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

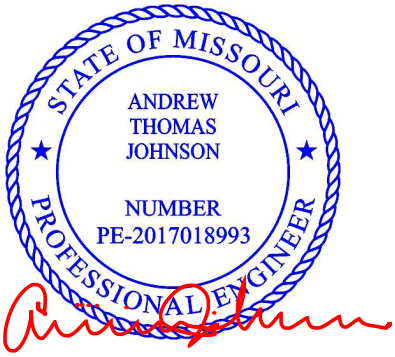
Re: B220003
Lot 75 H3

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: I59650776 thru I59650806

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

Missouri COA: Engineering 001193



July 21,2023

Johnson, Andrew ,Engineer

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A1	Common Supported Gable	1	1	Job Reference (optional) I59650776

Wheeler Lumber, Waverly, KS - 66871,

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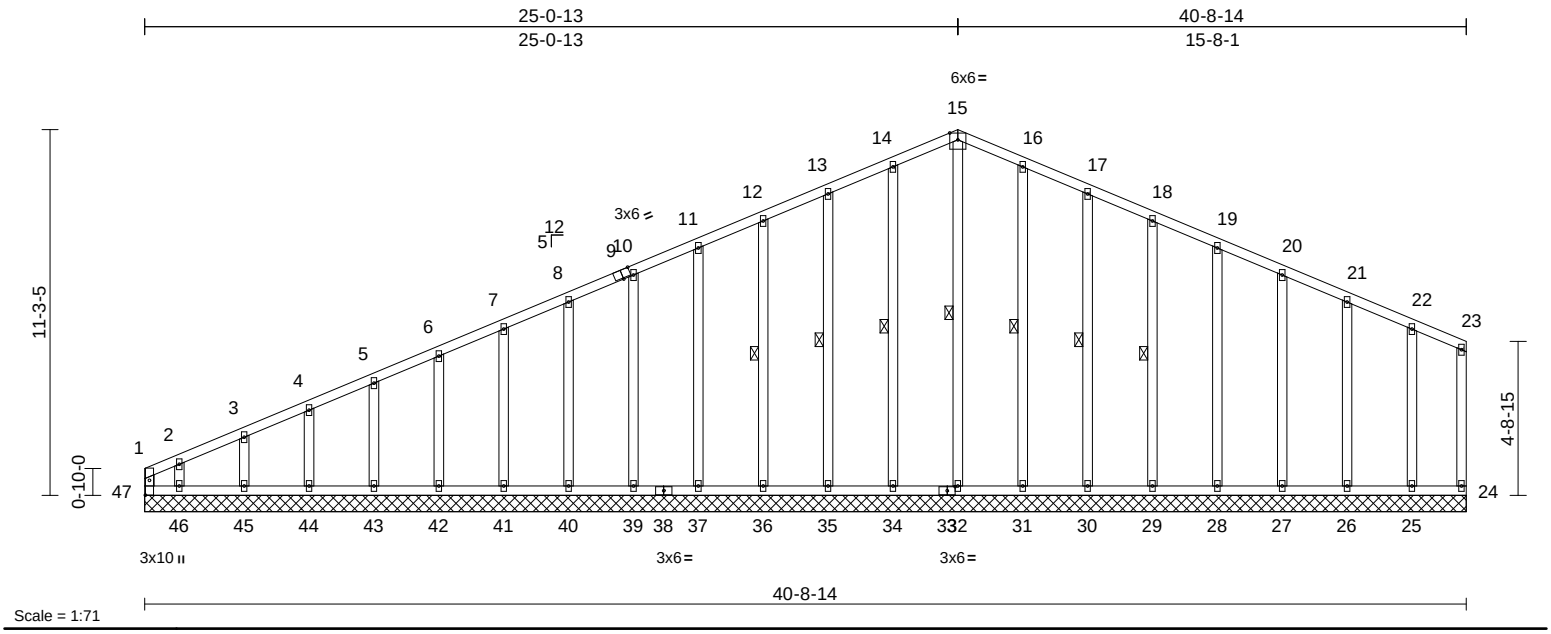

Scale = 1:71

Plate Offsets (X, Y): [9:0-3-0,Edge], [33:0-2-15,0-1-8], [47:0-5-8,0-1-8]

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	0.09	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	0.14	Horiz(TL)	0.00	24	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 246 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 15-32, 14-34, 13-35, 12-36, 16-31, 17-30, 18-29

REACTIONS (size) 24=40-8-14, 25=40-8-14, 26=40-8-14, 27=40-8-14, 28=40-8-14, 29=40-8-14, 30=40-8-14, 31=40-8-14, 32=40-8-14, 34=40-8-14, 35=40-8-14, 36=40-8-14, 37=40-8-14, 39=40-8-14, 40=40-8-14, 41=40-8-14, 42=40-8-14, 43=40-8-14, 44=40-8-14, 45=40-8-14, 46=40-8-14, 47=40-8-14
Max Horiz 47=178 (LC 5)
Max Uplift 24=-23 (LC 8), 25=-51 (LC 9), 26=-49 (LC 9), 27=-47 (LC 9), 28=-48 (LC 9), 29=-47 (LC 9), 30=-52 (LC 9), 31=-42 (LC 9), 34=-43 (LC 8), 35=-51 (LC 8), 36=-47 (LC 8), 37=-48 (LC 8), 39=-48 (LC 8), 40=-48 (LC 8), 41=-48 (LC 8), 42=-48 (LC 8), 43=-47 (LC 8), 44=-52 (LC 8), 45=-33 (LC 8), 46=-219 (LC 8), 47=-36 (LC 19)
Max Grav 24=56 (LC 16), 25=171 (LC 22), 26=183 (LC 1), 27=179 (LC 22), 28=180 (LC 22), 29=180 (LC 1), 30=179 (LC 22), 31=189 (LC 22), 32=188 (LC 15), 34=189 (LC 21), 35=179 (LC 21), 36=180 (LC 1), 37=180 (LC 21), 39=180 (LC 1), 40=180 (LC 21), 41=180 (LC 1), 42=180 (LC 21), 43=180 (LC 1), 44=179 (LC 21), 45=186 (LC 1), 46=151 (LC 21), 47=257 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-47=-167/23, 1-2=-275/43, 2-3=-215/38, 3-4=-182/45, 4-5=-156/56, 5-6=-130/77, 6-7=-103/98, 7-8=-77/119, 8-10=-66/140, 10-11=-66/161, 11-12=-66/182, 12-13=-66/202, 13-14=-66/224, 14-15=-65/242, 15-16=-64/235, 16-17=-62/210, 17-18=-59/185, 18-19=-56/160, 19-20=-53/136, 20-21=-50/112, 21-22=-58/86, 22-23=-76/68, 23-24=-59/45
BOT CHORD 46-47=-64/49, 45-46=-64/49, 44-45=-64/49, 43-44=-64/49, 42-43=-64/49, 41-42=-64/49, 40-41=-64/49, 39-40=-64/49, 37-39=-64/49, 36-37=-64/49, 35-36=-64/49, 34-35=-64/49, 32-34=-64/49, 31-32=-64/49, 30-31=-64/49, 29-30=-64/49, 28-29=-64/49, 27-28=-64/49, 26-27=-64/49, 25-26=-64/49, 24-25=-64/49
WEBS 15-32=-148/18, 14-34=-149/67, 13-35=-139/75, 12-36=-140/71, 11-37=-140/72, 10-39=-140/72, 8-40=-140/72, 7-41=-140/72, 6-42=-140/72, 5-43=-140/72, 4-44=-139/73, 3-45=-145/67, 2-46=-117/144, 16-31=-149/66, 17-30=-139/76, 18-29=-140/71, 19-28=-140/72, 20-27=-140/72, 21-26=-142/71, 22-25=-133/82

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.

July 21,2023

Continued on page 3

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A1	Common Supported Gable	1	1	Job Reference (optional) I59650776

10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 47, 23 lb uplift at joint 24, 43 lb uplift at joint 34, 51 lb uplift at joint 35, 47 lb uplift at joint 36, 48 lb uplift at joint 37, 48 lb uplift at joint 39, 48 lb uplift at joint 40, 48 lb uplift at joint 41, 48 lb uplift at joint 42, 47 lb uplift at joint 43, 52 lb uplift at joint 44, 33 lb uplift at joint 45, 219 lb uplift at joint 46, 42 lb uplift at joint 31, 52 lb uplift at joint 30, 47 lb uplift at joint 29, 48 lb uplift at joint 28, 47 lb uplift at joint 27, 49 lb uplift at joint 26 and 51 lb uplift at joint 25.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A2	Roof Special	4	1	Job Reference (optional) I59650777

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:15 Page: 1
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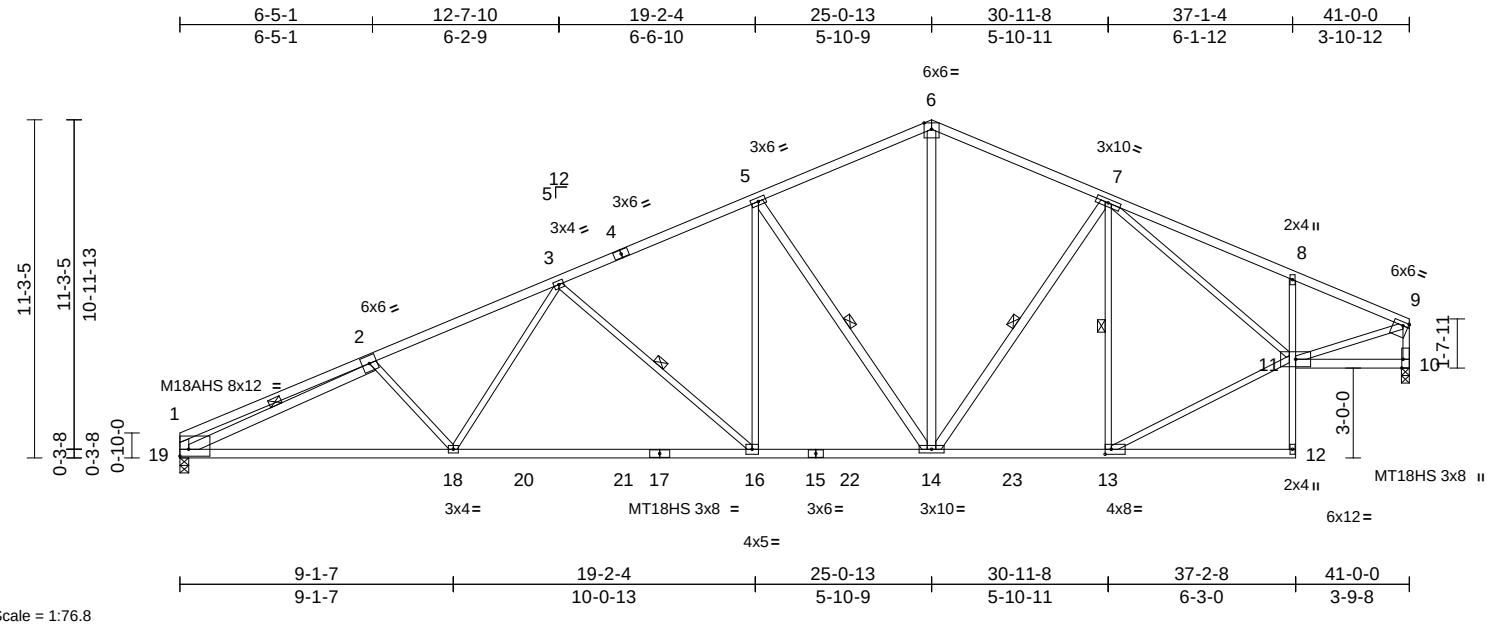

Scale = 1:76.8

Plate Offsets (X, Y): [1:Edge,0-2-12], [9:0-2-0,0-1-8], [10:0-3-8,Edge], [13:0-2-8,0-2-0]

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	0.58	Vert(LL)	-0.41	16-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.71	16-18	>691	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.10	10	n/a	n/a	M18AHS	142/136
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	16-18	>999	240	Weight: 190 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E *Except* 12-8:2x3 SPF No.2, 11-10:2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 14-5,14-6,19-1,19-2,14-7:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-7-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-7-14 oc bracing.
WEBS 1 Row at midpt 3-16, 5-14, 7-13, 2-19, 7-14

REACTIONS (size) 10=0-3-2, 19=0-3-8
Max Horiz 19=235 (LC 8)
Max Uplift 10=-193 (LC 9), 19=-259 (LC 8)
Max Grav 10=1959 (LC 2), 19=1956 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-648/128, 2-3=-3577/485, 3-5=-2696/389, 5-6=-1985/332, 6-7=-1986/350, 7-8=-2560/367, 8-9=-2536/261, 1-19=-417/124, 9-10=-1872/213
BOT CHORD 18-19=-649/3297, 16-18=-507/2967, 14-16=-321/2422, 13-14=-137/1791, 12-13=0/26, 11-12=0/103, 8-11=-355/191, 10-11=-15/61
WEBS 2-18=-214/197, 3-18=-22/545, 3-16=-739/249, 5-16=-64/854, 5-14=-1169/288, 6-14=-150/1172, 7-13=-661/150, 11-13=-153/1964, 7-11=-165/692, 9-11=-225/2390, 2-19=-3104/394, 7-14=-238/173

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 193 lb uplift at joint 10 and 259 lb uplift at joint 19.
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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A3	Roof Special	1	1	Job Reference (optional) I59650778

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:16 Page: 1
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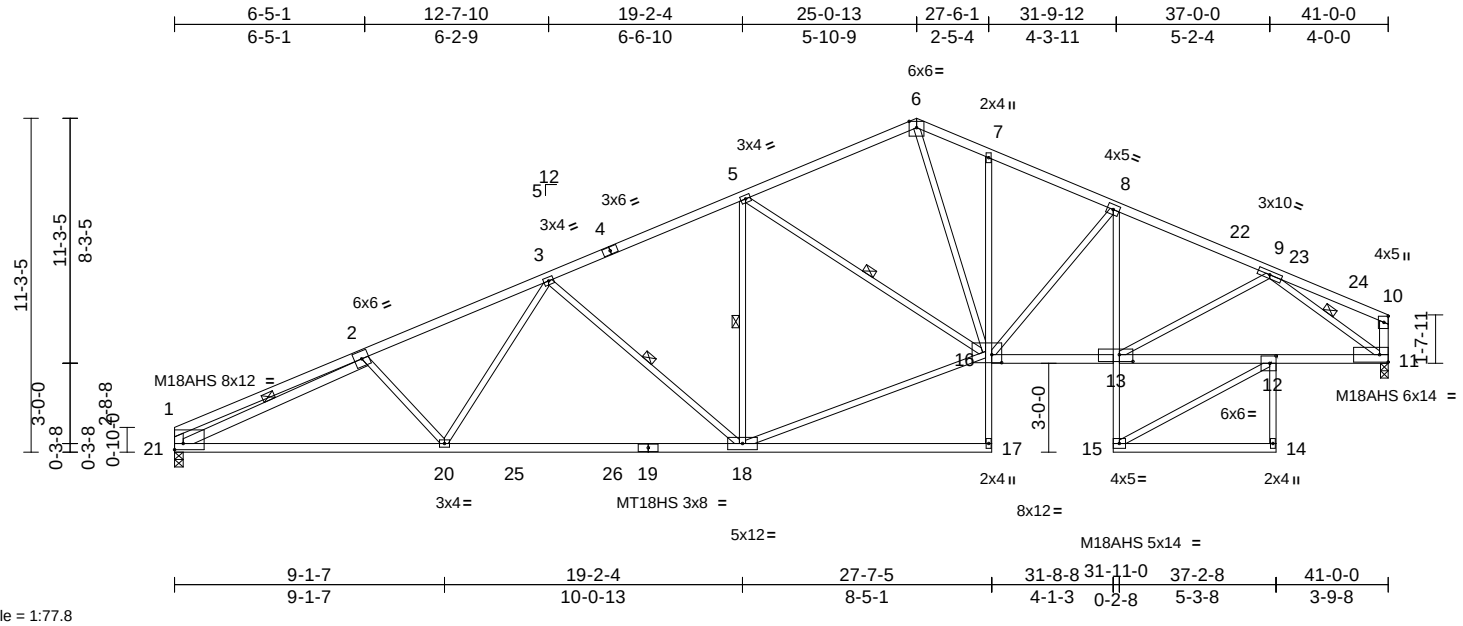

Scale = 1:77.8

Plate Offsets (X, Y): [1:Edge,0-2-8], [12:0-2-8,0-3-0], [13:0-5-8,0-2-12], [16:0-4-0,0-3-4]

