

RE: J1224-6956  
 Lot 27 Magnolia Hills

**Trenco**  
 818 Soundside Rd  
 Edenton, NC 27932

**Site Information:**

Customer: Project Name: J1224-6956  
 Lot/Block: Model:  
 Address: Subdivision:  
 City: State:

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

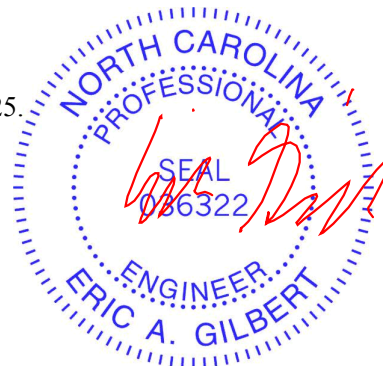
Design Code: IRC2015/TPI2014 Design Program: MiTek 20/20 8.6  
 Wind Code: ASCE 7-10 Wind Speed: 130 mph  
 Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 24 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I70686412	A1-GE	1/13/2025	21	I70686432	VA4	1/13/2025
2	I70686413	A2	1/13/2025	22	I70686433	VA5	1/13/2025
3	I70686414	A2A	1/13/2025	23	I70686434	VA6	1/13/2025
4	I70686415	A3-GE	1/13/2025	24	I70686435	VA7	1/13/2025
5	I70686416	A4	1/13/2025				
6	I70686417	A5-GE	1/13/2025				
7	I70686418	B1	1/13/2025				
8	I70686419	B2	1/13/2025				
9	I70686420	C1-GE	1/13/2025				
10	I70686421	C2	1/13/2025				
11	I70686422	J1-GE	1/13/2025				
12	I70686423	J2	1/13/2025				
13	I70686424	J3-GE	1/13/2025				
14	I70686425	M1-GE	1/13/2025				
15	I70686426	M2	1/13/2025				
16	I70686427	P1-GE	1/13/2025				
17	I70686428	P2	1/13/2025				
18	I70686429	VA1	1/13/2025				
19	I70686430	VA2	1/13/2025				
20	I70686431	VA3	1/13/2025				

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Comtech, Inc - Fayetteville.  
 Truss Design Engineer's Name: Gilbert, Eric  
 My license renewal date for the state of North Carolina is December 31, 2025.  
 North Carolina COA: C-0844

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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. 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.



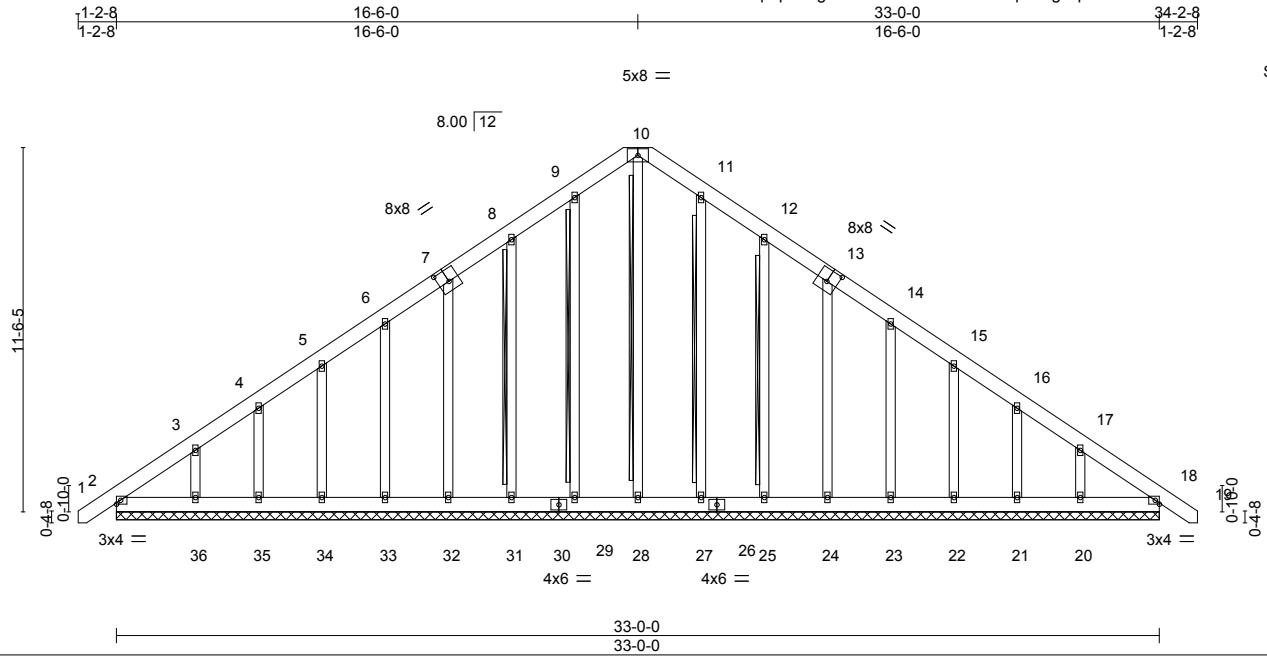
January 13, 2025

Job J1224-6956	Truss A1-GE	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686412
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8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:02 2025 Page 1

ID:TBfIsx8xbnQ8q?qAEUg6cKzS70A-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:72.9

Plate Offsets (X, Y)--	[7:0-4-0,0-4-8], [13:0-4-0,0-4-8]				
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.15	TC 0.05	Vert(LL) -0.00 18 n/r 120	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.03	Vert(CT) 0.00 18 n/r 120		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.15	Horz(CT) 0.01 18 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-S		Weight: 309 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x6 SP No.1	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
OTHERS 2x4 SP No.2	WEBS T-Brace: 2x4 SPF No.2 - 10-28, 9-29, 8-31, 11-27, 12-25

Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c., with 3in minimum end distance. Brace must cover 90% of web length.

**REACTIONS.** All bearings 33-0-0.  
 (lb) - Max Horz 2=351(LC 10)  
 Max Uplift All uplift 100 lb or less at joint(s) 2, 18, 29, 32, 33, 34, 35, 27, 24, 23, 22, 21 except 31=103(LC 12), 36=144(LC 12), 25=106(LC 13), 20=136(LC 13)  
 Max Grav All reactions 250 lb or less at joint(s) 2, 18, 28, 29, 31, 32, 33, 34, 35, 36, 27, 25, 24, 23, 22, 21, 20

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-363/272, 3-4=-252/217, 8-9=-231/272, 9-10=-264/298, 10-11=-264/298, 11-12=-231/255, 17-18=-281/193  
 BOT CHORD 2-36=-176/277, 35-36=-176/277, 34-35=-176/277, 33-34=-176/277, 32-33=-176/277, 31-32=-178/278, 29-31=-178/278, 28-29=-178/278, 27-28=-178/278, 25-27=-178/278, 24-25=-178/278, 23-24=-176/276, 22-23=-176/276, 21-22=-176/276, 20-21=-176/276, 18-20=-176/276

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; 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) 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 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 18, 29, 32, 33, 34, 35, 27, 24, 23, 22, 21 except (jt=lb) 31=103, 36=144, 25=106, 20=136.
  - 10) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.



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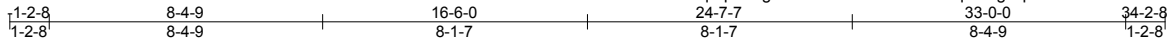
<p><b>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.</b></p> <p>Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. 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 <b>ANSI/TPI1 Quality Criteria and DSB-22</b> available from Truss Plate Institute (www.tpinst.org) and <b>BCSI Building Component Safety Information</b> available from the Structural Building Component Association (www.sbcacomponents.com)</p>	<p>818 Soundside Road Edenton, NC 27932</p>
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Job J1224-6956	Truss A2	Truss Type COMMON	Qty 8	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686413
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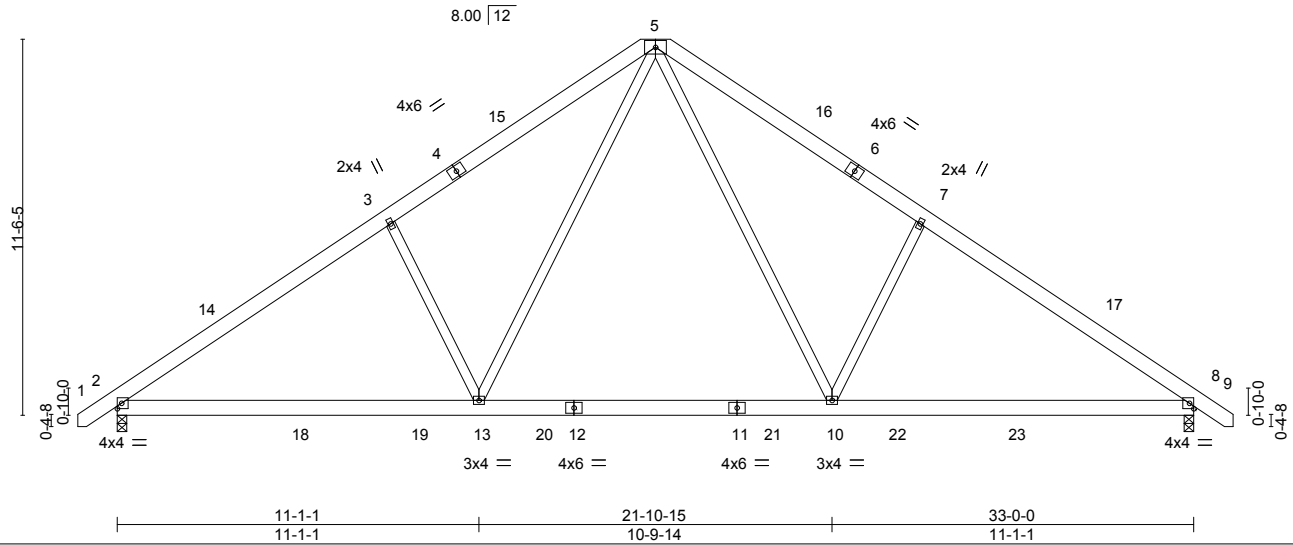
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ID:TBfIsx8xbnQ8q?qAEUg6cKzS70A-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?f



5x8 =

Scale = 1:70.6



<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL	1.15	TC 0.30	Vert(LL)	-0.17 10-13	>999	360	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.58	Vert(CT)	-0.24 10-13	>999	240		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.48	Horz(CT)	0.04 8	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S	Wind(LL)	0.04 2-13	>999	240		
								Weight: 231 lb	FT = 20%

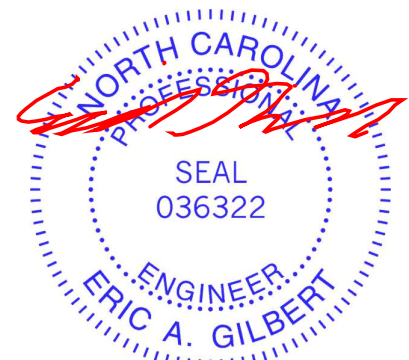
<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x6 SP No.1	TOP CHORD Structural wood sheathing directly applied or 5-0-12 oc purlins.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.2	

**REACTIONS.** (size) 2=0-3-8, 8=0-3-8  
 Max Horz 2=281(LC 11)  
 Max Uplift 2=-85(LC 12), 8=-85(LC 13)  
 Max Grav 2=1606(LC 19), 8=1606(LC 20)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-2167/383, 3-5=-2025/487, 5-7=-2025/487, 7-8=-2167/383  
 BOT CHORD 2-13=-158/1884, 10-13=0/1236, 8-10=-168/1695  
 WEBS 5-10=-173/1047, 7-10=-526/320, 5-13=-173/1047, 3-13=-526/320

**NOTES-**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 16-6-0, Exterior(2) 16-6-0 to 20-10-13, Interior(1) 20-10-13 to 34-0-15 zone; C-C for members and forces & MWFRS for reactions shown; 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 30.0psf 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, with BCDL = 10.0psf.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 8.



January 13, 2025

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Job J1224-6956	Truss A2A	Truss Type COMMON	Qty 5	Ply 1	Lot 27 Magnolia Hills 170686414
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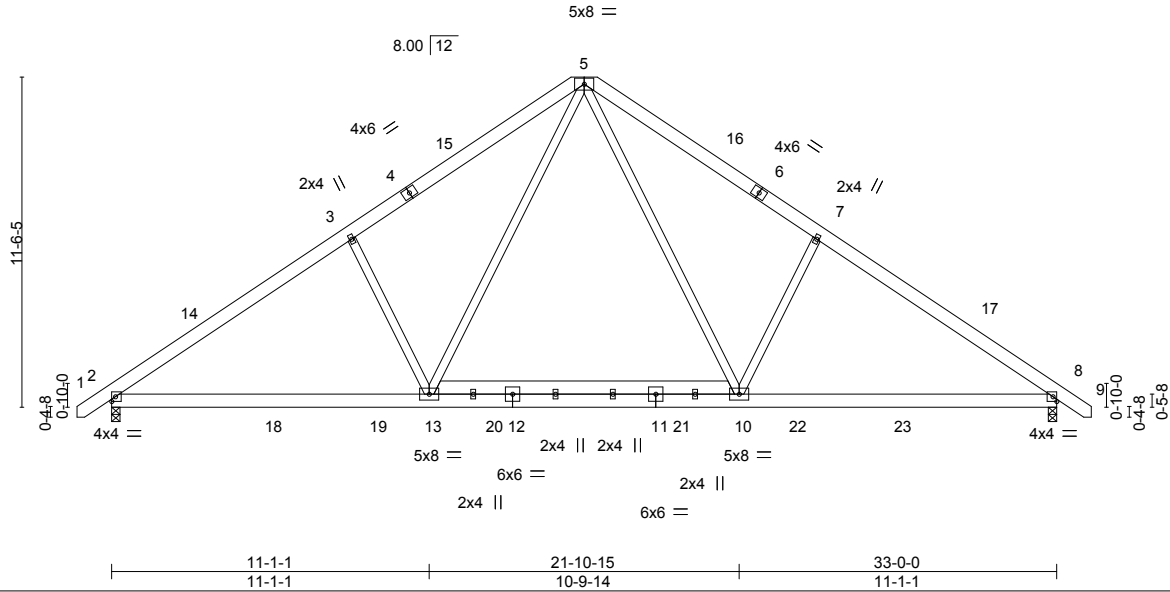
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Scale = 1:80.5



<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL	1.15	TC 0.30	Vert(LL)	-0.16	10-13	>999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.57	Vert(CT)	-0.23	10-13	>999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.48	Horz(CT)	0.04	8	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S	Wind(LL)	0.04	2-13	>999		
								Weight: 255 lb	FT = 20%

**LUMBER-**  
 TOP CHORD 2x6 SP No.1  
 BOT CHORD 2x6 SP No.1  
 WEBS 2x4 SP No.2

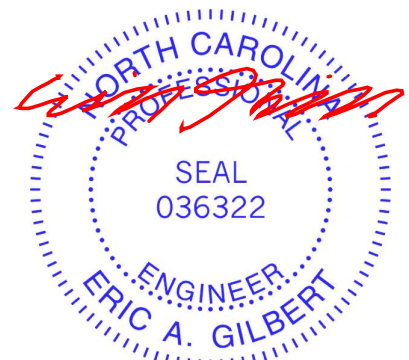
**BRACING-**  
 TOP CHORD Structural wood sheathing directly applied or 5-1-0 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 2=0-3-8, 8=0-3-8  
 Max Horz 2=281(LC 11)  
 Max Uplift 2=-85(LC 12), 8=-85(LC 13)  
 Max Grav 2=1596(LC 19), 8=1596(LC 20)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-2148/383, 3-5=-2006/487, 5-7=-2006/487, 7-8=-2148/383  
 BOT CHORD 2-13=-158/1869, 10-13=0/1225, 8-10=-168/1680  
 WEBS 5-10=-173/1035, 7-10=-526/320, 5-13=-173/1035, 3-13=-526/320

**NOTES-**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 16-6-0, Exterior(2) 16-6-0 to 20-10-13, Interior(1) 20-10-13 to 34-0-15 zone; C-C for members and forces & MWFRS for reactions shown; 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 30.0psf 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, with BCDL = 10.0psf.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 8.



January 13, 2025

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 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.sbcacomponents.com)



Job J1224-6956	Truss A3-GE	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686415
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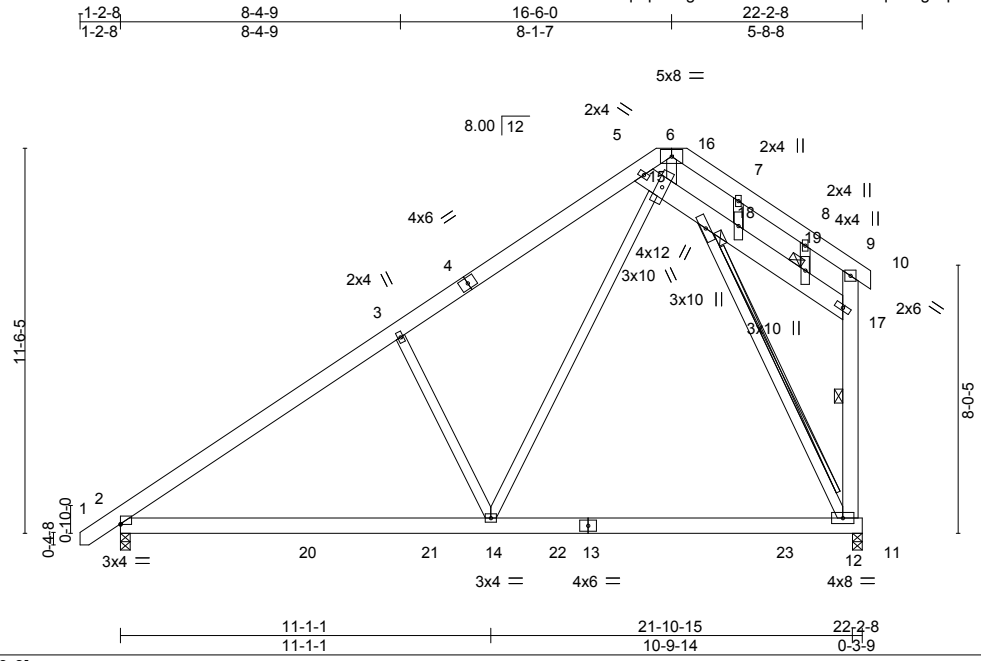


Plate Offsets (X,Y)--	[2:0-0-0,0-0-3]
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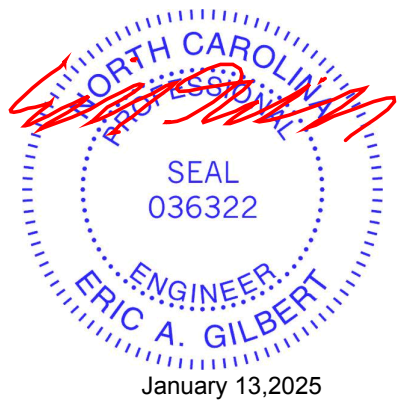
LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.29	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.56	Vert(LL) -0.20 12-14 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.56	Vert(CT) -0.26 12-14 >998 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-S	Horz(CT) 0.01 12 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) 0.05 2-14 >999 240	Weight: 203 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x6 SP No.1	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.2 *Except*	WEBS 1 Row at midpt 9-12
9-12: 2x6 SP No.1, 5-17: 2x8 SP No.1	T-Brace: 2x4 SPF No.2 - 12-16
OTHERS 2x4 SP No.2	Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c., with 3in minimum end distance. Brace must cover 90% of web length.
	JOINTS 1 Brace at Jt(s): 16, 19

**REACTIONS.** (size) 2=0-3-8, 12=0-3-8  
 Max Horz 2=443(LC 12)  
 Max Uplift 2=-176(LC 12), 12=-246(LC 12)  
 Max Grav 2=1086(LC 19), 12=1157(LC 19)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1263/227, 3-5=-1120/333, 5-6=-347/247, 12-17=-288/147, 9-17=-292/106  
 BOT CHORD 2-14=-413/1115, 12-14=-123/409  
 WEBS 12-16=-828/297, 14-15=-252/1103, 3-14=-506/400, 5-15=-847/304, 15-16=-765/255, 6-15=-243/385

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
  - Gable studs spaced at 2-0-0 oc.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 30.0psf 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, with BCDL = 10.0psf.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=176, 12=246.
  - Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

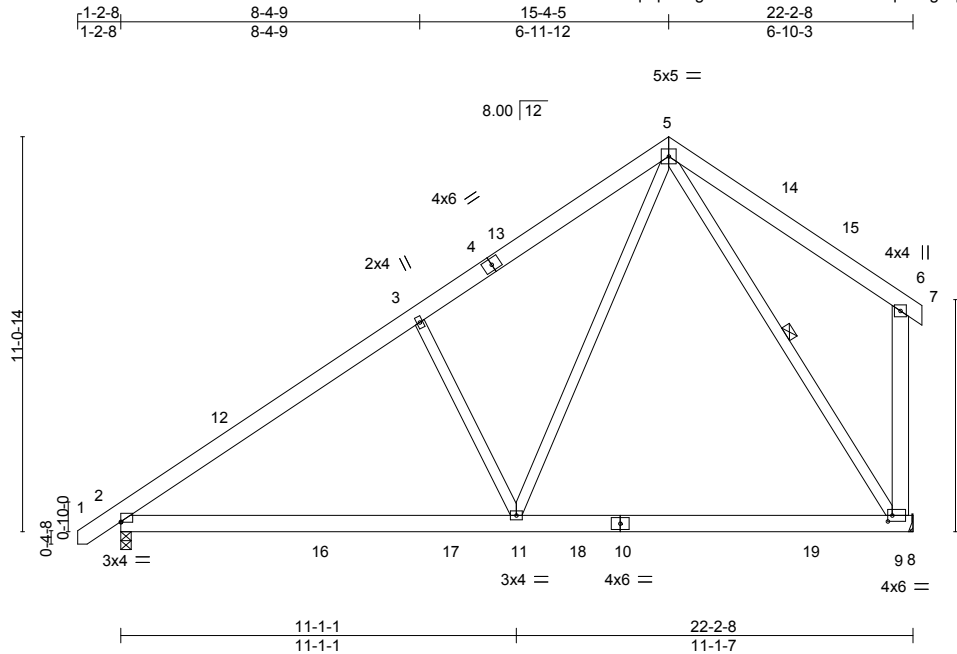


Job J1224-6956	Truss A4	Truss Type COMMON	Qty 9	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686416
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Scale: 3/16"=1'

Plate Offsets (X,Y)--	[2:0-0-0,0-0-3], [9:0-1-8,0-2-0]				
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.15	TC 0.30	Vert(LL) -0.18 9-11 >999 360	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.56	Vert(CT) -0.25 9-11 >999 240		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.56	Horz(CT) 0.01 9 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-S	Wind(LL) 0.04 2-11 >999 240	Weight: 176 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x6 SP No.1	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.2 *Except* 6-9: 2x6 SP No.1	WEBS 1 Row at midpt 5-9

**REACTIONS.** (size) 9=Mechanical, 2=0-3-8  
 Max Horz 2=260(LC 12)  
 Max Uplift 9=-71(LC 12), 2=-51(LC 12)  
 Max Grav 9=1119(LC 19), 2=1079(LC 19)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1269/199, 3-5=-1127/294, 6-9=-309/214  
 BOT CHORD 2-11=-244/1093, 9-11=-58/497  
 WEBS 3-11=-518/305, 5-9=-829/101, 5-11=-143/1064

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 15-4-5, Exterior(2) 15-4-5 to 19-9-2, Interior(1) 19-9-2 to 22-5-8 zone; C-C for members and forces & MWFRS for reactions shown; 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 30.0psf 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, 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 100 lb uplift at joint(s) 9, 2.

