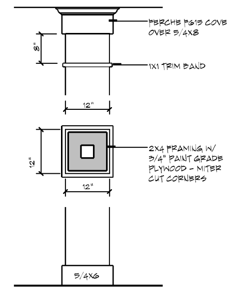
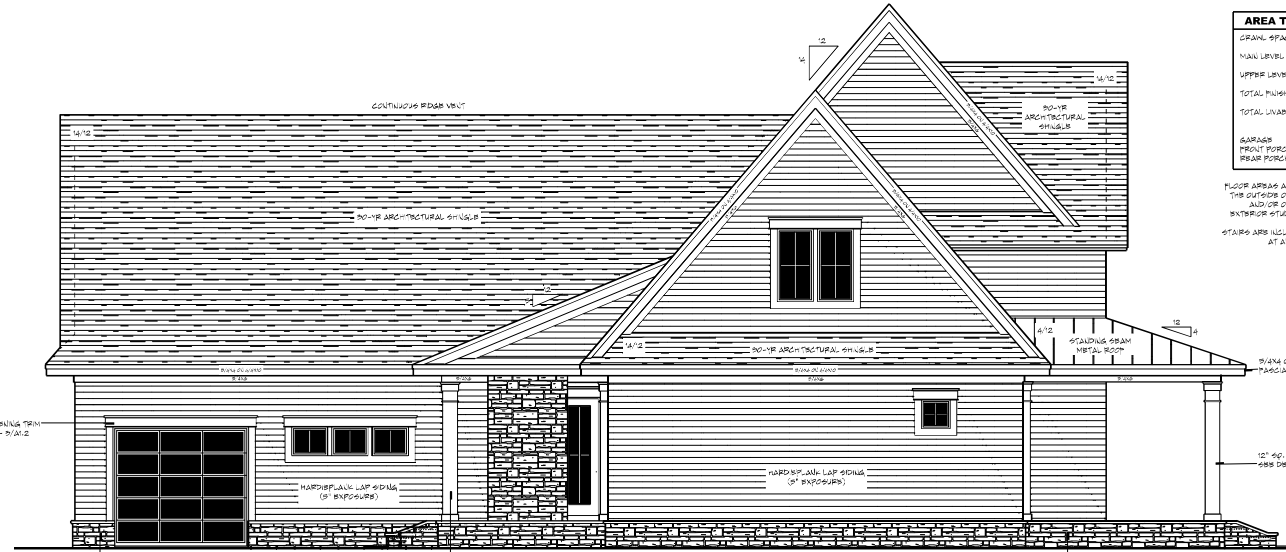


3 A1.1 **COLUMN**

SCALE: 3/4" = 1'0"

NOTICE TO CONTRACTOR
APPROVED
06/09/2025
Harnett COUNTY NORTH CAROLINA



2 A1.1 **LEFT ELEVATION**

SCALE: 1/4" = 1'0"

1 A1.1 **FRONT ELEVATION**

SCALE: 1/4" = 1'0"

PROHIBITED FROM BEING BUILT WITHIN 100 MILES OF RICHMOND, VA.

AREA TABULATION

CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1530 SF
TOTAL FINISHED	3952 SF
TOTAL LIVABLE	3952 SF
GARAGE	846 SF
FRONT PORCH	678 SF
REAR PORCH	430 SF

FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.

GENERAL NOTES

- ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALING OF DRAWINGS
- KICKOUT FLASHING TO BE INSTALLED AS NEEDED
  - EXTERIOR WALL FINISHER TO VERIFY KICKOUT FLASHING IS INSTALLED PRIOR TO FINISHING
- CARPENTER TO FLASH ALL EXTERIOR WINDOWS & DOORS PER MIN. AND IRC CODE REQUIREMENTS
- WHILE EVERY EFFORT HAS BEEN MADE TO INSURE THESE PLANS ARE ACCURATE AND COMPLETE, THE OWNER/BUILDER MUST VERIFY ALL DIMENSIONS, CONSTRUCTION METHODS, SITE CONDITIONS AND SPECIFICATIONS AND BE RESPONSIBLE FOR SAME.
- ANY NOTATIONS OF SIZES OF STRUCTURAL MEMBERS SUCH AS FOOTINGS, FOUNDATION SIZING, POSTS, BEAMS, JOISTS, RAFTERS, TRUSSES ETC. THAT APPEAR ON THESE PLANS ARE FOR DESIGN REVIEW AND BIDDING PURPOSES ONLY. IT IS RECOMMENDED A PROFESSIONAL ENGINEER BE ENGAGED TO CALCULATE AND DESIGN ALL STRUCTURAL COMPONENTS INVOLVED IN THIS STRUCTURE.

WINDOWS

- INTEGRITY ALL ULTREX SERIES
  - TYPE AND SIZE PER PLAN
- WINDOWS DESIGNATED WITH 'T' TO HAVE TEMPERED GLASS
- WINDOWS DESIGNATED WITH 'E' MEET EGRESS CODES
- BUILDER TO VERIFY ALL ROUGH OPENING DIMENSIONS AND HEADER HEIGHTS.

EXTERIOR FINISHES

- SIDING (AS NOTED)
  - HARDIEPLANK LAP SIDING
    - 5" EXPOSURE
  - THIN SET BRICK VENEER OR CULTURED STONE W/ 2¼" ROCK FACE STONE CAP
  - HARDIETRIM BOARDS
    - THICKNESS AND WIDTH AS NOTED

+++ STRUCTURAL NOTICE +++

ALL STRUCTURAL BEAM AND HEADER SIZES, BEARING CONDITIONS AND ANCHORING REQUIREMENTS MUST BE REVIEWED BY A STRUCTURAL ENGINEER BASED ON EXISTING SITE CONDITIONS. OWNER/BUILDER TO ASSUME ALL RESPONSIBILITY FOR ENTIRE STRUCTURE.

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THE RUTH ANN

CRAWL SPACE - 2x4 EXTERIOR

3-CAR SIDE - STANDARD

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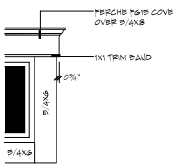
EXTERIOR ELEVATIONS
COLUMN DETAIL

1 **A1.1** 9

100% SCALE @ 36"x24"



3 A1.2 OPENING TRIM

SCALE : 3/4" = 1' 0"

AREA TABULATION	
CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1290 SF
TOTAL FINISHED	5922 SF
TOTAL LIVABLE	5922 SF
GARAGE	845 SF
FRONT PORCH	678 SF
REAR PORCH	490 SF

FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.

2 A1.2 RIGHT ELEVATION

SCALE : 1/4" = 1' 0"

1 A1.2 REAR ELEVATION

SCALE : 1/4" = 1' 0"

GENERAL NOTES

- ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALING OF DRAWINGS
- KICKOUT FLASHING TO BE INSTALLED AS NEEDED
  - EXTERIOR WALL FINISHER TO VERIFY KICKOUT FLASHING IS INSTALLED PRIOR TO FINISHING
- CARPENTER TO FLASH ALL EXTERIOR WINDOWS & DOORS PER IRC AND IRC CODE REQUIREMENTS
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WINDOWS

- INTEGRITY ALL ULTREX SERIES
  - TYPE AND SIZE PER PLAN
- WINDOWS DESIGNATED WITH T TO HAVE TEMPERED GLASS
- WINDOWS DESIGNATED WITH E MEET EGRESS CODES
- BUILDER TO VERIFY ALL ROUGH OPENING DIMENSIONS AND HEADER HEIGHTS.

EXTERIOR FINISHES

- SIDING (AS NOTED)
  - HARDIEPLANK LAP SIDING
    - 5" EXPOSURE
  - THIN SET BRICK VENEER OR CULTURED STONE W/ 2 1/4" ROCK FACE STONE CAP
  - HARDITRIM BOARDS
    - THICKNESS AND WIDTH AS NOTED

+++ STRUCTURAL NOTICE +++

ALL STRUCTURAL BEAM AND HEADER SIZES, BEARING CONDITIONS AND ANCHORING REQUIREMENTS MUST BE REVIEWED BY A STRUCTURAL ENGINEER BASED ON EXISTING SITE CONDITIONS. OWNER/BUILDER TO ASSUME ALL RESPONSIBILITY FOR BUILT STRUCTURE.

PROHIBITED FROM BEING BUILT WITHIN 100 MILES OF RICHMOND, VA.

100% SCALE @ 36"x24"

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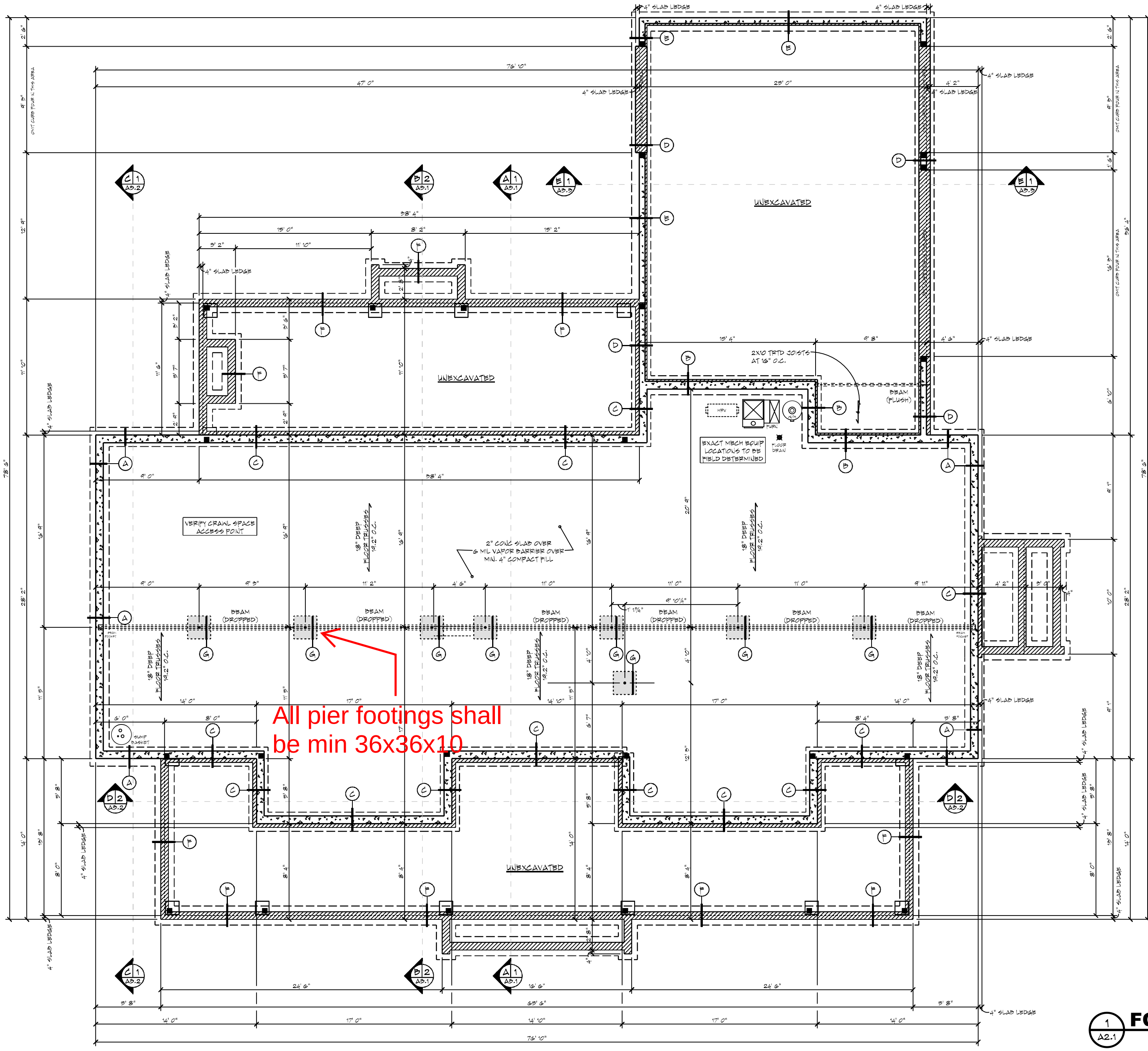
EXTERIOR ELEVATIONS
OPENING TRIM DETAIL



AREA TABULATION

CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1530 SF
TOTAL FINISHED	3952 SF
TOTAL LIVABLE	3952 SF
GARAGE	846 SF
FRONT PORCH	678 SF
REAR PORCH	430 SF

FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.

FOUNDATION LEGEND

- (A) 8"W X 5' 0"H POURED ON 20" X 8" CONC FOOTING
- (B) 8"W X 8"H POURED ON 10"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING - 2"W X 8"H EXT. LEDGE
- (C) 8"W X 8"H POURED ON 12"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING - 4"W X 8"H EXT. LEDGE
- (D) 6"W X 8"H POURED ON 12"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING - 4"W X 8"H EXT. LEDGE 2"W X 8"H INT. LEDGE
- (E) 6"W X 8"H POURED ON 8"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING - 2"W X 8"H INT. LEDGE
- (F) 8"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING
- (G) 3"Ø ADJUSTABLE STEEL COLUMN ON SPREAD FOOTING. SIZE AND REINFORCING BY OTHERS
- (H) 2X4 BEARING WALL ON 4"W X 4"H POURED CONC CURB ON 16" X 8" CONC FOOTING

GENERAL NOTES

- ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALING OF DRAWINGS
- DIMENSIONS ARE FROM EXTERIOR FACE OF CONCRETE FOUNDATION WALLS AND CENTERLINE OF INTERIOR BEARING WALLS, POSTS AND BEAMS.
- FOUNDATION CONTRACTOR TO VERIFY ALL ROUGH-IN PLUMBING LOCATIONS AND ANY OTHER PENETRATIONS THRU CONCRETE FLOOR PRIOR TO CONSTRUCTION.
- BUILDER/FOUNDATION CONTRACTOR TO VERIFY FOOTING SIZE AND REINFORCEMENT REQUIREMENTS BASED ON EXISTING SOIL CONDITIONS PRIOR TO CONSTRUCTION.
- WHILE EVERY EFFORT HAS BEEN MADE TO INSURE THESE PLANS ARE ACCURATE AND COMPLETE, THE OWNER/BUILDER MUST VERIFY ALL DIMENSIONS, CONSTRUCTION METHODS, SITE CONDITIONS AND SPECIFICATIONS AND BE RESPONSIBLE FOR SAME.
- ANY NOTATIONS OF SIZES OF STRUCTURAL MEMBERS SUCH AS FOOTINGS, FOUNDATION SIZING, POSTS, BEAMS, JOISTS, RAFTERS, TRUSSES, ETC. THAT APPEAR ON THESE PLANS ARE FOR DESIGN REVIEW AND BIDDING PURPOSES ONLY. IT IS RECOMMENDED A PROFESSIONAL ENGINEER BE ENGAGED TO CALCULATE AND DESIGN ALL STRUCTURAL COMPONENTS INVOLVED IN THIS STRUCTURE.

FLOOR SYSTEM

- ENGINEERED WOOD FLOOR TRUSSES
  - DESIGNED TO MIN. L/480 DEFLECTION OF LESS
- TRUSS MANUFACTURER TO PROVIDE CHASES FOR ALL SUPPLY AND RETURN DUCTWORK
- TRUSS MANUFACTURER TO VERIFY FRAMING AT CANTILEVERS FOR POINT LOADS FROM ABOVE
- TRUSS MANUFACTURER TO VERIFY LOCATIONS OF ANY CONCENTRATED LOADS, SUCH AS GRANITE COUNTERTOPS, AND PROVIDE PROPER FRAMING AS NEEDED

FRAMING

- 4' 11½" ROUGH CEILING HEIGHT
- PROVIDE SOLID BLOCKING AT ALL POINT LOADS
- ■ - INDICATES BEARING POINT LOAD
  - PROVIDE CONTINUOUS SOLID BLOCKING TO FOUNDATION BELOW - VERIFY LOADS W/ LOCAL STRUCTURAL ENGINEER

+++ STRUCTURAL NOTICE +++

ALL STRUCTURAL BEAM AND HEADER SIZES, BEARING CONDITIONS AND ANCHORING REQUIREMENTS MUST BE REVIEWED BY A STRUCTURAL ENGINEER BASED ON EXISTING SITE CONDITIONS. OWNER/BUILDER TO ASSUME ALL RESPONSIBILITY FOR ENTIRE STRUCTURE.

1 / A2.1 FOUNDATION PLAN

SCALE : 1/4" = 1' 0"

100% SCALE @ 36"x24"

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THE RUTH ANN

CRAWL SPACE - 2x4 EXTERIOR 3-CAR SIDE - STANDARD

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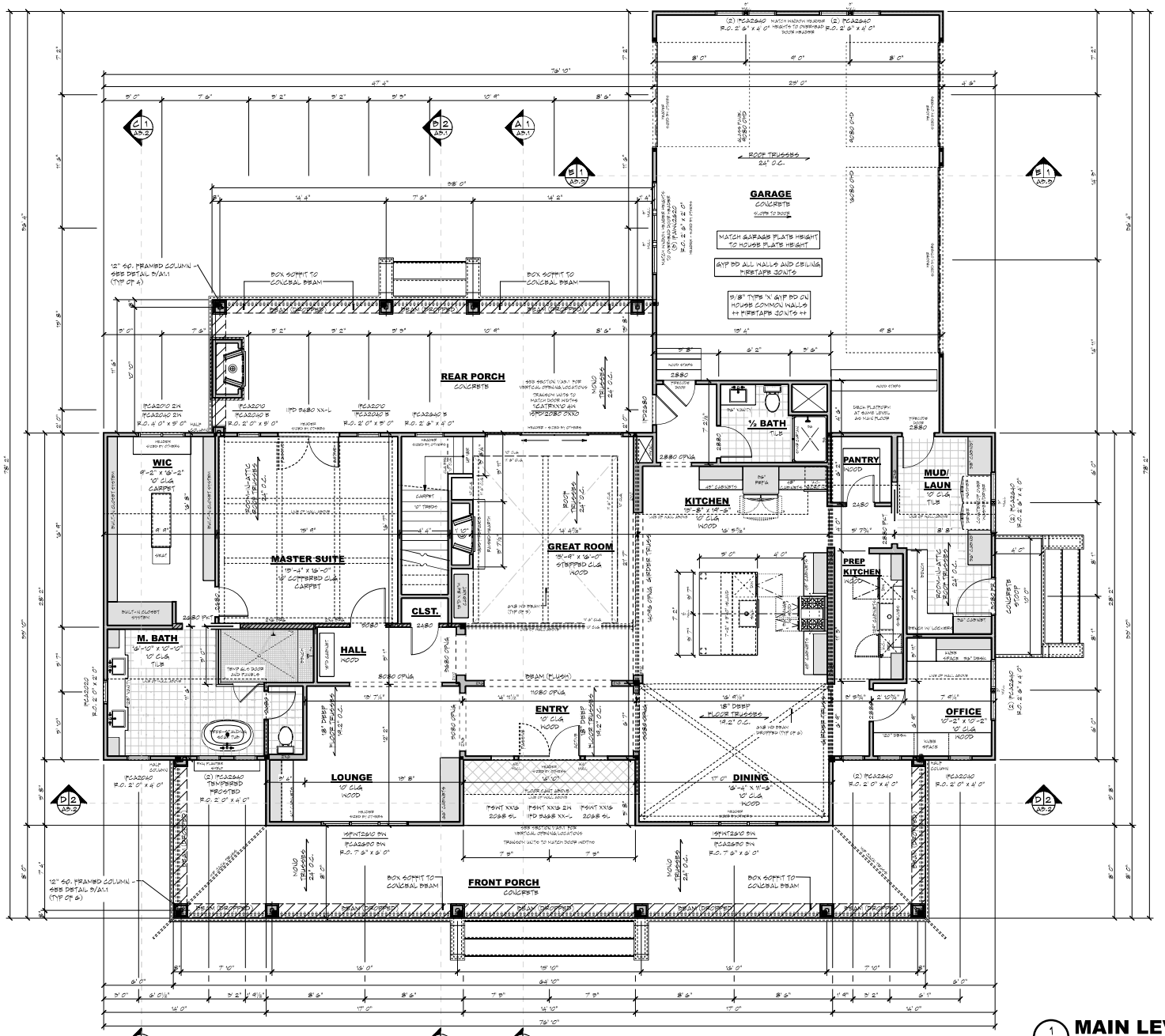
FOUNDATION PLAN



AREA TABULATION	
CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1370 SF
TOTAL FINISHED	3792 SF
TOTAL LIVABLE	3792 SF
GARAGE	845 SF
FRONT PORCH	678 SF
REAR PORCH	420 SF

FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.

GENERAL NOTES

- ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALING OF DRAWINGS.
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WINDOWS

- MARVIN INTEGRITY ALL ULTREX SERIES
  - STYLE AND SIZE AS NOTED
- WINDOWS DESIGNATED WITH 'T' TO HAVE TEMPERED GLASS
- WINDOWS DESIGNATED WITH 'B' MEET EGRESS CODES
- WINDOW HEADER HEIGHTS SET TO 6'-8" (ENTRY/GREAT ROOM)
- WINDOW HEADER HEIGHTS SET TO 7'-11 5/8" (U.N.O.)
- BUILDER TO VERIFY WINDOW AND DOOR ROUGH OPENINGS AND HEADER HEIGHTS

FLOOR SYSTEM

- ENGINEERED WOOD FLOOR TRUSSES
  - DESIGNED TO MIL L/480 DEFLECTION OR LESS
- TRUSS MANUFACTURER TO PROVIDE CHASES FOR ALL SUPPLY AND RETURN DUCTWORK
- TRUSS MANUFACTURER TO VERIFY FRAMING AT CANTILEVERS FOR POINT LOADS FROM ABOVE
- TRUSS MANUFACTURER TO VERIFY LOCATIONS OF ANY CONCENTRATED LOADS, SUCH AS GRANITE COUNTERTOPS, AND PROVIDE PROPER FRAMING AS NEEDED

FRAMING

- 10'-1 1/8" PLATE HEIGHT (U.N.O.)
- 2X6 WALLS AT ALL POCKET DOORS
- PROVIDE SOLID BLOCKING AT ALL POINT LOADS
- ■ - INDICATES BEARING POINT LOAD
  - PROVIDE CONTINUOUS SOLID BLOCKING TO FOUNDATION BELOW - VERIFY LOADS W/ LOCAL STRUCTURAL ENGINEER

+++ STRUCTURAL NOTICE +++

ALL STRUCTURAL BEAM AND HEADER SIZES, BEARING CONDITIONS AND ANCHORING REQUIREMENTS MUST BE REVIEWED BY A STRUCTURAL ENGINEER BASED ON EXISTING SITE CONDITIONS. OWNER/BUILDER TO ASSUME ALL RESPONSIBILITY FOR BUILT STRUCTURE.

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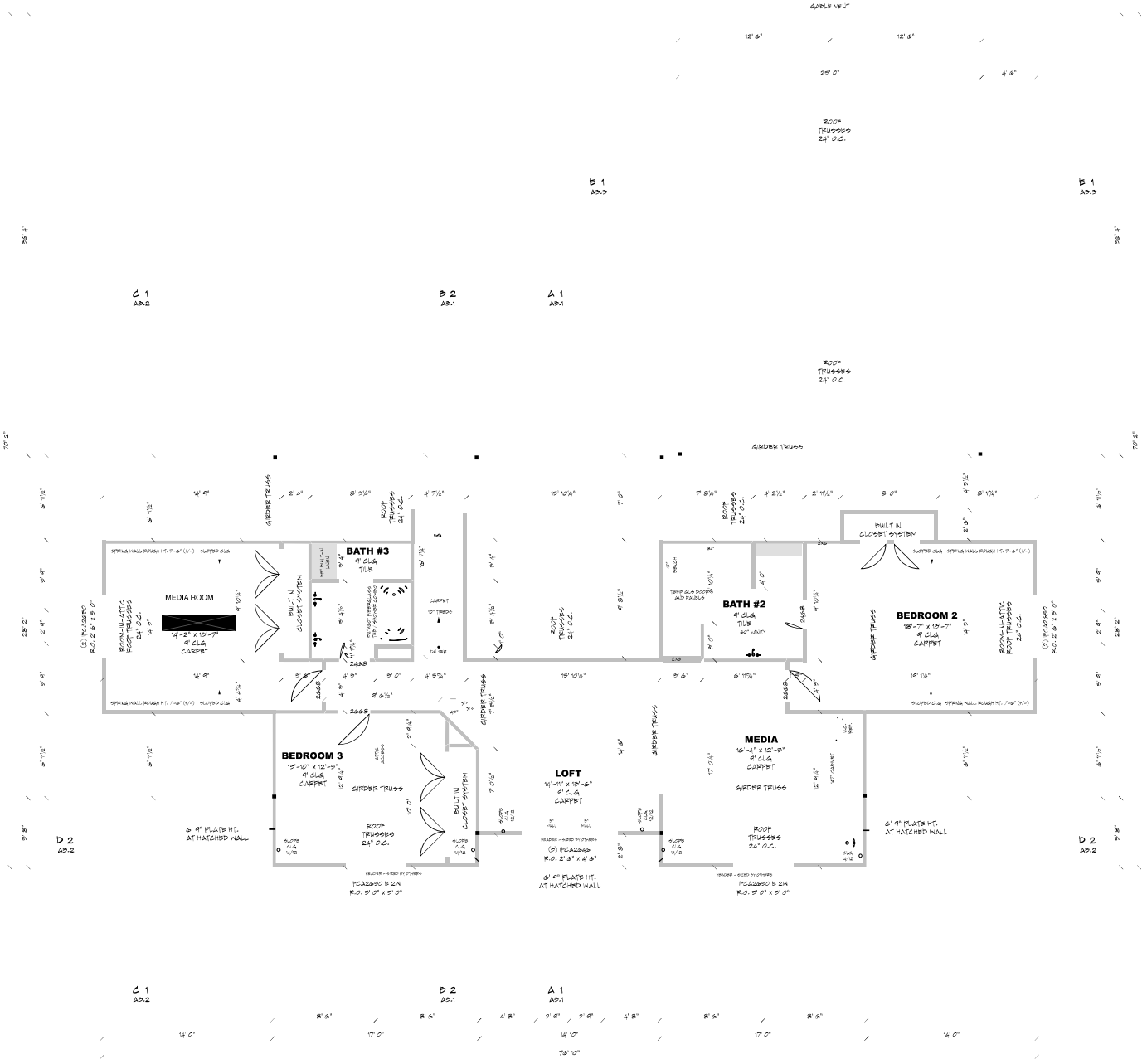
MAIN LEVEL FLOOR PLAN

4 **A2.2** 9

1 A2.2 **MAIN LEVEL FLOOR PLAN**

100% SCALE @ 36"x24" SCALE : 1/4" = 1'-0"



AREA TABULATION

CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1390 SF
TOTAL FINISHED	3812 SF
TOTAL LIVABLE	3812 SF
GARAGE	846 SF
FRONT PORCH	678 SF
REAR PORCH	490 SF

FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.

