MiTek®

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

Re: Serenity - Contemporary 3-Car 12x12
Serenity - Contemporary 3-Car 12x12

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: I78546174 thru I78546224

My license renewal date for the state of Kansas is April 30, 2026.

Kansas COA: E-943

December 17,2025

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.

MiTek®

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

Re: Serenity - Contemporary 3-Car 12x12
Serenity - Contemporary 3-Car 12x12
Reserve at Stoney Creek 121
1929 SW Hightown Dr,
Lee's 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: I78546174 thru I78546224

My license renewal date for the state of Missouri is December 31, 2026.

Missouri COA: Engineering 001193

December 17,2025

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.

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	B1	Monopitch Supported Gable	1	1	I78546174 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:10 Page: 1
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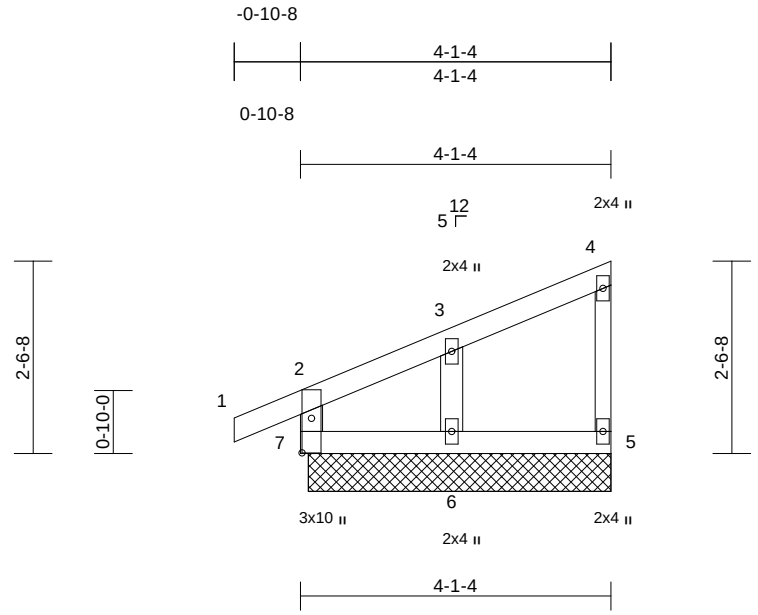

Scale = 1:30.5

Plate Offsets (X, Y): [7:0-5-8,0-1-8]

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)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 14 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 4-5:2x3 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=4-0-0, 6=4-0-0, 7=4-0-0
Max Horiz 7=102 (LC 5)
Max Uplift 5=-11 (LC 5), 6=-67 (LC 8), 7=-29 (LC 4)
Max Grav 5=76 (LC 1), 6=183 (LC 1), 7=159 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-141/41, 1-2=0/27, 2-3=-67/21, 3-4=-54/18, 4-5=-59/22
BOT CHORD 6-7=-32/23, 5-6=-32/23
WEBS 3-6=-141/84

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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 2-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 7, 11 lb uplift at joint 5 and 67 lb uplift at joint 6.
8) N/A
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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

December 17,2025

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

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

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/03/2026 3:22:33

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	B2	Monopitch	5	1	I78546175 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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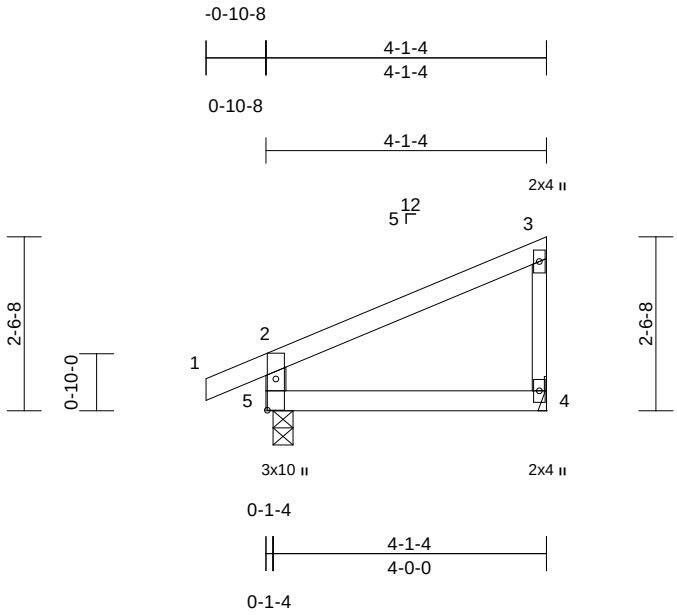

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Plate Offsets (X, Y): [5:0-5-8,0-1-8]

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	0.18	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.02	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 13 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 5-2:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5=0-3-8
Max Horiz 5=102 (LC 5)
Max Uplift 4=-41 (LC 8), 5=-47 (LC 8)
Max Grav 4=164 (LC 1), 5=254 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-94/26, 3-4=-118/57, 2-5=-223/78
BOT CHORD 4-5=-30/22

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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 41 lb uplift at joint 4 and 47 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	B3	Monopitch	2	1	I78546176 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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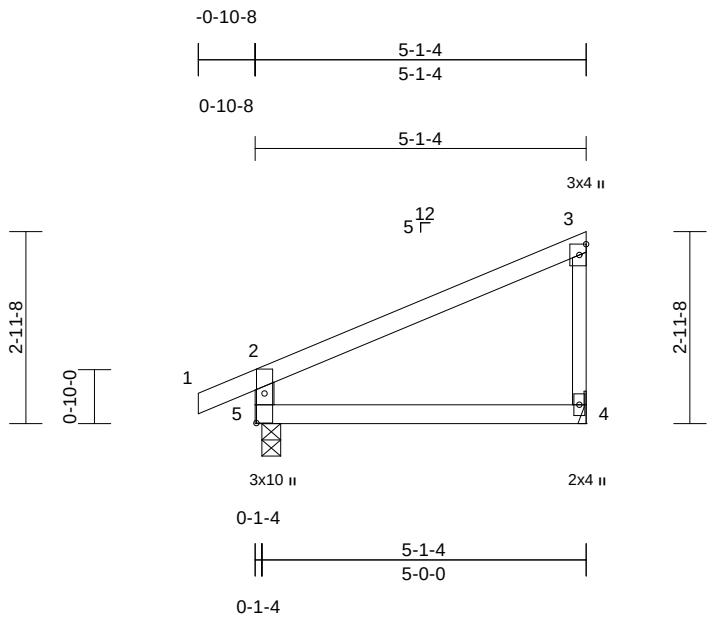

Scale = 1:35.5

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	0.31	Vert(LL)	-0.02	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.05	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-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 2x3 SPF No.2 *Except* 5-2:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-1-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5=0-3-8
Max Horiz 5=120 (LC 5)
Max Uplift 4=-52 (LC 8), 5=-53 (LC 8)
Max Grav 4=211 (LC 1), 5=297 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-119/30, 3-4=-151/71, 2-5=-260/92
BOT CHORD 4-5=-33/31

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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 4 and 53 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546177
Serenity -	C1	Hip Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:11 Page: 1
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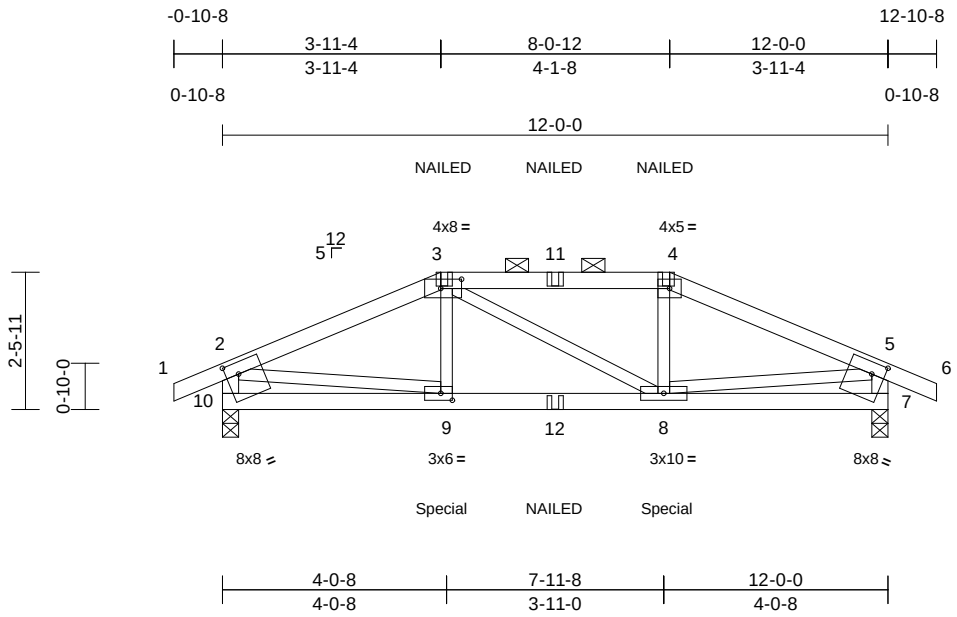


Scale = 1:41.5

Plate Offsets (X, Y): [3:0-4-8,0-2-0], [7:0-2-12,0-2-8], [9:0-2-8,0-1-8], [10:0-2-12,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.03	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.06	8-9	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.33	Horz(CT)	0.01	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	8-9	>999	240	Weight: 44 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-2,7-5:2x4 SPF No.2

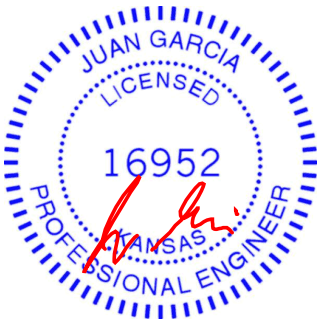
BRACING
TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-10-12 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 10=0-3-8
Max Horiz 10=18 (LC 7)
Max Uplift 7=-191 (LC 9), 10=-191 (LC 8)
Max Grav 7=891 (LC 1), 10=891 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-1305/294, 3-4=-1158/283, 4-5=-1305/294, 5-6=0/27, 2-10=-845/209, 5-7=-846/209
BOT CHORD 9-10=-73/206, 8-9=-228/1158, 7-8=-59/205
WEBS 3-9=0/209, 3-8=-51/53, 4-8=0/210, 2-9=-205/955, 5-8=-205/956

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) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 191 lb uplift at joint 10 and 191 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 214 lb down and 55 lb up at 3-11-4, and 214 lb down and 55 lb up at 8-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
11) 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, 3-4=-70, 4-5=-70, 5-6=-70, 7-10=-20
Concentrated Loads (lb)
Vert: 3=-45 (F), 4=-45 (F), 9=-214 (F), 8=-214 (F), 11=-45 (F), 12=-23 (F)



December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	C2	Common	4	1	I78546178 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:12 Page: 1
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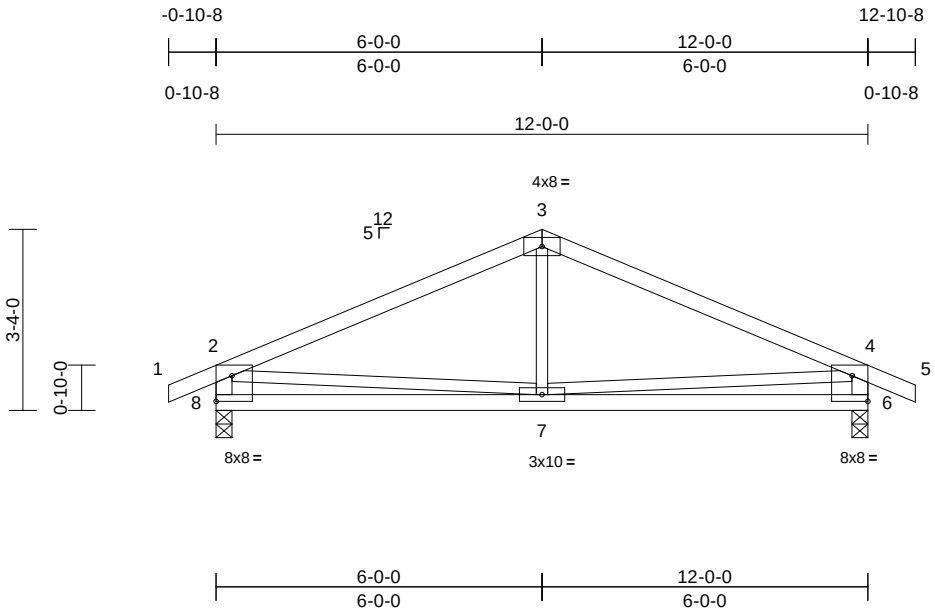

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Plate Offsets (X, Y): [6:Edge,0-5-11], [8:Edge,0-5-11]

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	0.41	Vert(LL)	-0.03	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.05	7-8	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.01	7-8	>999	240	Weight: 43 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 8-2,6-4:2x4 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) 6=0-3-8, 8=0-3-8
Max Horiz 8=30 (LC 12)
Max Uplift 6=-90 (LC 9), 8=-90 (LC 8)
Max Grav 6=598 (LC 1), 8=598 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-685/81, 3-4=-685/81, 4-5=0/27, 2-8=-545/122, 4-6=-545/122
BOT CHORD 7-8=-154/365, 6-7=-126/365
WEBS 3-7=0/222, 2-7=0/275, 4-7=0/275

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 90 lb uplift at joint 8 and 90 lb uplift at joint 6.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

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

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	G1	Hip Girder	2	1	I78546179 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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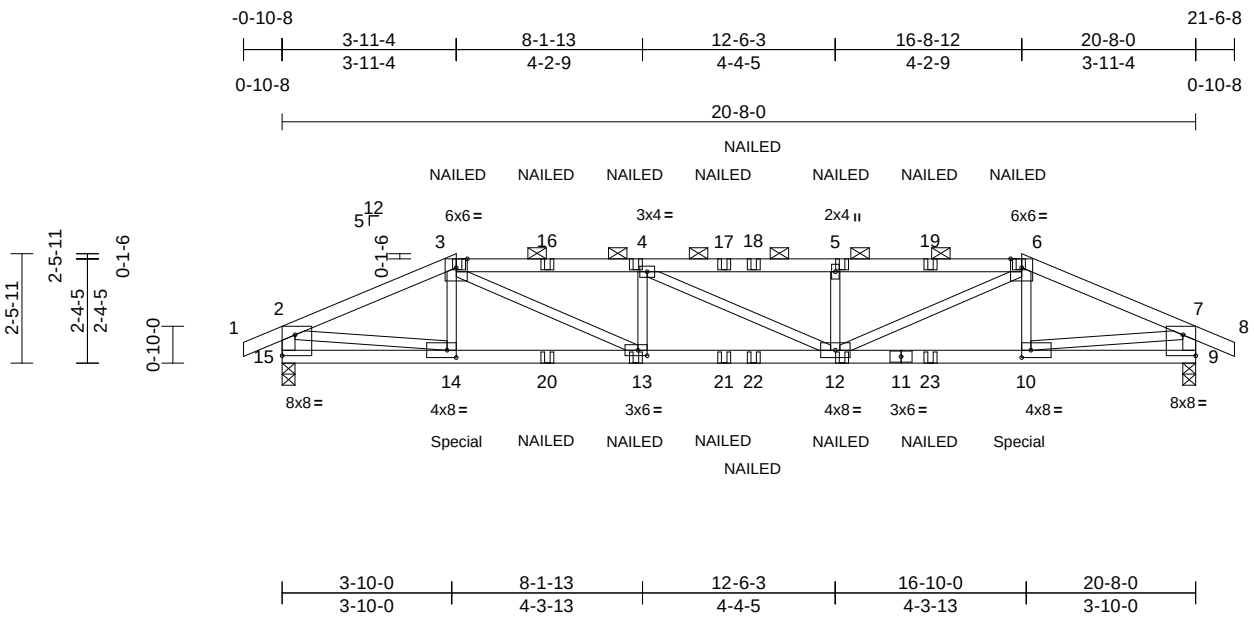
Page: 1



Scale = 1:52.1

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)	-0.18	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.33	12-13	>732	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.64	Horz(CT)	0.06	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	12-13	>999	240	Weight: 74 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 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 3-6-11 oc purlins, except end verticals, and 2-0-0 oc purlins (2-8-8 max.): 3-6.
BOT CHORD Rigid ceiling directly applied or 6-9-14 oc bracing.

REACTIONS (size) 9=0-3-8, 15=0-3-8
Max Horiz 15=-18 (LC 6)
Max Uplift 9=-319 (LC 5), 15=-319 (LC 4)
Max Grav 9=1451 (LC 1), 15=1451 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-2384/537, 3-4=-3397/806, 4-5=-3392/803, 5-6=-3395/804, 6-7=-2384/537, 7-8=0/27, 2-15=-1399/332, 7-9=-1399/332
BOT CHORD 14-15=-93/303, 13-14=-459/2155, 12-13=-753/3394, 10-12=-461/2155, 9-10=-79/303
WEBS 3-14=-10/97, 6-10=-10/97, 2-14=-408/1875, 7-10=-409/1875, 3-13=-328/1421, 6-12=-327/1418, 4-13=-489/226, 4-12=-28/23, 5-12=-478/225

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 319 lb uplift at joint 15 and 319 lb uplift at joint 9.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 214 lb down and 55 lb up at 3-11-4, and 214 lb down and 55 lb up at 16-8-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
11) 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, 3-6=-70, 6-7=-70, 7-8=-70, 9-15=-20
Concentrated Loads (lb)
Vert: 3=-45 (F), 6=-45 (F), 14=-214 (F), 10=-214 (F), 13=-23 (F), 12=-23 (F), 4=-45 (F), 5=-45 (F), 16=-45 (F), 17=-45 (F), 18=-45 (F), 19=-45 (F), 20=-23 (F), 21=-23 (F), 22=-23 (F), 23=-23 (F)

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	G1A	Hip Girder	1	1	I78546180 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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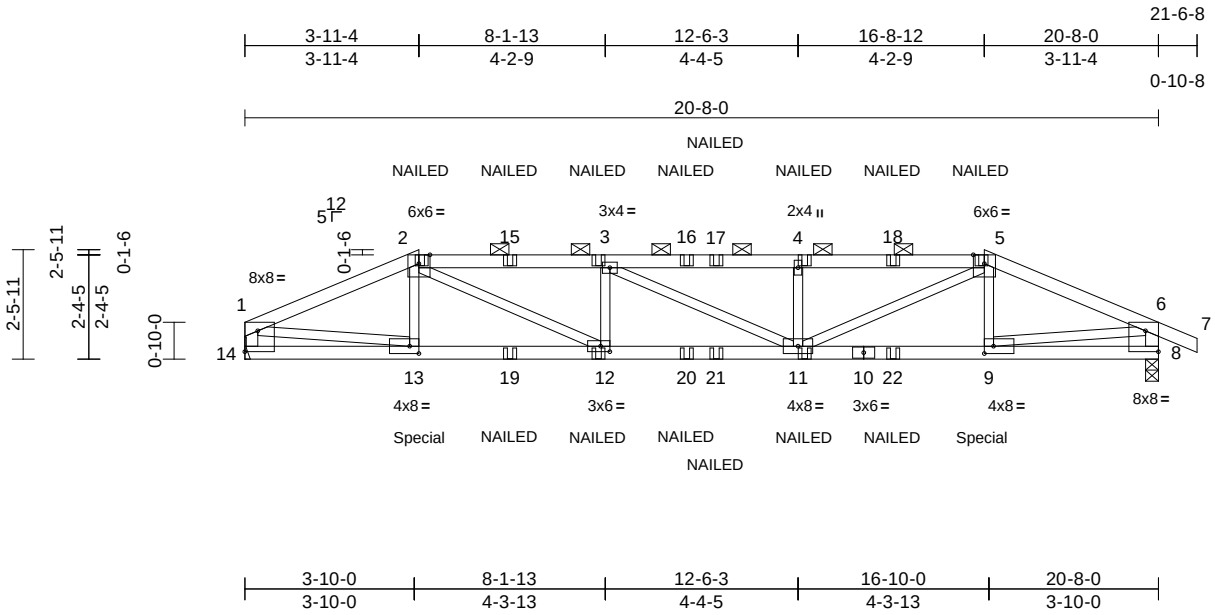
Page: 1



Scale = 1:52.1

Plate Offsets (X, Y): [1:Edge,0-5-11], [8:Edge,0-5-11], [9:0-2-8,0-2-0], [12:0-2-8,0-1-8], [13:0-2-8,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.69	Vert(LL)	-0.18	11-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.33	11-12	>730	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.66	Horz(CT)	0.06	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	11-12	>999	240	Weight: 73 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 14-1,8-6:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-6-11 oc purlins, except end verticals, and 2-0-0 oc purlins (2-8-8 max.): 2-5.
BOT CHORD Rigid ceiling directly applied or 6-9-14 oc bracing.

