

RE: 28964 - Freedom Const\Lot 12 Legacy

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Project Customer: Freedom Constructors Project Name:
Lot/Block: 12 Subdivision: Legacy
Model: Hignpoint\Bonus LH
Address:
City: State:

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

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.4
Wind Code: ASCE 7-16 [All Heights] Design Method: MWFRS (Directional) ASCE 7-16 [All Heights]
Wind Speed: 140 mph Floor Load: N/A psf
Roof Load: 40.0 psf Exposure Category: B
Mean Roof Height (feet): 20

No.	Seal#	Truss Name	Date
1	I77186784	AT1	10/21/25
2	I77186785	AT2	10/21/25
3	I77186786	G1	10/21/25
4	I77186787	GR1	10/21/25
5	I77186788	PB1	10/21/25
6	I77186789	PB2	10/21/25
7	I77186790	PB3	10/21/25
8	I77186791	PB4	10/21/25
9	I77186792	PB5	10/21/25
10	I77186793	PB6	10/21/25
11	I77186794	PB7	10/21/25
12	I77186795	PB8	10/21/25
13	I77186796	T1	10/21/25
14	I77186797	T2	10/21/25
	I77186798	T3	10/21/25
16	I77186799	T4	10/21/25
17	I77186800	T5	10/21/25
18	I77186801	T6	10/21/25
19	I77186802	T7	10/21/25
20	I77186803	TG1	10/21/25
21	I77186804	TGE1	10/21/25
22	I77186805	TGE2	10/21/25
23	I77186806	TGE3	10/21/25
	I77186807	TSGE1	10/21/25
25	I77186808	V1	10/21/25
26	I77186809	V2	10/21/25

The truss drawing(s) referenced above have been prepared by
Truss Engineering Co. under my direct supervision based on the parameters
provided by C & R Truss.

Truss Design Engineer's Name: Sevier, Scott

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

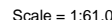
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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



October 21, 2025

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:24 2025 Page 1

ID:ioUCXI5PbkzRvuH1eD7vz?vSaFI-4PsQW8rWOlv0uYEEzbJl?0TohZY9bjrq2JRFaFvRVz9



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

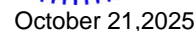
TOP CHORD 3-4=-1402/0, 4-5=-930/57, 5-6=-440/89, 7-8=-440/89, 8-9=-930/57, 9-10=-1401/0,
6-7=-329/170

BOT CHORD 15-16=-20/747, 14-15=0/932, 13-14=0/647

WEBS 4-15=-12/734, 9-14=-12/734, 5-17=-1015/54, 8-17=-1015/54, 3-15=0/405, 10-14=0/406,
3-16=-1587/0, 10-13=-1587/0

NOTES-

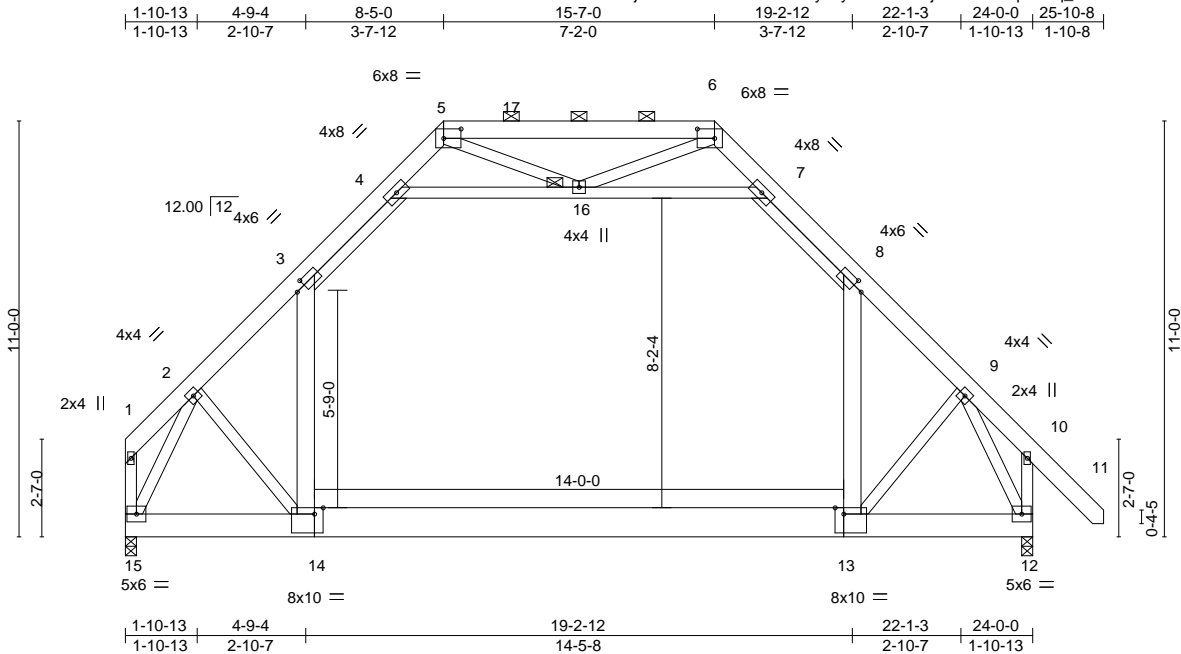
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCFL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Provide adequate drainage to prevent water ponding.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
- 6) Ceiling dead load (5.0 psf) on member(s). 4-5, 8-9, 5-17, 8-17
- 7) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 14-15
- 8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 10) Attic room checked for L/360 deflection.



Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	AT2	PIGGYBACK ATTIC	4	1	177186785
					Job Reference (optional)

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:25 2025 Page 1
ID:joUCXl5PbkzRvuH1eD7yz?ySaFI-ZcQojUs8921tWipQXlq_YD0zNzuOK9tzHyAo6hyRVz8



Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	G1	Common Supported Gable	1	1	177186786
C&R Truss, Autryville, NC - 28318,					Job Reference (optional)

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:25 2025 Page 1
ID:joUCXl5PbkzRvuH1eD7yz?ySaFl-ZcQojUs8921tWipQXlq_YD03mzzzKF5zHyAo6hyRVz8



Scale = 1:35.7

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 0.13	Vert(LL)	-0.01	11	n/r	120	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.04	Vert(CT)	-0.01	11	n/r	120		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.09	Horz(CT)	-0.00	12	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-R						Weight: 90 lb	FT = 20%

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

REACTIONS. All bearings 14-7-0.
(lb) - Max Horz 20=-127(LC 6)
Max Uplift All uplift 100 lb or less at joint(s) 20, 12, 17, 18, 19, 15, 14, 13
Max Grav All reactions 250 lb or less at joint(s) 20, 12, 16, 17, 18, 19, 15, 14, 13

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 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) All plates are 1.5x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 7) Gable studs spaced at 2-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 20, 12, 17, 18, 19, 15, 14, 13.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



October 21, 2025

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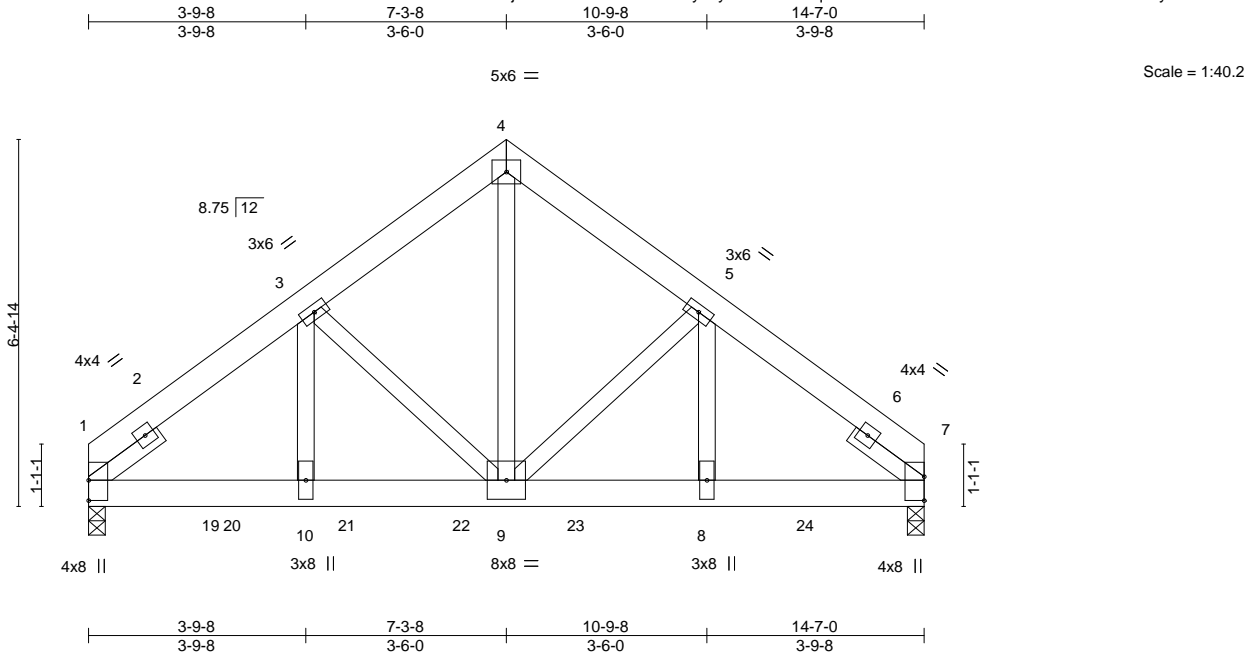
818 Soundside Road
Edenton, NC 27932

Job 28964	Truss GR1	Truss Type COMMON GIRDER	Qty 1	Ply 3	Freedom Const/Lot 12 Legacy 177186787
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C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:26 2025 Page 1

ID:joUCXI5PbkzRvuH1eD7yz?ySaFl-1ozAxqtnwM9k8rOd50LD4RYD0MBB3dm7WcwMe7yRVz7



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 0.23	Vert(LL)	-0.03	8-9	>999	360	MT20
TCDL 10.0	Lumber DOL	1.15	BC 0.56	Vert(CT)	-0.06	8-9	>999	240	244/190
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.39	Horz(CT)	0.02	7	n/a	n/a	
BCDL 10.0	Code IRC2018/TPI2014		Matrix-MS	Wind(LL)	-0.01	9	>999	240	
								Weight: 336 lb	FT = 20%

LUMBER-

TOP CHORD 2x6 SP No.1
 BOT CHORD 2x6 SP No.1
 WEBS 2x4 SP No.2
 SLIDER Left 2x4 SP No.3 1-6-0, Right 2x4 SP No.3 1-6-0

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=0-3-8, 7=0-3-8
 Max Horz 1=-90(LC 25)
 Max Grav 1=6771(LC 2), 7=4860(LC 2)