GENERAL NOTES

- ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALING OF DRAWINGS
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WINDOWS

- MARVIN INTEGRITY ALL ULTREX SERIES
  - STYLE AND SIZE AS NOTED
- WINDOWS DESIGNATED WITH "T" TO HAVE TEMPERED GLASS
- WINDOWS DESIGNATED WITH "E" MEET EGRESS CODES
- WINDOW HEADER HEIGHTS SET TO 7' 11-5/8" (U.N.O.)
- BUILDER TO VERIFY WINDOW AND DOOR ROUGH OPENINGS AND HEADER HEIGHTS

FLOOR SYSTEM

- ENGINEERED WOOD FLOOR TRUSSES
  - DESIGNED TO MIN. L/480 DEFLECTION OR LESS
- TRUSS MANUFACTURER TO PROVIDE CHASES FOR ALL SUPPLY AND RETURN DUCTWORK
- TRUSS MANUFACTURER TO VERIFY FRAMING AT CANTILEVERS FOR POINT LOADS FROM ABOVE
- TRUSS MANUFACTURER TO VERIFY LOCATIONS OF ANY CONCENTRATED LOADS, SUCH AS GRANITE COUNTERTOPS, AND PROVIDE PROPER FRAMING AS NEEDED

FRAMING

- 9' 1-1/8" PLATE HEIGHT (U.N.O.)
- 2X8 WALLS AT ALL POCKET DOORS
- PROVIDE SOLID BLOCKING AT ALL POINT LOADS

■ - INDICATES BEARING POINT LOAD
- PROVIDE CONTINUOUS SOLID BLOCKING TO FOUNDATION BELOW - VERIFY LOADS W/ LOCAL STRUCTURAL ENGINEER

+++ STRUCTURAL NOTICE +++

ALL STRUCTURAL BEAM AND HEADER SIZES, BEARING CONDITIONS AND ANCHORING REQUIREMENTS MUST BE REVIEWED BY A STRUCTURAL ENGINEER BASED ON ENGINEERED SITE CONDITIONS. OWNER/BUILDER TO ASSUME ALL RESPONSIBILITY FOR BUILT STRUCTURES.

UPPER LEVEL FLOOR PLAN

1 A2.3

100% SCALE @ 36"x24" SCALE: 1/4" = 1'-0"

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UPPER LEVEL FLOOR PLAN

5 **A2.3** 9

TRUSS SUPPLIER TO VERIFY ALL SPANS, PITCHES, HEEL HEIGHTS AND OTHER CONDITIONS CRITICAL TO PROPER TRUSS FABRICATION

ANY STRUCTURAL COMPONENTS THAT MAY BE NOTED ON THESE PLANS ARE INTENDED FOR DESIGN/BID PURPOSES ONLY. IT IS RECOMMENDED THAT ALL STRUCTURAL DESIGN BE REVIEWED BY A LICENSED PROFESSIONAL ENGINEER

+++ STRUCTURAL NOTICE +++

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++ FOUNDATION ENGINEERING ++

ALL BUILDING FOUNDATION, FOOTING SIZES AND REINFORCING, INCLUDING POST FOOTINGS, TO BE DESIGNED ON SITE BY LOCAL ENGINEER OR FOUNDATION CONTRACTOR BASED ON EXISTING SITE CONDITIONS.

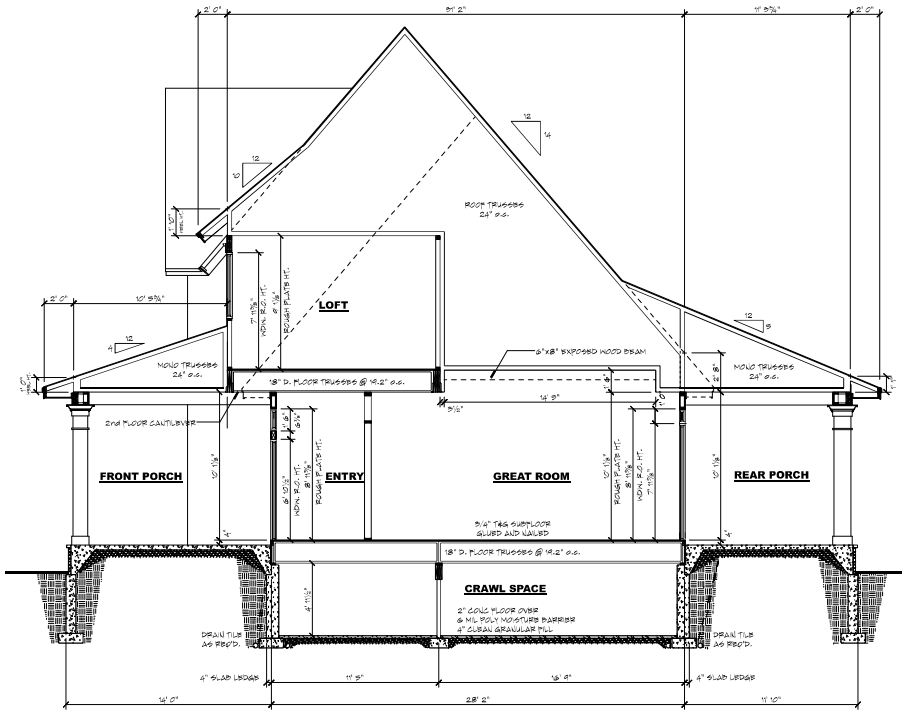
++ FOOTING FROST DEPTH: ++

OWNER/CONTRACTOR TO ADJUST DEPTH OF ALL HOUSE, GARAGE, SLAB AND DECK POST FOOTINGS TO MEET LOCAL CODES.

AREA TABULATION	
CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1970 SF
TOTAL FINISHED	4392 SF
TOTAL LIVABLE	4392 SF
GARAGE	846 SF
FRONT PORCH	678 SF
REAR PORCH	490 SF

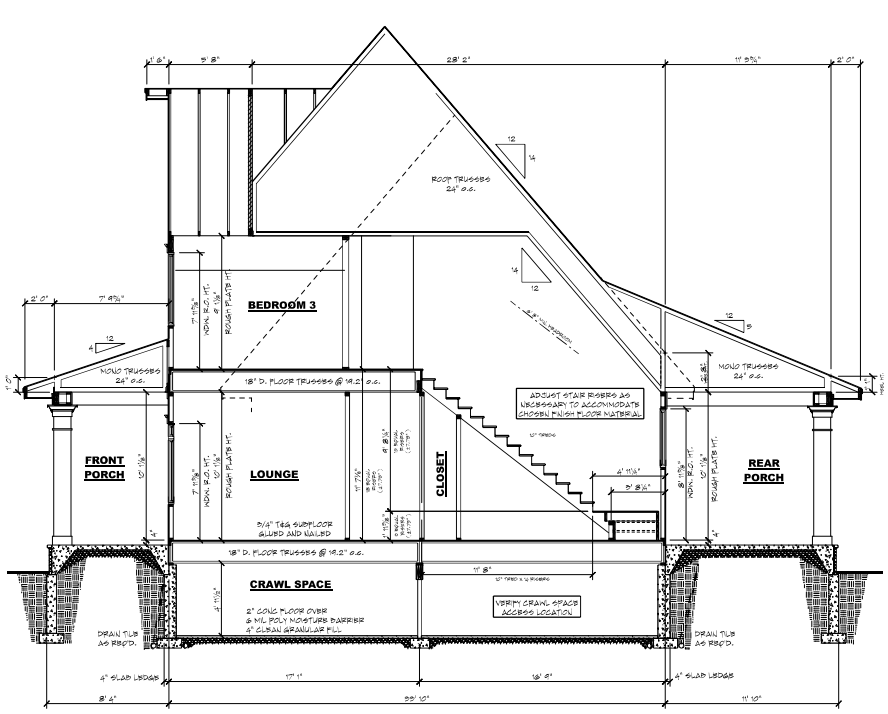
FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.



1 A3.1 **BUILDING SECTION "A"**

SCALE : 1/4" = 1' 0"



2 A3.1 **BUILDING SECTION**

SCALE : 1/4" = 1' 0"

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BUILDING SECTIONS

6 **A3.1** 9

100% SCALE @ 36"x24" 0' 2' 4' 8' 16'

TRUSS SUPPLIER TO VERIFY ALL SPANS, PITCHES, HEEL HEIGHTS AND OTHER CONDITIONS CRITICAL TO PROPER TRUSS FABRICATION

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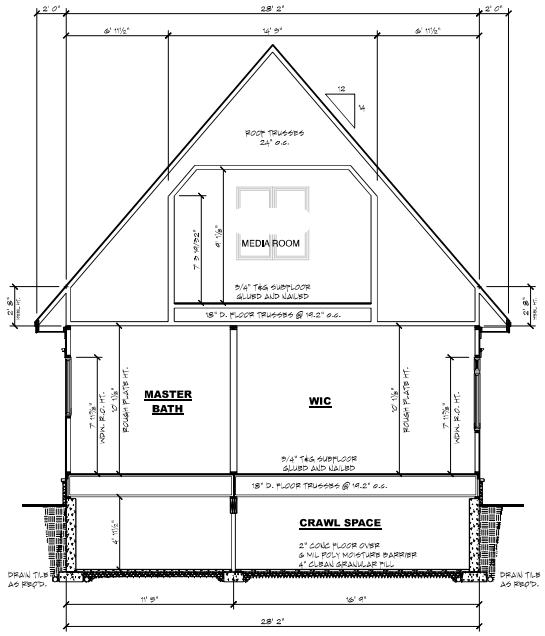
++ FOOTING FROST DEPTH: ++

OWNER/CONTRACTOR TO ADJUST DEPTH OF ALL HOUSE, GARAGE, SLAB AND DECK POST FOOTINGS TO MEET LOCAL CODES.

AREA TABULATION	
CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1270 SF
TOTAL FINISHED	3692 SF
TOTAL LIVABLE	3692 SF
GARAGE	845 SF
FRONT PORCH	678 SF
REAR PORCH	490 SF

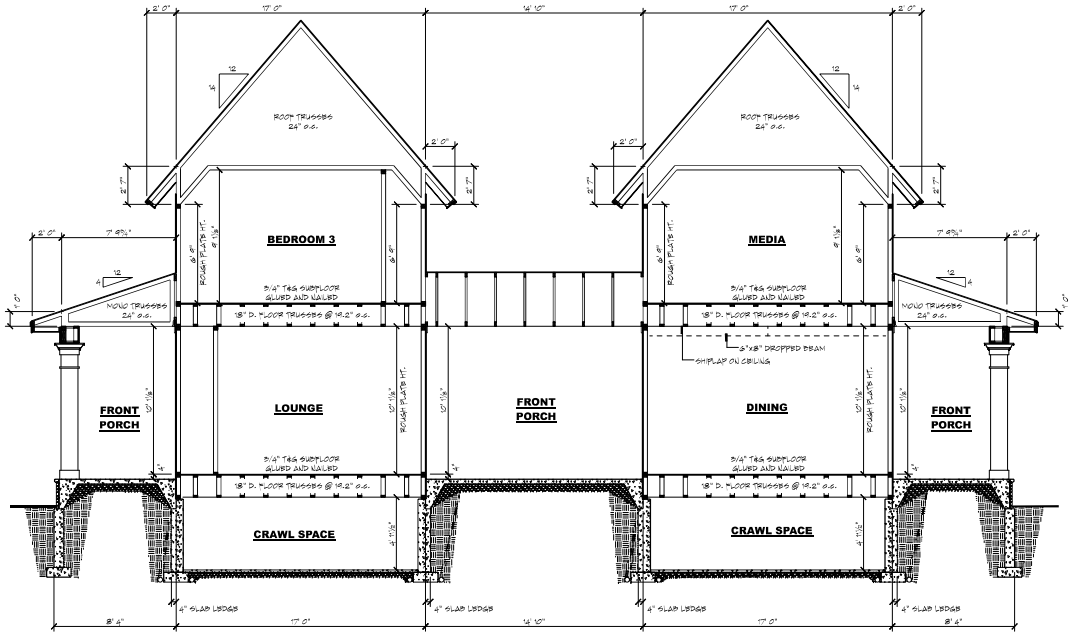
FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.



1 A3.2 **BUILDING SECTION "C"**

SCALE : 1/4" = 1' 0"



2 A3.2 **BUILDING SECTION "D"**

SCALE : 1/4" = 1' 0"

CL-20-020
THE RUTH ANN
CRAWL SPACE - 2x4 EXTERIOR
3-CAR SIDE - STANDARD

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EST. 1159
651-964-2726
www.royaloaksdesign.com
West Lakeland, MN 55082

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Original Draft Date: 07/09/2020

Document Date: 4/25/2024

Document Phase:

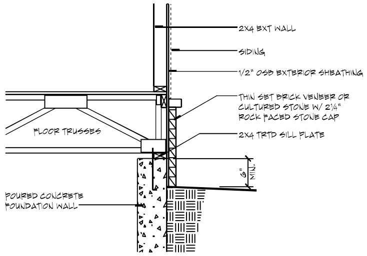
Drawn by: DML

ISSUE	DATE	REMARK
01	07/22/21	BDITS CA, ACR

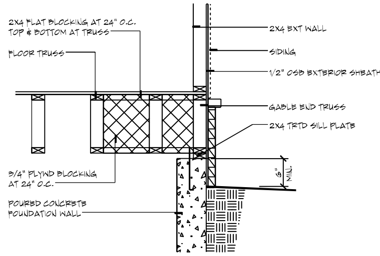
BUILDING SECTIONS

7 **A3.2** 9

100% SCALE @ 36"x24" 0' 2' 4' 8' 16'



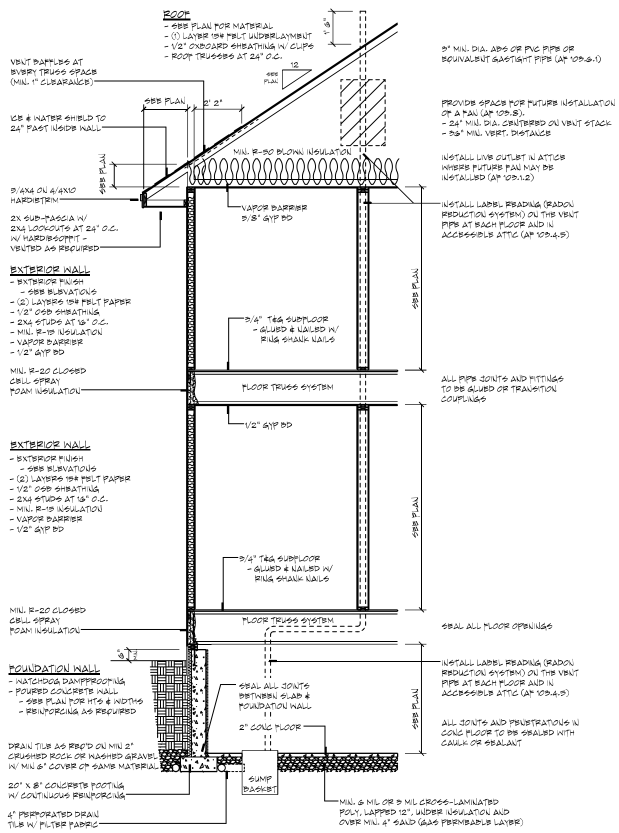
FLOOR TRUSSES - PERPENDICULAR



FLOOR TRUSSES - PARALLEL

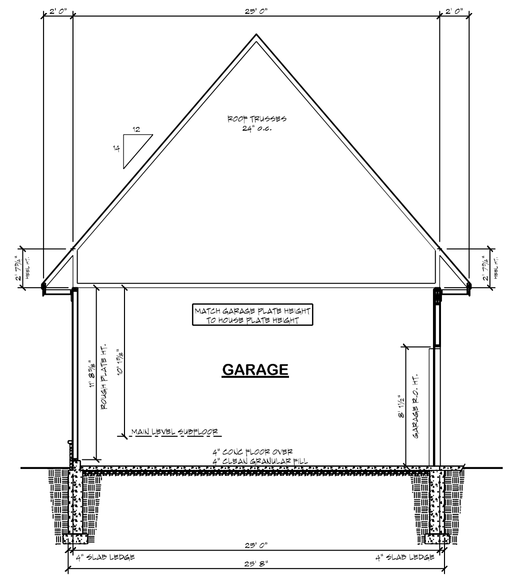
3 / A3.3 FLOOR FRAMING DETAILS

SCALE : 3/4" = 1' 0"



4 / A3.3 TYPICAL WALL SECTION

SCALE : 3/8" = 1' 0"



1 / A3.3 BUILDING SECTION "E"

SCALE : 1/4" = 1' 0"

TRUSS SUPPLIER TO VERIFY ALL SPANS, PITCHES, HEEL HEIGHTS AND OTHER CONDITIONS CRITICAL TO PROPER TRUSS FABRICATION

ANY STRUCTURAL COMPONENTS THAT MAY BE NOTED ON THESE PLANS ARE INTENDED FOR DESIGN/BID PURPOSES ONLY. IT IS RECOMMENDED THAT ALL STRUCTURAL DESIGN BE REVIEWED BY A LICENSED PROFESSIONAL ENGINEER

+++ STRUCTURAL NOTICE +++

ALL STRUCTURAL BEAM AND HEADER SIZES, BEARING CONDITIONS AND ANCHORING REQUIREMENTS MUST BE REVIEWED BY A STRUCTURAL ENGINEER BASED ON EXISTING SITE CONDITIONS. OWNER/BUILDER TO ASSUME ALL RESPONSIBILITY FOR ENTIRE STRUCTURE.

++ FOUNDATION ENGINEERING ++

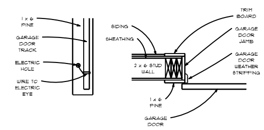
ALL BUILDING FOUNDATION, FOOTING SIZES AND REINFORCING, INCLUDING POST FOOTINGS, TO BE DESIGNED ON SITE BY LOCAL ENGINEER OR FOUNDATION CONTRACTOR BASED ON EXISTING SITE CONDITIONS.

++ FOOTING FROST DEPTH: ++

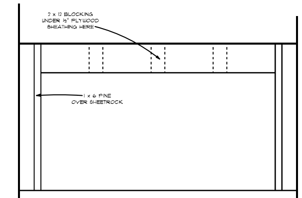
OWNER/CONTRACTOR TO ADJUST DEPTH OF ALL HOUSE, GARAGE, SLAB AND DECK POST FOOTINGS TO MEET LOCAL CODES.

GENERAL NOTES - ROOF PLAN

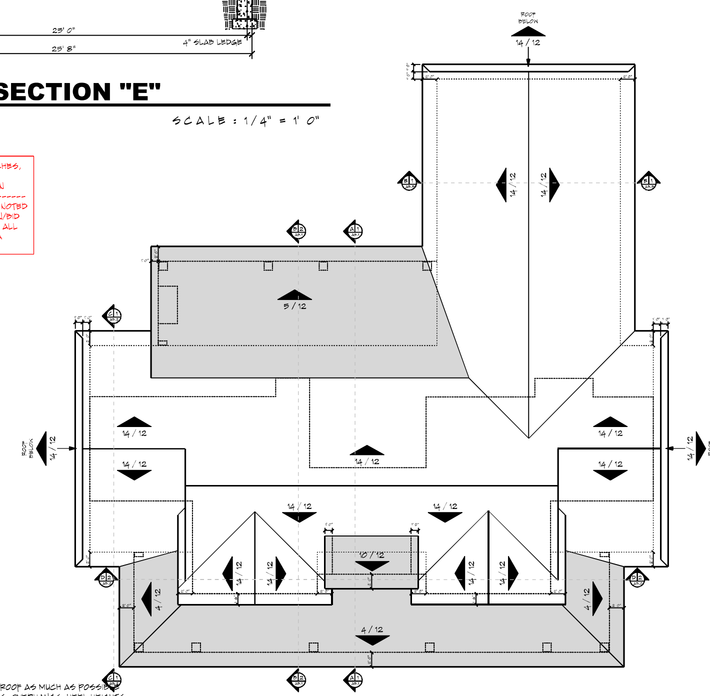
- TYPICAL OVERHANG DIMENSIONS (U.N.O.)
  - EAVES = 24"
  - GABLES = 18" OR 12" W/ 24" RETURN
- ROOF VENTING TO BE 1/200 OF ATTIC AREA
  - 50% IN EAVE 50% IN ROOF
- KEEP ROOF PENETRATIONS ON REAR SIDE OF ROOF AS MUCH AS POSSIBLE
- TRUSS MANUFACTURER TO VERIFY ALL PITCHES, OVERHANGS, HEEL HEIGHTS, EXTENDED CHORDS AND KNEEWALL HEIGHTS
- BUILDER TO REVIEW TRUSS DESIGN AND LAYOUT PRIOR TO TRUSS ORDER
- ICE & WATER SHIELD AT EAVES TO POINT OF 2' 0" BACK FROM INSIDE EDGE OF EXTERIOR WALL
- FULL ICE & WATER SHIELD ON ROOF PITCHES LESS THAN 4/12
- ROOFING CONTRACTOR TO INSTALL KICKOUT FLASHING AS NEEDED
  - EXTERIOR WALL FINISHER TO VERIFY INSTALLATION PRIOR TO FINISHING



GARAGE DOOR JAMB



GARAGE DOOR BACKER



SHADED AREA INDICATES LOCATION OF STANDING SEAM METAL ROOFING

2 / A3.3 ROOF PLAN

SCALE : 1/8" = 1' 0"

100% SCALE @ 36"x24"

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Original Draft Date:
07/09/2020
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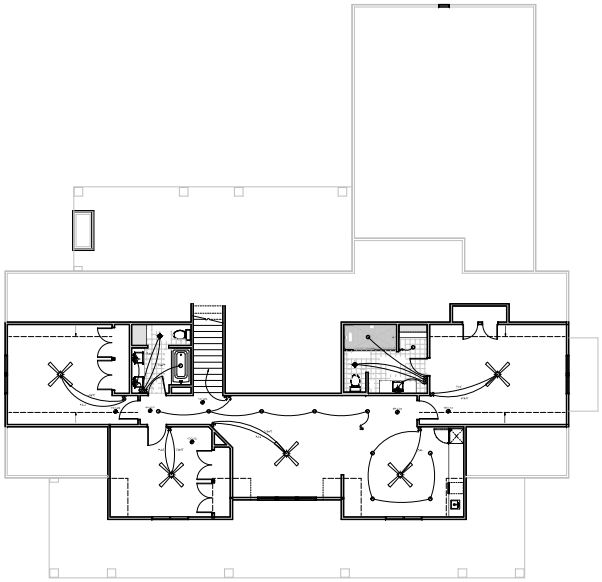
4/25/2024
Document Phase:

Drawn by: DML

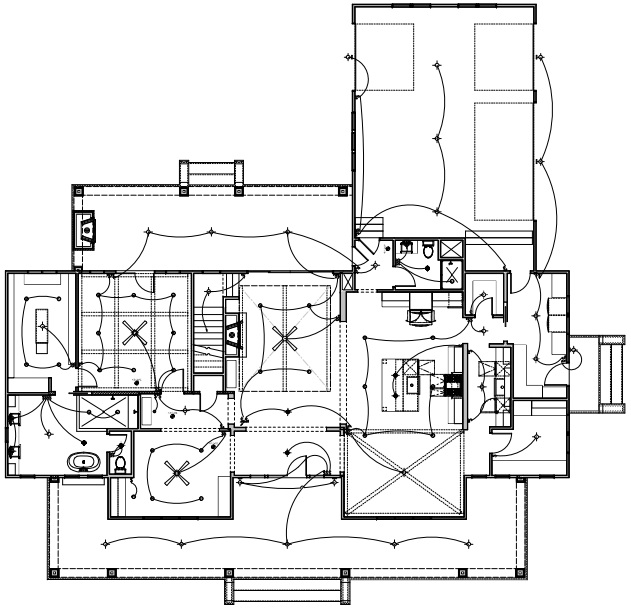
ISSUE	DATE	REMARK
01	07/02/21	EDITS 02, A3F

BUILDING SECTION
ROOF PLAN
FLOOR FRAMING DETAILS
TYPICAL WALL SECTION



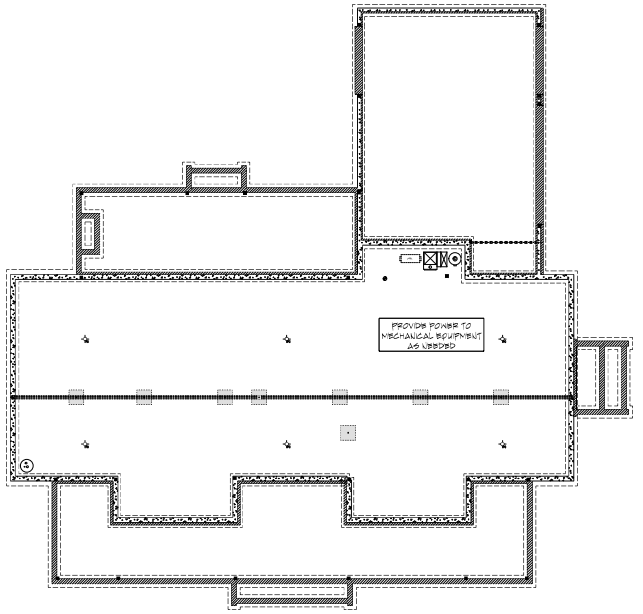
3 E1.1 **UPPER LEVEL LIGHTING PLAN**

SCALE : 1/8" = 1' 0"



2 E1.1 **MAIN LEVEL LIGHTING PLAN**

SCALE : 1/8" = 1' 0"



1 E1.1 **CRAWL SPACE LIGHTING PLAN**

SCALE : 1/8" = 1' 0"

ELECTRICAL LEGEND	
	CEILING MOUNT LIGHT FIXTURE
	PENDANT LIGHT FIXTURE
WALL	WALL MOUNT LIGHT FIXTURE
	RECESSED CAN LIGHT FIXTURE
	BATH EXHAUST FAN
	COMBO LIGHT / BATH EXHAUST FAN
$	SWITCH
$3	SWITCH - 3-WAY
$4	SWITCH - 4-WAY
S	SMOKE DETECTOR CARBON MONOXIDE DETECTOR
	FAN/LIGHT COMBO FIXTURE

ALL ELECTRICAL TO BE INSTALLED IN ACCORDANCE TO THE LATEST NATIONAL AND LOCAL CODES

AREA TABULATION	
CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1290 SF
TOTAL FINISHED	5982 SF
TOTAL LIVABLE	5982 SF
GARAGE	846 SF
FRONT PORCH	678 SF
REAR PORCH	490 SF

FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.