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	0.81	Vert(LL)	-0.43	18-20	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.72	18-20	>674	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.17	11	n/a	n/a	M18AHS	142/136
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.18	18-20	>999	240	Weight: 191 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x3 SPF No.2 *Except* 21-19,19-17:2x4 SPF 2100F 1.8E, 16-13,15-14:2x4 SPF No.2, 13-11:2x4 SPF 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 21-1,11-10,21-2:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-6-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-18, 5-18, 9-11, 2-21, 5-16

REACTIONS (size) 11=0-3-2, 21=0-3-8
Max Horiz 21=235 (LC 8)
Max Uplift 21=-229 (LC 8)
Max Grav 11=2613 (LC 2), 21=1984 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-658/120, 2-3=-3637/419, 3-5=-2769/313, 5-6=-2426/234, 6-7=-2948/289, 7-8=-3008/264, 8-9=-3439/137, 9-10=-404/39, 1-21=-424/121, 10-11=-414/0
BOT CHORD 20-21=-592/3349, 18-20=-442/3030, 17-18=0/28, 16-17=0/133, 7-16=-193/121, 13-16=-22/3046, 13-15=0/119, 8-13=0/260, 14-15=0/38, 12-14=0/108, 12-13=0/2846, 11-12=0/2860
WEBS 2-20=-202/202, 3-20=-32/531, 3-18=-734/255, 5-18=-172/139, 16-18=-270/2617, 6-16=-103/1857, 8-16=-578/31, 9-13=-200/254, 9-11=-3351/0, 2-21=-3152/337, 12-15=-32/0, 5-16=-493/220

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 229 lb uplift at joint 21.
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) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-70, 6-10=-70, 17-21=-20, 13-16=-20, 14-15=-20, 11-12=-20
Concentrated Loads (lb)
Vert: 22=-269, 23=-269, 24=-269

STATE OF MISSOURI
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A4	Roof Special	1	1	Job Reference (optional) I59650779

Wheeler Lumber, Waverly, KS - 66871,

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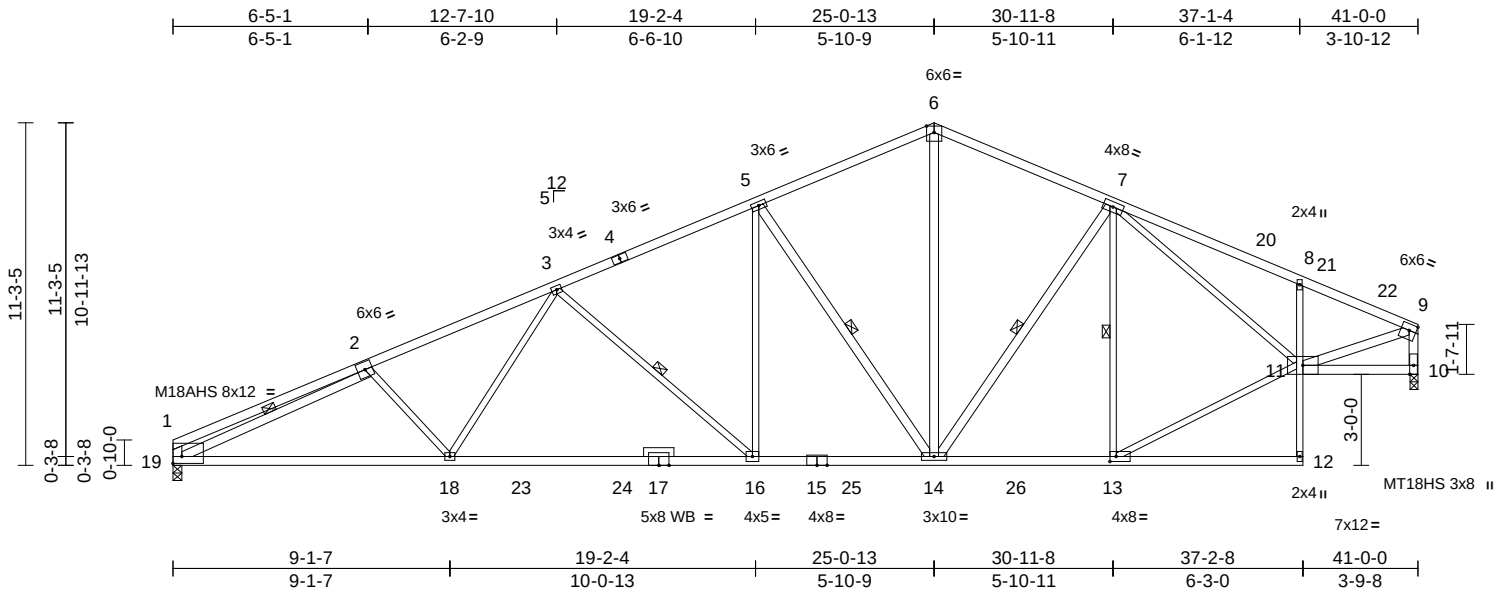

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Plate Offsets (X, Y): [1:Edge,0-2-12], [9:Edge,0-2-8], [13:0-2-8,0-2-0]

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	0.88	Vert(LL)	-0.42	16-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.73	16-18	>673	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.12	10	n/a	n/a	M18AHS	142/136
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	16-18	>999	240	Weight: 193 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E *Except* 12-8:2x3 SPF No.2, 11-10:2x4 SPF 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 14-5,14-6,19-1,10-9,11-9,19-2,14-7:2x4 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-4-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-16, 5-14, 7-13, 2-19, 7-14

REACTIONS (size) 10=0-3-2, 19=0-3-8
Max Horiz 19=235 (LC 8)
Max Uplift 19=-229 (LC 8)
Max Grav 10=2604 (LC 2), 19=2008 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-657/122, 2-3=-3695/418, 3-5=-2823/316, 5-6=-2114/258, 6-7=-2117/274, 7-8=-3292/0, 8-9=-3250/0, 1-19=-422/122, 9-10=-2505/0
BOT CHORD 18-19=-591/3399, 16-18=-442/3081, 14-16=-254/2539, 13-14=-25/1985, 12-13=0/34, 11-12=0/103, 8-11=-939/0, 10-11=0/127
WEBS 2-18=-203/202, 3-18=-28/536, 3-16=-733/252, 5-16=-66/850, 5-14=-1166/289, 6-14=-89/1278, 7-13=-767/97, 11-13=-33/2171, 7-11=0/1320, 9-11=0/2969, 2-19=-3209/333, 7-14=-392/78

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 229 lb uplift at joint 19.
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) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-70, 6-9=-70, 12-19=-20, 10-11=-20
Concentrated Loads (lb)
Vert: 20=-269, 21=-269, 22=-269

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A5	Roof Special	1	1	Job Reference (optional) I59650780

Wheeler Lumber, Waverly, KS - 66871,

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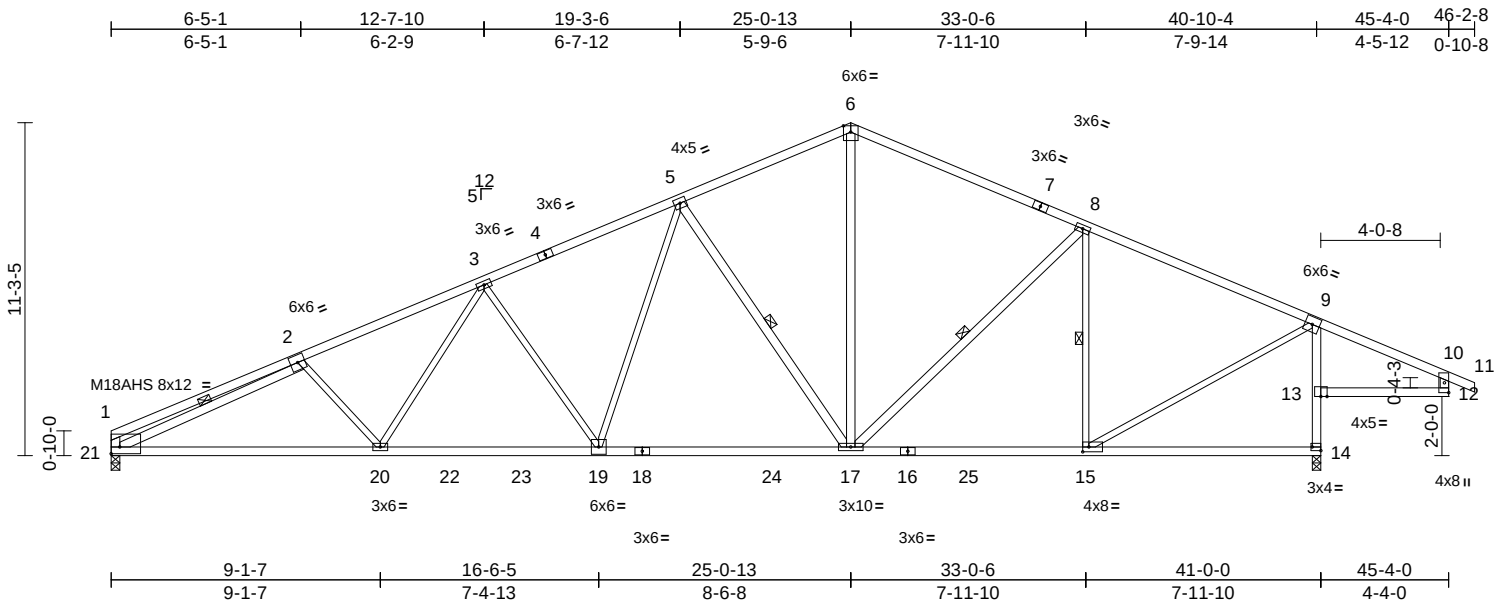

Scale = 1:78.1

Plate Offsets (X, Y): [1:Edge,0-2-12], [14:Edge,0-1-8], [15:0-2-8,0-2-0]

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	0.78	Vert(LL)	-0.32	17-19	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.54	17-19	>899	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.80	Horz(CT)	0.11	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	19-20	>999	240	Weight: 192 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 6-7:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF No.2 *Except* 21-18,16-14:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 17-5,17-6,17-8,21-2:2x4 SPF No.2, 21-1,12-10:2x4 SPF 2100F 1.8E

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 5-17, 8-17, 8-15, 2-21

REACTIONS (size) 14=0-3-8, 21=0-3-8
Max Horiz 21=202 (LC 8)
Max Uplift 14=-287 (LC 9), 21=-261 (LC 8)
Max Grav 14=2460 (LC 2), 21=1928 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-703/117, 2-3=-3483/496, 3-5=-2874/443, 5-6=-1935/332, 6-8=-1963/345, 8-9=-1814/231, 9-10=-122/444, 10-11=0/27, 1-21=-428/120, 10-12=-5/55

BOT CHORD 20-21=-625/3218, 19-20=-473/2929, 17-19=-301/2307, 15-17=-99/1592, 14-15=-187/85, 13-14=-2351/330, 9-13=-2226/345, 12-13=-327/131

WEBS 2-20=-218/193, 3-20=-45/451, 3-19=-655/245, 5-19=-116/908, 5-17=-1062/315, 6-17=-137/1071, 8-17=-61/303, 8-15=-742/163, 9-15=-127/2034, 2-21=-2958/415

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 287 lb uplift at joint 14 and 261 lb uplift at joint 21.
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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
07/31/2023

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3	I59650781
B220003	A6	Roof Special	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:17 Page: 1
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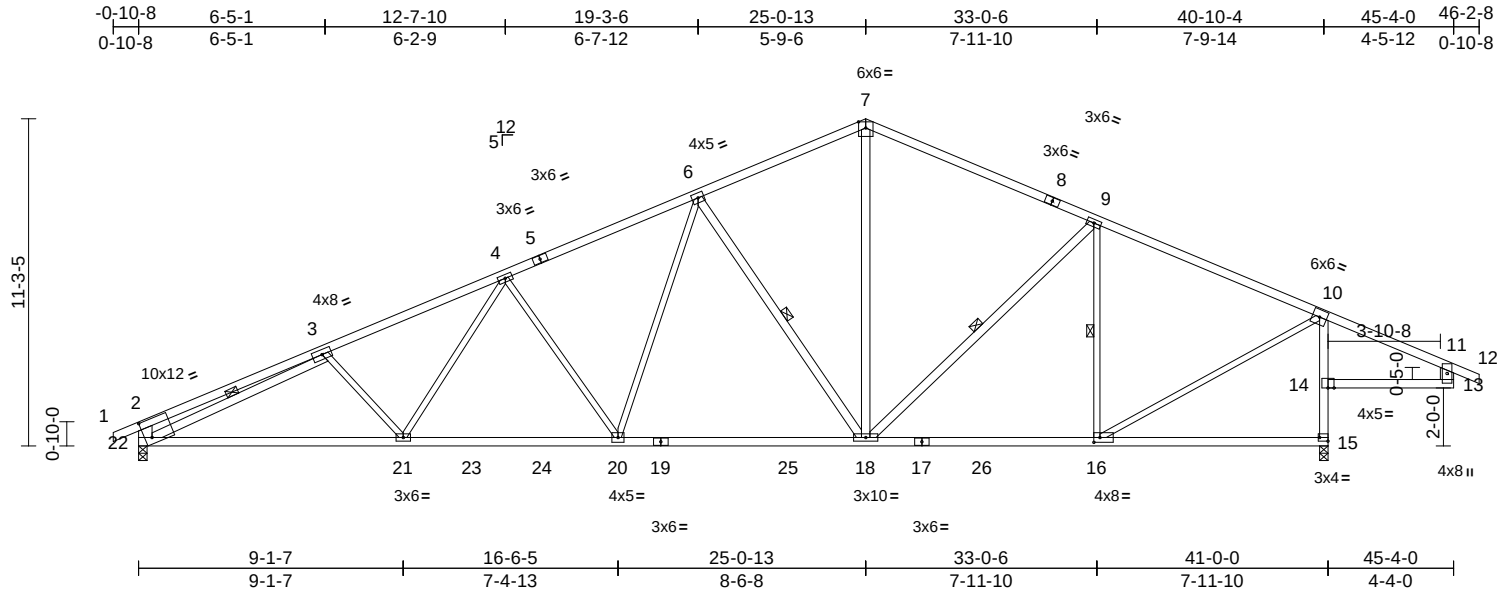

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Plate Offsets (X, Y): [2:0-2-14,0-7-6], [15:Edge,0-1-8], [16:0-2-8,0-2-0]

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	0.78	Vert(LL)	-0.31	18-20	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.54	18-20	>909	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.11	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	20-21	>999	240	Weight: 194 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2 *Except* 7-8:2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2 *Except* 22-19,17-15:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 18-6,18-7,18-9,22-3:2x4 SPF No.2, 22-2,13-11:2x6 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 2-2-0 oc bracing.
WEBS 1 Row at midpt 6-18, 9-18, 9-16, 3-22

REACTIONS (size) 15=0-3-8, 22=0-3-8
Max Horiz 22=216 (LC 8)
Max Uplift 15=-288 (LC 9), 22=-286 (LC 8)
Max Grav 15=2451 (LC 2), 22=1988 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-812/181, 3-4=-3439/488, 4-6=-2858/441, 6-7=-1928/331, 7-9=-1957/344, 9-10=-1810/230, 10-11=-123/442, 11-12=0/30, 2-22=-573/178, 11-13=-6/53
BOT CHORD 21-22=-611/3156, 20-21=-470/2908, 18-20=-298/2296, 16-18=-97/1589, 15-16=-185/85, 14-15=-2343/330, 10-14=-2219/345, 13-14=-326/132
WEBS 3-21=-182/183, 4-21=-38/419, 4-20=-644/244, 6-20=-115/898, 6-18=-1053/313, 7-18=-136/1065, 9-18=-63/300, 9-16=-739/163, 10-16=-126/2027, 3-22=-2792/339

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 288 lb uplift at joint 15 and 286 lb uplift at joint 22.
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
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A7	Common	2	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I59650782
07/31/2023

