



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

Re: P210169-P210169-07
Roof-Vault Repair

The truss drawing(s) referenced below 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.

Pages or sheets covered by this seal: I49473574 thru I49473582

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

Missouri COA: Engineering 001193



January 6, 2022

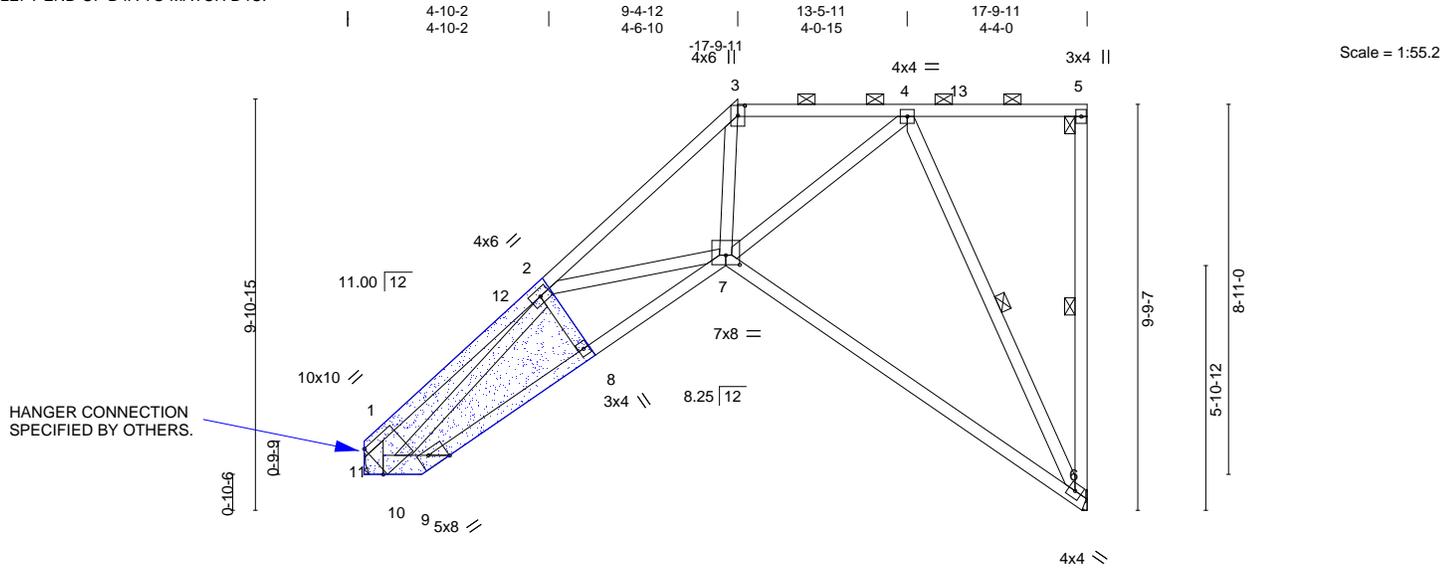
Sevier, Scott ,Engineer

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

Job	Truss	Truss Type	Qty	Ply	Roof-Vault Repair	149473574
P210169-P210169-07	D4A_C	Piggyback Base	1	1	Job Reference (optional)	

Premier Building Supply, Spring Hill, KS, 66083
 REPAIR:
 MODIFY LEFT END OF D4A TO MATCH D4C.

8.530 s Dec 6 2021 MiTek Industries, Inc. Wed Jan 5 16:33:06 2022 Page 1
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SHOP FABRICATE SCAB TRUSS (SHOWN AS SHADED AREA ON TRUSS DESIGN DRAWING) USING THE LUMBER AND PLATES INDICATED. ATTACH SCAB TRUSS TO ONE FACE OF EXISTING TRUSS WITH (0.131" X 3") NAILS (INTO ALL ALIGNING MEMBERS) PER THE FOLLOWING NAIL SCHEDULE: 2 x 4'S AND LARGER - 2 ROWS: SPACED @ 2" O.C. USE 2" MEMBER END DISTANCE.

