

Carter Sanford Component Plant 298 Harvey Faulk Rd Sanford, NC 27332

Phone #:919-775-1450

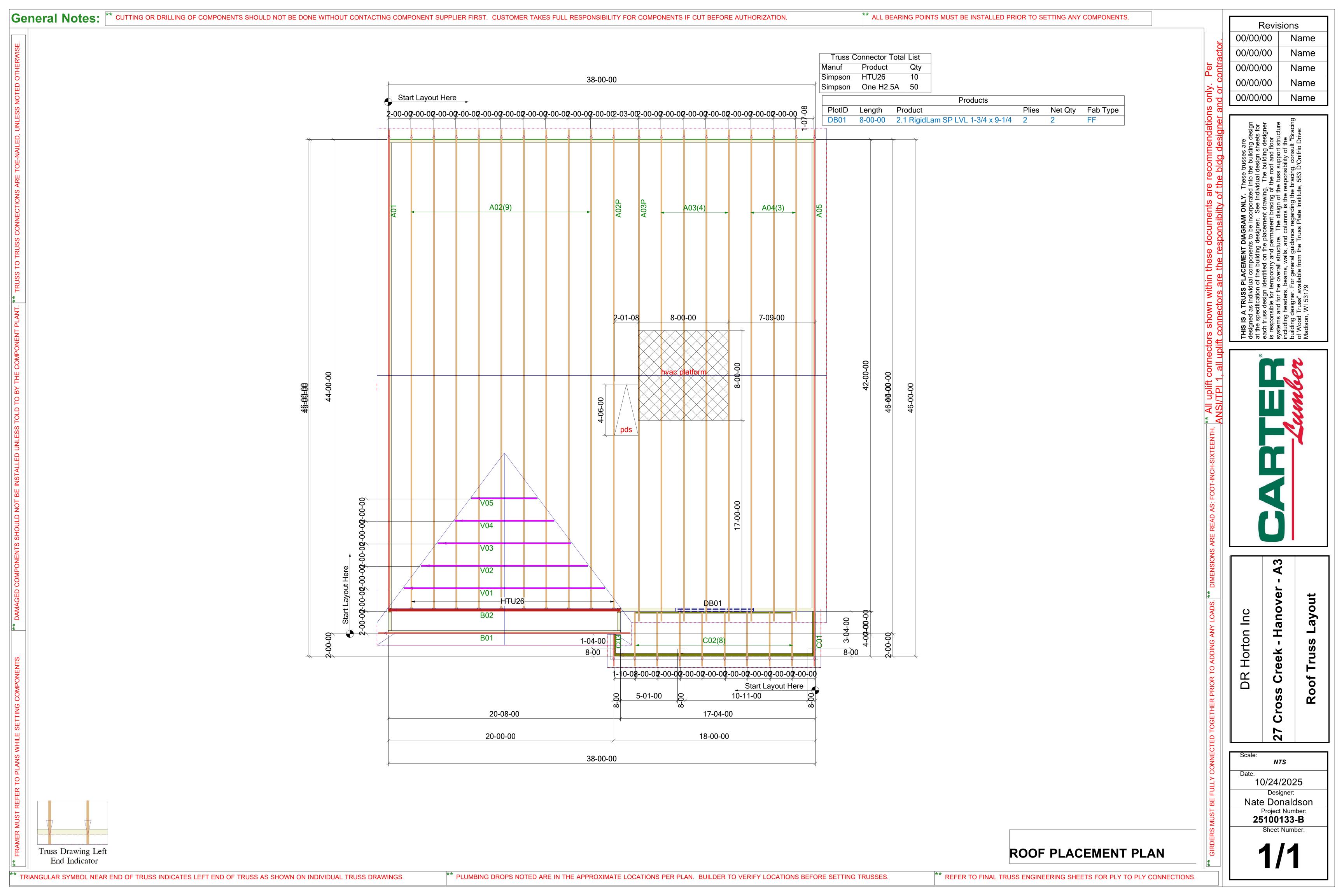
### Builder: DR Horton Inc 27 Cross Creek -Model: Hanover - A3



THE PLACEMENT PLAN NOTES:

- 1. The Placement Plan is a diagram for truss installation. It is not an engineered drawing and has not been reviewed by an engineer. The Owner/Building Designer is responsible for obtaining an engineer's review if one is required by the local jurisdiction.
- 2. The responsibilities of the Owner, Contractor, Building Designer, Component Designer and Component Manufacturer shall be as set forth in ANSI/TPI 1. Capitalized terms shall be as defined in ANSI/TP 1 unless otherwise indicated.
- 3. Each Component is designed as an individual component utilizing information provided by others. The Owner/Building Designer is responsible for reviewing all Component Submittal Packages and individual Component Design Drawings for compliance with the Construction Documents and compatibility with the overall Building design.
- 4. Contractor will not proceed with component installation until the Owner/Building Designer has reviewed the Component Submittal Package. Questions on the suitability of any Component will be resolved by the Building Designer.
- 5. The Building Designer and Contractor are responsible for all temporary and permanent bracing.
- 6. The Placement Plan assumes the building is dimensionally correct, structurally sound, and in a suitable condition to support each Component during installation and thereafter, including but not limited to installation of all bearing points. Proper design and construction of all structural components, including foundations, headers, beams, walls and columns are the responsibility of the Owner, Building Designer and Contractor.
- 7. Do not cut, drill, or modify any Component without first consulting the Component Manufacturer or Building Designer. Damaged Components shall not be installed unless directed by the Building Designer or approved by the Component Manufacturer.
- 8. Components must be handled and installed following all applicable safety standards and best practices, including but not limited to BCSI, OSHA, TPI and local codes. Failure to properly handle, brace or otherwise install Component can result in serious injury or death.
- 9. All uplift connectors shown within these documents are recommendations only. Per ANSI/TPI 1, all uplift connectors are the responsibility of the building designer and or contractor.

Approved By:	Date:	
TIPPIOTOG BY:		





RE: 25100133

27 Cross Creek - Hanover A3 - Roof

Trenco 818 Soundside Rd Edenton, NC 27932

Site Information:

Customer: DR Horton Inc Project Name: 25100133 Lot/Block: 27 Model: H Model: Hanover A3 Address: Subdivision: Cross Creek

City: State:

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

Design Code: IRC2021/TPI2014 Design Program: MiTek 20/20 8.7

Wind Code: ASCE 7-16 Wind Speed: 130 mph Floor Load: N/A psf Roof Load: 40.0 psf

This package includes 17 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	177132279	A01	10/17/2025
2	177132280	A02	10/17/2025
3	177132281	A02P	10/17/2025
4	177132282	A03	10/17/2025
5	177132283	A03P	10/17/2025
6	177132284	A04	10/17/2025
7	177132285	A05	10/17/2025
8	177132286	B01	10/17/2025
9	177132287	B02	10/17/2025
10	177132288	C01	10/17/2025
11	177132289	C02	10/17/2025
12	177132290	C03	10/17/2025
13	177132291	V01	10/17/2025
14	177132292	V02	10/17/2025
15	177132293	V03	10/17/2025
16	177132294	V04	10/17/2025
17	177132295	V05	10/17/2025

The truss drawing(s) referenced above have been prepared by

Truss Engineering Co. under my direct supervision

based on the parameters provided by Carter Components (Sanford, NC)).

