MiTek®

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

RE: P241025-01 - Roof - HM Lot 180

Site Information:

Project Customer: Clayton Properties Project Name: Basswood - Farmhouse 3Car
Lot/Block: 180 Subdivision: Highland Meadows
Model:
Address: 1102 SW Fiord Dr
City: Lee's Summit State: MO

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

Design Code: IRC2018/TPI2014
Wind Code: ASCE 7-16
Wind Speed: 115 mph
Roof Load: 45.0 psf
Mean Roof Height (feet): 35

Design Program: MiTek 20/20 8.6
Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16
Floor Load: N/A psf

Exposure Category: C

No.	Seal#	Truss Name	Date
1	I68681679	A1	10/7/24
2	I68681680	A2	10/7/24
3	I68681681	A3	10/7/24
4	I68681682	B1	10/7/24
5	I68681683	B2	10/7/24
6	I68681684	B3	10/7/24
7	I68681685	C1	10/7/24
8	I68681686	C2	10/7/24
9	I68681687	C3	10/7/24
10	I68681688	D1	10/7/24
11	I68681689	D2	10/7/24
12	I68681690	D3	10/7/24
13	I68681691	E1	10/7/24
14	I68681692	E2	10/7/24
15	I68681693	E3	10/7/24
16	I68681694	E4	10/7/24
17	I68681695	E5	10/7/24
18	I68681696	R1	10/7/24
19	I68681697	V1	10/7/24
20	I68681698	V2	10/7/24
21	I68681699	V3	10/7/24
22	I68681700	V4	10/7/24
23	I68681701	V5	10/7/24
24	I68681702	V6	10/7/24
25	I68681703	V7	10/7/24
26	I68681704	V8	10/7/24

The truss drawing(s) referenced above have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Premier Building Supply (Springhill, KS)20300 W 207th Street.

Truss Design Engineer's Name: Sevier, Scott
My license renewal date for the state of Missouri is December 31, 2025.

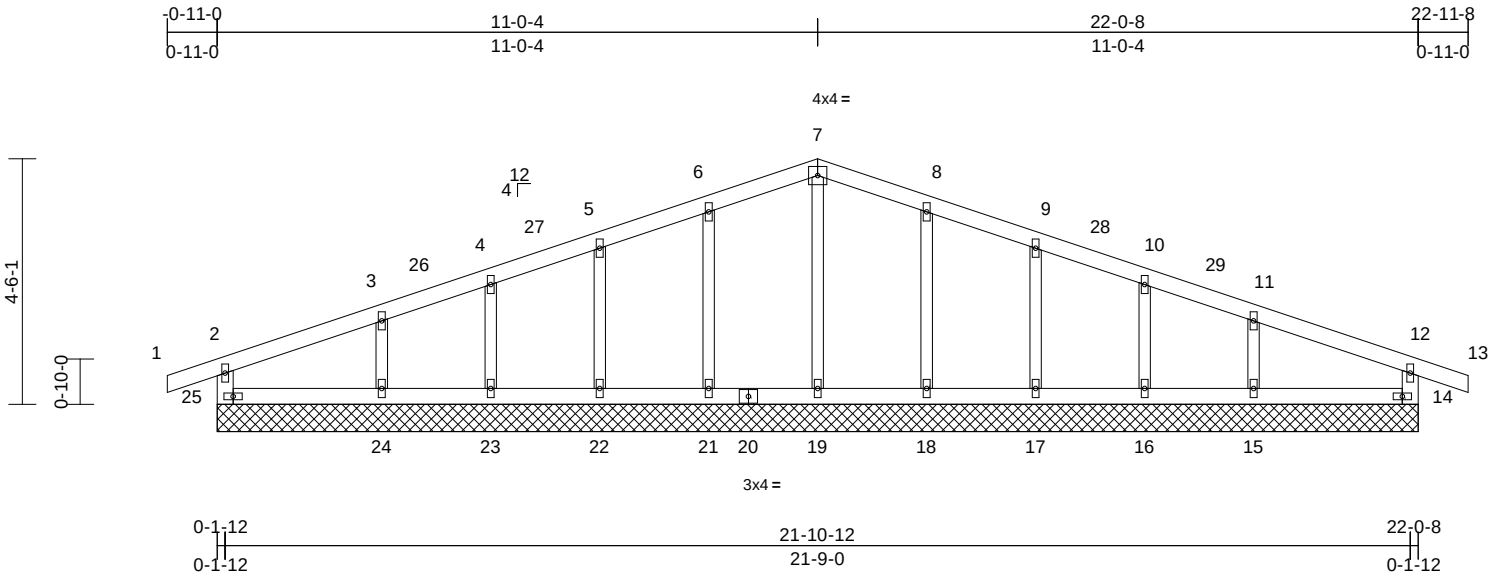
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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

October 7,2024
Sevier, Scott

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681679
P241025-01	A1	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:50 Page: 1
ID:NyJzGF_AVBEWjEq853nDjfzfLAh-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7S4zJC?f



Scale = 1:42.3

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	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-R								
BCDL	10.0										Weight: 89 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 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 6-0-0 oc bracing.

REACTIONS (size) 14=22-0-8, 15=22-0-8, 16=22-0-8, 17=22-0-8, 18=22-0-8, 19=22-0-8, 21=22-0-8, 22=22-0-8, 23=22-0-8, 24=22-0-8, 25=22-0-8
Max Horiz 25=-54 (LC 17)
Max Uplift 14=-71 (LC 13), 15=-77 (LC 17), 16=-42 (LC 13), 17=-51 (LC 17), 18=-51 (LC 17), 21=-51 (LC 16), 22=-52 (LC 16), 23=-41 (LC 12), 24=-81 (LC 16), 25=-66 (LC 12)
Max Grav 14=211 (LC 1), 15=241 (LC 24), 16=226 (LC 24), 17=249 (LC 24), 18=260 (LC 24), 19=154 (LC 23), 21=260 (LC 23), 22=249 (LC 23), 23=226 (LC 23), 24=241 (LC 23), 25=211 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-25=-185/131, 1-2=0/40, 2-3=-70/57, 3-4=-51/94, 4-5=-60/128, 5-6=-72/164, 6-7=-85/200, 7-8=-85/194, 8-9=-73/150, 9-10=-60/114, 10-11=-51/80, 11-12=-62/45, 12-13=0/40, 12-14=-185/125
BOT CHORD 24-25=-31/59, 23-24=-31/59, 22-23=-31/59, 21-22=-31/59, 19-21=-31/59, 18-19=-31/59, 17-18=-31/59, 16-17=-31/59, 15-16=-31/59, 14-15=-31/59
WEBS 7-19=-114/0, 6-21=-221/134, 5-22=-207/129, 4-23=-192/83, 3-24=-185/126, 8-18=-221/134, 9-17=-207/129, 10-16=-192/82, 11-15=-185/123

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) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 11-0-4, Corner(3R) 11-0-4 to 16-0-4, Exterior(2N) 16-0-4 to 22-11-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 1.5x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
13) Bearing at joint(s) 25, 14 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 25, 71 lb uplift at joint 14, 51 lb uplift at joint 21, 52 lb uplift at joint 22, 41 lb uplift at joint 23, 81 lb uplift at joint 24, 51 lb uplift at joint 18, 51 lb uplift at joint 17, 42 lb uplift at joint 16 and 77 lb uplift at joint 15.
15) 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

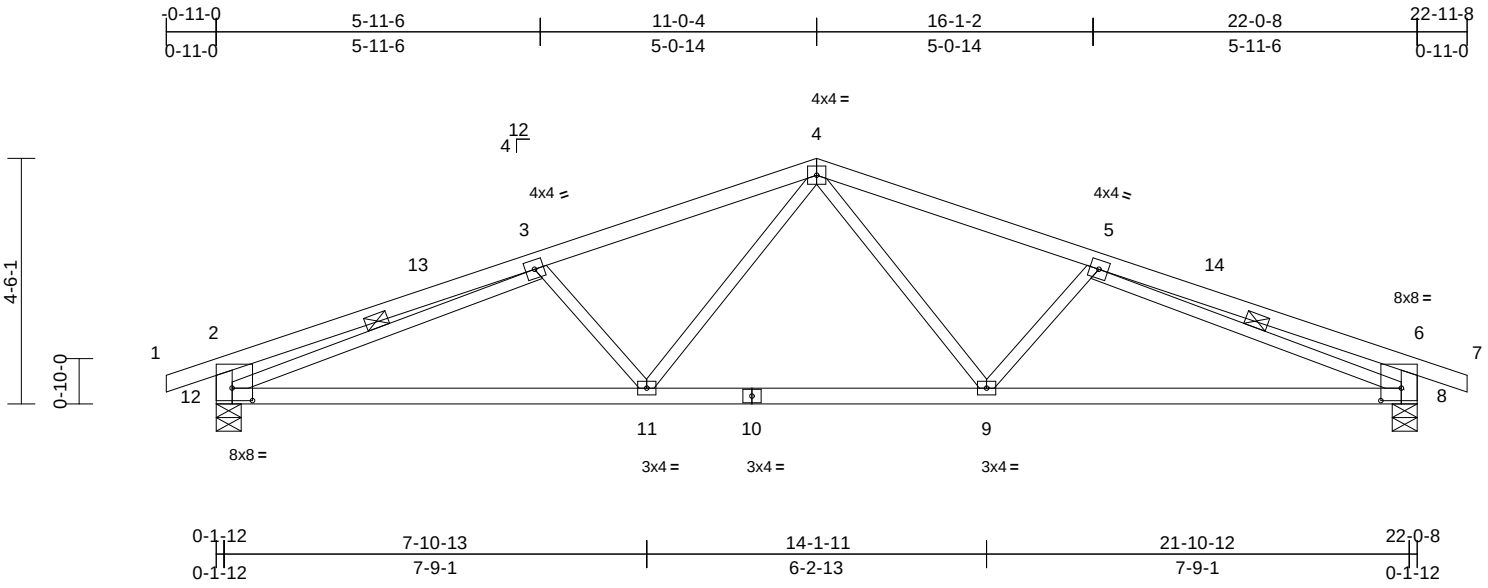
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681680
P241025-01	A2	Common	4	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:r9tMTb?oGUMNLOPKfnISGtzfLAg-RfC?PsB70Hq3NSgPqnL8w3uITXbGHWrCDoi754zJC?



