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

Re: 220004
Lot 2 OS

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

Pages or sheets covered by this seal: I55800270 thru I55800276

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

Missouri COA: Engineering 001193

December 20,2022

Sevier, Scott ,Engineer

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

Job	Truss	Truss Type	Qty	Ply	Lot 2 OS	
220004	A6	Roof Special	2	1	Job Reference (optional)	Units: 1.0 Eng: TH I55800270

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Dec 19 12:21:29 Page: 1
ID:mNMAkoxz07ZFqdnrbi9s3qz6QqR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

LUMBER (SHOWN SOLID) TO BE
CUT CLEANLY AND ACCURATELY AND THE PLATE(S)
MUST BE FULLY EMBEDDED AND UNDISTURBED.

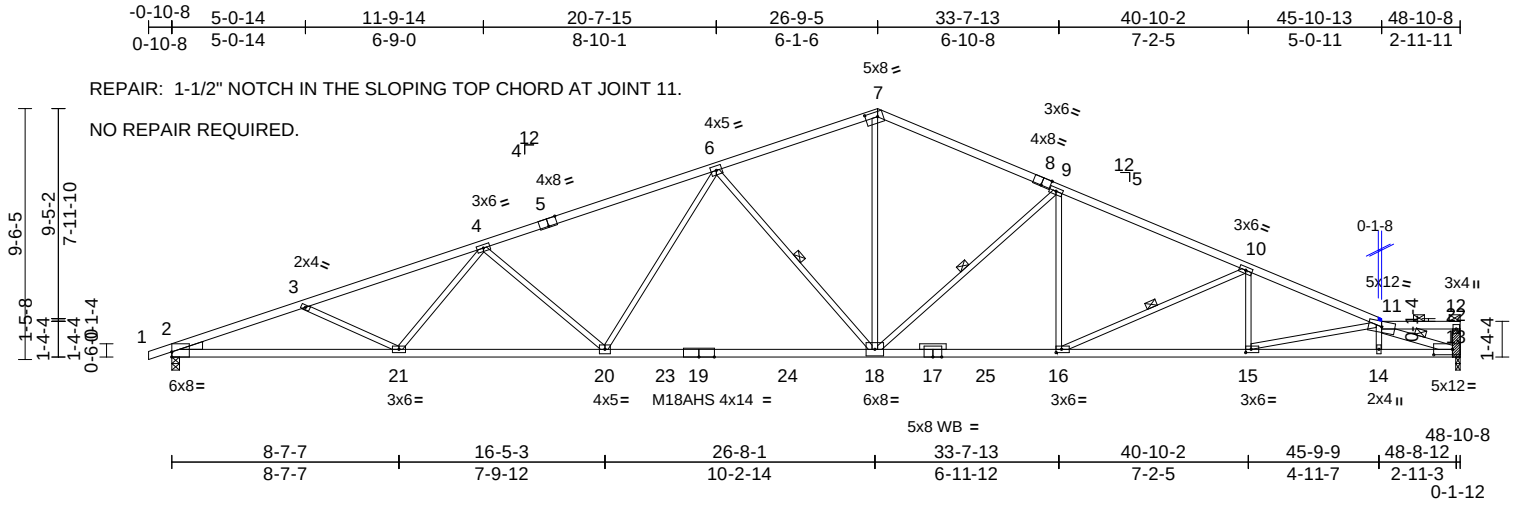

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Plate Offsets (X, Y): [2:Edge,0-2-5], [5:0-4-0,Edge], [7:0-5-8,0-2-4], [8:0-4-0,Edge], [13:0-8-8,0-2-8], [15:0-2-8,0-1-8], [16:0-2-8,0-1-8]

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	0.90	Vert(LL)	-0.74	18-20	>793	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-1.26	18-20	>461	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.29	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.33	18-20	>999	240	Weight: 182 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E *Except* 11-12:2x4 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 12-13,13-11,13-22:2x4 SPF No.2
OTHERS 2x3 SPF No.2
WEDGE Left: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 11-12.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
8-3-6 oc bracing: 2-21
9-1-1 oc bracing: 20-21.
WEBS 1 Row at midpt 6-18, 9-18, 11-13, 10-16

REACTIONS (size) 2=0-3-8, 13=(0-2-0 + bearing block), (req. 0-2-8)
Max Horiz 2=167 (LC 8)
Max Uplift 2=-371 (LC 4), 13=-265 (LC 9)
Max Grav 2=2360 (LC 2), 13=2304 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-5734/867, 3-4=-5598/762, 4-6=-4767/669, 6-7=-3370/487, 7-9=-3457/500, 9-10=-4332/494, 10-11=-5232/566, 11-12=-196/25, 12-13=-150/42
BOT CHORD 2-21=-894/5322, 20-21=-740/5027, 18-20=-470/3912, 16-18=-319/3928, 15-16=-487/4790, 14-15=-600/5359, 13-14=-606/5360
WEBS 3-21=-218/194, 4-21=0/406, 4-20=-856/296, 6-20=-102/1050, 6-18=-1217/351, 7-18=-225/2023, 9-18=-1101/300, 11-13=-5549/617, 9-16=-15/635, 10-16=-946/228, 10-15=0/401, 11-14=-59/61, 11-15=-582/115