REACTIONS (size) 8=0-3-8, 14= Mechanical
Max Horiz 14=-28 (LC 6)
Max Uplift 8=-319 (LC 5), 14=-287 (LC 4)
Max Grav 8=1453 (LC 1), 14=1378 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-2395/540, 2-3=-3406/808, 3-4=-3399/805, 4-5=-3402/806, 5-6=-2388/538, 6-7=0/27, 1-14=-1325/299, 6-8=-1401/332
BOT CHORD 13-14=-68/263, 12-13=-461/2173, 11-12=-753/3404, 9-11=-461/2159, 8-9=-79/303
WEBS 2-13=-21/91, 5-9=-10/97, 1-13=-427/1933, 6-9=-410/1878, 2-12=-327/1417, 5-11=-328/1423, 3-12=-487/225, 3-11=-31/23, 4-11=-478/226

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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 287 lb uplift at joint 14 and 319 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 214 lb down and 55 lb up at 3-11-4, and 214 lb down and 55 lb up at 16-8-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
12) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-5=-70, 5-6=-70, 6-7=-70, 8-14=-20
Concentrated Loads (lb)
Vert: 2=-45 (F), 5=-45 (F), 13=-214 (F), 9=-214 (F), 12=-23 (F), 11=-23 (F), 3=-45 (F), 4=-45 (F), 15=-45 (F), 16=-45 (F), 17=-45 (F), 18=-45 (F), 19=-23 (F), 20=-23 (F), 21=-23 (F), 22=-23 (F)

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	G2	Hip	1	1	I78546181 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:13

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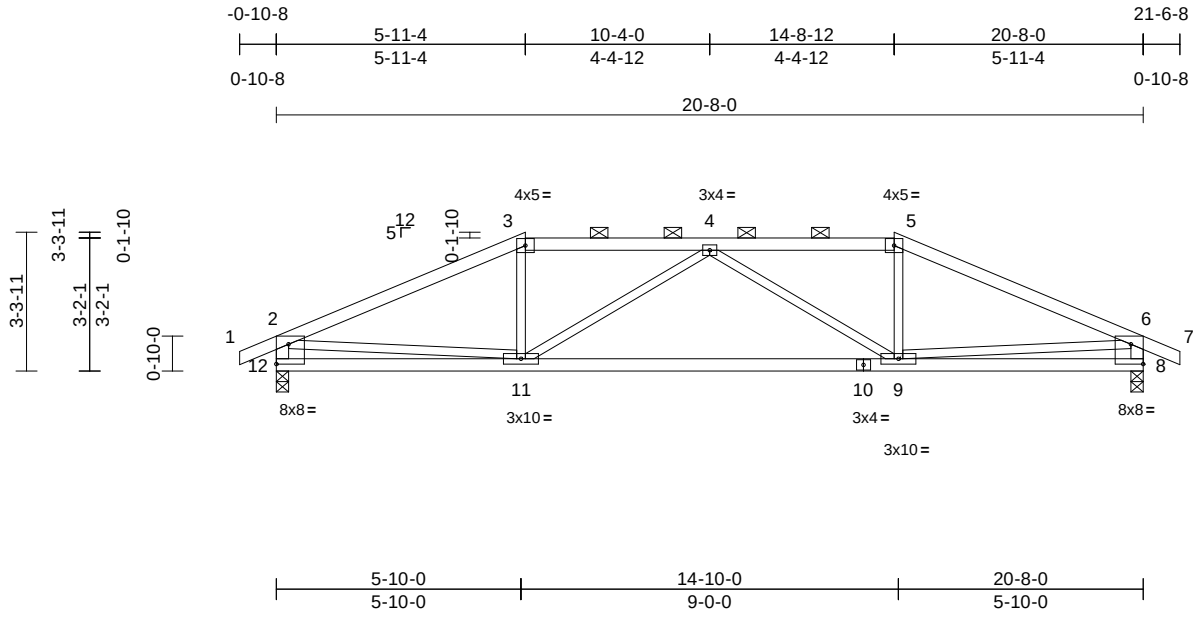

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Plate Offsets (X, Y): [8:Edge,0-5-11], [12:Edge,0-5-11]

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	0.46	Vert(LL)	-0.15	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.34	9-11	>723	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	9-11	>999	240	Weight: 73 lb	FT = 10%

LUMBER

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

BRACING

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

REACTIONS (size) 8=0-3-8, 12=0-3-8
Max Horiz 12=-29 (LC 13)
Max Uplift 8=-135 (LC 5), 12=-135 (LC 4)
Max Grav 8=988 (LC 1), 12=988 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-1533/188, 3-4=-1333/194, 4-5=-1333/194, 5-6=-1533/188, 6-7=0/27, 2-12=-943/157, 6-8=-943/157
BOT CHORD 11-12=-163/422, 9-11=-226/1613, 8-9=-136/422
WEBS 3-11=0/310, 4-11=-427/136, 4-9=-427/136, 5-9=0/310, 2-11=-38/932, 6-9=-38/932

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) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 135 lb uplift at joint 12 and 135 lb uplift at joint 8.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

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

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546182
Serenity -	G2A	Hip	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:13 Page: 1
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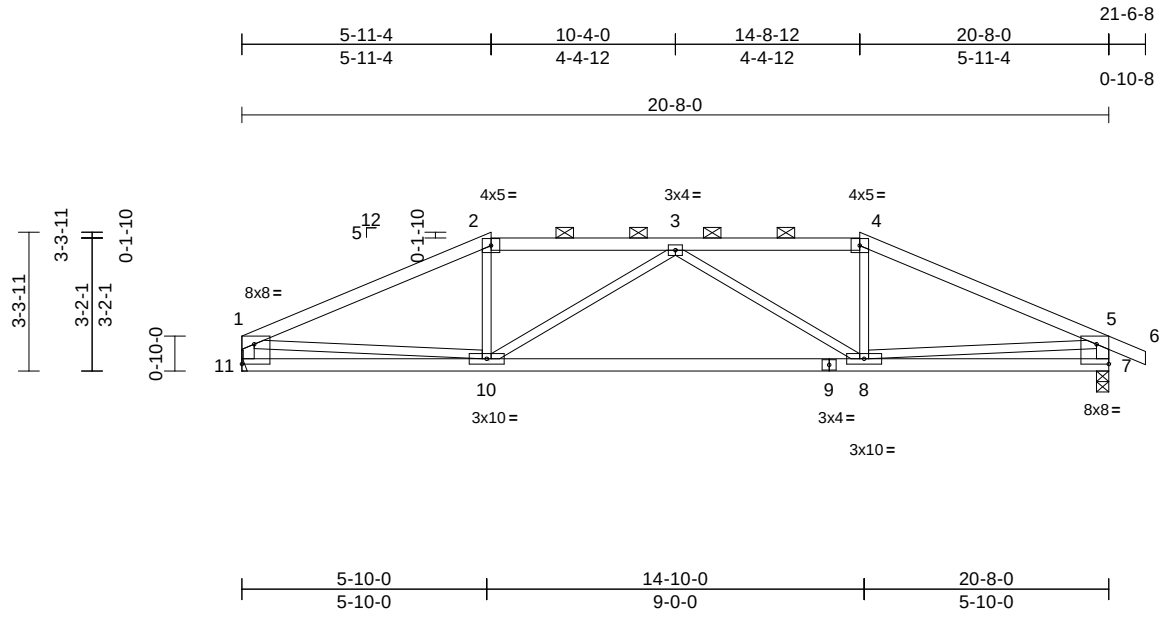

Scale = 1:54.9

Plate Offsets (X, Y): [1:Edge,0-5-11], [7: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	0.52	Vert(LL)	-0.15	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.34	8-10	>720	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.36	Horz(CT)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	8-10	>999	240	Weight: 72 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-9-12 oc purlins, except end verticals, and 2-0-0 oc purlins (4-10-12 max.): 2-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 11= Mechanical
Max Horiz 11=-36 (LC 9)
Max Uplift 7=-135 (LC 5), 11=-103 (LC 4)
Max Grav 7=990 (LC 1), 11=915 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1540/189, 2-3=-1347/198, 3-4=-1337/195, 4-5=-1537/188, 5-6=0/27, 1-11=-869/125, 5-7=-944/158
BOT CHORD 10-11=-108/321, 8-10=-226/1618, 7-8=-136/422
WEBS 2-10=0/302, 3-10=-423/134, 3-8=-428/136, 4-8=0/310, 1-10=-72/1037, 5-8=-39/936

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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 103 lb uplift at joint 11 and 135 lb uplift at joint 7.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546183
Serenity -	G3	Hip	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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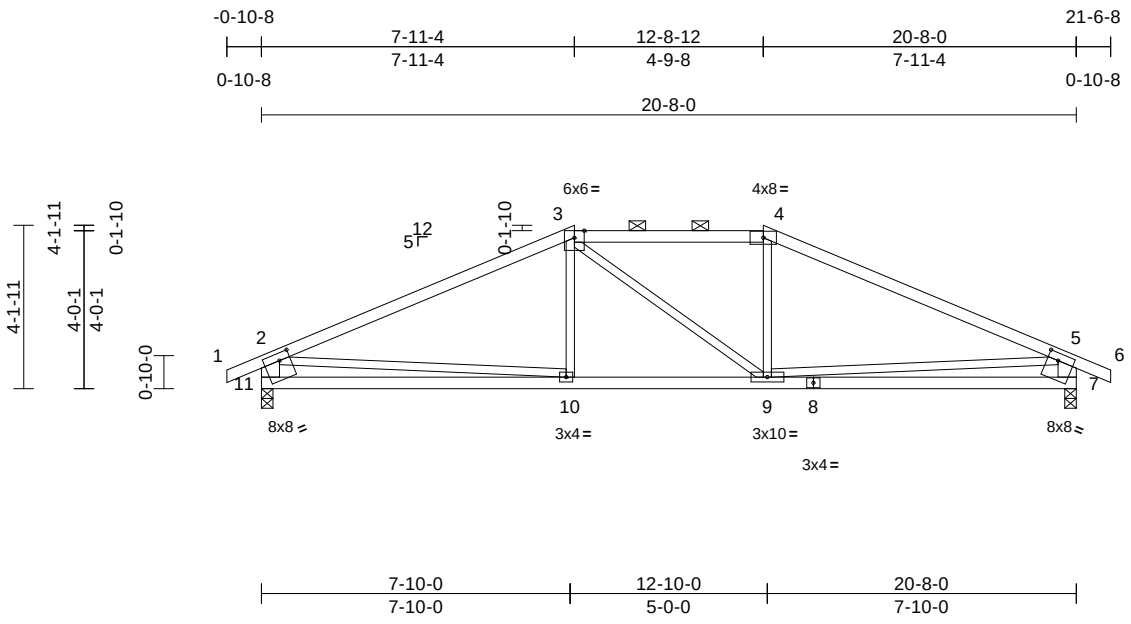

Scale = 1:58.4

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	0.80	Vert(LL)	-0.10	10-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.20	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 3-4-15 oc purlins, except end verticals, and 2-0-0 oc purlins (5-2-10 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=42 (LC 8)
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=-1404/152, 3-4=-1189/169, 4-5=-1405/152, 5-6=0/30, 2-11=-911/168, 5-7=-912/167
BOT CHORD 10-11=-276/731, 9-10=-62/1189, 7-9=-237/730
WEBS 3-10=0/221, 3-9=-150/150, 4-9=0/221, 2-10=0/619, 5-9=0/620

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) 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) 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.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546184
Serenity -	G3A	Hip	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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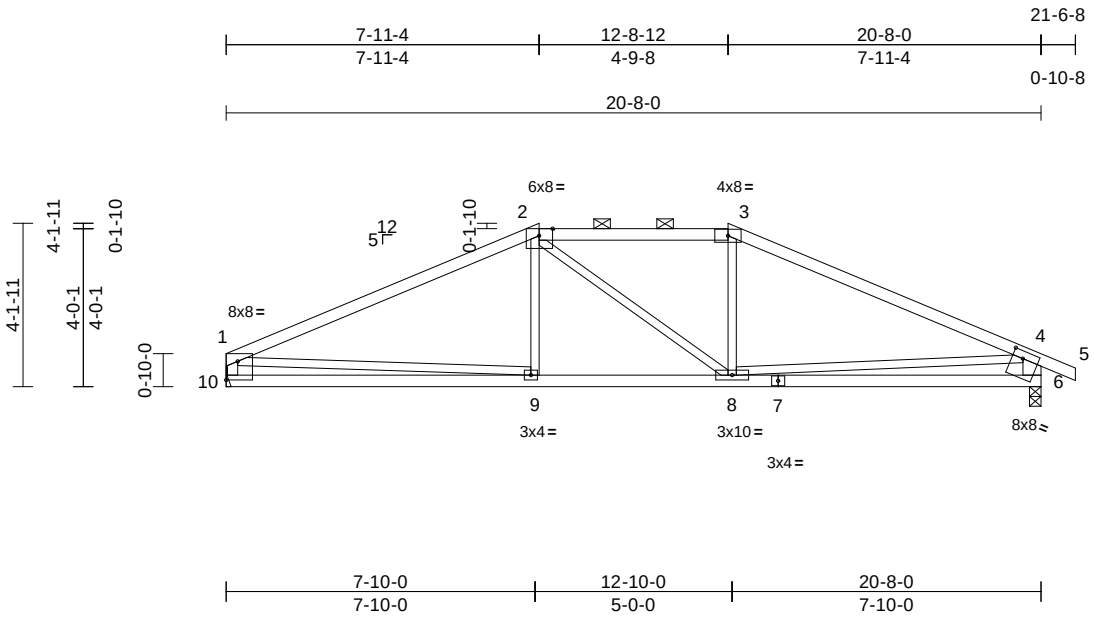

Scale = 1:58.4

Plate Offsets (X, Y): [1:Edge,0-5-11], [2:0-4-2,Edge], [6:0-3-4,0-2-4]

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	0.81	Vert(LL)	-0.10	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.21	9-10	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.23	Horz(CT)	0.03	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	8-9	>999	240	Weight: 74 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2 *Except* 1-2:2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-1:2x4 SPF 2400F 2.0E, 6-4:2x6 SPF No.2

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

REACTIONS (size) 6=0-3-8, 10= Mechanical
Max Horiz 10=-50 (LC 13)
Max Uplift 6=-122 (LC 9), 10=-97 (LC 8)
Max Grav 6=993 (LC 1), 10=911 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1423/153, 2-3=-1200/170, 3-4=-1417/153, 4-5=0/30, 1-10=-833/142, 4-6=-917/168
BOT CHORD 9-10=-164/550, 8-9=-66/1216, 6-8=-237/734
WEBS 2-9=0/221, 2-8=-170/140, 3-8=0/225, 1-9=-19/681, 4-8=0/627

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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 97 lb uplift at joint 10 and 122 lb uplift at joint 6.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

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

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	G4	Hip Girder	1	2	I78546185 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:14
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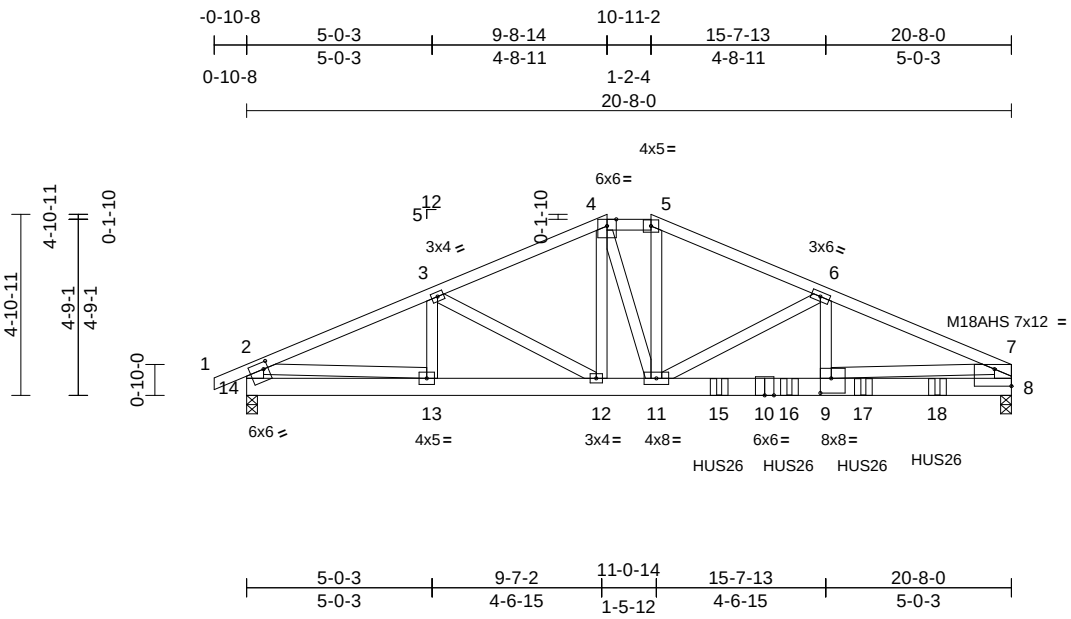
Page: 1



Scale = 1:62.3

Plate Offsets (X, Y): [7:Edge,0-5-8], [9:0-3-8,0-4-12], [14:0-1-8,0-2-4]

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	0.34	Vert(LL)	-0.09	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.16	9-11	>999	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	NO	WB	0.46	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	9-11	>999	240	Weight: 210 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x4 SPF No.2 *Except* 14-2,8-7:2x6 SP 2400F 2.0E

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-15 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8=0-3-8, 14=0-3-8
Max Horiz 14=66 (LC 12)
Max Uplift 8=-633 (LC 9), 14=-264 (LC 8)
Max Grav 8=4066 (LC 1), 14=1869 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-3262/431, 3-4=-3228/436, 4-5=-3310/482, 5-6=-3672/496, 6-7=-6205/876, 2-14=-1747/281, 7-8=-2964/444
BOT CHORD 13-14=-175/709, 12-13=-405/2943, 11-12=-330/2941, 9-11=-768/5664, 8-9=-343/1921
WEBS 3-13=-271/101, 3-12=-129/297, 4-12=-345/108, 4-11=-230/1423, 5-11=-162/1158, 6-11=-2690/496, 6-9=-247/2031, 2-13=-231/2248, 7-9=-428/3767

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-8-0 oc.
Web connected as follows: 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; 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
5) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 264 lb uplift at joint 14 and 633 lb uplift at joint 8.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 12-9-4 from the left end to 18-8-0 to connect truss(es) to back face of bottom chord.
13) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 4-5=-70, 5-7=-70, 8-14=-20
Concentrated Loads (lb)
Vert: 15=-895 (B), 16=-891 (B), 17=-895 (B), 18=-1358 (B)

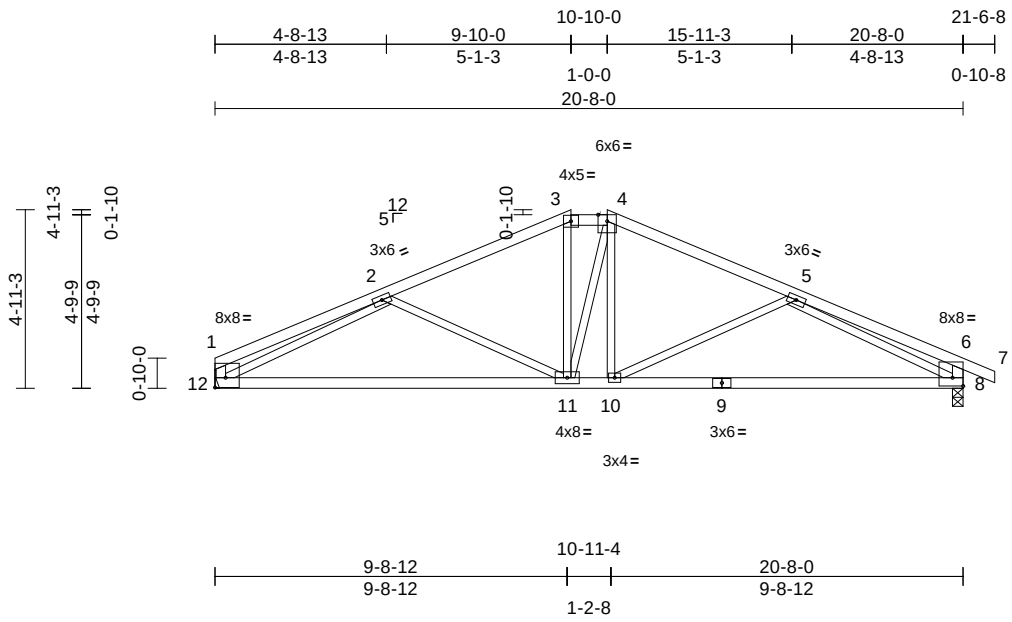
December 17,2025

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/03/2026 3:22:34

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	G5	Hip	1	1	I78546186 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:14 Page: 1
ID:dspL0jp47lVxum28JZyFXszdK2a-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:63.7

