

RE: 2502-2581-C - Devon Rev. 3-Elev 4-Roof

Trenco  
818 Soundside Rd  
Edenton, NC 27932

**Site Information:**

Project Customer: DRB Raleigh Project Name: DRB Raleigh Model Track

Lot/Block: Subdivision:

Model:

Address:

City: State:

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

Design Code: IRC2021/TPI2014

Wind Code: ASCE 7-16

Wind Speed: 120 mph

Roof Load: 40.0 psf

Mean Roof Height (feet): 25

Design Program: MiTek 20/20 8.8

Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16

Floor Load: N/A psf

Exposure Category: B

No.	Seal#	Truss Name	Date
1	I71624583	C1G	2/26/25
2	I71624584	C1	2/26/25
3	I71624585	P1G	2/26/25
4	I71624586	P1	2/26/25
5	I71624587	A2G	2/26/25
6	I71624588	A2	2/26/25
7	I71624589	A1A	2/26/25
8	I71624590	A1	2/26/25
9	I71624591	A1G	2/26/25
10	I71624592	PB1G	2/26/25
11	I71624593	PB1	2/26/25
12	I71624594	V4	2/26/25
13	I71624595	V3	2/26/25
14	I71624596	V2	2/26/25
	I71624597	V1	2/26/25
16	I71624598	B1	2/26/25
17	I71624599	B1GR	2/26/25
18	I71624600	A1SG	2/26/25

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

Truss Design Engineer's Name: Tony Miller

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.



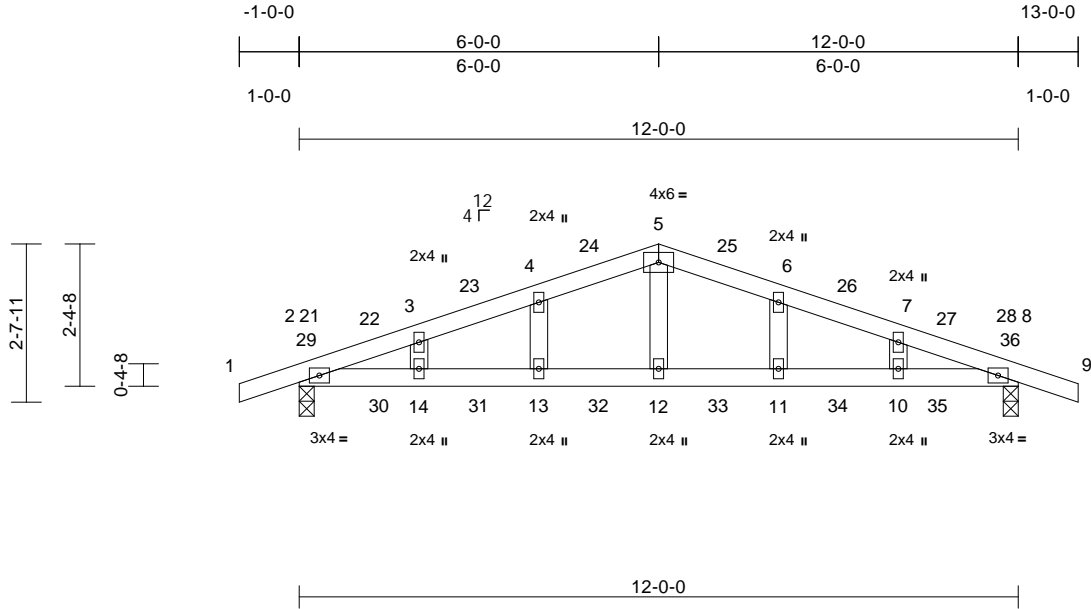
February 26, 2025

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624583
2502-2581-C	C1G	Common Supported Gable	1	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.50	Vert(LL)	-0.10	10-11	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.66	Vert(CT)	-0.15	10-11	>993	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.05	13-14	>999	240		
BCDL	10.0											
											Weight: 48 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

#### REACTIONS

(size)	2=0-3-0, 8=0-3-0
Max Horiz	2=19 (LC 20)
Max Uplift	2=-88 (LC 12), 8=-88 (LC 13)
Max Grav	2=622 (LC 23), 8=622 (LC 24)

#### FORCES

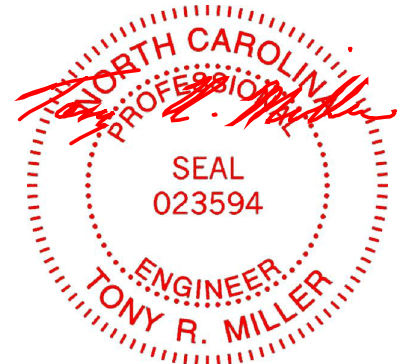
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/32, 2-3=-893/437, 3-4=-872/449, 4-5=-850/464, 5-6=-850/464, 6-7=-872/449, 7-8=-893/437, 8-9=0/32
BOT CHORD	2-14=-367/813, 13-14=-367/813, 12-13=-367/813, 11-12=-367/813, 10-11=-367/813, 8-10=-367/813
WEBS	5-12=-140/386, 4-13=-139/112, 3-14=-124/126, 6-11=-139/112, 7-10=-124/126

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior (1) 9-0-0 to 13-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; 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.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 8. This connection is for uplift only and does not consider lateral forces.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.

LOAD CASE(S) Standard



February 26, 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)

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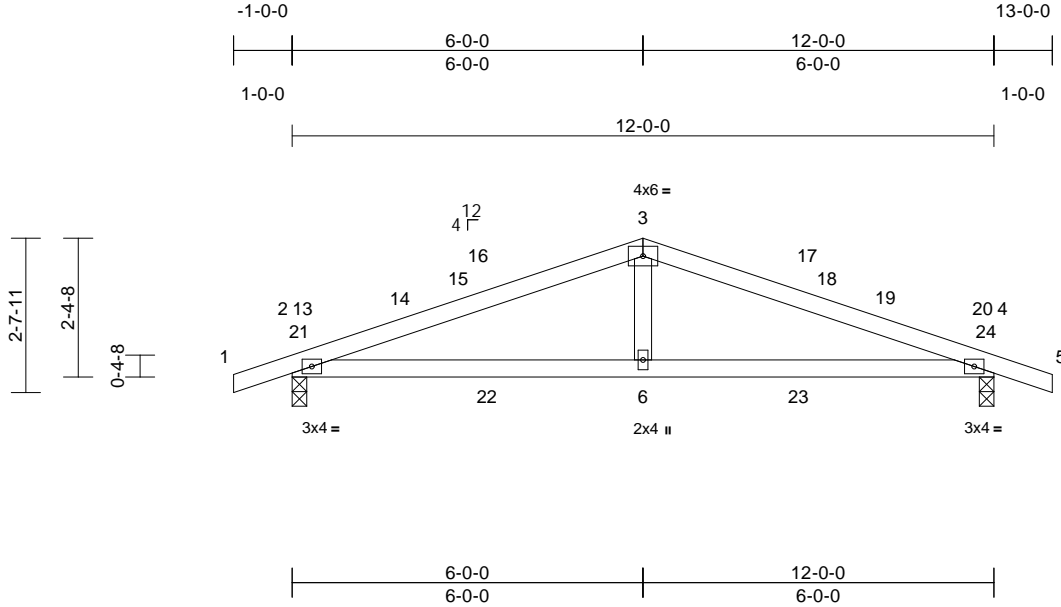
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624584
2502-2581-C	C1	Common	5	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.69	Vert(LL)	-0.12	6-12	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.17	6-12	>868	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.05	6-9	>999	240		
BCDL	10.0										Weight: 43 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

#### REACTIONS

(size)	2=0-3-0, 4=0-3-0
Max Horiz	2=19 (LC 16)
Max Uplift	2=-88 (LC 12), 4=-88 (LC 13)
Max Grav	2=622 (LC 23), 4=622 (LC 24)

#### FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=0/32, 2-3=-893/449, 3-4=-893/449, 4-5=0/32
BOT CHORD	2-6=-358/796, 4-6=-358/796
WEBS	3-6=-88/382

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior (1) 9-0-0 to 13-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.

- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.