Wheeler Lumber, Waverly, KS - 66871,

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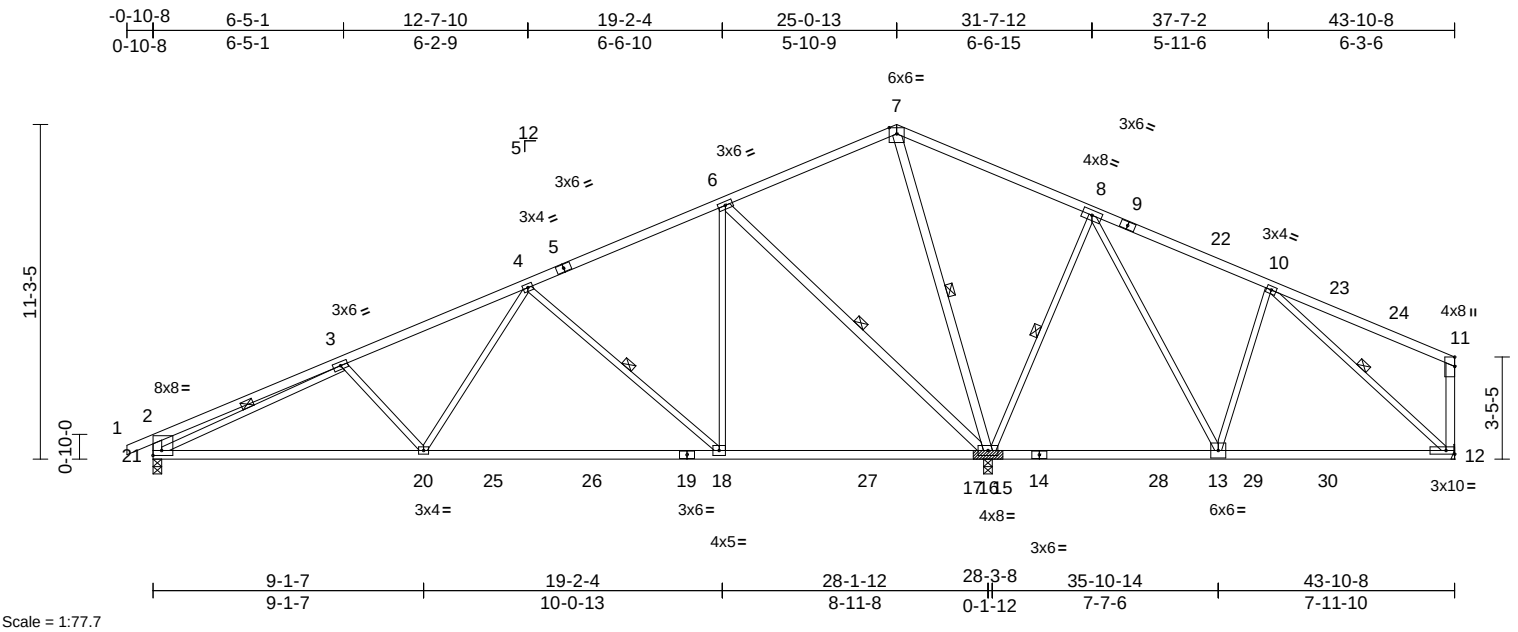

Scale = 1:77.7

Plate Offsets (X, Y): [2:Edge,0-2-0], [11:0-3-13,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	0.85	Vert(LL)	-0.27	18-20	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.45	18-20	>749	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.04	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	18-20	>999	240	Weight: 190 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2 *Except* 9-11:2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2 *Except* 19-14,17-15:2x4 SPF 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 16-6,16-7,21-2,12-11:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-7-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-18, 6-16, 7-16, 8-16, 10-12, 3-21

REACTIONS (size) 12= Mechanical, 16=(0-3-8 + bearing block), (req. 0-3-12), 21=0-3-8
Max Horiz 21=186 (LC 8)
Max Uplift 16=-121 (LC 8), 21=-192 (LC 8)
Max Grav 12=1086 (LC 22), 16=3436 (LC 2), 21=1060 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-619/173, 3-4=-1429/281, 4-6=-395/165, 6-7=0/823, 7-8=0/1147, 8-10=-629/102, 10-11=-255/118, 2-21=-493/171, 11-12=-456/0
BOT CHORD 20-21=-405/1424, 18-20=-247/912, 16-18=-51/299, 13-16=-595/221, 12-13=0/677
WEBS 3-20=-337/208, 4-20=-39/667, 4-18=-821/262, 6-18=-56/966, 6-16=-1365/299, 7-16=-1095/89, 8-16=-1272/86, 8-13=0/1323, 10-13=-1007/0, 10-12=-811/0, 3-21=-1032/146

NOTES
1) 2x4 SPF 2400F 2.0E bearing block 12" long at jt. 16 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be SPF 2400F 2.0E.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 121 lb uplift at joint 16 and 192 lb uplift at joint 21.
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) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.

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, 2-7=-70, 7-11=-70, 12-21=-20
Concentrated Loads (lb)
Vert: 10=-269, 22=-269, 23=-269, 24=-269

STATE OF MISSOURI
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A8	Common	7	1	Job Reference (optional) I59650783

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:18 Page: 1
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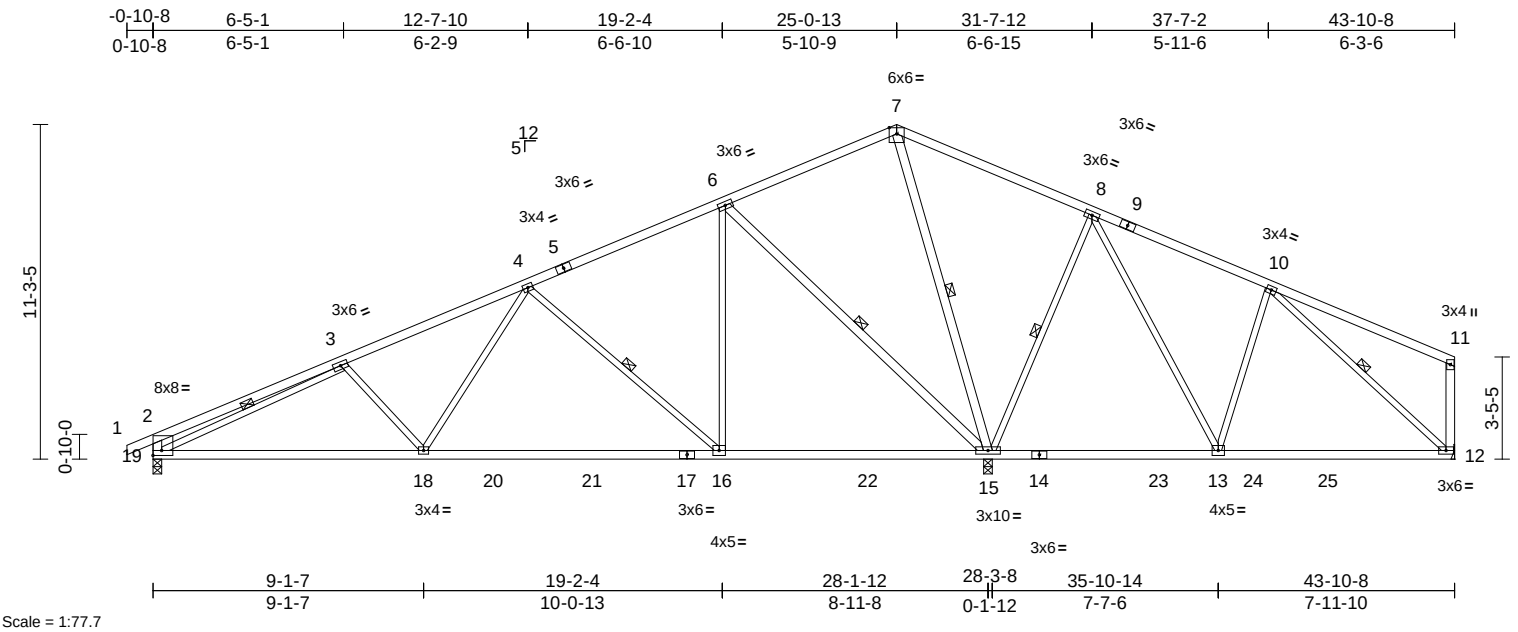

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Plate Offsets (X, Y): [2:Edge,0-2-0]

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	0.66	Vert(LL)	-0.27	16-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.45	16-18	>745	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.95	Horz(CT)	0.04	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	16-18	>999	240	Weight: 189 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 17-14:2x4 SPF 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 15-6,15-7,19-2,12-11:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-5-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-16, 6-15, 7-15, 8-15, 10-12, 3-19

REACTIONS (size) 12= Mechanical, 15=0-3-8, 19=0-3-8
Max Horiz 19=186 (LC 12)
Max Uplift 12=-165 (LC 21), 15=-341 (LC 8), 19=-173 (LC 8)
Max Grav 12=431 (LC 22), 15=3033 (LC 2), 19=1096 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-629/168, 3-4=-1509/239, 4-6=-482/120, 6-7=-24/736, 7-8=-49/1039, 8-10=-195/427, 10-11=-127/85, 2-19=-498/169, 11-12=-208/89
BOT CHORD 18-19=-369/1494, 16-18=-206/989, 15-16=-9/379, 13-15=-629/199, 12-13=-295/203
WEBS 3-18=-329/212, 4-18=-42/660, 4-16=-818/264, 6-16=-57/965, 6-15=-1363/300, 7-15=-1010/128, 8-15=-877/282, 8-13=-92/811, 10-13=-456/191, 10-12=-221/431, 3-19=-1100/111

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are 3x6 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 341 lb uplift at joint 15, 165 lb uplift at joint 12 and 173 lb uplift at joint 19.
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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A9	Roof Special	6	1	Job Reference (optional) I59650784

Wheeler Lumber, Waverly, KS - 66871,

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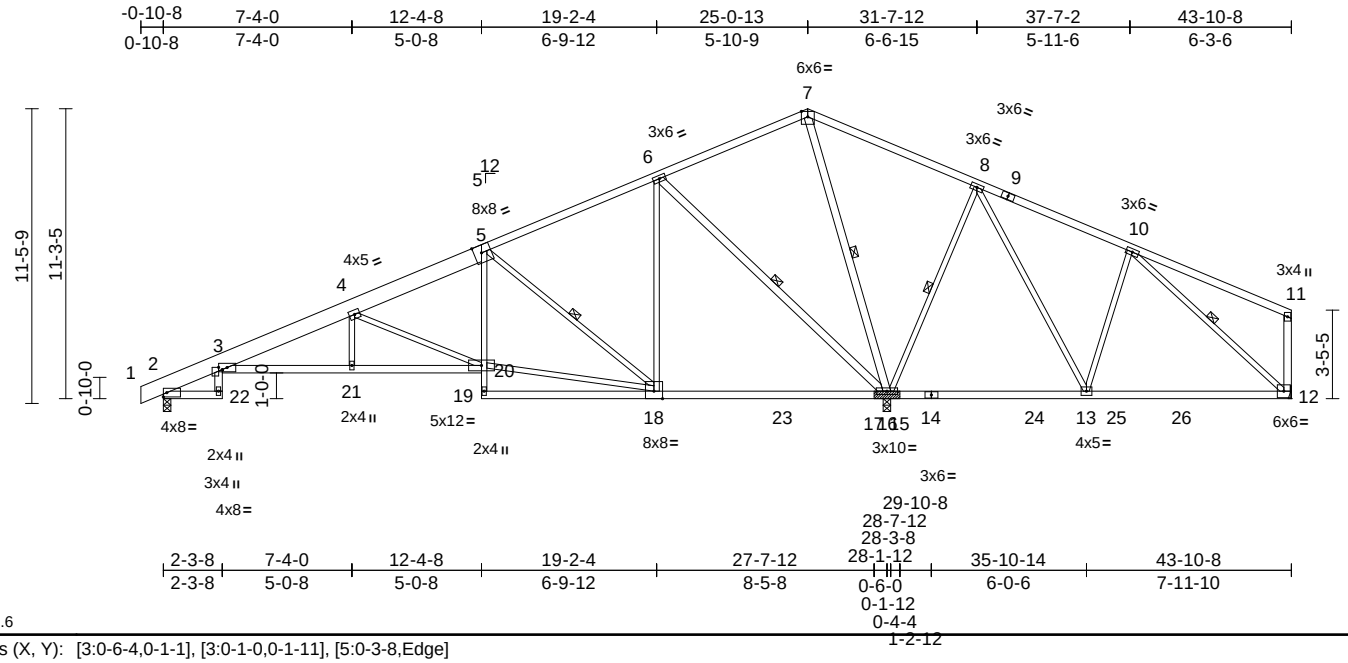

Scale = 1:89.6

Plate Offsets (X, Y): [3:0-6-4,0-1-1], [3:0-1-0,0-1-11], [5:0-3-8,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	0.80	Vert(LL)	-0.15	16-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.26	20-21	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.15	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.12	3-21	>999	240	Weight: 221 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 1-5:2x8 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 5-19:2x3 SPF No.2, 19-14,17-15:2x4 SPF 2400F 2.0E

WEBS 2x3 SPF No.2 *Except* 16-6,16-7,12-11:2x4 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 5-1-0 oc bracing.

WEBS 1 Row at midpt 5-18, 6-16, 7-16, 8-16, 10-12

REACTIONS (size) 2=0-3-8, 12= Mechanical, 16= (0-3-8 + bearing block), (req. 0-3-13)
Max Horiz 2=204 (LC 8)
Max Uplift 2=-119 (LC 8), 12=-510 (LC 21), 16=-491 (LC 8)
Max Grav 2=881 (LC 23), 12=283 (LC 22), 16=3537 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-3=-469/34, 3-4=-1636/212, 4-6=-831/205, 6-7=-157/1197, 7-8=-218/1623, 8-10=-171/879, 10-11=-125/85, 11-12=-208/89

BOT CHORD 2-22=0/8, 3-22=0/54, 3-21=-326/1570, 20-21=-323/1567, 19-20=0/101, 5-20=-59/657, 18-19=-6/52, 16-18=-110/106, 13-16=-1129/341, 12-13=-660/241

WEBS 4-21=0/198, 4-20=-945/232, 18-20=-110/678, 5-18=-1028/287, 6-18=-62/916, 6-16=-1323/311, 7-16=-1427/247, 8-16=-996/280, 8-13=-96/994, 10-13=-632/191, 10-12=-283/931

NOTES

1) 2x4 SPF 2400F 2.0E bearing block 12" long at jt. 16 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be SPF 2400F 2.0E.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 119 lb uplift at joint 2, 491 lb uplift at joint 16 and 510 lb uplift at joint 12.
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

July 21,2023

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	A10	Common Supported Gable	1	1	Job Reference (optional) I59650785

Wheeler Lumber, Waverly, KS - 66871,

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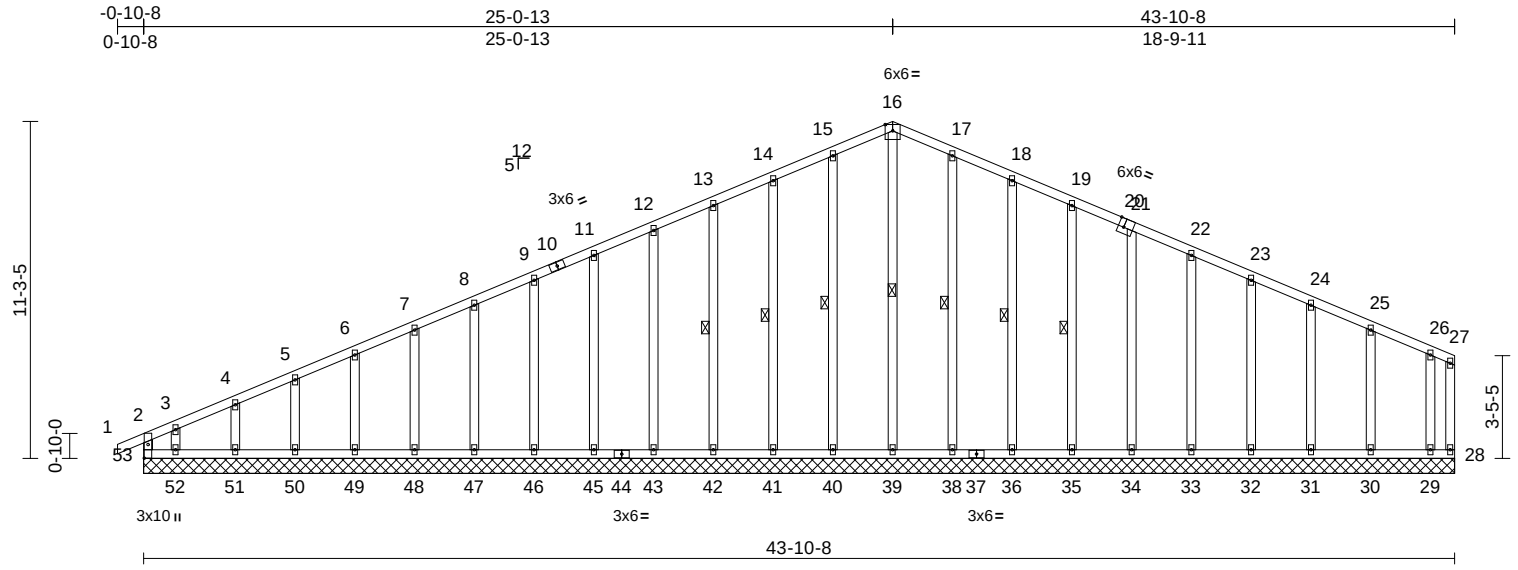

Scale = 1:77.1

Plate Offsets (X, Y): [20:0-2-4,Edge], [53:0-5-8,0-1-8]

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	0.10	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.00	28	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 262 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 16-39, 15-40, 14-41, 13-42, 17-38, 18-36, 19-35