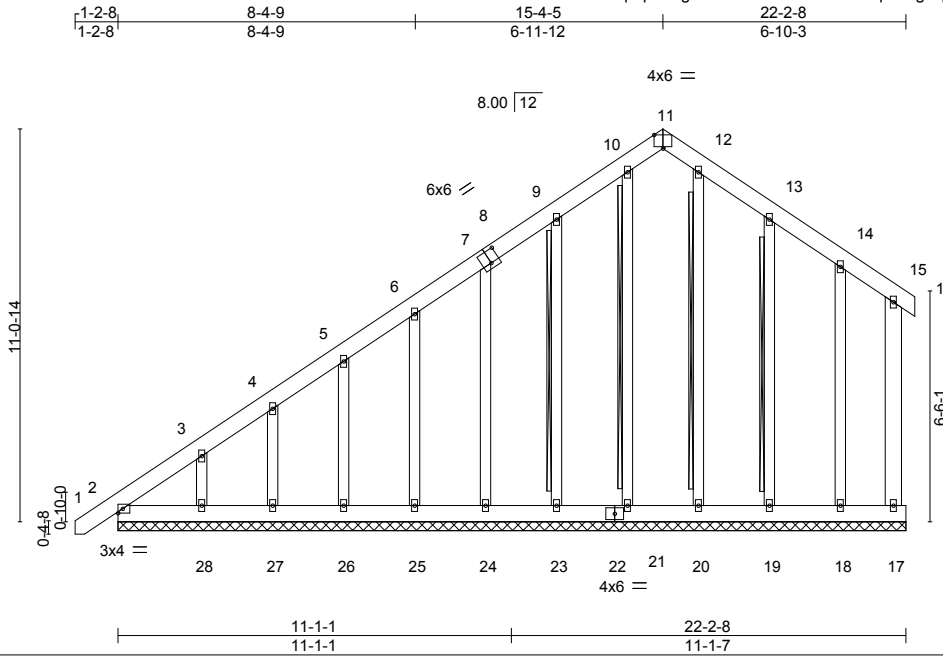


Job J1224-6956	Truss A5-GE	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686417
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:05 2025 Page 1

ID:TBfIsx8xnbQ8q?qAEUg6cKzS70A-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



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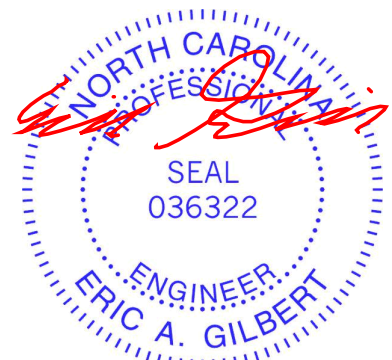
Plate Offsets (X,Y)--	[8:0-3-0,0-4-4], [11:0-3-0,Edge]				
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.15	TC 0.06	Vert(LL) 0.00 15 n/r 120	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.01	Vert(CT) 0.00 15 n/r 120		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.13	Horz(CT) 0.00 17 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-S		Weight: 227 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x6 SP No.1	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x6 SP No.1	WEBS T-Brace: 2x4 SP No.2 - 10-21
OTHERS 2x4 SP No.2	2x4 SPF No.2 - 9-23, 12-20, 13-19
	Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c., with 3in minimum end distance. Brace must cover 90% of web length.

**REACTIONS.** All bearings 22-2-8.  
 (lb) - Max Horz 2=387(LC 12)  
 Max Uplift All uplift 100 lb or less at joint(s) 17, 2, 21, 23, 24, 25, 26, 27, 18 except 28=147(LC 12), 19=104(LC 13)  
 Max Grav All reactions 250 lb or less at joint(s) 17, 2, 21, 23, 24, 25, 26, 27, 28, 20, 19, 18

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-426/302, 3-4=-308/248

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
  - All plates are 2x4 MT20 unless otherwise indicated.
  - Gable requires continuous bottom chord bearing.
  - Gable studs spaced at 2-0-0 oc.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 30.0psf 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.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 17, 2, 21, 23, 24, 25, 26, 27, 18 except (jt=lb) 28=147, 19=104.
  - Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.



January 13, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
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**ENGINEERING BY**  
**TRENCO**  
 A MITEK Affiliate  
 818 Soundside Road  
 Edenton, NC 27932

Job J1224-6956	Truss B1	Truss Type FLAT GIRDER	Qty 1	Ply 2	Lot 27 Magnolia Hills Job Reference (optional)	170686418
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:06 2025 Page 1

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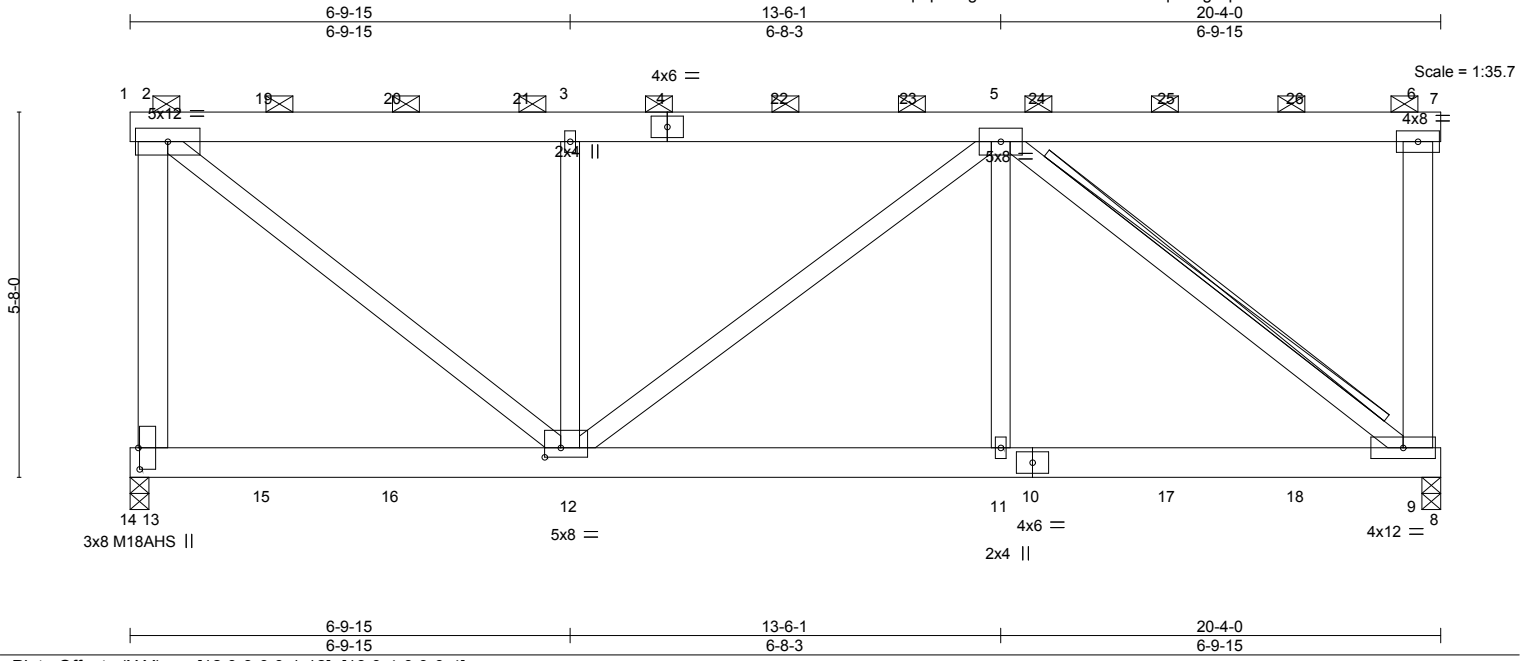


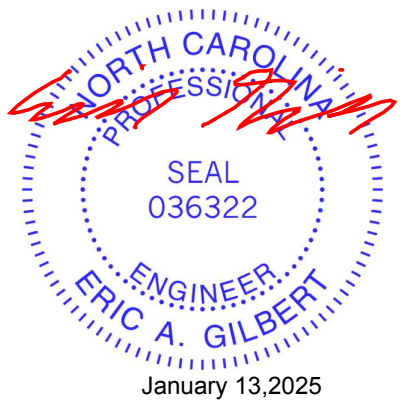
Plate Offsets (X,Y)--	[12:0-3-0,0-1-12], [13:0-4-0,0-0-4]				
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.15	TC 0.91	Vert(LL) -0.07 11-12 >999 360	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.55	Vert(CT) -0.12 11-12 >999 240	M18AHS	186/179
BCLL 0.0 *	Rep Stress Incr NO	WB 0.80	Horz(CT) 0.03 9 n/a n/a		
BCDL 10.0	Code IRC2015/TP12014	Matrix-S	Wind(LL) 0.06 12-13 >999 240	Weight: 332 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x6 SP No.1	TOP CHORD 2-0-0 oc purlins (5-10-4 max.): 1-7, except end verticals.
BOT CHORD 2x6 SP No.1	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.2 *Except* 2-13,6-9: 2x6 SP No.1	T-Brace: 2x6 SPF No.2 - 5-9
	Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c., with 3in minimum end distance.
	Brace must cover 90% of web length.

**REACTIONS.** (size) 13=0-3-8, 9=0-3-8  
 Max Horz 13=-144(LC 6)  
 Max Uplift 13=-662(LC 4), 9=-626(LC 5)  
 Max Grav 13=5900(LC 2), 9=5800(LC 2)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-13=-5441/516, 6-9=-1196/127, 2-3=-5389/505, 3-5=-5389/505, 5-6=-265/41  
 BOT CHORD 12-13=-96/317, 11-12=-494/5444, 9-11=-494/5444  
 WEBS 2-12=-563/6555, 3-12=-3787/313, 5-11=-41/390, 5-9=-6649/581

- 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 0-7-0 oc.  
 Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.  
 Webs 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) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); end vertical left exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - 4) Provide adequate drainage to prevent water ponding.
  - 5) All plates are MT20 plates unless otherwise indicated.
  - 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 7) \* This truss has been designed for a live load of 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 13=662, 9=626.
  - 9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
  - 10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 69 lb down and 49 lb up at 0-4-4, 1015 lb down and 72 lb up at 2-1-4, 1015 lb down and 72 lb up at 4-1-4, 1015 lb down and 72 lb up at 6-1-4, 1015 lb down and 72 lb up at 8-1-4, 1015 lb down and 72 lb up at 10-1-4, 1015 lb down and 72 lb up at 12-1-4, 1015 lb down and 72 lb up at 14-1-4, and 1015 lb down and 72 lb up at 16-1-4, and 1015 lb down and 72 lb up at 18-1-4 on top chord, and 316 lb down and 155 lb up at 2-0-12, 316 lb down and 155 lb up at 4-0-12, and 316 lb down and 155 lb up at 16-1-4, and 316 lb down and 155 lb up at 18-1-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
  - 11) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.



Continued on page 2

**LOAD CASE(S)** Standard

**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/TP1 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.sbcacomponents.com)

**ENGINEERING BY**  
**TRENCO**  
 A MiTek Affiliate

818 Soundside Road  
 Edenton, NC 27932



Job J1224-6956	Truss B1	Truss Type FLAT GIRDER	Qty 1	Ply <b>2</b>	Lot 27 Magnolia Hills Job Reference (optional)	170686418
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:06 2025 Page 2  
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**LOAD CASE(S)** Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (plf)

Vert: 8-14=-20, 1-2=-60, 2-6=-60, 6-7=-60

Concentrated Loads (lb)

Vert: 2=-65 4=-850(F) 15=-316(B) 16=-316(B) 17=-316(B) 18=-316(B) 19=-850(F) 20=-850(F) 21=-850(F) 22=-850(F) 23=-850(F) 24=-850(F) 25=-850(F)  
26=-850(F)

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

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818 Soundside Road  
Edenton, NC 27932

Job J1224-6956	Truss B2	Truss Type FLAT GIRDER	Qty 1	Ply 2	Lot 27 Magnolia Hills Job Reference (optional)	170686419
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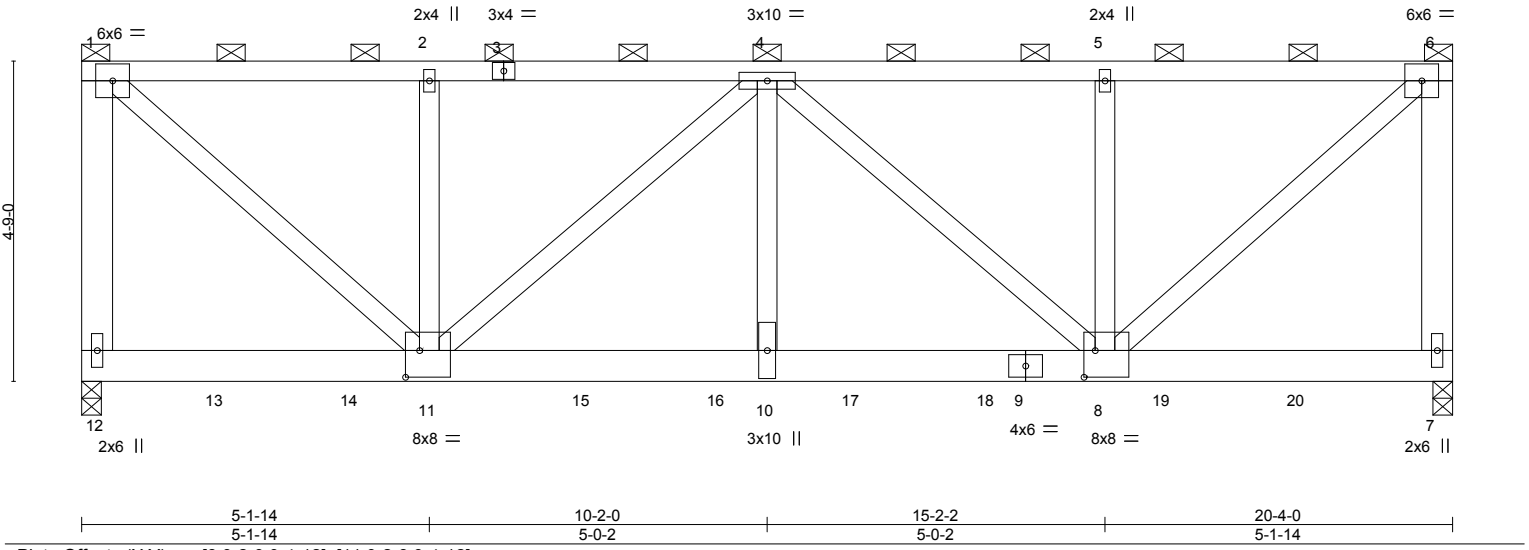
Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:06 2025 Page 1

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Scale = 1:34.2



LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.17	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.63	Vert(LL) -0.07 8-10 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.65	Vert(CT) -0.14 8-10 >999 240		
BCDL 10.0	Rep Stress Incr NO	Matrix-S	Horz(CT) 0.02 7 n/a n/a		
	Code IRC2015/TP12014		Wind(LL) 0.07 8-10 >999 240	Weight: 301 lb	FT = 20%

**LUMBER-**  
TOP CHORD 2x4 SP No.1  
BOT CHORD 2x6 SP No.1  
WEBS 2x4 SP No.2 \*Except\*  
1-12,6-7: 2x6 SP No.1

**BRACING-**  
TOP CHORD 2-0-0 oc purlins (6-0-0 max.): 1-6, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 12=0-3-8, 7=0-3-8  
Max Horz 12=-121(LC 6)  
Max Uplift 12=-674(LC 4), 7=-687(LC 5)  
Max Grav 12=3924(LC 1), 7=3981(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 1-12=-3548/658, 1-2=-3902/728, 2-4=-3902/728, 4-5=-4040/725, 5-6=-4040/725, 6-7=-3676/682  
BOT CHORD 10-11=-926/5303, 8-10=-926/5303  
WEBS 1-11=-921/5122, 2-11=-296/114, 4-11=-1859/312, 4-10=-398/2020, 4-8=-1676/277, 5-8=-295/113, 6-8=-955/5312

- NOTES-**
- 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 0-9-0 oc.  
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
  - All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
  - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); end vertical left exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - Provide adequate drainage to prevent water ponding.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 30.0psf 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.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 12=674, 7=687.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
  - Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 500 lb down and 47 lb up at 2-0-0, 500 lb down and 47 lb up at 4-0-0, 500 lb down and 47 lb up at 16-0-8, 500 lb down and 47 lb up at 18-0-8, 758 lb down and 271 lb up at 5-5-4, 758 lb down and 123 lb up at 7-5-4, 758 lb down and 123 lb up at 9-5-4, 758 lb down and 123 lb up at 11-5-4, and 758 lb down and 123 lb up at 13-5-4, and 758 lb down and 271 lb up at 14-10-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.



**LOAD CASE(S)** Standard  
Continued on page 2

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**ENGINEERING BY**  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job J1224-6956	Truss B2	Truss Type FLAT GIRDER	Qty 1	Ply <b>2</b>	Lot 27 Magnolia Hills 170686419 Job Reference (optional)
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:06 2025 Page 2  
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**LOAD CASE(S)** Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (plf)

Vert: 1-6=-60, 7-12=-20

Concentrated Loads (lb)

Vert: 11=-758(B) 8=-758(B) 13=-441(F) 14=-441(F) 15=-758(B) 16=-758(B) 17=-758(B) 18=-758(B) 19=-441(F) 20=-441(F)

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

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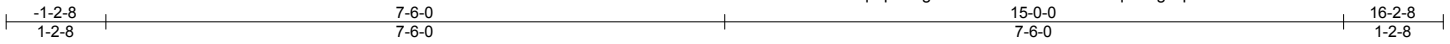
818 Soundside Road  
Edenton, NC 27932

Job J1224-6956	Truss C1-GE	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills 170686420
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8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:07 2025 Page 1

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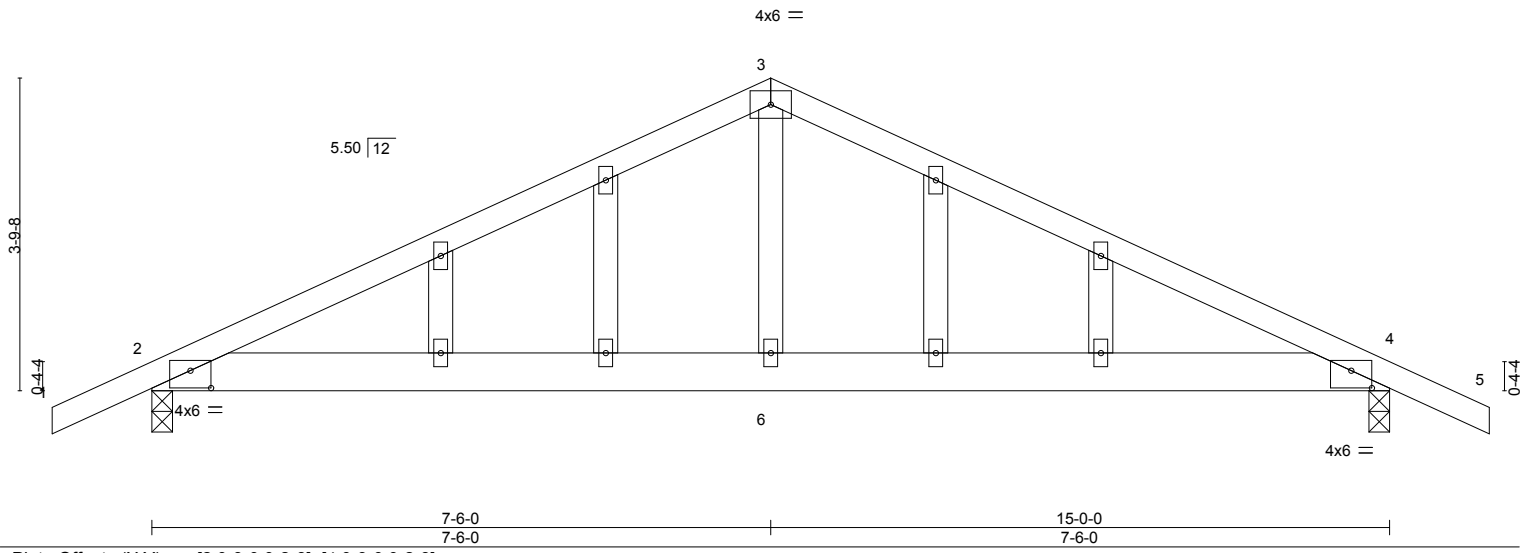


Plate Offsets (X,Y)--	[2:0-3-0,0-2-8], [4:0-3-0,0-2-8]
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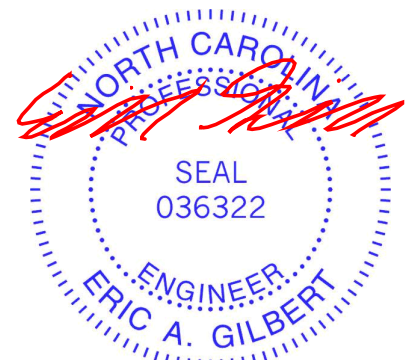
LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.48	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.26	Vert(LL) -0.03 4-6 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.10	Vert(CT) -0.06 4-6 >999 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-S	Horz(CT) 0.01 4 n/a n/a		
	Code IRC2015/TP12014		Wind(LL) 0.07 4-6 >999 240	Weight: 79 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.1	TOP CHORD Structural wood sheathing directly applied or 5-6-9 oc purlins.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 8-7-12 oc bracing.
WEBS 2x4 SP No.2	
OTHERS 2x4 SP No.2	

**REACTIONS.** (size) 2=0-3-0, 4=0-3-0  
 Max Horz 2=-81(LC 13)  
 Max Uplift 2=-213(LC 8), 4=-213(LC 9)  
 Max Grav 2=670(LC 1), 4=670(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-899/962, 3-4=-899/962  
 BOT CHORD 2-6=-734/728, 4-6=-734/728  
 WEBS 3-6=-491/377

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; porch 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) All plates are 2x4 MT20 unless otherwise indicated.
  - 5) Gable studs spaced at 2-0-0 oc.
  - 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 7) \* This truss has been designed for a live load of 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=213, 4=213.