Truss Design Engineer's Name: Sevier, Scott

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

North Carolina COA: C-0844

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



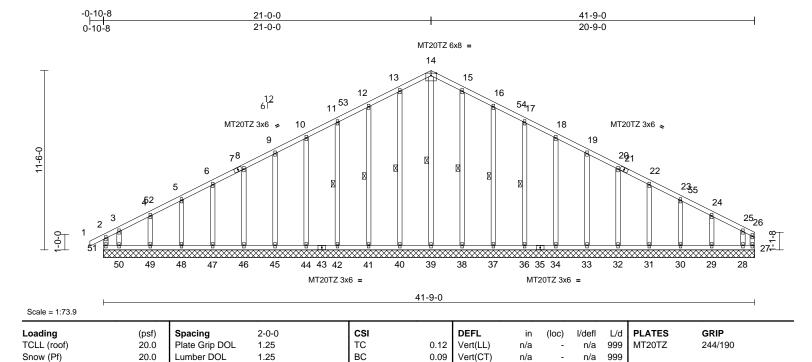
October 17, 2025

Job Truss Truss Type Qty Ply 27 Cross Creek - Hanover A3 - Roof 177132279 25100133 A01 Common Supported Gable Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:25 ID:zgjStoPZF6y\_dmtvQ9Hai?zE3jt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



WB

Matrix-MR

LUMBER TOP CHORD 2x4 SP No.2 **BOT CHORD** 2x4 SP No.2 2x4 SP No 2 WFBS OTHERS 2x4 SP No.2 **BRACING** TOP CHORD Sheathed or 6-0-0 oc purlins, except end verticals

10.0

0.0

10.0

BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. WFBS

1 Row at midpt 14-39, 13-40, 12-41 11-42, 15-38, 16-37,

17-36

Rep Stress Incr

Code

YES

IRC2021/TPI2014

**FORCES** 

TOP CHORD

**BOT CHORD** 

27=41-9-0, 28=41-9-0, 29=41-9-0, REACTIONS (size) 30=41-9-0, 31=41-9-0, 32=41-9-0, 33=41-9-0. 34=41-9-0. 36=41-9-0. 37=41-9-0 38=41-9-0 39=41-9-0 40=41-9-0, 41=41-9-0, 42=41-9-0, 44=41-9-0, 45=41-9-0, 46=41-9-0, 47=41-9-0, 48=41-9-0, 49=41-9-0,

50=41-9-0, 51=41-9-0

Max Horiz 51=235 (LC 15)

Max Uplift 27=-155 (LC 15), 28=-120 (LC 16), 29=-21 (LC 16), 30=-25 (LC 16), 31=-24 (LC 16), 32=-24 (LC 16), 33=-24 (LC 16), 34=-24 (LC 16), 36=-23 (LC 16), 37=-29 (LC 16), 38=-13 (LC 16), 40=-13 (LC 16), 41=-29 (LC 16), 42=-23 (LC 16), 44=-24 (LC 16), 45=-24 (LC 16), 46=-24 (LC 16), 47=-24 (LC 16), 48=-25 (LC 16), 49=-20 (LC 16), 50=-116 (LC 15), 51=-159 (LC 14)

Max Grav 27=151 (LC 14), 28=219 (LC 25), 29=166 (LC 22), 30=159 (LC 1), 31=160 (LC 22), 32=160 (LC 35), 33=161 (LC 22), 34=160 (LC 35), 36=179 (LC 22), 37=230 (LC 22), 38=244 (LC 22), 39=209 (LC 16), 40=241 (LC 21), 41=224 (LC 21), 42=172 (LC 21), 44=160 (LC 34), 45=160 (LC 21), 46=160 (LC 34), 47=161 (LC 21), 48=158 (LC 24), 49=169 (LC 21), 50=222 (LC 14), 51=241 (LC 25)

0.15

Horz(CT)

-0.01

(lb) - Maximum Compression/Maximum Tension

2-51=-179/96, 1-2=0/46, 2-3=-190/177, 3-4=-149/143, 4-5=-143/133, 5-6=-131/122, 6-8=-120/111, 8-9=-110/150, 9-10=-99/196, 10-11=-94/241, 11-12=-110/286, 12-13=-127/333, 13-14=-142/373, 14-15=-142/373, 15-16=-127/333,

16-17=-110/286, 17-18=-94/241, 18-19=-79/196, 19-20=-63/150, 20-22=-53/105, 22-23=-61/60, 23-24=-69/59, 24-25=-77/70, 25-26=-153/99, 26-27=-129/86

50-51=-84/106, 49-50=-84/106, 48-49=-84/106, 47-48=-84/106, 46-47=-84/106, 45-46=-84/106, 44-45=-84/106, 42-44=-84/106, 41-42=-84/106, 40-41=-84/106, 39-40=-84/106, 38-39=-84/106, 37-38=-84/106, 36-37=-84/106,

34-36=-84/106, 33-34=-84/106, 32-33=-84/106, 31-32=-84/106, 30-31=-84/106, 29-30=-84/106, 28-29=-84/106, 27-28=-84/106

14-39=-257/63, 13-40=-201/62, **WEBS** 12-41=-184/85, 11-42=-132/76,

Weight: 314 lb

10-44=-120/77, 9-45=-120/77, 8-46=-120/77, 6-47=-120/78, 5-48=-119/77, 4-49=-126/107, 3-50=-124/132, 15-38=-204/62, 16-37=-190/85, 17-36=-139/76, 18-34=-120/77, 19-33=-121/77,

FT = 20%

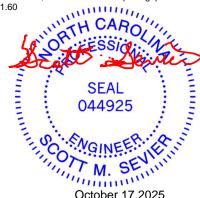
20-32=-120/78, 22-31=-120/77 23-30=-119/89, 24-29=-124/126, 25-28=-135/171

### NOTES

27

n/a n/a

- Unbalanced roof live loads have been considered for 1) this design
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=42ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -0-10-8 to 3-3-10, Exterior(2N) 3-3-10 to 21-0-0, Corner(3R) 21-0-0 to 25-0-0, Exterior(2N) 25-0-0 to 41-7-4 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



October 17,2025

Continued on page 2

**TCDL** 

**BCLL** 

BCDL

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/TP11 Quality Criteria and DSB-22 available from Truss Plate Institute (www.tpinst.org) and BCSI Building Component Safety Information available from the Structural Building Component Association (www.sbcacomponents.com)



Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	A01	Common Supported Gable	1	1	Job Reference (optional)	177132279

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:25 ID:zgjStoPZF6y\_dmtvQ9Hai?zE3jt-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 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.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); 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.
- All plates are 2x4 MT20TZ 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).
- 10) Gable studs spaced at 2-0-0 oc.
- 11) This truss has been designed for a 10.0 psf bottom
- chord live load nonconcurrent with any other live loads.

  12) \* 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.
- 13) All bearings are assumed to be SP No.2 .
- 14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 159 lb uplift at joint 51, 155 lb uplift at joint 27, 13 lb uplift at joint 40, 29 lb uplift at joint 41, 23 lb uplift at joint 42, 24 lb uplift at joint 44, 24 lb uplift at joint 45, 24 lb uplift at joint 46, 24 lb uplift at joint 47, 25 lb uplift at joint 48, 20 lb uplift at joint 49, 116 lb uplift at joint 50, 13 lb uplift at joint 38, 29 lb uplift at joint 37, 23 lb uplift at joint 36, 24 lb uplift at joint 34, 24 lb uplift at joint 33, 24 lb uplift at joint 32, 24 lb uplift at joint 31, 25 lb uplift at joint 30, 21 lb uplift at joint 29 and 120 lb uplift at joint 28.

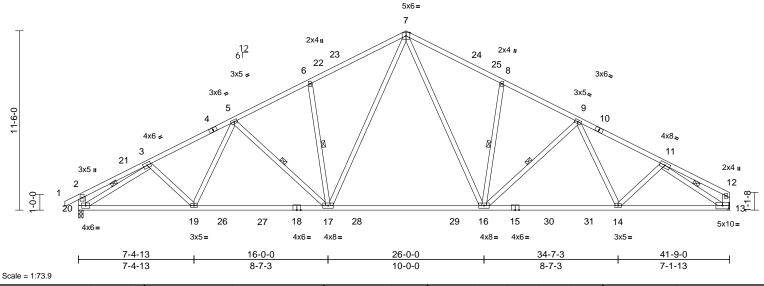
LOAD CASE(S) Standard

818 Soundside Road Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	A02	Common	9	1	Job Reference (optional)	177132280

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:26 ID:u\_kV0Ec9oqeLicqDZI5514zE3kv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f





Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.84	Vert(LL)	-0.39	16-17	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.92	Vert(CT)	-0.65	16-17	>759	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.59	Horz(CT)	0.14	13	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 263 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 \*Except\* 4-7.10-7:2x4 SP No.1 **BOT CHORD** 2x4 SP No.1 \*Except\* 15-13:2x4 SP No.2 WFBS 2x4 SP No.3 \*Except\* 20-2,13-12:2x6 SP