REACTIONS (size) 28=43-10-8, 29=43-10-8, 30=43-10-8, 31=43-10-8, 32=43-10-8, 33=43-10-8, 34=43-10-8, 35=43-10-8, 36=43-10-8, 38=43-10-8, 39=43-10-8, 40=43-10-8, 41=43-10-8, 42=43-10-8, 43=43-10-8, 45=43-10-8, 46=43-10-8, 47=43-10-8, 48=43-10-8, 49=43-10-8, 50=43-10-8, 51=43-10-8, 52=43-10-8, 53=43-10-8
Max Horiz 53=186 (LC 12)
Max Uplift 28=-18 (LC 12), 29=-76 (LC 9), 30=-50 (LC 9), 31=-47 (LC 9), 32=-48 (LC 9), 33=-48 (LC 9), 34=-48 (LC 9), 35=-47 (LC 9), 36=-53 (LC 9), 38=-39 (LC 9), 40=-42 (LC 8), 41=-51 (LC 8), 42=-47 (LC 8), 43=-48 (LC 8), 45=-48 (LC 8), 46=-48 (LC 8), 47=-48 (LC 8), 48=-48 (LC 8), 49=-47 (LC 8), 50=-51 (LC 8), 51=-35 (LC 8), 52=-197 (LC 8), 53=-55 (LC 9)
Max Grav 28=51 (LC 9), 29=139 (LC 22), 30=188 (LC 1), 31=178 (LC 1), 32=180 (LC 22), 33=180 (LC 1), 34=180 (LC 22), 35=180 (LC 1), 36=179 (LC 22), 38=189 (LC 22), 39=215 (LC 18), 40=189 (LC 21), 41=179 (LC 21), 42=180 (LC 1), 43=180 (LC 21), 45=180 (LC 1), 46=180 (LC 21), 47=180 (LC 1), 48=180 (LC 21), 49=181 (LC 1), 50=178 (LC 21), 51=190 (LC 1), 52=114 (LC 18), 53=235 (LC 17)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-53=-176/45, 1-2=0/27, 2-3=-255/79, 3-4=-197/82, 4-5=-171/96, 5-6=-144/117, 6-7=-118/137, 7-8=-92/158, 8-9=-66/179, 9-11=-57/200, 11-12=-57/221, 12-13=-57/242, 13-14=-57/263, 14-15=-57/285, 15-16=-57/302, 16-17=-56/295, 17-18=-53/262, 18-19=-50/223, 19-21=-47/186, 21-22=-44/156, 22-23=-42/131, 23-24=-39/107, 24-25=-39/83, 25-26=-49/58, 26-27=-63/43, 27-28=-51/28
BOT CHORD 52-53=-44/38, 51-52=-44/38, 50-51=-44/38, 49-50=-44/38, 48-49=-44/38, 47-48=-44/38, 46-47=-44/38, 45-46=-44/38, 43-45=-44/38, 42-43=-44/38, 41-42=-44/38, 40-41=-44/38, 39-40=-44/38, 38-39=-44/38, 36-38=-44/38, 35-36=-44/38, 34-35=-44/38, 33-34=-44/38, 32-33=-44/38, 31-32=-44/38, 30-31=-44/38, 29-30=-44/38, 28-29=-44/38
WEBS 16-39=-175/12, 15-40=-149/66, 14-41=-139/75, 13-42=-140/71, 12-43=-140/72, 11-45=-140/72, 9-46=-140/72, 8-47=-140/72, 7-48=-140/72, 6-49=-140/72, 5-50=-138/73, 4-51=-148/68, 3-52=-78/140, 17-38=-149/63, 18-36=-139/77, 19-35=-140/71, 21-34=-140/72, 22-33=-140/72, 23-32=-140/72, 24-31=-139/71, 25-30=-146/76, 26-29=-107/83

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.

STATE OF MISSOURI
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

Continued on page 3

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3	I59650785
B220003	A10	Common Supported Gable	1	1	Job Reference (optional)	

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 55 lb uplift at joint 53, 18 lb uplift at joint 28, 42 lb uplift at joint 40, 51 lb uplift at joint 41, 47 lb uplift at joint 42, 48 lb uplift at joint 43, 48 lb uplift at joint 45, 48 lb uplift at joint 46, 48 lb uplift at joint 47, 48 lb uplift at joint 48, 47 lb uplift at joint 49, 51 lb uplift at joint 50, 35 lb uplift at joint 51, 197 lb uplift at joint 52, 39 lb uplift at joint 38, 53 lb uplift at joint 36, 47 lb uplift at joint 35, 48 lb uplift at joint 34, 48 lb uplift at joint 33, 48 lb uplift at joint 32, 47 lb uplift at joint 31, 50 lb uplift at joint 30 and 76 lb uplift at joint 29.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	B1	Common Supported Gable	1	1	Job Reference (optional) I59650786

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:20 Page: 1
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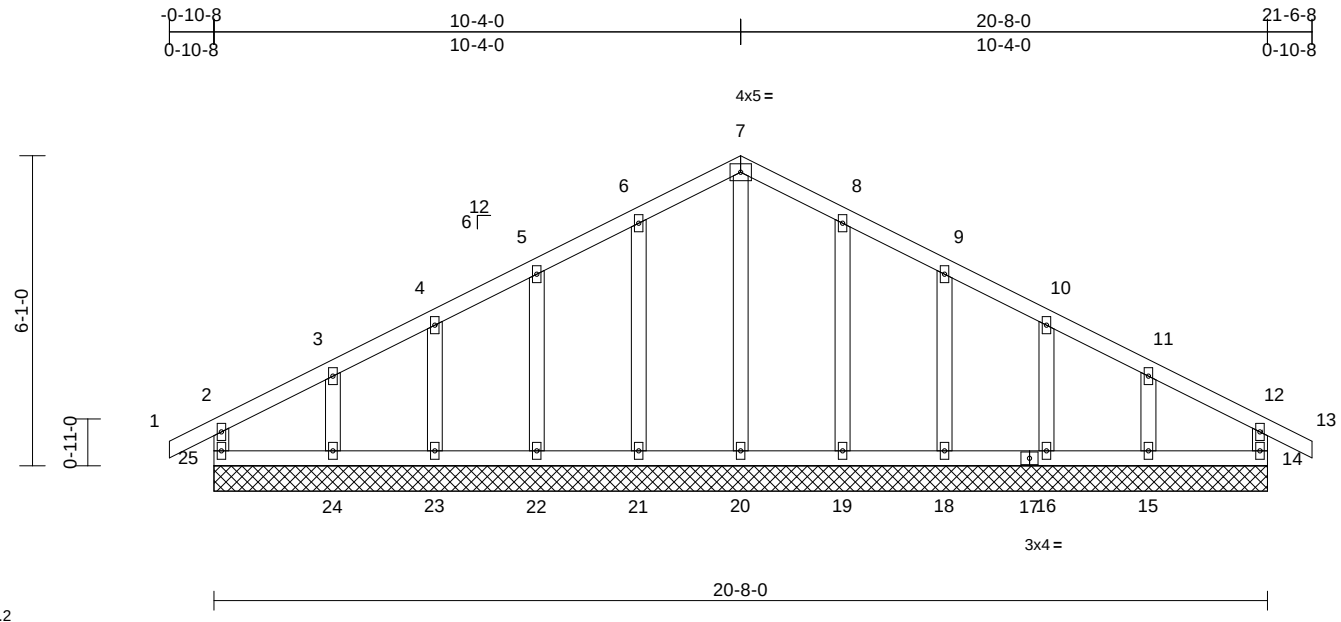

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 87 lb	FT = 10%

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

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

REACTIONS (size) 14=20-8-0, 15=20-8-0, 16=20-8-0, 18=20-8-0, 19=20-8-0, 20=20-8-0, 21=20-8-0, 22=20-8-0, 23=20-8-0, 24=20-8-0, 25=20-8-0
Max Horiz 25=-98 (LC 6)
Max Uplift 14=-30 (LC 8), 15=-86 (LC 9), 16=-45 (LC 9), 18=-57 (LC 9), 19=-54 (LC 9), 21=-54 (LC 8), 22=-58 (LC 8), 23=-43 (LC 8), 24=-91 (LC 8), 25=-41 (LC 9)
Max Grav 14=175 (LC 1), 15=187 (LC 22), 16=178 (LC 22), 18=179 (LC 1), 19=191 (LC 22), 20=177 (LC 18), 21=191 (LC 21), 22=179 (LC 1), 23=178 (LC 21), 24=187 (LC 21), 25=175 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-25=-155/48, 1-2=0/32, 2-3=-76/65, 3-4=-49/89, 4-5=-40/115, 5-6=-35/142, 6-7=-39/166, 7-8=-39/158, 8-9=-35/129, 9-10=-36/102, 10-11=-37/76, 11-12=-65/54, 12-13=0/32, 12-14=-155/40
BOT CHORD 24-25=-33/60, 23-24=-33/60, 22-23=-33/60, 21-22=-33/60, 20-21=-33/60, 19-20=-33/60, 18-19=-33/60, 16-18=-33/60, 15-16=-33/60, 14-15=-33/60
WEBS 7-20=-137/0, 6-21=-151/79, 5-22=-138/81, 4-23=-140/71, 3-24=-142/103, 8-19=-151/78, 9-18=-138/80, 10-16=-140/72, 11-15=-142/99

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) 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 41 lb uplift at joint 25, 30 lb uplift at joint 14, 54 lb uplift at joint 21, 58 lb uplift at joint 22, 43 lb uplift at joint 23, 91 lb uplift at joint 24, 54 lb uplift at joint 19, 57 lb uplift at joint 18, 45 lb uplift at joint 16 and 86 lb uplift at joint 15.
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
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	B2	Common Structural Gable	1	1	Job Reference (optional) I59650787

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 E Jul 10 2023 Print: 8.710 E Jul 10 2023 MiTek Industries, Inc. Thu Jul 20 15:30:23 Page: 1
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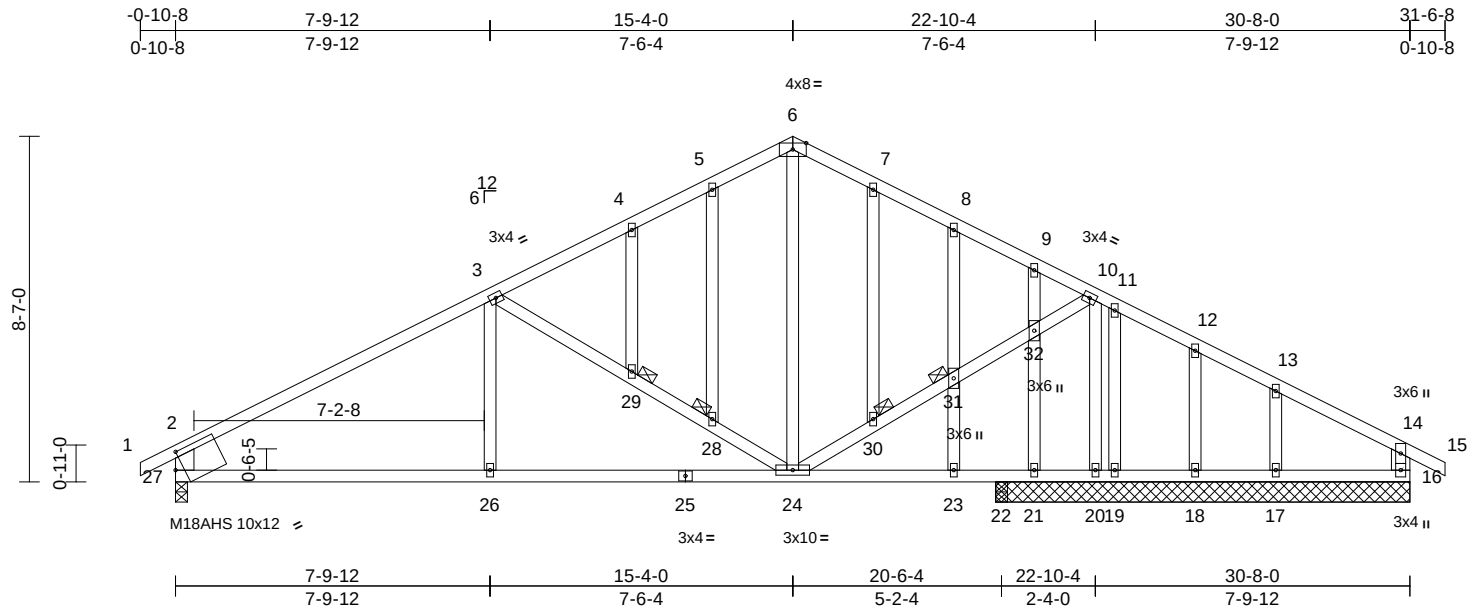

Scale = 1:57.2

Plate Offsets (X, Y): [27:0-2-7,0-4-14]

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	0.66	Vert(LL)	-0.09	24-26	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.20	24-26	>999	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.02	22	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	24-26	>999	240	Weight: 157 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 27-2,16-14:2x6 SP 2400F 2.0E
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-8-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
10-0-0 oc bracing: 26-27,24-26.
JOINTS 1 Brace at Jt(s): 28, 29, 30, 31

REACTIONS (lb/size) 16=-25/10-3-8, 17=390/10-3-8, 18=90/10-3-8, 19=347/10-3-8, 20=603/10-3-8, 21=45/10-3-8, 22=429/0-3-8, 27=994/0-3-8
Max Horiz 27=-132 (LC 6)
Max Uplift 16=-151 (LC 21), 17=-78 (LC 9), 18=-53 (LC 9), 19=-9 (LC 8), 20=-23 (LC 8), 21=-18 (LC 8), 22=-124 (LC 9), 27=-177 (LC 8)
Max Grav 16=91 (LC 22), 17=390 (LC 1), 18=125 (LC 22), 19=347 (LC 1), 20=603 (LC 1), 21=48 (LC 21), 22=437 (LC 22), 27=994 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-1279/228, 3-4=-616/155, 4-5=-527/171, 5-6=-482/194, 6-7=-498/215, 7-8=-561/208, 8-9=-555/182, 9-10=-492/155, 10-11=0/244, 11-12=0/366, 12-13=0/337, 13-14=0/401, 14-15=0/35, 2-27=-901/221, 14-16=-81/149
BOT CHORD 26-27=-221/1018, 24-26=-221/1018, 23-24=-291/7, 22-23=-291/7, 21-22=-291/7, 20-21=-291/7, 19-20=-291/7, 18-19=-291/7, 17-18=-291/7, 16-17=-291/7
WEBS 6-24=-55/184, 24-30=-28/877, 30-31=-24/878, 31-32=-28/879, 10-32=-26/857, 10-20=-539/29, 3-29=-650/232, 28-29=-679/239, 24-28=-698/253, 3-26=0/304, 5-28=-36/27, 4-29=-62/14, 7-30=-35/39, 8-31=-159/92, 23-31=-170/95, 9-32=-246/74, 21-32=-289/86, 11-19=-332/29, 12-18=-102/75, 13-17=-283/109

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 MT20 plates unless otherwise indicated.
5) All plates are 2x4 MT20 unless otherwise indicated.
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 177 lb uplift at joint 27, 23 lb uplift at joint 20, 151 lb uplift at joint 16, 18 lb uplift at joint 21, 9 lb uplift at joint 19, 53 lb uplift at joint 18, 78 lb uplift at joint 17 and 124 lb uplift at joint 22.
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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3	I59650788
B220003	B3	Common	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:20 Page: 1
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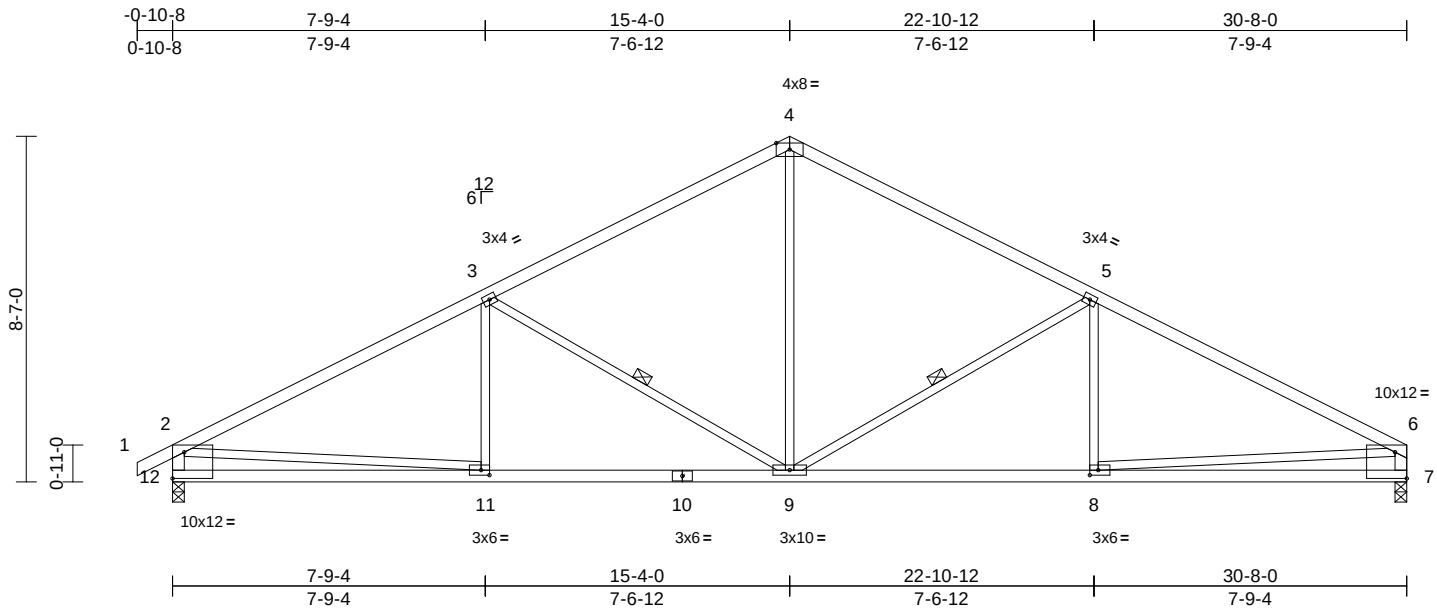