Scale = 1:42.3

Plate Offsets (X, Y): [6:0-4-8,0-2-12], [12:0-4-8,0-2-12]

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	0.57	Vert(LL)	-0.11	11-12	>999	240	MT20	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.23	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.06	8	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 94 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 12-2,8-6:2x4 SP No.2

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

REACTIONS (size) 8=0-5-8, 12=0-5-8
Max Horiz 12=-54 (LC 21)
Max Uplift 8=-220 (LC 13), 12=-220 (LC 12)
Max Grav 8=1116 (LC 24), 12=1116 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/40, 2-3=-582/210, 3-4=-1747/469, 4-5=-1747/469, 5-6=-582/211, 6-7=0/40, 2-12=-450/274, 6-8=-450/274
BOT CHORD 11-12=-427/1833, 9-11=-243/1270, 8-9=-400/1833
WEBS 4-9=-87/565, 5-9=-413/206, 4-11=-87/565, 3-11=-413/206, 3-12=-1466/367, 5-8=-1466/367

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) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 11-0-4, Exterior(2R) 11-0-4 to 16-2-6, Interior (1) 16-2-6 to 22-11-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Bearing at joint(s) 12, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 220 lb uplift at joint 12 and 220 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

October 7,2024

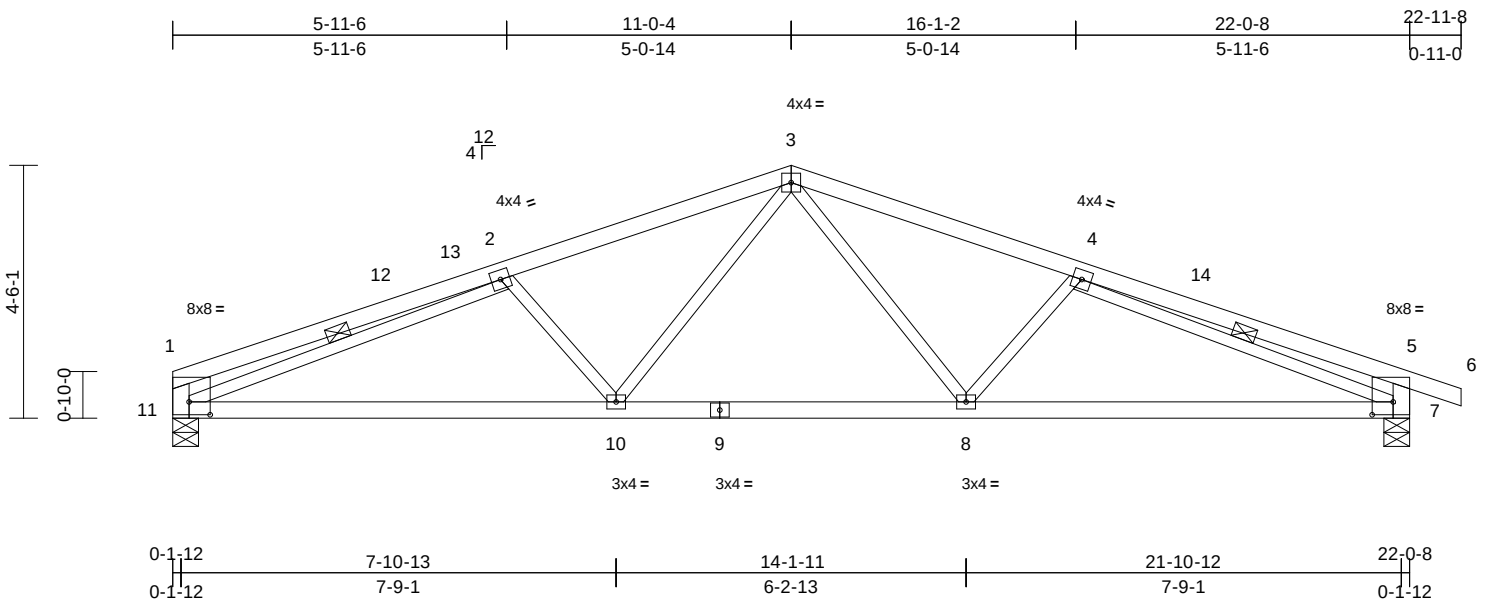
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681681
P241025-01	A3	Common	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:r9tMTb?oGUMNLOPKfnISGtzfLAg-RfC?PsB70Hq3NSgPqnL8w3uITXbGHWrCDoi754zJC?



Scale = 1:41.1

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

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	0.58	Vert(LL)	-0.11	7-8	>999	240	MT20	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.23	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.06	7	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 93 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 11-1,7-5:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-5-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-9-6 oc bracing.
WEBS 1 Row at midpt 2-11, 4-7

REACTIONS (size) 7=0-5-8, 11=0-5-8
Max Horiz 11=-60 (LC 17)
Max Uplift 7=-221 (LC 13), 11=-171 (LC 12)
Max Grav 7=1117 (LC 24), 11=1040 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-480/168, 2-3=-1761/502, 3-4=-1749/485, 4-5=-582/210, 5-6=0/40, 1-11=-324/175, 5-7=-450/273
BOT CHORD 10-11=-432/1855, 8-10=-244/1274, 7-8=-415/1836
WEBS 3-8=-87/565, 4-8=-414/206, 3-10=-94/578, 2-10=-429/213, 2-11=-1589/420, 4-7=-1469/382

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) 0-1-12 to 5-1-12, Interior (1) 5-1-12 to 11-0-4, Exterior(2R) 11-0-4 to 16-2-6, Interior (1) 16-2-6 to 22-11-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Bearing at joint(s) 11, 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 171 lb uplift at joint 11 and 221 lb uplift at joint 7.
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

October 7,2024

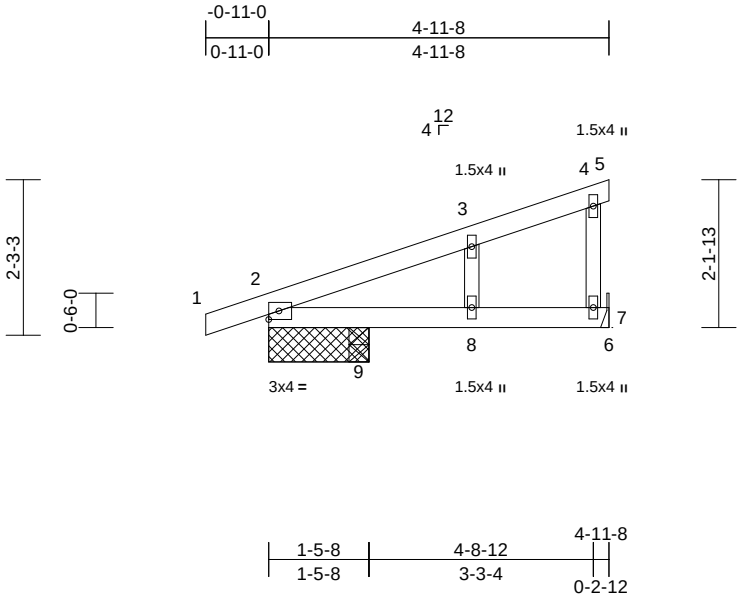
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	B1	Monopitch Supported Gable	1	1	Job Reference (optional) I68681682

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

Run: 8.63 E Aug 30 2023 Print: 8.630 E Aug 30 2023 MiTek Industries, Inc. Mon Oct 07 14:21:33 Page: 1
ID:OaSecMxhRSfQIAVWAXas1vylfDC-M4Moi1kZoPfV9dC_O3VNKmdAUBZORNgVsqqymzYVx66



Scale = 1:33.6

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	0.02	7-8	>999	240	MT20	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	-0.03	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	7	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-P								
BCDL	10.0										Weight: 19 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 5-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=1-5-8, 7= Mechanical, 9=0-3-8
Max Horiz 2=84 (LC 12)
Max Uplift 2=-40 (LC 12), 7=-46 (LC 16), 9=-53 (LC 16)
Max Grav 2=171 (LC 23), 7=220 (LC 23), 9=293 (LC 23)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 3-8=-222/268

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) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 4-11-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
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) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 46 lb uplift at joint 7 and 53 lb uplift at joint 9.
10) N/A
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.

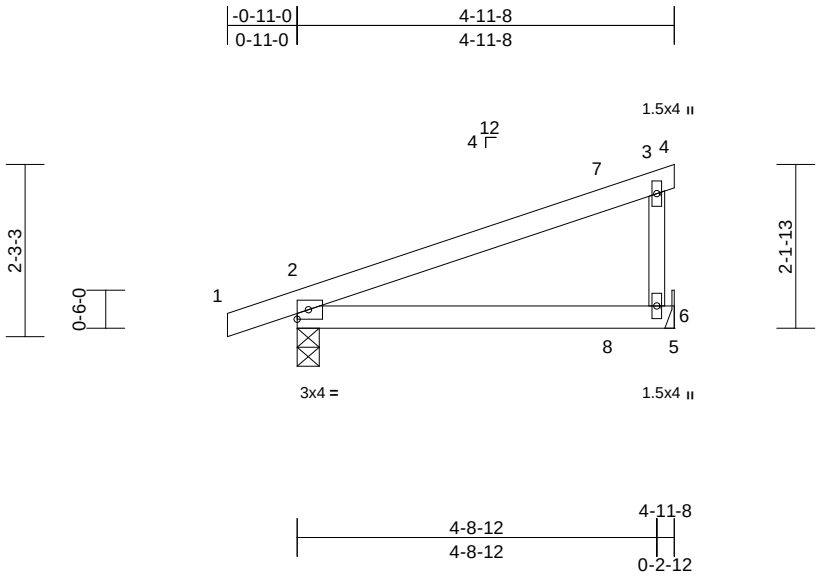
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681683
P241025-01	B2	Monopitch	3	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:O7VVk_L0RvxcNO62AgBqQ4ylfCg-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi?54Z3C?f



Scale = 1:30.3

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	0.62	Vert(LL)	0.10	2-6	>549	240	MT20	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	0.08	2-6	>651	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-P								
BCDL	10.0										Weight: 18 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 5-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6= Mechanical
Max Horiz 2=87 (LC 12)
Max Uplift 2=-131 (LC 12), 6=-106 (LC 12)
Max Grav 2=404 (LC 23), 6=299 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/13, 2-3=-105/64, 3-4=-7/0, 3-6=-248/242
BOT CHORD 2-6=0/0, 5-6=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) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 4-11-8 zone; cantilever left and right exposed ; end vertical left exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: Joint 2 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 106 lb uplift at joint 6.
9) One H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
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

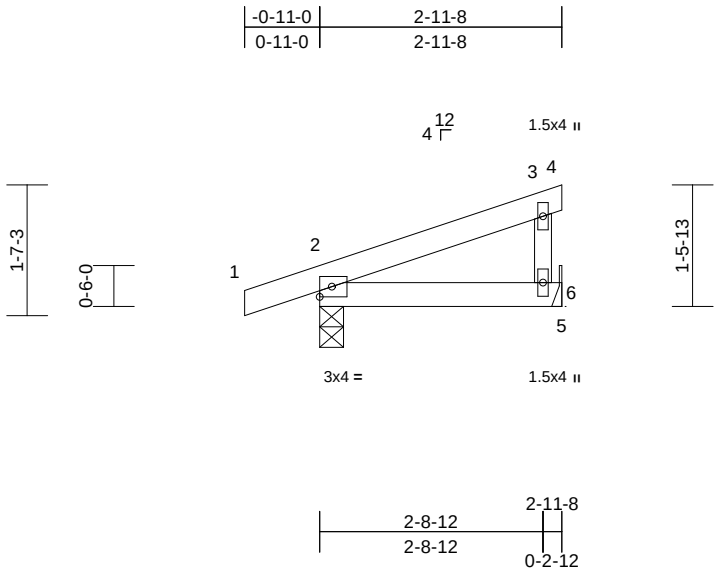
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681684
P241025-01	B3	Monopitch	7	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:OfYMtcmLQLDnSdia9popoFylfC8-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi734zJC?f



Scale = 1:28.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	0.00	2-6	>999	240	MT20	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	-0.01	2-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-P								
BCDL	10.0										Weight: 11 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 3-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6= Mechanical
Max Horiz 2=57 (LC 13)
Max Uplift 2=-78 (LC 12), 6=-30 (LC 16)
Max Grav 2=281 (LC 23), 6=161 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/13, 2-3=-83/47, 3-4=-7/0, 3-6=-131/144
BOT CHORD 2-6=-23/25, 5-6=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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: Joint 2 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 30 lb uplift at joint 6.
9) One H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
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

October 7,2024

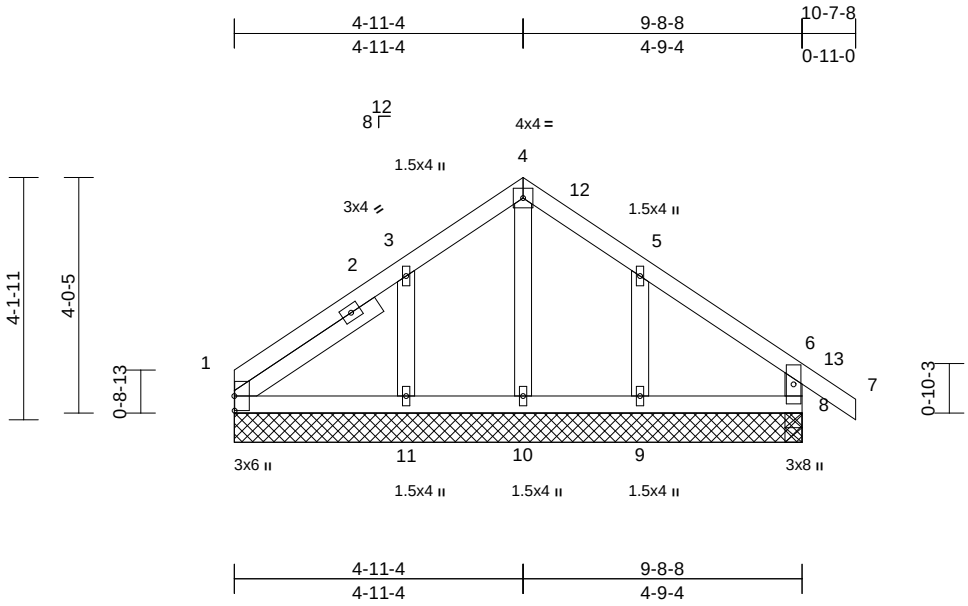
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	C1	Common Structural Gable	1	1	Job Reference (optional) I68681685