January 13, 2025

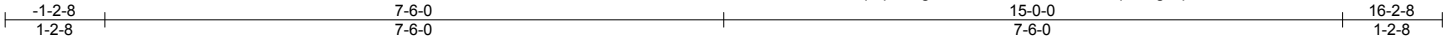
<p><b>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.</b></p> <p>Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. 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 <b>ANSI/TPI1 Quality Criteria and DSB-22</b> available from Truss Plate Institute (www.tpinst.org) and <b>BCSI Building Component Safety Information</b> available from the Structural Building Component Association (www.sbcacomponents.com)</p>	<p>ENGINEERING BY</p> <p>A MiTek Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
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Job J1224-6956	Truss C2	Truss Type COMMON	Qty 4	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686421
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:07 2025 Page 1

ID:TBfIsx8xnbQ8q?qAEUg6cKzS70A-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



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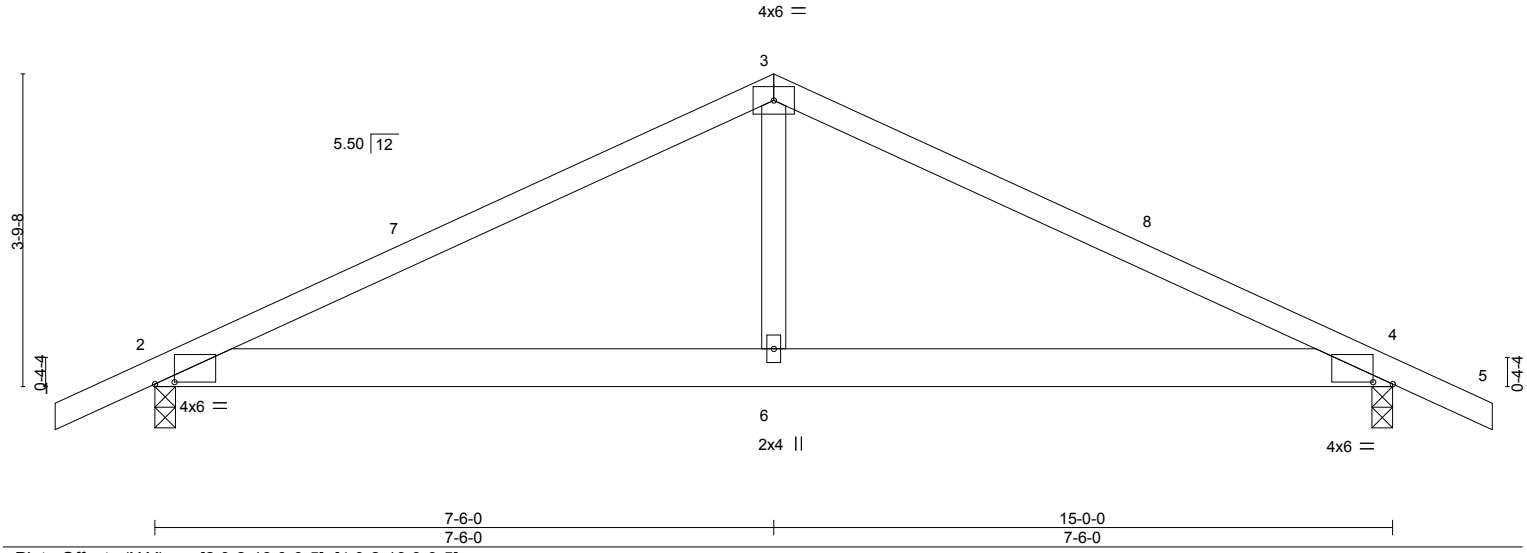


Plate Offsets (X,Y)-- [2:0-2-13,0-0-5], [4:0-2-13,0-0-5]

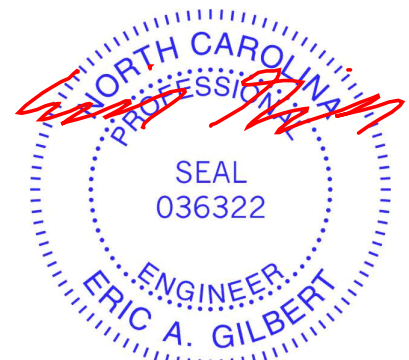
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.48	Vert(LL)	-0.03	4-6	>999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.26	Vert(CT)	-0.06	4-6	>999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.09	Horz(CT)	0.01	4	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S	Wind(LL)	0.07	4-6	>999	Weight: 68 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.1	TOP CHORD Structural wood sheathing directly applied or 5-8-4 oc purlins.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 9-0-0 oc bracing.
WEBS 2x4 SP No.2	

**REACTIONS.** (size) 2=0-3-0, 4=0-3-0  
 Max Horz 2=-48(LC 13)  
 Max Uplift 2=-157(LC 8), 4=-157(LC 9)  
 Max Grav 2=670(LC 1), 4=670(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-899/888, 3-4=-899/886  
 BOT CHORD 2-6=-678/728, 4-6=-678/728  
 WEBS 3-6=-478/377

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-2-8 to 3-2-5, Interior(1) 3-2-5 to 7-6-0, Exterior(2) 7-6-0 to 11-10-13, Interior(1) 11-10-13 to 16-2-8 zone; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 30.0psf 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.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=157, 4=157.



January 13, 2025

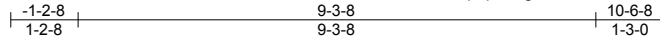
<p><b>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.</b></p> <p>Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. 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 <b>ANSI/TP1 Quality Criteria and DSB-22</b> available from Truss Plate Institute (<a href="http://www.tpinst.org">www.tpinst.org</a>) and <b>BCSI Building Component Safety Information</b> available from the Structural Building Component Association (<a href="http://www.sbcacomponents.com">www.sbcacomponents.com</a>)</p>	<p>ENGINEERING BY</p> <p>A MITEK Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
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Job J1224-6956	Truss J1-GE	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686422
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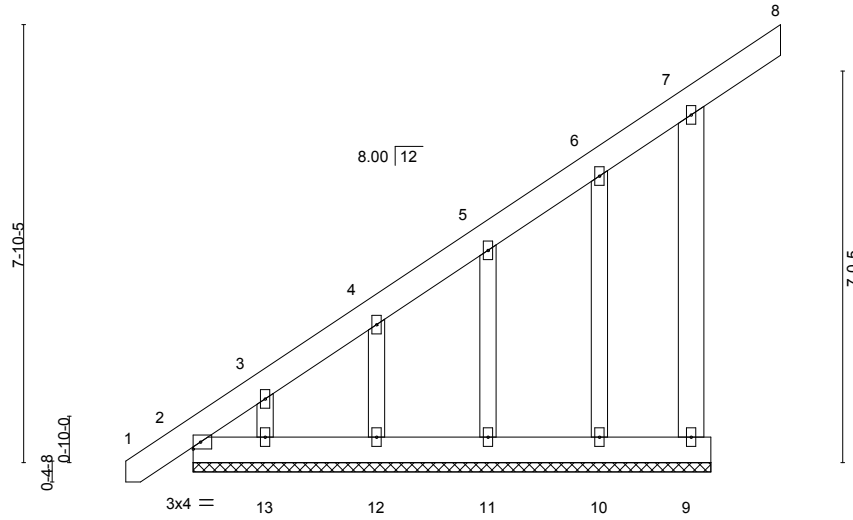
Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:08 2025 Page 1

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Scale = 1:41.3



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.06	Vert(LL)	0.00	8	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.01	Vert(CT)	0.00	7	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.07	Horz(CT)	0.00	9	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S					Weight: 86 lb	FT = 20%

**LUMBER-**  
 TOP CHORD 2x6 SP No.1  
 BOT CHORD 2x6 SP No.1  
 WEBS 2x6 SP No.1  
 OTHERS 2x4 SP 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.** All bearings 9-3-8.  
 (lb) - Max Horz 2=353(LC 12)  
 Max Uplift All uplift 100 lb or less at joint(s) 2, 10, 11, 12 except 9=-140(LC 12), 13=-139(LC 12)  
 Max Grav All reactions 250 lb or less at joint(s) 9, 2, 10, 11, 12, 13

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-469/347, 3-4=-364/265, 4-5=-280/197, 7-9=-208/253

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; 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) All plates are 2x4 MT20 unless otherwise indicated.
  - 4) Gable requires continuous bottom chord bearing.
  - 5) Gable studs spaced at 2-0-0 oc.
  - 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 7) \* This truss has been designed for a live load of 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 10, 11, 12 except (jt=lb) 9=140, 13=139.



January 13, 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.sbcacomponents.com)



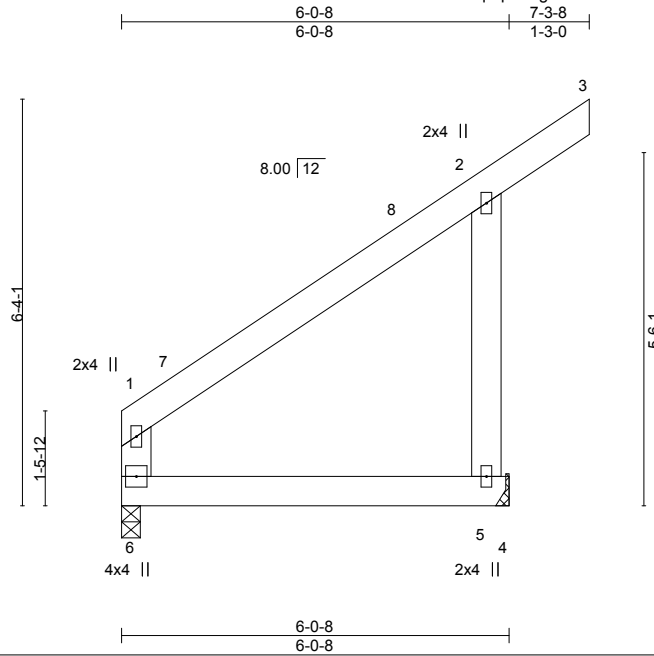
818 Soundside Road  
 Edenton, NC 27932

Job J1224-6956	Truss J2	Truss Type JACK-OPEN	Qty 4	Ply 1	Lot 27 Magnolia Hills 170686423
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8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:08 2025 Page 1

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Scale = 1:35.9

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.19	Vert(LL)	-0.01 5-6	>999	360	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.13	Vert(CT)	-0.02 5-6	>999	240		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.07	Horz(CT)	0.00	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S	Wind(LL)	0.01 5-6	>999	240	Weight: 47 lb	FT = 20%

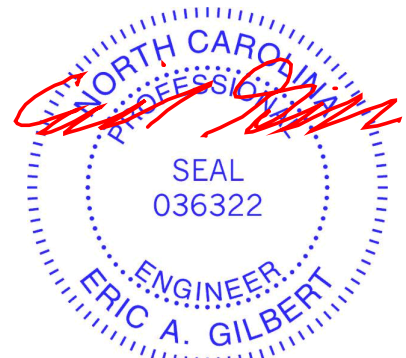
**LUMBER-**  
 TOP CHORD 2x6 SP No.1  
 BOT CHORD 2x6 SP No.1  
 WEBS 2x6 SP No.1

**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, 5=Mechanical  
 Max Horz 6=146(LC 12)  
 Max Uplift 5=-135(LC 12)  
 Max Grav 6=204(LC 1), 5=359(LC 19)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 WEBS 2-5=-347/349

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-2-12 to 4-7-9, Interior(1) 4-7-9 to 7-3-8 zone;C-C for members and forces & MWFRS for reactions shown; 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 30.0psf 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.
  - 4) Refer to girder(s) for truss to truss connections.
  - 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 5=135.



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**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
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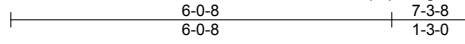
818 Soundside Road  
 Edenton, NC 27932

Job J1224-6956	Truss J3-GE	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686424
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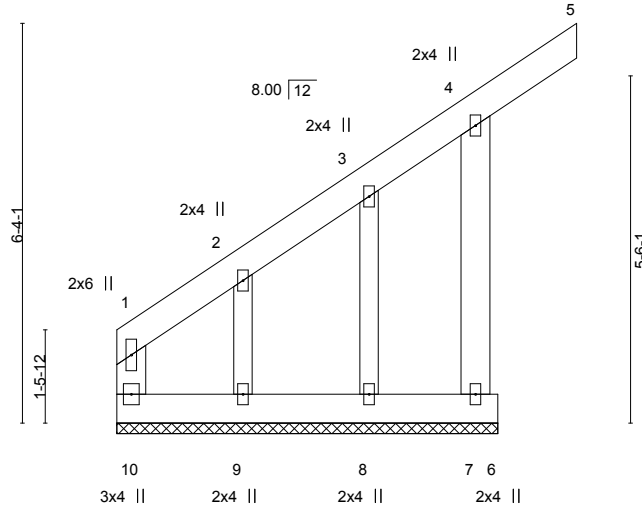
Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:08 2025 Page 1

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Scale = 1:36.5



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.09	Vert(LL)	0.00	5	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.09	Vert(CT)	0.00	4	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.04	Horz(CT)	0.00		n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-P					Weight: 55 lb	FT = 20%

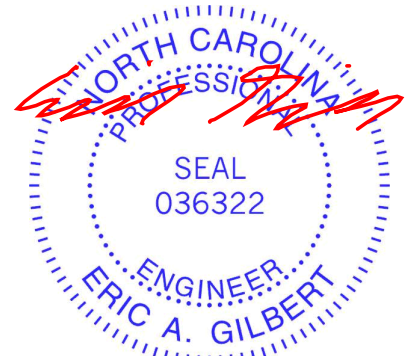
**LUMBER-**  
 TOP CHORD 2x6 SP No.1  
 BOT CHORD 2x6 SP No.1  
 WEBS 2x6 SP No.1  
 OTHERS 2x4 SP No.2

**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.** All bearings 6-0-8.  
 (lb) - Max Horz 10=213(LC 12)  
 Max Uplift All uplift 100 lb or less at joint(s) 10, 6, 8 except 9=295(LC 12), 7=-156(LC 12)  
 Max Grav All reactions 250 lb or less at joint(s) 6, 9, 8, 7 except 10=278(LC 12)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 1-2=-343/240  
 WEBS 4-7=-222/278

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; 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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
  - 5) Gable studs spaced at 2-0-0 oc.
  - 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 7) \* This truss has been designed for a live load of 30.0psf 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 10, 6, 8 except (jt=lb) 9=295, 7=156.



January 13, 2025

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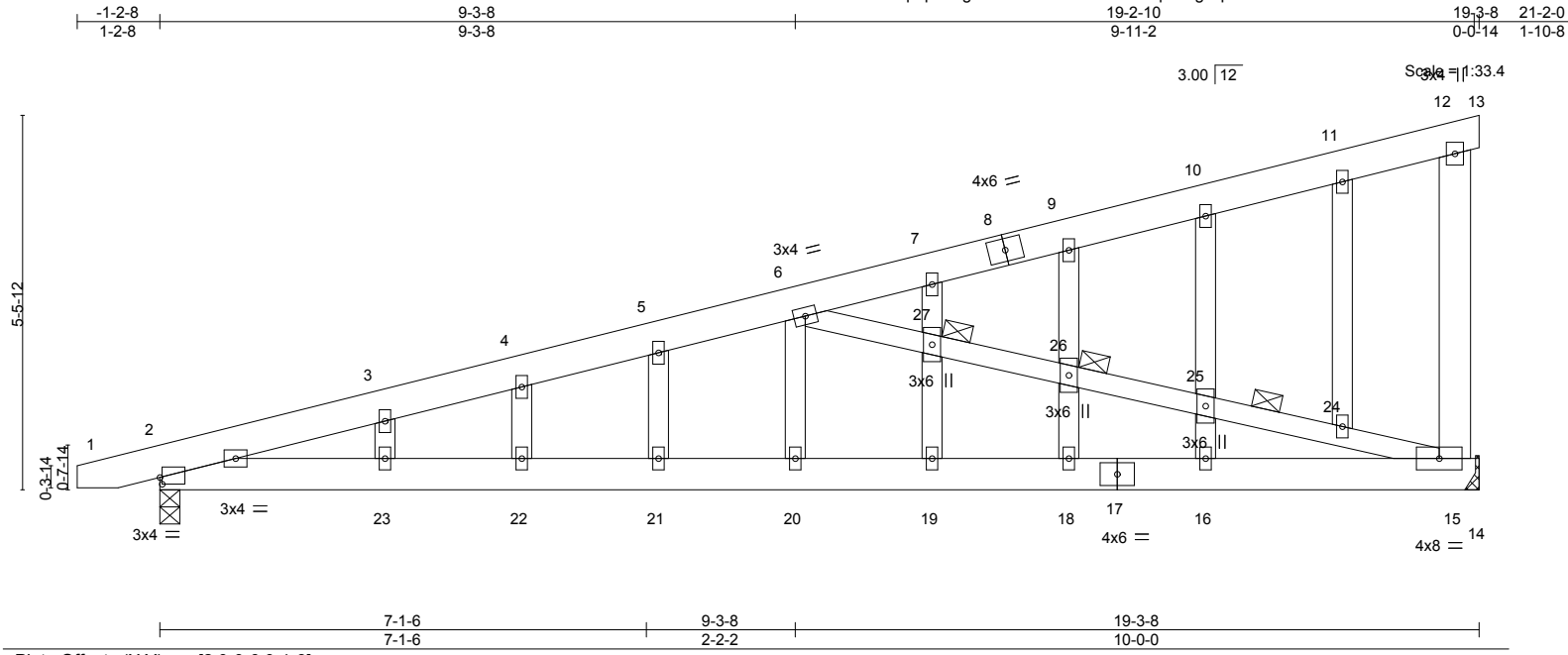


Job J1224-6956	Truss M1-GE	Truss Type GABLE	Qty 2	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686425
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8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:09 2025 Page 1

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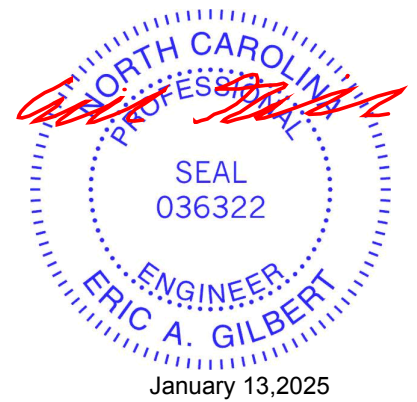
LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.21	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.36	Vert(LL) -0.08 18 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.25	Vert(CT) -0.16 18-19 >999 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-S	Horz(CT) 0.03 15 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) 0.09 18 >999 240	Weight: 145 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x6 SP No.1	TOP CHORD Structural wood sheathing directly applied or 5-9-12 oc purlins, except end verticals.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 9-8-5 oc bracing.
WEBS 2x4 SP No.2 *Except*	WEBS 1 Row at midpt 15-26
12-15: 2x6 SP No.1	JOINTS 1 Brace at Jt(s): 26, 27
OTHERS 2x4 SP No.2	

**REACTIONS.** (size) 15=Mechanical, 2=0-3-8  
 Max Horz 2=236(LC 8)  
 Max Uplift 15=251(LC 12), 2=238(LC 8)  
 Max Grav 15=778(LC 1), 2=816(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1744/443, 3-4=-1682/466, 4-5=-1666/484, 5-6=-1642/503  
 BOT CHORD 2-23=-642/1617, 22-23=-642/1617, 21-22=-642/1617, 20-21=-642/1617, 19-20=-642/1617, 18-19=-642/1617, 16-18=-642/1617, 15-16=-642/1617  
 WEBS 6-20=-106/362, 6-27=-1611/641, 26-27=-1576/627, 25-26=-1580/630, 24-25=-1587/631, 15-24=-1621/646

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; 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) All plates are 2x4 MT20 unless otherwise indicated.
  - 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 30.0psf 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.
  - 7) Refer to girder(s) for truss to truss connections.
  - 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 15=251, 2=238.



**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.sbcacomponents.com)

**ENGINEERING BY**  
**TRENCO**  
 A MiTek Affiliate

818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 27 Magnolia Hills	170686426
J1224-6956	M2	JACK-CLOSED	4	1		

Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:09 2025 Page 1

ID:TBfslx8xnbQ8q?qAEUg6cKzS70A-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f 19-2-10 19-3-8 21-2-0  
9-11-2 0-0-14 1-10-8

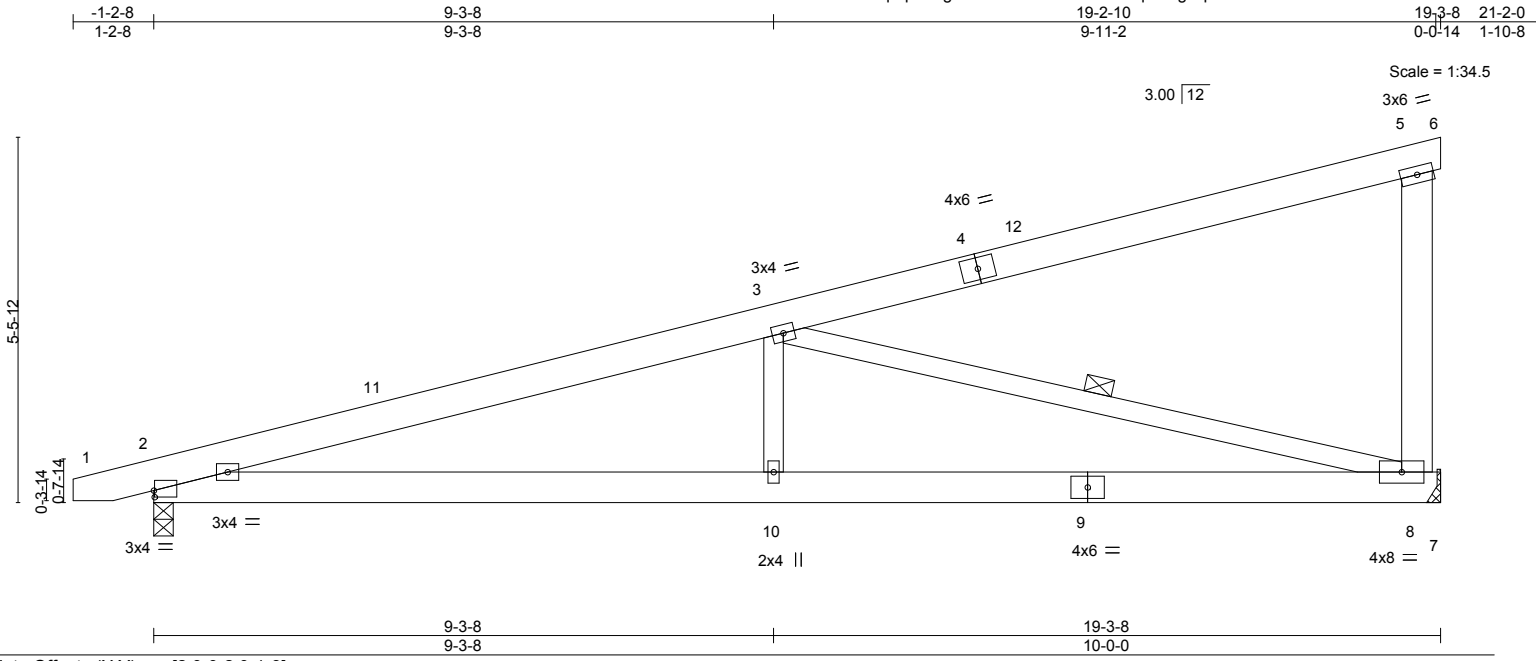


Plate Offsets (X,Y)--	[2:0-0,2-0,1-3]								
<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.15		TC 0.35	Vert(LL) -0.07	2-10	>999	360	MT20	244/190
TCDL 10.0	Lumber DOL 1.15		BC 0.36	Vert(CT) -0.16	2-10	>999	240		
BCLL 0.0 *	Rep Stress Incr YES		WB 0.72	Horz(CT) 0.03	8	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S	Wind(LL) 0.06	2-10	>999	240	Weight: 122 lb	FT = 20%

<b>LUMBER-</b>		<b>BRACING-</b>	
TOP CHORD 2x6 SP No.1		TOP CHORD	Structural wood sheathing directly applied or 5-5-8 oc purlins, except end verticals.
BOT CHORD 2x6 SP No.1		BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.2 *Except* 5-8: 2x6 SP No.1		WEBS	1 Row at midpt 3-8


**REACTIONS.** (size) 8=Mechanical, 2=0-3-8  
 Max Horz 2=165(LC 8)  
 Max Uplift 8=-103(LC 12), 2=-98(LC 8)  
 Max Grav 8=778(LC 1), 2=816(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-1758/239, 5-8=-268/189  
 BOT CHORD 2-10=-383/1636, 8-10=-383/1636  
 WEBS 3-10=0/418, 3-8=-1601/364

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -0-10-15 to 3-5-14, Interior(1) 3-5-14 to 19-3-8 zone; C-C for members and forces & MWFRS for reactions shown; 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 30.0psf 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.
  - 4) Refer to girder(s) for truss to truss connections.
  - 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2 except (jt=lb) 8=103.