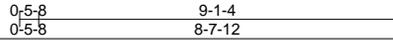


Plate Offsets (X,Y)-- [1:Edge,0-9-2], [3:0-2-15,0-2-0], [7:0-4-0,0-2-12], [9:0-5-1,Edge]

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL (roof) 25.0	2-0-0	TC 0.99	in (loc) l/defl L/d	MT20	197/144
Snow (Pf/Pg) 17.3/25.0	Plate Grip DOL 1.15	BC 0.84	Vert(LL) -0.25 6-7 >802 240		
TCDL 10.0	Lumber DOL 1.15	WB 0.92	Vert(CT) -0.52 6-7 >391 180		
BCLL 0.0 *	Rep Stress Incr NO	Matrix-SH	Horz(CT) 0.20 6 n/a n/a		
BCDL 10.0	Code IRC2018/TPI2014			Weight: 122 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2 *Except*
 WEBS 2x4 SP No.2 *Except*
 1-11: 2x6 SPF No.2

BRACING-
 TOP CHORD Sheathed, except end verticals, and 2-0-0 oc purlins (5-8-4 max.):
 3-5.
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
 WEBS 1 Row at midpt 5-6, 4-6

REACTIONS. (size) 6=Mechanical, 11=Mechanical
 Max Horz 11=351(LC 11)
 Max Uplift 6=-174(LC 9), 11=-53(LC 12)
 Max Grav 6=925(LC 32), 11=945(LC 33)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-12=-379/160, 2-12=-330/170, 2-3=-1513/382, 3-4=-985/304, 1-11=-352/71
 BOT CHORD 8-9=-555/1450, 7-8=-530/1489, 6-7=-289/569, 9-10=-449/1185
 WEBS 3-7=-173/633, 4-7=-299/890, 4-6=-1034/375, 2-10=-1848/578

- 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; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL); Lum DOL=1.15 Plate DOL=1.15); Pg=25.0 psf; Pf=17.3 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0; Min. flat roof snow load governs.
 - 4) Unbalanced snow loads have been considered for this design.
 - 5) Provide adequate drainage to prevent water ponding.
 - 6) N/A
 - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - 9) Refer to girder(s) for truss to truss connections.
 - 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 174 lb uplift at joint 6 and 53 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.



January 6, 2022

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



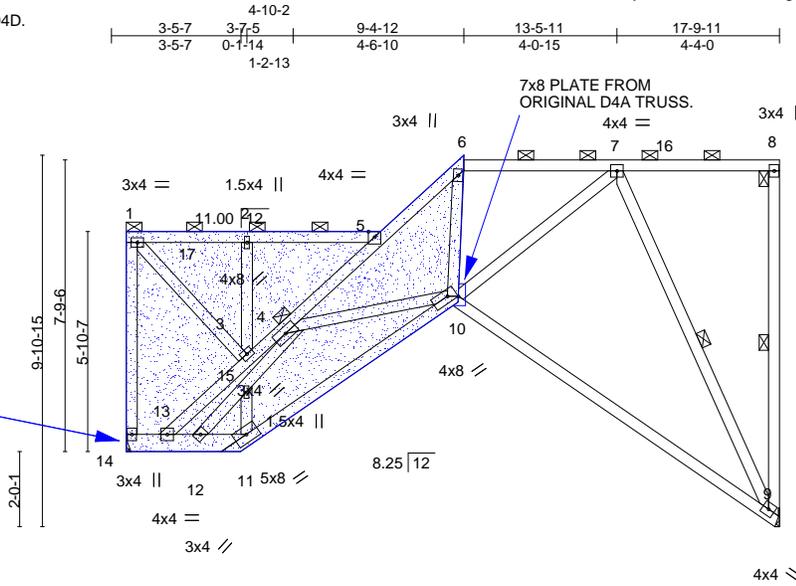
16023 Swingley Ridge Rd
 Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof-Vault Repair	149473574
P210169-P210169-07	D4A_D	Piggyback Base	1	1	Job Reference (optional)	

Premier Building Supply, Spring Hill, KS, 66083

8.530 s Dec 6 2021 MiTek Industries, Inc. Wed Jan 5 16:53:24 2022 Page 1
 ID:POYd9ZZwT8dOjeATH0zREzOIBQ-5goJ47hP0qEg7QH6L661z?xwAijivhc237bjphzyLUP

REPAIR:
 MODIFY LEFT END OF D4A TO MATCH D4D.