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Plate Offsets (X, Y): [6:Edge,0-7-13], [8:0-2-8,0-1-8], [11:0-2-8,0-1-8], [12:Edge,0-7-13]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.11	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.23	8-9	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.06	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	8-9	>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* 12-2,7-6:2x4 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 5-9, 3-9

REACTIONS (size) 7=0-3-8, 12=0-3-8
Max Horiz 12=133 (LC 5)
Max Uplift 7=-169 (LC 9), 12=-192 (LC 8)
Max Grav 7=1366 (LC 1), 12=1440 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-2163/265, 3-4=-1567/246, 4-5=-1569/246, 5-6=-2165/265, 2-12=-1363/233, 6-7=-1288/209
BOT CHORD 11-12=-276/544, 9-11=-266/1830, 8-9=-159/1841, 7-8=-93/405
WEBS 4-9=-59/809, 5-9=-692/249, 5-8=0/232, 3-9=-679/245, 3-11=0/237, 2-11=-22/1291, 6-8=-70/1441

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 192 lb uplift at joint 12 and 169 lb uplift at joint 7.
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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	B4	Common Girder	1	2	Job Reference (optional) I59650789

Wheeler Lumber, Waverly, KS - 66871,

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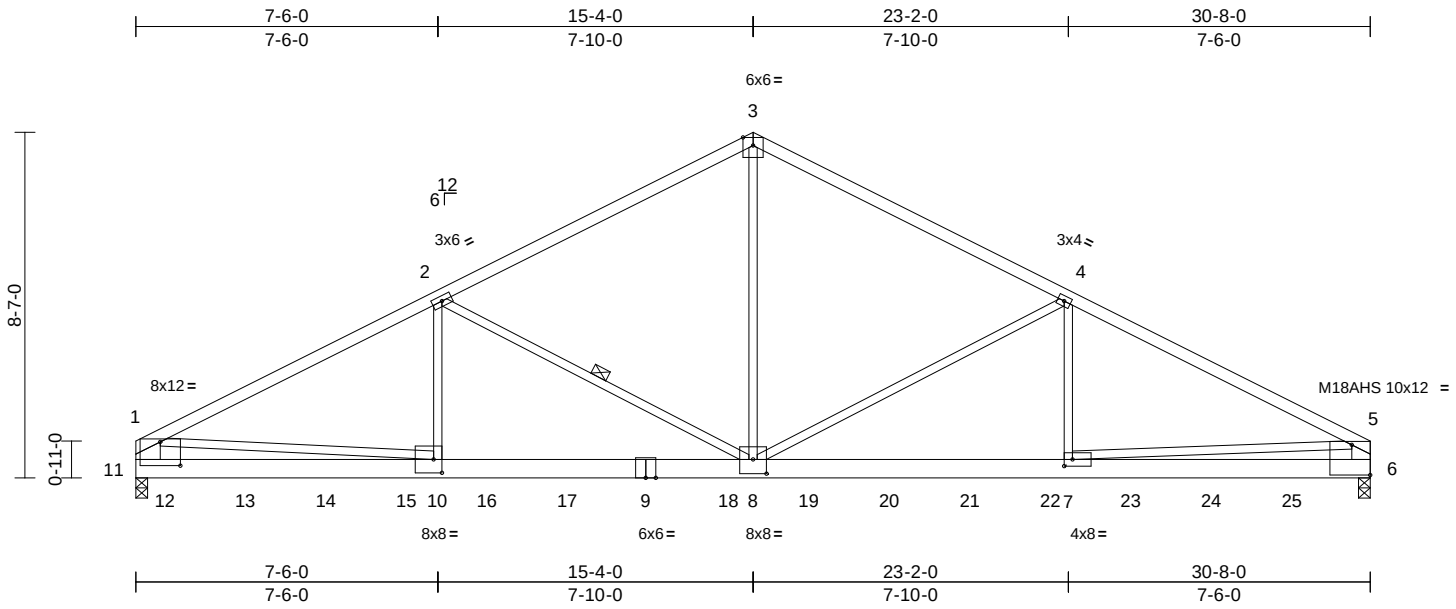

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Plate Offsets (X, Y): [1:0-6-0,0-7-1], [5:Edge,0-9-0], [7:0-2-8,0-2-0], [8:0-4-0,0-4-4], [10:0-2-8,0-4-0]

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	0.46	Vert(LL)	-0.26	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.28	8-10	>999	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	NO	WB	0.89	Horz(CT)	0.05	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	-0.12	7-8	>999	240	Weight: 283 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x6 SP 2400F 2.0E *Except* 9-6:2x6 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-1:2x8 SP 2400F 2.0E, 6-5:2x6 SP 2400F 2.0E

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, Except:
10-0-0 oc bracing: 10-11.
WEBS 1 Row at midpt 2-8

REACTIONS (size) 6=0-3-8, 11=0-3-8
Max Horiz 11=-123 (LC 4)
Max Uplift 6=-1956 (LC 28), 11=-188 (LC 8)
Max Grav 6=3764 (LC 16), 11=5564 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-6759/1560, 2-3=-4465/1760, 3-4=-4466/1756, 4-5=-5940/3317, 1-11=-3535/759, 5-6=-3138/1600
BOT CHORD 10-11=-104/2533, 8-10=-1359/5950, 7-8=-2928/5218, 6-7=-826/1591
WEBS 3-8=-1784/3410, 4-8=-1629/1647, 4-7=-1752/1066, 2-8=-2415/295, 2-10=-111/1681, 1-10=-1420/3432, 5-7=-2110/3650

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, 2x8 - 2 rows staggered at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-8-0 oc.
Web connected as follows: 2x3 - 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) All plates are MT20 plates unless otherwise indicated.
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 188 lb uplift at joint 11 and 1956 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.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1069 lb down at 0-8-12, 1066 lb down at 2-8-12, 411 lb down and 185 lb up at 4-8-12, 411 lb down and 185 lb up at 6-8-12, 411 lb down and 185 lb up at 8-8-12, 411 lb down and 185 lb up at 10-8-12, 411 lb down and 185 lb up at 12-8-12, 411 lb down and 185 lb up at 14-8-12, 332 lb down and 530 lb up at 16-8-12, 332 lb down and 530 lb up at 18-8-12, 332 lb down and 530 lb up at 20-8-12, 332 lb down and 530 lb up at 22-8-12, 332 lb down and 530 lb up at 24-8-12, and 332 lb down and 530 lb up at 26-8-12, and 411 lb down and 185 lb up at 28-8-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

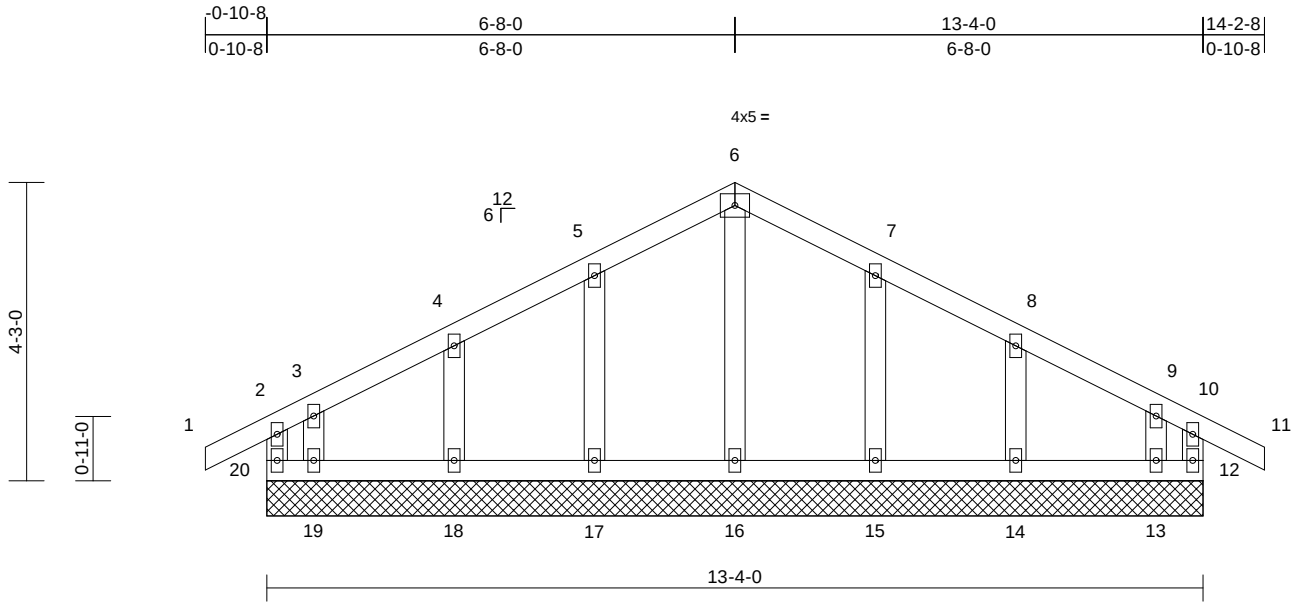
LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 6-11=-20
Concentrated Loads (lb)
Vert: 9=-411 (B), 12=-1069 (B), 13=-1066 (B), 14=-411 (B), 15=-411 (B), 16=-411 (B), 17=-411 (B), 18=-411 (B), 19=-263 (B), 20=-263 (B), 21=-263 (B), 22=-263 (B), 23=-263 (B), 24=-263 (B), 25=-411 (B)

STATE OF MISSOURI
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	C1	Common Supported Gable	1	1	Job Reference (optional) I59650790



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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.08	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	NO	WB	0.04	Horz(CT)	0.00	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 52 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 (size) 12=13-4-0, 13=13-4-0, 14=13-4-0, 15=13-4-0, 16=13-4-0, 17=13-4-0, 18=13-4-0, 19=13-4-0, 20=13-4-0
Max Horiz 20=-75 (LC 6)
Max Uplift 12=-49 (LC 5), 13=-79 (LC 9), 14=-54 (LC 9), 15=-57 (LC 9), 17=-58 (LC 8), 18=-54 (LC 8), 19=-90 (LC 8), 20=-71 (LC 4)
Max Grav 12=115 (LC 22), 13=103 (LC 16), 14=184 (LC 1), 15=190 (LC 22), 16=174 (LC 1), 17=190 (LC 21), 18=184 (LC 1), 19=118 (LC 15), 20=119 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-20=-111/52, 1-2=0/32, 2-3=-55/40, 3-4=-36/60, 4-5=-26/78, 5-6=-30/103, 6-7=-30/95, 7-8=-26/69, 8-9=-28/54, 9-10=-44/28, 10-11=0/32, 10-12=-111/38
BOT CHORD 19-20=-28/43, 18-19=-28/43, 17-18=-28/43, 16-17=-28/43, 15-16=-28/43, 14-15=-28/43, 13-14=-28/43, 12-13=-28/43
WEBS 6-16=-134/0, 5-17=-150/81, 4-18=-143/80, 3-19=-70/77, 7-15=-150/81, 8-14=-143/80, 9-13=-63/71

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 71 lb uplift at joint 20, 49 lb uplift at joint 12, 58 lb uplift at joint 17, 54 lb uplift at joint 18, 90 lb uplift at joint 19, 57 lb uplift at joint 15, 54 lb uplift at joint 14 and 79 lb uplift at joint 13.
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
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	C2	Roof Special	2	1	Job Reference (optional) I59650791

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:22 Page: 1
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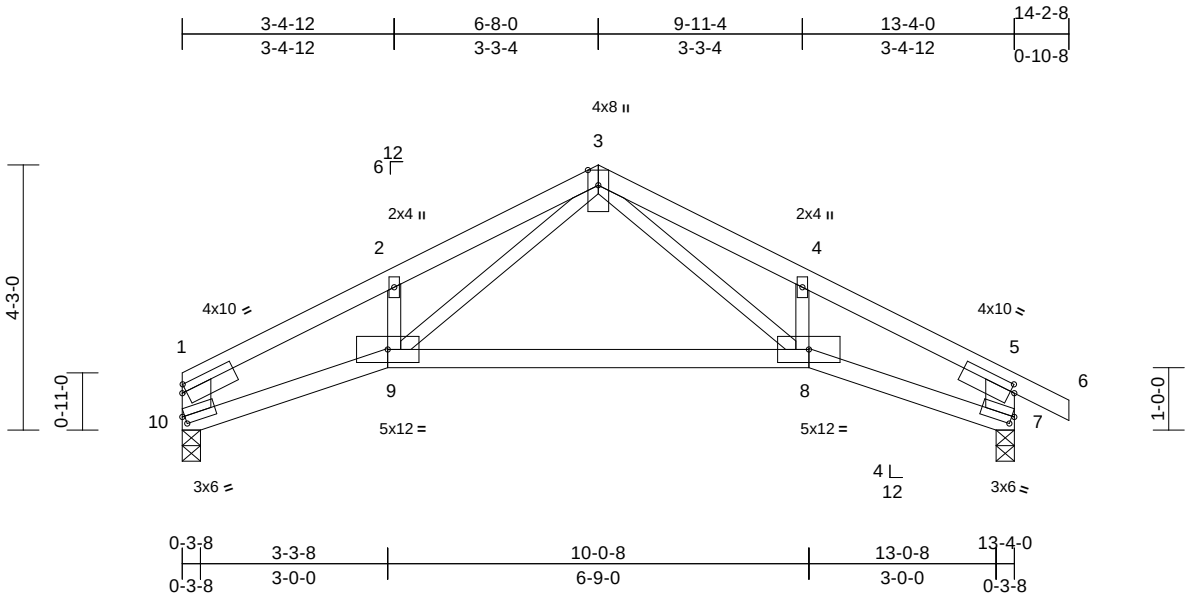

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Plate Offsets (X, Y): [1:0-0-13,0-1-8], [5:0-0-13,0-1-8], [7:0-0-8,0-1-8], [10:0-0-8,0-1-8]

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	1.00	Vert(LL)	-0.19	8-9	>820	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.42	8-9	>369	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.18	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.12	8-9	>999	240	Weight: 45 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-1,7-5:2x6 SP 2400F 2.0E

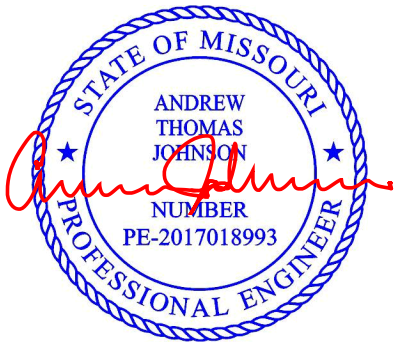
BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 10=0-3-8
Max Horiz 10=-80 (LC 6)
Max Uplift 7=-96 (LC 9), 10=-70 (LC 8)
Max Grav 7=660 (LC 1), 10=576 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1125/136, 2-3=-997/218, 3-4=-1004/190, 4-5=-1153/105, 5-6=0/35, 1-10=-727/108, 5-7=-849/118
BOT CHORD 9-10=-118/915, 8-9=-26/615, 7-8=-47/936
WEBS 3-8=-112/410, 4-8=0/159, 3-9=-127/410, 2-9=-25/135

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) 10, 7 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 70 lb uplift at joint 10 and 96 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



July 21,2023

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	C3	Roof Special	2	1	Job Reference (optional) I59650792