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

TOP CHORD 1-3=-6530/0, 3-4=-4448/0, 4-5=-4439/0, 5-7=-5880/0
 BOT CHORD 1-10=0/5078, 9-10=0/5078, 8-9=0/4517, 7-8=0/4517
 WEBS 4-9=0/4710, 5-9=-1211/0, 5-8=0/1951, 3-9=-1987/0, 3-10=0/2804

NOTES-

- 3-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.
 Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-5-0 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.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1312 lb down at 0-6-4, 1320 lb down at 2-6-4, 1320 lb down at 4-6-4, 1320 lb down at 6-6-4, 1320 lb down at 8-6-4, and 1320 lb down at 10-6-4, and 1320 lb down at 12-6-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (plf)
 Vert: 1-4=-60, 4-7=-60, 11-15=-20
 Concentrated Loads (lb)
 Vert: 8=-1287(B) 13=-1202(B) 19=-1280 20=-1287(B) 21=-1287(B) 22=-1287(B) 23=-1287(B) 24=-1287(B)



October 21,2025

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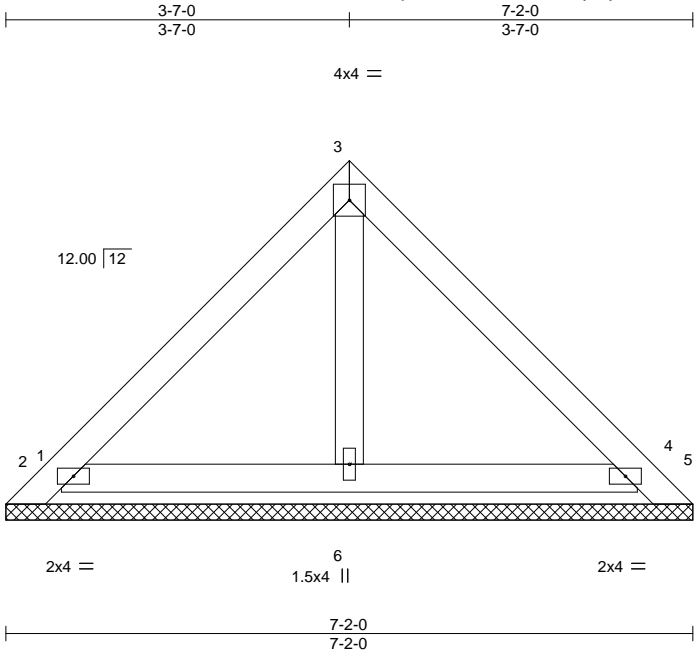


818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	PB1	GABLE	1	1	177186788
Job Reference (optional)					

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:27 2025 Page 1
ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-V_XY8AuPhgHbl?zpejsSde5QFmdioAhGkGfvAayRVz6



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)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.09	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.02	Horz(CT)	0.00	5	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-P						Weight: 28 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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.

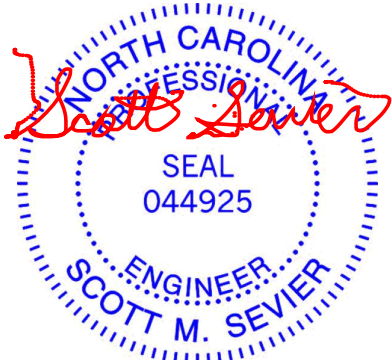
REACTIONS.

All bearings 7-2-0.
(lb) - Max Horz 1=63(LC 7)
Max Uplift All uplift 100 lb or less at joint(s) except 1=-201(LC 13), 5=-167(LC 14), 2=-109(LC 8), 4=-109(LC 8)
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 6 except 2=371(LC 13), 4=346(LC 14)

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

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 201 lb uplift at joint 1, 167 lb uplift at joint 5, 109 lb uplift at joint 2 and 109 lb uplift at joint 4.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



October 21,2025

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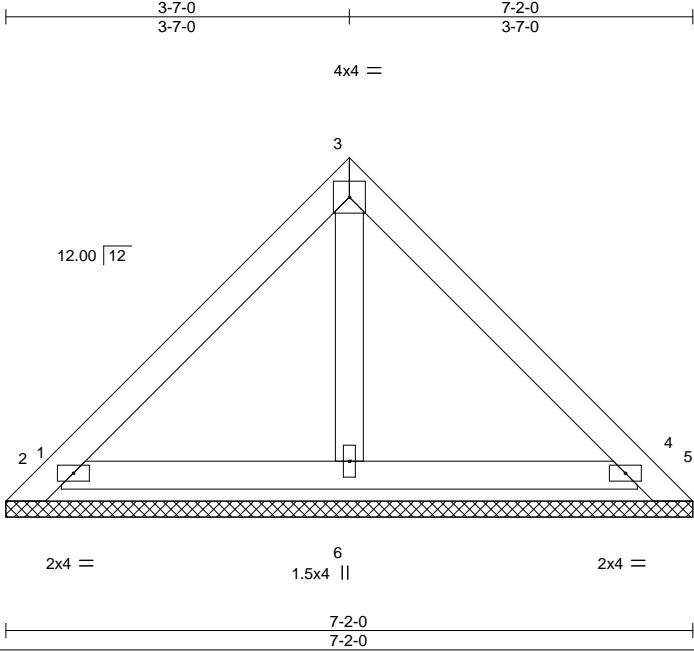
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	PB2	GABLE	11	1	177186789
					Job Reference (optional)

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:28 2025 Page 1

ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-zB5xLWu1SzPSN9X?CQNhAseb?AzxXdxQzwPTj0yRVz5



Scale: 1/2"=1'

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)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.09	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.02	Horz(CT)	0.00	5	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-P						Weight: 28 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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 7-2-0.
(lb) - Max Horz 1=63(LC 7)
Max Uplift All uplift 100 lb or less at joint(s) except 1=-201(LC 13), 5=-167(LC 14), 2=-109(LC 8), 4=-109(LC 8)
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 6 except 2=371(LC 13), 4=346(LC 14)

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

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 201 lb uplift at joint 1, 167 lb uplift at joint 5, 109 lb uplift at joint 2 and 109 lb uplift at joint 4.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



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ENGINEERING BY
TRENCO
A MiTek Affiliate

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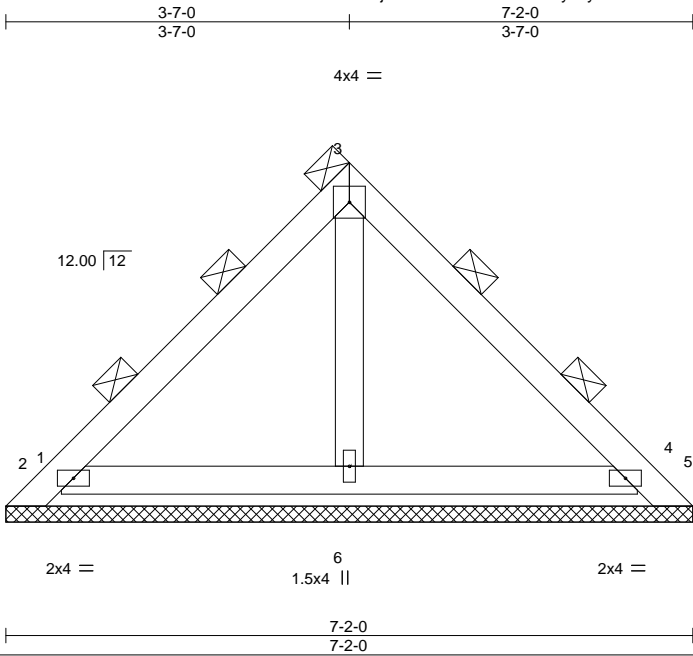
Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	PB3	GABLE	1	2	177186790

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:28 2025 Page 1

ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-zB5xLWu1SzPSN9X?CQNhAsec2Az2Xd2QzwPTJ0yRVz5

Job Reference (optional)



LOADING (psf)	SPACING-	3-4-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.06	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.08	Vert(CT)	n/a	-	n/a		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.02	Horz(CT)	0.00	5	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-P					Weight: 56 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD 2-0-0 oc purlins (6-0-0 max.)
(Switched from sheeted: Spacing > 2-0-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 7-2-0.
(lb) - Max Horz 1=105(LC 7)
Max Uplift All uplift 100 lb or less at joint(s) except 1=-335(LC 13), 5=-278(LC 14), 2=-182(LC 8), 4=-182(LC 8)
Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 2=619(LC 13), 4=577(LC 14), 6=299(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-140/288

- NOTES-**
- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
 - All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
 - Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 4-0-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 335 lb uplift at joint 1, 278 lb uplift at joint 5, 182 lb uplift at joint 2 and 182 lb uplift at joint 4.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
 - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



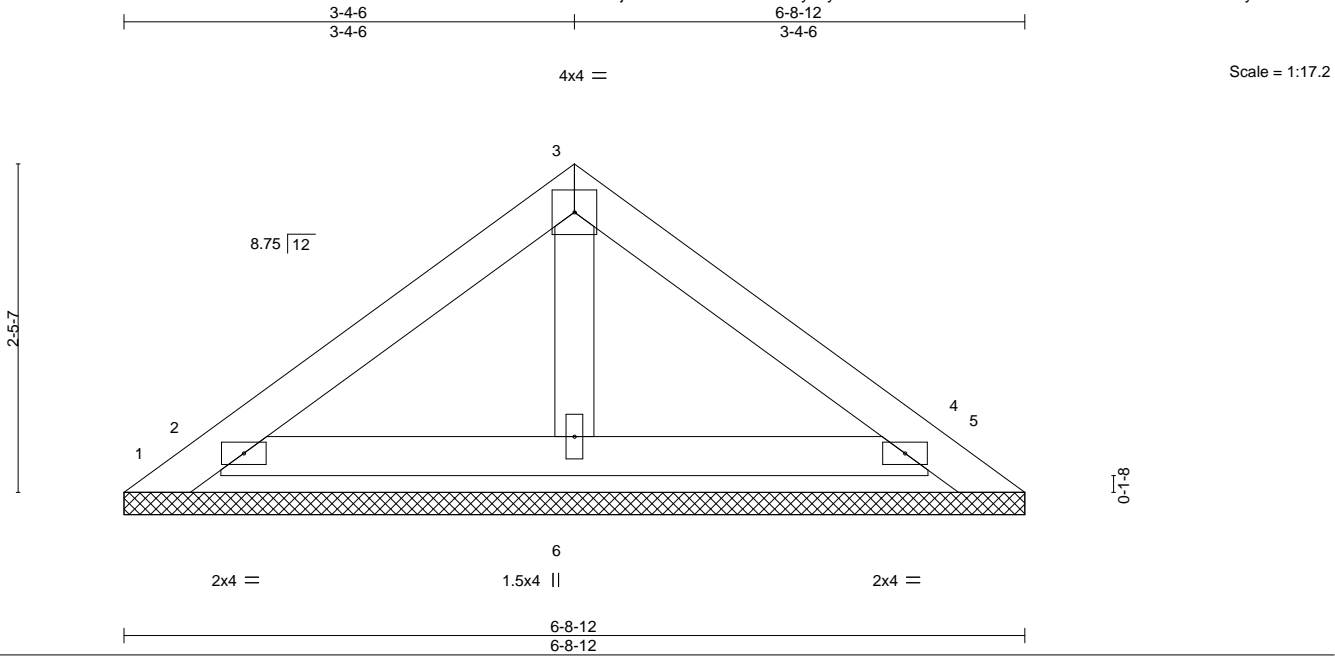
October 21,2025

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

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	PB4	GABLE	1	1	177186791
C&R Truss, Autryville, NC - 28318,					Job Reference (optional)

