MiTek®

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/02/2024

RE: P240213-01 - Roof - HR Lot 185

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

Site Information:

Project Customer: Clayton Properties Project Name: Basswood - Transitional 3Car
Lot/Block: 185 Subdivision: Hawthorne Ridge
Model:
Address: 1605 SW Arborway Terr
City: Lee's Summit State: MO

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

Design Code: IRC2018/TPI2014
Design Program: MiTek 20/20 8.6
Wind Code: ASCE 7-16 Wind Speed: 115 mph
Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16
Roof Load: 45.0 psf
Floor Load: N/A psf

Mean Roof Height (feet): 35
Exposure Category: C

No.	Seal#	Truss Name	Date
1	I64228546	B01	3/14/24
2	I64228547	B02	3/14/24
3	I64228548	B04	3/14/24
4	I64228549	B05	3/14/24
5	I64228550	C01	3/14/24
6	I64228551	C02	3/14/24
7	I64228552	C03	3/14/24
8	I64228553	C04	3/14/24
9	I64228554	D01	3/14/24
10	I64228555	D02	3/14/24
11	I64228556	D03	3/14/24
12	I64228557	E01	3/14/24
13	I64228558	E02	3/14/24
14	I64228559	E04	3/14/24
15	I64228560	E05	3/14/24
16	I64228561	E06	3/14/24
17	I64228562	G01	3/14/24
18	I64228563	G02	3/14/24
19	I64228564	R01	3/14/24
20	I64228565	V1	3/14/24
21	I64228566	V2	3/14/24
22	I64228567	V3	3/14/24
23	I64228568	V4	3/14/24
24	I64228569	V7	3/14/24
25	I64228570	V8	3/14/24
26	I64228571	V9	3/14/24
27	I64228572	V10	3/14/24

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.

March 14,2024

Sevier, Scott

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/02/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	B01	Monopitch Structural Gable	1	1	Job Reference (optional) I64228546

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

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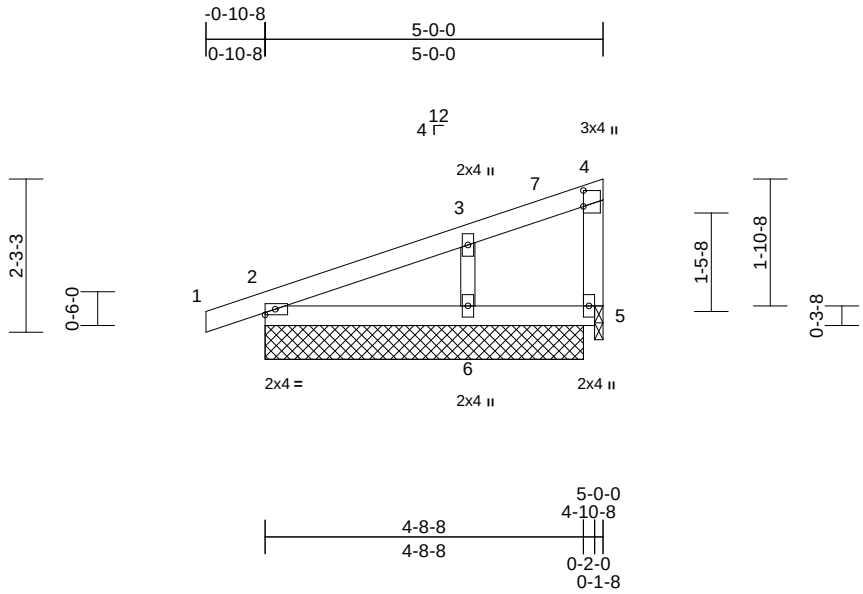

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Plate Offsets (X, Y): [4:0-2-13,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	0.00	2-6	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	-0.01	2-6	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 20 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 5-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=4-8-8, 4=0-3-8, 5=4-8-8, 6=4-8-8
Max Horiz 2=85 (LC 8)
Max Uplift 2=-49 (LC 8), 4=-19 (LC 8), 6=-78 (LC 12)
Max Grav 2=183 (LC 1), 4=37 (LC 1), 5=19 (LC 3), 6=269 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-141/58, 3-4=-29/8, 4-5=0/0
BOT CHORD 2-6=0/0, 5-6=0/0
WEBS 3-6=-205/304

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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-10-4 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable studs spaced at 2-0-0 oc.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 2, 78 lb uplift at joint 6 and 19 lb uplift at joint 4.
7) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 4.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.

LOAD CASE(S) Standard

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	B02	Monopitch	3	1	Job Reference (optional) I64228547

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

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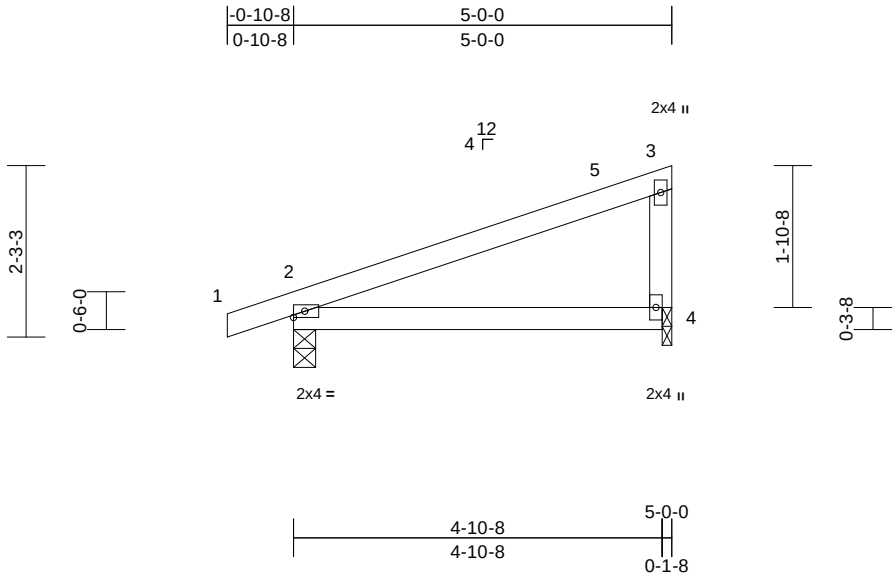

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.49	Vert(LL)	-0.03	2-4	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.06	2-4	>958	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP 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, 4=0-1-8
Max Horiz 2=89 (LC 9)
Max Uplift 2=-91 (LC 8), 4=-51 (LC 12)
Max Grav 2=291 (LC 1), 4=204 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-128/75, 3-4=-157/238
BOT CHORD 2-4=-37/41

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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 91 lb uplift at joint 2 and 51 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	B04	Monopitch	6	1	Job Reference (optional)

I64228548

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

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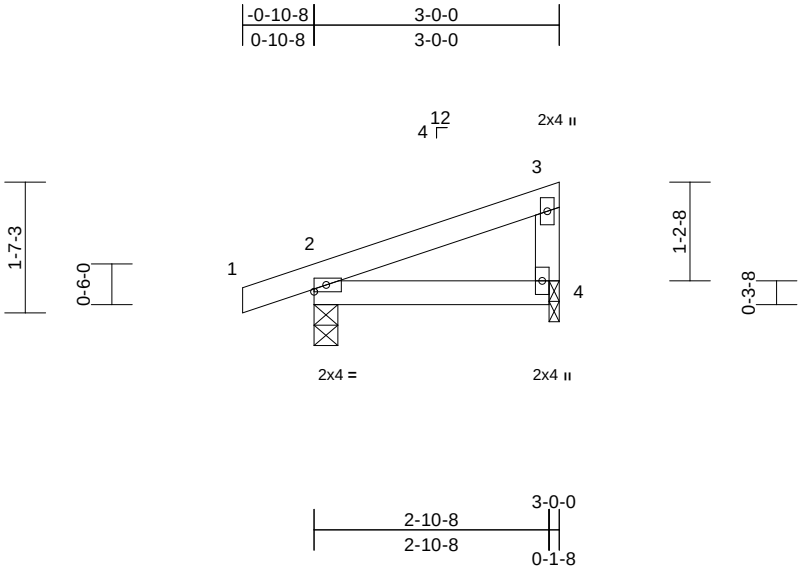

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.13	Vert(LL)	0.00	2-4	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	-0.01	2-4	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 12 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP 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, 4=0-1-8
Max Horiz 2=56 (LC 8)
Max Uplift 2=-72 (LC 8), 4=-32 (LC 12)
Max Grav 2=207 (LC 1), 4=108 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-61/28, 3-4=-81/124
BOT CHORD 2-4=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 exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 2 and 32 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	B05	Monopitch	1	1	Job Reference (optional)

I64228549

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

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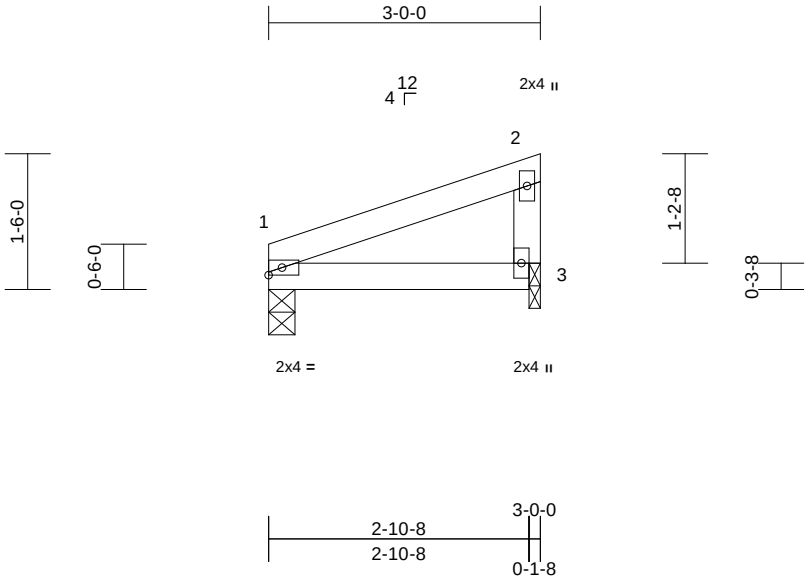

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	0.00	1-3	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	-0.01	1-3	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 10 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP 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 (lb/size) 1=122/0-3-8, 3=122/0-1-8
Max Horiz 1=50 (LC 8)
Max Uplift 1=-16 (LC 8), 3=-37 (LC 8)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

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 exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearing at joint(s) 3 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
4) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 3.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 1 and 37 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185	I64228550
P240213-01	C01	Common	1	1	Job Reference (optional)	

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

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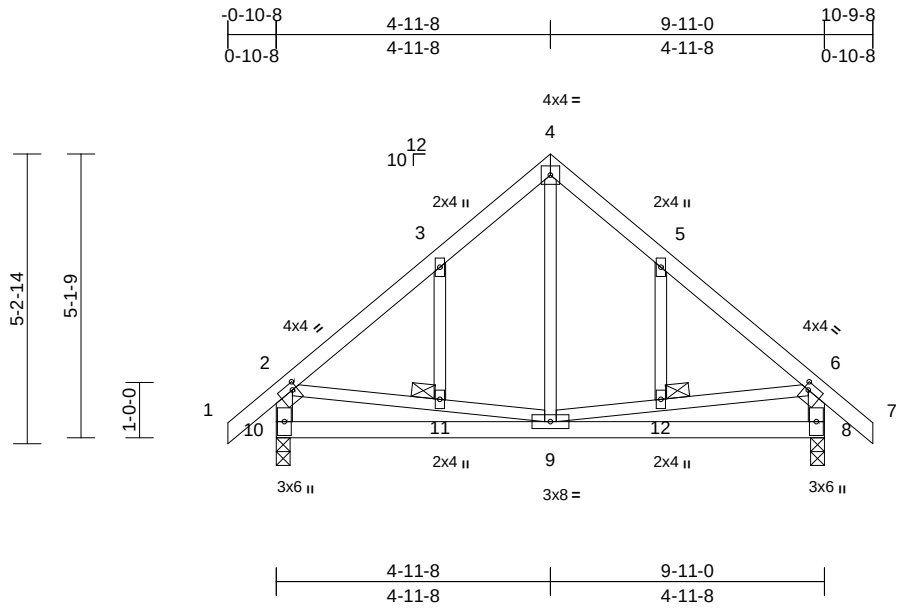