Plate Offsets (X, Y): [1:Edge,0-3-4], [6:Edge,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	0.37	Vert(LL)	-0.20	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.41	8-10	>589	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	11	>999	240	Weight: 79 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-1,8-6:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-8-3 oc purlins, except end verticals, and 2-0-0 oc purlins (5-6-0 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8=0-3-8, 12= Mechanical
Max Horiz 12=-65 (LC 9)
Max Uplift 8=-137 (LC 9), 12=-113 (LC 8)
Max Grav 8=990 (LC 1), 12=915 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-377/12, 2-3=-1230/125, 3-4=-1066/147, 4-5=-1227/126, 5-6=-420/37, 6-7=0/27, 1-12=-263/53, 6-8=-365/91
BOT CHORD 11-12=-223/1317, 10-11=-19/1064, 8-10=-161/1303
WEBS 2-11=-312/208, 3-11=-33/283, 4-11=-158/171, 4-10=-14/241, 5-10=-299/204, 2-12=-1163/232, 5-8=-1107/203

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 113 lb uplift at joint 12 and 137 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	G6	Hip Girder	1	3	I78546187 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:15 Page: 1
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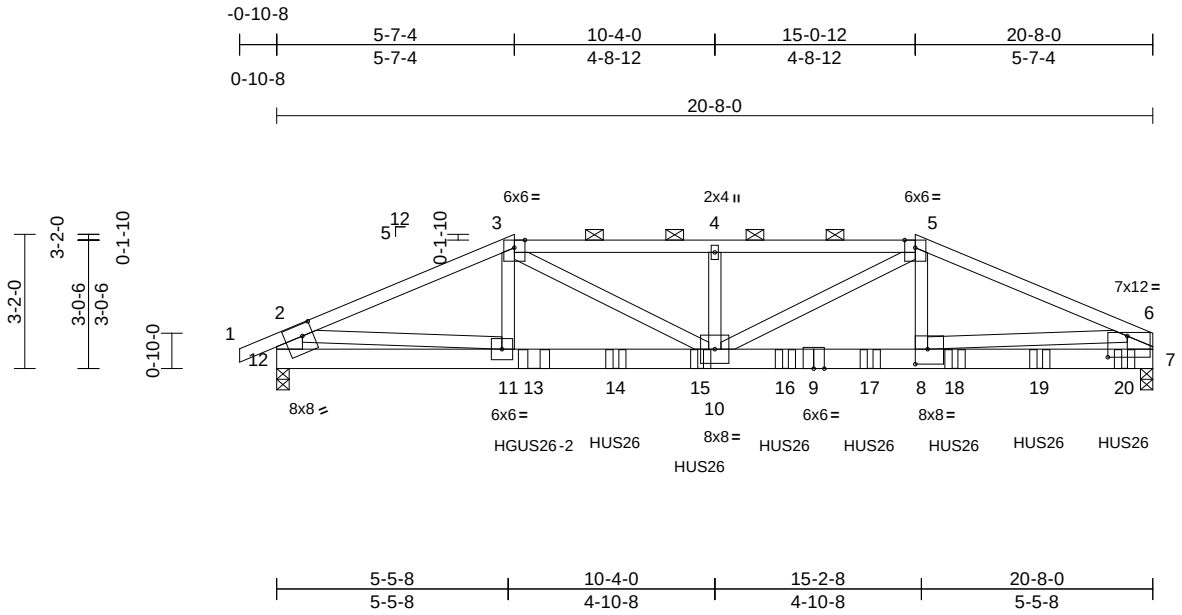

Scale = 1:54.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.18	10-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.32	10-11	>747	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.68	Horz(CT)	0.04	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.13	10-11	>999	240	Weight: 307 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 9-7:2x6 SPF No.2
WEBS 2x4 SPF No.2 *Except* 12-2,7-6:2x8 SP 2400F 2.0E

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

REACTIONS (size) 7=0-3-8, (req. 0-4-0), 12=0-3-8
Max Horiz 12=36 (LC 8)
Max Uplift 7=-542 (LC 5), 12=-787 (LC 4)
Max Grav 7=7662 (LC 1), 12=5556 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-11199/1599, 3-4=-14106/1693, 4-5=-14106/1693, 5-6=-11777/1016, 2-12=-5429/820, 6-7=-5493/504
BOT CHORD 11-12=-337/2075, 10-11=-1419/10188, 8-10=-915/10715, 7-8=-217/2893
WEBS 3-11=-424/1844, 3-10=-255/4595, 4-10=-706/192, 5-10=-844/3995, 5-8=0/2511, 2-11=-1164/8270, 6-8=-709/7995

NOTES
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-6-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-4-0 oc.
Web connected as follows: 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; 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
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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) WARNING: Required bearing size at joint(s) 7 greater than input bearing size.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 787 lb uplift at joint 12 and 542 lb uplift at joint 7.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Use Simpson Strong-Tie HGUS26-2 (20-10d Girder, 8-10d Truss) or equivalent at 6-0-13 from the left end to connect truss(es) to back face of bottom chord.
13) Use Simpson Strong-Tie HUS26 (14-10d Girder, 6-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 8-0-0 from the left end to 20-0-0 to connect truss(es) to back face of bottom chord.
14) Fill all nail holes where hanger is in contact with lumber.

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, 3-5=-70, 5-6=-70, 7-12=-20
Concentrated Loads (lb)
Vert: 13=-2455 (B), 14=-1274 (B), 15=-1274 (B), 16=-1265 (B), 17=-1265 (B), 18=-1265 (B), 19=-1265 (B), 20=-1268 (B)

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

December 17,2025

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/03/2026 3:22:35

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546188
Serenity -	H2	Hip Girder	1	2	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:15
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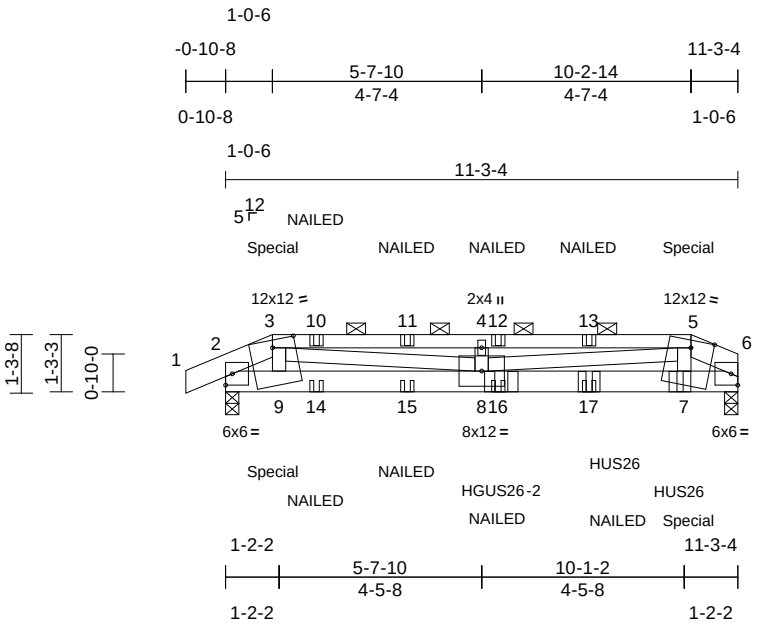


Scale = 1:50.7

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

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	0.57	Vert(LL)	-0.17	7-8	>774	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.30	7-8	>435	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.78	Horz(CT)	0.02	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	7-8	>956	240	Weight: 109 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SPF No.2 *Except* 3-5:2x4 SPF 2100F 1.8E
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-6-9 oc purlins, except 2-0-0 oc purlins (4-7-12 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

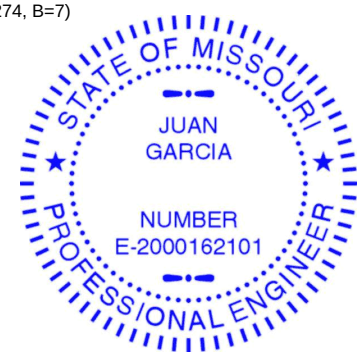
REACTIONS (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=16 (LC 8)
Max Uplift 2=-450 (LC 4), 6=-652 (LC 5)
Max Grav 2=2229 (LC 1), 6=3907 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/1, 2-3=-4556/891, 3-4=-9864/1896, 4-5=-9864/1896, 5-6=-7849/1366
BOT CHORD 2-9=-648/3349, 8-9=-693/3606, 7-8=-1093/6372, 6-7=-979/5639
WEBS 3-9=-277/1584, 3-8=-1203/6377, 4-8=-109/159, 5-8=-791/3562, 5-7=-703/4520

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-4-0 oc.
Web connected as follows: 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; 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
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 652 lb uplift at joint 6 and 450 lb uplift at joint 2.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Use Simpson Strong-Tie HGUS26-2 (20-10d Girder, 8-10d Truss) or equivalent at 6-0-13 from the left end to connect truss(es) to front face of bottom chord.
12) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 8-0-0 from the left end to 10-0-0 to connect truss(es) to front face of bottom chord.
13) Fill all nail holes where hanger is in contact with lumber.
14) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
15) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 107 lb down and 123 lb up at 1-0-6, and 138 lb down and 160 lb up at 10-2-14 on top chord, and 12 lb down and 17 lb up at 1-0-6 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 5-6=-70, 2-6=-20
Concentrated Loads (lb)
Vert: 9=7 (B), 7=-1264 (F=-1278, B=14), 14=7 (B), 15=7 (B), 16=-2564 (F=-2571, B=7), 17=-1267 (F=-1274, B=7)



December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J3	Diagonal Hip Girder	1	1	I78546189 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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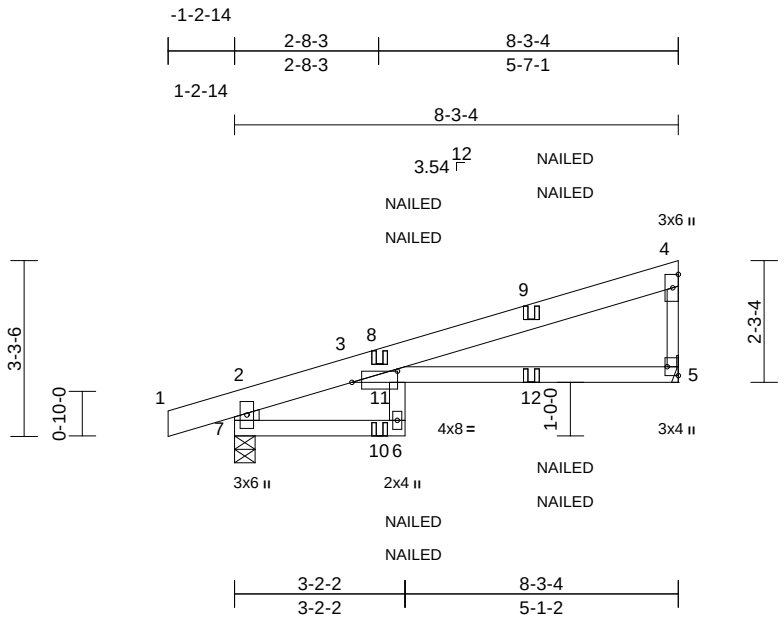

Scale = 1:42.9

Plate Offsets (X, Y): [3:0-10-3,0-2-8], [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	0.67	Vert(LL)	-0.13	6	>721	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.25	6	>375	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.02	Horz(CT)	0.10	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.13	6	>728	240	Weight: 31 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x6 SPF No.2 *Except* 4-5:2x3 SPF No.2, 6-3:2x4 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 6-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-4-9
Max Horiz 7=115 (LC 5)
Max Uplift 5=-71 (LC 8), 7=-115 (LC 4)
Max Grav 5=403 (LC 1), 7=505 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-481/136, 1-2=0/29, 2-3=-137/19, 3-4=-156/19, 4-5=-291/107
BOT CHORD 6-7=-47/0, 3-5=-19/91
WEBS 3-6=0/73

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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 115 lb uplift at joint 7 and 71 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 6-7=-20, 3-5=-20
Concentrated Loads (lb)
Vert: 9=-18 (F=-9, B=-9), 10=4 (F=2, B=2), 12=-59 (F=-29, B=-29)

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J4	Jack-Open	19	1	I78546190 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:16
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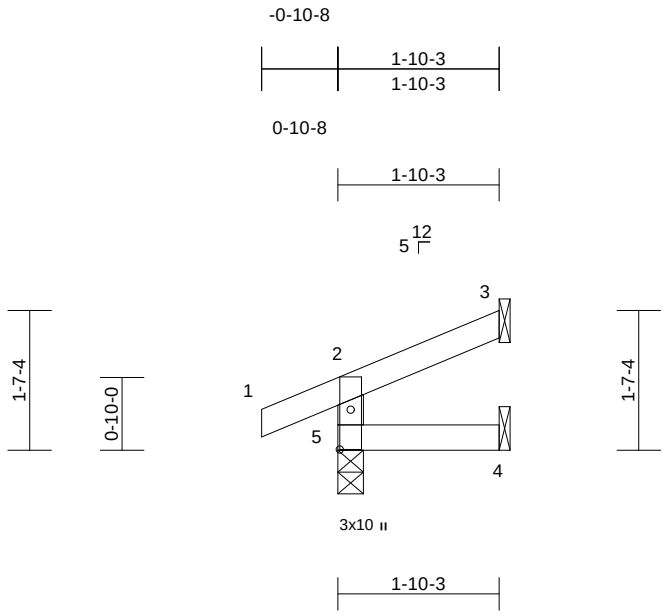


Scale = 1:26.4

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	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	240		
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

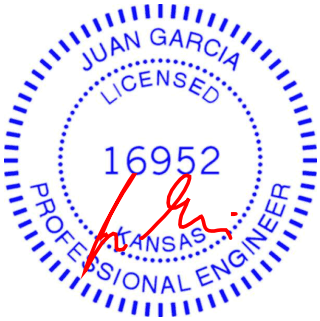
BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=41 (LC 5)
Max Uplift 3=-28 (LC 8), 5=-32 (LC 4)
Max Grav 3=41 (LC 1), 4=30 (LC 3), 5=169 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-148/46, 1-2=0/27, 2-3=-31/11
BOT CHORD 4-5=0/0

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) 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 28 lb uplift at joint 3.
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



December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J4A	Jack-Open	1	1	I78546191 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:16
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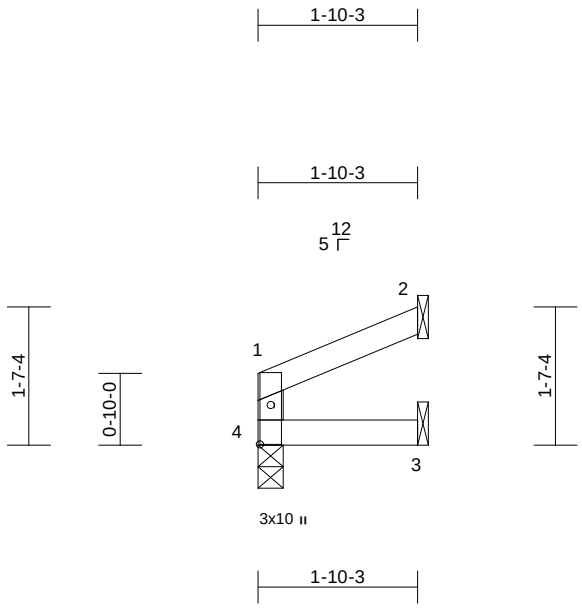
Page: 1



Scale = 1:26.7

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

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	0.04	Vert(LL)	0.00	3-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	3-4	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	3-4	>999	240	Weight: 5 lb	FT = 10%

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

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

REACTIONS (size) 2= Mechanical, 3= Mechanical, 4=0-3-8
Max Horiz 4=32 (LC 5)
Max Uplift 2=-31 (LC 8)
Max Grav 2=55 (LC 1), 3=33 (LC 3), 4=76 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-4=-63/18, 1-2=-28/17
BOT CHORD 3-4=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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 31 lb uplift at joint 2.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J5	Jack-Open	2	1	I78546192 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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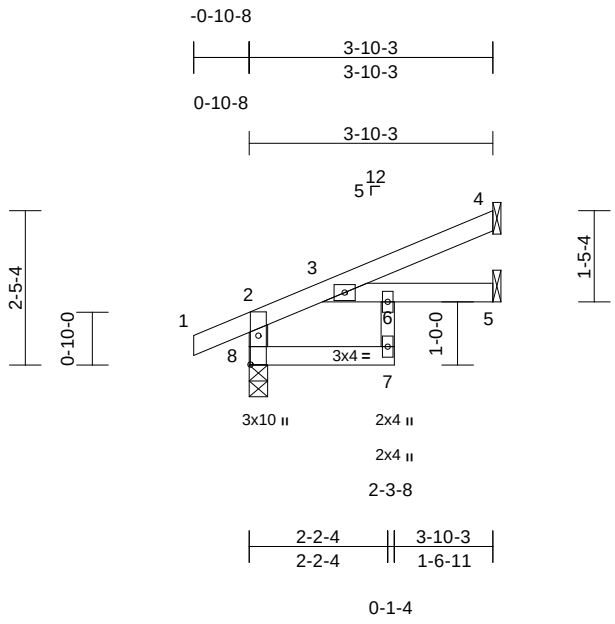

Scale = 1:36.4

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	0.15	Vert(LL)	-0.01	3-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.02	3-6	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.02	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	3-6	>999	240	Weight: 13 lb	FT = 10%

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

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

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-3-8
Max Horiz 8=68 (LC 8)
Max Uplift 4=-48 (LC 8), 8=-26 (LC 8)
Max Grav 4=105 (LC 1), 5=76 (LC 3), 8=257 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-244/51, 1-2=0/27, 2-3=-72/0, 3-4=-33/33
BOT CHORD 7-8=0/0, 3-6=0/0, 5-6=0/0
WEBS 6-7=0/45

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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 8 and 48 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J6	Jack-Open	4	1	I78546193 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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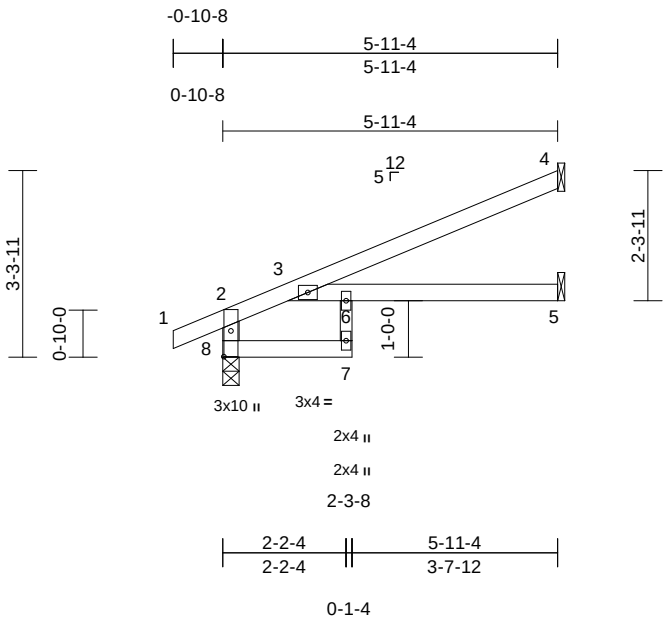

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Plate Offsets (X, Y): [8:0-5-8,0-1-8]

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	0.46	Vert(LL)	-0.07	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.14	5-6	>500	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.08	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.08	5-6	>854	240	Weight: 18 lb	FT = 10%

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

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

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-3-8
Max Horiz 8=104 (LC 8)
Max Uplift 4=-80 (LC 8), 8=-34 (LC 8)
Max Grav 4=172 (LC 1), 5=111 (LC 3), 8=351 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-350/68, 1-2=0/27, 2-3=-114/0, 3-4=-62/54
BOT CHORD 7-8=0/0, 3-6=0/0, 5-6=0/0
WEBS 6-7=-10/51