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:gfrsVxpQoNOr6dkbbQOWdoylfDM-RfC?PsB70Hq3NSgPqnL8w3uITXbGHWrCDoi7J4zJC?I



Scale = 1:39.4

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

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	0.00	1-11	>999	240	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	0.00	1-11	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 48 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SPF No.3 *Except* 8-6:2x4 SP No.2
OTHERS 2x4 SPF No.3
SLIDER Left 2x4 SP No.2 -- 2-11-3

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=9-8-8, 8=9-8-8, 9=9-8-8, 10=9-8-8, 11=9-8-8
Max Horiz 1=116 (LC 15)
Max Uplift 1=-50 (LC 17), 8=-63 (LC 17), 9=-103 (LC 17), 10=-9 (LC 15), 11=-117 (LC 16)
Max Grav 1=187 (LC 23), 8=284 (LC 24), 9=338 (LC 24), 10=144 (LC 29), 11=382 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-134/109, 3-4=-136/221, 4-5=-137/219, 5-6=-123/98, 6-7=0/69, 6-8=-262/208
BOT CHORD 1-11=-27/56, 10-11=-27/56, 9-10=-27/56, 8-9=-27/56
WEBS 4-10=-150/56, 3-11=-318/265, 5-9=-286/231

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) 0-0-0 to 4-11-4, Corner(3R) 4-11-4 to 9-11-4, Exterior(2N) 9-11-4 to 10-7-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
10) N/A
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

October 7,2024

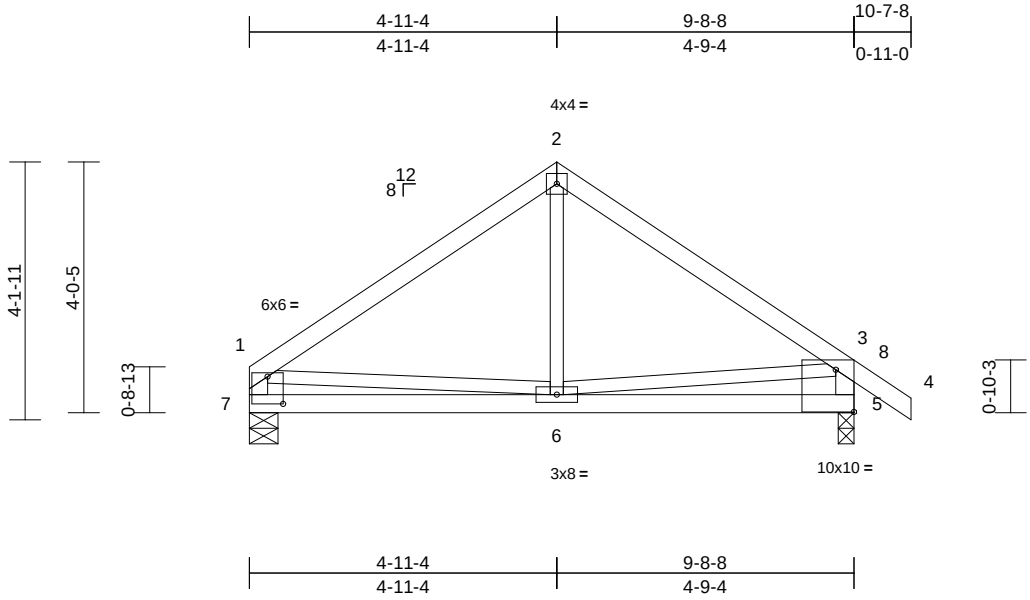
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681686
P241025-01	C2	Common	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:GfKth5P1324Gzx3gv2th0YylfKL-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWCDoi7J4z3C?f



Scale = 1:37

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.60	Vert(LL)	0.03	6-7	>999	240	MT20	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.02	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 45 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 7-1,5-3:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-9-13 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=0-3-0, 7=0-5-8
Max Horiz 7=-114 (LC 12)
Max Uplift 5=-84 (LC 17), 7=-58 (LC 16)
Max Grav 5=638 (LC 24), 7=550 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-550/461, 2-3=-540/469, 3-4=0/71, 1-7=-507/346, 3-5=-597/422
BOT CHORD 6-7=-219/317, 5-6=-195/322
WEBS 2-6=-317/187, 1-6=-74/197, 3-6=-106/244

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) 0-1-12 to 4-11-4, Exterior(2R) 4-11-4 to 9-11-4, Interior (1) 9-11-4 to 10-7-8 zone; cantilever left and right exposed ; end vertical right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) One H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7 and 5. This connection is for uplift only and does not consider lateral forces.
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

October 7,2024

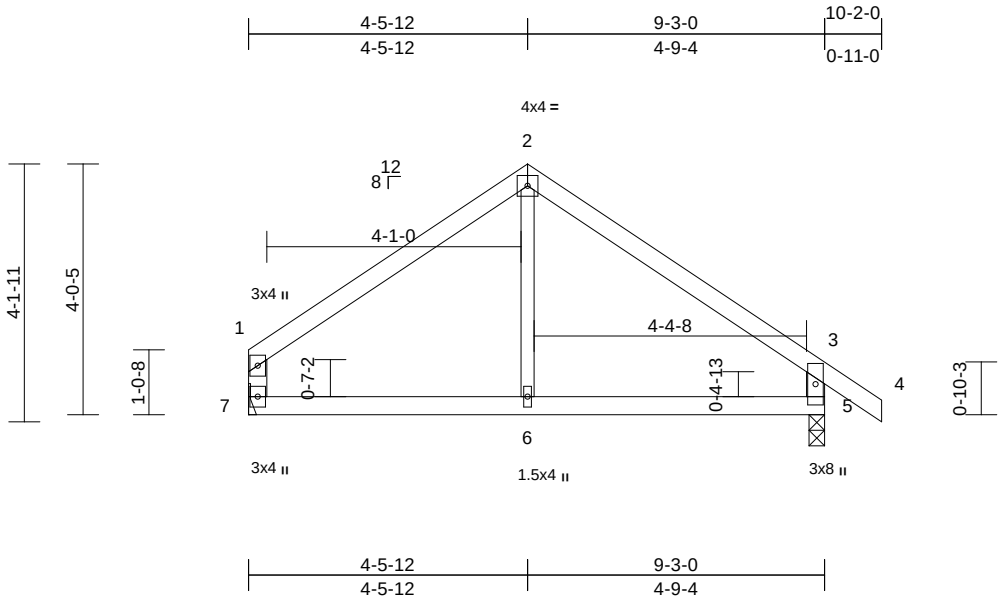
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681687
P241025-01	C3	Common	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:bBOxdUdBwZQGDBlEEzD_0KylfMf-RfC?PsB70Hq3NSgPqnL8w3uITXbCXWrCDoi?3429C?f



Scale = 1:37

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.47	Vert(LL)	0.04	5-6	>999	240	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.04	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-R								
BCDL	10.0										Weight: 37 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 6-2:2x3 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) 5=0-3-0, 7= Mechanical
Max Horiz 7=-113 (LC 12)
Max Uplift 5=-82 (LC 17), 7=-53 (LC 16)
Max Grav 5=597 (LC 24), 7=514 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-475/433, 2-3=-488/427, 3-4=0/71, 1-7=-454/330, 3-5=-549/400
BOT CHORD 6-7=-215/270, 5-6=-215/270
WEBS 2-6=-293/171

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) 0-1-12 to 4-5-12, Exterior(2R) 4-5-12 to 9-5-12, Interior (1) 9-5-12 to 10-2-0 zone; cantilever left and right exposed ; end vertical right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 7.
10) One H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. This connection is for uplift only and does not consider lateral forces.
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

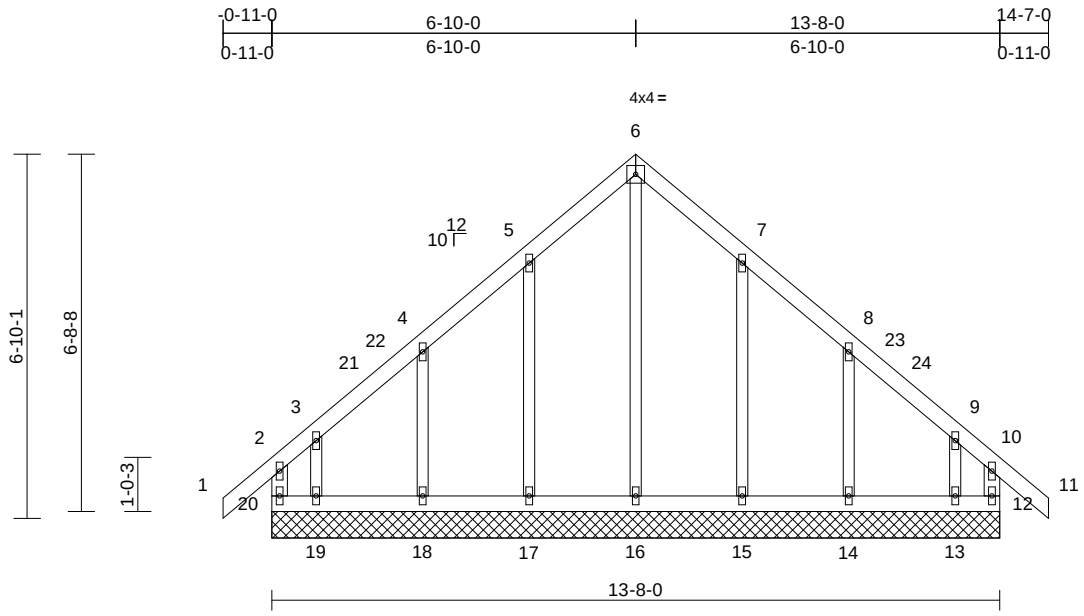
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	D1	Common Structural Gable	1	1	Job Reference (optional) I68681688

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:ZbQgzf7wzm0H2n9hpnXDoOylfRA-RfC?PsB70Hq3NSgPqnL8w3uITXbGCWrCDoi?54z3C?f



Scale = 1:43.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	n/a	-	n/a	999	MT20	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-R								
BCDL	10.0										Weight: 71 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	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 6-0-0 oc bracing.