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Job J1224-6956	Truss P1-GE	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686427
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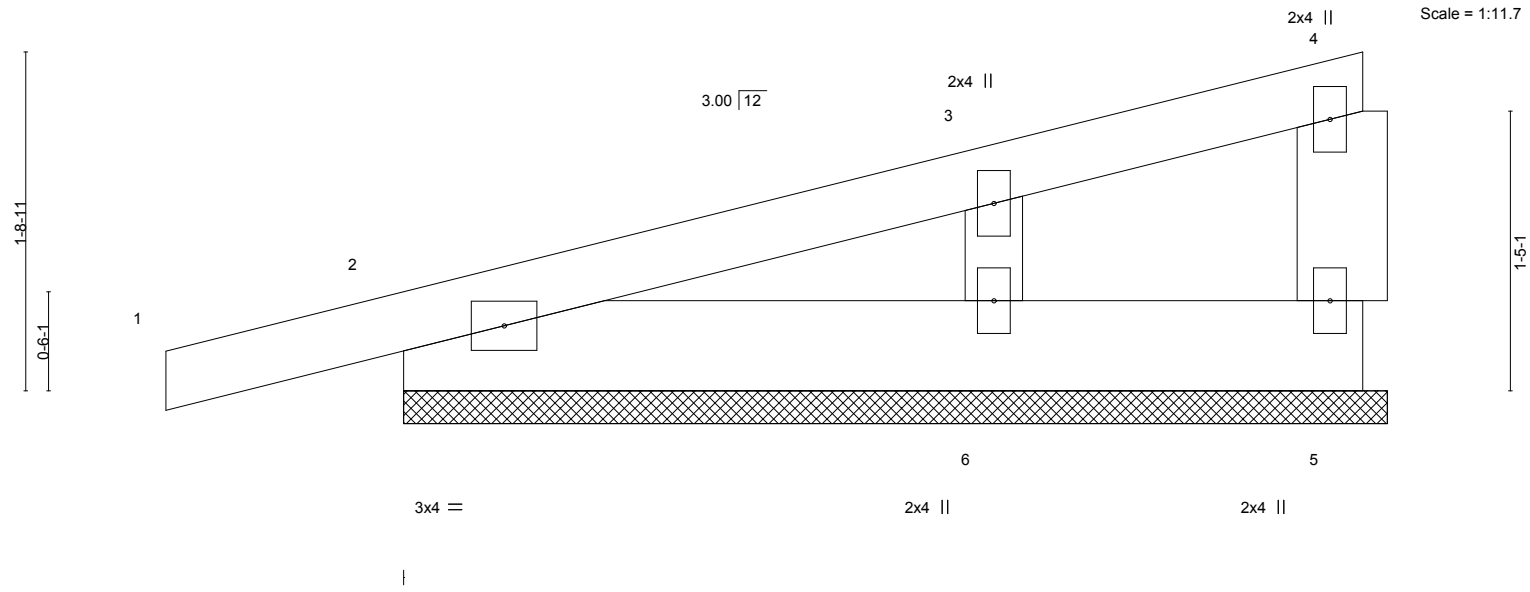
Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:10 2025 Page 1

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Scale = 1:11.7



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.07	Vert(LL)	0.00	1	n/r	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.02	Vert(CT)	0.00	1	n/r		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.03	Horz(CT)	0.00		n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-P					Weight: 24 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.1	TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins, except end verticals.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x6 SP No.1	
OTHERS 2x4 SP No.2	

**REACTIONS.** (size) 5=5-0-0, 2=5-0-0, 6=5-0-0  
 Max Horz 2=73(LC 8)  
 Max Uplift 5=-17(LC 8), 2=-92(LC 8), 6=-71(LC 12)  
 Max Grav 5=40(LC 1), 2=189(LC 1), 6=225(LC 1)

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

**NOTES-**

- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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 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 30.0psf 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.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 5, 2, 6.



January 13, 2025

Job J1224-6956	Truss P2	Truss Type MONOPICH	Qty 12	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686428
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8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:10 2025 Page 1

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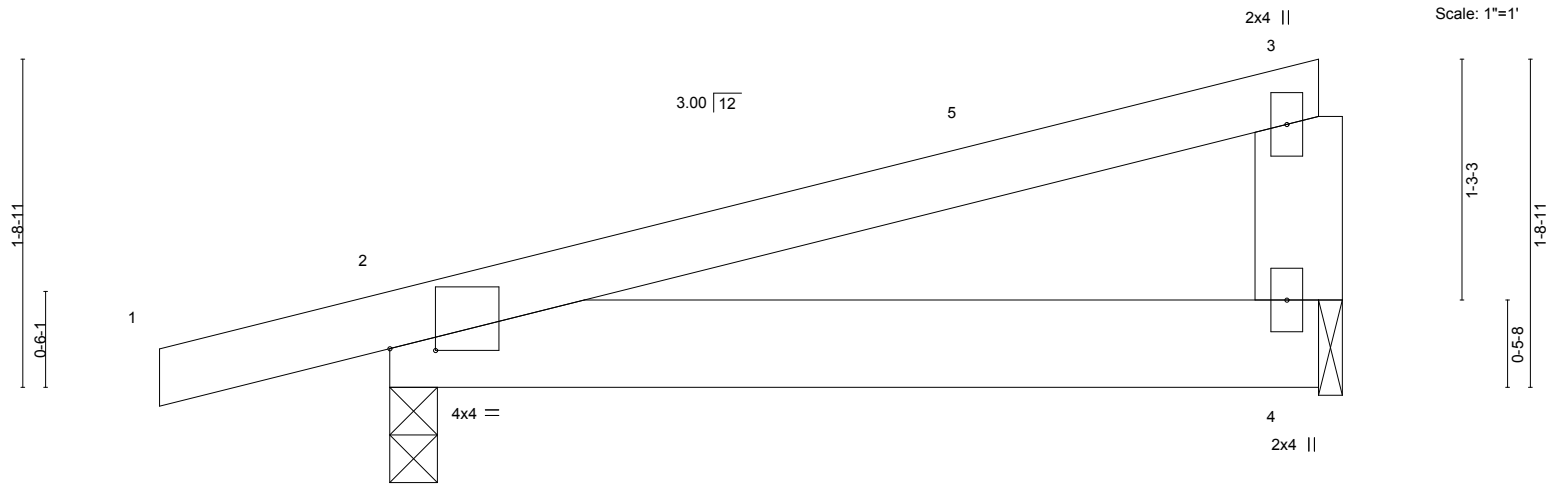


Plate Offsets (X,Y)--	[2:0-2-14,0-0-2]
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LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.26	Vert(LL) -0.01	2-4	>999	360	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.08	Vert(CT) -0.01	2-4	>999	240		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.00	Horz(CT) 0.00		n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-P	Wind(LL) 0.01	2-4	>999	240	Weight: 23 lb	FT = 20%

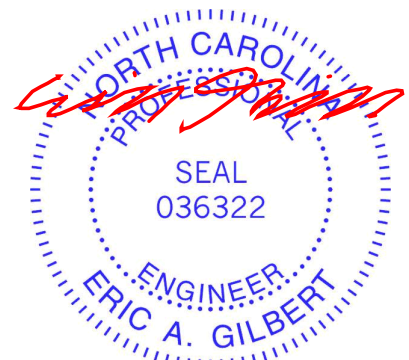
LUMBER-	BRACING-
TOP CHORD 2x4 SP No.1	TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins, except end verticals.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x6 SP No.1	

**REACTIONS.** (size) 2=0-3-0, 4=0-1-8  
 Max Horz 2=51(LC 8)  
 Max Uplift 2=-121(LC 8), 4=-71(LC 8)  
 Max Grav 2=277(LC 1), 4=174(LC 1)

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

**NOTES-**

- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -1-2-8 to 3-2-5, Interior(1) 3-2-5 to 4-9-4 zone; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; 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 30.0psf 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.
- 4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 4 except (jt=lb) 2=121.



January 13, 2025

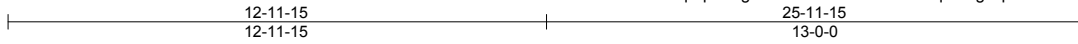
<p><b>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.</b></p> <p>Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. 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 <b>ANSI/TPI1 Quality Criteria and DSB-22</b> available from Truss Plate Institute (www.tpinst.org) and <b>BCSI Building Component Safety Information</b> available from the Structural Building Component Association (www.sbcacomponents.com)</p>	<p>ENGINEERING BY</p> <p>A MiTek Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
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Job J1224-6956	Truss VA1	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686429
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8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:11 2025 Page 1

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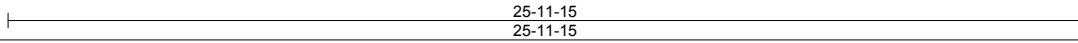
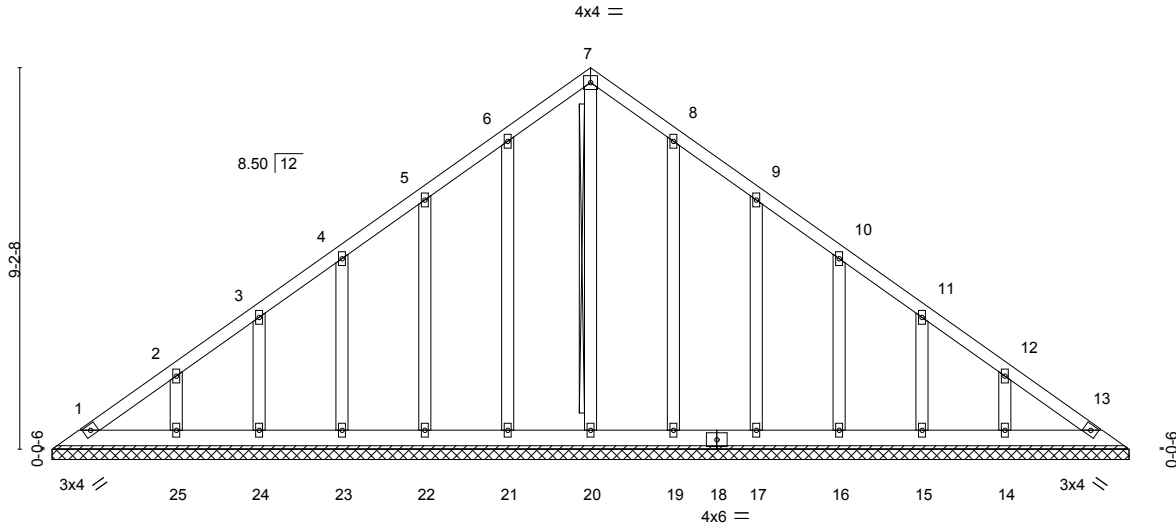


Plate Offsets (X,Y)--	[8:0-0-0,0-0-0], [9:0-0-0,0-0-0], [10:0-0-0,0-0-0], [11:0-0-0,0-0-0], [12:0-0-0,0-0-0]
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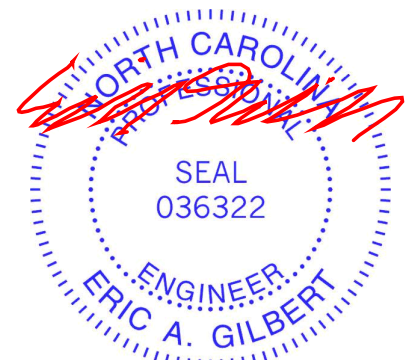
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.05	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.03	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.14	Horz(CT)	0.01	13	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						
								Weight: 181 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP No.1	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
OTHERS 2x4 SP No.2	WEBS T-Brace: 2x4 SPF No.2 - 7-20
	Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c., with 3in minimum end distance.
	Brace must cover 90% of web length.

**REACTIONS.** All bearings 25-11-15.  
 (lb) - Max Horz 1=-264(LC 8)  
 Max Uplift All uplift 100 lb or less at joint(s) 1, 13, 21, 22, 23, 24, 19, 17, 16, 15 except 25=-126(LC 12), 14=-124(LC 13)  
 Max Grav All reactions 250 lb or less at joint(s) 1, 13, 20, 21, 22, 23, 24, 25, 19, 17, 16, 15, 14

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 1-2=-286/197

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) All plates are 2x4 MT20 unless otherwise indicated.
  - 4) Gable requires continuous bottom chord bearing.
  - 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 30.0psf 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.
  - 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 13, 21, 22, 23, 24, 19, 17, 16, 15 except (jt=lb) 25=126, 14=124.
  - 8) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.



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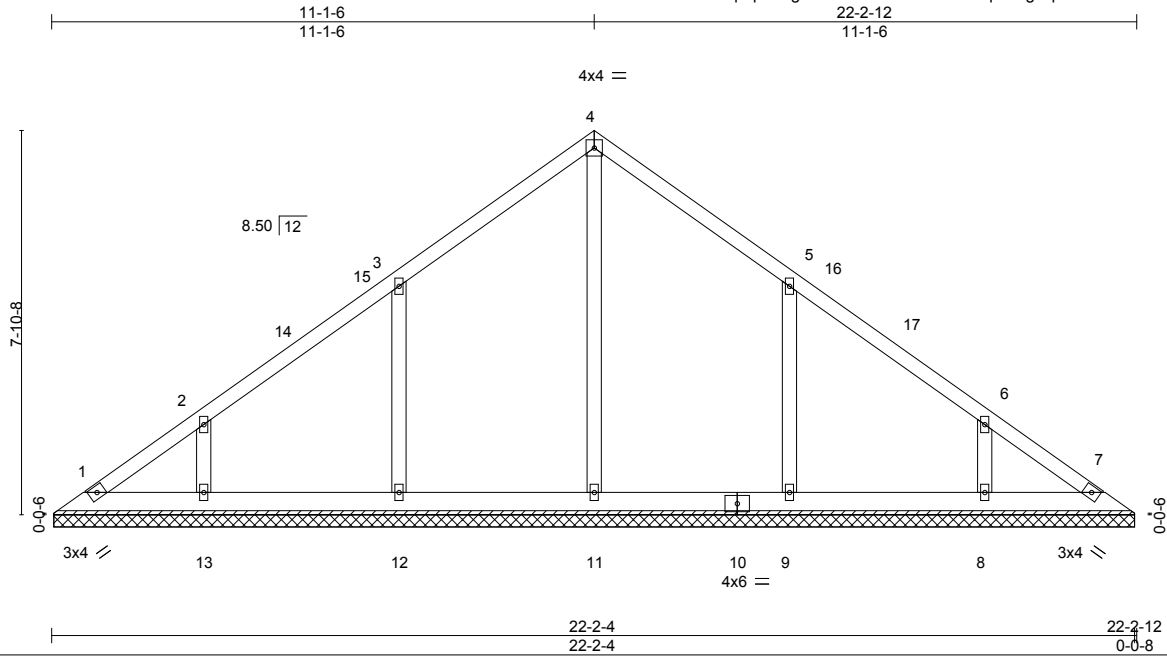
<p><b>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.</b></p> <p>Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. 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 <b>ANSI/TPI1 Quality Criteria and DSB-22</b> available from Truss Plate Institute (www.tpinst.org) and <b>BCSI Building Component Safety Information</b> available from the Structural Building Component Association (www.sbcacomponents.com)</p>	<p>ENGINEERING BY</p> <p><b>TRENCO</b></p> <p>A MiTek Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
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Job J1224-6956	Truss VA2	Truss Type VALLEY	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686430
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8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:11 2025 Page 1

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Scale = 1:47.2

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.15	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.08	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.15	Horz(CT)	0.00	7	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-S					Weight: 118 lb	FT = 20%
	Code IRC2015/TPI2014							

**LUMBER-**  
 TOP CHORD 2x4 SP No.1  
 BOT CHORD 2x6 SP No.1  
 OTHERS 2x4 SP No.2

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

**REACTIONS.** All bearings 22-1-11.  
 (lb) - Max Horz 1=179(LC 8)  
 Max Uplift All uplift 100 lb or less at joint(s) 1, 7, 13, 8 except 12=113(LC 12), 9=113(LC 13)  
 Max Grav All reactions 250 lb or less at joint(s) 1, 7 except 11=434(LC 22), 12=462(LC 19), 13=293(LC 19), 9=462(LC 20), 8=292(LC 20)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 WEBS 3-12=-326/218, 2-13=-263/189, 5-9=-326/218, 6-8=-263/189

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-8-7 to 5-1-3, Interior(1) 5-1-3 to 11-1-6, Exterior(2) 11-1-6 to 15-6-3, Interior(1) 15-6-3 to 21-6-5 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) All plates are 2x4 MT20 unless otherwise indicated.
  - 4) Gable requires continuous bottom chord bearing.
  - 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 30.0psf 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, with BCDL = 10.0psf.
  - 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 7, 13, 8 except (jt=lb) 12=113, 9=113.



January 13, 2025

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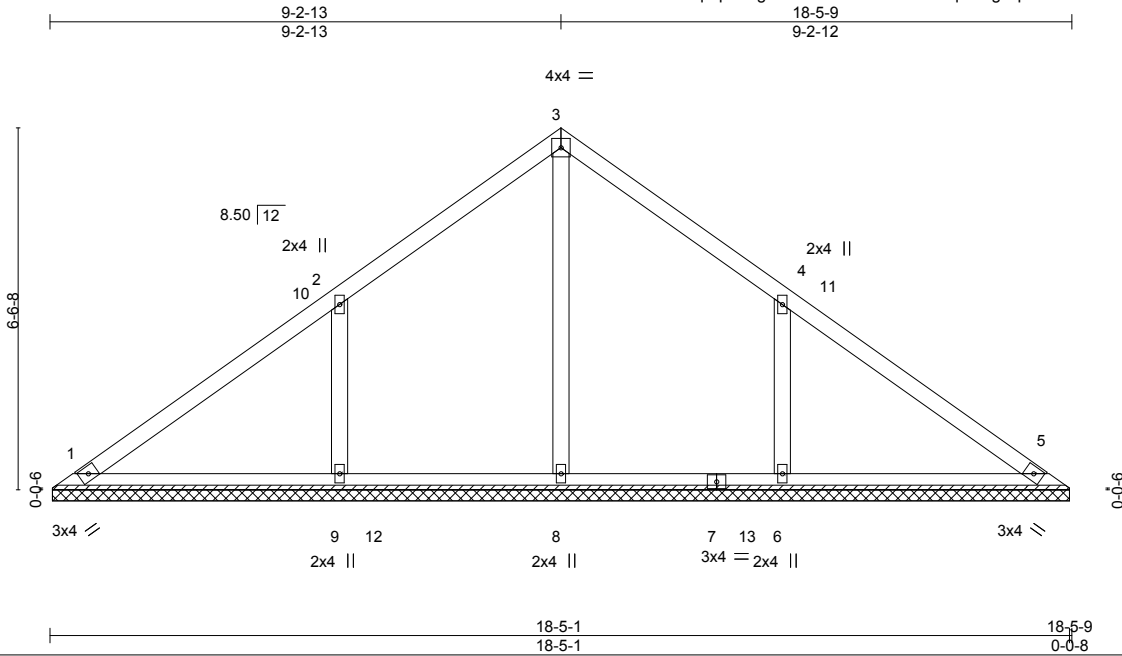
818 Soundside Road  
 Edenton, NC 27932

Job J1224-6956	Truss VA3	Truss Type VALLEY	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686431
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:12 2025 Page 1

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Scale = 1:41.6

Plate Offsets (X,Y)--	[4:0-0-0,0-0-0]								
<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL	1.15	TC 0.22	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.17	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.10	Horz(CT)	0.00	5	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S					Weight: 77 lb	FT = 20%

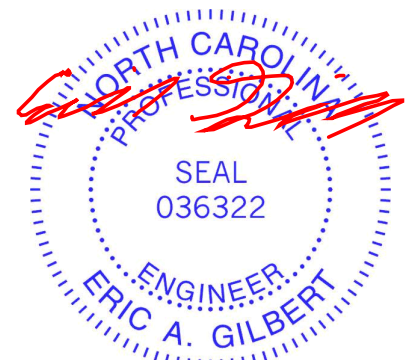
**LUMBER-**  
TOP CHORD 2x4 SP No.1  
BOT CHORD 2x4 SP No.1  
OTHERS 2x4 SP No.2

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

**REACTIONS.** All bearings 18-4-8.  
(lb) - Max Horz 1=149(LC 11)  
Max Uplift All uplift 100 lb or less at joint(s) 1 except 9=-136(LC 12), 6=-136(LC 13)  
Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 8=408(LC 22), 9=516(LC 19), 6=516(LC 20)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
**WEBS** 2-9=-388/249, 4-6=-388/249

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-5-9 to 4-10-6, Interior(1) 4-10-6 to 9-2-13, Exterior(2) 9-2-13 to 13-7-9, Interior(1) 13-7-9 to 18-0-0 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) Gable requires continuous bottom chord bearing.
  - 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 30.0psf 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, with BCDL = 10.0psf.
  - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1 except (jt=lb) 9=136, 6=136.