NOTES
1) 2x4 SPF No.2 bearing block 12" long at jt. 13 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be SPF 2400F 2.0E.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 371 lb uplift at joint 2 and 265 lb uplift at joint 13.
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

December 20,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 2 OS	Units: 1.0 Eng: TH	I55800271
220004	A7	Roof Special	2	1	Job Reference (optional)		

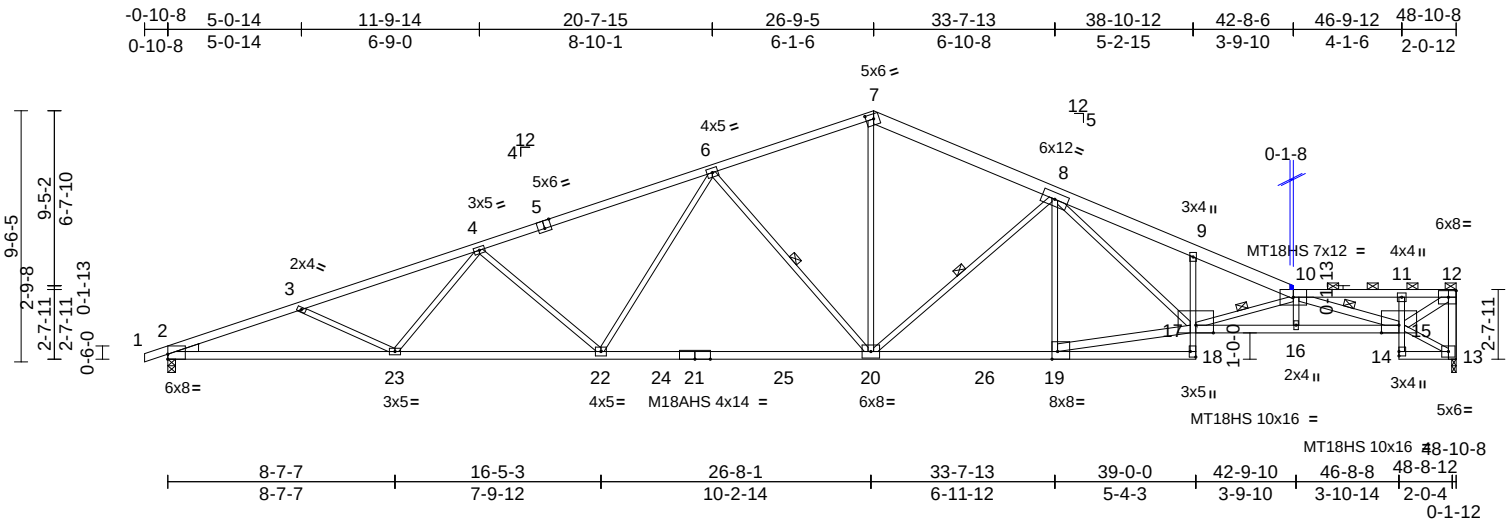
Wheeler Lumber, Waverly, KS - 66871, Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Dec 19 12:21:31 Page: 1

ID:YkQT6ze_7F_tPhoBYbjhyGz6QpW-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

REPAIR: 1-1/2" NOTCH IN THE SLOPING TOP CHORD AT JOINT 10.

NO REPAIR REQUIRED.

LUMBER (SHOWN SOLID) TO BE CUT CLEANLY AND ACCURATELY AND THE PLATE(S) MUST BE FULLY EMBEDDED AND UNDISTURBED.



Scale = 1:87.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.84	20-22	>692	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-1.45	20-22	>403	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.46	13	n/a	n/a	M18AHS	142/136
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.39	20-22	>999	240	Weight: 208 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 7-10:2x6 SPF No.2, 10-12:2x4 SPF No.2

BOT CHORD 2x4 SPF 2100F 1.8E *Except* 18-9,11-14:2x3 SPF No.2, 17-15:2x4 SPF 2400F 2.0E, 14-13:2x4 SPF No.2

WEBS 2x3 SPF No.2 *Except* 12-13,19-17,15-10,15-12:2x4 SPF No.2

LBR SCAB 12-13 SPF No.2 one side

WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-7-15 max.): 10-12.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

WEBS 1 Row at midpt 6-20, 8-20, 10-17, 10-15

REACTIONS (size) 2=0-3-8, (req. 0-3-11), 13=0-2-0, (req. 0-3-10)

Max Horiz 2=171 (LC 12)

Max Uplift 2=-370 (LC 4), 13=-268 (LC 9)

Max Grav 2=2359 (LC 2), 13=2303 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/6, 2-3=-5732/863, 3-4=-5596/759, 4-6=-4765/666, 6-7=-3376/483, 7-8=-3478/496, 8-9=-6533/764, 9-10=-6606/691, 10-11=-3314/387, 11-12=-3166/369, 12-13=-2251/281