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:29 2025 Page 1
ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-RNfJZrvfDHXJ?J6Bm8vwi3An2aJVG4EZCa80FSyRVz4



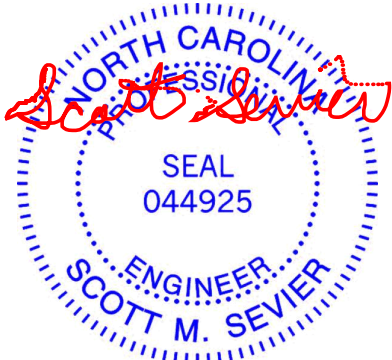
LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.07	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.02	Horz(CT)	0.00	5	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-P						Weight: 23 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP 2400F 2.0E	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x4 SP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
OTHERS 2x4 SP No.3	

REACTIONS. All bearings 6-8-12.
(lb) - Max Horz 1=-38(LC 6)
Max Uplift All uplift 100 lb or less at joint(s) 1, 5, 2, 4
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 2, 4, 6

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

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 4-0-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 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, 5, 2, 4.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

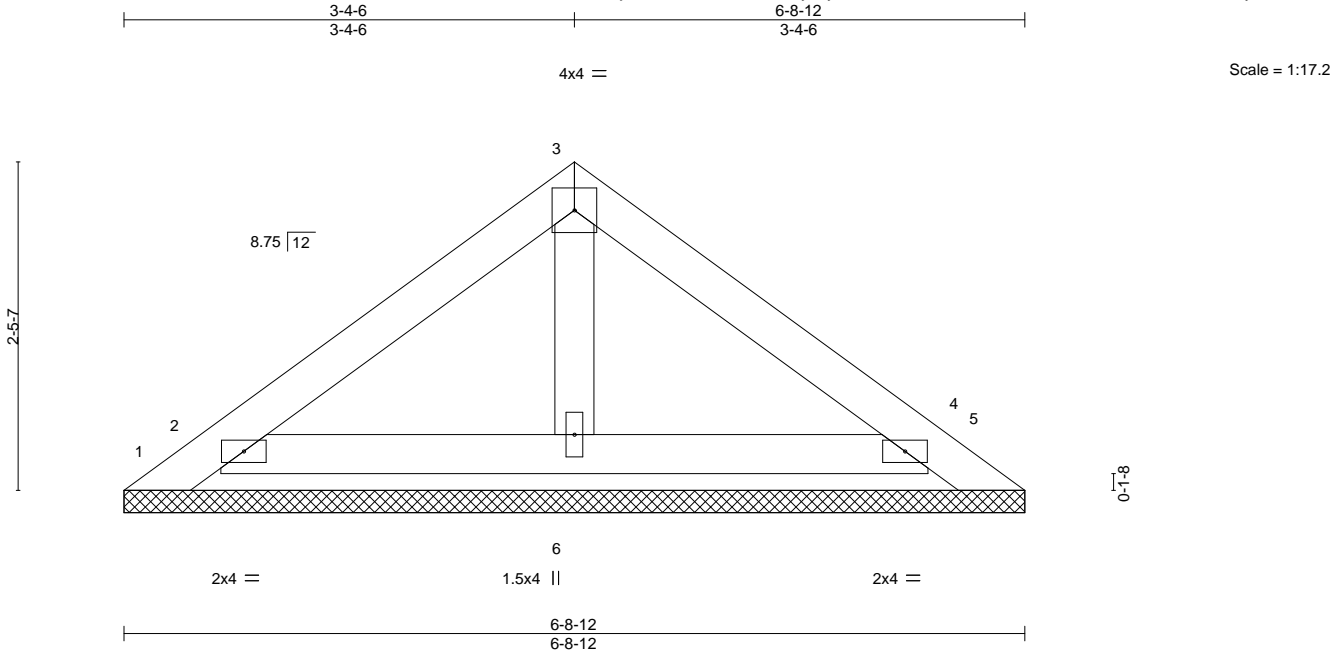


October 21, 2025

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	PB5	GABLE	6	1	177186792
					Job Reference (optional)

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:29 2025 Page 1
ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-RNfJZrvfDHXJ?J6Bm8vwi3An2aJVG4EZCa80FSyRVz4



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	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.07	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.02	Horz(CT)	0.00	5	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-P						Weight: 23 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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 6-8-12.
(lb) - Max Horz 1=38(LC 6)
Max Uplift All uplift 100 lb or less at joint(s) 1, 5, 2, 4
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 2, 4, 6

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

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 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, 5, 2, 4.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



October 21, 2025

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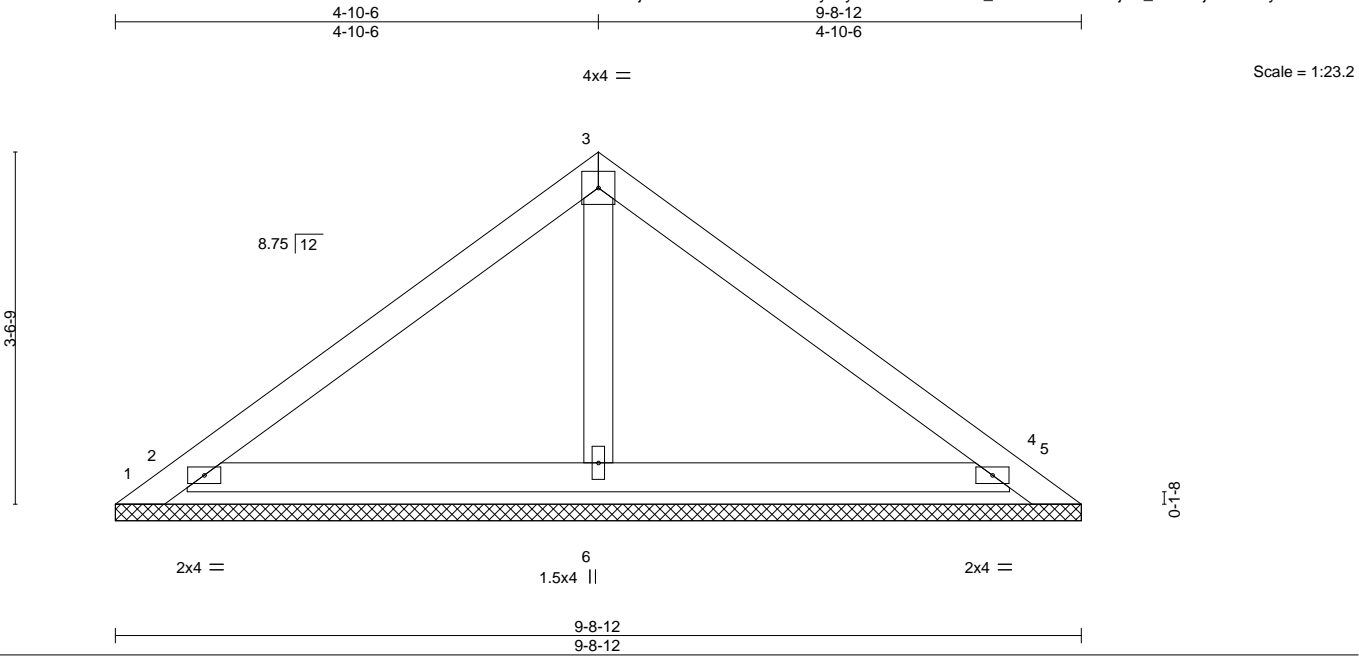
ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	PB6	GABLE	18	1	177186793
					Job Reference (optional)

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:30 2025 Page 1
ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-vZDhmBwH_bf9cThOKrQ9FHjwe_e8?XBjQEuZnvRVz3



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 0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.17	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.04	Horz(CT)	0.00	5	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-P						Weight: 34 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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 9-8-12.
(lb) - Max Horz 1=-57(LC 6)
Max Uplift All uplift 100 lb or less at joint(s) except 1=-252(LC 13), 5=-228(LC 14), 2=-112(LC 8), 4=-112(LC 8)
Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 2=474(LC 13), 4=471(LC 1), 6=256(LC 3)

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 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 4-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 252 lb uplift at joint 1, 228 lb uplift at joint 5, 112 lb uplift at joint 2 and 112 lb uplift at joint 4.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



October 21, 2025

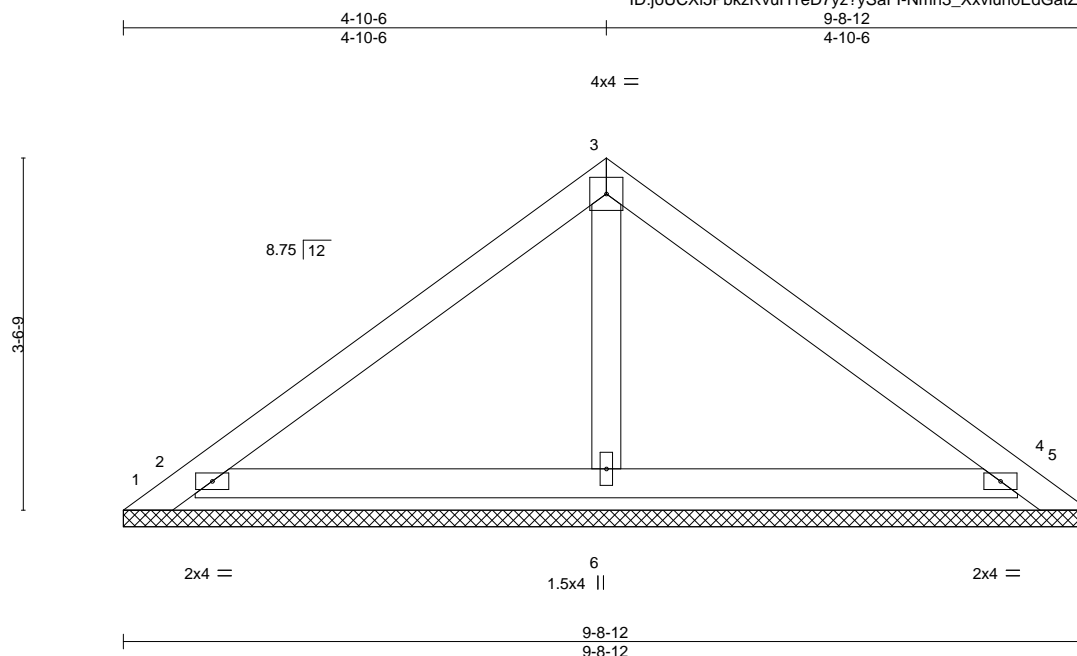
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Edenton, NC 27932

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Edenton, NC 27932



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 0.12	Vert(LL) n/a - n/a 999	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.17	Vert(CT) n/a - n/a 999		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.04	Horz(CT) 0.00 5 n/a n/a		
BCDL 10.0	Code IRC2018/TPI2014	Matrix-P		Weight: 34 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SP 2400F 2.0E
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3

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.