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Plate Offsets (X, Y): [2:0-1-0,0-1-8], [6:0-1-0,0-1-8]

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	0.28	Vert(LL)	0.04	9-10	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	0.03	9-10	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.22	Horz(CT)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 55 lb	FT = 20%

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

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

REACTIONS (size) 8=0-3-0, 10=0-3-0
Max Horiz 10=168 (LC 11)
Max Uplift 8=-77 (LC 13), 10=-77 (LC 12)
Max Grav 8=505 (LC 1), 10=505 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/46, 2-3=-416/432, 3-4=-302/465, 4-5=-302/465, 5-6=-416/432, 6-7=0/46, 2-10=-458/442, 6-8=-458/442
BOT CHORD 9-10=-272/265, 8-9=-213/163
WEBS 4-9=-393/189, 2-11=-106/179, 9-11=-111/186, 9-12=-118/188, 6-12=-113/181, 3-11=-36/42, 5-12=-36/42

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-11-8, Exterior(2R) 4-11-8 to 9-9-4, Interior (1) 9-9-4 to 10-9-8 zone; cantilever left and right exposed ; end vertical left and 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 10.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 77 lb uplift at joint 10 and 77 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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	C02	Common	1	1	Job Reference (optional)

I64228551

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

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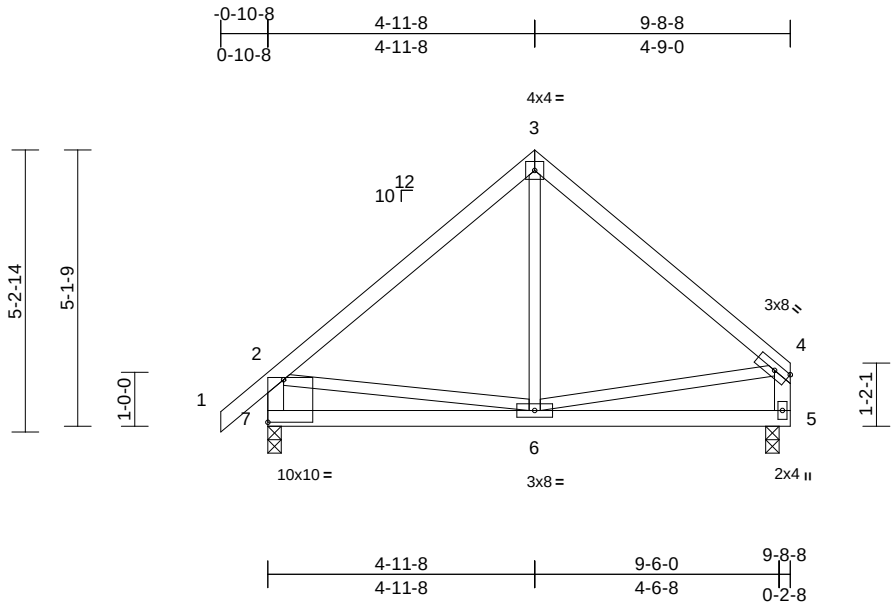

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Plate Offsets (X, Y): [7:Edge,0-9-8]

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	0.33	Vert(LL)	0.04	6-7	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	0.03	6-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 49 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 7-2,5-4:2x4 SP 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 9-4-6 oc bracing.

REACTIONS (size) 5=0-3-0, 7=0-3-0
Max Horiz 7=162 (LC 11)
Max Uplift 5=-49 (LC 13), 7=-76 (LC 12)
Max Grav 5=420 (LC 1), 7=499 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/46, 2-3=-414/432, 3-4=-401/442, 2-7=-455/413, 4-5=-378/385
BOT CHORD 6-7=-362/264, 5-6=-141/102
WEBS 3-6=-339/178, 2-6=-123/199, 4-6=-117/164

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-11-8, Exterior(2E) 4-11-8 to 9-6-12 zone; cantilever left and right exposed ; end vertical left and 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 7 and 49 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185	I64228552
P240213-01	C03	Common	1	1	Job Reference (optional)	

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

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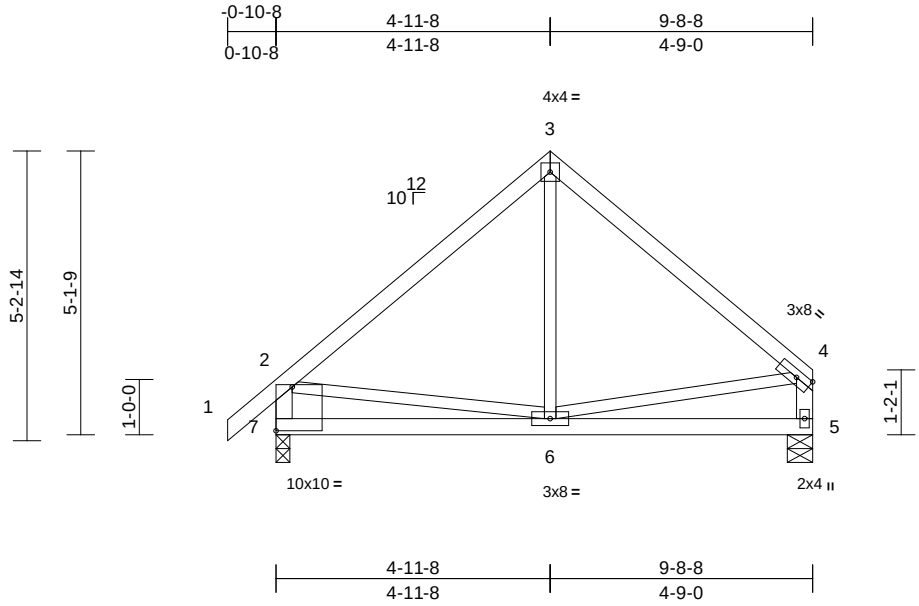

Scale = 1:41.7

Plate Offsets (X, Y): [7:Edge,0-9-8]

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	0.33	Vert(LL)	0.04	6-7	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	0.03	6-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 49 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 7-2,5-4:2x4 SP 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 9-4-6 oc bracing.

REACTIONS (size) 5=0-5-8, 7=0-3-0
Max Horiz 7=162 (LC 11)
Max Uplift 5=-49 (LC 13), 7=-76 (LC 12)
Max Grav 5=420 (LC 1), 7=499 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/46, 2-3=-414/432, 3-4=-401/442, 2-7=-455/413, 4-5=-378/385
BOT CHORD 6-7=-362/264, 5-6=-141/102
WEBS 3-6=-339/178, 2-6=-123/199, 4-6=-117/164

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-11-8, Exterior(2E) 4-11-8 to 9-6-12 zone; cantilever left and right exposed ; end vertical left and 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 7 and 49 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185	I64228553
P240213-01	C04	Common	1	1	Job Reference (optional)	04/02/2024

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

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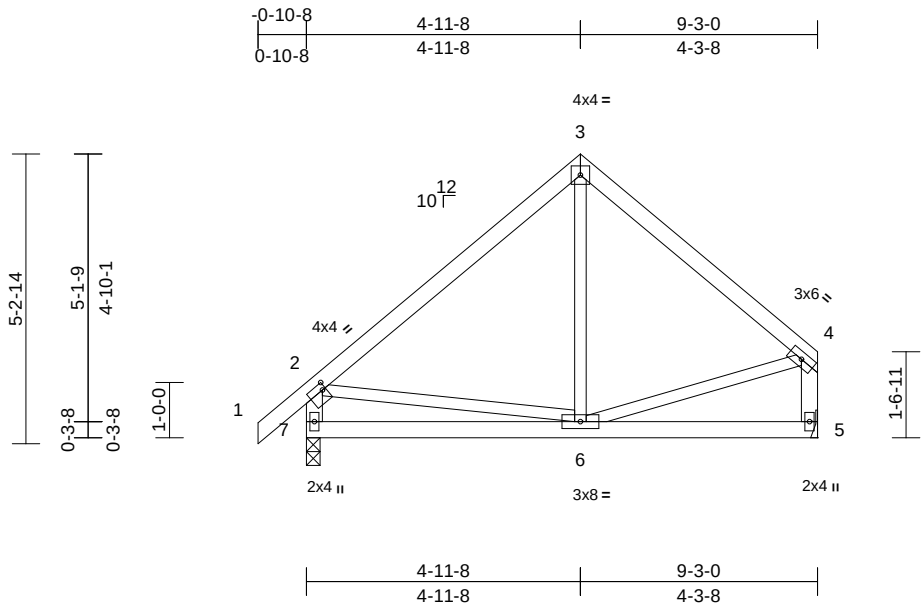

Scale = 1:41.7

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

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	0.33	Vert(LL)	0.04	6-7	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	0.03	6-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 47 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 7-2,5-4:2x4 SP 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 8-10-1 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-3-0
Max Horiz 7=168 (LC 9)
Max Uplift 5=-50 (LC 12), 7=-73 (LC 12)
Max Grav 5=399 (LC 1), 7=479 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/46, 2-3=-386/401, 3-4=-359/419, 2-7=-434/398, 4-5=-363/394
BOT CHORD 6-7=-405/265, 5-6=-88/64
WEBS 3-6=-308/156, 2-6=-127/202, 4-6=-181/166

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-11-8, Exterior(2E) 4-11-8 to 9-1-4 zone; cantilever left and right exposed ; end vertical left and 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Bearings are assumed to be: Joint 7 SP No.2 crushing capacity of 565 psi.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 73 lb uplift at joint 7 and 50 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	D01	Roof Special Supported Gable	1	1	Job Reference (optional) I64228554