Scale = 1:61.1

HANGER CONNECTION SPECIFIED BY OTHERS.



SHOP FABRICATE SCAB TRUSS (SHOWN AS SHADED AREA ON TRUSS DESIGN DRAWING) USING THE LUMBER AND PLATES INDICATED. ATTACH SCAB TRUSS TO ONE FACE OF EXISTING TRUSS WITH (0.131" X 3") NAILS (INTO ALL ALIGNING MEMBERS) PER THE FOLLOWING NAIL SCHEDULE: 2 x 4'S AND LARGER - 2 ROWS: SPACED @ 2" O.C. USE 2" MEMBER END DISTANCE.

0-5-8	3-5-7	9-1-4	17-9-11
0-5-8	2-11-15	5-7-13	8-8-7

Plate Offsets (X,Y)-- [10:0-2-14,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	0.80	Vert(LL)	-0.25	9-10	>832	240	MT20	197/144
Snow (Pf/Pg)	17.3/25.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.51	9-10	>406	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.58	Horz(CT)	0.15	9	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TP12014	Matrix-SH								
BCDL	10.0											Weight: 146 lb FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2 *Except*
 11-14: 2x6 SPF No.2
 WEBS 2x4 SP No.2

BRACING-
 TOP CHORD Sheathed or 3-7-5 oc purlins, except end verticals, and 2-0-0 oc purlins (5-0-8 max.): 5-13, 6-8, 1-5.
 BOT CHORD Rigid ceiling directly applied or 9-4-1 oc bracing.
 WEBS 1 Row at midpt 8-9, 7-9
 JOINTS 1 Brace at Jt(s): 8, 4, 1

REACTIONS. (size) 9=Mechanical, 14=Mechanical
 Max Horz 14=331(LC 11)
 Max Uplift 9=-150(LC 9), 14=-124(LC 8)
 Max Grav 9=1040(LC 36), 14=1010(LC 36)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 3-13=-1067/183, 3-4=-755/106, 4-5=-1576/266, 5-6=-1600/294, 6-7=-1211/243, 1-14=-283/64
 BOT CHORD 10-11=-393/1509, 9-10=-271/653, 13-14=-299/242, 12-13=-128/815, 11-12=-308/1203
 WEBS 6-10=-116/732, 7-10=-241/923, 7-9=-1206/337, 12-15=-527/242, 4-15=-830/386, 2-3=-459/115, 11-15=-366/174

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=25.0 psf; Pf=17.3 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0; Min. flat roof snow load governs.
 - 4) Unbalanced snow loads have been considered for this design.
 - 5) Provide adequate drainage to prevent water ponding.
 - 6) N/A
 - 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - 9) Refer to girder(s) for truss to truss connections.
 - 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 150 lb uplift at joint 9 and 124 lb uplift at joint 14.
 - 11) N/A
 - 12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