BOT CHORD 2-23=-897/5320, 22-23=-743/5024, 20-22=-473/3910, 19-20=-343/3974, 18-19=-15/224, 17-18=0/99, 9-17=-221/137, 16-17=-953/8651, 15-16=-948/8654, 14-15=0/32, 11-15=-322/115, 13-14=-10/35

WEBS 3-23=-218/194, 4-23=0/406, 4-22=-857/296, 6-22=-102/1050, 6-20=-1195/347, 7-20=-220/2028, 8-20=-1133/297, 8-19=-573/133, 17-19=-334/3818, 8-17=-395/2858, 10-17=-2756/344, 10-15=-5630/557, 13-15=-39/34, 12-15=-470/3853, 10-16=-32/101

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) WARNING: Required bearing size at joint(s) 2, 13 greater than input bearing size.
8) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 370 lb uplift at joint 2 and 268 lb uplift at joint 13.
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

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED SUPPORT WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER OR THE BUILDING DESIGNER.

December 20,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 2 OS		
220004	A8	Roof Special	2	1	Job Reference (optional)	Units: 1.0 Eng: TH	I55800272

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Dec 19 12:21:31

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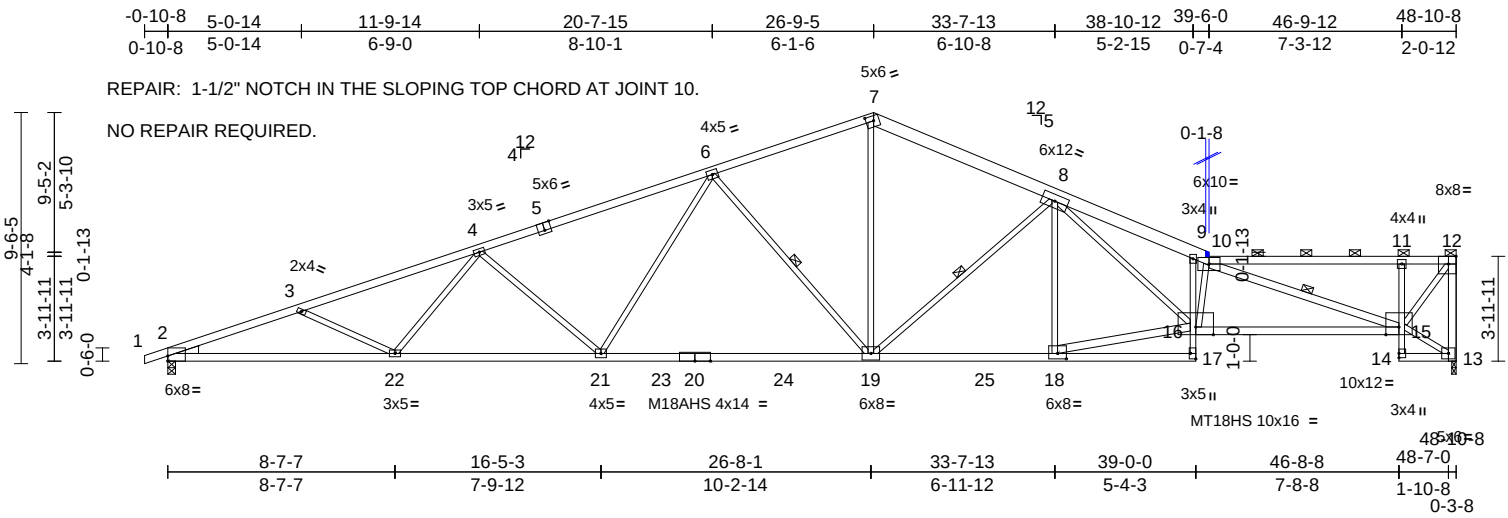
LUMBER (SHOWN SOLID) TO BE
CUT CLEANLY AND ACCURATELY AND THE PLATE(S)
MUST BE FULLY EMBEDDED AND UNDISTURBED.

REPAIR: 1-1/2" NOTCH IN THE SLOPING TOP CHORD AT JOINT 10.

NO REPAIR REQUIRED.



Scale = 1:87.4

Plate Offsets (X, Y): [2:Edge,0-2-5], [5:0-3-0,Edge], [7:0-3-8,0-2-4], [12:0-3-8,Edge], [17:Edge,0-2-8], [18:0-4-0,0-2-8]

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	0.89	Vert(LL)	-0.79	19-21	>742	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-1.35	19-21	>432	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.39	13	n/a	n/a	MT18HS	197/144
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.35	19-21	>999	240	Weight: 211 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 7-10:2x6 SPF No.2, 10-12:2x4 SPF No.2

BOT CHORD 2x4 SPF 2100F 1.8E *Except* 17-9,11-14:2x3 SPF No.2, 14-13:2x4 SPF No.2

WEBS 2x3 SPF No.2 *Except* 12-13,18-16:2x4 SPF No.2, 15-10:2x4 SPF 2100F 1.8E

LBR SCAB 13-12 SPF No.2 one side

WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-1-9 max.): 10-12.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