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:22 Page: 1
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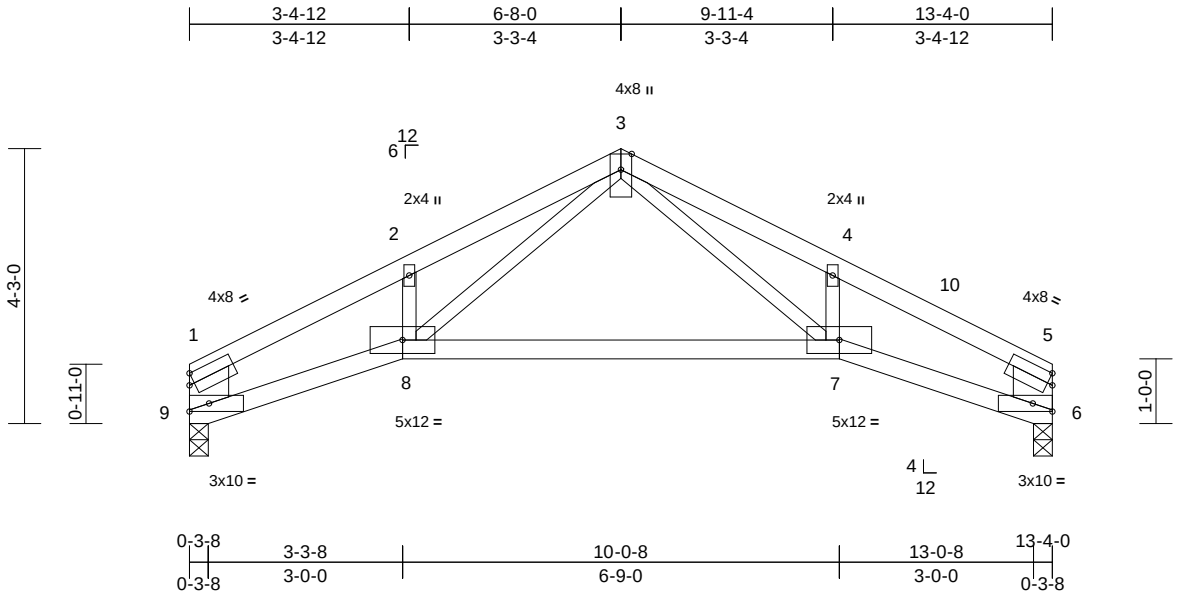

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.67	Vert(LL)	-0.16	7-8	>932	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.41	7-8	>372	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.29	Horz(CT)	0.18	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.10	7-8	>999	240	Weight: 46 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF 2100F 1.8E *Except* 8-7:2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 9-1,6-5:2x8 SP 2400F 2.0E

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 6=0-3-8, 9=0-3-8
Max Horiz 9=69 (LC 5)
Max Uplift 9=-39 (LC 8)
Max Grav 6=905 (LC 2), 9=603 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1184/67, 2-3=-1046/157, 3-4=-1320/0, 4-5=-1554/0, 1-9=-767/67, 5-6=-1131/0
BOT CHORD 8-9=-68/963, 7-8=0/675, 6-7=0/1202
WEBS 3-7=0/752, 4-7=-168/47, 3-8=-135/389, 2-8=0/162

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) 9, 6 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 39 lb uplift at joint 9.
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) Load case(s) 1, 2 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.

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, 3-5=-70, 8-9=-20, 7-8=-20, 6-7=-20
Concentrated Loads (lb)
Vert: 10=-257
2) Dead + 0.75 Roof Live (balanced) + 0.75 Attic Floor: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-58, 3-5=-58, 8-9=-20, 7-8=-20, 6-7=-20
Concentrated Loads (lb)
Vert: 10=-467

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	C4	Roof Special Girder	1	2	Job Reference (optional) I59650793

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:23 Page: 1
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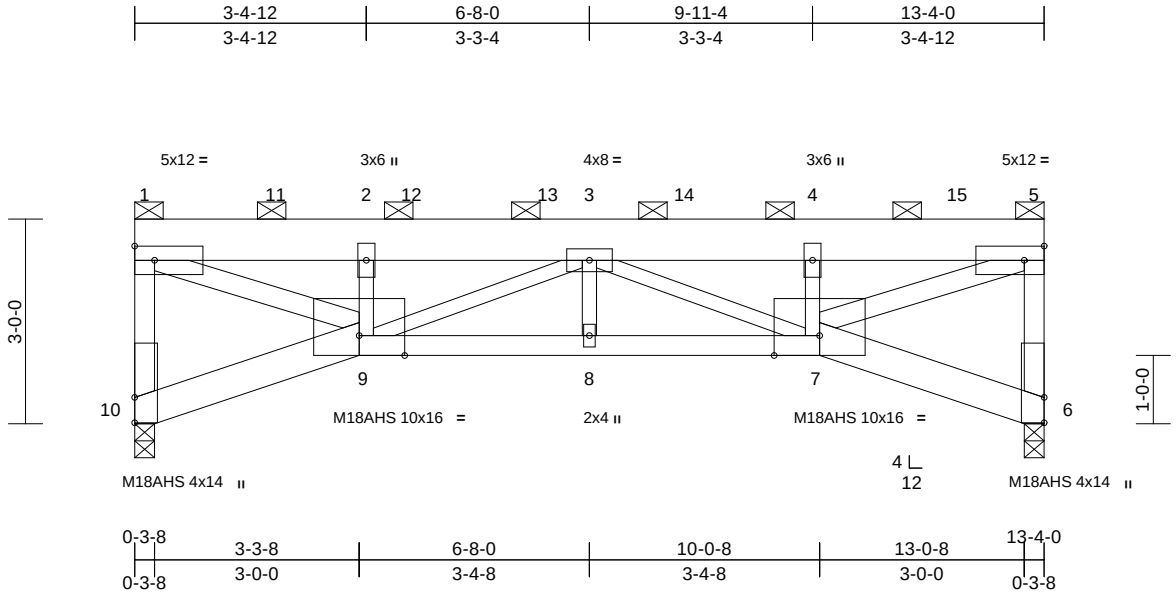

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	-0.16	8	>999	360	M18AHS	142/136
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.28	7-8	>568	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	NO	WB	0.69	Horz(CT)	0.17	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	8-9	>999	240	Weight: 171 lb	FT = 10%

LUMBER
TOP CHORD 2x8 SP 2400F 2.0E
BOT CHORD 2x6 SP 2400F 2.0E *Except* 9-7:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 10-1,5-6:2x4 SPF No.2, 9-1,7-5:2x4 SPF 2100F 1.8E

BRACING
TOP CHORD 2-0-0 oc purlins (6-0-0 max.): 1-5, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 6=0-3-8, 10=0-3-8
Max Horiz 10=-96 (LC 6)
Max Uplift 10=-249 (LC 4)
Max Grav 6=7921 (LC 15), 10=6356 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-10=-6300/269, 1-2=-11556/354, 2-3=-11556/354, 3-4=-12510/0, 4-5=-12510/0, 5-6=-7857/0
BOT CHORD 9-10=-82/154, 8-9=-7/14765, 7-8=-7/14765, 6-7=-5/142
WEBS 1-9=-356/12656, 2-9=-3845/363, 4-7=-4782/0, 5-7=0/13720, 3-8=-18/89, 3-9=-3564/0, 3-7=-2475/965

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, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
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) 10, 6 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 249 lb uplift at joint 10.
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) 2040 lb down and 165 lb up at 2-0-12, 2040 lb down and 165 lb up at 4-0-12, and 2040 lb down and 165 lb up at 6-0-12, and 2040 lb down and 165 lb up at 8-0-12 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: 1-5=-70, 9-10=-20, 7-9=-20, 6-7=-20
Concentrated Loads (lb)
Vert: 4=-2506, 11=-1764, 12=-1764, 13=-1764, 14=-1764, 15=-2506

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	D1	Common Supported Gable	1	1	Job Reference (optional) I59650794

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:23 Page: 1
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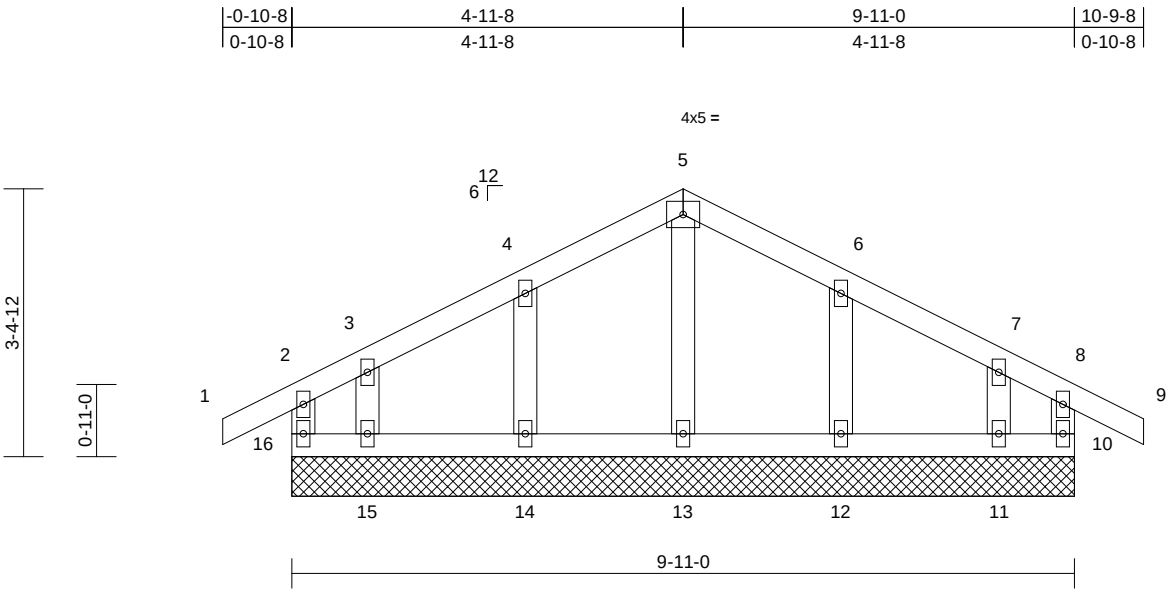

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 37 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 9-11-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 10=9-11-0, 11=9-11-0, 12=9-11-0, 13=9-11-0, 14=9-11-0, 15=9-11-0, 16=9-11-0
Max Horiz 16=-64 (LC 6)
Max Uplift 10=-38 (LC 5), 11=-55 (LC 9), 12=-59 (LC 9), 14=-59 (LC 8), 15=-59 (LC 8), 16=-48 (LC 4)
Max Grav 10=120 (LC 22), 11=108 (LC 16), 12=201 (LC 22), 13=175 (LC 1), 14=201 (LC 21), 15=114 (LC 15), 16=120 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-16=-113/41, 1-2=0/32, 2-3=-29/37, 3-4=-21/63, 4-5=-27/78, 5-6=-27/73, 6-7=-18/60, 7-8=-24/33, 8-9=0/32, 8-10=-113/34
BOT CHORD 15-16=-29/36, 14-15=-29/36, 13-14=-29/36, 12-13=-29/36, 11-12=-29/36, 10-11=-29/36
WEBS 5-13=-136/0, 4-14=-159/85, 3-15=-76/65, 6-12=-159/85, 7-11=-76/63

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 48 lb uplift at joint 16, 38 lb uplift at joint 10, 59 lb uplift at joint 14, 59 lb uplift at joint 15, 59 lb uplift at joint 12 and 55 lb uplift at joint 11.
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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	D2	Common	4	1	Job Reference (optional) I59650795

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:23 Page: 1
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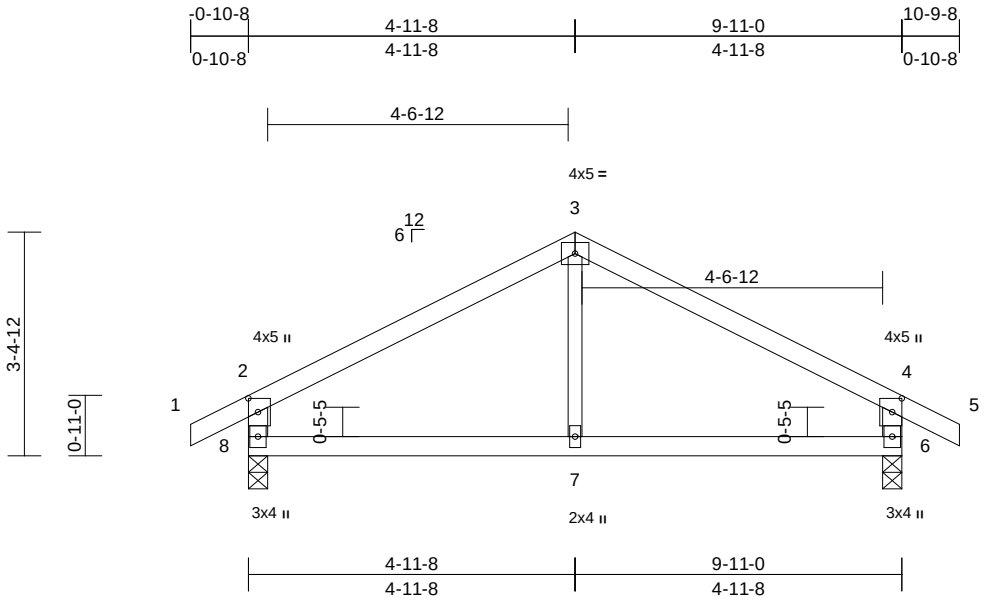

Scale = 1:35

Plate Offsets (X, Y): [2:0-2-8,0-1-12], [4:0-2-8,0-1-12]

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	0.36	Vert(LL)	-0.02	7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.04	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	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: 30 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 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 (size) 6=0-3-8, 8=0-3-8
Max Horiz 8=-64 (LC 6)
Max Uplift 6=-76 (LC 9), 8=-76 (LC 8)
Max Grav 6=505 (LC 1), 8=505 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-473/75, 3-4=-473/75, 4-5=0/32, 2-8=-443/110, 4-6=-443/110
BOT CHORD 7-8=-6/343, 6-7=-6/343
WEBS 3-7=0/186

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 76 lb uplift at joint 8 and 76 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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
07/31/2023

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	E1	Common Supported Gable	1	1	Job Reference (optional) I59650796

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:24 Page: 1
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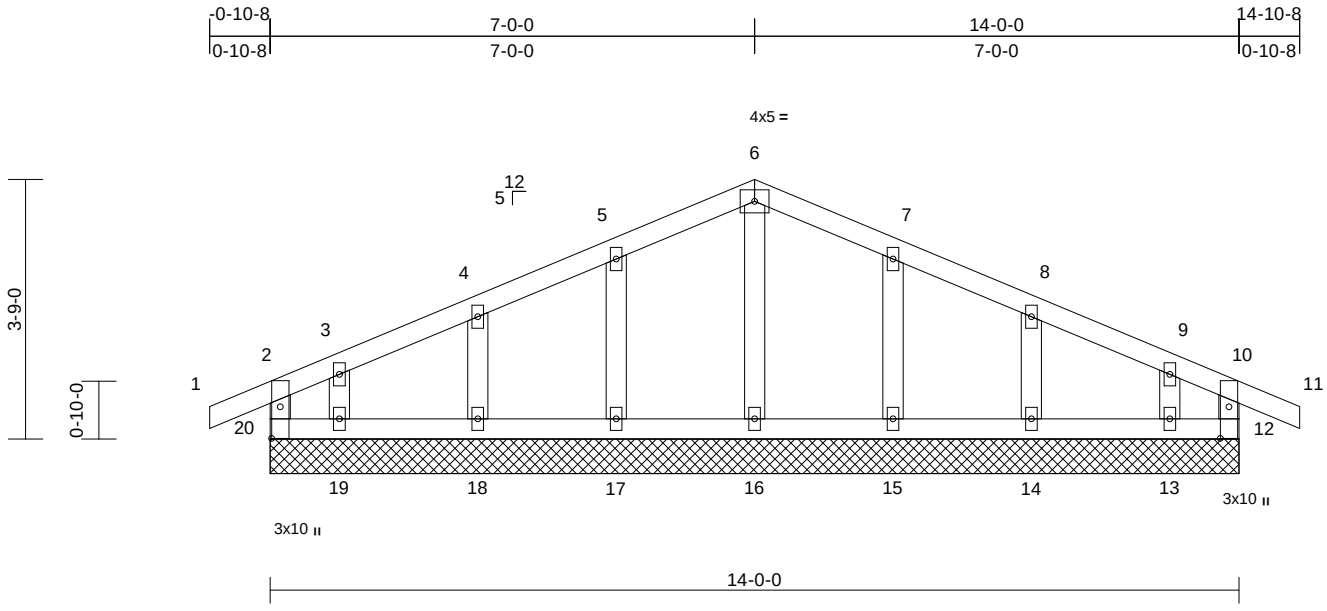