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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 8 and 80 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J7	Jack-Open	18	1	I78546194 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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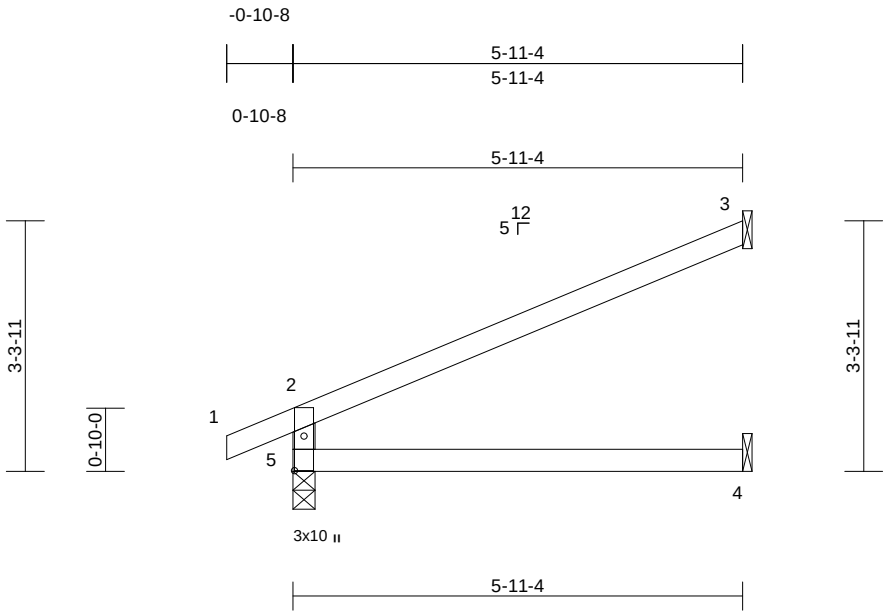

Scale = 1:30.4

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	0.52	Vert(LL)	-0.05	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.11	4-5	>613	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.04	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.05	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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-11-4 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=104 (LC 8)
Max Uplift 3=-92 (LC 8), 5=-43 (LC 8)
Max Grav 3=180 (LC 1), 4=108 (LC 3), 5=336 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-292/97, 1-2=0/27, 2-3=-95/54
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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 5 and 92 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

December 17,2025

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/03/2026 3:22:35

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546195
Serenity -	J8	Diagonal Hip Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:17 Page: 1
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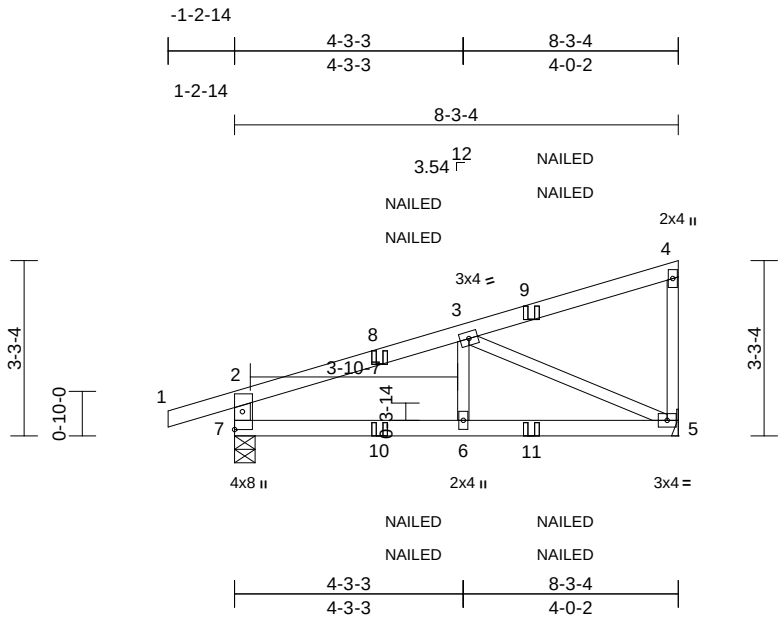


Scale = 1:42.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.45	Vert(LL)	-0.03	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.05	5-6	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	5-6	>999	240	Weight: 28 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=0-4-9
Max Horiz 7=134 (LC 5)
Max Uplift 5=-95 (LC 8), 7=-130 (LC 4)
Max Grav 5=387 (LC 1), 7=481 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-413/145, 1-2=0/27, 2-3=-531/99, 3-4=-103/29, 4-5=-134/56
BOT CHORD 6-7=-127/443, 5-6=-127/443
WEBS 3-6=0/171, 3-5=-470/140

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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 130 lb uplift at joint 7 and 95 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

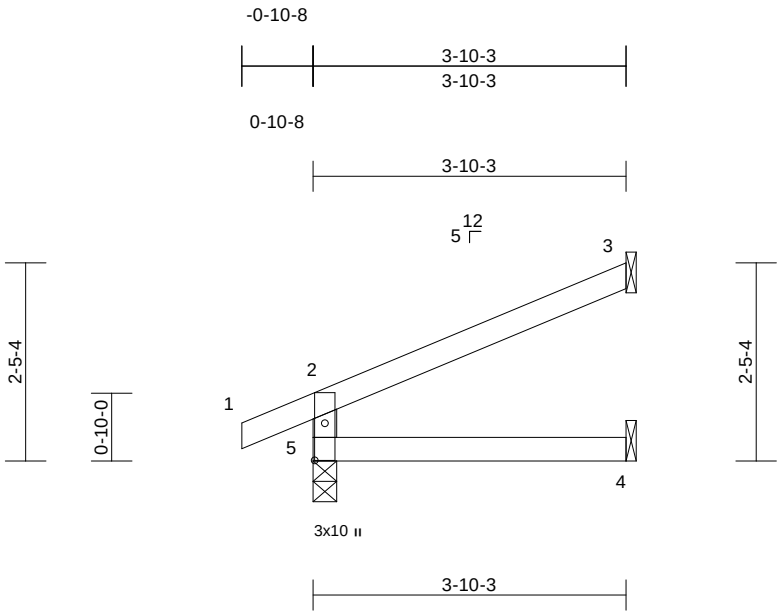
LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 5-7=-20
Concentrated Loads (lb)
Vert: 9=-26 (F=-13, B=-13), 10=4 (F=2, B=2), 11=-28 (F=-14, B=-14)

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J9	Jack-Open	2	1	I78546196 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:17 ID:JqnDVSPjX?qqPBGqGHzk8IzyQXl-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:28.3

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	0.19	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	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

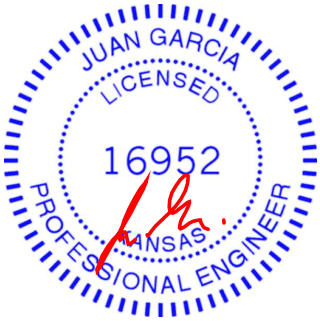
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-10-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=68 (LC 8)
Max Uplift 3=-60 (LC 8), 5=-33 (LC 8)
Max Grav 3=112 (LC 1), 4=68 (LC 3), 5=245 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-215/69, 1-2=0/27, 2-3=-61/33
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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 5 and 60 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



December 17,2025

RELEASE FOR CONSTRUCTION
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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/03/2026 3:22:35

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J11	Diagonal Hip Girder	8	1	I78546197 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:17 Page: 1
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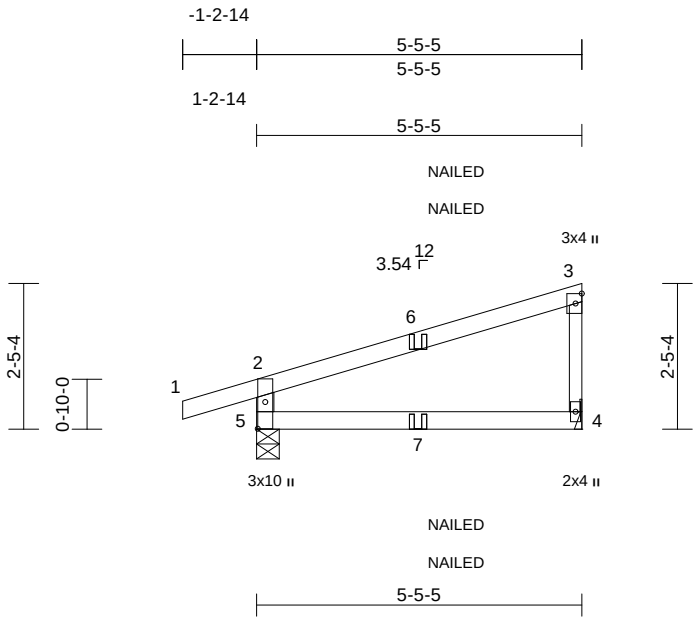

Scale = 1:38.6

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

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	0.38	Vert(LL)	-0.03	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	-0.06	4-5	>999	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 5-5-5 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=98 (LC 5)
Max Uplift 4=-48 (LC 8), 5=-102 (LC 4)
Max Grav 4=219 (LC 1), 5=342 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-302/140, 1-2=0/27, 2-3=-126/14, 3-4=-158/71
BOT CHORD 4-5=-26/49

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) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 102 lb uplift at joint 5 and 48 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 guidlines.
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=4 (F=2, B=2)

December 17,2025

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

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J12	Jack-Open	27	1	I78546198 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:17 Page: 1
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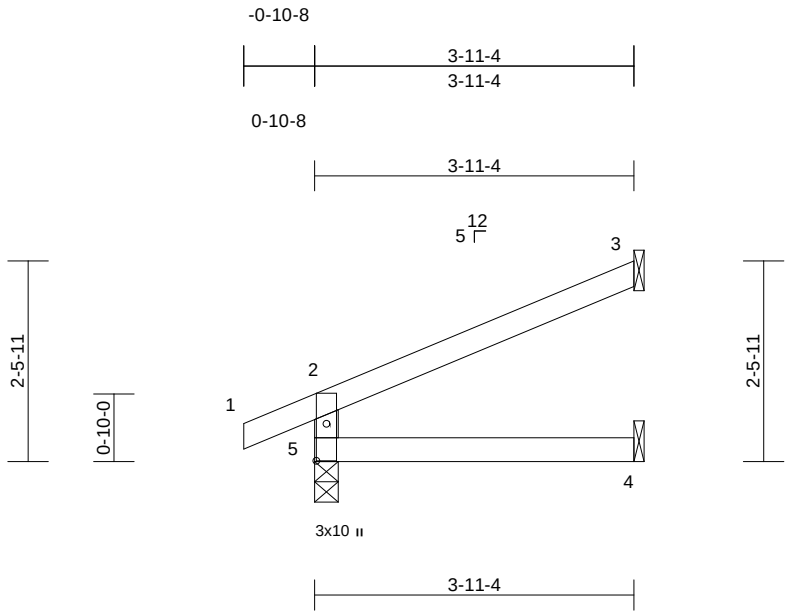

Scale = 1:28.4

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	0.12	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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-4 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=70 (LC 8)
Max Uplift 3=-61 (LC 8), 5=-34 (LC 8)
Max Grav 3=115 (LC 1), 4=70 (LC 3), 5=249 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-218/70, 1-2=0/27, 2-3=-63/34
BOT CHORD 4-5=0/0

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) 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 61 lb uplift at joint 3.
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

December 17,2025

MiTek®
16023 Swingley Ridge Rd
Chesterfield, MO 63017
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Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J13	Jack-Closed	1	1	I78546199 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:17 Page: 1
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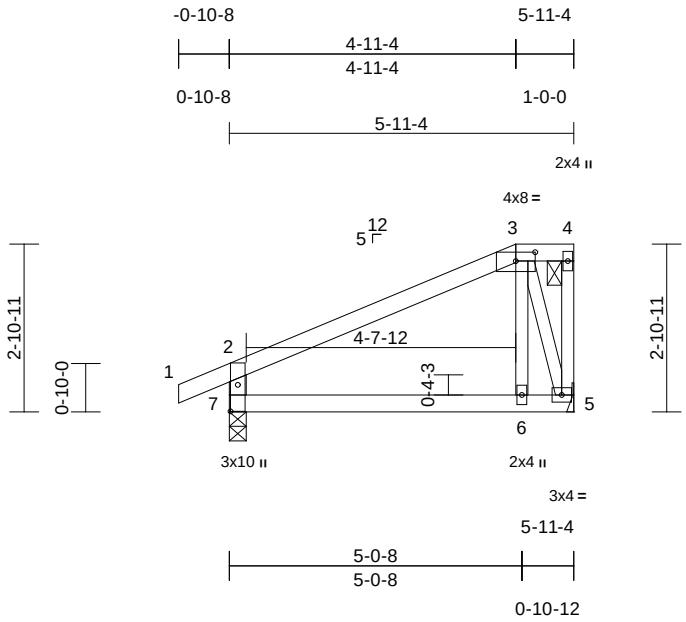

Scale = 1:39.7

Plate Offsets (X, Y): [3:0-4-0,0-1-13], [7:0-5-8,0-1-8]

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	0.25	Vert(LL)	-0.01	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.03	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.01	6-7	>999	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 5-11-4 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-3-8
Max Horiz 7=119 (LC 5)
Max Uplift 5=-46 (LC 5), 7=-60 (LC 8)
Max Grav 5=250 (LC 1), 7=334 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-295/96, 1-2=0/27, 2-3=-194/27, 3-4=-37/28, 4-5=-39/47
BOT CHORD 6-7=-44/117, 5-6=-42/122
WEBS 3-6=0/225, 3-5=-368/91

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) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 7 and 46 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J14	Jack-Closed	1	1	I78546200 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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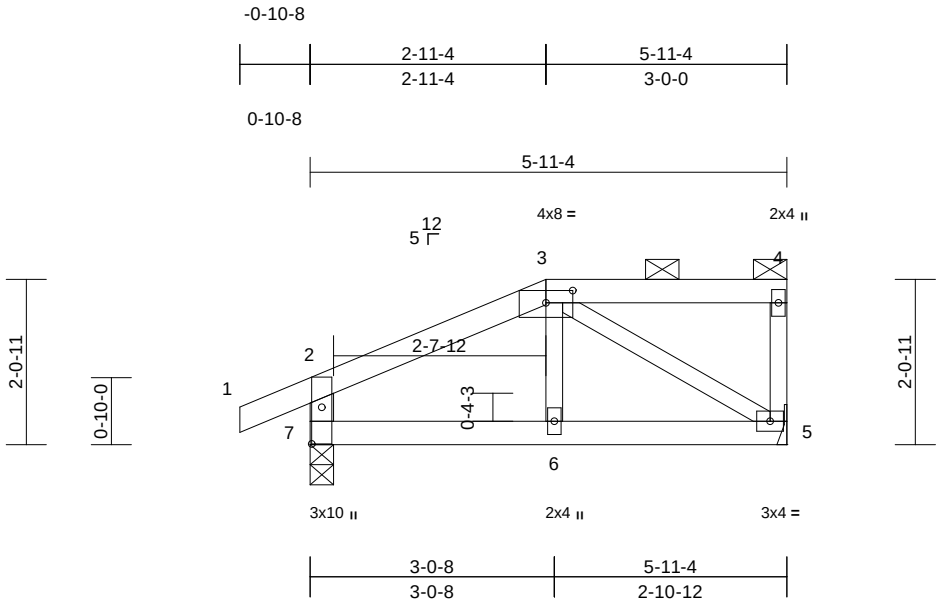

Scale = 1:28.7

Plate Offsets (X, Y): [3:0-4-0,0-1-13], [7:0-5-8,0-1-8]

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	0.18	Vert(LL)	-0.01	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.01	5-6	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.00	6	>999	240	Weight: 20 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 5-11-4 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-3-8
Max Horiz 7=83 (LC 5)
Max Uplift 5=-50 (LC 5), 7=-56 (LC 4)
Max Grav 5=250 (LC 1), 7=334 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-284/74, 1-2=0/27, 2-3=-264/36, 3-4=-29/22, 4-5=-103/41
BOT CHORD 6-7=-59/197, 5-6=-57/198
WEBS 3-6=0/108, 3-5=-215/46

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) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 56 lb uplift at joint 7 and 50 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

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Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546201
Serenity -	J15	Diagonal Hip Girder	2	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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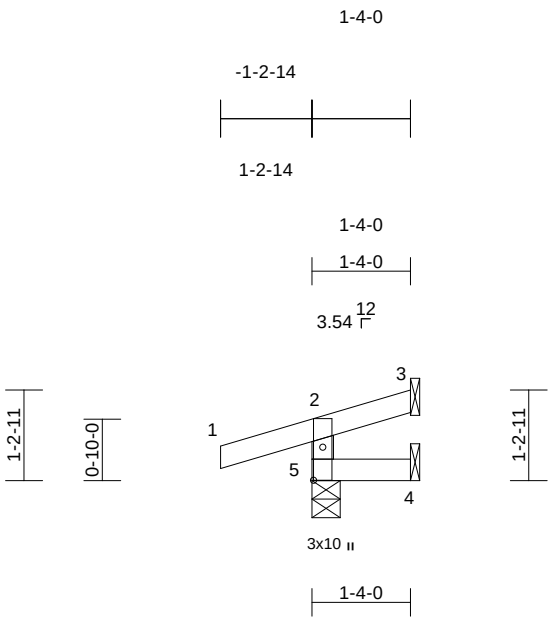

Scale = 1:31.2

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

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	0.14	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 5 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-4-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-4-9
Max Horiz 5=31 (LC 5)
Max Uplift 3=-8 (LC 8), 4=-3 (LC 1), 5=-89 (LC 4)
Max Grav 3=3 (LC 19), 4=18 (LC 3), 5=207 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-180/94, 1-2=0/27, 2-3=-23/0
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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 89 lb uplift at joint 5, 3 lb uplift at joint 4 and 8 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

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02/03/2026 3:22:36

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	J16	Jack-Open	7	1	I78546202 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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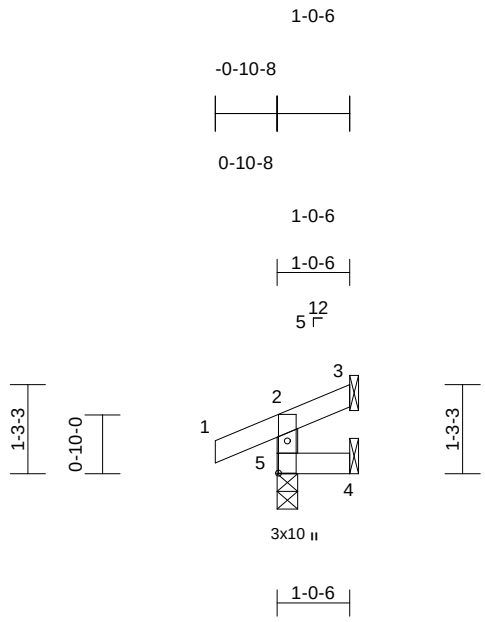


Scale = 1:32.7

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

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-0-6 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=32 (LC 5)
Max Uplift 3=-10 (LC 8), 4=-3 (LC 5), 5=-38 (LC 4)
Max Grav 3=3 (LC 19), 4=14 (LC 3), 5=153 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-134/46, 1-2=0/27, 2-3=-24/1
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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 5, 3 lb uplift at joint 4 and 10 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