REACTIONS (size) 12=13-8-0, 13=13-8-0, 14=13-8-0, 15=13-8-0, 16=13-8-0, 17=13-8-0, 18=13-8-0, 19=13-8-0, 20=13-8-0
Max Horiz 20=-213 (LC 14)
Max Uplift 12=-126 (LC 13), 13=-181 (LC 17), 14=-101 (LC 17), 15=-98 (LC 17), 17=-99 (LC 16), 18=-101 (LC 16), 19=-194 (LC 16), 20=-168 (LC 12)
Max Grav 12=203 (LC 30), 13=195 (LC 15), 14=263 (LC 24), 15=306 (LC 24), 16=214 (LC 29), 17=306 (LC 23), 18=263 (LC 23), 19=224 (LC 14), 20=237 (LC 31)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/82, 2-3=-166/151, 3-4=-105/103, 4-5=-88/145, 5-6=-138/229, 6-7=-138/223, 7-8=-83/137, 8-9=-84/83, 9-10=-133/114, 10-11=0/82, 2-20=-184/116, 10-12=-184/87
BOT CHORD	19-20=-100/120, 18-19=-100/120, 17-18=-100/120, 16-17=-100/120, 15-16=-100/120, 14-15=-100/120, 13-14=-100/120, 12-13=-100/120
WEBS	6-16=-210/68, 5-17=-266/134, 4-18=-221/145, 3-19=-134/139, 7-15=-266/134, 8-14=-221/145, 9-13=-132/133

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) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 6-10-0, Exterior(2R) 6-10-0 to 11-10-0, Interior (1) 11-10-0 to 14-7-0 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) 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 1.5x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 168 lb uplift at joint 20, 126 lb uplift at joint 12, 99 lb uplift at joint 17, 101 lb uplift at joint 18, 194 lb uplift at joint 19, 98 lb uplift at joint 15, 101 lb uplift at joint 14 and 181 lb uplift at joint 13.
14) 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

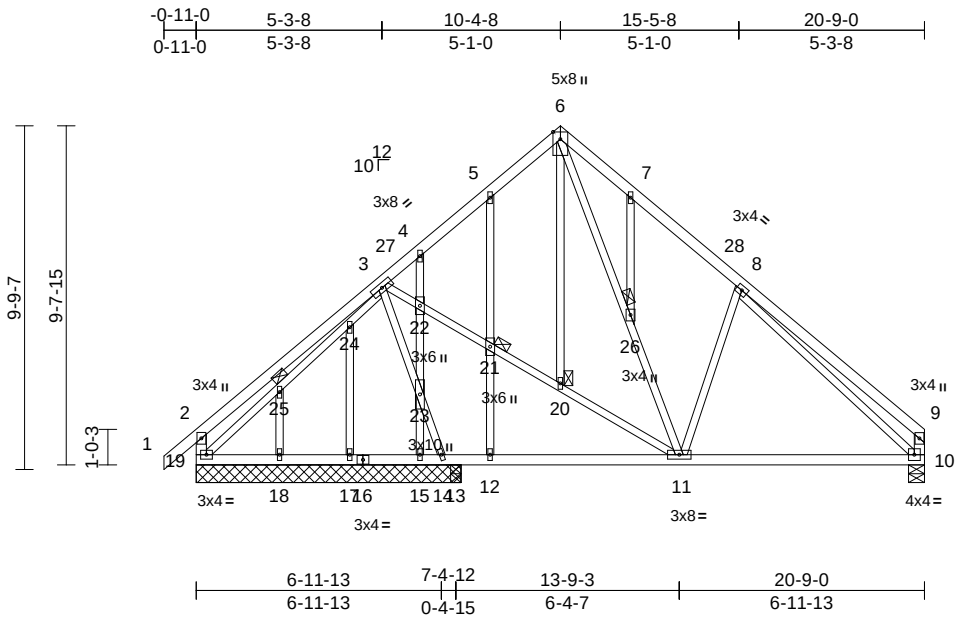
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	D2	Common Structural Gable	1	1	Job Reference (optional) I68681689

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:51 Page: 1
ID:DWJnveVQ7oN6jltbUjayQQylfPO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi?J4zJC?f



Scale = 1:65.6

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	-0.05	10-11	>999	240	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.10	10-11	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.01	10	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 134 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 19-2,10-9:2x4 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 6-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 20, 21, 25, 26

REACTIONS (size) 10=0-5-8, 13=0-3-8, 14=7-6-8, 15=7-6-8, 17=7-6-8, 18=7-6-8, 19=7-6-8
Max Horiz 19=278 (LC 13)
Max Uplift 10=-97 (LC 17), 13=-176 (LC 16), 14=-283 (LC 23), 17=-8 (LC 12), 19=-101 (LC 17)
Max Grav 10=729 (LC 24), 13=804 (LC 23), 14=172 (LC 24), 15=278 (LC 23), 17=94 (LC 27), 18=89 (LC 7), 19=420 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/79, 2-3=-288/239, 3-4=-463/172, 4-5=-471/185, 5-6=-423/223, 6-7=-578/286, 7-8=-750/249, 8-9=-326/166, 2-19=-364/242, 9-10=-310/161
BOT CHORD 18-19=-134/264, 17-18=-134/264, 15-17=-134/264, 14-15=-134/264, 13-14=-150/156, 12-13=-150/156, 11-12=-150/156, 10-11=-36/551
WEBS 3-23=-471/167, 14-23=-464/166, 3-22=0/383, 21-22=0/389, 20-21=0/388, 11-20=0/389, 6-26=-242/357, 11-26=-212/327, 8-11=-336/279, 19-25=-199/136, 24-25=-200/138, 3-24=-238/161, 8-10=-559/2, 6-20=-4/16, 5-21=-191/108, 12-21=-161/98, 4-22=-145/17, 22-23=-180/23, 15-23=-184/23, 17-24=-56/31, 18-25=-1/5, 7-26=-73/32

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) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 10-4-8, Exterior(2R) 10-4-8 to 15-6-1, Interior (1) 15-6-1 to 20-7-4 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) 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 1.5x4 MT20 unless otherwise indicated.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
12) N/A
13) 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

October 7,2024

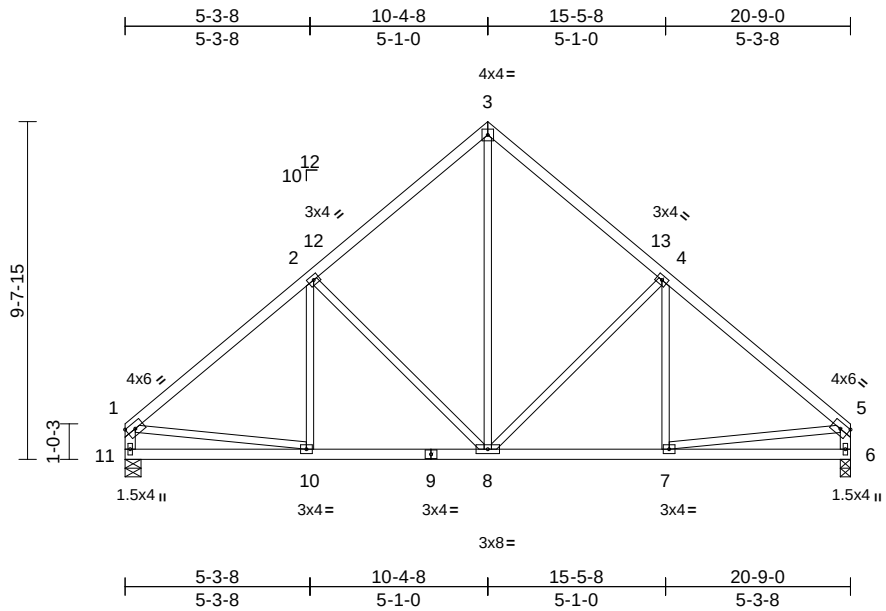
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681690
P241025-01	D3	Common	7	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:52 Page: 1
ID:XO3uKwH4?aKwEaMRkzSC66zd1ip-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoiTJ42JC?f



Scale = 1:65.9

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

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	0.61	Vert(LL)	-0.03	7-8	>999	240	MT20	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	-0.06	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 108 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 11-1,6-5:2x4 SP No.2

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

REACTIONS (size) 6=0-3-8, 11=0-5-8
Max Horiz 11=-271 (LC 12)
Max Uplift 6=-114 (LC 17), 11=-113 (LC 16)
Max Grav 6=976 (LC 23), 11=976 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1145/182, 2-3=-882/253, 3-4=-882/253, 4-5=-1145/182, 1-11=-923/156, 5-6=-923/156
BOT CHORD 10-11=-265/344, 8-10=-155/810, 7-8=-81/810, 6-7=-66/145
WEBS 1-10=-23/695, 5-7=-26/695, 2-8=-406/234, 3-8=-175/547, 4-8=-406/234, 2-10=-7/153, 4-7=-7/153

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) 0-1-12 to 5-3-8, Interior (1) 5-3-8 to 10-4-8, Exterior(2R) 10-4-8 to 15-5-8, Interior (1) 15-5-8 to 20-7-4 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) One H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 11 and 6. This connection is for uplift only and does not consider lateral forces.
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

October 7,2024

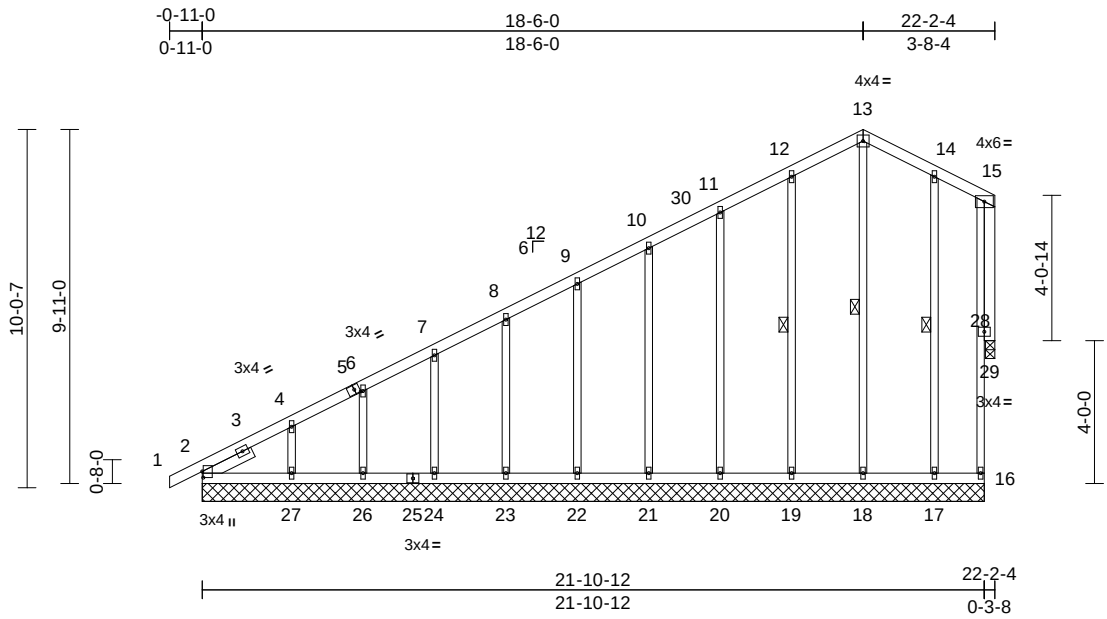
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681691
P241025-01	E1	Roof Special Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:52 Page: 1
ID:gslTprHaUgIgDiJ2ZYuBGkylfYi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?I



Scale = 1:64.5

Plate Offsets (X, Y): [2:0-2-1,0-0-5], [5:0-1-12,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.13	Vert(LL)	0.00	2-27	>999	240	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	2-27	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.01	29	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-R								
BCDL	10.0										Weight: 132 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 *Except* 28-15:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-6-7

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 13-18, 12-19, 14-17

REACTIONS (size) 2=21-10-12, 16=21-10-12, 17=21-10-12, 18=21-10-12, 19=21-10-12, 20=21-10-12, 21=21-10-12, 22=21-10-12, 23=21-10-12, 24=21-10-12, 26=21-10-12, 27=21-10-12, 29=0-3-2
Max Horiz 2=382 (LC 16)
Max Uplift 16=-9 (LC 17), 17=-50 (LC 17), 19=-64 (LC 16), 20=-62 (LC 16), 21=-61 (LC 16), 22=-61 (LC 16), 23=-60 (LC 16), 24=-65 (LC 16), 26=-42 (LC 16), 27=-147 (LC 16), 29=-11 (LC 16)
Max Grav 2=218 (LC 28), 16=43 (LC 24), 17=240 (LC 24), 18=180 (LC 24), 19=261 (LC 23), 20=233 (LC 23), 21=183 (LC 23), 22=180 (LC 36), 23=180 (LC 23), 24=182 (LC 36), 26=171 (LC 1), 27=215 (LC 36), 29=22 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/12, 2-4=-412/153, 4-6=-318/115, 6-7=-278/100, 7-8=-227/80, 8-9=-179/62, 9-10=-130/43, 10-11=-81/44, 11-12=-48/54, 12-13=-52/106, 13-14=-54/94, 14-15=-25/38, 16-28=-32/21, 15-28=-32/21
BOT CHORD 2-27=-1/1, 26-27=-1/1, 24-26=-1/1, 23-24=-1/1, 22-23=-1/1, 21-22=-1/1, 20-21=-1/1, 19-20=-1/1, 18-19=-1/1, 17-18=-1/1, 16-17=-1/1
WEBS 13-18=-139/20, 12-19=-222/96, 11-20=-193/98, 10-21=-143/96, 9-22=-140/97, 8-23=-140/96, 7-24=-141/100, 6-26=-135/97, 4-27=-162/242, 14-17=-206/128, 15-29=-22/20