WEBS 1 Row at midpt 6-19, 8-19, 10-15

REACTIONS (size) 2=0-3-8, (req. 0-3-11), 13=0-2-0, (req. 0-3-10)
Max Horiz 2=175 (LC 8)
Max Uplift 2=-368 (LC 4), 13=-272 (LC 9)
Max Grav 2=2359 (LC 2), 13=2303 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/6, 2-3=-5732/857, 3-4=-5596/752, 4-6=-4765/659, 6-7=-3376/476, 7-8=-3478/489, 8-9=-6564/718, 9-10=-6856/706, 10-11=-1738/203, 11-12=-1677/197, 12-13=-2280/274

BOT CHORD 2-22=-898/5320, 21-22=-743/5024, 19-21=-473/3910, 18-19=-391/3973, 17-18=-45/199, 16-17=0/98, 9-16=-47/503, 15-16=-721/6451, 14-15=0/26, 11-15=-501/211, 13-14=-73/0

WEBS 3-22=-218/194, 4-22=0/406, 4-21=-857/296, 6-21=-102/1050, 6-19=-1194/347, 7-19=-214/2026, 8-19=-1131/281, 8-18=-573/138, 16-18=-352/3851, 8-16=-371/2895, 10-16=-1640/298, 10-15=-5020/496, 13-15=-11/89, 12-15=-386/2874

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) WARNING: Required bearing size at joint(s) 2, 13 greater than input bearing size.
8) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 368 lb uplift at joint 2 and 272 lb uplift at joint 13.
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.

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED SUPPORT WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER OR THE BUILDING DESIGNER.

LOAD CASE(S) Standard

December 20,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 2 OS		
220004	A9	Roof Special	2	1	Job Reference (optional)	Units: 1.0 Eng: TH	I55800273

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Dec 19 12:21:32 Page: 1
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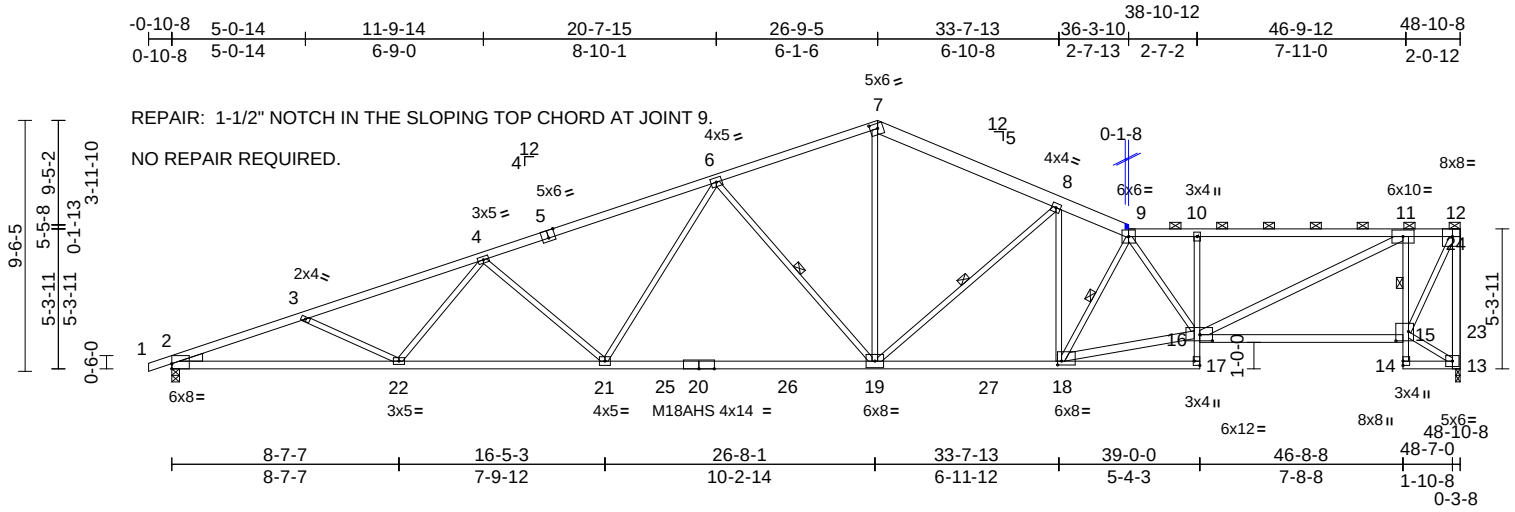
LUMBER (SHOWN SOLID) TO BE
CUT CLEANLY AND ACCURATELY AND THE PLATE(S)
MUST BE FULLY EMBEDDED AND UNDISTURBED.



