MiTek®

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

RE: P240543-01 - Roof - HM Lot 148

Site Information:

Project Customer: Clayton Properties Project Name: Woodbridge - Prairie
Lot/Block: 148 Subdivision: Highland Meadows
Model:
Address: 2774 SW 12th St
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	No.	Seal#	Truss Name	Date
1	I65783130	A1	5/23/24	35	I65783164	J8	5/23/24
2	I65783131	A2	5/23/24	36	I65783165	J9	5/23/24
3	I65783132	A3	5/23/24	37	I65783166	J10	5/23/24
4	I65783133	A4	5/23/24	38	I65783167	J11	5/23/24
5	I65783134	A5	5/23/24	39	I65783168	J12	5/23/24
6	I65783135	A6	5/23/24	40	I65783169	J13	5/23/24
7	I65783136	A7	5/23/24	41	I65783170	J14	5/23/24
8	I65783137	A8	5/23/24	42	I65783171	J15	5/23/24
9	I65783138	A9	5/23/24	43	I65783172	J16	5/23/24
10	I65783139	A10	5/23/24	44	I65783173	J17	5/23/24
11	I65783140	A11	5/23/24	45	I65783174	J18	5/23/24
12	I65783141	A12	5/23/24	46	I65783175	J19	5/23/24
13	I65783142	A13	5/23/24	47	I65783176	J20	5/23/24
14	I65783143	A14	5/23/24	48	I65783177	J21	5/23/24
15	I65783144	A15	5/23/24	49	I65783178	LG1	5/23/24
16	I65783145	A16	5/23/24	50	I65783179	LG2	5/23/24
17	I65783146	B1	5/23/24	51	I65783180	LG3	5/23/24
18	I65783147	CG1	5/23/24	52	I65783181	LG4	5/23/24
19	I65783148	CG2	5/23/24	53	I65783182	LG5	5/23/24
20	I65783149	CG3	5/23/24	54	I65783183	LG6	5/23/24
21	I65783150	CG4	5/23/24	55	I65783184	LG7	5/23/24
22	I65783151	CG5	5/23/24	56	I65783185	TG2	5/23/24
23	I65783152	E1	5/23/24				
24	I65783153	H1	5/23/24				
25	I65783154	H2	5/23/24				
26	I65783155	H3	5/23/24				
27	I65783156	H4	5/23/24				
28	I65783157	J1	5/23/24				
29	I65783158	J2	5/23/24				
30	I65783159	J3	5/23/24				
31	I65783160	J4	5/23/24				
32	I65783161	J5	5/23/24				
33	I65783162	J6	5/23/24				
34	I65783163	J7	5/23/24				

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: Johnson, Andrew
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.

May 23,2024
Johnson, Andrew

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A1	Hip Girder	1	2	Job Reference (optional) I65783130

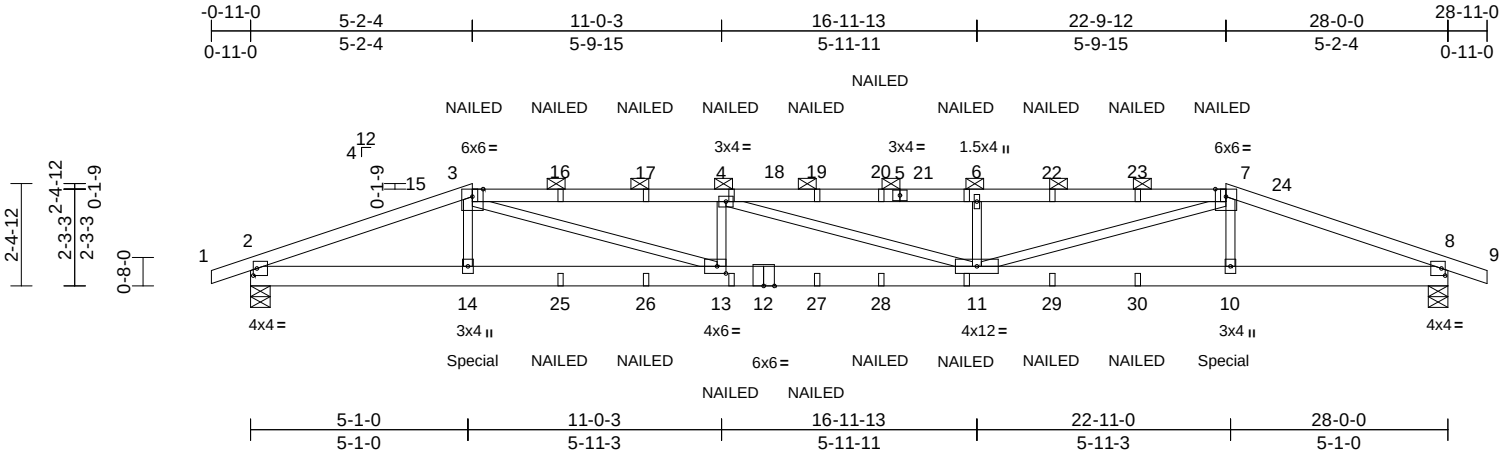

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Plate Offsets (X, Y): [2:0-1-1,0-2-0], [8:0-1-1,0-2-0], [13:0-2-8,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.35	11-13	>932	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.64	11-13	>519	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.57	Horz(CT)	0.08	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 231 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 3-5,5-7:2x4 SP 1650F 1.5E
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-1-15 oc purlins, except 2-0-0 oc purlins (4-4-14 max.): 3-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 8=0-5-8
Max Horiz 2=-37 (LC 34)
Max Uplift 2=-647 (LC 8), 8=-647 (LC 9)
Max Grav 2=2266 (LC 1), 8=2266 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/2, 2-3=-5479/1592, 3-4=-8091/2394, 4-6=-8038/2366, 6-7=-8042/2369, 7-8=-5490/1592, 8-9=0/2
BOT CHORD 2-14=-1410/5041, 13-14=-1409/5015, 11-13=-2285/8087, 10-11=-1415/5024, 8-10=-1415/5051
WEBS 3-14=-10/519, 7-10=-18/531, 3-13=-926/3312, 7-11=-907/3252, 4-13=-855/434, 4-11=-100/49, 6-11=-844/445

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 5-2-4, Exterior(2R) 5-2-4 to 12-3-2, Interior (1) 12-3-2 to 22-9-12, Exterior(2E) 22-9-12 to 28-11-0 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
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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 647 lb uplift at joint 2 and 647 lb uplift at joint 8.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 303 lb down and 76 lb up at 5-2-4, and 303 lb down and 76 lb up at 22-9-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-7=-70, 7-9=-70, 2-8=-20
Concentrated Loads (lb)
Vert: 3=-104 (B), 14=-303 (B), 10=-303 (B), 13=-31 (B), 7=-104 (B), 11=-31 (B), 4=-104 (B), 6=-104 (B), 16=-104 (B), 17=-104 (B), 19=-104 (B), 20=-104 (B), 22=-104 (B), 23=-104 (B), 25=-31 (B), 26=-31 (B), 27=-31 (B), 28=-31 (B), 29=-31 (B), 30=-31 (B)

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783131
P240543-01	A2	Hip	1	1	Job Reference (optional)	

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

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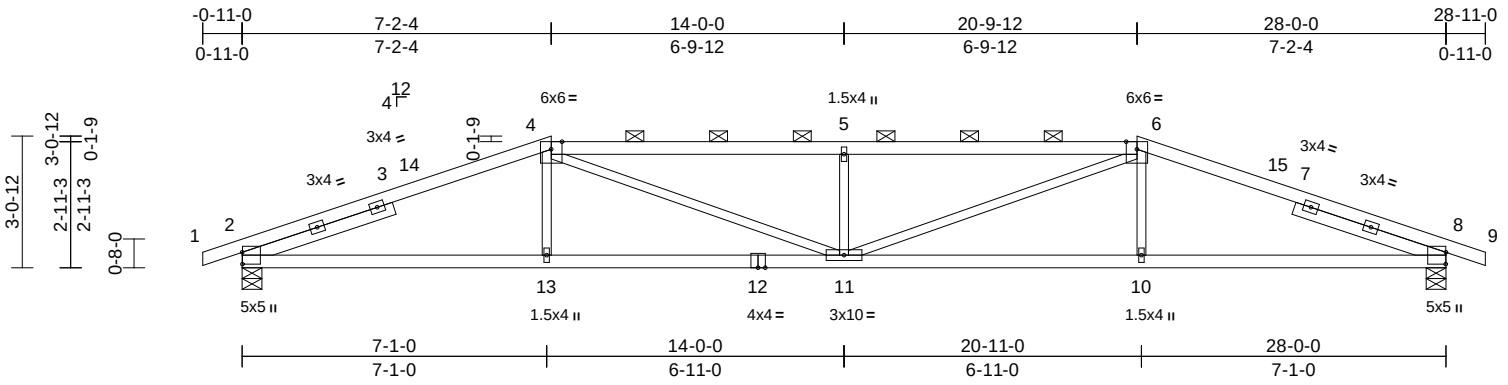

Scale = 1:53.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.25	11	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.47	11-13	>710	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.12	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 116 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-8-6, Right 2x4 SP No.2 -- 3-8-6

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except 2-0-0 oc purlins (2-9-3 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 7-7-12 oc bracing.

REACTIONS (size) 2=0-5-8, 8=0-5-8
Max Horiz 2=-50 (LC 17)
Max Uplift 2=-303 (LC 8), 8=-303 (LC 9)
Max Grav 2=1324 (LC 1), 8=1324 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-2782/720, 4-5=-3475/951, 5-6=-3475/951, 6-8=-2782/720, 8-9=-4/0
BOT CHORD 2-13=-577/2537, 11-13=-581/2531, 10-11=-588/2531, 8-10=-585/2537
WEBS 4-13=0/290, 4-11=-278/1167, 5-11=-625/276, 6-11=-278/1167, 6-10=0/290

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 7-2-4, Exterior(2R) 7-2-4 to 14-0-0, Interior (1) 14-0-0 to 20-9-12, Exterior(2R) 20-9-12 to 28-0-0, Interior (1) 28-0-0 to 28-11-0 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) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) 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 303 lb uplift at joint 2 and 303 lb uplift at joint 8.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783132
P240543-01	A3	Hip	1	1	Job Reference (optional)	

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

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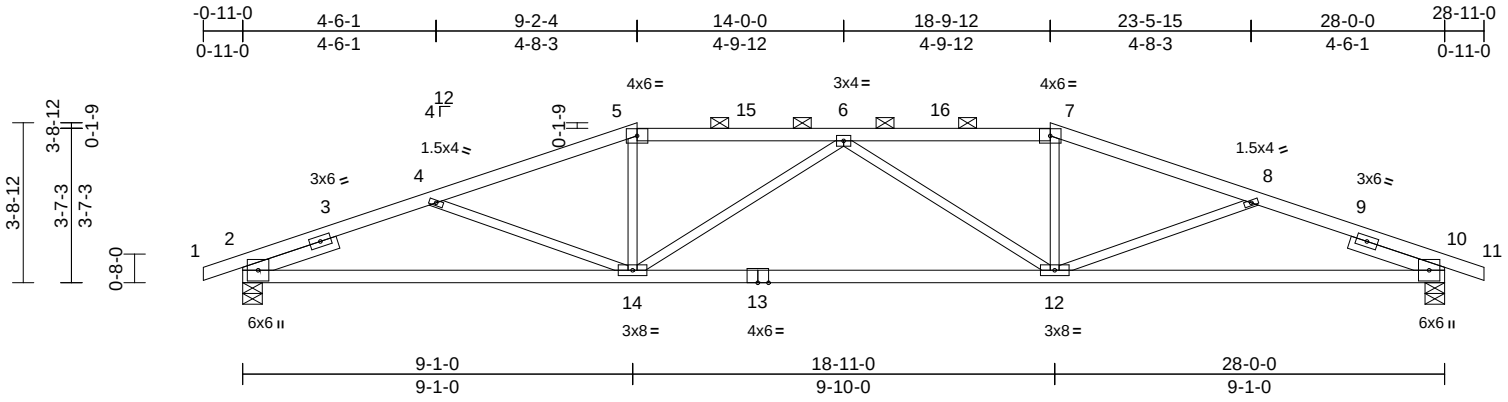

Scale = 1:53.7

Plate Offsets (X, Y): [2:0-3-13,0-1-5], [10:0-3-13,0-1-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.21	12-14	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.46	12-14	>728	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.11	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 117 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 2-3-12, Right 2x4 SP No.2 -- 2-3-12

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except 2-0-0 oc purlins (3-6-6 max.): 5-7.
BOT CHORD Rigid ceiling directly applied or 8-5-2 oc bracing.

REACTIONS (size) 2=0-5-8, 10=0-5-8
Max Horiz 2=-62 (LC 17)
Max Uplift 2=-294 (LC 8), 10=-294 (LC 9)
Max Grav 2=1324 (LC 1), 10=1324 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-2735/823, 4-5=-2530/690, 5-6=-2365/687, 6-7=-2365/687, 7-8=-2530/690, 8-10=-2735/823, 10-11=-4/0
BOT CHORD 2-14=-712/2470, 12-14=-680/2669, 10-12=-710/2470
WEBS 5-14=-50/437, 7-12=-50/437, 6-14=-510/202, 6-12=-510/202, 4-14=-135/219, 8-12=-135/219

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-3-9, Interior (1) 4-3-9 to 9-2-4, Exterior(2R) 9-2-4 to 16-3-2, Interior (1) 16-3-2 to 18-9-12, Exterior(2R) 18-9-12 to 25-10-10, Interior (1) 25-10-10 to 28-11-0 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) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) All bearings are assumed to be SP 1650F 1.5E crushing capacity of 565 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 294 lb uplift at joint 2 and 294 lb uplift at joint 10.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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

May 23,2024

MiTek®
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Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
07/05/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783133
P240543-01	A4	Hip	1	1	Job Reference (optional)	

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

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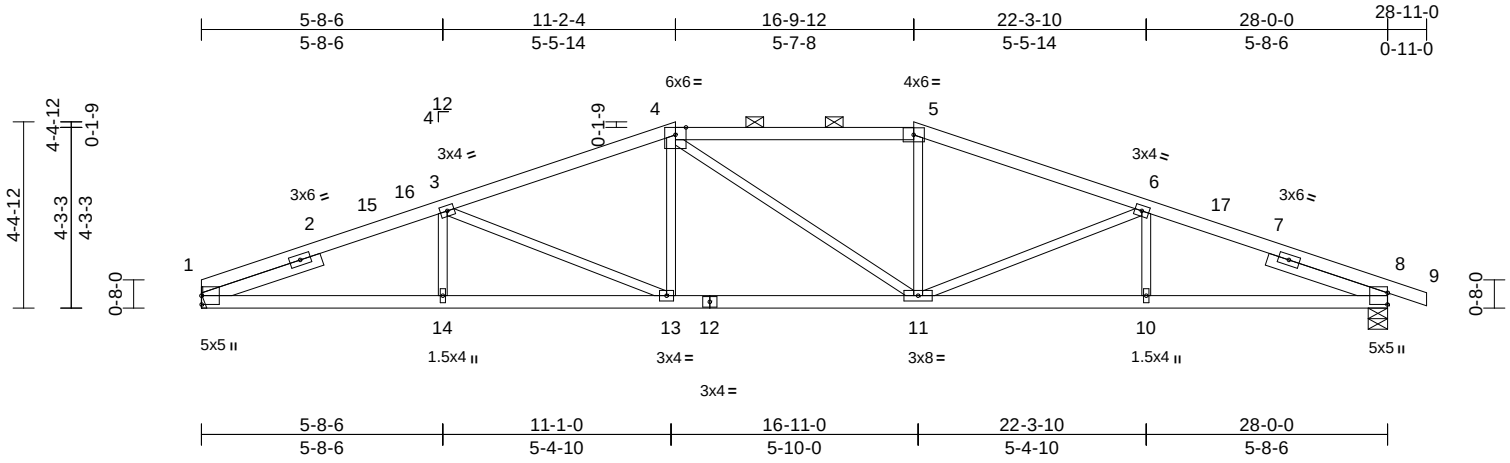

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Plate Offsets (X, Y): [1:0-2-8,0-0-1], [8:0-3-5,0-0-1]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.17	13-14	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.32	11-13	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.11	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 120 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 2-11-10, Right 2x4 SP No.2 -- 2-11-10

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except 2-0-0 oc purlins (3-0-12 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 7-1-3 oc bracing.

REACTIONS (size) 1= Mechanical, 8=0-5-8
Max Horiz 1=77 (LC 12)
Max Uplift 1=-240 (LC 8), 8=-283 (LC 9)
Max Grav 1=1259 (LC 1), 8=1325 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-2806/783, 3-4=-2308/701, 4-5=-2137/719, 5-6=-2295/717, 6-8=-2795/801, 8-9=-4/0
BOT CHORD 1-14=-661/2543, 13-14=-661/2543, 11-13=-505/2138, 10-11=-686/2533, 8-10=-686/2533
WEBS 3-14=0/215, 3-13=-473/196, 4-13=-10/336, 4-11=-206/206, 5-11=-12/336, 6-11=-463/194, 6-10=0/212

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) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 11-2-4, Exterior(2E) 11-2-4 to 16-9-12, Exterior(2R) 16-9-12 to 23-10-10, Interior (1) 23-10-10 to 28-11-0 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) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Bearings are assumed to be: , Joint 8 SP No.2 crushing capacity of 565 psi.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 240 lb uplift at joint 1 and 283 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.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 23,2024

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Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A5	Roof Special Girder	1	1	I65783134

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

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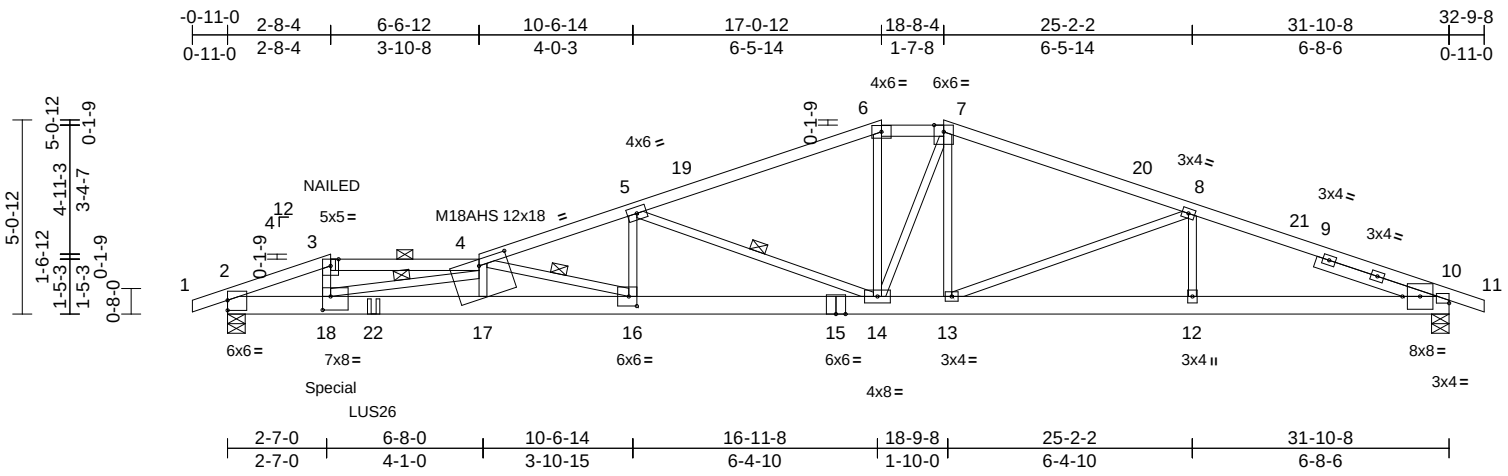

Scale = 1:60.1

Plate Offsets (X, Y): [2:Edge,0-3-2], [4:0-9-0,0-2-0], [10:0-1-9,0-4-0], [10:Edge,0-2-2], [16:0-2-8,0-3-0], [18:0-2-8,0-4-4]

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	0.89	Vert(LL)	-0.41	16-17	>921	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-0.73	16-17	>515	180	M18AHS	142/136
BCLL	0.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.11	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 156 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 4-6,7-11:2x4 SP 1650F 1.5E
BOT CHORD 2x6 SP 2400F 2.0E *Except* 15-10:2x6 SPF No.2
WEBS 2x3 SPF No.2
SLIDER Right 2x4 SP No.2 -- 3-3-13

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-8-2 oc purlins, except 2-0-0 oc purlins (2-4-0 max.): 3-4, 6-7.
BOT CHORD Rigid ceiling directly applied or 7-3-4 oc bracing.
WEBS 1 Row at midpt 4-16, 5-14, 4-18

REACTIONS (size) 2=0-5-8, 10=0-5-8
Max Horiz 2=-87 (LC 17)
Max Uplift 2=-526 (LC 8), 10=-314 (LC 9)
Max Grav 2=1882 (LC 1), 10=1541 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/2, 2-3=-4336/1285, 3-4=-3775/1157, 4-5=-4672/1218, 5-6=-2790/762, 6-7=-2569/751, 7-8=-2700/738, 8-10=-3290/816, 10-11=0/2
BOT CHORD 2-18=-1130/3920, 17-18=-1879/7055, 16-17=-1868/7030, 14-16=-1055/4377, 13-14=-534/2495, 12-13=-695/3004, 10-12=-695/3004
WEBS 3-18=-397/1577, 4-17=-263/154, 4-16=-2743/840, 5-16=-197/1009, 5-14=-1929/553, 6-14=-123/580, 7-14=-139/406, 7-13=-40/334, 8-13=-624/232, 8-12=0/228, 4-18=-3396/813

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 6-6-12, Interior (1) 6-6-12 to 17-0-12, Exterior(2E) 17-0-12 to 18-8-4, Exterior(2R) 18-8-4 to 23-8-4, Interior (1) 23-8-4 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: Joint 2 SP 2400F 2.0E crushing capacity of 805 psi, Joint 10 SPF No.2 crushing capacity of 425 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 526 lb uplift at joint 2 and 314 lb uplift at joint 10.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent at 3-9-12 from the left end to connect truss(es) to back face of bottom chord.
11) N/A
12) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 75 lb down and 128 lb up at 2-8-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
14) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-4=-70, 4-6=-70, 6-7=-70, 7-11=-70, 2-10=-20
Concentrated Loads (lb)
Vert: 3=-11 (B), 18=-60 (B), 22=-364 (B)

STATE OF MISSOURI
ANDREW THOMAS JOHNSTON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER
May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A6	Roof Special	1	1	Job Reference (optional) I65783135