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

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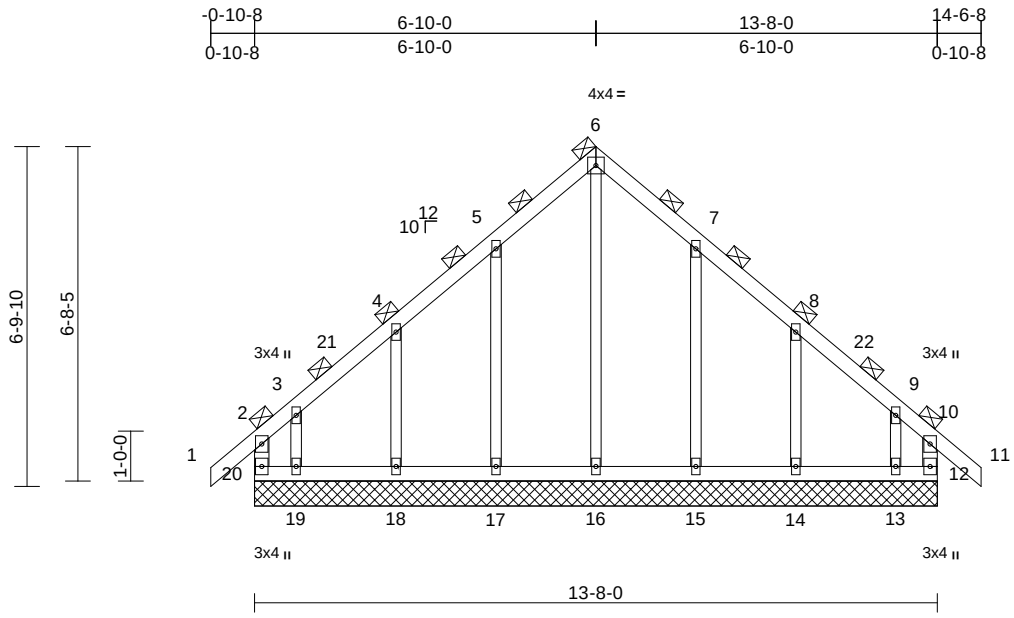

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Loading	(psf)	Spacing	4-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.40	Horz(CT)	0.00	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							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 2-0-0 oc purlins (6-0-0 max.), except end verticals
(Switched from sheeted: Spacing > 2-8-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 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=423 (LC 11)
Max Uplift 12=-247 (LC 9), 13=-364 (LC 13), 14=-203 (LC 13), 15=-196 (LC 13), 17=-198 (LC 12), 18=-201 (LC 12), 19=-389 (LC 12), 20=-330 (LC 8)
Max Grav 12=397 (LC 19), 13=388 (LC 11), 14=396 (LC 20), 15=407 (LC 20), 16=423 (LC 22), 17=410 (LC 19), 18=393 (LC 19), 19=445 (LC 10), 20=465 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-20=-349/228, 1-2=0/91, 2-3=-335/302, 3-4=-212/205, 4-5=-178/286, 5-6=-276/454, 6-7=-276/442, 7-8=-162/269, 8-9=-170/162, 9-10=-267/228, 10-11=0/91, 10-12=-302/170
BOT CHORD 19-20=-198/239, 18-19=-198/239, 17-18=-198/239, 16-17=-198/239, 15-16=-198/239, 14-15=-198/239, 13-14=-198/239, 12-13=-198/239
WEBS 6-16=-415/136, 5-17=-329/268, 4-18=-316/290, 3-19=-267/282, 7-15=-327/267, 8-14=-318/291, 9-13=-264/270

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 6-10-0, Exterior(2R) 6-10-0 to 11-10-0, Interior (1) 11-10-0 to 14-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) 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 330 lb uplift at joint 20, 247 lb uplift at joint 12, 198 lb uplift at joint 17, 201 lb uplift at joint 18, 389 lb uplift at joint 19, 196 lb uplift at joint 15, 203 lb uplift at joint 14 and 364 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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	D02	Roof Special Structural Gable	1	1	Job Reference (optional) I64228555

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

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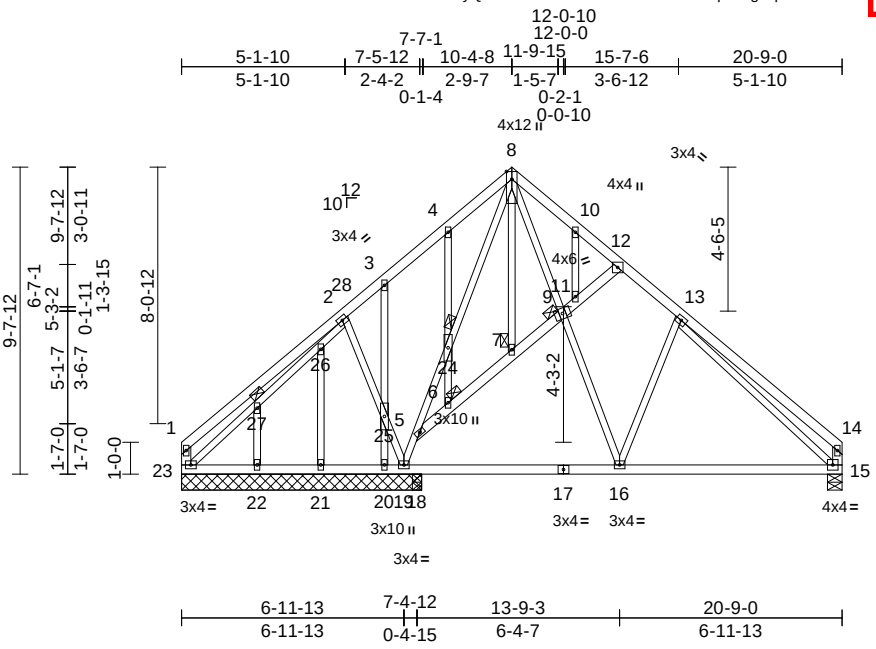

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	-0.05	15-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.11	15-16	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.01	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 140 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 23-1,15-14:2x4 SP No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 9, 7, 24, 6, 27

REACTIONS (size) 15=0-5-8, 18=0-3-8, 19=7-6-8, 20=7-6-8, 21=7-6-8, 22=7-6-8, 23=7-6-8
Max Horiz 23=267 (LC 9)
Max Uplift 15=-92 (LC 13), 19=-392 (LC 12), 21=-9 (LC 8), 23=-73 (LC 13)
Max Grav 15=630 (LC 1), 18=484 (LC 3), 19=464 (LC 1), 20=117 (LC 3), 21=94 (LC 20), 22=91 (LC 3), 23=296 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-232/171, 2-3=-189/160, 3-4=-150/172, 4-8=-187/221, 8-10=-436/282, 10-12=-429/203, 12-13=-538/208, 13-14=-348/175, 1-23=-252/167, 14-15=-329/171, 9-11=-120/92, 11-12=-53/35, 5-6=-100/79, 6-7=-70/50, 7-9=-86/70
BOT CHORD 22-23=-135/233, 21-22=-135/233, 20-21=-135/233, 19-20=-135/233, 18-19=-26/259, 16-18=-26/259, 15-16=-31/429
WEBS 8-9=-217/478, 9-16=-149/403, 5-19=-491/50, 5-24=-390/0, 8-24=-328/0, 13-16=-258/243, 2-25=-300/284, 19-25=-320/304, 23-27=-171/118, 26-27=-173/119, 2-26=-212/143, 13-15=-364/0, 7-8=-53/60, 4-24=-135/81, 6-24=-89/78, 3-25=-45/42, 20-25=-28/25, 21-26=-54/32, 22-27=-3/4, 10-11=-116/102

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 5-0-15, Interior (1) 5-0-15 to 10-6-3, Exterior(2R) 10-6-3 to 15-8-1, Interior (1) 15-8-1 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) All plates are 2x4 MT20 unless otherwise indicated.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 73 lb uplift at joint 23, 392 lb uplift at joint 19, 92 lb uplift at joint 15 and 9 lb uplift at joint 21.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	D03	Common	7	1	Job Reference (optional)

I64228556

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

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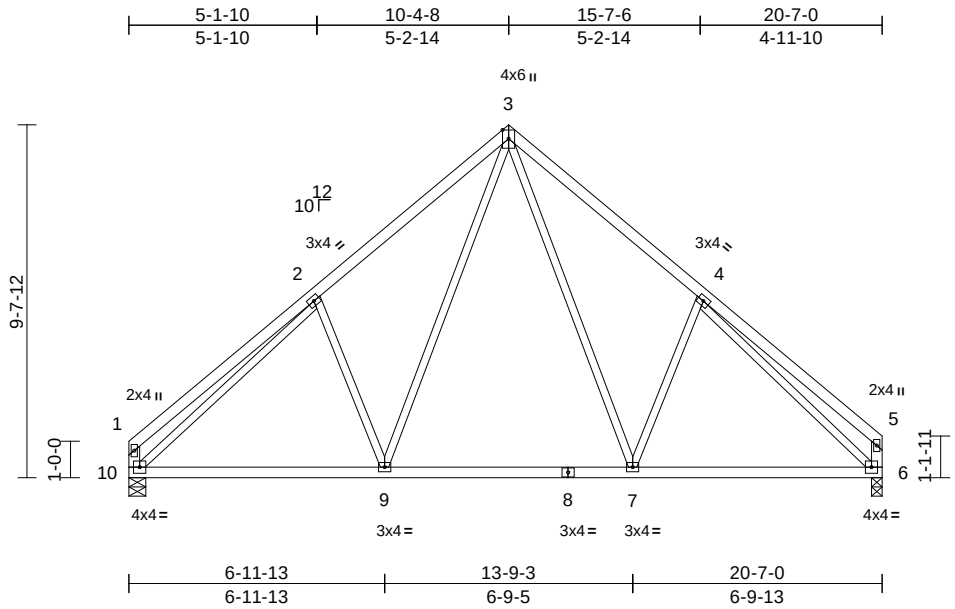

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	-0.05	9-10	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.11	9-10	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.91	Horz(CT)	0.02	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 107 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-5-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 6=0-3-8, 10=0-5-8
Max Horiz 10=264 (LC 11)
Max Uplift 6=-111 (LC 13), 10=-113 (LC 12)
Max Grav 6=913 (LC 1), 10=913 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-333/158, 2-3=-959/306, 3-4=-947/302, 4-5=-291/136, 1-10=-311/152, 5-6=-280/135
BOT CHORD 9-10=-172/794, 7-9=-23/530, 6-7=-97/710
WEBS 3-7=-196/428, 4-7=-284/289, 3-9=-201/450, 2-9=-304/295, 2-10=-771/85, 4-6=-816/95

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 5-0-15, Interior (1) 5-0-15 to 10-4-8, Exterior(2R) 10-4-8 to 15-8-1, Interior (1) 15-8-1 to 20-5-4 zone; cantilever left and right exposed ; end vertical right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 113 lb uplift at joint 10 and 111 lb uplift at joint 6.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	E01	Common Supported Gable	1	1	Job Reference (optional) I64228557

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

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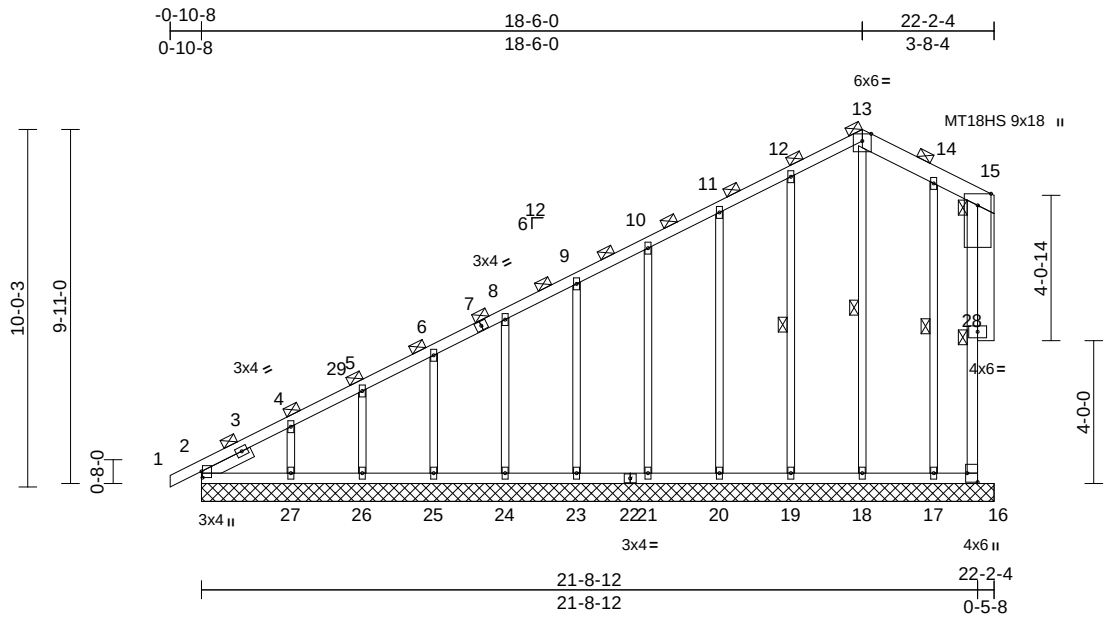

