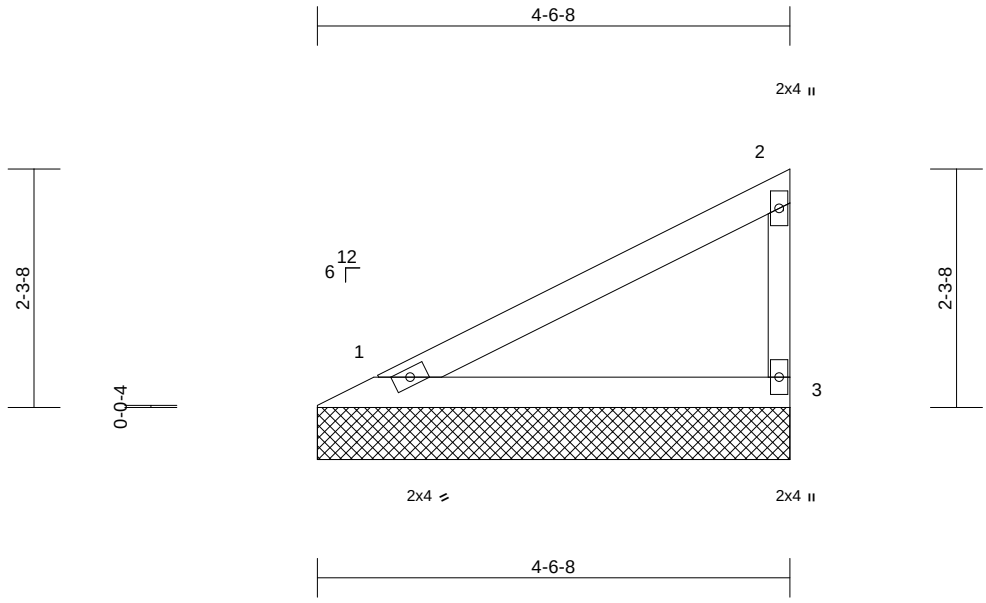
December 22,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN	I49388375
B210102	V11	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:51 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC4f



Scale = 1:22.1

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	0.27	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	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 12 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 4-7-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=173/4-6-8, 3=173/4-6-8
Max Horiz 1=80 (LC 5)
Max Uplift 1=-22 (LC 8), 3=-42 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-73/48, 2-3=-135/66
BOT CHORD 1-3=-27/21

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 22 lb uplift at joint 1 and 42 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

December 22,2021

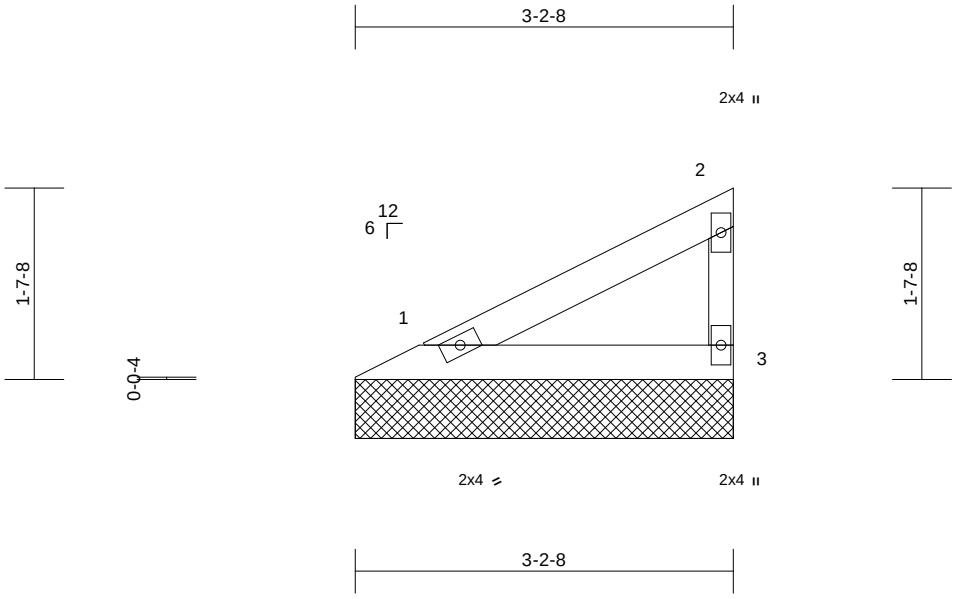
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	V12	Valley	1	1	I49388376

