



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

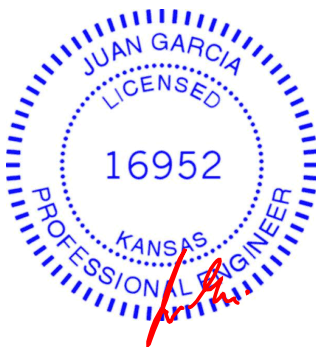
Re: Harmony - Craftsman FH 3-Car  
Harmony - Craftsman FH 3-Car  
1937 SW Merryman Dr  
Lees Summit, MO 64082

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: I65649842 thru I65649876

My license renewal date for the state of Kansas is April 30, 2024.

Kansas COA: E-943



May 20, 2024

Garcia, Juan

**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.

RELEASE FOR CONSTRUCTION  
AS NOTED FOR PLAN REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI

02/18/2025



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

Re: Harmony - Craftsman FH 3-Car  
Harmony - Craftsman FH 3-Car

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: I65649842 thru I65649876

My license renewal date for the state of Missouri is December 31, 2024.

Missouri COA: Engineering 001193



May 20, 2024

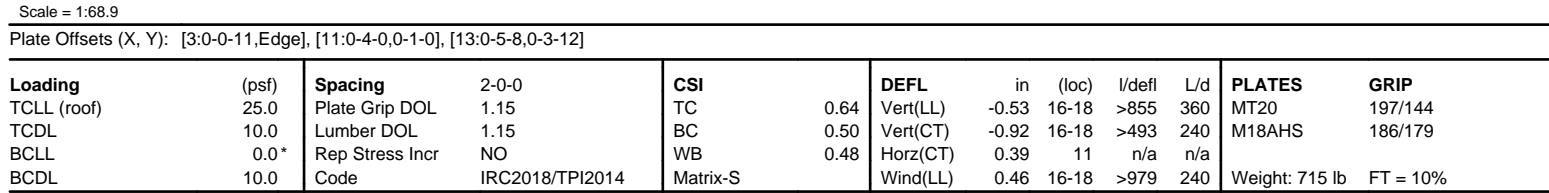
Garcia, Juan ,Engineer

**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.

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DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI

02/18/2025

Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:02 Page: 1  
ID:HCvoJVrK73Nvqou0I55WyKuYb-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f



- 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.  
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc.  
Web connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 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; TC DL=6.0psf; BC DL=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
- 5) Provide adequate drainage to prevent water ponding.
- 6) All plates are MT20 plates unless otherwise indicated.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* 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.
- 10) All bearings are assumed to be SPF No.2 .
- 11) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 963 lb uplift at joint 2 and 995 lb uplift at joint 11.

- 13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 15) Use Simpson Strong-Tie THJA26 (THJA26 on 2 ply, Right Hand Hip) or equivalent at 7'-0" from the left end to connect truss(es) to back face of bottom chord.
- 16) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2'-0" oc max. starting at 9'-0" from the left end to 28'-11 1/2" to connect truss(es) to back face of bottom chord.
- 17) Use Simpson Strong-Tie THJA26 (THJA26 on 2 ply, Left Hand Hip) or equivalent at 30'-11'-10" from the left end to connect truss(es) to back face of bottom chord.
- 18) Fill all nail holes where rafter is in contact with lumber.
- 19) Filler applied to ply: 1(Front)

**LOAD CASE(S)** Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)



**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria**, and **DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

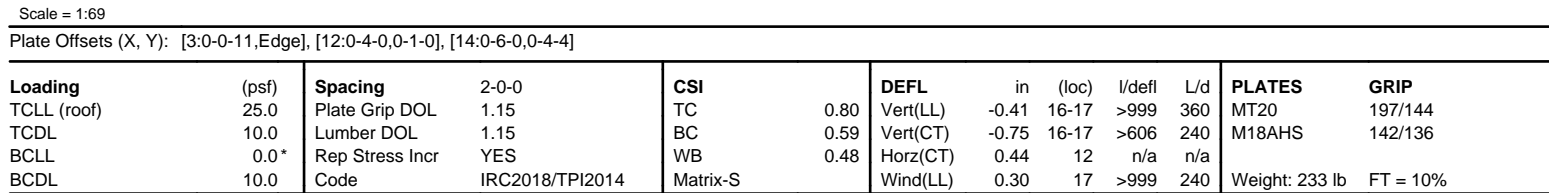
**RELEASE FOR CONSTRUCTION**  
**Mitek**  
**AS NOTED FOR PLAN REVIEW**  
**DEVELOPMENT SERVICES**  
16023 Swingley Ridge Rd.  
Chesterfield, MO 63017  
**LIFE'S SUMMIT, MISSOURI**  
314 434 1200 Mitek-LLS.com

02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	A1	Hip Girder	1	3	I65649842
					Job Reference (optional)

Vert: 1-4=-70, 4-9=-70, 9-12=-70, 2-20=-20,  
3-13=-20, 11-13=-20  
Concentrated Loads (lb)  
Vert: 19=-814 (B), 14=-785 (B), 18=-278 (B),  
16=-278 (B), 15=-278 (B), 24=-278 (B), 25=-278 (B),  
26=-278 (B), 27=-278 (B), 28=-278 (B), 29=-278 (B),  
30=-278 (B), 31=-278 (B)

Wheeler Lumber, Waverly, KS - 66871, Run: 9.05 E 8.73 Jan 4 2024 Print: 8.730 E Jan 4 2024 MiTek Industries, Inc. Mon May 20 07:00:06 Page: 1  
ID:i9IUSoeYd2fr22aanP04ayKuK8-10I3NgL0?8pN3jlnvpPnOdg9mg5TxqCBK3C4y8zEh0v



## NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TC DL=6.0psf; BC DL=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) All plates are 2x4 MT20 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.
- 8) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
- 9) 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.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 245 lb uplift at joint 2 and 245 lb uplift at joint 12.
- 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

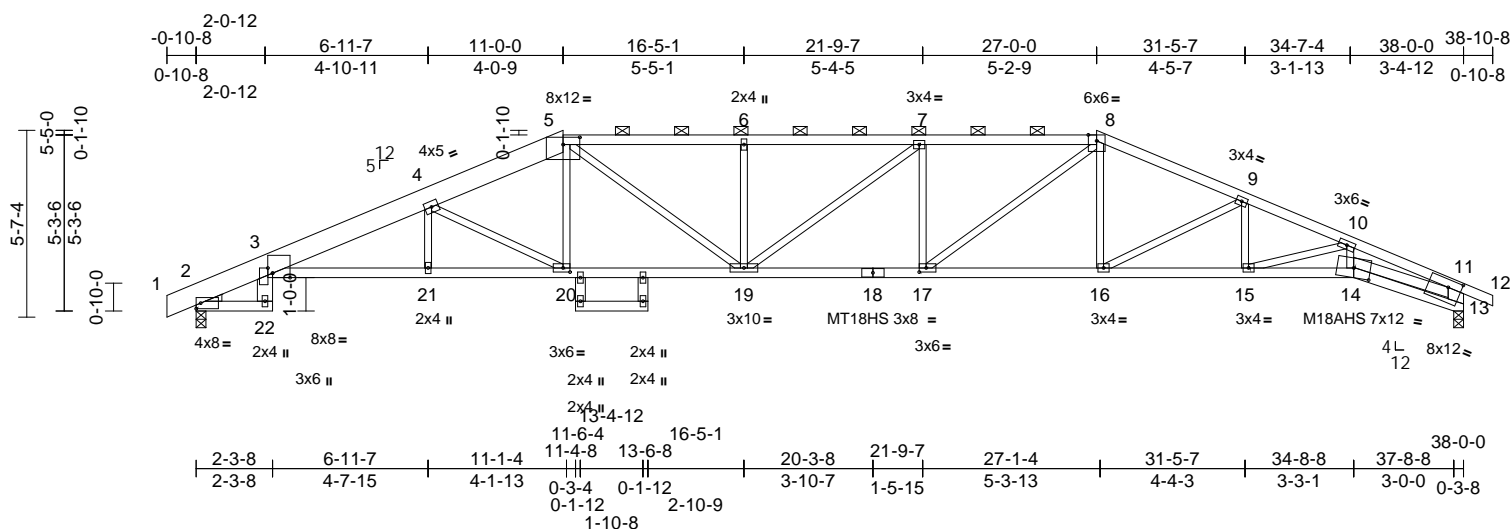
May 20, 2024

**⚠ WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MI-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiteK® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria**, and **DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbccomponents.com](http://www.sbccomponents.com)).

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Chesterfield, MO 63017  
**LIFE'S SUMMIT MISSOURI**  
314.434.1200 / Miltak-US.com

02/18/2025



Scale = 1:69.1

Plate Offsets (X, Y): [3:0-6-4,Edge], [3:0-1-14,0-1-11], [5:0-6-0,0-2-10], [13:0-4-12,0-2-12], [14:0-6-0,0-3-7], [17:0-2-8,0-1-8], [20:0-2-8,0-1-8]

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	0.83	Vert(LL)	-0.46	17-19	>978	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.84	17-19	>539	240	MT18HS	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.52	13	n/a	n/a	M18AHS	192/136
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.33	17-19	>999	240	Weight: 168 lb FT = 10%	

**LUMBER**

TOP CHORD	2x4 SPF No.2 *Except* 1-5:2x8 SP 2400F 2.0E
BOT CHORD	2x4 SPF No.2 *Except* 18-14,18-3:2x4 SPF 2100F 1.8E
WEBS	2x3 SPF No.2 *Except* 22-3,13-11:2x6 SPF No.2, 14-11:2x4 SPF 2100F 1.8E, 23-25,24-26:2x4 SPF No.2
WEDGE	Left: 2x3 SPF No.2

## BRACING

TOP CHORD	Structural wood sheathing directly applied or 1-11-9 oc purlins, except end verticals, and 2-0-0 oc purlins (2-3-10 max.): 5-8.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

## REACTIONS

Max Horiz 2=82 (LC 12)  
Max Uplift 2=-220 (LC 4), 13=-223 (LC 5)

## FORCES

Tension

TOP CHORD	1-2=0/0, 2-3=-911/117, 3-4=-4498/549, 4-5=-3667/517, 5-6=-3956/609, 6-7=-3956/609, 7-8=-3942/609, 8-9=-3557/499, 9-10=-4305/534, 10-11=-5444/607, 11-12=0/30, 11-13=-1814/245
BOT CHORD	2-22=0/0, 3-21=-464/4330, 20-21=-462/4325, 19-20=-352/3324, 18-19=-470/3939, 17-18=-470/3939, 16-17=-341/3231, 15-16=-423/3972, 14-15=-519/4872, 13-14=-48/444
WEBS	3-22=0/0, 4-20=-1159/228, 5-20=-54/656, 8-16=-26/488, 10-14=-226/659, 11-14=-491/4544, 4-21=-74/75, 9-16=-822/182, 9-15=0/370, 10-15=-939/135, 8-17=-177/1023, 6-19=-376/159, 5-19=-159/919, 7-19=-109/146, 7-17=-522/174

## 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.
- 7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
- 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 220 lb uplift at joint 2 and 223 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



May 20, 2024

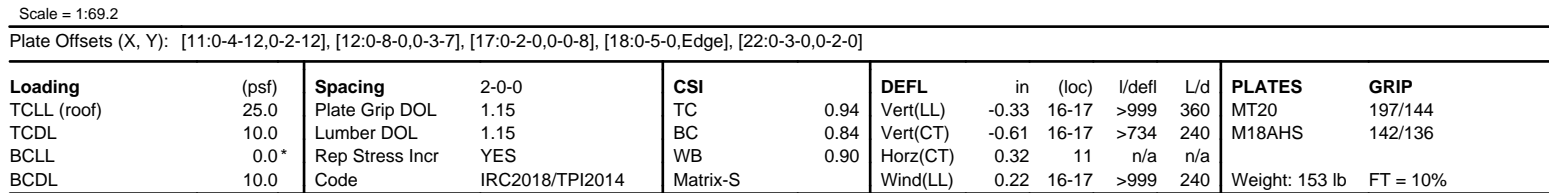


**WARNING – verify design parameters and noted notes on this and included MiTek Reference Tag M-7473 Rev. 1/2/2023 before use.** Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 Quality Criteria, and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

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02/18/2025

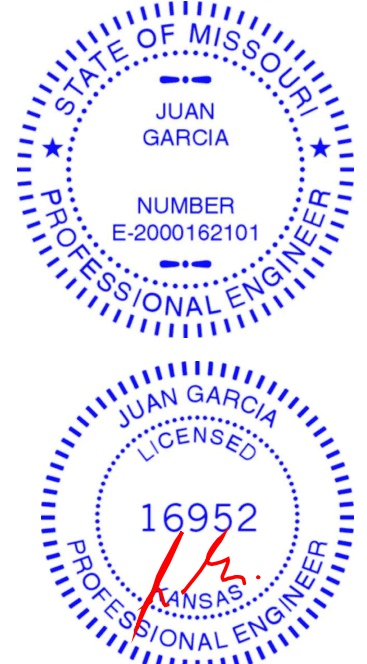
Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:03 Page: 1  
ID:NaIf1rimzb\_h0yYE0giSyyKuHl-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcD0i7J4zJC?f



## NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TC DL=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.
- 7) All bearings are assumed to be SPF No.2 .
- 8) Bearing at joint(s) 11 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 198 lb uplift at joint 22 and 198 lb uplift at joint 11.
- 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.1.1 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 20, 2024

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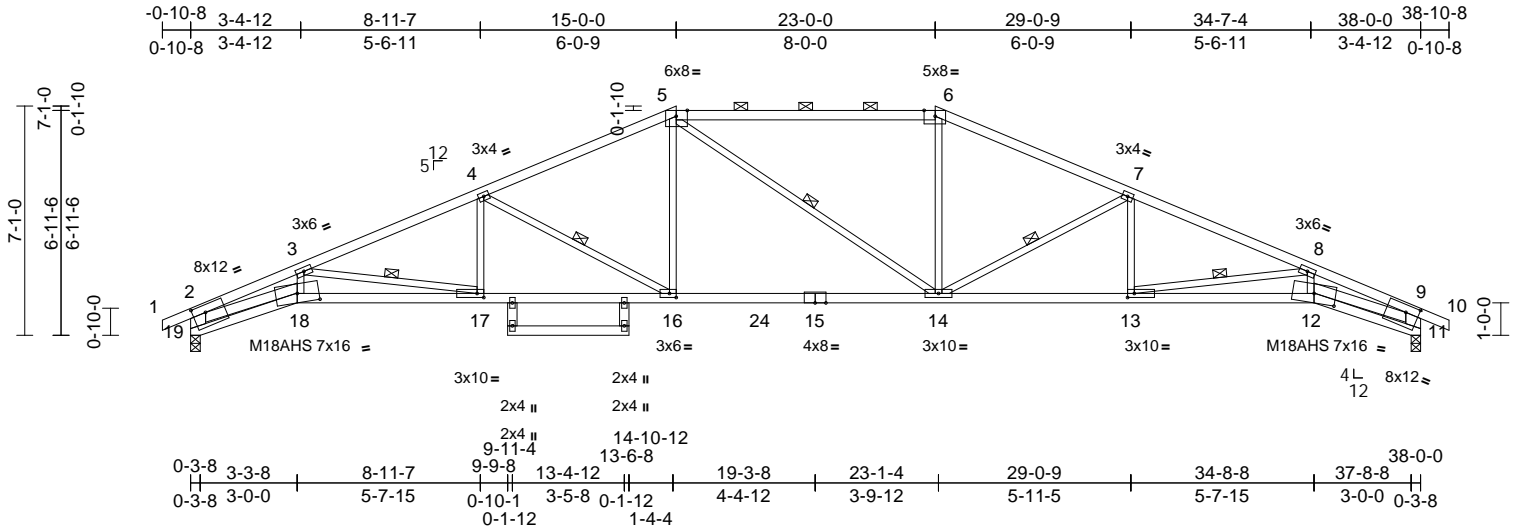
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649846
Harmony - Craftsman	A5	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:03  
ID:Z52kgDbbA0PB7YtS1nEz1yKuGK-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f