#### LOAD CASE(S) Standard



February 26, 2025

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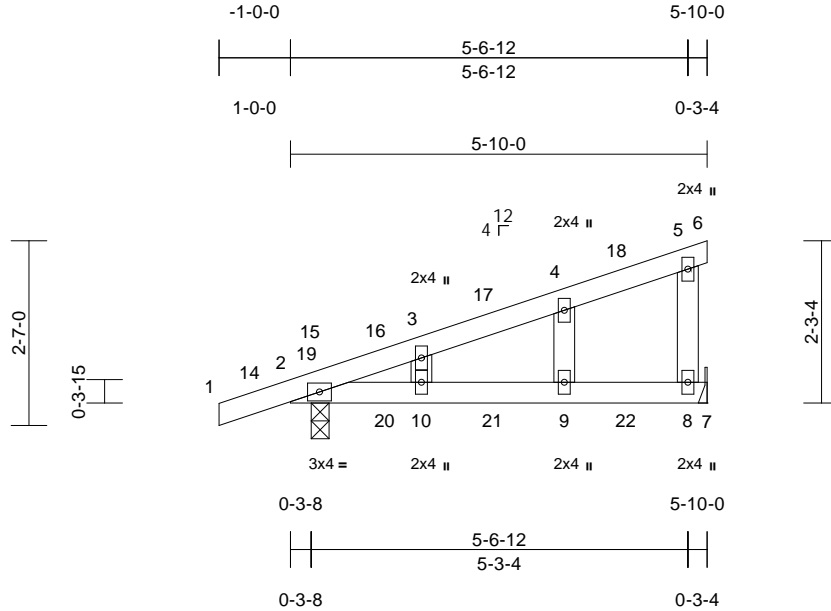
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624585
2502-2581-C	P1G	Monopitch Supported Gable	4	1	Job Reference (optional)	

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.63	Vert(LL)	-0.11	9-10	>632	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.68	Vert(CT)	-0.16	9-10	>413	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.08	9-10	>819	240		
BCDL	10.0											
											Weight: 24 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

<b>REACTIONS</b>	(size) 2=0-3-0, 8= Mechanical
	Max Horiz 2=53 (LC 12)
	Max Uplift 2=50 (LC 12), 8=39 (LC 12)
	Max Grav 2=386 (LC 44), 8=374 (LC 48)

#### FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=0/32, 2-3=-209/42, 3-4=-60/44, 4-5=-42/66, 5-6=-7/0
BOT CHORD	2-10=-81/182, 9-10=0/0, 8-9=0/0, 7-8=0/0
WEBS	4-9=-128/123, 3-10=-124/125, 5-8=-312/107

#### NOTES

- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 1-10-0, Interior (1) 1-10-0 to 5-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.

- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 6) Plates checked for a plus or minus 5 degree rotation about its center.
- 7) Gable studs spaced at 2-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Bearings are assumed to be: Joint 2 SP No.2 .
- 11) Refer to girder(s) for truss to truss connections.
- 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 8.
- 13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- 14) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 15) 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.

**LOAD CASE(S)** Standard



February 26, 2025

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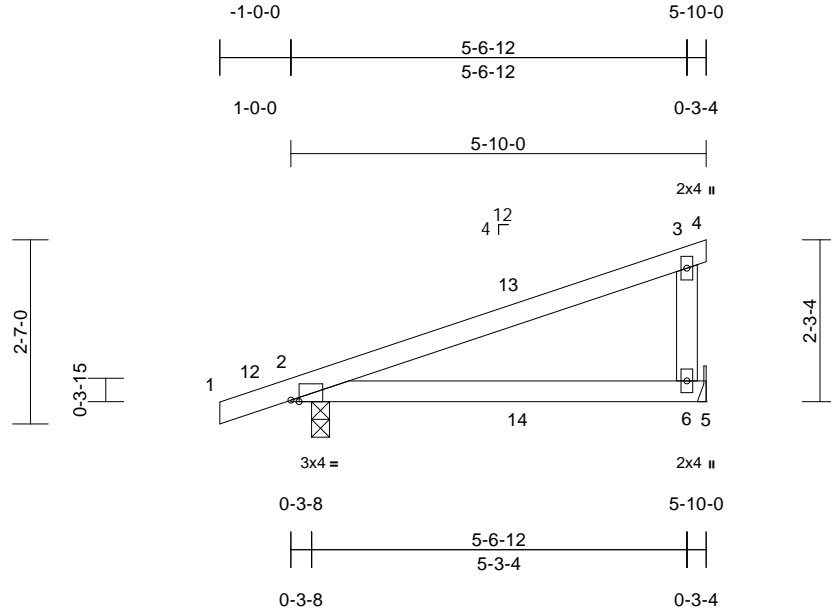
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624586
2502-2581-C	P1	Monopitch	14	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

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Scale = 1:32.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	-0.11	6-11	>594	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.15	6-11	>433	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0 *	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.05	6-11	>999	240		
BCDL	10.0											
Weight: 22 lb											FT = 20%	

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3

#### BRACING

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

#### REACTIONS

(size) 2=0-3-0, 6= Mechanical  
Max Horiz 2=53 (LC 12)  
Max Uplift 2=-53 (LC 12), 6=-36 (LC 12)  
Max Grav 2=407 (LC 40), 6=366 (LC 46)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/32, 2-3=-141/148, 3-4=-7/0  
BOT CHORD 2-6=-165/118, 5-6=0/0  
WEBS 3-6=-310/125

#### NOTES

- Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 5-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: Joint 2 SP No.2 .
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate at joint(s) 2.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 6.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.

LOAD CASE(S) Standard



February 26,2025

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

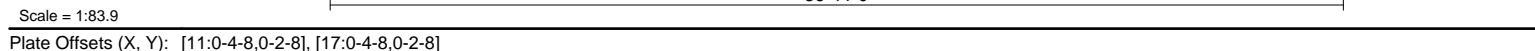
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Edenton, NC 27932



Structural, LLC, Thurmont, MD - 21788, Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:27 Page: 1  
ID:9uFnCisaoDq20wuH0laESKzhu0y-RfC?PsB70Hg3NSaPqnL8w3u1TXbGKWRCDoj7J4zJC?f



<b>LUMBER</b>		Max Grav	28=327 (LC 91), 29=340 (LC 148), 30=331 (LC 147), 31=334 (LC 146), 32=333 (LC 145), 33=333 (LC 144), 34=332 (LC 143), 35=329 (LC 142), 37=333 (LC 141), 38=333 (LC 140), 39=333 (LC 139), 41=329 (LC 138), 42=332 (LC 137), 43=333 (LC 136), 44=333 (LC 135), 45=334 (LC 134), 46=331 (LC 133), 47=340 (LC 132), 48=327 (LC 68)	WEBS	14-38=266/37, 13-39=267/38, 12-41=256/16, 10-42=270/37, 9-43=274/69, 8-44=277/60, 7-45=280/63, 6-46=283/56, 5-47=288/94, 3-48=186/128, 15-37=267/38, 16-35=260/16, 18-34=270/38, 19-33=274/69, 20-32=277/60, 21-31=280/63, 22-30=283/56, 23-29=288/91, 25-28=186/80
TOP CHORD	2x4 SP No.2				
BOT CHORD	2x4 SP No.2				
WEBS	2x4 SP No.3				
OTHERS	2x4 SP No.3				
<b>BRACING</b>					
TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 11-17.				
BOT CHORD	Rigid ceiling directly applied.				
WEBS	1 Row at midpt	14-38, 13-39, 12-41, 10-42, 15-37, 16-35, 18-34			
<b>FORCES</b>					
		(lb) - Maximum Compression/Maximum Tension			
TOP CHORD		2-48=-251/97, 1-2=0/64, 2-3=-92/34, 3-5=-137/126, 5-6=-114/97, 6-7=-124/98, 7-8=-116/122, 8-9=-132/169, 9-10=-154/219, 10-11=-171/252, 11-12=-138/229, 12-13=-138/229, 13-14=-138/229, 14-15=-138/229, 15-16=-138/229, 16-17=-138/229, 17-18=-171/252, 18-19=-154/219, 19-20=-132/169, 20-21=-112/122, 21-22=-91/74, 22-23=-103/65, 23-25=-111/76, 25-26=-92/34, 26-27=0/64, 26-28=-251/100			
BOT CHORD		47-48=-71/98, 46-47=-71/98, 45-46=-71/98, 44-45=-71/98, 43-44=-71/98, 42-43=-71/98, 41-42=-71/98, 39-41=-71/98, 38-39=-71/98, 37-38=-71/98, 35-37=-71/98, 34-35=-71/98, 33-34=-71/98, 32-33=-71/98, 31-32=-71/98, 30-31=-71/98, 29-30=-71/98, 28-29=-71/98			
<b>NOTES</b>					
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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-5-8, Exterior(2N) 2-5-8 to 14-2-0, Corner (3R) 14-2-0 to 17-10-5, Exterior(2N) 17-10-5 to 22-9-0, Corner(3R) 22-9-0 to 26-5-8, Exterior(2N) 26-5-8 to 37-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.80					
<b>REACTIONS</b> (size)		28=36-11-0, 29=36-11-0, 30=36-11-0, 31=36-11-0, 32=36-11-0, 33=36-11-0, 34=36-11-0, 35=36-11-0, 37=36-11-0, 38=36-11-0, 39=36-11-0, 41=36-11-0, 42=36-11-0, 43=36-11-0, 44=36-11-0, 45=36-11-0, 46=36-11-0, 47=36-11-0, 48=36-11-0			
	Max Horiz	48=180 (LC 15)			
	Max Uplift	28=-21 (LC 13), 29=-54 (LC 17), 30=-3 (LC 17), 31=-18 (LC 17), 32=-13 (LC 17), 33=-20 (LC 17), 42=-2 (LC 16), 43=-19 (LC 16), 44=-13 (LC 16), 45=-18 (LC 16), 46=-1 (LC 16), 47=-62 (LC 16), 48=-58 (LC 12)			



## NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
 Vasd=95mph; TCDF=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3R) 1-0-0 to 2-5-8, Exterior(2N) 2-5-8 to 14-2-0, Corner (3R) 14-2-0 to 17-10-5, Exterior(2N) 17-10-5 to 22-9-0, Corner(3R) 22-9-0 to 26-5-8, Exterior(2N) 26-5-8 to 37-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.80



February 26, 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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818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof
2502-2581-C	A2G	Piggyback Base Supported Gable	2	1	I71624587
					Job Reference (optional)

- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) Plates checked for a plus or minus 5 degree rotation about its center.
- 9) Gable requires continuous bottom chord bearing.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 13) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 14) All bearings are assumed to be SP No.2 .
- 15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 48, 21 lb uplift at joint 28, 2 lb uplift at joint 42, 19 lb uplift at joint 43, 13 lb uplift at joint 44, 18 lb uplift at joint 45, 1 lb uplift at joint 46, 62 lb uplift at joint 47, 20 lb uplift at joint 33, 13 lb uplift at joint 32, 18 lb uplift at joint 31, 3 lb uplift at joint 30 and 54 lb uplift at joint 29.
- 16) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 17) 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.
- 18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

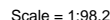
 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	I/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.78	Vert(LL)	-0.20	15-17	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.43	19-20	>999	240	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.80	Horz(CT)	0.16	12	n/a	n/a		
BCLL	0.0 *	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.09	22-24	>999	240		
BCDL	10.0										Weight: 284 lb	FT = 20%

TOP CHORD	2x4 SP No.2 *Except* 1-4,10-13:2x4 SP SS
BOT CHORD	2x4 SP SS *Except* 21-19:2x4 SP No.3
WEBS	2x4 SP No.3 *Except* 6-22,8-17,26-27:2x4 SP No.2
SLIDER	Left 2x6 SP No.2 -- 2-0-0, Right 2x6 SP No.2 -- 2-0-0

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (3-9-10 max.): 6-8.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt      5-22, 9-17
JOINTS	1 Brace at Jt(s): 21, 19, 26, 27, 20

**REACTIONS** (lb/size) 2=1910/0-3-8, 12=1910/0-3-8  
Max Horiz 2=-162 (LC 14)  
Max Grav 2=2315 (LC 42), 12=2315 (LC 42)

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

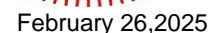
TOP CHORD

**BOT CHORD** 2-52=0/2445, 25-52=0/2445, 25-53=0/2450,  
24-53=0/2450, 23-24=0/2447, 22-23=0/2447,  
22-54=0/3141, 54-55=0/3141, 18-55=0/3141,  
18-56=0/3141, 56-57=0/3141, 17-57=0/3141,  
16-17=0/2447, 15-16=0/2447, 15-58=0/2450,  
14-58=0/2450, 14-59=0/2445, 12-59=0/2445,  
21-60=-110/344, 60-61=-110/344,  
20-61=-110/344, 20-62=-110/344,  
62-63=-110/344, 19-63=-110/344

**WEBS** 21-22=0/969, 21-26=0/1128, 6-26=0/1146,  
17-19=0/969, 19-27=0/1128, 8-27=0/1146,  
26-27=-32/403, 18-20=0/340, 7-26=-455/97,  
7-27=-455/98, 5-24=-28/299, 5-22=-660/101,  
20-22=-1502/0, 17-20=-1502/0,  
9-15=-29/299, 9-17=-660/101

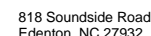
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
 Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 1-0-0 to 2-8-5, Interior (1) 2-8-5 to 14-2-0, Exterior(2R) 14-2-0 to 19-4-10, Interior (1) 19-4-10 to 22-9-0, Exterior(2R) 22-9-0 to 27-11-10, Interior (1) 27-11-10 to 37-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate gird DOL=1.60
- 3) TCELL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.

- 6) 250.0lb AC unit load placed on the bottom chord, 18-5-8 from left end, supported at two points, 5-0-0 apart.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are MT20 plates unless otherwise indicated.
- 9) Plates checked for a plus or minus 5 degree rotation about its center.
- 10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 11) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 12) Bottom chord live load (20.0 psf) and additional bottom chord dead load (20.0 psf) applied only to room. 20-21, 19-20
- 13) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord. nonconcurrent with any other live loads.



 **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	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof
2502-2581-C	A2	Attic	14	1	I71624588
					Job Reference (optional)

- 14) 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.
- 15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 16) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

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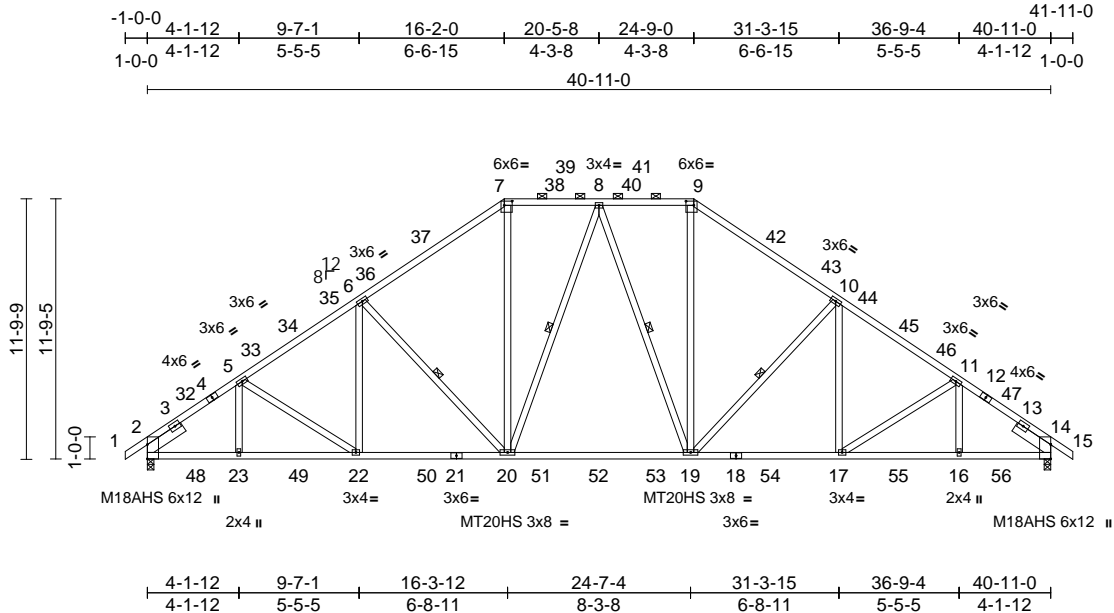
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624589
2502-2581-C	A1A	Piggyback Base	4	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:22  
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Page: 1



Scale = 1:104.4

Plate Offsets (X, Y): [7:0-4-4,0-2-4], [9:0-4-4,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.30	19-20	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.48	19-20	>999	240	M18AHS	186/179
TCDL	10.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.15	14	n/a	n/a	MT20HS	187/143
BCLL	0.0 *	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.05	19-20	>999	240		
BCDL	10.0											
											Weight: 289 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2 \*Except\* 1-4,12-15:2x4 SP SS  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3  
SLIDER Left 2x6 SP No.2 -- 2-0-0, Right 2x6 SP No.2 -- 2-0-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied, except  
2-0-0 oc purlins (3-10-10 max.): 7-9.  
Rigid ceiling directly applied.  
BOT CHORD  
WEBS 1 Row at midpt 8-20, 8-19, 6-20, 10-19