Scale = 1:33.3

Plate Offsets (X, Y): [12:0-5-8,0-1-8], [20:0-5-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	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-R							Weight: 51 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 10-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 12=14-0-0, 13=14-0-0, 14=14-0-0, 15=14-0-0, 16=14-0-0, 17=14-0-0, 18=14-0-0, 19=14-0-0, 20=14-0-0
Max Horiz 20=38 (LC 8)
Max Uplift 12=-35 (LC 5), 13=-53 (LC 9), 14=-48 (LC 9), 15=-52 (LC 9), 17=-52 (LC 8), 18=-47 (LC 8), 19=-60 (LC 8), 20=-36 (LC 4)
Max Grav 12=122 (LC 22), 13=109 (LC 1), 14=187 (LC 1), 15=189 (LC 22), 16=177 (LC 1), 17=189 (LC 21), 18=187 (LC 1), 19=109 (LC 1), 20=122 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-20=-113/41, 1-2=0/27, 2-3=-42/36, 3-4=-24/57, 4-5=-18/67, 5-6=-22/87, 6-7=-22/81, 7-8=-18/58, 8-9=-18/50, 9-10=-31/29, 10-11=0/27, 10-12=-113/40
BOT CHORD 19-20=-13/37, 18-19=-13/37, 17-18=-13/37, 16-17=-13/37, 15-16=-13/37, 14-15=-13/37, 13-14=-13/37, 12-13=-13/37
WEBS 6-16=-137/0, 5-17=-150/75, 4-18=-145/73, 3-19=-81/65, 7-15=-150/75, 8-14=-145/73, 9-13=-81/62

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 36 lb uplift at joint 20, 35 lb uplift at joint 12, 52 lb uplift at joint 17, 47 lb uplift at joint 18, 60 lb uplift at joint 19, 52 lb uplift at joint 15, 48 lb uplift at joint 14 and 53 lb uplift at joint 13.
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
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	E2	Common	5	1	Job Reference (optional) I59650797

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:24 Page: 1
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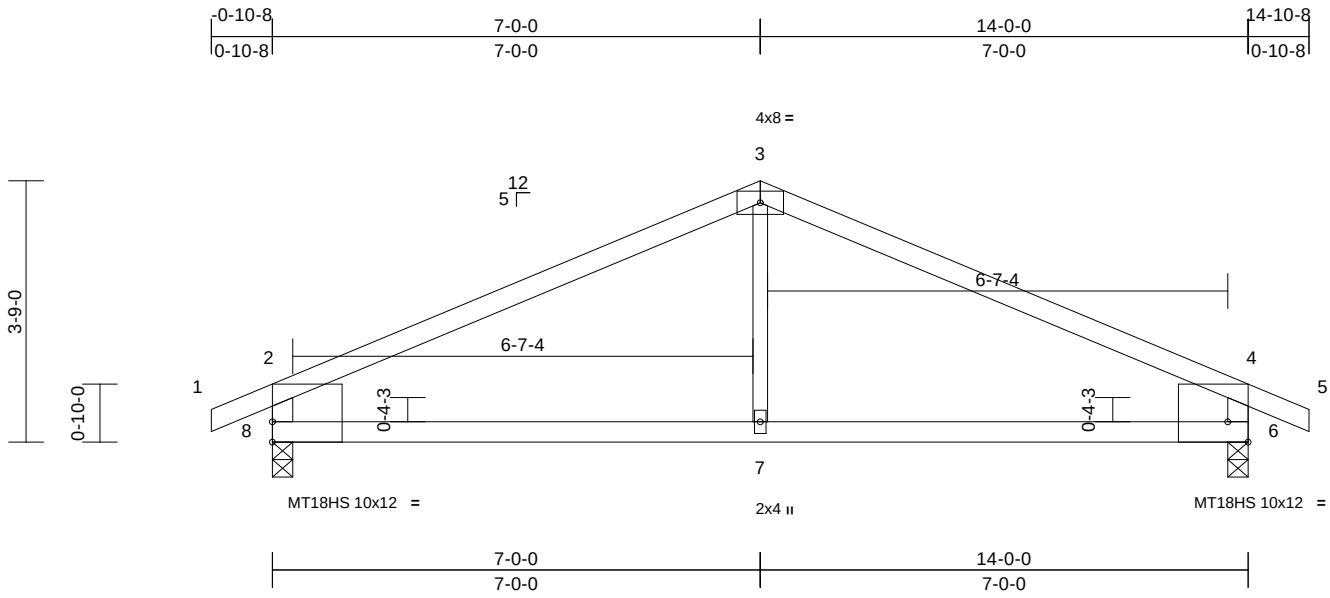

Scale = 1:33.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.62	Vert(LL)	-0.05	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.11	7-8	>999	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.02	7-8	>999	240	Weight: 39 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF 2400F 2.0E *Except* 7-3:2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-7-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 6=0-3-8, 8=0-3-8
Max Horiz 8=38 (LC 8)
Max Uplift 6=-102 (LC 9), 8=-102 (LC 8)
Max Grav 6=688 (LC 1), 8=688 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-818/105, 3-4=-818/105, 4-5=0/27, 2-8=-619/148, 4-6=-619/148
BOT CHORD 7-8=-31/658, 6-7=-31/658
WEBS 3-7=0/284

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 102 lb uplift at joint 8 and 102 lb uplift at joint 6.
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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
07/31/2023

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	V1	Valley	1	1	I59650798 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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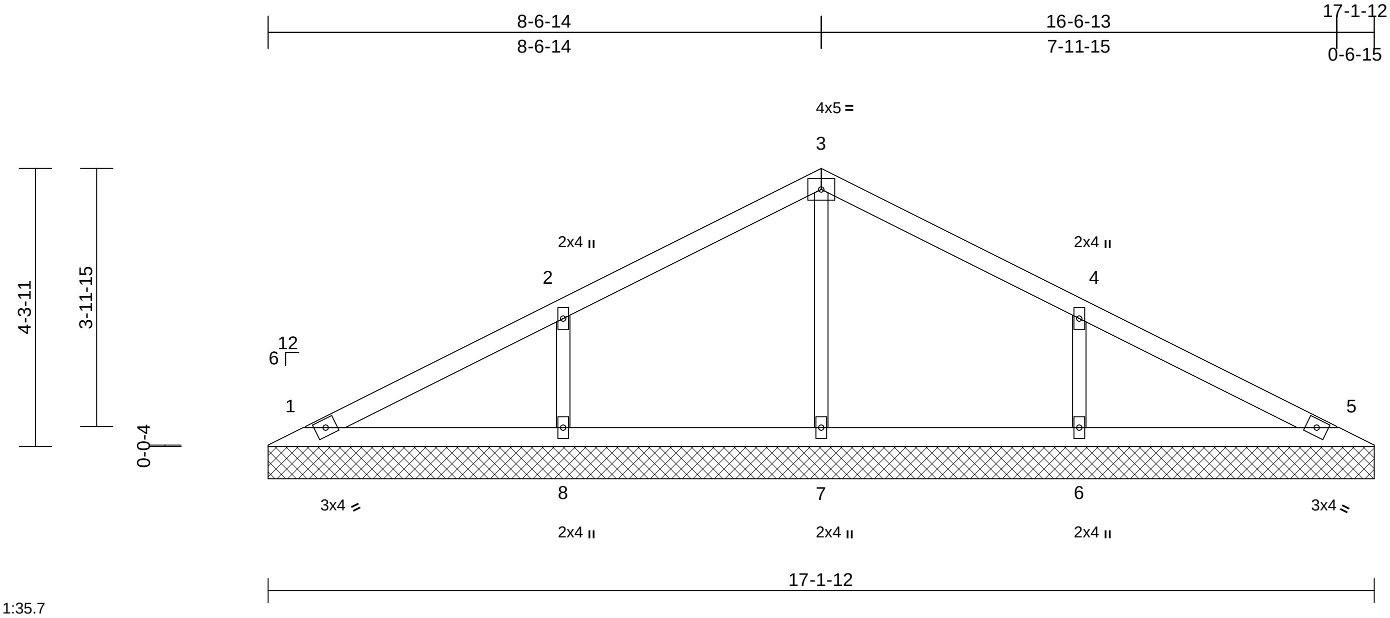

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 46 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 (size) 1=17-1-12, 5=17-1-12, 6=17-1-12, 7=17-1-12, 8=17-1-12
Max Horiz 1=-70 (LC 13)
Max Uplift 1=-14 (LC 9), 5=-11 (LC 9), 6=-133 (LC 9), 8=-133 (LC 8)
Max Grav 1=154 (LC 1), 5=154 (LC 1), 6=430 (LC 22), 7=280 (LC 1), 8=430 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-97/64, 2-3=-107/102, 3-4=-107/87, 4-5=-75/52
BOT CHORD 1-8=-1/59, 7-8=-1/59, 6-7=-1/59, 5-6=-1/59
WEBS 3-7=-209/19, 2-8=-332/181, 4-6=-332/181

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 14 lb uplift at joint 1, 11 lb uplift at joint 5, 133 lb uplift at joint 8 and 133 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

STATE OF MISSOURI
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER

July 21,2023

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3	I59650799
B220003	V2	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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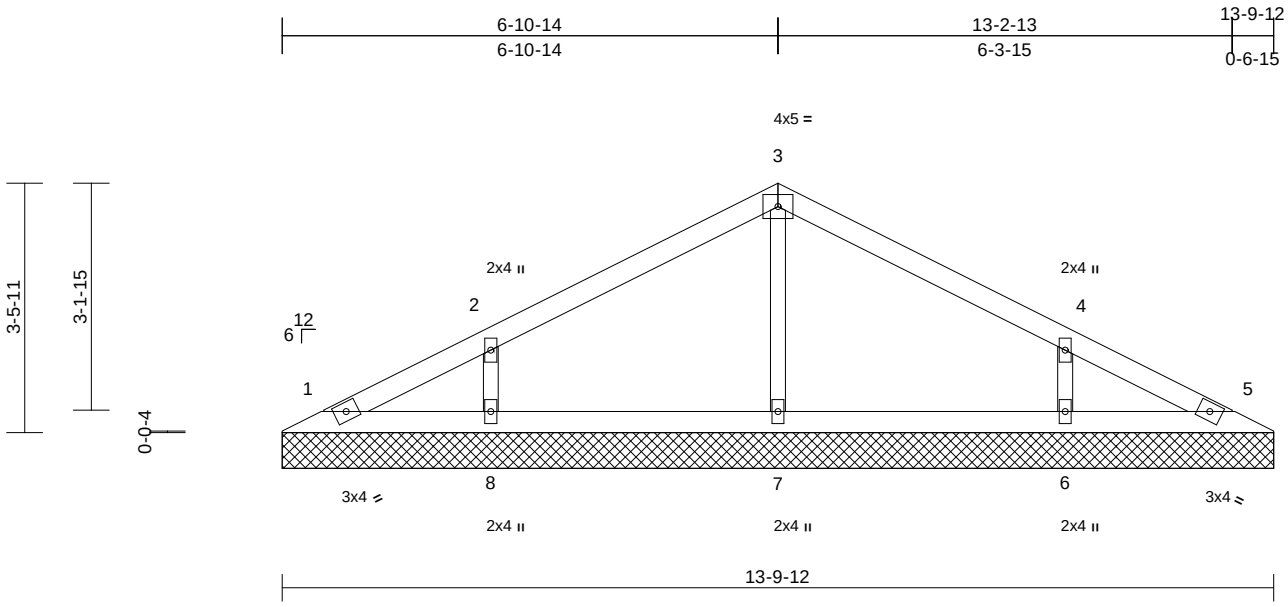

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 36 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 (size) 1=13-9-12, 5=13-9-12, 6=13-9-12, 7=13-9-12, 8=13-9-12
Max Horiz 1=-56 (LC 9)
Max Uplift 1=-10 (LC 9), 6=-111 (LC 9), 8=-111 (LC 8)
Max Grav 1=75 (LC 1), 5=75 (LC 1), 6=347 (LC 22), 7=312 (LC 1), 8=347 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-77/38, 2-3=-106/82, 3-4=-106/66, 4-5=-60/29
BOT CHORD 1-8=0/51, 7-8=0/51, 6-7=0/51, 5-6=0/51
WEBS 3-7=-228/39, 2-8=-277/152, 4-6=-277/152

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 10 lb uplift at joint 1, 111 lb uplift at joint 8 and 111 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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	V3	Valley	1	1	Job Reference (optional) I59650800

Wheeler Lumber, Waverly, KS - 66871,

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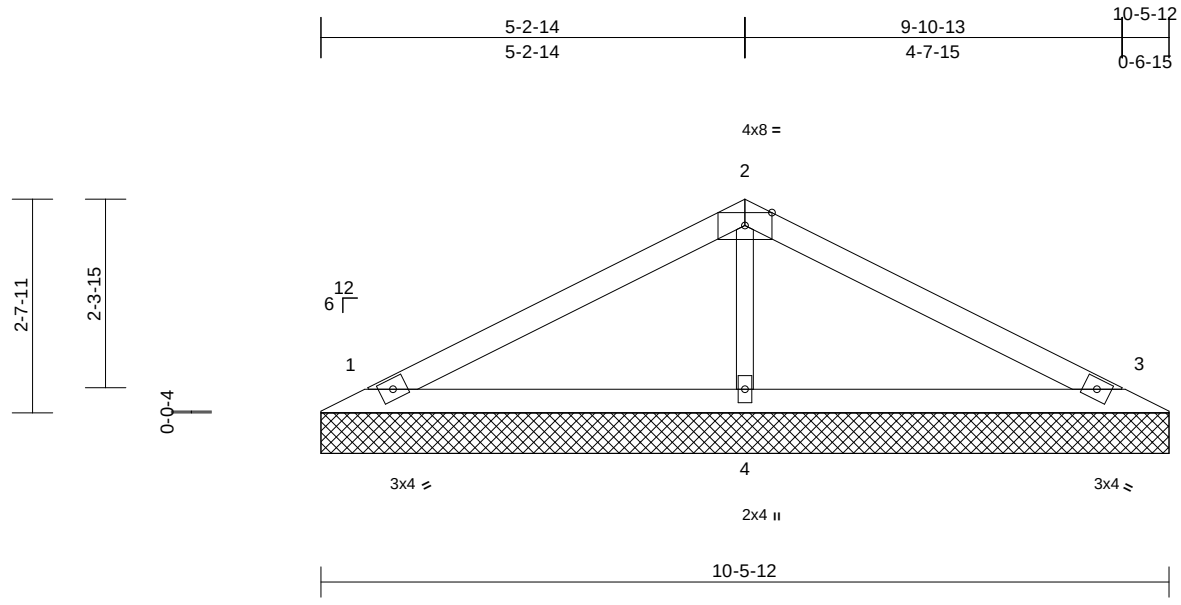

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	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 (size) 1=10-5-12, 3=10-5-12, 4=10-5-12
Max Horiz 1=41 (LC 12)
Max Uplift 1=-40 (LC 8), 3=-48 (LC 9), 4=-25 (LC 8)
Max Grav 1=197 (LC 21), 3=197 (LC 22), 4=444 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-120/60, 2-3=-120/43
BOT CHORD 1-4=-3/50, 3-4=-3/50
WEBS 2-4=-303/79

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 40 lb uplift at joint 1, 48 lb uplift at joint 3 and 25 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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3	I59650801
B220003	V4	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:25 Page: 1
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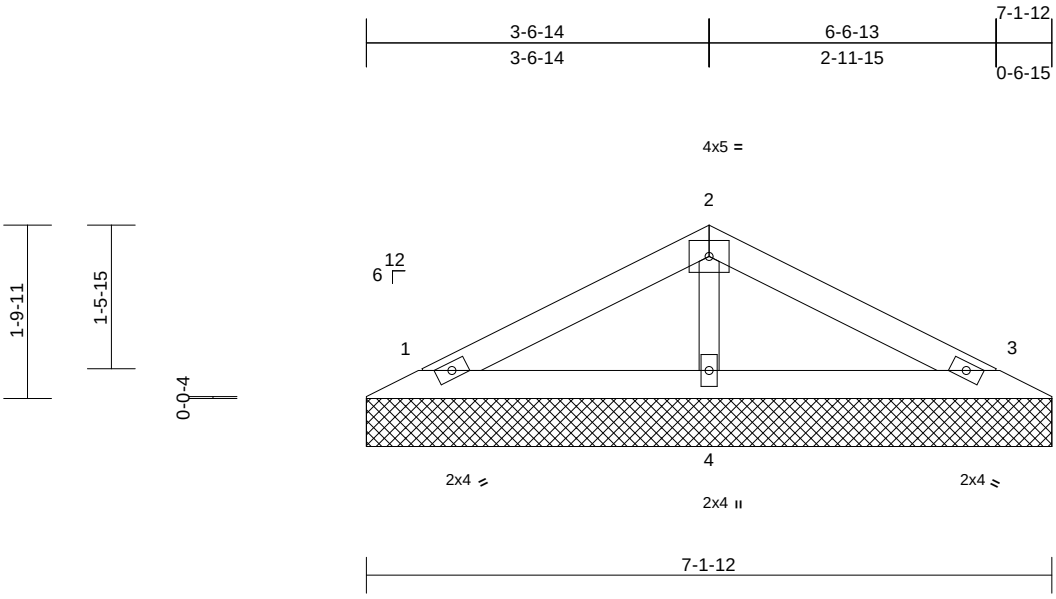