Scale = 1:87.4

Plate Offsets (X, Y): [2:Edge,0-2-5], [5:0-3-0,Edge], [7:0-3-8,0-2-4], [12:0-3-8,Edge], [15:0-4-4,0-5-12], [16:0-5-12,0-2-12], [17:Edge,0-2-8], [18:0-1-13,0-1-12]

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	0.90	Vert(LL)	-0.72	19-21	>813	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-1.23	19-21	>474	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.30	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.32	19-21	>999	240	Weight: 216 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E *Except* 7-9:2x6 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E *Except* 17-10,11-14:2x3 SPF No.2, 16-15,14-13:2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-13,16-11:2x4 SPF No.2, 18-16:2x4 SPF 2100F 1.8E
LBR SCAB 13-12 SPF No.2 one side
WEDGE Left: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-11-8 max.): 9-12.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. Except:
1 Row at midpt 11-15
WEBS 1 Row at midpt 6-19, 8-19, 9-18

REACTIONS (size) 2=0-3-8, (req. 0-3-11), 13=0-2-0, (req. 0-3-10)
Max Horiz 2=219 (LC 7)
Max Uplift 2=-364 (LC 4), 13=-279 (LC 9)
Max Grav 2=2360 (LC 2), 13=2304 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-5734/847, 3-4=-5599/742, 4-6=-4766/648, 6-7=-3379/465, 7-8=-3480/478, 8-9=-4319/461, 9-10=-4571/473, 10-11=-4595/474, 11-12=-1183/131, 12-13=-2286/288
BOT CHORD 2-22=-897/5322, 21-22=-741/5026, 19-21=-470/3912, 18-19=-428/3967, 17-18=-43/105, 16-17=0/94, 10-16=-528/208, 15-16=-206/1221, 14-15=0/26, 11-15=-2105/387, 13-14=-69/0
WEBS 3-22=-218/194, 4-22=0/407, 4-21=-857/296, 6-21=-102/1048, 6-19=-1193/347, 7-19=-206/2024, 8-19=-1119/258, 8-18=-3/721, 9-18=-1580/186, 16-18=-476/4692, 9-16=-298/90, 11-16=-381/3788, 13-15=-34/97, 12-15=-371/2613

NOTES
1) Attached 5-3-11 scab 12 to 13, front face(s) 2x4 SPF No.2 with 1 row(s) of 10d (0.131"x3") nails spaced 9" o.c..
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) WARNING: Required bearing size at joint(s) 2, 13 greater than input bearing size.
9) Bearing at joint(s) 13 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 364 lb uplift at joint 2 and 279 lb uplift at joint 13.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 20,2022

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED SUPPORT WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER OR THE BUILDING DESIGNER.

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 2 OS		
220004	A10	Roof Special	2	1	Job Reference (optional)	Units: 1.0 Eng: TH	I55800274

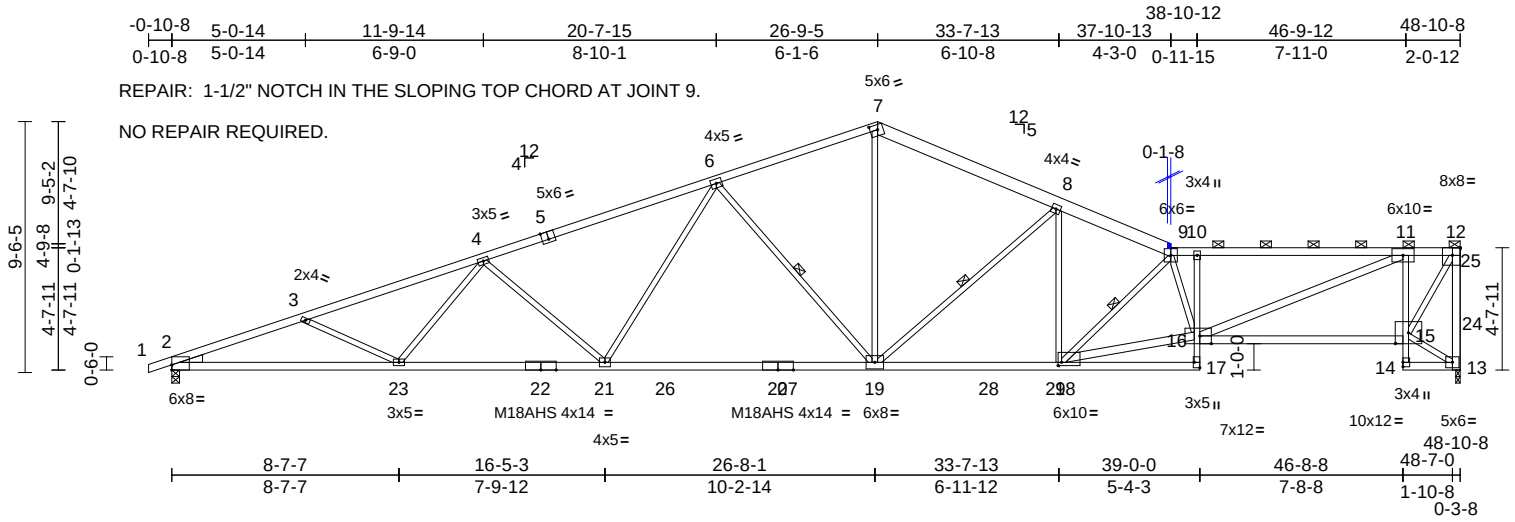
Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Dec 19 12:21:32 ID:5QY4tJ4?KVs8ZppsTNqMk9z6Qng-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

LUMBER (SHOWN SOLID) TO BE CUT CLEANLY AND ACCURATELY AND THE PLATE(S) MUST BE FULLY EMBEDDED AND UNDISTURBED.