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Original Draft Date: 07/09/2020

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Drawn by: DML

ISSUE	DATE	REMARK
01	07/02/21	BID/PERMIT

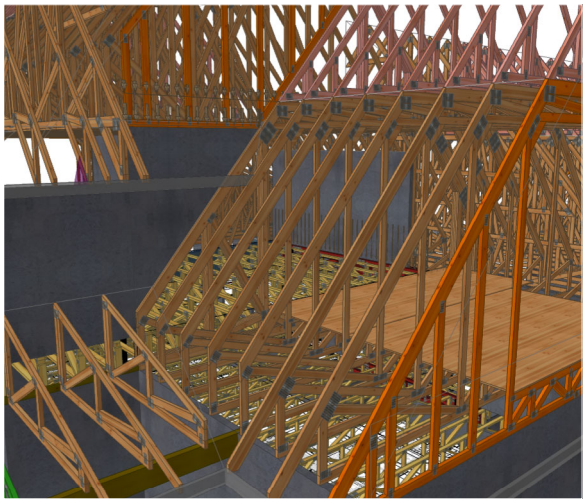
ELECTRICAL PLANS

9 **E1.1** 9

100% SCALE @ 36"x24"

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

Phone #:919-775-1450



Builder: Pro Build
Model: OverHills

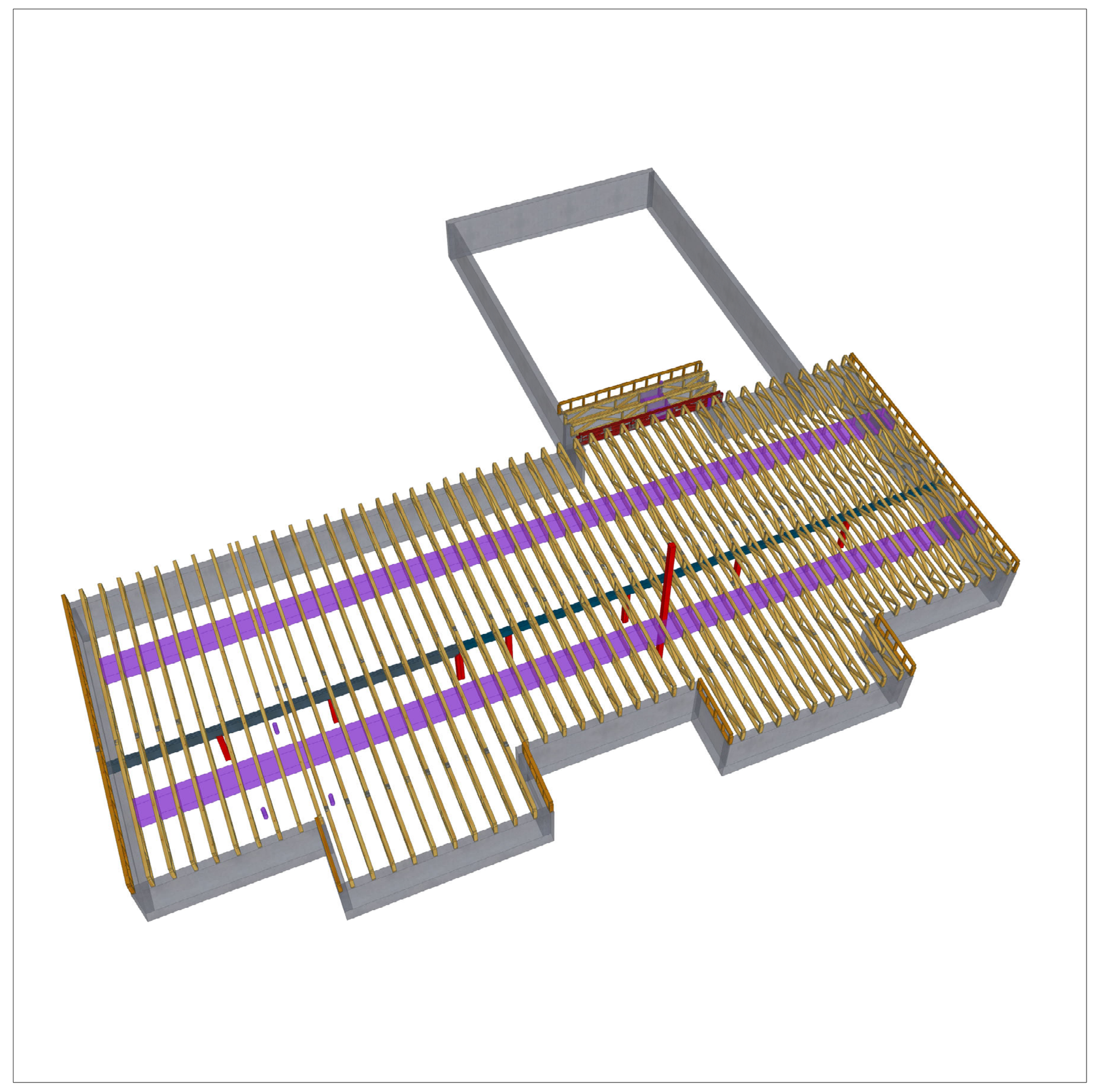
THE PLACEMENT PLAN NOTES:

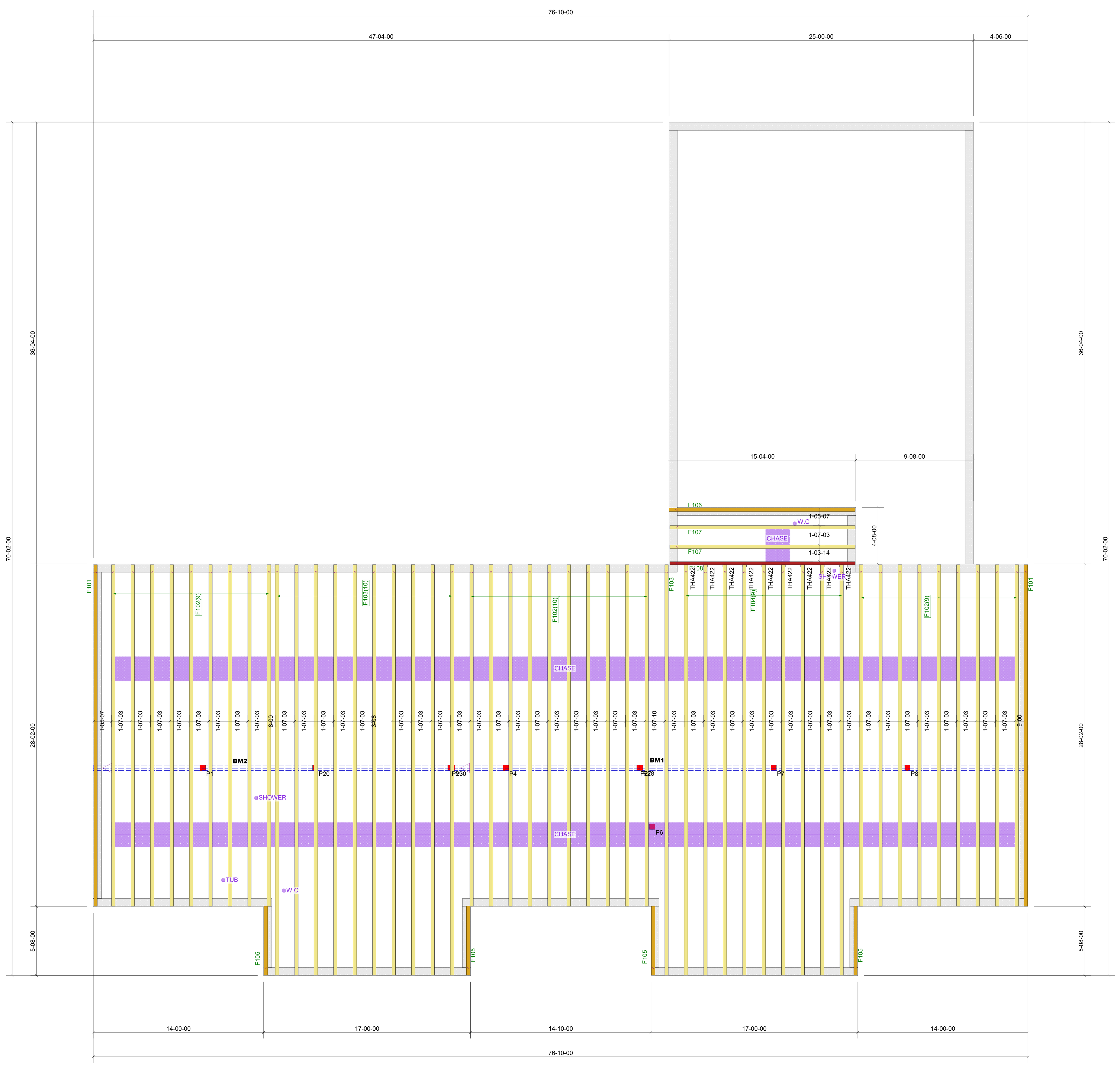
1. The Placement Plan is a diagram for truss installation. It is not an engineered drawing and has not been reviewed by an engineer. The Owner/Building Designer is responsible for obtaining an engineer's review if one is required by the local jurisdiction.
2. The responsibilities of the Owner, Contractor, 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.

Apprved by: _____ **Date:** _____

General Notes: ** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION. ** ALL POINT LOADS FROM ABOVE MUST BE TRANSFERRED TO BEARING FROM UNDER SIDE OF SHEATHING.

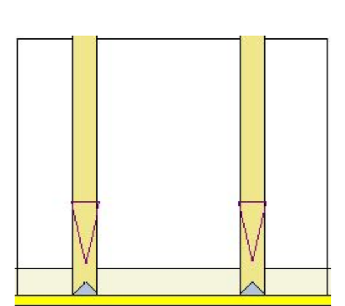
** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS. ** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT. ** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.



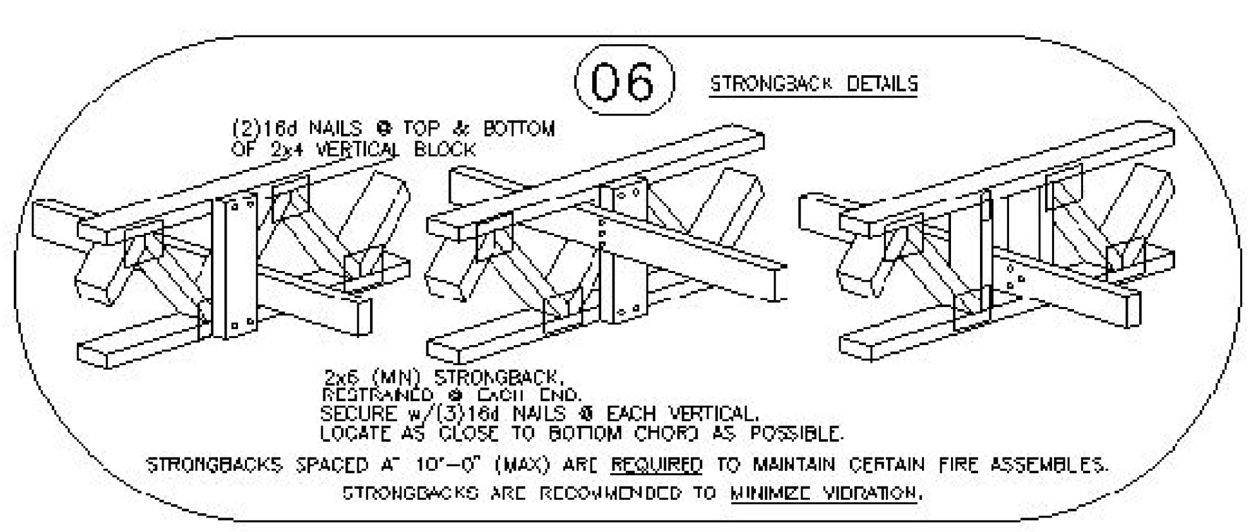


Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
BM1	48-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	3	3	FF
BM2	30-00-00	2.1 RigidLam SP LVL 1-3/4 x 14	3	3	FF

Floor Hanger List	
THA422	9



Truss Drawing Left End Indicator



PRELIMINARY - NOT FOR CONSTRUCTION

** TRIANGULAR SYMBOL NEAR END OF TRUSS INDICATES LEFT END OF TRUSS AS SHOWN ON INDIVIDUAL TRUSS DRAWINGS. ** PLUMBING DROPS NOTED ARE IN THE APPROXIMATE LOCATIONS PER PLAN. BUILDER TO VERIFY LOCATIONS BEFORE SETTING TRUSSES. ** REFER TO FINAL TRUSS ENGINEERING SHEETS FOR PLY TO PLY CONNECTIONS.

** GIRDERS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS. ** DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH. ** TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE.

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual components to be incorporated into the building design at the specification of the building designer. See Individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor systems and for the overall structure. The disign of the tuss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding the bracing, consult "Bracing of Wood Truss" available from the Truss Plate Institute, 583 D'Onifrio Drive: Madison, WI 53179

Probuild

Overhills

1ST FLOOR TRUSS PLACEMENT PLAN

Scale: NTS

Date: 6/1/2025

Designer: NP

Project Number: 25040114

Sheet Number: 1/3

ENGINEERING BY TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 25040114-C
Overhills-Crawl-CL-20-020

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Pages or sheets covered by this seal: I73877246 thru I73877253

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

North Carolina COA: C-0844

June 2,2025

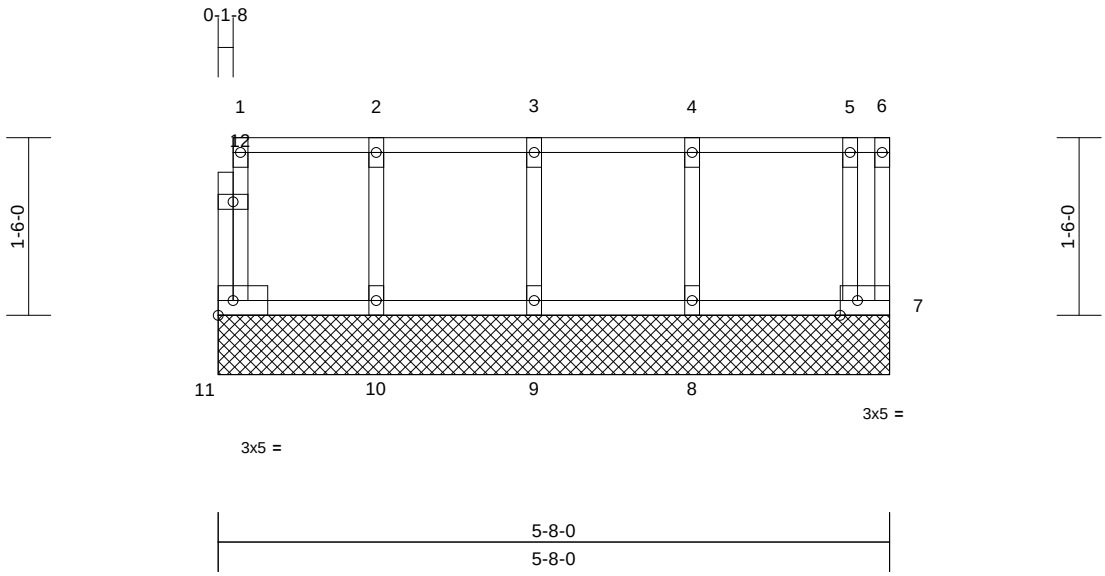
Gilbert, Eric

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Crawl-CL-20-020
25040114-C	F105	Floor Supported Gable	4	1	I73877246 Job Reference (optional)

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

Run: 8.73 E Feb 19 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:52 Page: 1
ID:?FDOyqHyW3fUVtPBAMqGT2zPuRx-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:19.4

Plate Offsets (X, Y): [7:0-1-12,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 29 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD	2x4 SP No.2(flat)
BOT CHORD	2x4 SP No.2(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-8-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=5-8-0, 8=5-8-0, 9=5-8-0, 10=5-8-0, 11=5-8-0
Max Grav 7=74 (LC 1), 8=126 (LC 1), 9=117 (LC 1), 10=109 (LC 1), 11=49 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-11=-43/0, 6-7=0/10, 1-2=-9/0, 2-3=-9/0, 3-4=-9/0, 4-5=-9/0, 5-6=-1/0
BOT CHORD	10-11=0/9, 9-10=0/9, 8-9=0/9, 7-8=0/9
WEBS	2-10=-102/0, 3-9=-106/0, 4-8=-113/0, 5-7=-80/0

NOTES

1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Gable requires continuous bottom chord bearing.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) All bearings are assumed to be SP No.2 .
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

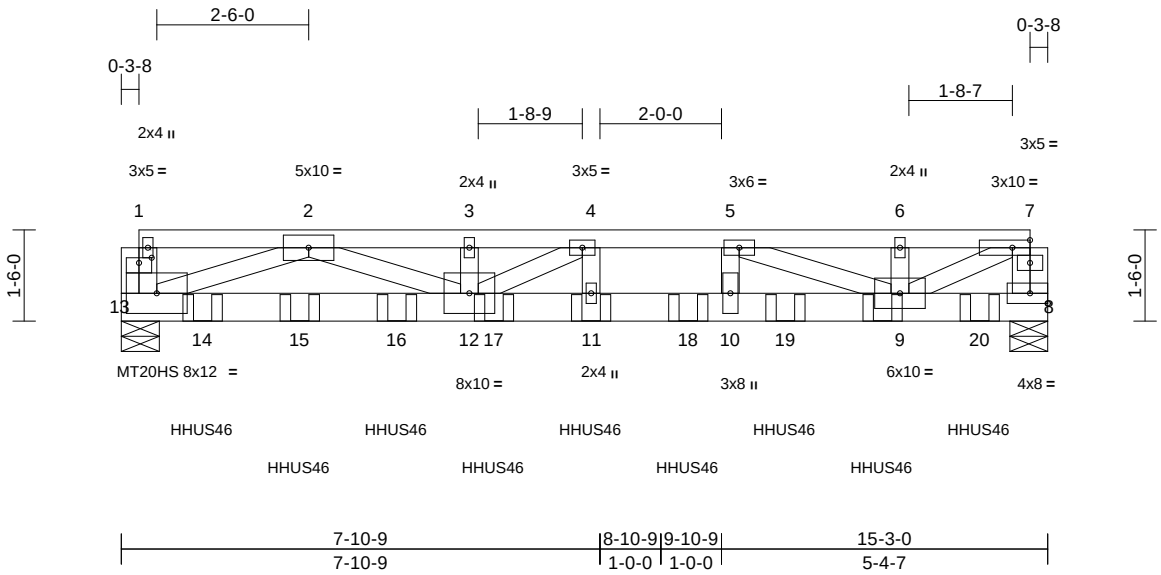
June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Crawl-CL-20-020
25040114-C	F108	Floor Girder	1	2	I73877247 Job Reference (optional)

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

Run: 8.73 E Feb 19 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:52 ID:6KRYs8uZHXlmOtuwvRKCGczObAk-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:37.9

Plate Offsets (X, Y): [1:0-2-8,0-1-0]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.78	Vert(LL)	-0.27	11-12	>662	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.59	Vert(CT)	-0.36	11-12	>489	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.04	8	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 167 lb	FT = 11%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8=0-7-8, 13=0-7-8
Max Grav 8=3699 (LC 1), 13=3584 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-143/0, 7-8=-2859/0, 1-2=-827/0, 2-3=-11027/0, 3-4=-11027/0, 4-5=-10875/0, 5-6=-5631/0, 6-7=-5631/0
BOT CHORD 12-13=0/6386, 11-12=0/10875, 10-11=0/10875, 9-10=0/10875, 8-9=0/528
WEBS 4-11=-614/741, 5-10=0/1781, 2-13=-5993/0, 2-12=0/5044, 3-12=-140/36, 4-12=-1775/1225, 5-9=-5654/0, 6-9=-121/83, 7-9=0/5764

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 0-2-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 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.
3) Unbalanced floor live loads have been considered for this design.
4) All plates are MT20 plates unless otherwise indicated.
5) All bearings are assumed to be SP 2400F 2.0E .
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) Use Simpson Strong-Tie HHUS46 (14-10d Girder, 6-10d Truss) or equivalent spaced at 1-7-3 oc max. starting at 1-4-1 from the left end to 14-1-9 to connect truss(es) to front face of bottom chord.
8) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 8-13=-8, 1-7=-80
Concentrated Loads (lb)
Vert: 11=-666 (F), 9=-666 (F), 14=-666 (F), 15=-666 (F), 16=-666 (F), 17=-666 (F), 18=-666 (F), 19=-666 (F), 20=-666 (F)

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Crawl-CL-20-020
25040114-C	F107	Floor	2	1	I73877248 Job Reference (optional)

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

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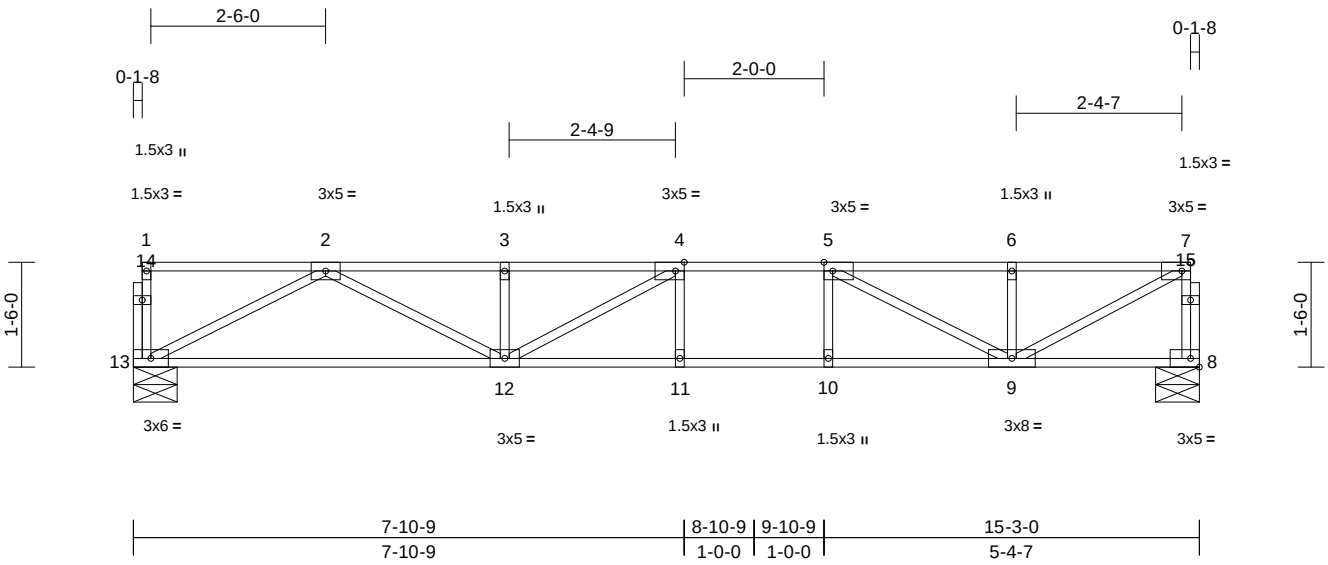


Scale = 1:33

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge], [7:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.67	Vert(LL)	-0.20	11-12	>913	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.75	Vert(CT)	-0.25	11-12	>713	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.03	8	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 80 lb	FT = 20%F, 11%E

