MiTek®

RE: P240931-01
Roof - HT Lot 186

MiTek, Inc.
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200

Site Information:

Customer: Clayton Properties Project Name: P240931-01
Lot/Block: 186 Model: Carbondale - Farmhouse 3Car
Address: 3221 SW Arboridge Cir Subdivision: Hawthorn Ridge
City: Lee's Summit State: MO

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

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.6
Wind Code: ASCE 7-16 Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 29 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I67894718	A01	8/30/2024	21	I67894738	VA5	8/30/2024
2	I67894719	A02	8/30/2024	22	I67894739	VA6	8/30/2024
3	I67894720	A03	8/30/2024	23	I67894740	VA7	8/30/2024
4	I67894721	A04	8/30/2024	24	I67894741	VA8	8/30/2024
5	I67894722	A05	8/30/2024	25	I67894742	VA9	8/30/2024
6	I67894723	A06	8/30/2024	26	I67894743	VA10	8/30/2024
7	I67894724	B01	8/30/2024	27	I67894744	VA11	8/30/2024
8	I67894725	B02	8/30/2024	28	I67894745	VA12	8/30/2024
9	I67894726	C01	8/30/2024	29	I67894746	VA13	8/30/2024
10	I67894727	C02	8/30/2024				
11	I67894728	C03	8/30/2024				
12	I67894729	D01	8/30/2024				
13	I67894730	D02	8/30/2024				
14	I67894731	D03	8/30/2024				
15	I67894732	D04	8/30/2024				
16	I67894733	E01	8/30/2024				
17	I67894734	VA1	8/30/2024				
18	I67894735	VA2	8/30/2024				
19	I67894736	VA3	8/30/2024				
20	I67894737	VA4	8/30/2024				

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

Truss Design Engineer's Name: Sevier, Scott

My license renewal date for the state of Missouri is December 31, 2025.

Missouri COA: 001193

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

August 30, 2024
Sevier, Scott

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894718
P240931-01	A01	Monopitch Supported Gable	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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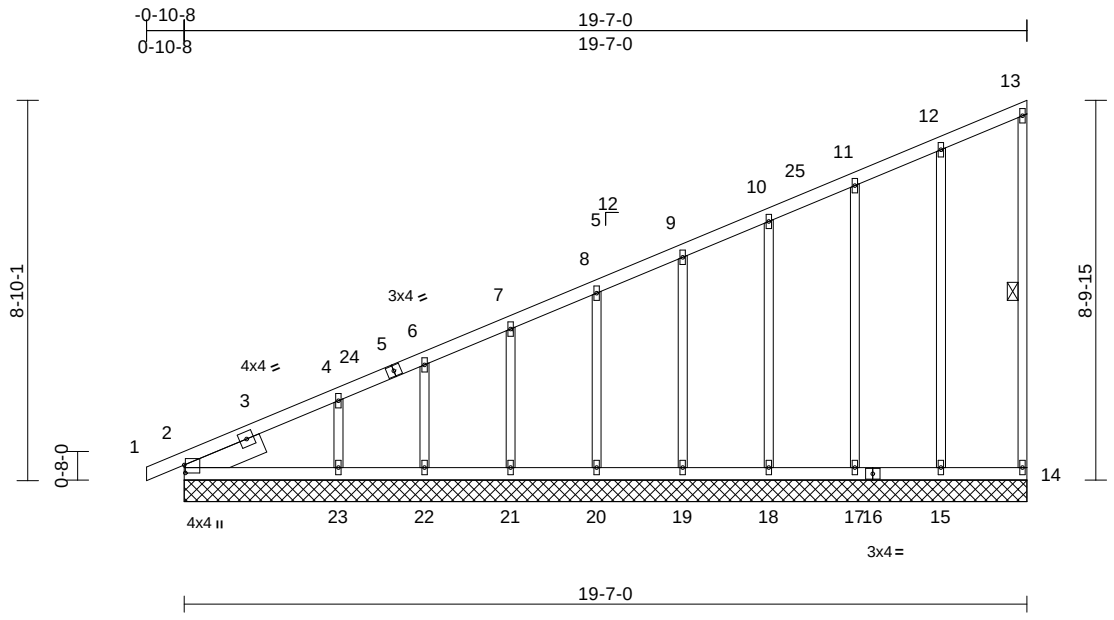

Scale = 1:53.5

Plate Offsets (X, Y): [2:0-2-3,0-0-5]

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	0.27	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.00	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 102 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x6 SPF No.2 -- 1-10-14

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

REACTIONS (size) 2=19-7-0, 14=19-7-0, 15=19-7-0, 17=19-7-0, 18=19-7-0, 19=19-7-0, 20=19-7-0, 21=19-7-0, 22=19-7-0, 23=19-7-0
Max Horiz 2=370 (LC 12)
Max Uplift 14=-22 (LC 12), 15=-56 (LC 12), 17=-55 (LC 12), 18=-54 (LC 12), 19=-55 (LC 12), 20=-52 (LC 12), 21=-66 (LC 12), 22=-17 (LC 12), 23=-152 (LC 12)
Max Grav 2=207 (LC 21), 14=70 (LC 1), 15=192 (LC 1), 17=179 (LC 1), 18=180 (LC 1), 19=180 (LC 1), 20=178 (LC 1), 21=190 (LC 1), 22=137 (LC 1), 23=303 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-480/157, 4-6=-373/112, 6-7=-345/108, 7-8=-295/89, 8-9=-250/75, 9-10=-204/60, 10-11=-156/45, 11-12=-95/29, 12-13=-33/16, 13-14=-54/54
BOT CHORD 2-23=0/0, 22-23=0/0, 21-22=0/0, 20-21=0/0, 19-20=0/0, 18-19=0/0, 17-18=0/0, 15-17=0/0, 14-15=0/0
WEBS 12-15=-148/147, 11-17=-140/135, 10-18=-140/101, 9-19=-140/96, 8-20=-139/93, 7-21=-146/115, 6-22=-112/47, 4-23=-228/280

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 4-1-8, Exterior(2N) 4-1-8 to 19-5-12 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) All plates are 1.5x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 14, 56 lb uplift at joint 15, 55 lb uplift at joint 17, 54 lb uplift at joint 18, 55 lb uplift at joint 19, 52 lb uplift at joint 20, 66 lb uplift at joint 21, 17 lb uplift at joint 22 and 152 lb uplift at joint 23.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894719
P240931-01	A02	Common	8	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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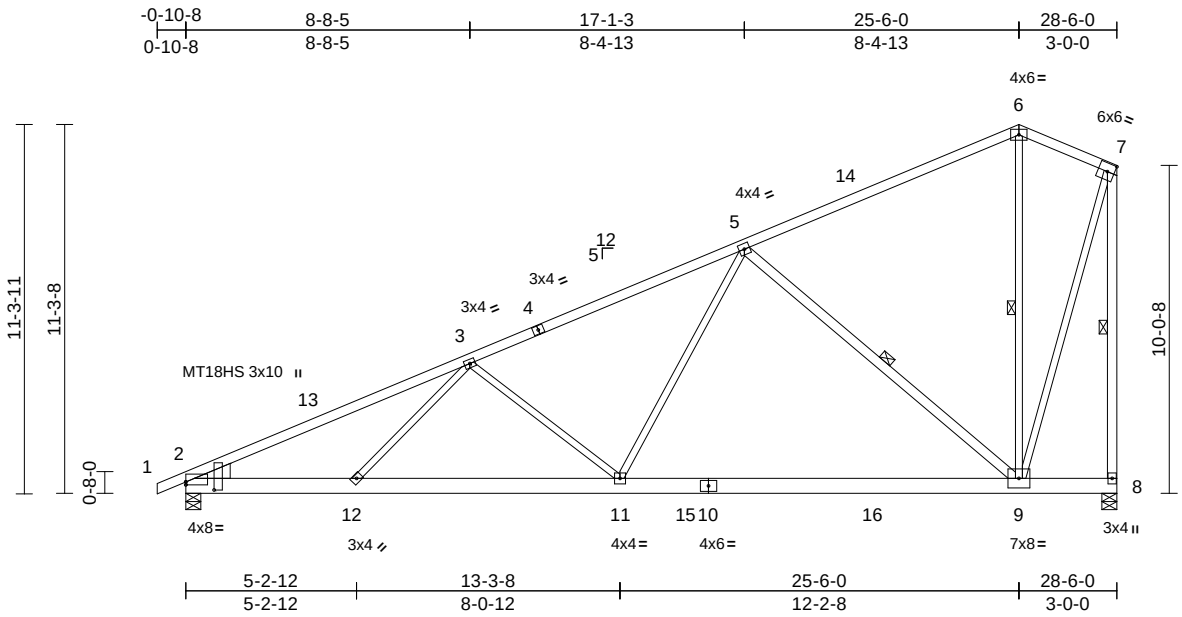

Scale = 1:70.5

Plate Offsets (X, Y): [2:Edge,0-1-2], [2:0-2-15,0-10-6]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.92	Vert(LL)	-0.26	9-11	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.44	9-11	>763	180	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	NO	WB	0.70	Horz(CT)	0.05	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 163 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 6-7:2x4 SP No.2, 4-6:2x4 SP 2400F 2.0E
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2 *Except* 8-7,9-5:2x4 SP No.2
WEDGE Left: 2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-10-6 oc bracing.
WEBS 1 Row at midpt 7-8, 6-9, 5-9

REACTIONS (size) 2=0-5-8, 8=0-5-8
Max Horiz 2=450 (LC 12)
Max Uplift 2=-221 (LC 12), 8=-306 (LC 12)
Max Grav 2=1397 (LC 2), 8=1354 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-2612/327, 3-5=-1955/257, 5-6=-506/60, 6-7=-417/91, 7-8=-1448/273
BOT CHORD 2-12=-642/2285, 11-12=-666/2120, 9-11=-386/1283, 8-9=-1/2
WEBS 3-12=0/292, 3-11=-621/322, 6-9=-132/152, 5-11=-75/954, 5-9=-1218/417, 7-9=-258/1306

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 25-6-0, Exterior(2E) 25-6-0 to 28-4-4 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 221 lb uplift at joint 2 and 306 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	A03	Roof Special	2	1	Job Reference (optional) I67894720

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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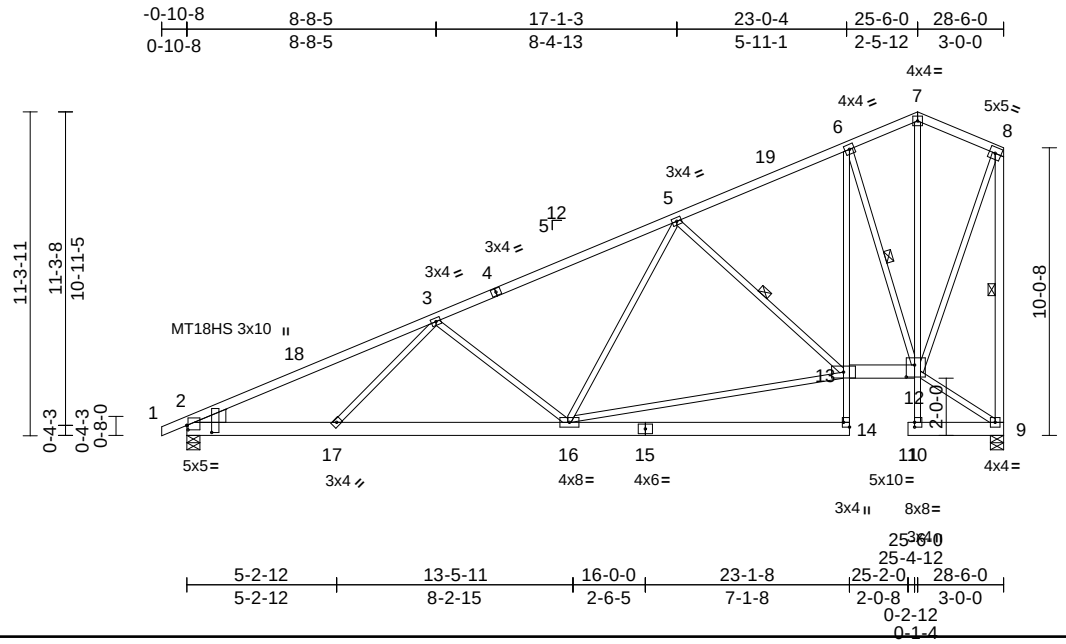

Scale = 1:80.4

Plate Offsets (X, Y): [2:0-0-8,0-1-14], [2:0-2-15,0-10-6], [10:0-2-0,Edge], [12:0-3-8,0-5-0], [14:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	1.00	Vert(LL)	-0.12	14-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.28	14-16	>999	180	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	NO	WB	1.00	Horz(CT)	0.09	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 177 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 7-8:2x4 SP No.2
BOT CHORD 2x6 SPF No.2 *Except* 14-6:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 9-8:2x4 SP No.2
WEDGE Left: 2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
8-10-10 oc bracing: 2-17
8-10-3 oc bracing: 16-17.
WEBS 1 Row at midpt 8-9, 5-13, 6-12

REACTIONS (size) 2=0-5-8, 9=0-5-8
Max Horiz 2=450 (LC 12)
Max Uplift 2=-220 (LC 12), 9=-304 (LC 12)
Max Grav 2=1345 (LC 1), 9=1268 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-2498/328, 3-5=-1769/256, 5-6=-840/162, 6-7=-457/133, 7-8=-447/129, 8-9=-1235/320
BOT CHORD 13-14=0/152, 6-13=-204/854, 12-13=-200/689, 2-17=-644/2166, 16-17=-673/2025, 14-16=-5/81, 10-11=0/0, 9-10=0/5
WEBS 3-17=0/310, 3-16=-659/339, 10-12=0/69, 7-12=-53/214, 5-16=0/536, 8-12=-274/1051, 5-13=-856/293, 13-16=-416/1257, 6-12=-1060/342, 9-12=-5/0

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 25-6-0, Exterior(2E) 25-6-0 to 28-4-4 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; 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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 220 lb uplift at joint 2 and 304 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	A04	Common	4	1	Job Reference (optional) I67894721