Page: 1

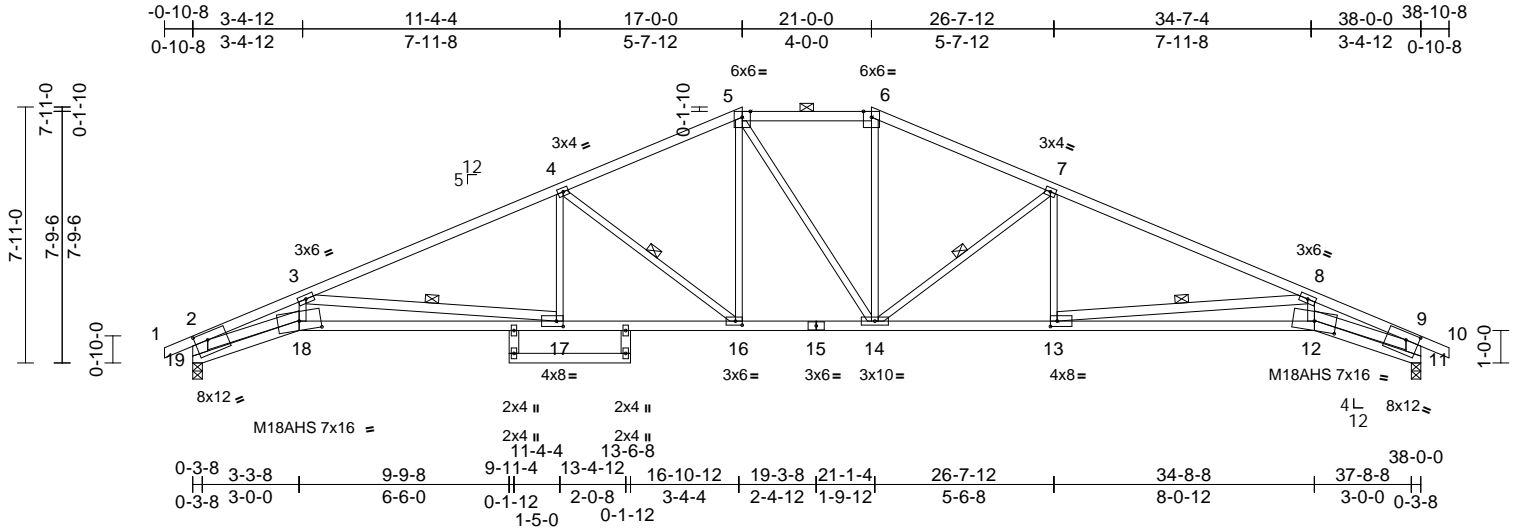


Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649847
Harmony - Craftsman	A6	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66671,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:04  
ID:O56aJGVVJgMw6r0Zi6jWPFyKuMv-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCD0i7J4zJC?f

Page: 1



Scale = 1:7.13

Plate Offsets (X, Y): [11:0-4-12,0-2-12], [12:0-8-0,0-3-7], [13:0-2-8,0-2-0], [16:0-2-8,0-1-8], [17:0-2-8,0-2-0], [18:0-8-0,0-3-7], [19:0-4-12,0-2-12]

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	0.74	Vert(LL)	-0.35	14-16	>999	360	MT20 197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.70	17-18	>643	240	M18AHS 142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.48	11	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.25	17-18	>999	240	Weight: 160 lb FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF 2100F 1.8E \*Except\* 5-6:2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2 \*Except\* 18-15,15-12:2x4 SPF 2100F 1.8E  
WEBS 2x3 SPF No.2 \*Except\* 17-3,13-8,20-22,21-23:2x4 SPF No.2, 19-2,11-9:2x6 SPF No.2, 18-2,12-9:2x4 SPF 2100F 1.8E

**WEBS**  
3-18=-40/741, 3-17=-1939/500, 4-17=0/478, 4-16=-1019/262, 5-16=-108/696, 5-14=-222/228, 6-14=-52/697, 7-14=-1016/250, 7-13=0/476, 8-13=-1941/420, 8-12=0/742, 2-18=-728/4945, 9-12=-619/4946

#### NOTES

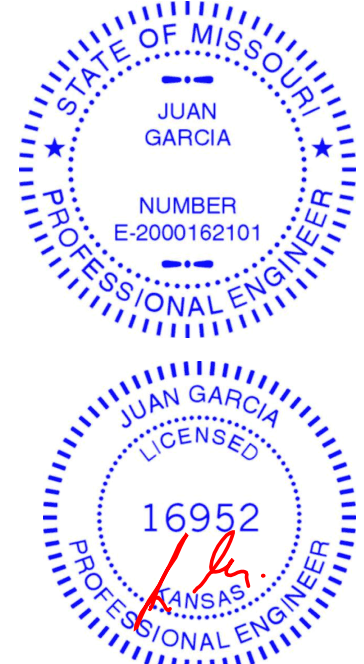
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- All bearings are assumed to be SPF No.2 .
- Bearing at joint(s) 19, 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 226 lb uplift at joint 19 and 226 lb uplift at joint 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.
- 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

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-8-12 oc purlins, except end verticals, and 2-0-0 oc purlins (3-6-4 max.): 5-6.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 8-7-7 oc bracing: 17-18 9-11-12 oc bracing: 12-13.  
WEBS 1 Row at midpt 3-17, 4-16, 7-14, 8-13

**REACTIONS** (size) 11=0-3-8, 19=0-3-8  
Max Horiz 19=-109 (LC 13)  
Max Uplift 11=-226 (LC 9), 19=-226 (LC 8)  
Max Grav 11=1767 (LC 1), 19=1767 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/30, 2-3=-5708/813, 3-4=-3554/395, 4-5=-2694/301, 5-6=-2398/287, 2-19=-1785/261, 9-11=-1785/226, 6-7=-2696/283, 7-8=-3553/367, 8-9=-5709/692, 9-10=0/30  
BOT CHORD 18-19=-114/341, 17-18=-827/5141, 16-17=-331/3215, 14-16=-121/2396, 13-14=-196/3214, 12-13=-613/5142, 11-12=0/323



May 20,2024

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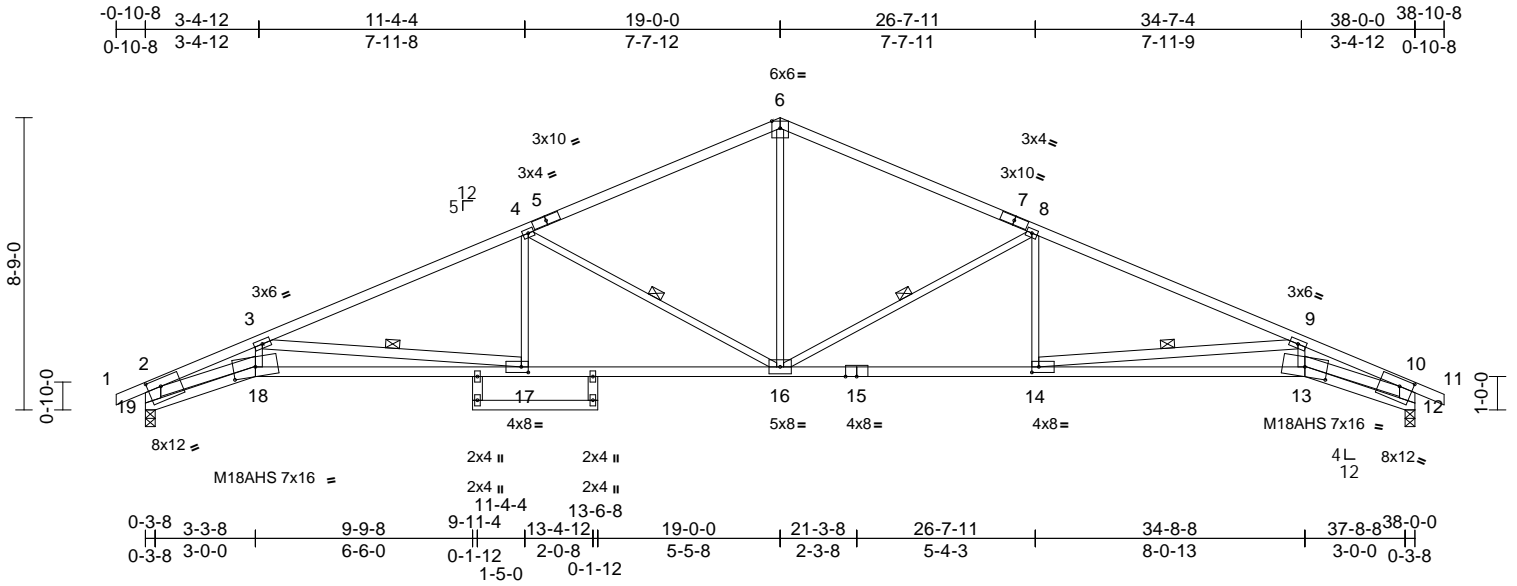
Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649848
Harmony - Craftsman	B1	Roof Special	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:04

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Scale = 1:69

Plate Offsets (X, Y): [12:0-4-12,0-2-12], [13:0-8-0,0-3-7], [14:0-2-8,0-2-0], [17:0-2-8,0-2-0], [18:0-8-0,0-3-7], [19:0-4-12,0-2-12]

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	0.67	Vert(LL)	-0.35	13-14	>999	360	MT20 197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.71	13-14	>638	240	M18AHS 142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.88	Horz(CT)	0.48	12	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S	0.26	Wind(LL)	0.26	17-18	>999	240	Weight: 153 lb FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E  
 BOT CHORD 2x4 SPF No.2 \*Except\* 18-15,15-13:2x4 SPF 2100F 1.8E  
 WEBS 2x3 SPF No.2 \*Except\* 14-9,17-3,20-22,21-23:2x4 SPF No.2, 19-2,12-10:2x6 SPF No.2, 18-2,13-10:2x4 SPF 2100F 1.8E

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-11-15 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 8-3-13 oc bracing.

WEBS 1 Row at midpt 8-16, 9-14, 4-16, 3-17

REACTIONS (size) 12=0-3-8, 19=0-3-8  
 Max Horiz 19=124 (LC 13)  
 Max Uplift 12=242 (LC 9), 19=242 (LC 8)  
 Max Grav 12=1767 (LC 1), 19=1767 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/30, 2-3=-5684/871, 3-4=-3569/448, 4-6=-2454/302, 6-8=-2454/321, 8-9=-3568/416, 9-10=-5684/733, 10-11=0/30, 2-19=-1790/286, 10-12=-1790/245  
 BOT CHORD 18-19=-143/361, 17-18=-891/5114, 16-17=-398/3233, 14-16=-243/3232, 13-14=-647/5115, 12-13=-10/338  
 WEBS 6-16=-93/1339, 8-16=-1232/311, 8-14=0/499, 9-14=-1896/406, 9-13=0/740, 4-16=-1233/326, 4-17=0/499, 3-17=-1895/496, 3-18=-55/740, 2-18=-766/4904, 10-13=-642/4905

#### NOTES

1) Unbalanced roof live loads have been considered for this design.

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TC DL=6.0psf; BC DL=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) All plates are MT20 plates unless otherwise indicated.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 6) All bearings are assumed to be SPF No.2.
- 7) Bearing at joint(s) 19, 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 242 lb uplift at joint 19 and 242 lb uplift at joint 12.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 20,2024

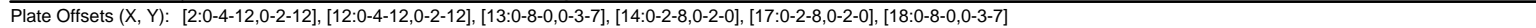
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Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:04 ID:13C JckVE9HsdXxHwOysyKuO2-RfC?PsB70Hg3NSqPqnL8w3ulTXbGKwRCDoi7J4zJC?f Page: 1



<b>LUMBER</b>		2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TC DL=6.0psf; BC DL=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
TOP CHORD	2x4 SPF 2100F 1.8E	
BOT CHORD	2x4 SPF No.2 *Except* 18-15,15-13:2x4 SPF 2100F 1.8E	3) All plates are MT20 plates unless otherwise indicated.
WEBS	2x3 SPF No.2 *Except* 14-9,17-3,20-22,21-23,24-25:2x4 SPF No.2, 19-2,12-10:2x6 SPF No.2, 18-2,13-10:2x4 SPF 2100F 1.8E	4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads. 5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
<b>BRACING</b>		6) All bearings are assumed to be SPF No.2 .
TOP CHORD	Structural wood sheathing directly applied or 2-11-15 oc purlins, except end verticals.	7) Bearing at joint(s) 12, 19 considers parallel to grain value using ANSI/TP1 1 angle to grain formula. Building designer should verify capacity of bearing surface.
BOT CHORD	Rigid ceiling directly applied or 8-3-13 oc bracing.	8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 242 lb uplift at joint 12 and 242 lb uplift at joint 19.
WEBS	1 Row at midpt 8-16, 9-14, 4-16, 3-17	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/TP1 1.
<b>REACTIONS</b>	(size) 12=0-3-8, 19=0-3-8 Max Horiz 19=124 (LC 13) Max Uplift 12=242 (LC 9), 19=242 (LC 8) Max Grav 12=1767 (LC 1), 19=1767 (LC 1)	<b>LOAD CASE(S)</b> Standard
<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/30, 2-3=-5684/871, 3-4=-3568/448, 4-6=-2454/302, 6-8=-2454/320, 8-9=-3569/416, 9-10=-5684/733, 10-11=0/30, 2-19=-1790/286, 10-12=-1790/245	
BOT CHORD	18-19=-143/361, 17-18=-891/5115, 16-17=-398/3232, 14-16=-244/3233, 13-14=-646/5114, 12-13=-10/338	
WEBS	6-16=-93/1339, 8-16=-1233/311, 8-14=0/499, 9-14=-1895/406, 9-13=0/740, 4-16=-1232/326, 4-17=0/499, 3-17=-1896/497, 3-18=-55/740, 2-18=-767/4905, 10-13=-642/4904	

1) Unbalanced roof live loads have been considered for this design.