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Plate Offsets (X, Y): [2:0-2-1,0-0-5], [16:Edge,0-3-8]

Loading	(psf)	Spacing	4-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	n/a	-	n/a	999	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.40	Horz(CT)	0.01	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 139 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2 *Except* 13-15:2x6 SPF No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.2
OTHERS	2x3 SPF No.2 *Except* 28-15:2x6 SPF No.2
SLIDER	Left 2x4 SP No.2 -- 1-6-7

BRACING

TOP CHORD	2-0-0 oc purlins (5-6-6 max.), except end verticals (Switched from sheeted: Spacing > 2-8-0).
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 15-16, 13-18, 12-19, 14-17

REACTIONS (size) 2=22-2-4, 16=22-2-4, 17=22-2-4, 18=22-2-4, 19=22-2-4, 20=22-2-4, 21=22-2-4, 23=22-2-4, 24=22-2-4, 25=22-2-4, 26=22-2-4, 27=22-2-4
Max Horiz 2=752 (LC 9)
Max Uplift 2=-47 (LC 8), 16=-172 (LC 8), 17=-74 (LC 13), 18=-170 (LC 11), 19=-111 (LC 12), 20=-128 (LC 12), 21=-121 (LC 12), 23=-123 (LC 12), 24=-121 (LC 12), 25=-129 (LC 12), 26=-92 (LC 12), 27=-258 (LC 12)
Max Grav 2=483 (LC 20), 16=230 (LC 20), 17=279 (LC 1), 18=384 (LC 19), 19=374 (LC 1), 20=359 (LC 25), 21=360 (LC 1), 23=360 (LC 25), 24=359 (LC 1), 25=365 (LC 25), 26=341 (LC 1), 27=432 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/11, 2-4=-994/671, 4-5=-783/568, 5-6=-694/545, 6-8=-582/504, 8-9=-475/468, 9-10=-415/430, 10-11=-383/471, 11-12=-393/585, 12-13=-418/669, 13-14=-442/673, 14-15=-515/693, 15-16=-488/672
BOT CHORD	2-27=-276/355, 26-27=-276/355, 25-26=-276/355, 24-25=-276/355, 23-24=-276/355, 21-23=-276/355, 20-21=-276/355, 19-20=-276/355, 18-19=-276/355, 17-18=-276/355, 16-17=-276/355
WEBS	13-18=-440/271, 12-19=-295/200, 11-20=-279/207, 10-21=-280/193, 9-23=-280/193, 8-24=-280/193, 6-25=-282/202, 5-26=-270/203, 4-27=-326/408, 14-17=-339/350

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 4-1-8, Exterior(2N) 4-1-8 to 18-6-0, Corner(3E) 18-6-0 to 21-8-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are MT20 plates unless otherwise indicated.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) 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 172 lb uplift at joint 16, 170 lb uplift at joint 18, 111 lb uplift at joint 19, 128 lb uplift at joint 20, 121 lb uplift at joint 21, 123 lb uplift at joint 23, 121 lb uplift at joint 24, 129 lb uplift at joint 25, 92 lb uplift at joint 26, 258 lb uplift at joint 27, 74 lb uplift at joint 17 and 47 lb uplift at joint 2.
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.

LOAD CASE(S) Standard

March 14,2024

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
04/02/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185	
P240213-01	E02	Common	7	1	Job Reference (optional)	I64228558

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

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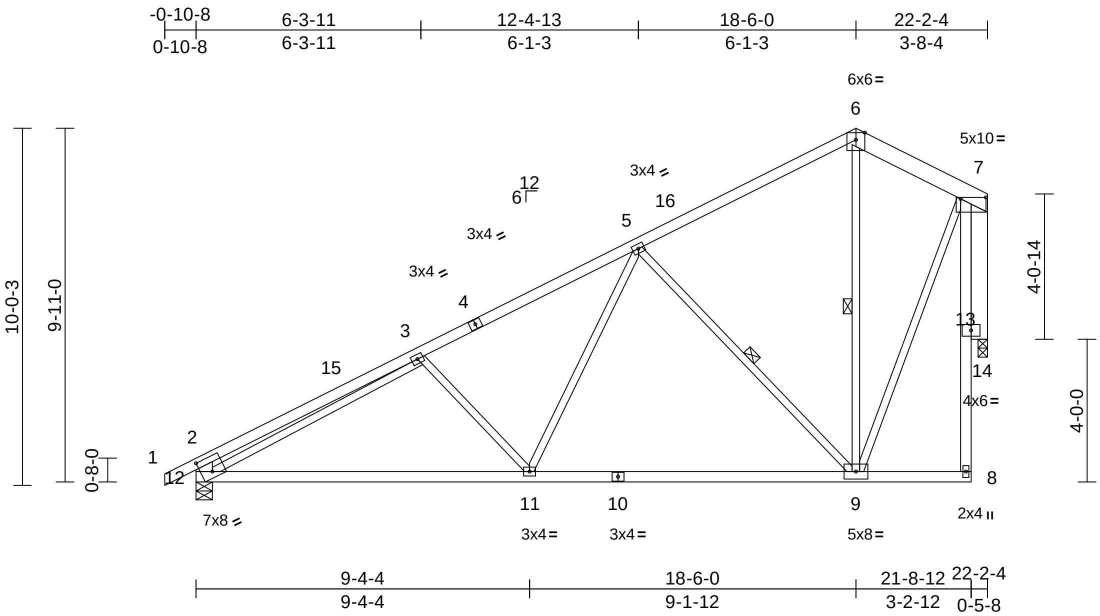

Scale = 1:64.6

Plate Offsets (X, Y): [7:0-8-8,0-0-8], [12:0-3-11,0-4-15]

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	0.54	Vert(LL)	-0.15	11-12	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-0.30	11-12	>872	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.91	Horz(CT)	0.15	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 127 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 6-7:2x6 SPF No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 12-2:2x6 SPF No.2, 8-7:2x4 SP No.2
OTHERS 2x6 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-0-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-4-10 oc bracing.
WEBS 1 Row at midpt 6-9, 5-9

REACTIONS (size) 12=0-5-8, 14=0-3-2
Max Horiz 12=371 (LC 12)
Max Uplift 12=-162 (LC 12), 14=-227 (LC 12)
Max Grav 12=1061 (LC 1), 14=938 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-749/212, 3-5=-1253/186, 5-6=-467/110, 6-7=-372/124, 2-12=-586/232, 8-13=-9/18, 7-13=-9/18
BOT CHORD 11-12=-474/1260, 9-11=-286/833, 8-9=-14/48
WEBS 6-9=-43/105, 5-9=-748/301, 5-11=-63/505, 3-11=-331/239, 3-12=-782/27, 7-9=-195/769, 7-14=-943/261

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 18-6-0, Exterior(2E) 18-6-0 to 21-7-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Bearings are assumed to be: Joint 12 SP No.2 crushing capacity of 565 psi, Joint 14 SPF No.2 crushing capacity of 425 psi.
5) 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.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 162 lb uplift at joint 12 and 227 lb uplift at joint 14.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	E04	Roof Special	3	1	Job Reference (optional)

I64228559

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

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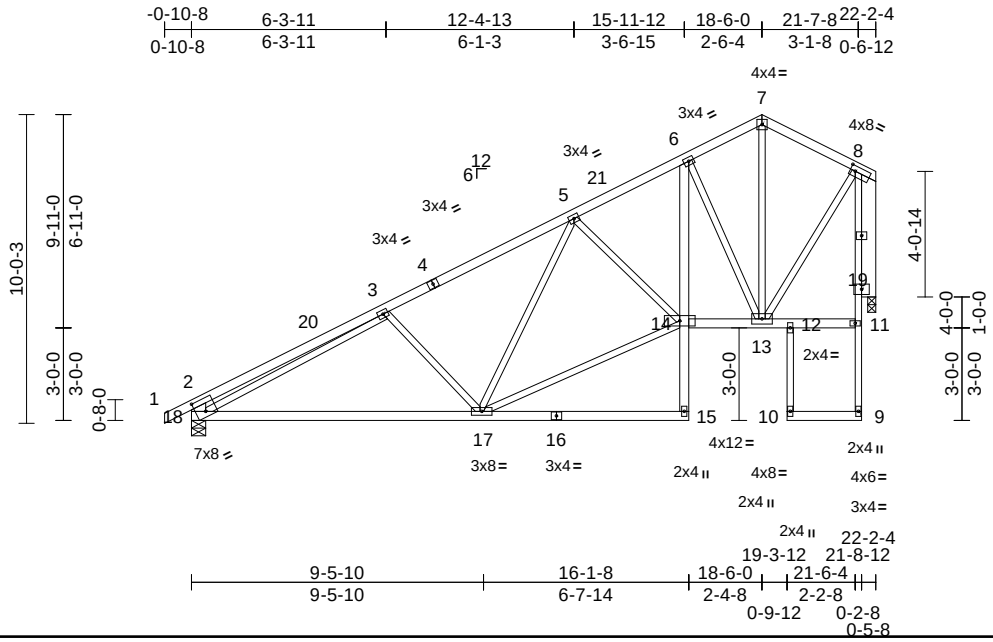

Scale = 1:74.7

Plate Offsets (X, Y): [8:0-2-0,0-2-0], [18:0-3-11,0-4-15]

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)	-0.18	17-18	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.36	17-18	>709	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.88	Horz(CT)	0.03	19	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 141 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 12-10,9-8:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 18-2,19-8:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-11-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
8-3-15 oc bracing: 17-18
6-0-0 oc bracing: 9-10.

