MiTek®

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

RE: P241184-04 - Roof

Site Information:

Project Customer: Clayton Properties Project Name: Baily Farms Clubhouse
Lot/Block: - Subdivision: Bailey Farms
Model:
Address: TBD
City: Lee's Summit State: MO

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

Design Code: IRC2018/TPI2014
Wind Code: ASCE 7-16
Wind Speed: 117 mph
Roof Load: 40.0 psf
Mean Roof Height (feet): 35

Design Program: MiTek 20/20 8.6
Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16
Floor Load: N/A psf

Exposure Category: B

No.	Seal#	Truss Name	Date
1	I78299041	A3	12/8/25
2	I78299042	B4	12/8/25
3	I0	B4A	12/8/25
4	I0	B4B	12/8/25
5	I0	B4C	12/8/25
6	I0	B5	12/8/25

The truss drawing(s) referenced above have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Premier Building Supply (Springhill, KS)20300 W 207th Street.

Truss Design Engineer's Name: Lu, Jie
My license renewal date for the state of Missouri is December 31, 2026.

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.

December 8,2025

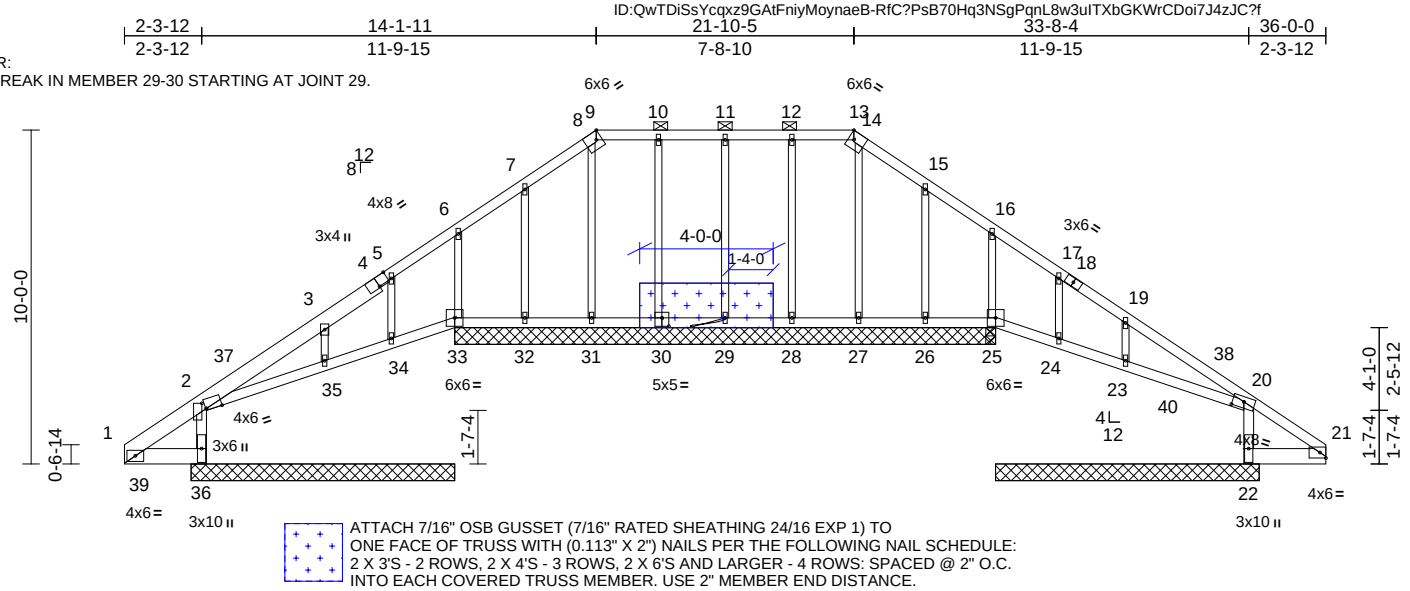
Lu, Jie

Job	Truss	Truss Type	Qty	Ply	Roof
P241184-04	A3	Piggyback Base Supported Gable	1	1	I78299041
					Job Reference (optional)

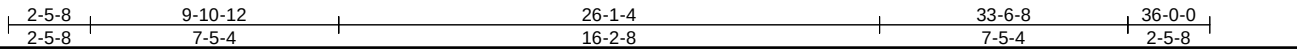
Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Fri Dec 05 11:52:57 Page: 1

ID:QwTDiSsYcqxz9GAtFniyMoynaeB-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

REPAIR:
1-0-0 BREAK IN MEMBER 29-30 STARTING AT JOINT 29.



ATTACH 7/16" OSB GUSSET (7/16" RATED SHEATHING 24/16 EXP 1) TO ONE FACE OF TRUSS WITH (0.113" X 2") NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 2" O.C.
INTO EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.