May 20, 2024

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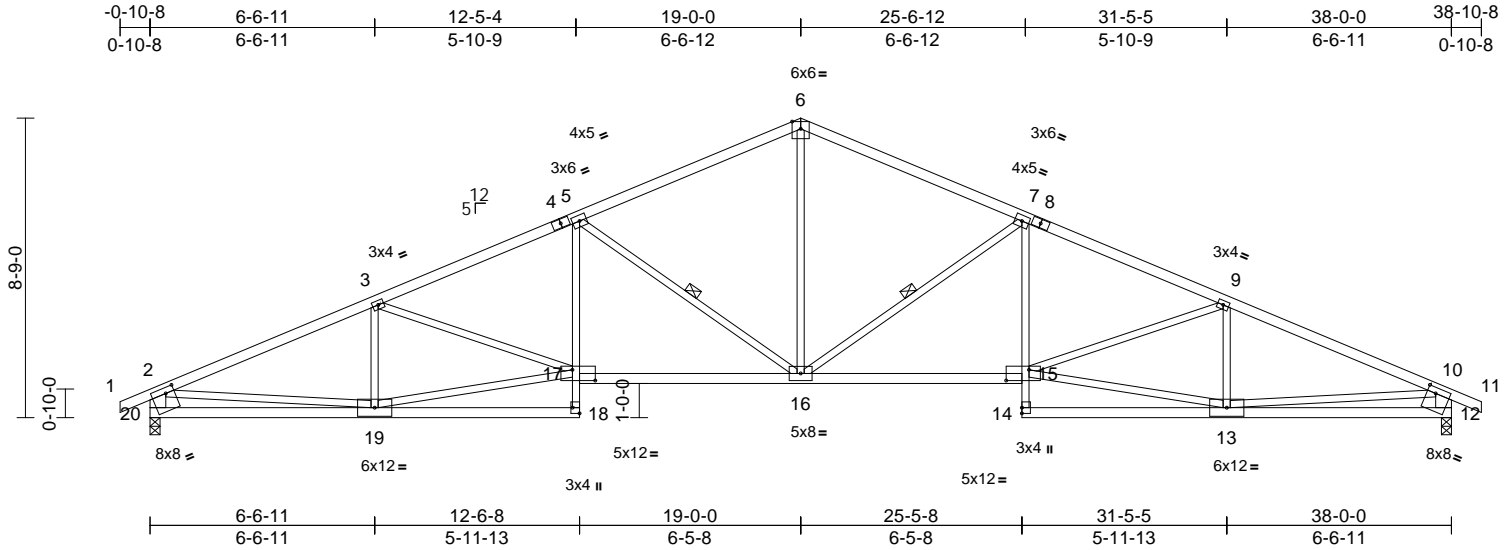
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	
Harmony - Craftsman	B3	Roof Special	2	1	Job Reference (optional)	I65649850

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:04  
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Page: 1



Scale = 1:67.3

Plate Offsets (X, Y): [12:0-3-0,0-2-0], [15:0-8-0,0-3-12], [17:0-8-0,0-3-12], [18:Edge,0-2-8], [20:0-3-0,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	-0.29	16-17	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.56	16-17	>804	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.21	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.20	16-17	>999	240	Weight: 155 lb	FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2 \*Except\* 18-5,7-14:2x3 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 20-2,12-10:2x6 SPF No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 9-9-2 oc bracing.  
WEBS 1 Row at midpt 7-16, 5-16

**REACTIONS** (size) 12=0-3-8, 20=0-3-8  
Max Horiz 20=125 (LC 12)  
Max Uplift 12=242 (LC 9), 20=242 (LC 8)  
Max Grav 12=1767 (LC 1), 20=1767 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/30, 2-3=-3092/382, 3-5=-3417/442, 5-6=-2434/302, 6-7=-2434/320, 7-9=-3417/409, 9-10=-3092/382, 10-11=0/30, 2-20=-1691/274, 10-12=-1691/274  
BOT CHORD 19-20=-266/627, 18-19=-20/112, 17-18=0/107, 5-17=-39/596, 16-17=-361/3101, 15-16=-205/3101, 14-15=0/107, 7-15=-23/596, 13-14=-16/112, 12-13=-150/627  
WEBS 6-16=-106/1372, 7-16=-1157/288, 13-15=-266/2705, 9-15=-35/340, 9-13=-632/152, 5-16=-1157/305, 17-19=-389/2705, 3-17=-2/340, 3-19=-632/176, 2-19=-136/2149, 10-13=-127/2149

**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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 5) All bearings are assumed to be SPF No.2 .
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 242 lb uplift at joint 20 and 242 lb uplift at joint 12.
- 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



May 20,2024

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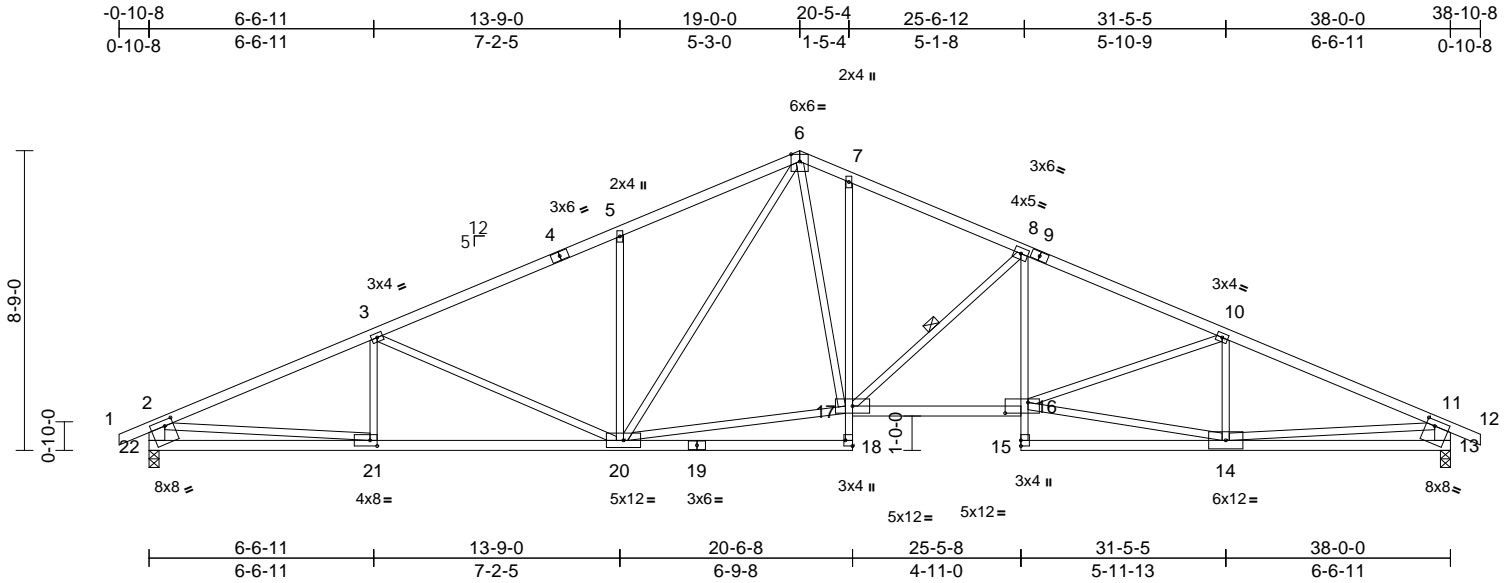
Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649851
Harmony - Craftsman	B4	Roof Special	3	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:04

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Scale = 1:67.3

Plate Offsets (X, Y): [13:0-3-0,0-2-0], [16:0-8-0,0-3-12], [18:Edge,0-2-8], [21:0-2-8,0-2-0], [22:0-3-0,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.72	Vert(LL)	-0.27	16-17	>999	360	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.52	16-17	>872	240	
BCLL	0.0*	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.17	13	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.17	16-17	>999	240	Weight: 164 lb FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2 \*Except\* 18-7,8-15:2x3 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 22-2,13-11:2x6 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 9-1-6 oc bracing.  
WEBS 1 Row at midpt 8-17

#### REACTIONS

(size) 13=0-3-8, 22=0-3-8  
Max Horiz 22=125 (LC 8)  
Max Uplift 13=242 (LC 9), 22=242 (LC 8)  
Max Grav 13=1767 (LC 1), 22=1767 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/30, 2-3=3117/393, 3-5=2679/340, 5-6=2669/458, 6-7=2502/372, 7-8=2576/319, 8-10=3410/404, 10-11=3095/385, 11-12=0/30, 2-22=1694/274, 11-13=1691/274  
BOT CHORD 21-22=240/569, 20-21=415/2795, 18-20=0/91, 17-18=0/116, 7-17=222/129, 16-17=195/3088, 15-16=0/107, 8-16=30/626, 14-15=12/109, 13-14=144/619  
WEBS 3-21=101/118, 3-20=512/184, 5-20=478/243, 6-20=249/739, 6-17=222/1241, 8-17=1060/238, 14-16=273/2712, 10-16=33/326, 10-14=635/154, 2-21=176/2236, 11-14=136/2160, 17-20=117/1992

#### 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 5) All bearings are assumed to be SPF No.2 .
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 242 lb uplift at joint 22 and 242 lb uplift at joint 13.
- 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 20,2024

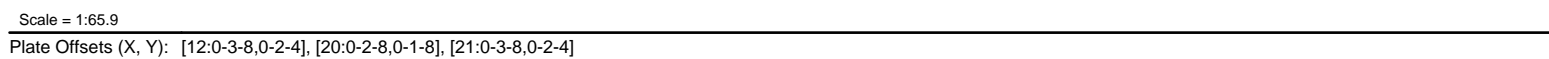
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Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:04 Page: 1  
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<b>LUMBER</b>		2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
TOP CHORD	2x4 SPF No.2	Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat.
BOT CHORD	2x4 SPF No.2 *Except* 17-6,7-14:2x3 SPF No.2	II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
WEBS	2x3 SPF No.2 *Except* 21-1,12-10:2x6 SPF No.2	3) All plates are MT20 plates unless otherwise indicated.
<b>BRACING</b>		4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
TOP CHORD	Structural wood sheathing directly applied or 4-6-8 oc purlins, except end verticals.	5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	6) All bearings are assumed to be SPF No.2 .
WEBS	1 Row at midpt 2-19, 4-17, 5-17	7) Refer to girder(s) for truss to truss connections.
<b>REACTIONS</b>	(size) 12=0-3-8, 17=0-3-8, 21= Mechanical	8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 21 and 74 lb uplift at joint 12.
	Max Horiz 21=78 (LC 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.
	Max Uplift 12=74 (LC 9), 21=49 (LC 8)	
	Max Grav 12=745 (LC 22), 17=2019 (LC 2), 21=857 (LC 21)	
<b>FORCES</b>	(lb) - Maximum Compression/Maximum	

LOAD CASE(S) Standard

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AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE U

only upon parameters shown, and is for an individual building component, not ability of design parameters and properly incorporate this design into the overall

... web and/or chord members only. Additional temporary and permanent bracing is required for the following conditions:

systems, see **ANSI/TPI1 Quality Criteria**, and **DSB-22** available from Truss F

the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

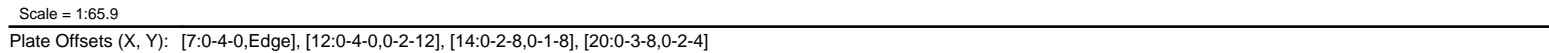


**WARNING – Verify design parameters and READ NOTES ON THIS and INCLUDED MITER KNOT REFERENCE ASSEMBLY DRAWINGS BEFORE USE.** Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use,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

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02/18/2025

Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:05 Page: 1  
ID:wUjLv66O6x13DVT189E9tPyKuTs-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRcD0i7J4zJC?f



<b>LUMBER</b>		2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
TOP CHORD	2x4 SPF No.2	Vasd=91mph; TCdL=6.0psf; BCDL=6.0psf; h=25ft; Cat.
BOT CHORD	2x4 SPF No.2 *Except* 16-6:2x3 SPF No.2	II; Exp C; Enclosed; MWFRS (envelope); cantilever left
WEBS	2x3 SPF No.2 *Except* 20-1,12-10:2x6 SPF No.2	and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60

**REACTIONS** (size) 12=0-3-8, 16=0-3-8, 20=Mechanical  
 Max Horiz 20=-78 (LC 9)  
 Max Uplift 12=-66 (LC 9), 20=-49 (LC 8)  
 Max Grav 12=695 (LC 22), 16=2110 (LC 2), 20=836 (LC 21)

BOT CHORD 9-10=-197/9205, 10-11=0/30, 1-20=-755/82,  
10-12=-671/68  
19-20=-85/341, 18-19=-117/1160,  
16-18=-40/521, 15-16=-998/128,  
6-15=-342/91, 14-15=-8/414,  
13-14=-174/1760, 12-13=0/138

WEBS 2-19=0/227, 2-18=714/84, 4-18=0/616,  
4-16=1022/90, 5-16=418/0, 8-15=976/90,  
8-14=0/441, 9-14=1355/167, 9-13=0/413,  
1-19=32/852, 10-13=180/1700

1) Unbalanced roof live loads have been considered for this design.