**BRACING** 

TOP CHORD Sheathed or 2-2-0 oc purlins, except end

verticals

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

1 Row at midpt

WFRS 6-17, 8-16, 5-17, 9-16, 3-20. 11-13

REACTIONS (size) 13= Mechanical, 20=0-3-8

Max Horiz 20=237 (LC 15) Max Uplift 13=-100 (LC 16), 20=-135 (LC 16)

Max Grav 13=1891 (LC 25), 20=1952 (LC 24)

**FORCES** (lb) - Maximum Compression/Maximum

Tension

TOP CHORD

1-2=0/49, 2-3=-407/68, 3-5=-2935/258,

5-6=-2500/283, 6-7=-2491/356, 7-8=-2477/357, 8-9=-2486/284,

9-11=-2863/260, 11-12=-270/48, 2-20=-356/116, 12-13=-211/48

**BOT CHORD** 19-20=-208/2600, 17-19=-159/2617,

16-17=-32/1799, 14-16=-149/2425, 13-14=-197/2313

6-17=-424/158, 8-16=-438/158, 3-19=0/226,

5-19=0/214, 5-17=-436/92, 7-17=-108/1117, 7-16=-106/1089, 9-16=-394/91, 9-14=0/172,

11-14=0/284, 3-20=-2601/204,

11-13=-2650/229

### NOTES

**WEBS** 

Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=42ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 3-3-10, Interior (1) 3-3-10 to 21-0-0, Exterior(2R) 21-0-0 to 25-2-2, Interior (1) 25-2-2 to 41-6-4 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=1.25 Plate DOL=1.25); 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
- 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
- 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 20 SP No.1.
- Refer to girder(s) for truss to truss connections.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint 13
- 11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 20. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



October 17,2025

Page: 1

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/TP11 Quality Criteria and DSB-22 available from Truss Plate Institute (www.tpinst.org) and BCSI Building Component Safety Information available from the Structural Building Component Association (www.sbcacomponents.com)

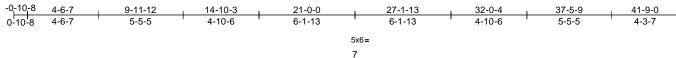


Job Truss Truss Type Qtv Ply 27 Cross Creek - Hanover A3 - Roof 177132281 25100133 A02P Common Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:26 ID:rvv6aX1IJuAE09a8gskYUgzE3kL-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

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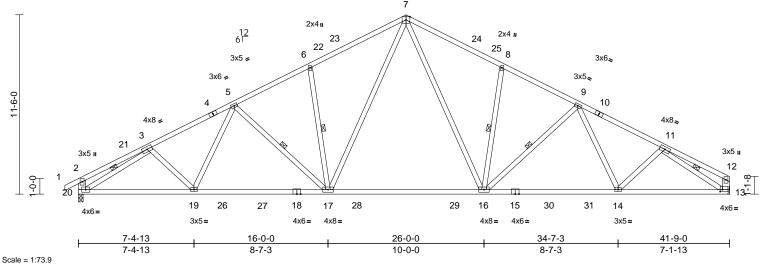


Plate Offsets (X, Y): [13:0-1-12,0-1-8]

Loading	(psf)	Spacing	2-3-0	CSI		DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.65	Vert(LL)	-0.36	16-17	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.78	Vert(CT)	-0.61	16-17	>814	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.66	Horz(CT)	0.13	13	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 263 lb	FT = 20%

### LUMBER

2x4 SP No.2 \*Except\* 4-7,10-7:2x4 SP 2400F TOP CHORD

2.0E

**BOT CHORD** 2x4 SP 2400F 2.0E \*Except\* 15-13:2x4 SP

No.1

**WEBS** 2x4 SP No.3 \*Except\* 20-2,13-12:2x6 SP

BRACING

WFBS

TOP CHORD Sheathed or 2-9-4 oc purlins, except end

verticals

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc

bracing.

1 Row at midpt 6-17. 8-16. 5-17. 9-16.

3-20, 11-13

13= Mechanical, 20=0-3-8 REACTIONS (size)

Max Horiz 20=266 (LC 15)

Max Uplift 13=-112 (LC 16), 20=-152 (LC 16)

Max Grav 13=2128 (LC 25), 20=2196 (LC 24)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD

1-2=0/56, 2-3=-470/78, 3-5=-3301/290, 5-6=-2813/318, 6-7=-2801/400,

7-8=-2786/401, 8-9=-2797/319, 9-11=-3220/293, 11-12=-309/55,

2-20=-406/132, 12-13=-241/55

19-20=-233/2925, 17-19=-180/2946,

16-17=-35/2025, 14-16=-168/2730, 13-14=-222/2602

WEBS 6-17=-472/176, 8-16=-488/176, 3-19=0/253,

5-19=0/239, 5-17=-494/105, 7-17=-121/1254,

7-16=-118/1224, 9-16=-447/104, 9-14=0/192,

11-14=0/320, 3-20=-2913/227,

11-13=-2975/256

### NOTES

**BOT CHORD** 

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

- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=42ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 3-3-10. Interior (1) 3-3-10 to 21-0-0. Exterior(2R) 21-0-0 to 25-2-2, Interior (1) 25-2-2 to 41-6-4 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=1.25 Plate DOL=1.25); 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
- 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.
- 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 20 SP 2400F 2.0E .
- Refer to girder(s) for truss to truss connections.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 112 lb uplift at joint
- 11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 20. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard



October 17,2025

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

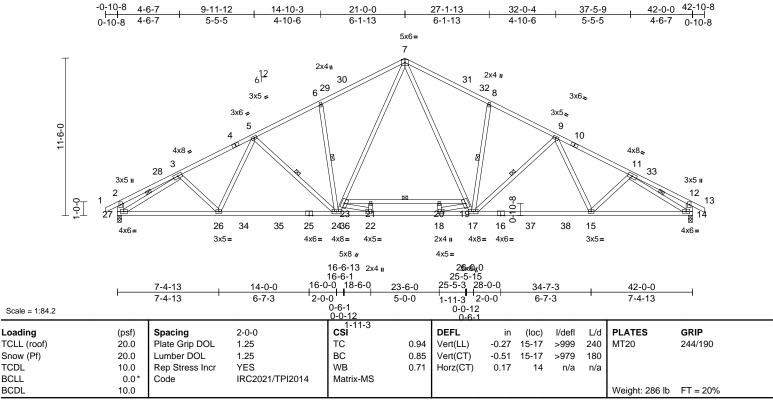
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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/TP11 Quality Criteria and DSB-22 available from Truss Plate Institute (www.tpinst.org) and BCSI Building Component Safety Information available from the Structural Building Component Association (www.sbcacomponents.com)



Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	A03	Common	4	1	Job Reference (optional)	I77132282

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:26 ID:QD2r?32B9vm44cAdU9SchBzE3yX-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



LUMBER

WEBS

TOP CHORD

**WEBS** 

2x4 SP No.1 \*Except\* 1-4,10-13:2x4 SP No.2 TOP CHORD **BOT CHORD** 2x4 SP No.1 \*Except\* 23-19:2x4 SP No.2 WFBS 2x4 SP No.3 \*Except\* 27-2,14-12:2x6 SP

**BRACING** TOP CHORD

Sheathed, except end verticals. BOT CHORD Rigid ceiling directly applied or 10-0-0 oc

bracing, Except:

6-0-0 oc bracing: 21-23,19-20

5-7-9 oc bracing: 20-21. 1 Row at midpt

5-24, 6-24, 8-17, 9-17, 3-27, 11-14

REACTIONS (size) 14=0-3-8, 27=0-3-8

Max Horiz 27=-237 (LC 14)

Max Grav 14=2244 (LC 25), 27=2244 (LC 24)

**FORCES** (lb) - Maximum Compression/Maximum

Tension

1-2=0/49, 2-3=-436/49, 3-5=-3473/0,

5-6=-3076/0, 6-7=-3066/51, 7-8=-3066/51. 8-9=-3075/0, 9-11=-3473/0, 11-12=-436/49, 12-13=0/49, 2-27=-375/105, 12-14=-375/105