REPAIR: 1-1/2" NOTCH IN THE SLOPING TOP CHORD AT JOINT 9.

NO REPAIR REQUIRED.



Scale = 1:87.4

Plate Offsets (X, Y): [2:Edge,0-2-5], [5:0-3-0,Edge], [7:0-3-8,0-2-4], [12:0-3-8,Edge], [16:0-5-4,Edge], [17:Edge,0-2-8], [18:0-1-10,0-1-8]

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	0.90	Vert(LL)	-0.74	19-21	>791	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-1.26	19-21	>461	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.32	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.33	19-21	>999	240	Weight: 213 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 7-9:2x6 SPF No.2

BOT CHORD 2x4 SPF 2100F 1.8E *Except* 17-10,11-14:2x3 SPF No.2, 16-15,14-13:2x4 SPF No.2

WEBS 2x3 SPF No.2 *Except* 12-13:2x4 SPF No.2, 18-16,16-11:2x4 SPF 2100F 1.8E

LBR SCAB 13-12 SPF No.2 one side

WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-5-6 max.): 9-12.

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

WEBS 1 Row at midpt 6-19, 8-19, 9-18

REACTIONS (size) 2=0-3-8, (req. 0-3-11), 13=0-2-0, (req. 0-3-10)
Max Horiz 2=188 (LC 5)
Max Uplift 2=-366 (LC 4), 13=-275 (LC 9)
Max Grav 2=2359 (LC 2), 13=2302 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/6, 2-3=-5731/852, 3-4=-5595/747, 4-6=-4763/654, 6-7=-3376/471, 7-8=-3476/483, 8-9=-4343/470, 9-10=-5466/571, 10-11=-5496/570, 11-12=-1431/166, 12-13=-2282/283

BOT CHORD 2-23=-898/5319, 21-23=-743/5023, 19-21=-472/3909, 18-19=-411/3959, 17-18=-47/142, 16-17=0/91, 10-16=-740/273, 15-16=-232/1481, 14-15=0/24, 11-15=-2095/379, 13-14=-64/0

WEBS 3-23=-218/194, 4-23=0/407, 4-21=-857/296, 6-21=-102/1048, 6-19=-1193/347, 7-19=-210/2021, 8-19=-1113/271, 8-18=-11/702, 9-18=-2105/263, 16-18=-552/5392, 9-16=-156/358, 11-16=-434/4365, 13-15=-24/87, 12-15=-379/2730

NOTES

1) Attached 4-7-11 scab 12 to 13, front face(s) 2x4 SPF No.2 with 1 row(s) of 10d (0.131"x3") nails spaced 9" o.c..
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) WARNING: Required bearing size at joint(s) 2, 13 greater than input bearing size.
9) Bearing at joint(s) 13 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 366 lb uplift at joint 2 and 275 lb uplift at joint 13.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED BEARING WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER OR THE BUILDING DESIGNER.

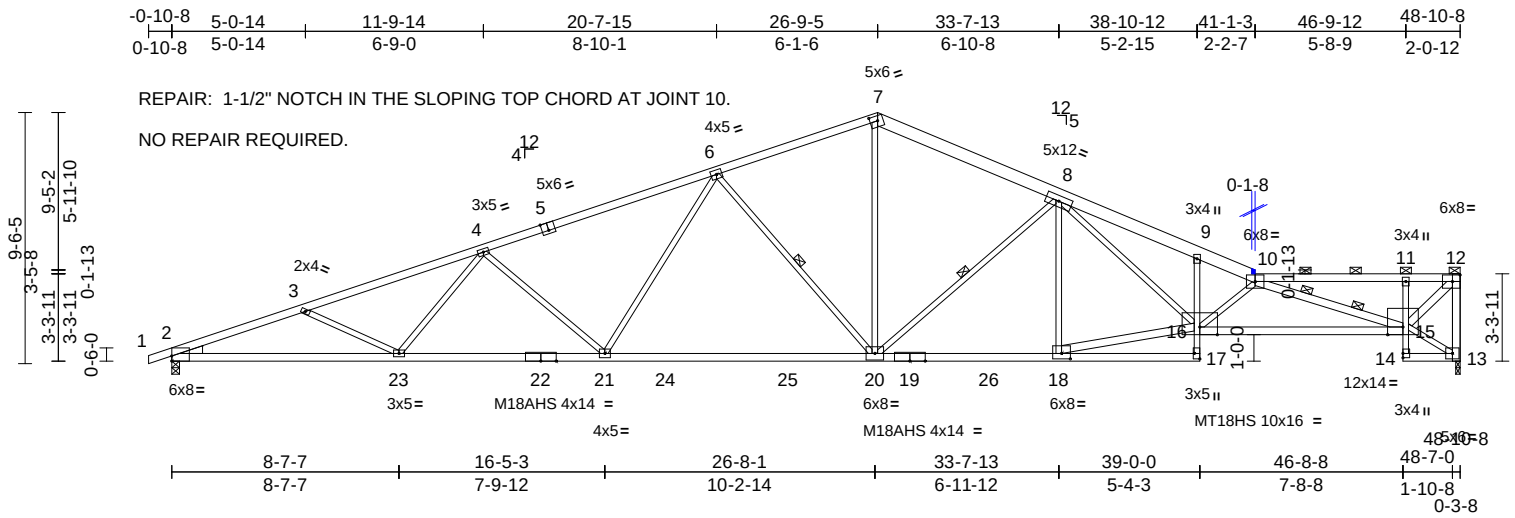
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 2 OS		
220004	A11	Roof Special	2	1	Job Reference (optional)	Units: 1.0 Eng: TH	I55800275