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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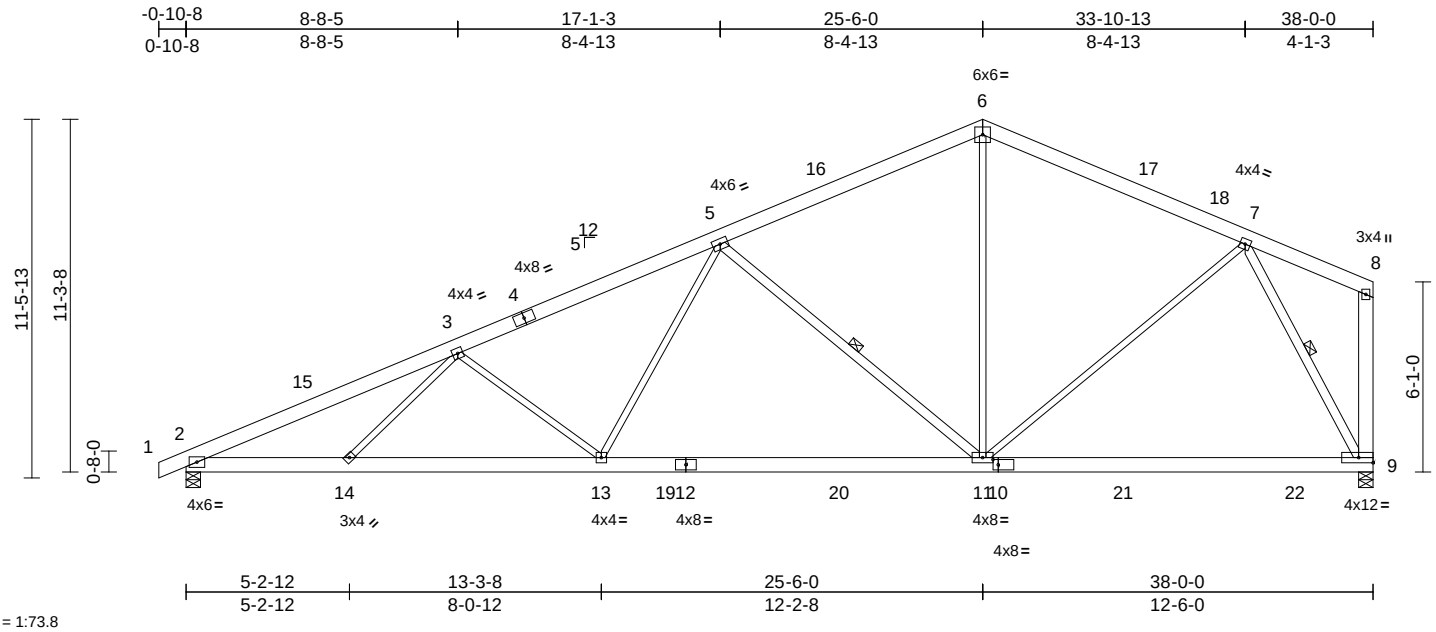

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Plate Offsets (X, Y): [10:0-2-0,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	-0.38	9-11	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.64	9-11	>709	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.70	Horz(CT)	0.07	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 222 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 SPF No.2 *Except* 12-2:2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 9-8:2x6 SPF No.2, 9-7,11-5:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-5-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-11-2 oc bracing.
WEBS 1 Row at midpt 7-9, 5-11

REACTIONS (size) 2=0-5-8, 9=0-5-8
Max Horiz 2=257 (LC 11)
Max Uplift 2=-328 (LC 12), 9=-206 (LC 12)
Max Grav 2=1855 (LC 2), 9=1847 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/12, 2-3=-3706/580, 3-5=-3134/518, 5-6=-1644/402, 6-7=-1640/381, 7-8=-181/146, 8-9=-112/61
BOT CHORD 2-14=-656/3300, 13-14=-689/3190, 11-13=-520/2347, 9-11=-272/849
WEBS 3-14=0/236, 3-13=-611/322, 6-11=-82/731, 5-13=-56/994, 7-11=-77/781, 7-9=-1686/447, 5-11=-1237/399

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 25-6-0, Exterior(2R) 25-6-0 to 30-6-0, Interior (1) 30-6-0 to 37-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) Bearings are assumed to be: Joint 2 SP 2400F 2.0E crushing capacity of 805 psi, Joint 9 SPF No.2 crushing capacity of 425 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 206 lb uplift at joint 9 and 328 lb uplift at joint 2.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894722
P240931-01	A05	Common	4	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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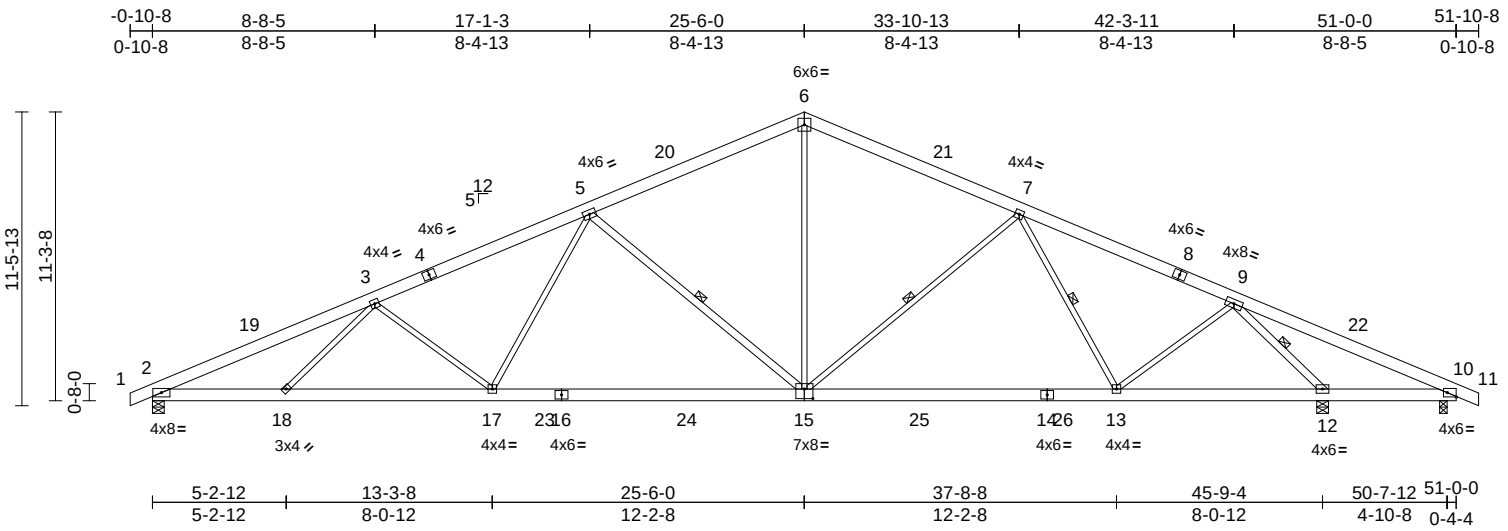

Scale = 1:90.1

Plate Offsets (X, Y): [10:Edge,0-2-0], [15:0-4-0,0-4-8]

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	0.69	Vert(LL)	-0.38	15-17	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.58	Vert(CT)	-0.65	15-17	>841	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.70	Horz(CT)	0.10	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 289 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 15-5,12-9:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-0-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 10-12.
WEBS 1 Row at midpt 7-13, 7-15, 5-15, 9-12

REACTIONS (size) 2=0-5-8, 10=0-3-8, 12=0-5-8
Max Horiz 2=207 (LC 16)
Max Uplift 2=-361 (LC 12), 10=-271 (LC 27), 12=-378 (LC 13)
Max Grav 2=2204 (LC 2), 10=50 (LC 12), 12=2965 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/12, 2-3=-4529/659, 3-5=-4000/596, 5-6=-2514/507, 6-7=-2513/505, 7-9=-2701/399, 9-10=-171/1308, 10-11=0/12
BOT CHORD 2-18=-705/4051, 17-18=-737/3961, 13-17=-468/3148, 12-13=-193/1534, 10-12=-1096/213
WEBS 6-15=-151/1406, 3-18=0/214, 3-17=-590/320, 7-13=-371/191, 9-13=-7/1131, 5-17=-50/996, 7-15=-527/286, 5-15=-1236/395, 9-12=-3789/546

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-2-10, Interior (1) 4-2-10 to 25-6-0, Exterior(2R) 25-6-0 to 30-7-2, Interior (1) 30-7-2 to 51-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 271 lb uplift at joint 10, 378 lb uplift at joint 12 and 361 lb uplift at joint 2.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/30/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	A06	Common Structural Gable	1	1	I67894723 Job Reference (optional)

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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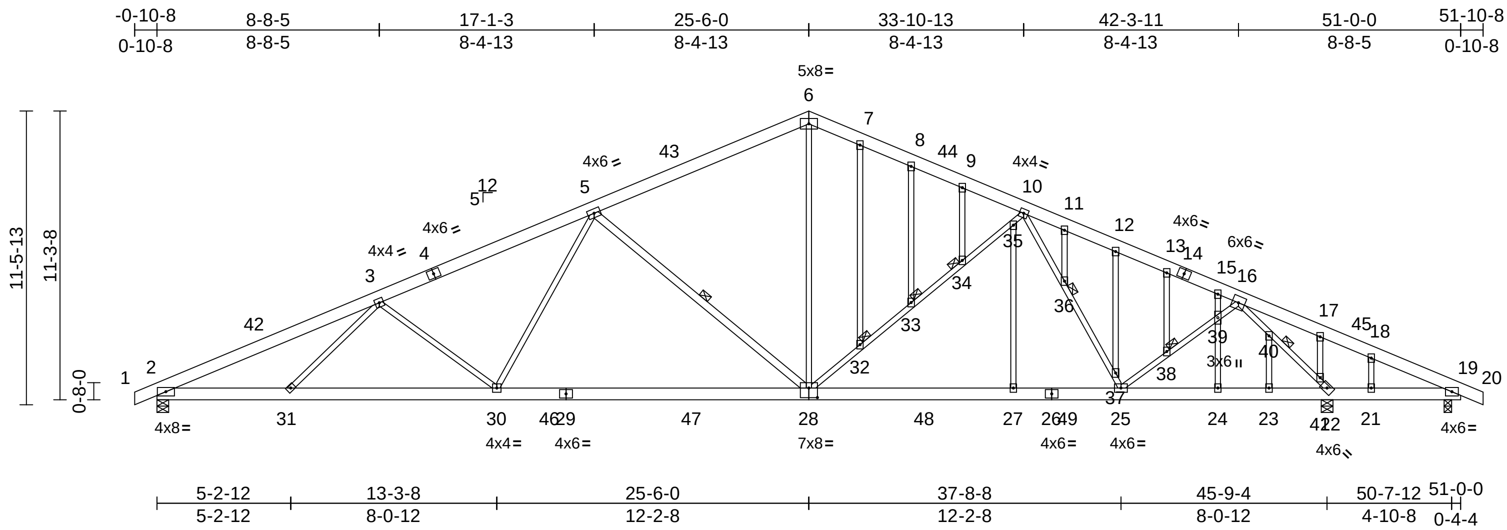

Scale = 1:90.1

Plate Offsets (X, Y): [28:0-4-0,0-4-8]

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	0.68	Vert(LL)	-0.37	28-30	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.65	28-30	>843	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.09	22	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 320 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 28-5:2x4 SP No.2
OTHERS 2x3 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-0-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 21-22,19-21.
WEBS 1 Row at midpt 16-22, 5-28
JOINTS 1 Brace at Jt(s): 32, 33, 34, 36, 38

REACTIONS (size) 2=0-5-8, 19=0-3-8, 22=0-5-8
Max Horiz 2=207 (LC 12)
Max Uplift 2=-359 (LC 12), 19=-335 (LC 27), 22=-432 (LC 13)
Max Grav 2=2188 (LC 2), 19=66 (LC 12), 22=3092 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/12, 2-3=-4492/655, 3-5=-3960/591, 5-6=-2477/497, 6-7=-2328/496, 7-8=-2378/486, 8-9=-2394/475, 9-10=-2496/462, 10-11=-2404/436, 11-12=-2469/434, 12-13=-2417/395, 13-15=-2494/386, 15-16=-2422/343, 16-17=-101/1036, 17-18=-130/1050, 18-19=-188/1096, 19-20=0/12

BOT CHORD 2-31=-700/4017, 30-31=-733/3928, 27-30=-462/3109, 25-27=-189/2451, 24-25=-69/1193, 23-24=-69/1193, 22-23=-69/1193, 21-22=-934/200, 19-21=-934/200

WEBS 6-28=-141/1344, 18-21=-245/131, 3-31=0/214, 3-30=-593/321, 16-40=-3243/402, 40-41=-2992/363, 22-41=-3150/405, 5-30=-50/999, 28-32=-488/244, 32-33=-483/238, 33-34=-452/231, 34-35=-522/234, 10-35=-439/313, 10-36=-453/70, 36-37=-414/63, 25-37=-643/115, 5-28=-1227/392, 25-38=-129/1369, 38-39=-129/1316, 16-39=-142/1514, 7-32=-7/24, 8-33=-63/12, 9-34=-5/132, 27-35=0/333, 11-36=-16/47, 12-37=-270/83, 13-38=-4/86, 15-39=-249/92, 24-39=-8/119, 23-40=-343/56, 17-41=-227/69