Scale = 1:69

Plate Offsets (X, Y): [2:0-5-12,Edge], [2:0-1-13,0-1-10], [4:0-3-14,Edge], [9:0-1-15,Edge], [13:Edge,0-2-15], [20:0-4-0,0-2-3], [30:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.81	Vert(LL)	-0.03	20-23	>999	240	MT20	244/190
Snow (Pf/Pg)	21.9/20.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.04	2-35	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.33	Horz(CT)	-0.30	22	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 171 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 1-4:2x6 SP 2400F 2.0E, 18-21:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2 *Except* 1-36,22-21:2x6 SP No.2
WEBS 2x4 SP No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-3-8 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 9-13.
BOT CHORD Rigid ceiling directly applied or 3-5-4 oc bracing.

REACTIONS (size) 22=7-10-12, 23=7-10-12, 24=7-10-12, 25=7-10-12, 26=16-2-8, 27=16-2-8, 28=16-2-8, 29=16-2-8, 30=16-2-8, 31=16-2-8, 32=16-2-8, 33=16-2-8, 34=7-10-12, 35=7-10-12, 36=7-10-12
Max Horiz 36=237 (LC 13)
Max Uplift 22=-1346 (LC 56), 23=-504 (LC 55), 24=-209 (LC 56), 25=-350 (LC 56), 26=-89 (LC 56), 27=-287 (LC 47), 28=-79 (LC 47), 29=-58 (LC 45), 30=-95 (LC 48), 31=-377 (LC 48), 32=-83 (LC 53), 33=-439 (LC 53), 34=-73 (LC 55), 35=-493 (LC 48), 36=-1403 (LC 45)
Max Grav 22=1495 (LC 51), 23=879 (LC 72), 24=516 (LC 71), 25=661 (LC 71), 26=563 (LC 92), 27=655 (LC 76), 28=525 (LC 81), 29=495 (LC 81), 30=521 (LC 81), 31=729 (LC 75), 32=555 (LC 90), 33=749 (LC 70), 34=443 (LC 92), 35=940 (LC 69), 36=1977 (LC 52)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-430/482, 2-3=-3008/2952, 3-5=-2180/2195, 5-6=-1850/1869, 6-7=-1505/1571, 7-8=-1200/1258, 8-9=-604/648, 9-10=-700/775, 10-11=-414/517, 11-12=-313/416, 12-13=-599/675, 13-14=-521/566, 14-15=-1080/1141, 15-16=-1380/1419, 16-17=-1683/1705, 17-19=-1950/1954, 19-20=-2722/2675, 20-21=-261/247
BOT CHORD 1-36=-516/558, 32-33=-1294/1391, 31-32=-1002/1071, 29-31=-724/821, 28-29=-348/443, 27-28=-626/721, 26-27=-903/971, 25-26=-1196/1291, 2-35=-2415/2416, 34-35=-1947/1970, 33-34=-1655/1685, 24-25=-1553/1601, 23-24=-1840/1873, 20-23=-2259/2318, 21-22=-321/321
WEBS 2-36=-1901/1448, 20-22=-1594/1519, 11-29=-196/54, 10-30=-204/91, 8-31=-454/391, 7-32=-207/79, 6-33=-203/87, 5-34=-201/77, 3-35=-348/357, 12-28=-204/75, 14-27=-375/301, 15-26=-206/83, 16-25=-206/77, 17-24=-173/155, 19-23=-320/298

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=117mph (3-second gust) Vasd=92mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. III; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-0-0 to 5-0-0, Exterior(2N) 5-0-0 to 14-1-11, Corner(3R) 14-1-11 to 19-1-11, Exterior(2N) 19-1-11 to 21-10-5, Corner(3R) 21-10-5 to 26-10-5, Exterior(2N) 26-10-5 to 36-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=21.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.1; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
5) Unbalanced snow loads have been considered for this design.
6) Provide adequate drainage to prevent water ponding.

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Continued on page 2

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7) All plates are 1.5x4 MT20 unless otherwise indicated.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) Bearings are assumed to be: Joint 35 SP No.2 crushing capacity of 565 psi, Joint 23 SP No.2 crushing capacity of 565 psi, Joint 26 SP No.2 crushing capacity of 565 psi, Joint 25 SP No.2 crushing capacity of 565 psi.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1403 lb uplift at joint 36, 439 lb uplift at joint 33, 95 lb uplift at joint 30, 350 lb uplift at joint 25, 1346 lb uplift at joint 22, 58 lb uplift at joint 29, 377 lb uplift at joint 31, 83 lb uplift at joint 32, 73 lb uplift at joint 34, 493 lb uplift at joint 35, 79 lb uplift at joint 28, 287 lb uplift at joint 27, 89 lb uplift at joint 26, 209 lb uplift at joint 24 and 504 lb uplift at joint 23.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) This truss has been designed for a total drag load of 5000 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 36-0-0 for 138.9 plf.
14) Girder carries tie-in span(s): 9-0-0 from 0-5-8 to 31-6-8
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
16) 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