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) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 18-6-0, Corner(3E) 18-6-0 to 21-9-8 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) 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 1.5x4 MT20 unless otherwise indicated.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
11) Bearing at joint(s) 29 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) N/A
13) 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
October 7,2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcscomponents.com)

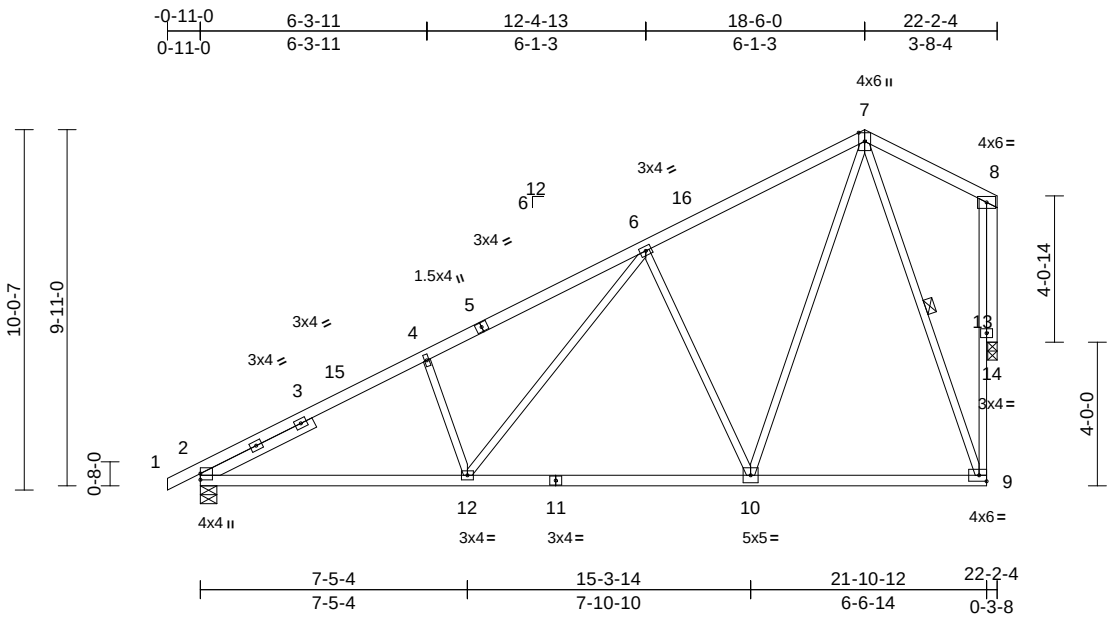
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	E2	Roof Special	8	1	Job Reference (optional) I68681692

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:52 Page: 1
ID:g2jB6PgaV0svctvF4KTDi_ylfZV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWCDoi7J4z3C?I



Scale = 1:64.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.73	Vert(LL)	-0.07	10-12	>999	240	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.17	10-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.23	14	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 120 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
OTHERS 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 3-5-15

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-3-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-6-13 oc bracing.
WEBS 1 Row at midpt 7-9

REACTIONS (size) 2=0-5-8, 14=0-3-2
Max Horiz 2=382 (LC 16)
Max Uplift 2=-160 (LC 16), 14=-229 (LC 16)
Max Grav 2=1091 (LC 23), 14=978 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/12, 2-4=-1651/207, 4-6=-1505/273, 6-7=-826/183, 7-8=-91/56, 9-13=-219/955, 8-13=-219/955
BOT CHORD 2-12=-468/1373, 10-12=-288/922, 9-10=-93/340
WEBS 4-12=-333/241, 6-12=-169/602, 6-10=-752/326, 7-10=-211/878, 7-9=-947/261, 8-14=-980/263

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) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 18-6-0, Exterior(2E) 18-6-0 to 21-9-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Bearing at joint(s) 14 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) One H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 14. This connection is for uplift only and does not consider lateral forces.
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

October 7,2024

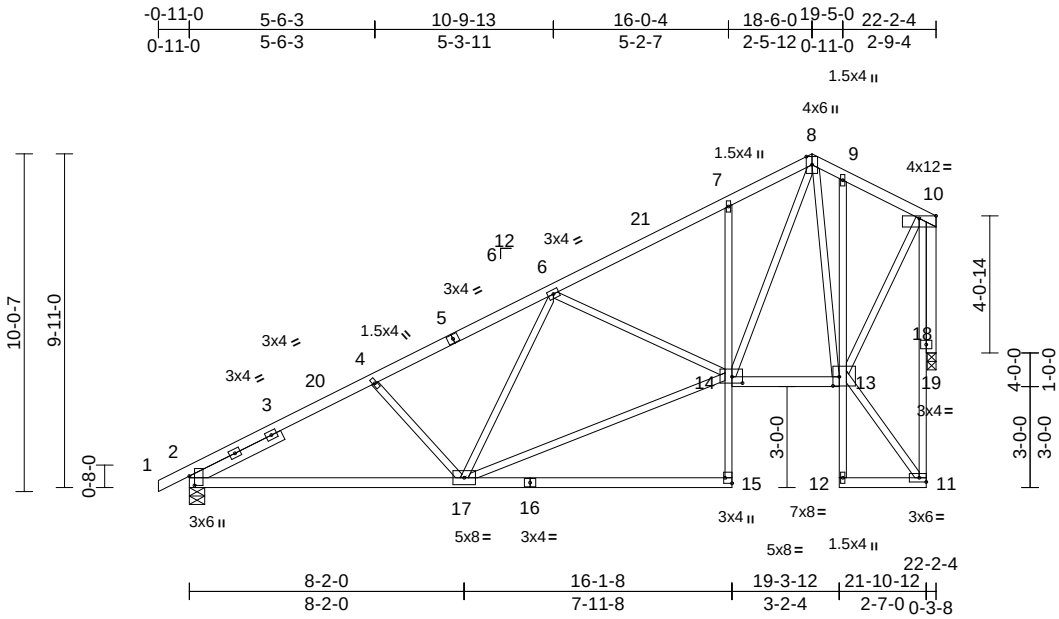
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	E3	Roof Special	2	1	Job Reference (optional)

I68681693

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:52 Page: 1
ID:HXyS?ajf9Rc8qbAhrG?Jw7ylfVZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J423C?f



Scale = 1:68.5

Plate Offsets (X, Y): [2:0-3-5,0-1-13], [13:0-2-4,0-3-4], [14:0-3-12,0-2-4], [15: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	0.43	Vert(LL)	-0.11	15-17	>999	240	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.25	15-17	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.91	Horz(CT)	0.26	19	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 139 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 15-7,9-12:2x3 SPF No.2
WEBS 2x3 SPF No.2
OTHERS 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 3-0-10

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 19=0-3-2
Max Horiz 2=306 (LC 13)
Max Uplift 2=-167 (LC 16), 19=-222 (LC 16)
Max Grav 2=1091 (LC 23), 19=978 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/12, 2-4=-1667/245, 4-6=-1434/226, 6-7=-1112/272, 7-8=-1091/369, 8-9=-479/221, 9-10=-450/155, 11-18=-100/116, 10-18=-100/116
BOT CHORD 2-17=-529/1392, 15-17=0/25, 14-15=0/131, 7-14=-398/192, 13-14=-247/481, 12-13=-22/48, 9-13=-269/138, 11-12=-5/1
WEBS 4-17=-278/211, 6-17=-92/168, 14-17=-512/1319, 6-14=-413/196, 11-13=-148/191, 10-13=-335/865, 8-14=-386/1213, 8-13=-545/174, 10-19=-980/271

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) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 18-6-0, Exterior(2E) 18-6-0 to 21-9-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Bearing at joint(s) 19 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) One H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 19. This connection is for uplift only and does not consider lateral forces.
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

October 7,2024

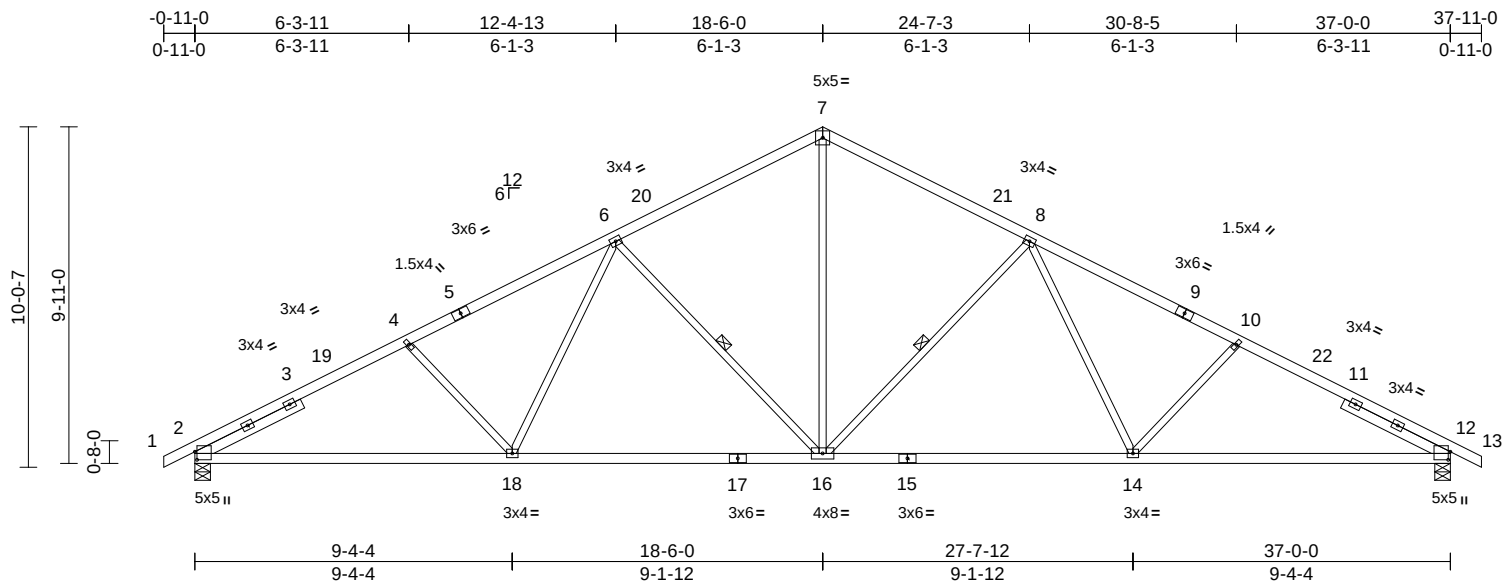
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/21/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681694
P241025-01	E4	Common	7	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:52 Page: 1
ID:8Oa_xmr2iWnAyeeW9D9b2FylfSp-RfC?PsB70Hq3NSgPqnL8w3uITXbGHWrCDoi754zJC?