January 13, 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/TP1 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.sbcacomponents.com)

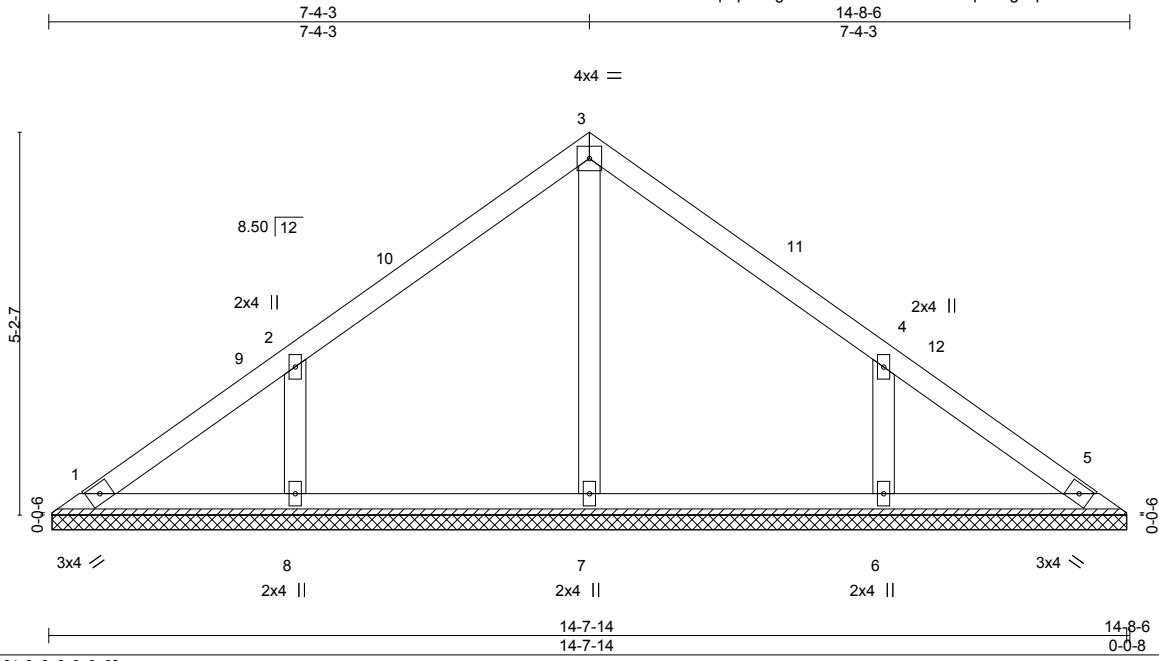
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job J1224-6956	Truss VA4	Truss Type VALLEY	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686432
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:12 2025 Page 1

ID:TBfslx8xnbQ8q?qAEUg6cKzS70A-Rfc?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:31.3

Plate Offsets (X,Y)--	[4:0-0-0,0-0-0]					Weight: 59 lb	FT = 20%		
<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.15		TC 0.14	Vert(LL) n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL 1.15		BC 0.08	Vert(CT) n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr YES		WB 0.07	Horz(CT) 0.00	5	n/a	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S						

**LUMBER-**  
 TOP CHORD 2x4 SP No.1  
 BOT CHORD 2x4 SP No.1  
 OTHERS 2x4 SP No.2

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

**REACTIONS.** All bearings 14-7-5.  
 (lb) - Max Horz 1=-117(LC 8)  
 Max Uplift All uplift 100 lb or less at joint(s) 1 except 8=-108(LC 12), 6=-107(LC 13)  
 Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 7=252(LC 1), 8=351(LC 19), 6=351(LC 20)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 WEBS 2-8=-305/211, 4-6=-305/211

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-5-9 to 4-10-6, Interior(1) 4-10-6 to 7-4-3, Exterior(2) 7-4-3 to 11-9-0, Interior(1) 11-9-0 to 14-2-13 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Gable requires continuous bottom chord bearing.
  - 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 30.0psf 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.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1 except (jt=lb) 8=108, 6=107.



January 13, 2025

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ENGINEERING BY  
**TRENCO**  
 A MiTek Affiliate  
 818 Soundside Road  
 Edenton, NC 27932

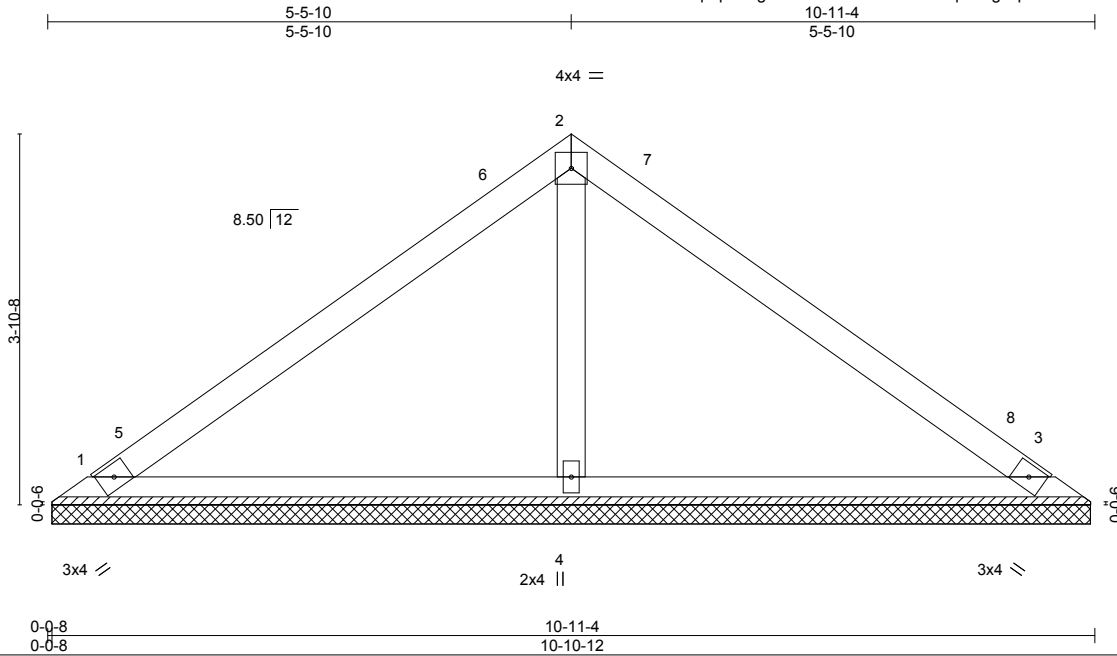


Job J1224-6956	Truss VA5	Truss Type VALLEY	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686433
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:12 2025 Page 1

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Scale: 1/2"=1'

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.26	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.18	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.06	Horz(CT)	0.00	3	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-S					Weight: 39 lb	FT = 20%
	Code IRC2015/TPI2014							

**LUMBER-**  
TOP CHORD 2x4 SP No.1  
BOT CHORD 2x4 SP No.1  
OTHERS 2x4 SP No.2

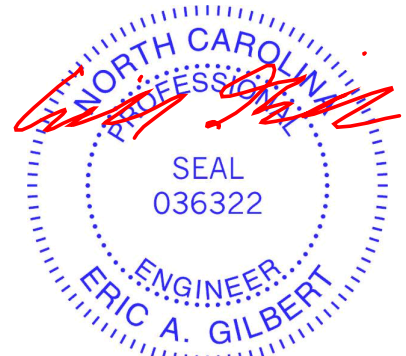
**BRACING-**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 1=10-10-3, 3=10-10-3, 4=10-10-3  
Max Horz 1=-85(LC 8)  
Max Uplift 1=-25(LC 12), 3=-33(LC 13)  
Max Grav 1=202(LC 1), 3=203(LC 1), 4=395(LC 1)

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

**NOTES-**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-5-9 to 4-10-6, Interior(1) 4-10-6 to 5-5-10, Exterior(2) 5-5-10 to 9-10-7, Interior(1) 9-10-7 to 10-5-11 zone; C-C for members and forces & MWFRS for reactions shown; 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 30.0psf 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.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
- 6) Non Standard bearing condition. Review required.



January 13, 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/TP1 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.sbcacomponents.com)



818 Soundside Road  
Edenton, NC 27932

Job J1224-6956	Truss VA6	Truss Type VALLEY	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686434
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Comtech, Inc. Fayetteville, NC - 28314,

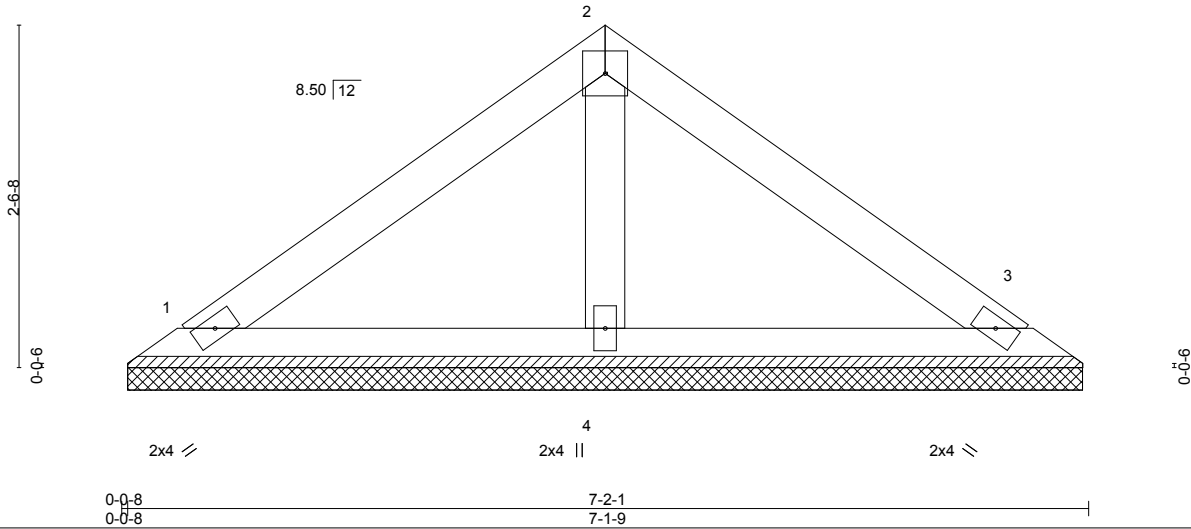
8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:13 2025 Page 1

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4x4 =

Scale = 1:17.1



LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.13	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.07	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.02	Horz(CT)	0.00	3	n/a		
BCDL 10.0	Rep Stress Incr YES	Matrix-P					Weight: 25 lb	FT = 20%
	Code IRC2015/TPI2014							

**LUMBER-**  
 TOP CHORD 2x4 SP No.1  
 BOT CHORD 2x4 SP No.1  
 OTHERS 2x4 SP No.2

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

**REACTIONS.** (size) 1=7-1-0, 3=7-1-0, 4=7-1-0  
 Max Horz 1=-53(LC 10)  
 Max Uplift 1=-22(LC 12), 3=-27(LC 13)  
 Max Grav 1=138(LC 1), 3=138(LC 1), 4=223(LC 1)

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

**NOTES-**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCCL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; 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 30.0psf 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.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
- 6) Non Standard bearing condition. Review required.



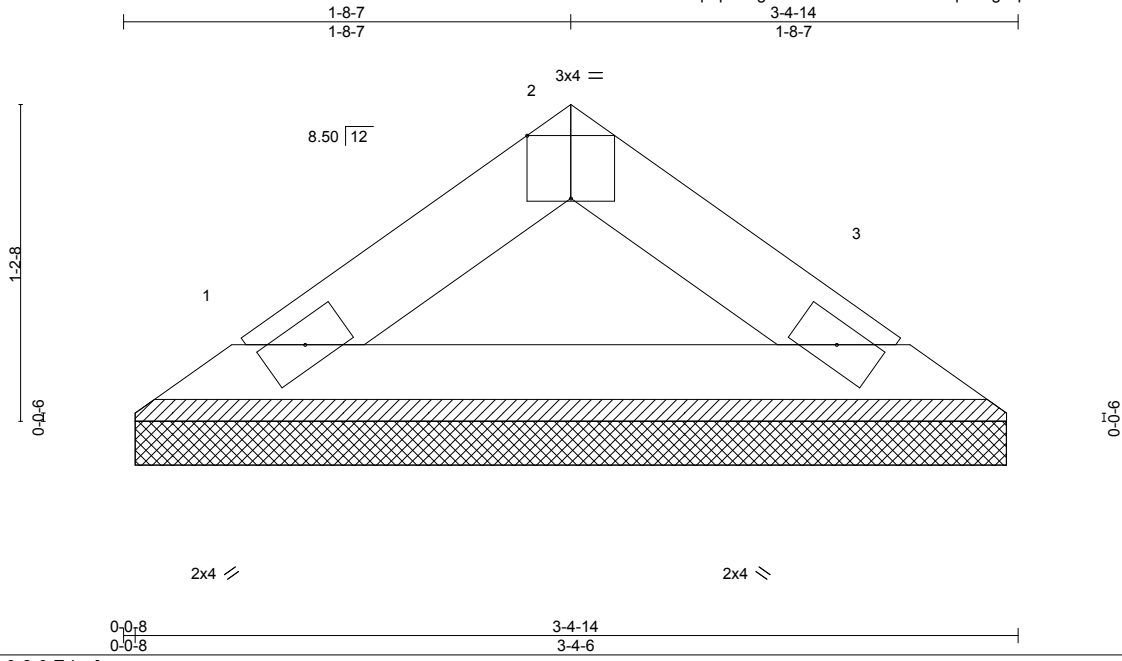
January 13, 2025

Job J1224-6956	Truss VA7	Truss Type VALLEY	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	170686435
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Sep 26 2024 MiTek Industries, Inc. Fri Jan 10 10:45:13 2025 Page 1

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LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.02	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.05	Vert(LL) n/a - n/a 999		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.00	Vert(CT) n/a - n/a 999		
BCDL 10.0	Rep Stress Incr YES	Matrix-P	Horz(CT) 0.00 3 n/a n/a		
	Code IRC2015/TPI2014			Weight: 10 lb	FT = 20%

**LUMBER-**  
 TOP CHORD 2x4 SP No.1  
 BOT CHORD 2x4 SP No.1

**BRACING-**  
 TOP CHORD Structural wood sheathing directly applied or 3-4-14 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 1=3-3-13, 3=3-3-13  
 Max Horz 1=-21(LC 10)  
 Max Uplift 1=-5(LC 12), 3=-5(LC 13)  
 Max Grav 1=99(LC 1), 3=99(LC 1)

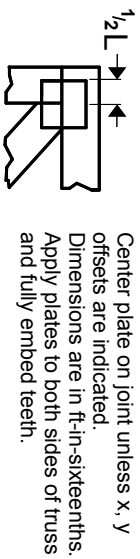
**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) Gable requires continuous bottom chord bearing.
  - 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 30.0psf 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.
  - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.

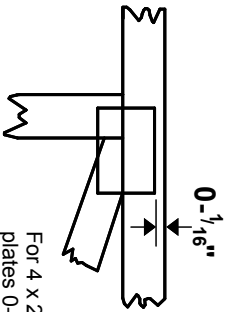


# Symbols

## 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:

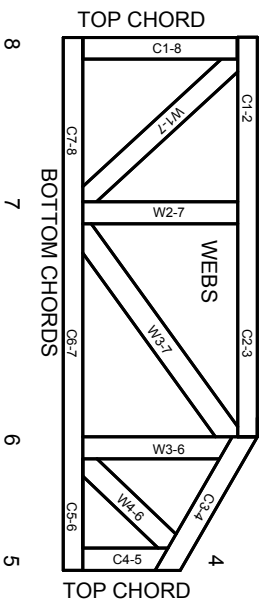
ANSI/TFP 1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-22: Design Standard for Bracing.  
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System



1 Joint ID

2 TOP CHORDS



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/TFP 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 Tor 1 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/TFP 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TFP 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/TFP 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

**MITek**

ENGINEERING BY  
**TRENGO**  
A MITek Affiliate

MITek Engineering Reference Sheet: MI-7473 rev. 1/2/2023

# Reaction Summary of Order



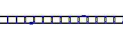





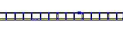














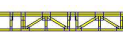





**ROOF & FLOOR TRUSSES & BEAMS**  
 Reilly Road Industrial Park P.O. Box 40408  
 Fayetteville, N.C. 28309 (910) 864-TRUS

REQ. QUOTE DATE	/ /	ORDER #	J1224-6957
ORDER DATE	12/17/24	QUOTE #	
DELIVERY DATE	/ /	CUSTOMER ACCT #	0000007216
DATE OF INVOICE	/ /	CUSTOMER PO #	
ORDERED BY	Shaun Garderner	INVOICE #	
COUNTY	Harnett	TERMS	
SUPERINTENDANT	Shaun Garderner	SALES REP	Neil Baggett
JOBSITE PHONE #	(910) 988-8172	SALES AREA	Neil Baggett

SOLD TO	<b>Precision Custom Homes</b> 206 Shoreline Drive Raeford, NC 28376 (910) 988-8172	<b>JOB NAME:</b> Lot 27 Magnolia Hills <b>MODEL:</b> Floor <b>DELIVERY INSTRUCTIONS:</b> 60 miles round trip	<b>LOT #</b> 27 <b>SUBDIV:</b> Magnolia Hills <b>JOB CATEGORY:</b> WCall - Will Call
	<b>Precision Custom Homes and</b> 165 Mahogany Ct. Cameron, NC	<b>SPECIAL INSTRUCTIONS:</b> Modified from Lot 24 Magnolia Hills (15'x15') CP	<b>PLAN SEAL DATE:</b> 1/13/25

BUILDING DEPARTMENT Floor Order	OVERHANG INFO	HEEL HEIGHT	00-06-08	REQ. LAYOUTS	REQ. ENGINEERING	QUOTE	/ /
	END CUT	RETURN				LAYOUT	NB 01/14/25
	PLUMB		GABLE STUDS	24 IN. OC	JOBSITE 1	JOBSITE 1	CUTTING NB 01/14/25

<b>FLOOR TRUSSES</b>	LOADING INFORMATION	TCLL-TCDL-BCLL-BCDL	STRESS INCR.	FLOOR TRUSS SPACING: 24.0 IN. O.C. (TYP.)
		40.0,10.0,0.0,5.0	1.00	

FLOOR PROFILE	QTY PLY	DEPTH ID	BASE SPAN	O/A SPAN	END TYPE		INT BEARING		REACTIONS				
					LEFT	RIGHT	SIZE	LOCATION					
	1	01-02-00 ET1	20-03-00	20-03-00					Joint 18 69.7 lbs.	Joint 19 160.8 lbs.	Joint 20 142.8 lbs.	Joint 21 147.7 lbs.	Joint 22 146.4 lbs.
	1	01-02-00 ET2	13-00-08	13-00-08					Joint 12 39.7 lbs.	Joint 13 124.3 lbs.	Joint 14 151.6 lbs.	Joint 15 145.4 lbs.	Joint 16 147.0 lbs.
	1	01-02-00 ET3	21-03-08	21-03-08					Joint 19 53.4 lbs.	Joint 20 140.6 lbs.	Joint 21 148.4 lbs.	Joint 22 146.2 lbs.	Joint 23 146.8 lbs.
	1	01-02-00 F1	32-11-00	32-11-00					Joint 24 49.7 lbs.	Joint 30 2863.7 lbs.	Joint 41 1576.3 lbs.		
									-246.9 lbs.	2402.5 lbs.	1219.9 lbs.		
	5	01-02-00 F2	32-11-00	32-11-00					Joint 22 621.5 lbs.	Joint 27 2149.8 lbs.	Joint 37 953.1 lbs.		
									15.9 lbs.	1163.6 lbs.	232.4 lbs.		
	13	01-02-00 F3	20-03-00	20-03-00					Joint 14 874.4 lbs.	Joint 24 874.4 lbs.			
									434.5 lbs.	434.5 lbs.			
	11	01-02-00 F4	21-03-08	21-03-08					Joint 15 266.5 lbs.	Joint 18 1250.8 lbs.	Joint 25 837.2 lbs.		
									12.7 lbs.	558.9 lbs.	226.6 lbs.		
	1	01-02-00 F5-GR	08-03-08	08-03-08					Joint 9 793.3 lbs.	Joint 14 1114.5 lbs.	Joint 15 99.4 lbs.	Joint 16 255.8 lbs.	
									645.7 lbs.	953.1 lbs.	-21.9 lbs.	236.0 lbs.	
	4	01-02-00 F6	03-07-08	03-07-08					Joint 5 185.6 lbs.	Joint 8 185.6 lbs.			
									125.9 lbs.	125.9 lbs.			

# Reaction Summary of Order



**ROOF & FLOOR TRUSSES & BEAMS**  
 Reilly Road Industrial Park P.O. Box 40408  
 Fayetteville, N.C. 28309 (910) 864-TRUS

REQ. QUOTE DATE	/ /	ORDER #	J1224-6957
ORDER DATE	12/17/24	QUOTE #	
DELIVERY DATE	/ /	CUSTOMER ACCT #	0000007216
DATE OF INVOICE	/ /	CUSTOMER PO #	
ORDERED BY	Shaun Garderner	INVOICE #	
COUNTY	Harnett	TERMS	
SUPERINTENDANT	Shaun Garderner	SALES REP	Neil Baggett
JOBSITE PHONE #	(910) 988-8172	SALES AREA	Neil Baggett

SOLD TO	<b>Precision Custom Homes</b> 206 Shoreline Drive Raeford, NC 28376 (910) 988-8172	<b>JOB NAME:</b> Lot 27 Magnolia Hills <b>MODEL:</b> Floor <b>TAG:</b> Rothbard w/CP (15'x15') <b>DELIVERY INSTRUCTIONS:</b> 60 miles round trip	<b>LOT # 27</b> <b>SUBDIV:</b> Magnolia Hills <b>JOB CATEGORY:</b> WCall - Will Call
	<b>Precision Custom Homes and</b> 165 Mahogany Ct. Cameron, NC	<b>SPECIAL INSTRUCTIONS:</b> Modified from Lot 24 Magnolia Hills (15'x15') CP	<b>PLAN SEAL DATE:</b> 1/13/25

<b>BUILDING DEPARTMENT</b>	<b>OVERHANG INFO</b>	<b>HEEL HEIGHT</b>	00-06-08	<b>REQ. LAYOUTS</b>	<b>REQ. ENGINEERING</b>	<b>QUOTE</b>	/ /
Floor Order	END CUT	RETURN				LAYOUT	NB 01/14/25
	PLUMB		<b>GABLE STUDS</b>	24 IN. OC	JOBSITE 1	JOBSITE 1	<b>CUTTING</b> NB 01/14/25

<b>FLOOR TRUSSES</b>	<b>LOADING INFORMATION</b>	TCLL-TCDL-BCLL-BCDL	STRESS INCR.	<b>FLOOR TRUSS SPACING:</b> 24.0 IN. O.C. (TYP.)
		40.0,10.0,0.0,5.0	1.00	

FLOOR PROFILE	QTY PLY	DEPTH ID	BASE SPAN	O/A SPAN	END TYPE		INT BEARING		REACTIONS
					LEFT	RIGHT	SIZE	LOCATION	

	1	01-02-00 F7-GR	08-03-08	08-03-08		Joint 9 630.1 lbs. 506.4 lbs.	Joint 14 1198.7 lbs. 1043.6 lbs.	Joint 15 158.6 lbs. 0.7 lbs.	Joint 16 279.9 lbs. 248.5 lbs.
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## ITEMS

QTY	ITEM TYPE	SIZE	LENGTH FT-IN-16	PART NUMBER	NOTES
4	BlueLinX (F)	LVL, Metsa(F) 2.0,	07-00-00		BM2 & BM3
2	BlueLinX (F)	LVL, Metsa(F) 2.0,	06-00-00		BM4
4	BlueLinX (F)	LVL, Metsa(F) 2.0,	16-00-00		BM5
3	BlueLinX (F)	LVL, Metsa(F) 2.0, 14"	21-00-00		BM1
2	BlueLinX (F)	LVL, Metsa(F) 2.0, 16"	21-00-00		GDH
9	Hangers, USP	MSH422			SIMPSON (THA422)

RE: J1224-6957  
 Lot 27 Magnolia Hills

**Trenco**  
 818 Soundside Rd  
 Edenton, NC 27932

**Site Information:**

Customer: Project Name: J1224-6957  
 Lot/Block: Model:  
 Address: Subdivision:  
 City: State:

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

Design Code: IRC2015/TPI2014 Design Program: MiTek 20/20 8.4  
 Wind Code: N/A Wind Speed: N/A mph  
 Roof Load: N/A psf Floor Load: 55.0 psf

This package includes 10 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	I68605140	ET1	10/3/2024
2	I68605141	ET2	10/3/2024
3	I68605142	ET3	10/3/2024
4	I68605143	F1	10/3/2024
5	I68605144	F2	10/3/2024
6	I68605145	F3	10/3/2024
7	I68605146	F4	10/3/2024
8	I68605147	F5-GR	10/3/2024
9	I68605148	F6	10/3/2024
10	I68605149	F7-GR	10/3/2024

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Comtech, Inc - Fayetteville.