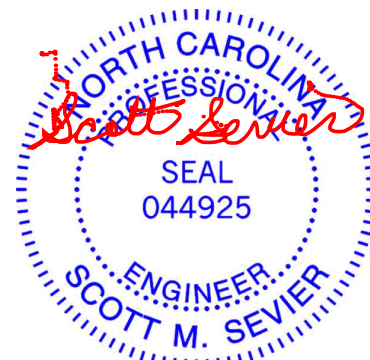
REACTIONS.

ONS. All bearings 9-8-12.
(lb) - Max Horz 1=57(LC 6)
Max Uplift All uplift 100 lb or less at joint(s) except 1=252(LC 13), 5=228(LC 14), 2=-112(LC 8), 4=-112(LC 8)
Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 2=474(LC 13), 4=471(LC 1), 6=256(LC 3)

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 7-16; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BC DL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 4'-0" oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6'-0" between the bottom chord and any other members.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 252 lb uplift at joint 1, 228 lb uplift at joint 5, 112 lb uplift at joint 2 and 112 lb uplift at joint 4.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



October 21, 2025

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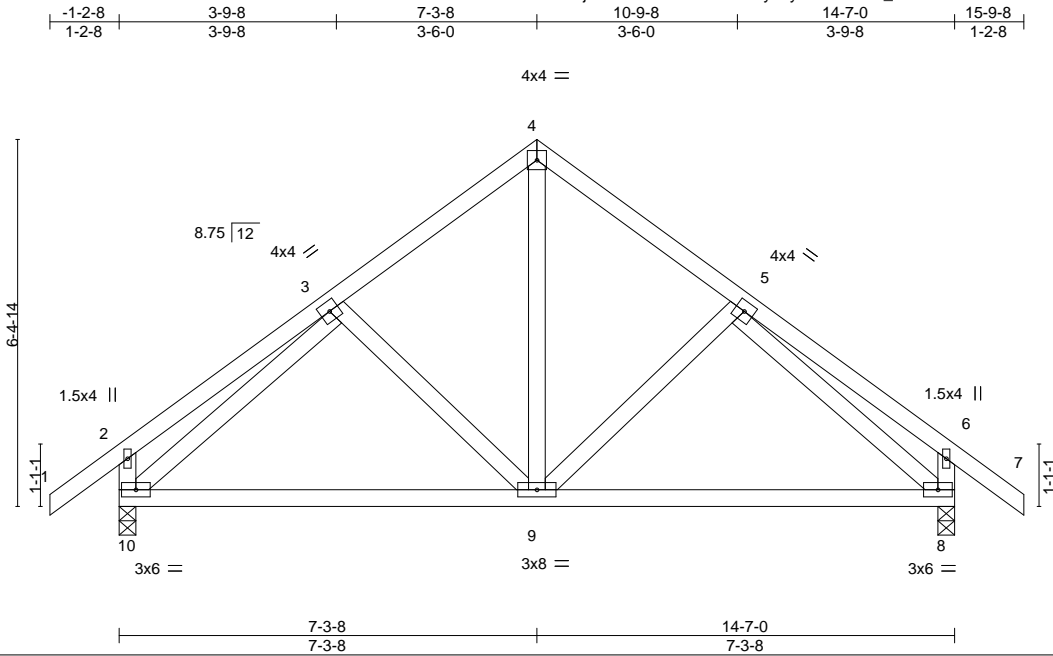
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ENGINEERING BY
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	T1	Common	1	1	177186796
C&R Truss, Autryville, NC - 28318,					Job Reference (optional)

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:31 2025 Page 1
ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-Nmn3_Xxvln0EdGatZxOnUG1xNzvKx0sfud7JLyRVz2



LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate Grip DOL	1.15	TC 0.34	Vert(LL)	-0.03	8-9	>999	360	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.20	Vert(CT)	-0.07	8-9	>999	240		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.19	Horz(CT)	0.01	8	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-AS	Wind(LL)	0.00	9	>999	240		
									Weight: 92 lb	FT = 20%

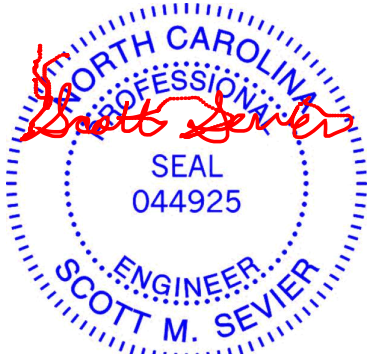
LUMBER-
TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x4 SP No.2 *Except*
2-10,6-8: 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 10=0-3-8, 8=0-3-8
Max Horz 10=-127(LC 6)
Max Uplift 10=-17(LC 8), 8=-17(LC 8)
Max Grav 10=653(LC 1), 8=653(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 3-4=-499/41, 4-5=-499/41, 2-10=-269/59, 6-8=-269/59
BOT CHORD 9-10=0/445, 8-9=0/426
WEBS 4-9=0/338, 3-10=-454/0, 5-8=-454/0

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BC DL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
 - 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 10 and 17 lb uplift at joint 8.
 - 6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 7) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.



October 21, 2025

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TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	T2	Piggyback Base	6	1	177186797
C&R Truss, Autryville, NC - 28318,					Job Reference (optional)

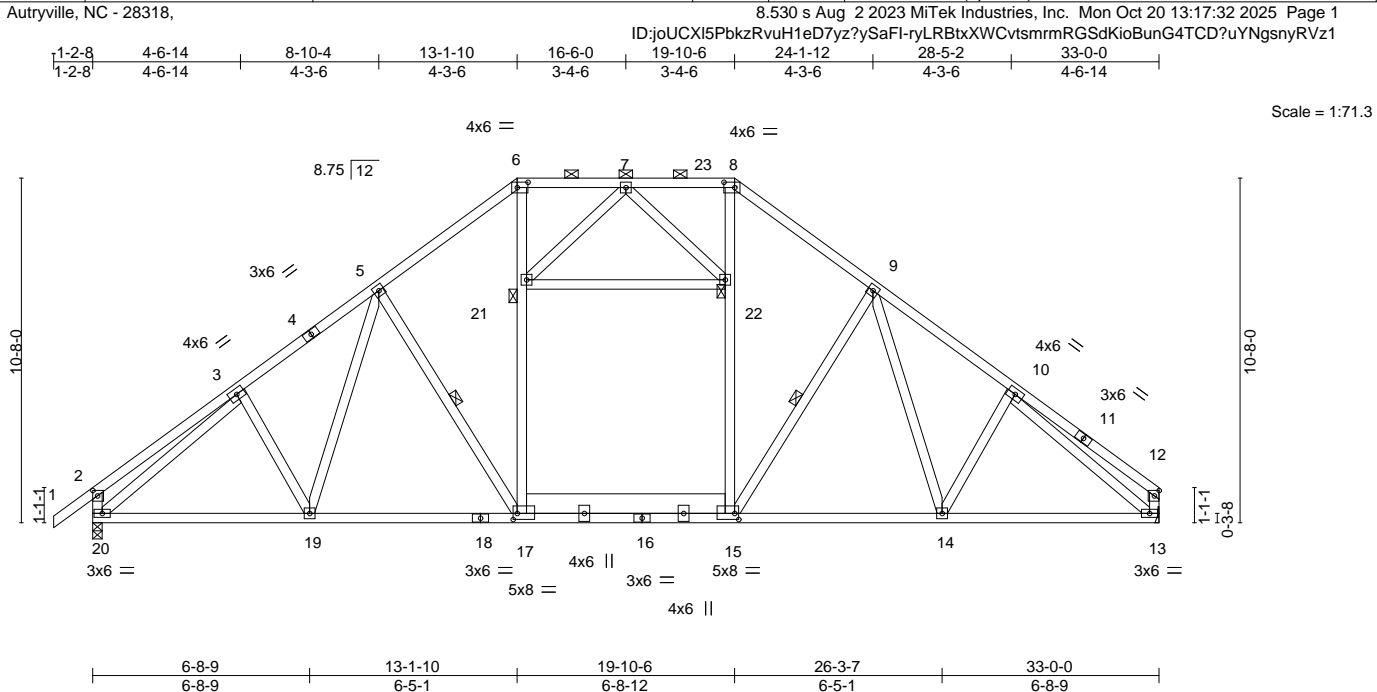


Plate Offsets (X,Y)-- [2:0-2-0,0-1-12], [6:0-4-0,0-2-0], [8:0-4-0,0-2-0], [15:0-1-8,0-2-4], [17:0-1-8,0-2-4]											
LOADING (psf)		SPACING- 2-0-0		CSI.		DEFL. in (loc) l/defl L/d		PLATES GRIP			
TCLL	20.0	Plate Grip DOL	1.15	TC	0.39	Vert(LL)	-0.18 14-15	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.24 14-15	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.04 13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS		Wind(LL)	-0.11 17-19	>999	240	Weight: 258 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP 2400F 2.0E	TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.
BOT CHORD 2x4 SP 2400F 2.0E *Except* 15-17: 2x8 SP 2400F 2.0E	BOT CHORD Rigid ceiling directly applied.
WEBS 2x4 SP No.2 *Except* 2-20,12-13: 2x4 SP No.3	WEBS 1 Row at midpt 5-17, 9-15
	JOINTS 1 Brace at Jt(s): 21, 22

REACTIONS.	(size) 20=0-3-8, 13=Mechanical
	Max Horz 20=203(LC 7)
	Max Grav 20=1556(LC 13), 13=1480(LC 14)

FORCES.	(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD	2-3=-367/53, 3-5=-1849/42, 5-6=-1565/85, 6-7=-1255/89, 7-8=-1256/89, 8-9=-1566/85, 9-10=-1859/43, 10-12=-359/45, 2-20=-393/73, 12-13=-306/35
BOT CHORD	19-20=0/1537, 17-19=0/1476, 15-17=0/1263, 14-15=0/1380, 13-14=0/1407
WEBS	5-17=-398/77, 17-21=0/644, 6-21=-2/704, 15-22=0/646, 8-22=-2/705, 9-15=-403/77, 3-20=-1621/0, 10-13=-1637/0

- NOTES-
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=33ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Provide adequate drainage to prevent water ponding.
 - 4) All plates are 4x4 MT20 unless otherwise indicated.
 - 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members, with BCDL = 10.0psf.
 - 7) Refer to girder(s) for truss to truss connections.
 - 8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 9) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
 - 10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



October 21,2025

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)