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:51 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:19.5

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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	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: 8 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 3-3-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=113/3-2-8, 3=113/3-2-8
Max Horiz 1=53 (LC 5)
Max Uplift 1=-15 (LC 8), 3=-28 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-48/32, 2-3=-88/43
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 15 lb uplift at joint 1 and 28 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

December 22,2021

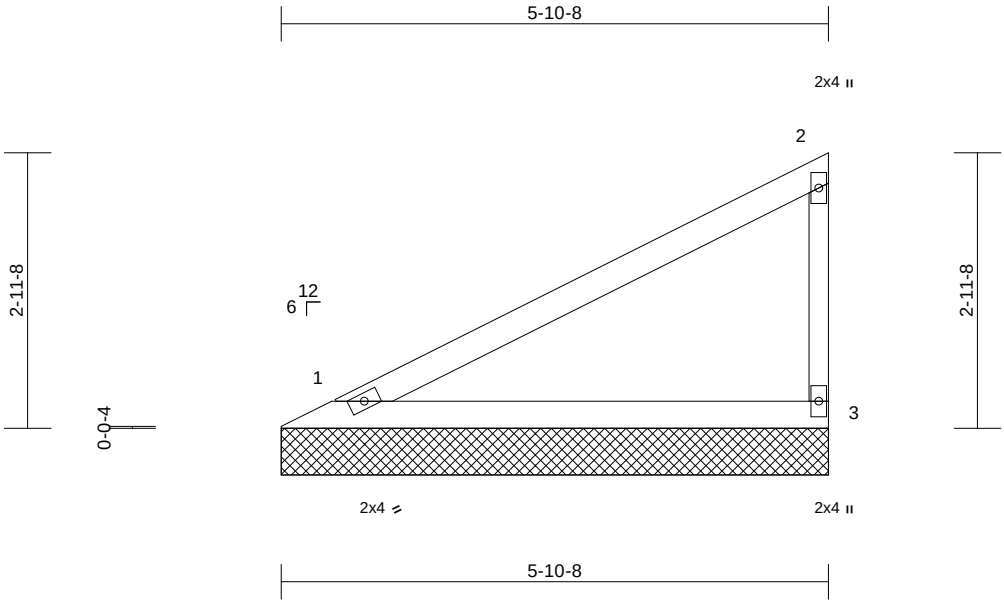
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	123 MN
B210102	V13	Valley	1	1	I49388377

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Dec 21 16:15:52 Page: 1
ID:vBszku21ozNPT?RIzYtJMSyXqDi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC4f



Scale = 1:24.7

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	0.52	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.28	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: 15 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 5-11-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=233/5-10-8, 3=233/5-10-8
Max Horiz 1=108 (LC 5)
Max Uplift 1=-30 (LC 8), 3=-57 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-99/65, 2-3=-181/88
BOT CHORD 1-3=-37/28

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 30 lb uplift at joint 1 and 57 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

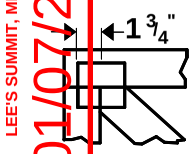
STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER
PE-2001018807
PROFESSIONAL ENGINEER

December 22,2021

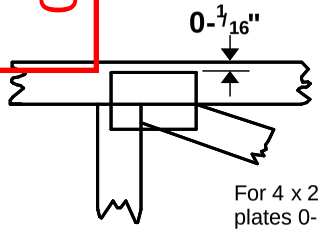
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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.

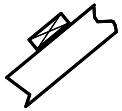
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

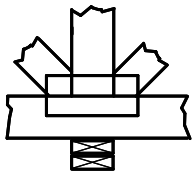
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

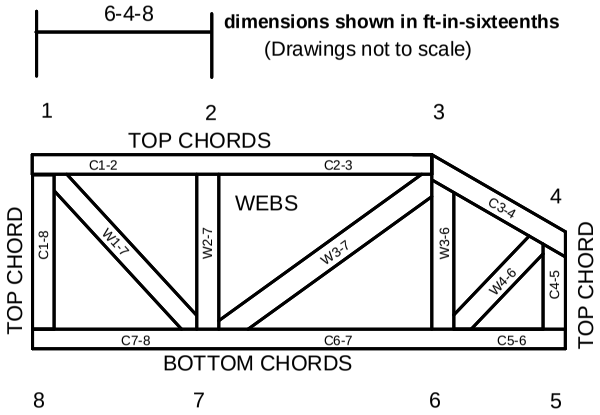


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.