Truss Design Engineer's Name: Gilbert, Eric

My license renewal date for the state of North Carolina is December 31, 2025.

North Carolina COA: C-0844

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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. 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.



October 03, 2024

Job J1224-6957	Truss ET1	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	I68605140
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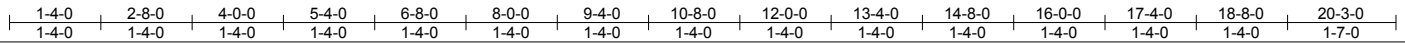
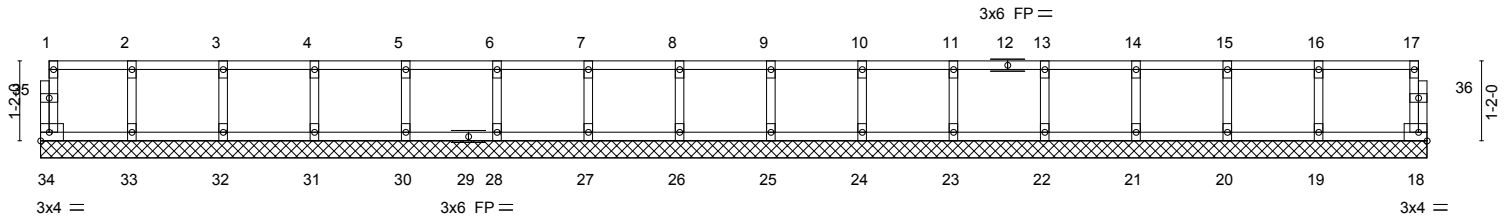
Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:32 2024 Page 1  
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0-1/8

0-1/8

Scale = 1:33.7



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP	
TCLL 40.0	Plate Grip DOL	1.00	TC 0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.00	BC 0.01	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0	Rep Stress Incr	YES	WB 0.03	Horz(CT)	0.00	18	n/a	n/a		
BCDL 5.0	Code IRC2015/TPI2014		Matrix-R							
									Weight: 84 lb	FT = 20%F, 11%E

**LUMBER-**  
TOP CHORD 2x4 SP No.1(flat)  
BOT CHORD 2x4 SP No.1(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

**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.** All bearings 20-3-0.  
(lb) - Max Grav All reactions 250 lb or less at joint(s) 34, 18, 33, 32, 31, 30, 28, 27, 26, 25, 24, 23, 22, 21, 20, 19

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

- NOTES-**
- All plates are 1.5x3 MT20 unless otherwise indicated.
  - Plates checked for a plus or minus 1 degree rotation about its center.
  - Gable requires continuous bottom chord bearing.
  - Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
  - Gable studs spaced at 1-4-0 oc.
  - Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.



October 3, 2024

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



818 Soundside Road  
Edenton, NC 27932



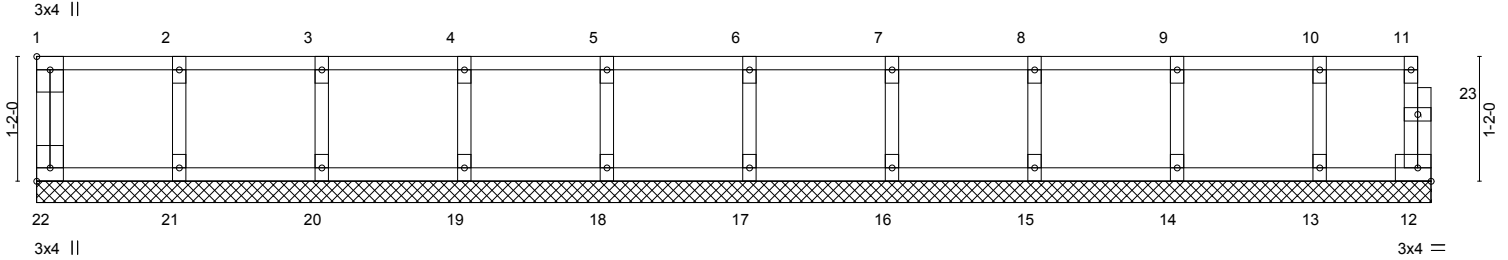
Job J1224-6957	Truss ET2	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	I68605141
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Comtech, Inc. Fayetteville, NC - 28314,

8,630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:32 2024 Page 1  
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0-1-8

Scale = 1:21.5



1-4-0	2-8-0	4-0-0	5-4-0	6-8-0	8-0-0	9-4-0	10-8-0	12-0-0	13-0-8
1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-0-8

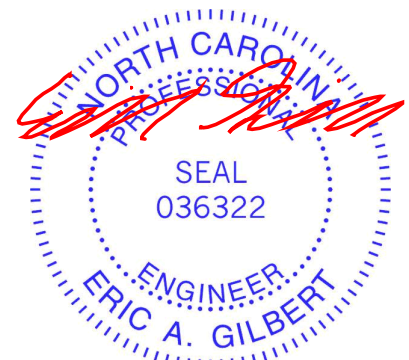
Plate Offsets (X,Y)-- [1:Edge,0-1-8], [22:Edge,0-1-8]					
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 40.0	Plate Grip DOL 1.00	TC 0.06	Vert(LL) n/a - n/a 999	MT20	244/190
TCDL 10.0	Lumber DOL 1.00	BC 0.01	Vert(CT) n/a - n/a 999		
BCLL 0.0	Rep Stress Incr YES	WB 0.03	Horz(CT) 0.00 12 n/a n/a		
BCDL 5.0	Code IRC2015/TPI2014	Matrix-R		Weight: 56 lb	FT = 20%F, 11%E

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x4 SP No.1(flat)	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x4 SP No.1(flat)	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.3(flat)	
OTHERS 2x4 SP No.3(flat)	

**REACTIONS.** All bearings 13-0-8.  
(lb) - Max Grav All reactions 250 lb or less at joint(s) 22, 12, 21, 20, 19, 18, 17, 16, 15, 14, 13

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

- NOTES-**
- 1) All plates are 1.5x3 MT20 unless otherwise indicated.
  - 2) Plates checked for a plus or minus 1 degree rotation about its center.
  - 3) Gable requires continuous bottom chord bearing.
  - 4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
  - 5) Gable studs spaced at 1-4-0 oc.
  - 6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - 7) CAUTION, Do not erect truss backwards.



October 3, 2024

Job J1224-6957	Truss ET3	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	I68605142
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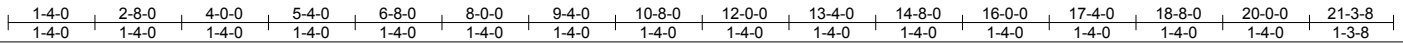
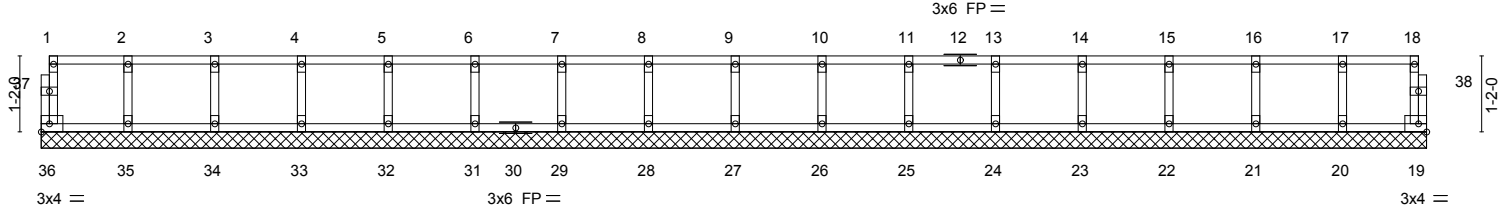
Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:33 2024 Page 1  
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0-1-8

0-1-8

Scale = 1:35.4



<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>	
TCLL 40.0	Plate Grip DOL	1.00	TC 0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.00	BC 0.01	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0	Rep Stress Incr	YES	WB 0.03	Horz(CT)	0.00	19	n/a	n/a		
BCDL 5.0	Code IRC2015/TPI2014		Matrix-R						Weight: 88 lb	FT = 20%F, 11%E

**LUMBER-**  
TOP CHORD 2x4 SP No.1(flat)  
BOT CHORD 2x4 SP No.1(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

**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.** All bearings 21-3-8.  
(lb) - Max Grav All reactions 250 lb or less at joint(s) 36, 19, 35, 34, 33, 32, 31, 29, 28, 27, 26, 25, 24, 23, 22, 21, 20

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

- NOTES-**
- All plates are 1.5x3 MT20 unless otherwise indicated.
  - Plates checked for a plus or minus 1 degree rotation about its center.
  - Gable requires continuous bottom chord bearing.
  - Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
  - Gable studs spaced at 1-4-0 oc.
  - Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.



**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.sbcacomponents.com)



Job J1224-6957	Truss F1	Truss Type FLOOR	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	168605143
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Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:34 2024 Page 1  
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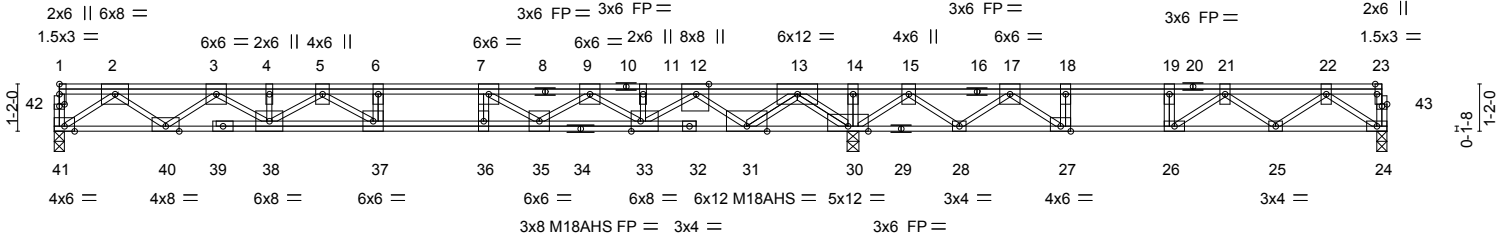


Plate Offsets (X,Y)--	[12:0-3-0,Edge], [23:0-3-0,Edge], [33:0-2-12,Edge], [42:0-1-8,0-0-8], [43:0-1-8,0-0-8]
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LOADING (psf)	SPACING-	1-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 40.0	Plate Grip DOL	1.00	TC 0.58	Vert(LL)	-0.32	36-37	>743	MT20	244/190
TCDL 10.0	Lumber DOL	1.00	BC 0.68	Vert(CT)	-0.43	36-37	>543	M18AHS	186/179
BCLL 0.0	Rep Stress Incr	NO	WB 0.92	Horz(CT)	0.07	30	n/a		
BCDL 5.0	Code IRC2015/TP12014		Matrix-S						
								Weight: 231 lb	FT = 20%F, 11%E

**LUMBER-**  
TOP CHORD 2x4 SP 2400F 2.0E(flat)  
BOT CHORD 2x4 SP 2400F 2.0E(flat)  
WEBS 2x4 SP No.3(flat)

**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) 41=0-3-0, 30=0-3-8, 24=0-3-0  
Max Uplift 24=-247(LC 3)  
Max Grav 41=1576(LC 3), 30=2864(LC 1), 24=50(LC 4)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-3504/0, 3-4=-6223/0, 4-5=-6223/0, 5-6=-7661/0, 6-7=-7661/0, 7-9=-6965/0, 9-11=-4970/0, 11-12=-4970/0, 12-13=-746/0, 13-14=0/4779, 14-15=0/4779, 15-17=0/3457, 17-18=0/1956, 18-19=0/1956, 19-21=0/1956, 21-22=0/669  
BOT CHORD 40-41=0/2080, 38-40=0/5030, 37-38=0/7087, 36-37=0/7661, 35-36=0/7661, 33-35=0/6235, 31-33=0/3400, 30-31=-1894/0, 28-30=-3921/0, 27-28=-2958/0, 26-27=-1956/0, 25-26=-1032/0, 24-25=-366/28  
WEBS 2-41=-2547/0, 2-40=0/1809, 3-40=-1939/0, 3-38=0/1454, 13-30=-3542/0, 13-31=0/3079, 12-31=-3335/0, 12-33=0/1934, 9-33=-1560/0, 9-35=0/959, 5-38=-1054/0, 5-37=0/835, 6-37=-369/0, 7-35=-995/0, 15-30=-1141/0, 15-28=0/870, 17-28=-919/0, 22-24=-31/451, 22-25=-384/0, 21-25=0/461, 21-26=-1169/0, 19-26=0/606, 17-27=0/1513, 18-27=-780/0

- NOTES-**
- 1) Unbalanced floor live loads have been considered for this design.
  - 2) All plates are MT20 plates unless otherwise indicated.
  - 3) All plates are 3x6 MT20 unless otherwise indicated.
  - 4) Plates checked for a plus or minus 1 degree rotation about its center.
  - 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 247 lb uplift at joint 24.
  - 6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - 7) CAUTION, Do not erect truss backwards.
  - 8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 783 lb down at 15-9-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
  - 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
Uniform Loads (plf)  
Vert: 24-41=-5, 1-12=-170, 12-23=-50  
Concentrated Loads (lb)  
Vert: 12=-743(F)

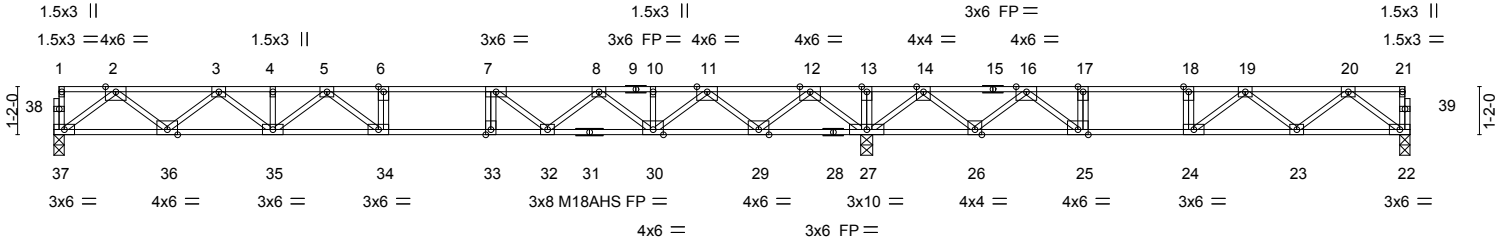


October 3, 2024

Job	Truss	Truss Type	Qty	Ply	Lot 27 Magnolia Hills	168605144
J1224-6957	F2	Floor	5	1	Job Reference (optional)	

Comtech, Inc. Fayetteville, NC - 28314,

8.630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:34 2024 Page 1  
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14-7-4 14-7-4		19-8-12 5-1-8		32-11-0 13-2-4	
<b>LOADING</b> (psf)	<b>SPACING-</b>	<b>CSI.</b>	<b>DEFL.</b>	<b>PLATES</b>	<b>GRIP</b>
TCLL 40.0	2-0-0	TC 0.70	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.00	BC 0.65	Vert(LL) -0.27 34 >858 480	M18AHS	186/179
BCLL 0.0	Lumber DOL 1.00	WB 0.70	Vert(CT) -0.38 34 >627 360		
BCDL 5.0	Rep Stress Incr YES	Matrix-S	Horz(CT) 0.05 22 n/a n/a		
	Code IRC2015/TPI2014			Weight: 167 lb	FT = 20%F, 11%E

**LUMBER-**  
 TOP CHORD 2x4 SP 2400F 2.0E(flat)  
 BOT CHORD 2x4 SP 2400F 2.0E(flat)  
 WEBS 2x4 SP No.3(flat)

**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) 37=0-3-0, 27=0-3-8, 22=0-3-0  
 Max Grav 37=953(LC 10), 27=2150(LC 1), 22=621(LC 4)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-2014/0, 3-4=-3356/0, 4-5=-3356/0, 5-6=-3950/0, 6-7=-3950/0, 7-8=-3454/0, 8-10=-2300/0, 10-11=-2300/0, 11-12=-379/347, 12-13=0/2735, 13-14=0/2735, 14-16=-486/1427, 16-17=-1633/515, 17-18=-1633/515, 18-19=-1633/515, 19-20=-1198/26  
 BOT CHORD 36-37=0/1196, 35-36=0/2803, 34-35=0/3743, 33-34=0/3950, 32-33=0/3950, 30-32=0/3014, 29-30=-29/1454, 27-29=-1220/0, 26-27=-1763/0, 25-26=-1049/1109, 24-25=-515/1633, 23-24=-155/1563, 22-23=0/765  
 WEBS 2-37=-1497/0, 2-36=0/1065, 3-36=-1027/0, 3-35=0/705, 12-27=-1900/0, 12-29=0/1468, 11-29=-1445/0, 11-30=0/1128, 8-30=-947/0, 8-32=0/684, 5-35=-495/0, 5-34=-175/543, 7-32=-902/0, 14-27=-1409/0, 14-26=0/960, 16-26=-1036/0, 20-22=-957/0, 20-23=-38/563, 19-23=-475/168, 19-24=-452/87, 16-25=0/1148, 17-25=-491/0

- NOTES-**
- Unbalanced floor live loads have been considered for this design.
  - All plates are MT20 plates unless otherwise indicated.
  - All plates are 3x4 MT20 unless otherwise indicated.
  - Plates checked for a plus or minus 1 degree rotation about its center.
  - Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - CAUTION, Do not erect truss backwards.



October 3, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
 Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 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.sbcacomponents.com)



Job J1224-6957	Truss F3	Truss Type FLOOR	Qty 13	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	168605145
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Comtech, Inc. Fayetteville, NC - 28314,

8,630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:35 2024 Page 1  
ID:TBfslx8xnbQ8q?qAEUg6cKzS70A-Rfc?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

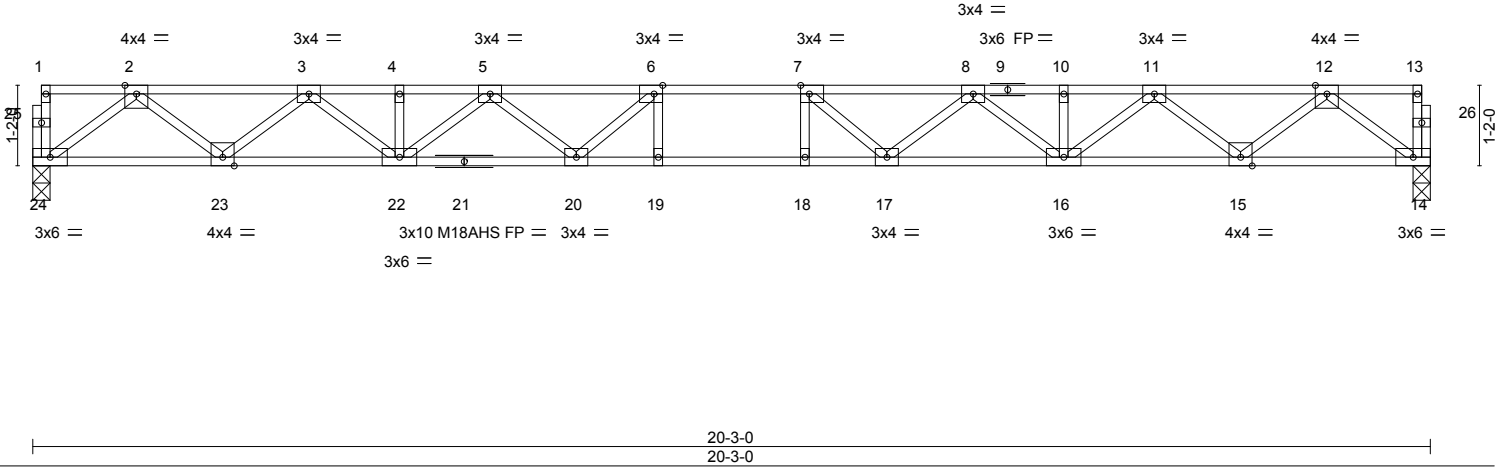
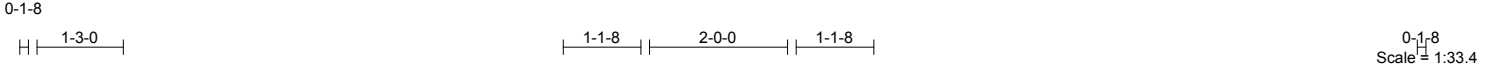


Plate Offsets (X,Y)--	[6:0-1-8,Edge], [7:0-1-8,Edge]
<b>LOADING</b> (psf)	<b>SPACING-</b> 1-7-3
TCLL 40.0	Plate Grip DOL 1.00
TCDL 10.0	Lumber DOL 1.00
BCLL 0.0	Rep Stress Incr YES
BCDL 5.0	Code IRC2015/TP12014
	<b>CSI.</b>
	TC 0.27
	BC 0.55
	WB 0.49
	Matrix-S
	<b>DEFL.</b> in (loc) l/defl L/d
	Vert(LL) -0.30 18-19 >801 480
	Vert(CT) -0.41 18-19 >581 360
	Horz(CT) 0.07 14 n/a n/a
	<b>PLATES GRIP</b>
	MT20 244/190
	M18AHS 186/179
	Weight: 102 lb FT = 20%F, 11%E

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x4 SP 2400F 2.0E(flat)	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x4 SP 2400F 2.0E(flat)	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.3(flat)	

**REACTIONS.** (size) 24=0-3-0, 14=0-3-0  
Max Grav 24=874(LC 1), 14=874(LC 1)

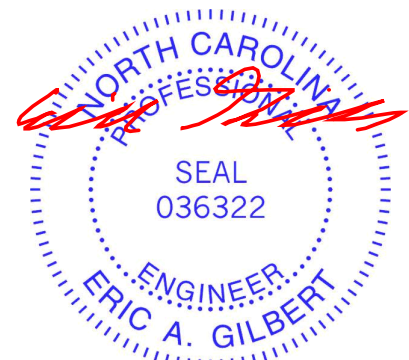
**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD 2-3=-1894/0, 3-4=-3231/0, 4-5=-3231/0, 5-6=-3966/0, 6-7=-4188/0, 7-8=-3966/0, 8-10=-3231/0, 10-11=-3231/0, 11-12=-1894/0


BOT CHORD 23-24=0/1104, 22-23=0/2656, 20-22=0/3714, 19-20=0/4188, 18-19=0/4188, 17-18=0/4188, 16-17=0/3714, 15-16=0/2656, 14-15=0/1104

WEBS 2-24=-1383/0, 2-23=0/1028, 3-23=-993/0, 3-22=0/734, 12-14=-1383/0, 12-15=0/1028, 11-15=-993/0, 11-16=0/734, 5-22=-617/0, 5-20=0/453, 8-16=-617/0, 8-17=0/453, 7-17=-555/72, 6-20=-555/72

- NOTES-**
- 1) Unbalanced floor live loads have been considered for this design.
  - 2) All plates are MT20 plates unless otherwise indicated.
  - 3) All plates are 1.5x3 MT20 unless otherwise indicated.
  - 4) Plates checked for a plus or minus 1 degree rotation about its center.
  - 5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.