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

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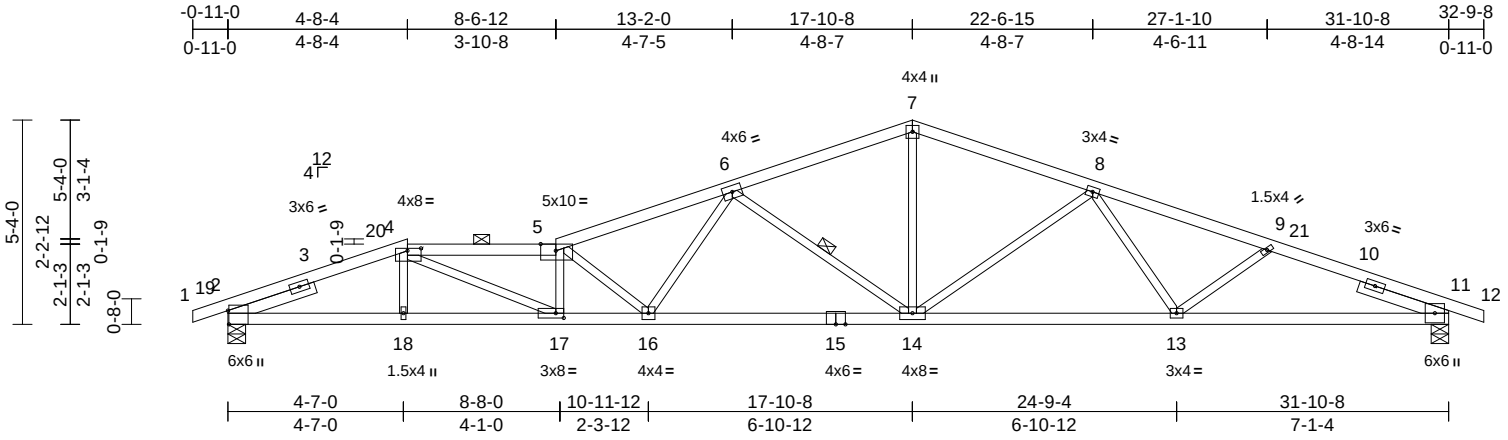

Scale = 1:60.2

Plate Offsets (X, Y): [2:0-4-5,Edge], [4:0-4-4,0-0-12], [5:0-4-12,Edge], [11:0-3-13,0-1-5], [17:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	1.00	Vert(LL)	-0.35	14-16	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.66	14-16	>578	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.16	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 138 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 4-5,5-7:2x4 SP No.2
BOT CHORD 2x4 SP 1650F 1.5E *Except* 15-11:2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 2-4-9, Right 2x4 SP No.2 -- 2-5-7

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-9-11 oc purlins, except 2-0-0 oc purlins (2-0-3 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 6-14

REACTIONS (size) 2=0-5-8, 11=0-5-8
Max Horiz 2=-94 (LC 13)
Max Uplift 2=-308 (LC 8), 11=-277 (LC 9)
Max Grav 2=1498 (LC 1), 11=1498 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-3306/847, 4-5=-4823/1243, 5-6=-4045/1006, 6-7=-2442/653, 7-8=-2444/645, 8-9=-3031/720, 9-11=-3189/777, 11-12=-4/0
BOT CHORD 2-18=-728/3016, 17-18=-731/3013, 16-17=-1139/4776, 14-16=-705/3214, 13-14=-594/2752, 11-13=-654/2886
WEBS 4-18=0/173, 4-17=-464/2000, 5-17=-838/226, 7-14=-258/1214, 6-14=-1182/360, 6-16=-217/1057, 5-16=-1260/402, 8-14=-649/223, 8-13=0/268, 9-13=-114/147

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 4-8-4, Exterior(2E) 4-8-4 to 8-6-12, Interior (1) 8-6-12 to 17-10-8, Exterior(2R) 17-10-8 to 22-6-15, Interior (1) 22-6-15 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Bearings are assumed to be: Joint 2 SP 1650F 1.5E crushing capacity of 565 psi, Joint 11 SP No.2 crushing capacity of 565 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 308 lb uplift at joint 2 and 277 lb uplift at joint 11.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A7	Roof Special	1	1	Job Reference (optional) I65783136

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

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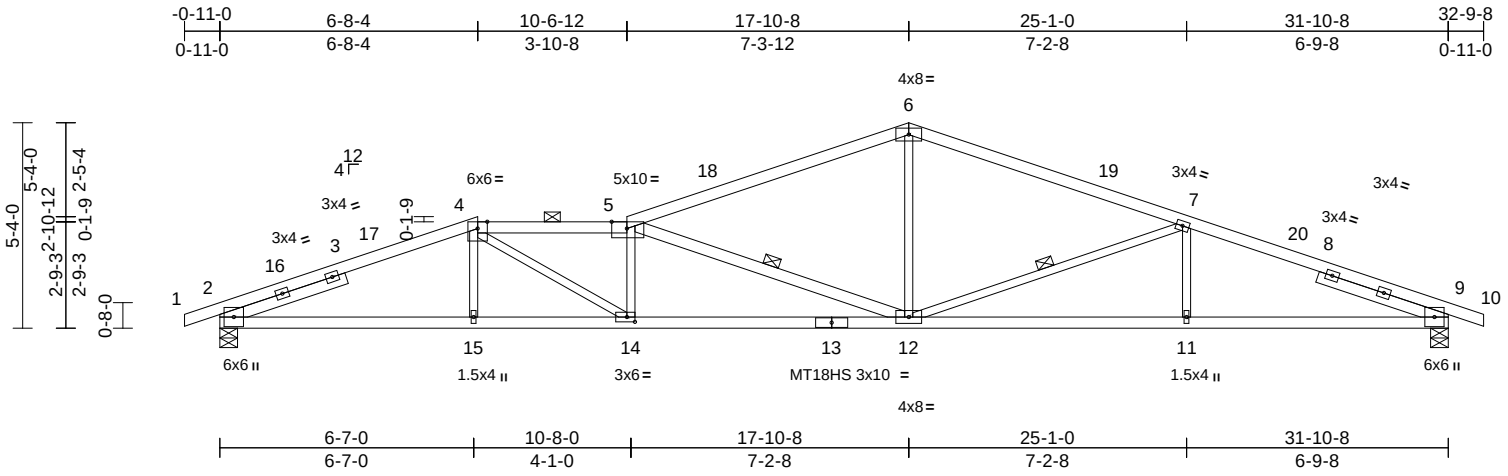

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Plate Offsets (X, Y): [2:0-3-13,0-1-5], [5:0-4-12,Edge], [9:0-3-13,0-1-5], [14:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.31	12-14	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.60	12-14	>634	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.53	Horz(CT)	0.16	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 141 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 4-5:2x4 SP No.2
BOT CHORD 2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 12-5:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 3-5-4, Right 2x4 SP No.2 -- 3-6-9

BRACING
TOP CHORD Structural wood sheathing directly applied, except
2-0-0 oc purlins (2-6-11 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 7-5-4 oc bracing.
WEBS 1 Row at midpt 5-12, 7-12

REACTIONS (size) 2=0-5-8, 9=0-5-8
Max Horiz 2=-94 (LC 13)
Max Uplift 2=-308 (LC 8), 9=-276 (LC 9)
Max Grav 2=1498 (LC 1), 9=1498 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-3268/831, 4-5=-4064/1069, 5-6=-2508/664, 6-7=-2499/655, 7-9=-3250/775, 9-10=-4/0
BOT CHORD 2-15=-696/2982, 14-15=-699/2977, 12-14=-939/4039, 11-12=-658/2969, 9-11=-658/2969
WEBS 4-15=0/205, 4-14=-297/1288, 5-14=-600/232, 5-12=-1842/522, 6-12=-164/1020, 7-12=-818/270, 7-11=0/273

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 6-8-4, Exterior(2E) 6-8-4 to 10-6-12, Interior (1) 10-6-12 to 17-10-8, Exterior(2R) 17-10-8 to 22-10-8, Interior (1) 22-10-8 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
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 1650F 1.5E crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 308 lb uplift at joint 2 and 276 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A8	Roof Special	1	1	Job Reference (optional) I65783137

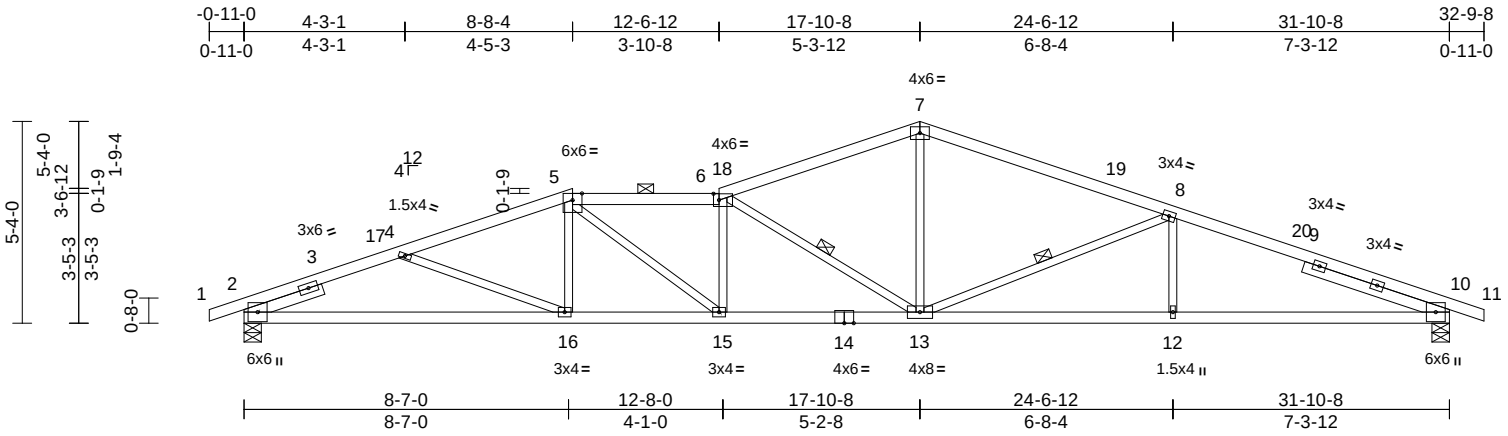

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Plate Offsets (X, Y): [2:0-3-13,0-1-5], [6:0-1-12,0-2-0], [10:0-3-13,0-1-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.27	13-15	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.50	13-15	>766	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.16	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 139 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 5-6,6-7:2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 2-2-2, Right 2x4 SP No.2 -- 4-0-8

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-11 oc purlins, except 2-0-0 oc purlins (2-11-10 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 6-13, 8-13

REACTIONS (size) 2=0-5-8, 10=0-5-8
Max Horiz 2=-94 (LC 13)
Max Uplift 2=-308 (LC 8), 10=-274 (LC 9)
Max Grav 2=1498 (LC 1), 10=1498 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-3144/864, 4-5=-3052/788, 5-6=-3426/938, 6-7=-2464/680, 7-8=-2475/666, 8-10=-3221/778, 10-11=-4/0
BOT CHORD 2-16=-746/2842, 15-16=-629/2874, 13-15=-785/3413, 12-13=-656/2944, 10-12=-656/2944
WEBS 5-16=0/251, 5-15=-207/708, 6-15=-395/169, 7-13=-217/1105, 6-13=-1325/394, 8-13=-806/258, 8-12=0/288, 4-16=-36/162

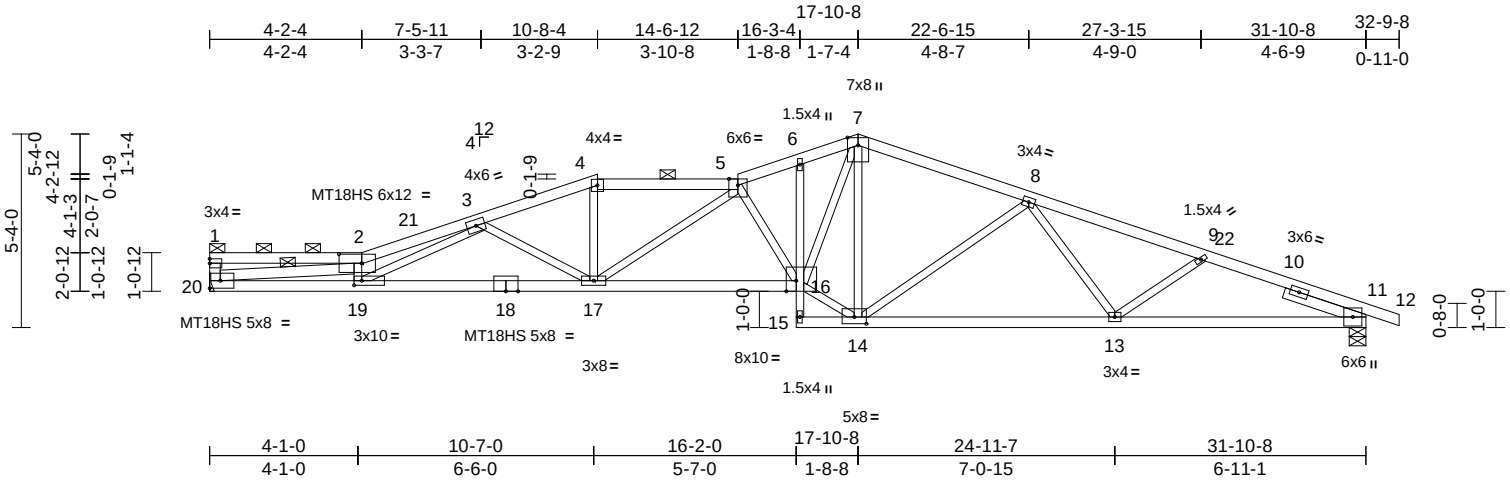
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-0-9, Interior (1) 4-0-9 to 8-8-4, Exterior(2E) 8-8-4 to 12-6-12, Interior (1) 12-6-12 to 17-10-8, Exterior(2R) 17-10-8 to 22-10-8, Interior (1) 22-10-8 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) 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 308 lb uplift at joint 2 and 274 lb uplift at joint 10.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783138
P240543-01	A9	Roof Special	1	1	Job Reference (optional)	



Scale = 1:63.5

Plate Offsets (X, Y): [2:0-7-8,0-3-0], [11:0-3-13,0-1-5], [14:0-4-0,0-2-4], [16:0-3-4,Edge], [19:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.51	17-19	>754	240	MT18HS	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.94	17-19	>407	180	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.22	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 145 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 2-4:2x4 SP 1650F 1.5E

BOT CHORD 2x4 SP 2400F 2.0E *Except* 6-15:2x3 SPF No.2, 15-11:2x4 SP No.2, 18-16:2x4 SP 1650F 1.5E

WEBS 2x3 SPF No.2 *Except* 20-1,20-2:2x4 SP No.2

SLIDER Right 2x4 SP No.2 -- 2-4-4

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-8-7 max.): 1-2, 4-5.

BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

WEBS 1 Row at midpt 2-20

REACTIONS (size) 11=0-5-8, 20= Mechanical
Max Horiz 20=-120 (LC 13)
Max Uplift 11=-274 (LC 9), 20=-265 (LC 8)
Max Grav 11=1493 (LC 1), 20=1427 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-20=-222/108, 1-2=-486/135, 2-3=-6419/1604, 3-4=-3799/974, 4-5=-3553/939, 5-6=-3450/927, 6-7=-3347/919, 7-8=-2429/676, 8-9=-3022/741, 9-11=-3172/784, 11-12=-4/0

BOT CHORD 19-20=-1367/5947, 17-19=-1009/4340, 16-17=-887/3898, 15-16=-57/0, 6-16=-34/137, 14-15=-48/119, 13-14=-623/2740, 11-13=-667/2870

WEBS 2-20=-5560/1348, 4-17=-158/883, 5-16=-1356/417, 7-16=-600/2536, 7-14=-826/195, 14-16=-472/2509, 8-14=-647/223, 8-13=0/275, 9-13=-109/148, 5-17=-425/150, 2-19=-1076/349, 3-17=-861/309, 3-19=-466/2007

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 4-2-4, Interior (1) 4-2-4 to 10-8-4, Exterior(2E) 10-8-4 to 14-6-12, Interior (1) 14-6-12 to 17-10-8, Exterior(2R) 17-10-8 to 22-6-15, Interior (1) 22-6-15 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) The Fabrication Tolerance at joint 16 = 12%
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Bearings are assumed to be: , Joint 11 SP No.2 crushing capacity of 565 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 265 lb uplift at joint 20 and 274 lb uplift at joint 11.
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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A10	Roof Special	1	1	Job Reference (optional) I65783139

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

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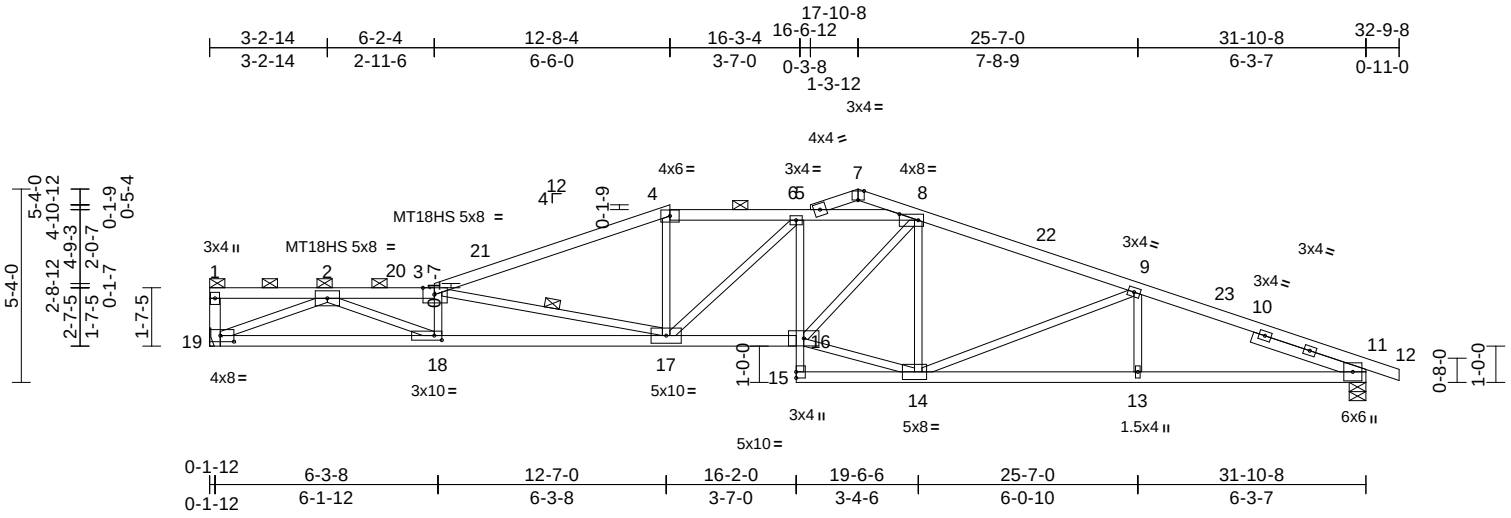

Scale = 1:63.5

Plate Offsets (X, Y): [3:0-3-12,Edge], [7:0-2-0,Edge], [8:0-6-4,0-2-0], [11:0-3-13,0-1-5], [18:0-2-8,0-1-8], [19:0-4-8,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.92	Vert(LL)	-0.39	17-18	>976	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.72	17-18	>526	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.19	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 147 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2 *Except* 3-4:2x4 SP 1650F 1.5E
BOT CHORD	2x4 SP 1650F 1.5E *Except* 5-15:2x3 SPF No.2, 15-11:2x4 SP No.2
WEBS	2x3 SPF No.2 *Except* 19-1:2x4 SP No.2
SLIDER	Right 2x4 SP No.2 -- 3-3-6

BRACING

TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-3-6 max.): 1-3, 4-8.
BOT CHORD	Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS	1 Row at midpt 3-17

REACTIONS (size) 11=0-5-8, 19= Mechanical
Max Horiz 19=-122 (LC 13)
Max Uplift 11=-271 (LC 9), 19=-266 (LC 8)
Max Grav 11=1493 (LC 1), 19=1427 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-19=-132/70, 1-2=-106/41, 2-3=-5143/1276, 3-4=-3366/880, 4-5=-3125/865, 5-6=-3209/905, 6-8=-3083/932, 6-7=-197/26, 7-8=-204/47, 8-9=-2642/727, 9-11=-3235/791, 11-12=-4/0
BOT CHORD	18-19=-691/2949, 17-18=-1140/5075, 16-17=-710/3223, 15-16=0/44, 5-16=-350/133, 14-15=-31/123, 13-14=-674/2946, 11-13=-674/2946
WEBS	3-18=-871/301, 3-17=-1976/485, 4-17=-96/683, 5-17=-276/94, 8-14=-410/161, 14-16=-539/2466, 8-16=-255/1169, 2-18=-517/2388, 2-19=-3090/875, 9-14=-619/206, 9-13=0/249

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 5-1-12, Interior (1) 5-1-12 to 12-8-4, Exterior(2E) 12-8-4 to 16-6-12, Interior (1) 16-6-12 to 17-10-8, Exterior(2R) 17-10-8 to 22-10-8, Interior (1) 22-10-8 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: , Joint 11 SP No.2 crushing capacity of 565 psi.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 271 lb uplift at joint 11 and 266 lb uplift at joint 19.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) 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

May 23,2024

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
07/05/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A11	Roof Special	1	1	Job Reference (optional) I65783140