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-2-10, Interior (1) 4-2-10 to 25-6-0, Exterior(2R) 25-6-0 to 30-7-2, Interior (1) 30-7-2 to 51-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 3x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
8) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 432 lb uplift at joint 22, 335 lb uplift at joint 19 and 359 lb uplift at joint 2.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894724
P240931-01	B01	Common	3	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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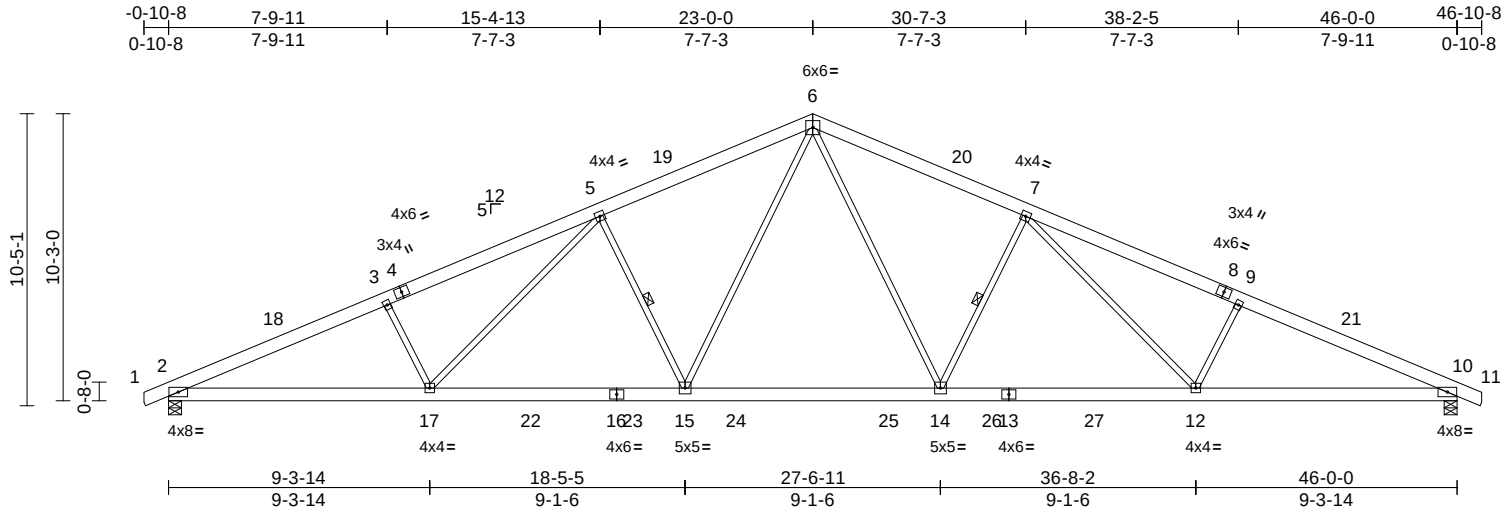

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.29	15-17	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.49	15-17	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.72	Horz(CT)	0.12	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 248 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-14, 5-15

REACTIONS (size) 2=0-5-8, 10=0-5-8
Max Horiz 2=187 (LC 12)
Max Uplift 2=-348 (LC 12), 10=-348 (LC 13)
Max Grav 2=2264 (LC 2), 10=2264 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/11, 2-3=-4585/628, 3-5=-4399/656, 5-6=-3502/600, 6-7=-3502/600, 7-9=-4399/656, 9-10=-4585/628, 10-11=0/11
BOT CHORD 2-17=-659/4094, 15-17=-466/3470, 14-15=-202/2630, 12-14=-347/3470, 10-12=-472/4094
WEBS 6-14=-254/1244, 7-14=-851/374, 7-12=-139/791, 9-12=-344/230, 6-15=-254/1244, 5-15=-851/374, 5-17=-138/791, 3-17=-344/230

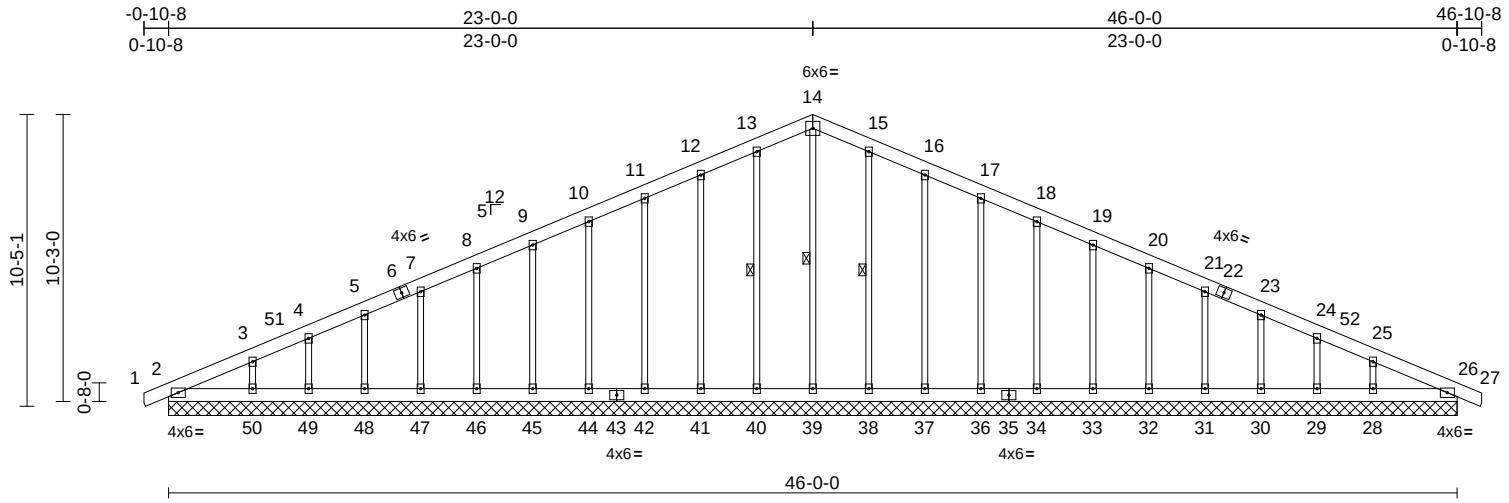
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-3 to 4-1-13, Interior (1) 4-1-13 to 23-0-0, Exterior(2R) 23-0-0 to 28-0-0, Interior (1) 28-0-0 to 46-10-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 348 lb uplift at joint 2 and 348 lb uplift at joint 10.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	B02	Common Supported Gable	1	1	Job Reference (optional) I67894725



Scale = 1:82.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	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	NO	WB	0.22	Horz(CT)	0.01	26	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 261 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 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.
WEBS 1 Row at midpt 14-39, 13-40, 15-38

REACTIONS (size) 2=46-0-0, 26=46-0-0, 28=46-0-0, 29=46-0-0, 30=46-0-0, 31=46-0-0, 32=46-0-0, 33=46-0-0, 34=46-0-0, 36=46-0-0, 37=46-0-0, 38=46-0-0, 39=46-0-0, 40=46-0-0, 41=46-0-0, 42=46-0-0, 44=46-0-0, 45=46-0-0, 46=46-0-0, 47=46-0-0, 48=46-0-0, 49=46-0-0, 50=46-0-0
Max Horiz 2=187 (LC 12)
Max Uplift 2=-25 (LC 13), 26=-4 (LC 9), 28=-88 (LC 13), 29=-46 (LC 13), 30=-55 (LC 13), 31=-59 (LC 13), 32=-50 (LC 13), 33=-56 (LC 13), 34=-53 (LC 13), 36=-54 (LC 13), 37=-66 (LC 13), 38=-22 (LC 13), 40=-31 (LC 12), 41=-64 (LC 12), 42=-54 (LC 12), 44=-53 (LC 12), 45=-56 (LC 12), 46=-50 (LC 12), 47=-59 (LC 12), 48=-55 (LC 12), 49=-46 (LC 12), 50=-92 (LC 12)
Max Grav 2=191 (LC 1), 26=191 (LC 1), 28=259 (LC 26), 29=152 (LC 26), 30=185 (LC 1), 31=187 (LC 26), 32=175 (LC 26), 33=178 (LC 26), 34=182 (LC 1), 36=182 (LC 1), 37=180 (LC 26), 38=183 (LC 1), 39=189 (LC 22), 40=183 (LC 1), 41=180 (LC 25), 42=182 (LC 1), 44=182 (LC 1), 45=178 (LC 25), 46=175 (LC 25), 47=187 (LC 25), 48=185 (LC 1), 49=152 (LC 25), 50=259 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/11, 2-3=-236/88, 3-4=-171/94, 4-5=-136/106, 5-7=-109/121, 7-8=-90/144, 8-9=-68/166, 9-10=-68/189, 10-11=-83/219, 11-12=-98/264, 12-13=-115/311, 13-14=-125/339, 14-15=-125/339, 15-16=-115/311, 16-17=-98/264, 17-18=-83/219, 18-19=-68/176, 19-20=-52/133, 20-21=-51/91, 21-23=-49/45, 23-24=-70/26, 24-25=-94/21, 25-26=-155/54, 26-27=0/11
BOT CHORD 2-50=-49/185, 49-50=-49/185, 48-49=-49/185, 47-48=-49/185, 46-47=-49/185, 45-46=-49/185, 44-45=-49/185, 42-44=-49/185, 41-42=-49/185, 40-41=-49/185, 39-40=-49/185, 38-39=-49/185, 37-38=-49/185, 36-37=-49/185, 34-36=-49/185, 33-34=-49/185, 32-33=-49/185, 31-32=-49/185, 30-31=-49/185, 29-30=-49/185, 28-29=-49/185, 26-28=-49/185
WEBS 14-39=-150/16, 13-40=-142/56, 12-41=-143/100, 11-42=-140/91, 10-44=-140/89, 9-45=-140/89, 8-46=-134/85, 7-47=-148/95, 5-48=-142/90, 4-49=-122/80, 3-50=-191/193, 15-38=-142/51, 16-37=-143/100, 17-36=-140/91, 18-34=-140/89, 19-33=-140/89, 20-32=-134/85, 21-31=-148/95, 23-30=-142/90, 24-29=-122/80, 25-28=-191/192

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-3 to 4-1-13, Exterior(2N) 4-1-13 to 23-0-0, Corner(3R) 23-0-0 to 28-0-0, Exterior(2N) 28-0-0 to 46-10-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

August 30,2024

Continued on page 2

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894725
P240931-01	B02	Common Supported Gable	1	1	Job Reference (optional)	

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 3x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 25 lb uplift at joint 2, 31 lb uplift at joint 40, 64 lb uplift at joint 41, 54 lb uplift at joint 42, 53 lb uplift at joint 44, 56 lb uplift at joint 45, 50 lb uplift at joint 46, 59 lb uplift at joint 47, 55 lb uplift at joint 48, 46 lb uplift at joint 49, 92 lb uplift at joint 50, 22 lb uplift at joint 38, 66 lb uplift at joint 37, 54 lb uplift at joint 36, 53 lb uplift at joint 34, 56 lb uplift at joint 33, 50 lb uplift at joint 32, 59 lb uplift at joint 31, 55 lb uplift at joint 30, 46 lb uplift at joint 29, 88 lb uplift at joint 28 and 4 lb uplift at joint 26.
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	Roof - HT Lot 186
P240931-01	C01	Roof Special Supported Gable	1	1	Job Reference (optional) I67894726

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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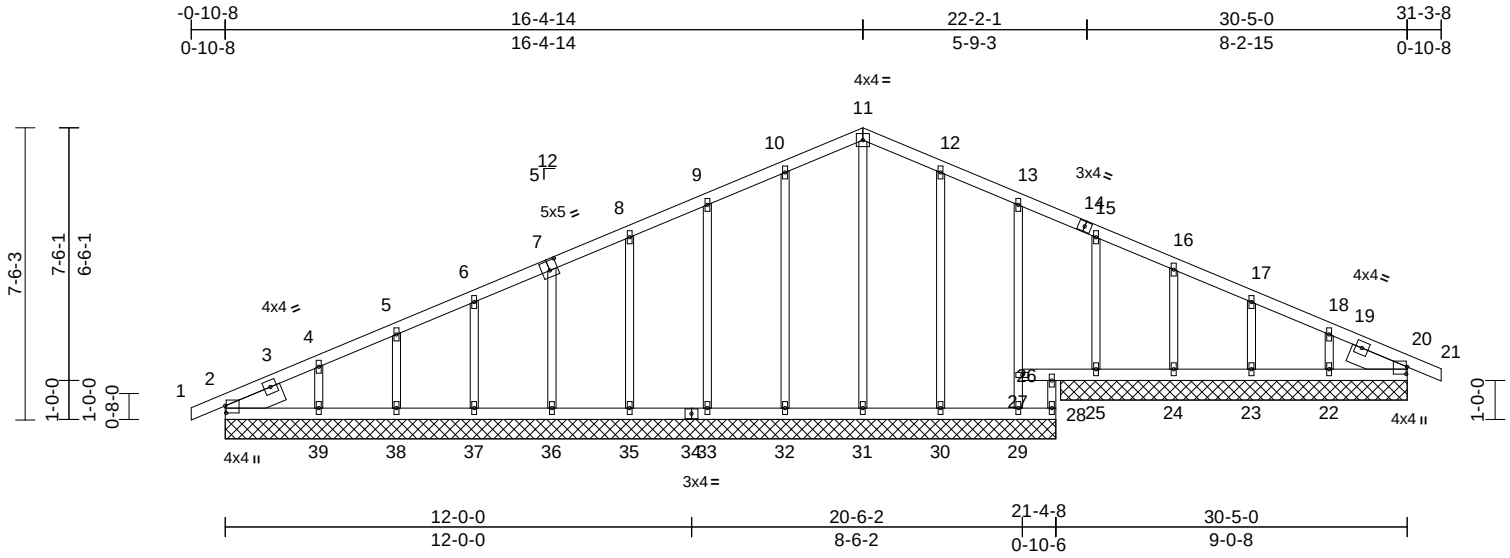

Scale = 1:59.3

Plate Offsets (X, Y): [2:0-2-3,0-0-5], [7:0-2-8,0-3-0], [20:0-2-3,0-0-5]

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	0.08	Vert(LL)	0.00	2-39	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	0.00	2-39	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.20	Horz(CT)	0.01	20	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 147 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 28-26:2x3 SPF No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x6 SPF No.2 -- 1-6-7, Right 2x6 SPF No.2 -- 1-6-7

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, Except:
6-0-0 oc bracing: 26-28.