ENGINEERING BY
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A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	T4	Piggyback Base	5	1	177186799
					Job Reference (optional)

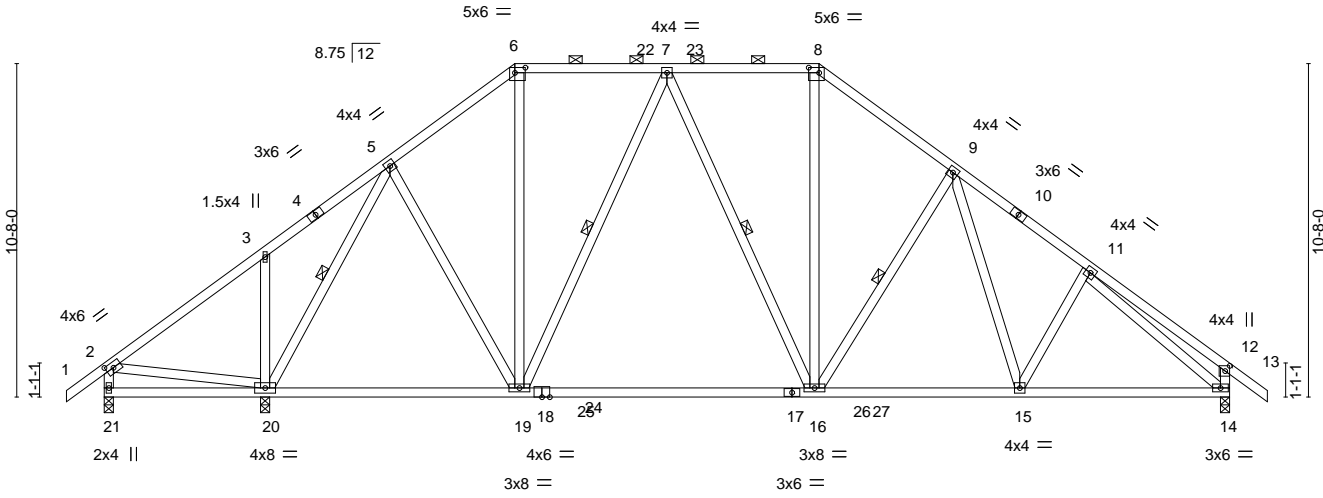
C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:33 2025 Page 1

ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-K8uqPDyAHW1kTwQz?_zstvLMXBaECg197C6DOEyRVz0

1-2-8	5-1-12	9-1-11	13-1-10	18-0-0	22-10-6	27-1-12	31-5-2	36-0-0	37-2-8
1-2-8	5-1-12	3-11-15	3-11-15	4-10-6	4-10-6	4-3-6	4-3-6	4-6-14	1-2-8

Scale = 1:73.7



	5-1-12	13-1-10	22-10-6	29-3-7	36-0-0
	5-1-12	7-11-14	9-8-12	6-5-1	6-8-9

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 0.40		Vert(LL)		-0.20 16-19		>999		360		MT20		244/190	
TCDL 10.0		Lumber DOL 1.15		BC 0.47		Vert(CT)		-0.32 16-19		>999		240					
BCLL 0.0 *		Rep Stress Incr YES		WB 0.86		Horz(CT)		0.04 14		n/a		n/a					
BCDL 10.0		Code IRC2018/TPI2014		Matrix-AS		Wind(LL)		0.02 15-16		>999		240		Weight: 261 lb		FT = 20%	

LUMBER-	BRACING-
TOP CHORD 2x4 SP 2400F 2.0E	TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.
BOT CHORD 2x4 SP 2400F 2.0E	BOT CHORD Rigid ceiling directly applied.
WEBS 2x4 SP No.2 *Except* 2-21,12-14: 2x4 SP No.3	WEBS 1 Row at midpt 5-20, 7-19, 7-16, 9-16

REACTIONS. (size) 21=0-3-8, 20=0-3-8, 14=0-3-8
Max Horz 21=211(LC 7)
Max Uplift 21=10(LC 8)
Max Grav 21=270(LC 19), 20=1824(LC 13), 14=1458(LC 14)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 5-6=-1124/82, 6-7=-869/86, 7-8=-1116/85, 8-9=-1429/80, 9-11=-1701/42, 11-12=-366/50, 12-14=-390/71
BOT CHORD 19-20=0/720, 16-19=0/1084, 15-16=0/1237, 14-15=0/1280
WEBS 3-20=-301/98, 5-20=-1396/0, 5-19=0/501, 6-19=0/422, 7-19=-453/27, 8-16=0/573, 9-16=-369/81, 11-14=-1470/0

- NOTES-
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=36ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Provide adequate drainage to prevent water ponding.
 - 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 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 10 lb uplift at joint 21.
 - 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 8) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
 - 9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



October 21,2025

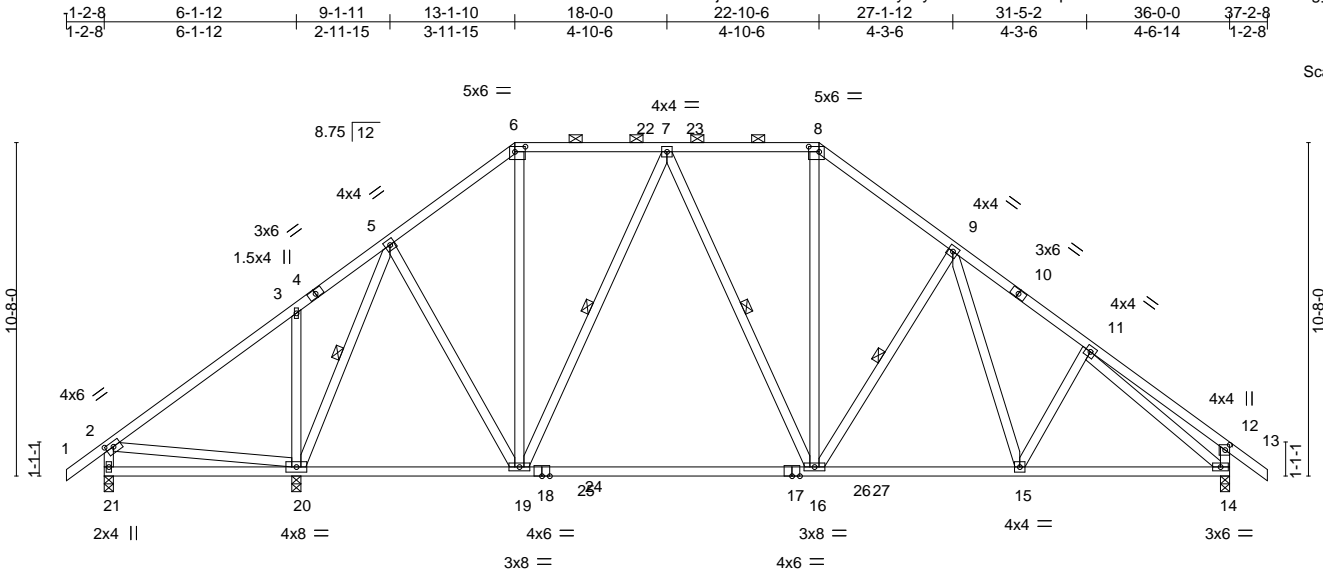
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
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ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy	177186800
28964	T5	Piggyback Base	1	1	Job Reference (optional)	

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:34 2025 Page 1
ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-oLSCcZzo1p9b54?9ZhU5P7tXJbxtx8uLLssnwgYRVz?



Scale = 1:73.7

Plate Offsets (X,Y)--		[2:0-3-0,0-1-12], [6:0-4-0,0-2-0], [8:0-4-0,0-2-0], [12:0-2-0,0-1-12]
LOADING (psf)	SPACING-	2-0-0
TCLL 20.0	Plate Grip DOL	1.15
TCDL 10.0	Lumber DOL	1.15
BCLL 0.0 *	Rep Stress Incr	YES
BCDL 10.0	Code IRC2018/TPI2014	
	CSI.	
	TC 0.40	
	BC 0.44	
	WB 0.82	
	Matrix-AS	
	DEFL.	
	in (loc)	l/defl
	Vert(LL)	-0.21 16-19 >999 360
	Vert(CT)	-0.34 16-19 >999 240
	Horz(CT)	0.03 14 n/a n/a
	Wind(LL)	0.02 15-16 >999 240
	PLATES	GRIP
	MT20	244/190
	Weight: 263 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x4 SP No.2 *Except*
2-21,12-14: 2x4 SP No.3

BRACING-

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 5-20, 7-19, 7-16, 9-16

REACTIONS.

(size) 21=0-3-8, 20=0-3-8, 14=0-3-8
Max Horz 21=211(LC 7)
Max Uplift 21=14(LC 8)
Max Grav 21=311(LC 19), 20=1797(LC 13), 14=1409(LC 14)

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

TOP CHORD 5-6=-973/85, 6-7=-756/89, 7-8=-1054/87, 8-9=-1353/82, 9-11=-1630/44, 11-12=-359/50,
2-21=-256/47, 12-14=-385/71
BOT CHORD 20-21=-137/306, 19-20=0/540, 16-19=0/995, 15-16=0/1176, 14-15=0/1227
WEBS 3-20=-320/103, 5-20=-1321/0, 5-19=0/634, 6-19=0/335, 7-19=-511/24, 8-16=0/529,
9-16=-372/81, 11-14=-1404/0

NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=36ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Provide adequate drainage to prevent water ponding.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 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 14 lb uplift at joint 21.
- 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 8) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



October 21,2025

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ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy	177186801
28964	T6	PIGGYBACK BASE	1	1	Job Reference (optional)	

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:35 2025 Page 1

ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-GX0apv_Qo7HSjEaL6P?KyKQij?H6gb7SaWbKS6yRVz_