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

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

REACTIONS (size) 8=0-7-8, 13=0-7-8
Max Grav 8=655 (LC 1), 13=655 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-84/0, 7-8=-640/0, 1-2=-4/0, 2-3=-1683/0, 3-4=-1683/0, 4-5=-1733/0, 5-6=-1037/0, 6-7=-1037/0
BOT CHORD 12-13=0/1064, 11-12=0/1733, 10-11=0/1733, 9-10=0/1733, 8-9=0/29
WEBS 4-11=-131/30, 5-10=-2/160, 2-13=-1197/0, 2-12=0/702, 3-12=-252/0, 4-12=-311/129, 5-9=-824/0, 6-9=-240/9, 7-9=0/1151

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.1 .
3) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard

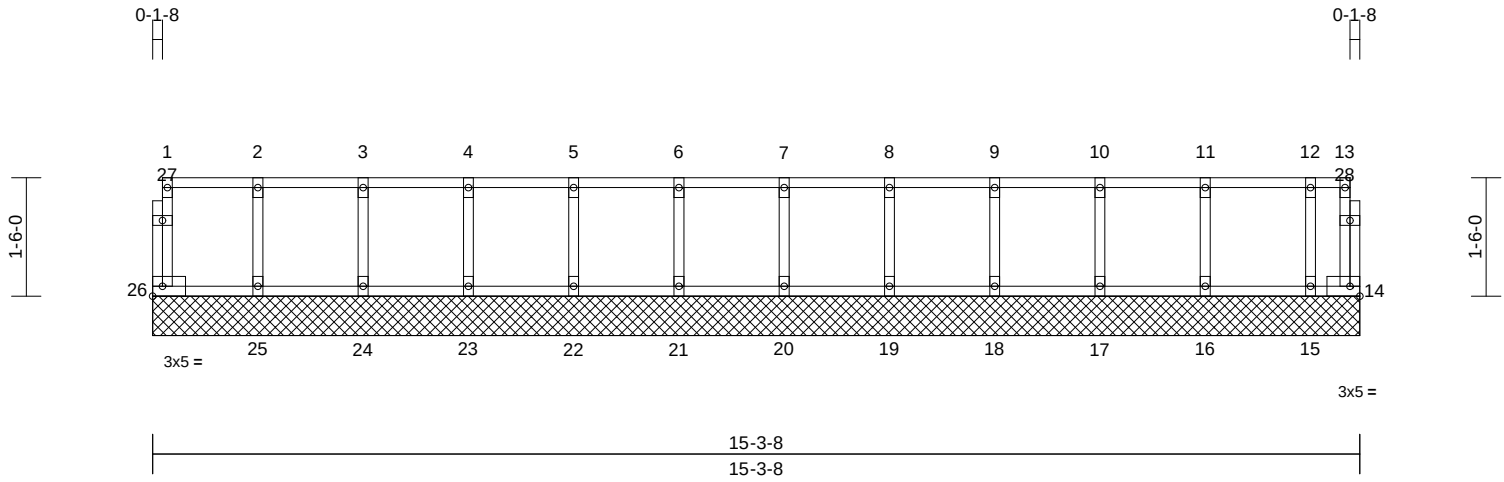
June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Crawl-CL-20-020
25040114-C	F106	Floor Supported Gable	1	1	I73877249 Job Reference (optional)

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

Run: 8.73 E Feb 19 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:52 Page: 1
ID:_l6n?4K4L5qRFeouf4_BshzObBT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:29.2

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 72 lb	FT = 20%F, 11%E

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

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

REACTIONS (size) 14=15-3-8, 15=15-3-8, 16=15-3-8, 17=15-3-8, 18=15-3-8, 19=15-3-8, 20=15-3-8, 21=15-3-8, 22=15-3-8, 23=15-3-8, 24=15-3-8, 25=15-3-8, 26=15-3-8
Max Grav 14=11 (LC 1), 15=82 (LC 1), 16=123 (LC 1), 17=116 (LC 1), 18=118 (LC 1), 19=117 (LC 1), 20=117 (LC 1), 21=117 (LC 1), 22=117 (LC 1), 23=117 (LC 1), 24=117 (LC 1), 25=118 (LC 1), 26=42 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-39/0, 13-14=-4/0, 1-2=-4/0, 2-3=-4/0, 3-4=-4/0, 4-5=-4/0, 5-6=-4/0, 6-7=-4/0, 7-8=-4/0, 8-9=-4/0, 9-10=-4/0, 10-11=-4/0, 11-12=-4/0, 12-13=-4/0
BOT CHORD 25-26=0/4, 24-25=0/4, 23-24=0/4, 22-23=0/4, 21-22=0/4, 20-21=0/4, 19-20=0/4, 18-19=0/4, 17-18=0/4, 16-17=0/4, 15-16=0/4, 14-15=0/4
WEBS 2-25=-106/0, 3-24=-107/0, 4-23=-106/0, 5-22=-107/0, 6-21=-107/0, 7-20=-107/0, 8-19=-107/0, 9-18=-107/0, 10-17=-105/0, 11-16=-111/0, 12-15=-81/0

NOTES
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Gable requires continuous bottom chord bearing.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) All bearings are assumed to be SP No.2 .
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Crawl-CL-20-020
25040114-C	F102	Floor	28	1	I73877250 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:51 Page: 1
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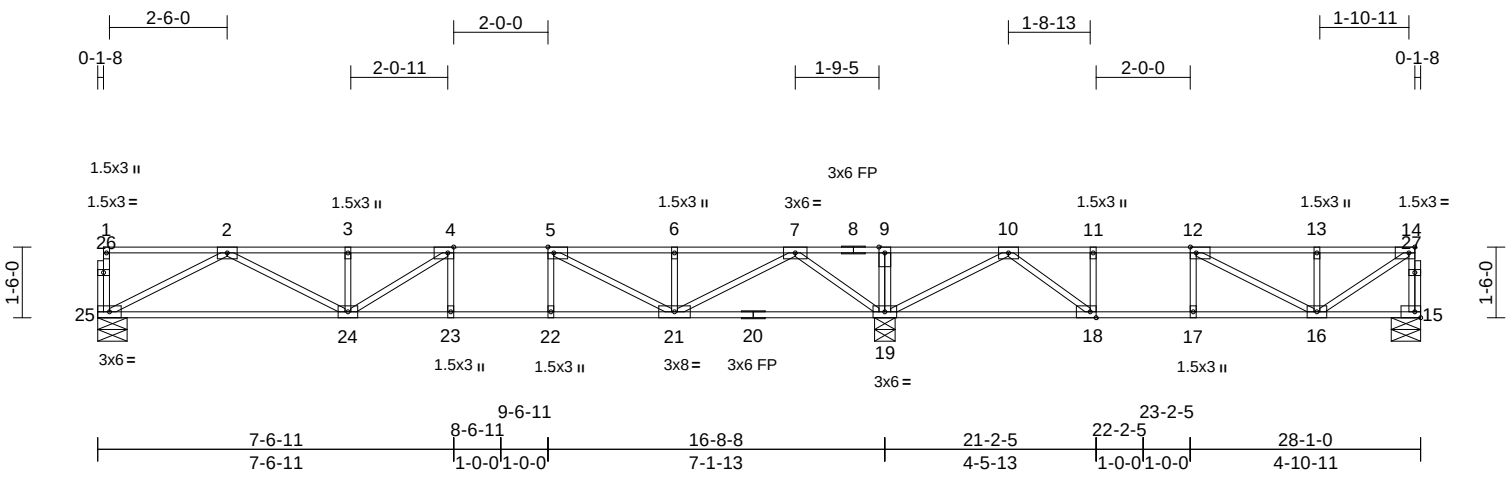

Scale = 1:48.9

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge], [12:0-1-8,Edge], [14:0-1-8,Edge], [18:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.63	Vert(LL)	-0.17	23-24	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.89	Vert(CT)	-0.22	23-24	>887	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.53	Horz(CT)	0.04	15	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 145 lb	FT = 20%F, 11%E

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 15=0-7-8, 19=0-5-4, 25=0-7-8
Max Grav 15=455 (LC 4), 19=1366 (LC 1), 25=686 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-25=-83/0, 14-15=-452/0, 1-2=-4/0, 2-3=-1785/0, 3-4=-1785/0, 4-5=-1942/0, 5-6=-1421/0, 6-7=-1421/0, 7-9=0/829, 9-10=0/831, 10-11=-852/45, 11-12=-852/45, 12-13=-603/0, 13-14=-603/0
BOT CHORD 24-25=0/1123, 23-24=0/1942, 22-23=0/1942, 21-22=0/1942, 19-21=-6/495, 18-19=-277/530, 17-18=-45/852, 16-17=-45/852, 15-16=0/21
WEBS 4-23=-102/39, 5-22=-15/117, 9-19=-205/0, 11-18=-251/0, 12-17=-76/0, 2-25=-1264/0, 2-24=0/751, 3-24=-234/0, 4-24=-321/69, 5-21=-699/0, 6-21=-232/4, 7-21=0/1114, 7-19=-1194/0, 10-19=-994/0, 10-18=0/557, 12-16=-281/139, 13-16=-256/0, 14-16=0/705

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
3) All bearings are assumed to be SP No.2 .
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Crawl-CL-20-020
25040114-C	F101	Floor Supported Gable	2	1	I73877251 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:50 Page: 1
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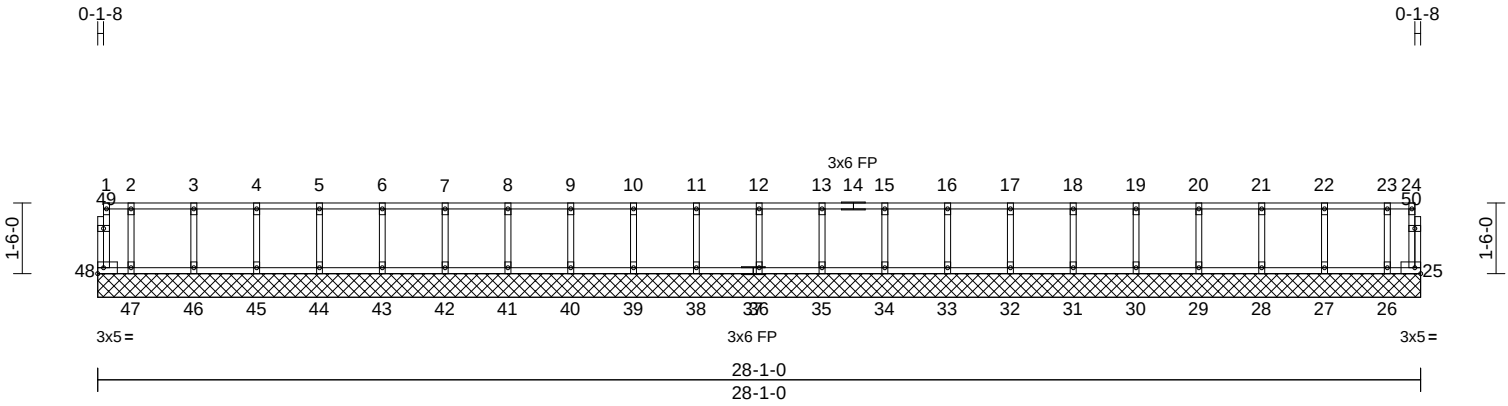

Scale = 1:48.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	25	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 129 lb	FT = 20%F, 11%E

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

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

REACTIONS (size) 25=28-1-0, 26=28-1-0, 27=28-1-0, 28=28-1-0, 29=28-1-0, 30=28-1-0, 31=28-1-0, 32=28-1-0, 33=28-1-0, 34=28-1-0, 35=28-1-0, 36=28-1-0, 38=28-1-0, 39=28-1-0, 40=28-1-0, 41=28-1-0, 42=28-1-0, 43=28-1-0, 44=28-1-0, 45=28-1-0, 46=28-1-0, 47=28-1-0, 48=28-1-0
Max Grav 25=5 (LC 1), 26=96 (LC 1), 27=121 (LC 1), 28=116 (LC 1), 29=118 (LC 1), 30=117 (LC 1), 31=117 (LC 1), 32=117 (LC 1), 33=117 (LC 1), 34=117 (LC 1), 35=117 (LC 1), 36=117 (LC 1), 38=117 (LC 1), 39=117 (LC 1), 40=117 (LC 1), 41=117 (LC 1), 42=117 (LC 1), 43=117 (LC 1), 44=118 (LC 1), 45=116 (LC 1), 46=121 (LC 1), 47=96 (LC 1), 48=5 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-48=-5/0, 24-25=-5/0, 1-2=0/0, 2-3=0/0, 3-4=0/0, 4-5=0/0, 5-6=0/0, 6-7=0/0, 7-8=0/0, 8-9=0/0, 9-10=0/0, 10-11=0/0, 11-12=0/0, 12-13=0/0, 13-15=0/0, 15-16=0/0, 16-17=0/0, 17-18=0/0, 18-19=0/0, 19-20=0/0, 20-21=0/0, 21-22=0/0, 22-23=0/0, 23-24=0/0
BOT CHORD 47-48=0/0, 46-47=0/0, 45-46=0/0, 44-45=0/0, 43-44=0/0, 42-43=0/0, 41-42=0/0, 40-41=0/0, 39-40=0/0, 38-39=0/0, 36-38=0/0, 35-36=0/0, 34-35=0/0, 33-34=0/0, 32-33=0/0, 31-32=0/0, 30-31=0/0, 29-30=0/0, 28-29=0/0, 27-28=0/0, 26-27=0/0, 25-26=0/0
WEBS 12-36=-107/0, 11-38=-107/0, 10-39=-107/0, 9-40=-107/0, 8-41=-107/0, 7-42=-107/0, 6-43=-107/0, 5-44=-107/0, 4-45=-106/0, 3-46=-111/0, 2-47=-87/0, 13-35=-107/0, 15-34=-107/0, 16-33=-107/0, 17-32=-107/0, 18-31=-107/0, 19-30=-107/0, 20-29=-107/0, 21-28=-106/0, 22-27=-111/0, 23-26=-87/0

NOTES
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Gable requires continuous bottom chord bearing.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) All bearings are assumed to be SP No.2 .
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Crawl-CL-20-020
25040114-C	F103	Floor	11	1	I73877252 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:51 Page: 1
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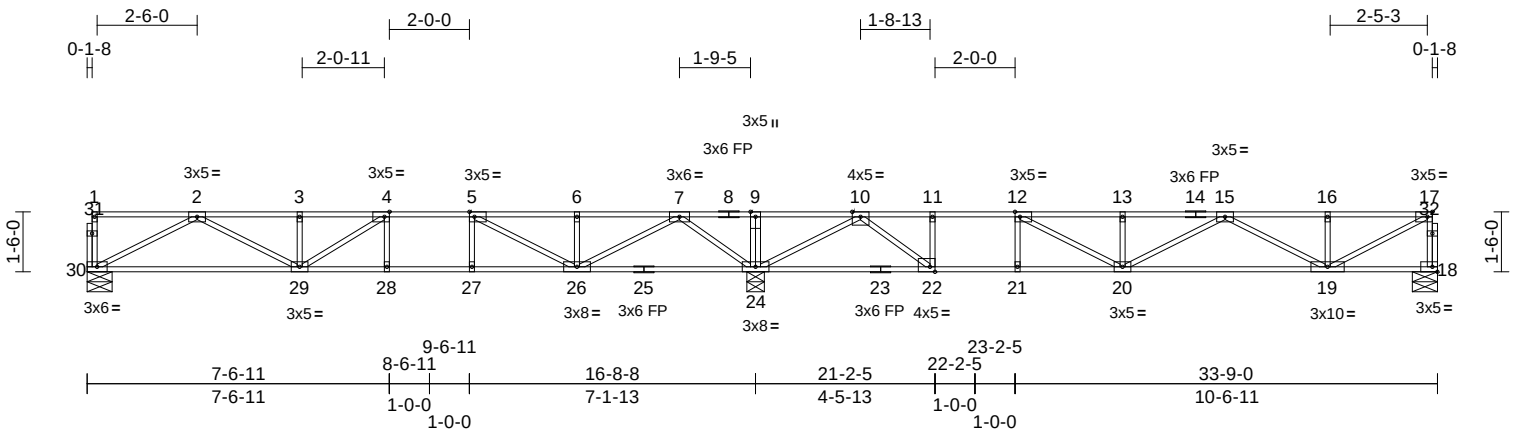

Scale = 1:57.6

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge], [12:0-1-8,Edge], [17:0-1-8,Edge], [22:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.75	Vert(LL)	-0.30	20-21	>677	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.90	Vert(CT)	-0.40	20-21	>502	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.05	18	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 173 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat) *Except* 8-14:2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 23-18:2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 24-26,22-24.

REACTIONS (size) 18=0-7-8, 24=0-5-4, 30=0-7-8
Max Grav 18=712 (LC 4), 24=1615 (LC 1), 30=667 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-30=-83/0, 17-18=-703/0, 1-2=-4/0, 2-3=-1718/0, 3-4=-1718/0, 4-5=-1827/0, 5-6=-1260/0, 6-7=-1260/0, 7-9=0/947, 9-10=0/949, 10-11=-1761/0, 11-12=-1761/0, 12-13=-2209/0, 13-15=-2209/0, 15-16=-1187/0, 16-17=-1187/0
BOT CHORD 29-30=0/1088, 28-29=0/1827, 27-28=0/1827, 26-27=0/1827, 24-26=-72/289, 22-24=-340/948, 21-22=0/1761, 20-21=0/1761, 19-20=0/1858, 18-19=0/32
WEBS 4-28=-104/28, 5-27=-8/117, 9-24=-232/0, 11-22=-497/0, 12-21=-222/0, 2-30=-1224/0, 2-29=0/715, 3-29=-236/0, 4-29=-274/83, 5-26=-723/0, 6-26=-228/4, 7-26=0/1138, 7-24=-1209/0, 10-24=-1503/0, 10-22=0/1156, 12-20=0/726, 13-20=-338/0, 15-20=0/399, 15-19=-761/0, 16-19=-238/0, 17-19=0/1311

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Bearings are assumed to be: Joint 30 SP No.2 , Joint 24 SP No.2 , Joint 18 SP 2400F 2.0E .
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Crawl-CL-20-020
25040114-C	F104	Floor	9	1	I73877253 Job Reference (optional)

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

Run: 8.73 E Feb 19 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:51 Page: 1
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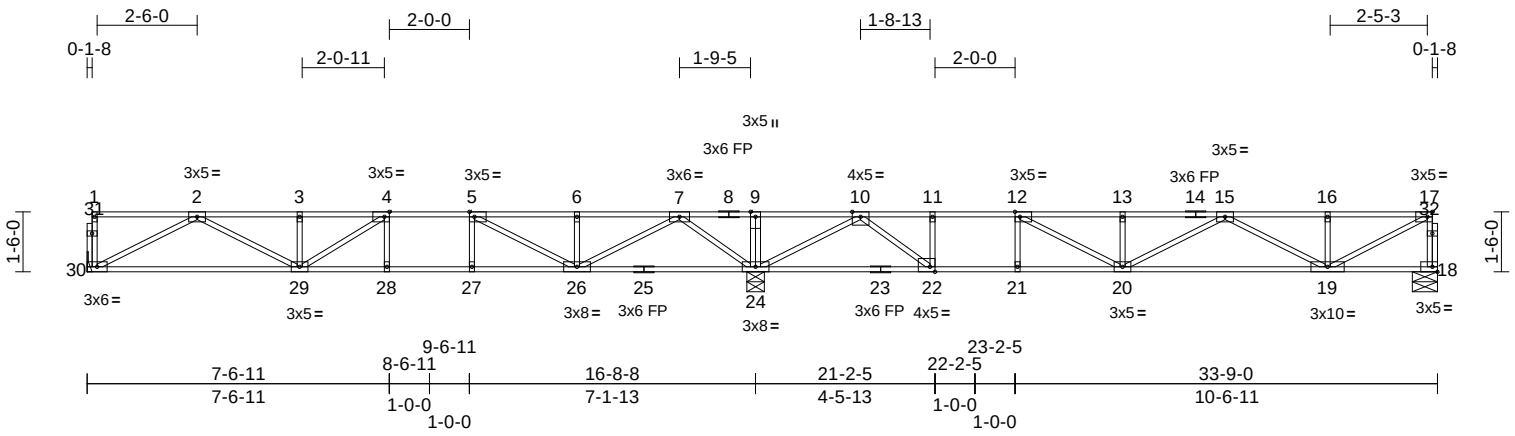


Scale = 1:57.6

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge], [12:0-1-8,Edge], [17:0-1-8,Edge], [22:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.73	Vert(LL)	-0.29	20-21	>689	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.68	Vert(CT)	-0.40	20-21	>510	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.04	18	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 173 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat) *Except* 8-14:2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

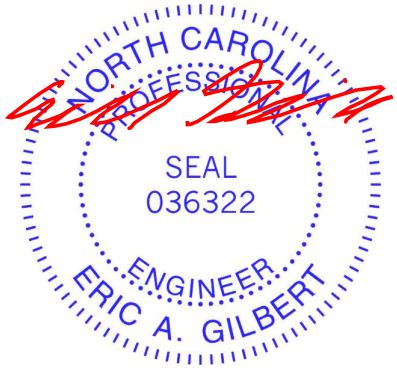
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 24-26,22-24.

REACTIONS (size) 18=0-7-8, 24=0-5-4, 30= Mechanical
Max Grav 18=714 (LC 4), 24=1607 (LC 1), 30=671 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-30=-82/0, 17-18=-704/0, 1-2=-4/0, 2-3=-1733/0, 3-4=-1733/0, 4-5=-1856/0, 5-6=-1300/0, 6-7=-1300/0, 7-9=0/918, 9-10=0/920, 10-11=-1776/0, 11-12=-1776/0, 12-13=-2217/0, 13-15=-2217/0, 15-16=-1190/0, 16-17=-1190/0
BOT CHORD 29-30=0/1097, 28-29=0/1856, 27-28=0/1856, 26-27=0/1856, 24-26=-37/336, 22-24=-306/967, 21-22=0/1776, 20-21=0/1776, 19-20=0/1864, 18-19=0/32
WEBS 4-28=-123/36, 5-27=-15/134, 9-24=-231/0, 11-22=-486/0, 12-21=-223/0, 2-30=-1234/0, 2-29=0/721, 3-29=-224/0, 4-29=-289/75, 5-26=-717/0, 6-26=-227/0, 7-26=0/1133, 7-24=-1203/0, 10-24=-1499/0, 10-22=0/1143, 12-20=0/707, 13-20=-334/0, 15-20=0/401, 15-19=-765/0, 16-19=-238/0, 17-19=0/1315

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Bearings are assumed to be: , Joint 24 SP 2400F 2.0E , Joint 18 SP 2400F 2.0E .
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

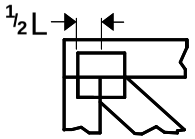


June 2,2025

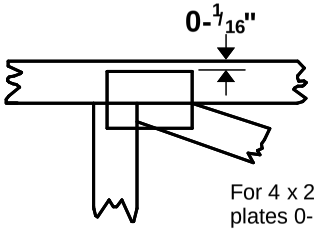
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

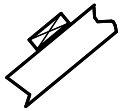
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

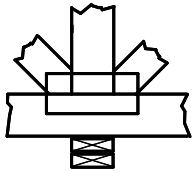
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

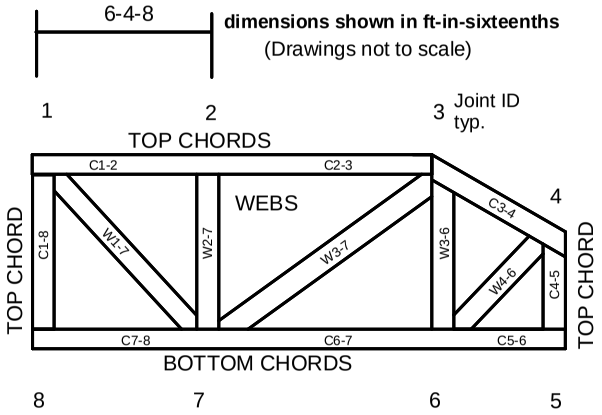


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

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

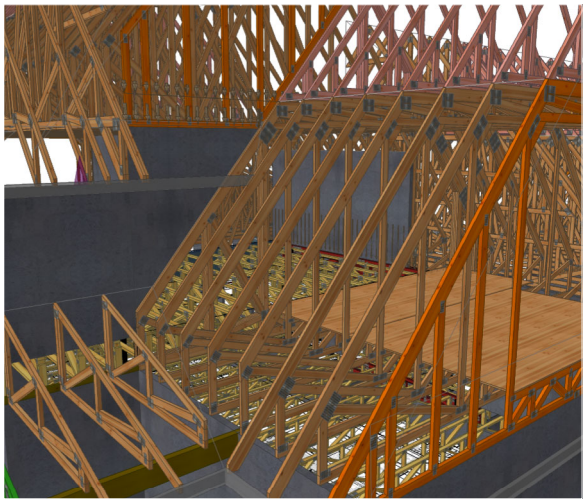
General Safety Notes

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

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

Phone #:919-775-1450



Builder: Pro Build
Model: OverHills

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.

Apprved by: _____ **Date:** _____

General Notes:

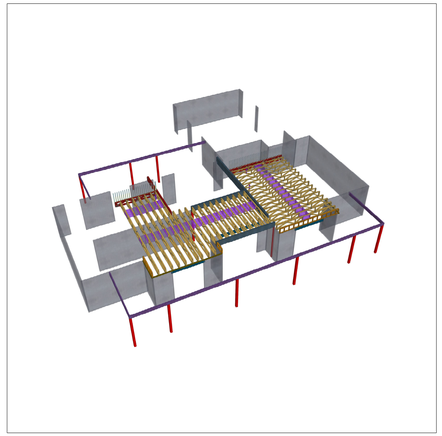
** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION.