#### REACTIONS

(size) 2=0-3-8, 14=0-3-8  
Max Horiz 2=184 (LC 14)  
Max Grav 2=2201 (LC 57), 14=2201 (LC 59)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/55, 2-5=-3156/86, 5-6=-3125/22, 6-7=-2623/92, 7-8=-2063/115, 8-9=-2063/115, 9-10=-2623/92, 10-11=-3125/22, 11-14=-3155/86, 14-15=0/55  
BOT CHORD 2-23=-75/2468, 22-23=0/2468, 20-22=0/2527, 19-20=0/1983, 17-19=0/2527, 16-17=0/2469, 14-16=0/2469  
WEBS 7-20=0/962, 8-20=-277/138, 8-19=-277/138, 9-19=0/962, 6-22=0/358, 5-23=-111/242, 5-22=-159/133, 6-20=-827/73, 10-17=0/358, 11-16=-111/242, 11-17=-159/133, 10-19=-827/73

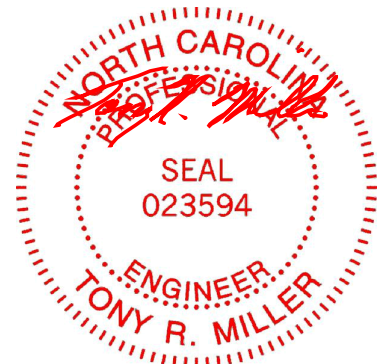
#### NOTES

1) 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 3-1-2, Interior (1) 3-1-2 to 16-2-0, Exterior(2R) 16-2-0 to 21-11-7, Interior (1) 21-11-7 to 24-9-0, Exterior(2R) 24-9-0 to 30-6-7, Interior (1) 30-6-7 to 41-11-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- All bearings are assumed to be SP SS.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.

14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



February 26, 2025

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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

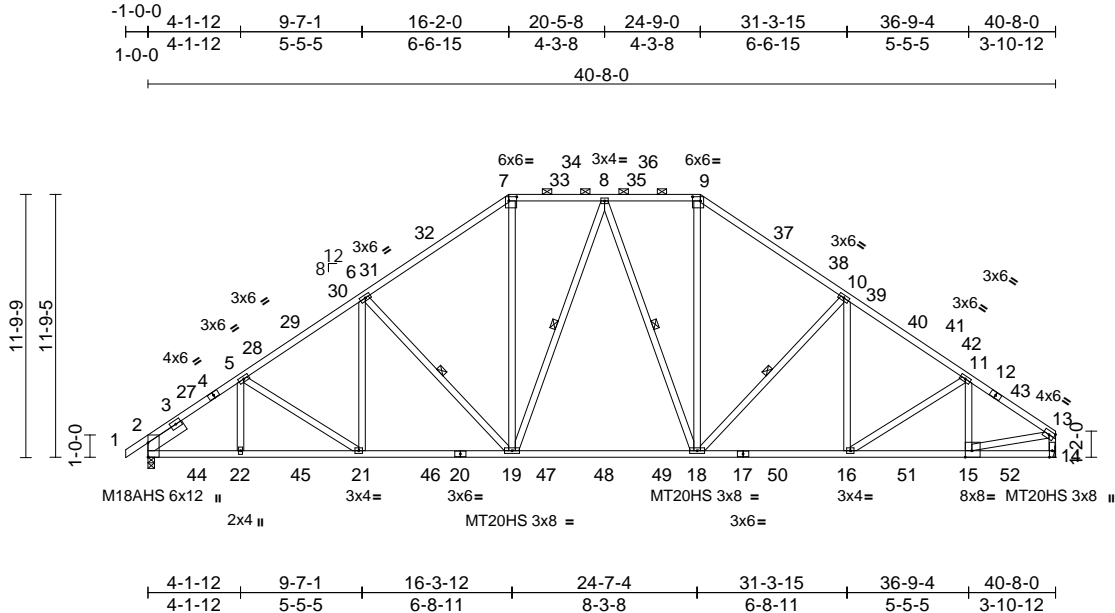
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624590
2502-2581-C	A1	Piggyback Base	14	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:21  
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Page: 1



Scale = 1:103.2

Plate Offsets (X, Y): [7:0-4-4,0-2-4], [9:0-4-4,0-2-4], [15:0-3-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.28	18-19	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.45	18-19	>999	240	M18AHS	186/179
TCDL	10.0	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.10	14	n/a	n/a	MT20HS	187/143
BCLL	0.0 *	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.05	19	>999	240		
BCDL	10.0											
											Weight: 288 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2 \*Except\* 1-4:2x4 SP SS  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3  
SLIDER Left 2x6 SP No.2 -- 2-0-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-10-13 max.): 7-9.

BOT CHORD Rigid ceiling directly applied.

WEBS 1 Row at midpt 6-19, 8-19, 8-18, 10-18

REACTIONS (size) 2=0-3-8, 14= Mechanical  
Max Horiz 2=195 (LC 15)  
Max Grav 2=2182 (LC 57), 14=2131 (LC 59)

#### FORCES

TOP CHORD 1-2=0/55, 2-5=-3123/85, 5-6=-3090/23, 6-7=-2586/93, 7-8=-2032/116, 8-9=-2018/116, 9-10=-2565/95, 10-11=-3037/29, 11-13=-2875/0, 13-14=-2218/0

BOT CHORD 2-22=-91/2459, 21-22=0/2459, 19-21=0/2512, 18-19=0/1959, 16-18=0/2432, 15-16=0/2354, 14-15=-19/160

WEBS 6-19=-829/73, 7-19=0/941, 8-19=-263/144, 8-18=-286/125, 9-18=0/920, 13-15=0/2262, 5-22=-110/243, 5-21=-161/129, 6-21=0/360, 10-16=0/335, 11-15=-423/83, 11-16=-149/145, 10-18=-735/78

#### NOTES

1) 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 3-0-13, Interior (1) 3-0-13 to 16-2-0, Exterior(2R) 16-2-0 to 21-11-0, Interior (1) 21-11-0 to 24-9-0, Exterior(2R) 24-9-0 to 30-6-0, Interior (1) 30-6-0 to 40-6-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Bearings are assumed to be: Joint 2 SP SS.
- Refer to girder(s) for truss to truss connections.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

- 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



February 26, 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)

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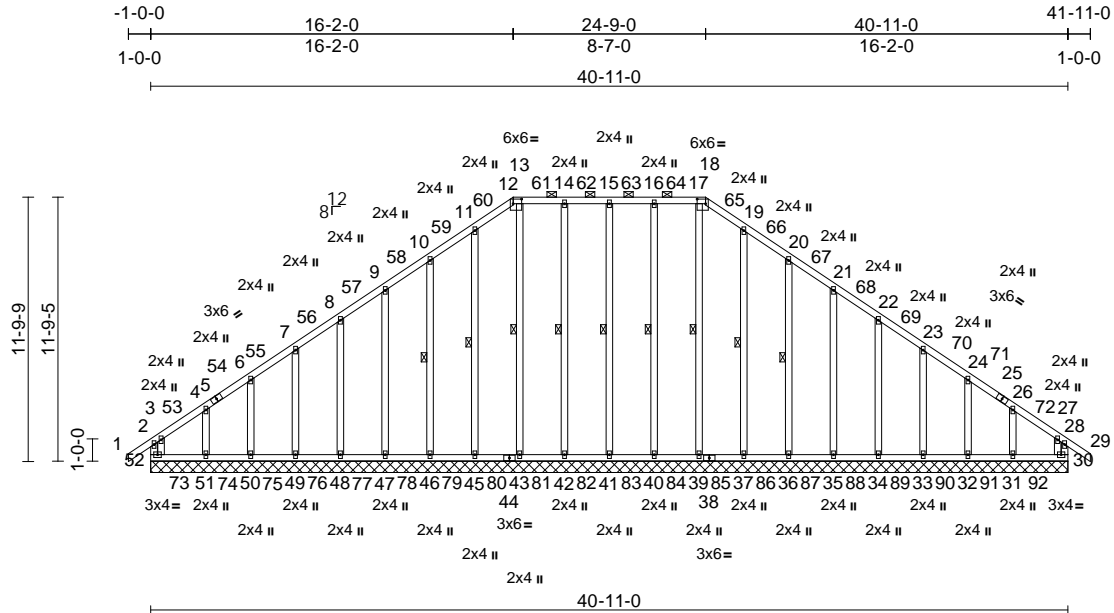
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624591
2502-2581-C	A1G	Piggyback Base Supported Gable	2	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:23  
ID:5kJhUmTVLNebB?R88Z0k9azhu1S-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:102.8