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

Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Thu May 23 08:09:24 Page: 1
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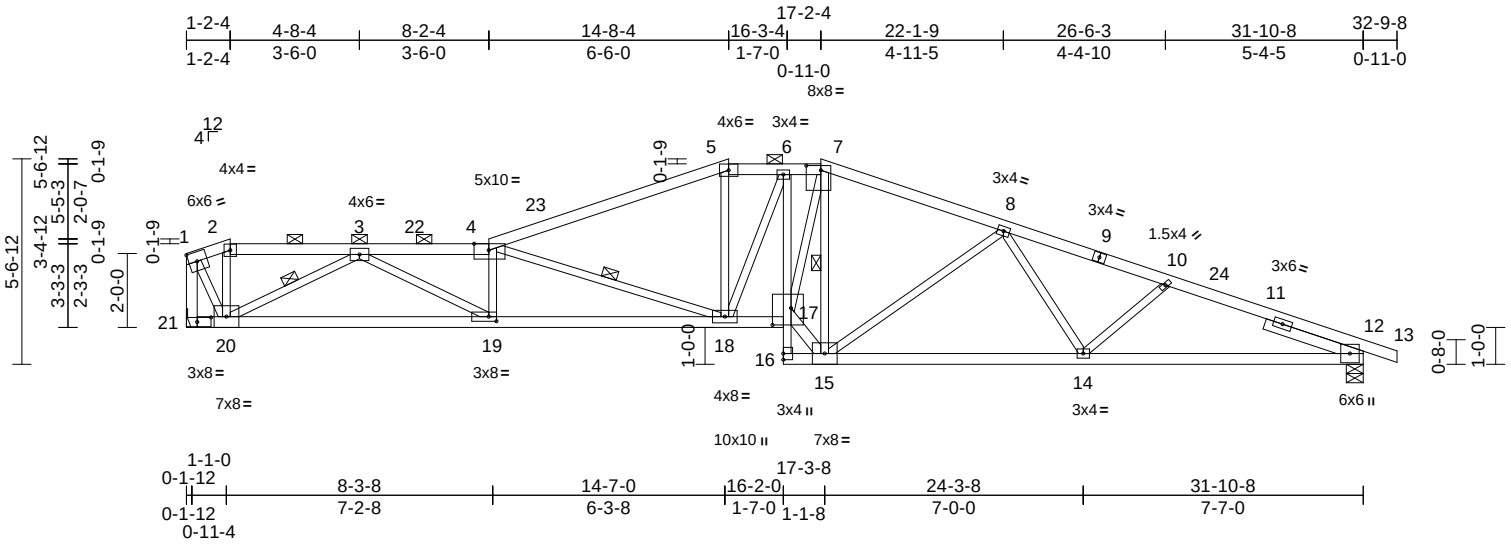


Scale = 1:62.4

Plate Offsets (X, Y): [4:0-4-12,Edge], [7:0-4-12,0-1-8], [12:0-3-13,0-1-5], [17:0-5-8,0-6-0], [19:0-2-8,0-1-8], [21:0-4-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.35	17-18	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.63	18-19	>604	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.23	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 151 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 4-5:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 1650F 1.5E *Except* 6-16:2x3 SPF No.2, 16-12:2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 15-17,21-1:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 2-9-7

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (2-7-9 max.): 2-4, 5-7.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-18, 7-15, 3-20

REACTIONS (size) 12=0-5-8, 21= Mechanical
Max Horiz 21=-127 (LC 13)
Max Uplift 12=-300 (LC 9), 21=-263 (LC 8)
Max Grav 12=1493 (LC 1), 21=1427 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-744/181, 2-3=-715/183, 3-4=-4291/1043, 4-5=-2967/764, 5-6=-2733/758, 6-7=-2809/775, 7-8=-2382/662, 8-10=-2990/737, 10-12=-3182/785, 12-13=-4/0, 1-21=-1483/317
BOT CHORD 20-21=-57/142, 19-20=-591/2795, 18-19=-903/4252, 17-18=-564/2852, 16-17=-117/0, 6-17=-121/455, 15-16=-38/179, 14-15=-600/2702, 12-14=-658/2883
WEBS 2-20=0/102, 4-19=-711/274, 4-18=-1576/393, 5-18=-55/504, 6-18=-441/91, 15-17=-645/3320, 7-17=-510/2511, 7-15=-2053/452, 1-20=-312/1447, 3-19=-376/1703, 3-20=-2374/659, 8-15=-643/220, 8-14=-6/296, 10-14=-134/153

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 4-1-12 to 5-2-4, Exterior(2R) 5-2-4 to 10-2-4, Interior (1) 10-2-4 to 18-8-4, Exterior(2E) 18-8-4 to 21-2-4, Exterior(2R) 21-2-4 to 26-1-9, Interior (1) 26-1-9 to 36-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Bearings are assumed to be: , Joint 12 SP No.2 crushing capacity of 565 psi.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 300 lb uplift at joint 12 and 263 lb uplift at joint 21.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

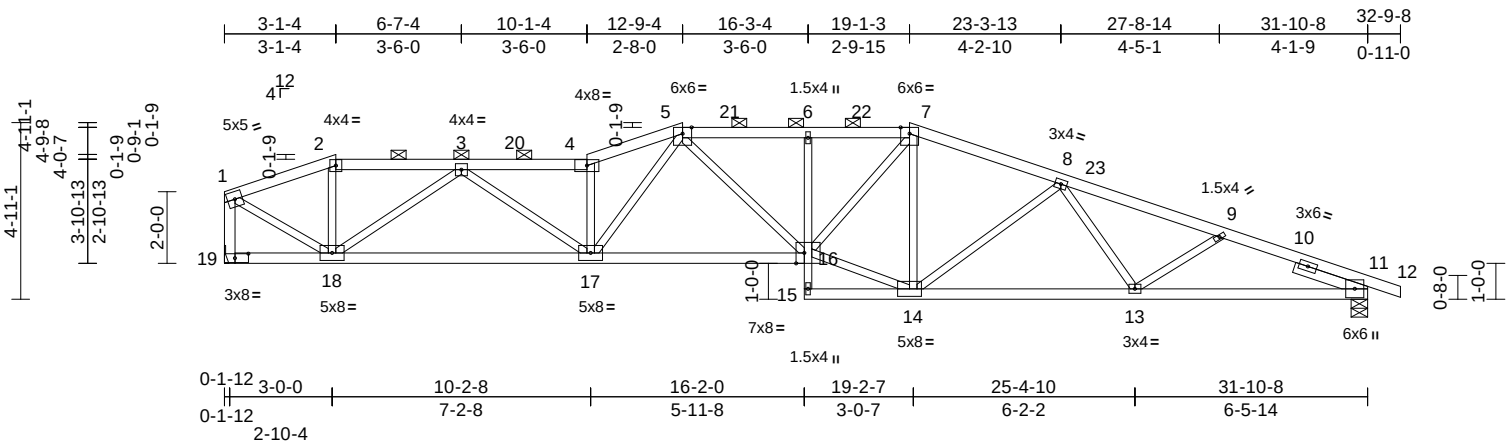
LOAD CASE(S) Standard

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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783141
P240543-01	A12	Roof Special	1	1	Job Reference (optional)	



Scale = 1:64.2

Plate Offsets (X, Y): [11:0-3-13,0-1-5], [16:0-2-12,Edge], [19:0-4-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.29	16-17	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.54	16-17	>707	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.15	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 146 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 6-15:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 19-1:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 2-1-9

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-9-1 max.): 2-4, 5-7.
BOT CHORD Rigid ceiling directly applied or 7-0-12 oc bracing.

REACTIONS (size) 11=0-5-8, 19= Mechanical
Max Horiz 19=-115 (LC 13)
Max Uplift 11=-310 (LC 9), 19=-276 (LC 8)
Max Grav 11=1493 (LC 1), 19=1427 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1534/400, 2-3=-1427/402, 3-4=-3691/973, 4-5=-3850/1033, 5-6=-3242/920, 6-7=-3226/918, 7-8=-2585/738, 8-9=-3042/778, 9-11=-3142/800, 11-12=-4/0, 1-19=-1413/400
BOT CHORD 18-19=-58/127, 17-18=-642/2812, 16-17=-667/3041, 15-16=0/32, 6-16=-339/161, 14-15=-33/73, 13-14=-670/2801, 11-13=-692/2836
WEBS 2-18=-15/265, 4-17=-1318/384, 14-16=-520/2481, 7-16=-305/1290, 7-14=-430/117, 1-18=-422/1649, 3-17=-215/1081, 3-18=-1713/501, 8-14=-516/193, 8-13=0/220, 9-13=-8/159, 5-17=-216/1019, 5-16=-108/451

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 4-1-12 to 7-1-4, Exterior(2R) 7-1-4 to 12-1-4, Interior (1) 12-1-4 to 16-9-4, Exterior(2R) 16-9-4 to 21-9-4, Interior (1) 21-9-4 to 23-1-3, Exterior(2R) 23-1-3 to 28-1-3, Interior (1) 28-1-3 to 36-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Bearings are assumed to be: , Joint 11 SP No.2 crushing capacity of 565 psi.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 310 lb uplift at joint 11 and 276 lb uplift at joint 19.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A13	Roof Special	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65783142
07/05/2024

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

Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Thu May 23 08:09:24 Page: 1
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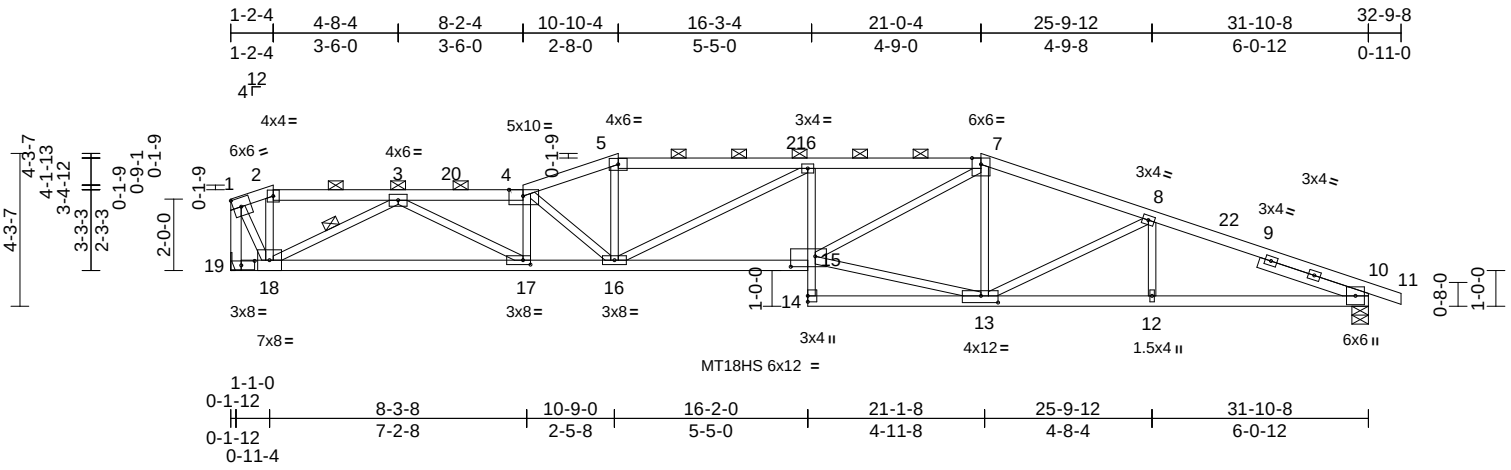


Scale = 1:64.6

Plate Offsets (X, Y): [4:0-4-12,Edge], [10:0-3-13,0-1-5], [13:0-5-12,0-2-4], [15:0-8-4,0-3-8], [17:0-2-8,0-1-8], [19:0-4-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.88	Vert(LL)	-0.39	15-16	>986	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.71	15-16	>534	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.94	Horz(CT)	0.20	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 145 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP 1650F 1.5E *Except* 6-14:2x3 SPF No.2, 14-10:2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 19-1:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 3-2-9

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 2-4, 5-7.
BOT CHORD Rigid ceiling directly applied or 7-2-0 oc bracing.
WEBS 1 Row at midpt 3-18

REACTIONS (size) 10=0-5-8, 19= Mechanical
Max Horiz 19=-103 (LC 13)
Max Uplift 10=-323 (LC 9), 19=-286 (LC 8)
Max Grav 10=1493 (LC 1), 19=1427 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-742/176, 2-3=-712/177, 3-4=-4242/1040, 4-5=-3730/947, 5-6=-3497/910, 6-7=-4207/1095, 7-8=-2799/737, 8-10=-3214/789, 10-11=-4/0, 1-19=-1485/315
BOT CHORD 18-19=-57/138, 17-18=-613/2806, 16-17=-890/4202, 15-16=-930/4241, 14-15=0/91, 6-15=-191/139, 13-14=-33/130, 12-13=-673/2924, 10-12=-673/2924
WEBS 2-18=0/107, 4-17=-723/233, 4-16=-862/202, 5-16=-166/910, 6-16=-991/245, 13-15=-541/2584, 7-15=-417/1806, 7-13=-386/134, 8-13=-360/176, 8-12=0/208, 1-18=-307/1443, 3-17=-336/1633, 3-18=-2391/686

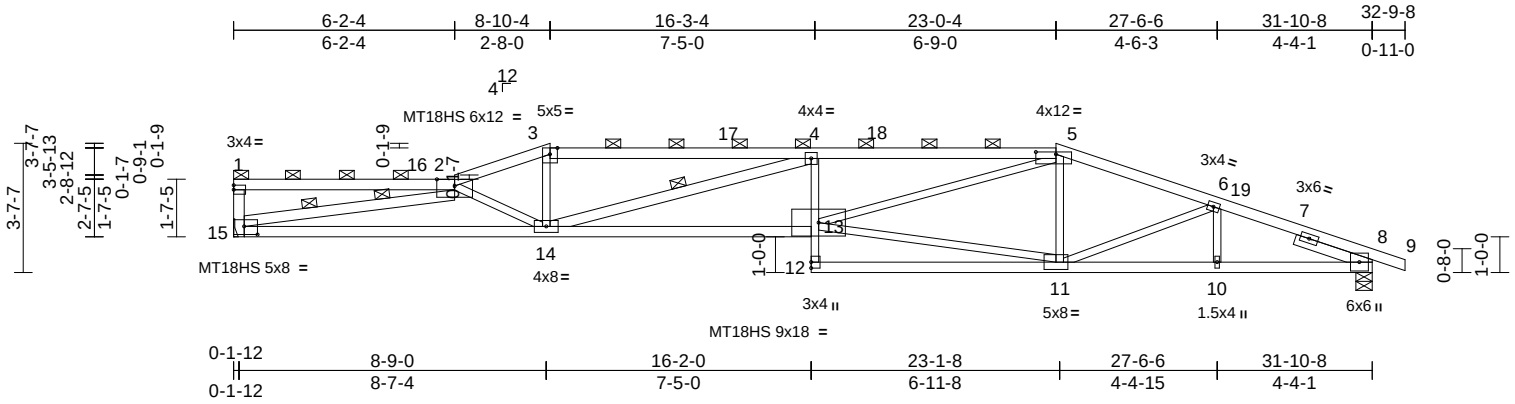
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 4-1-12 to 5-2-4, Exterior(2R) 5-2-4 to 10-2-4, Interior (1) 10-2-4 to 14-10-4, Exterior(2R) 14-10-4 to 19-10-4, Interior (1) 19-10-4 to 25-0-4, Exterior(2R) 25-0-4 to 29-9-12, Interior (1) 29-9-12 to 36-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: , Joint 10 SP No.2 crushing capacity of 565 psi.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 323 lb uplift at joint 10 and 286 lb uplift at joint 19.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783143
P240543-01	A14	Roof Special	1	1	Job Reference (optional)	



Scale = 1:64.5

Plate Offsets (X, Y): [5:0-6-12,0-0-12], [8:0-3-13,0-1-5], [15:0-4-8,0-2-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.60	13-14	>637	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-1.10	13-14	>346	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.25	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 147 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 3-5:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 4-12:2x3 SPF No.2, 12-8:2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 15-1,15-2,14-4:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 2-3-1

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 1-2, 3-5.
BOT CHORD Rigid ceiling directly applied or 7-1-14 oc bracing.
WEBS 1 Row at midpt 4-14
WEBS 2 Rows at 1/3 pts 2-15

REACTIONS (size) 8=0-5-8, 15= Mechanical
Max Horiz 15=-88 (LC 13)
Max Uplift 8=-334 (LC 9), 15=-294 (LC 8)
Max Grav 8=1493 (LC 1), 15=1427 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-15=-241/138, 1-2=-216/62, 2-3=-4375/1048, 3-4=-4064/997, 4-5=-5587/1396, 5-6=-3025/760, 6-8=-3165/782, 8-9=-4/0
BOT CHORD 14-15=-1238/5238, 13-14=-1271/5679, 12-13=0/128, 4-13=-220/168, 11-12=-41/222, 10-11=-672/2863, 8-10=-672/2863
WEBS 2-15=-5141/1344, 2-14=-1267/429, 3-14=-176/1106, 4-14=-1837/484, 11-13=-570/2684, 5-13=-675/2844, 5-11=-329/155, 6-11=-35/235, 6-10=0/119

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 5-1-12, Interior (1) 5-1-12 to 8-10-4, Exterior(2R) 8-10-4 to 13-10-4, Interior (1) 13-10-4 to 23-0-4, Exterior(2R) 23-0-4 to 28-0-4, Interior (1) 28-0-4 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: , Joint 8 SP No.2 crushing capacity of 565 psi.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 334 lb uplift at joint 8 and 294 lb uplift at joint 15.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) 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

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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783144
P240543-01	A15	Roof Special	1	2	Job Reference (optional)	

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

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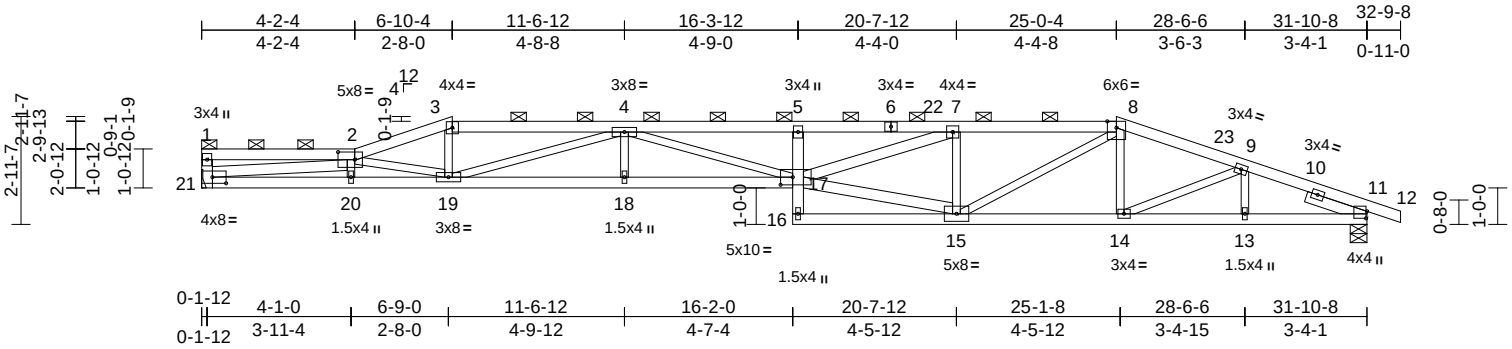

Scale = 1:63

Plate Offsets (X, Y): [2:0-5-8,0-2-8], [11:0-2-5,0-0-5], [17:0-4-0,0-2-8], [21:0-4-8,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.45	Vert(LL)	-0.48	17-18	>786	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.88	17-18	>435	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.16	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 291 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 21-17:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 21-1,21-2,17-7,17-15:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 1-8-11

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-3-13 oc purlins, except end verticals, and 2-0-0 oc purlins (4-2-5 max.): 1-2, 3-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 11=0-5-8, 21= Mechanical
Max Horiz 21=-74 (LC 13)
Max Uplift 11=-343 (LC 9), 21=-301 (LC 8)
Max Grav 11=1493 (LC 1), 21=1427 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-21=-217/107, 1-2=-470/120, 2-3=-5102/1228, 3-4=-4799/1175, 4-5=-7378/1690, 5-7=-7050/1624, 7-8=-4139/1028, 8-9=-3154/790, 9-11=-3037/748, 11-12=-4/0
BOT CHORD 20-21=-1350/5920, 19-20=-1365/5950, 18-19=-1498/6823, 17-18=-1498/6823, 16-17=0/93, 5-17=-278/132, 15-16=-123/566, 14-15=-650/2995, 13-14=-635/2729, 11-13=-635/2729
WEBS 2-21=-5548/1347, 2-19=-1120/310, 3-19=-231/1226, 8-14=-56/107, 4-17=-166/690, 4-19=-2237/503, 4-18=0/191, 7-15=-1444/398, 7-17=-675/3090, 8-15=-313/1400, 15-17=-801/3663, 2-20=-221/109, 9-14=-78/436, 9-13=-16/80

NOTES

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 4-2-4, Interior (1) 4-2-4 to 6-10-4, Exterior(2R) 6-10-4 to 11-6-12, Interior (1) 11-6-12 to 25-0-4, Exterior(2R) 25-0-4 to 30-0-4, Interior (1) 30-0-4 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) Bearings are assumed to be: , Joint 11 SP No.2 crushing capacity of 565 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 343 lb uplift at joint 11 and 301 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	A16	Hip Girder	1	2	Job Reference (optional) I65783145

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

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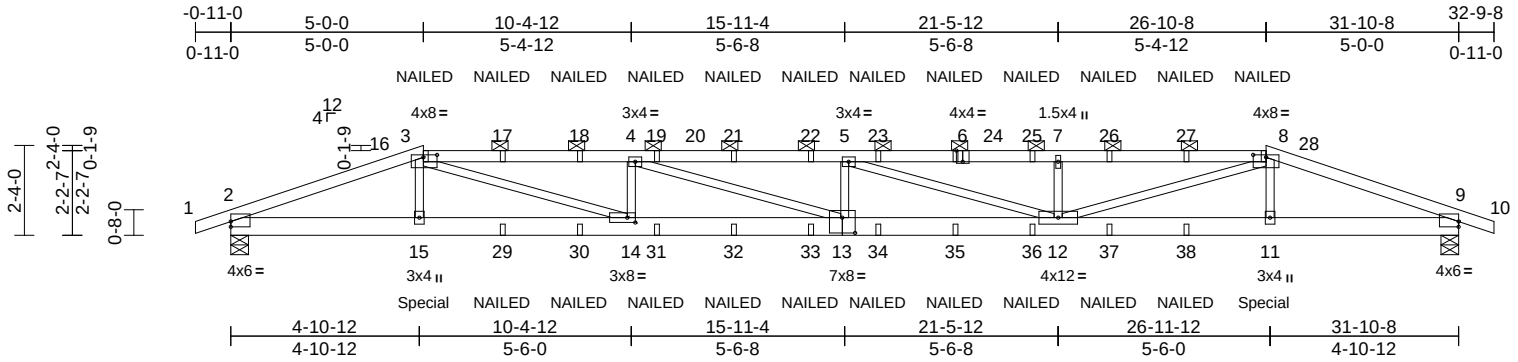