6-1-12 9-1-11 13-1-10 18-0-0 22-10-6 27-1-12 31-5-2 36-0-0 37-2-8

6-1-12 2-11-15 3-11-15 4-10-6 4-10-6 4-3-6 4-3-6 4-6-14 1-2-8

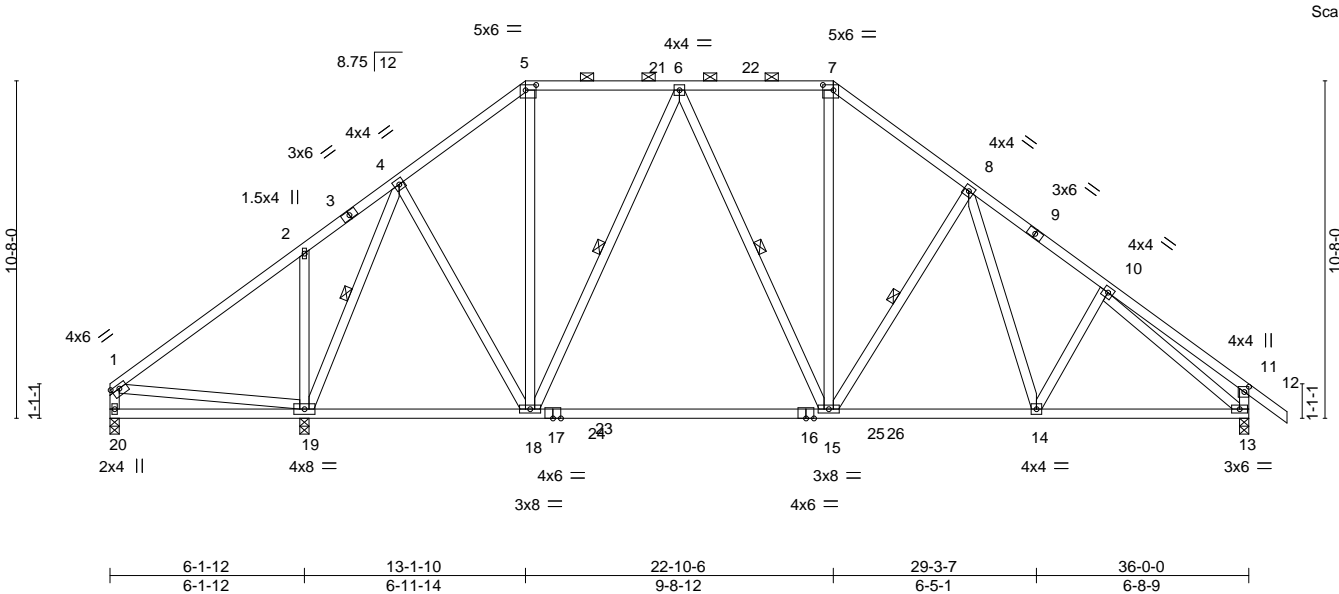


Plate Offsets (X,Y)-- [1:0-3-0,0-1-8], [5:0-4-0,0-2-0], [7:0-4-0,0-2-0], [11:0-2-0,0-1-12]									
LOADING (psf)		SPACING- 2-0-0		CSI.		DEFL. in (loc) l/defl L/d		PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.21 15-18 >999 360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.34 15-18 >999 240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.83	Horz(CT)	0.03 13 n/a n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS		Wind(LL)	0.02 14-15 >999 240	Weight: 261 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD 2x4 SP 2400F 2.0E	TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-7.
BOT CHORD 2x4 SP 2400F 2.0E	BOT CHORD Rigid ceiling directly applied.
WEBS 2x4 SP No.2 *Except* 1-20,11-13: 2x4 SP No.3	WEBS 1 Row at midpt 4-19, 6-18, 6-15, 8-15

REACTIONS. (size) 20=0-3-8, 19=0-3-8, 13=0-3-8
Max Horz 20=-205(LC 6)
Max Grav 20=222(LC 19), 19=1804(LC 13), 13=1409(LC 14)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 4-5=-973/83, 5-6=-756/89, 6-7=-1055/86, 7-8=-1353/81, 8-10=-1630/43, 10-11=-359/50, 11-13=-385/71
BOT CHORD 19-20=-131/304, 18-19=0/540, 15-18=0/996, 14-15=0/1176, 13-14=0/1227
WEBS 2-19=-335/111, 4-19=-1313/0, 4-18=0/633, 5-18=0/335, 6-18=-511/24, 7-15=0/529, 8-15=-372/81, 10-13=-1404/0

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=36ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Provide adequate drainage to prevent water ponding.
 - 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members, with BCDL = 10.0psf.
 - 6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 7) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
 - 8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



October 21,2025

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy	177186802
28964	T7	Piggyback Base	10	1	Job Reference (optional)	

C&R Truss, Autryville, NC - 28318,

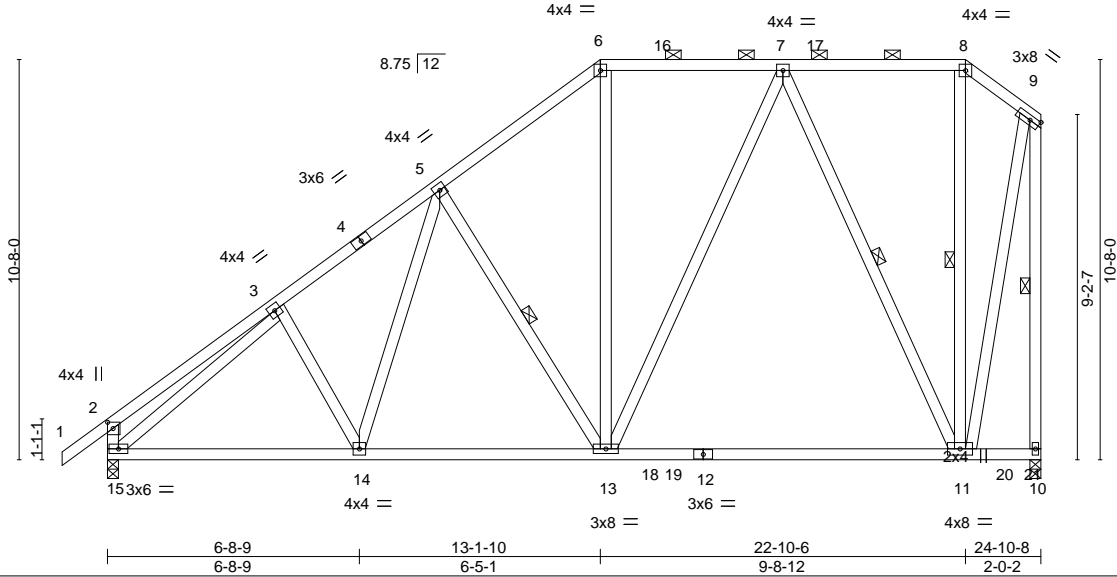
8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:35 2025 Page 1

ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-GX0apv_Qo7HSjEal6P?KykQfQ?HOgdwSaWbKS6yRVz_

1-2-8 4-6-14 8-10-4 13-1-10 18-0-0 22-10-6 24-10-8

1-2-8 4-6-14 4-3-6 4-3-6 4-10-6 4-10-6 2-0-2

Scale = 1:61.4



8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:36 2025 Page 1

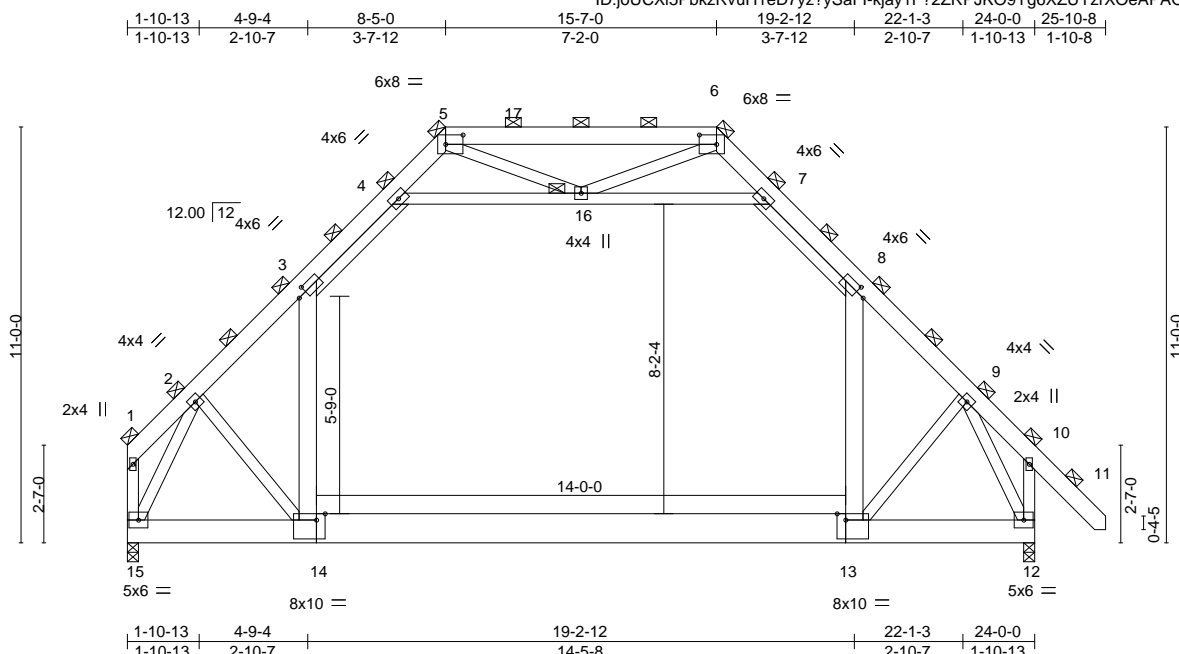


Plate Offsets (X,Y)-- [3:0-2-14,0-2-0], [5:0-5-8,0-3-0], [6:0-5-8,0-3-0], [8:0-2-14,0-2-0], [13:0-2-12,Edge], [14:0-2-12,Edge]												
LOADING (psf)		SPACING- 3-6-0		CSI.		DEFL. in (loc) l/defl L/d				PLATES	GRIP	
TCLL	20.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	-0.21	13-14	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.28	13-14	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.31	Horz(CT)	0.01	12	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MS		Wind(LL)	-0.04	14	>999	240	Weight: 519 lb	FT = 20%

LUMBER-		BRACING-	
TOP CHORD	2x6 SP No.1	TOP CHORD	2-0-0 oc purlins (6-0-0 max.), except end verticals
BOT CHORD	2x8 SP 2400F 2.0E *Except*		(Switched from sheeted: Spacing > 2-0-0).
	13-14: 2x10 SP 2400F 2.0E	BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	2x4 SP No.3 *Except*	JOINTS	1 Brace at Jt(s): 1, 5, 6, 16, 10
	3-14,8-13: 2x6 SP No.1, 4-7: 2x4 SP 2400F 2.0E		
	3-4,7-8: 2x4 SP No.2		

REACTIONS. (size) 15=0-3-8, 12=0-3-8
 Max Horz 15=-407(LC 6)
 Max Grav 15=2335(LC 14), 12=2529(LC 15)

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

TOP CHORD 2-3=-2476/0, 3-4=-1633/98, 4-5=-767/157, 6-7=-768/158, 7-8=-1634/97, 8-9=-2464/0,
9-10=-159/267, 5-6=-574/299, 10-12=-399/299

BOT CHORD 14-15=-24/1350, 13-14=0/1641, 12-13=0/1137

WEBS 3-14=0/1295, 8-13=-19/1287, 4-16=-1781/89, 7-16=-1784/86, 2-14=-2/659, 9-13=0/716,
5-16=-38/260, 6-16=-36/264, 2-15=-2795/0, 9-12=-2790/0

NOTES-

- 1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc, 2x10 - 2 rows staggered at 0-9-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
- 2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- 3) Unbalanced roof live loads have been considered for this design.
- 4) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 5) Provide adequate drainage to prevent water ponding.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
- 8) Ceiling dead load (5.0 psf) on member(s). 3-4, 7-8, 4-16, 7-16
- 9) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 13-14
- 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 12) Attic room checked for L/360 deflection.