Plate Offsets (X, Y): [12:0-4-8,0-2-8], [18:0-4-8,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.21	Ver(LL)	n/a	-	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.24	Ver(CT)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.01	30	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS							
BCDL	10.0										
Weight: 349 lb FT = 20%											

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3  
OTHERS 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.): 12-18.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 15-41, 14-42, 13-43, 11-45, 10-46, 16-40, 17-39, 19-37, 20-36

#### REACTIONS (size)

30=40-11-0, 31=40-11-0, 32=40-11-0, 33=40-11-0, 34=40-11-0, 35=40-11-0, 36=40-11-0, 37=40-11-0, 39=40-11-0, 40=40-11-0, 41=40-11-0, 42=40-11-0, 43=40-11-0, 45=40-11-0, 46=40-11-0, 47=40-11-0, 48=40-11-0, 49=40-11-0, 50=40-11-0, 51=40-11-0, 52=40-11-0  
Max Horiz 52=202 (LC 15)  
Max Uplift 30=26 (LC 13), 31=61 (LC 17), 32=-1 (LC 17), 33=-18 (LC 17), 34=-14 (LC 17), 35=-14 (LC 17), 36=-20 (LC 17), 46=-20 (LC 16), 47=-14 (LC 16), 48=-14 (LC 16), 49=-19 (LC 16), 51=-70 (LC 16), 52=-70 (LC 12)

#### FORCES

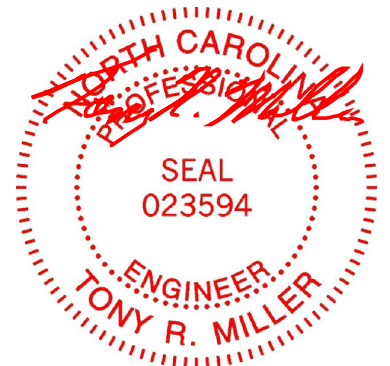
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-52=-251/102, 1-2=0/64, 2-3=-92/35, 3-4=-159/145, 4-6=-119/107, 6-7=-124/111, 7-8=-129/109, 8-9=-127/155, 9-10=-147/201, 10-11=-170/252, 11-12=-186/283, 12-13=-154/256, 13-14=-154/256, 14-15=-154/256, 15-16=-154/256, 16-17=-154/256, 17-18=-154/256, 18-19=-186/283, 19-20=-170/252, 20-21=-147/201, 21-22=-127/155, 22-23=-107/107, 23-24=-112/62, 24-26=-82/81, 26-27=-105/88, 27-28=-92/35, 28-29=0/64, 28-30=-251/105  
BOT CHORD 51-52=-80/110, 50-51=-80/110, 49-50=-80/110, 48-49=-80/110, 47-48=-80/110, 46-47=-80/110, 45-46=-80/110, 43-45=-80/110, 42-43=-80/110, 41-42=-80/110, 40-41=-80/110, 39-40=-80/110, 37-39=-80/110, 36-37=-80/110, 35-36=-80/110, 34-35=-80/110, 33-34=-80/110, 32-33=-80/110, 31-32=-80/110, 30-31=-80/110

#### WEBS

15-41=-264/39, 14-42=-265/37, 13-43=-253/24, 11-45=-268/33, 10-46=-271/70, 9-47=-274/60, 8-48=-277/61, 7-49=-280/64, 6-50=-283/55, 4-51=-288/98, 3-52=-184/150, 16-40=-265/37, 17-39=-257/24, 19-37=-268/34, 20-36=-271/70, 21-35=-274/60, 22-34=-277/61, 23-33=-280/63, 24-32=-283/54, 26-31=-288/96, 27-30=-179/87

#### NOTES

1) Unbalanced roof live loads have been considered for this design.



February 26, 2025

Continued on page 2

**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	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof
2502-2581-C	A1G	Piggyback Base Supported Gable	2	1	I71624591
					Job Reference (optional)

- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat.  
II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner  
(3E) -1-0-0 to 3-1-2, Exterior(2N) 3-1-2 to 16-2-0, Corner  
(3R) 16-2-0 to 20-5-8, Exterior(2N) 20-5-8 to 24-9-0,  
Corner(3R) 24-9-0 to 28-10-2, Exterior(2N) 28-10-2 to  
41-11-0 zone; cantilever left and right exposed ; end  
vertical left and right exposed;C-C for members and  
forces & MWFRS for reactions shown; Lumber  
DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss  
only. For studs exposed to wind (normal to the face),  
see Standard Industry Gable End Details as applicable,  
or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15  
Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate  
DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.;  
Ce=1.0; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this  
design.
- 6) This truss has been designed for greater of min roof live  
load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on  
overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) Plates checked for a plus or minus 5 degree rotation  
about its center.
- 9) Gable requires continuous bottom chord bearing.
- 10) Truss to be fully sheathed from one face or securely  
braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom  
chord live load nonconcurrent with any other live loads.
- 13) \* This truss has been designed for a live load of 20.0psf  
on the bottom chord in all areas where a rectangle  
3-06-00 tall by 2-00-00 wide will fit between the bottom  
chord and any other members.
- 14) All bearings are assumed to be SP No.2 .
- 15) Provide mechanical connection (by others) of truss to  
bearing plate capable of withstanding 70 lb uplift at joint  
52, 26 lb uplift at joint 30, 20 lb uplift at joint 46, 14 lb  
uplift at joint 47, 14 lb uplift at joint 48, 19 lb uplift at joint  
49, 70 lb uplift at joint 51, 20 lb uplift at joint 36, 14 lb  
uplift at joint 35, 14 lb uplift at joint 34, 18 lb uplift at joint  
33, 1 lb uplift at joint 32 and 61 lb uplift at joint 31.
- 16) This truss has been designed for a moving concentrated  
load of 250.0lb live and 3.0lb dead located at all mid  
panels and at all panel points along the Top Chord and  
Bottom Chord, nonconcurrent with any other live loads.
- 17) 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.
- 18) Graphical purlin representation does not depict the size  
or the orientation of the purlin along the top and/or  
bottom chord.

LOAD CASE(S)    Standard

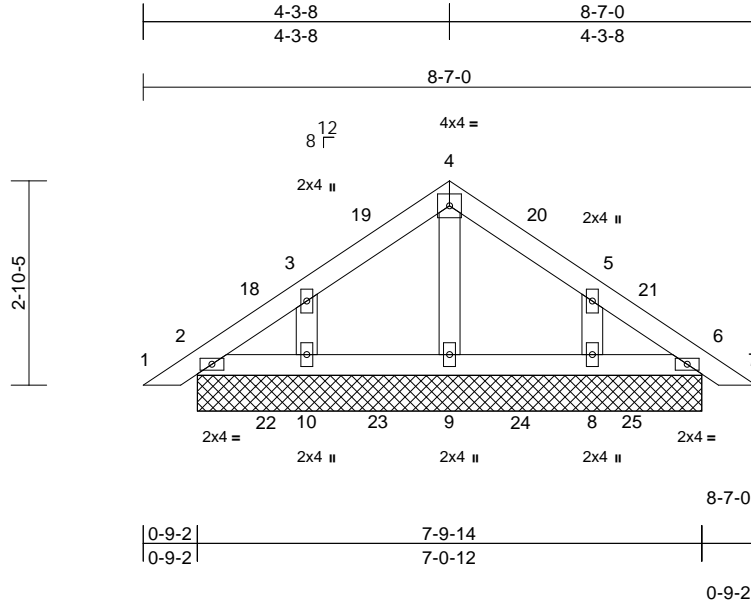


Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624592
2502-2581-C	PB1G	Piggyback	6	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:30  
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Page: 1



Scale = 1:32.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	15	n/a	n/a	
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS							
BCDL	10.0										
										Weight: 31 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.3
OTHERS	2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

<b>REACTIONS</b>	(size)	2=7-0-12, 6=7-0-12, 8=7-0-12, 9=7-0-12, 10=7-0-12
	Max Horiz	2=43 (LC 15)
	Max Uplift	8=-19 (LC 17), 10=-20 (LC 16)
	Max Grav	2=290 (LC 57), 6=290 (LC 69), 8=334 (LC 67), 9=320 (LC 66), 10=334 (LC 65)