BOT CHORD 26-27=0/3030, 24-26=0/3121, 22-24=0/2125,

18-22=0/2939, 17-18=0/2166, 15-17=0/2965, 14-15=0/2852, 21-23=-910/0, 20-21=-910/0,

19-20=-910/0

7-19=0/1380, 17-19=-153/1099

23-24=-153/1102, 7-23=0/1380, 3-26=0/307, 5-26=0/175, 5-24=-412/110, 6-24=-436/159, 8-17=-436/159, 9-17=-413/110, 9-15=0/183, 11-15=0/307, 21-22=-226/0, 22-23=0/1017, 18-20=-226/0, 18-19=0/1017, 3-27=-3087/0,

11-14=-3088/0

NOTES

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) 2) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=42ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 3-3-14, Interior (1) 3-3-14 to 21-0-0, Exterior(2R) 21-0-0 to 25-2-6, Interior (1) 25-2-6 to 42-10-8 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=1.25 Plate DOL=1.25); 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
- 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
- 200.0lb AC unit load placed on the bottom chord, 21-0-0 from left end, supported at two points, 5-0-0 apart.
- 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 No.1.

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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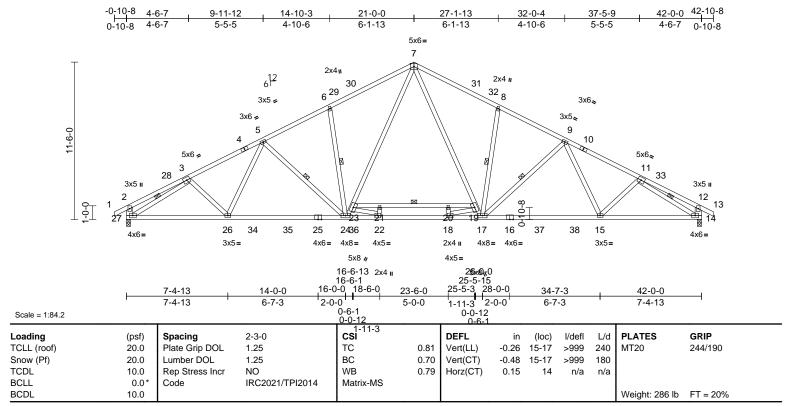


Job Truss Truss Type Qtv Ply 27 Cross Creek - Hanover A3 - Roof 177132283 25100133 A03P Common Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:27 ID:OVsbPRW5f50v5Cwu337\_5jzE3we-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



LUMBER

TOP CHORD 2x4 SP No.2 \*Except\* 4-7,10-7:2x4 SP 2400F

2 0F

2x4 SP 2400F 2.0E \*Except\* 23-19:2x4 SP BOT CHORD No.2

WFBS 2x4 SP No.3 \*Except\* 27-2,14-12:2x6 SP

**BRACING** 

TOP CHORD Sheathed or 2-4-3 oc purlins, except end

verticals BOT CHORD

Rigid ceiling directly applied or 10-0-0 oc

bracing, Except:

5-8-12 oc bracing: 21-23,19-20 5-3-15 oc bracing: 20-21.

WFBS 1 Row at midpt

6-24, 8-17, 5-24, 9-17, 3-27, 11-14

**REACTIONS** (size) 14=0-3-8, 27=0-3-8

Max Horiz 27=-267 (LC 14)

Max Grav 14=2512 (LC 25), 27=2512 (LC 24)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD

**BOT CHORD** 

1-2=0/56, 2-3=-504/58, 3-5=-3883/2,

5-6=-3436/1, 6-7=-3424/82, 7-8=-3424/82

8-9=-3435/1, 9-11=-3883/2, 11-12=-504/57 12-13=0/56 2-27=-428/120 12-14=-427/120

26-27=0/3390, 24-26=0/3492, 22-24=0/2372,

18-22=0/3259, 17-18=0/2417, 15-17=0/3316, 14-15=0/3191, 21-23=-991/0, 20-21=-991/0,

19-20=-991/0

6-24=-485/177, 8-17=-485/177, 3-26=0/341,

5-26=0/196, 5-24=-469/124,

23-24=-170/1239, 7-23=0/1539, 7-19=0/1539, 17-19=-169/1237, 9-17=-469/124,

9-15=0/206, 11-15=0/341, 21-22=-256/0,

22-23=0/1111, 18-20=-256/0, 18-19=0/1111,

3-27=-3437/0, 11-14=-3438/0

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

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=42ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 3-3-14, Interior (1) 3-3-14 to 21-0-0, Exterior(2R) 21-0-0 to 25-2-6. Interior (1) 25-2-6 to 42-10-8 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 DOI =1 60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); 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
- 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
- 200.0lb AC unit load placed on the bottom chord, 21-0-0 from left end, supported at two points, 5-0-0 apart.
- 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 2400F 2.0E .

LOAD CASE(S) Standard



NOTES

**WEBS** 

a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overal 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/TP11 Quality Criteria and DSB-22 available from Truss Plate Institute (www.tpinst.org) and BCSI Building Component Safety Information available from the Structural Building Component Association (www.sbcacomponents.com)

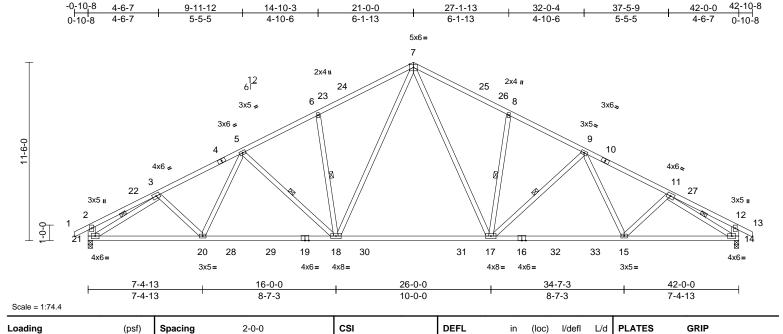


Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	A04	Common	3	1	Job Reference (optional)	I77132284

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:27 ID:TKxf7yldW0hQhivavtKSf6zE3m0-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

42-10-8 32-0-4 42-0-0 27-1-13

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LUMBER

TCLL (roof)

Snow (Pf)

**TCDL** 

**BCLL** 

BCDL

2x4 SP No.2 \*Except\* 4-7,10-7:2x4 SP No.1 TOP CHORD

20.0

20.0

10.0

10.0

0.0

**BOT CHORD** 2x4 SP No.1 WFBS

2x4 SP No.3 \*Except\* 21-2,14-12:2x6 SP

No 2

**BRACING** TOP CHORD Sheathed or 2-2-0 oc purlins, except end

verticals

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing

1 Row at midpt

WFRS 6-18, 8-17, 5-18, 9-17,

3-21, 11-14

Plate Grip DOL

Rep Stress Incr

Lumber DOL

Code

1.25

1 25

YES

IRC2021/TPI2014

REACTIONS (size) 14=0-3-8, 21=0-3-8

Max Horiz 21=237 (LC 15)

Max Uplift 14=-135 (LC 16), 21=-135 (LC 16) Max Grav 14=1963 (LC 25), 21=1963 (LC 24)

(lb) - Maximum Compression/Maximum

**FORCES** Tension

TOP CHORD 1-2=0/49, 2-3=-409/68, 3-5=-2954/259,

5-6=-2521/284, 6-7=-2512/357,

7-8=-2512/357, 8-9=-2521/284, 9-11=-2954/259, 11-12=-409/68, 12-13=0/49,

2-21=-357/116, 12-14=-357/116

20-21=-172/2621, 18-20=-123/2642

17-18=0/1825, 15-17=-112/2486,

14-15=-160/2444

6-18=-436/158, 8-17=-436/158, 3-20=0/229

5-20=0/212, 5-18=-435/92, 7-18=-108/1117, 7-17=-108/1116, 9-17=-435/92, 9-15=0/212,

11-15=0/229, 3-21=-2617/205,

11-14=-2618/205

### NOTES

**WEBS** 

**BOT CHORD** 

Unbalanced roof live loads have been considered for this design.

Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=42ft; eave=5ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 3-3-14, Interior (1) 3-3-14 to 21-0-0, Exterior(2R) 21-0-0 to 25-2-6, Interior (1) 25-2-6 to 42-10-8 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

0.84

0.92

0.60

Vert(LL)

Vert(CT)

Horz(CT)

-0.39

-0.66

0.13

17-18

17-18

14

>999

>754

n/a n/a

240

180

MT20

Weight: 265 lb

244/190

FT = 20%

TC

BC

WB

Matrix-MS

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); 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
- 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
- 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 No.1.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at it(s) 21 and 14. This connection is for uplift only and does not consider lateral forces.

LOAD CASE(S) Standard





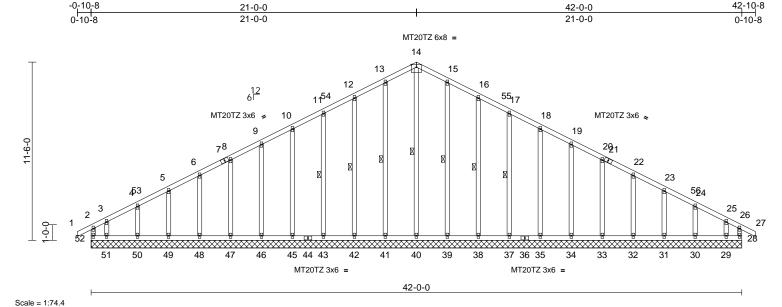
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Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	A05	Common Supported Gable	1	1	Job Reference (optional)	l77132285

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:27 ID:zmq982DDE?WLnC4\_PRVWSLzE3ip-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f Page: 1



Loading	(psf)	Spacing	2-0-0	csı		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20TZ	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	-0.01	28	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 316 lb	FT = 20%

BOT	Cl	HORD	2x4
WEE	38		2x4

4 SP No.2 4 SP No.2 OTHERS 2x4 SP No.2

### **BRACING** TOP CHORD

WFBS

BOT CHORD

LUMBER

TOP CHORD

Sheathed or 6-0-0 oc purlins, except end

verticals

2x4 SP No.2

Rigid ceiling directly applied or 6-0-0 oc bracing.

1 Row at midpt 14-40, 13-41, 12-42,

11-43, 15-39, 16-38, 17-37

28=42-0-0, 29=42-0-0, 30=42-0-0, REACTIONS (size) 31=42-0-0, 32=42-0-0, 33=42-0-0, 34=42-0-0, 35=42-0-0, 37=42-0-0, 38=42-0-0, 39=42-0-0, 40=42-0-0, 41=42-0-0, 42=42-0-0, 43=42-0-0, 45=42-0-0, 46=42-0-0, 47=42-0-0, 48=42-0-0, 49=42-0-0, 50=42-0-0, 51=42-0-0, 52=42-0-0

Max Horiz 52=236 (LC 15)

Max Uplift 28=-69 (LC 15), 29=-79 (LC 12), 30=-20 (LC 16), 31=-25 (LC 16), 32=-24 (LC 16), 33=-24 (LC 16), 34=-24 (LC 16), 35=-24 (LC 16), 37=-23 (LC 16), 38=-29 (LC 16), 39=-13 (LC 16), 41=-13 (LC 16), 42=-29 (LC 16), 43=-23 (LC 16), 45=-24 (LC 16), 46=-24 (LC 16), 47=-24 (LC 16), 48=-24 (LC 16), 49=-25 (LC 16), 50=-20 (LC 16), 51=-109 (LC 15), 52=-157 (LC 14) Max Grav 28=164 (LC 28), 29=159 (LC 29), 30=168 (LC 22), 31=158 (LC 1), 32=160 (LC 22), 33=160 (LC 35), 34=161 (LC 22), 35=160 (LC 35), 37=179 (LC 22), 38=230 (LC 22), 39=244 (LC 22), 40=212 (LC 16), 41=244 (LC 21), 42=230 (LC 21), 43=179 (LC 21), 45=160 (LC 34), 46=161 (LC 21), 47=160 (LC 34), 48=160 (LC 21), 49=158 (LC 24), 50=168 (LC 21), 51=220 (LC 14), 52=230 (LC 29)

**FORCES** (lb) - Maximum Compression/Maximum Tension TOP CHORD

2-52=-172/94, 1-2=0/46, 2-3=-182/175, 3-4=-142/141, 4-5=-135/131, 5-6=-124/120, 6-8=-113/109, 8-9=-102/150, 9-10=-92/195, 10-11=-89/240, 11-12=-107/285, 12-13=-127/333, 13-14=-143/372, 14-15=-143/372, 15-16=-127/333,

16-17=-107/285, 17-18=-89/240, 18-19=-72/195, 19-20=-57/150, 20-22=-52/105, 22-23=-60/59, 23-24=-71/66,

24-25=-78/77, 25-26=-121/97, 26-27=0/46, 26-28=-150/34 **BOT CHORD** 51-52=-91/124, 50-51=-91/124,

49-50=-91/124, 48-49=-91/124, 47-48=-91/124, 46-47=-91/124,

45-46=-91/124, 43-45=-91/124, 42-43=-91/124, 41-42=-91/124, 40-41=-91/124, 39-40=-91/124, 38-39=-91/124, 37-38=-91/124, 35-37=-91/124, 34-35=-91/124, 33-34=-91/124, 32-33=-91/124, 31-32=-91/124, 30-31=-91/124,

29-30=-91/124, 28-29=-91/124

**WEBS** 14-40=-256/64, 13-41=-204/62, 12-42=-190/85, 11-43=-139/76,

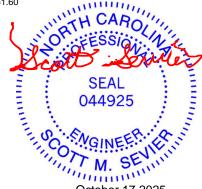
10-45=-120/77, 9-46=-121/77, 8-47=-120/77, 6-48=-120/78, 5-49=-119/77, 4-50=-126/108, 3-51=-125/132, 15-39=-204/62, 16-38=-190/85, 17-37=-139/76,

18-35=-120/77, 19-34=-121/77, 20-33=-120/77, 22-32=-120/78, 23-31=-119/77, 24-30=-126/108,

25-29=-100/133

### NOTES

- Unbalanced roof live loads have been considered for 1) this design
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=42ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -0-10-8 to 3-3-14, Exterior(2N) 3-3-14 to 21-0-0, Corner(3R) 21-0-0 to 25-0-0, Exterior(2N) 25-0-0 to 42-10-8 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



October 17,2025

### Continued on page 2

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	27 Cross Creek - Hanover A3 - Roof	
25100133	A05	Common Supported Gable	1	1	Job Reference (optional)	l77132285

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:27 ID:zmq982DDE?WLnC4\_PRVWSLzE3ip-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); 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.
- All plates are 2x4 MT20TZ 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).
- 10) Gable studs spaced at 2-0-0 oc.
- 11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

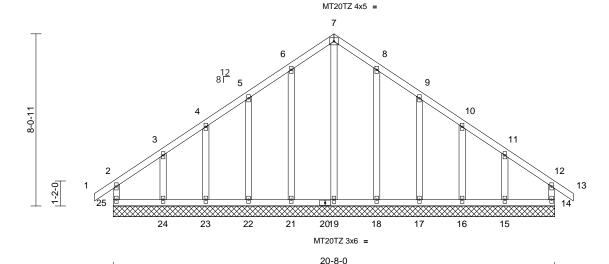
  12) \* This truss has been designed for a live load of 20.0psf
- on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 13) All bearings are assumed to be SP No.2 .
- 14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 157 lb uplift at joint 52, 69 lb uplift at joint 28, 13 lb uplift at joint 41, 29 lb uplift at joint 42, 23 lb uplift at joint 43, 24 lb uplift at joint 45, 24 lb uplift at joint 46, 24 lb uplift at joint 47, 24 lb uplift at joint 48, 25 lb uplift at joint 49, 20 lb uplift at joint 50, 109 lb uplift at joint 51, 13 lb uplift at joint 39, 29 lb uplift at joint 38, 23 lb uplift at joint 37, 24 lb uplift at joint 35, 24 lb uplift at joint 34, 24 lb uplift at joint 33, 24 lb uplift at joint 32, 25 lb uplift at joint 31, 20 lb uplift at joint 30 and 79 lb uplift at joint 29.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	B01	Common Supported Gable	1	1	Job Reference (optional)	I77132286