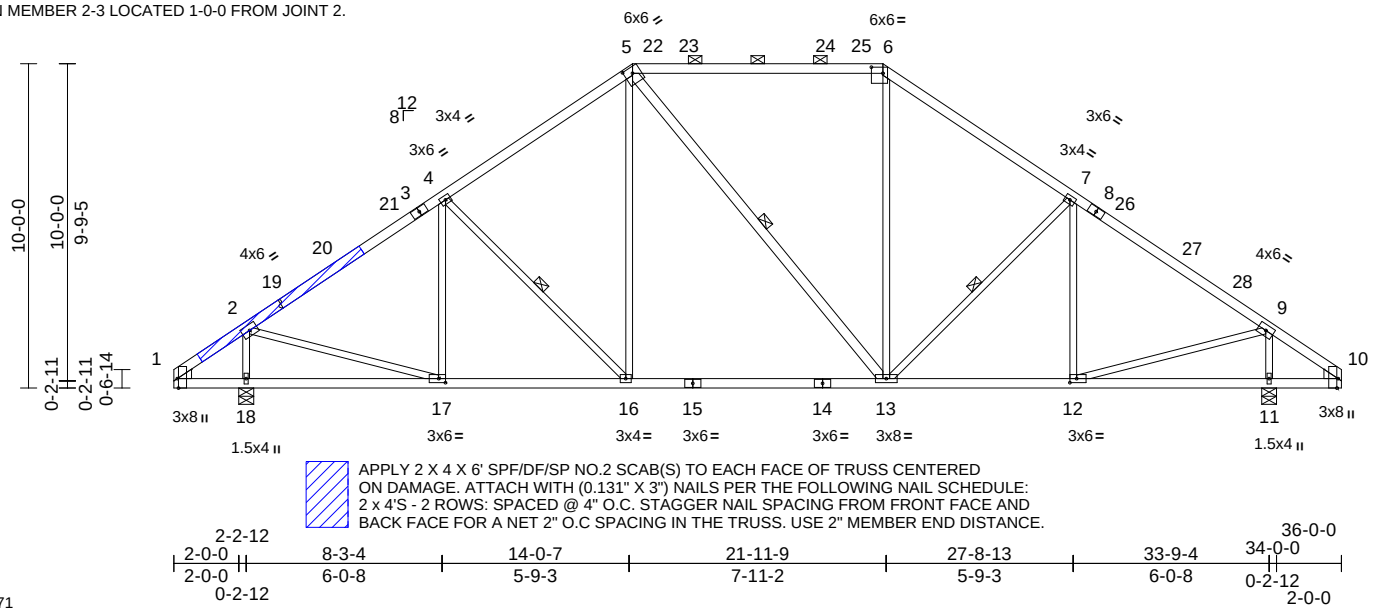
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-9=-54, 9-13=-64, 13-21=-54, 1-39=-20, 36-39=-157 (F=-137), 25-33=-157 (F=-137), 2-33=-157 (F=-137), 25-40=-157 (F=-137), 20-40=-20, 21-22=-20

Job	Truss	Truss Type	Qty	Ply	Roof
P241184-04	B4-R1	Piggyback Base	1	1	I78299042-R1
					Job Reference (optional)

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Fri Dec 05 11:52:58 Page: 1

ID:CxlcAawns06YotXnFfnrK3yFLrf-RfC?PsB70Hq3NSqPqnL8w3uITXbGKWrCDoj7J4zJC?f

REPAIR:
BREAK IN MEMBER 2-3 LOCATED 1-0-0 FROM JOINT 2.



Scale = 1:71

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.10	13-16	>999	240	MT20	244/190
Snow (Pf/Pg)	21.9/20.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.22	13-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.04	11	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 185 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 5-6:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 13-5:2x4 SP No.2
WEDGE Left: 2x4 SP No.2
Right: 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-6-10 oc purlins, except
2-0-0 oc purlins (4-5-7 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-13, 4-16, 7-13

REACTIONS (size) 11=0-5-8, 18=0-5-8
Max Horiz 18=-202 (LC 12)
Max Uplift 11=-49 (LC 17), 18=-49 (LC 16)
Max Grav 11=1713 (LC 40), 18=1713 (LC 40)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-80/64, 2-4=-1725/69, 4-5=-1511/127, 5-6=-1103/148, 6-7=-1512/127, 7-9=-1725/70, 9-10=-80/64
BOT CHORD 1-18=0/65, 17-18=-192/221, 16-17=-59/1331, 13-16=-19/1102, 12-13=0/1331, 11-12=0/66, 10-11=0/66
WEBS 5-16=-24/395, 5-13=-135/137, 6-13=0/371, 2-18=-1592/128, 9-11=-1592/128, 4-16=-353/156, 7-13=-352/156, 4-17=-265/76, 2-17=-24/1323, 7-12=-266/76, 9-12=-24/1323

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=117mph (3-second gust) Vasd=92mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. III; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 14-1-11, Exterior(2R) 14-1-11 to 21-2-9, Interior (1) 21-2-9 to 21-10-5, Exterior(2R) 21-10-5 to 28-11-3, Interior (1) 28-11-3 to 36-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=21.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.1; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 18 and 49 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