<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension
---------------	--

TOP CHORD	1-2=0/28, 2-3=-80/79, 3-4=-122/58, 4-5=-122/58, 5-6=-80/79, 6-7=0/28
BOT CHORD	2-10=-16/53, 9-10=-16/45, 8-9=-16/45, 6-8=-16/53

WEBS	4-9=-227/0, 3-10=-291/93, 5-8=-291/94
------	---------------------------------------

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-3-2 to 3-3-2, Interior (1) 3-3-2 to 4-3-8, Exterior(2R) 4-3-8 to 7-5-0, Interior (1) 7-5-0 to 8-3-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.3 .
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 10 and 8. This connection is for uplift only and does not consider lateral forces.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



February 26, 2025

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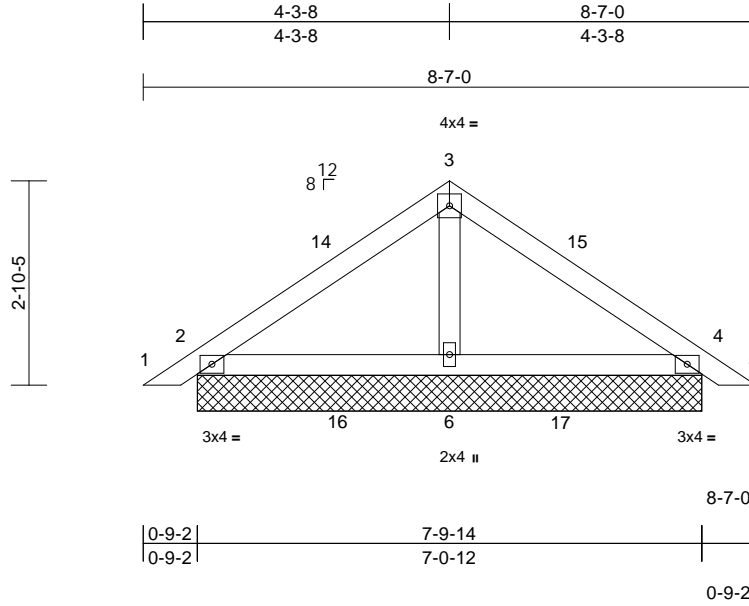
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624593
2502-2581-C	PB1	Piggyback	32	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:30  
ID:jQtgb\_N2XkJMOAZqsgOdWbzhu2s-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRCDoi7J4zJC?f

Page: 1



Scale = 1:32.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.40	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	2	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS							
BCDL	10.0									Weight: 29 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.

#### REACTIONS

(size)	2=7-0-12, 4=7-0-12, 6=7-0-12
Max Horiz	2=43 (LC 15)
Max Uplift	2=-1 (LC 16), 4=-6 (LC 17)
Max Grav	2=340 (LC 53), 4=340 (LC 61), 6=382 (LC 59)

#### FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=0/28, 2-3=-170/67, 3-4=-170/67, 4-5=0/28
BOT CHORD	2-6=-7/89, 4-6=-9/89
WEBS	3-6=-232/11

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-3-2 to 3-3-2, Interior (1) 3-3-2 to 4-3-8, Exterior(2R) 4-3-8 to 7-5-0, Interior (1) 7-5-0 to 8-3-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



February 26, 2025

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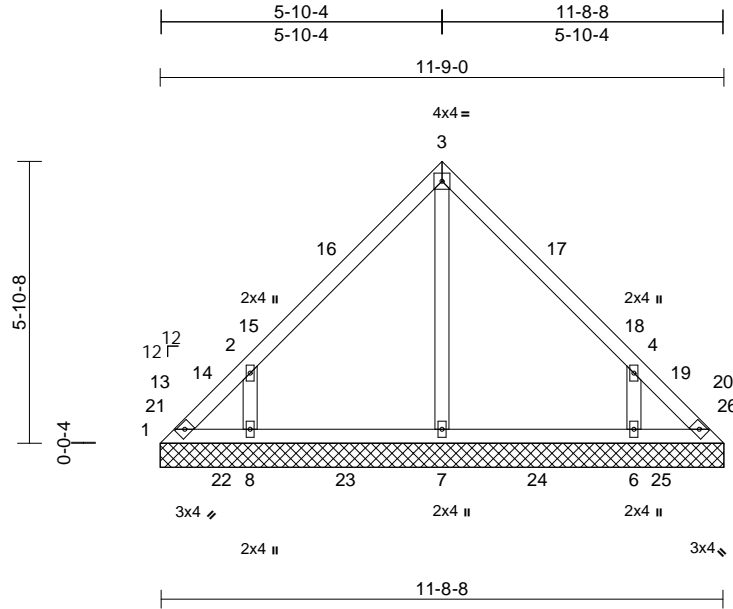
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624594
2502-2581-C	V4	Valley	2	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:31  
ID:VVYPYLUOedbPQdmvKU8TDSzhu2C-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRCDoi7J4zJC?f

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Scale = 1:48

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.47	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.72	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.12	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS							
BCDL	10.0									Weight: 52 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.3
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 6-0-0 oc bracing.

#### REACTIONS

(size)	1=11-9-0, 5=11-9-0, 6=11-9-0, 7=11-9-0, 8=11-9-0
Max Horiz	1=-91 (LC 14)
Max Uplift	1=-28 (LC 12), 5=-23 (LC 59), 6=-65 (LC 17), 8=-68 (LC 16)
Max Grav	1=279 (LC 49), 5=279 (LC 55), 6=423 (LC 23), 7=382 (LC 64), 8=423 (LC 22)

#### FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-234/116, 2-3=-234/91, 3-4=-234/91, 4-5=-234/116
BOT CHORD	1-8=-28/146, 7-8=-28/63, 6-7=-28/63, 5-6=-28/146
WEBS	3-7=-212/0, 2-8=-392/176, 4-6=-392/176

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 5-10-8, Exterior(2R) 5-10-8 to 8-10-8, Interior (1) 8-10-8 to 11-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.3.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 1, 23 lb uplift at joint 5, 68 lb uplift at joint 8 and 65 lb uplift at joint 6.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 5.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

LOAD CASE(S) Standard



February 26, 2025

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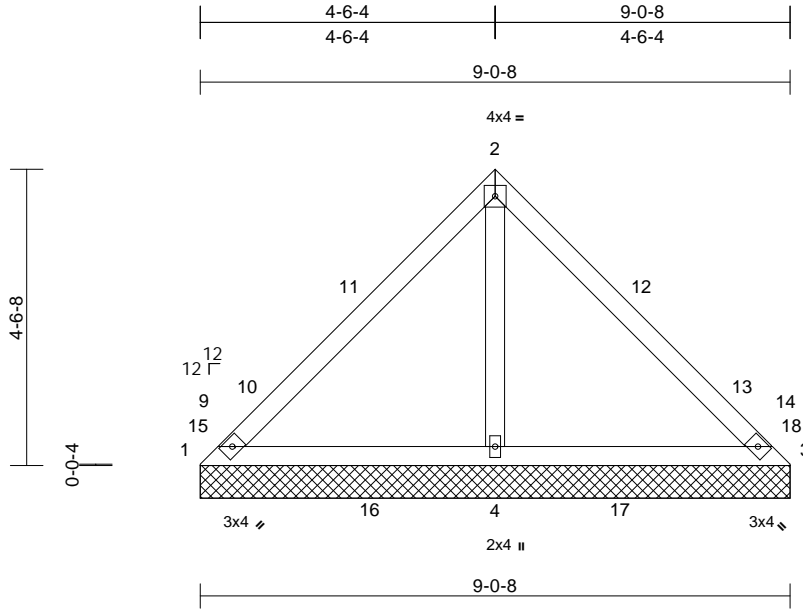
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624595
2502-2581-C	V3	Valley	2	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:31  
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Scale = 1:35.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.56	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.83	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.20	Horiz(TL)	0.00	4	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS							
BCDL	10.0									Weight: 37 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.3
OTHERS	2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 9-0-8 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

#### REACTIONS

(size)	1=9-0-8, 3=9-0-8, 4=9-0-8
Max Horiz	1=-69 (LC 12)
Max Uplift	1=-57 (LC 54), 3=-57 (LC 53), 4=-2 (LC 16)
Max Grav	1=270 (LC 47), 3=270 (LC 51), 4=691 (LC 22)

#### FORCES

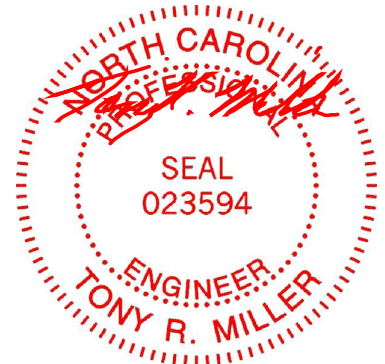
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-216/318, 2-3=-216/318
BOT CHORD	1-4=-204/131, 3-4=-204/131
WEBS	2-4=-598/138