Scale = 1:24

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	0.16	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	0.03	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 (size) 1=7-1-12, 3=7-1-12, 4=7-1-12
Max Horiz 1=26 (LC 8)
Max Uplift 1=-32 (LC 8), 3=-37 (LC 9), 4=-3 (LC 8)
Max Grav 1=140 (LC 1), 3=140 (LC 1), 4=257 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-67/37, 2-3=-67/27
BOT CHORD 1-4=-1/30, 3-4=-1/30
WEBS 2-4=-182/48

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 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 32 lb uplift at joint 1, 37 lb uplift at joint 3 and 3 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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3	I59650802
B220003	V5	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:25 Page: 1
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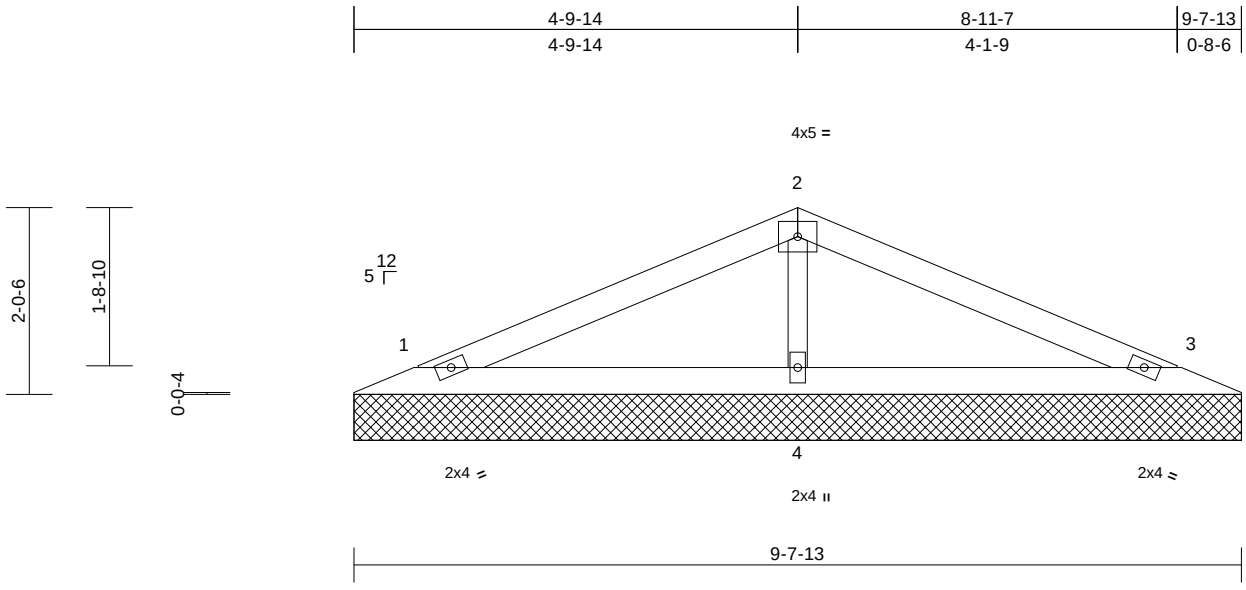

Scale = 1:25.1

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	0.23	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 22 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 (size) 1=9-7-13, 3=9-7-13, 4=9-7-13
Max Horiz 1=30 (LC 12)
Max Uplift 1=-35 (LC 8), 3=-40 (LC 9), 4=-26 (LC 8)
Max Grav 1=170 (LC 21), 3=170 (LC 22), 4=408 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-87/45, 2-3=-87/34
BOT CHORD 1-4=-2/35, 3-4=-2/35
WEBS 2-4=-284/75

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 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 35 lb uplift at joint 1, 40 lb uplift at joint 3 and 26 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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	V6	Valley	1	1	Job Reference (optional) I59650803

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:26 Page: 1
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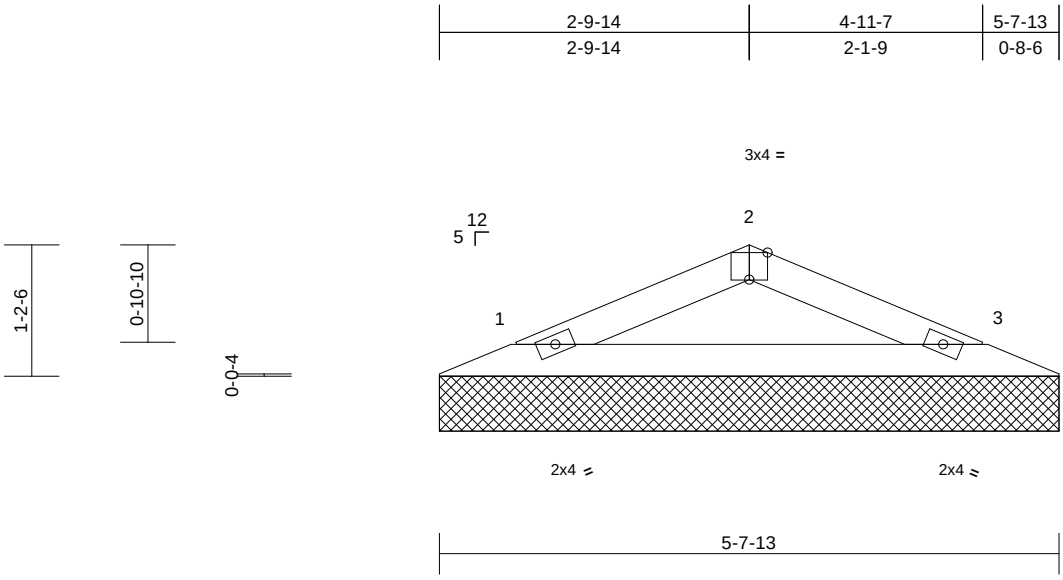

Scale = 1:21

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	0.08	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	0.00	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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-9-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-7-13, 3=5-7-13
Max Horiz 1=16 (LC 8)
Max Uplift 1=-25 (LC 8), 3=-25 (LC 9)
Max Grav 1=191 (LC 1), 3=191 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-214/63, 2-3=-214/63
BOT CHORD 1-3=-44/176

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 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 25 lb uplift at joint 1 and 25 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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3	I59650804
B220003	V7	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:26 Page: 1
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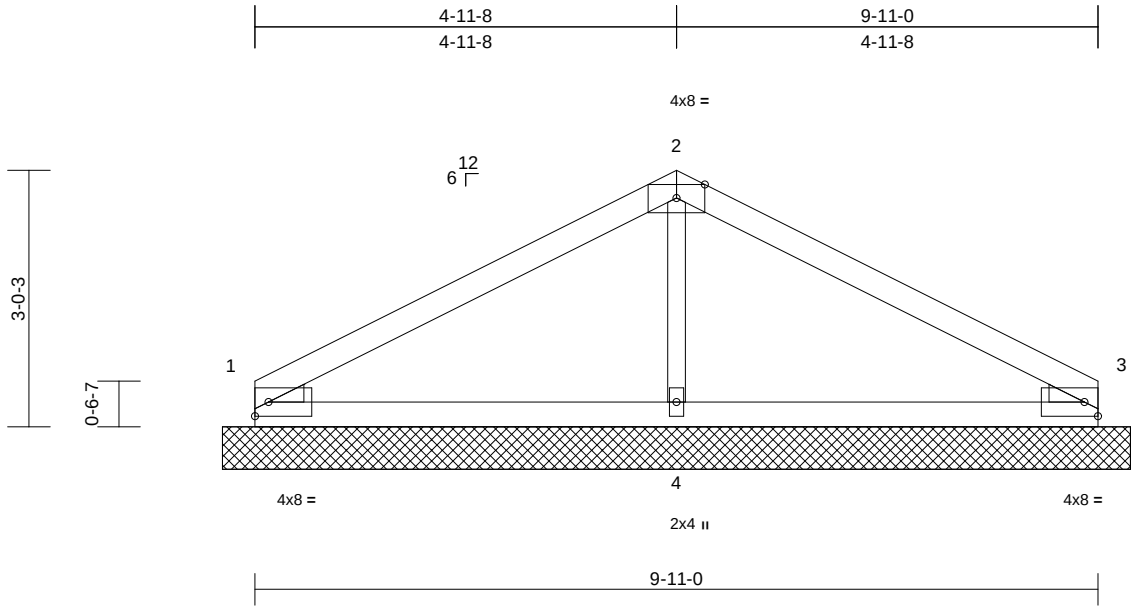

Scale = 1:27.1

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	0.34	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 27 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x3 SPF No.2
WEDGE Left: 2x3 SPF No.2
Right: 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 (size) 1=10-8-3, 3=10-8-3, 4=10-8-3
Max Horiz 1=-48 (LC 13)
Max Uplift 1=-43 (LC 8), 3=-52 (LC 9), 4=-24 (LC 8)
Max Grav 1=215 (LC 1), 3=215 (LC 1), 4=463 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-141/69, 2-3=-141/51
BOT CHORD 1-4=-3/59, 3-4=-3/59
WEBS 2-4=-313/81

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 43 lb uplift at joint 1, 52 lb uplift at joint 3 and 24 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

July 21,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
07/31/2023

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	V8	Valley	1	1	I59650805 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:26 Page: 1

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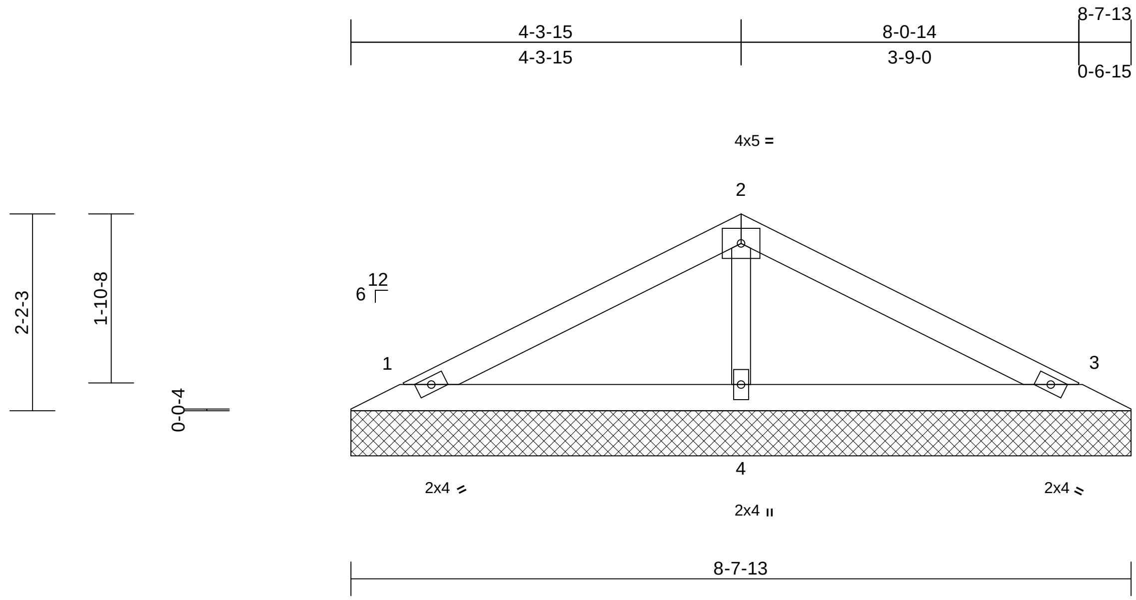

Scale = 1:25.5

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	0.26	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 21 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
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 (size) 1=8-7-13, 3=8-7-13, 4=8-7-13
Max Horiz 1=33 (LC 8)
Max Uplift 1=-40 (LC 8), 3=-46 (LC 9), 4=-4 (LC 8)
Max Grav 1=176 (LC 1), 3=176 (LC 1), 4=322 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-84/47, 2-3=-84/33
BOT CHORD 1-4=-1/37, 3-4=-1/37
WEBS 2-4=-228/60

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 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 40 lb uplift at joint 1, 46 lb uplift at joint 3 and 4 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

July 21,2023

Job	Truss	Truss Type	Qty	Ply	Lot 75 H3
B220003	V9	Valley	1	1	Job Reference (optional) I59650806

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.71 S May 19 2023 Print: 8.710 S May 19 2023 MiTek Industries, Inc. Thu Jul 20 10:16:26 Page: 1
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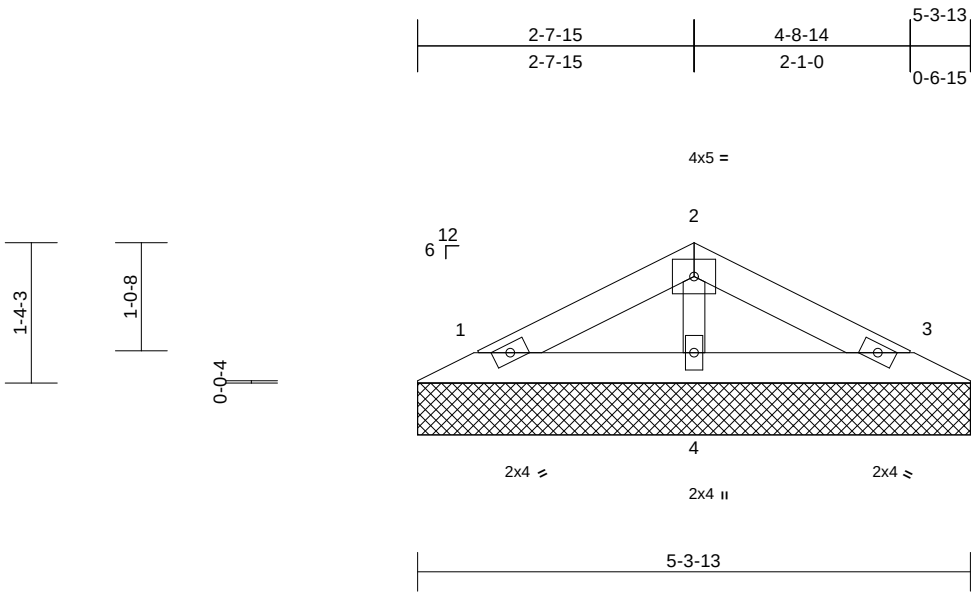


Scale = 1:22.2

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	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	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
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-13 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-3-13, 3=5-3-13, 4=5-3-13
Max Horiz 1=18 (LC 8)
Max Uplift 1=-22 (LC 8), 3=-26 (LC 9), 4=-2 (LC 8)
Max Grav 1=97 (LC 1), 3=97 (LC 1), 4=178 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-47/26, 2-3=-47/19
BOT CHORD 1-4=-1/21, 3-4=-1/21
WEBS 2-4=-126/33

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 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 22 lb uplift at joint 1, 26 lb uplift at joint 3 and 2 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.

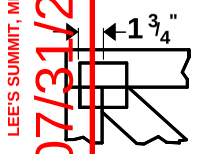
LOAD CASE(S) Standard

July 21,2023

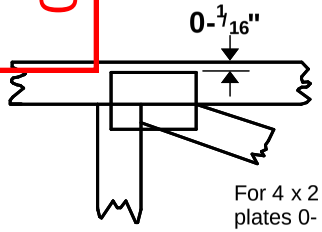
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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.

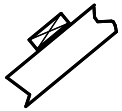
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

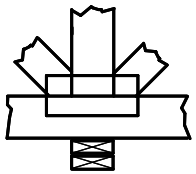
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

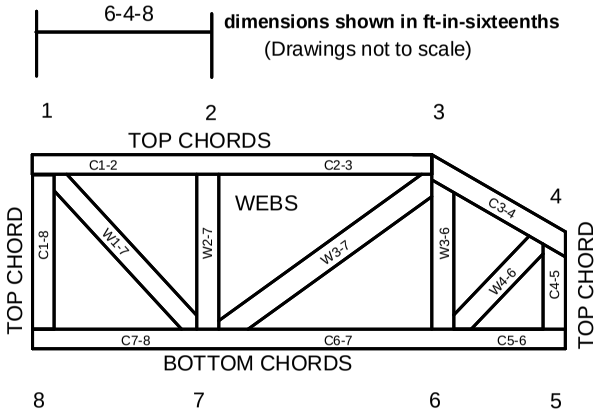


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.