December 8,2025

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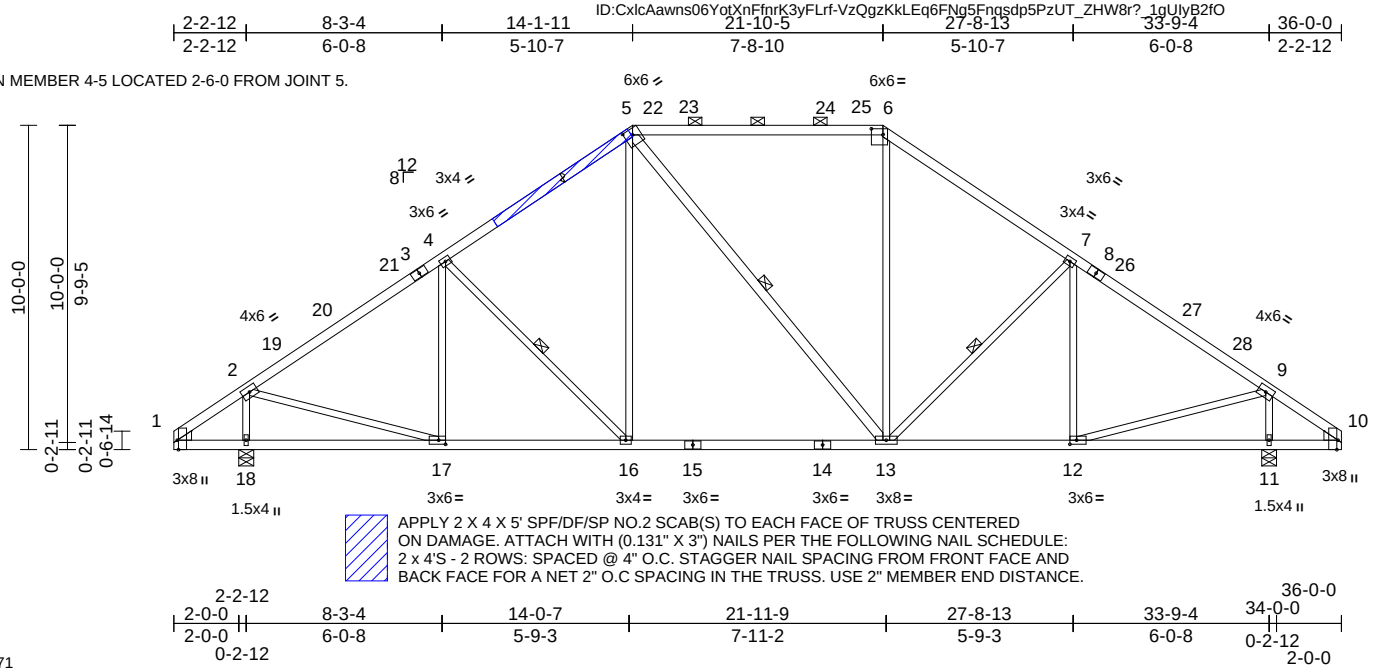
Job	Truss	Truss Type	Qty	Ply	Roof
P241184-04	B4-R2	Piggyback Base	1	1	I78299042-R2
					Job Reference (optional)

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 E Sep 26 2024 Print: 8.630 E Sep 26 2024 MiTek Industries, Inc. Mon Dec 08 11:43:18 Page: 1

ID:CxlcAawns06YotXnFfnrK3yFLrf-VzQgzKkLEq6FNq5Fnqsdp5PzUT_ZHW8r?_1gUlyB2fO

REPAIR:
BREAK IN MEMBER 4-5 LOCATED 2-6-0 FROM JOINT 5.



APPLY 2 X 4 X 5' SPF/DF/SP NO.2 SCAB(S) TO EACH FACE OF TRUSS CENTERED ON DAMAGE. ATTACH WITH (0.131" X 3") NAILS PER THE FOLLOWING NAIL SCHEDULE: 2 x 4'S - 2 ROWS: SPACED @ 4" O.C. STAGGER NAIL SPACING FROM FRONT FACE AND BACK FACE FOR A NET 2" O.C SPACING IN THE TRUSS. USE 2" MEMBER END DISTANCE.

Scale = 1:71

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.10	13-16	>999	240	MT20	244/190
Snow (Pf/Pg)	21.9/20.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.22	13-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.04	11	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 185 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2 *Except* 5-6:2x4 SP 2400F 2.0E
BOT CHORD	2x4 SP No.2
WEBS	2x3 SPF No.2 *Except* 13-5:2x4 SP No.2
WEDGE	Left: 2x4 SP No.2 Right: 2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-6-10 oc purlins, except 2-0-0 oc purlins (4-5-7 max.): 5-6.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 5-13, 4-16, 7-13

REACTIONS (lb/size) 11=1369/0-5-8, 18=1369/0-5-8
Max Horiz 18=-202 (LC 12)
Max Uplift 11=-49 (LC 17), 18=-49 (LC 16)
Max Grav 11=1713 (LC 40), 18=1713 (LC 40)