Scale = 1:59.8

Plate Offsets (X, Y): [2:Edge,0-1-10], [3:0-4-4,0-0-12], [6:0-2-0,Edge], [8:0-4-0,0-0-12], [9:Edge,0-1-10], [13:0-4-0,0-4-12], [14:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.50	12-13	>748	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.45	Vert(CT)	-0.90	12-13	>417	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.70	Horz(CT)	0.08	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 300 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 3-6,6-8:2x4 SP 1650F 1.5E
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-7 oc purlins, except 2-0-0 oc purlins (3-11-4 max.): 3-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 9=0-5-8
Max Horiz 2=-36 (LC 13)
Max Uplift 2=-709 (LC 8), 9=-709 (LC 9)
Max Grav 2=2508 (LC 1), 9=2509 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/2, 2-3=-6132/1753, 3-4=-9424/2730, 4-5=-10733/3052, 5-7=-9335/2696, 7-8=-9339/2698, 8-9=-6155/1758, 9-10=0/2
BOT CHORD 2-15=-1560/5645, 14-15=-1559/5617, 12-14=-2957/10740, 11-12=-1568/5636, 9-11=-1570/5666
WEBS 3-15=-22/505, 8-11=-36/539, 3-14=-1132/4086, 8-12=-1100/3978, 4-14=-1238/518, 4-13=-396/1421, 5-13=-208/224, 5-12=-1515/426, 7-12=-781/408

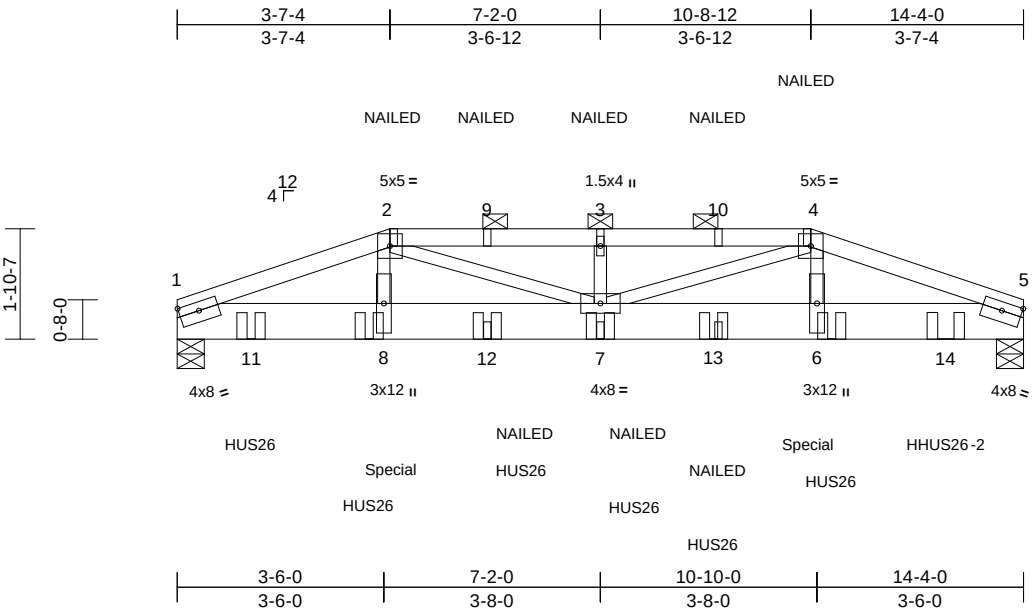
NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 5-0-0, Exterior(2R) 5-0-0 to 12-0-14, Interior (1) 12-0-14 to 26-10-8, Exterior(2E) 26-10-8 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 709 lb uplift at joint 2 and 709 lb uplift at joint 9.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 286 lb down and 66 lb up at 5-0-0, and 286 lb down and 66 lb up at 26-9-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-8=-70, 8-10=-70, 2-9=-20
Concentrated Loads (lb)
Vert: 3=-97 (F), 6=-97 (F), 15=-286 (F), 11=-286 (F), 8=-97 (F), 17=-97 (F), 18=-97 (F), 19=-97 (F), 21=-97 (F), 22=-97 (F), 23=-97 (F), 25=-97 (F), 26=-97 (F), 27=-97 (F), 29=-29 (F), 30=-29 (F), 31=-29 (F), 32=-29 (F), 33=-29 (F), 34=-29 (F), 35=-29 (F), 36=-29 (F), 37=-29 (F), 38=-29 (F)

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	B1	Hip Girder	1	3	Job Reference (optional) I65783146



Scale = 1:39

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.65	Vert(LL)	-0.15	7	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.27	7	>615	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.39	Horz(CT)	0.04	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 193 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x8 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (5-2-0 max.): 2-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-5-8, 5=0-5-8
Max Horiz 1=-27 (LC 13)
Max Uplift 1=-1258 (LC 8), 5=-1307 (LC 9)
Max Grav 1=5888 (LC 1), 5=5875 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-12212/2846, 2-3=-14096/3350, 3-4=-14096/3350, 4-5=-12255/2924
BOT CHORD 1-8=-2568/11233, 7-8=-2525/11006, 6-7=-2593/11044, 5-6=-2640/11273
WEBS 2-8=-583/3093, 4-6=-640/3124, 4-7=-707/3332, 3-7=-207/206, 2-7=-780/3373

NOTES
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 3 rows staggered at 0-5-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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
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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1258 lb uplift at joint 1 and 1307 lb uplift at joint 5.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 3-10-0 oc max. starting at 1-3-0 from the left end to 11-1-0 to connect truss(es) to back face of bottom chord.
12) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent at 7-2-0 from the left end to connect truss(es) to back face of bottom chord, skewed 0.0 deg.to the left, sloping 0.0 deg. down.
13) Use Simpson Strong-Tie HHUS26-2 (14-10d Girder, 4-10d Truss) or equivalent at 13-0-3 from the left end to connect truss(es) to back face of bottom chord.
14) N/A
15) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
16) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 194 lb down and 56 lb up at 3-7-4, and 194 lb down and 56 lb up at 10-8-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

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

May 23,2024

Continued on page 2

MiTek®
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Chesterfield, MO 63017
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Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	B1	Hip Girder	1	3	Job Reference (optional)

Vert: 4=-46 (F), 8=-1601 (F=-194, B=-1407), 6=-1601 (F=-194, B=-1407), 3=-46 (F), 7=-1422 (F=-15, B=-1407), 2=-46 (F), 9=-46 (F), 10=-46 (F), 11=-1407 (B), 12=-1422 (F=-15, B=-1407), 13=-1422 (F=-15, B=-1407), 14=-1407 (B)

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	CG1	Diagonal Hip Girder	2	1	Job Reference (optional) I65783147

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

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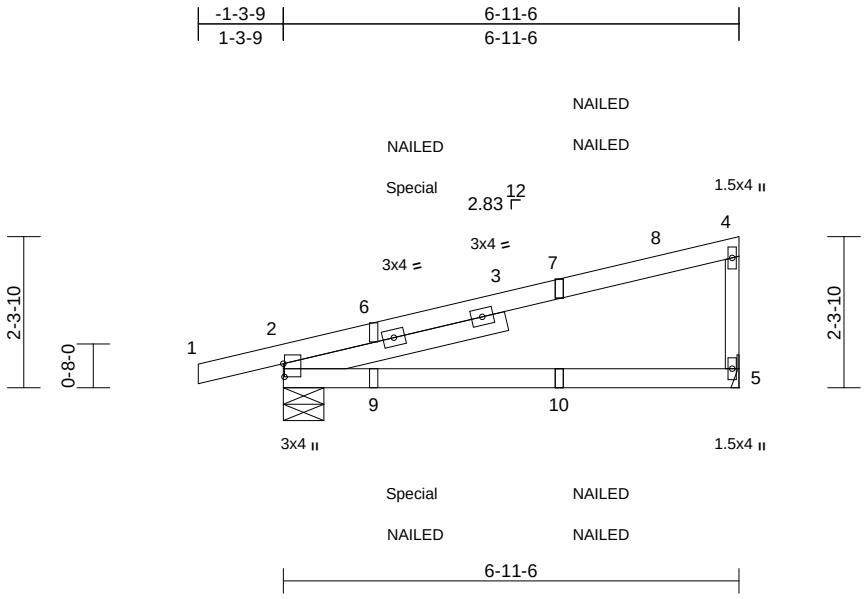

Scale = 1:35.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	-0.13	2-5	>622	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.68	Vert(CT)	-0.26	2-5	>311	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 30 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-5-12

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) 2=0-7-6, 5= Mechanical
Max Horiz 2=89 (LC 9)
Max Uplift 2=-80 (LC 8), 5=-67 (LC 12)
Max Grav 2=350 (LC 1), 5=285 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-188/75, 4-5=-216/231
BOT CHORD 2-5=-41/44

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-3-9 to 5-9-5, Exterior(2R) 5-9-5 to 6-10-2 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) Bearings are assumed to be: Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 5 and 80 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.
7) N/A
8) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 2-5=-20
Concentrated Loads (lb)
Vert: 6=71 (F=36, B=36), 10=0 (F=0, B=0)

May 23,2024

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
07/05/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	CG2	Detail Girder	1	1	Job Reference (optional) I65783148

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

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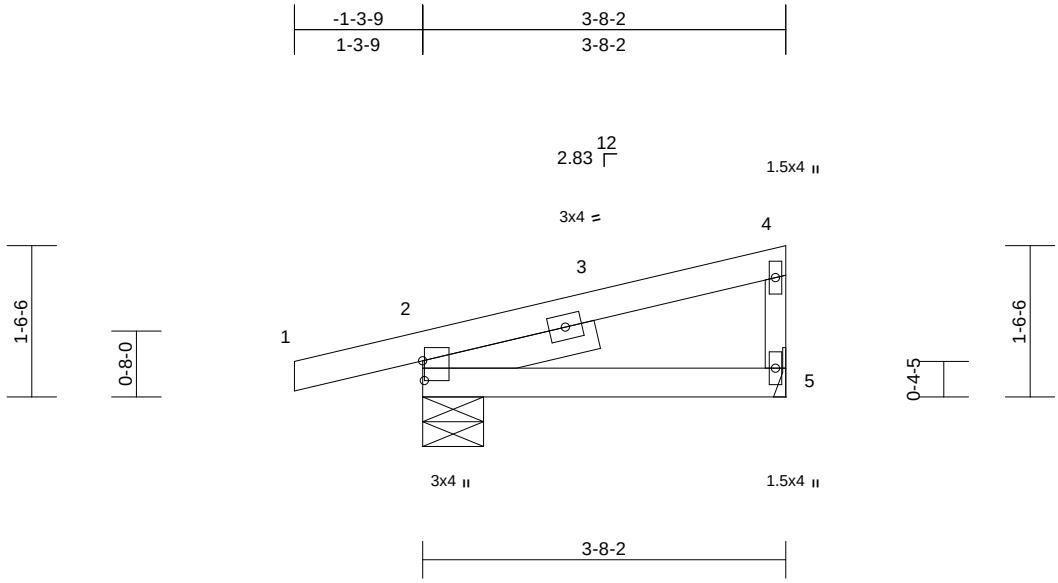

Scale = 1:23.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	-0.01	2-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.01	2-5	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-9-9

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-8-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-7-6, 5= Mechanical
Max Horiz 2=120 (LC 11)
Max Uplift 2=-158 (LC 10), 5=-83 (LC 16)
Max Grav 2=156 (LC 1), 5=82 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-50/24, 4-5=-60/104
BOT CHORD 2-5=-25/27

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 83 lb uplift at joint 5 and 158 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.
7) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70
Trapezoidal Loads (lb/ft)
Vert: 2=0 (F=35, B=35)-to-3=-31 (F=20, B=20), 3=-31 (F=20, B=20)-to-4=-64 (F=3, B=3), 2=0 (F=10, B=10)-to-5=-18 (F=1, B=1)

STATE OF MISSOURI
ANDREW THOMAS JOHNSON
NUMBER PE-2017018993
PROFESSIONAL ENGINEER
May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	CG3	Diagonal Hip Girder	2	1	Job Reference (optional) I65783149

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

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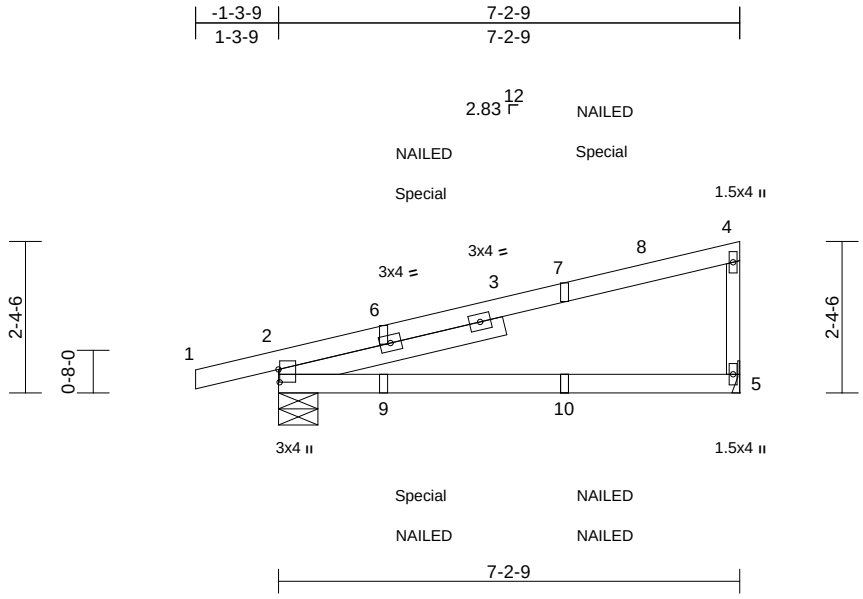

Scale = 1:36

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.16	2-5	>535	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.32	2-5	>267	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 31 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-7-6

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) 2=0-7-6, 5= Mechanical
Max Horiz 2=92 (LC 31)
Max Uplift 2=-102 (LC 8), 5=-78 (LC 12)
Max Grav 2=373 (LC 1), 5=300 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-183/75, 4-5=-226/239
BOT CHORD 2-5=-42/46

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-3-9 to 5-9-5, Exterior(2R) 5-9-5 to 7-1-5 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) Bearings are assumed to be: Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 78 lb uplift at joint 5 and 102 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.
7) N/A
8) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 2-5=-20
Concentrated Loads (lb)
Vert: 6=62 (F=31, B=31), 10=-4 (F=-2, B=-2)

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

May 23,2024

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16023 Swingley Ridge Rd.
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314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	CG4	Diagonal Hip Girder	1	1	Job Reference (optional) I65783150

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

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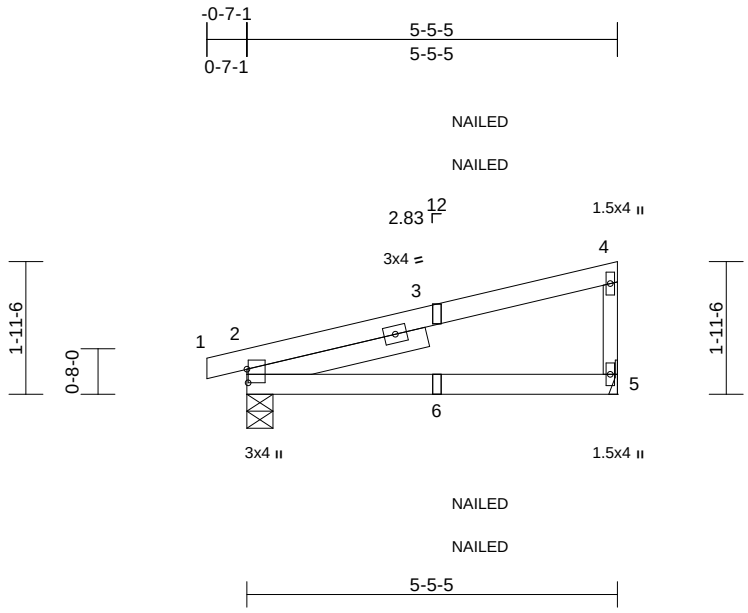

Scale = 1:33.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.74	Vert(LL)	-0.05	2-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.10	2-5	>657	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.00	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
SLIDER Left 2x4 SP No.2 -- 2-8-8

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

REACTIONS (size) 2=0-4-9, 5= Mechanical
Max Horiz 2=69 (LC 28)
Max Uplift 2=-76 (LC 8), 5=-57 (LC 12)
Max Grav 2=284 (LC 1), 5=238 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-15/0, 2-4=-98/60, 4-5=-185/232
BOT CHORD 2-5=-34/36

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 57 lb uplift at joint 5 and 76 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.
7) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

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

STATE OF MISSOURI
ANDREW THOMAS JOHNSON
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PROFESSIONAL ENGINEER

May 23,2024

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314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	CG5	Diagonal Hip Girder	2	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65783151
07/05/2024

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

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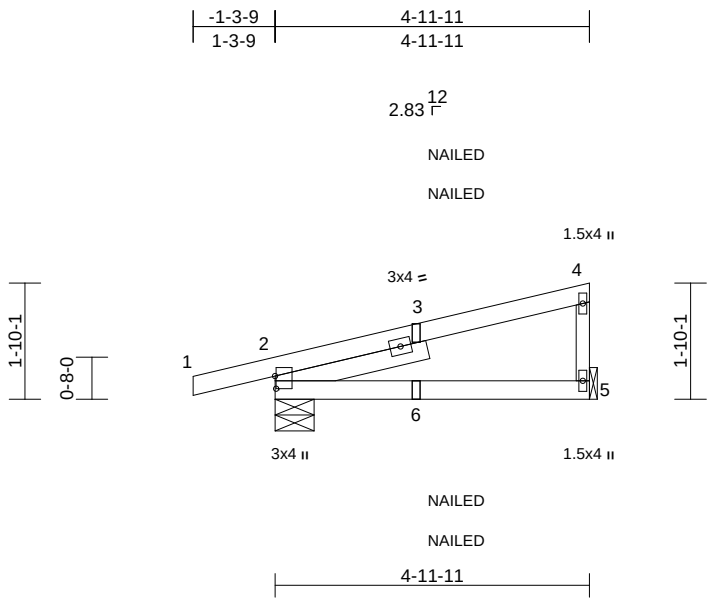

Scale = 1:36.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.53	Vert(LL)	-0.03	2-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.07	2-5	>867	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 22 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 2-5-9

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

REACTIONS (size) 2=0-7-6, 5= Mechanical
Max Horiz 2=68 (LC 11)
Max Uplift 2=-111 (LC 8), 5=-49 (LC 12)
Max Grav 2=322 (LC 1), 5=207 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-89/56, 4-5=-158/206
BOT CHORD 2-5=-31/34

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 5 and 111 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.
7) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

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

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

May 23,2024

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Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	E1	Half Hip Girder	1	1	Job Reference (optional) I65783152

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

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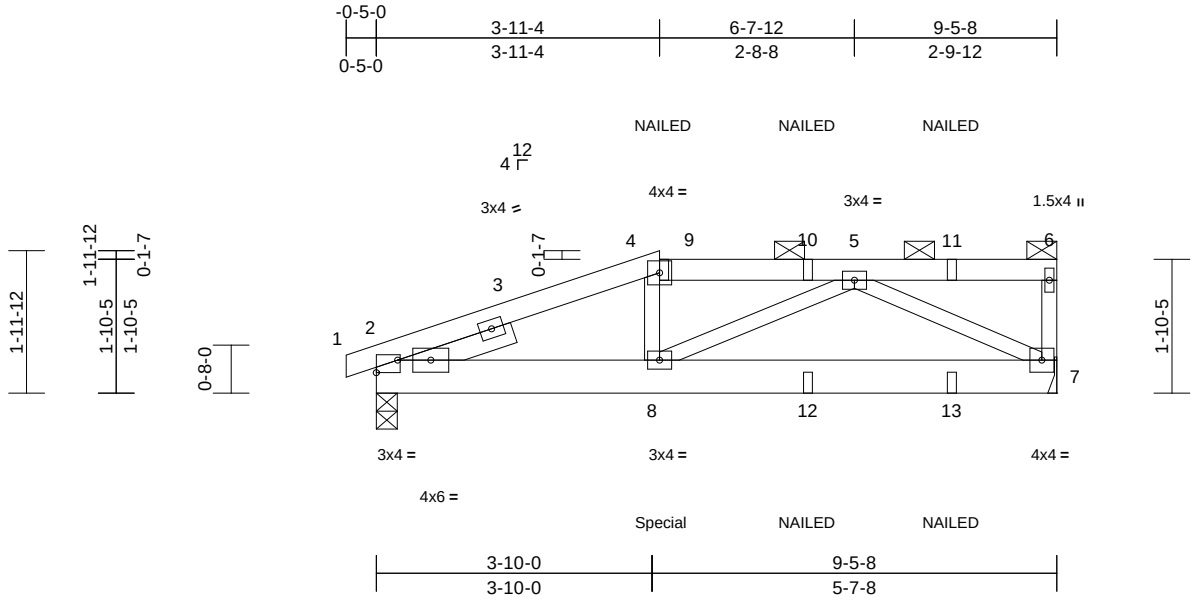

Scale = 1:32

Plate Offsets (X, Y): [2:0-2-9,0-2-0], [2:Edge,0-2-2]

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	0.34	Vert(LL)	-0.02	7-8	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	-0.04	7-8	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.27	Horz(CT)	0.01	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 41 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-7-13

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-1-2 oc purlins, except end verticals, and 2-0-0 oc purlins (5-6-0 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 7= Mechanical
Max Horiz 2=67 (LC 11)
Max Uplift 2=-195 (LC 8), 7=-185 (LC 8)
Max Grav 2=672 (LC 1), 7=654 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-10/0, 2-4=-1245/490, 4-5=-1097/498, 5-6=-46/40, 6-7=-109/86
BOT CHORD 2-8=-493/1106, 7-8=-470/870
WEBS 4-8=0/233, 5-8=-28/284, 5-7=-954/503

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) 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) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Bearings are assumed to be: Joint 2 SPF No.2 crushing capacity of 425 psi.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 185 lb uplift at joint 7 and 195 lb uplift at joint 2.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 228 lb down and 63 lb up at 3-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
12) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 4-6=-70, 2-7=-20
Concentrated Loads (lb)
Vert: 4=-64 (F), 8=-228 (F), 10=-64 (F), 11=-64 (F), 12=-19 (F), 13=-19 (F)

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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	H1	Hip Girder	1	2	Job Reference (optional) I65783153