REACTIONS (size) 18=0-5-8, 19=0-3-2
Max Horiz 18=373 (LC 12)
Max Uplift 18=-156 (LC 12), 19=-233 (LC 12)
Max Grav 18=1042 (LC 1), 19=961 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-737/190, 3-5=-1201/175, 5-6=-911/232, 6-7=-481/165, 7-8=-493/165, 9-11=0/44, 11-19=0/52, 8-19=-935/283, 2-18=-575/221
BOT CHORD 17-18=-474/1228, 15-17=-2/21, 14-15=0/93, 6-14=-222/756, 13-14=-232/748, 12-13=-5/9, 11-12=-6/9, 10-12=0/44, 9-10=0/1
WEBS 5-17=-20/154, 3-17=-356/251, 3-18=-755/43, 7-13=-61/241, 8-13=-200/737, 5-14=-354/151, 14-17=-372/1072, 6-13=-825/294

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 18-6-0, Exterior(2E) 18-6-0 to 21-7-8 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Bearings are assumed to be: Joint 18 SP No.2 crushing capacity of 565 psi, Joint 19 SPF No.2 crushing capacity of 425 psi.
5) 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.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 156 lb uplift at joint 18 and 233 lb uplift at joint 19.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

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
04/02/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	E05	Common	7	1	Job Reference (optional) I64228560

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

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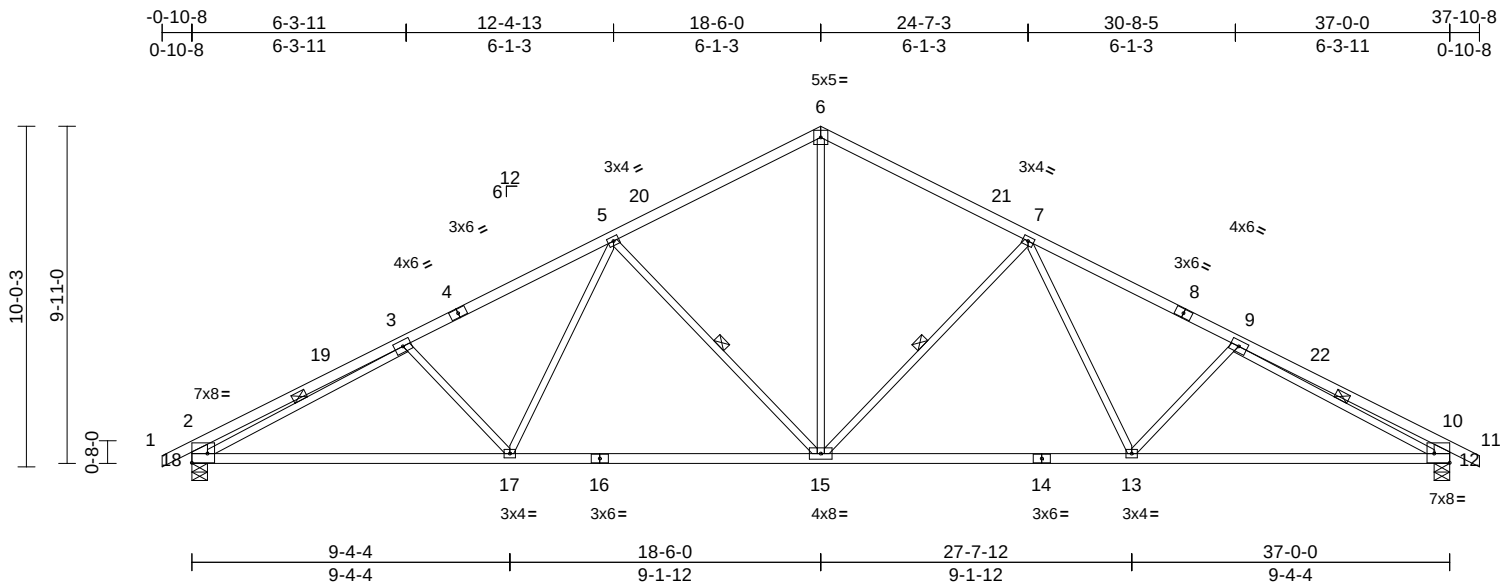

Scale = 1:67.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.66	Vert(LL)	-0.17	13-15	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.38	13-15	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.83	Horz(CT)	0.13	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 172 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 18-2,12-10:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-1-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 7-15, 5-15, 3-18, 9-12

REACTIONS (size) 12=0-5-8, 18=0-5-8
Max Horiz 18=-165 (LC 13)
Max Uplift 12=-277 (LC 13), 18=-277 (LC 12)
Max Grav 12=1722 (LC 1), 18=1722 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-1015/256, 3-5=-2580/446, 5-6=-1878/425, 6-7=-1878/425, 7-9=-2580/446, 9-10=-1015/256, 10-11=0/35, 2-18=-719/240, 10-12=-719/240
BOT CHORD 17-18=-466/2390, 15-17=-294/2058, 13-15=-189/2058, 12-13=-301/2390
WEBS 6-15=-193/1202, 7-15=-719/298, 7-13=-52/439, 9-13=-271/223, 5-15=-719/298, 5-17=-52/439, 3-17=-271/223, 3-18=-1821/244, 9-12=-1821/244

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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 18-6-0, Exterior(2R) 18-6-0 to 23-6-0, Interior (1) 23-6-0 to 37-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 277 lb uplift at joint 18 and 277 lb uplift at joint 12.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185	I64228561
P240213-01	E06	Common Supported Gable	1	1	Job Reference (optional)	

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

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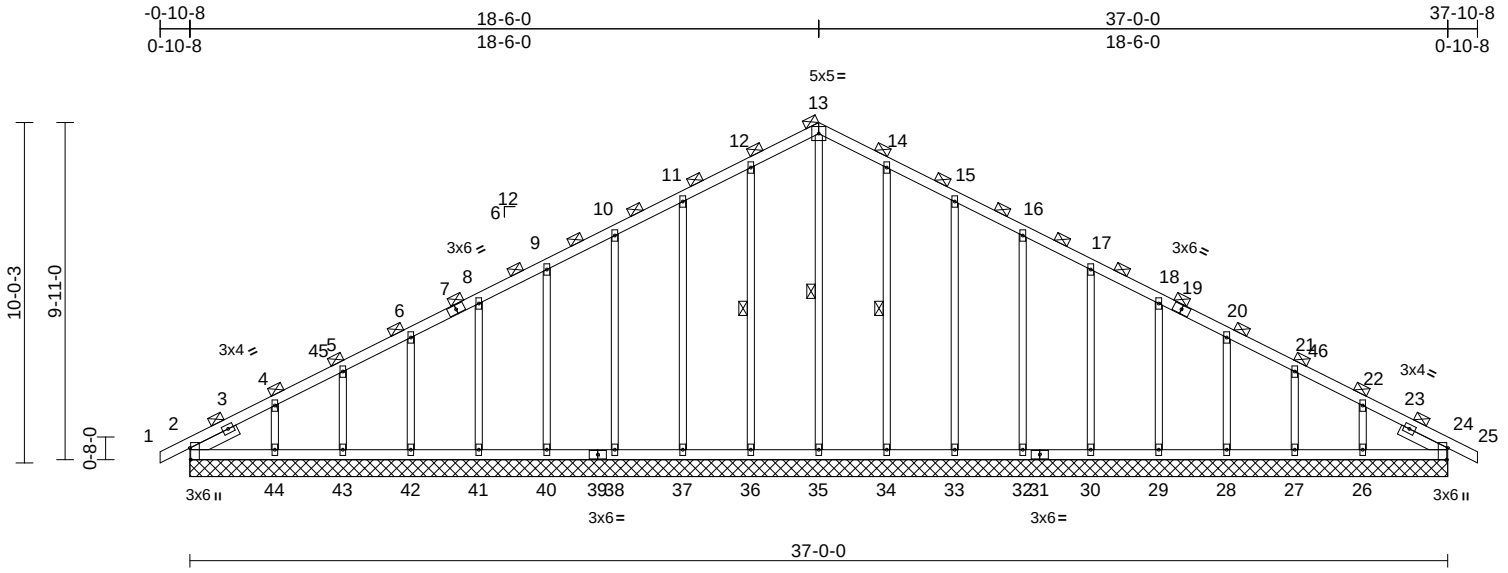

Scale = 1:67.8

Plate Offsets (X, Y): [2:0-4-1,Edge], [24:0-4-1,Edge]

Loading	(psf)	Spacing	4-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.40	Horz(CT)	0.02	24	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							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 2-0-0 oc purlins (6-0-0 max.) (Switched from sheeted: Spacing > 2-8-0).
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, 32=37-0-0, 33=37-0-0, 34=37-0-0, 35=37-0-0, 36=37-0-0, 37=37-0-0, 38=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=-365 (LC 13)
Max Uplift 2=-53 (LC 13), 26=-211 (LC 13), 27=-102 (LC 13), 28=-127 (LC 13), 29=-121 (LC 13), 30=-123 (LC 13), 32=-120 (LC 13), 33=-134 (LC 13), 34=-101 (LC 13), 36=-109 (LC 12), 37=-131 (LC 12), 38=-121 (LC 12), 40=-123 (LC 12), 41=-121 (LC 12), 42=-128 (LC 12), 43=-96 (LC 12), 44=-238 (LC 12)
Max Grav 2=372 (LC 21), 24=368 (LC 1), 26=426 (LC 26), 27=343 (LC 1), 28=364 (LC 26), 29=359 (LC 1), 30=360 (LC 26), 32=360 (LC 1), 33=359 (LC 26), 34=376 (LC 26), 35=416 (LC 22), 36=376 (LC 25), 37=359 (LC 25), 38=360 (LC 1), 40=360 (LC 25), 41=359 (LC 1), 42=364 (LC 25), 43=343 (LC 1), 44=426 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/11, 2-4=-486/167, 4-5=-324/179, 5-6=-257/209, 6-8=-204/262, 8-9=-165/317, 9-10=-146/373, 10-11=-183/473, 11-12=-222/588, 12-13=-257/681, 13-14=-257/681, 14-15=-222/588, 15-16=-183/473, 16-17=-146/367, 17-18=-117/259, 18-20=-117/151, 20-21=-147/62, 21-22=-197/44, 22-24=-331/100, 24-25=0/11
BOT CHORD 2-44=-96/385, 43-44=-96/385, 42-43=-96/385, 41-42=-96/385, 40-41=-96/385, 38-40=-96/385, 37-38=-96/385, 36-37=-96/385, 35-36=-96/385, 34-35=-96/385, 33-34=-96/385, 32-33=-96/385, 30-32=-96/385, 29-30=-96/385, 28-29=-96/385, 27-28=-96/385, 26-27=-96/385, 24-26=-96/385
WEBS 13-35=-425/84, 12-36=-296/163, 11-37=-279/208, 10-38=-280/191, 9-40=-280/193, 8-41=-280/193, 6-42=-282/197, 5-43=-271/202, 4-44=-321/414, 14-34=-296/163, 15-33=-279/208, 16-32=-280/191, 17-30=-280/193, 18-29=-280/193, 20-28=-282/197, 21-27=-271/203, 22-26=-321/407

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 4-1-8, Exterior(2N) 4-1-8 to 18-6-0, Corner(3R) 18-6-0 to 23-6-0, Exterior(2N) 23-6-0 to 37-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.