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

TOP CHORD	2-19=-1725/33, 19-20=-1604/48, 20-21=-1599/54, 3-21=-1464/65, 3-4=-1459/69, 4-5=-1511/127, 5-22=-1103/148, 22-23=-1103/148, 23-24=-1103/148, 24-25=-1103/148, 6-25=-1103/148, 6-7=-1512/127, 7-8=-1459/70, 8-26=-1464/65, 26-27=-1599/54, 27-28=-1604/48, 9-28=-1725/33
BOT CHORD	16-17=-59/1331, 15-16=-19/1102, 14-15=-19/1102, 13-14=-19/1102, 12-13=0/1331
WEBS	5-16=-24/395, 6-13=0/371, 2-18=-1592/128, 9-11=-1592/128, 4-16=-353/156, 7-13=-352/156, 4-17=-265/76, 2-17=-24/1323, 7-12=-266/76, 9-12=-24/1323

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=117mph (3-second gust) Vasd=92mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. III; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 14-1-11, Exterior(2R) 14-1-11 to 21-2-9, Interior (1) 21-2-9 to 21-10-5, Exterior(2R) 21-10-5 to 28-11-3, Interior (1) 28-11-3 to 36-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=21.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.1; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 18 and 49 lb uplift at joint 11.
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 8,2025

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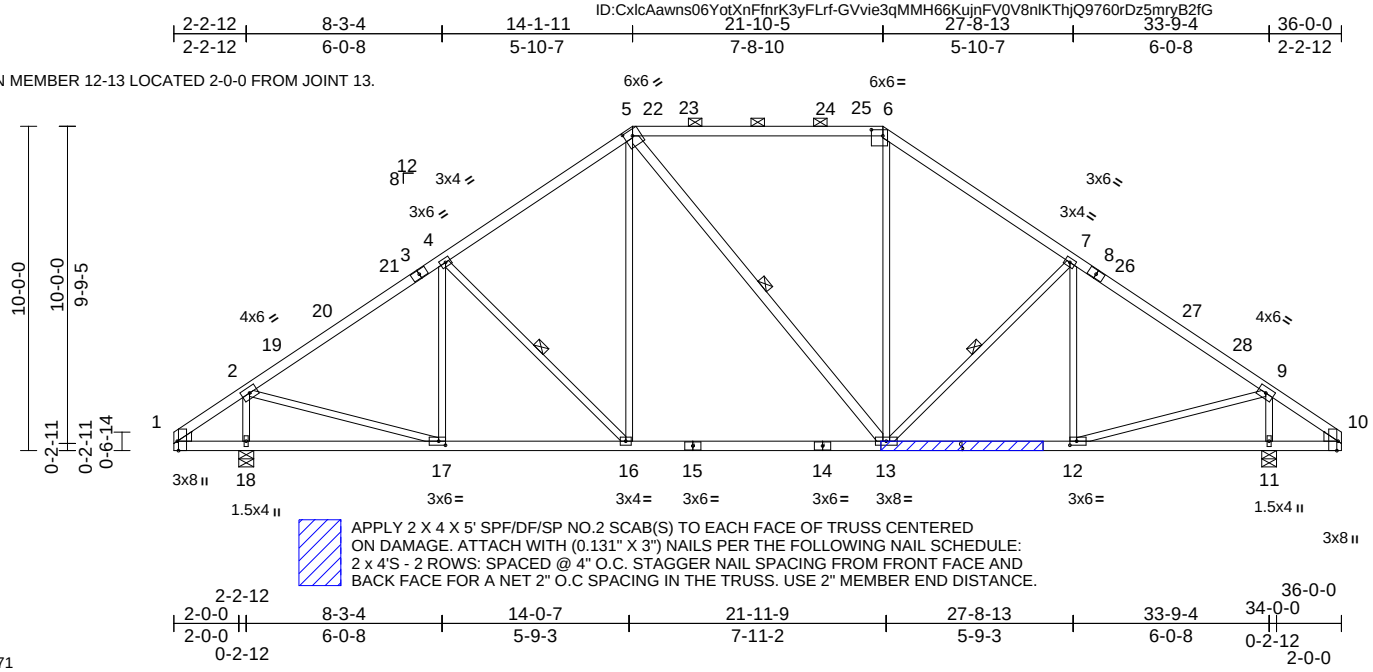
Job	Truss	Truss Type	Qty	Ply	Roof
P241184-04	B4-R3	Piggyback Base	1	1	I78299042-R3
					Job Reference (optional)

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 E Sep 26 2024 Print: 8.630 E Sep 26 2024 MiTek Industries, Inc. Mon Dec 08 11:43:25 Page: 1

ID:CxlcAawns06YotXnFfnrK3yFLrf-GVvie3qMMH66KujnFV0V8nlKThjQ9760rDz5mryB2fG

REPAIR:
BREAK IN MEMBER 12-13 LOCATED 2-0-0 FROM JOINT 13.