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-4 to 3-0-4, Interior (1) 3-0-4 to 4-6-8, Exterior(2R) 4-6-8 to 7-6-8, Interior (1) 7-6-8 to 9-0-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.3 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 57 lb uplift at joint 1, 57 lb uplift at joint 3 and 2 lb uplift at joint 4.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

LOAD CASE(S) Standard



February 26,2025

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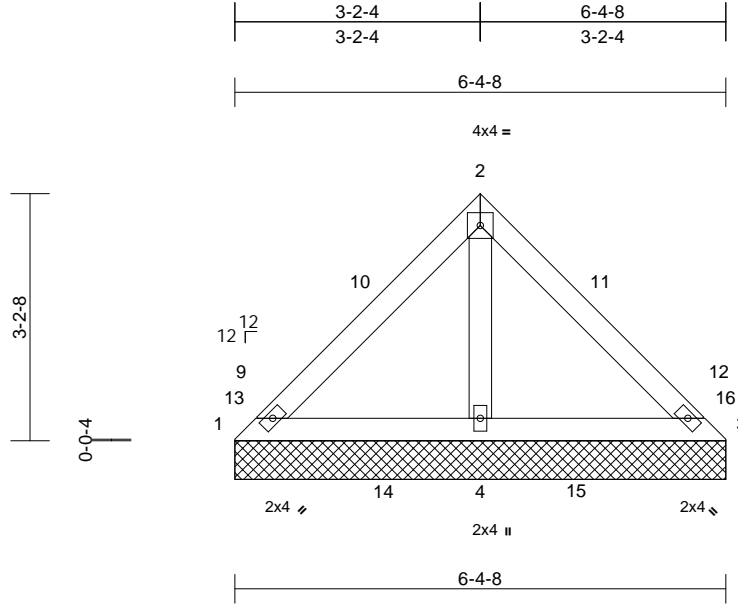
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624596
2502-2581-C	V2	Valley	2	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:31  
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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.50	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 25 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.3
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 6-0-0 oc bracing.

#### REACTIONS

(size)	1=6-4-8, 3=6-4-8, 4=6-4-8
Max Horiz	1=48 (LC 13)
Max Uplift	1=-34 (LC 54), 3=-34 (LC 53)
Max Grav	1=275 (LC 47), 3=275 (LC 51), 4=476 (LC 54)

#### FORCES

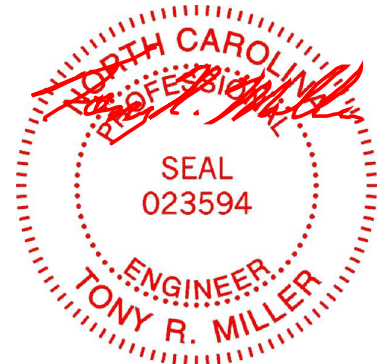
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-212/215, 2-3=-212/215
BOT CHORD	1-4=-124/133, 3-4=-124/133
WEBS	2-4=-336/184

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- Unbalanced snow loads have been considered for this design.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.3 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 1 and 34 lb uplift at joint 3.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

LOAD CASE(S) Standard



February 26,2025

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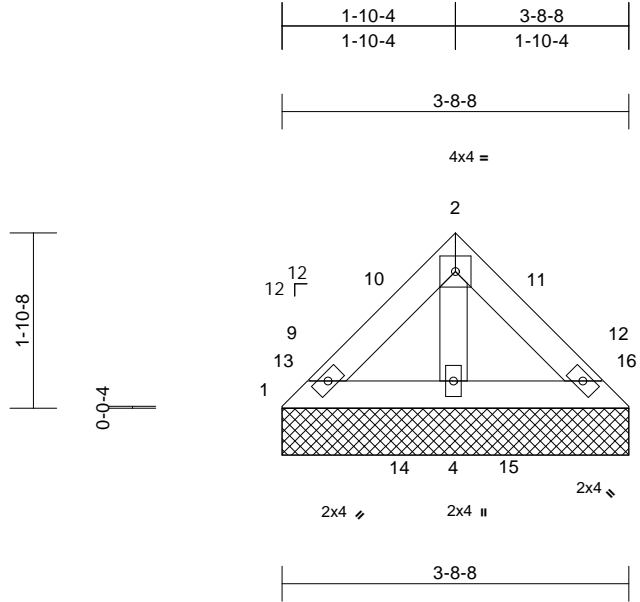


Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof	I71624597
2502-2581-C	V1	Valley	2	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

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Page: 1



<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 (roof)	20.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.22	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 14 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.3  
OTHERS 2x4 SP No.3

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 3-8-8 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

#### REACTIONS

(size) 1=3-8-8, 3=3-8-8, 4=3-8-8  
Max Horiz 1=-27 (LC 12)  
Max Uplift 1=-21 (LC 50), 3=-18 (LC 48)  
Max Grav 1=275 (LC 47), 3=276 (LC 51), 4=356 (LC 57)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

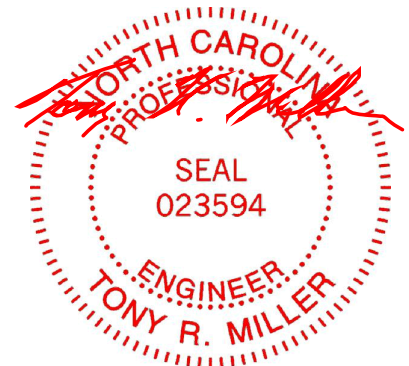
TOP CHORD 1-2=-196/131, 2-3=-200/128  
BOT CHORD 1-4=-49/123, 3-4=-47/126  
WEBS 2-4=-229/17

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- Unbalanced snow loads have been considered for this design.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.3.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1 and 18 lb uplift at joint 3.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

**LOAD CASE(S)** Standard



February 26, 2025

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Edenton, NC 27932

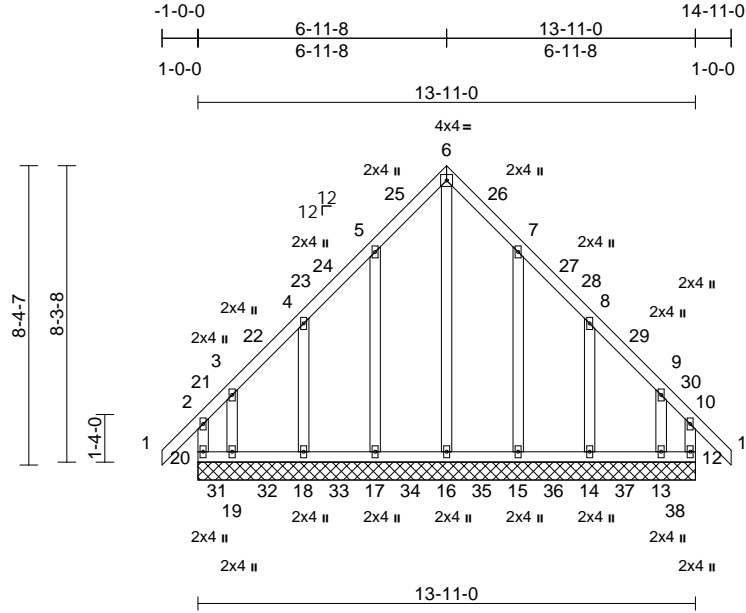
Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof
2502-2581-C	B1	Common Supported Gable	2	1	Job Reference (optional)
					I71624598

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Tue Feb 25 07:59:28

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Scale = 1:64.4

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	n/a	-	n/a	999	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	n/a	-	n/a	999	
TCDL	10.0	Rep Stress Incr	YES	WB	0.44	Horz(CT)	0.00	12	n/a	n/a	
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR							
BCDL	10.0										
Weight: 102 lb FT = 20%											

<b>LUMBER</b>	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x4 SP No.3

<b>BRACING</b>	
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.