March 14,2024

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 - HR Lot 185
P240213-01	E06	Common Supported Gable	1	1	Job Reference (optional) I64228561

9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 2, 109 lb uplift at joint 36, 131 lb uplift at joint 37, 121 lb uplift at joint 38, 123 lb uplift at joint 40, 121 lb uplift at joint 41, 128 lb uplift at joint 42, 96 lb uplift at joint 43, 238 lb uplift at joint 44, 101 lb uplift at joint 34, 134 lb uplift at joint 33, 120 lb uplift at joint 32, 123 lb uplift at joint 30, 121 lb uplift at joint 29, 127 lb uplift at joint 28, 102 lb uplift at joint 27 and 211 lb uplift at joint 26.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	G01	Common Supported Gable	1	1	Job Reference (optional) I64228562

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

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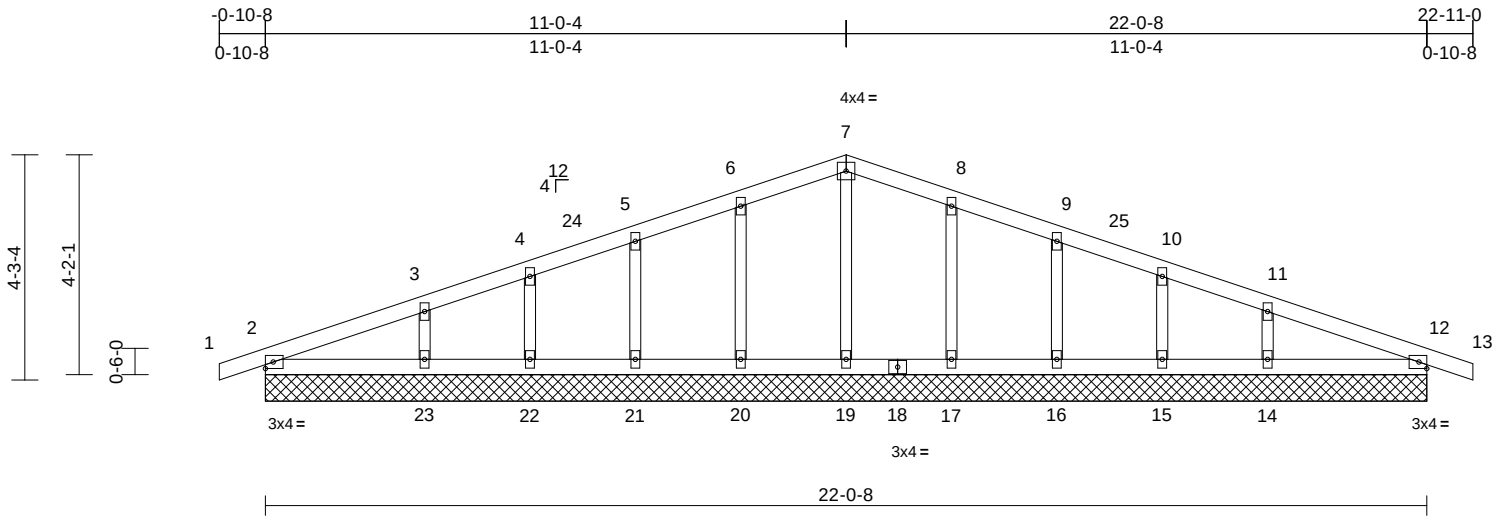

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 86 lb	FT = 20%

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

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

REACTIONS (size) 2=22-0-8, 12=22-0-8, 14=22-0-8, 15=22-0-8, 16=22-0-8, 17=22-0-8, 19=22-0-8, 20=22-0-8, 21=22-0-8, 22=22-0-8, 23=22-0-8
Max Horiz 2=-75 (LC 13)
Max Uplift 2=-50 (LC 8), 12=-60 (LC 9), 14=-75 (LC 13), 15=-43 (LC 9), 16=-51 (LC 13), 17=-52 (LC 13), 20=-52 (LC 12), 21=-51 (LC 12), 22=-43 (LC 8), 23=-77 (LC 12)
Max Grav 2=188 (LC 1), 12=188 (LC 1), 14=262 (LC 26), 15=151 (LC 26), 16=185 (LC 1), 17=189 (LC 26), 19=161 (LC 1), 20=189 (LC 25), 21=185 (LC 1), 22=151 (LC 25), 23=262 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-84/56, 3-4=-50/62, 4-5=-31/87, 5-6=-42/123, 6-7=-55/159, 7-8=-55/154, 8-9=-42/110, 9-10=-31/74, 10-11=-37/41, 11-12=-58/34, 12-13=0/6
BOT CHORD 2-23=-16/67, 22-23=-16/67, 21-22=-16/67, 20-21=-16/67, 19-20=-16/67, 17-19=-16/67, 16-17=-16/67, 15-16=-16/67, 14-15=-16/67, 12-14=-16/67
WEBS 7-19=-121/2, 6-20=-150/135, 5-21=-143/129, 4-22=-121/80, 3-23=-196/126, 8-17=-150/135, 9-16=-143/129, 10-15=-121/80, 11-14=-196/125

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 4-1-8, Exterior(2N) 4-1-8 to 11-0-4, Corner(3R) 11-0-4 to 16-0-4, Exterior(2N) 16-0-4 to 22-11-0 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) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) 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 60 lb uplift at joint 12, 52 lb uplift at joint 20, 51 lb uplift at joint 21, 43 lb uplift at joint 22, 77 lb uplift at joint 23, 52 lb uplift at joint 17, 51 lb uplift at joint 16, 43 lb uplift at joint 15, 75 lb uplift at joint 14 and 50 lb uplift at joint 2.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

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
04/02/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185	I64228563
P240213-01	G02	Common	4	1	Job Reference (optional)	

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

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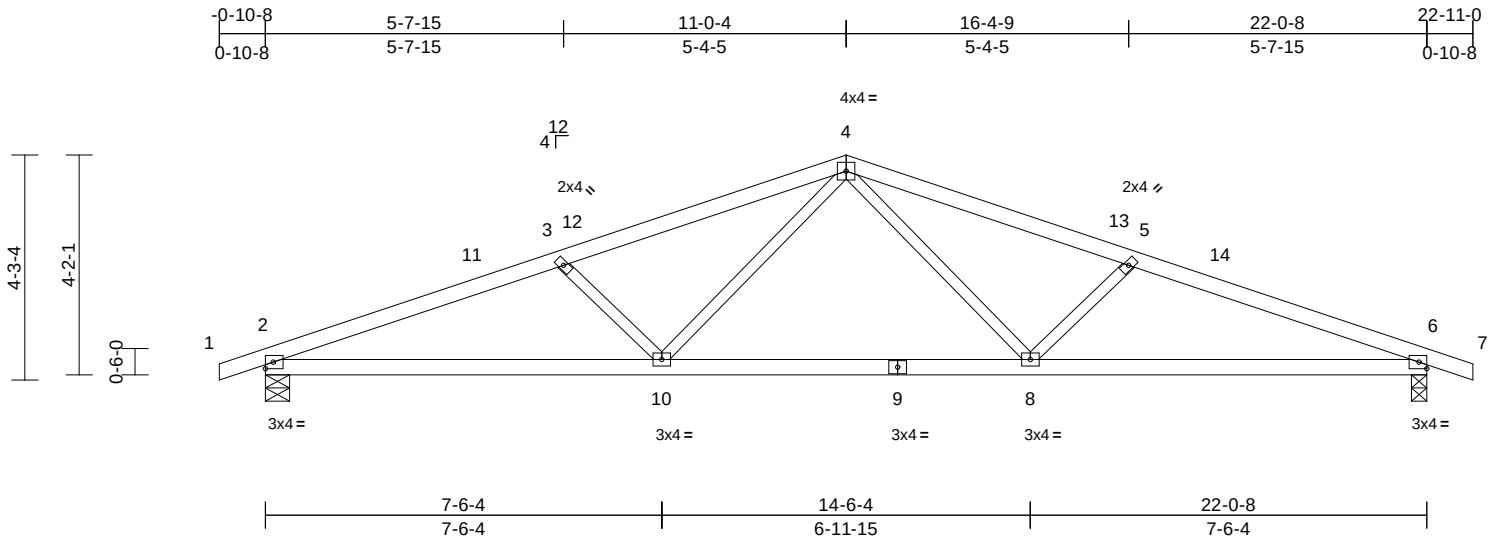

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	-0.11	8-10	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.23	6-8	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.20	Horz(CT)	0.06	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 83 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 3-5-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-4-3 oc bracing.

REACTIONS (size) 2=0-5-8, 6=0-3-8
Max Horiz 2=-75 (LC 13)
Max Uplift 2=-222 (LC 8), 6=-219 (LC 9)
Max Grav 2=1053 (LC 1), 6=1046 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-2157/578, 3-4=-1885/507, 4-5=-1898/513, 5-6=-2178/582, 6-7=0/6
BOT CHORD 2-10=-480/1959, 8-10=-265/1368, 6-8=-493/1983
WEBS 4-8=-101/580, 5-8=-382/230, 4-10=-97/564, 3-10=-368/225

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 11-0-4, Exterior(2R) 11-0-4 to 16-0-4, Interior (1) 16-0-4 to 22-11-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 219 lb uplift at joint 6 and 222 lb uplift at joint 2.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	R01	Flat Girder	1	2	Job Reference (optional)

I64228564

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

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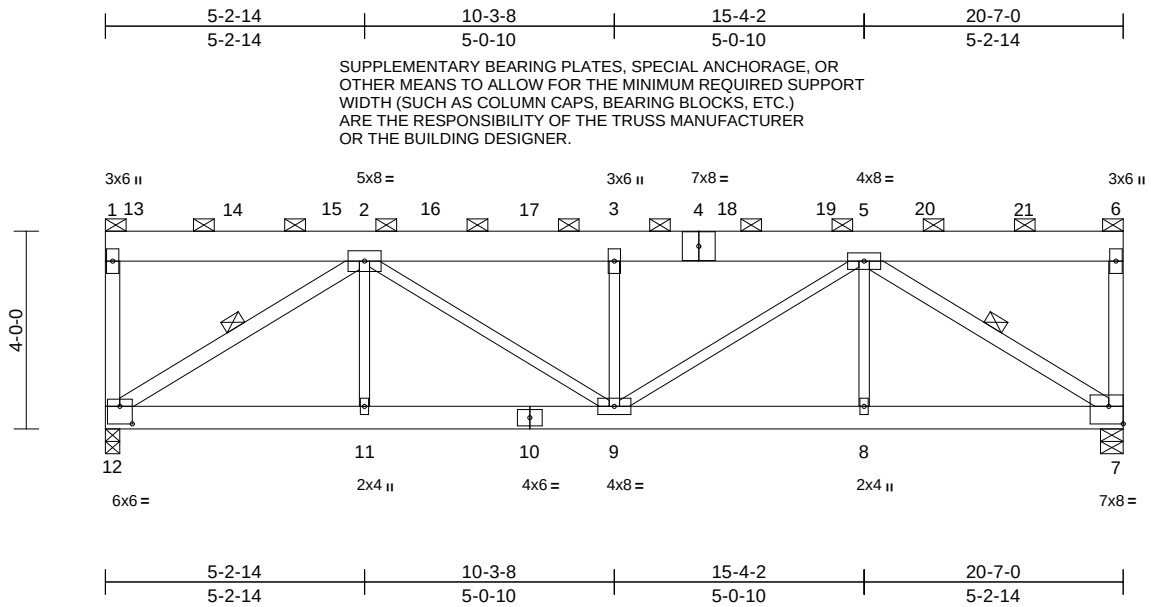

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Plate Offsets (X, Y): [7:Edge,0-4-4], [12:0-3-0,0-4-4]

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	0.43	Vert(LL)	-0.10	9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.19	9	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.61	Horz(CT)	0.06	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 255 lb	FT = 20%

LUMBER
TOP CHORD 2x8 SPF No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-1,12-2,5-7:2x4 SP No.2
OTHERS 2x4 SP No.2

BRACING
TOP CHORD 2-0-0 oc purlins (5-11-12 max.): 1-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 2-12, 5-7

REACTIONS (size) 7=0-5-8, 12=0-3-8, (req. 0-4-7)
Max Uplift 7=-1108 (LC 8), 12=-1269 (LC 8)
Max Grav 7=4947 (LC 1), 12=5648 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-3=-7916/2013, 3-5=-7916/2013, 5-6=-69/16, 6-7=-749/247
BOT CHORD 11-12=-1582/6218, 9-11=-1582/6218, 8-9=-1557/6102, 7-8=-1557/6102
WEBS 1-12=-1345/367, 5-8=0/188, 2-11=0/206, 2-12=-7523/1915, 2-9=-522/2060, 5-9=-553/2201, 5-7=-7299/1864, 3-9=-2304/663