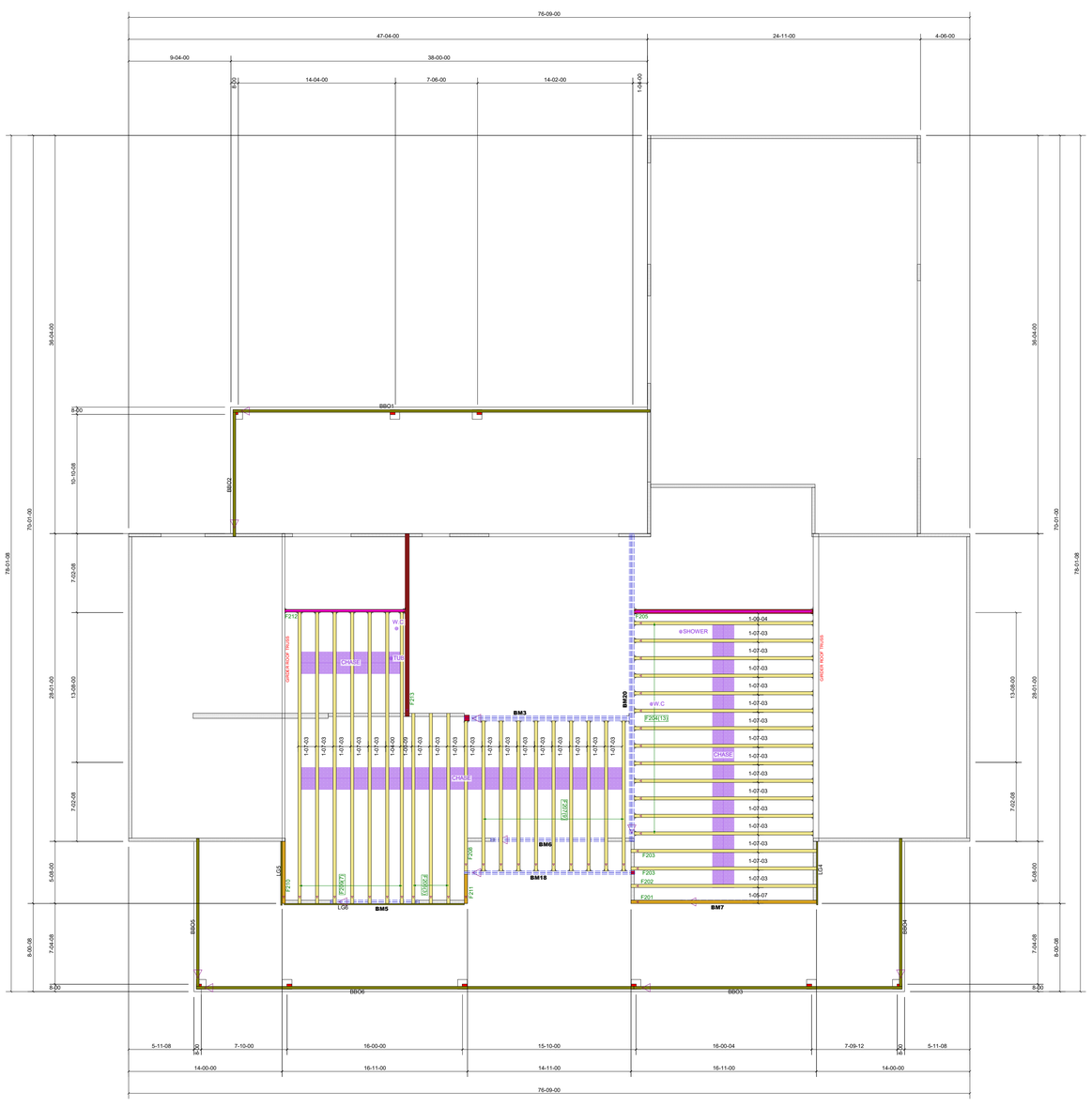
** ALL POINT LOADS FROM ABOVE MUST BE TRANSFERRED TO BEARING FROM UNDER SIDE OF SHEATHING.

** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.

** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT.

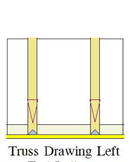
** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.



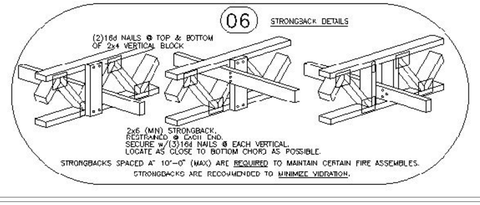


Floor Hanger List	
THA422	7
HUI410	45
HGUS28-2	2
HGUS210-3	2

Products					
Post#	Length	Product	Plies	Net Qty	Fab Type
BM04	38-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM13	12-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM6	12-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM3	10-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM5	10-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM7	10-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM10	6-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM11	6-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM8	4-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM9	14-00-00	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2	FF
BM01	38-00-00	2.1 RigidLam SP LVL 1-3/4 x 18	2	2	FF
BM2	16-00-00	2.1 RigidLam SP LVL 1-3/4 x 18	3	3	FF
BM02	30-00-00	2.1 RigidLam SP LVL 1-3/4 x 24	3	3	FF



Truss Drawing Left End Indicator



PRELIMINARY - NOT FOR CONSTRUCTION

** TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE.

** GIRDERS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS.

** DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH.

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor systems and for the overall structure. The design of the truss supported structure including headers, beams and columns is the responsibility of the building designer. For general guidance regarding the bracing, consult "Bracing of Wood Trusses" available from the Truss Plate Institute, 583 D'Onofrio Drive; Madison, WI 53179

CARTER Lumber

Probuild

Overhills

2ND FLOOR TRUSS PLACEMENT PLAN

Scale: *NTS*

Date: 6/1/2025

Designer: NP

Project Number: 25040114

Sheet Number: **2/3**

** TRIANGULAR SYMBOL NEAR END OF TRUSS INDICATES LEFT END OF TRUSS AS SHOWN ON INDIVIDUAL TRUSS DRAWINGS.

** PLUMBING DROPS NOTED ARE IN THE APPROXIMATE LOCATIONS PER PLAN. BUILDER TO VERIFY LOCATIONS BEFORE SETTING TRUSSES.

** REFER TO FINAL TRUSS ENGINEERING SHEETS FOR PLY TO PLY CONNECTIONS.

ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 25040114-B
Overhills-2nd Floor-CL-20-020

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Pages or sheets covered by this seal: I73877233 thru I73877245

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

North Carolina COA: C-0844

June 2,2025

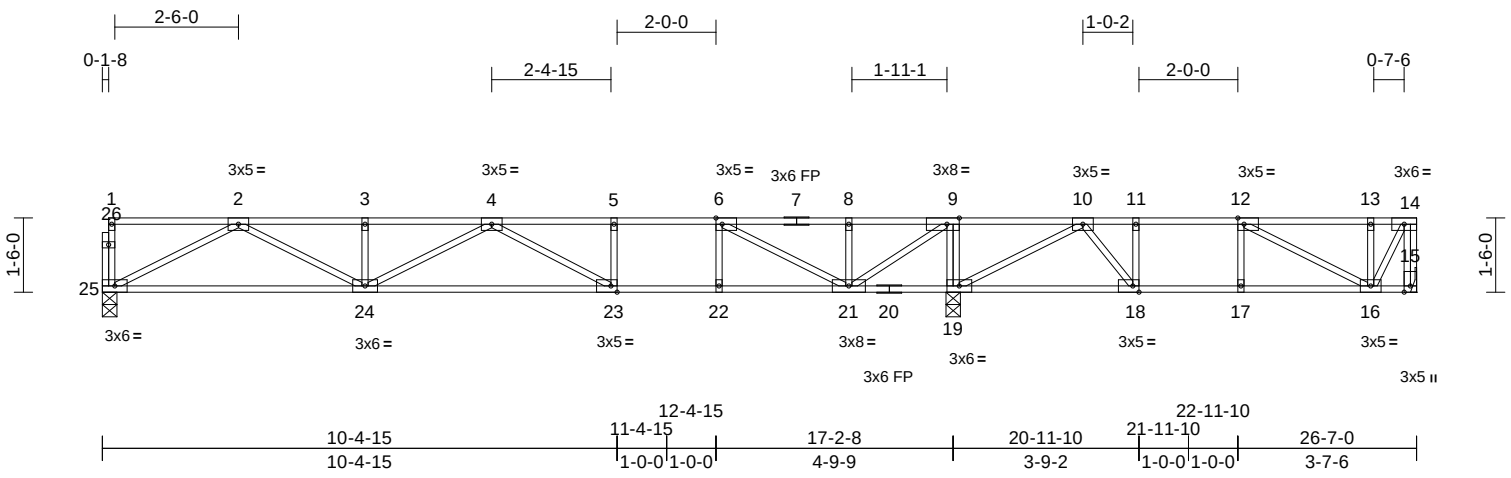
Gilbert, Eric

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F209	Floor	7	1	I73877233 Job Reference (optional)

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

Run: 9 E 8.73 Feb 1 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:11 Page: 1
ID:tlxTEN7oa40KRtwhv75DRJzPuS8-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:46.6

Plate Offsets (X, Y): [6:0-1-8,Edge], [9:0-3-0,Edge], [12:0-1-8,Edge], [18:0-1-8,Edge], [23:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.87	Vert(LL)	-0.36	23-24	>565	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.71	Vert(CT)	-0.50	23-24	>408	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.04	15	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 140 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.1(flat) *Except* 7-14:2x4 SP No.2 (flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 19-21.

REACTIONS (size) 15= Mechanical, 19=0-3-8, 25=0-3-8
Max Grav 15=406 (LC 7), 19=1204 (LC 1), 25=743 (LC 10)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-25=-81/0, 14-15=-408/0, 1-2=-4/0, 2-3=-2011/0, 3-4=-2011/0, 4-5=-2066/0, 5-6=-2066/0, 6-8=-946/0, 8-9=-946/0, 9-10=-42/295, 10-11=-665/0, 11-12=-665/0, 12-13=-246/0, 13-14=-246/0
BOT CHORD 24-25=0/1244, 23-24=0/2309, 22-23=0/2066, 21-22=0/2066, 19-21=-295/42, 18-19=0/572, 17-18=0/665, 16-17=0/665, 15-16=0/0
WEBS 5-23=-44/44, 6-22=0/247, 11-18=-160/0, 12-17=-25/20, 2-25=-1400/0, 2-24=0/871, 3-24=-174/0, 4-24=-338/0, 4-23=-393/75, 12-16=-472/0, 13-16=-205/0, 14-16=0/489, 9-19=-852/0, 6-21=-1350/0, 8-21=-158/88, 9-21=0/1152, 10-19=-720/0, 10-18=0/273

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Bearings are assumed to be: Joint 25 SP 2400F 2.0E , Joint 19 SP 2400F 2.0E .
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

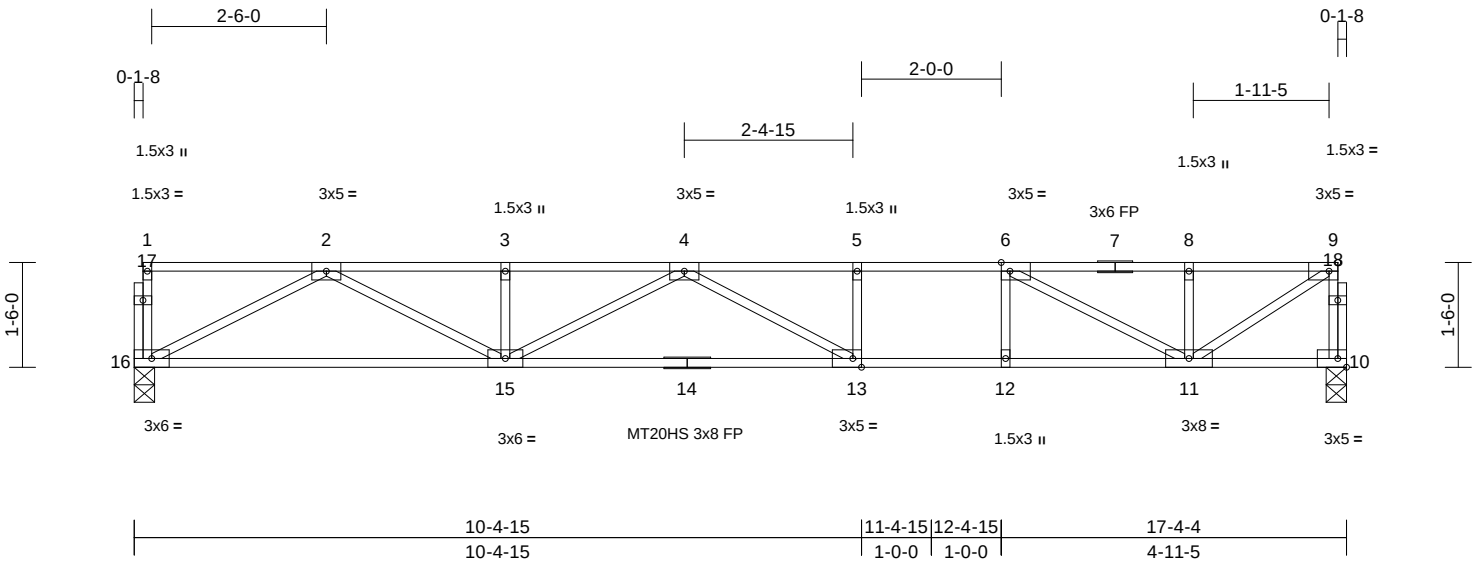
June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F206	Floor	3	1	I73877234 Job Reference (optional)

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

Run: 9 E 8.73 Feb 1 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:11
ID:LzZqxieNhlsW3C84?r7E9GzPXjg-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33

Plate Offsets (X, Y): [6:0-1-8,Edge], [9:0-1-8,Edge], [13:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.57	Vert(LL)	-0.33	13-15	>624	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.65	Vert(CT)	-0.45	13-15	>453	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.03	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 90 lb	FT = 20%F, 11%E

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

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

REACTIONS (size) 10=0-3-8, 16=0-3-8
Max Grav 10=747 (LC 1), 16=747 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-81/0, 9-10=-724/0, 1-2=-4/0, 2-3=-2025/0, 3-4=-2025/0, 4-5=-2098/0, 5-6=-2098/0, 6-8=-1001/0, 8-9=-1001/0
BOT CHORD 15-16=0/1250, 13-15=0/2338, 12-13=0/2098, 11-12=0/2098, 10-11=0/33
WEBS 5-13=-63/67, 6-12=0/218, 2-16=-1407/0, 2-15=0/879, 3-15=-173/0, 4-15=-356/0, 4-13=-401/152, 6-11=-1239/0, 8-11=-197/70, 9-11=0/1163

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All bearings are assumed to be SP 2400F 2.0E .
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F201	Floor Supported Gable	1	1	I73877235 Job Reference (optional)

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

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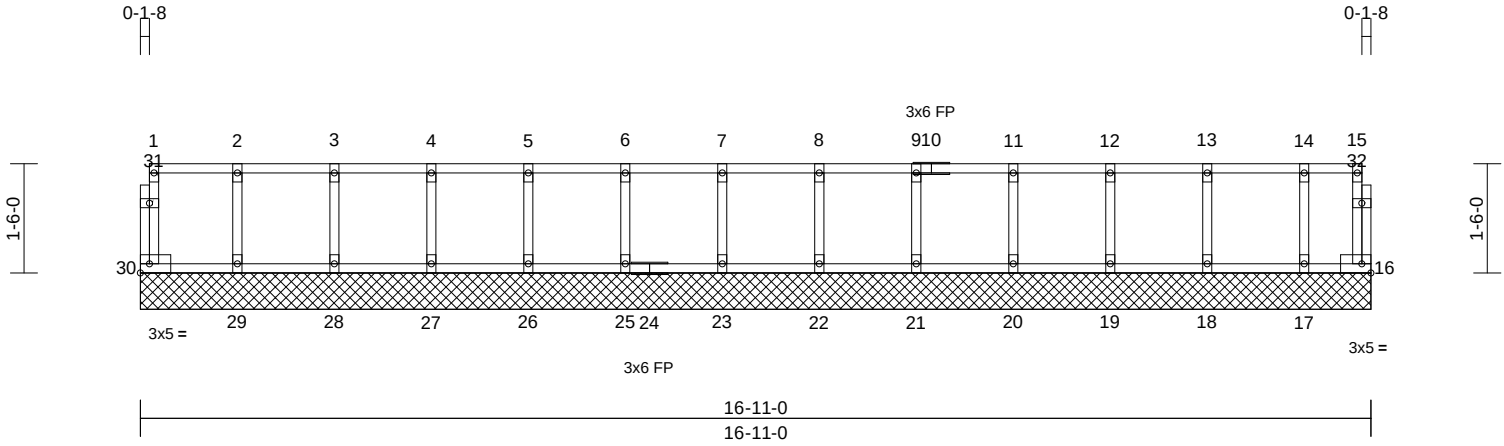

Scale = 1:31.7

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 79 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 16=16-11-0, 17=16-11-0, 18=16-11-0, 19=16-11-0, 20=16-11-0, 21=16-11-0, 22=16-11-0, 23=16-11-0, 25=16-11-0, 26=16-11-0, 27=16-11-0, 28=16-11-0, 29=16-11-0, 30=16-11-0
Max Grav 16=26 (LC 1), 17=94 (LC 1), 18=122 (LC 1), 19=116 (LC 1), 20=118 (LC 1), 21=117 (LC 1), 22=117 (LC 1), 23=117 (LC 1), 25=117 (LC 1), 26=117 (LC 1), 27=117 (LC 1), 28=117 (LC 1), 29=117 (LC 1), 30=42 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-30=-39/0, 15-16=-21/0, 1-2=-4/0, 2-3=-4/0, 3-4=-4/0, 4-5=-4/0, 5-6=-4/0, 6-7=-4/0, 7-8=-4/0, 8-9=-4/0, 9-11=-4/0, 11-12=-4/0, 12-13=-4/0, 13-14=-4/0, 14-15=-4/0
BOT CHORD 29-30=0/4, 28-29=0/4, 27-28=0/4, 26-27=0/4, 25-26=0/4, 23-25=0/4, 22-23=0/4, 21-22=0/4, 20-21=0/4, 19-20=0/4, 18-19=0/4, 17-18=0/4, 16-17=0/4
WEBS 2-29=-106/0, 3-28=-107/0, 4-27=-106/0, 5-26=-107/0, 6-25=-107/0, 7-23=-107/0, 8-22=-107/0, 9-21=-107/0, 11-20=-107/0, 12-19=-106/0, 13-18=-110/0, 14-17=-88/0

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) All bearings are assumed to be SP No.2 .
7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F203	Floor	2	1	I73877236 Job Reference (optional)

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

Run: 9 E 8.73 Feb 1 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:11

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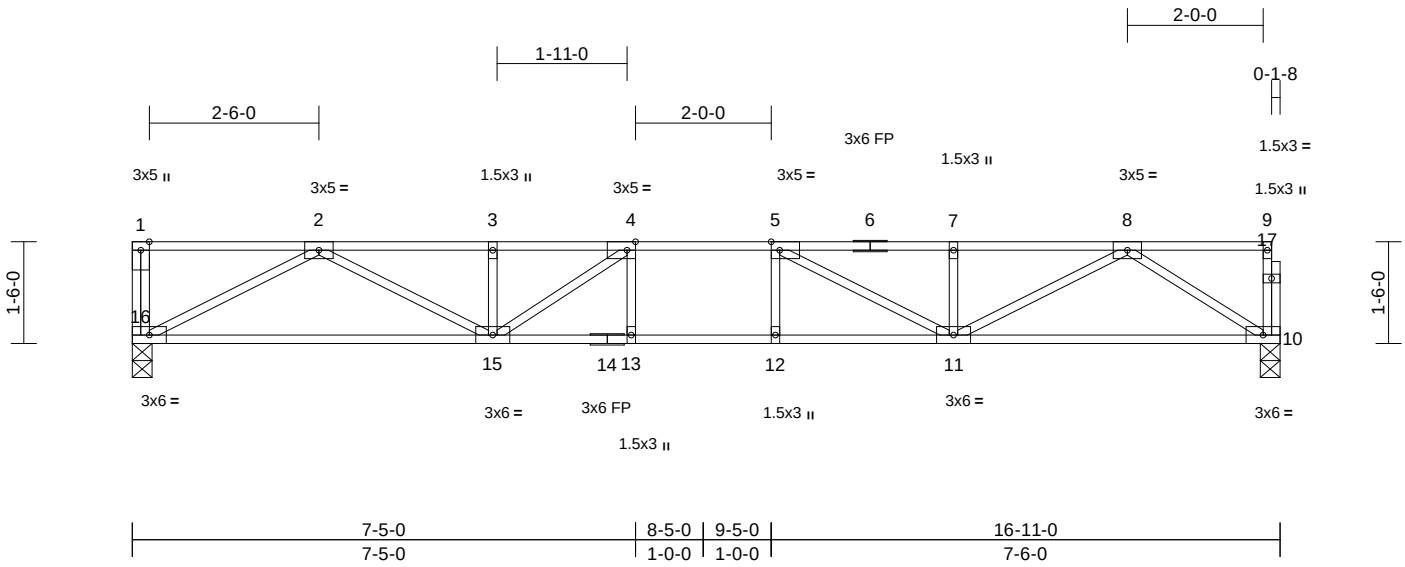

Scale = 1:34

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.51	Vert(LL)	-0.17	11-12	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.82	Vert(CT)	-0.22	11-12	>910	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.04	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 88 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 10=0-3-8, 16=0-3-8
Max Grav 10=728 (LC 1), 16=733 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-16=-85/0, 9-10=-65/0, 1-2=0/0, 2-3=-1934/0, 3-4=-1934/0, 4-5=-2202/0, 5-7=-1837/0, 7-8=-1837/0, 8-9=-3/0
BOT CHORD 15-16=0/1205, 13-15=0/2202, 12-13=0/2202, 11-12=0/2202, 10-11=0/1006
WEBS 4-13=-77/98, 5-12=-69/88, 2-16=-1361/0, 2-15=0/827, 3-15=-214/20, 4-15=-523/0, 5-11=-584/0, 7-11=-246/0, 8-11=0/943, 8-10=-1194/0

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
3) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
4) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F202	Floor	1	1	I73877237 Job Reference (optional)

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

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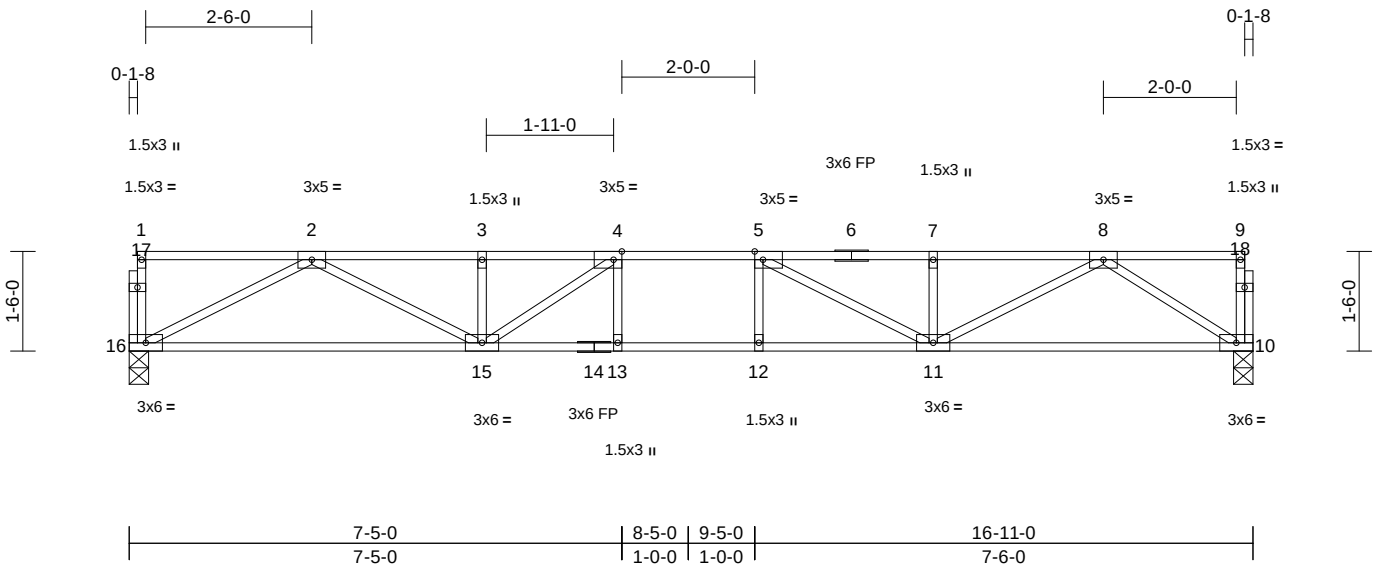


Scale = 1:34.7

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.51	Vert(LL)	-0.17	11-12	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.82	Vert(CT)	-0.22	11-12	>910	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.04	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 88 lb	FT = 20%F, 11%E