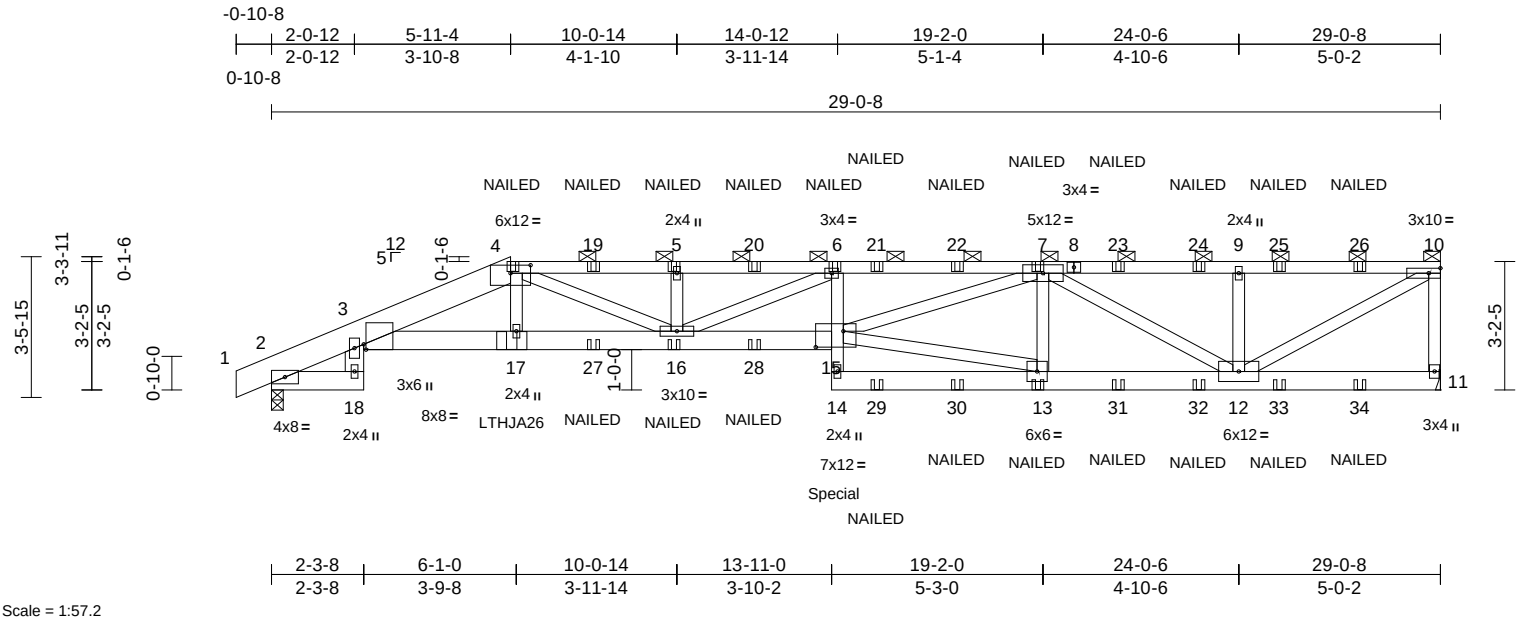
LOAD CASE(S) Standard

December 17,2025

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

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546203
Serenity -	K1	Half Hip Girder	1	2	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:19 Page: 1
ID:RGQngUoaUjpOvYTilpTux?yKyAY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:57.2

Plate Offsets (X, Y): [3:0-0-11,Edge], [4:0-6-0,0-2-6], [15:0-8-4,0-4-12]

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	0.88	Vert(LL)	-0.39	15	>876	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.71	15	>483	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.68	Horz(CT)	0.25	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.34	15	>999	240	Weight: 312 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2 *Except* 1-4:2x8 SP 2400F 2.0E
BOT CHORD 2x6 SPF No.2 *Except* 3-15:2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2 *Except* 18-3:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (2-11-4 max.): 4-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 11= Mechanical
Max Horiz 2=125 (LC 5)
Max Uplift 2=-461 (LC 4), 11=-519 (LC 5)
Max Grav 2=2516 (LC 1), 11=2475 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-1334/235, 3-4=-7584/1465, 4-5=-9202/1819, 5-6=-9200/1819, 6-7=-10184/2105, 7-9=-3734/805, 9-10=-3734/805, 10-11=-2357/544
BOT CHORD 2-18=0/0, 3-17=-1480/7267, 16-17=-1484/7338, 15-16=-2204/10479, 13-14=-108/554, 12-13=-1271/6020, 11-12=-44/71
WEBS 3-18=-30/210, 14-15=0/216, 6-15=0/193, 4-17=-53/812, 6-16=-1406/380, 5-16=-377/196, 4-16=-428/2028, 10-12=-880/4235, 7-13=-788/349, 13-15=-1184/5564, 7-12=-2642/537, 7-15=-933/4406, 9-12=-623/308

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 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) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) 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) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 519 lb uplift at joint 11 and 461 lb uplift at joint 2.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Use Simpson Strong-Tie LTHJA26 (LTHJA26 on 2 ply, Left Hand Hip) or equivalent at 5-11-10 from the left end to connect truss(es) to front face of bottom chord.
12) Fill all nail holes where hanger is in contact with lumber.
13) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
14) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 68 lb down at 14-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 4-10=-70, 2-18=-20, 3-15=-20, 11-14=-20
Concentrated Loads (lb)
Vert: 4=-102 (F), 6=-110 (F), 17=-440 (F), 5=-102 (F), 16=-65 (F), 13=-51 (F), 7=-110 (F), 15=-51 (F), 19=-102 (F), 20=-102 (F), 21=-110 (F), 22=-110 (F), 23=-110 (F), 24=-110 (F), 25=-110 (F), 26=-110 (F), 27=-65 (F), 28=-65 (F), 29=-51 (F), 30=-51 (F), 31=-51 (F), 32=-51 (F), 33=-51 (F), 34=-51 (F)

JUAN GARCIA NUMBER E-2000162101 STATE OF MISSOURI PROFESSIONAL ENGINEER

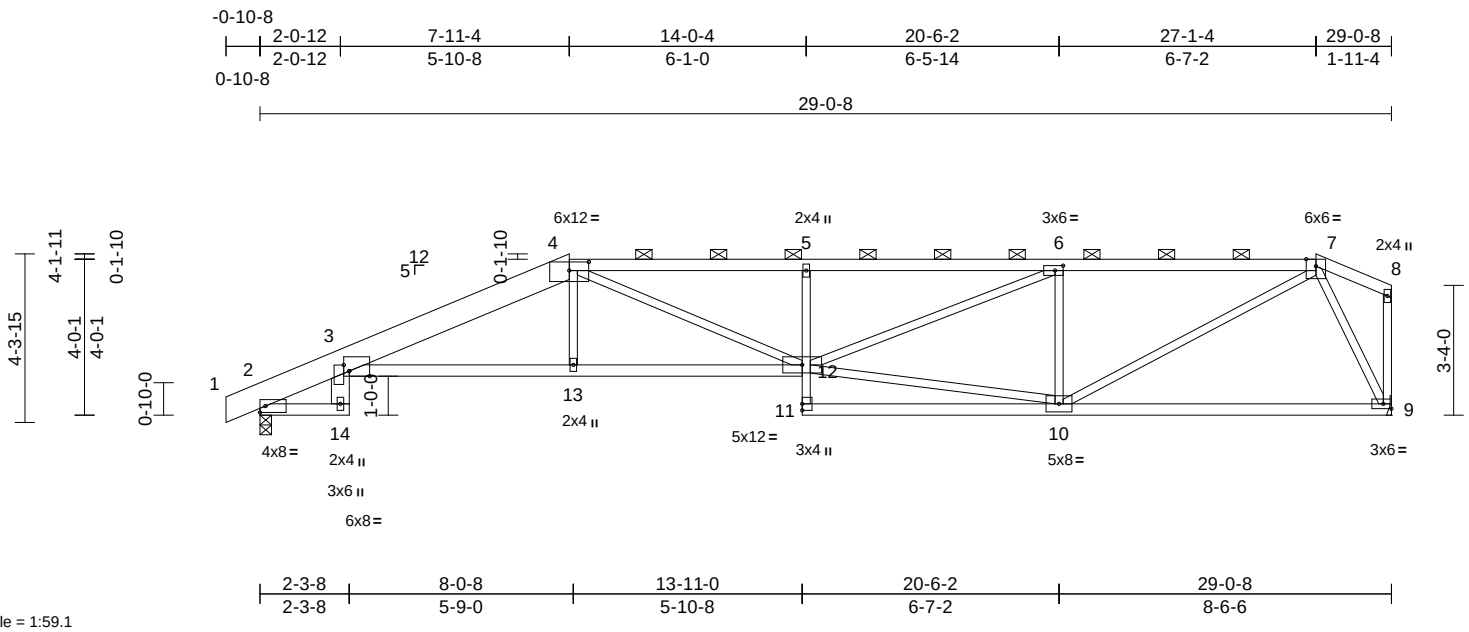
JUAN GARCIA LICENSED 16952 KANSAS PROFESSIONAL ENGINEER

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546204
Serenity -	K2	Hip	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:19 Page: 1

ID:OeXX5Apq0K368rc5sEWM0QyKyAW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:59.1

Plate Offsets (X, Y): [3:0-6-4,Edge], [3:0-1-14,0-1-11], [4:0-6-0,0-2-10], [6:0-2-8,0-1-8]

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	0.78	Vert(LL)	-0.32	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.59	12-13	>585	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.70	Horz(CT)	0.31	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.26	12-13	>999	240	Weight: 124 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-1:2x8 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 5-11:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 14-3:2x6 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-1-3 oc purlins, except end verticals, and 2-0-0 oc purlins (2-4-15 max.): 4-7.

BOT CHORD Rigid ceiling directly applied or 8-4-7 oc bracing.

REACTIONS (size) 2=0-3-8, 9= Mechanical
Max Horiz 2=134 (LC 5)
Max Uplift 2=-195 (LC 4), 9=-214 (LC 5)
Max Grav 2=1368 (LC 1), 9=1294 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 4-5=-3486/628, 5-6=-3451/625, 6-7=-2184/413, 7-8=-71/36, 8-9=-42/27, 1-2=0/0, 2-3=-693/86, 3-4=-2987/451

BOT CHORD 2-14=0/0, 3-13=-498/2825, 12-13=-493/2826, 11-12=0/100, 5-12=-426/181, 10-11=-33/167, 9-10=-153/600

WEBS 3-14=0/53, 4-13=0/228, 4-12=-191/866, 6-12=-272/1377, 6-10=-1051/312, 7-10=-289/1829, 7-9=-1333/311, 10-12=-376/2038

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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 195 lb uplift at joint 2 and 214 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

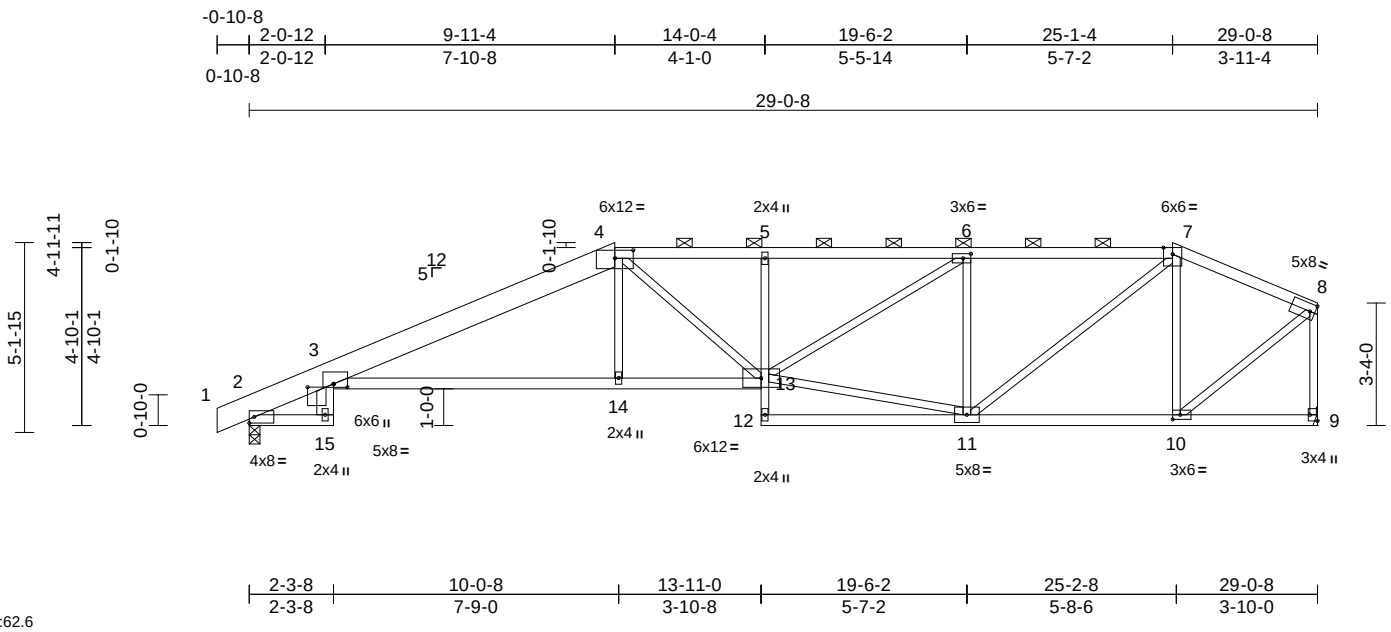
LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546205
Serenity -	K3	Hip	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:20 Page: 1

ID:OeXX5Apq0K368rc5sEWM0QyKyAW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:62.6

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

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	0.61	Vert(LL)	-0.28	3-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.59	3-14	>588	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.60	Horz(CT)	0.32	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.21	3-14	>999	240	Weight: 132 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 1-4:2x8 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 5-12:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 15-3:2x6 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-3-11 max.): 4-7.

BOT CHORD Rigid ceiling directly applied or 9-5-1 oc bracing.

REACTIONS (size) 2=0-3-8, 9= Mechanical
Max Horiz 2=132 (LC 7)
Max Uplift 2=-176 (LC 4), 9=-185 (LC 5)
Max Grav 2=1368 (LC 1), 9=1294 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-3=-693/74, 3-4=-2649/358, 4-5=-2629/454, 5-6=-2622/455, 6-7=-1862/353, 7-8=-1061/196, 8-9=-1266/198

BOT CHORD 2-15=0/0, 3-14=-382/2454, 13-14=-378/2456, 12-13=0/99, 5-13=-306/131, 11-12=-7/139, 10-11=-174/960, 9-10=-42/32

WEBS 3-15=0/53, 4-14=0/284, 4-13=-106/391, 11-13=-326/1749, 6-13=-152/912, 6-11=-952/262, 7-11=-200/1192, 7-10=-666/180, 8-10=-184/1210

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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 176 lb uplift at joint 2 and 185 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

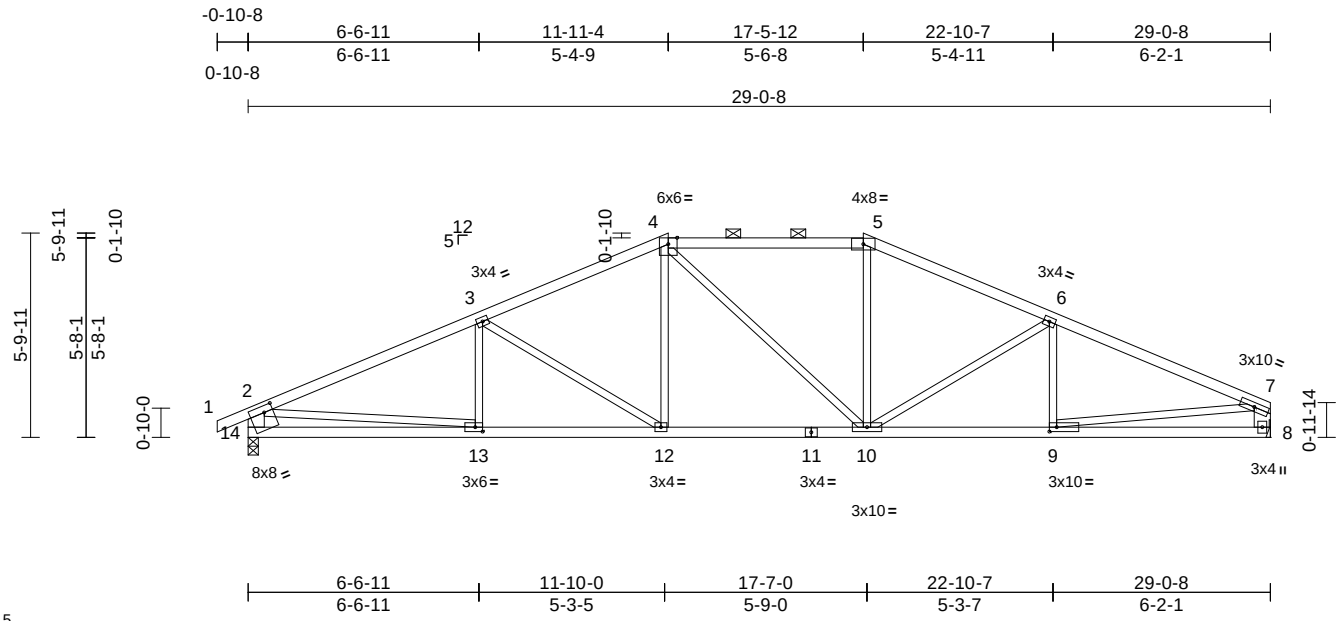
LOAD CASE(S) Standard

December 17,2025

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/03/2026 3:22:36

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546206
Serenity -	K4	Hip	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:20 Page: 1
ID:sr5vJWqTneBzm?BHQx1bZdyKyAV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:65.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.58	Vert(LL)	-0.11	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.21	10-12	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.57	Horz(CT)	0.06	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	12-13	>999	240	Weight: 110 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 14-2,8-7:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-10 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-8 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8= Mechanical, 14=0-3-8
Max Horiz 14=47 (LC 8)
Max Uplift 8=-4 (LC 9), 14=-17 (LC 8)
Max Grav 8=1285 (LC 1), 14=1365 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-2255/15, 3-4=-1870/35, 4-5=-1641/44, 5-6=-1854/35, 6-7=-2161/13, 2-14=-1294/54, 7-8=-1217/37
BOT CHORD 13-14=-91/534, 12-13=-4/1996, 10-12=0/1656, 9-10=0/1924, 8-9=-16/282
WEBS 3-13=-40/135, 3-12=-422/82, 4-12=0/353, 4-10=-192/158, 5-10=0/341, 6-10=-363/83, 6-9=-118/80, 2-13=0/1469, 7-9=0/1656

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); 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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 14 and 4 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

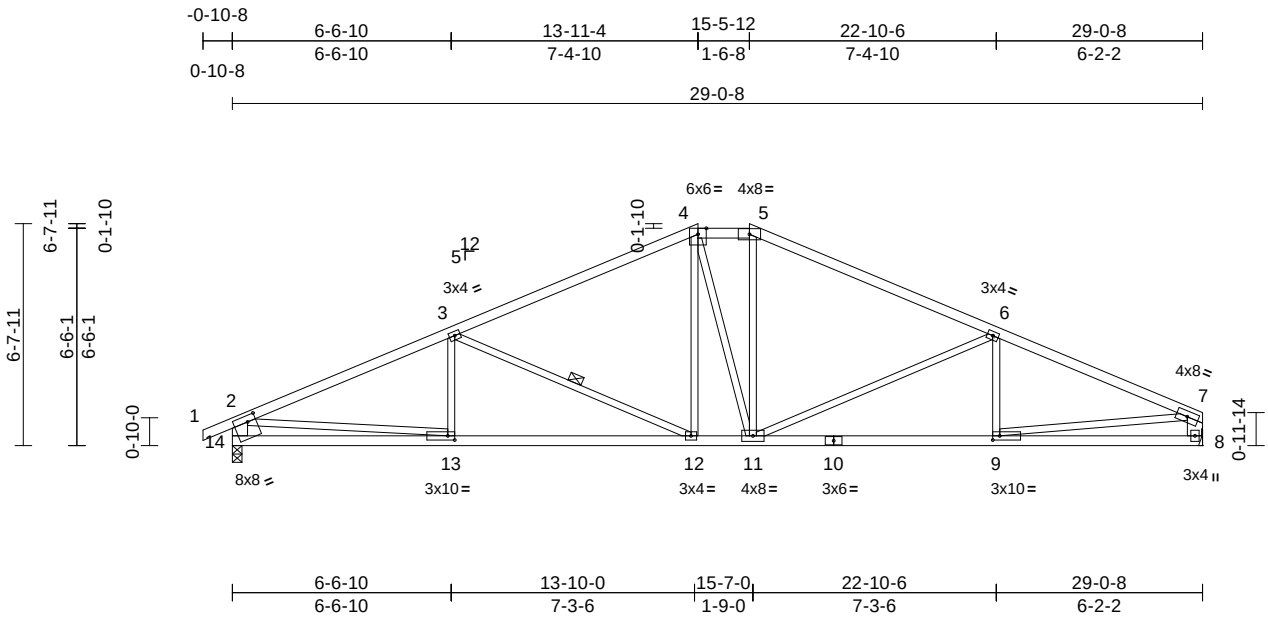
LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546207
Serenity -	K5	Hip	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:20 Page: 1

ID:5IcudmkRfBA5omalyFujEyyKyAd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:69

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.12	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.26	12-13	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.06	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	12-13	>999	240	Weight: 114 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 14-2,8-7:2x6 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (4-4-10 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-12