APPLY 2 X 4 X 5' SPF/DF/SP NO.2 SCAB(S) TO EACH FACE OF TRUSS CENTERED ON DAMAGE. ATTACH WITH (0.131" X 3") NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 x 4'S - 2 ROWS: SPACED @ 4" O.C. STAGGER NAIL SPACING FROM FRONT FACE AND BACK FACE FOR A NET 2" O.C SPACING IN THE TRUSS. USE 2" MEMBER END DISTANCE.

Scale = 1:71

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.10	13-16	>999	240	MT20	244/190
Snow (Pf/Pg)	21.9/20.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.22	13-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.04	11	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 185 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 5-6:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 13-5:2x4 SP No.2
WEDGE Left: 2x4 SP No.2
Right: 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-6-10 oc purlins, except
2-0-0 oc purlins (4-5-7 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-13, 4-16, 7-13

REACTIONS (lb/size) 11=1369/0-5-8, 18=1369/0-5-8
Max Horiz 18=-202 (LC 12)
Max Uplift 11=-49 (LC 17), 18=-49 (LC 16)
Max Grav 11=1713 (LC 40), 18=1713 (LC 40)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-19=-1725/33, 19-20=-1604/48, 20-21=-1599/54, 3-21=-1464/65, 3-4=-1459/69, 4-5=-1511/127, 5-22=-1103/148, 22-23=-1103/148, 23-24=-1103/148, 24-25=-1103/148, 6-25=-1103/148, 6-7=-1512/127, 7-8=-1459/70, 8-26=-1464/65, 26-27=-1599/54, 27-28=-1604/48, 9-28=-1725/33
BOT CHORD 16-17=-59/1331, 15-16=-19/1102, 14-15=-19/1102, 13-14=-19/1102, 12-13=0/1331
WEBS 5-16=-24/395, 6-13=0/371, 2-18=-1592/128, 9-11=-1592/128, 4-16=-353/156, 7-13=-352/156, 4-17=-265/76, 2-17=-24/1323, 7-12=-266/76, 9-12=-24/1323

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=117mph (3-second gust) Vasd=92mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. III; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 14-1-11, Exterior(2R) 14-1-11 to 21-2-9, Interior (1) 21-2-9 to 21-10-5, Exterior(2R) 21-10-5 to 28-11-3, Interior (1) 28-11-3 to 36-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=21.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.1; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 18 and 49 lb uplift at joint 11.
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 8,2025

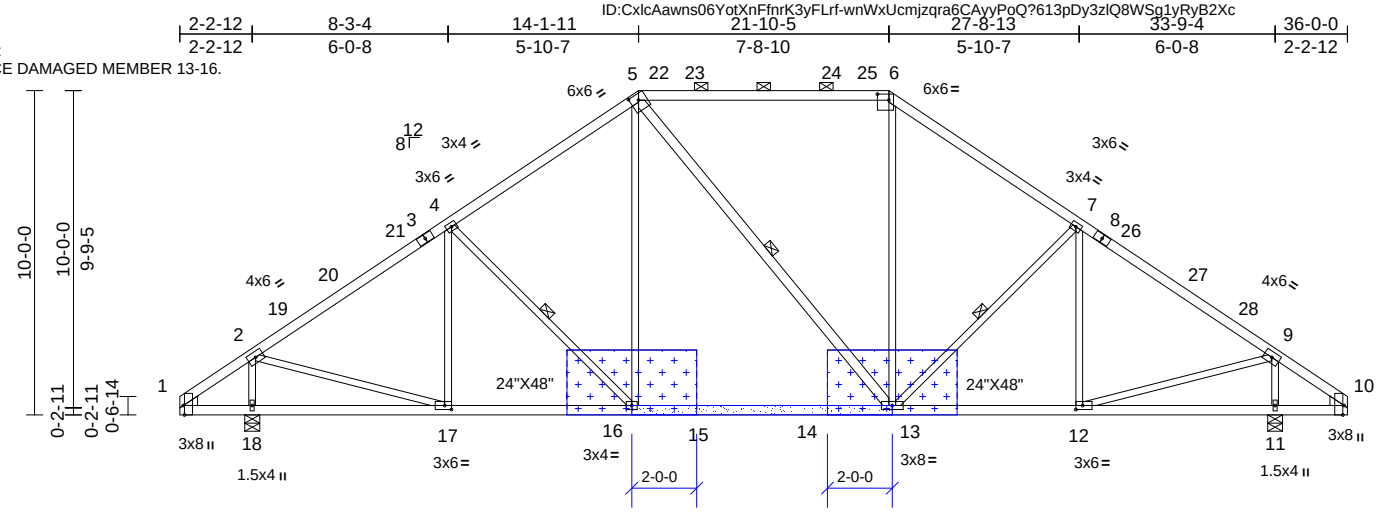
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof
P241184-04	B4-R4	Piggyback Base	1	1	I78299042-R4
					Job Reference (optional)

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 E Sep 26 2024 Print: 8.630 E Sep 26 2024 MiTek Industries, Inc. Mon Dec 08 11:51:35 Page: 1

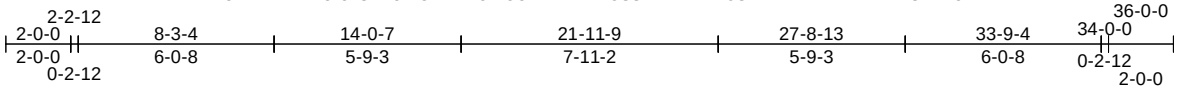
ID:CxlcAawns06YotXnFfnrK3yFLrf-wnWxUcmjzqra6CAyyPoQ?613pDy3zlQ8WSg1yRyB2Xc

REPAIR:
REPLACE DAMAGED MEMBER 13-16.