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

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

REACTIONS (size) 10=0-3-8, 16=0-3-8
Max Grav 10=728 (LC 1), 16=728 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-82/0, 9-10=-65/0, 1-2=-4/0, 2-3=-1934/0, 3-4=-1934/0, 4-5=-2202/0, 5-7=-1837/0, 7-8=-1837/0, 8-9=-3/0
BOT CHORD 15-16=0/1204, 13-15=0/2202, 12-13=0/2202, 11-12=0/2202, 10-11=0/1006
WEBS 4-13=-77/98, 5-12=-69/88, 2-16=-1355/0, 2-15=0/829, 3-15=-216/20, 4-15=-523/0, 5-11=-584/0, 7-11=-246/0, 8-11=0/943, 8-10=-1194/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) All bearings are assumed to be SP No.2 .
4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard

June 2,2025

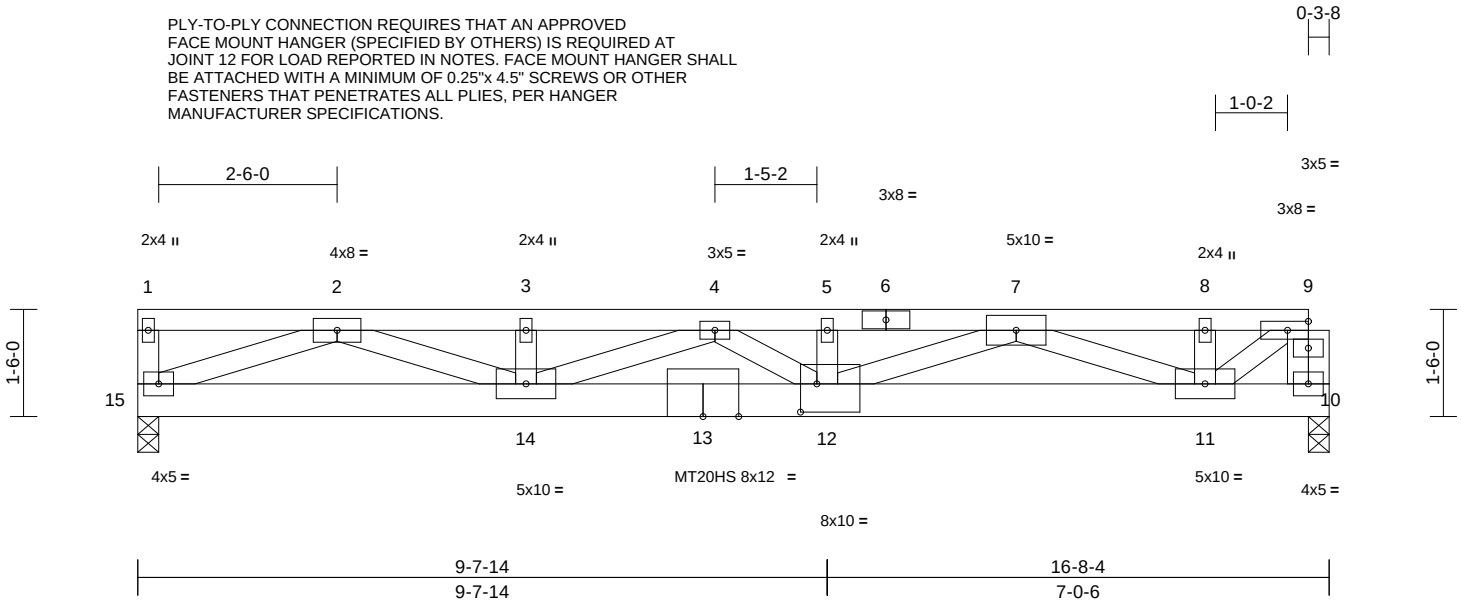
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F213	Floor Girder	1	3	I73877238 Job Reference (optional)

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

Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Mon Jun 02 13:23:29 ID:Kh6PRPzF9xOexJ4k2O1UG2zPXfO-VwXIaYA4ECBXrwgeOkLFVPDTFuQcnbGaT10LkvzATkU

PLY-TO-PLY CONNECTION REQUIRES THAT AN APPROVED FACE MOUNT HANGER (SPECIFIED BY OTHERS) IS REQUIRED AT JOINT 12 FOR LOAD REPORTED IN NOTES. FACE MOUNT HANGER SHALL BE ATTACHED WITH A MINIMUM OF 0.25"x 4.5" SCREWS OR OTHER FASTENERS THAT PENETRATES ALL PLIES, PER HANGER MANUFACTURER SPECIFICATIONS.



Scale = 1:32.3

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

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.96	Vert(LL)	-0.20	12-14	>980	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.66	Vert(CT)	-0.40	12-14	>482	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.05	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 281 lb	FT = 11%

LUMBER

TOP CHORD 2x4 SP 2400F 2.0E *Except* 6-9:2x4 SP No.1
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 14-2,12-7,11-9:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 10=0-3-8, 15=0-3-8
Max Grav 10=4337 (LC 1), 15=3281 (LC 1)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 9-10=-4254/0, 1-2=-272/0, 2-3=-13714/0, 3-4=-13714/0, 4-5=-22195/0, 5-6=-22195/0, 6-7=-22195/0, 7-8=-5702/0, 8-9=-5702/0
BOT CHORD 14-15=0/7230, 13-14=0/19474, 12-13=0/19474, 11-12=0/14505, 10-11=0/431
WEBS 5-12=0/384, 2-15=-7561/0, 2-14=0/7046, 4-14=-6259/0, 4-12=0/3345, 7-12=0/8356, 7-11=-9566/0, 9-11=0/6676

NOTES

1) N/A
2) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 2 rows staggered at 0-4-0 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.
3) 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.
4) Unbalanced floor live loads have been considered for this design.
5) N/A
6) All plates are MT20 plates unless otherwise indicated.
7) The Fabrication Tolerance at joint 13 = 11%, joint 6 = 11%
8) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
9) CAUTION, Do not erect truss backwards.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 6189 lb down at 9-7-12 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 10-15=-8, 1-9=-80
Concentrated Loads (lb)
Vert: 12=-6189 (B)

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F204	Floor	13	1	I73877239 Job Reference (optional)

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

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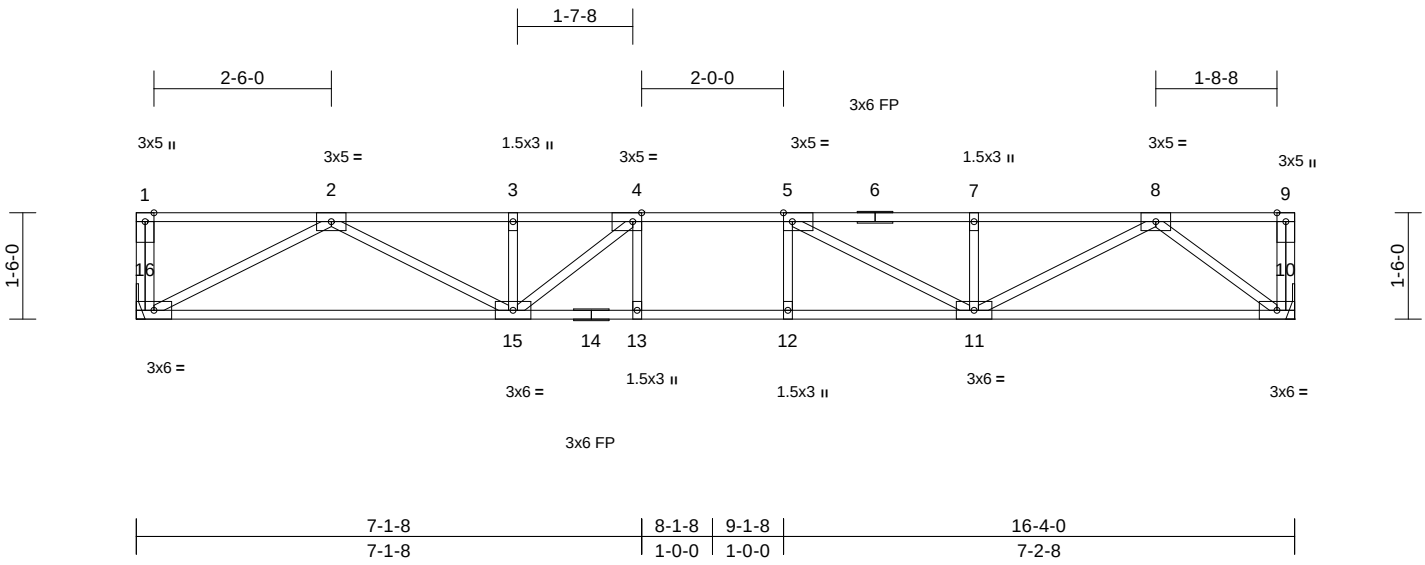

Scale = 1:32.5

Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.49	Vert(LL)	-0.15	11-12	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.20	11-12	>984	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.04	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 86 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS (size) 10= Mechanical, 16= Mechanical
Max Grav 10=707 (LC 1), 16=707 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-84/0, 9-10=-55/0, 1-2=0/0, 2-3=-1835/0, 3-4=-1835/0, 4-5=-2049/0, 5-7=-1684/0, 7-8=-1684/0, 8-9=0/0
BOT CHORD 15-16=0/1157, 13-15=0/2049, 12-13=0/2049, 11-12=0/2049, 10-11=0/852
WEBS 4-13=-80/97, 5-12=-64/84, 2-16=-1307/0, 2-15=0/769, 3-15=-204/29, 4-15=-475/15, 5-11=-567/0, 7-11=-246/0, 8-11=0/944, 8-10=-1065/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F205	Floor Girder	1	3	I73877240 Job Reference (optional)

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

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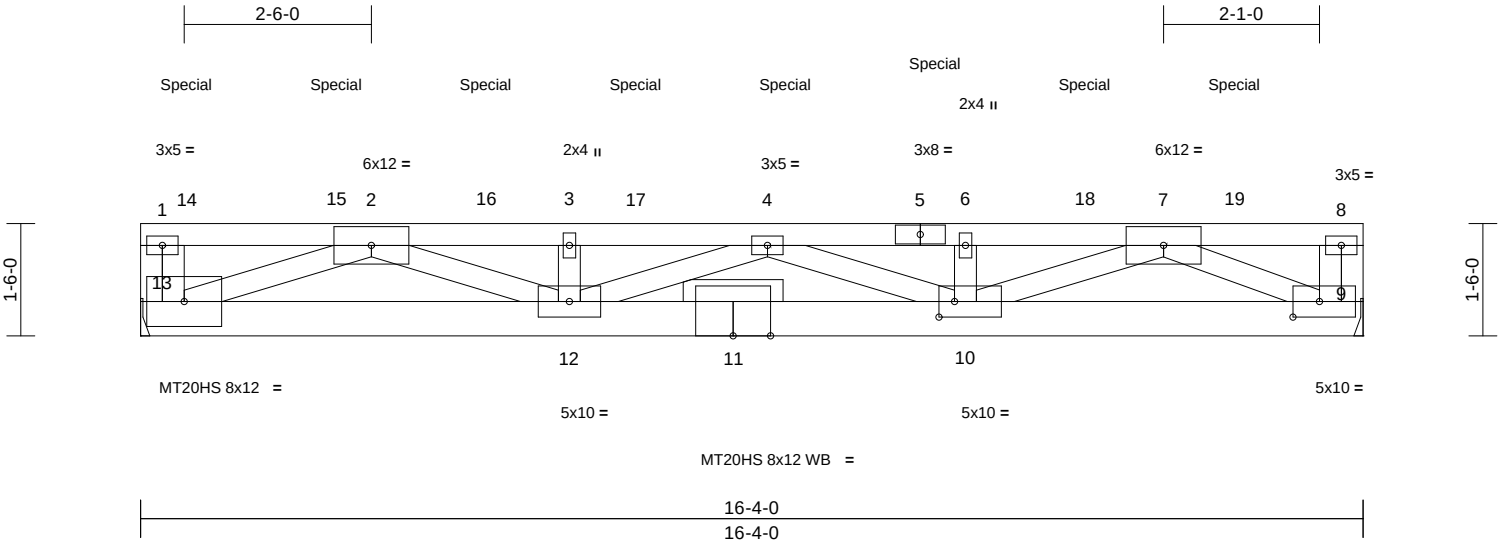


Scale = 1:30.8

Plate Offsets (X, Y): [9:0-4-4,0-2-8], [10:0-2-8,0-2-8]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.79	Vert(LL)	-0.15	10-12	>999	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.82	Vert(CT)	-0.46	10-12	>413	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.80	Horz(CT)	0.07	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 281 lb	FT = 11%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 13-2,12-2,10-7,9-7:2x4 SP No.2
OTHERS 2x4 SP No.3

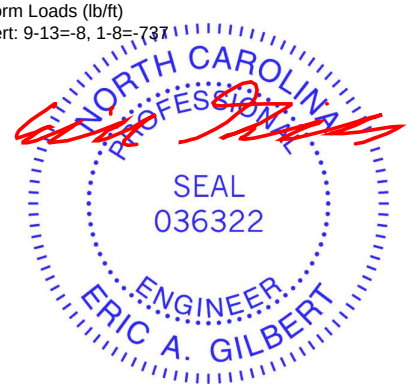
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-11-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 9= Mechanical, 13= Mechanical
Max Grav 9=7047 (LC 9), 13=7109 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-1342/0, 8-9=-1053/0, 1-2=-959/0, 2-3=-21357/0, 3-4=-21357/0, 4-6=-20557/0, 6-7=-20557/0, 7-8=-817/0
BOT CHORD 12-13=0/14358, 10-12=0/23955, 9-10=0/12733
WEBS 2-13=-14446/0, 2-12=0/7606, 3-12=-2201/0, 4-12=-2823/0, 4-10=-3693/0, 6-10=-2155/0, 7-10=0/8502, 7-9=-13186/0

NOTES
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-7-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 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.
3) Unbalanced floor live loads have been considered for this design.
4) All plates are MT20 plates unless otherwise indicated.
5) The Fabrication Tolerance at joint 11 = 11%, joint 5 = 11%
6) Refer to girder(s) for truss to truss connections.
7) Load case(s) 1, 2, 5, 6, 8, 9 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
8) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 219 lb down and 115 lb up at 0-7-8, 310 lb down and 126 lb up at 2-7-8, 310 lb down and 126 lb up at 4-7-8, 310 lb down and 126 lb up at 6-7-8, 310 lb down and 126 lb up at 8-7-8, 310 lb down and 126 lb up at 10-7-8, and 310 lb down and 126 lb up at 12-7-8, and 349 lb down and 97 lb up at 14-7-8 on top chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 9-13=-8, 1-8=-806
Concentrated Loads (lb)
Vert: 5=-117 (B), 4=-117 (B), 14=-120 (B), 15=-117 (B), 16=-117 (B), 17=-117 (B), 18=-117 (B), 19=-159 (B)
2) Dead + Uninhabitable Attic Storage: Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 9-13=-8, 1-8=-806
Concentrated Loads (lb)
Vert: 5=-117 (B), 4=-117 (B), 14=-120 (B), 15=-117 (B), 16=-117 (B), 17=-117 (B), 18=-117 (B), 19=-159 (B)
5) Dead + 0.75 Roof Live (balanced) + 0.75 Uninhab. Attic Storage + 0.75 Attic Floor: Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 9-13=-8, 1-8=-737
Concentrated Loads (lb)
Vert: 5=-216 (B), 4=-216 (B), 14=-156 (B), 15=-216 (B), 16=-216 (B), 17=-216 (B), 18=-216 (B), 19=-255 (B)
6) Dead + 0.75 Snow (balanced) + 0.75 Uninhab. Attic Storage + 0.75 Attic Floor: Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 9-13=-8, 1-8=-737
Concentrated Loads (lb)
Vert: 5=-185 (B), 4=-185 (B), 14=-164 (B), 15=-185 (B), 16=-185 (B), 17=-185 (B), 18=-185 (B), 19=-225 (B)
8) Dead + 0.75 Snow (bal.) + 0.75 Uninhab. Attic Storage + 0.75 Attic Floor + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 9-13=-8, 1-8=-737



June 2,2025

Continued on page 2

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

Concentrated Loads (lb)
Vert: 5=-280 (B), 4=-280 (B), 14=-219 (B), 15=-280 (B), 16=-280 (B), 17=-280 (B), 18=-280 (B), 19=-319 (B)

9) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75 Attic Floor + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 9-13=-8, 1-8=-737
Concentrated Loads (lb)
Vert: 5=-310 (B), 4=-310 (B), 14=-211 (B), 15=-310 (B), 16=-310 (B), 17=-310 (B), 18=-310 (B), 19=-349 (B)

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F208	Floor	1	1	I73877241 Job Reference (optional)

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

Run: 9 E 8.73 Feb 1 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:11 Page: 1
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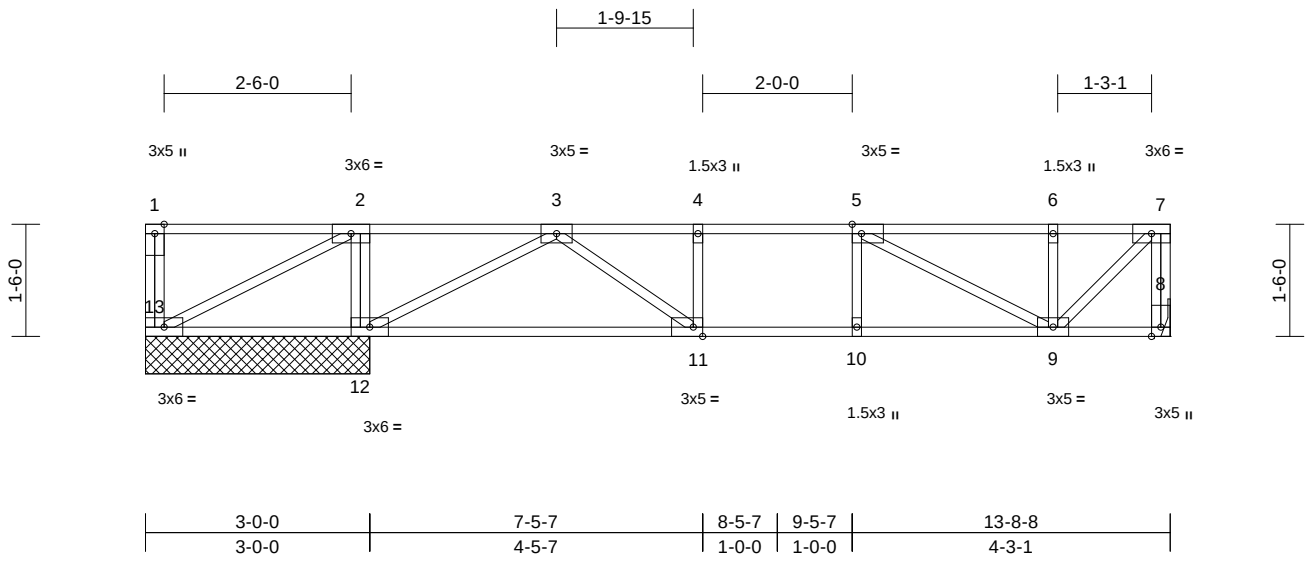

Scale = 1:30.8

Plate Offsets (X, Y): [5:0-1-8,Edge], [11:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.45	Vert(LL)	-0.04	9-10	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.35	Vert(CT)	-0.06	9-10	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.01	8	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 76 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 12-13.

REACTIONS (size) 8= Mechanical, 12=3-0-0, 13=3-0-0
Max Uplift 13=-122 (LC 7)
Max Grav 8=438 (LC 4), 12=847 (LC 7), 13=148 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-93/0, 7-8=-437/0, 1-2=0/0, 2-3=-94/423, 3-4=-779/0, 4-5=-779/0, 5-6=-427/0, 6-7=-427/0
BOT CHORD 12-13=-423/94, 11-12=0/506, 10-11=0/779, 9-10=0/779, 8-9=0/0
WEBS 4-11=-167/0, 5-10=-16/24, 5-9=-397/0, 6-9=-204/0, 7-9=0/590, 2-12=-466/0, 3-12=-823/0, 3-11=0/352, 2-13=-105/473

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 12 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 122 lb uplift at joint 13.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F207	Floor	9	1	I73877242 Job Reference (optional)

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

Run: 9 E 8.73 Feb 1 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:11 Page: 1
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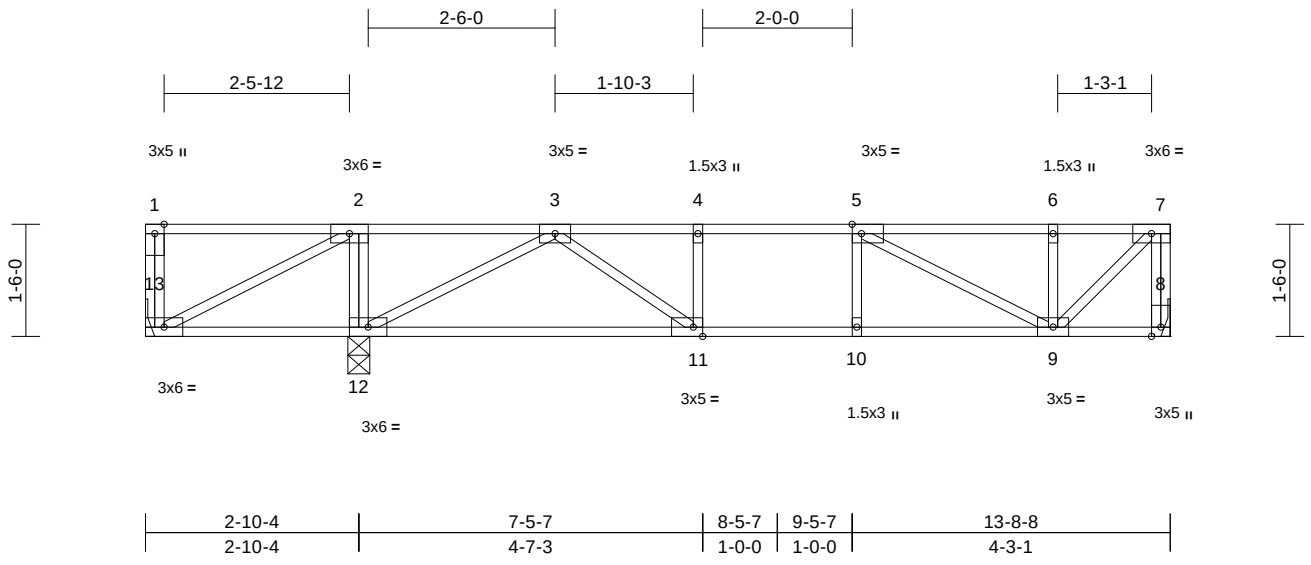

Scale = 1:30.8

Plate Offsets (X, Y): [5:0-1-8,Edge], [11:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.45	Vert(LL)	-0.04	9-10	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.35	Vert(CT)	-0.06	9-10	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.01	8	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 76 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 12-13.