REACTIONS (size) 2=21-4-8, 20=8-11-0, 22=8-11-0, 23=8-11-0, 24=8-11-0, 25=8-11-0, 28=21-4-8, 29=21-4-8, 30=21-4-8, 31=21-4-8, 32=21-4-8, 33=21-4-8, 35=21-4-8, 36=21-4-8, 37=21-4-8, 38=21-4-8, 39=21-4-8
Max Horiz 2=161 (LC 12)
Max Uplift 2=-45 (LC 13), 20=-36 (LC 9), 22=-61 (LC 13), 23=-54 (LC 13), 24=-58 (LC 13), 25=-39 (LC 13), 29=-103 (LC 13), 30=-47 (LC 13), 32=-54 (LC 12), 33=-54 (LC 12), 35=-66 (LC 12), 36=-38 (LC 12), 37=-63 (LC 12), 38=-46 (LC 12), 39=-94 (LC 12)
Max Grav 2=172 (LC 1), 20=156 (LC 1), 22=179 (LC 26), 23=180 (LC 1), 24=186 (LC 26), 25=167 (LC 1), 28=32 (LC 22), 29=168 (LC 26), 30=191 (LC 26), 31=196 (LC 22), 32=190 (LC 25), 33=174 (LC 25), 35=203 (LC 1), 36=150 (LC 25), 37=194 (LC 25), 38=172 (LC 1), 39=207 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-4=-165/99, 4-5=-108/103, 5-6=-85/126, 6-8=-66/168, 8-9=-72/211, 9-10=-86/255, 10-11=-101/296, 11-12=-101/296, 12-13=-86/255, 13-15=-70/208, 15-16=-56/166, 16-17=-40/123, 17-18=-35/70, 18-20=-54/22, 20-21=0/0
BOT CHORD 2-39=-10/49, 38-39=-10/49, 37-38=-10/49, 36-37=-10/49, 35-36=-11/51, 33-35=-11/51, 32-33=-11/51, 31-32=-11/51, 30-31=-11/51, 29-30=-11/51, 28-29=-10/44, 26-28=-15/0, 26-27=-2/8, 25-26=-12/52, 24-25=-12/52, 23-24=-12/52, 22-23=-12/52, 20-22=-12/52
WEBS 11-31=-157/13, 10-32=-150/83, 9-33=-134/90, 8-35=-163/103, 7-36=-110/70, 6-37=-153/98, 5-38=-135/106, 4-39=-156/177, 12-30=-150/83, 27-29=-138/109, 13-27=-142/96, 15-25=-133/84, 16-24=-145/92, 17-23=-141/114, 18-22=-136/143

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 4-4-14, Exterior(2N) 4-4-14 to 16-4-14, Corner(3R) 16-4-14 to 21-4-14, Exterior(2N) 21-4-14 to 31-3-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 1.5x4 MT20 unless otherwise indicated.
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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 2, 36 lb uplift at joint 20, 54 lb uplift at joint 32, 54 lb uplift at joint 33, 66 lb uplift at joint 35, 38 lb uplift at joint 36, 63 lb uplift at joint 37, 46 lb uplift at joint 38, 94 lb uplift at joint 39, 47 lb uplift at joint 30, 103 lb uplift at joint 29, 39 lb uplift at joint 25, 58 lb uplift at joint 24, 54 lb uplift at joint 23 and 61 lb uplift at joint 22.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894727
P240931-01	C02	Roof Special	4	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Thu Aug 29 11:18:30 Page: 1
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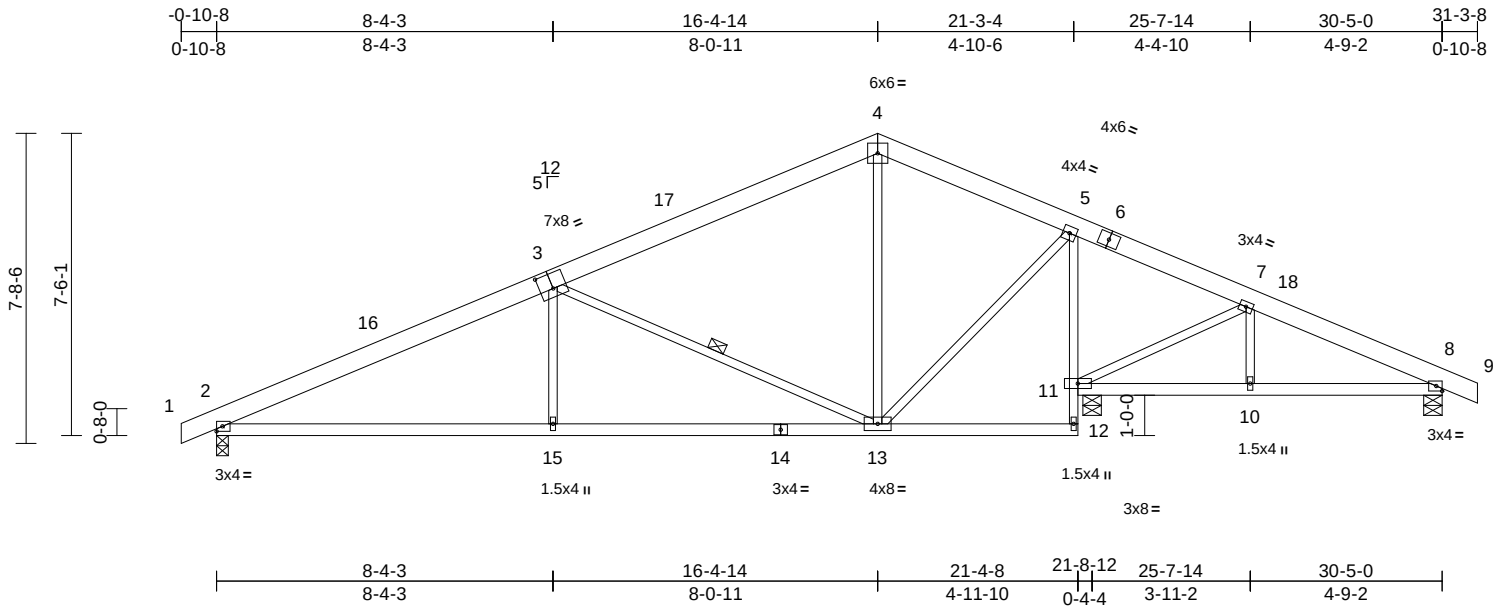

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Plate Offsets (X, Y): [3:0-4-0,0-4-8]

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	0.78	Vert(LL)	-0.13	13-15	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.27	13-15	>927	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.62	Horz(CT)	0.02	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 138 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x4 SP No.2 *Except* 14-12:2x4 SP 1650F 1.5E, 12-5:2x3 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 12-13.
WEBS 1 Row at midpt 3-13

REACTIONS (size) 2=0-3-8, 8=0-5-8, 11=0-5-8
Max Horiz 2=161 (LC 12)
Max Uplift 2=-208 (LC 12), 8=-148 (LC 13), 11=-125 (LC 12)
Max Grav 2=1002 (LC 1), 8=442 (LC 26), 11=1418 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-1485/243, 4-5=-600/240, 5-7=-21/184, 7-8=-471/189, 8-9=0/6
BOT CHORD 2-15=-278/1261, 13-15=-276/1265, 12-13=-73/9, 11-12=0/37, 5-11=-1136/170, 10-11=-109/364, 8-10=-109/364
WEBS 4-13=-91/138, 5-13=-90/829, 3-15=0/347, 3-13=-845/240, 7-11=-477/135, 7-10=0/195

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 16-4-14, Exterior(2R) 16-4-14 to 21-3-4, Interior (1) 21-3-4 to 31-3-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 125 lb uplift at joint 11, 148 lb uplift at joint 8 and 208 lb uplift at joint 2.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	C03	Common Girder	1	2	Job Reference (optional) I67894728

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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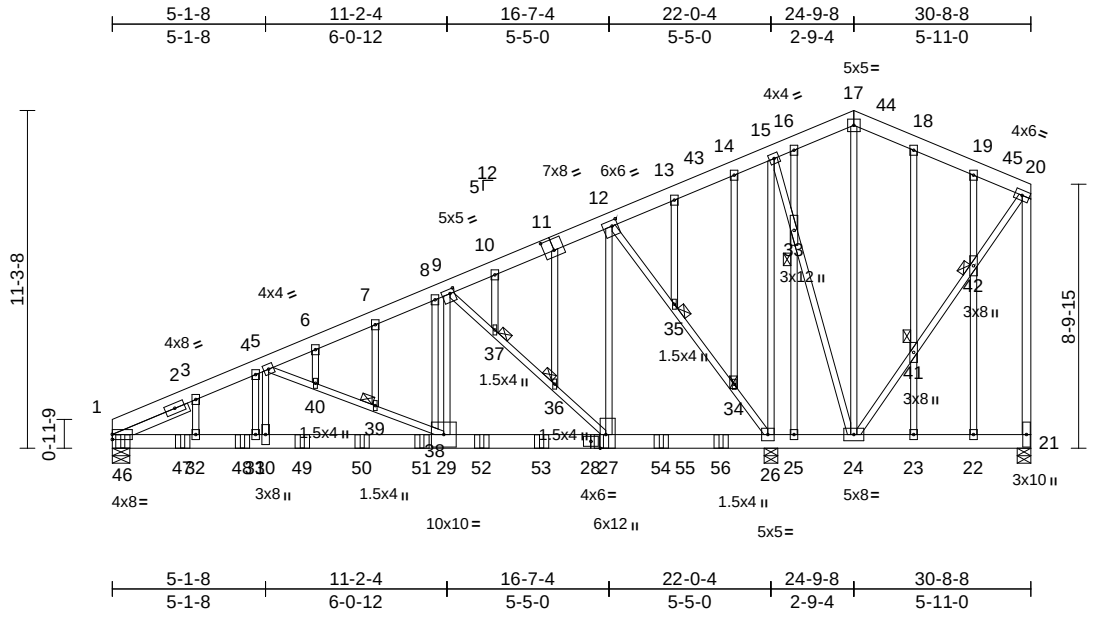

Scale = 1:77

Plate Offsets (X, Y): [1:Edge,0-2-1], [9:0-1-12,0-1-12], [11:0-4-0,0-4-8], [12:0-2-4,0-2-4], [27:0-5-8,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	0.34	Vert(LL)	-0.16	29-30	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.28	29-30	>930	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.89	Horz(CT)	0.05	26	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 510 lb	FT = 20%

LUMBER

TOP CHORD	2x6 SPF No.2
BOT CHORD	2x6 SP 2400F 2.0E
WEBS	2x3 SPF No.2 *Except* 21-20:2x4 SP No.2
OTHERS	2x3 SPF No.2
SLIDER	Left 2x4 SP No.2 -- 2-8-11

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-11-13 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 25-26,24-25.
JOINTS	1 Brace at Jt(s): 33, 34, 35, 36, 37, 39, 41, 42

REACTIONS (size) 1=0-7-0, 21=0-5-8, 26=0-5-8
Max Horiz 1=387 (LC 32)
Max Uplift 1=-960 (LC 12), 21=-1332 (LC 25), 26=-1438 (LC 12)
Max Grav 1=5506 (LC 1), 21=257 (LC 12), 26=7937 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-3=-8908/1521, 3-4=-8362/1474, 4-5=-8183/1448, 5-6=-5707/995, 6-7=-5570/984, 7-8=-5598/1010, 8-9=-5649/1039, 9-10=-2193/459, 10-12=-2093/477, 12-13=-290/1250, 13-14=-285/1337, 14-15=-260/1283, 15-16=-177/1048, 16-17=-113/780, 17-18=-131/866, 18-19=-163/883, 19-20=-212/839, 20-21=-229/1373

BOT CHORD 1-32=-1589/7658, 31-32=-1589/7658, 30-31=-1589/7658, 29-30=-1589/7658, 27-29=-1088/5183, 26-27=-510/1938, 25-26=-1177/424, 24-25=-1177/424, 23-24=-162/178, 22-23=-162/178, 21-22=-162/178

WEBS 17-24=-504/110, 24-41=-1435/334, 41-42=-1405/327, 20-42=-1393/324, 15-26=-1070/253, 15-33=-210/1375, 24-33=-224/1458, 5-30=-243/1702, 5-40=-2731/607, 39-40=-2635/586, 38-39=-2709/601, 29-38=-2784/630, 9-29=-735/4316, 9-37=-4511/895, 36-37=-4404/870, 27-36=-4520/899, 12-27=-872/5176, 12-35=-5225/1024, 34-35=-5155/1010, 26-34=-5337/1048, 16-33=-870/166, 25-33=-956/180, 14-34=-226/46, 13-35=-17/88, 11-36=-164/41, 10-37=-37/156, 8-38=-275/81, 7-39=-212/44, 6-40=-55/251, 4-31=-89/339, 3-32=-133/981, 18-41=-154/70, 23-41=-119/66, 19-42=-75/160, 22-42=-74/165

NOTES

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 oc.
Web connected as follows: 2x3 - 1 row at 0-4-0 oc, Except member 12-27 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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 4-9-8, Interior (1) 4-9-8 to 24-9-8, Exterior(2R) 24-9-8 to 29-9-8, Interior (1) 29-9-8 to 30-6-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
5) 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.
6) All plates are 3x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.

August 30,2024

Continued on page 2

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	C03	Common Girder	1	**2**	Job Reference (optional) I67894728

10) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 960 lb uplift at joint 1, 1332 lb uplift at joint 21 and 1438 lb uplift at joint 26.
12) 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.
13) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
14) Use Simpson Strong-Tie HUS26 (14-16d Girder, 4-16d Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-4-4 from the left end to 20-4-4 to connect truss(es) to back face of bottom chord.
15) N/A

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-17=-70, 17-20=-70, 1-21=-20
   Concentrated Loads (lb)
   Vert: 27=-855 (B), 46=-882 (B), 47=-876 (B), 48=-885 (B), 49=-885 (B), 50=-885 (B), 51=-885 (B), 52=-855 (B), 53=-855 (B), 54=-855 (B), 56=-855 (B)

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	D01	Roof Special Structural Gable	1	1	Job Reference (optional) I67894729

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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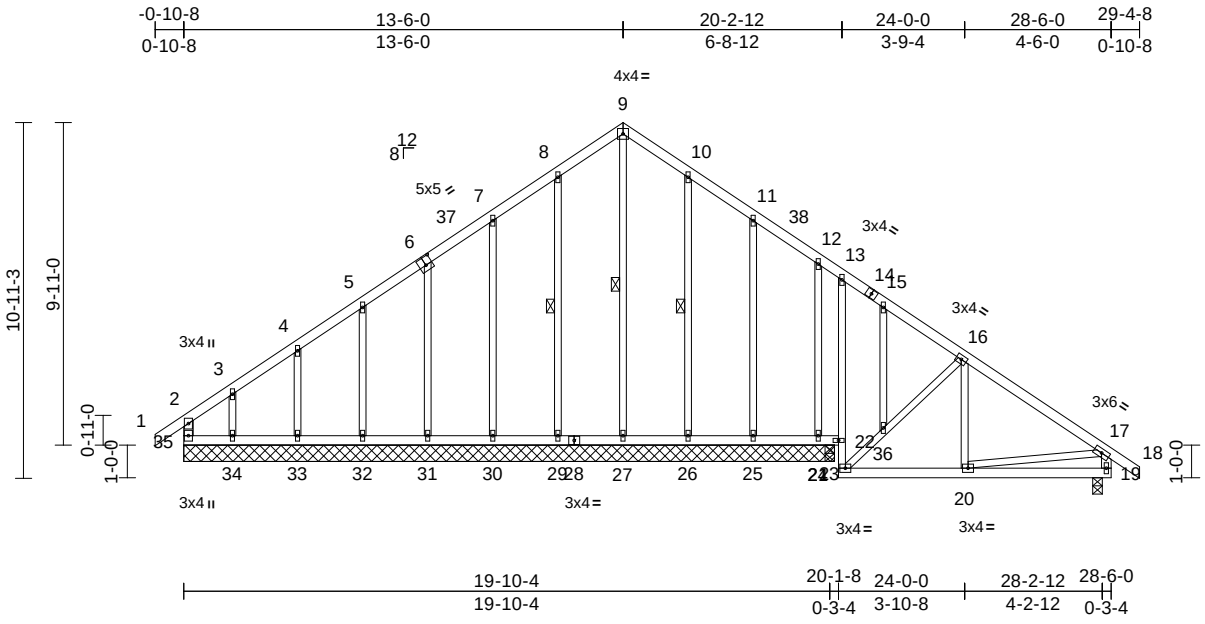