REACTIONS (size) 8= Mechanical, 14=0-3-8
Max Horiz 14=56 (LC 8)
Max Uplift 8=-14 (LC 9), 14=-27 (LC 8)
Max Grav 8=1285 (LC 1), 14=1365 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 4-5=-1491/55, 5-6=-1723/34, 6-7=-2198/35, 2-14=-1299/60, 7-8=-1222/43, 1-2=0/30, 2-3=-2293/37, 3-4=-1724/34
BOT CHORD 13-14=-88/450, 12-13=-36/2041, 11-12=0/1493, 9-11=0/1967, 8-9=-13/238
WEBS 3-13=-26/181, 3-12=-640/99, 4-12=0/345, 4-11=-240/229, 5-11=0/394, 6-11=-573/100, 6-9=-103/127, 2-13=0/1599, 7-9=0/1744

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); 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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 14 and 14 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

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

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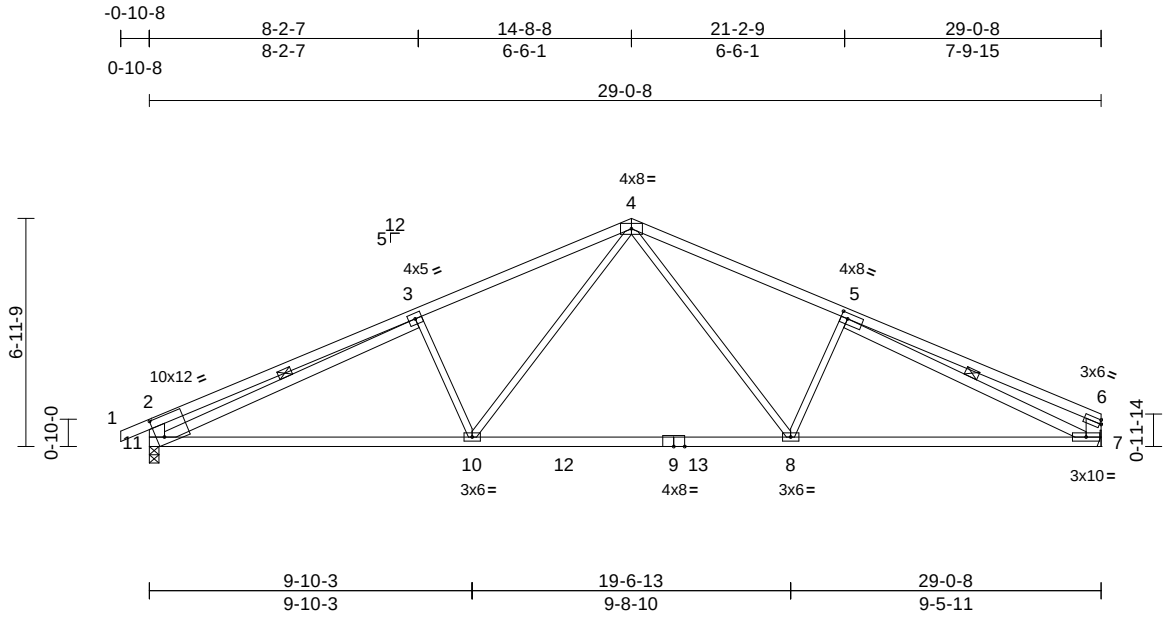
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/03/2026 3:22:36

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	K6	Common	2	1	I78546208 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:21 Page: 1

ID:5IcudmkRfBA5omalyFujEyyKyAd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:70.3

Plate Offsets (X, Y): [2:0-2-14,0-7-6], [5:0-2-8,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.72	Vert(LL)	-0.27	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.58	Vert(CT)	-0.43	8-10	>805	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.61	Horz(CT)	0.07	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	8-10	>999	240	Weight: 111 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 11-2,7-6:2x6 SPF No.2, 11-3,7-5:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-2-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-11, 5-7

REACTIONS (size) 7= Mechanical, 11=0-3-8
Max Horiz 11=60 (LC 8)
Max Uplift 7=-17 (LC 9), 11=-30 (LC 8)
Max Grav 7=1352 (LC 2), 11=1417 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-907/142, 3-4=-2188/80, 4-5=-2151/80, 5-6=-530/68, 2-11=-671/123, 6-7=-412/74
BOT CHORD 10-11=-41/2063, 8-10=0/1461, 7-8=0/2012
WEBS 4-8=-35/797, 5-8=-401/161, 4-10=-33/850, 3-10=-431/162, 3-11=-1481/0, 5-7=-1798/0

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); 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) 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 11 and 17 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546209
Serenity -	K7	Roof Special	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:21 Page: 1
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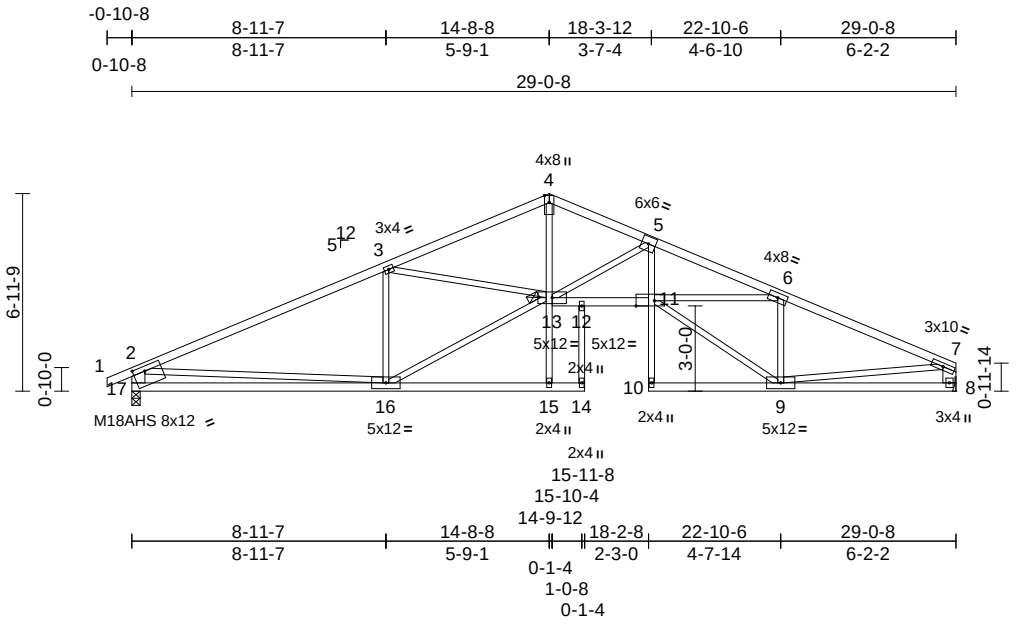

Scale = 1:81.2

Plate Offsets (X, Y): [11:0-7-12,Edge], [17:0-5-0,0-2-0]

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	0.97	Vert(LL)	-0.32	10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.57	10	>600	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.33	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	10	>999	240	Weight: 123 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 13-11:2x4 SPF 2100F 1.8E, 5-10:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 17-2:2x6 SP 2400F 2.0E, 8-7:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 13

REACTIONS (size) 8= Mechanical, 17=0-3-8
Max Horiz 17=60 (LC 10)
Max Uplift 8=-17 (LC 9), 17=-30 (LC 8)
Max Grav 8=1285 (LC 1), 17=1365 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-2211/39, 3-4=-2794/6, 4-5=-2792/15, 5-6=-4626/0, 6-7=-2157/36, 2-17=-1280/81, 7-8=-1217/49
BOT CHORD 16-17=-173/890, 15-16=0/8, 14-15=0/0, 12-13=0/4188, 11-12=0/4192, 10-11=0/75, 5-11=0/1471, 9-10=0/40, 8-9=-22/288
WEBS 12-14=-5/21, 3-16=-889/98, 3-13=0/596, 13-15=0/124, 4-13=0/1800, 5-13=-1927/45, 9-11=0/2285, 6-11=0/2281, 6-9=-1418/65, 2-16=0/1038, 7-9=0/1645, 13-16=-23/2155

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); 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 17 and 17 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546210
Serenity -	K8	Hip	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:21 Page: 1

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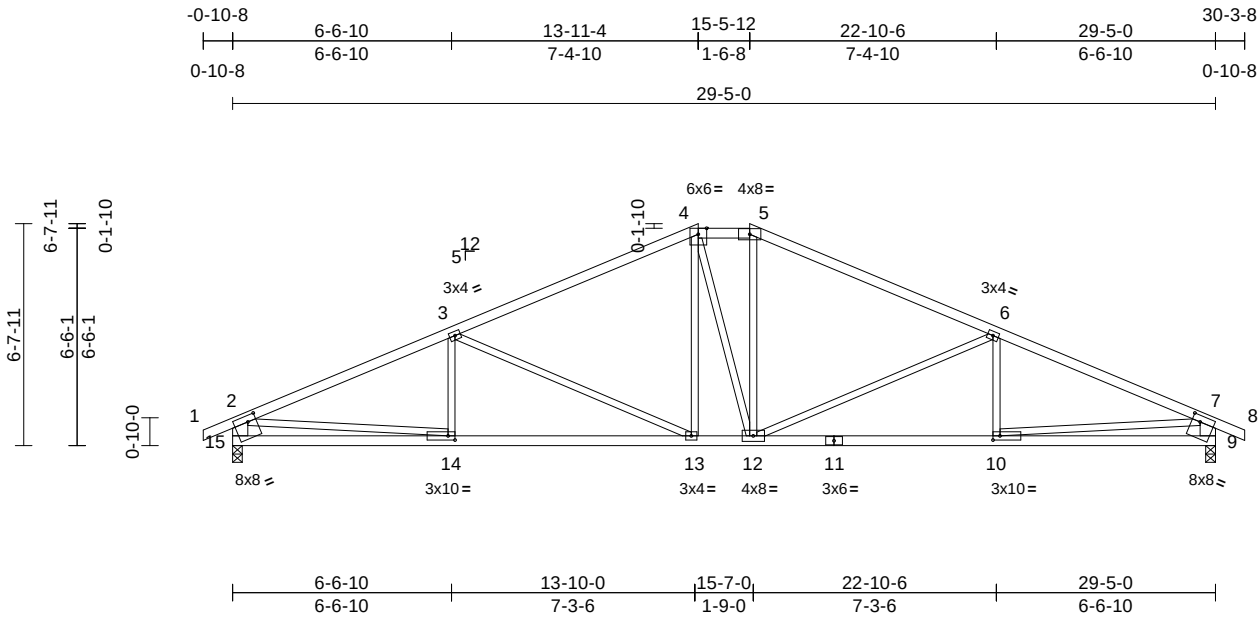


Scale = 1:69

Plate Offsets (X, Y): [9:0-3-0,0-2-4], [10:0-2-8,0-1-8], [14:0-2-8,0-1-8], [15:0-3-0,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.12	13-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.27	13-14	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	1.00	Horz(CT)	0.06	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.08	13-14	>999	240	Weight: 116 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-2,9-7:2x6 SPF No.2

BRACING

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

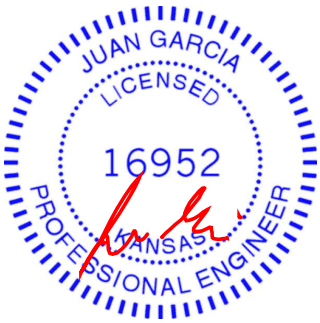
REACTIONS (size) 9=0-3-8, 15=0-3-8
Max Horiz 15=86 (LC 8)
Max Uplift 9=-186 (LC 9), 15=-186 (LC 8)
Max Grav 9=1380 (LC 1), 15=1380 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-2325/281, 3-4=-1761/206, 4-5=-1529/233, 5-6=-1763/206, 6-7=-2324/281, 7-8=0/30, 2-15=-1314/218, 7-9=-1313/218
BOT CHORD 14-15=-179/453, 13-14=-276/2071, 12-13=-80/1527, 10-12=-189/2069, 9-10=-99/455
WEBS 3-14=-29/179, 3-13=-637/214, 4-13=-35/345, 4-12=-230/244, 5-12=-55/401, 6-12=-634/214, 6-10=-31/177, 2-14=-97/1625, 7-10=-91/1622

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) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 15 and 186 lb uplift at joint 9.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

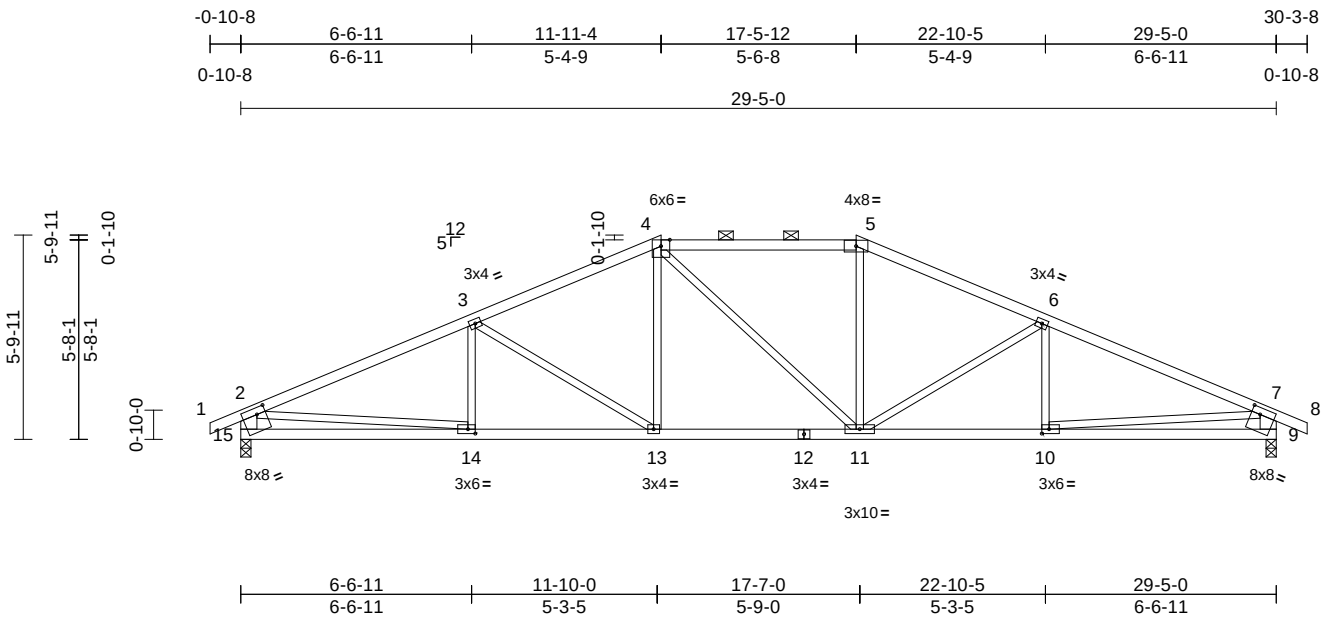


December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	K9	Hip	1	1	I78546211 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:22 ID:oDDgjBrjJFRg?JLgYM33e2yKyAT-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:65.5

Plate Offsets (X, Y): [9:0-3-0,0-2-4], [10:0-2-8,0-1-8], [14:0-2-8,0-1-8], [15:0-3-0,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	-0.11	13-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.22	11-13	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.51	Horz(CT)	0.06	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	13-14	>999	240	Weight: 112 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-2,9-7:2x6 SPF No.2

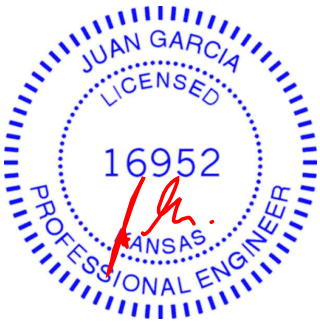
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-3 oc purlins, except end verticals, and 2-0-0 oc purlins (3-8-12 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 9=0-3-8, 15=0-3-8
Max Horiz 15=72 (LC 12)
Max Uplift 9=-170 (LC 9), 15=-170 (LC 8)
Max Grav 9=1380 (LC 1), 15=1380 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-2287/239, 3-4=-1905/231, 4-5=-1690/234, 5-6=-1906/231, 6-7=-2287/239, 7-8=0/30, 2-15=-1309/205, 7-9=-1309/205
BOT CHORD 14-15=-189/538, 13-14=-218/2026, 11-13=-80/1690, 10-11=-146/2025, 9-10=-122/538
WEBS 3-14=-43/132, 3-13=-419/167, 4-13=-24/352, 4-11=-177/178, 5-11=0/353, 6-11=-418/167, 6-10=-44/132, 2-14=-71/1495, 7-10=-71/1495

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) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 170 lb uplift at joint 15 and 170 lb uplift at joint 9.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



December 17,2025

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/03/2026 3:22:37

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	K10	Roof Special	1	1	I78546212 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:22 Page: 1

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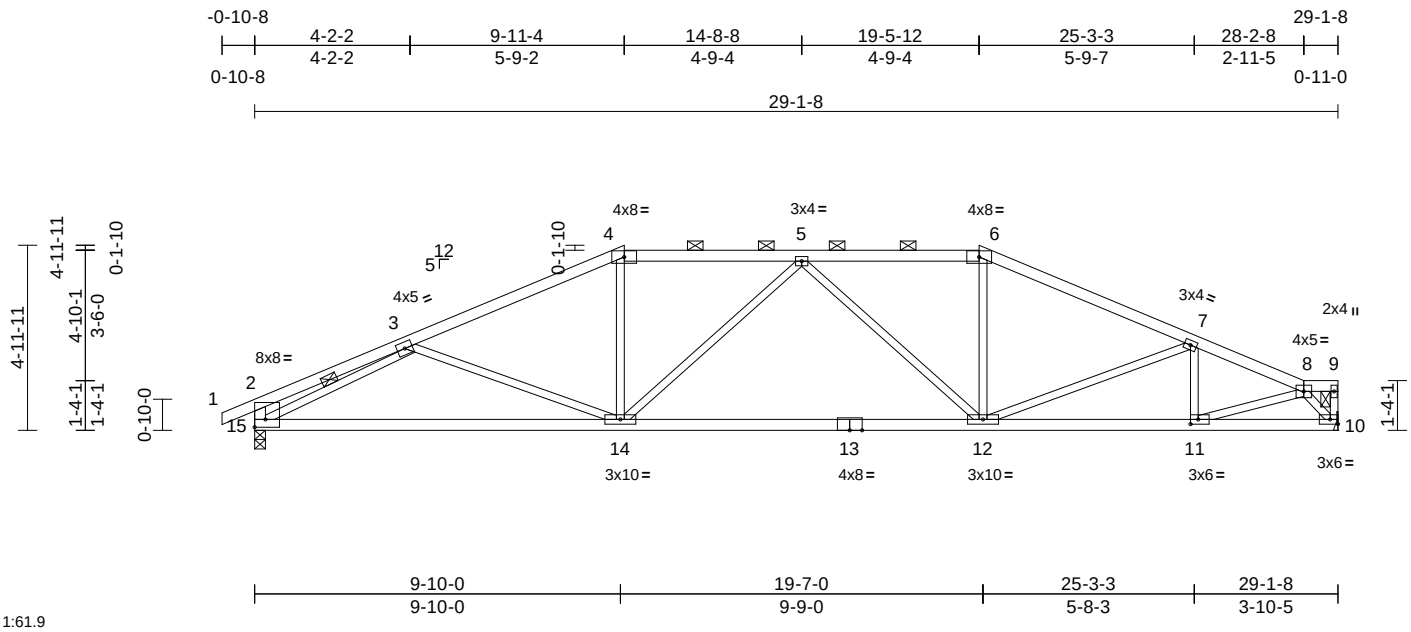

Scale = 1:61.9

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

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	0.67	Vert(LL)	-0.20	14-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.41	14-15	>837	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.09	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.09	12-14	>999	240	Weight: 106 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-2:2x4 SPF No.2

BRACING

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

REACTIONS (size) 10= Mechanical, 15=0-3-8
Max Horiz 15=67 (LC 8)
Max Uplift 10=-138 (LC 5), 15=-159 (LC 4)
Max Grav 10=1298 (LC 1), 15=1372 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-413/1, 3-4=-2113/258, 4-5=-1875/261, 5-6=-1841/267, 6-7=-2075/266, 7-8=-2118/236, 8-9=-38/9, 9-10=-69/19, 2-15=-343/58
BOT CHORD 14-15=-269/1981, 12-14=-256/2067, 11-12=-219/1949, 10-11=-116/963
WEBS 3-14=-139/220, 4-14=0/439, 5-14=-398/126, 5-12=-440/116, 6-12=0/424, 7-12=-147/156, 3-15=-1896/320, 7-11=-279/88, 8-11=-109/1046, 8-10=-1506/178