REACTIONS (size) 8= Mechanical, 12=0-3-8, 13= Mechanical
Max Uplift 13=-127 (LC 7)
Max Grav 8=438 (LC 4), 12=853 (LC 7), 13=146 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-92/0, 7-8=-437/0, 1-2=0/0, 2-3=-92/429, 3-4=-780/0, 4-5=-780/0, 5-6=-427/0, 6-7=-427/0
BOT CHORD 12-13=-429/92, 11-12=0/503, 10-11=0/780, 9-10=0/780, 8-9=0/0
WEBS 2-12=-469/0, 4-11=-167/0, 5-10=-16/24, 2-13=-102/481, 3-12=-827/0, 3-11=0/355, 5-9=-398/0, 6-9=-203/0, 7-9=0/590

LOAD CASE(S) Standard

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , Joint 12 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 127 lb uplift at joint 13.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F212	Floor Girder	1	2	I73877243 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 9 E 8.73 Feb 1 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:12 Page: 1
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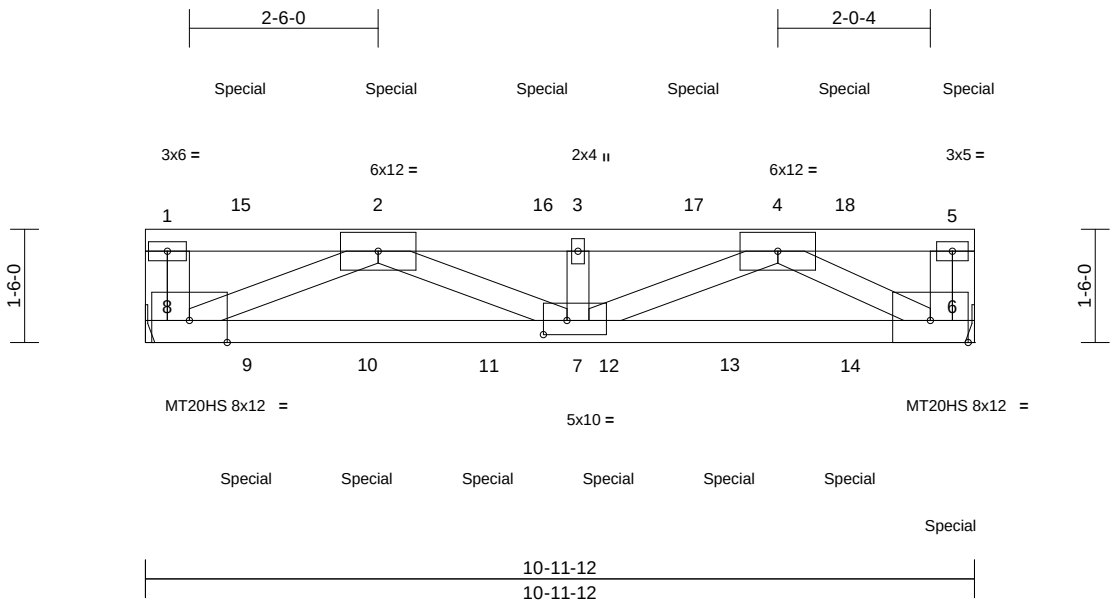


Scale = 1:30.5

Plate Offsets (X, Y): [7:0-3-12,0-2-4]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.78	Vert(LL)	-0.13	7-8	>968	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.96	Vert(CT)	-0.25	7-8	>508	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.86	Horz(CT)	0.05	6	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-SH							Weight: 109 lb	FT = 11%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 8-2,7-4,6-4:2x4 SP No.2

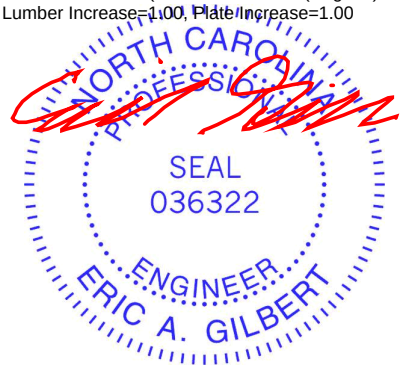
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-6-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 6= Mechanical, 8= Mechanical
Max Grav 6=6195 (LC 1), 8=5762 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-1248/0, 5-6=-1154/0, 1-2=-760/0, 2-3=-12993/0, 3-4=-12993/0, 4-5=-559/0
BOT CHORD 7-8=0/9710, 6-7=0/8593
WEBS 2-8=-9753/0, 2-7=0/3608, 3-7=-2163/0, 4-7=0/4836, 4-6=-9065/0

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 0-6-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 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.
3) Unbalanced floor live loads have been considered for this design.
4) All plates are MT20 plates unless otherwise indicated.
5) Refer to girder(s) for truss to truss connections.
6) Load case(s) 1, 2, 5, 6, 8, 9 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 216 lb down and 119 lb up at 1-3-4, 215 lb down and 119 lb up at 3-3-4, 215 lb down and 119 lb up at 5-3-4, 215 lb down and 119 lb up at 7-3-4, and 215 lb down and 119 lb up at 9-3-4, and 225 lb down and 113 lb up at 10-8-4 on top chord, and 399 lb down at 1-4-3, 399 lb down at 2-11-6, 399 lb down at 4-6-9, 399 lb down at 6-1-12, 399 lb down at 7-8-15, and 399 lb down at 9-4-2, and 402 lb down at 10-8-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 6-8=-8, 1-5=-806
Concentrated Loads (lb)
Vert: 5=-124 (B), 6=-402 (F), 2=-115 (B), 9=-399 (F), 10=-399 (F), 11=-399 (F), 12=-399 (F), 13=-399 (F), 14=-399 (F), 15=-115 (B), 16=-115 (B), 17=-115 (B), 18=-115 (B)
2) Dead + Uninhabitable Attic Storage: Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 6-8=-8, 1-5=-806
Concentrated Loads (lb)
Vert: 5=-124 (B), 6=-402 (F), 2=-115 (B), 9=-399 (F), 10=-399 (F), 11=-399 (F), 12=-399 (F), 13=-399 (F), 14=-399 (F), 15=-115 (B), 16=-115 (B), 17=-115 (B), 18=-115 (B)
5) Dead + 0.75 Roof Live (balanced) + 0.75 Uninhab. Attic Storage + 0.75 Attic Floor: Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 6-8=-8, 1-5=-737
Concentrated Loads (lb)
Vert: 5=-160 (B), 6=-327 (F), 2=-151 (B), 9=-324 (F), 10=-324 (F), 11=-324 (F), 12=-324 (F), 13=-324 (F), 14=-324 (F), 15=-151 (B), 16=-151 (B), 17=-151 (B), 18=-151 (B)
6) Dead + 0.75 Snow (balanced) + 0.75 Uninhab. Attic Storage + 0.75 Attic Floor: Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 6-8=-8, 1-5=-737
Concentrated Loads (lb)
Vert: 5=-168 (B), 6=-327 (F), 2=-159 (B), 9=-324 (F), 10=-324 (F), 11=-324 (F), 12=-324 (F), 13=-324 (F), 14=-324 (F), 15=-159 (B), 16=-159 (B), 17=-159 (B), 18=-159 (B)
8) Dead + 0.75 Snow (bal.) + 0.75 Uninhab. Attic Storage + 0.75 Attic Floor + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.00, Plate Increase=1.00



June 2,2025

Continued on page 2

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Edenton, NC 27932

Uniform Loads (lb/ft)
Vert: 6-8=-8, 1-5=-737
Concentrated Loads (lb)
Vert: 5=-225 (B), 6=-327 (F), 2=-215 (B), 9=-324 (F), 10=-324 (F), 11=-324 (F), 12=-324 (F), 13=-324 (F), 14=-324 (F), 15=-216 (B), 16=-215 (B), 17=-215 (B), 18=-215 (B)

9) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75 Attic Floor + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 6-8=-8, 1-5=-737
Concentrated Loads (lb)
Vert: 5=-217 (B), 6=-327 (F), 2=-207 (B), 9=-324 (F), 10=-324 (F), 11=-324 (F), 12=-324 (F), 13=-324 (F), 14=-324 (F), 15=-208 (B), 16=-207 (B), 17=-207 (B), 18=-207 (B)

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F210	Floor Supported Gable	1	1	I73877244 Job Reference (optional)

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

Run: 9 E 8.73 Feb 1 2025 Print: 8.730 E Feb 19 2025 MiTek Industries, Inc. Sun Jun 01 21:26:11

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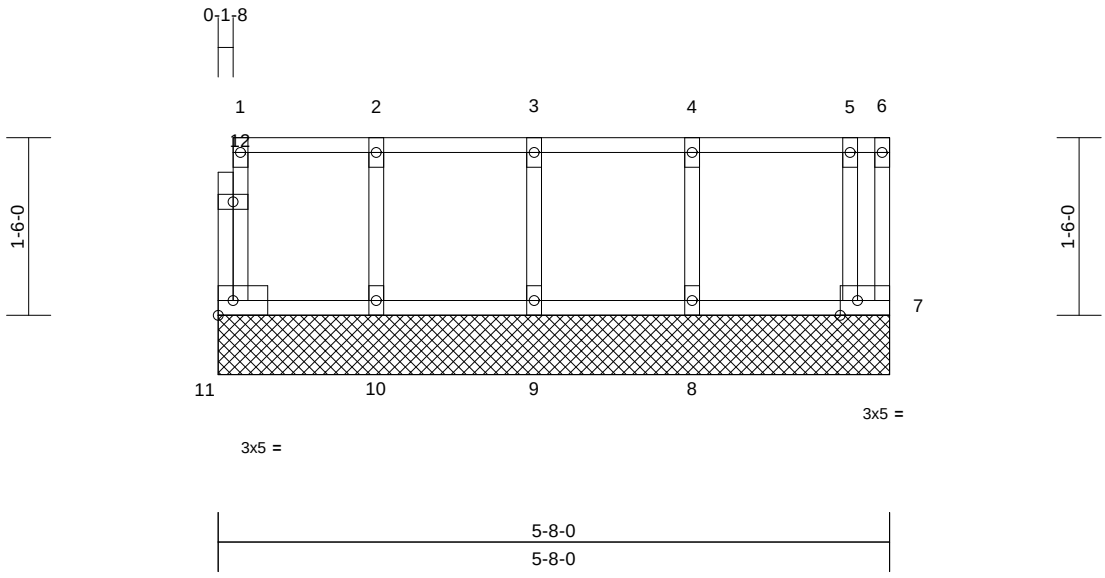

Scale = 1:19.4

Plate Offsets (X, Y): [7:0-1-12,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 29 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-8-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=5-8-0, 8=5-8-0, 9=5-8-0, 10=5-8-0, 11=5-8-0
Max Grav 7=74 (LC 1), 8=126 (LC 1), 9=117 (LC 1), 10=109 (LC 1), 11=49 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-11=-43/0, 6-7=0/10, 1-2=-9/0, 2-3=-9/0, 3-4=-9/0, 4-5=-9/0, 5-6=-1/0
BOT CHORD 10-11=0/9, 9-10=0/9, 8-9=0/9, 7-8=0/9
WEBS 2-10=-102/0, 3-9=-106/0, 4-8=-113/0, 5-7=-80/0

NOTES

1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Gable requires continuous bottom chord bearing.
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 1-4-0 oc.
5) All bearings are assumed to be SP No.2 .
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

June 2,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-2nd Floor-CL-20-020
25040114-B	F211	Floor Supported Gable	1	1	I73877245 Job Reference (optional)

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

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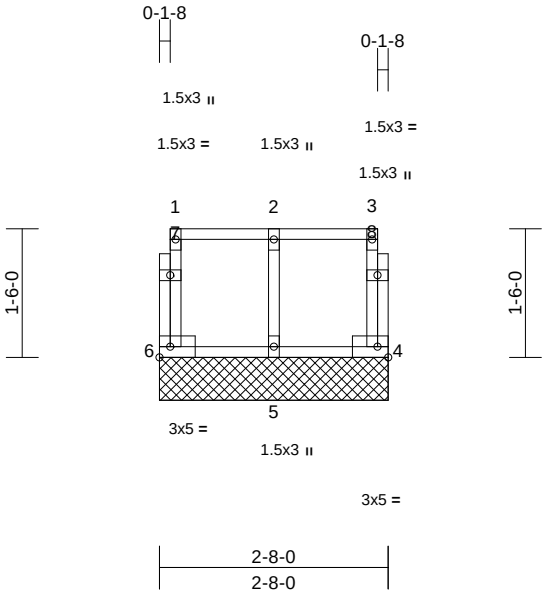

Scale = 1:26.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 16 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-8-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4=2-8-0, 5=2-8-0, 6=2-8-0
Max Grav 4=47 (LC 1), 5=109 (LC 1), 6=47 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-42/0, 3-4=-42/0, 1-2=-7/0, 2-3=-7/0
BOT CHORD 5-6=0/7, 4-5=0/7
WEBS 2-5=-100/0

NOTES

1) Gable requires continuous bottom chord bearing.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
4) All bearings are assumed to be SP No.2 .
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard

June 2,2025

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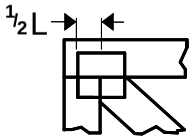
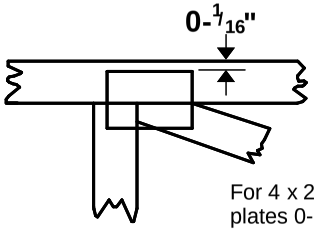
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

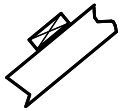
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

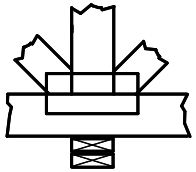
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

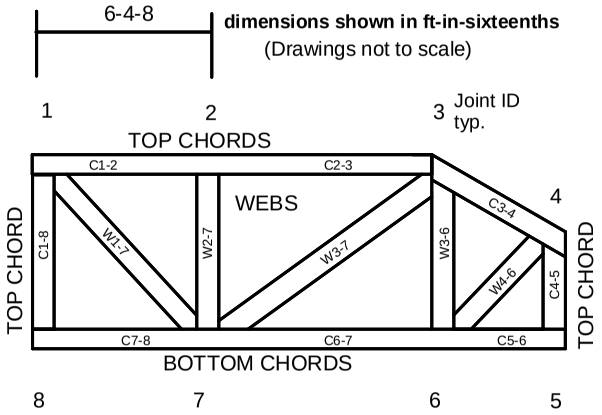


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

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

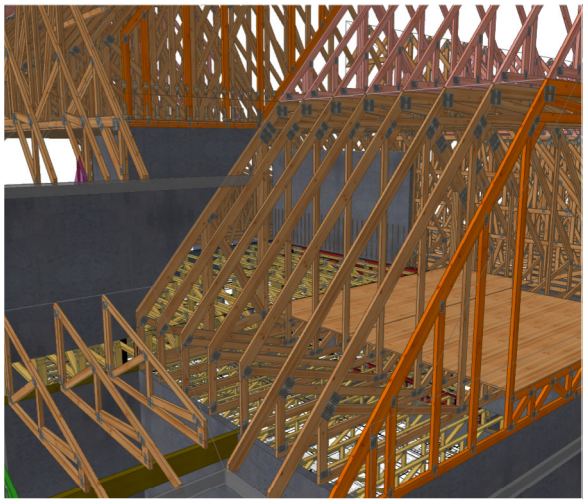
General Safety Notes

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

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

Phone #:919-775-1450



Builder: Pro Build
Model: OverHills

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.

Apprved by: _____ **Date:** _____

General Notes:

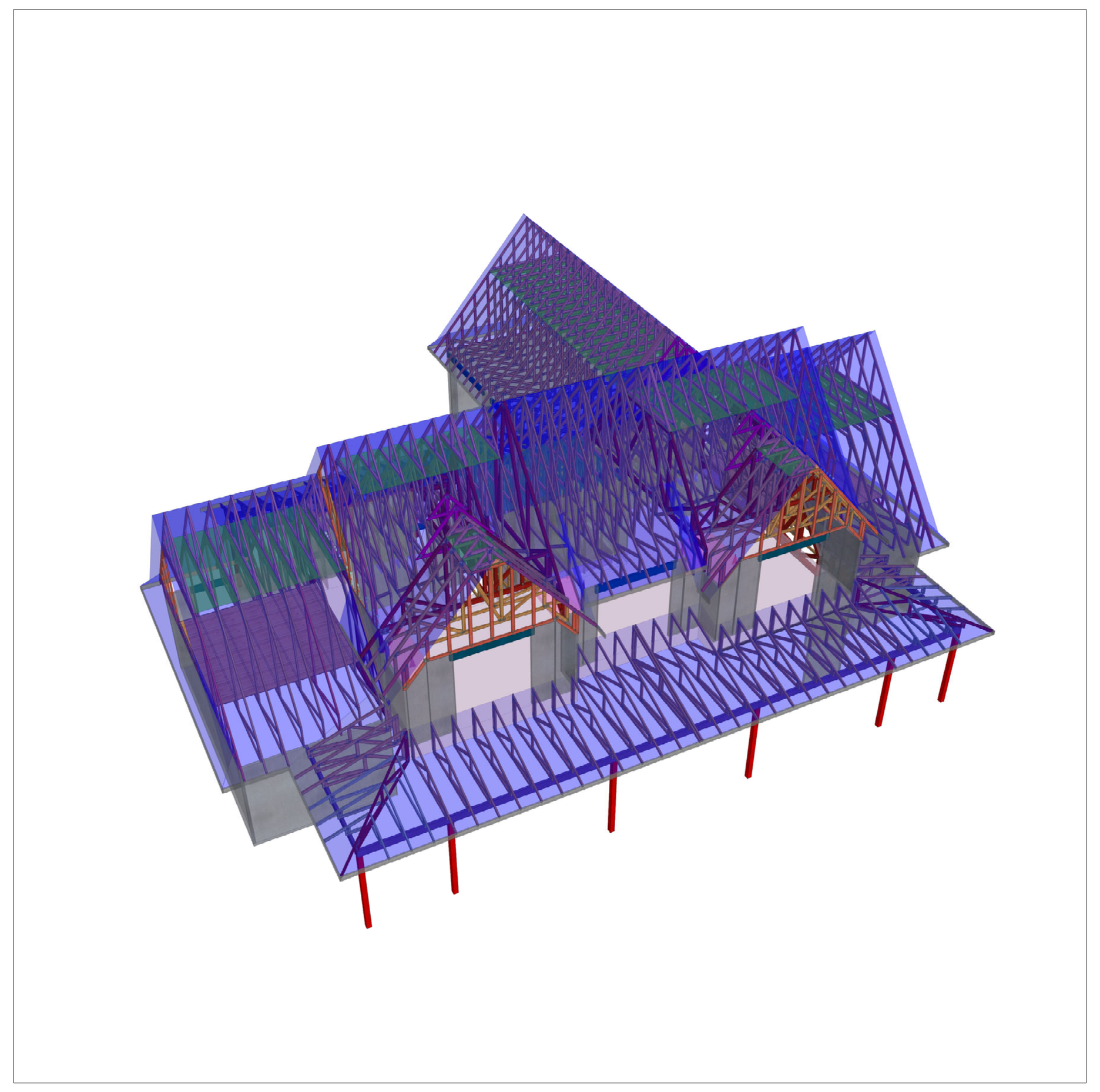
** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION.

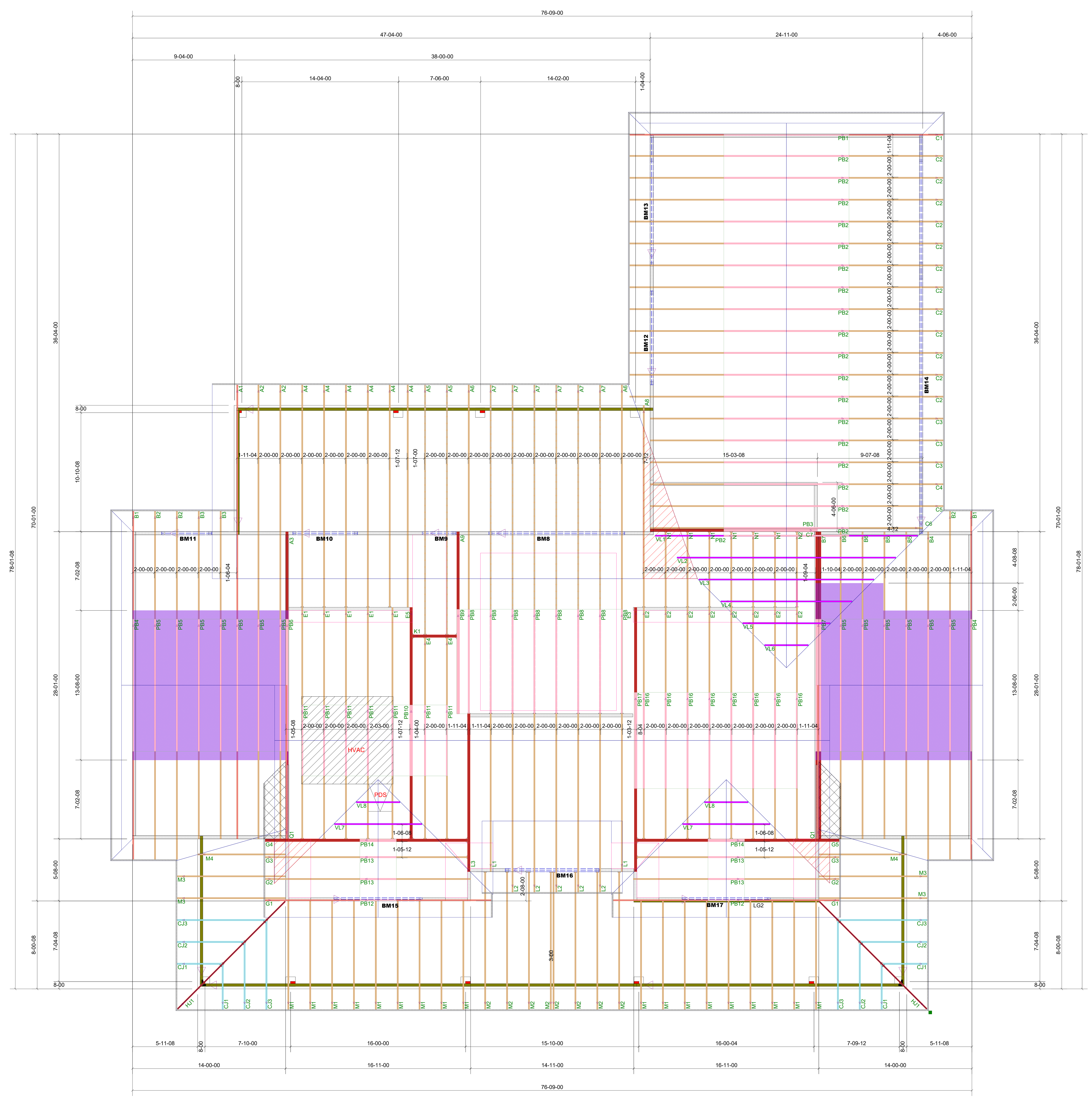
** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.

** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT.

** TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE.

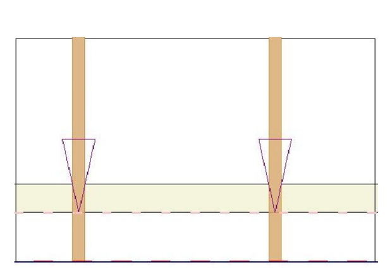




Floor Hanger List	
THA422	7
HU410	45
HGUS28-2	2
HGUS210-3	2

Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
BM14	38-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM13	12-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM6	12-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM12	10-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM5	10-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM7	10-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM10	6-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM11	6-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM9	4-00-00	2.1 RigidLam SP LVL 1-3/4 x 9-1/4	2	2	FF
BM8	14-00-00	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2	FF
BM18	16-00-00	2.1 RigidLam SP LVL 1-3/4 x 18	2	2	FF
BM3	16-00-00	2.1 RigidLam SP LVL 1-3/4 x 18	3	3	FF
BM20	30-00-00	2.1 RigidLam SP LVL 1-3/4 x 24	3	3	FF

Roof Hanger List	
LUS26	33
HTU26	23
HGUS26-2	2
HTU26-2	1



Truss Drawing Left End Indicator

PRELIMINARY - NOT FOR CONSTRUCTION

** TRIANGULAR SYMBOL NEAR END OF TRUSS INDICATES LEFT END OF TRUSS AS SHOWN ON INDIVIDUAL TRUSS DRAWINGS.

** PLUMBING DROPS NOTED ARE IN THE APPROXIMATE LOCATIONS PER PLAN. BUILDER TO VERIFY LOCATIONS BEFORE SETTING TRUSSES.

** REFER TO FINAL TRUSS ENGINEERING SHEETS FOR PLY TO PLY CONNECTIONS.

** GIRDERS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS.

** DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH.

** All uplift connectors shown within these documents are recommendations only. Per ANSI/TPI 1, all uplift connectors are the responsibility of the bldg designer and or contractor.

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor systems and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding the bracing, consult "Bracing of Wood Truss" available from the Truss Plate Institute, 583 D'Onofrio Drive: Madison, WI 53179

CARTER Lumber

Probuild

Overhills

ROOF PLACEMENT PLAN

Scale: NTS

Date: 6/3/2025

Designer: NP

Project Number: 25040114

Sheet Number: 3/3

ENGINEERING BY TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 25040114-01
Overhills-Roof-CL-20-020

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Pages or sheets covered by this seal: I74009654 thru I74009725

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

North Carolina COA: C-0844

June 6,2025

Tony Miller

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	A2	Attic	2	1	I74009654 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:04 Page: 1

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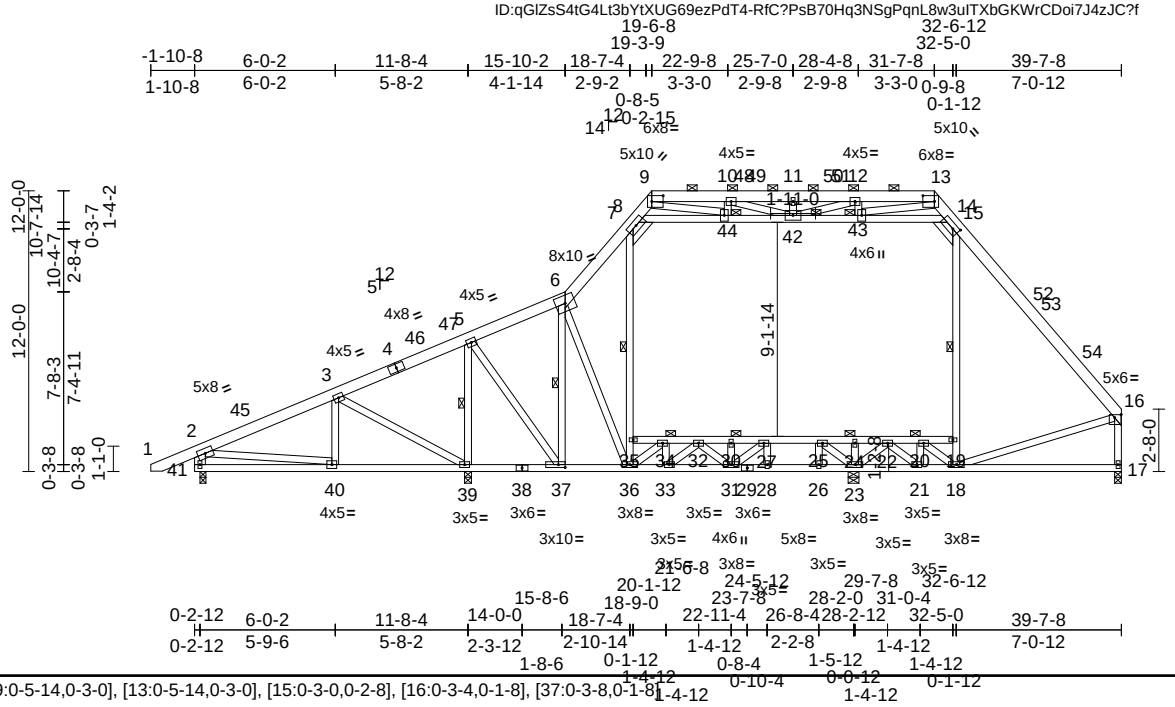


Scale = 1:98.5

Plate Offsets (X, Y): [9:0-5-14,0-3-0], [13:0-5-14,0-3-0], [15:0-3-0,0-2-8], [16:0-3-4,0-1-8], [37:0-3-8,0-1-8]

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	0.60	Vert(LL)	-0.07	27-30	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.12	27-30	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.02	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.06	19-35	>999	360		
BCDL	10.0										Weight: 373 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 41-2:2x6 SP No.2, 7-36,15-18,8-14:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-5-2 max.): 9-13.
BOT CHORD Rigid ceiling directly applied or 5-5-11 oc bracing.
WEBS 1 Row at midpt 7-35, 15-19, 5-39, 6-37
JOINTS 1 Brace at Jt(s): 34, 20, 24, 30, 42, 43, 44

REACTIONS (size) 17=0-3-8, 23=0-5-8, 39=0-3-8, 41=0-3-0
Max Horiz 41=267 (LC 14)
Max Uplift 41=-156 (LC 11)
Max Grav 17=1162 (LC 47), 23=1109 (LC 63), 39=2064 (LC 70), 41=490 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/54, 2-3=-445/282, 3-5=-217/604, 5-6=-617/232, 6-7=-1114/252, 7-8=-992/216, 8-9=-785/101, 9-10=-2136/225, 10-11=-2423/229, 11-12=-2423/229, 12-13=-2095/242, 13-14=-743/157, 14-15=-1017/215, 15-16=-1140/88, 2-41=-436/276, 16-17=-1161/54

BOT CHORD 40-41=-202/201, 39-40=-174/379, 37-39=-499/143, 36-37=-27/534, 33-36=0/1061, 31-33=0/1220, 28-31=0/884, 26-28=0/884, 23-26=0/884, 21-23=-148/321, 18-21=-21/527, 17-18=-53/98, 34-35=-2/16, 32-34=-474/0, 30-32=-861/0, 27-30=-861/0, 25-27=-349/365, 24-25=-18/1073, 22-24=-18/1073, 20-22=-7/273, 19-20=-14/20

WEBS 16-18=0/682, 35-36=-213/189, 7-35=-198/327, 18-19=-250/81, 15-19=-237/171, 8-44=-567/263, 42-44=-358/1479, 42-43=-568/1438, 14-43=-1028/489, 34-36=-616/0, 20-21=-318/0, 33-34=-3/207, 21-22=-22/468, 32-33=-320/28, 22-23=-636/0, 31-32=-17/191, 23-24=-8/37, 30-31=-322/0, 27-31=0/736, 27-28=-281/0, 25-26=0/319, 11-42=-466/70, 12-43=-250/124, 10-44=-208/83, 9-44=-146/1746, 10-42=-42/303, 12-42=-159/388, 13-43=-247/1785, 18-20=-17/359, 23-25=-1315/0, 5-39=-1772/0, 6-37=-1112/0, 6-36=-35/599, 5-37=0/1436, 3-39=-564/63, 3-40=0/154, 2-40=-243/276

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-7-9 to 2-4-0, Interior (1) 2-4-0 to 19-6-8, Exterior(2R) 19-6-8 to 23-6-1, Interior (1) 23-6-1 to 31-7-8, Exterior(2R) 31-7-8 to 35-7-1, Interior (1) 35-7-1 to 39-5-12 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) * 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.
9) Ceiling dead load (5.0 psf) on member(s). 6-7, 7-8, 14-15, 8-44, 42-44, 42-43, 14-43; Wall dead load (5.0psf) on member(s).7-35, 15-19
10) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 34-35, 32-34, 30-32, 27-30, 25-27, 24-25, 22-24, 20-22, 19-20
11) All bearings are assumed to be SP No.2 .