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Plate Offsets (X, Y): [6:0-2-8,0-3-0]

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	0.25	Vert(LL)	0.01	20-21	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.02	19-20	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.28	Horz(CT)	0.03	19	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 163 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 13-21:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 35-2,19-17:2x4 SP No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 9-27, 8-29, 10-26

REACTIONS (size) 19=0-3-8, 23=0-3-8, 24=20-0-0, 25=20-0-0, 26=20-0-0, 27=20-0-0, 29=20-0-0, 30=20-0-0, 31=20-0-0, 32=20-0-0, 33=20-0-0, 34=20-0-0, 35=20-0-0
Max Horiz 35=312 (LC 11)
Max Uplift 19=-108 (LC 13), 23=-577 (LC 13), 24=-422 (LC 20), 25=-87 (LC 13), 26=-58 (LC 13), 27=-42 (LC 11), 29=-61 (LC 12), 30=-102 (LC 12), 31=-55 (LC 12), 32=-89 (LC 12), 33=-64 (LC 12), 34=-171 (LC 9), 35=-230 (LC 8)
Max Grav 19=446 (LC 1), 23=970 (LC 20), 24=347 (LC 13), 25=191 (LC 20), 26=191 (LC 20), 27=353 (LC 13), 29=197 (LC 19), 30=211 (LC 19), 31=157 (LC 19), 32=202 (LC 19), 33=188 (LC 1), 34=245 (LC 10), 35=311 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/40, 2-3=-292/268, 3-4=-234/224, 4-5=-221/224, 5-7=-200/293, 7-8=-207/341, 8-9=-237/367, 9-10=-238/355, 10-11=-204/294, 11-12=-168/225, 12-13=-140/183, 13-15=-96/140, 15-16=-113/126, 16-17=-376/111, 17-18=0/40, 2-35=-248/181, 17-19=-405/138
BOT CHORD 34-35=-83/122, 33-34=-83/122, 32-33=-83/122, 31-32=-83/122, 30-31=-83/123, 29-30=-83/123, 27-29=-83/123, 26-27=-83/123, 25-26=-83/123, 24-25=-83/123, 23-24=-83/123, 22-23=-83/123, 21-22=-90/277, 13-22=-165/103, 20-21=-5/242, 19-20=-55/123
WEBS 21-36=-353/165, 16-36=-334/153, 16-20=0/172, 17-20=-5/129, 9-27=-330/155, 8-29=-156/86, 7-30=-171/126, 6-31=-118/80, 5-32=-160/110, 4-33=-146/97, 3-34=-165/138, 10-26=-154/84, 11-25=-138/103, 12-24=-86/64, 15-36=-27/17

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 13-6-0, Exterior(2R) 13-6-0 to 18-6-0, Interior (1) 18-6-0 to 29-4-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 1.5x4 MT20 unless otherwise indicated.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 230 lb uplift at joint 35, 108 lb uplift at joint 19, 42 lb uplift at joint 27, 61 lb uplift at joint 29, 102 lb uplift at joint 30, 55 lb uplift at joint 31, 89 lb uplift at joint 32, 64 lb uplift at joint 33, 171 lb uplift at joint 34, 58 lb uplift at joint 26, 87 lb uplift at joint 25, 422 lb uplift at joint 24 and 577 lb uplift at joint 23.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	D02	Roof Special	2	1	Job Reference (optional) I67894730

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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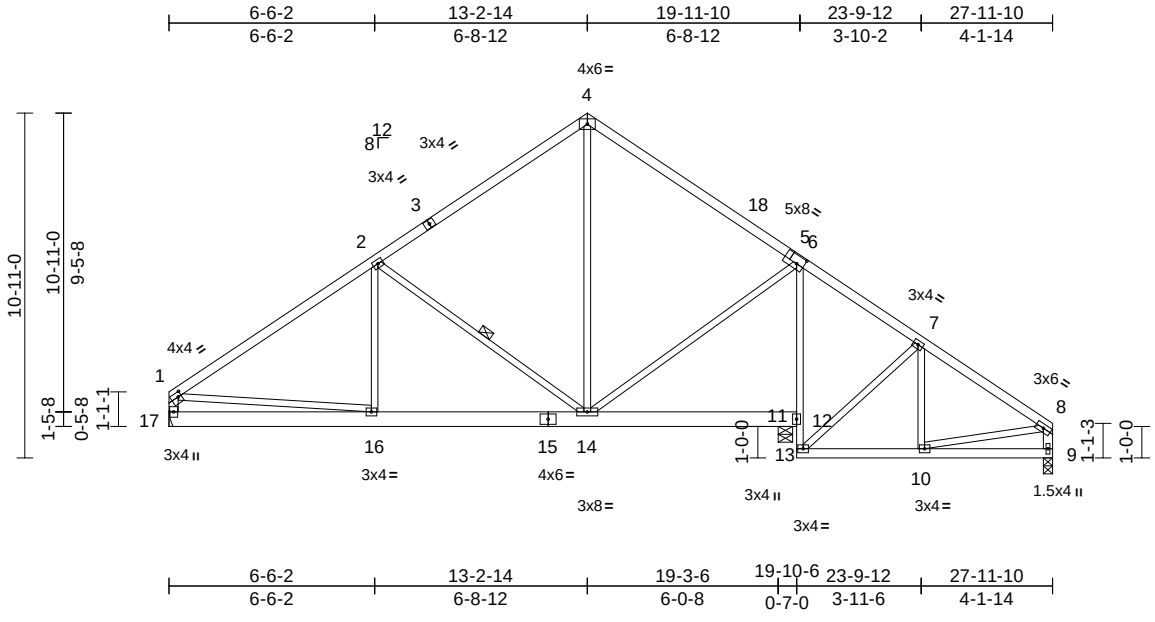

Scale = 1:72.9

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

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	0.89	Vert(LL)	-0.04	14-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.07	14-16	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.35	Horz(CT)	0.01	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 148 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 4-5:2x4 SP 1650F 1.5E
BOT CHORD 2x6 SPF No.2 *Except* 6-11:2x3 SPF No.2, 11-9:2x4 SP No.2, 15-12:2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 17-1,9-8:2x4 SP No.2

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

REACTIONS (size) 9=0-3-8, 13=0-5-8, 17= Mechanical
Max Horiz 17=-302 (LC 8)
Max Uplift 9=-129 (LC 13), 13=-76 (LC 13), 17=-150 (LC 12)
Max Grav 9=437 (LC 20), 13=1164 (LC 1), 17=896 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1125/223, 2-4=-683/267, 4-6=-659/238, 6-7=-243/206, 7-8=-459/165, 1-17=-829/181, 8-9=-398/149
BOT CHORD 16-17=-264/412, 14-16=-195/934, 13-14=-2/106, 12-13=-2/106, 11-12=-71/241, 6-12=-818/105, 10-11=-85/320, 9-10=-37/74
WEBS 2-16=0/223, 2-14=-558/268, 4-14=-85/251, 6-14=-36/480, 7-11=-302/134, 1-16=-53/634, 8-10=-49/251, 7-10=0/147

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-14 to 5-4-14, Interior (1) 5-4-14 to 13-6-0, Exterior(2R) 13-6-0 to 18-6-0, Interior (1) 18-6-0 to 28-1-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are 3x4 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.
6) Bearings are assumed to be: , Joint 13 SP 2400F 2.0E crushing capacity of 805 psi, Joint 9 SP No.2 crushing capacity of 565 psi.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 150 lb uplift at joint 17, 129 lb uplift at joint 9 and 76 lb uplift at joint 13.
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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894731
P240931-01	D03	Roof Special	4	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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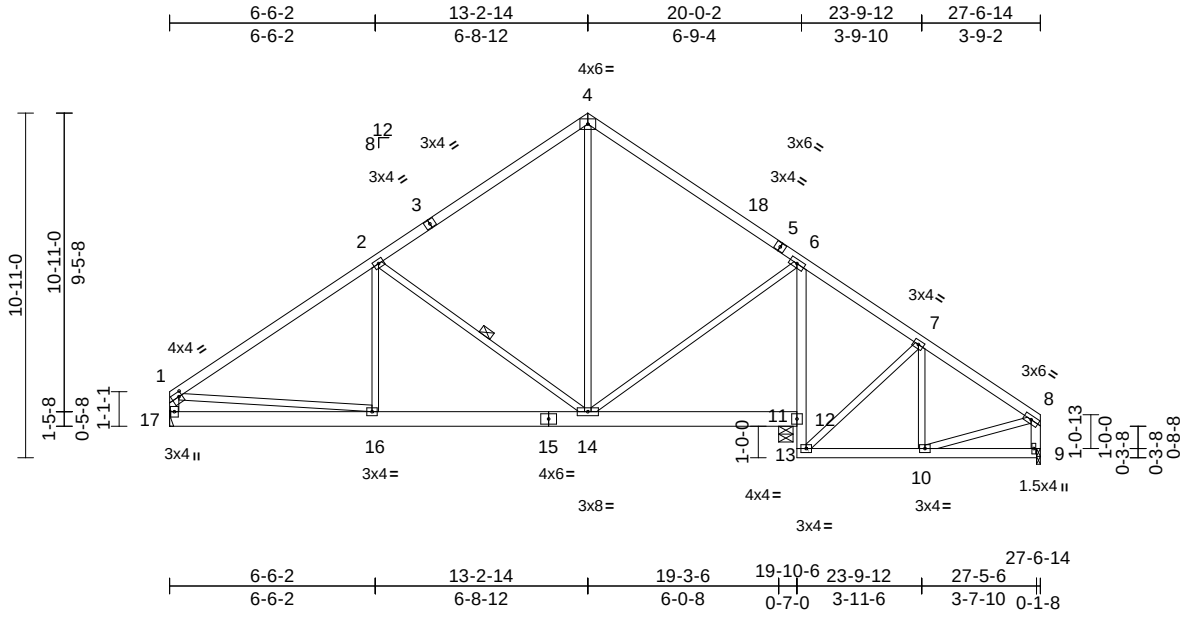

Scale = 1:73

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

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	0.99	Vert(LL)	-0.03	14-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.06	14-16	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.35	Horz(CT)	0.01	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 151 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 15-12:2x6 SP 2400F 2.0E, 15-17:2x6 SPF No.2
WEBS 2x3 SPF No.2 *Except* 17-1,8-9:2x4 SP 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 2-14

REACTIONS (size) 9=0-1-8, 13=0-5-8, 17= Mechanical
Max Horiz 17=-302 (LC 8)
Max Uplift 9=-115 (LC 13), 13=-87 (LC 13), 17=-149 (LC 12)
Max Grav 9=438 (LC 1), 13=1112 (LC 1), 17=905 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1139/220, 2-4=-698/263, 4-6=-682/239, 6-7=-263/197, 7-8=-435/152, 1-17=-838/180, 8-9=-404/132
BOT CHORD 16-17=-268/413, 14-16=-195/945, 13-14=-12/146, 12-13=-12/146, 11-12=-51/194, 6-12=-819/128, 10-11=-70/308, 9-10=-30/55
WEBS 7-10=-5/121, 7-11=-234/106, 8-10=-44/274, 2-16=0/222, 4-14=-88/262, 1-16=-52/646, 2-14=-558/269, 6-14=-42/451

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-14 to 5-4-14, Interior (1) 5-4-14 to 13-6-0, Exterior(2R) 13-6-0 to 18-6-0, Interior (1) 18-6-0 to 27-8-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are 3x4 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.
6) Bearings are assumed to be: , Joint 13 SP 2400F 2.0E crushing capacity of 805 psi, Joint 9 SP No.2 crushing capacity of 565 psi.
7) Refer to girder(s) for truss to truss connections.
8) Bearing at joint(s) 9 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 at joint(s) 9.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 149 lb uplift at joint 17, 87 lb uplift at joint 13 and 115 lb uplift at joint 9.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	D04	Common	5	1	Job Reference (optional) I67894732

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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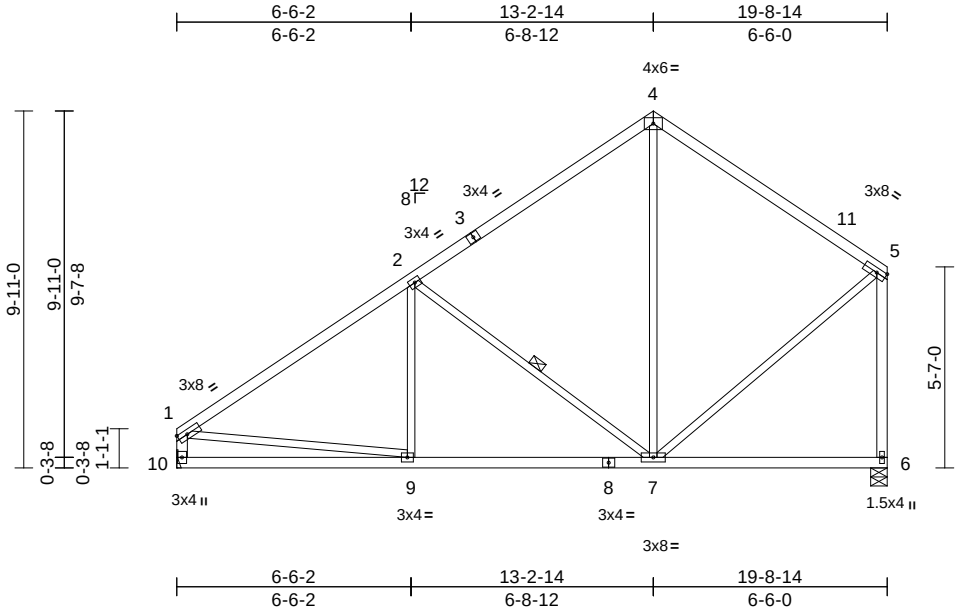