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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 138 lb uplift at joint 10 and 159 lb uplift at joint 15.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	K11	Roof Special	1	1	I78546213 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:22 Page: 1
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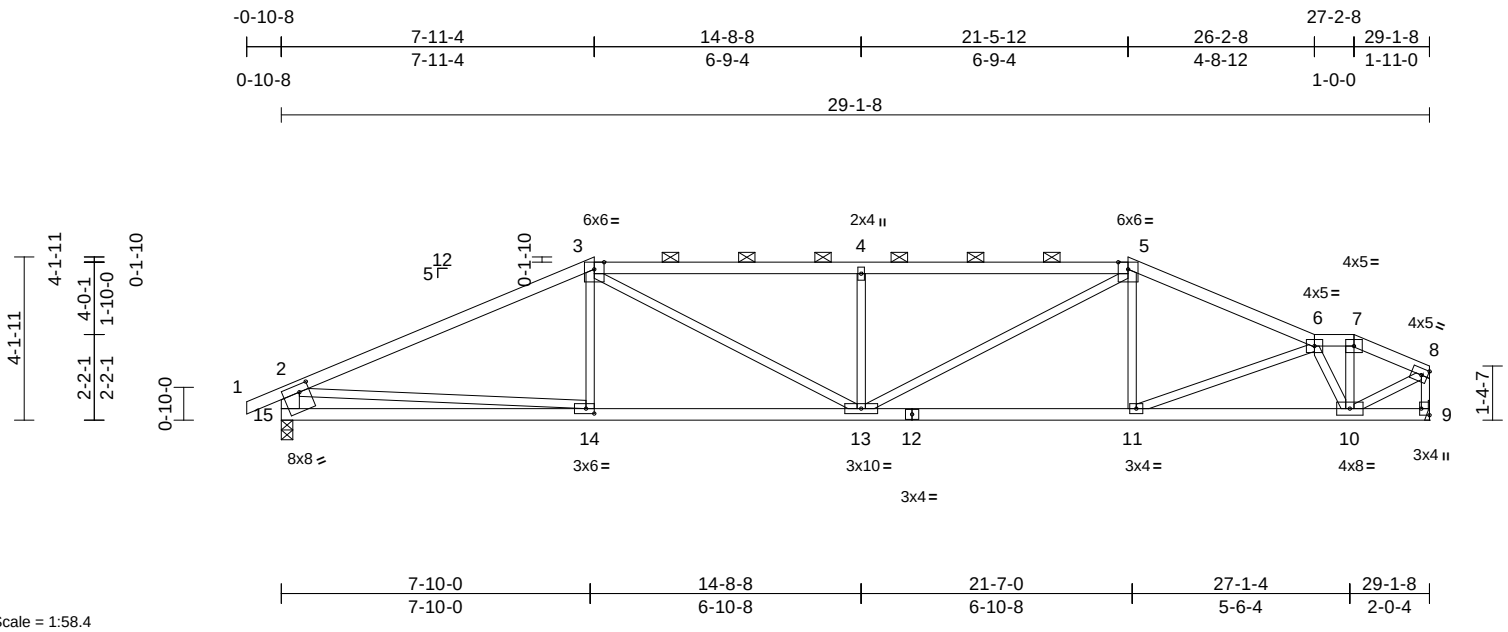


Scale = 1:58.4

Plate Offsets (X, Y): [9:Edge,0-2-8], [14:0-2-8,0-1-8], [15:0-3-0,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.16	13-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.29	11-13	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.47	Horz(CT)	0.07	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.12	13-14	>999	240	Weight: 106 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-2:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 3-5, 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 9= Mechanical, 15=0-3-8
Max Horiz 15=52 (LC 8)
Max Uplift 9=-164 (LC 5), 15=-186 (LC 4)
Max Grav 9=1294 (LC 1), 15=1374 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-2267/311, 3-4=-2607/446, 4-5=-2607/446, 5-6=-2166/321, 6-7=-1244/164, 7-8=-1348/167, 2-15=-1299/228, 8-9=-1268/160
BOT CHORD 14-15=-291/789, 13-14=-250/1988, 11-13=-261/1956, 10-11=-247/1764, 9-10=-15/31
WEBS 3-14=0/228, 3-13=-157/834, 4-13=-587/229, 5-13=-157/851, 5-11=0/201, 6-11=-25/345, 6-10=-1204/203, 7-10=-49/453, 2-14=-87/1331, 8-10=-164/1373

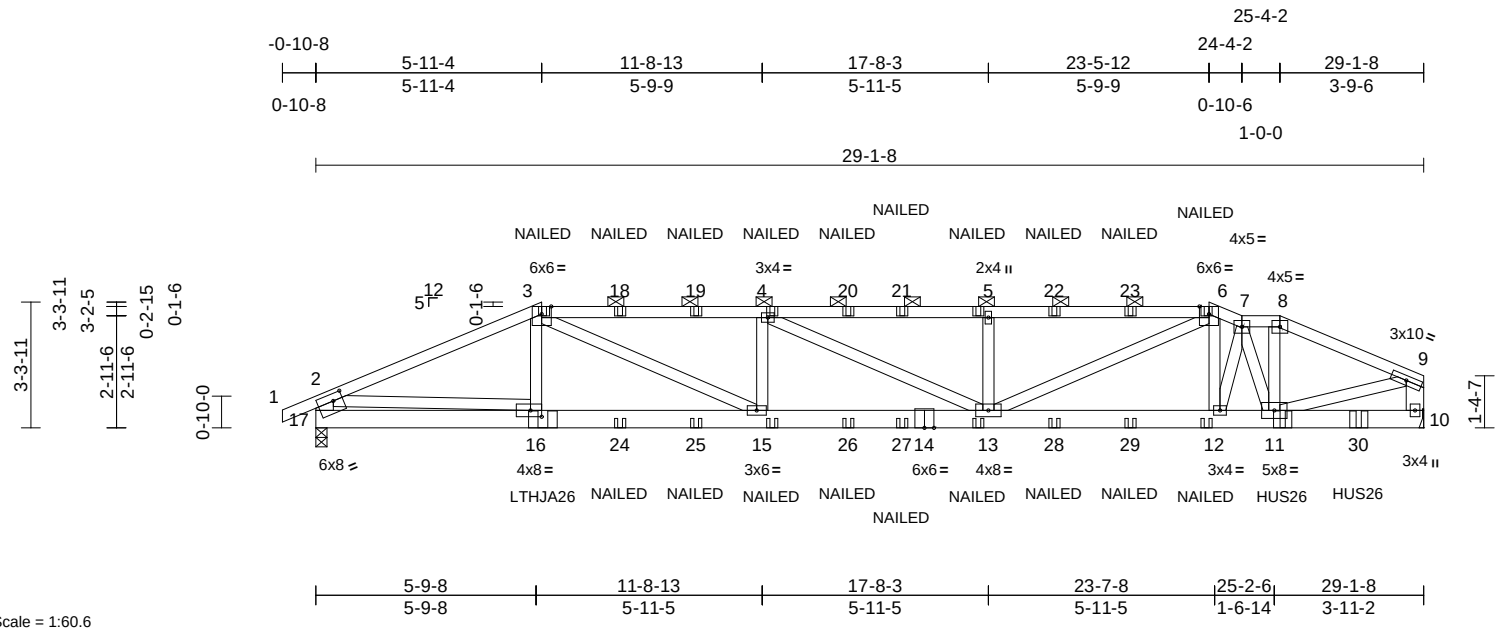
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 15 and 164 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	K12	Roof Special Girder	1	2	I78546214 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:23 Page: 1
ID:OeXX5Apq0K368rc5sEWM0QyKyAW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:60.6

Plate Offsets (X, Y): [16:0-3-8,0-2-0], [17:0-3-0,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.93	Vert(LL)	-0.21	13-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.37	13-15	>922	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.41	Horz(CT)	0.05	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.18	13-15	>999	240	Weight: 279 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x4 SPF No.2 *Except* 17-2,10-9:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-6 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-3 max.): 3-6, 7-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 10= Mechanical, 17=0-3-8
Max Horiz 17=50 (LC 5)
Max Uplift 10=-528 (LC 5), 17=-516 (LC 4)
Max Grav 10=2591 (LC 1), 17=2498 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-4723/1000, 3-4=-6497/1438, 4-5=-6343/1396, 5-6=-6347/1398, 6-7=-4215/896, 7-8=-3261/712, 8-9=-3521/745, 2-17=-2381/526, 9-10=-2328/495
BOT CHORD 16-17=-287/1006, 15-16=-914/4283, 13-15=-1404/6493, 12-13=-859/4074, 11-12=-803/3860, 10-11=-70/283
WEBS 3-16=0/310, 3-15=-547/2532, 4-15=-812/379, 4-13=-214/67, 5-13=-828/388, 6-13=-570/2579, 6-12=-424/248, 7-12=-172/798, 7-11=-1896/369, 8-11=-221/1146, 2-16=-679/3350, 9-11=-633/3039

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 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.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 516 lb uplift at joint 17 and 528 lb uplift at joint 10.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Use Simpson Strong-Tie LTHJA26 (LTHJA26 on 2 ply, Right Hand Hip) or equivalent at 5-11-10 from the left end to connect truss(es) to back face of bottom chord.
13) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 25-5-0 from the left end to 27-5-0 to connect truss(es) to back face of bottom chord.
14) Fill all nail holes where hanger is in contact with lumber.
15) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.

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, 3-6=-70, 6-7=-70, 7-8=-70, 8-9=-70, 10-17=-20
Concentrated Loads (lb)
Vert: 3=-110 (B), 6=-110 (B), 16=-410 (B), 15=-51 (B), 4=-110 (B), 5=-110 (B), 13=-51 (B), 12=-51 (B), 11=-230 (B), 18=-110 (B), 19=-110 (B), 20=-110 (B), 21=-110 (B), 22=-110 (B), 23=-110 (B), 24=-51 (B), 25=-51 (B), 26=-51 (B), 27=-51 (B), 28=-51 (B), 29=-51 (B), 30=-230 (B)

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546215
Serenity -	LAY2	Lay-In Gable	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:23 Page: 1

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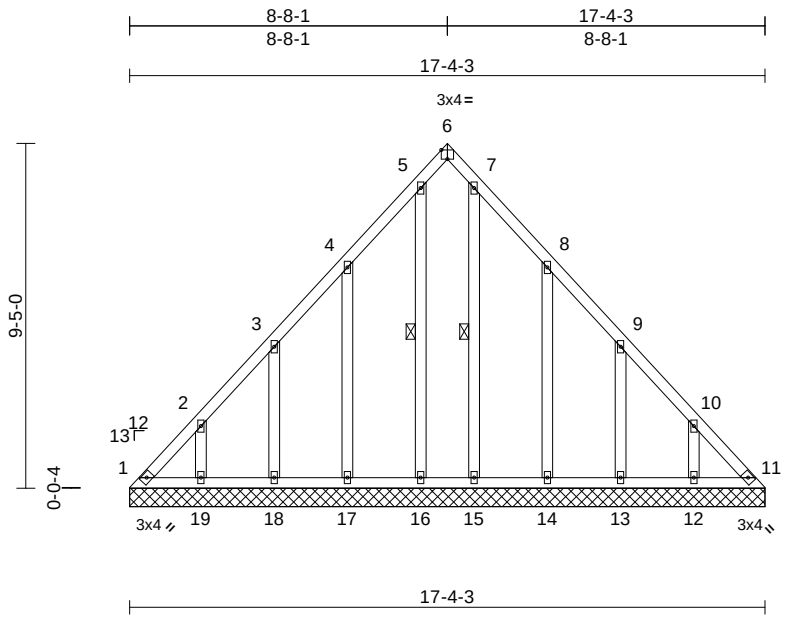


Scale = 1:62.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.01	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 92 lb	FT = 10%

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

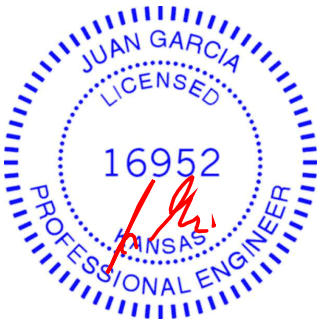
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-16, 7-15

REACTIONS (size) 1=17-4-3, 11=17-4-3, 12=17-4-3, 13=17-4-3, 14=17-4-3, 15=17-4-3, 16=17-4-3, 17=17-4-3, 18=17-4-3, 19=17-4-3
Max Horiz 1=242 (LC 5)
Max Uplift 1=-110 (LC 6), 11=-81 (LC 7), 12=-131 (LC 9), 13=-125 (LC 9), 14=-153 (LC 9), 16=-22 (LC 5), 17=-149 (LC 8), 18=-126 (LC 8), 19=-131 (LC 8)
Max Grav 1=270 (LC 8), 11=251 (LC 9), 12=208 (LC 16), 13=203 (LC 16), 14=217 (LC 16), 15=137 (LC 16), 16=161 (LC 15), 17=214 (LC 15), 18=203 (LC 15), 19=207 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-382/209, 2-3=-259/161, 3-4=-131/112, 4-5=-106/105, 5-6=-50/71, 6-7=-46/67, 7-8=-75/77, 8-9=-112/75, 9-10=-233/122, 10-11=-357/170
BOT CHORD 1-19=-116/268, 18-19=-116/268, 17-18=-116/268, 16-17=-116/268, 15-16=-116/268, 14-15=-116/268, 13-14=-116/268, 12-13=-116/268, 11-12=-116/268
WEBS 2-19=-162/149, 3-18=-165/151, 4-17=-172/174, 5-16=-128/42, 10-12=-162/149, 9-13=-164/150, 8-14=-176/177, 7-15=-103/9

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 110 lb uplift at joint 1, 81 lb uplift at joint 11, 131 lb uplift at joint 19, 126 lb uplift at joint 18, 149 lb uplift at joint 17, 22 lb uplift at joint 16, 131 lb uplift at joint 12, 125 lb uplift at joint 13 and 153 lb uplift at joint 14.
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

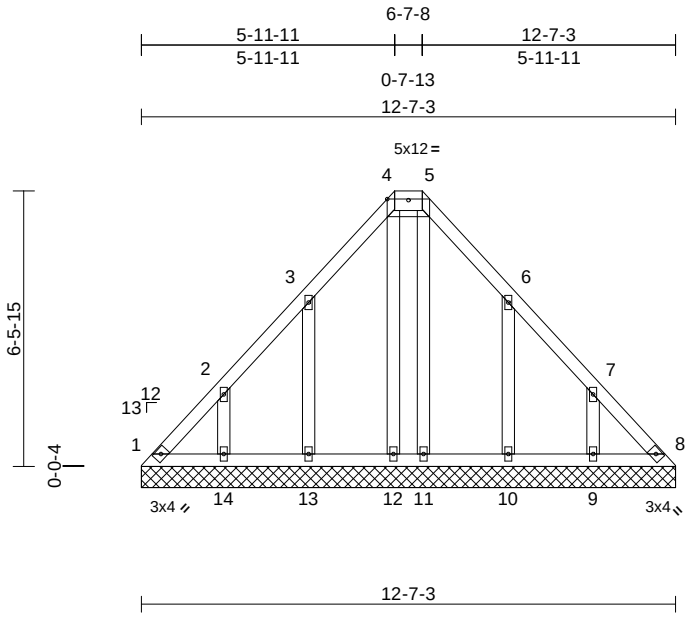


December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	LAY3	Lay-In Gable	1	1	I78546216 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:24 Page: 1

ID:LDGJfTM8h0uSwkC3JHOhwUzdKnf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:54.3

Plate Offsets (X, Y): [4:0-6-0,0-0-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 60 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-5:2x6 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, except 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=12-7-3, 8=12-7-3, 9=12-7-3, 10=12-7-3, 11=12-7-3, 12=12-7-3, 13=12-7-3, 14=12-7-3
Max Horiz 1=164 (LC 5)
Max Uplift 1=-63 (LC 6), 8=-29 (LC 7), 9=-130 (LC 9), 10=-135 (LC 9), 12=-18 (LC 5), 13=-136 (LC 8), 14=-130 (LC 8)
Max Grav 1=132 (LC 17), 8=115 (LC 18), 9=204 (LC 16), 10=218 (LC 16), 11=111 (LC 17), 12=127 (LC 18), 13=219 (LC 15), 14=204 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-188/145, 2-3=-129/99, 3-4=-104/144, 4-5=-31/117, 5-6=-85/119, 6-7=-94/54, 7-8=-158/99
BOT CHORD 1-14=-68/133, 13-14=-68/133, 12-13=-68/133, 11-12=-68/133, 10-11=-68/133, 9-10=-68/133, 8-9=-68/133
WEBS 2-14=-159/148, 3-13=-178/162, 4-12=-102/41, 7-9=-160/148, 6-10=-177/162, 5-11=-85/8

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) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 (||) MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 63 lb uplift at joint 1, 29 lb uplift at joint 8, 130 lb uplift at joint 14, 136 lb uplift at joint 13, 18 lb uplift at joint 12, 130 lb uplift at joint 9 and 135 lb uplift at joint 10.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

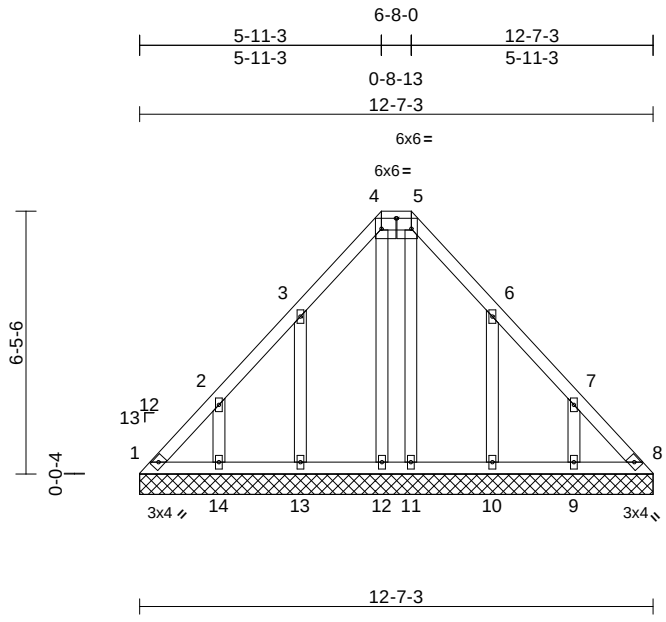
LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	LAY4	Lay-In Gable	1	1	I78546217 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:24 Page: 1

ID:UOkk2KOdDJlKu1libZMLQhzdK5i-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:56.5

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

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	0.05	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 60 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-5:2x6 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, except 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=12-7-3, 8=12-7-3, 9=12-7-3, 10=12-7-3, 11=12-7-3, 12=12-7-3, 13=12-7-3, 14=12-7-3
Max Horiz 1=163 (LC 5)
Max Uplift 1=-62 (LC 6), 8=-28 (LC 7), 9=-131 (LC 9), 10=-133 (LC 9), 12=-18 (LC 5), 13=-134 (LC 8), 14=-130 (LC 8)
Max Grav 1=132 (LC 17), 8=115 (LC 18), 9=205 (LC 16), 10=216 (LC 16), 11=111 (LC 17), 12=128 (LC 18), 13=217 (LC 15), 14=205 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-187/144, 2-3=-128/98, 3-4=-102/143, 4-5=-31/116, 5-6=-84/119, 6-7=-93/53, 7-8=-157/98
BOT CHORD 1-14=-68/132, 13-14=-68/132, 12-13=-68/132, 11-12=-68/132, 10-11=-68/132, 9-10=-68/132, 8-9=-68/132
WEBS 2-14=-160/148, 3-13=-176/160, 4-12=-102/41, 7-9=-160/149, 6-10=-175/159, 5-11=-85/8