May 20, 2024

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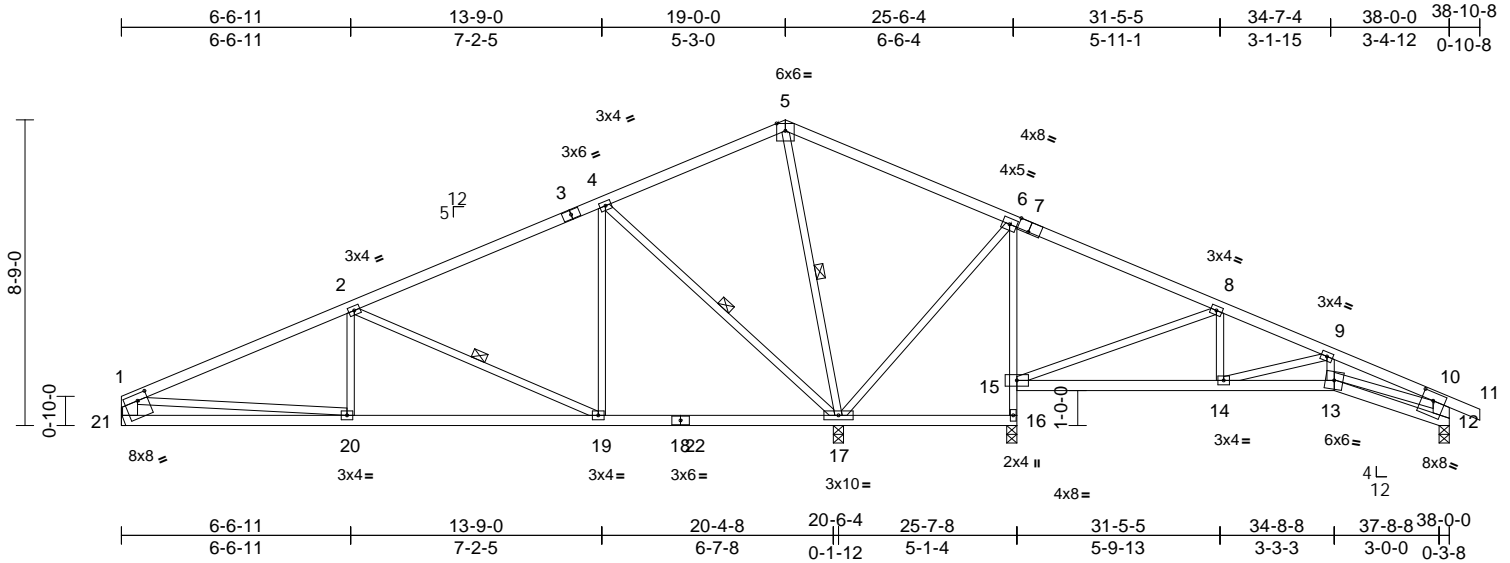
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	165649854
Harmony - Craftsman	B7A	Roof Special	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:05  
ID:nYhb3LG6CxNcJyo7PIGE8PyKuWS-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:65.9

Plate Offsets (X, Y): [7:0-4-0,Edge], [12:0-4-0,0-2-12], [21:0-3-8,0-2-4]

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	0.62	Vert(LL)	-0.07	19-20	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.14	19-20	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.80	Horz(CT)	0.02	17	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	19-20	>999	240	Weight: 148 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2 \*Except\* 16-6:2x3 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 21-1,12-10:2x6 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-10-4 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:  
6-0-0 oc bracing: 16-17.  
WEBS 1 Row at midpt 2-19, 4-17, 5-17

**REACTIONS** (size) 12=0-3-8, 16=0-3-8, 17=0-3-8, 21= Mechanical  
Max Horiz 21=133 (LC 9)  
Max Uplift 12=146 (LC 9), 16=95 (LC 21), 17=283 (LC 8), 21=128 (LC 8)  
Max Grav 12=547 (LC 22), 16=641 (LC 22), 17=1909 (LC 2), 21=777 (LC 23)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-1199/210, 2-4=-504/136, 4-5=0/490, 5-6=0/601, 6-8=0/317, 8-9=-639/229, 9-10=-1180/318, 10-11=0/30, 1-21=-695/161, 10-12=-554/177  
BOT CHORD 20-21=-171/358, 19-20=-249/1050, 17-19=-58/405, 16-17=-182/40, 15-16=-614/122, 6-15=-275/311, 14-15=-124/579, 13-14=-249/1017, 12-13=-53/199  
WEBS 2-20=0/237, 2-19=-733/210, 4-19=-1/585, 4-17=-989/245, 5-17=-701/58, 6-17=-467/175, 8-15=-802/183, 9-13=-9/226, 1-20=-79/755, 10-13=-204/866, 8-14=0/318, 9-14=-457/130

#### 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 5) All bearings are assumed to be SPF No.2 .
- 6) Refer to girder(s) for truss to truss connections.
- 7) 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.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 128 lb uplift at joint 21, 95 lb uplift at joint 16, 146 lb uplift at joint 12 and 283 lb uplift at joint 17.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



May 20,2024

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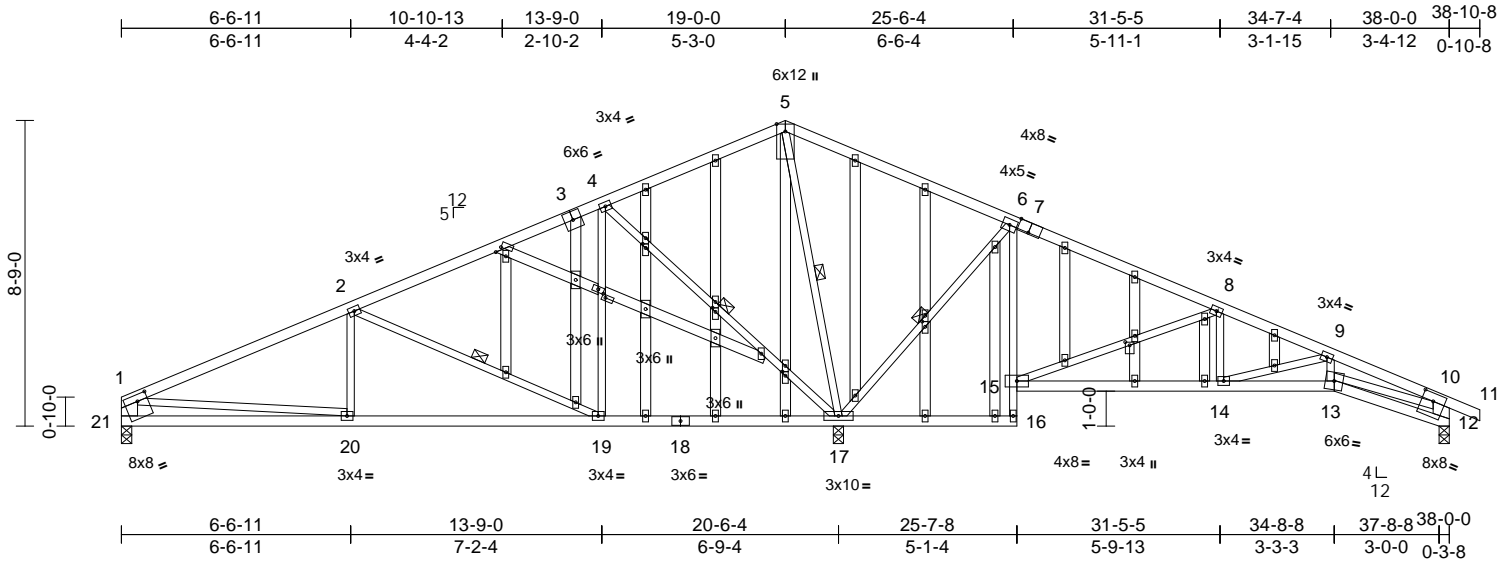
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649855
Harmony - Craftsman	B8A	Roof Special Structural Gable	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:05  
ID:GNPXhZLtyaM?AnAwXQcNq7yKuUr-RfC?PsB70Hq3NSgPqnL8w3uITXBGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:65.9												
[7:0-4-0,Edge], [12:0-4-0,0-2-12], [21:0-3-8,0-2-4], [22:0-1-0,0-2-4], [23:0-1-4,0-1-0], [25:0-1-6,0-1-0], [27:0-1-6,0-1-0], [31:0-1-6,0-1-0], [43:0-1-13,0-1-0],												
Plate Offsets (X, Y): [50:0-1-2,0-1-8]												
<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.67	Vert(LL)	-0.05	19-20	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.12	19-20	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.03	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	13-14	>999	240	Weight: 224 lb	FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2 \*Except\* 16-6:2x3 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 21-1,12-10:2x6 SPF No.2, 22-23,23-24:2x4 SPF No.2  
OTHERS 2x4 SPF No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 4-9-4 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:  
6-0-0 oc bracing: 17-19,16-17.  
WEBS 1 Row at midpt 2-19, 4-17, 5-17, 6-17

**REACTIONS** (size) 12=0-3-8, 17=0-3-8, 21=0-3-8  
Max Horiz 21=133 (LC 9)  
Max Uplift 12=150 (LC 9), 17=170 (LC 9), 21=155 (LC 8)  
Max Grav 12=572 (LC 22), 17=2252 (LC 1), 21=776 (LC 21)

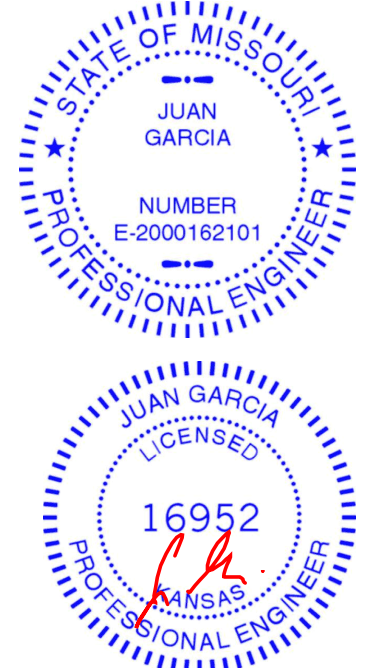
**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=1226/266, 2-4=551/237, 4-5=0/625, 5-6=0/811, 6-8=0/253, 8-9=714/240, 9-10=1256/330, 10-11=0/30, 1-21=715/187, 10-12=581/181  
BOT CHORD 20-21=176/301, 19-20=301/1062, 17-19=194/418, 16-17=131/33, 15-16=0/66, 6-15=10/376, 14-15=134/645, 13-14=259/1083, 12-13=55/195  
WEBS 2-20=0/247, 2-19=742/203, 4-19=0/485, 4-17=923/242, 5-17=866/33, 6-17=843/258, 8-15=780/184, 9-13=10/195, 1-20=126/774, 10-13=213/927, 8-14=0/302, 9-14=457/131

#### NOTES

- Unbalanced roof live loads have been considered for this design.

- 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
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- WARNING: Required bearing size at joint(s) 17 greater than input bearing size.
- All bearings are assumed to be SPF No.2.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 155 lb uplift at joint 21, 150 lb uplift at joint 12 and 170 lb uplift at joint 17.
- 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 20,2024

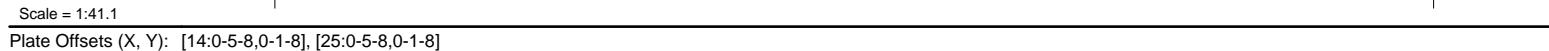
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Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:05 Page: 1  
ID:y7ouFUqqdtUt2QYiZzLqjYyKuWp-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCdoi7J4zJC?f



<b>LUMBER</b>		<b>WEBS</b>	7-20=-124/0, 6-21=-151/74, 5-22=-138/73,
TOP CHORD	2x4 SPF No.2		4-23=-140/66, 3-24=-143/91, 8-19=-151/74,
BOT CHORD	2x4 SPF No.2		9-17=-138/73, 10-16=-140/67, 11-15=-143/88
WEBS	2x4 SPF No.2	<b>NOTES</b>	
OTHERS	2x4 SPF No.2	1) Unbalanced roof live loads have been considered for	

STATE OF MISSOURI  
JUAN GARCIA  
NUMBER  
E-2000162101  
PROFESSIONAL ENGINEER

JUAN GARCIA  
LICENSED  
16952  
KANSAS  
PROFESSIONAL ENGINEER

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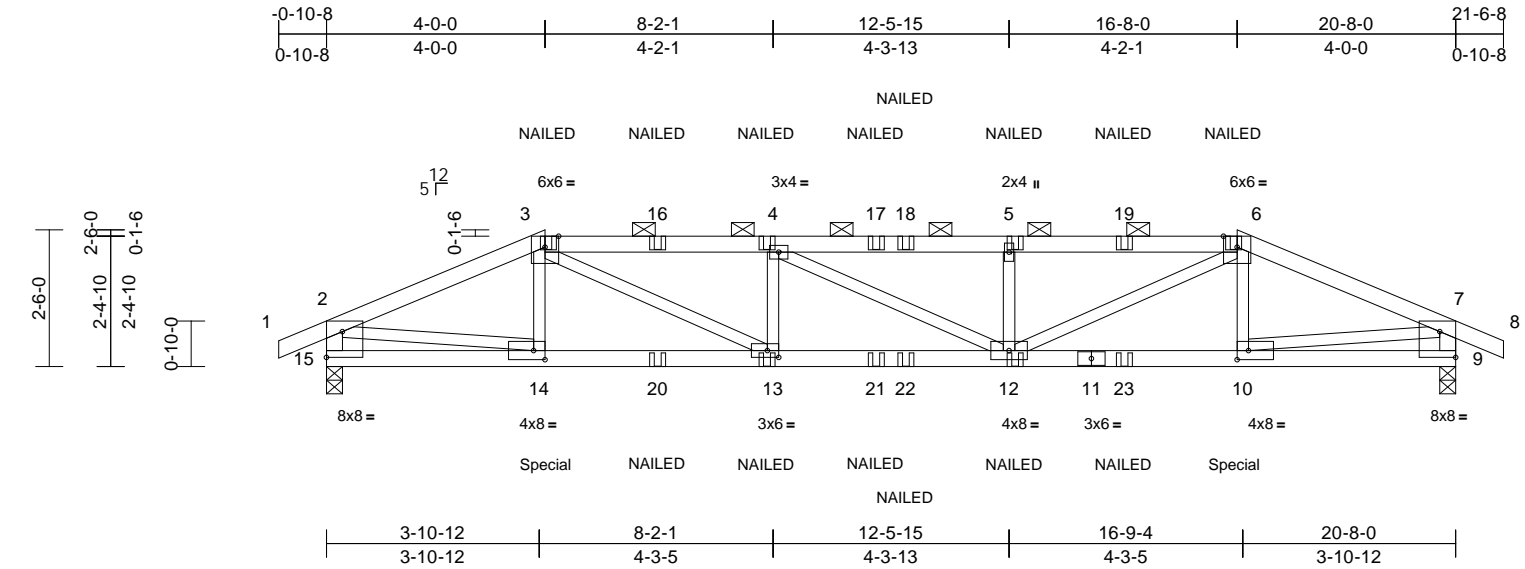
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	165649857
Harmony - Craftsman	D1	Hip Girder	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:05  
ID:lymSv5PVB9vF0bi7BclbozFtQl-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrcDoi7J4zJC?r

Page: 1



Scale = 1:42.2

Plate Offsets (X, Y): [9:Edge,0-5-11], [10:0-2-8,0-2-0], [13:0-2-8,0-1-8], [14:0-2-8,0-2-0], [15:Edge,0-5-11]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.69	Vert(LL)	-0.17	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.31	12-13	>779	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.65	Horz(CT)	0.05	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	12-13	>999	240	Weight: 74 lb	FT = 10%

#### LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF 2100F 1.8E *Except* 11-9:2x4 SPF No.2
WEBS	2x3 SPF No.2 *Except* 15-2,9-7:2x4 SPF No.2