INSTALL 2 X 4 SP NO.2
CUT TO FIT TIGHT.

ATTACH 7/16" OSB GUSSET (7/16" RATED SHEATHING 24/16 EXP 1)
TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE:
2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C.
NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE
FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.



Scale = 1:71

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.10	13-16	>999	240	MT20	244/190
Snow (Pf/Pg)	21.9/20.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.22	13-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.04	11	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 185 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2 *Except* 5-6:2x4 SP 2400F 2.0E
BOT CHORD	2x4 SP No.2
WEBS	2x3 SPF No.2 *Except* 13-5:2x4 SP No.2
WEDGE	Left: 2x4 SP No.2 Right: 2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-6-10 oc purlins, except 2-0-0 oc purlins (4-5-7 max.): 5-6.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 5-13, 4-16, 7-13

REACTIONS (lb/size) 11=1369/0-5-8, 18=1369/0-5-8
Max Horiz 18=-202 (LC 12)
Max Uplift 11=-49 (LC 17), 18=-49 (LC 16)
Max Grav 11=1713 (LC 40), 18=1713 (LC 40)

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

TOP CHORD	2-19=-1725/33, 19-20=-1604/48, 20-21=-1599/54, 3-21=-1464/65, 3-4=-1459/69, 4-5=-1511/127, 5-22=-1103/148, 22-23=-1103/148, 23-24=-1103/148, 24-25=-1103/148, 6-25=-1103/148, 6-7=-1512/127, 7-8=-1459/70, 8-26=-1464/65, 26-27=-1599/54, 27-28=-1604/48, 9-28=-1725/33
BOT CHORD	16-17=-59/1331, 15-16=-19/1102, 14-15=-19/1102, 13-14=-19/1102, 12-13=0/1331
WEBS	5-16=-24/395, 6-13=0/371, 2-18=-1592/128, 9-11=-1592/128, 4-16=-353/156, 7-13=-352/156, 4-17=-265/76, 2-17=-24/1323, 7-12=-266/76, 9-12=-24/1323

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=117mph (3-second gust) Vasd=92mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. III; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 14-1-11, Exterior(2R) 14-1-11 to 21-2-9, Interior (1) 21-2-9 to 21-10-5, Exterior(2R) 21-10-5 to 28-11-3, Interior (1) 28-11-3 to 36-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=21.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.1; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 18 and 49 lb uplift at joint 11.
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 8,2025

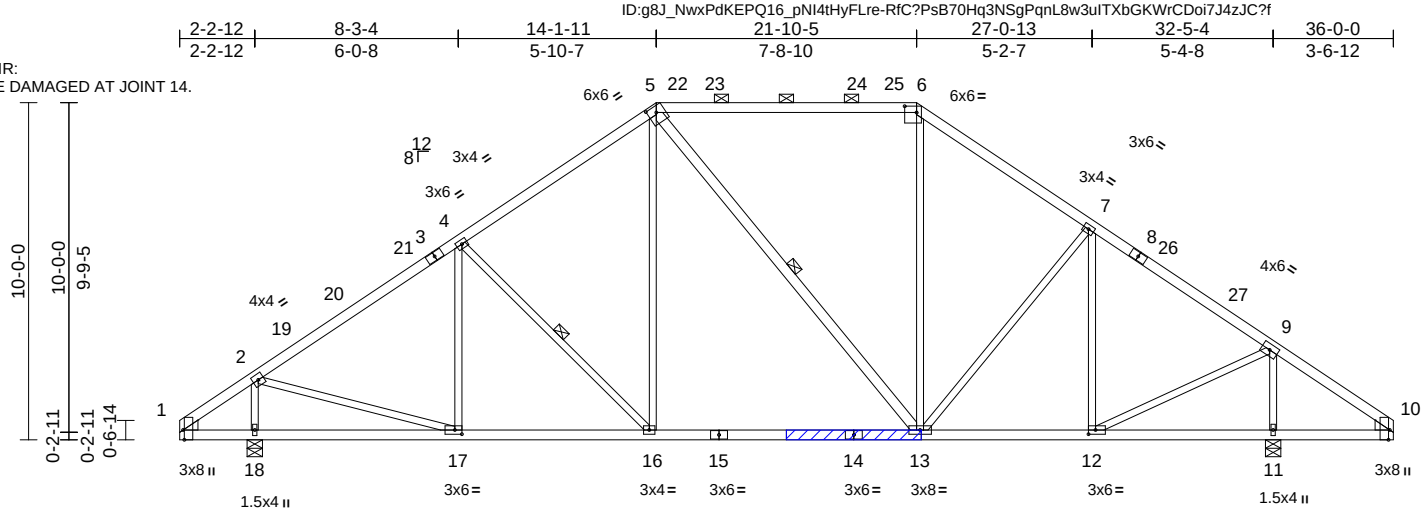
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof
P241184-04	B5	Piggyback Base	1	1	I78299043
					Job Reference (optional)