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:27 ID:n7hZNsp0jLlyowdBpmiFZMzE3WR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f





Scale = 1:53.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.13	Vert(LL)	n/a	-	n/a	999	MT20TZ	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 134 lb	FT = 20%

### LUMBER

TOP CHORD 2x4 SP No.2 **BOT CHORD** 2x4 SP No.2 2x4 SP No 2 WFBS OTHERS 2x4 SP No 2

### BRACING

TOP CHORD Sheathed or 6-0-0 oc purlins, except end

verticals

BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

### REACTIONS (size)

14=20-8-0, 15=20-8-0, 16=20-8-0, 17=20-8-0, 18=20-8-0, 19=20-8-0, 21=20-8-0, 22=20-8-0, 23=20-8-0, 24=20-8-0, 25=20-8-0

Max Horiz 25=180 (LC 13)

Max Uplift 14=-43 (LC 14), 15=-50 (LC 14),

16=-30 (LC 14), 17=-40 (LC 14), 18=-28 (LC 14), 21=-28 (LC 14), 22=-40 (LC 14), 23=-30 (LC 14),

24=-50 (LC 11), 25=-45 (LC 10)

Max Grav 14=169 (LC 20), 15=209 (LC 21), 16=159 (LC 1), 17=164 (LC 21), 18=169 (LC 21), 19=220 (LC 14), 21=169 (LC 20), 22=165 (LC 20),

23=159 (LC 1), 24=217 (LC 20), 25=183 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-25=-147/100, 1-2=0/57, 2-3=-116/101,

3-4=-81/105, 4-5=-88/163, 5-6=-121/227, 6-7=-153/283, 7-8=-153/283, 8-9=-121/227, 9-10=-88/163, 10-11=-68/105, 11-12=-96/80,

12-13=0/57, 12-14=-136/97

**BOT CHORD** 24-25=-82/83, 23-24=-82/83, 22-23=-82/83, 21-22=-82/83, 19-21=-82/83, 18-19=-82/83,

17-18=-82/83, 16-17=-82/83, 15-16=-82/83,

14-15=-82/83

**WEBS** 

7-19=-248/77, 6-21=-130/77, 5-22=-122/92, 4-23=-120/81, 3-24=-151/106, 8-18=-129/77, 9-17=-122/92, 10-16=-120/81, 11-15=-146/105

### NOTES

- Unbalanced roof live loads have been considered for 1) this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -0-10-8 to 2-4-0, Exterior(2N) 2-4-0 to 10-4-0, Corner(3R) 10-4-0 to 13-4-0. Exterior(2N) 13-4-0 to 21-6-8 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=1.25 Plate DOL=1.25); 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
- 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.
- All plates are 2x4 MT20TZ 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.
- 10) 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.

- 12) All bearings are assumed to be SP No.2
- 13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 25, 43 lb uplift at joint 14, 28 lb uplift at joint 21, 40 lb uplift at joint 22, 30 lb uplift at joint 23, 50 lb uplift at joint 24, 28 lb uplift at joint 18, 40 lb uplift at joint 17, 30 lb uplift at joint 16 and 50 lb uplift at joint 15.

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LOAD CASE(S) Standard



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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TP11 Quality Criteria and DSB-22 available from Truss Plate Institute (www.tpinst.org) and BCSI Building Component Safety Information available from the Structural Building Component Association (www.sbcacomponents.com)

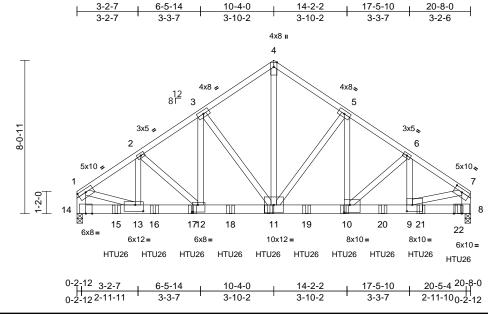


Job Truss Truss Type Qtv Ply 27 Cross Creek - Hanover A3 - Roof 177132287 25100133 B<sub>0</sub>2 Common Girder 2 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:28 ID:6\_GiATa7JDOEJHiYMrQPH5zBVIW-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:60.5

Plate Offsets (X, Y): [1:0-5-0,0-2-0], [7:0-5-0,0-2-0], [9:0-3-8,0-4-0], [10:0-3-8,0-4-12], [12:0-3-8,0-4-8], [13:0-5-0,0-4-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.60	Vert(LL)	-0.13	10-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.52	Vert(CT)	-0.24	10-11	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.98	Horz(CT)	0.05	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 318 lb	FT = 20%

### LUMBER

2x4 SP No.2 TOP CHORD BOT CHORD 2x6 SP 2400F 2.0E

**WEBS** 2x4 SP No.3 \*Except\* 14-1,8-7:2x6 SP No.2, 13-1,9-7:2x4 SP No.2, 11-4:2x4 SP No.1

BRACING

TOP CHORD Sheathed or 3-4-11 oc purlins, except end

verticals

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc

bracing REACTIONS (size)

8=0-3-8, 14=0-3-8 Max Horiz 14=164 (LC 9)

Max Uplift 8=-660 (LC 10), 14=-566 (LC 10) Max Grav 8=11030 (LC 16), 14=9375 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum

Tension

TOP CHORD 1-2=-10729/671, 2-3=-10476/693,

3-4=-8309/601, 4-5=-8309/601,

5-6=-10606/700, 6-7=-10891/680, 1-14=-8474/529, 7-8=-8569/534

**BOT CHORD** 13-14=-133/1108, 12-13=-501/8961, 10-12=-466/8823, 9-10=-508/8995,

8-9=-62/1126

**WEBS** 1-13=-467/8227, 7-9=-467/8234,

2-13=-37/228, 2-12=-243/55,

3-11=-3057/247, 3-12=-185/3448,

4-11=-591/8936, 5-11=-3235/258,

5-10=-197/3661, 6-10=-277/57, 6-9=-36/269

### **NOTES**

1) 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, 2x6 - 2 rows staggered at 0-9-0 oc. Bottom chords connected as follows: 2x6 - 3 rows

staggered at 0-4-0 oc.

Web connected as follows: 2x4 - 1 row at 0-9-0 oc.

- 2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); 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
- 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) 14, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 14 and 8. This connection is for uplift only and does not consider lateral forces.
- 11) Use Simpson Strong-Tie HTU26 (20-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 20-0-12 to connect truss(es) to back face of bottom chord.
- 12) 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: 1-4=-60, 4-7=-60, 8-14=-20

Concentrated Loads (lb)

Vert: 11=-1631 (B), 10=-1631 (B), 15=-1631 (B), 16=-1631 (B), 17=-1631 (B), 18=-1631 (B), 19=-1631 (B), 20=-1631 (B), 21=-1631 (B), 22=-1842 (B)



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/TP11 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)



Ī	Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
	25100133	C01	Monopitch Supported Gable	1	1	Job Reference (optional)	177132288

-0-10-8

0-10-8

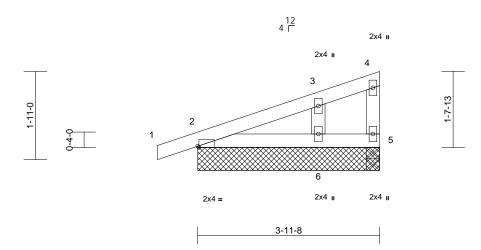
Carter Components (Sanford, NC), Sanford, NC - 27332,

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3-11-8

3-11-8



Scale = 1:25.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.11	Vert(LL)	-0.01	10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.16	Vert(CT)	-0.02	10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 16 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 Sheathed or 3-11-8 oc purlins, except end

verticals.

**BOT CHORD** Rigid ceiling directly applied or 10-0-0 oc

bracing.