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) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 (||) MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 62 lb uplift at joint 1, 28 lb uplift at joint 8, 130 lb uplift at joint 14, 134 lb uplift at joint 13, 18 lb uplift at joint 12, 131 lb uplift at joint 9 and 133 lb uplift at joint 10.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546218
Serenity -	LAY5	Lay-In Gable	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:24 Page: 1
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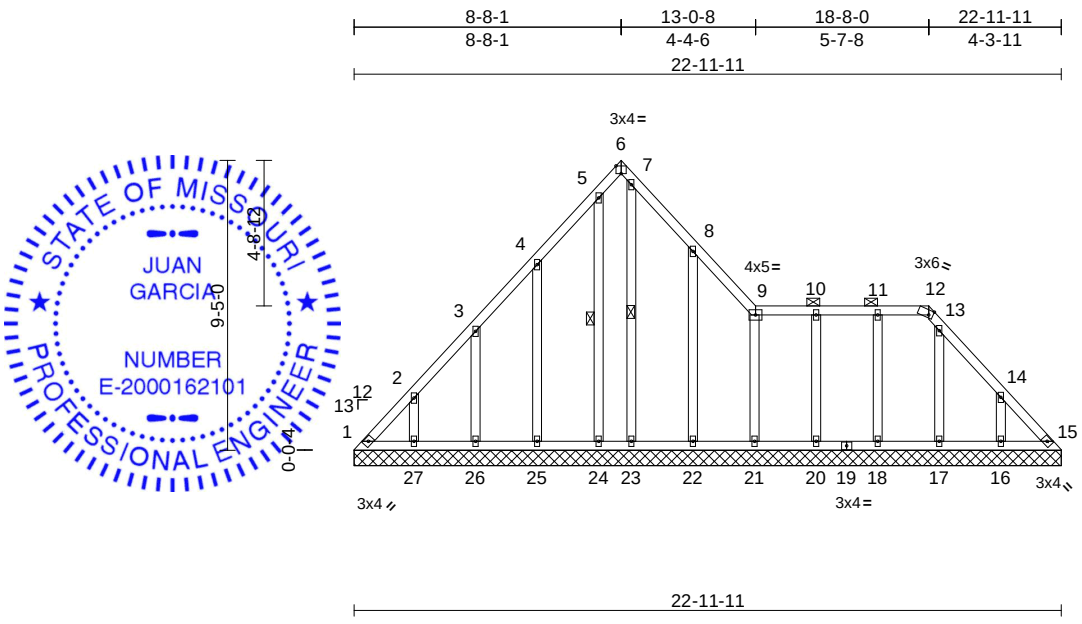

Scale = 1:74.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.01	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 120 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, except 2-0-0 oc purlins (6-0-0 max.): 9-12.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-24, 7-23

REACTIONS (size) 1=22-11-11, 15=22-11-11, 16=22-11-11, 17=22-11-11, 18=22-11-11, 20=22-11-11, 21=22-11-11, 22=22-11-11, 23=22-11-11, 24=22-11-11, 25=22-11-11, 26=22-11-11, 27=22-11-11
Max Horiz 1=244 (LC 5)
Max Uplift 1=-126 (LC 6), 15=-65 (LC 7), 16=-133 (LC 9), 17=-136 (LC 9), 18=-42 (LC 9), 20=-41 (LC 5), 21=-30 (LC 9), 22=-155 (LC 9), 24=-33 (LC 5), 25=-146 (LC 8), 26=-127 (LC 8), 27=-131 (LC 8)
Max Grav 1=240 (LC 8), 15=197 (LC 9), 16=213 (LC 16), 17=190 (LC 16), 18=178 (LC 22), 20=187 (LC 1), 21=177 (LC 1), 22=230 (LC 16), 23=153 (LC 18), 24=159 (LC 15), 25=214 (LC 15), 26=203 (LC 15), 27=207 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-342/231, 2-3=-218/183, 3-4=-145/134, 4-5=-121/176, 5-6=-55/138, 6-7=-34/67, 7-8=-79/155, 8-9=-74/59, 9-10=-40/34, 10-11=-39/34, 11-12=-39/34, 12-13=-65/35, 13-14=-158/98, 14-15=-283/148
BOT CHORD 1-27=-102/219, 26-27=-102/219, 25-26=-102/219, 24-25=-102/219, 23-24=-102/219, 22-23=-102/219, 21-22=-102/219, 20-21=-102/218, 18-20=-102/218, 17-18=-102/218, 16-17=-102/218, 15-16=-102/218
WEBS 2-27=-162/149, 3-26=-165/152, 4-25=-172/170, 5-24=-130/50, 7-23=-127/0, 14-16=-168/151, 13-17=-151/161, 11-18=-138/65, 10-20=-147/65, 9-21=-137/53, 8-22=-188/180

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) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 (||) MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 126 lb uplift at joint 1, 65 lb uplift at joint 15, 131 lb uplift at joint 27, 127 lb uplift at joint 26, 146 lb uplift at joint 25, 33 lb uplift at joint 24, 133 lb uplift at joint 16, 136 lb uplift at joint 17, 42 lb uplift at joint 18, 41 lb uplift at joint 20, 30 lb uplift at joint 21 and 155 lb uplift at joint 22.
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

JUAN GARCIA LICENSED 16952 KANSAS PROFESSIONAL ENGINEER

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12 I78546219
Serenity -	LAY6	Lay-In Gable	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:24 Page: 1
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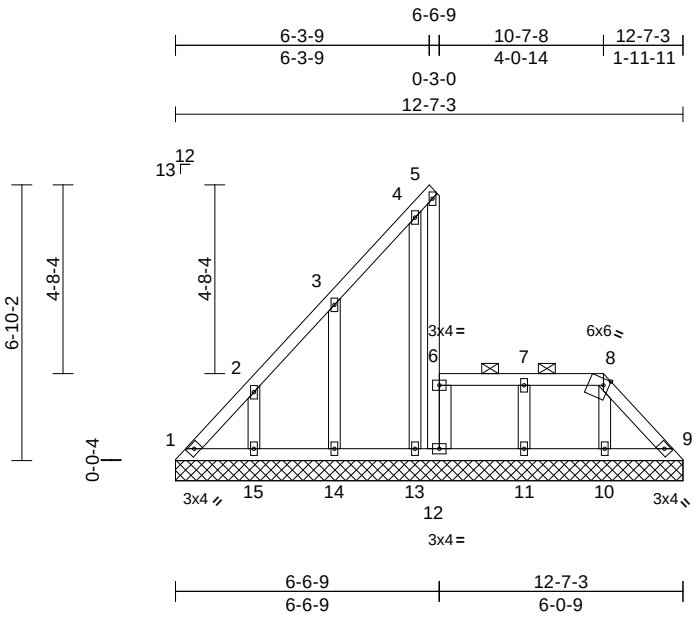

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Plate Offsets (X, Y): [8:0-1-10,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 57 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

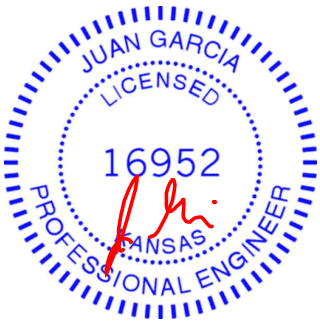
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-12, 6-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=12-7-3, 9=12-7-3, 10=12-7-3, 11=12-7-3, 12=12-7-3, 13=12-7-3, 14=12-7-3, 15=12-7-3
Max Horiz 1=335 (LC 8)
Max Uplift 1=-41 (LC 6), 9=-130 (LC 9), 10=-39 (LC 5), 11=-43 (LC 9), 12=-39 (LC 9), 13=-117 (LC 8), 14=-141 (LC 8), 15=-128 (LC 8)
Max Grav 1=301 (LC 8), 9=140 (LC 16), 10=154 (LC 18), 11=207 (LC 1), 12=87 (LC 22), 13=132 (LC 15), 14=217 (LC 15), 15=205 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-425/116, 2-3=-304/83, 3-4=-182/84, 4-5=-78/51, 6-12=-69/45, 5-6=-15/22, 6-7=-97/148, 7-8=-98/147, 8-9=-139/170
BOT CHORD 1-15=-32/47, 14-15=-32/47, 13-14=-32/47, 12-13=-32/47, 11-12=-71/70, 10-11=-71/70, 9-10=-72/71
WEBS 2-15=-160/145, 3-14=-177/167, 4-13=-99/138, 8-10=-114/67, 7-11=-165/70

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) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 (||) MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 41 lb uplift at joint 1, 39 lb uplift at joint 12, 130 lb uplift at joint 9, 128 lb uplift at joint 15, 141 lb uplift at joint 14, 117 lb uplift at joint 13, 39 lb uplift at joint 10 and 43 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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	V6	Valley	1	1	I78546220
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:25
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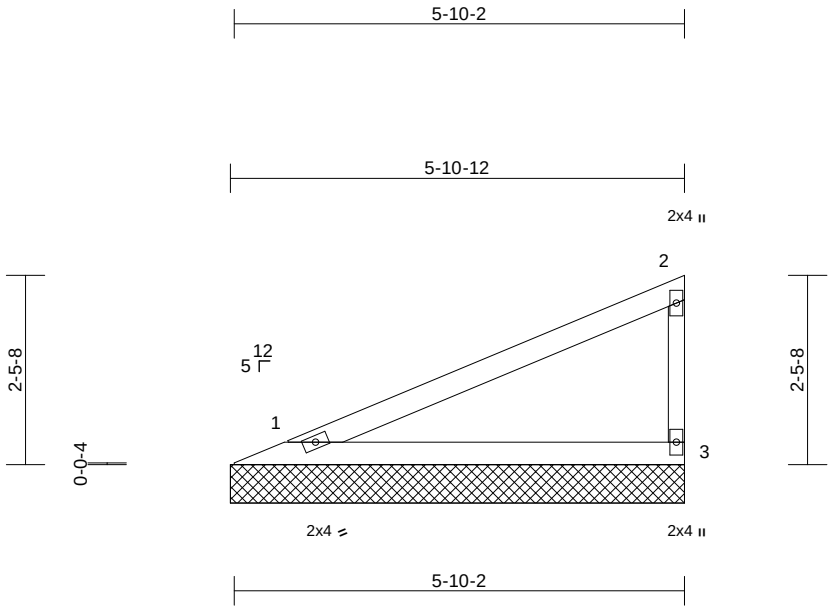

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.49	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 15 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-10-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-10-12, 3=5-10-12
Max Horiz 1=92 (LC 5)
Max Uplift 1=-33 (LC 8), 3=-52 (LC 8)
Max Grav 1=227 (LC 1), 3=227 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-82/54, 2-3=-176/82
BOT CHORD 1-3=-30/23

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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 1 and 52 lb uplift at joint 3.
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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

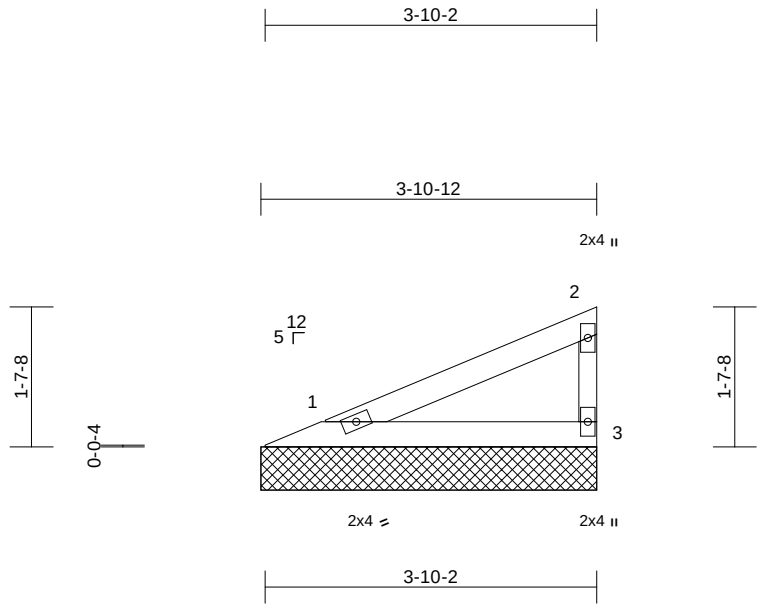
December 17,2025

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

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	V7	Valley	2	1	I78546221 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:25 ID:7mfKFiwdL3EcTE4gELpKyozdKs4-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 9 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-10-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-10-12, 3=3-10-12
Max Horiz 1=56 (LC 5)
Max Uplift 1=-20 (LC 8), 3=-31 (LC 8)
Max Grav 1=137 (LC 1), 3=137 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-50/33, 2-3=-106/49
BOT CHORD 1-3=-18/14

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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 1 and 31 lb uplift at joint 3.
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

December 17,2025

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

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	V8	Valley	2	1	I78546222 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:25 Page: 1
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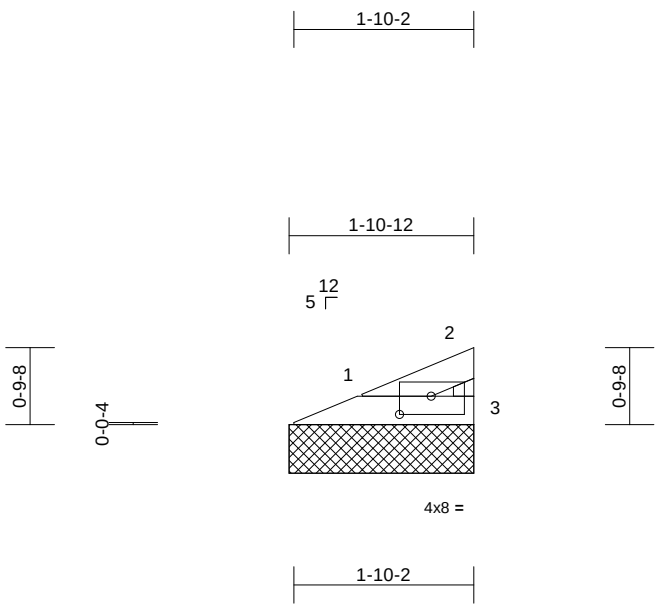

Scale = 1:23.7

Plate Offsets (X, Y): [1:0-3-14,0-2-4]

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	0.02	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 4 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=1-10-12, 3=1-10-12
Max Horiz 1=19 (LC 5)
Max Uplift 1=-7 (LC 8), 3=-11 (LC 8)
Max Grav 1=47 (LC 1), 3=47 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-17/11, 2-3=-36/17
BOT CHORD 1-3=-6/5

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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 1 and 11 lb uplift at joint 3.
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

December 17,2025

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	V9	Valley	1	1	I78546223 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:25 Page: 1
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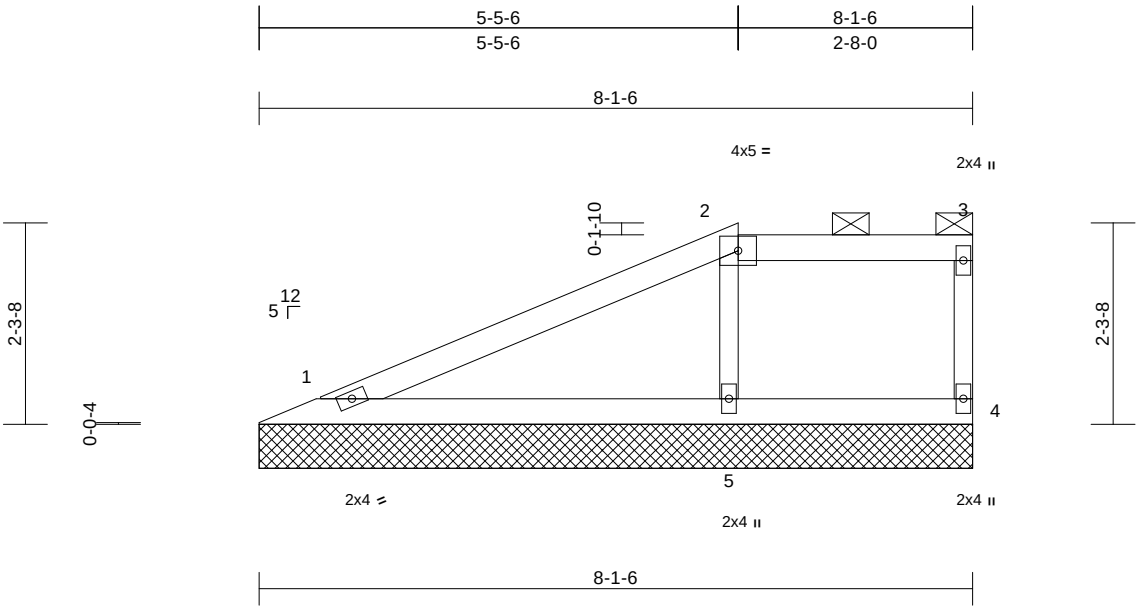

Scale = 1:26.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 21 lb	FT = 10%

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

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

REACTIONS (size) 1=8-1-6, 4=8-1-6, 5=8-1-6
Max Horiz 1=81 (LC 5)
Max Uplift 1=-36 (LC 8), 4=-31 (LC 4), 5=-34 (LC 8)
Max Grav 1=198 (LC 1), 4=101 (LC 1), 5=359 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-64/65, 2-3=-26/22, 3-4=-90/37
BOT CHORD 1-5=-28/25, 4-5=-26/20
WEBS 2-5=-262/92

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) Provide adequate drainage to prevent water ponding.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 1, 31 lb uplift at joint 4 and 34 lb uplift at joint 5.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 17,2025

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

Job	Truss	Truss Type	Qty	Ply	Serenity - Contemporary 3-Car 12x12
Serenity -	V10	Valley	1	1	I78546224 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Tue Dec 16 11:46:25 Page: 1
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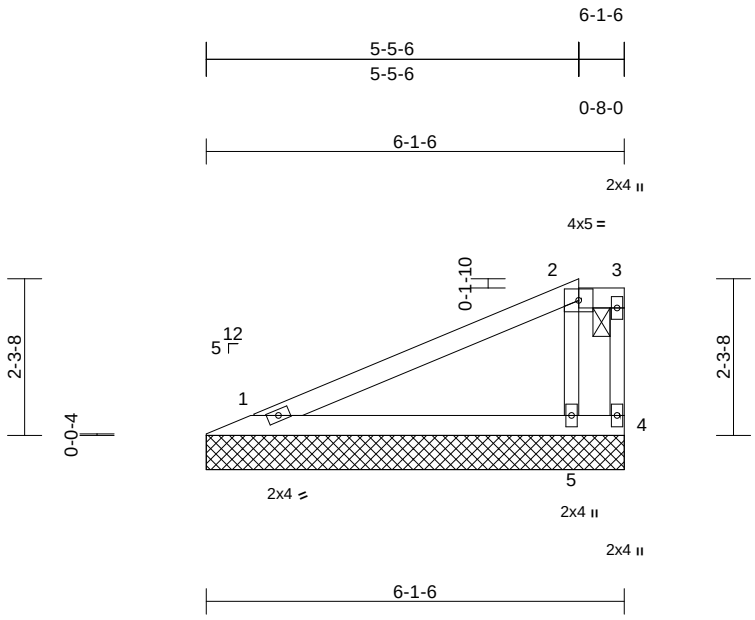


Scale = 1:33.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 lb	FT = 10%

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

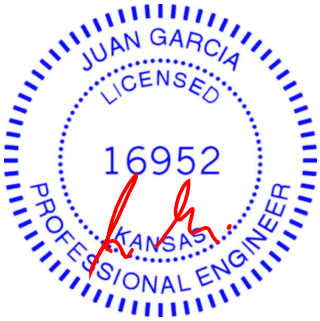
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 2-3.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=6-1-6, 4=6-1-6, 5=6-1-6
Max Horiz 1=81 (LC 7)
Max Uplift 1=-37 (LC 8), 4=-123 (LC 3)
Max Grav 1=198 (LC 1), 4=-33 (LC 20), 5=324 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-67/61, 2-3=-26/22, 3-4=-20/10
BOT CHORD 1-5=-26/23, 4-5=-26/20
WEBS 2-5=-190/79

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) Provide adequate drainage to prevent water ponding.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 1 and 123 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.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

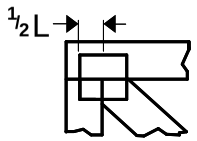
LOAD CASE(S) Standard



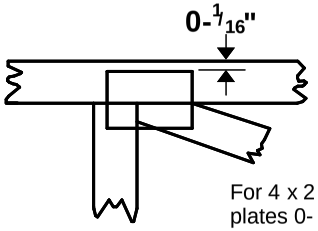
December 17,2025

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.

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

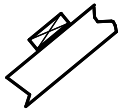
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

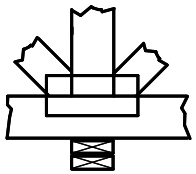
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

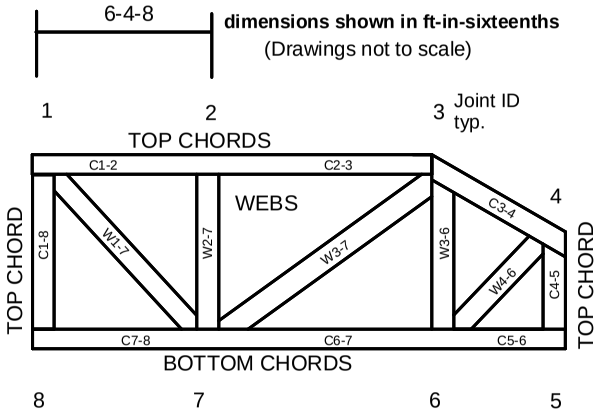


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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

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

MiTek®

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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