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Dec 19 12:21:33 Page: 1
ID:5zbx0xUKKy8Je2PPSWRK7Kz6Qn8-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

LUMBER (SHOWN SOLID) TO BE
CUT CLEANLY AND ACCURATELY AND THE PLATE(S)
MUST BE FULLY EMBEDDED AND UNDISTURBED.



Scale = 1:87.4

Plate Offsets (X, Y): [2:Edge,0-2-5], [5:0-3-0,Edge], [7:0-3-8,0-2-4], [17:Edge,0-2-8], [18:0-4-0,0-2-8]

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	0.90	Vert(LL)	-0.80	20-21	>727	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-1.38	20-21	>423	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.40	13	n/a	n/a	MT18HS	197/144
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.36	20-21	>999	240	Weight: 209 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 7-10:2x6 SPF No.2, 10-12:2x4 SPF No.2

BOT CHORD 2x4 SPF 2100F 1.8E *Except* 17-9,11-14:2x3 SPF No.2, 16-15:2x4 SPF 2400F 2.0E, 14-13:2x4 SPF No.2

WEBS 2x3 SPF No.2 *Except* 12-13,18-16,15-10,15-12:2x4 SPF No.2

LBR SCAB 12-13 SPF No.2 one side

WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-4-14 max.): 10-12.

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

WEBS 1 Row at midpt 6-20, 8-20

WEBS 2 Rows at 1/3 pts 10-15

REACTIONS (size) 2=0-3-8, (req. 0-3-11), 13=0-2-0, (req. 0-3-10)
Max Horiz 2=173 (LC 8)
Max Uplift 2=-369 (LC 4), 13=-270 (LC 9)
Max Grav 2=2359 (LC 2), 13=2303 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/6, 2-3=-5732/860, 3-4=-5596/756, 4-6=-4765/663, 6-7=-3376/480, 7-8=-3479/493, 8-9=-6505/730, 9-10=-6612/672, 10-11=-2269/255, 11-12=-2187/250, 12-13=-2278/273

BOT CHORD 2-23=-898/5320, 21-23=-743/5024, 20-21=-473/3910, 18-20=-369/3977, 17-18=-45/207, 16-17=0/98, 9-16=-56/86, 15-16=-831/7191, 14-15=0/27, 11-15=-402/161, 13-14=-61/0

WEBS 3-23=-218/194, 4-23=0/406, 4-21=-857/296, 6-21=-102/1050, 6-20=-1195/347, 7-20=-218/2031, 8-20=-1137/291, 8-18=-573/134, 16-18=-330/3847, 8-16=-369/2828, 10-16=-1569/273, 10-15=-5227/567, 13-15=-8/77, 12-15=-395/3162

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) WARNING: Required bearing size at joint(s) 2, 13 greater than input bearing size.
8) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 369 lb uplift at joint 2 and 270 lb uplift at joint 13.
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

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED SUPPORT WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER OR THE BUILDING DESIGNER.

December 20,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 2 OS		
220004	A12	Roof Special	2	1	Job Reference (optional)	Units: 1.0 Eng: TH	I55800276