October 21, 2025

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

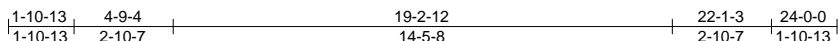
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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 Components Association (www.sbcacomponents.com)



818 Soundside Road
Edenton, NC 27932

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:37 2025 Page 1

-1-10-8	1-10-13	4-9-4	8-5-0	15-7-0	19-2-12	22-1-3	24-0-0	25-10-8
1-10-8	1-10-13	2-10-7	3-7-12	7-2-0	3-7-12	2-10-7	1-10-13	1-10-8



LOADING (psf)		SPACING- 2-0-0		CSI.		DEFL. in (loc)	I/defl	L/d	PLATES	GRIP
TCLL 20.0		Plate Grip DOL 1.15		TC 0.53		Vert(LL) -0.25 14-15	>999	360	MT20	244/190
TCDL 10.0		Lumber DOL 1.15		BC 0.34		Vert(CT) -0.31 14-15	>903	240		
BCLL 0.0 *		Rep Stress Incr YES		WB 0.48		Horz(CT) 0.01 13	n/a	n/a		
BCDL 10.0		Code IRC2018/TPI2014		Matrix-MS		Wind(LL) -0.04 15	>999	240	Weight: 293 lb	FT = 20%

LUMBER-		BRACING-	
TOP CHORD	2x6 SP No.1	TOP CHORD	Structural wood sheathing directly applied or 5-8-14 oc purlins,
BOT CHORD	2x8 SP 2400F 2.0E *Except*		except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-7.
	14-15: 2x10 SP 2400F 2.0E	BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	2x4 SP No.3 *Except*	JOINTS	1 Brace at Jt(s): 17
	4-15,9-14: 2x6 SP No.1, 5-8: 2x4 SP 2400F 2.0E		
	4-5,8-9: 2x4 SP No.2		
OTHERS	2x4 SP No.3		

REACTIONS. (size) 16=0-3-8, 13=0-3-8
 Max Horz 16=-245(LC 6)
 Max Grav 16=1441(LC 14), 13=1441(LC 15)

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

TOP CHORD	3-4=-1402/0, 4-5=-930/57, 5-6=-440/89, 7-8=-440/89, 8-9=-930/57, 9-10=-1401/0, 6-7=-329/170
BOT CHORD	15-16=-20/747, 14-15=0/932, 13-14=0/647
WEBS	4-15=-12/734, 9-14=-12/734, 5-17=-1015/54, 8-17=-1015/54, 3-15=0/405, 10-14=0/406, 3-16=-1587/0, 10-13=-1587/0

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 4) Provide adequate drainage to prevent water ponding.
 - 5) Gable 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 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 between the bottom chord and any other members.
 - 8) Ceiling dead load (5.0 psf) on member(s). 4-5, 8-9, 5-17, 8-17
 - 9) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 14-15
 - 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - 11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
 - 12) Attic room checked for L/360 deflection.



October 21, 2025



WARNING – Verify design parameters and READ NOTES ON THIS AND INCLUDED MITTEL REFERENCE PAGE MIT-TR-17-0169, 1/12/2023 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 Components Association (www.sbcacomponents.com)



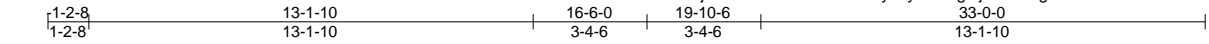
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	TGE2	GABLE	1	1	177186805
					Job Reference (optional)

C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:38 2025 Page 1

ID:joUCXl5PbkzRvuH1eD7yz?ySaFl-g6ijSw0l52g1ahlwoXZ1az2laCPHt7?uGUq_2RyRVyx



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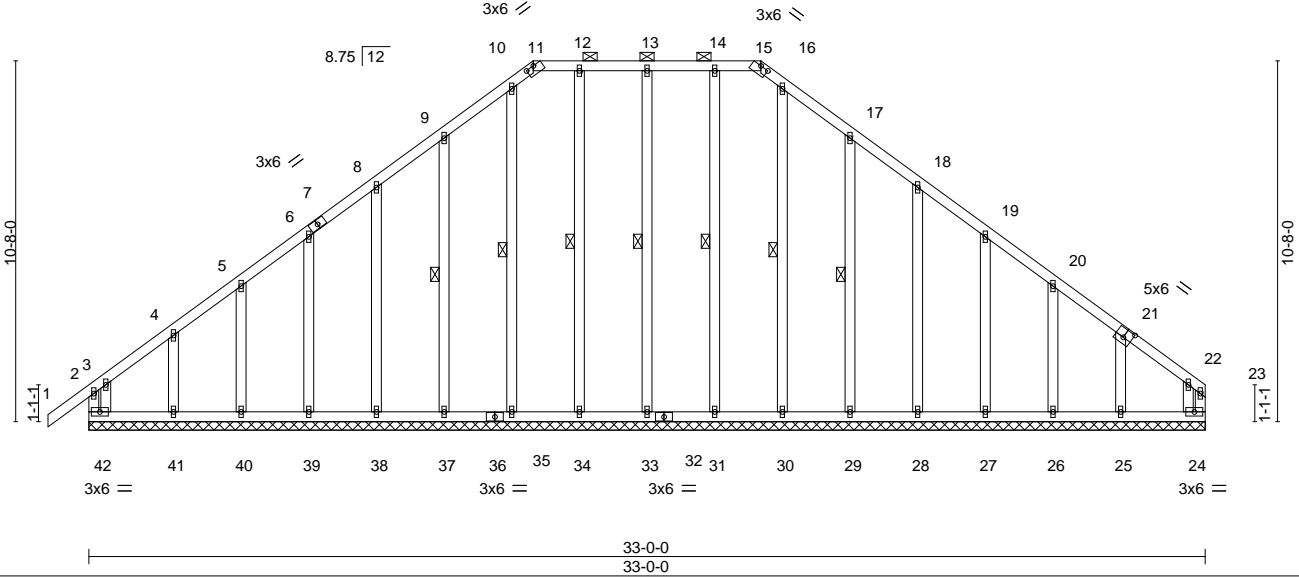


Plate Offsets (X,Y)--		[11:0-3-0,0-0-0], [15:0-3-0,0-0-0], [21:0-3-0,0-3-0]	
LOADING (psf)	SPACING-	2-0-0	CSI.
TCLL 20.0	Plate Grip DOL	1.15	TC 0.12
TCDL 10.0	Lumber DOL	1.15	BC 0.03
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.11
BCDL 10.0	Code	IRC2018/TPI2014	Matrix-R
		DEFL.	in (loc) l/defl L/d
		Vert(LL)	-0.00 1 n/r 120
		Vert(CT)	-0.00 1 n/r 120
		Horz(CT)	-0.00 24 n/a n/a
		PLATES	GRIP
		MT20	244/190
		Weight: 267 lb	FT = 20%

LUMBER-	BRACING-
TOP CHORD	TOP CHORD
BOT CHORD	BOT CHORD
WEBS	WEBS
OTHERS	

REACTIONS. All bearings 33-0-0.
(lb) - Max Horz 42=203(LC 7)
Max Uplift All uplift 100 lb or less at joint(s) 42, 24, 33, 37, 38, 39, 40, 41, 29, 28, 27, 26, 25
Max Grav All reactions 250 lb or less at joint(s) 42, 24, 33, 34, 35, 37, 38, 39, 40, 41, 31, 30, 29, 28, 27, 26, 25

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

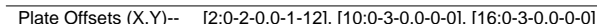
NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=33ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- Provide adequate drainage to prevent water ponding.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- 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 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 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) 42, 24, 33, 37, 38, 39, 40, 41, 29, 28, 27, 26, 25.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



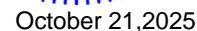
October 21,2025

ID:joUCXl5PbkzRvyH1eD7vz?vSaFl-q6jiSw0l52q1ahIwoXZ1az2BlCOft71uGUq 2RvRVyx



BRACING- TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 10-16.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	
WEBS	1 Row at midpt	17-18, 9-25, 8-26, 11-24, 12-22, 13-21, 14-20, 15-19

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=25ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) Provide adequate drainage to prevent water ponding.
- 5) All plates are 1.5x4 MT20 unless otherwise indicated.
- 6) Gable requires continuous bottom chord bearing.
- 7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 8) Gable studs spaced at 2'-0" oc.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6'-0" between the bottom chord and any other members, with BCDL = 10.0psf.
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 31, 18, 25, 26, 27, 28, 29, 24, 22, 21, 20, 19 except (jt=lb) 30=132.
- 12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:39 2025 Page 1
ID:ioUCXl5PbkzRvuH1eD7yz?vSaFl-8IG5fG1wsMouBrt6LE4G6AB00cddcOW1V8ZYatvRVvw

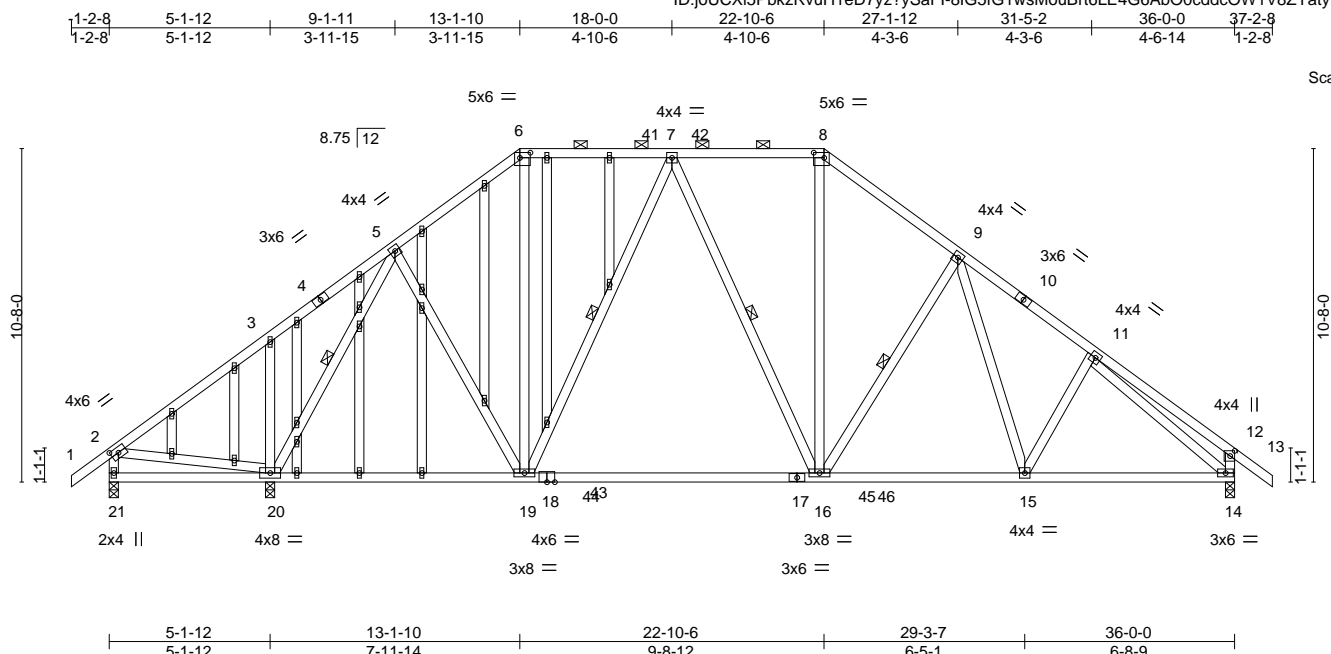


Plate Offsets (X,Y)-- [2:0-2-14,0-0-2], [6:0-4-0,0-2-0], [8:0-4-0,0-2-0], [12:0-2-0,0-1-12]									
LOADING (psf)		SPACING- 2-0-0		CSI.		DEFL. in (loc) l/defl L/d		PLATES GRIP	
TCLL	20.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	-0.20 16-19 >999 360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	-0.32 16-19 >999 240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.04 14 n/a n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS		Wind(LL)	0.02 15-16 >999 240	Weight: 326 lb	FT = 20%