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 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) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) 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
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) WARNING: Required bearing size at joint(s) 12 greater than input bearing size.
8) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1108 lb uplift at joint 7 and 1269 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 911 lb down and 207 lb up at 0-7-0, 891 lb down and 201 lb up at 2-7-0, 891 lb down and 201 lb up at 4-7-0, 868 lb down and 195 lb up at 6-7-0, 868 lb down and 195 lb up at 8-7-0, 868 lb down and 195 lb up at 10-7-0, 868 lb down and 195 lb up at 12-7-0, 868 lb down and 195 lb up at 14-7-0, and 868 lb down and 195 lb up at 16-7-0, and 868 lb down and 195 lb up at 18-7-0 on top chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-70, 7-12=-20
Concentrated Loads (lb)
Vert: 3=-868, 13=-911, 14=-891, 15=-891, 16=-868, 17=-868, 18=-868, 19=-868, 20=-868, 21=-868

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	V1	Valley	1	1	Job Reference (optional)

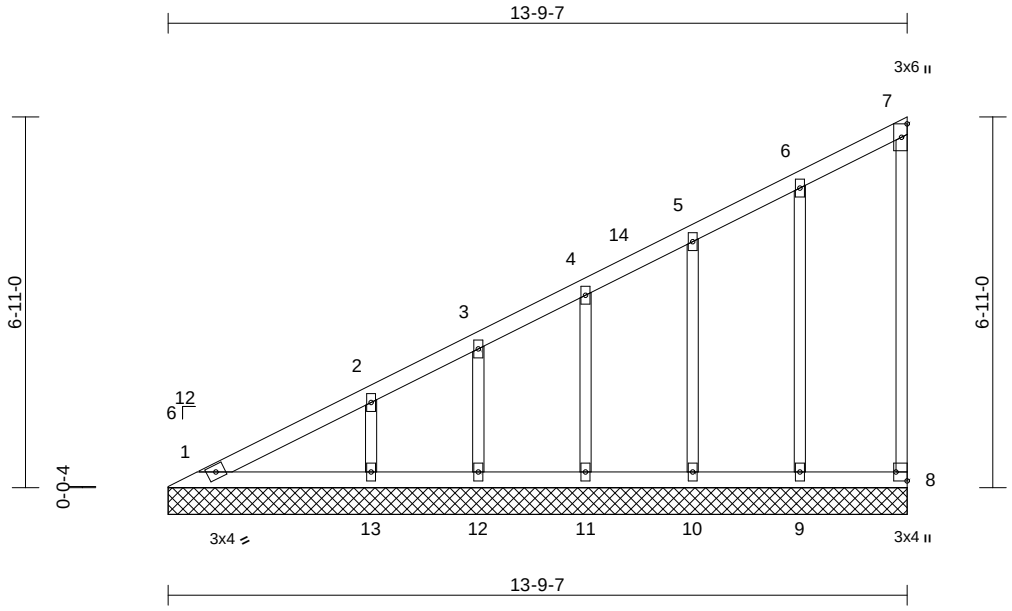

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Plate Offsets (X, Y): [8:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.12	Horiz(TL)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							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=13-9-7, 8=13-9-7, 9=13-9-7, 10=13-9-7, 11=13-9-7, 12=13-9-7, 13=13-9-7
Max Horiz 1=292 (LC 9)
Max Uplift 8=-38 (LC 9), 9=-67 (LC 12), 10=-58 (LC 12), 11=-65 (LC 12), 12=-47 (LC 12), 13=-100 (LC 12)
Max Grav 1=156 (LC 20), 8=73 (LC 19), 9=193 (LC 1), 10=176 (LC 1), 11=190 (LC 1), 12=138 (LC 1), 13=294 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-441/258, 2-3=-357/213, 3-4=-312/199, 4-5=-254/175, 5-6=-198/158, 6-7=-124/116, 7-8=-54/50
BOT CHORD 1-13=-132/143, 12-13=-132/143, 11-12=-132/143, 10-11=-132/143, 9-10=-132/143, 8-9=-132/143
WEBS 6-9=-149/167, 5-10=-138/110, 4-11=-146/104, 3-12=-112/84, 2-13=-219/173

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 5-9-15, Interior (1) 5-9-15 to 13-8-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 8, 67 lb uplift at joint 9, 58 lb uplift at joint 10, 65 lb uplift at joint 11, 47 lb uplift at joint 12 and 100 lb uplift at joint 13.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 14,2024

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16023 Swingley Ridge Rd.
Chesterfield, MO 63017
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Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185	I64228566
P240213-01	V2	Valley	1	1	Job Reference (optional)	

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

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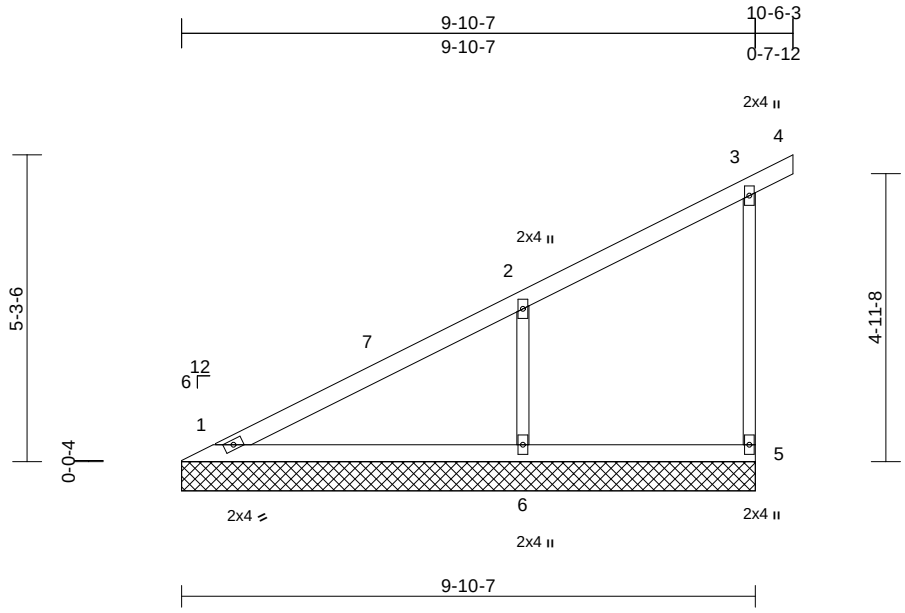

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 37 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=9-10-7, 5=9-10-7, 6=9-10-7
Max Horiz 1=220 (LC 9)
Max Uplift 5=-65 (LC 9), 6=-173 (LC 12)
Max Grav 1=192 (LC 1), 5=170 (LC 1), 6=517 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-341/194, 2-3=-156/95, 3-4=-23/0, 3-5=-148/164
BOT CHORD 1-6=-92/102, 5-6=-92/102
WEBS 2-6=-388/348

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 5-10-15, Interior (1) 5-10-15 to 10-6-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 5 and 173 lb uplift at joint 6.
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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185	I64228567
P240213-01	V3	Valley	1	1	Job Reference (optional)	

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

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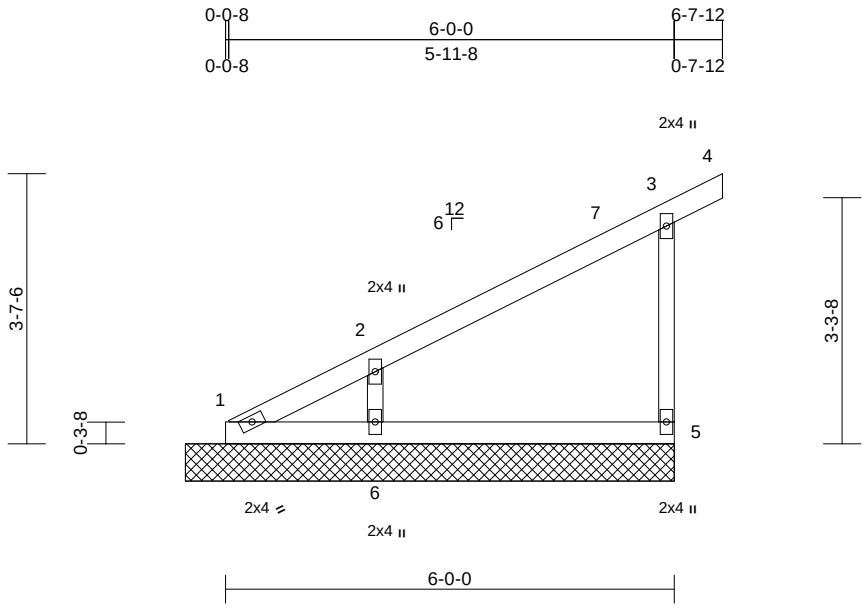
04/02/2024



Scale = 1:30.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 23 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=6-6-7, 5=6-6-7, 6=6-6-7
Max Horiz 1=146 (LC 9)
Max Uplift 5=-62 (LC 12), 6=-120 (LC 12)
Max Grav 1=59 (LC 9), 5=202 (LC 1), 6=350 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-311/154, 2-3=-156/79, 3-4=-23/0, 3-5=-170/210
BOT CHORD 1-6=-60/65, 5-6=-60/65
WEBS 2-6=-270/319

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) 0-8-11 to 5-8-11, Interior (1) 5-8-11 to 7-2-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 62 lb uplift at joint 5 and 120 lb uplift at joint 6.
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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	V4	Valley	1	1	Job Reference (optional)

I64228568

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Wed Mar 13 16:07:28 Page: 1
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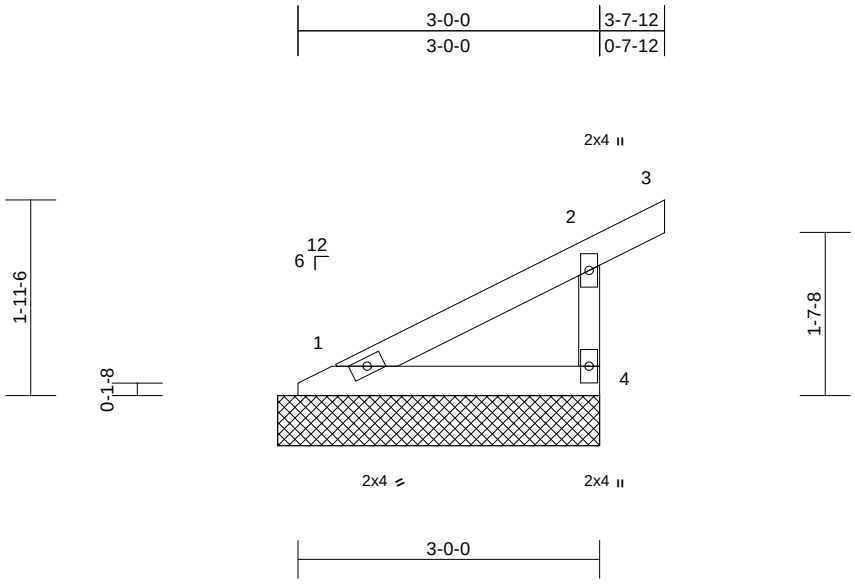

Scale = 1:22.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 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 3-2-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-2-7, 4=3-2-7
Max Horiz 1=72 (LC 9)
Max Uplift 1=-7 (LC 12), 4=-62 (LC 12)
Max Grav 1=105 (LC 1), 4=173 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-112/43, 2-3=-23/0, 2-4=-148/179
BOT CHORD 1-4=-26/28