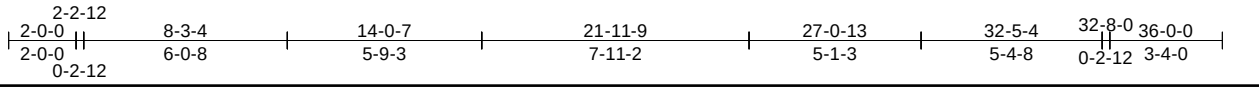
Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 S Sep 26 2024 Print: 8.630 S Sep 26 2024 MiTek Industries, Inc. Fri Dec 05 11:52:59 Page: 1

ID:g8J_NwxPdKEPQ16_pNI4tHyFLre-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

REPAIR:
PLATE DAMAGED AT JOINT 14.



APPLY 2 X 4 X 4' SPF/DF/SP NO.2 SCAB(S) TO EACH FACE OF TRUSS CENTERED ON SPLICE. ATTACH WITH (0.131" X 3") NAILS PER THE FOLLOWING NAIL SCHEDULE: 2 x 4'S - 2 ROWS: SPACED @ 4" O.C. STAGGER NAIL SPACING FROM FRONT FACE AND BACK FACE FOR A NET 2" O.C SPACING IN THE TRUSS. USE 2" MEMBER END DISTANCE.



Scale = 1:68.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.10	13-16	>999	240	MT20	244/190
Snow (Pf/Pg)	21.9/20.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.21	13-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.43	Horz(CT)	0.03	11	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 185 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2 *Except* 5-6:2x4 SP 2400F 2.0E
BOT CHORD	2x4 SP No.2
WEBS	2x3 SPF No.2 *Except* 13-5:2x4 SP No.2
WEDGE	Left: 2x4 SP No.2 Right: 2x4 SP No.2

BRACING

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

REACTIONS (size) 11=0-5-8, 18=0-5-8
Max Horiz 18=-202 (LC 12)
Max Uplift 11=-51 (LC 17), 18=-51 (LC 16)
Max Grav 11=1783 (LC 40), 18=1637 (LC 40)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-80/65, 2-4=-1630/72, 4-5=-1400/118, 5-6=-946/139, 6-7=-1302/121, 7-9=-1352/67, 9-10=-125/230
BOT CHORD	1-18=0/65, 17-18=-193/220, 16-17=-66/1252, 13-16=-31/1009, 12-13=0/1011, 11-12=-118/119, 10-11=-118/119
WEBS	5-16=-23/406, 5-13=-194/91, 6-13=-3/302, 2-18=-1518/124, 9-11=-1665/148, 4-16=-368/155, 4-17=-242/74, 2-17=-18/1242, 7-13=-166/202, 7-12=-453/77, 9-12=-32/1220

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=117mph (3-second gust) Vasd=92mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. III; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 14-1-11, Exterior(2R) 14-1-11 to 21-2-9, Interior (1) 21-2-9 to 21-10-5, Exterior(2R) 21-10-5 to 28-11-3, Interior (1) 28-11-3 to 36-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=21.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.1; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 51 lb uplift at joint 18 and 51 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

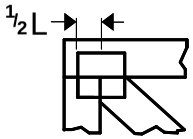
LOAD CASE(S) Standard

December 8,2025

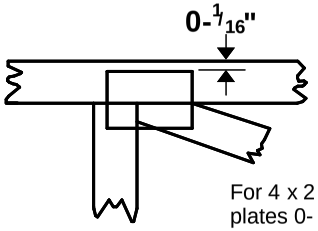
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

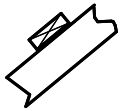
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

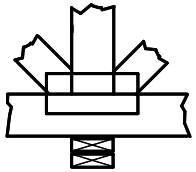
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

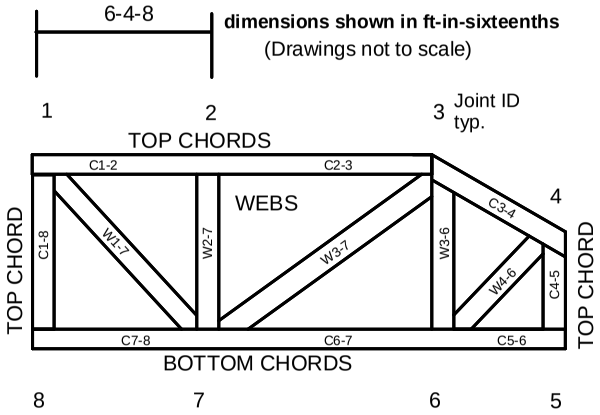


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

MiTek®

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.