October 3, 2024

<p><b>WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.</b></p> <p>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 <b>ANSI/TP1 Quality Criteria and DSB-22</b> available from Truss Plate Institute (<a href="http://www.tpinst.org">www.tpinst.org</a>) and <b>BCSI Building Component Safety Information</b> available from the Structural Building Component Association (<a href="http://www.sbcacomponents.com">www.sbcacomponents.com</a>)</p>	<p>ENGINEERING BY</p>  <p>A MITEK Affiliate</p> <p>818 Soundside Road Edenton, NC 27932</p>
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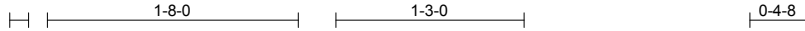


Job J1224-6957	Truss F5-GR	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	168605147
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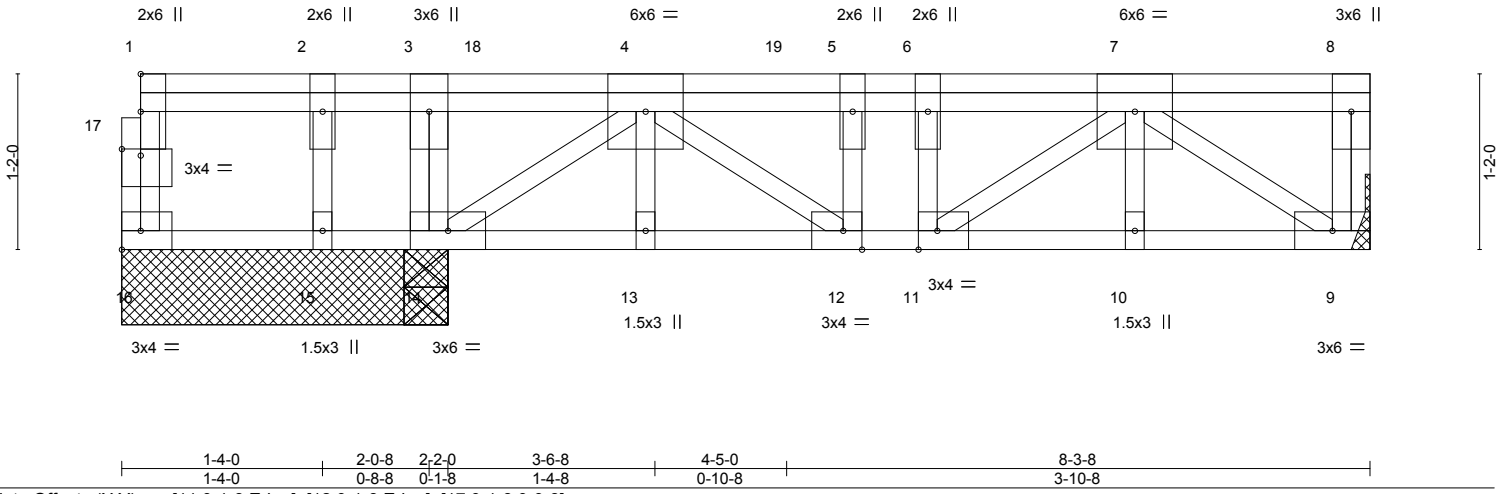
Comtech, Inc. Fayetteville, NC - 28314,

8,630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:36 2024 Page 1  
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0-1-8



Scale = 1:15.3



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 40.0	Plate Grip DOL	1.00	TC 0.16	Vert(LL)	-0.01	12	>999	480	MT20	244/190
TCDL 10.0	Lumber DOL	1.00	BC 0.25	Vert(CT)	-0.02	12	>999	360		
BCLL 0.0	Rep Stress Incr	NO	WB 0.27	Horz(CT)	0.01	9	n/a	n/a		
BCDL 5.0	Code IRC2015/TP12014		Matrix-S						Weight: 58 lb	FT = 20%F, 11%E

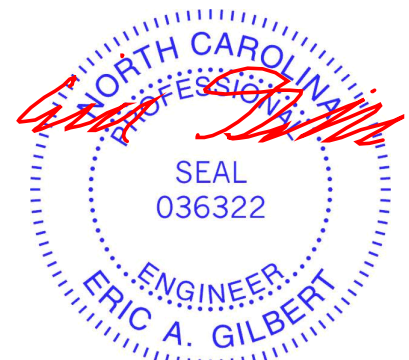
LUMBER-	BRACING-
TOP CHORD 2x4 SP No.1(flat)	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x4 SP No.1(flat)	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.3(flat)	
OTHERS 2x4 SP No.3(flat)	

**REACTIONS.** All bearings 2-2-0 except (jt=length) 9=Mechanical.  
 (lb) - Max Uplift All uplift 100 lb or less at joint(s) 15  
 Max Grav All reactions 250 lb or less at joint(s) 15 except 16=256(LC 4), 9=793(LC 4), 14=1115(LC 4), 14=1106(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 4-5=-1242/0, 5-6=-1242/0, 6-7=-1242/0  
 BOT CHORD 13-14=0/862, 12-13=0/862, 11-12=0/1242, 10-11=0/940, 9-10=0/940  
 WEBS 3-14=-485/0, 4-14=-1024/0, 7-9=-1137/0, 7-11=0/371, 4-12=0/471, 5-12=-264/0

- NOTES-**
- 1) Unbalanced floor live loads have been considered for this design.
  - 2) Plates checked for a plus or minus 1 degree rotation about its center.
  - 3) Gable studs spaced at 1-4-0 oc.
  - 4) Refer to girder(s) for truss to truss connections.
  - 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 15.
  - 6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - 7) CAUTION, Do not erect truss backwards.
  - 8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 173 lb down at 0-2-4, 141 lb down at 2-5-4, and 166 lb down at 4-5-4, and 166 lb down at 6-5-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
  - 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
 Uniform Loads (plf)  
 Vert: 9-16=-10, 1-8=-220  
 Concentrated Loads (lb)  
 Vert: 1=-123(F) 7=-86(F) 18=-86(F) 19=-86(F)



October 3, 2024

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

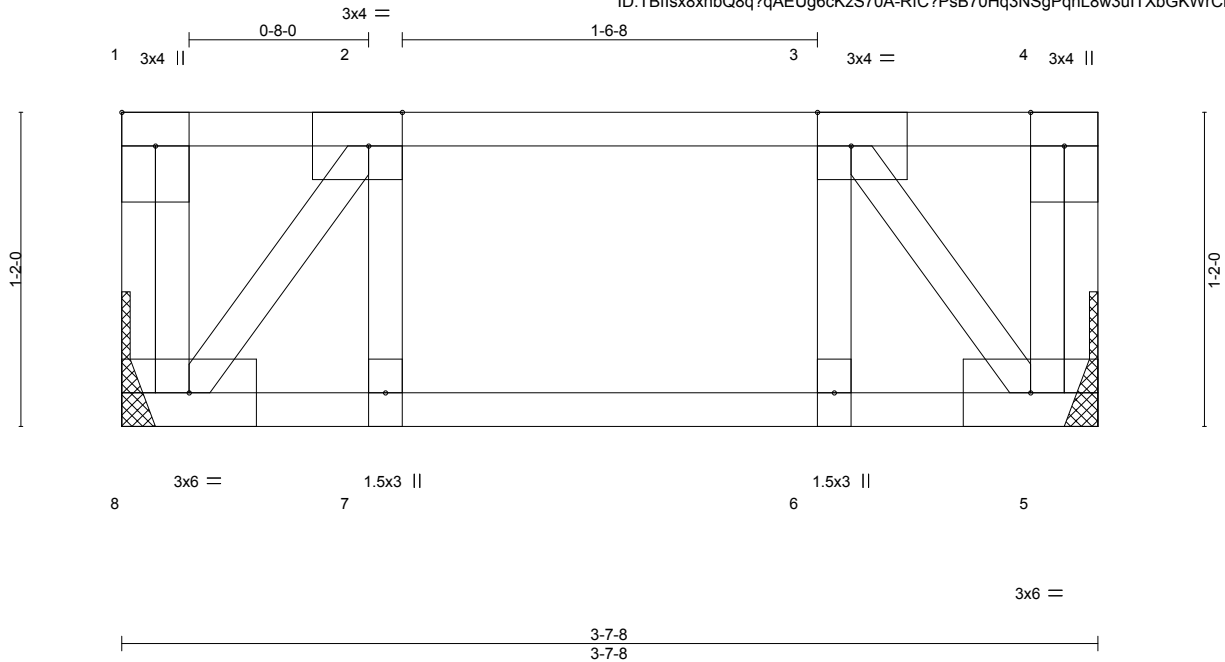
**ENGINEERING BY**  
**TRENCO**  
 A MiTek Affiliate  
 818 Soundside Road  
 Edenton, NC 27932

Job J1224-6957	Truss F6	Truss Type FLOOR	Qty 4	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	168605148
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8,630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:36 2024 Page 1

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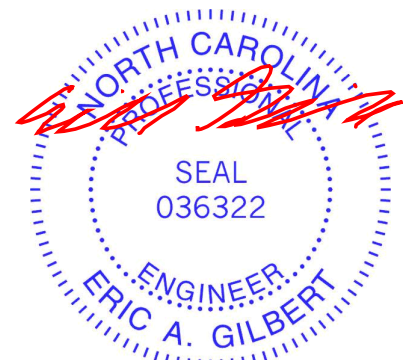
Plate Offsets (X,Y)--		[1:Edge,0-1-8], [2:0-1-8,Edge], [3:0-1-8,Edge]	
<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>
TCLL 40.0	Plate Grip DOL	1.00	TC 0.08
TCDL 10.0	Lumber DOL	1.00	BC 0.04
BCLL 0.0	Rep Stress Incr	YES	WB 0.05
BCDL 5.0	Code	IRC2015/TPI2014	Matrix-S
<b>DEFL.</b>	in (loc)	l/defl	L/d
Vert(LL)	-0.00	7 >999	480
Vert(CT)	-0.00	7 >999	360
Horz(CT)	0.00	5 n/a	n/a
<b>PLATES</b>	<b>GRIP</b>		
MT20	244/190		
Weight: 22 lb		FT = 20%F, 11%E	

<b>LUMBER-</b>		<b>BRACING-</b>	
TOP CHORD	2x4 SP No.1(flat)	TOP CHORD	Structural wood sheathing directly applied or 3-7-8 oc purlins, except end verticals.
BOT CHORD	2x4 SP No.1(flat)	BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	2x4 SP No.3(flat)		

**REACTIONS.** (size) 5=Mechanical, 8=Mechanical  
Max Grav 5=186(LC 1), 8=186(LC 1)

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

- NOTES-**
- 1) Unbalanced floor live loads have been considered for this design.
  - 2) Plates checked for a plus or minus 1 degree rotation about its center.
  - 3) Refer to girder(s) for truss to truss connections.
  - 4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.



October 3, 2024



Job J1224-6957	Truss F7-GR	Truss Type GABLE	Qty 1	Ply 1	Lot 27 Magnolia Hills Job Reference (optional)	168605149
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8,630 s Jul 12 2024 MiTek Industries, Inc. Tue Oct 1 12:24:36 2024 Page 1

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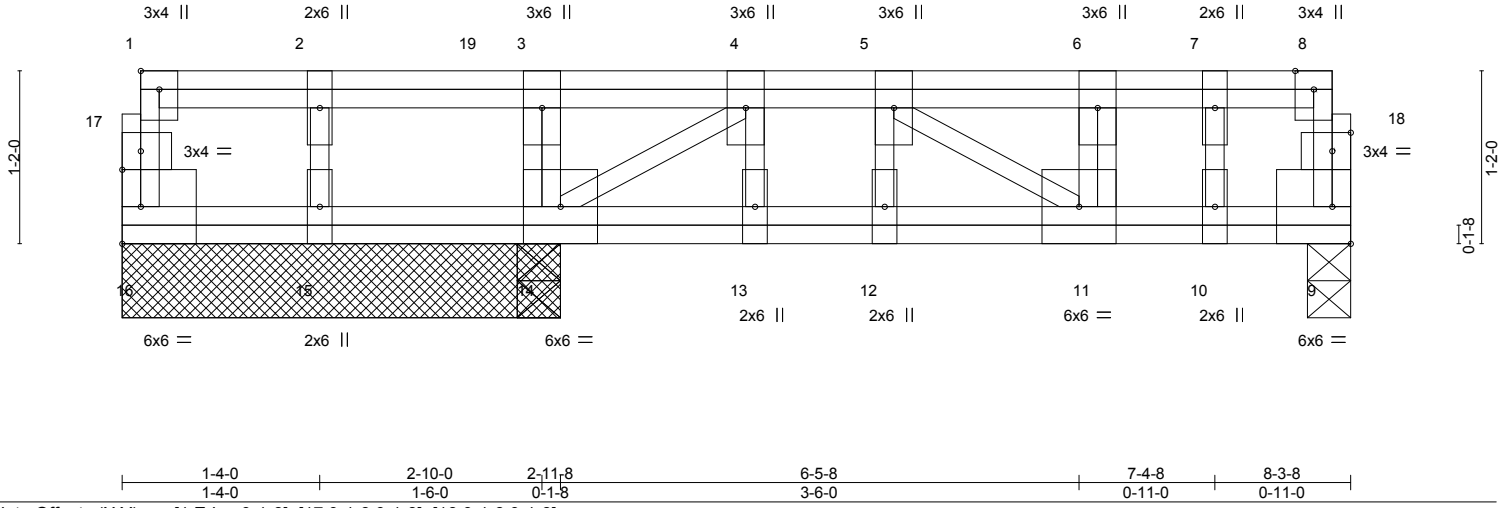
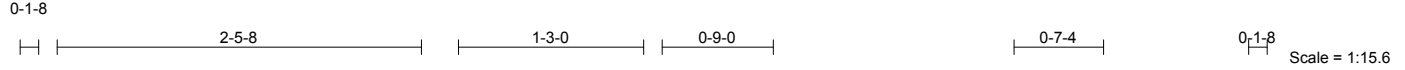


Plate Offsets (X,Y)--	[1:Edge,0-1-8], [17:0-1-8,0-1-8], [18:0-1-8,0-1-8]				
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 40.0	Plate Grip DOL 1.00	TC 0.54	Vert(LL) -0.08 11-12 >797 480	MT20	244/190
TCDL 10.0	Lumber DOL 1.00	BC 0.67	Vert(CT) -0.11 11-12 >570 360		
BCLL 0.0	Rep Stress Incr NO	WB 0.21	Horz(CT) 0.00 9 n/a n/a		
BCDL 5.0	Code IRC2015/TPI2014	Matrix-S		Weight: 65 lb	FT = 20%F, 11%E

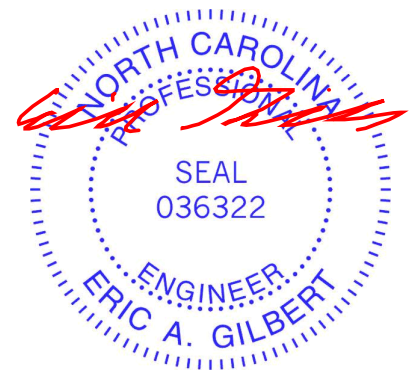
<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x4 SP No.1(flat)	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD 2x4 SP No.1(flat)	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.3(flat)	
OTHERS 2x4 SP No.3(flat)	

**REACTIONS.** All bearings 2-11-8 except (jt=length) 9=0-3-8.  
 (lb) - Max Grav All reactions 250 lb or less at joint(s) 15 except 16=280(LC 4), 14=1199(LC 1), 14=1199(LC 1), 14=1199(LC 1), 9=630(LC 4)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 8-9=-410/0, 4-5=-778/0  
 BOT CHORD 13-14=0/778, 12-13=0/778, 11-12=0/778  
 WEBS 4-14=-905/0, 5-11=-892/0, 2-15=-257/0, 3-14=-550/0

- NOTES-**
- Unbalanced floor live loads have been considered for this design.
  - Plates checked for a plus or minus 1 degree rotation about its center.
  - Gable studs spaced at 1-4-0 oc.
  - Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - CAUTION, Do not erect truss backwards.
  - Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 173 lb down at 0-2-4, 141 lb down at 2-5-4, and 166 lb down at 4-5-4, and 166 lb down at 6-5-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
  - In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard  
 1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
 Uniform Loads (plf)  
 Vert: 9-16=-10, 1-8=-220  
 Concentrated Loads (lb)  
 Vert: 1=-123(B) 4=-86(B) 6=-86(B) 19=-86(B)

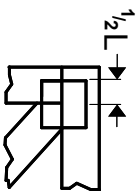


**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
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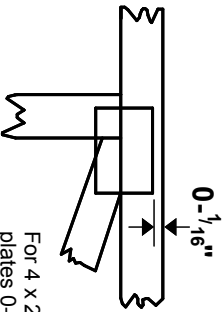
**ENGINEERING BY**  
**TRENCO**  
 A MiTek Affiliate  
 818 Soundside Road  
 Edenton, NC 27932

# 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\"/>



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

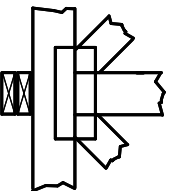
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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



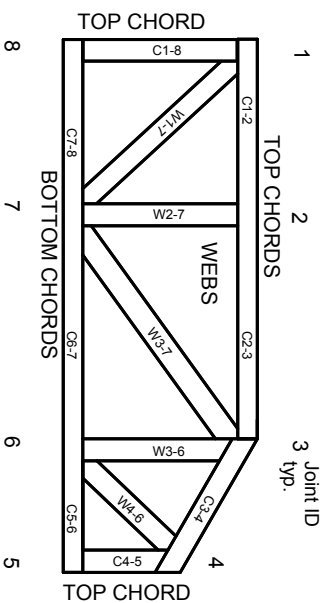
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/TFP 1: 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

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

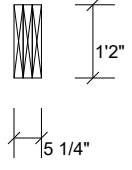
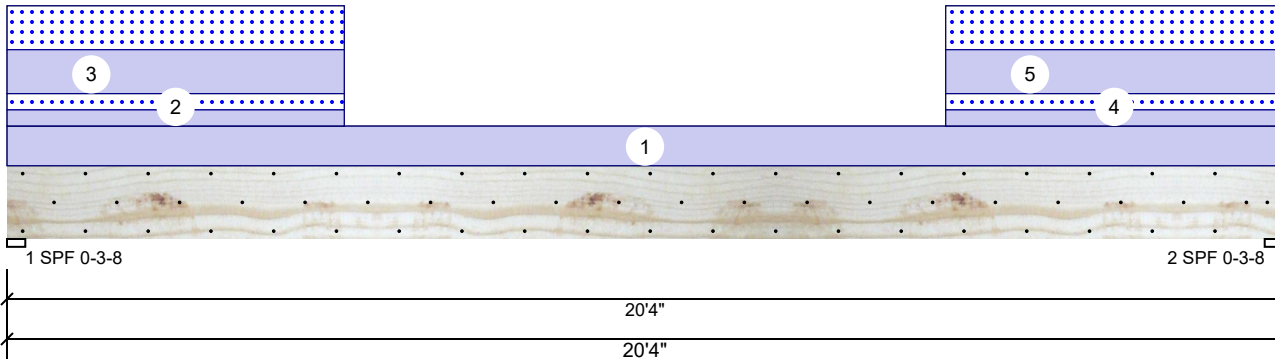
**MITek**

ENGINEERING BY  
**TRENGO**  
A MITek Affiliate

MITek Engineering Reference Sheet: MIL-7473 rev. 1/2/2023

**BM1 Kerto-S LVL 1.750" X 14.000" 3-Ply - PASSED**

Level: Level



**Member Information**

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	480	Load Sharing:	Yes
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED Ib (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	2362	976	0	0
2	Vertical	0	2362	976	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	43%	2362 / 976	3337	L	D+S
2 - SPF	3.500"	Vert	43%	2362 / 976	3337	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9135 ft-lb	10'2"	37907 ft-lb	0.241 (24%)	D	Uniform
Unbraced	11538 ft-lb	10'2"	11541 ft-lb	1.000 (100%)	D+S	L
Shear	2628 lb	18'10 1/2"	18032 lb	0.146 (15%)	D+S	L
LL Defl inch	0.085 (L/2795)	10'2 1/16"	0.497 (L/480)	0.172 (17%)	S	L
TL Defl inch	0.381 (L/627)	10'2 1/16"	0.662 (L/360)	0.574 (57%)	D+S	L

**Design Notes**

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6". Nail from both sides.
- Refer to last page of calculations for fasteners required for specified loads.
- Girders are designed to be supported on the bottom edge only.
- Top loads must be supported equally by all plies.
- Top must be laterally braced at a maximum of 15'1 11/16" o.c.
- Bottom must be laterally braced at end bearings.
- Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
2	Part. Uniform	0-0-0 to 5-4-8		Top	49 PLF	0 PLF	49 PLF	0 PLF	0 PLF	J2
3	Tie-In	0-0-0 to 5-4-8	6-7-8	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	STICK FRAMING
4	Part. Uniform	14-11-8 to 20-4-0		Top	49 PLF	0 PLF	49 PLF	0 PLF	0 PLF	J2

Continued on page 2...