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

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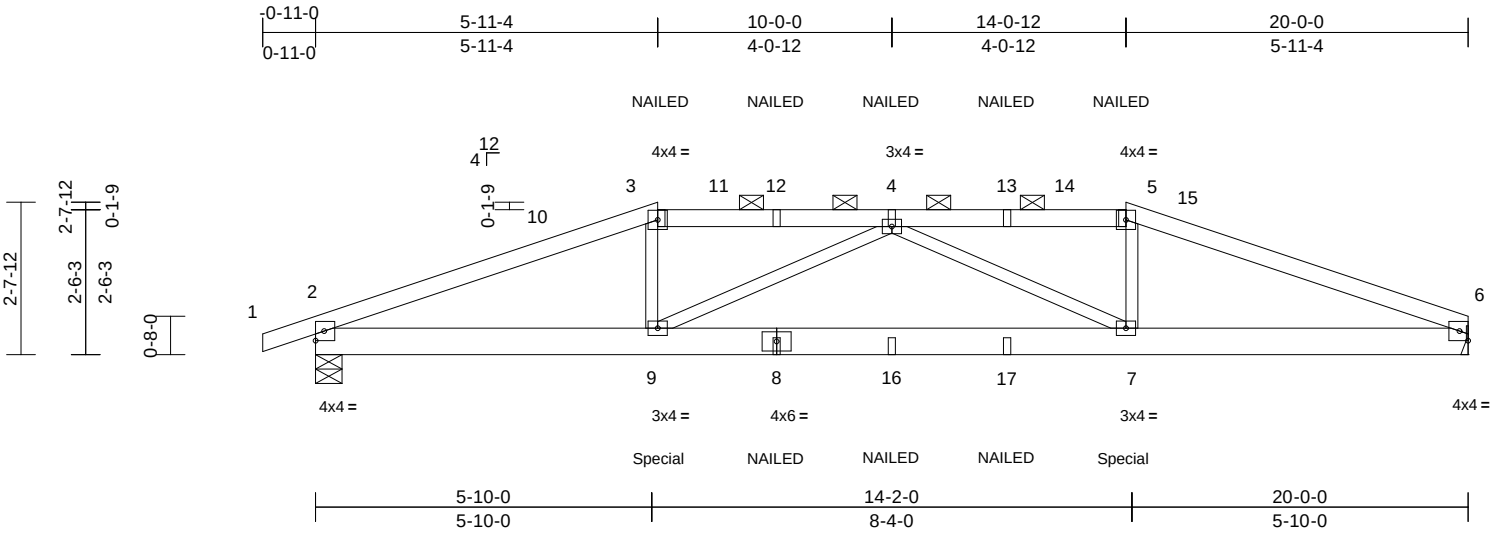

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.68	Vert(LL)	-0.10	7-9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.21	7-9	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.18	Horz(CT)	0.04	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 157 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-12 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 6= Mechanical
Max Horiz 2=42 (LC 16)
Max Uplift 2=-513 (LC 8), 6=-454 (LC 9)
Max Grav 2=1787 (LC 1), 6=1689 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/2, 2-3=-4156/1278, 3-4=-3761/1230, 4-5=-3827/1266, 5-6=-4205/1308
BOT CHORD 2-9=-1112/3805, 7-9=-1471/4467, 6-7=-1147/3870
WEBS 3-9=-179/1044, 5-7=-152/1016, 4-9=-898/425, 4-7=-839/392

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 5-11-4, Exterior(2R) 5-11-4 to 13-0-2, Interior (1) 13-0-2 to 14-0-12, Exterior(2E) 14-0-12 to 19-11-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) Bearings are assumed to be: Joint 2 SPF No.2 crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 454 lb uplift at joint 6 and 513 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.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 425 lb down and 110 lb up at 5-11-4, and 425 lb down and 110 lb up at 14-0-0 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 5-6=-70, 2-6=-20
Concentrated Loads (lb)
Vert: 3=-131 (F), 5=-131 (F), 8=-39 (F), 9=-425 (F), 7=-425 (F), 4=-131 (F), 12=-131 (F), 13=-131 (F), 16=-39 (F), 17=-39 (F)

May 23,2024

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Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	H2	Hip Girder	1	2	Job Reference (optional) I65783154

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

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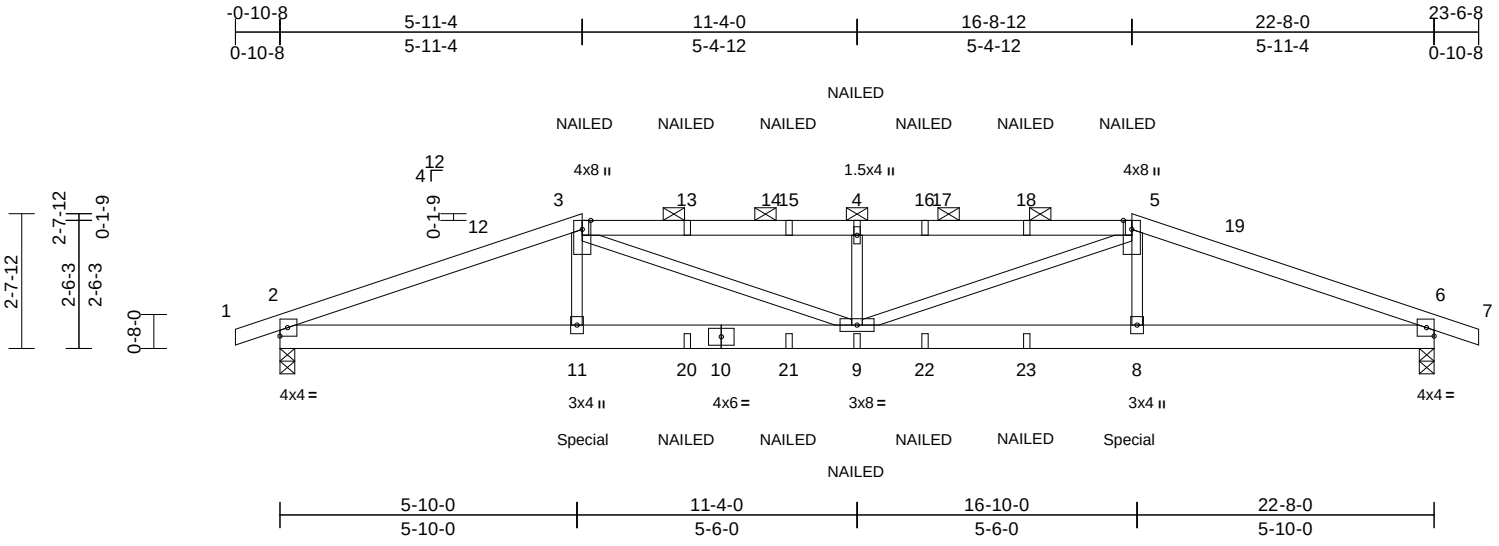

Scale = 1:45.2

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	0.81	Vert(LL)	-0.17	9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.30	9	>882	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.29	Horz(CT)	0.05	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 184 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-1-13 oc purlins, except 2-0-0 oc purlins (4-1-5 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=42 (LC 12)
Max Uplift 2=-572 (LC 8), 6=-572 (LC 9)
Max Grav 2=2030 (LC 1), 6=2030 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/1, 2-3=-4904/1460, 3-4=-5952/1835, 4-5=-5952/1835, 5-6=-4904/1465, 6-7=0/1
BOT CHORD 2-11=-1280/4515, 9-11=-1278/4487, 8-9=-1289/4487, 6-8=-1291/4515
WEBS 3-11=-37/605, 3-9=-486/1691, 4-9=-1030/531, 5-9=-486/1691, 5-8=-40/605

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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 5-11-4, Exterior(2R) 5-11-4 to 13-0-2, Interior (1) 13-0-2 to 16-8-12, Exterior(2E) 16-8-12 to 23-6-8 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
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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 572 lb uplift at joint 2 and 572 lb uplift at joint 6.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 396 lb down and 94 lb up at 5-11-4, and 396 lb down and 94 lb up at 16-8-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 5-7=-70, 2-6=-20
Concentrated Loads (lb)
Vert: 3=-131 (F), 5=-131 (F), 11=-396 (F), 9=-39 (F), 4=-131 (F), 8=-396 (F), 13=-131 (F), 15=-131 (F), 16=-131 (F), 18=-131 (F), 20=-39 (F), 21=-39 (F), 22=-39 (F), 23=-39 (F)

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	H3	Hip	1	1	Job Reference (optional) I65783155

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

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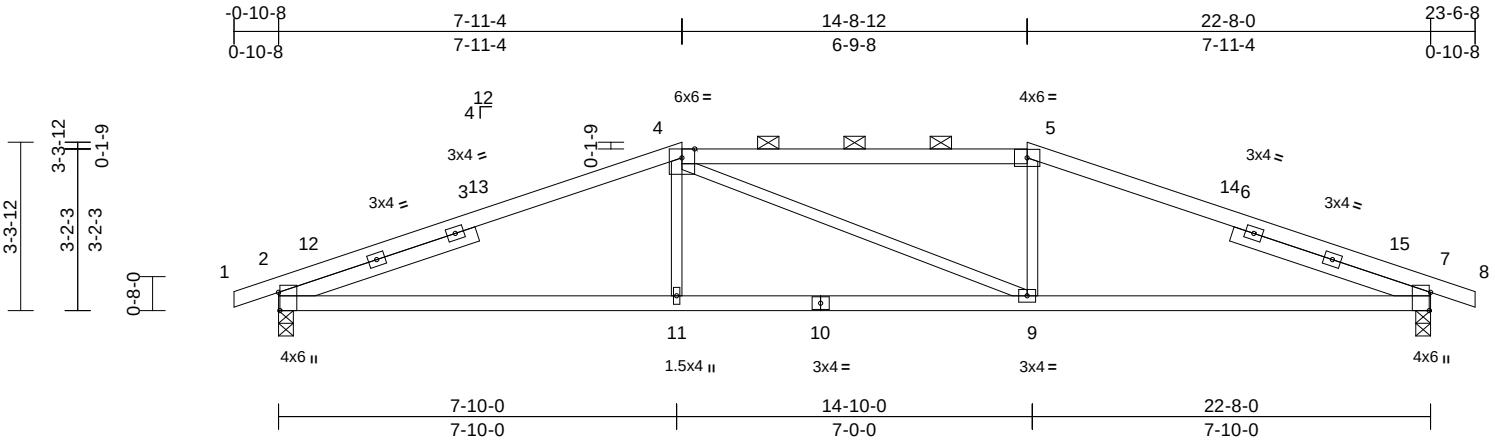

Scale = 1:45.3

Plate Offsets (X, Y): [2:0-4-5,Edge], [7:0-4-5,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	0.78	Vert(LL)	-0.11	2-11	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.25	2-11	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.07	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 94 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 4-5:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 4-1-2, Right 2x4 SP No.2 -- 4-1-2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except 2-0-0 oc purlins (3-7-5 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 8-0-1 oc bracing.

REACTIONS (size) 2=0-3-8, 7=0-3-8
Max Horiz 2=54 (LC 12)
Max Uplift 2=-242 (LC 8), 7=-242 (LC 9)
Max Grav 2=1081 (LC 1), 7=1081 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-2060/639, 4-5=-1852/684, 5-7=-2060/665, 7-8=-5/0
BOT CHORD 2-11=-503/1857, 9-11=-506/1851, 7-9=-529/1857
WEBS 4-11=0/305, 4-9=-222/223, 5-9=0/305

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 7-11-4, Exterior(2E) 7-11-4 to 14-8-12, Exterior(2R) 14-8-12 to 21-9-10, Interior (1) 21-9-10 to 23-6-8 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) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) 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 242 lb uplift at joint 2 and 242 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	H4	Hip Girder	1	2	Job Reference (optional) I65783156

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

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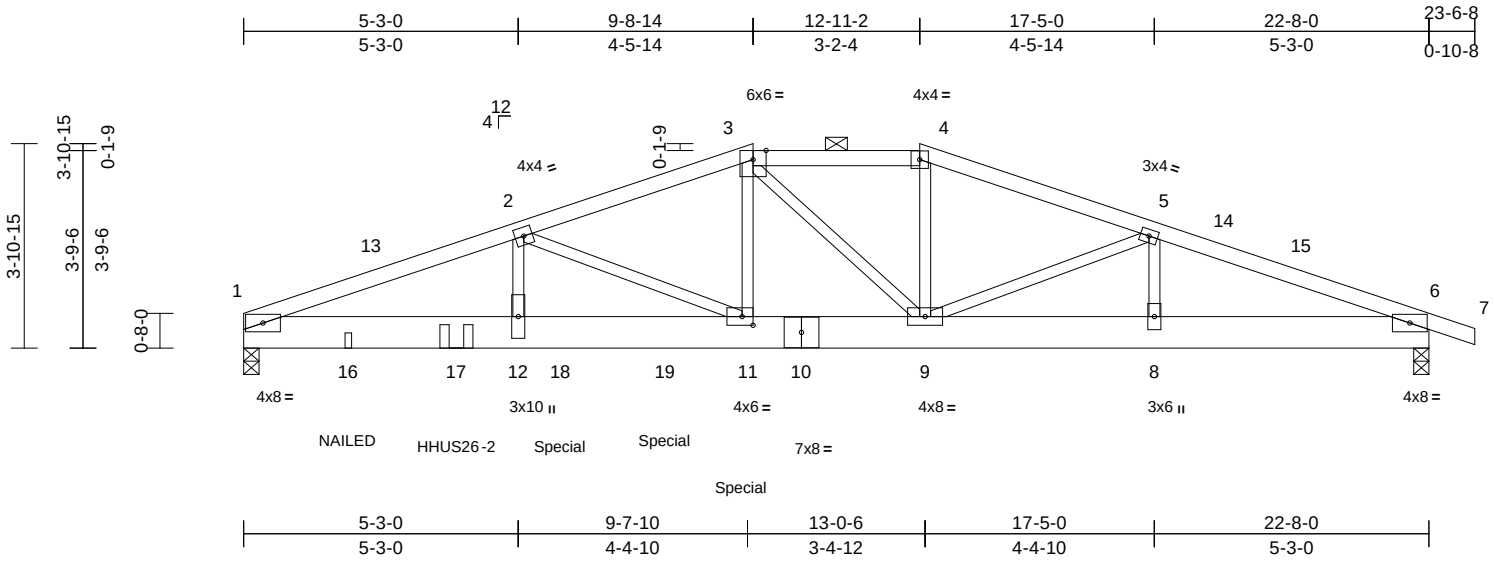

Scale = 1:44.1

Plate Offsets (X, Y): [11:0-2-8,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.53	Vert(LL)	-0.11	11-12	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.19	11-12	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.35	Horz(CT)	0.04	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 217 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x8 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-4-9 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-3-8, 6=0-3-8
Max Horiz 1=-67 (LC 17)
Max Uplift 1=-715 (LC 8), 6=-380 (LC 9)
Max Grav 1=2966 (LC 1), 6=1623 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-6439/1803, 2-3=-3967/1163, 3-4=-3159/991, 4-5=-3393/1017, 5-6=-3629/1052, 6-7=0/6
BOT CHORD 1-12=-1618/5968, 11-12=-1618/5968, 9-11=-941/3686, 8-9=-927/3327, 6-8=-927/3327
WEBS 3-11=-363/1486, 3-9=-911/267, 4-9=-176/765, 2-11=-2489/742, 2-12=-402/1767, 5-9=-226/239, 5-8=-23/122

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-5-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 5-3-0, Interior (1) 5-3-0 to 9-8-14, Exterior(2E) 9-8-14 to 12-11-2, Exterior(2R) 12-11-2 to 20-0-0, Interior (1) 20-0-0 to 23-6-8 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
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) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 715 lb uplift at joint 1 and 380 lb uplift at joint 6.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Use Simpson Strong-Tie HHUS26-2 (14-10d Girder, 4-10d Truss) or equivalent at 4-0-13 from the left end to connect truss(es) to back face of bottom chord.
12) N/A
13) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
14) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 228 lb down and 57 lb up at 6-0-12, and 228 lb down and 57 lb up at 8-0-12, and 228 lb down and 57 lb up at 9-6-5 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-4=-70, 4-7=-70, 1-6=-20
Concentrated Loads (lb)
Vert: 11=-228 (B), 16=-150 (B), 17=-1669 (B), 18=-228 (B), 19=-228 (B)

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J1	Jack-Open	12	1	Job Reference (optional) I65783157

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

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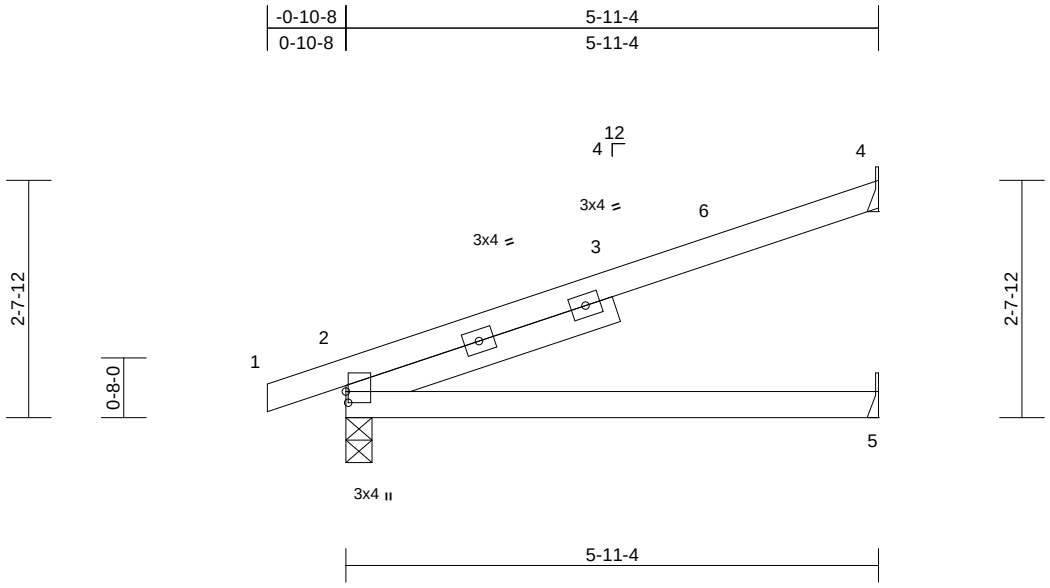

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Plate Offsets (X, Y): [2:0-1-8,0-0-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.78	Vert(LL)	-0.07	2-5	>987	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.14	2-5	>493	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.02	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 24 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 3-1-13

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-11-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=99 (LC 12)
Max Uplift 2=-81 (LC 8), 4=-111 (LC 12)
Max Grav 2=330 (LC 1), 4=201 (LC 1), 5=118 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-105/50
BOT CHORD 2-5=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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 5-10-8 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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 111 lb uplift at joint 4 and 81 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J2	Jack-Open	6	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65783158
07/05/2024

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

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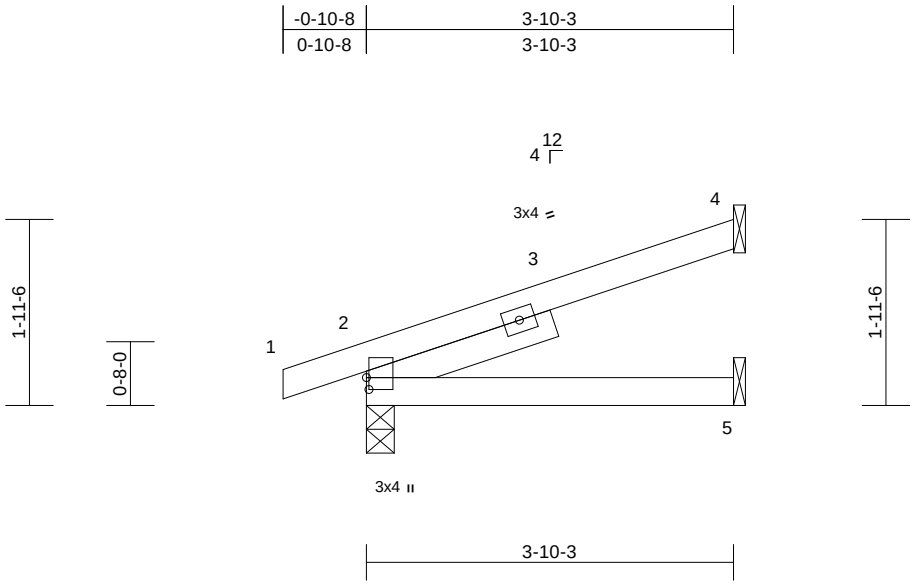

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Plate Offsets (X, Y): [2:0-1-8,0-0-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	-0.01	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	-0.02	2-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 2-0-10

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

REACTIONS (size) 2=0-3-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=68 (LC 12)
Max Uplift 2=-67 (LC 8), 4=-73 (LC 12)
Max Grav 2=239 (LC 1), 4=125 (LC 1), 5=76 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-76/31
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 73 lb uplift at joint 4 and 67 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J3	Jack-Open	6	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65783159
07/05/2024

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

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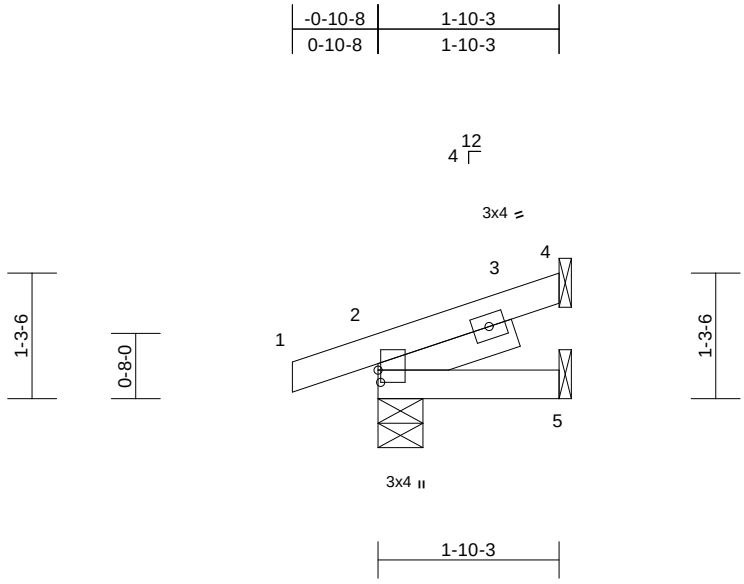

Scale = 1:23.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	2-5	>999	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: 9 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-8

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=40 (LC 12)
Max Uplift 2=-57 (LC 8), 4=-35 (LC 12)
Max Grav 2=158 (LC 1), 4=50 (LC 1), 5=37 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-43/16
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 57 lb uplift at joint 2 and 35 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

May 23,2024

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
07/05/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J4	Jack-Closed	3	1	Job Reference (optional) I65783160