REACTIONS (size) 2=3-11-8, 5=3-11-8, 6=3-11-8

Max Horiz 2=49 (LC 16)

Max Uplift 2=-30 (LC 16)

Max Grav 2=213 (LC 21), 5=78 (LC 7), 6=262

(LC 21)

**FORCES** (lb) - Maximum Compression/Maximum

Tension

TOP CHORD 1-2=0/28, 2-3=-53/38, 3-4=-28/1, 4-5=-13/20

**BOT CHORD** 2-6=-21/41, 5-6=0/0 WEBS 3-6=-211/113

### NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 3-9-12 zone; cantilever 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=1.25 Plate DOL=1.25); 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.
- 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.
- Gable studs spaced at 1-4-0 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.
- 10) 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.

LOAD CASE(S) Standard



Page: 1

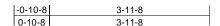
October 17,2025

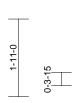


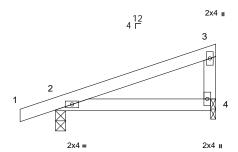
Job		Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
251	00133	C02	Monopitch	8	1	Job Reference (optional)	177132289

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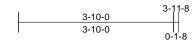
Page: 1











Scale = 1:28.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.26	Vert(LL)	0.02	4-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.22	Vert(CT)	-0.03	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 15 lb	FT = 20%

### LUMBER

TOP CHORD 2x4 SP No.2 **BOT CHORD** 2x4 SP No.2 2x4 SP No.3 WFBS

### **BRACING**

TOP CHORD Sheathed or 3-11-8 oc purlins, except end

verticals.

**BOT CHORD** Rigid ceiling directly applied or 10-0-0 oc

bracing.

**REACTIONS** (size) 2=0-3-0, 4=0-1-8

Max Horiz 2=49 (LC 16)

Max Uplift 2=-72 (LC 16), 4=-50 (LC 16) Max Grav 2=288 (LC 21), 4=194 (LC 21)

(lb) - Maximum Compression/Maximum

**FORCES** Tension

TOP CHORD 1-2=0/28, 2-3=-87/34, 3-4=-134/94

BOT CHORD 2-4=-63/68

### NOTES

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 3-9-12 zone; cantilever 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=1.25 Plate DOL=1.25); 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
- 3) 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.
- 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, Joint 4 SP No.3.
- Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- 10) 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.

LOAD CASE(S) Standard



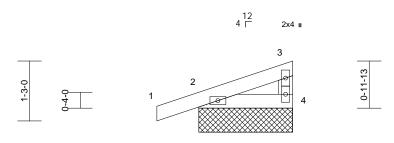
October 17,2025

Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	C03	Monopitch Supported Gable	1	1	Job Reference (optional)	177132290

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:28 

Page: 1

-0-10-8	1-11-8
0-10-8	1-11-8



2x4 II

2x4 =

Scale = 1:24.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 8 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 **BOT CHORD** 2x4 SP No.2 2x4 SP No.3 WFBS

**BRACING** 

TOP CHORD Sheathed or 1-11-8 oc purlins, except end

verticals.

**BOT CHORD** Rigid ceiling directly applied or 10-0-0 oc

bracing.

REACTIONS (size) 2=1-11-8, 4=1-11-8

Max Horiz 2=30 (LC 16) Max Uplift 2=-36 (LC 16)

Max Grav 2=178 (LC 21), 4=77 (LC 21) (lb) - Maximum Compression/Maximum

**FORCES** Tension

TOP CHORD 1-2=0/28, 2-3=-27/23, 3-4=-48/30

BOT CHORD 2-4=-25/29

### NOTES

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) zone; cantilever 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=1.25 Plate DOL=1.25); 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.
- 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 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 36 lb uplift at joint 2 and 36 lb uplift at joint 2.

LOAD CASE(S) Standard



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

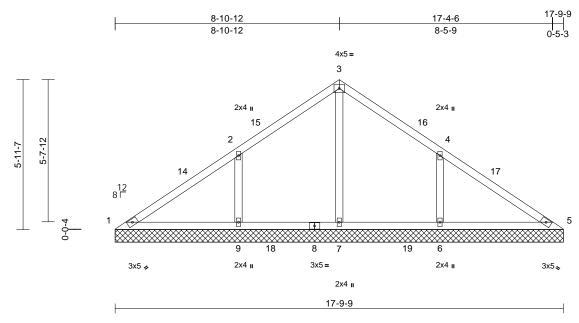
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent bucking 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/TP11 Quality Criteria and DSB-22 available from Truss Plate Institute (www.tpinst.org) and BCSI Building Component Safety Information available from the Structural Building Component Association (www.sbcacomponents.com)



Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	V01	Valley	1	1	Job Reference (optional)	177132291

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:28 ID:QnA7pubX1XVU4TF1?aasUtzE3kw-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:45.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.20	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.22	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 73 lb	FT = 20%

### LUMBER

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

### **BRACING**

TOP CHORD Sheathed or 10-0-0 oc purlins. BOT CHORD Rigid ceiling directly applied or 6-0-0 oc

bracing.

REACTIONS (size)

1=17-9-9, 5=17-9-9, 6=17-9-9, 7=17-9-9, 9=17-9-9

Max Horiz 1=-115 (LC 12)

Max Uplift 6=-90 (LC 14), 9=-90 (LC 14)

1=102 (LC 29), 5=102 (LC 30), Max Grav

6=513 (LC 20), 7=520 (LC 19),

9=514 (LC 19)

**FORCES** (lb) - Maximum Compression/Maximum

Tension

TOP CHORD 1-2=-116/282, 2-3=0/222, 3-4=0/204,

4-5=-116/247

**BOT CHORD** 1-9=-156/118, 7-9=-156/82, 6-7=-156/82,

5-6=-156/94

3-7=-355/0, 2-9=-307/143, 4-6=-306/143

### **WEBS** NOTES

- Unbalanced roof live loads have been considered for 1) this design
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) 0-0-6 to 3-0-6, Interior (1) 3-0-6 to 8-11-2, Exterior(2R) 8-11-2 to 11-11-2, Interior (1) 11-11-2 to 17-9-15 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); 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
- 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, with BCDL = 10.0psf.
- All bearings are assumed to be SP No.2.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 90 lb uplift at joint 9 and 90 lb uplift at joint 6.

LOAD CASE(S) Standard



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

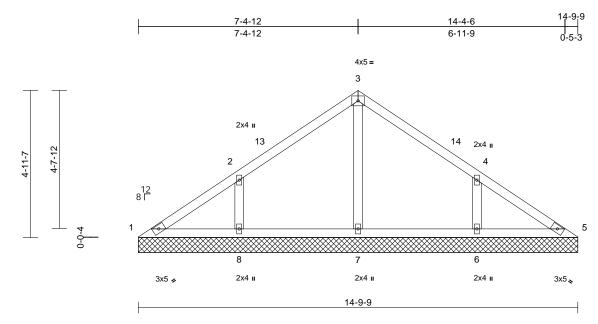
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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



Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	V02	Valley	1	1	Job Reference (optional)	l77132292

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Thu Oct 16 19:38:28 ID:FslojqEzT5i?UlowMdrSUkzE3Vu-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

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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	1.25	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 58 lb	FT = 20%

### LUMBER

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

### **BRACING**

TOP CHORD Sheathed or 6-0-0 oc purlins. BOT CHORD

Rigid ceiling directly applied or 6-0-0 oc

bracing.

REACTIONS (size) 1=14-9-9, 5=14-9-9, 6=14-9-9, 7=14-9-9, 8=14-9-9

Max Horiz 1=-95 (LC 12)

Max Uplift 6=-73 (LC 14), 8=-73 (LC 14)

1=97 (LC 20), 5=91 (LC 1), 6=348 Max Grav

(LC 30), 7=317 (LC 1), 8=349 (LC

**FORCES** (lb) - Maximum Compression/Maximum

Tension

TOP CHORD 1-2=-129/124, 2-3=-65/93, 3-4=-56/89,

4-5=-109/96

1-8=-56/113, 7-8=-56/57, 6-7=-56/57, **BOT CHORD** 

5-6=-56/86

**WEBS** 3-7=-242/5, 2-8=-256/146, 4-6=-255/146

### NOTES

- Unbalanced roof live loads have been considered for this design
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) 0-0-6 to 3-0-6, Interior (1) 3-0-6 to 7-5-2, Exterior(2R) 7-5-2 to 10-5-2, Interior (1) 10-5-2 to 14-9-15 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.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.25 Plate DOL=1.25); 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
- 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.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 73 lb uplift at joint 8 and 73 lb uplift at joint 6.