January 6, 2022

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 Chesterfield, MO 63017

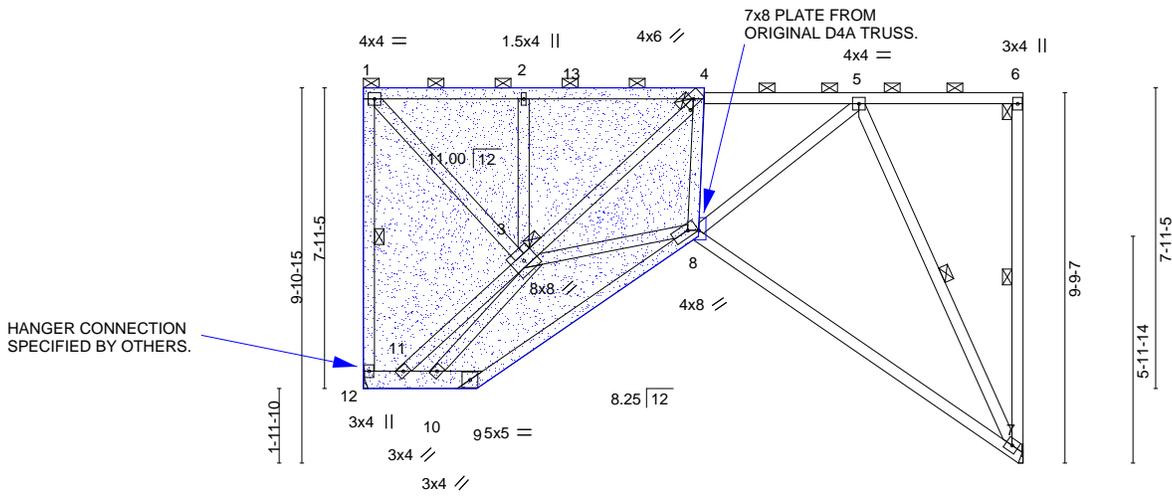
Job	Truss	Truss Type	Qty	Ply	Roof-Vault Repair	149473574
P210169-P210169-07	D4A_E	Piggyback Base	1	1	Job Reference (optional)	

Premier Building Supply, Spring Hill, KS, 66083
 REPAIR:
 MODIFY LEFT END OF D4A TO MATCH D4E.

8.530 s Dec 6 2021 MiTek Industries, Inc. Wed Jan 5 17:11:40 2022 Page 1
 ID:POtYd9ZZwT8dOjeATH0zREzOIBQ-?X0f5uyuvaK9cs3mZim2O7KG?WnCiQAN5e5jH9zyLDH



Scale = 1:60.5



SHOP FABRICATE SCAB TRUSS (SHOWN AS SHADED AREA ON TRUSS DESIGN DRAWING) USING THE LUMBER AND PLATES INDICATED. ATTACH SCAB TRUSS TO ONE FACE OF EXISTING TRUSS WITH (0.131" X 3") NAILS (INTO ALL ALIGNING MEMBERS) PER THE FOLLOWING NAIL SCHEDULE: 2 x 4'S AND LARGER - 2 ROWS: SPACED @ 2" O.C. USE 2" MEMBER END DISTANCE.



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

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	I/defl	L/d	PLATES	GRIP
TCLL (roof) 25.0	2-0-0	TC 0.58	Vert(LL)	-0.24	7-8	>854	MT20	197/144
Snow (Pf/Pg) 17.3/25.0	Plate Grip DOL 1.15	BC 0.83	Vert(CT)	-0.49	7-8	>421		
TCDL 10.0	Lumber DOL 1.15	WB 0.44	Horz(CT)	0.07	7	n/a		
BCLL 0.0 *	Rep Stress Incr NO	Matrix-SH						
BCDL 10.0	Code IRC2018/TPI2014						Weight: 154 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2 *Except*
 9-12: 2x6 SPF No.2
 WEBS 2x4 SP No.2

BRACING-
 TOP CHORD 2-0-0 oc purlins (5-9-2 max.): 4-11, 1-6, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 9-6-8 oc bracing.
 WEBS 1 Row at midpt 6-7, 5-7, 1-12
 JOINTS 1 Brace at Jt(s): 4, 6, 3, 1

REACTIONS. (size) 7=Mechanical, 12=Mechanical
 Max Horz 12=327(LC 11)
 Max Uplift 7=-189(LC 9), 12=-186(LC 8)
 Max Grav 7=777(LC 2), 12=775(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 3-11=-710/282, 3-4=-642/83, 1-2=-491/265, 2-13=-478/261, 4-13=-482/260,
 4-5=-944/323, 1-12=-605/246
 BOT CHORD 8-9=-105/338, 7-8=-301/506, 11-12=-289/256, 10-11=0/350
 WEBS 3-8=-395/718, 4-8=0/305, 5-8=-311/734, 5-7=-909/400, 3-10=-86/432, 1-3=-266/682,
 2-3=-402/162