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

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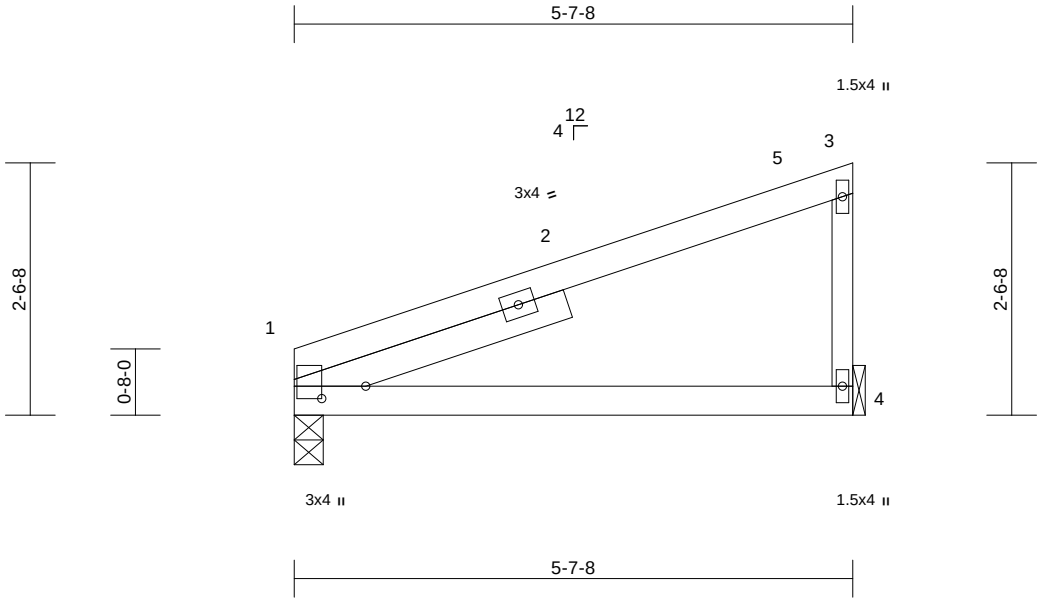

Scale = 1:23.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.74	Vert(LL)	-0.06	1-4	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.11	1-4	>594	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: 23 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 2-10-8

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

REACTIONS (size) 1=0-3-8, 4= Mechanical
Max Horiz 1=105 (LC 9)
Max Uplift 1=-45 (LC 8), 4=-64 (LC 12)
Max Grav 1=248 (LC 1), 4=248 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-135/83, 3-4=-193/263
BOT CHORD 1-4=-45/49

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) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 5-6-4 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) Bearings are assumed to be: Joint 1 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 1 and 64 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

May 23,2024

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
07/05/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783161
P240543-01	J5	Jack-Open	2	1	Job Reference (optional)	

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

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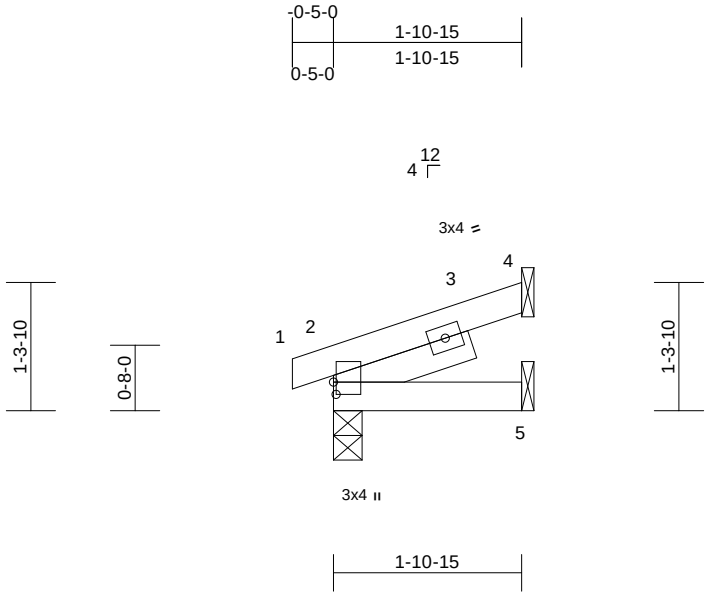

Scale = 1:23.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	2-5	>999	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: 9 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-8

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

REACTIONS (size) 2=0-3-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=35 (LC 12)
Max Uplift 2=-29 (LC 8), 4=-40 (LC 12)
Max Grav 2=118 (LC 1), 4=63 (LC 1), 5=38 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-14/0, 2-4=-51/17
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 2 and 40 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 23,2024

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Chesterfield, MO 63017
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Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J6	Jack-Open	3	1	Job Reference (optional) I65783162

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

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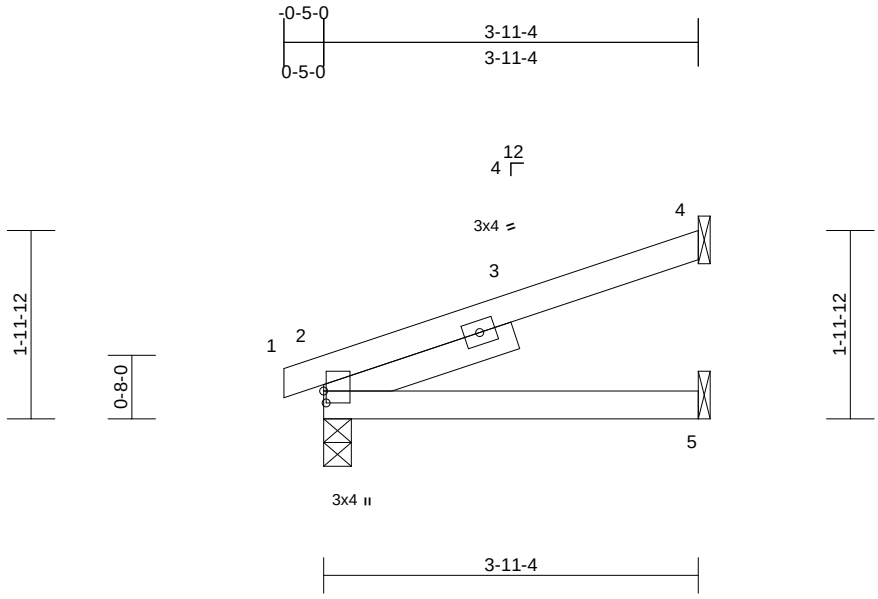

Scale = 1:24.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	-0.01	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	-0.03	2-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 2-1-3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=64 (LC 12)
Max Uplift 2=-43 (LC 8), 4=-76 (LC 12)
Max Grav 2=205 (LC 1), 4=134 (LC 1), 5=77 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-14/0, 2-4=-79/33
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 4 and 43 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

May 23,2024

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16023 Swingley Ridge Rd.
Chesterfield, MO 63017
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Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J7	Jack-Open	10	1	Job Reference (optional) I65783163

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

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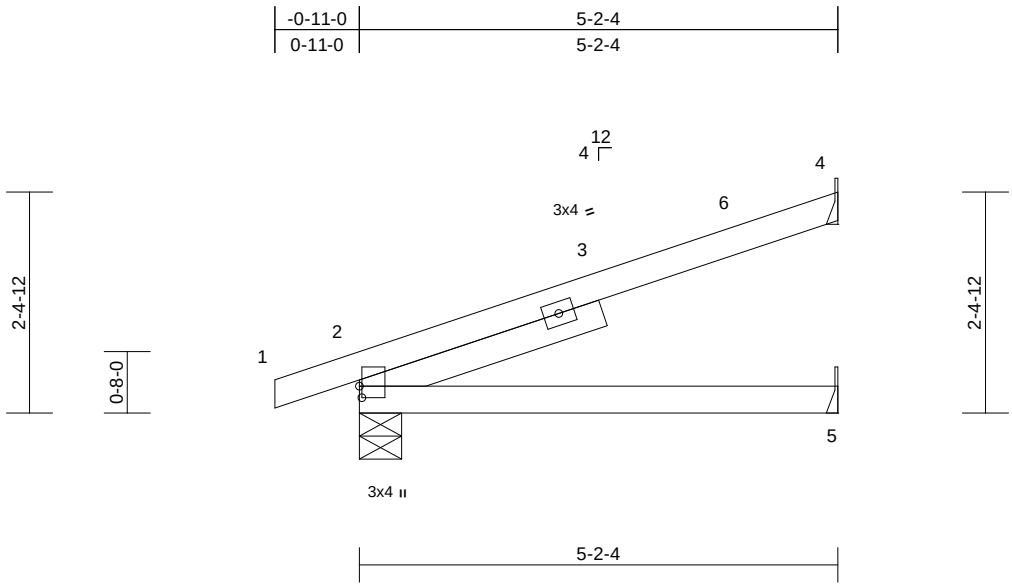

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Plate Offsets (X, Y): [2:0-1-8,0-0-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.60	Vert(LL)	-0.04	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.08	2-5	>743	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 22 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 2-9-1

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-2-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=88 (LC 12)
Max Uplift 2=-78 (LC 8), 4=-97 (LC 12)
Max Grav 2=301 (LC 1), 4=174 (LC 1), 5=102 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-93/43
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 5-1-8 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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 97 lb uplift at joint 4 and 78 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J8	Jack-Open	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65783164
07/05/2024

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

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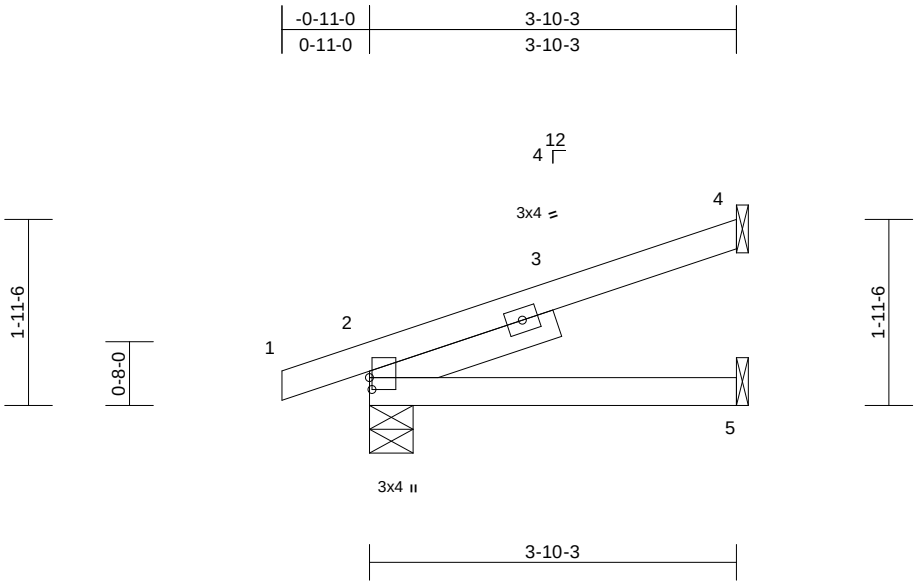

Scale = 1:24.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	-0.01	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	-0.02	2-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 2-0-10

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

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=69 (LC 12)
Max Uplift 2=-69 (LC 8), 4=-72 (LC 12)
Max Grav 2=242 (LC 1), 4=125 (LC 1), 5=76 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-75/31
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 4 and 69 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J9	Jack-Open	1	1	Job Reference (optional)

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

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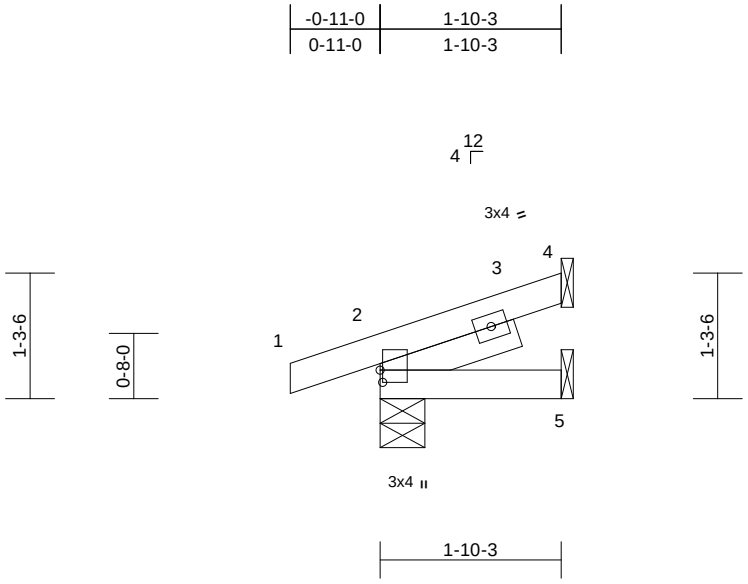


Scale = 1:23.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	2-5	>999	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: 9 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-8

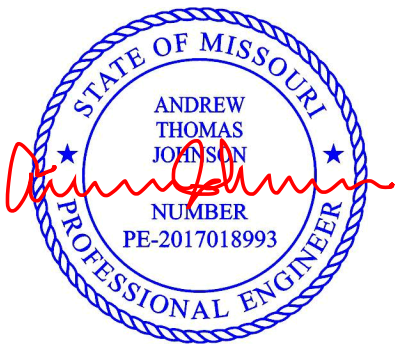
BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=40 (LC 12)
Max Uplift 2=-60 (LC 8), 4=-35 (LC 12)
Max Grav 2=163 (LC 1), 4=48 (LC 1), 5=37 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-43/16
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 2 and 35 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J10	Jack-Open	4	1	Job Reference (optional) I65783166

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

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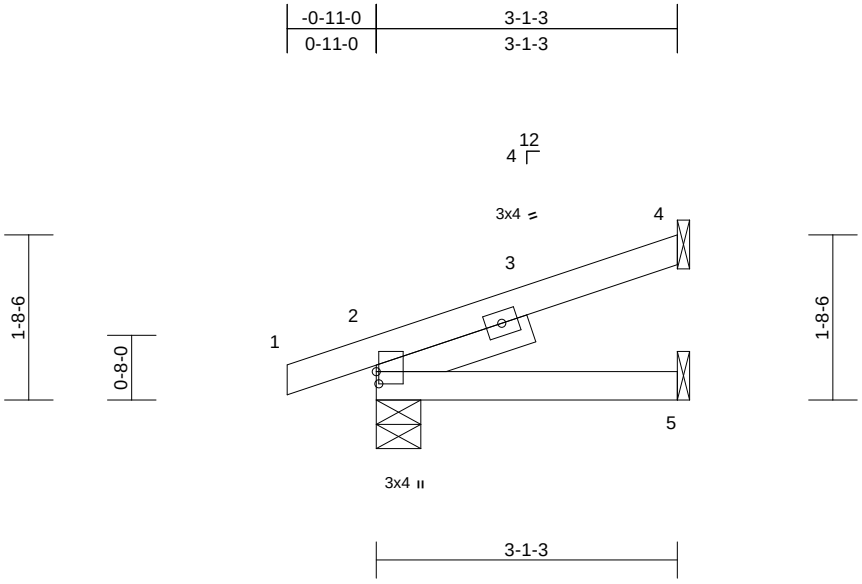

Scale = 1:23.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	-0.01	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	2-5	>999	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: 14 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-7-14

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-1-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=58 (LC 12)
Max Uplift 2=-65 (LC 8), 4=-58 (LC 12)
Max Grav 2=210 (LC 1), 4=97 (LC 1), 5=61 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-60/25
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 4 and 65 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J11	Jack-Open	1	1	Job Reference (optional) I65783167

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

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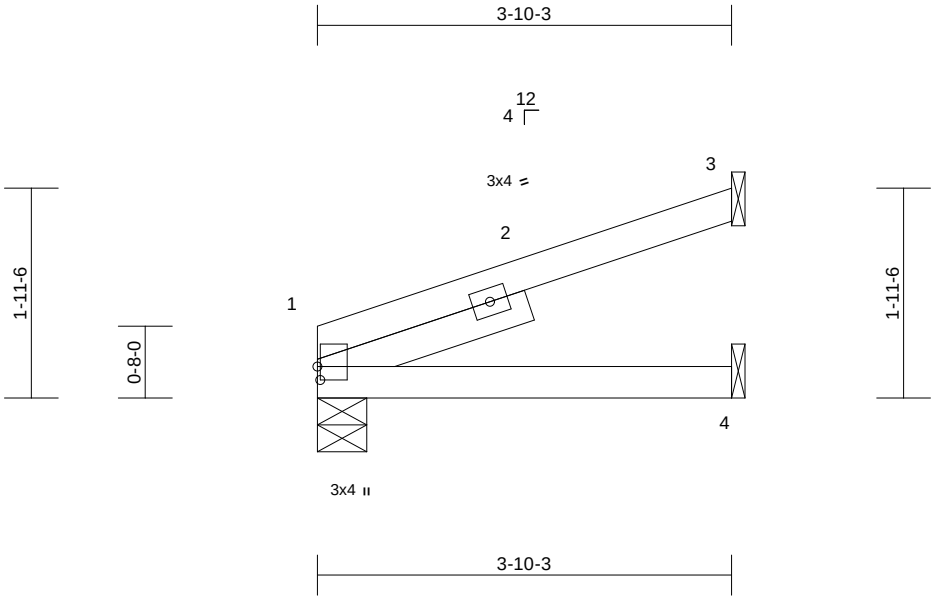


Scale = 1:21.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	-0.01	1-4	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	-0.02	1-4	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 15 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 2-0-10

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

REACTIONS (size) 1=0-5-8, 3= Mechanical, 4= Mechanical
Max Horiz 1=71 (LC 8)
Max Uplift 1=-22 (LC 8), 3=-75 (LC 8)
Max Grav 1=170 (LC 1), 3=133 (LC 1), 4=76 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-78/33
BOT CHORD 1-4=0/0

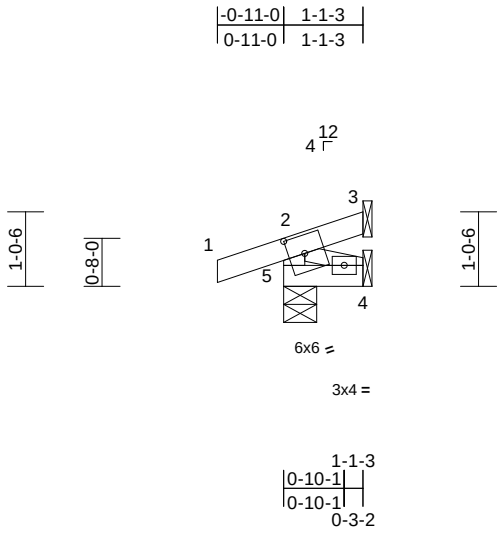
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for 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) Bearings are assumed to be: , Joint 1 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 1 and 75 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J12	Jack-Open	4	1	Job Reference (optional) I65783168



Scale = 1:31.9

Plate Offsets (X, Y): [5:0-2-11,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	0.00	5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.01	Vert(CT)	0.00	5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	3	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 2x4 SP No.2 *Except* 4-2:2x3 SPF No.2

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-5-8
Max Horiz 5=26 (LC 11)
Max Uplift 3=-9 (LC 1), 4=-7 (LC 8), 5=-75 (LC 8)
Max Grav 3=14 (LC 8), 4=19 (LC 3), 5=159 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-149/176, 1-2=0/24, 2-3=-24/9
BOT CHORD 4-5=-59/10
WEBS 2-4=-11/65

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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 75 lb uplift at joint 5, 7 lb uplift at joint 4 and 9 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J13	Jack-Closed Girder	1	1	Job Reference (optional) I65783169

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

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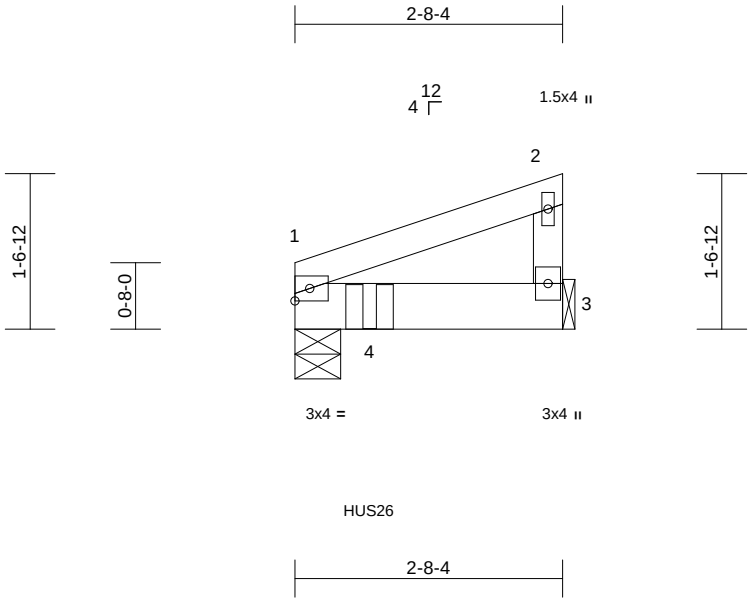

Scale = 1:23.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.50	Vert(LL)	0.00	1-3	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.01	1-3	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	3	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 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-8-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-5-8, 3= Mechanical
Max Horiz 1=54 (LC 9)
Max Uplift 1=-210 (LC 8), 3=-85 (LC 12)
Max Grav 1=1068 (LC 1), 3=384 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-80/48, 2-3=-81/123
BOT CHORD 1-3=-23/25

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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: Joint 1 SP 2400F 2.0E crushing capacity of 805 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 210 lb uplift at joint 1 and 85 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.
7) Use Simpson Strong-Tie HUS26 (14-10d Girder, 6-10d Truss, Single Ply Girder) or equivalent at 0-9-0 from the left end to connect truss(es) to back face of bottom chord.
8) N/A
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 1-3=-20
Concentrated Loads (lb)
Vert: 4=-1244 (B)

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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J14	Jack-Open	1	1	Job Reference (optional) I65783170

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

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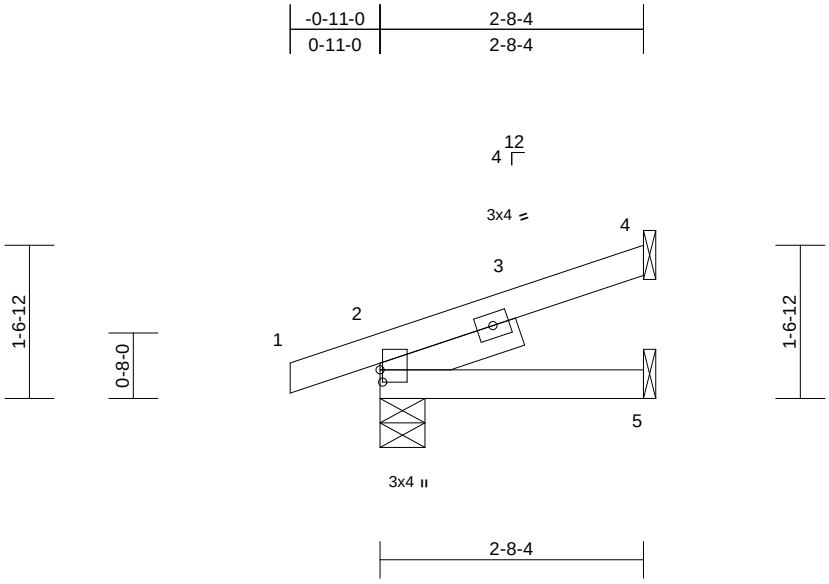