LOAD CASE(S) Standard



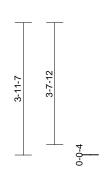


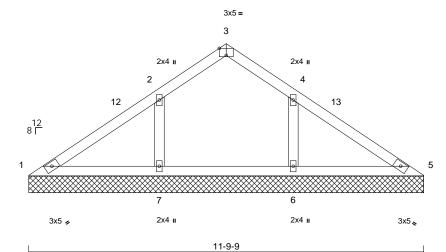
Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	V03	Valley	1	1	Job Reference (optional)	177132293

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Scale = 1:34.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 43 lb	FT = 20%

### LUMBER

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

### BRACING

TOP CHORD Sheathed or 6-0-0 oc purlins.

**BOT CHORD** Rigid ceiling directly applied or 6-0-0 oc

bracing.

REACTIONS (size) 1=11-9-9, 5=11-9-9, 6=11-9-9,

7=11-9-9

Max Horiz 1=-75 (LC 12)

Max Uplift 6=-44 (LC 14), 7=-44 (LC 14) Max Grav 1=138 (LC 1), 5=138 (LC 1), 6=333

(LC 1), 7=338 (LC 19)

**FORCES** (lb) - Maximum Compression/Maximum

Tension

TOP CHORD 1-2=-188/63, 2-3=-84/39, 3-4=-84/38,

4-5=-188/62

BOT CHORD 1-7=-61/177, 6-7=-61/104, 5-6=-61/153

**WEBS** 2-7=-231/136, 4-6=-229/136

### NOTES

- 1) Unbalanced roof live loads have been considered for
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) 0-0-6 to 3-0-6, Interior (1) 3-0-6 to 5-11-2, Exterior(2R) 5-11-2 to 8-11-2, Interior (1) 8-11-2 to 11-9-15 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=1.25 Plate DOL=1.25); 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
- 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.2.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 44 lb uplift at joint 7 and 44 lb uplift at joint 6.

LOAD CASE(S) Standard



October 17,2025

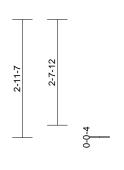


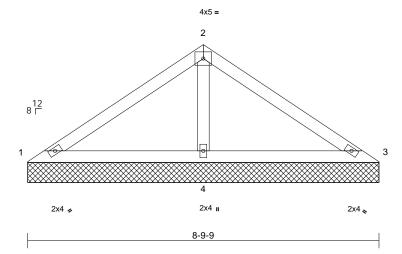
Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	V04	Valley	1	1	Job Reference (optional)	177132294

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Scale = 1:28.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.23	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 31 lb	FT = 20%

### LUMBER

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

### **BRACING**

TOP CHORD Sheathed or 8-9-9 oc purlins. **BOT CHORD** Rigid ceiling directly applied or 6-0-0 oc

bracing.

REACTIONS 1=8-9-9, 3=8-9-9, 4=8-9-9 (size)

Max Horiz 1=-55 (LC 12)

1=-22 (LC 30), 3=-22 (LC 29), Max Uplift

4=-68 (LC 14)

1=66 (LC 29), 3=66 (LC 30), 4=647 Max Grav

(LC 1)

**FORCES** (lb) - Maximum Compression/Maximum

Tension

TOP CHORD 1-2=-111/298, 2-3=-111/298

**BOT CHORD** 1-4=-233/163, 3-4=-233/163

**WEBS** 2-4=-477/211

### NOTES

- Unbalanced roof live loads have been considered for
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) 0-0-6 to 3-0-6, Interior (1) 3-0-6 to 4-5-2, Exterior(2R) 4-5-2 to 7-5-2, Interior (1) 7-5-2 to 8-9-15 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=1.25 Plate DOL=1.25); 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
- 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.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 1, 22 lb uplift at joint 3 and 68 lb uplift at joint 4.

LOAD CASE(S) Standard



October 17,2025

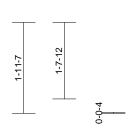


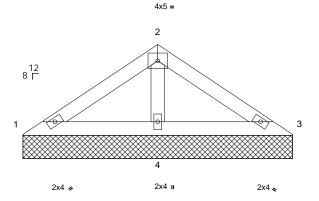
Job	Truss	Truss Type	Qty	Ply	27 Cross Creek - Hanover A3 - Roof	
25100133	V05	Valley	1	1	Job Reference (optional)	177132295

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5-9-9

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		i	-	1	-				-		i	
Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.25	BC	0.10	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0	1									Weight: 19 lb	FT = 20%

### LUMBER

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

### **BRACING**

TOP CHORD Sheathed or 5-9-9 oc purlins. **BOT CHORD** 

Rigid ceiling directly applied or 6-0-0 oc

bracing.

REACTIONS 1=5-9-9, 3=5-9-9, 4=5-9-9 (size)

Max Horiz 1=-35 (LC 12) Max Uplift 4=-28 (LC 14)

Max Grav 1=67 (LC 29), 3=67 (LC 30), 4=361

(LC 1)

**FORCES** (lb) - Maximum Compression/Maximum

Tension

TOP CHORD 1-2=-65/132, 2-3=-65/132

BOT CHORD 1-4=-112/98, 3-4=-112/98

WFBS 2-4=-235/122

### NOTES

- Unbalanced roof live loads have been considered for
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=25ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) 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=1.25 Plate DOL=1.25); 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
- 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 .
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint

LOAD CASE(S) Standard



October 17,2025

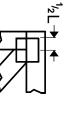
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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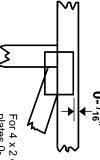


### Symbols

## PLATE LOCATION AND ORIENTATION



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



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

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

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

### PLATE SIZE

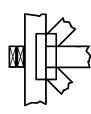
to slots. Second dimension is the length parallel to slots. width measured perpendicular The first dimension is the plate

## LATERAL BRACING LOCATION



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

### **BEARING**



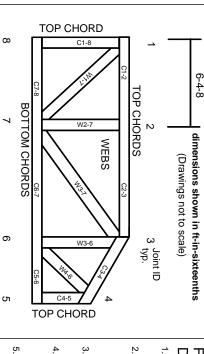
Min size shown is for crushing only number/letter where bearings occur reaction section indicates joint (supports) occur. Icons vary but Indicates location where bearings

### Industry Standards:

National Design Specification for Metal Plate Connected Wood Trusses Installing, Restraining & Bracing of Metal Guide to Good Practice for Handling, Building Component Safety Information, Design Standard for Bracing. Plate Connected Wood Truss Construction.

DSB-22: ANSI/TPI1:

## 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

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

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

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## MiTek



MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

# General Safety Notes

## Damage or Personal Injury Failure to Follow Could Cause Property

- Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI
- Ņ 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.
- Never exceed the design loading shown and never stack materials on inadequately braced trusses.
- Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
- Cut members to bear tightly against each other

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- joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1. Place plates on each face of truss at each
- Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
- Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.

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- 9 Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
- Camber is a non-structural consideration and is the camber for dead load deflection responsibility of truss fabricator. General practice is to
- 11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
- Lumber used shall be of the species and size, and in all respects, equal to or better than that
- Top chords must be sheathed or purlins provided at spacing indicated on design.
- 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
- Do not cut or alter truss member or plate without prior approval of an engineer.
- Install and load vertically unless indicated otherwise.
- Use of green or treated lumber may pose unacceptable project engineer before use. environmental, health or performance risks. Consult with
- 19. Review all portions of this design (front, back, words is not sufficient. and pictures) before use. Reviewing pictures alone
- Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
- 21. The design does not take into account any dynamic or other loads other than those expressly stated.