<b>REACTIONS</b>	(size)	12=13-11-0, 13=13-11-0, 14=13-11-0, 15=13-11-0, 16=13-11-0, 17=13-11-0, 18=13-11-0, 19=13-11-0, 20=13-11-0
	Max Horiz	20=-154 (LC 14)
	Max Uplift	12=-119 (LC 13), 13=-121 (LC 12), 14=-38 (LC 17), 15=-36 (LC 17), 17=-36 (LC 16), 18=-38 (LC 16), 19=-133 (LC 13), 20=-137 (LC 12)
	Max Grav	12=294 (LC 77), 13=304 (LC 76), 14=336 (LC 75), 15=335 (LC 74), 16=332 (LC 73), 17=335 (LC 72), 18=336 (LC 71), 19=304 (LC 70), 20=294 (LC 69)

<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-20=-283/96, 1-2=0/81, 2-3=-120/118, 3-4=-101/106, 4-5=-101/208, 5-6=-139/309, 6-7=-139/309, 7-8=-101/208, 8-9=-101/106, 9-10=-106/102, 10-11=0/81, 10-12=-283/83, 19-20=-79/95, 18-19=-79/95, 17-18=-79/95, 16-17=-79/95, 15-16=-79/95, 14-15=-79/95, 13-14=-79/95, 12-13=-79/95
BOT CHORD	6-16=-365/99, 5-17=-284/119, 4-18=-285/148, 3-19=-257/119, 7-15=-284/119, 8-14=-285/148, 9-13=-257/118
WEBS	

#### 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-0-0, Exterior(2N) 2-0-0 to 6-11-8, Corner (3R) 6-11-8 to 9-11-8, Exterior(2N) 9-11-8 to 14-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 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 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 where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 137 lb uplift at joint 20, 119 lb uplift at joint 12, 36 lb uplift at joint 17, 38 lb uplift at joint 18, 133 lb uplift at joint 19, 36 lb uplift at joint 15, 38 lb uplift at joint 14 and 121 lb uplift at joint 13.

- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

**LOAD CASE(S)** Standard



February 26, 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

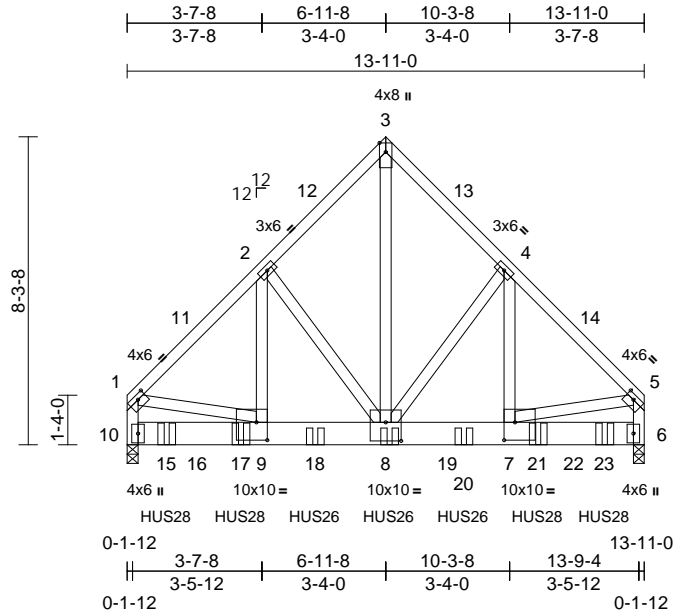
Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof
2502-2581-C	B1GR	Common Girder	2	2	Job Reference (optional)

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Structural, LLC, Thurmont, MD - 21788,

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Scale = 1:62

Plate Offsets (X, Y): [1:0-2-12,0-1-8], [5:0-2-12,0-1-8], [7:0-3-8,0-5-12], [8:0-5-0,0-6-0], [9:0-3-8,0-5-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.63	Vert(LL)	-0.07	8-9	>999	360	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.11	8-9	>999	240		
TCDL	10.0	Rep Stress Incr	NO	WB	0.88	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS		Wind(LL)	0.00	8	>999	240		
BCDL	10.0										Weight: 245 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x8 SP DSS  
WEBS 2x4 SP No.3 \*Except\* 10-1,6-5,8-3:2x4 SP No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 4-8-15 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 6=0-3-8, 10=0-3-8  
Max Horiz 10=132 (LC 11)  
Max Grav 6=7946 (LC 21), 10=7816 (LC 22)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-6602/0, 2-3=-5043/0, 3-4=-5043/0, 4-5=-6632/0, 1-10=-5869/0, 5-6=-5890/0  
BOT CHORD 9-10=-19/607, 8-9=0/4665, 7-8=0/4639, 6-7=0/531  
WEBS 1-9=0/4264, 5-7=0/4265, 2-9=0/2377, 2-8=-1808/0, 3-8=0/6842, 4-8=-1844/0, 4-7=0/2427

**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: 2x8 - 4 rows staggered at 0-9-0 oc.  
Web 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=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Plates checked for a plus or minus 5 degree rotation about its center.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2.
- Bearing at joint(s) 10, 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- Use Simpson Strong-Tie HUS28 (22-16d Girder, 4-16d Truss) or equivalent spaced at 8-0-0 oc max. starting at 1-0-12 from the left end to 12-10-4 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HUS26 (14-16d Girder, 4-16d Truss) or equivalent spaced at 2-0-0 oc max. starting at 5-0-12 from the left end to 9-0-12 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

**LOAD CASE(S)** Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-60, 3-5=-60, 6-10=-20  
Concentrated Loads (lb)  
Vert: 8=-2009 (B), 15=-2009 (B), 17=-2009 (B), 18=-2009 (B), 20=-2009 (B), 21=-2009 (B), 23=-2009 (B)



February 26, 2025

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Devon Rev. 3-Elev 4-Roof
2502-2581-C	A1SG	Piggyback Base Structural Gable	2	1	Job Reference (optional)

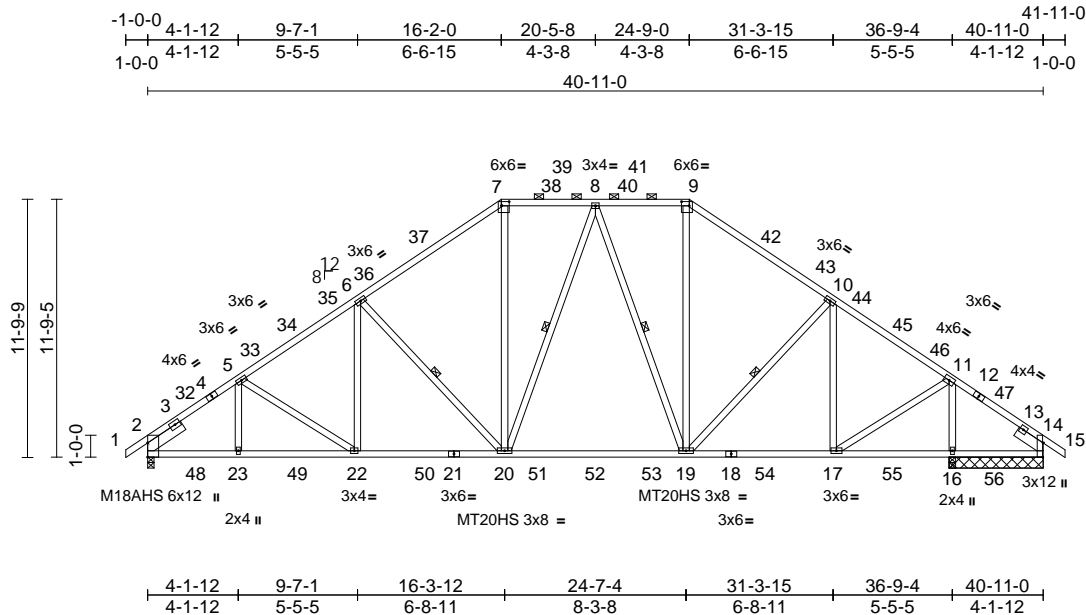
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Structural, LLC, Thurmont, MD - 21788,

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# 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

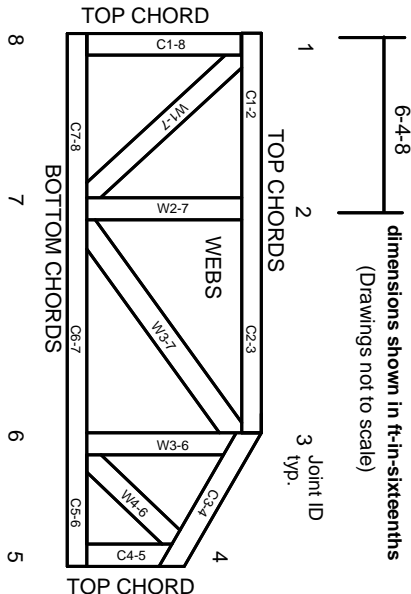


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## 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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