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.05	6-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.50	Vert(CT)	-0.10	6-7	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.36	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 103 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 10-1,6-5:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-5-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-8-14 oc bracing.
WEBS 1 Row at midpt 2-7

REACTIONS (size) 6=0-5-8, 10= Mechanical
Max Horiz 10=345 (LC 9)
Max Uplift 6=-137 (LC 12), 10=-125 (LC 12)
Max Grav 6=875 (LC 1), 10=875 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1082/191, 2-4=-644/233, 1-10=-815/158, 5-6=-817/203, 4-5=-615/213
BOT CHORD 9-10=-362/421, 7-9=-341/894, 6-7=-90/109
WEBS 2-9=0/220, 4-7=-67/247, 1-9=-49/652, 2-7=-558/273, 5-7=-123/539

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-14 to 5-4-14, Interior (1) 5-4-14 to 13-6-0, Exterior(2R) 13-6-0 to 18-6-0, Interior (1) 18-6-0 to 19-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) Bearings are assumed to be: , Joint 6 SP No.2 crushing capacity of 565 psi.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 137 lb uplift at joint 6 and 125 lb uplift at joint 10.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	E01	Common Structural Gable	1	1	Job Reference (optional) I67894733

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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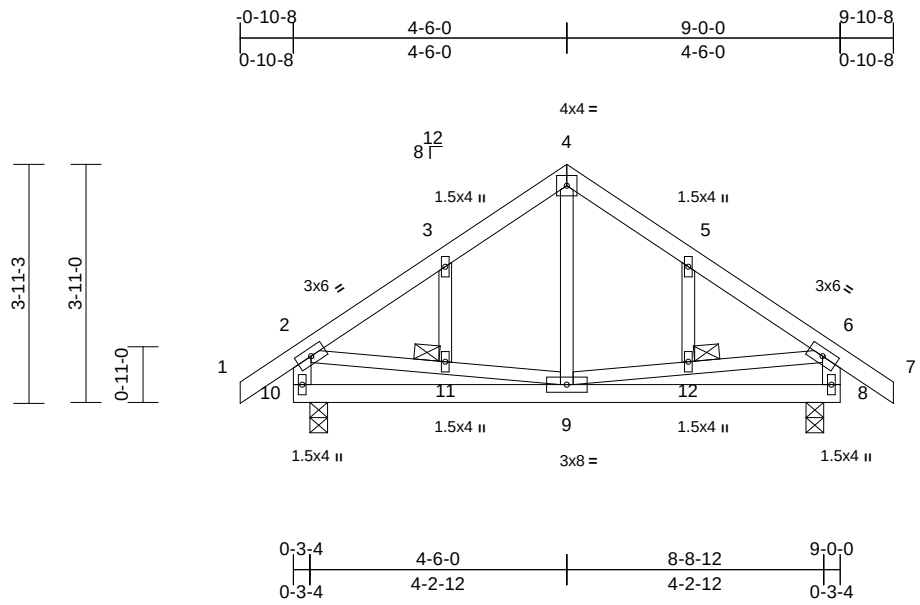

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	-0.01	8-9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	-0.02	8-9	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.15	Horz(CT)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 47 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 11, 12

REACTIONS (size) 8=0-3-8, 10=0-3-8
Max Horiz 10=-128 (LC 10)
Max Uplift 8=-79 (LC 13), 10=-79 (LC 12)
Max Grav 8=463 (LC 1), 10=463 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-393/119, 3-4=-307/149, 4-5=-307/149, 5-6=-393/119, 6-7=0/40, 2-10=-421/219, 6-8=-421/219
BOT CHORD 9-10=-121/235, 8-9=-69/157
WEBS 4-9=0/160, 2-11=-35/155, 9-11=-37/156, 9-12=-43/161, 6-12=-41/161, 3-11=-22/29, 5-12=-23/29

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-6-0, Exterior(2R) 4-6-0 to 9-6-0, Interior (1) 9-6-0 to 9-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 79 lb uplift at joint 10 and 79 lb uplift at joint 8.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	VA1	Valley	1	1	I67894734 Job Reference (optional)

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Thu Aug 29 11:18:32 Page: 1
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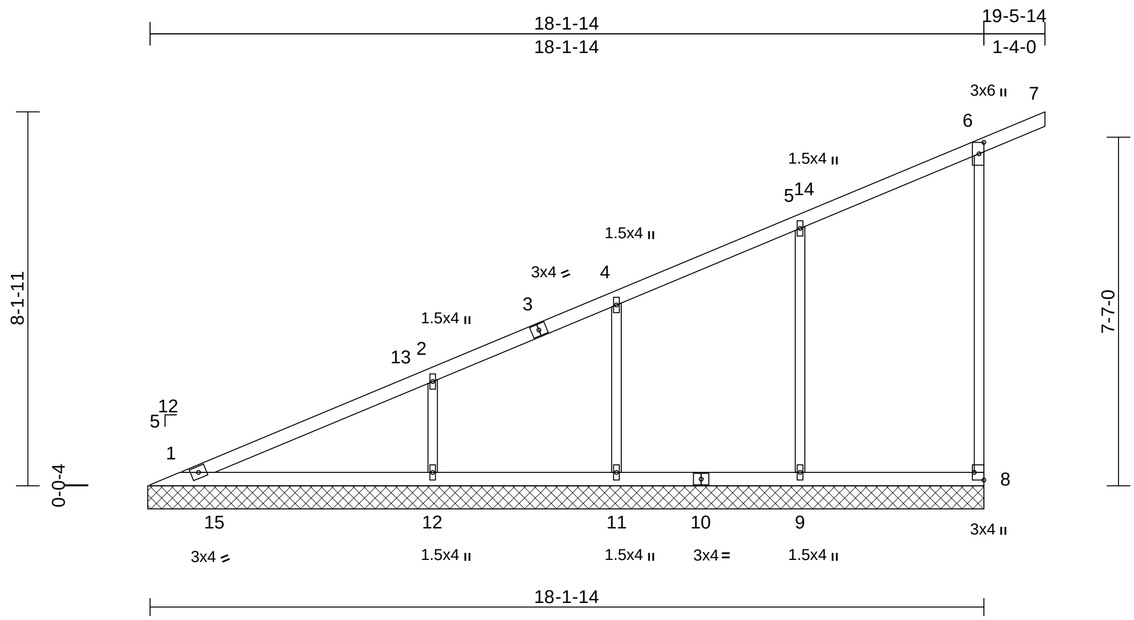

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Plate Offsets (X, Y): [6:0-3-0,0-1-4], [8:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.37	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 72 lb	FT = 20%

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

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

REACTIONS (size) 1=18-2-7, 8=18-2-7, 9=18-2-7, 11=18-2-7, 12=18-2-7
Max Horiz 1=364 (LC 9)
Max Uplift 8=-111 (LC 9), 9=-102 (LC 12), 11=-95 (LC 12), 12=-159 (LC 12)
Max Grav 1=241 (LC 20), 8=259 (LC 1), 9=468 (LC 2), 11=366 (LC 2), 12=507 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-446/252, 2-4=-339/197, 4-5=-269/176, 5-6=-175/125, 6-7=-39/0, 6-8=-232/153
BOT CHORD 1-12=-142/155, 11-12=-142/155, 9-11=-142/155, 8-9=-142/155
WEBS 5-9=-281/196, 4-11=-255/150, 2-12=-385/223

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 19-6-7 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 111 lb uplift at joint 8, 102 lb uplift at joint 9, 95 lb uplift at joint 11 and 159 lb uplift at joint 12.
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

August 30,2024

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894735
P240931-01	VA2	Valley	1	1	Job Reference (optional)	

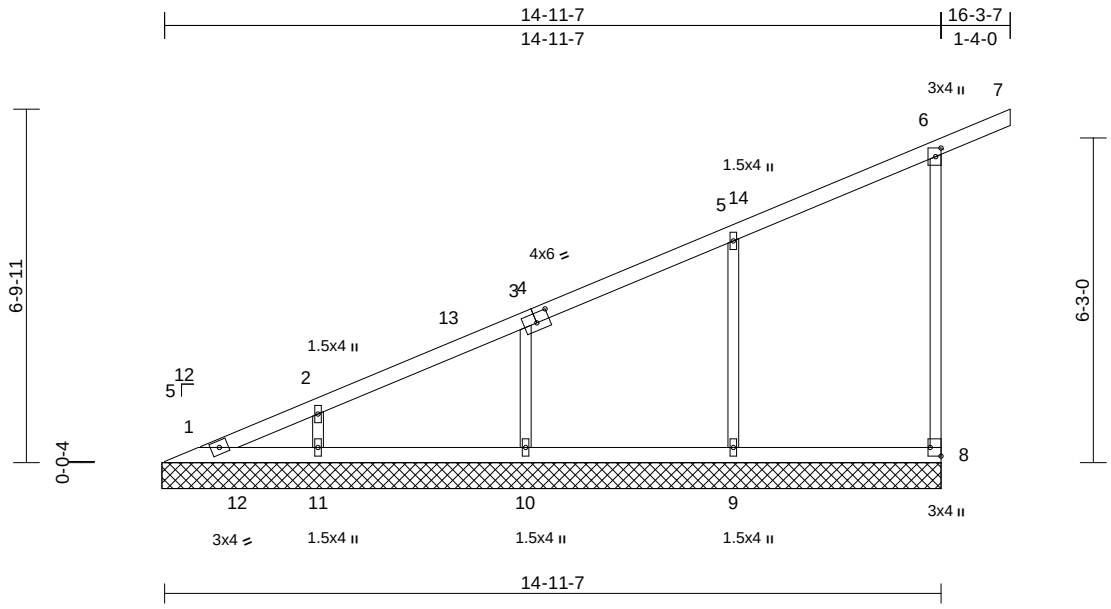

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Plate Offsets (X, Y): [4:0-3-0,0-2-4], [6:0-2-0,0-1-4], [8:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.49	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.14	Horz(CT)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 58 lb	FT = 20%

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

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

REACTIONS (size) 1=15-0-1, 8=15-0-1, 9=15-0-1, 10=15-0-1, 11=15-0-1
Max Horiz 1=302 (LC 9)
Max Uplift 8=-103 (LC 9), 9=-122 (LC 12), 10=-83 (LC 12), 11=-118 (LC 12)
Max Grav 1=102 (LC 9), 8=268 (LC 2), 9=443 (LC 2), 10=329 (LC 2), 11=357 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 6-8=-227/170, 1-2=-421/221, 2-3=-344/183, 3-5=-271/165, 5-6=-167/108, 6-7=-39/0
BOT CHORD 1-11=-118/130, 10-11=-118/130, 9-10=-118/130, 8-9=-118/130
WEBS 5-9=-309/223, 3-10=-236/156, 2-11=-285/201

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 16-4-1 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 103 lb uplift at joint 8, 122 lb uplift at joint 9, 83 lb uplift at joint 10 and 118 lb uplift at joint 11.
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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894736
P240931-01	VA3	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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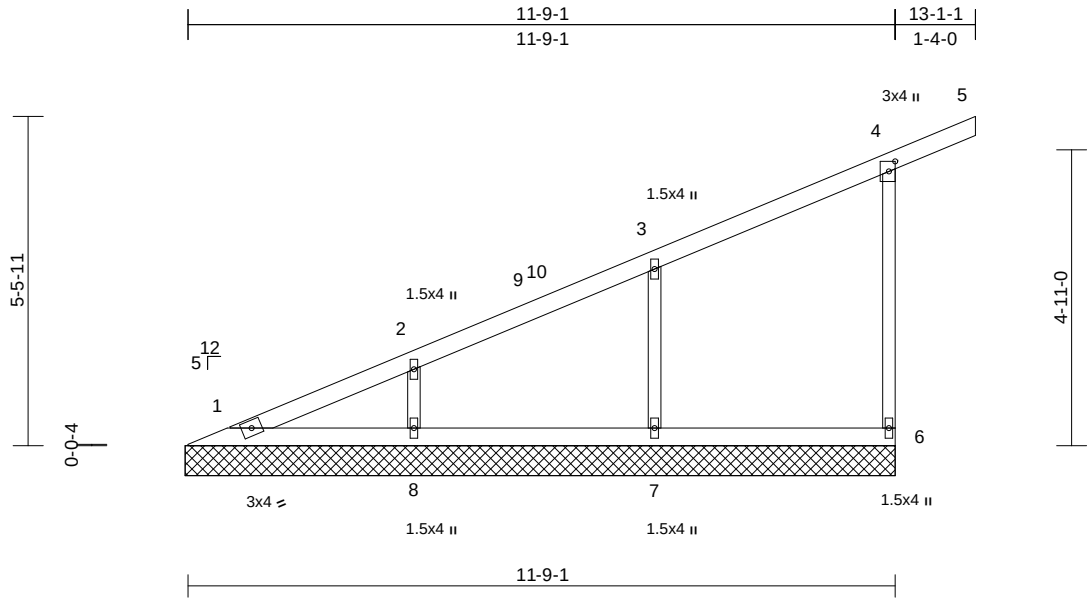

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Plate Offsets (X, Y): [4:0-2-0,0-1-4]

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	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.07	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 44 lb	FT = 20%

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

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

REACTIONS (size) 1=11-9-11, 6=11-9-11, 7=11-9-11, 8=11-9-11
Max Horiz 1=240 (LC 9)
Max Uplift 6=-100 (LC 9), 7=-107 (LC 12), 8=-108 (LC 12)
Max Grav 1=121 (LC 20), 6=263 (LC 1), 7=372 (LC 1), 8=350 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-336/176, 2-3=-268/143, 3-4=-159/88, 4-5=-39/0, 4-6=-231/193
BOT CHORD 1-8=-91/102, 7-8=-91/102, 6-7=-91/102
WEBS 3-7=-284/235, 2-8=-269/216