Scale = 1:23.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	-0.01	2-5	>999	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: 12 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-12

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-8-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=52 (LC 12)
Max Uplift 2=-63 (LC 8), 4=-50 (LC 12)
Max Grav 2=193 (LC 1), 4=81 (LC 1), 5=52 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-54/22
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 50 lb uplift at joint 4 and 63 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J15	Jack-Open	1	1	Job Reference (optional) I65783171

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

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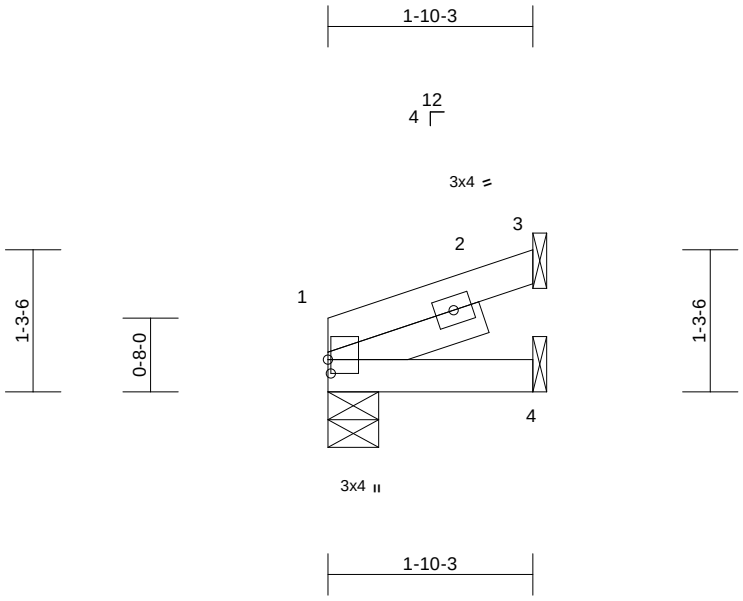

Scale = 1:20.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	0.00	1-4	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	1-4	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-8

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-5-8, 3= Mechanical, 4= Mechanical
Max Horiz 1=43 (LC 8)
Max Uplift 1=-7 (LC 8), 3=-40 (LC 8)
Max Grav 1=83 (LC 1), 3=64 (LC 1), 4=37 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-52/16
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) 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) Bearings are assumed to be: , Joint 1 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 1 and 40 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J16	Jack-Open	12	1	Job Reference (optional) I65783172

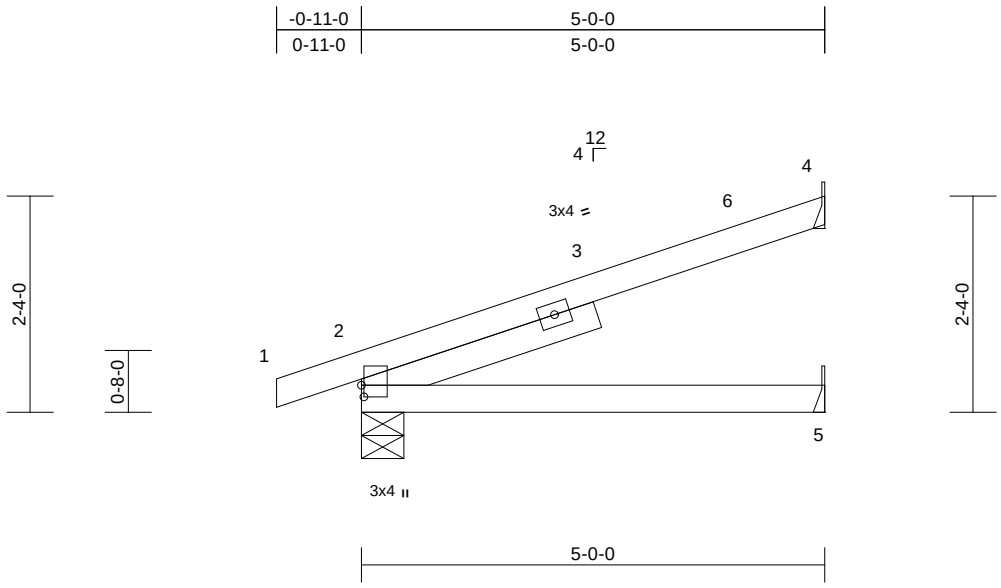

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Plate Offsets (X, Y): [2:0-1-8,0-0-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	-0.04	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.07	2-5	>831	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 21 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 2-7-14

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

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=86 (LC 12)
Max Uplift 2=-77 (LC 8), 4=-94 (LC 12)
Max Grav 2=292 (LC 1), 4=167 (LC 1), 5=99 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-90/41
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 4-11-4 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) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 4 and 77 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J17	Jack-Open	4	1	Job Reference (optional)

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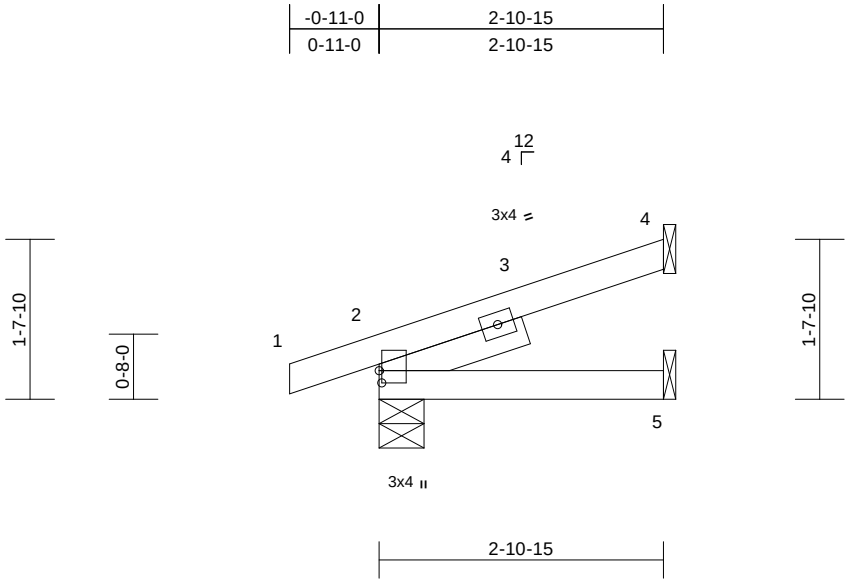


Scale = 1:23.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	-0.01	2-5	>999	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: 13 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-6-11

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=55 (LC 12)
Max Uplift 2=-64 (LC 8), 4=-55 (LC 12)
Max Grav 2=203 (LC 1), 4=89 (LC 1), 5=57 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-4=-57/24
BOT CHORD 2-5=0/0

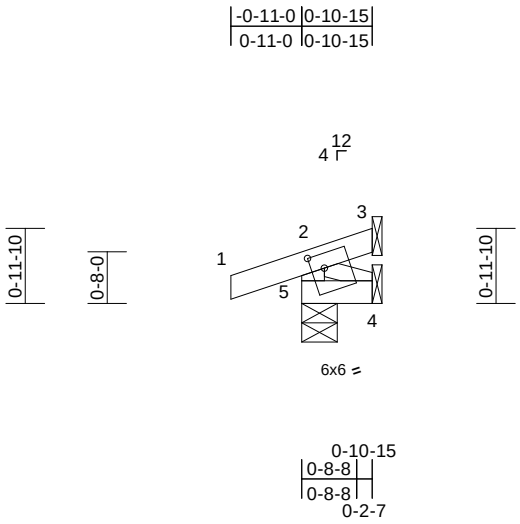
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 55 lb uplift at joint 4 and 64 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J18	Jack-Open	4	1	Job Reference (optional) I65783174



Scale = 1:29.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	0.00	5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.01	Vert(CT)	0.00	5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 5 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 4-2:2x3 SPF No.2

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-5-8
Max Horiz 5=25 (LC 11)
Max Uplift 3=-26 (LC 1), 4=-10 (LC 8), 5=-79 (LC 8)
Max Grav 3=26 (LC 8), 4=15 (LC 3), 5=161 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-153/182, 1-2=0/24, 2-3=-25/14
BOT CHORD 4-5=-53/8
WEBS 2-4=-9/61

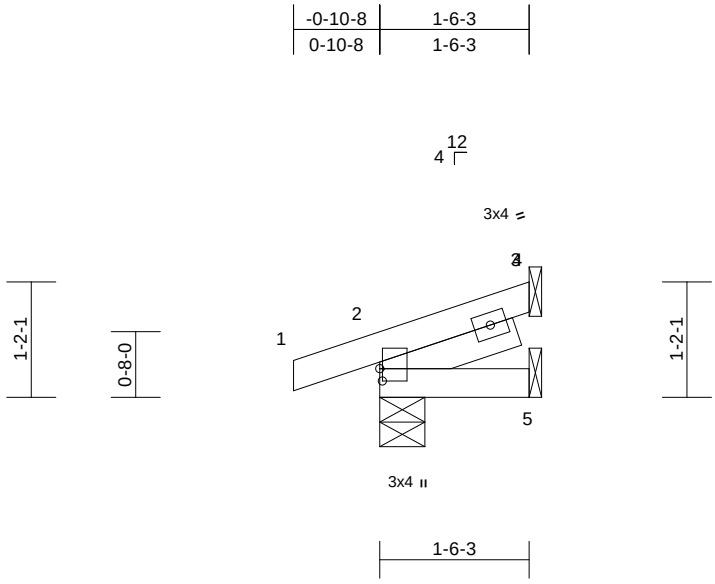
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 79 lb uplift at joint 5, 10 lb uplift at joint 4 and 26 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J19	Jack-Open	2	1	Job Reference (optional) I65783175



Scale = 1:23.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	2-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-5

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-6-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 3= Mechanical, 5= Mechanical
Max Horiz 2=35 (LC 12)
Max Uplift 2=-56 (LC 8), 3=-28 (LC 12)
Max Grav 2=147 (LC 1), 3=35 (LC 1), 5=30 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-3=-41/22, 3-4=0/0
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 56 lb uplift at joint 2 and 28 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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J20	Jack-Open	2	1	Job Reference (optional) I65783176

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

Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Thu May 23 08:09:29 Page: 1
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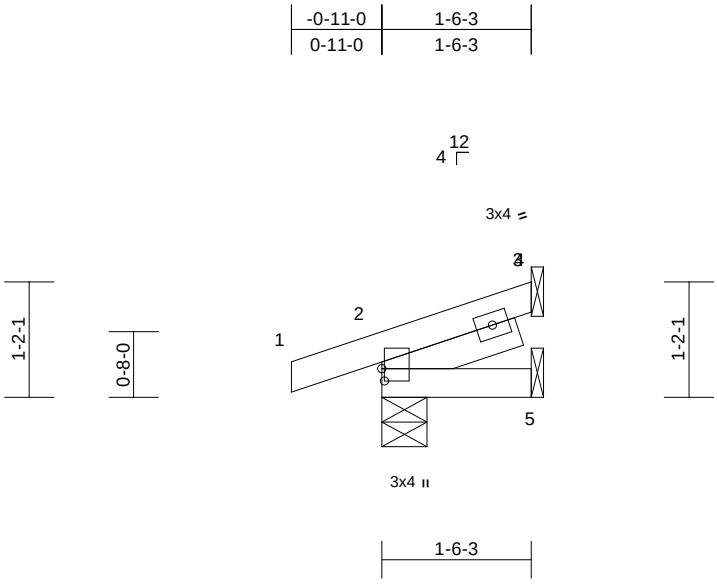

Scale = 1:23.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	2-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-5

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-6-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 3= Mechanical, 5= Mechanical
Max Horiz 2=36 (LC 12)
Max Uplift 2=-59 (LC 8), 3=-28 (LC 12)
Max Grav 2=151 (LC 1), 3=33 (LC 1), 5=30 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-3=-40/22, 3-4=0/0
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 59 lb uplift at joint 2 and 28 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

May 23,2024

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
07/05/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	J21	Jack-Open	5	1	Job Reference (optional) I65783177

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

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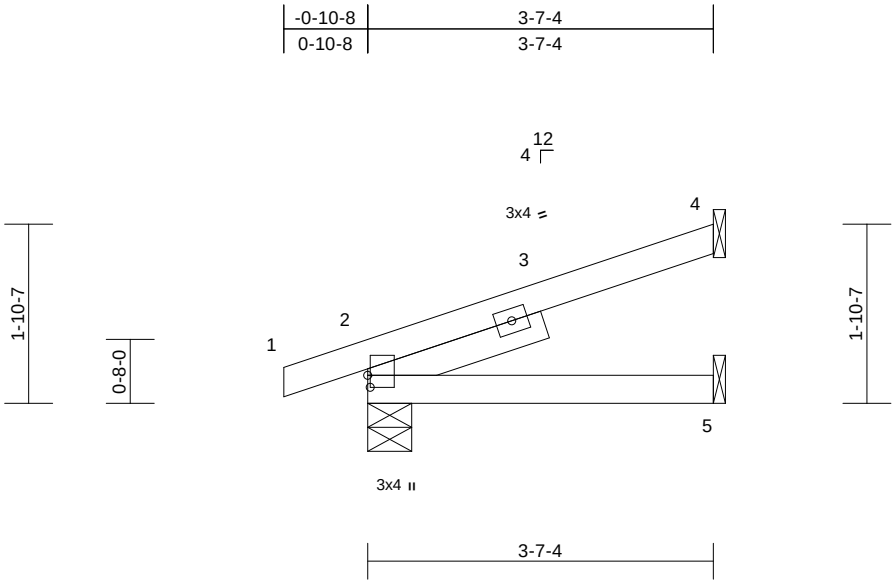

Scale = 1:24

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	-0.01	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.02	2-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 15 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-11-1

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-7-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=65 (LC 12)
Max Uplift 2=-65 (LC 8), 4=-68 (LC 12)
Max Grav 2=228 (LC 1), 4=116 (LC 1), 5=71 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5/0, 2-4=-71/29
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 68 lb uplift at joint 4 and 65 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

May 23,2024

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
07/05/2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	LG1	Lay-In Gable	1	1	I65783178 Job Reference (optional)

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,
Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Thu May 23 08:09:29 Page: 1
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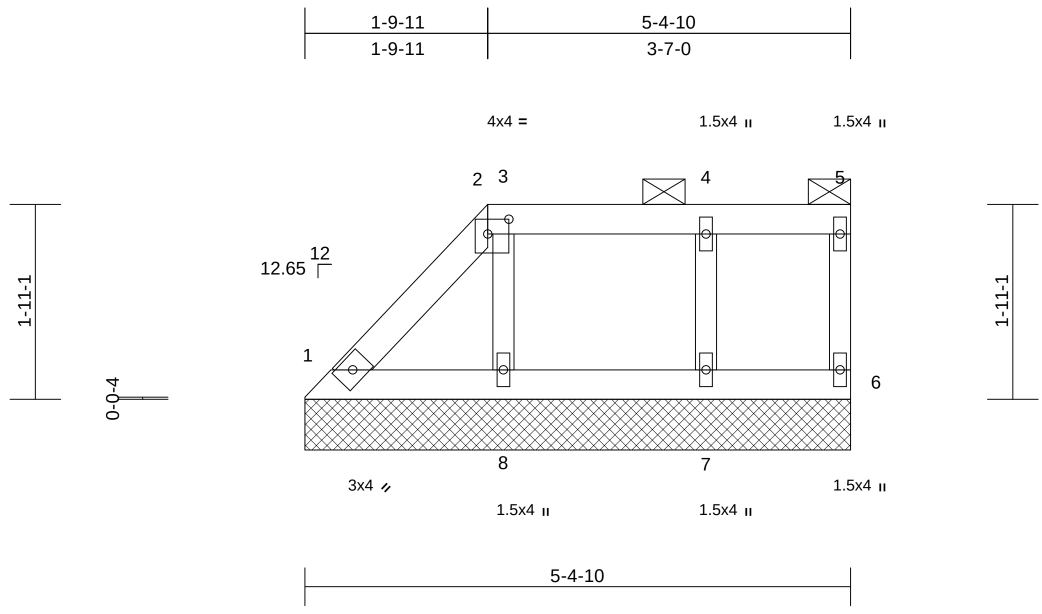

Scale = 1:22.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 20 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-14 oc purlins, except end verticals, and 2-0-0 oc purlins: 2-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-4-10, 6=5-4-10, 7=5-4-10, 8=5-4-10
Max Horiz 1=69 (LC 9)
Max Uplift 1=-2 (LC 8), 6=-11 (LC 9), 7=-46 (LC 8), 8=-63 (LC 9)
Max Grav 1=73 (LC 20), 6=42 (LC 1), 7=166 (LC 1), 8=180 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-90/95, 2-3=-35/37, 3-4=-35/37, 4-5=-35/37, 5-6=-34/21
BOT CHORD 1-8=-32/36, 7-8=-32/36, 6-7=-32/36
WEBS 3-8=-182/127, 4-7=-131/64

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) Provide adequate drainage to prevent water ponding.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 0-0-0 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 2 lb uplift at joint 1, 11 lb uplift at joint 6, 63 lb uplift at joint 8 and 46 lb uplift at joint 7.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) 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

May 23,2024

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	LG2	Lay-In Gable	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65783179
07/05/2024

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

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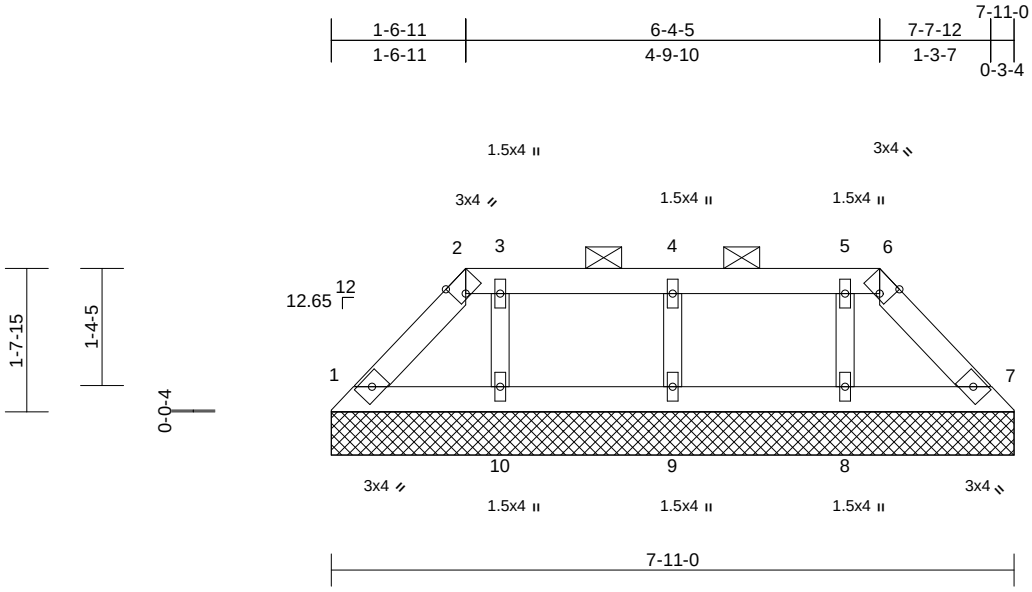


Scale = 1:26.7

Plate Offsets (X, Y): [2:0-1-7,Edge], [6:0-1-7,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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 27 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, except 2-0-0 oc purlins (6-0-0 max.): 2-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=7-11-0, 7=7-11-0, 8=7-11-0, 9=7-11-0, 10=7-11-0
Max Horiz 1=-39 (LC 8)
Max Uplift 1=-20 (LC 13), 7=-19 (LC 13), 8=-36 (LC 8), 9=-47 (LC 8), 10=-44 (LC 9)
Max Grav 1=76 (LC 1), 7=76 (LC 1), 8=167 (LC 26), 9=190 (LC 25), 10=167 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-64/35, 2-3=-52/45, 3-4=-52/45, 4-5=-52/45, 5-6=-52/45, 6-7=-64/29
BOT CHORD 1-10=-7/32, 9-10=-7/32, 8-9=-7/32, 7-8=-7/32
WEBS 3-10=-123/65, 4-9=-150/71, 5-8=-123/57

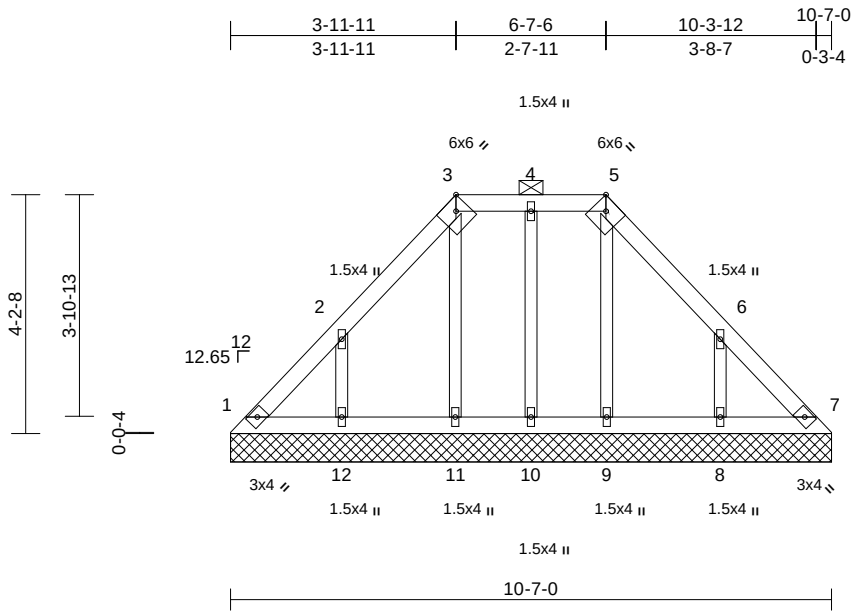
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end 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) Provide adequate drainage to prevent water ponding.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 0-0-0 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 20 lb uplift at joint 1, 19 lb uplift at joint 7, 44 lb uplift at joint 10, 47 lb uplift at joint 9 and 36 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.
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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148	I65783180
P240543-01	LG3	Lay-In Gable	1	1	Job Reference (optional)	