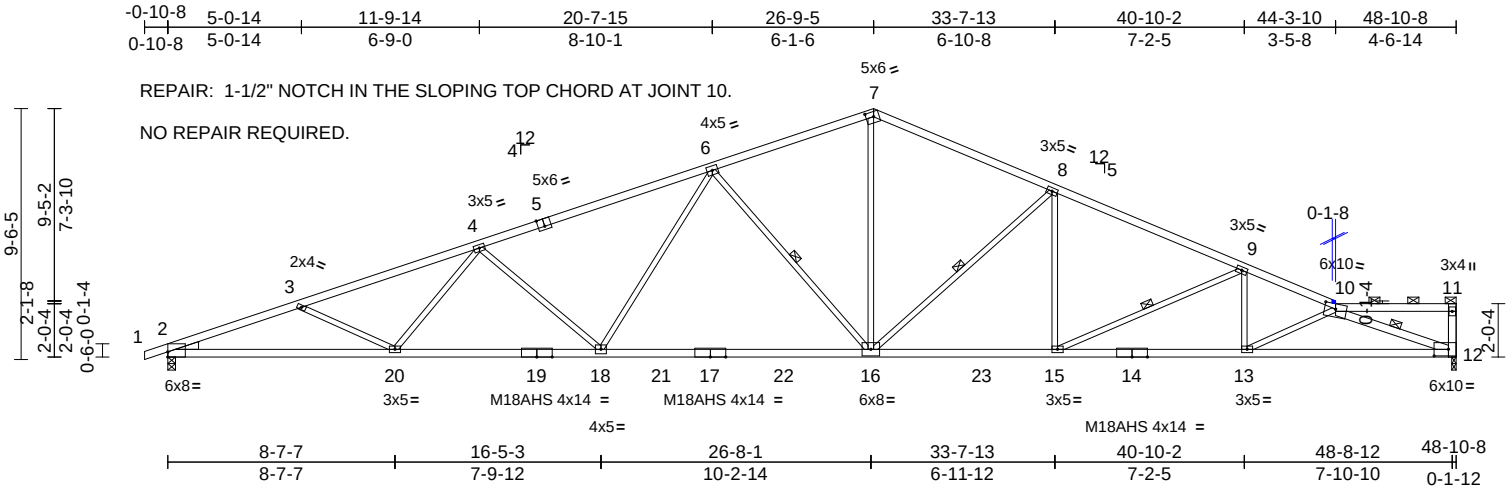
Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Mon Dec 19 12:21:33 ID:mNMAkoxz07ZFqdnrbi9s3qz6QqR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

LUMBER (SHOWN SOLID) TO BE
CUT CLEANLY AND ACCURATELY AND THE PLATE(S)
MUST BE FULLY EMBEDDED AND UNDISTURBED.

REPAIR: 1-1/2" NOTCH IN THE SLOPING TOP CHORD AT JOINT 10.

NO REPAIR REQUIRED.



Scale = 1:87.4

Plate Offsets (X, Y): [2:Edge,0-2-5], [5:0-3-0,Edge], [7:0-3-8,0-2-4], [10:0-5-0,0-2-8], [12:0-6-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.74	16-18	>792	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-1.26	16-18	>461	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.29	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.33	16-18	>999	240	Weight: 184 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 10-11:2x4 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 11-12,12-10:2x4 SPF No.2
LBR SCAB 12-11 SPF No.2 one side
WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 10-11.
BOT CHORD Rigid ceiling directly applied or 8-3-4 oc bracing.
WEBS 1 Row at midpt 6-16, 10-12, 8-16, 9-15

REACTIONS (size) 2=0-3-8, (req. 0-3-11), 12=0-2-0, (req. 0-3-10)
Max Horiz 2=170 (LC 8)
Max Uplift 2=-371 (LC 4), 12=-266 (LC 9)
Max Grav 2=2360 (LC 2), 12=2304 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/6, 2-3=-5734/865, 3-4=-5598/761, 4-6=-4767/668, 6-7=-3370/485, 7-8=-3457/498, 8-9=-4331/492, 9-10=-5210/544, 10-11=-119/13, 11-12=-184/67
BOT CHORD 2-20=-896/5322, 18-20=-742/5027, 16-18=-472/3912, 15-16=-321/3930, 13-15=-495/4777, 12-13=-612/5137
WEBS 3-20=-218/194, 4-20=0/406, 4-18=-856/296, 6-18=-102/1050, 6-16=-1217/351, 7-16=-224/2025, 10-13=-439/132, 10-12=-5409/642, 8-16=-1103/300, 8-15=-11/629, 9-13=0/457, 9-15=-930/199

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) WARNING: Required bearing size at joint(s) 2, 12 greater than input bearing size.
8) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 371 lb uplift at joint 2 and 266 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

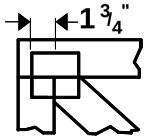
December 20,2022

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED SUPPORT WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER OR THE BUILDING DESIGNER.

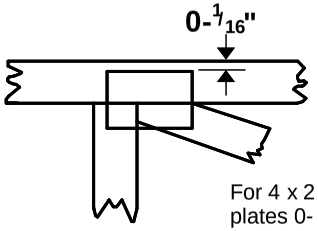
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

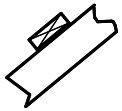
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

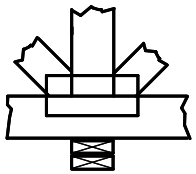
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING

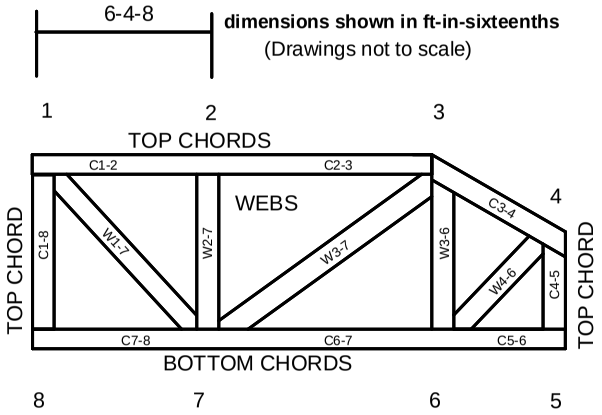


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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

21.The design does not take into account any dynamic or other loads other than those expressly stated.