- NOTES-**
- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=25.0 psf; Pf=17.3 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0; Min. flat roof snow load governs.
 - 3) Unbalanced snow loads have been considered for this design.
 - 4) Provide adequate drainage to prevent water ponding.
 - 5) N/A
 - 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 3-6-0 tall by 2-0-0 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 189 lb uplift at joint 7 and 186 lb uplift at joint 12.
 - 10) N/A
 - 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



January 6, 2022

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16023 Swingley Ridge Rd
 Chesterfield, MO 63017

Job P210169-P210169-07	Truss D4A_G	Truss Type Piggyback Base	Qty 1	Ply 1	Roof-Vault Repair	I49473574
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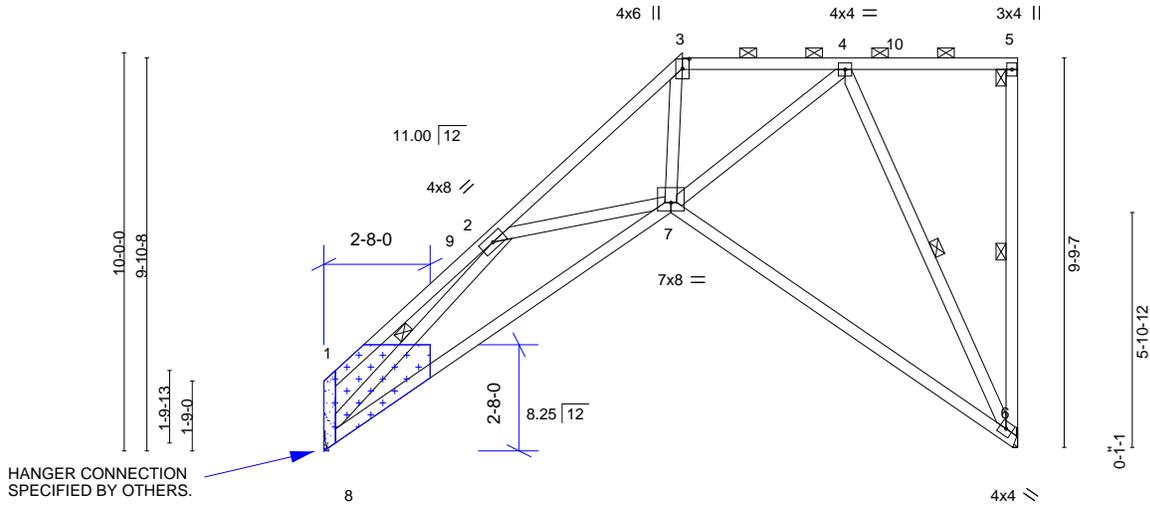
Premier Building Supply, Spring Hill, KS, 66083

8.530 s Dec 6 2021 MiTek Industries, Inc. Wed Jan 5 17:49:14 2022 Page 1
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REPAIR:
STUB LEFT END OF D4A 0-4-12 TO MATCH D4G.



Scale = 1:57.5



HANGER CONNECTION SPECIFIED BY OTHERS.



ATTACH 1/2" PLYWOOD OR OSB GUSSET (15/32" RATED SHEATHING 32/16 EXP 1) TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE: 2 X 4'S - 3 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.



INSTALL 2 X 4 SPF/DF/SP NO.2 CUT TO FIT TIGHT.