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 13-1-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint 6, 107 lb uplift at joint 7 and 108 lb uplift at joint 8.
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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894737
P240931-01	VA4	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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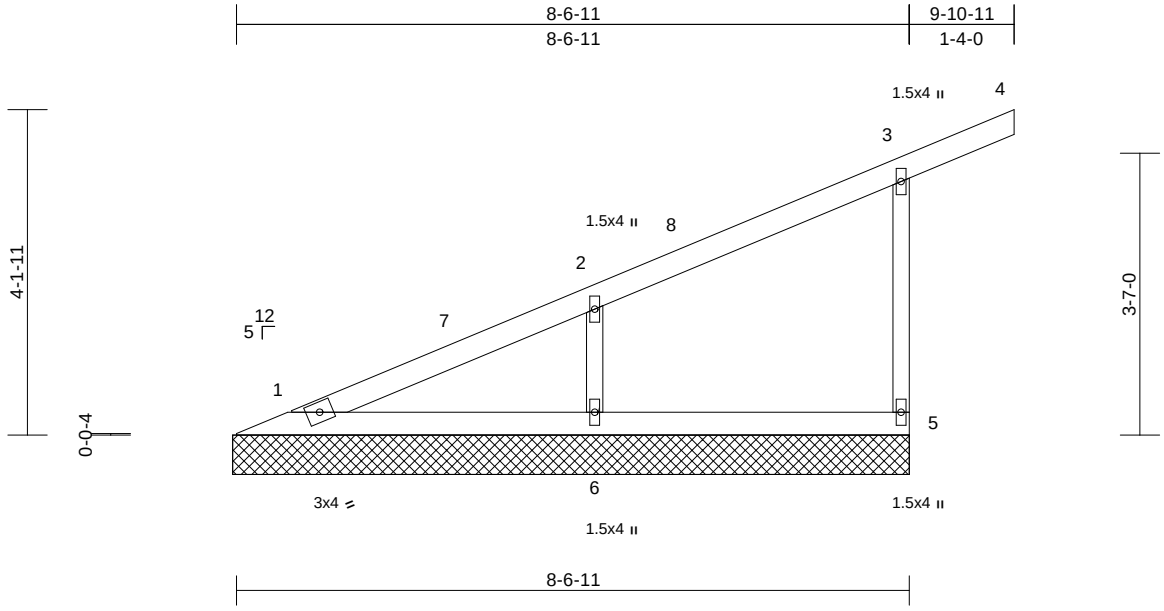

Scale = 1:29.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.07	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 31 lb	FT = 20%

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

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

REACTIONS (size) 1=8-7-4, 5=8-7-4, 6=8-7-4
Max Horiz 1=177 (LC 9)
Max Uplift 5=-95 (LC 9), 6=-119 (LC 12)
Max Grav 1=134 (LC 1), 5=256 (LC 1), 6=408 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-274/135, 2-3=-152/69, 3-4=-39/0, 3-5=-227/220
BOT CHORD 1-6=-67/72, 5-6=-67/72
WEBS 2-6=-311/275

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 9-11-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 95 lb uplift at joint 5 and 119 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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	VA5	Valley	1	1	Job Reference (optional) I67894738

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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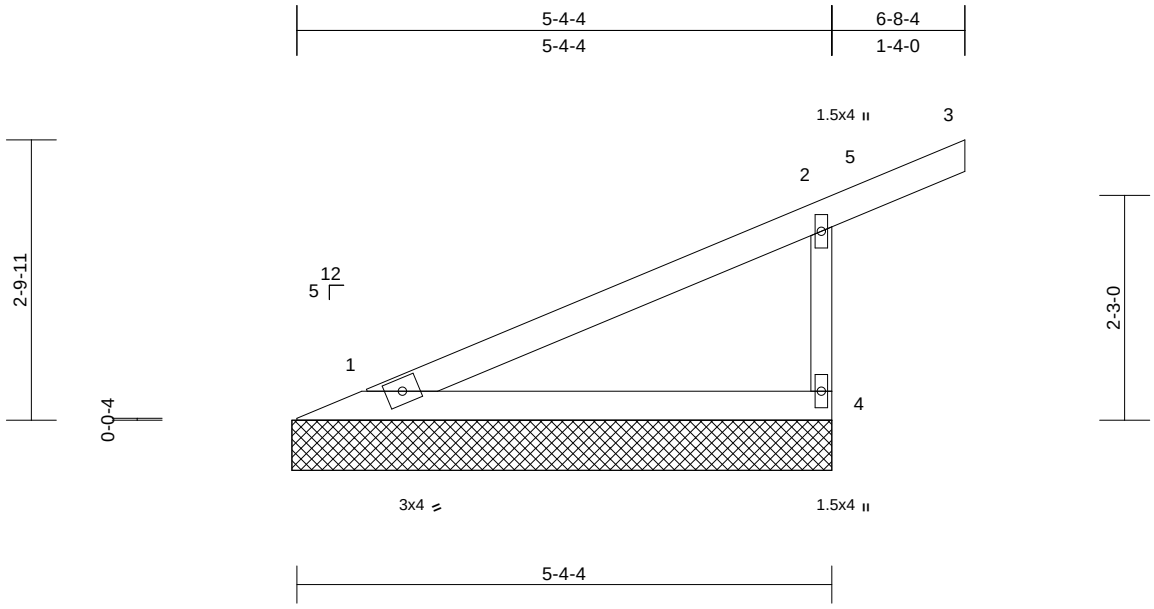

Scale = 1:23.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.44	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-4-14, 4=5-4-14
Max Horiz 1=115 (LC 9)
Max Uplift 1=-19 (LC 12), 4=-107 (LC 12)
Max Grav 1=189 (LC 1), 4=321 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-167/68, 2-3=-39/0, 2-4=-276/300
BOT CHORD 1-4=-39/43

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 6-8-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 1 and 107 lb uplift at joint 4.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	VA6	Valley	1	1	Job Reference (optional) I67894739

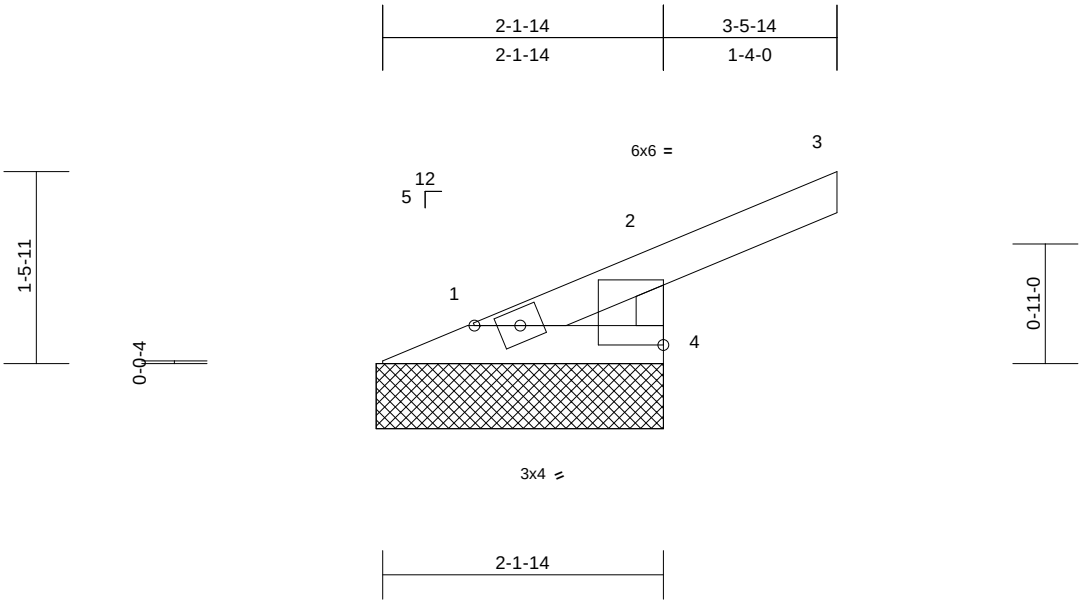

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Plate Offsets (X, Y): [2:Edge,0-1-13]

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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-2-7, 4=2-2-7
Max Horiz 1=54 (LC 9)
Max Uplift 4=-97 (LC 9)
Max Grav 1=47 (LC 16), 4=215 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-101/39, 2-3=-39/0, 2-4=-201/247
BOT CHORD 1-4=-12/13

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 97 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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894740
P240931-01	VA7	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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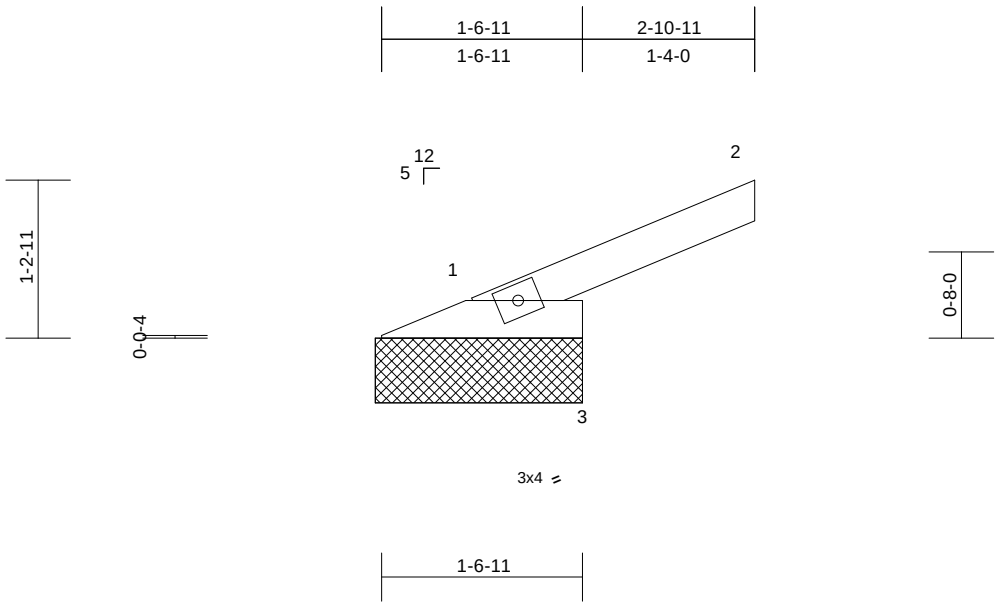

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.44	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 6 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-7-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=1-7-4, 3=1-7-4
Max Horiz 1=42 (LC 8)
Max Uplift 1=-35 (LC 1), 3=-113 (LC 8)
Max Grav 1=49 (LC 8), 3=205 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-59/0
BOT CHORD 1-3=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 35 lb uplift at joint 1 and 113 lb uplift at joint 3.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	VA8	Valley	1	1	Job Reference (optional) I67894741

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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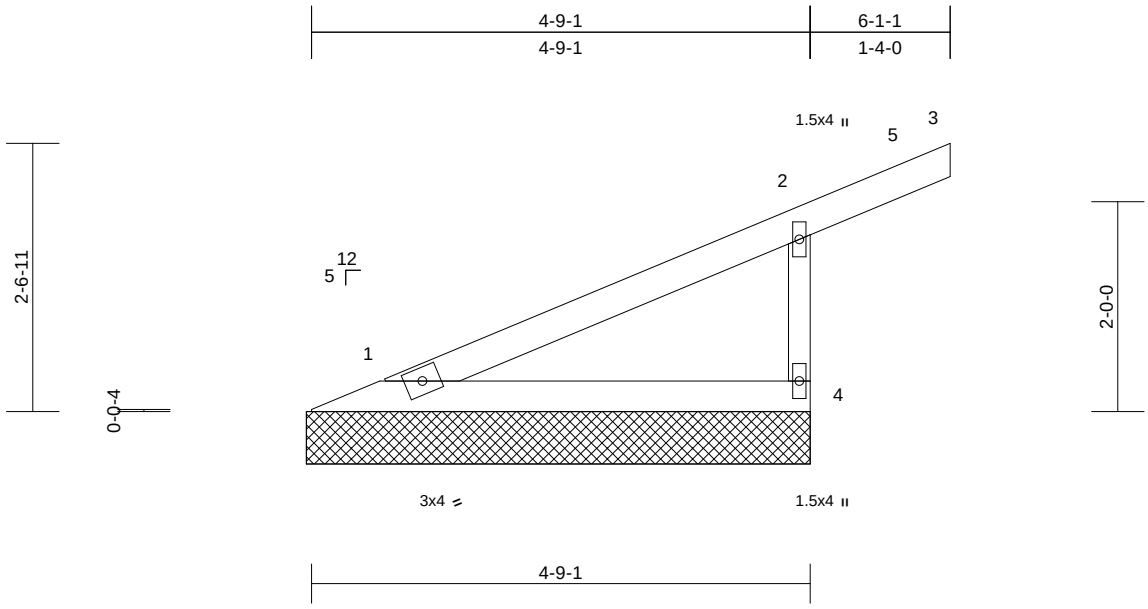

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=4-9-11, 4=4-9-11
Max Horiz 1=103 (LC 9)
Max Uplift 1=-13 (LC 12), 4=-101 (LC 12)
Max Grav 1=159 (LC 1), 4=297 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-154/60, 2-3=-39/0, 2-4=-257/282
BOT CHORD 1-4=-34/37