Scale = 1:67.9

Plate Offsets (X, Y): [2:0-2-13,0-0-12], [12:0-2-13,0-0-12]

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	0.90	Vert(LL)	-0.19	2-18	>999	240	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.42	2-18	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.65	Horz(CT)	0.14	12	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 171 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-5-15, Right 2x4 SP No.2 -- 3-5-15

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 8-16, 6-16

REACTIONS (size) 2=0-5-8, 12=0-5-8
Max Horiz 2=183 (LC 16)
Max Uplift 2=-276 (LC 16), 12=-276 (LC 17)
Max Grav 2=1729 (LC 1), 12=1729 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/12, 2-4=-2919/471, 4-6=-2659/458, 6-7=-1924/432, 7-8=-1924/432, 8-10=-2659/458, 10-12=-2918/471, 12-13=0/12
BOT CHORD 2-18=-488/2482, 16-18=-309/2122, 14-16=-210/2122, 12-14=-315/2482
WEBS 7-16=-200/1249, 8-16=-864/303, 8-14=-58/461, 10-14=-294/230, 6-16=-864/303, 6-18=-57/461, 4-18=-294/230

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) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 18-6-0, Exterior(2R) 18-6-0 to 23-6-0, Interior (1) 23-6-0 to 37-11-0 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) All plates are 3x4 MT20 unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) One H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 12. This connection is for uplift only and does not consider lateral forces.
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

October 7,2024

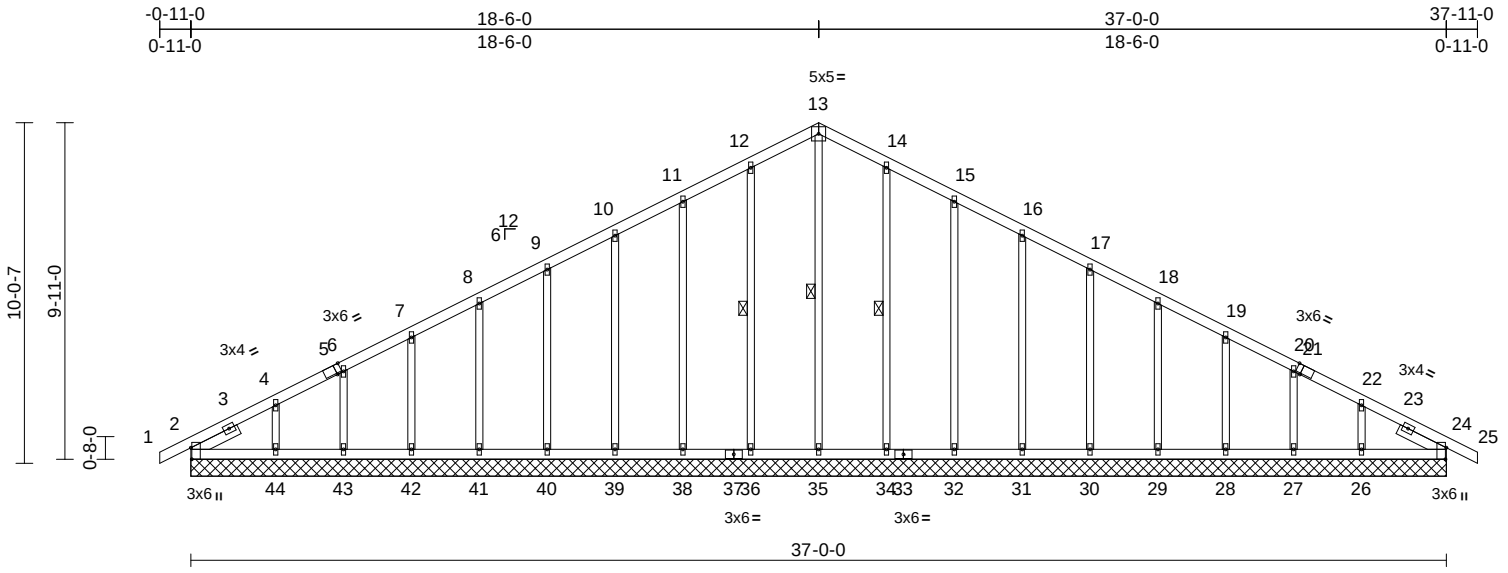
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	E5	Common Supported Gable	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I68681695
10/21/2024

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:52 Page: 1
ID:WUXtsnQTcg5xShQlN2gNrTylfdh-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKVrCDoi7J4ZJC?f



Scale = 1:67.9

Plate Offsets (X, Y): [2:0-4-1,Edge], [5:0-1-14,Edge], [21:0-1-14,Edge], [24:0-4-1,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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.01	24	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 195 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-6-7, Right 2x4 SP 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.
WEBS 1 Row at midpt 13-35, 12-36, 14-34

REACTIONS (size) 2=37-0-0, 24=37-0-0, 26=37-0-0, 27=37-0-0, 28=37-0-0, 29=37-0-0, 30=37-0-0, 31=37-0-0, 32=37-0-0, 34=37-0-0, 35=37-0-0, 36=37-0-0, 38=37-0-0, 39=37-0-0, 40=37-0-0, 41=37-0-0, 42=37-0-0, 43=37-0-0, 44=37-0-0
Max Horiz 2=183 (LC 16)
Max Uplift 2=-27 (LC 17), 26=-105 (LC 17), 27=-51 (LC 17), 28=-63 (LC 17), 29=-61 (LC 17), 30=-61 (LC 17), 31=-60 (LC 17), 32=-67 (LC 17), 34=-50 (LC 17), 36=-55 (LC 16), 38=-65 (LC 16), 39=-60 (LC 16), 40=-61 (LC 16), 41=-60 (LC 16), 42=-64 (LC 16), 43=-48 (LC 16), 44=-118 (LC 16)
Max Grav 2=188 (LC 1), 24=188 (LC 1), 26=211 (LC 37), 27=172 (LC 1), 28=182 (LC 37), 29=180 (LC 24), 30=180 (LC 37), 31=221 (LC 24), 32=265 (LC 24), 34=274 (LC 24), 35=208 (LC 29), 36=274 (LC 23), 38=265 (LC 23), 39=221 (LC 23), 40=180 (LC 36), 41=180 (LC 23), 42=182 (LC 36), 43=172 (LC 1), 44=211 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/12, 2-4=-243/84, 4-6=-162/90, 6-7=-128/105, 7-8=-102/131, 8-9=-82/159, 9-10=-73/187, 10-11=-91/238, 11-12=-111/295, 12-13=-128/342, 13-14=-128/342, 14-15=-111/295, 15-16=-91/238, 16-17=-73/184, 17-18=-58/130, 18-19=-58/77, 19-20=-73/31, 20-22=-98/22, 22-24=-165/50, 24-25=0/12
BOT CHORD 2-44=-48/194, 43-44=-48/194, 42-43=-48/194, 41-42=-48/194, 40-41=-48/194, 39-40=-48/194, 38-39=-48/194, 36-38=-48/194, 35-36=-48/194, 34-35=-48/194, 32-34=-48/194, 31-32=-48/194, 30-31=-48/194, 29-30=-48/194, 28-29=-48/194, 27-28=-48/194, 26-27=-48/194, 24-26=-48/194
WEBS 13-35=-213/42, 12-36=-234/82, 11-38=-225/104, 10-39=-181/95, 9-40=-140/97, 8-41=-140/96, 7-42=-141/98, 6-43=-136/104, 4-44=-159/207, 14-34=-234/82, 15-32=-225/104, 16-31=-181/95, 17-30=-140/97, 18-29=-140/96, 19-28=-141/98, 20-27=-136/105, 22-26=-159/203

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) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 18-6-0, Corner(3R) 18-6-0 to 23-6-0, Exterior(2N) 23-6-0 to 37-11-0 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) 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.

October 7,2024

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 - HM Lot 180	I68681695
P241025-01	E5	Common Supported Gable	1	1	Job Reference (optional)	

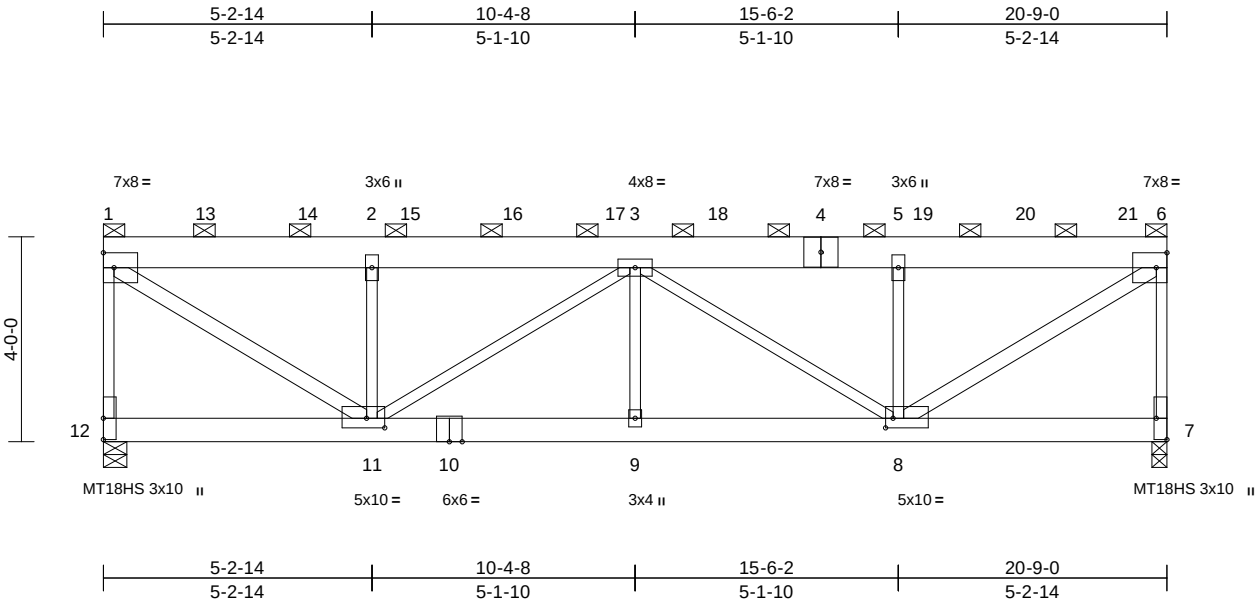
6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 1.5x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 2, 55 lb uplift at joint 36, 65 lb uplift at joint 38, 60 lb uplift at joint 39, 61 lb uplift at joint 40, 60 lb uplift at joint 41, 64 lb uplift at joint 42, 48 lb uplift at joint 43, 118 lb uplift at joint 44, 50 lb uplift at joint 34, 67 lb uplift at joint 32, 60 lb uplift at joint 31, 61 lb uplift at joint 30, 61 lb uplift at joint 29, 63 lb uplift at joint 28, 51 lb uplift at joint 27 and 105 lb uplift at joint 26.
13) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2.
14) 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 - HM Lot 180	I68681696
P241025-01	R1	Flat Girder	1	2	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:53 Page: 1
ID:p1lLYtHBqmZt0HL5osFBZ7ylfON-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:44.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.11	9	>999	240	MT18HS	197/144
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.20	9	>999	180	MT20	197/144
TCDL	10.0	Rep Stress Incr	NO	WB	0.77	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 272 lb	FT = 20%

LUMBER
TOP CHORD 2x8 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 11-1,8-6:2x4 SP 1650F 1.5E

BRACING
TOP CHORD 2-0-0 oc purlins (5-11-3 max.): 1-6, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 12=0-5-8
Max Horiz 12=-105 (LC 14)
Max Uplift 7=-1249 (LC 13), 12=-1134 (LC 12)
Max Grav 7=5753 (LC 1), 12=5188 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-12=-5096/1320, 1-2=-6442/1646, 2-3=-6442/1646, 3-5=-6472/1610, 5-6=-6472/1610, 6-7=-5657/1429
BOT CHORD 11-12=-86/87, 9-11=-2126/8458, 8-9=-2126/8458, 7-8=-9/37
WEBS 1-11=-1922/7732, 2-11=-2907/822, 3-11=-2434/617, 3-9=0/199, 3-8=-2397/623, 5-8=-2951/820, 6-8=-1932/7766

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x3 - 1 row at 0-9-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) 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
4) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
10) LGT2 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 12 and 7. This connection is for uplift only and does not consider lateral forces.
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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) LGT2 Hurricane ties must have two studs in line below the truss.
14) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 958 lb down and 198 lb up at 2-0-0, 958 lb down and 198 lb up at 4-0-0, 958 lb down and 198 lb up at 6-0-0, 958 lb down and 198 lb up at 8-0-0, 958 lb down and 198 lb up at 10-0-0, 958 lb down and 198 lb up at 12-0-0, 958 lb down and 198 lb up at 14-0-0, 958 lb down and 198 lb up at 16-0-0, and 958 lb down and 191 lb up at 18-0-0, and 962 lb down and 196 lb up at 20-0-0 on top chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-70, 7-12=-20
Concentrated Loads (lb)
Vert: 4=-908, 13=-908, 14=-908, 15=-908, 16=-908, 17=-908, 18=-908, 19=-908, 20=-908, 21=-920