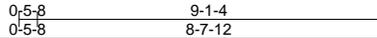


Plate Offsets (X,Y)-- [3:0-2-15,0-2-0]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof) 25.0	2-0-0	TC 0.69	Vert(LL) -0.24	6-7	>874	240	MT20	244/190
Snow (Pf/Pg) 17.3/25.0	Plate Grip DOL 1.15	BC 0.81	Vert(CT) -0.48	6-7	>425	180		
TCDL 10.0	Lumber DOL 1.15	WB 0.50	Horz(CT) 0.19	6	n/a	n/a		
BCLL 0.0 *	Rep Stress Incr NO	Matrix-SH						
BCDL 10.0	Code IRC2018/TPI2014						Weight: 122 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Sheathed or 3-5-8 oc purlins, except end verticals, and 2-0-0 oc purlins (5-7-12 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 6-7-3 oc bracing.
WEBS 1 Row at midpt 5-6, 4-6, 2-8

REACTIONS. (size) 6=Mechanical, 8=Mechanical
Max Horz 8=360(LC 9)
Max Uplift 6=-192(LC 9), 8=-48(LC 12)
Max Grav 6=928(LC 32), 8=951(LC 33)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-9=-295/67, 2-3=-1607/446, 3-4=-994/344, 1-8=-300/78
BOT CHORD 7-8=-733/1612, 6-7=-302/574
WEBS 2-7=-228/338, 3-7=-222/653, 4-7=-336/914, 4-6=-1042/402, 2-8=-1805/405

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=25.0 psf; Pf=17.3 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0; Min. flat roof snow load governs.
- Unbalanced snow loads have been considered for this design.
- Provide adequate drainage to prevent water ponding.
- N/A
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 192 lb uplift at joint 6 and 48 lb uplift at joint 8.
- N/A
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



January 6, 2022

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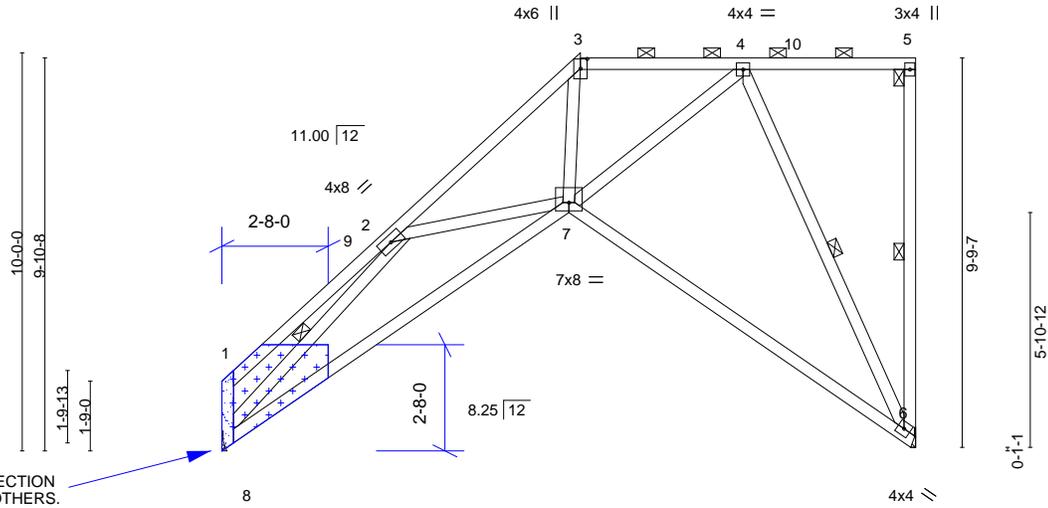


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof-Vault Repair	149473574
P210169-P210169-07	D4A_B	Piggyback Base	1	1	Job Reference (optional)	

Premier Building Supply, Spring Hill, KS, 66083
 REPAIR:
 STUB LEFT END 0-4-12 TO MATCH D4B.

8.530 s Dec 6 2021 MiTek Industries, Inc. Wed Jan 5 17:57:49 2022 Page 1
 ID: POTy d9ZZwT8dOjeATH0zREzOIBQ-REqSFISnoLGBJOFxGkyO62WSVjqE_ifyqxLkz9zyKY0



Scale = 1:57.5

HANGER CONNECTION SPECIFIED BY OTHERS.