LUMBER-		BRACING-	
TOP CHORD	2x4 SP 2400F 2.0E	TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.
BOT CHORD	2x4 SP 2400F 2.0E	BOT CHORD	Rigid ceiling directly applied.
WEBS	2x4 SP No.2 *Except* 2-21,12-14: 2x4 SP No.3	WEBS	1 Row at midpt 5-20, 7-19, 7-16, 9-16
OTHERS	2x4 SP No.3		

REACTIONS. (size) 21=0-3-8, 20=0-3-8, 14=0-3-8
 Max Horz 21=211(LC 7)
 Max Uplift 21=-10(LC 8)
 Max Grav 21=270(LC 19), 20=1824(LC 13), 14=1458(LC 14)

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

TOP CHORD 5-6=-1124/82, 6-7=-869/86, 7-8=-1116/85, 8-9=-1429/80, 9-11=-1701/42,
11-12=-366/50, 12-14=-390/71

BOT CHORD 19-20=0/720, 16-19=0/1084, 15-16=0/1237, 14-15=0/1280

WEBS 3-20=-301/98, 5-20=-1396/0, 5-19=0/501, 6-19=0/422, 7-19=-453/27, 8-16=0/573,
9-16=-369/81, 11-14=-1470/0

NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=36ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) Provide adequate drainage to prevent water ponding.
- 5) All plates are 1.5x4 MT20 unless otherwise indicated.
- 6) Gable studs spaced at 2'-0" oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas with a clearance greater than 6'-0" between the bottom chord and any other members, with BCDL = 10.0psf.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 21.
- 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



October 21, 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 Components Association (www.sbcacomponents.com)

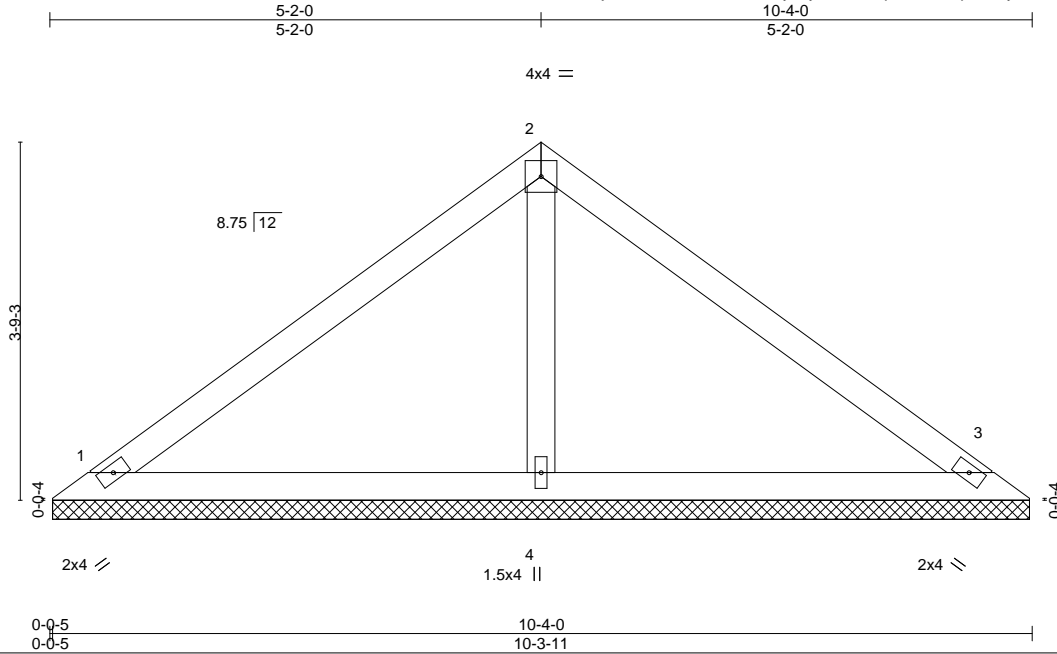


818 Soundside Road
Edenton, NC 27932

Job 28964	Truss V1	Truss Type Valley	Qty 1	Ply 1	Freedom Const/Lot 12 Legacy 177186808
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C&R Truss, Autryville, NC - 28318,

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:40 2025 Page 1
ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-cUqTtc2Zdfwlp?SJvybVfO7df01kL2GBkoJ57KyRVyv



Scale: 1/2"=1'

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 0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.22	Vert(CT)	n/a	-	n/a	999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.06	Horz(CT)	0.00	3	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-S						Weight: 37 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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=10-3-5, 3=10-3-5, 4=10-3-5
Max Horz 1=-58(LC 6)
Max Uplift 1=-11(LC 8), 3=-11(LC 8)
Max Grav 1=198(LC 1), 3=198(LC 1), 4=358(LC 1)

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

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; 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 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 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, 3.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



October 21, 2025

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

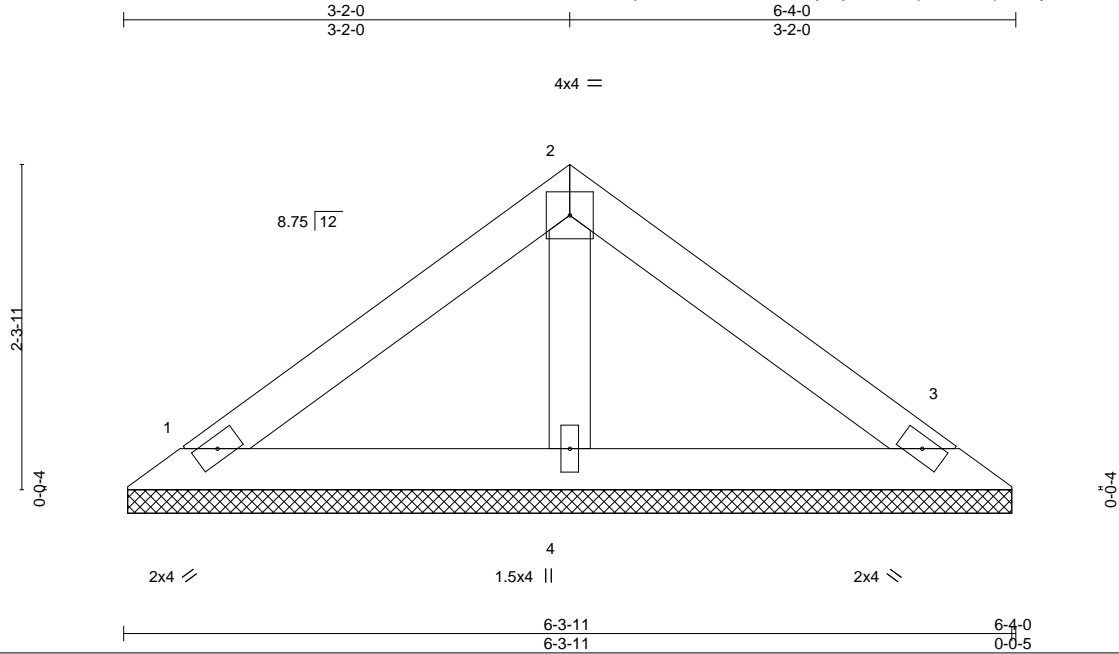
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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.sbcacompnents.com)

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Freedom Const/Lot 12 Legacy
28964	V2	Valley	1	1	177186809
C&R Truss, Autryville, NC - 28318,					Job Reference (optional)

8.530 s Aug 2 2023 MiTek Industries, Inc. Mon Oct 20 13:17:40 2025 Page 1
ID:joUCXI5PbkzRvuH1eD7yz?ySaFI-cUqTtc2Zdfwp?SJvybVfO7f203_L2sBkoJ57KyRVyv



Scale = 1:16.4

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)	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 0.03	Horz(CT)	0.00	3	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-P						Weight: 22 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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=6-3-5, 3=6-3-5, 4=6-3-5
Max Horz 1=-33(LC 6)
Max Uplift 1=-10(LC 8), 3=-10(LC 8)
Max Grav 1=124(LC 1), 3=124(LC 1), 4=188(LC 1)

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

NOTES-

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; 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 20.0psf on the bottom chord in all areas with a clearance greater than 6-0-0 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, 3.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



October 21, 2025

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

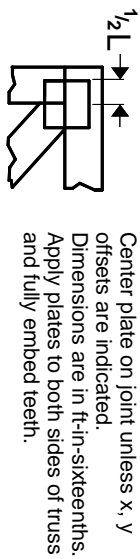
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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)

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



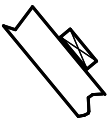
* Plate location details available in MITek software or upon request.

PLATE SIZE

4 X 4

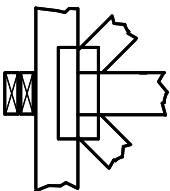
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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.

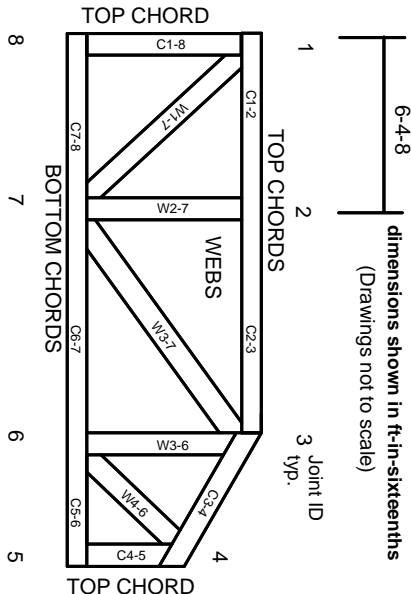
BEARING



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/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:
ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.
Lumber design values are in accordance with ANSI/TP1 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/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

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