#### BRACING

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

#### REACTIONS

(size)	9=0-3-8, 15=0-3-8
Max Horiz	15=-18 (LC 6)
Max Uplift	9=-321 (LC 5), 15=-321 (LC 4)
Max Grav	9=1468 (LC 1), 15=1468 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/27, 2-3=-2418/543, 3-4=-3412/808, 4-5=-3403/804, 5-6=-3406/805, 6-7=-2422/545, 7-8=0/27, 2-15=-1409/334, 7-9=-1415/335
BOT CHORD	14-15=-101/336, 13-14=-464/2185, 12-13=-754/3410, 10-12=-467/2189, 9-10=-82/312
WEBS	3-14=-5/101, 6-10=0/103, 2-14=-406/1872, 7-10=-414/1900, 3-13=-326/1411, 6-12=-321/1401, 4-13=-493/227, 4-12=-33/19, 5-12=-480/227

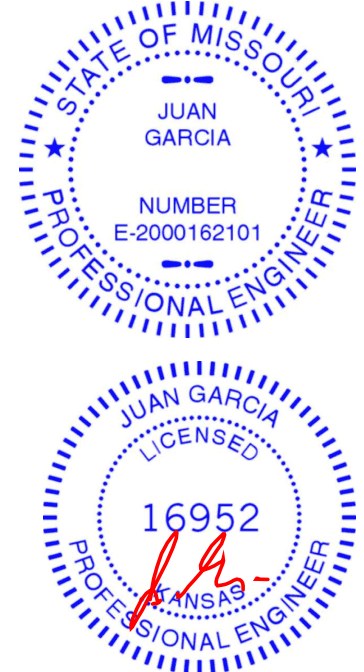
#### NOTES

- Unbalanced roof live loads have been considered for this design.
- 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
- Provide adequate drainage to prevent water ponding.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- All bearings are assumed to be SPF No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 321 lb uplift at joint 15 and 321 lb uplift at joint 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 219 lb down and 55 lb up at 4-0-0, and 219 lb down and 55 lb up at 16-7-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 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

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-2=-70, 2-3=-70, 3-6=-70, 6-7=-70, 7-8=-70, 9-15=-20  
Concentrated Loads (lb)  
Vert: 3=-47 (F), 6=-47 (F), 14=-219 (F), 10=-219 (F), 13=-24 (F), 12=-24 (F), 4=-47 (F), 5=-47 (F), 16=-47 (F), 17=-47 (F), 18=-47 (F), 19=-47 (F), 20=-24 (F), 21=-24 (F), 22=-24 (F), 23=-24 (F)



May 20,2024

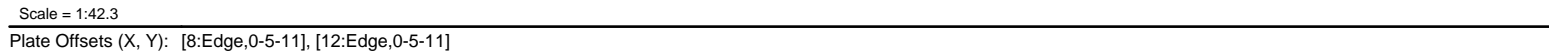
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:06 Page: 1  
ID:M0brLnzwwg5Nm3ym0dzJ8CzFtRJ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWCrD0i7J4zJC?f



STATE OF MISSOURI  
JUAN GARCIA  
NUMBER  
E-2000162101  
PROFESSIONAL ENGINEER

JUAN GARCIA  
LICENSED  
16952  
KANSAS  
PROFESSIONAL ENGINEER

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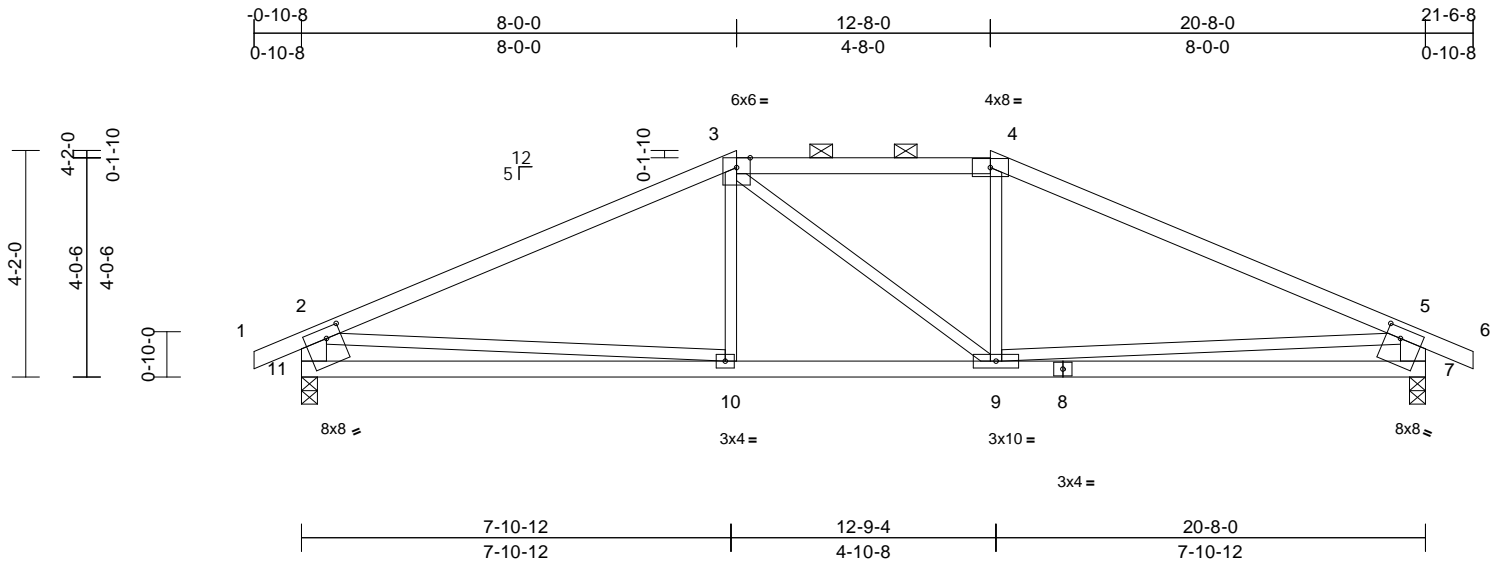
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649859
Harmony - Craftsman	D3	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:06  
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Page: 1



Scale = 1:42.4

Plate Offsets (X, Y): [7:0-3-4,0-2-4], [11:0-3-4,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.10	10-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.21	10-11	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	9-10	>999	240	Weight: 75 lb	FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 11-2,7-5:2x6 SPF No.2

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

**REACTIONS** (size) 7=0-3-8, 11=0-3-8  
Max Horiz 11=-43 (LC 9)  
Max Uplift 7=-122 (LC 9), 11=-122 (LC 8)  
Max Grav 7=987 (LC 1), 11=987 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/30, 2-3=-1401/150, 3-4=-1185/168, 4-5=-1401/150, 5-6=0/30, 2-11=-911/169, 5-7=-911/169  
BOT CHORD 10-11=-280/743, 9-10=-59/1185, 7-9=-241/742  
WEBS 3-10=0/220, 3-9=-151/151, 4-9=0/220, 2-10=0/607, 5-9=0/608

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - 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
  - Provide adequate drainage to prevent water ponding.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* 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.
- All bearings are assumed to be SPF No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 122 lb uplift at joint 11 and 122 lb uplift at joint 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.
- 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 20,2024

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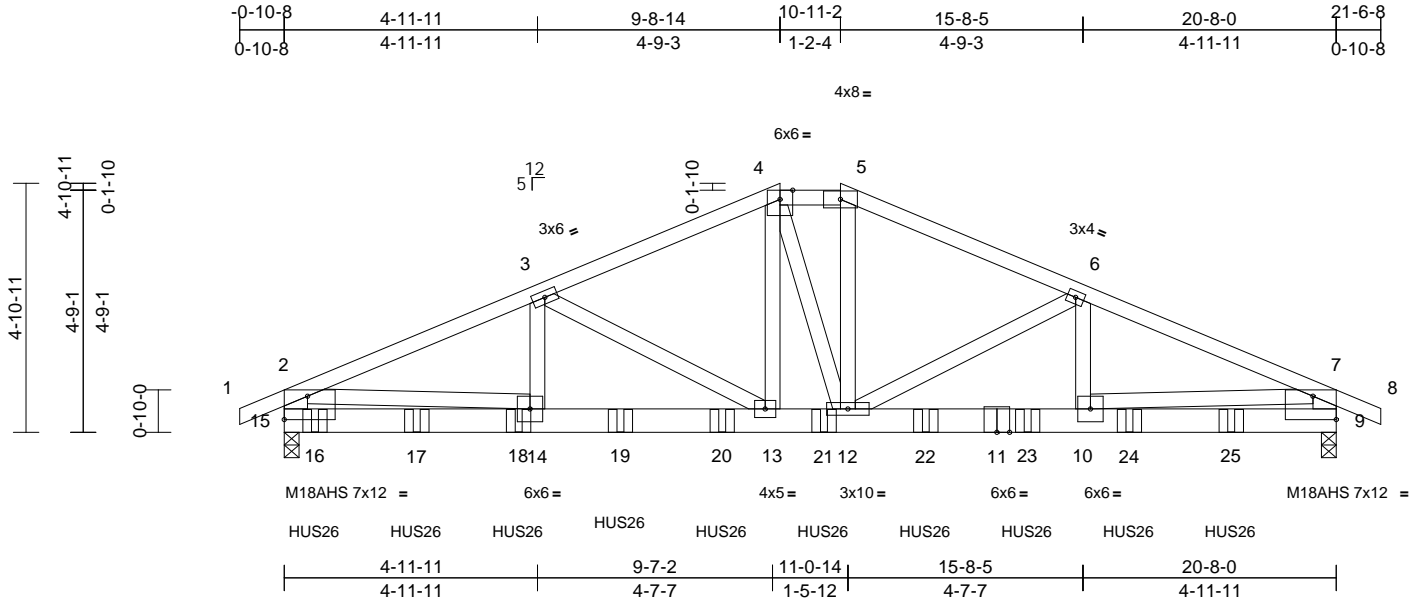
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649860
Harmony - Craftsman	D4	Hip Girder	1	2	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:06  
ID:fSdC4Qty?7pjBbBvtvg0zFtQ8-RfC?Psb70Hq3NSgPqnL8w3uITXbGKWCrDdoi7J4zJC?f

Page: 1



Scale = 1:45.3

Plate Offsets (X, Y): [9:Edge,0-5-8], [15:Edge,0-5-8]																
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		0.57	Vert(LL)		-0.13	13-14	>999	360	MT20	197/144
TCDL		10.0	Lumber DOL		1.15	BC		0.86	Vert(CT)		-0.22	13-14	>999	240	M18AHS	142/136
BCLL		0.0*	Rep Stress Incr		NO	WB		0.62	Horz(CT)		0.04	9	n/a	n/a		
BCDL		10.0	Code		IRC2018/TPI2014	Matrix-S			Wind(LL)		0.08	10-12	>999	240	Weight: 228 lb	FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x6 SP 2400F 2.0E \*Except\* 11-9:2x6 SPF No.2  
WEBS 2x4 SPF No.2 \*Except\* 15-2,9-7:2x6 SP 2400F 2.0E

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

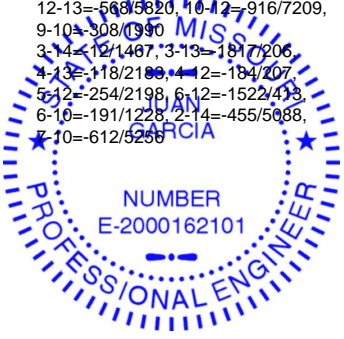
**REACTIONS** (size) 9=0-3-8, (req. 0-3-10), 15=0-3-8, (req. 0-4-4)  
Max Horiz 15=58 (LC 28)  
Max Uplift 9=661 (LC 9), 15=535 (LC 8)  
Max Grav 9=4599 (LC 17), 15=5438 (LC 18)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/30, 2-3=8122/816, 3-4=6321/706, 4-5=5766/715, 5-6=6339/748, 6-7=7864/1058, 7-8=0/30, 2-15=3900/457, 7-9=3821/569  
BOT CHORD 14-15=300/2437, 13-14=752/7486, 12-13=668/5820, 10-12=916/7209, 9-10=308/1930  
WEBS 3-14=12/1467, 3-13=1817/206, 4-13=118/2180, 4-12=184/207, 5-12=254/2198, 6-12=1522/413, 6-10=191/1228, 2-14=455/5088, 7-10=612/5256

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x4 - 1 row at 0-6-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.  
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
- 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.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCCL=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
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- WARNING: Required bearing size at joint(s) 15, 9 greater than input bearing size.
- All bearings are assumed to be SPF No.2.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 535 lb uplift at joint 15 and 661 lb uplift at joint 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

- Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-7-4 from the left end to 18-7-4 to connect truss(es) to back face of bottom chord.
  - Fill all nail holes where hanger is in contact with lumber.
- LOAD CASE(S)** Standard
- 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, 5-7=-70, 7-8=-70, 9-15=-20  
Concentrated Loads (lb)  
Vert: 16=-820 (B), 17=-814 (B), 18=-814 (B), 19=-814 (B), 20=-814 (B), 21=-798 (B), 22=-736 (B), 23=-736 (B), 24=-736 (B), 25=-736 (B)

NOTES



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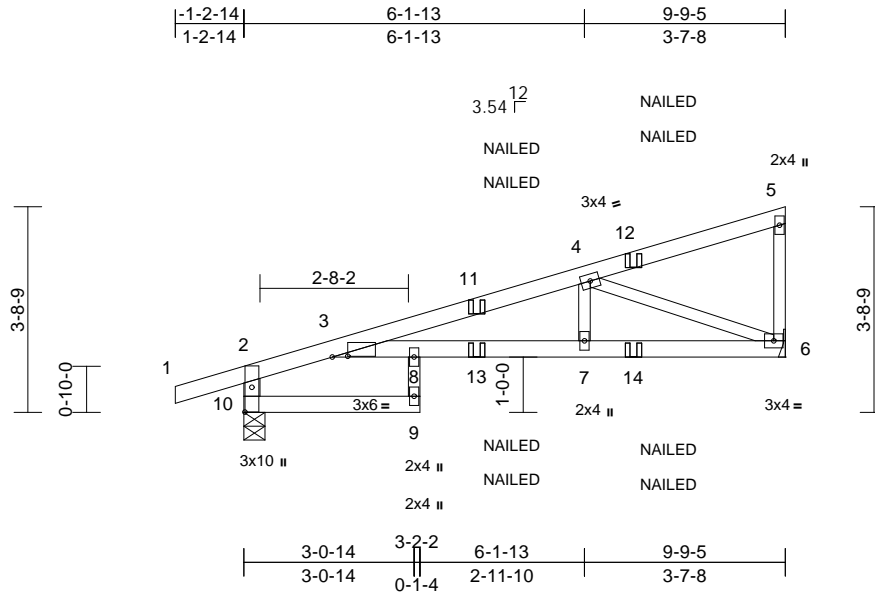
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	165649861
Harmony - Craftsman	J1	Diagonal Hip Girder	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:06  
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Page: 1



Scale = 1:41.6

Plate Offsets (X, Y): [3:0-3-6,0-0-3], [10:0-5-6,0-1-8]

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	0.66	Vert(LL)	-0.14	7-8	>795	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.27	7-8	>427	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.47	Horz(CT)	0.15	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	7-8	>749	240	Weight: 33 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E  
BOT CHORD 2x4 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 10-2:2x4 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-10-6 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 6= Mechanical, 10=0-4-9  
Max Horiz 10=137 (LC 5)  
Max Uplift 6=115 (LC 8), 10=155 (LC 4)  
Max Grav 6=564 (LC 1), 10=607 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-10=-609/187, 1-2=0/27, 2-3=-205/7,  
3-4=-1244/246, 4-5=-108/29, 5-6=-84/38  
BOT CHORD 9-10=0/0, 3-8=-261/1189, 7-8=-261/1189,  
6-7=-261/1189

WEBS 8-9=-1/76, 4-6=-1264/306, 4-7=0/341

#### NOTES

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom  
chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) All bearings are assumed to be SPF No.2.
- 5) Refer to girder(s) for truss to truss connections.
- 6) Provide mechanical connection (by others) of truss to  
bearing plate capable of withstanding 155 lb uplift at joint  
10 and 115 lb uplift at joint 6.