ATTACH 1/2" PLYWOOD OR OSB GUSSET (15/32" RATED SHEATHING 32/16 EXP 1) TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE: 2 X 4'S - 3 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.



INSTALL 2 X 4 SPF/DF/SP NO.2 CUT TO FIT TIGHT.

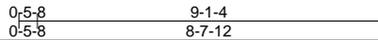


Plate Offsets (X,Y)-- [3:0-2-15.0-2-0]

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL (roof) 25.0	2-0-0	TC 0.69	in (loc) l/defl L/d	MT20	244/190
Snow (Pf/Pg) 17.3/25.0	Plate Grip DOL 1.15	BC 0.81	Vert(LL) -0.24 6-7 >874 240		
TCDL 10.0	Lumber DOL 1.15	WB 0.50	Vert(CT) -0.48 6-7 >425 180		
BCLL 0.0 *	Rep Stress Incr NO	Matrix-SH	Horz(CT) 0.19 6 n/a n/a		
BCDL 10.0	Code IRC2018/TPI2014			Weight: 122 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.2

BRACING-
 TOP CHORD Sheathed or 3-5-8 oc purlins, except end verticals, and 2-0-0 oc purlins (5-7-12 max.): 3-5.
 BOT CHORD Rigid ceiling directly applied or 6-7-3 oc bracing.
 WEBS 1 Row at midpt 5-6, 4-6, 2-8

REACTIONS. (size) 6=Mechanical, 8=Mechanical
 Max Horz 8=360(LC 9)
 Max Uplift 6=-192(LC 9), 8=-48(LC 12)
 Max Grav 6=928(LC 32), 8=951(LC 33)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-9=-295/67, 2-3=-1607/446, 3-4=-994/344, 1-8=-300/78
 BOT CHORD 7-8=-733/1612, 6-7=-302/574
 WEBS 2-7=-228/338, 3-7=-222/653, 4-7=-336/914, 4-6=-1042/402, 2-8=-1805/405

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; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=25.0 psf; Pf=17.3 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0; Min. flat roof snow load governs.
- 4) Unbalanced snow loads have been considered for this design.
- 5) Provide adequate drainage to prevent water ponding.
- 6) N/A
- 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- 9) Refer to girder(s) for truss to truss connections.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 192 lb uplift at joint 6 and 48 lb uplift at joint 8.
- 11) N/A
- 12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



January 6, 2022

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 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, DSB-89 and BCSI Building Component

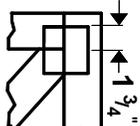
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



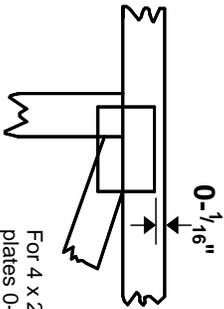
16023 Swingley Ridge Rd
 Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



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



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



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

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

PLATE SIZE

4 X 4

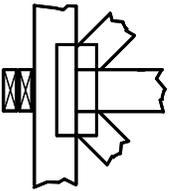
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING



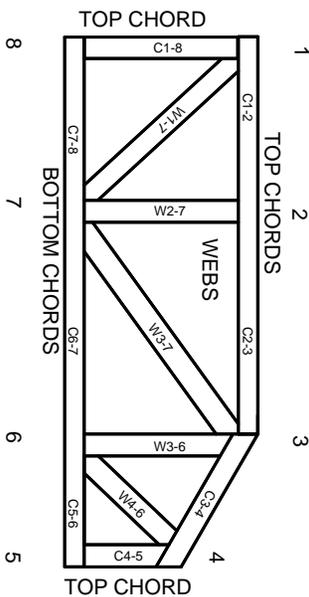
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI 1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing, Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

6-4-8 dimensions shown in ft-in-sixteenths (Drawings not to scale)



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

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

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

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

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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 T or 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.



MITek Engineering Reference Sheet: Mill-7473 rev. 5/19/2020