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 1 and 62 lb uplift at joint 4.
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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	V7	Valley	1	1	Job Reference (optional)

I64228569

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Wed Mar 13 16:07:28 Page: 1
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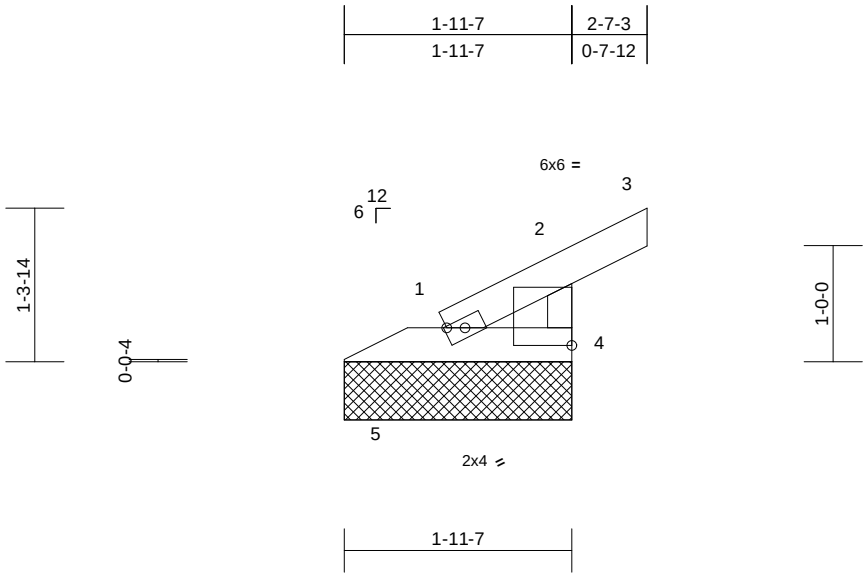


Scale = 1:19.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.01	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	1	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 6 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-11-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=1-11-7, 4=1-11-7, 5=1-11-7
Max Horiz 5=42 (LC 12)
Max Uplift 4=-58 (LC 12)
Max Grav 1=45 (LC 3), 4=115 (LC 1), 5=6 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-86/36, 2-3=-23/0, 2-4=-107/153
BOT CHORD 1-5=-81/29, 1-4=0/0

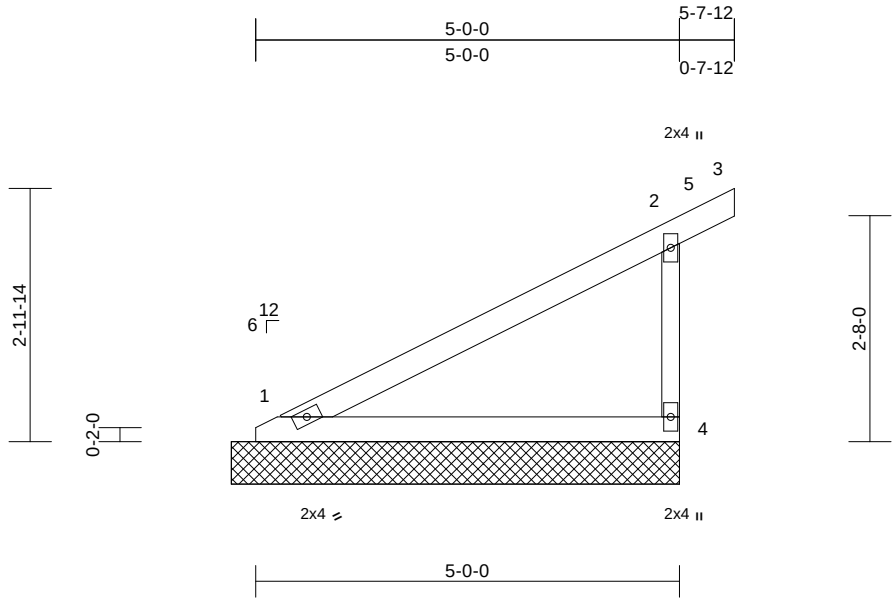
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 4.
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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	V8	Valley	1	1	Job Reference (optional) I64228570



Scale = 1:27.2

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	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							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 5-3-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-3-7, 4=5-3-7
Max Horiz 1=115 (LC 12)
Max Uplift 1=-11 (LC 12), 4=-98 (LC 12)
Max Grav 1=202 (LC 1), 4=264 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-143/68, 2-3=-23/0, 2-4=-218/260
BOT CHORD 1-4=0/0

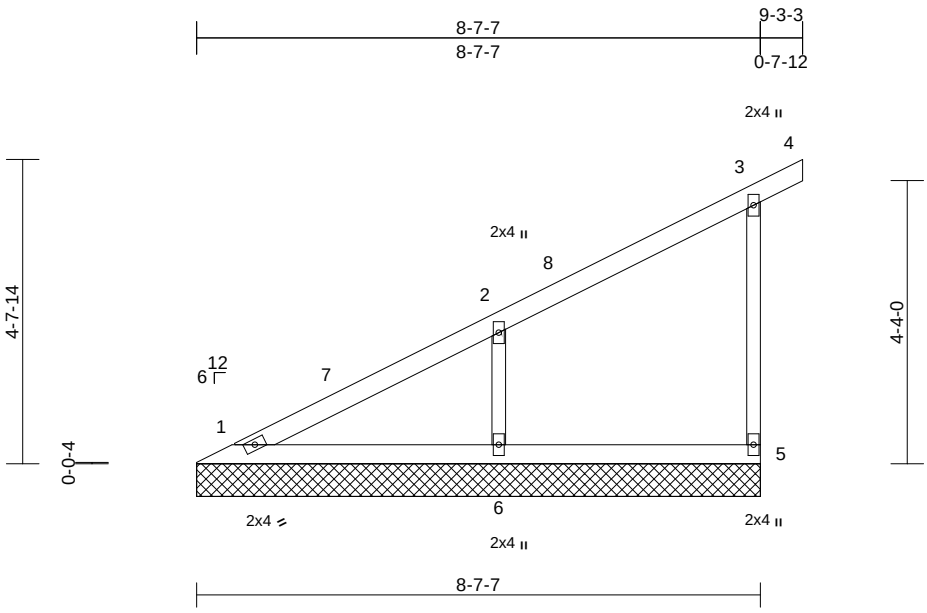
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 5-11-11 zone; cantilever left and right exposed ; end vertical left exposed;C-C 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) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 1 and 98 lb uplift at joint 4.
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

March 14,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	V9	Valley	1	1	Job Reference (optional)



Scale = 1:35.2

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	0.29	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 32 lb	FT = 20%

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

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

REACTIONS (size) 1=8-7-7, 5=8-7-7, 6=8-7-7
Max Horiz 1=187 (LC 12)
Max Uplift 5=-73 (LC 12), 6=-148 (LC 12)
Max Grav 1=139 (LC 1), 5=189 (LC 1), 6=438 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-261/120, 2-3=-94/48, 3-4=-23/0, 3-5=-160/155
BOT CHORD 1-6=0/0, 5-6=0/0
WEBS 2-6=-339/329

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 9-3-11 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) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 73 lb uplift at joint 5 and 148 lb uplift at joint 6.
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

March 14,2024

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 185
P240213-01	V10	Valley	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I64228572
04/02/2024

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

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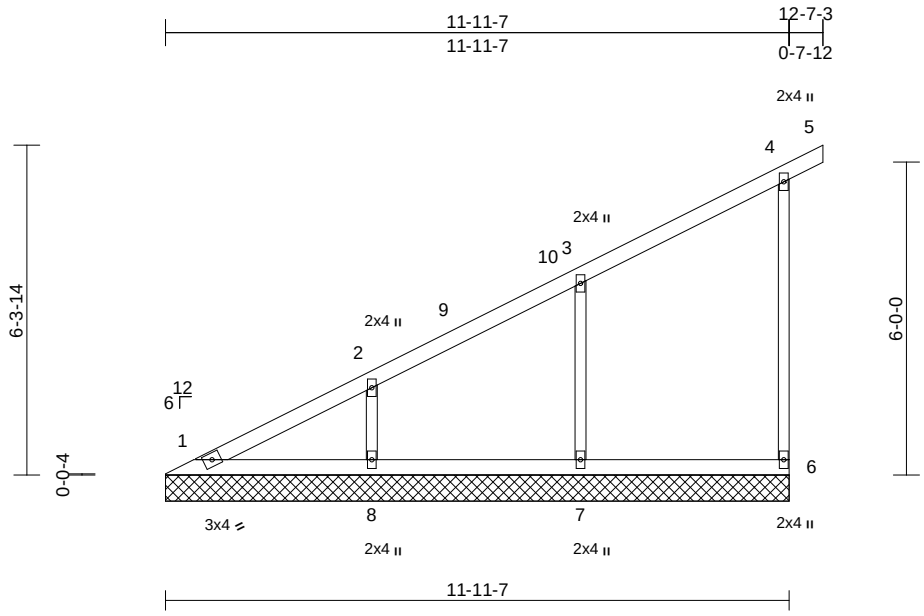


Scale = 1:44.2

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	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 46 lb	FT = 20%

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

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

REACTIONS (size) 1=11-11-7, 6=11-11-7, 7=11-11-7, 8=11-11-7
Max Horiz 1=260 (LC 12)
Max Uplift 6=-78 (LC 12), 7=-129 (LC 12), 8=-124 (LC 12)
Max Grav 1=134 (LC 21), 6=200 (LC 1), 7=386 (LC 1), 8=363 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-329/140, 2-3=-218/93, 3-4=-92/49, 4-5=-23/0, 4-6=-168/141
BOT CHORD 1-8=-2/3, 7-8=-2/3, 6-7=-2/3
WEBS 3-7=-300/246, 2-8=-277/232

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 12-7-11 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) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 78 lb uplift at joint 6, 129 lb uplift at joint 7 and 124 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

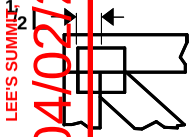
LOAD CASE(S) Standard

March 14,2024

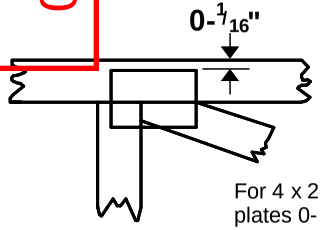
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

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.

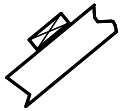
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

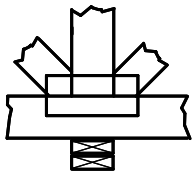
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

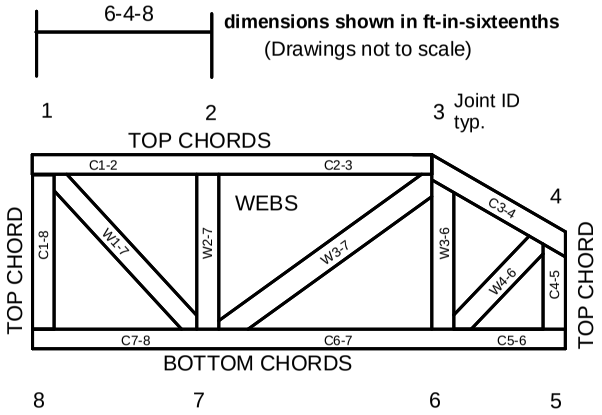


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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®

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

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.