- 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) "NAILED" indicates 3-10d (0.148"x3") or 2-12d  
(0.148"x3.25") 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: 1-2=-70, 2-5=-70, 9-10=-20, 6-8=-20  
Concentrated Loads (lb)  
Vert: 12=-68 (F=-34, B=-34), 13=-50 (F=-25, B=-25),  
14=-99 (F=-49, B=-49)



May 20,2024

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02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	J2	Jack-Open	2	1	Job Reference (optional)

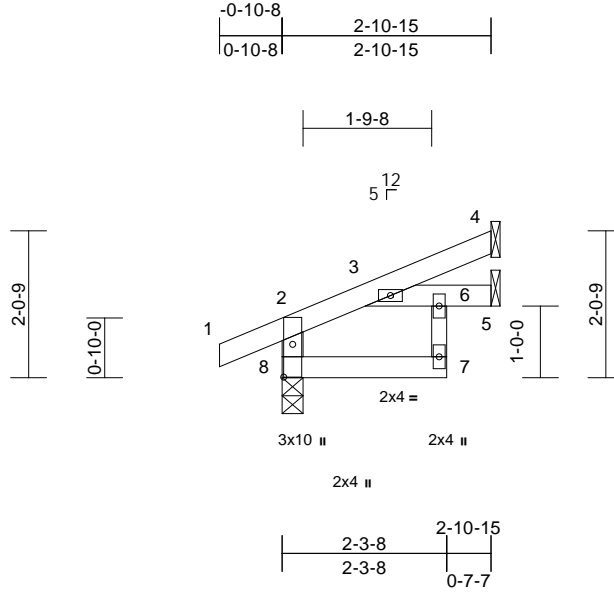
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Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:06

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Scale = 1:32.1

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

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	0.08	Vert(LL)	0.00	3	>999	360	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	0.00	3-6	>999	240	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	5	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	3	>999	240	Weight: 10 lb FT = 10%

#### LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2 *Except* 7-6:2x3 SPF No.2
WEBS	2x4 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-10-15 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS	(size)	4= Mechanical, 5= Mechanical, 8=0-3-8
	Max Horiz	8=53 (LC 8)
	Max Uplift	4=30 (LC 8), 5=2 (LC 8), 8=24 (LC 8)
	Max Grav	4=66 (LC 1), 5=72 (LC 3), 8=216 (LC 1)

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-8=-196/45, 1-2=0/27, 2-3=-69/0, 3-4=-21/21
BOT CHORD	7-8=-16/25, 6-7=0/42, 3-6=-25/16, 5-6=0/0

#### NOTES

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) All bearings are assumed to be SPF No.2 .
- 5) Refer to girder(s) for truss to truss connections.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 8, 30 lb uplift at joint 4 and 2 lb uplift at joint 5.



May 20,2024

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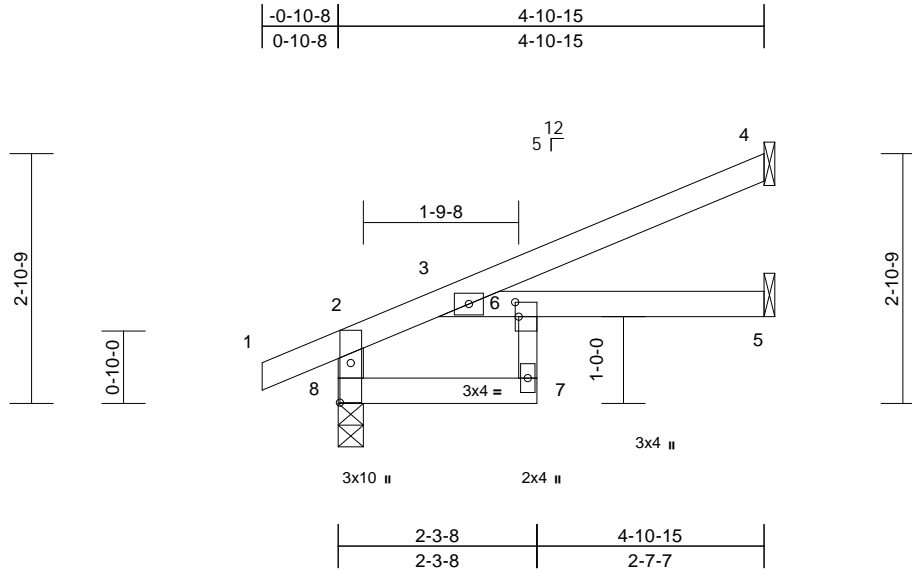
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	J3	Jack-Open	2	1	Job Reference (optional)
					I65649863

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:06  
ID:c50lr0QWL1dXNUjIEWpTzoyKucV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:26.6

Plate Offsets (X, Y): [6:0-2-0,0-0-8], [8:0-5-8,0-1-8]

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	0.26	Vert(LL)	-0.03	5-6	>999	360	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	-0.06	5-6	>984	240	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.03	5	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.03	5-6	>999	240	Weight: 15 lb FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2 \*Except\* 7-6:2x3 SPF No.2  
WEBS 2x4 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-10-15 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-3-8  
Max Horiz 8=87 (LC 8)  
Max Uplift 4=-61 (LC 8), 8=-30 (LC 8)  
Max Grav 4=133 (LC 1), 5=97 (LC 3), 8=305 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-8=-293/58, 1-2=0/27, 2-3=-153/0, 3-4=-49/41  
BOT CHORD 7-8=-46/76, 6-7=-4/46, 3-6=-76/46, 5-6=0/0

#### NOTES

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) All bearings are assumed to be SPF No.2.
- 5) Refer to girder(s) for truss to truss connections.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 8 and 61 lb uplift at joint 4.



May 20,2024

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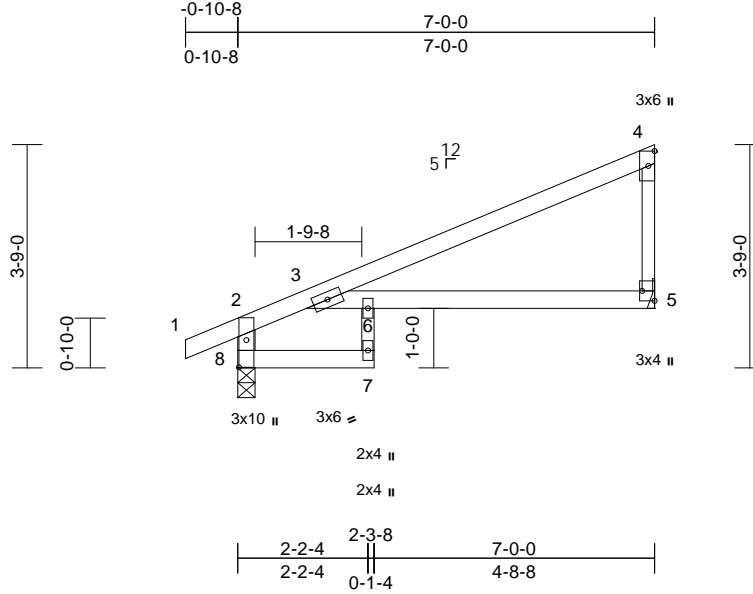
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	J4	Jack-Closed	4	1	Job Reference (optional)
					I65649864

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07  
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Page: 1



Scale = 1:38.7

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

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	0.57	Vert(LL)	-0.11	5-6	>768	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.21	5-6	>386	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.11	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.11	5-6	>709	240	Weight: 22 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 8-2:2x4 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.  
**LOAD CASE(S)** Standard

#### BRACING

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

**REACTIONS** (size) 5= Mechanical, 8=0-3-8  
Max Horiz 8=138 (LC 5)  
Max Uplift 5=74 (LC 8), 8=63 (LC 8)  
Max Grav 5=298 (LC 1), 8=381 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-8=-384/96, 1-2=0/27, 2-3=-165/0,  
3-4=-136/13, 4-5=-192/84  
BOT CHORD 7-8=0/0, 3-6=-31/66, 5-6=-31/66  
WEBS 6-7=-13/50

#### NOTES

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-0-0 tall by 2'-0-0 wide will fit between the bottom chord and any other members.
- 4) All bearings are assumed to be SPF No.2.
- 5) Refer to girder(s) for truss to truss connections.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 63 lb uplift at joint 8 and 74 lb uplift at joint 5.



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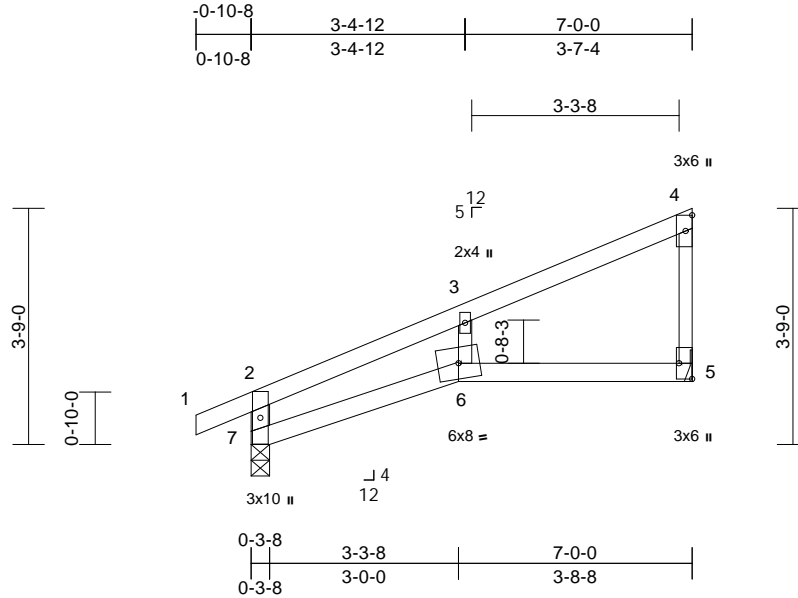
Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	J5	Jack-Closed	9	1	Job Reference (optional)

I65649865

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07  
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Page: 1



Scale = 1:36.6

Plate Offsets (X, Y): [5: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	0.54	Vert(LL)	-0.15	6	>536	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.27	6	>302	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.09	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.16	6	>511	240	Weight: 21 lb	FT = 10%

**LUMBER**

TOP CHORD 2x4 SPF No.2  
 BOT CHORD 2x4 SPF No.2  
 WEBS 2x3 SPF No.2 \*Except\* 7-2:2x4 SPF No.2

**BRACING**

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

**REACTIONS** (size) 5= Mechanical, 7=0-3-8  
 Max Horiz 7=139 (LC 5)  
 Max Uplift 5=74 (LC 8), 7=63 (LC 8)  
 Max Grav 5=298 (LC 1), 7=381 (LC 1)

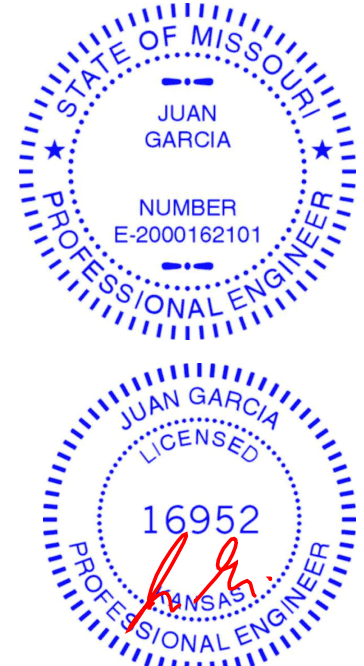
**FORCES** (lb) - Maximum Compression/Maximum  
 Tension

TOP CHORD 2-7=-324/71, 1-2=0/27, 2-3=-178/0,  
 3-4=-105/23, 4-5=-190/71  
 BOT CHORD 6-7=-40/82, 5-6=-38/87  
 WEBS 3-6=-31/83

**NOTES**

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom  
 chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) All bearings are assumed to be SPF No.2 .
- 5) Refer to girder(s) for truss to truss connections.
- 6) Bearing at joint(s) 7 considers parallel to grain value  
 using ANSI/TPI 1 angle to grain formula. Building  
 designer should verify capacity of bearing surface.

- 7) Provide mechanical connection (by others) of truss to  
 bearing plate capable of withstanding 63 lb uplift at joint  
 7 and 74 lb uplift at joint 5.
- 8) This truss is designed in accordance with the 2018  
 International Residential Code sections R502.11.1 and  
 R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

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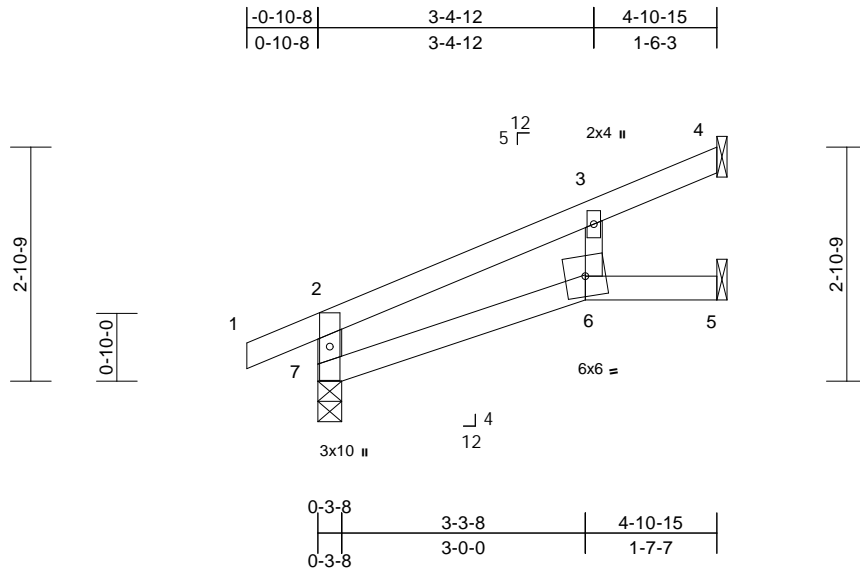
Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649866
Harmony - Craftsman	J6	Jack-Open	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07

Page: 1

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Scale = 1:28.4

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	0.18	Vert(LL)	-0.03	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.05	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.02	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P		Wind(LL)	0.04	6-7	>999	240	Weight: 14 lb	FT = 10%

#### LUMBER

TOP CHORD	2x4 SPF 2100F 1.8E
BOT CHORD	2x4 SPF No.2 *Except* 6-5:2x4 SPF 2100F 1.8E
WEBS	2x4 SPF No.2 *Except* 6-3:2x3 SPF No.2

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-10-15 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS	(size)	4= Mechanical, 5= Mechanical, 7=0-3-8
	Max Horiz	7=86 (LC 8)
	Max Uplift	4=-45 (LC 8), 5=-20 (LC 8), 7=-37 (LC 8)
	Max Grav	4=122 (LC 1), 5=82 (LC 1), 7=291 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD	2-7=-227/52, 1-2=0/27, 2-3=-76/24, 3-4=-23/43
BOT CHORD	6-7=-23/15, 5-6=0/0
WEBS	3-6=-52/62

#### NOTES

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCCL=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
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- All bearings are assumed to be SPF No.2.
- Refer to girder(s) for truss to truss connections.

- Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 7, 45 lb uplift at joint 4 and 20 lb uplift at joint 5.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



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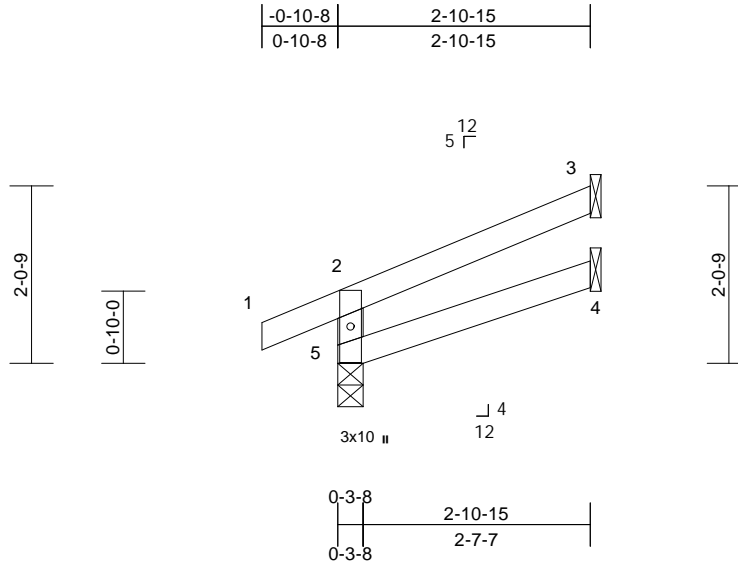
Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	J7	Jack-Open	2	1	Job Reference (optional)
					I65649867

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07

Page: 1

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Scale = 1:26.6

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	0.00	4-5	>999	360	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	-0.01	4-5	>999	240	197/144
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-R		Wind(LL)	0.00	4-5	>999	240	Weight: 9 lb FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E  
BOT CHORD 2x4 SPF No.2  
WEBS 2x4 SPF No.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.

LOAD CASE(S) Standard

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-10-15 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8  
Max Horiz 5=53 (LC 5)  
Max Uplift 3=-46 (LC 8), 5=-29 (LC 8)  
Max Grav 3=81 (LC 1), 4=50 (LC 3), 5=207 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-180/55, 1-2=0/27, 2-3=-46/24  
BOT CHORD 4-5=-19/12

#### NOTES

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) All bearings are assumed to be SPF No.2 .
- 5) Refer to girder(s) for truss to truss connections.
- 6) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 5 and 46 lb uplift at joint 3.



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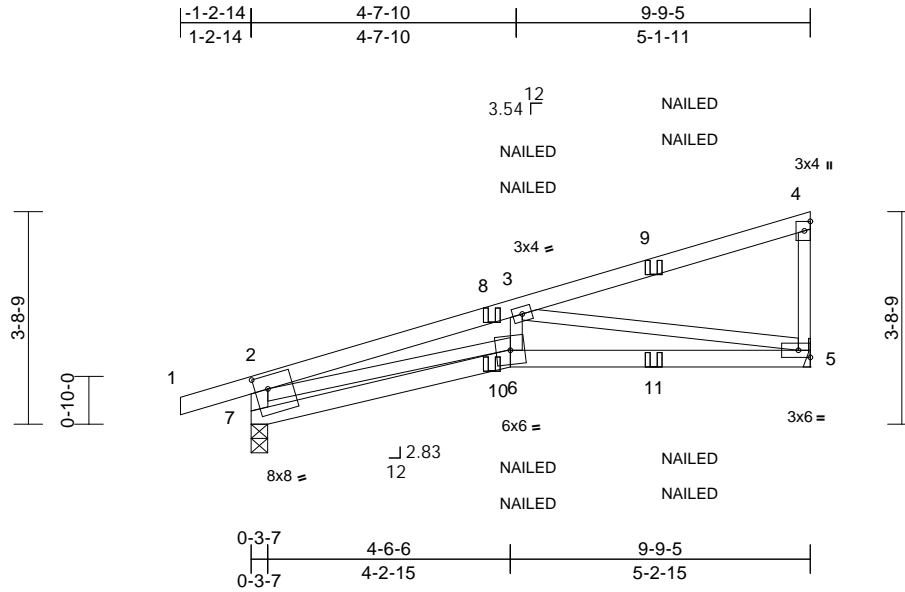
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649868
Harmony - Craftsman	J8	Diagonal Hip Girder	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07  
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Page: 1



Scale = 1:40.3

Plate Offsets (X, Y): [7:0-2-12,0-2-12]

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	0.50	Vert(LL)	-0.09	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.17	5-6	>669	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.05	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.09	5-6	>999	240	Weight: 35 lb	FT = 10%

#### LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
WEBS	2x3 SPF No.2 *Except* 7-2:2x4 SPF No.2

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-6-1 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 8-7-1 oc bracing.

#### REACTIONS

(size)	5= Mechanical, 7=0-3-7
Max Horiz	7=138 (LC 5)
Max Uplift	5=-154 (LC 8), 7=-157 (LC 4)
Max Grav	5=535 (LC 1), 7=578 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	2-7=-577/205, 1-2=0/27, 2-3=-1555/405, 3-4=-144/27, 4-5=-178/68
BOT CHORD	6-7=-166/246, 5-6=-450/1410
WEBS	2-6=-311/1219, 3-6=-39/313, 3-5=-1379/433

#### NOTES

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) All bearings are assumed to be SPF No.2 .
- 5) Refer to girder(s) for truss to truss connections.
- 6) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.

- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 157 lb uplift at joint 7 and 154 lb uplift at joint 5.
- 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) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidelines.
- 10) 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, 2-4=-70, 6-7=-20, 5-6=-20  
Concentrated Loads (lb)  
Vert: 9=-47 (F=-24, B=-24), 10=-5 (F=-2, B=-2), 11=-107 (F=-53, B=-53)



May 20,2024

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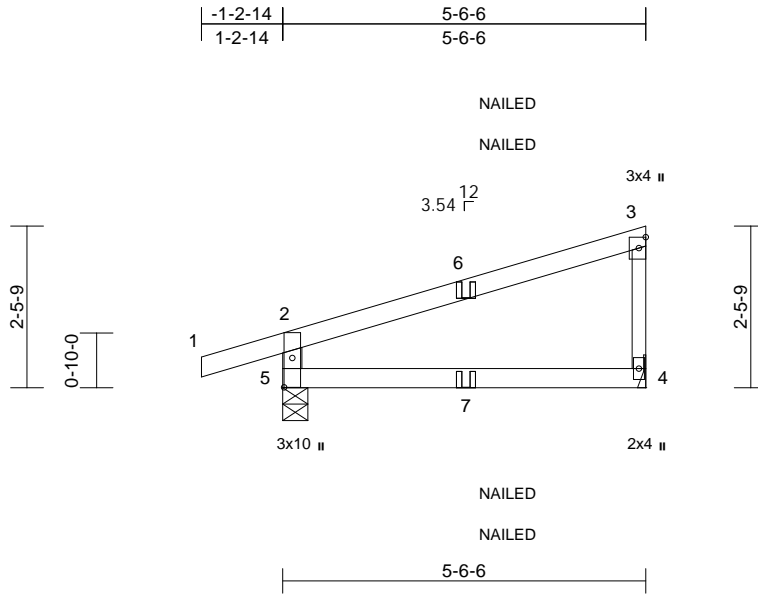
**02/18/2025**

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	J9	Diagonal Hip Girder	2	1	Job Reference (optional)
					I65649869

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07  
ID:C7gOBaByKDEkR5j?HNPI1OzFtbN-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcD0i7J4zJC?f

Page: 1



Scale = 1:35.1

Plate Offsets (X, Y): [5:0-5-6,0-1-8]												
<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	-0.03	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.06	4-5	>991	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 16 lb	FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x4 SPF No.2 \*Except\* 3-4:2x3 SPF No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-6-6 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 4= Mechanical, 5=0-4-9  
Max Horiz 5=99 (LC 5)  
Max Uplift 4=49 (LC 8), 5=103 (LC 4)  
Max Grav 4=224 (LC 1), 5=346 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-5=-305/141, 1-2=0/27, 2-3=-128/14,  
3-4=-161/72  
BOT CHORD 4-5=-26/50

- NOTES**
- 1) 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
  - 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 3) \* 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.
  - 4) All bearings are assumed to be SPF No.2 .
  - 5) Refer to girder(s) for truss to truss connections.
  - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 103 lb uplift at joint 5 and 49 lb uplift at joint 4.
  - 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

- 8) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") 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: 1-2=-70, 2-3=-70, 4-5=-20  
Concentrated Loads (lb)  
Vert: 7=3 (F=1, B=1)



May 20,2024

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02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	J10	Jack-Open	4	1	Job Reference (optional)

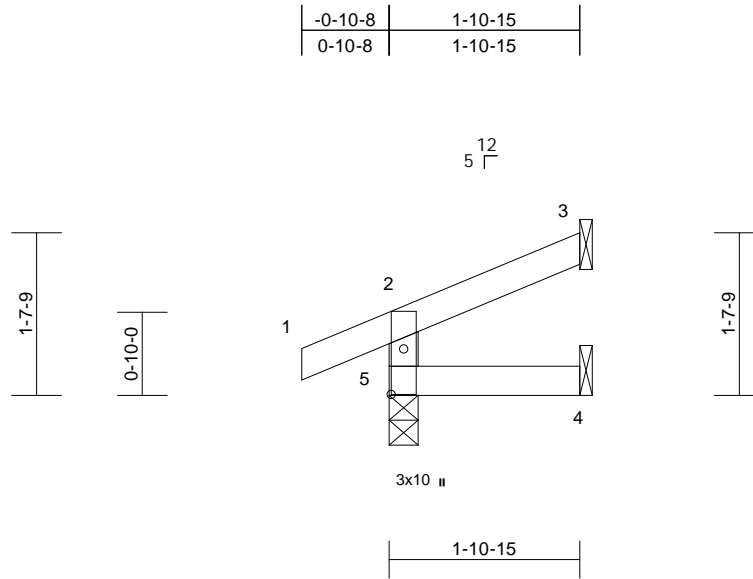
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Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07

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Scale = 1:23.1

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

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	0.07	Vert(LL)	0.00	4-5	>999	360	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	240	197/144
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-R		Wind(LL)	0.00	4-5	>999	240	Weight: 6 lb FT = 10%

**LUMBER**

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x4 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard

**BRACING**

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

**REACTIONS** (size) 3= Mechanical, 4= Mechanical, 5=0-3-8  
Max Horiz 5=41 (LC 5)  
Max Uplift 3=-29 (LC 8), 5=-32 (LC 4)  
Max Grav 3=44 (LC 1), 4=32 (LC 3), 5=171 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-150/47, 1-2=0/27, 2-3=-32/12  
BOT CHORD 4-5=0/0

**NOTES**

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) All bearings are assumed to be SPF No.2.
- 5) Refer to girder(s) for truss to truss connections.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 5 and 29 lb uplift at joint 3.



May 20,2024

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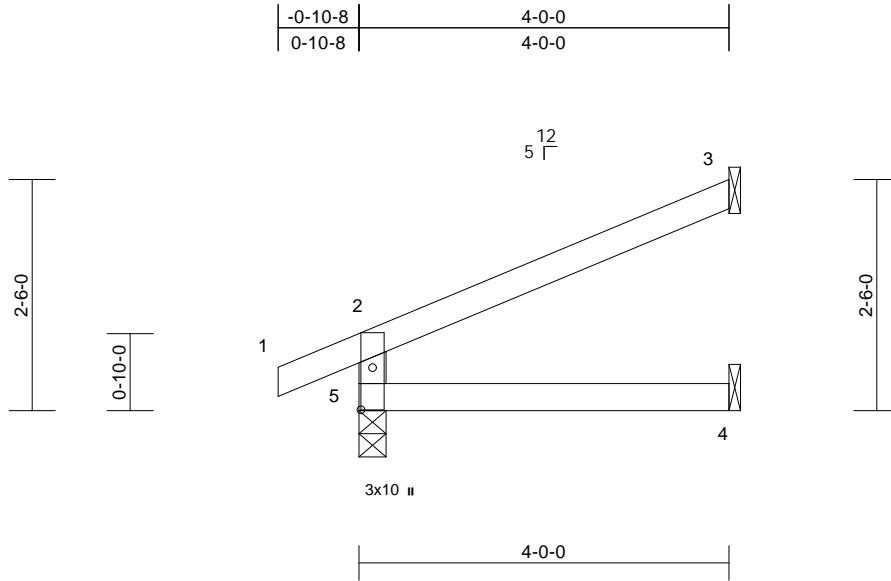
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	I65649871
Harmony - Craftsman	J11	Jack-Open	8	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07  
ID:dRq5Fn0AdwTjJxfJTQ9?TRzFtbb-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:24.9

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

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	0.20	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.02	4-5	>999	240		
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-R		Wind(LL)	0.01	4-5	>999	240	Weight: 11 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x4 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

#### BRACING

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

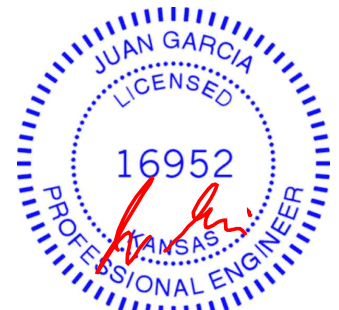
REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8  
Max Horiz 5=71 (LC 8)  
Max Uplift 3=62 (LC 8), 5=34 (LC 8)  
Max Grav 3=117 (LC 1), 4=71 (LC 3), 5=252 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-220/71, 1-2=0/27, 2-3=-64/35  
BOT CHORD 4-5=0/0

#### NOTES

- 1) 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) All bearings are assumed to be SPF No.2 .
- 5) Refer to girder(s) for truss to truss connections.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 5 and 62 lb uplift at joint 3.