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

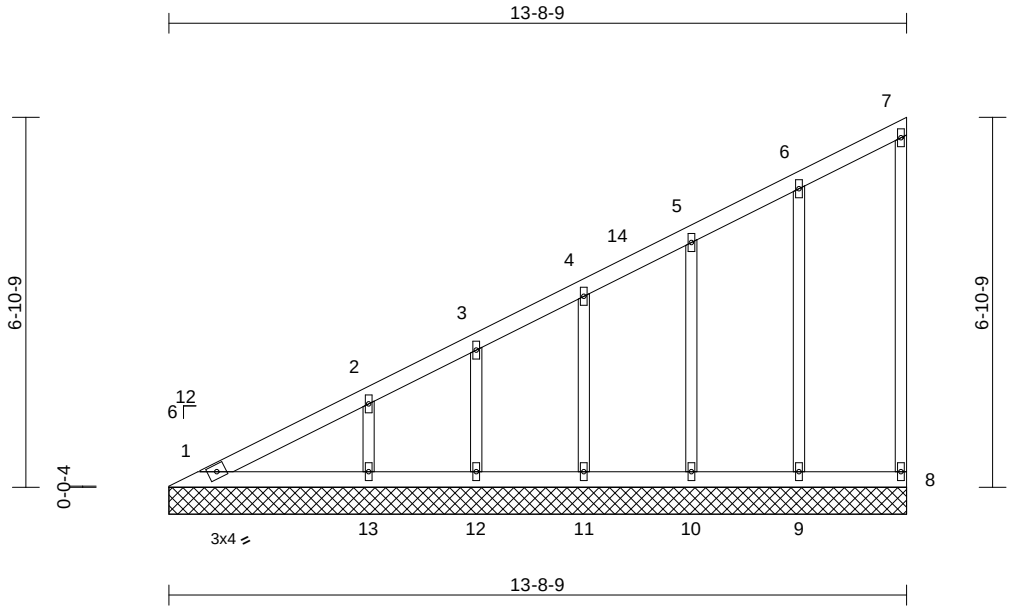
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681697
P241025-01	V1	Valley	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:53 Page: 1
ID:znOG5Q?SPPEgIYP3TGYi3bylffX-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7542JC?f



Scale = 1:42.8

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horiz(TL)	0.00	8	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 61 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=13-8-9, 8=13-8-9, 9=13-8-9, 10=13-8-9, 11=13-8-9, 12=13-8-9, 13=13-8-9
Max Horiz 1=276 (LC 16)
Max Uplift 8=-24 (LC 16), 9=-62 (LC 16), 10=-59 (LC 16), 11=-62 (LC 16), 12=-47 (LC 16), 13=-95 (LC 16)
Max Grav 1=134 (LC 27), 8=98 (LC 22), 9=270 (LC 22), 10=254 (LC 22), 11=224 (LC 22), 12=136 (LC 1), 13=280 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-329/139, 2-3=-249/97, 3-4=-204/83, 4-5=-149/60, 5-6=-91/48, 6-7=-54/28, 7-8=-83/42
BOT CHORD 1-13=0/1, 12-13=0/1, 11-12=0/1, 10-11=0/1, 9-10=0/1, 8-9=0/1
WEBS 6-9=-228/116, 5-10=-216/107, 4-11=-181/100, 3-12=-110/83, 2-13=-209/165

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) 0-7-9 to 5-9-1, Interior (1) 5-9-1 to 13-7-13 zone; cantilever 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) All plates are 1.5x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
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) 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 24 lb uplift at joint 8, 62 lb uplift at joint 9, 59 lb uplift at joint 10, 62 lb uplift at joint 11, 47 lb uplift at joint 12 and 95 lb uplift at joint 13.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

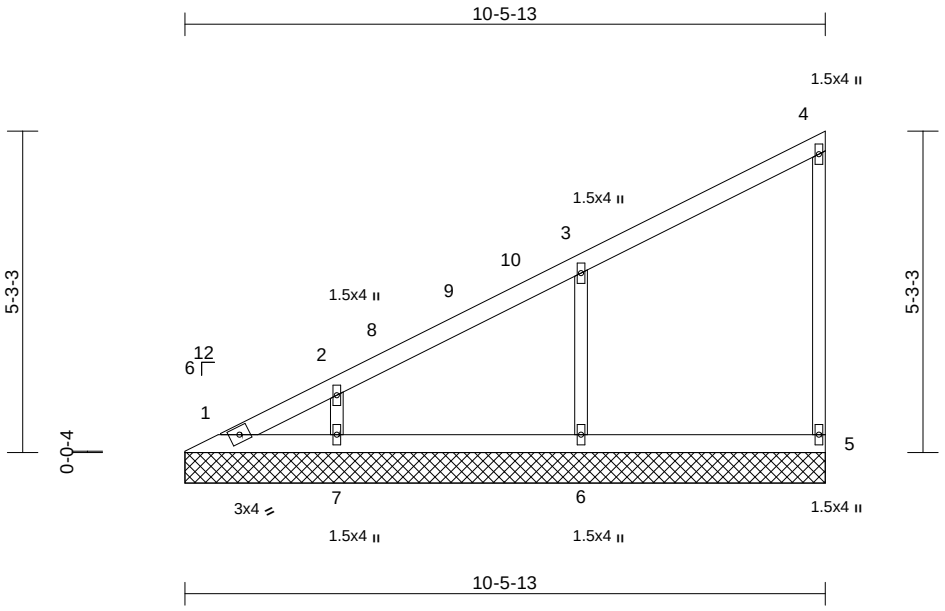
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	V2	Valley	1	1	Job Reference (optional) I68681698

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:53 Page: 1
ID:CFvEQhvRHyDpKJoX?bPqkvylfff-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:37.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.12	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 39 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=10-5-13, 5=10-5-13, 6=10-5-13, 7=10-5-13
Max Horiz 1=214 (LC 16)
Max Uplift 5=-48 (LC 16), 6=-137 (LC 16), 7=-101 (LC 16)
Max Grav 1=93 (LC 16), 5=206 (LC 22), 6=569 (LC 22), 7=302 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-299/129, 2-3=-214/95, 3-4=-120/54, 4-5=-174/99
BOT CHORD 1-7=-2/5, 6-7=-2/5, 5-6=-2/5
WEBS 3-6=-480/289, 2-7=-236/218

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) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 10-5-1 zone; cantilever 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 48 lb uplift at joint 5, 137 lb uplift at joint 6 and 101 lb uplift at joint 7.
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

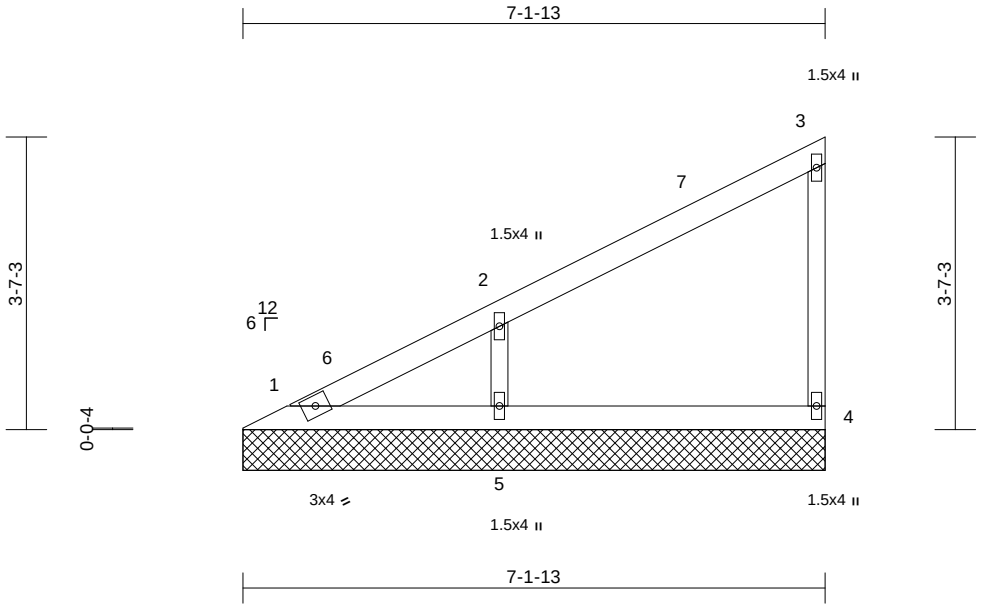
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	V3	Valley	1	1	Job Reference (optional) I68681699

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:53 Page: 1
ID:RiRCkypQAVDxN5B_XvGyPDylffn-RfC?PsB70Hq3NSgPqnL8w3uITXbGHWrCDoi7J4zJC?I



Scale = 1:28.3

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	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-P								
BCDL	10.0										Weight: 25 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=7-1-13, 4=7-1-13, 5=7-1-13
Max Horiz 1=141 (LC 16)
Max Uplift 4=-48 (LC 16), 5=-128 (LC 16)
Max Grav 1=72 (LC 27), 4=206 (LC 22), 5=541 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-227/105, 2-3=-115/59, 3-4=-175/119
BOT CHORD 1-5=0/0, 4-5=0/0
WEBS 2-5=-458/315

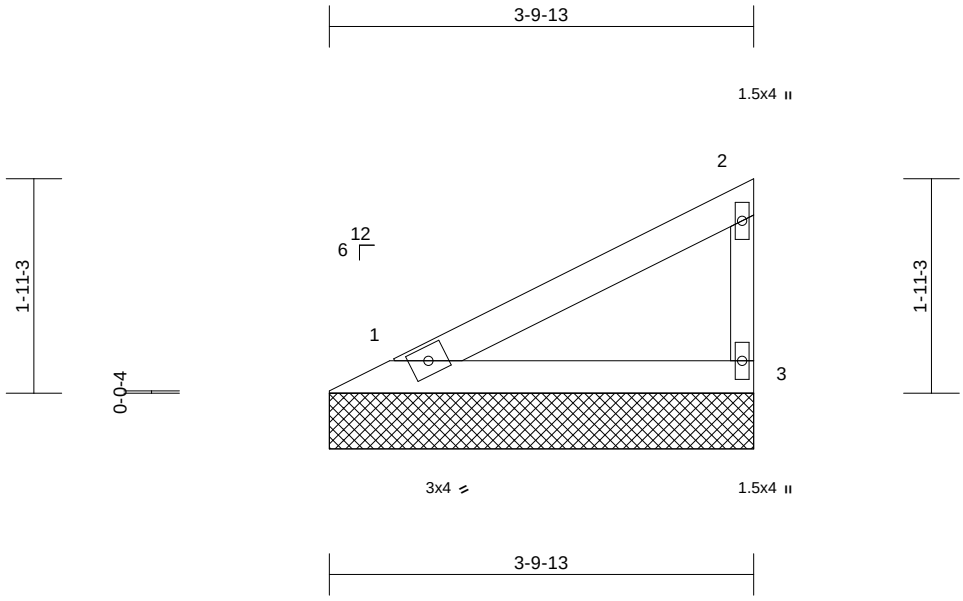
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 7-1-1 zone; cantilever left and right exposed ;C-C for members and forces & 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 48 lb uplift at joint 4 and 128 lb uplift at joint 5.
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

October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	V4	Valley	1	1	Job Reference (optional) I68681700



Scale = 1:20.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	n/a	-	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-P								
BCDL	10.0										Weight: 12 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 3-10-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-9-13, 3=3-9-13
Max Horiz 1=68 (LC 16)
Max Uplift 1=-14 (LC 16), 3=-48 (LC 16)
Max Grav 1=191 (LC 22), 3=191 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-74/57, 2-3=-160/130
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 ;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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 14 lb uplift at joint 1 and 48 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