Scale = 1:40.6

Plate Offsets (X, Y): [3:0-2-9,Edge], [5:0-2-9,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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	7	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
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=10-7-0, 7=10-7-0, 8=10-7-0, 9=10-7-0, 10=10-7-0, 11=10-7-0, 12=10-7-0
Max Horiz 1=-110 (LC 10)
Max Uplift 1=-37 (LC 8), 7=-12 (LC 9), 8=-149 (LC 13), 9=-1 (LC 8), 10=-30 (LC 9), 11=-23 (LC 9), 12=-150 (LC 12)
Max Grav 1=105 (LC 20), 7=89 (LC 22), 8=223 (LC 20), 9=122 (LC 26), 10=115 (LC 25), 11=122 (LC 25), 12=223 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-113/97, 2-3=-109/97, 3-4=-101/97, 4-5=-101/97, 5-6=-109/90, 6-7=-96/62
BOT CHORD 1-12=-46/84, 11-12=-46/84, 10-11=-46/84, 9-10=-46/84, 8-9=-46/84, 7-8=-46/84
WEBS 2-12=-210/169, 3-11=-88/45, 4-10=-93/43, 5-9=-88/22, 6-8=-210/169

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) 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) Provide adequate drainage to prevent water ponding.
5) All plates are 1.5x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 0-0-0 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 37 lb uplift at joint 1, 12 lb uplift at joint 7, 150 lb uplift at joint 12, 23 lb uplift at joint 11, 30 lb uplift at joint 10, 1 lb uplift at joint 9 and 149 lb uplift at joint 8.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	LG4	Lay-In Gable	2	1	Job Reference (optional) I65783181

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

Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Thu May 23 08:09:29 Page: 1
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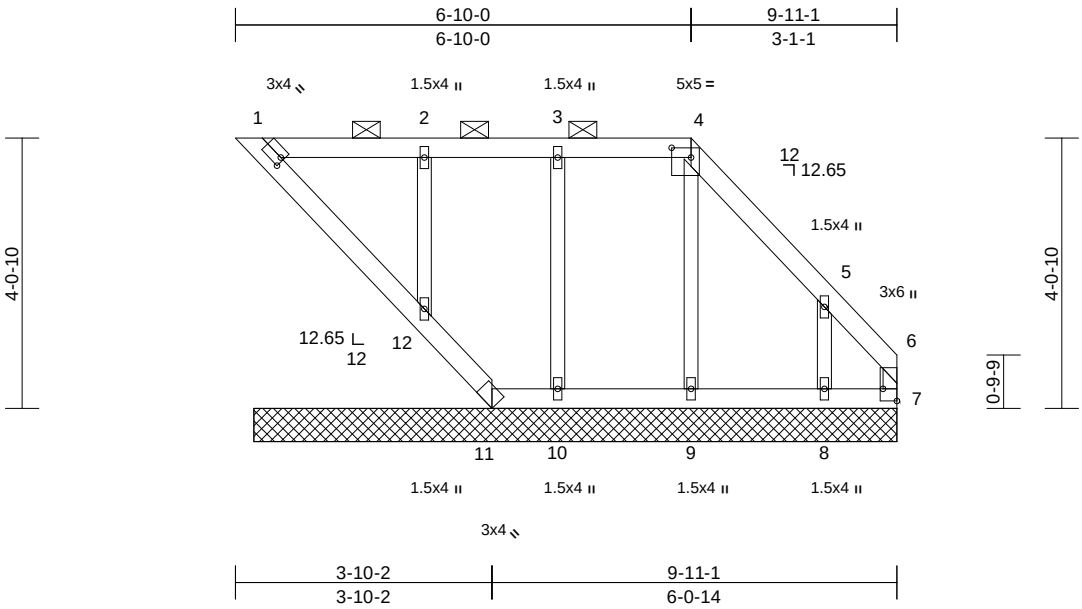

Scale = 1:34.6

Plate Offsets (X, Y): [1:0-0-10,0-1-8], [4:0-3-8,0-1-12], [6: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	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 43 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, and 2-0-0 oc purlins (6-0-0 max.): 1-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 1-12.

REACTIONS (size) 1=9-7-11, 7=9-7-11, 8=9-7-11, 9=9-7-11, 10=9-7-11, 11=9-7-11, 12=9-7-11
Max Horiz 1=-131 (LC 13)
Max Uplift 1=-9 (LC 9), 8=-148 (LC 13), 10=-38 (LC 8), 11=-21 (LC 13), 12=-53 (LC 12)
Max Grav 1=103 (LC 1), 7=49 (LC 22), 8=189 (LC 20), 9=163 (LC 1), 10=175 (LC 25), 11=20 (LC 11), 12=237 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-116/121, 2-3=-116/121, 3-4=-116/121, 4-5=-127/122, 5-6=-46/39, 6-7=-37/10
BOT CHORD 1-12=-65/65, 11-12=-40/63, 10-11=-29/37, 9-10=-29/37, 8-9=-29/37, 7-8=-29/37
WEBS 4-9=-121/7, 3-10=-139/58, 2-12=-179/79, 5-8=-191/158

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-1 to 5-4-1, Interior (1) 5-4-1 to 6-10-0, Exterior(2E) 6-10-0 to 9-9-13 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) Provide adequate drainage to prevent water ponding.
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 9 lb uplift at joint 1, 21 lb uplift at joint 11, 38 lb uplift at joint 10, 53 lb uplift at joint 12 and 148 lb uplift at joint 8.
10) N/A
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	LG5	Lay-In Gable	1	1	Job Reference (optional) I65783182

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Thu May 23 08:09:29 Page: 1
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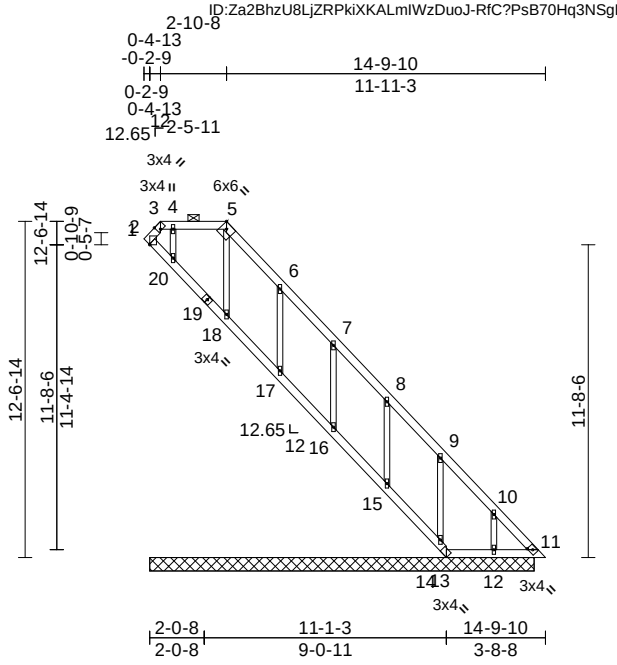

Scale = 1:86.2

Plate Offsets (X, Y): [3:0-1-7,Edge], [5:0-2-9,Edge], [11:0-2-1,0-1-8]

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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.01	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 75 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, except 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 2-20,18-20.

REACTIONS (size) 2=14-4-9, 11=14-4-9, 12=14-4-9, 13=14-4-9, 14=14-4-9, 15=14-4-9, 16=14-4-9, 17=14-4-9, 18=14-4-9, 20=14-4-9
Max Horiz 2=-524 (LC 13)
Max Uplift 2=-141 (LC 13), 11=-44 (LC 11), 12=-138 (LC 13), 13=-275 (LC 13), 14=-95 (LC 13), 15=-135 (LC 13), 16=-138 (LC 13), 17=-142 (LC 13), 18=-27 (LC 11), 20=-150 (LC 11)
Max Grav 2=63 (LC 11), 11=194 (LC 13), 12=207 (LC 20), 13=105 (LC 11), 14=193 (LC 20), 15=207 (LC 20), 16=205 (LC 20), 17=216 (LC 20), 18=247 (LC 22), 20=406 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-7/0, 2-3=-267/331, 3-4=-262/313, 4-5=-262/313, 5-6=-344/399, 6-7=-227/259, 7-8=-118/125, 8-9=-61/42, 9-10=-160/132, 10-11=-285/237
BOT CHORD 2-20=-198/236, 18-20=-279/337, 17-18=-274/332, 16-17=-275/333, 15-16=-274/332, 14-15=-274/333, 13-14=-275/365, 12-13=-178/222, 11-12=-178/222
WEBS 5-18=-216/113, 4-20=-259/133, 6-17=-201/168, 7-16=-191/161, 8-15=-192/160, 9-14=-192/161, 10-12=-185/154

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) 0-1-3 to 3-1-1, Exterior(2R) 3-1-1 to 10-1-15, Interior (1) 10-1-15 to 14-8-2 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) Provide adequate drainage to prevent water ponding.
5) All plates are 1.5x4 MT20 unless otherwise indicated.
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) Bearing at joint(s) 2, 20 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 44 lb uplift at joint 11, 141 lb uplift at joint 2, 275 lb uplift at joint 13, 27 lb uplift at joint 18, 150 lb uplift at joint 20, 142 lb uplift at joint 17, 138 lb uplift at joint 16, 135 lb uplift at joint 15, 95 lb uplift at joint 14 and 138 lb uplift at joint 12.
11) N/A
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) 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

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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	LG6	Lay-In Gable	1	1	Job Reference (optional) I65783183

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

Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Thu May 23 08:09:29 Page: 1
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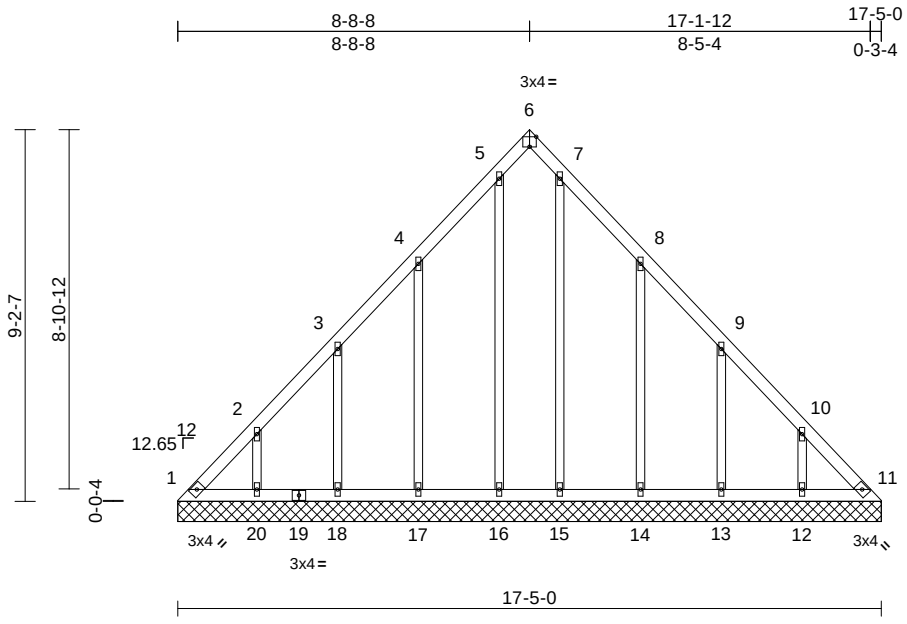

Scale = 1:57

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.20	Horiz(TL)	0.01	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 93 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) 1=17-5-0, 11=17-5-0, 12=17-5-0, 13=17-5-0, 14=17-5-0, 15=17-5-0, 16=17-5-0, 17=17-5-0, 18=17-5-0, 20=17-5-0
Max Horiz 1=-251 (LC 8)
Max Uplift 1=-108 (LC 10), 11=-80 (LC 11), 12=-138 (LC 13), 13=-133 (LC 13), 14=-159 (LC 13), 16=-23 (LC 9), 17=-156 (LC 12), 18=-133 (LC 12), 20=-138 (LC 12)
Max Grav 1=273 (LC 12), 11=254 (LC 13), 12=209 (LC 20), 13=204 (LC 20), 14=219 (LC 20), 15=135 (LC 20), 16=159 (LC 19), 17=215 (LC 19), 18=204 (LC 19), 20=209 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-394/273, 2-3=-267/169, 3-4=-139/111, 4-5=-111/104, 5-6=-84/75, 6-7=-84/74, 7-8=-89/76, 8-9=-120/73, 9-10=-241/169, 10-11=-369/273
BOT CHORD 1-20=-203/281, 18-20=-203/281, 17-18=-203/281, 16-17=-203/281, 15-16=-203/281, 14-15=-203/281, 13-14=-203/281, 12-13=-203/281, 11-12=-203/281
WEBS 2-20=-184/156, 3-18=-185/158, 4-17=-210/180, 5-16=-125/44, 7-15=-101/12, 8-14=-210/183, 9-13=-185/158, 10-12=-184/156

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-1 to 5-4-1, Interior (1) 5-4-1 to 8-8-12, Exterior(2R) 8-8-12 to 13-5-12, Interior (1) 13-5-12 to 17-1-7 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 0-0-0 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 108 lb uplift at joint 1, 80 lb uplift at joint 11, 138 lb uplift at joint 20, 133 lb uplift at joint 18, 156 lb uplift at joint 17, 23 lb uplift at joint 16, 159 lb uplift at joint 14, 133 lb uplift at joint 13 and 138 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.

LOAD CASE(S) Standard

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	LG7	Lay-In Gable	1	1	Job Reference (optional) I65783184

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

Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Thu May 23 08:09:30 Page: 1
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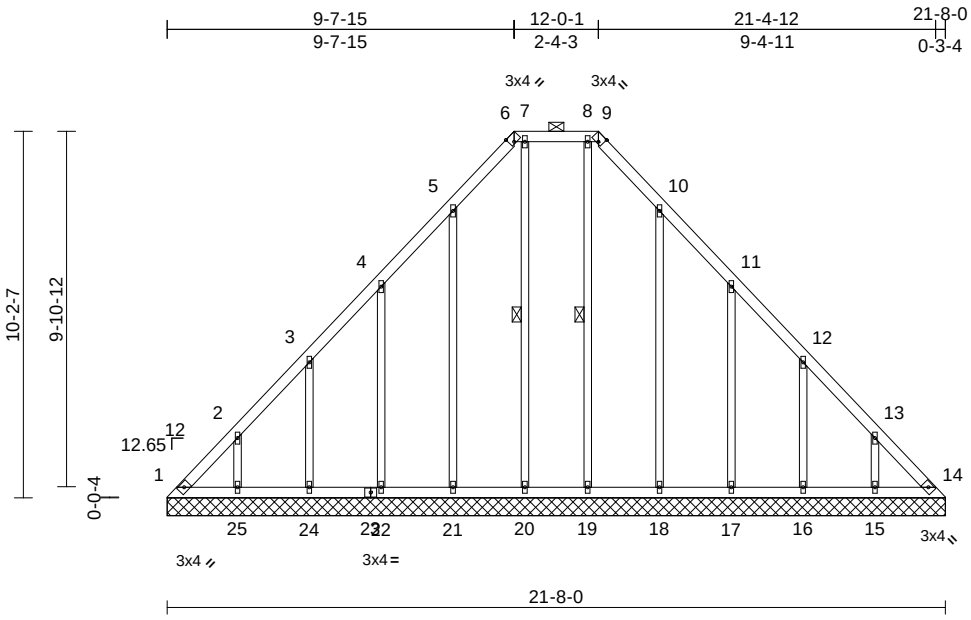

Scale = 1:64.1

Plate Offsets (X, Y): [6:0-1-7,Edge], [9:0-1-7,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.26	Horiz(TL)	0.01	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 122 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, except 2-0-0 oc purlins (6-0-0 max.): 6-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-20, 8-19

REACTIONS (size) 1=21-8-0, 14=21-8-0, 15=21-8-0, 16=21-8-0, 17=21-8-0, 18=21-8-0, 19=21-8-0, 20=21-8-0, 21=21-8-0, 22=21-8-0, 24=21-8-0, 25=21-8-0
Max Horiz 1=-281 (LC 8)
Max Uplift 1=-135 (LC 10), 14=-84 (LC 11), 15=-138 (LC 13), 16=-134 (LC 13), 17=-146 (LC 13), 18=-115 (LC 13), 20=-24 (LC 11), 21=-119 (LC 12), 22=-144 (LC 12), 24=-134 (LC 12), 25=-138 (LC 12)
Max Grav 1=262 (LC 12), 14=228 (LC 13), 15=209 (LC 20), 16=206 (LC 20), 17=209 (LC 20), 18=203 (LC 20), 19=159 (LC 21), 20=182 (LC 22), 21=208 (LC 19), 22=207 (LC 19), 24=206 (LC 19), 25=209 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-379/247, 2-3=-252/199, 3-4=-179/149, 4-5=-153/164, 5-6=-222/223, 6-7=-176/177, 7-8=-176/177, 8-9=-176/177, 9-10=-222/211, 10-11=-132/116, 11-12=-126/78, 12-13=-205/128, 13-14=-332/211
BOT CHORD 1-25=-159/256, 24-25=-159/256, 22-24=-159/256, 21-22=-159/256, 20-21=-159/256, 19-20=-159/256, 18-19=-159/256, 17-18=-159/256, 16-17=-159/256, 15-16=-159/256, 14-15=-159/256
WEBS 2-25=-179/155, 3-24=-182/160, 4-22=-192/168, 5-21=-167/144, 7-20=-145/61, 8-19=-122/43, 10-18=-162/140, 11-17=-192/169, 12-16=-182/160, 13-15=-179/156

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-1 to 5-4-1, Interior (1) 5-4-1 to 9-8-2, Exterior(2E) 9-8-2 to 12-0-5, Exterior(2R) 12-0-5 to 19-1-3, Interior (1) 19-1-3 to 21-4-6 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) Provide adequate drainage to prevent water ponding.
5) All plates are 1.5x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 0-0-0 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 135 lb uplift at joint 1, 84 lb uplift at joint 14, 138 lb uplift at joint 25, 134 lb uplift at joint 24, 144 lb uplift at joint 22, 119 lb uplift at joint 21, 24 lb uplift at joint 20, 115 lb uplift at joint 18, 146 lb uplift at joint 17, 134 lb uplift at joint 16 and 138 lb uplift at joint 15.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

May 23,2024

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

Job	Truss	Truss Type	Qty	Ply	Roof - HM Lot 148
P240543-01	TG2	Diagonal Hip Girder	4	1	Job Reference (optional) I65783185

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

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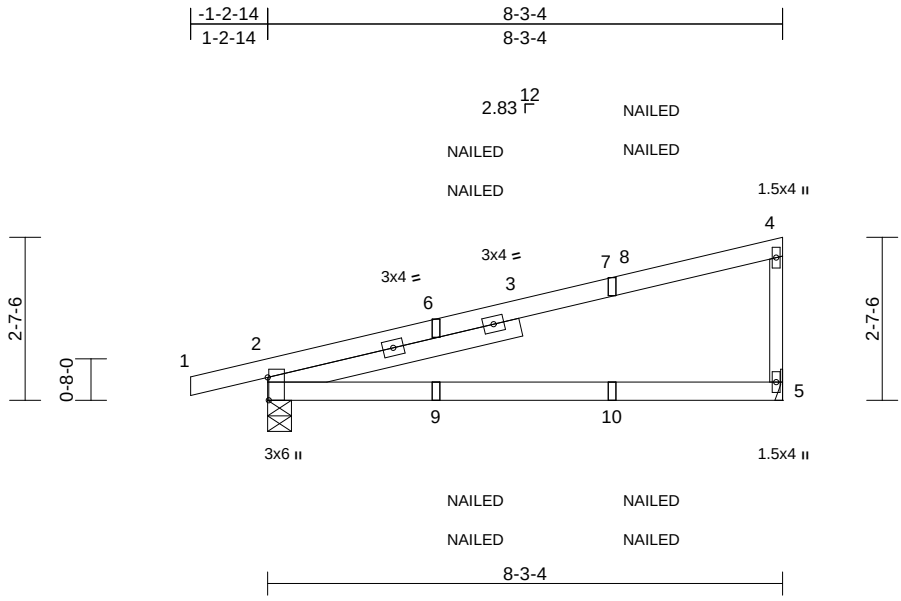


Scale = 1:37

Plate Offsets (X, Y): [2:0-4-6,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	0.96	Vert(LL)	-0.22	2-5	>454	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.43	2-5	>227	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 35 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 4-1-15

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) 2=0-4-9, 5= Mechanical
Max Horiz 2=103 (LC 28)
Max Uplift 2=-150 (LC 8), 5=-117 (LC 12)
Max Grav 2=486 (LC 1), 5=415 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-6/0, 2-4=-140/82, 4-5=-320/305
BOT CHORD 2-5=-47/51

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-2-14 to 5-10-0, Exterior(2R) 5-10-0 to 8-2-0 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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: Joint 2 SP 2400F 2.0E crushing capacity of 805 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 117 lb uplift at joint 5 and 150 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.
7) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 2-5=-20
Concentrated Loads (lb)
Vert: 7=-60 (F=-34, B=-26), 10=-19 (F=-10, B=-10)

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

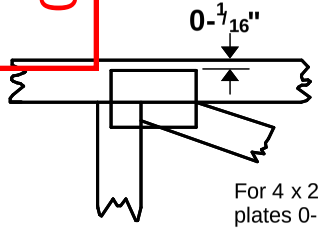
May 23,2024

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.

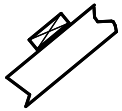
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

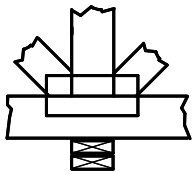
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

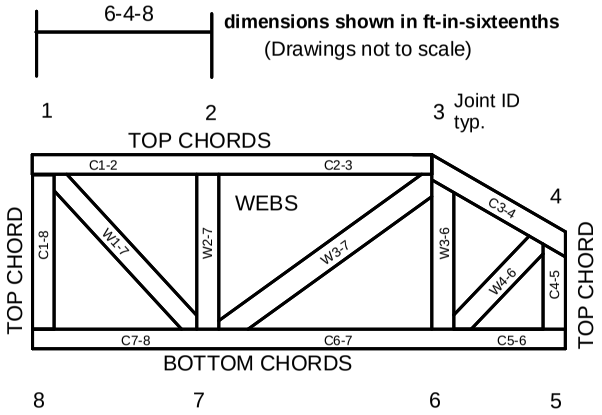


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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.