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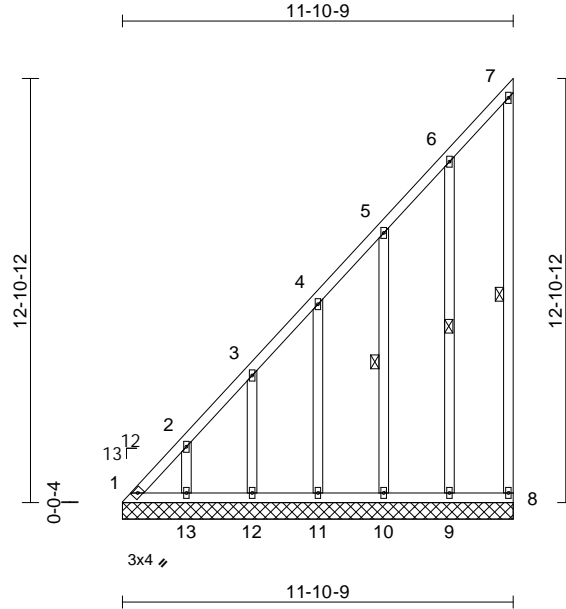
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	LAY1	Lay-In Gable	2	1	Job Reference (optional)
					I65649872

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07  
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Page: 1



Scale = 1:70.1

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	0.07	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	8	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S						Weight: 81 lb	FT = 10%

#### LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x4 SPF No.2

#### BRACING

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

WEBS	1 Row at midpt	7-8, 5-10, 6-9
------	----------------	----------------

REACTIONS	(size)	1=11-10-9, 8=11-10-9, 9=11-10-9, 10=11-10-9, 11=11-10-9, 12=11-10-9, 13=11-10-9
	Max Horiz	1=505 (LC 8)
	Max Uplift	1=-161 (LC 6), 8=-49 (LC 8), 9=-130 (LC 8), 10=-131 (LC 8), 11=-129 (LC 8), 12=-129 (LC 8), 13=-130 (LC 8)
	Max Grav	1=507 (LC 8), 8=75 (LC 15), 9=210 (LC 15), 10=206 (LC 15), 11=205 (LC 15), 12=205 (LC 15), 13=207 (LC 15)

FORCES	(lb) - Maximum Compression/Maximum Tension
--------	--

TOP CHORD	1-2=-705/278, 2-3=-582/231, 3-4=-451/181, 4-5=-321/132, 5-6=-190/93, 6-7=-70/37, 7-8=-61/57
-----------	---

BOT CHORD	1-13=0/0, 12-13=0/0, 11-12=0/0, 10-11=0/0, 9-10=0/0, 8-9=0/0
-----------	--

WEBS	2-13=-162/147, 3-12=-166/155, 4-11=-165/153, 5-10=-166/154, 6-9=-169/156
------	--

#### NOTES

- 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 ; Lumber DOL=1.60 plate grip DOL=1.60

- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* 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.
- All bearings are assumed to be SPF No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 161 lb uplift at joint 1, 49 lb uplift at joint 8, 130 lb uplift at joint 13, 129 lb uplift at joint 12, 129 lb uplift at joint 11, 131 lb uplift at joint 10 and 130 lb uplift at joint 9.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



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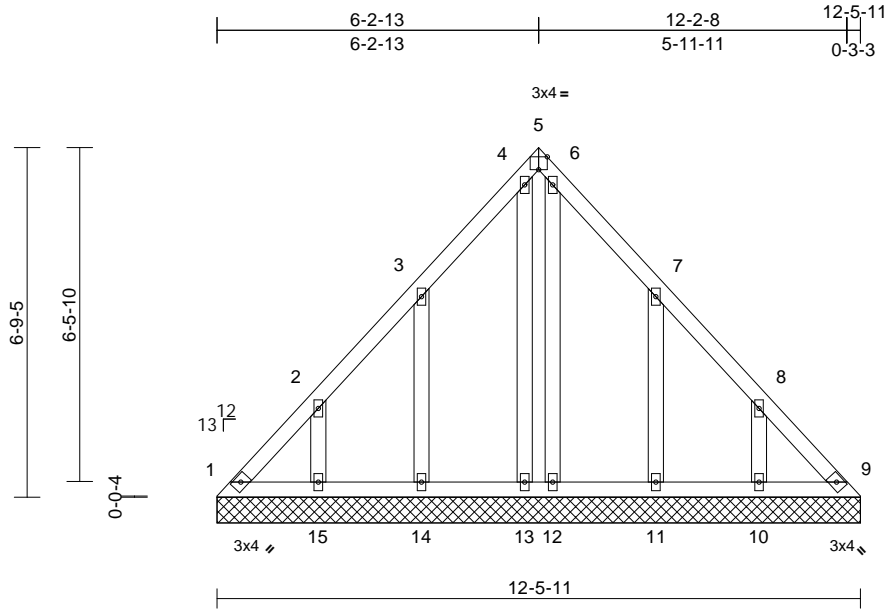
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car
Harmony - Craftsman	LAY2	Lay-In Gable	1	1	Job Reference (optional)
					I65649873

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07  
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Page: 1



Scale = 1:44.7

Plate Offsets (X, Y): [5: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	0.06	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	9	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							
										Weight: 60 lb	FT = 10%

#### LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
OTHERS	2x4 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=12-5-11, 9=12-5-11, 10=12-5-11, 11=12-5-11, 12=12-5-11, 13=12-5-11, 14=12-5-11, 15=12-5-11
Max Horiz	1=172 (LC 4)	
Max Uplift	1=-66 (LC 6), 9=-34 (LC 7), 10=-130 (LC 9), 11=-137 (LC 9), 13=-18 (LC 5), 14=-137 (LC 8), 15=-130 (LC 8)	
Max Grav	1=142 (LC 8), 9=121 (LC 9), 10=206 (LC 16), 11=215 (LC 16), 12=108 (LC 17), 13=125 (LC 18), 14=215 (LC 15), 15=206 (LC 15)	

#### FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-210/150, 2-3=-125/103, 3-4=-99/130, 4-5=-25/74, 5-6=-31/79, 6-7=-73/101, 7-8=-92/66, 8-9=-181/106
BOT CHORD	1-15=-74/149, 14-15=-74/149, 13-14=-74/149, 12-13=-74/149, 11-12=-74/149, 10-11=-74/149, 9-10=-74/149
WEBS	2-15=-161/148, 3-14=-174/163, 4-13=-100/35, 8-10=-161/148, 7-11=-175/164, 6-12=-84/3

#### 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) All plates are 2x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 9) All bearings are assumed to be SPF No.2 .
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 1, 34 lb uplift at joint 9, 130 lb uplift at joint 15, 137 lb uplift at joint 14, 18 lb uplift at joint 13, 130 lb uplift at joint 10 and 137 lb uplift at joint 11.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 20,2024

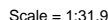
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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

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Greer, SC 29615  
314.434.1200 / MiTek-US.com

02/18/2025

Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:07 Page: 1  
ID: t3ZU6Y2TUFbZ6cRvzJS1fRfZiZb-RfC?PsB70Hg3NSaPqnL8w3uLTxbGKWCrD0i7J4zJC?f



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

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

**REACTIONS** (size) 1=16-3-13, 5=16-3-13, 6=16-3-13, 7=16-3-13, 8=16-3-13  
Max Horiz 1=-55 (LC 13)  
Max Uplift 1=-10 (LC 9), 5=-12 (LC 9), 6=-111 (LC 9), 8=-111 (LC 8)  
Max Grav 1=126 (LC 1), 5=126 (LC 1), 6=398 (LC 22), 7=306 (LC 1), 8=398 (LC 21)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-73/51, 2-3=-87/82, 3-4=-87/69, 4-5=-55/40  
BOT CHORD 1-8=0/43, 7-8=0/43, 6-7=0/43, 5-6=0/43  
WEBS 3-7=-229/39, 2-8=-310/156, 4-6=-310/156

- 7) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) All bearings are assumed to be SPF No.2 .
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 1, 12 lb uplift at joint 5, 111 lb uplift at joint 8 and 111 lb uplift at joint 6.
- 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

## 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) 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/TP1.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 4-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.



May 20, 2024

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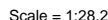
**WARNING - verify design parameters and READ NOTES ON THIS AND INCLUDED MITER REFERENCE PAGE MII-1473 rev. 1/22/23 BEFORE USE.**

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Chesterfield, MO 63017  
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02/18/2025

Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:08 Page: 1  
ID: a AGCzhk7Js8J9CaYPeN3YzFiZR-RfC?PsB70Ha3NSaPqnL8w3uITXbGKWRCDoi7J4zJC?i



**LUMBER**

## BRACING

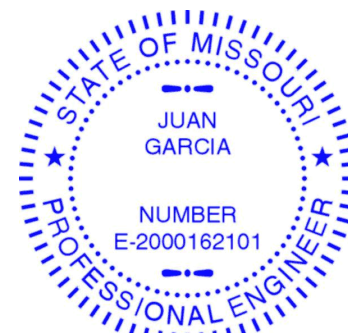
**REACTIONS** (size) 1=12-3-13, 3=12-3-13, 4=12-3-13  
 Max Horiz 1=40 (LC 8)  
 Max Uplift 1=-46 (LC 8), 3=-53 (LC 9), 4=-34 (LC 8)  
 Max Grav 1=225 (LC 21), 3=225 (LC 22), 4=540 (LC 1)

## NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TCDF=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) 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/TP1.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 4-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 7) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) All bearings are assumed to be SPF No.2 .
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 46 lb uplift at joint 1, 53 lb uplift at joint 3 and 34 lb uplift at joint 4.
- 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 20, 2024

 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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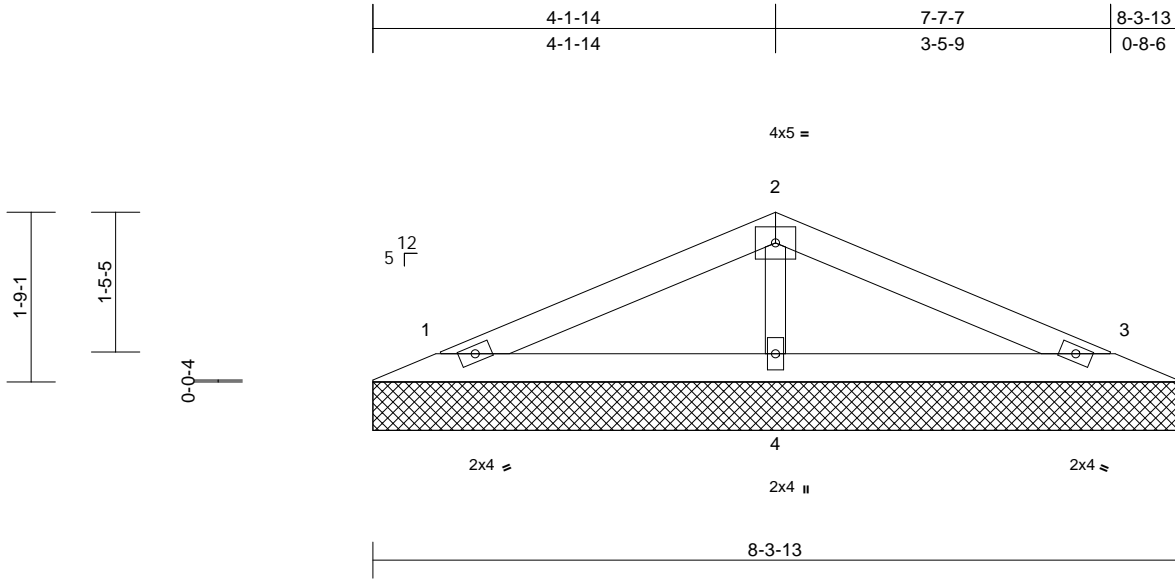
02/18/2025

Job	Truss	Truss Type	Qty	Ply	Harmony - Craftsman FH 3-Car	165649876
Harmony - Craftsman	V3	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 16 16:22:08  
ID:a\_AGCzhk7Js8J9CqYPeN3YzFtZR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?i

Page: 1



Scale = 1:23.8

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	0.22	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb FT = 10%

#### LUMBER

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

#### BRACING

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

#### REACTIONS

(size)	1=8-3-13, 3=8-3-13, 4=8-3-13
Max Horiz	1=-26 (LC 9)
Max Uplift	1=-36 (LC 8), 3=-40 (LC 9), 4=-8 (LC 8)
Max Grav	1=157 (LC 1), 3=157 (LC 1), 4=308 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-63/36, 2-3=-63/25
BOT CHORD	1-4=-1/27, 3-4=-1/27
WEBS	2-4=-222/60

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- 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
- 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* 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.
- All bearings are assumed to be SPF No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 1, 40 lb uplift at joint 3 and 8 lb uplift at joint 4.
- 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 20,2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

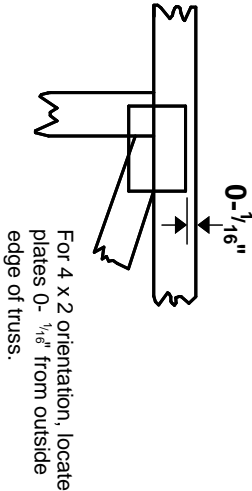
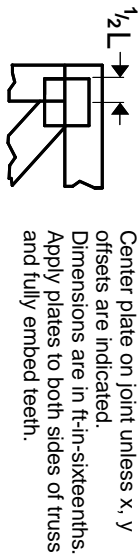
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02/18/2025

# 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.

## PLATE SIZE

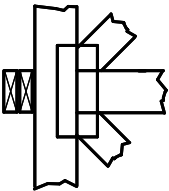
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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.

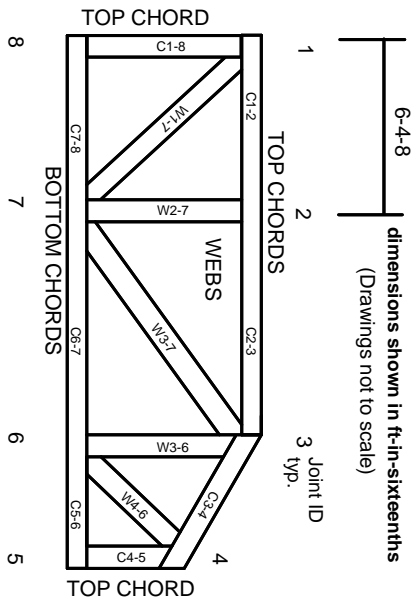
## BEARING



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/TP1: 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/TP1 1 section 6.3. These truss designs rely on lumber values established by others.

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# MITek®

MITek Engineering Reference Sheet: MIL-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/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 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/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

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