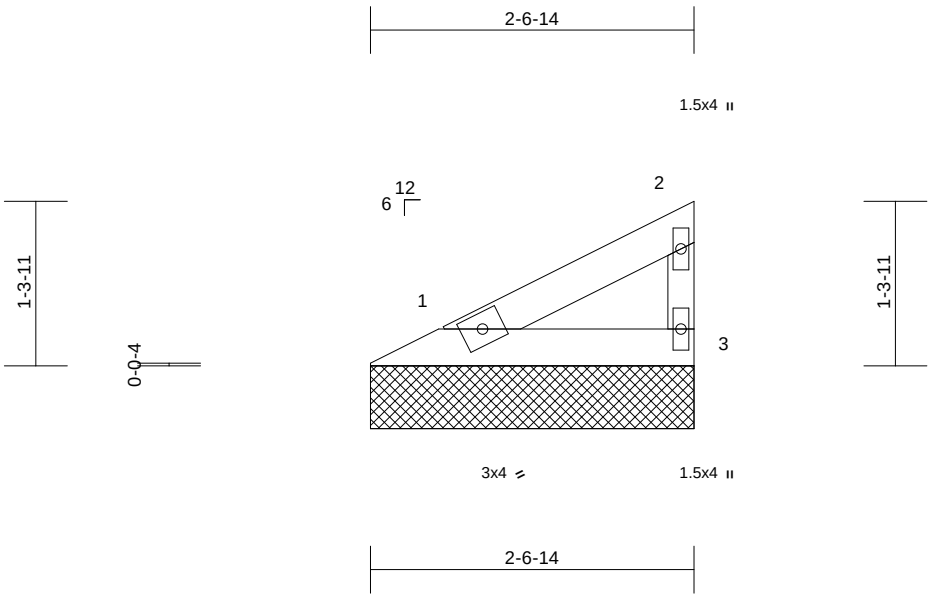
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681701
P241025-01	V5	Valley	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:53 Page: 1
ID:zFLPyob7PzyVDKpXU7xkgQylfg3-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7s4zJC?f



Scale = 1:18.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	n/a	-	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-P								
BCDL	10.0										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 2-7-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-6-14, 3=2-6-14
Max Horiz 1=41 (LC 16)
Max Uplift 1=-8 (LC 16), 3=-29 (LC 16)
Max Grav 1=108 (LC 22), 3=108 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-44/32, 2-3=-89/78
BOT CHORD 1-3=0/0

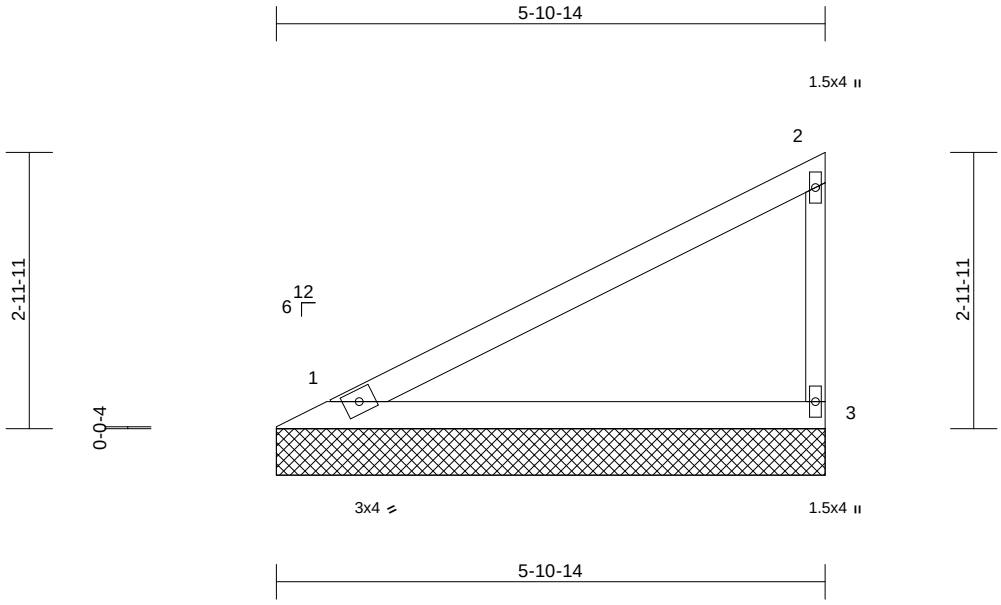
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 8 lb uplift at joint 1 and 29 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

October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180
P241025-01	V6	Valley	1	1	Job Reference (optional) I68681702



Scale = 1:24.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	1.00	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.34	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	n/a	-	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-P								
BCDL	10.0										Weight: 20 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, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-10-14, 3=5-10-14
Max Horiz 1=114 (LC 16)
Max Uplift 1=-23 (LC 16), 3=-80 (LC 16)
Max Grav 1=341 (LC 22), 3=341 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-120/103, 2-3=-289/211
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 ;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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 23 lb uplift at joint 1 and 80 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

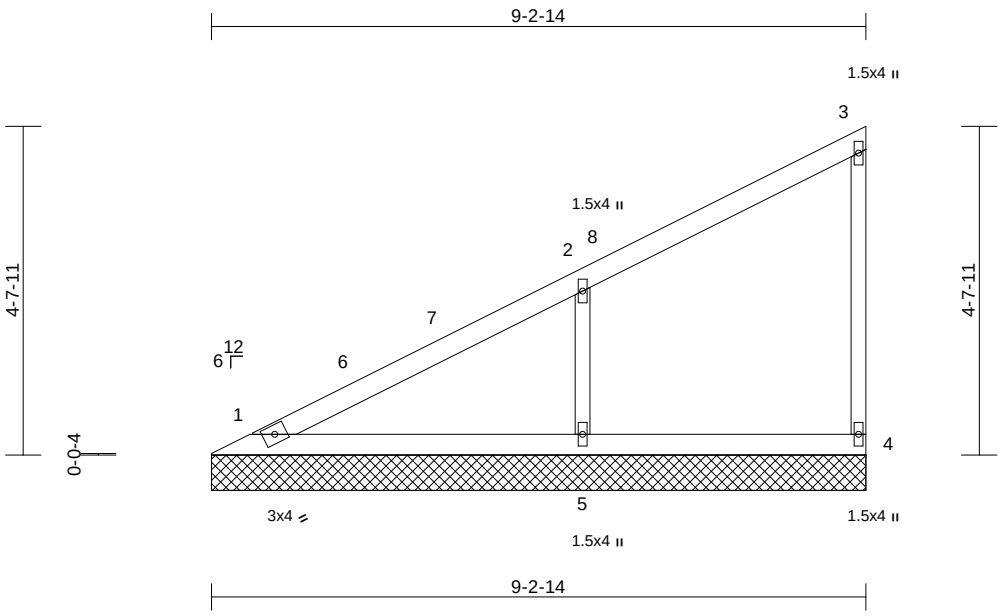
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681703
P241025-01	V7	Valley	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:53 Page: 1
ID:rl3UEMR_TzJL9KJ1DuChfgylfgG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J4zJC?f



Scale = 1:32.5

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	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 33 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=9-2-14, 4=9-2-14, 5=9-2-14
Max Horiz 1=187 (LC 16)
Max Uplift 4=-42 (LC 16), 5=-162 (LC 16)
Max Grav 1=171 (LC 22), 4=190 (LC 22), 5=645 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-240/112, 2-3=-125/49, 3-4=-163/98
BOT CHORD 1-5=-2/5, 4-5=-2/5
WEBS 2-5=-529/341

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) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 9-2-2 zone; cantilever 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 42 lb uplift at joint 4 and 162 lb uplift at joint 5.
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

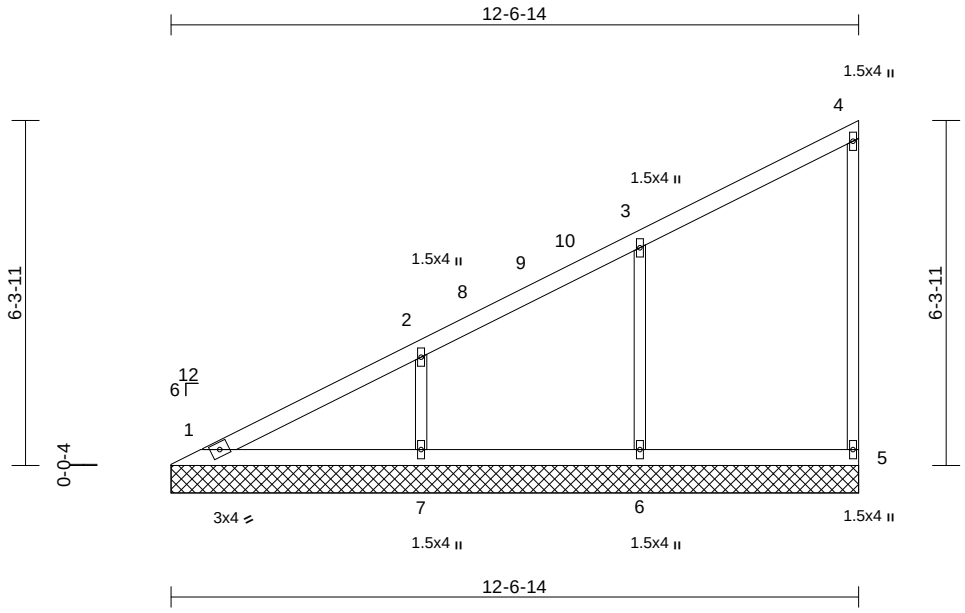
October 7,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 180	I68681704
P241025-01	V8	Valley	1	1	Job Reference (optional)	

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

Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Thu Oct 03 15:50:53 Page: 1
ID:UFCl20yWf_Ot_KqXRC?XaSylfgt-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:42.1

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	0.36	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	25.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 48 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=12-6-14, 5=12-6-14, 6=12-6-14, 7=12-6-14
Max Horiz 1=259 (LC 16)
Max Uplift 5=-49 (LC 16), 6=-129 (LC 16), 7=-136 (LC 16)
Max Grav 1=147 (LC 27), 5=210 (LC 22), 6=547 (LC 22), 7=405 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-310/137, 2-3=-193/90, 3-4=-118/56, 4-5=-176/94
BOT CHORD	1-7=-2/4, 6-7=-2/4, 5-6=-2/4
WEBS	3-6=-465/247, 2-7=-308/243

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) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 12-6-2 zone; cantilever 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 49 lb uplift at joint 5, 129 lb uplift at joint 6 and 136 lb uplift at joint 7.
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.

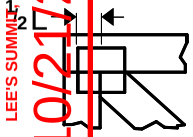
LOAD CASE(S) Standard

October 7,2024

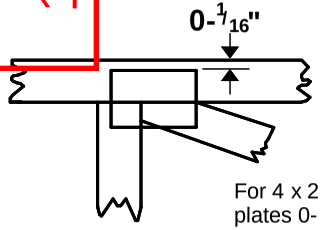
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

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.

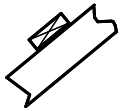
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

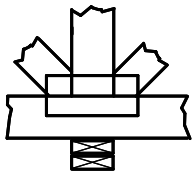
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

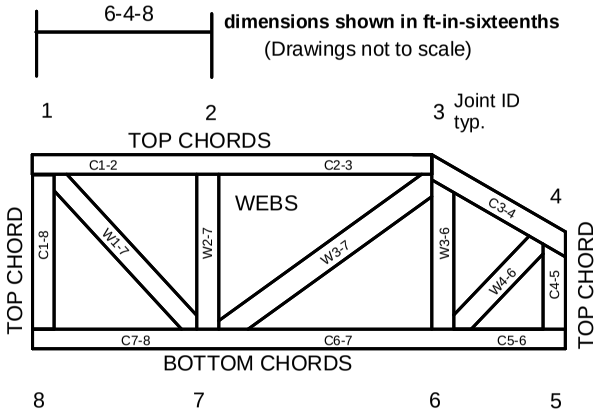


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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®

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.