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 6-1-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1 and 101 lb uplift at joint 4.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/30/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894742
P240931-01	VA9	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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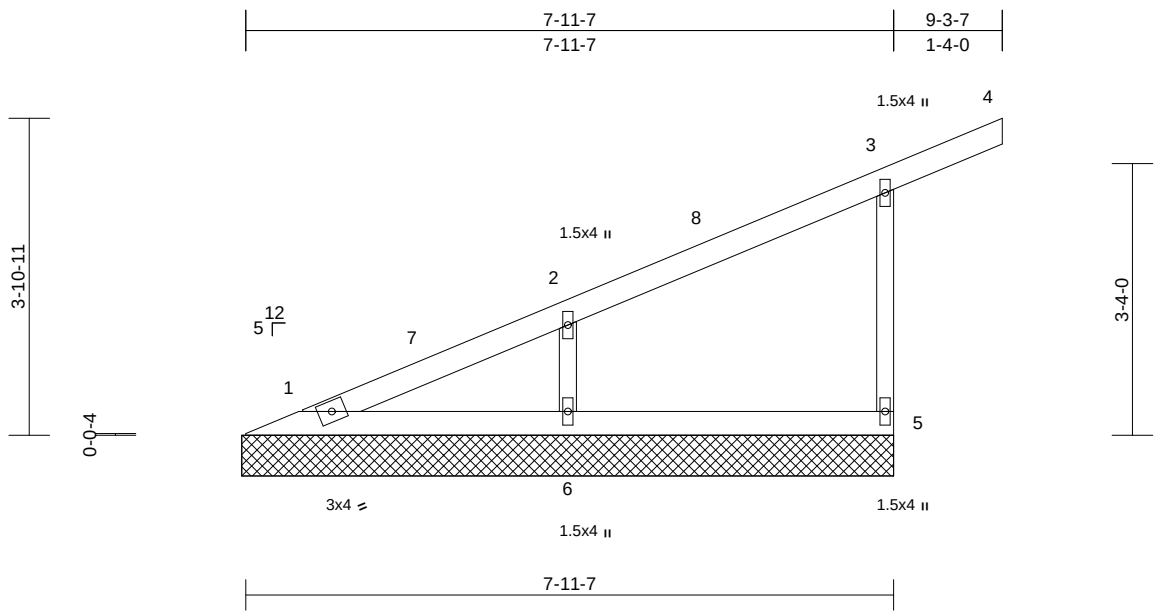

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.07	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 29 lb	FT = 20%

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

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

REACTIONS (size) 1=8-0-1, 5=8-0-1, 6=8-0-1
Max Horiz 1=166 (LC 9)
Max Uplift 5=-95 (LC 9), 6=-109 (LC 12)
Max Grav 1=108 (LC 20), 5=262 (LC 1), 6=375 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-268/127, 2-3=-152/66, 3-4=-39/0, 3-5=-231/228
BOT CHORD 1-6=-62/67, 5-6=-62/67
WEBS 2-6=-285/266

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 9-4-1 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 95 lb uplift at joint 5 and 109 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

August 30,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	VA10	Valley	1	1	Job Reference (optional) I67894743

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Thu Aug 29 11:18:23 Page: 1
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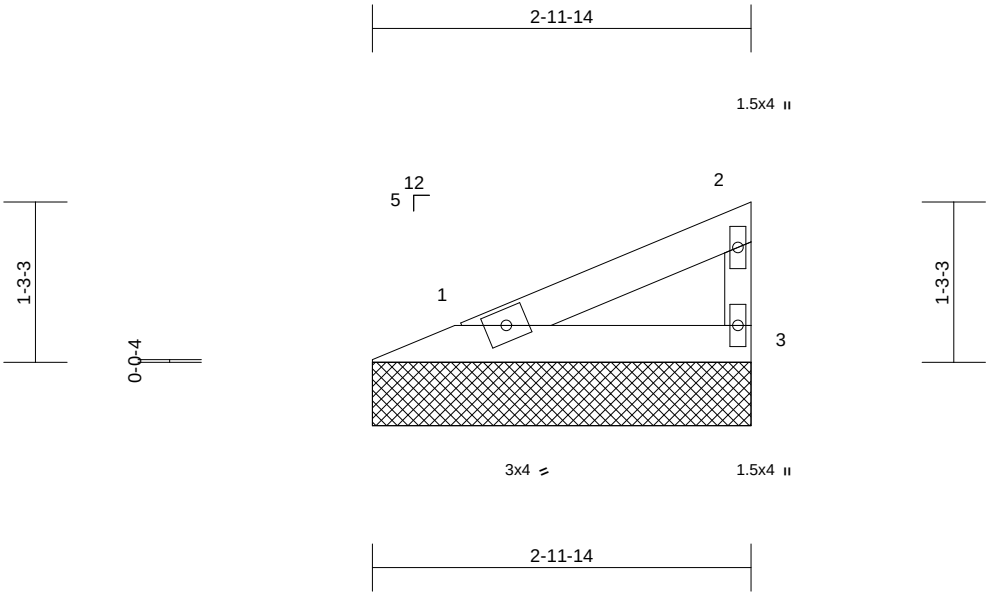

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 9 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-0-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-11-14, 3=2-11-14
Max Horiz 1=43 (LC 9)
Max Uplift 1=-17 (LC 12), 3=-26 (LC 12)
Max Grav 1=98 (LC 1), 3=98 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-56/38, 2-3=-76/90
BOT CHORD 1-3=-19/21

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 1 and 26 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

August 30,2024

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Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894744
P240931-01	VA11	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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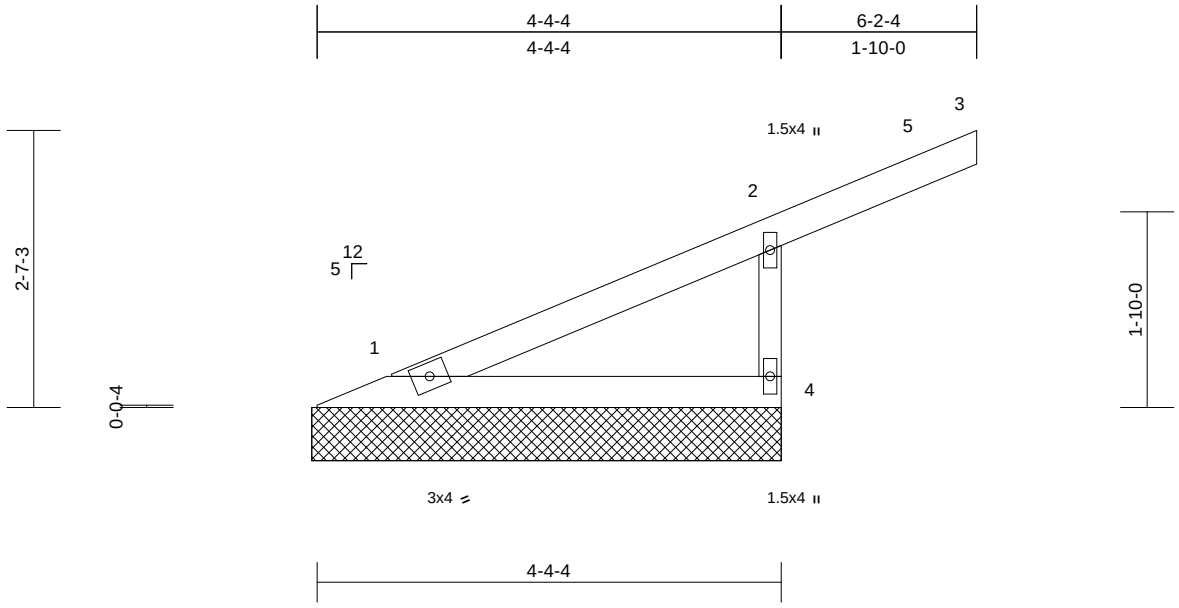

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-4-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=4-4-14, 4=4-4-14
Max Horiz 1=105 (LC 9)
Max Uplift 4=-120 (LC 12)
Max Grav 1=123 (LC 1), 4=332 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-167/62, 2-3=-52/0, 2-4=-297/329
BOT CHORD 1-4=-31/33

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 6-2-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 120 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

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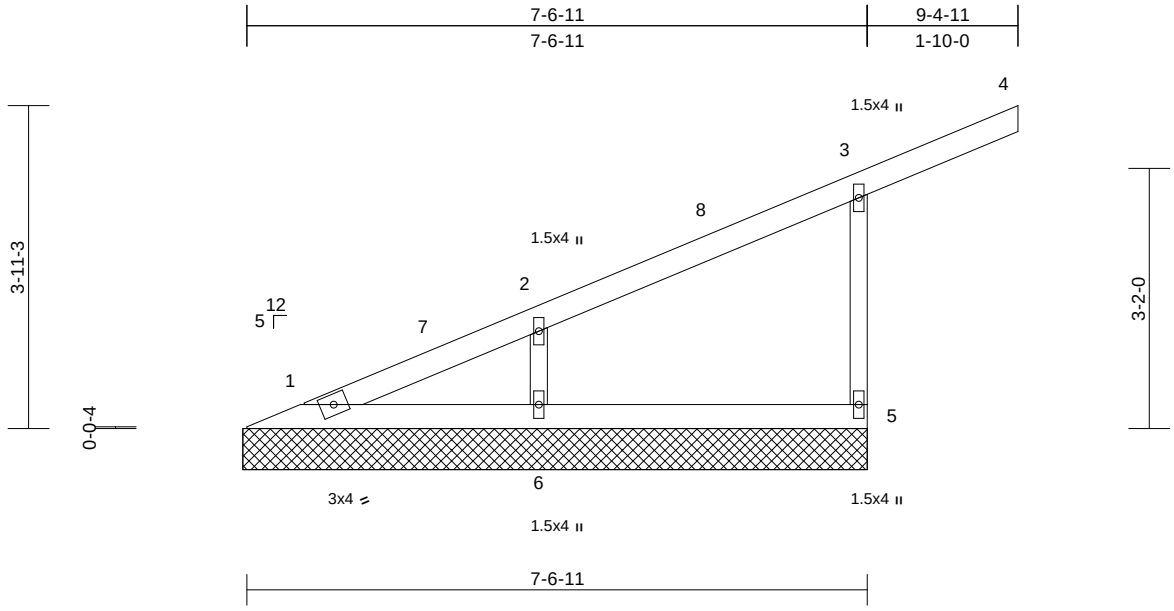
Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186
P240931-01	VA12	Valley	1	1	Job Reference (optional) I67894745



Scale = 1:28.1

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	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 28 lb	FT = 20%

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

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

REACTIONS (size) 1=7-7-4, 5=7-7-4, 6=7-7-4
Max Horiz 1=167 (LC 9)
Max Uplift 5=-125 (LC 9), 6=-92 (LC 12)
Max Grav 1=97 (LC 20), 5=319 (LC 1), 6=330 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-274/118, 2-3=-172/59, 3-4=-52/0, 3-5=-288/281
BOT CHORD 1-6=-58/63, 5-6=-58/63
WEBS 2-6=-244/233

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 9-5-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 125 lb uplift at joint 5 and 92 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

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Job	Truss	Truss Type	Qty	Ply	Roof - HT Lot 186	I67894746
P240931-01	VA13	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

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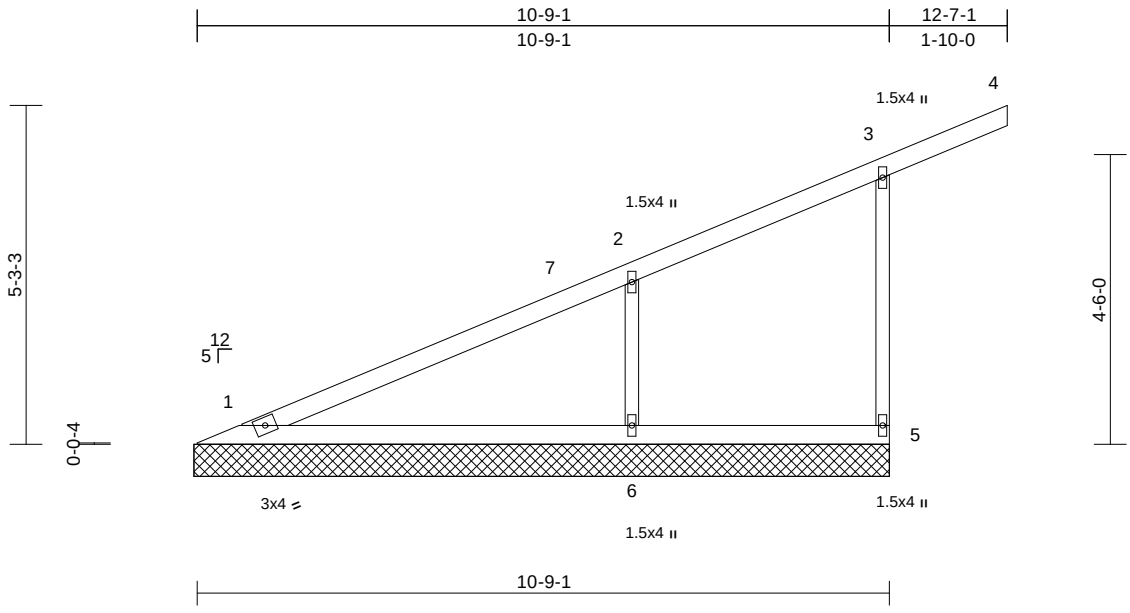

Scale = 1:35.8

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	0.63	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.09	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 40 lb	FT = 20%

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

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

REACTIONS (size) 1=10-9-11, 5=10-9-11, 6=10-9-11
Max Horiz 1=229 (LC 9)
Max Uplift 5=-120 (LC 9), 6=-158 (LC 12)
Max Grav 1=221 (LC 1), 5=265 (LC 1), 6=545 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-308/161, 2-3=-171/72, 3-4=-52/0, 3-5=-250/224
BOT CHORD 1-6=-87/98, 5-6=-87/98
WEBS 2-6=-399/282

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 12-7-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 120 lb uplift at joint 5 and 158 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

August 30,2024

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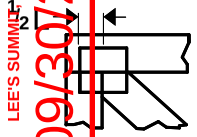
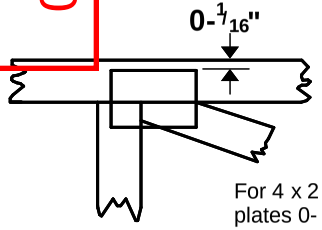
Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



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

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

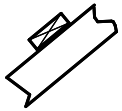
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

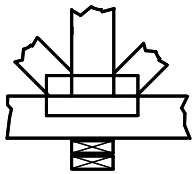
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

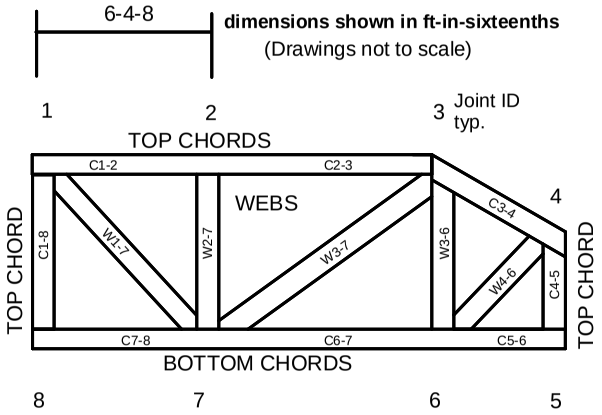


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & 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-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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®

MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

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.