**Notes**

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

- Dry service conditions, unless noted otherwise
- LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

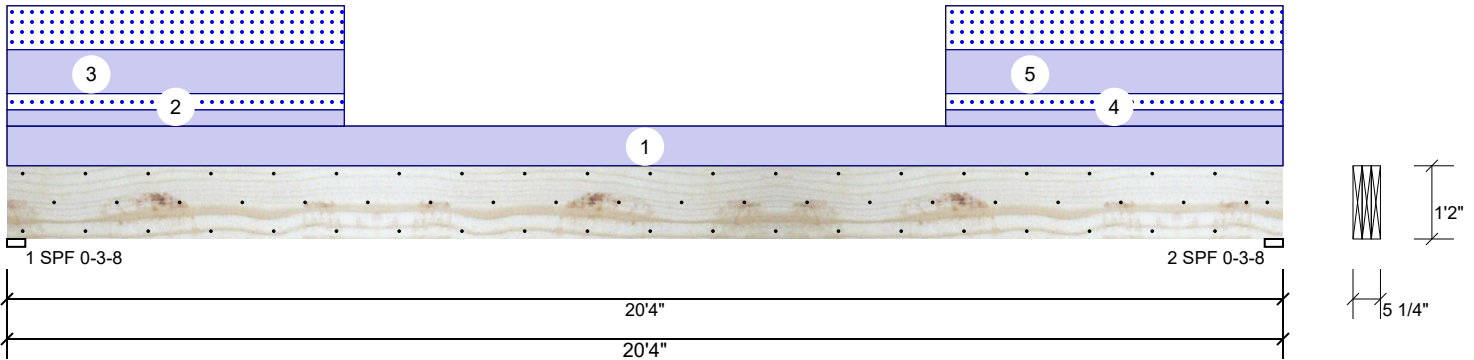
This design is valid until 6/28/2026

**Manufacturer Info**

Metsä Wood  
301 Merritt 7 Building, 2nd Floor  
Norwalk, CT 06851  
(800) 622-5850  
www.metsawood.com/us

**BM1 Kerto-S LVL 1.750" X 14.000" 3-Ply - PASSED**

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
5	Tie-In	14-11-8 to 20-4-0	6-7-8	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	STICK FRAMING
	Self Weight				16 PLF					

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

**Manufacturer Info**

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**BM1 Kerto-S LVL 1.750" X 14.000" 3-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Nail from both sides. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
C <sub>m</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

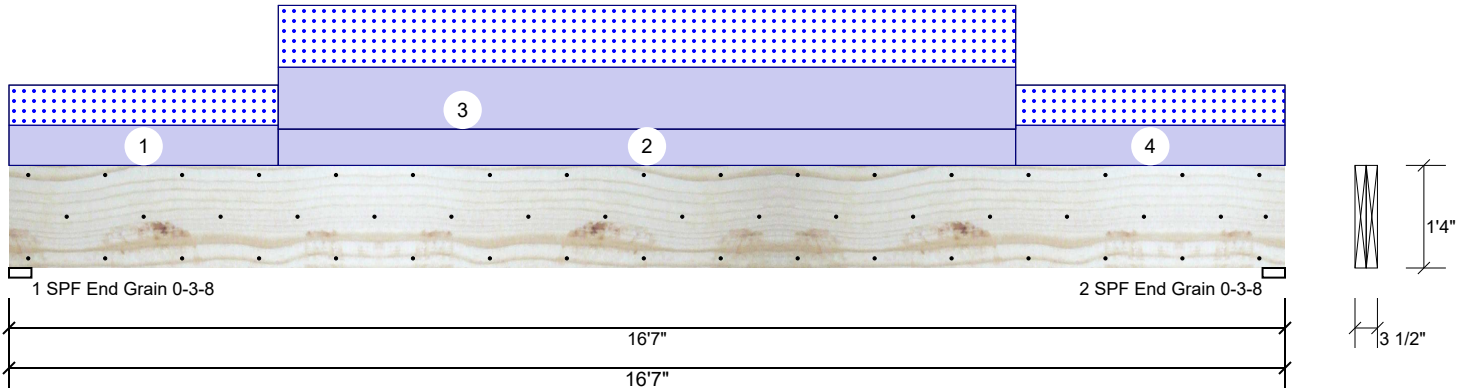
This design is valid until 6/28/2026

**Manufacturer Info**

Metsä Wood  
301 Merritt 7 Building, 2nd Floor  
Norwalk, CT 06851  
(800) 622-5850  
www.metsawood.com/us

**GDH Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED**

Level: Level



**Member Information**

Type:	Header	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Header Supports:	No
Importance:	Normal - II	Glass:	
Temperature:	Temp <= 100°F	Deck:	Not Checked

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	2119	1441	0	0
2	Vertical	0	2119	1441	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	35%	2119 / 1441	3561	L	D+S
2 - SPF End Grain	3.500"	Vert	35%	2119 / 1441	3561	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	16195 ft-lb	8'3 1/2"	39750 ft-lb	0.407 (41%)	D+S	L
Unbraced	16195 ft-lb	8'3 1/2"	39750 ft-lb	0.407 (41%)	D+S	L
Shear	3126 lb	14'11 1/2"	13739 lb	0.228 (23%)	D+S	L
LL Defl inch	0.135 (L/1439)	8'3 9/16"	0.404 (L/480)	0.333 (33%)	S	L
TL Defl inch	0.347 (L/559)	8'3 9/16"	0.538 (L/360)	0.644 (64%)	D+S	L

**Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be continuously laterally braced.
- 7 Bottom must be laterally braced at bearings.
- 8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In	0-0-0 to 3-6-0	6-7-8	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	STICK FRAMING
2	Part. Uniform	3-6-0 to 13-1-0		Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	DORMER WALL
3	Part. Uniform	3-6-0 to 13-1-0		Top	204 PLF	0 PLF	204 PLF	0 PLF	0 PLF	M2
4	Tie-In	13-1-0 to 16-7-0	6-7-8	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	STICK FRAMING
	Self Weight				12 PLF					

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

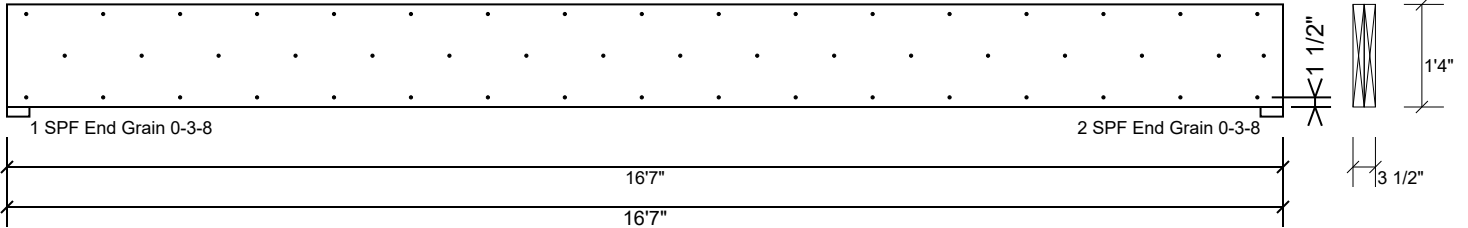
**Manufacturer Info**

Metsä Wood  
301 Merritt 7 Building, 2nd Floor  
Norwalk, CT 06851  
(800) 622-5850  
www.metsawood.com/us

This design is valid until 6/28/2026

**GDH Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
C <sub>m</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

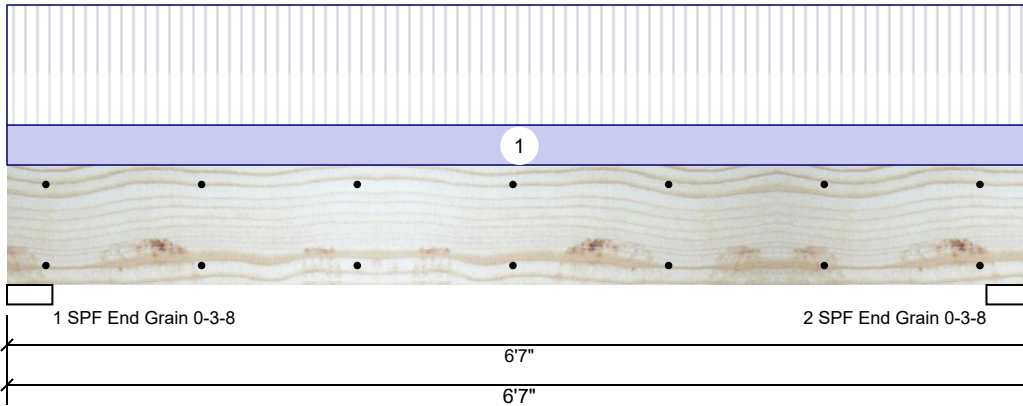
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

**Manufacturer Info**

Metsä Wood  
301 Merritt 7 Building, 2nd Floor  
Norwalk, CT 06851  
(800) 622-5850  
www.metsawood.com/us

**BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED** Level: Level



**Member Information**

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	2670	912	0	0	0
2	Vertical	2670	912	0	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	35%	912 / 2670	3582	L	D+L
2 - SPF End Grain	3.500"	Vert	35%	912 / 2670	3582	L	D+L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5103 ft-lb	3'3 1/2"	12542 ft-lb	0.407 (41%)	D+L	L
Unbraced	5103 ft-lb	3'3 1/2"	9934 ft-lb	0.514 (51%)	D+L	L
Shear	2431 lb	1' 3/4"	6907 lb	0.352 (35%)	D+L	L
LL Defl inch	0.069 (L/1063)	3'3 1/2"	0.153 (L/480)	0.452 (45%)	L	L
TL Defl inch	0.093 (L/792)	3'3 1/2"	0.204 (L/360)	0.455 (45%)	D+L	L

**Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at end bearings.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	270 PLF	811 PLF	0 PLF	0 PLF	0 PLF	F2
	Self Weight				7 PLF					

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

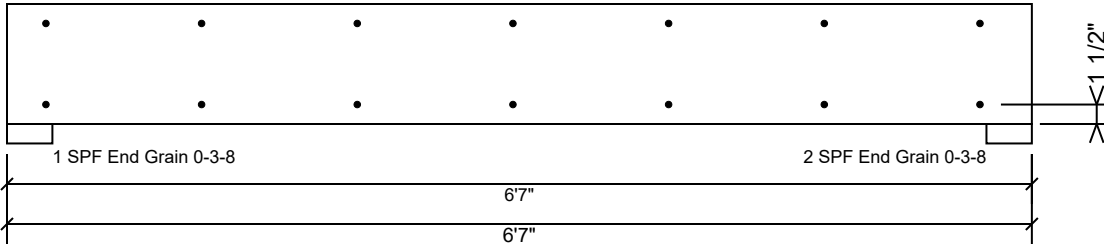
**Manufacturer Info**

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www.metsawood.com/us



**BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
C <sub>m</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

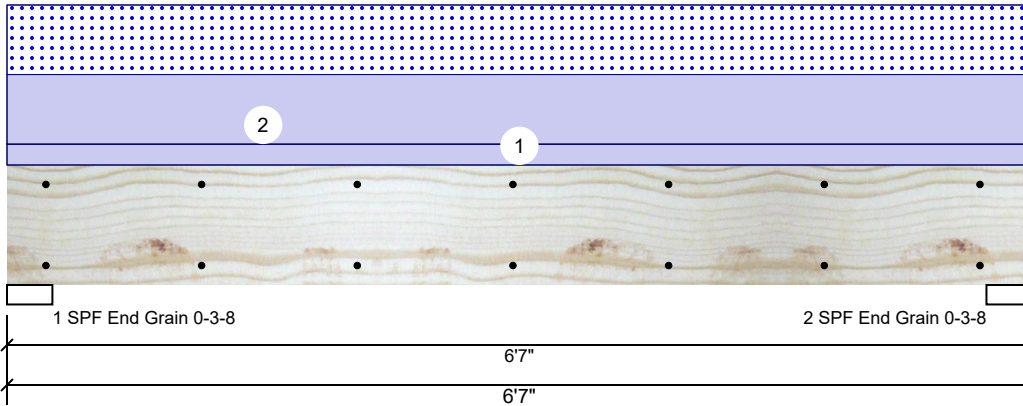
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

**Manufacturer Info**

Metsä Wood  
301 Merritt 7 Building, 2nd Floor  
Norwalk, CT 06851  
(800) 622-5850  
www.metsawood.com/us

**BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED** Level: Level



**Member Information**

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1732	1313	0	0
2	Vertical	0	1732	1313	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	30%	1732 / 1313	3045	L	D+S
2 - SPF End Grain	3.500"	Vert	30%	1732 / 1313	3045	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4339 ft-lb	3' 3/2"	14423 ft-lb	0.301 (30%)	D+S	L
Unbraced	4339 ft-lb	3' 3/2"	10451 ft-lb	0.415 (42%)	D+S	L
Shear	2068 lb	1' 3/4"	7943 lb	0.260 (26%)	D+S	L
LL Defl inch	0.034 (L/2160)	3' 3/2"	0.153 (L/480)	0.222 (22%)	S	L
TL Defl inch	0.079 (L/932)	3' 3/2"	0.204 (L/360)	0.386 (39%)	D+S	L

**Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at end bearings.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
2	Uniform			Top	399 PLF	0 PLF	399 PLF	0 PLF	0 PLF	A2
	Self Weight				7 PLF					

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

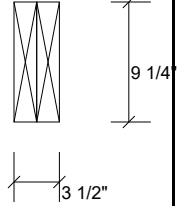
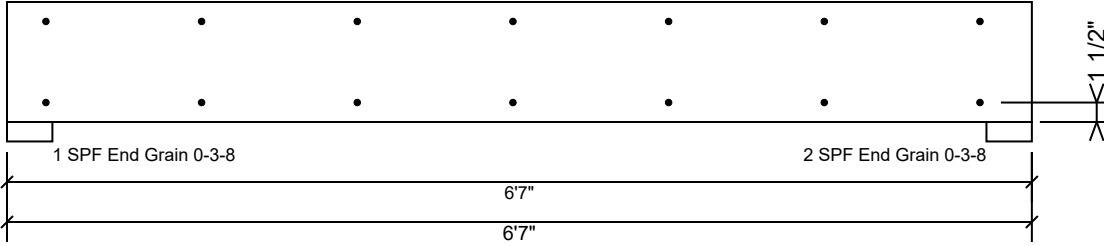
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**Manufacturer Info**

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www.metsawood.com/us

**BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
C <sub>m</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

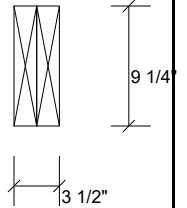
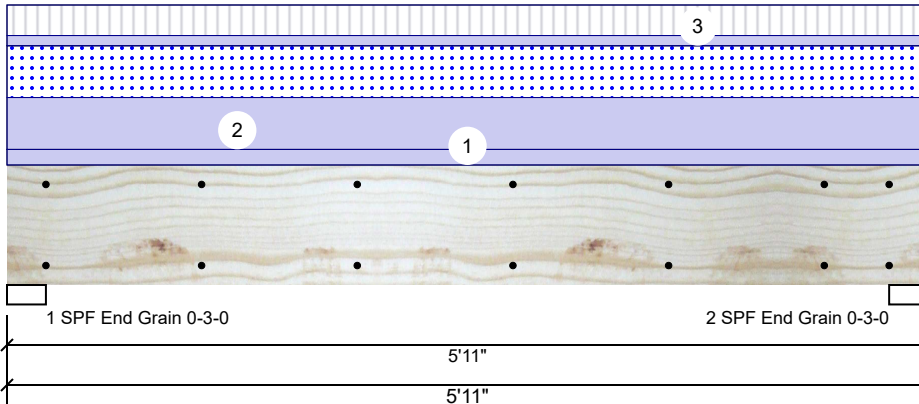
This design is valid until 6/28/2026

**Manufacturer Info**

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www.metsawood.com/us

# BM4 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



## Member Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360
Importance:	Normal - II
Temperature:	Temp <= 100°F

Application:	Floor
Design Method:	ASD
Building Code:	IBC 2012
Load Sharing:	No
Deck:	Not Checked

## Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	695	1787	1180	0	0
2	Vertical	695	1787	1180	0	0

## Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	36%	1787 / 1407	3194	L	D+0.75(L+S)
2 - SPF End Grain	3.000"	Vert	36%	1787 / 1407	3194	L	D+0.75(L+S)

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4145 ft-lb	2'11 1/2"	14423 ft-lb	0.287 (29%)	D+0.75(L+S)	L
Unbraced	4145 ft-lb	2'11 1/2"	11027 ft-lb	0.376 (38%)	D+0.75(L+S)	L
Shear	2097 lb	4'10 3/4"	7943 lb	0.264 (26%)	D+0.75(L+S)	L
LL Defl inch	0.028 (L/2346)	2'11 1/2"	0.139 (L/480)	0.205 (20%)	0.75(L+S)	L
TL Defl inch	0.064 (L/1033)	2'11 1/2"	0.185 (L/360)	0.348 (35%)	D+0.75(L+S)	L

## Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at end bearings.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
2	Uniform			Top	399 PLF	0 PLF	399 PLF	0 PLF	0 PLF	A2
3	Uniform			Top	78 PLF	235 PLF	0 PLF	0 PLF	0 PLF	F2
	Self Weight				7 PLF					

## Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

## Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

## Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

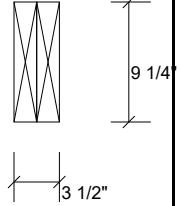
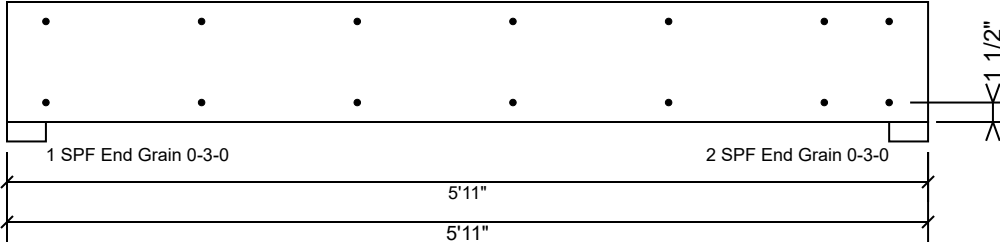
This design is valid until 6/28/2026

## Manufacturer Info

Metsä Wood  
301 Merritt 7 Building, 2nd Floor  
Norwalk, CT 06851  
(800) 622-5850  
www.metsawood.com/us

**BM4 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
C <sub>m</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

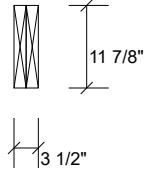
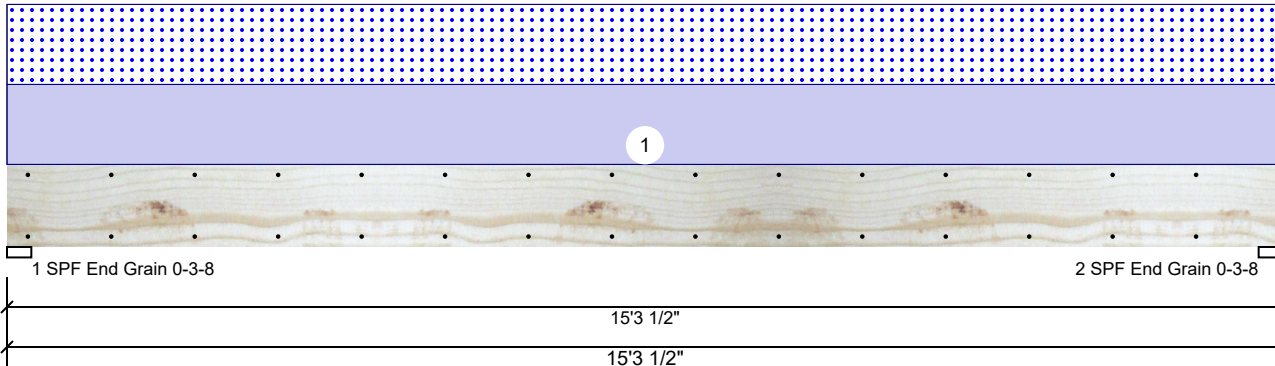
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**Manufacturer Info**

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**BM5 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED**

Level: Level



**Member Information**

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1355	1285	0	0
2	Vertical	0	1355	1285	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	26%	1355 / 1285	2640	L	D+S
2 - SPF End Grain	3.500"	Vert	26%	1355 / 1285	2640	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9495 ft-lb	7'7 3/4"	22897 ft-lb	0.415 (41%)	D+S	L
Unbraced	9495 ft-lb	7'7 3/4"	9500 ft-lb	0.999 (100%)	D+S	L
Shear	2206 lb	14' 1/8"	10197 lb	0.216 (22%)	D+S	L
LL Defl inch	0.200 (L/889)	7'7 13/16"	0.371 (L/480)	0.540 (54%)	S	L
TL Defl inch	0.411 (L/433)	7'7 13/16"	0.494 (L/360)	0.832 (83%)	D+S	L

**Design Notes**

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- Refer to last page of calculations for fasteners required for specified loads.
- Girders are designed to be supported on the bottom edge only.
- Top loads must be supported equally by all plies.
- Top must be laterally braced at a maximum of 9'9 7/8" o.c.
- Bottom must be laterally braced at end bearings.
- Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	168 PLF	0 PLF	168 PLF	0 PLF	0 PLF	C2
	Self Weight				9 PLF					

**Notes**

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**Lumber**

- Dry service conditions, unless noted otherwise
- LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

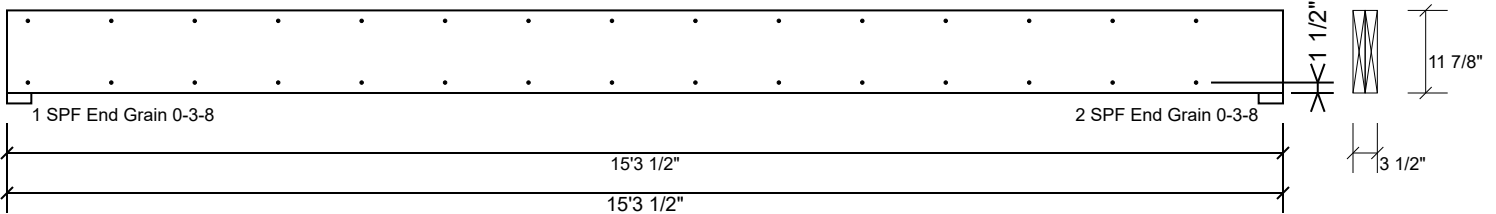
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Level: Level



**Multi-Ply Analysis**

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
C <sub>m</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**Notes**

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
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