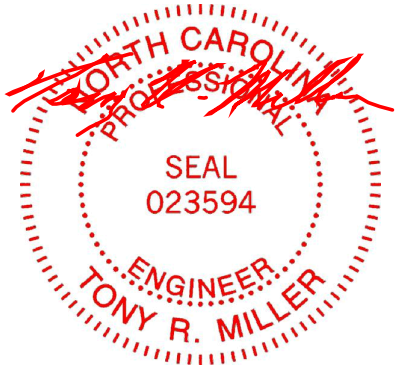
June 6,2025

Continued on page 2

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

12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 156 lb uplift at joint 41.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	A1	Attic Structural Gable	1	1	I74009655 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:03 Page: 1

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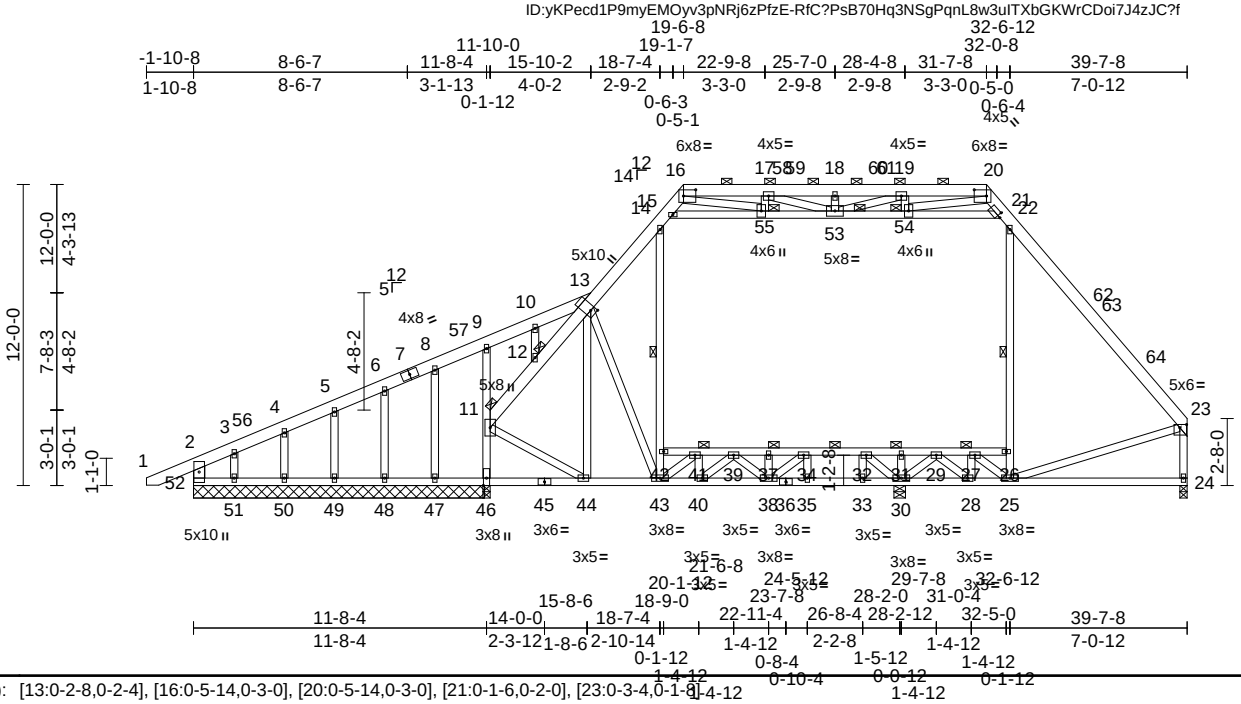


Plate Offsets (X, Y): [13:0-2-8,0-2-4], [16:0-5-14,0-3-0], [20:0-5-14,0-3-0], [21:0-1-6,0-2-0], [23:0-3-4,0-1-8]

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	0.63	Vert(LL)	-0.07	34-37	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.08	24-25	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.01	24	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.06	26-42	>999	360		
BCDL	10.0										Weight: 379 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 52-2:2x6 SP No.2, 15-21,14-43,22-25:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-4-14 max.): 11-13, 16-20.
BOT CHORD Rigid ceiling directly applied or 5-4-8 oc bracing.
WEBS 1 Row at midpt 14-42, 22-26
JOINTS 1 Brace at Jt(s): 11, 41, 27, 31, 37, 53, 54, 55, 12

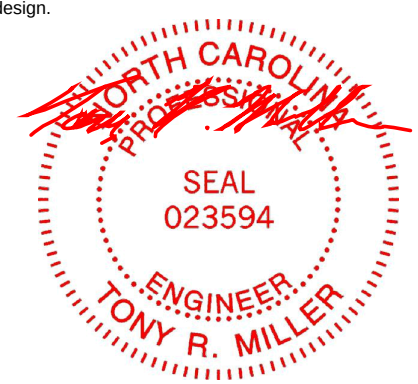
REACTIONS (size) 24=0-3-8, 30=0-5-8, 46=11-7-4, 47=11-7-4, 48=11-7-4, 49=11-7-4, 50=11-7-4, 51=11-7-4, 52=11-7-4
Max Horiz 52=267 (LC 14)
Max Uplift 47=-18 (LC 11), 48=-13 (LC 15), 51=-152 (LC 12), 52=-401 (LC 60)
Max Grav 24=1180 (LC 47), 30=1078 (LC 63), 46=1870 (LC 70), 47=228 (LC 35), 48=250 (LC 70), 49=306 (LC 70), 50=293 (LC 35), 51=542 (LC 60), 52=259 (LC 12)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/54, 2-3=-300/607, 3-4=-236/523, 4-5=-223/537, 5-6=-204/537, 6-8=-186/548, 8-9=-175/562, 9-10=-148/532, 10-13=-135/545, 11-12=-1352/0, 12-13=-1330/0, 13-14=-1189/240, 14-15=-1008/212, 15-16=-799/108, 16-17=-2158/231, 17-18=-2444/230, 18-19=-2444/230, 19-20=-2117/236, 20-21=-757/135, 21-22=-1033/209, 22-23=-1181/78, 2-52=-212/368, 23-24=-1196/54
BOT CHORD 51-52=-465/114, 50-51=-465/114, 49-50=-465/114, 48-49=-465/114, 47-48=-465/114, 46-47=-465/114, 44-46=-464/115, 43-44=-35/561, 40-43=0/1101, 38-40=0/1282, 35-38=-23/1006, 33-35=-23/1006, 30-33=-23/1006, 28-30=-141/435, 25-28=-31/596, 24-25=-54/100, 41-42=-4/17, 39-41=-491/0, 37-39=-911/0, 34-37=-911/0, 32-34=-434/317, 31-32=-36/963, 29-31=-36/963, 27-29=-7/250, 26-27=-15/25
WEBS 23-25=0/707, 15-55=-571/249, 53-55=-357/1486, 53-54=-549/1445, 21-54=-1013/454, 42-43=-161/223, 14-42=-145/360, 25-26=-232/78, 22-26=-219/169, 41-43=-635/0, 27-28=-286/0, 40-41=-2/219, 28-29=-33/425, 39-40=-344/13, 29-30=-599/10, 38-39=-4/212, 30-31=-14/33, 37-38=-315/0, 34-38=0/689, 34-35=-267/0, 32-33=0/306, 18-53=-467/70, 19-54=-249/118, 17-55=-206/82, 16-55=-140/1744, 17-53=-42/303, 19-53=-150/389, 20-54=-245/1783, 25-27=-21/329, 30-32=-1271/0, 13-44=-456/0, 13-43=-25/553, 11-44=0/1008, 10-12=-60/15, 8-47=-113/50, 6-48=-109/46, 5-49=-168/13, 4-50=-167/26, 3-51=-313/127, 11-46=-1768/0, 9-11=-291/46

NOTES

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



June 6,2025

Continued on page 2

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

2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-7-9 to 2-4-0, Interior (1) 2-4-0 to 19-6-8, Exterior(2R) 19-6-8 to 23-6-1, Interior (1) 23-6-1 to 31-7-8, Exterior(2R) 31-7-8 to 35-7-1, Interior (1) 35-7-1 to 39-5-12 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=1.33
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); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) 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 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) Ceiling dead load (5.0 psf) on member(s). 2-3, 3-4, 4-5, 13-14, 14-15, 21-22, 15-55, 53-55, 53-54, 21-54; Wall dead load (5.0psf) on member(s).14-42, 22-26, 5-49, 4-50, 3-51, 11-46, 9-11
13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 51-52, 50-51, 49-50, 48-49, 47-48, 46-47, 41-42, 39-41, 37-39, 34-37, 32-34, 31-32, 29-31, 27-29, 26-27
14) All bearings are assumed to be SP No.2 .
15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 401 lb uplift at joint 52, 18 lb uplift at joint 47, 13 lb uplift at joint 48 and 152 lb uplift at joint 51.
16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
17) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

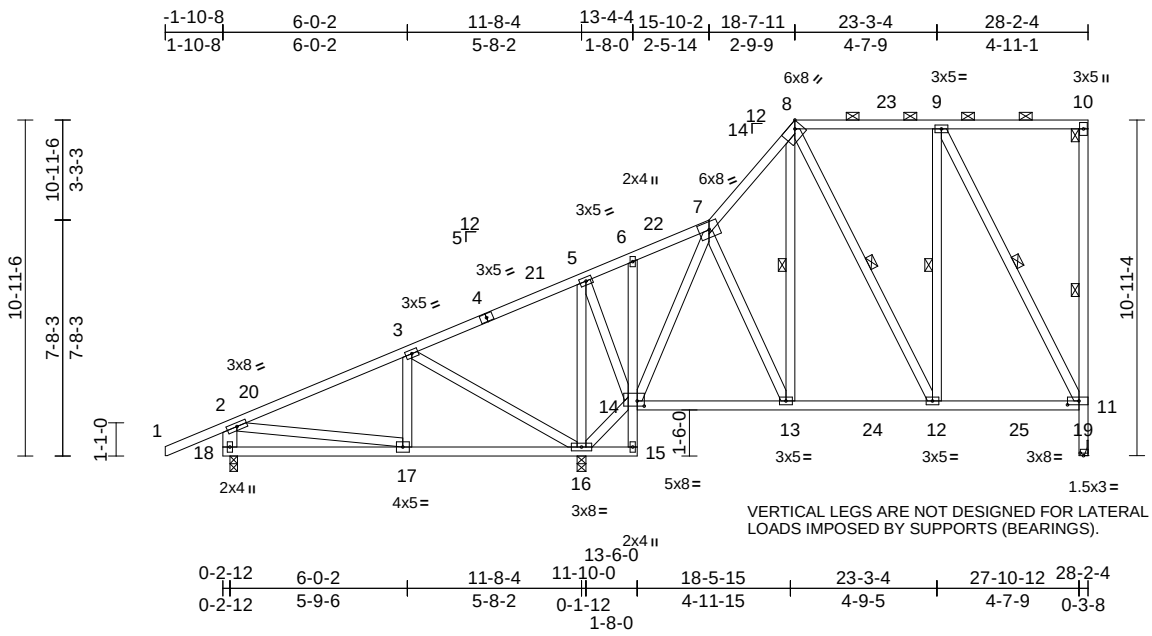
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	A7	Piggyback Base	6	1	I74009656 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:06 Page: 1

ID:I1h65Xut_4SxwY1bMH9dEazPfzQ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:75.1

Plate Offsets (X, Y): [8:0-2-11,Edge], [11:0-4-8,0-1-8], [14:0-2-12,0-2-0], [19:0-1-4,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.57	Vert(LL)	0.03	11-12	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.05	17-18	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.60	Horz(CT)	0.09	19	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 231 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 10-19:2x4 SP No.2, 18-2:2x6 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 8-10.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 10-19, 8-13, 9-11, 9-12, 8-12

REACTIONS (size) 16=0-3-8, 18=0-3-0, 19= Mechanical
Max Horiz 18=329 (LC 14)
Max Uplift 16=-6 (LC 15), 18=-38 (LC 11), 19=-58 (LC 12)
Max Grav 16=1474 (LC 3), 18=454 (LC 2), 19=836 (LC 50)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/60, 2-3=-366/44, 3-5=-284/538, 5-6=-141/198, 6-7=-129/220, 7-8=-570/189, 8-9=-437/173, 9-10=-139/149, 11-19=-959/147, 10-11=-201/60, 2-18=-435/169
BOT CHORD 17-18=-562/496, 16-17=-303/401, 15-16=-26/1, 14-15=-34/0, 6-14=-92/13, 13-14=-279/369, 12-13=-258/462, 11-12=-204/483
WEBS 7-14=-725/54, 7-13=0/227, 8-13=-45/118, 9-11=-776/146, 3-17=0/238, 3-16=-682/125, 5-16=-984/310, 14-16=-555/200, 5-14=-183/640, 2-17=-140/262, 9-12=-15/270, 8-12=-69/134

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-2 to 1-1-14, Interior (1) 1-1-14 to 18-7-11, Exterior(2R) 18-7-11 to 21-7-11, Interior (1) 21-7-11 to 28-0-8 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) * 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.
8) Bearings are assumed to be: Joint 18 SP No.2 , Joint 16 SP No.2 .
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 18, 6 lb uplift at joint 16 and 58 lb uplift at joint 19.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

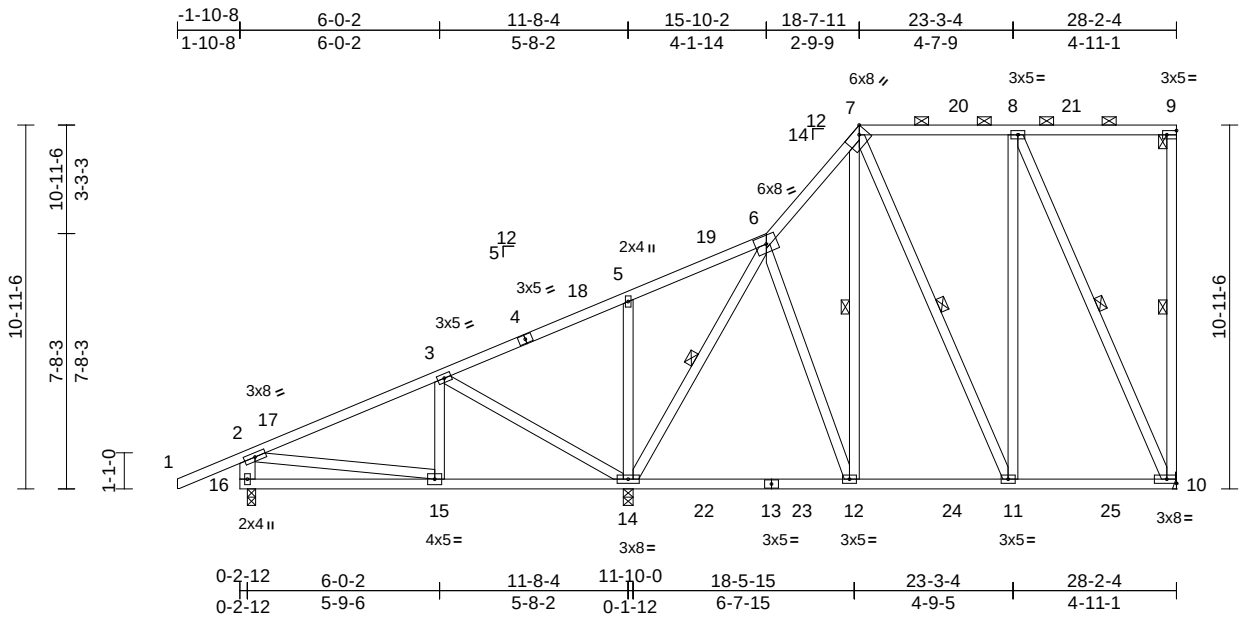
LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009657
25040114-01	A6	Piggyback Base	2	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:05 Page: 1
ID:Mv5mFf4HShLoDshUlxw8LlzPfzB-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:69.3

Plate Offsets (X, Y): [7:0-2-11,Edge], [9:Edge,0-1-8]

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	0.80	Vert(LL)	-0.08	12-14	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.12	12-14	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.51	Horz(CT)	0.01	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 226 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 9-10,12-7,10-8,11-8,11-7:2x4 SP No.2, 16-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-9.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 9-10, 7-12, 8-10, 6-14, 7-11

REACTIONS (size) 10= Mechanical, 14=0-3-8, 16=0-3-0
Max Horiz 16=326 (LC 12)
Max Uplift 10=-66 (LC 12), 14=-18 (LC 15), 16=-23 (LC 11)
Max Grav 10=883 (LC 50), 14=1442 (LC 3), 16=494 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/60, 2-3=-414/15, 3-5=-227/391, 5-6=-158/343, 6-7=-601/218, 7-8=-427/195, 8-9=-171/184, 9-10=-211/76, 2-16=-460/154
BOT CHORD 15-16=-561/501, 14-15=-350/498, 12-14=-254/378, 11-12=-236/450, 10-11=-184/439
WEBS 6-12=0/218, 7-12=-34/184, 8-10=-827/175, 3-14=-639/122, 3-15=0/211, 5-14=-345/119, 6-14=-848/66, 2-15=-86/213, 8-11=-26/308, 7-11=-133/130

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-2 to 1-1-14, Interior (1) 1-1-14 to 18-7-11, Exterior(2R) 18-7-11 to 21-7-11, Interior (1) 21-7-11 to 28-0-8 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) * 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.
8) Bearings are assumed to be: Joint 16 SP No.2 , Joint 14 SP No.2 .
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 10, 23 lb uplift at joint 16 and 18 lb uplift at joint 14.
11) 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

June 6,2025

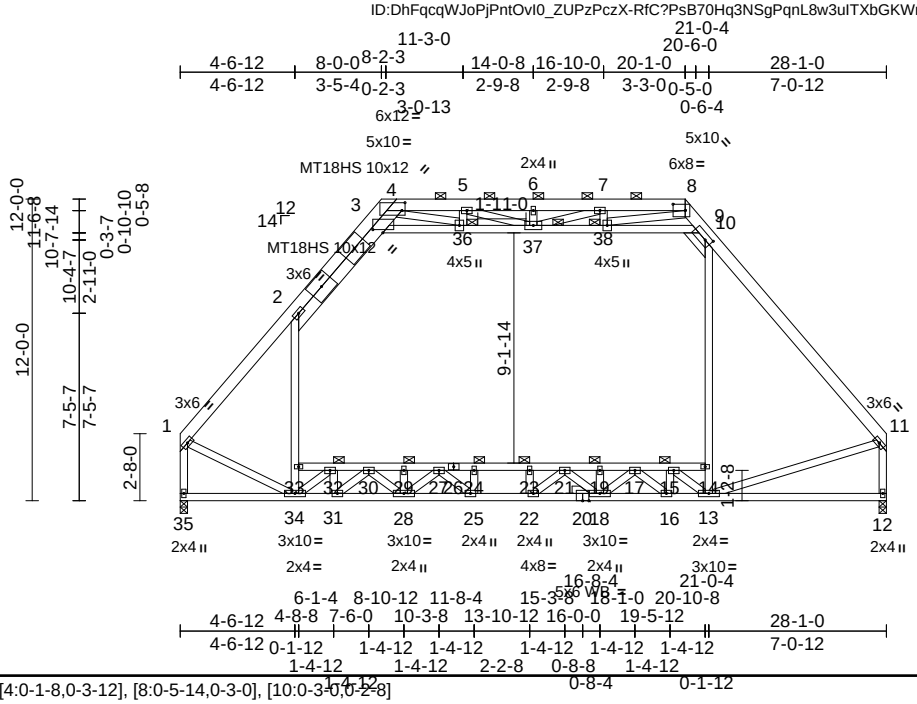
ENGINEERING BY TRENCO A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	B6	Attic	2	1	I74009658 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:08

ID:DhFqcqWJoPjPntOvl0_ZUPzPczX-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:91.6

Plate Offsets (X, Y): [3:0-4-12,0-1-8], [4:0-1-8,0-3-12], [8:0-5-14,0-3-0], [10:0-3-0,0-2-8]

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	0.66	Vert(LL)	-0.26	23-24	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.41	23-24	>804	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.07	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.19	14-33	>999	360		
BCDL	10.0										Weight: 291 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2

BOT CHORD 2x4 SP No.1 *Except* 33-26,26-14:2x4 SP No.2

WEBS 2x4 SP No.3 *Except* 2-34,10-13,3-9:2x4 SP No.2

OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-4-9 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 4-8.

BOT CHORD Rigid ceiling directly applied or 3-0-14 oc bracing.

JOINTS 1 Brace at Jt(s): 15, 32, 19, 29, 23, 24, 36, 37, 38

REACTIONS (size) 12=0-3-8, 35=0-3-8
Max Horiz 35=-182 (LC 11)
Max Grav 12=1726 (LC 3), 35=1856 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-1870/0, 2-3=-1450/96, 3-4=-282/881, 4-5=-883/819, 5-6=-1220/453, 6-7=-1220/453, 7-8=-1020/264, 8-9=-383/114, 9-10=-1188/140, 10-11=-1896/0

BOT CHORD 34-35=-182/182, 31-34=0/1924, 28-31=0/2579, 25-28=0/3670, 22-25=0/3955, 18-22=0/3694, 16-18=0/2632, 13-16=0/1888, 12-13=0/0, 32-33=-105/193, 30-32=-903/102, 29-30=-2375/0, 27-29=-2375/0, 24-27=-3073/0, 23-24=-3073/0, 21-23=-3073/0, 19-21=-2413/0, 17-19=-2413/0, 15-17=-952/0, 14-15=-75/80

WEBS 33-34=-34/545, 2-33=-16/673, 13-14=0/702, 10-14=0/858, 3-36=-2851/6, 36-37=-1709/176, 37-38=-940/315, 9-38=-1502/397, 13-15=-1251/0, 32-34=-1253/0, 15-16=0/603, 31-32=0/601, 16-17=-1055/0, 30-31=-1072/0, 17-18=0/877, 28-30=0/896, 18-19=-153/0, 28-29=-155/0, 18-21=-528/0, 27-28=-547/0, 21-22=-12/352, 25-27=0/380, 22-23=-188/16, 24-25=-201/9, 5-36=-415/30, 4-36=-103/1484, 6-37=-217/92, 5-37=-21/872, 7-38=-279/117, 7-37=-200/212, 8-38=-378/971, 1-34=0/1234, 1-35=-2128/0, 11-12=-1959/0, 11-13=0/1163

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 8-4-14, Exterior(2R) 8-4-14 to 12-7-13, Interior (1) 12-7-13 to 20-1-0, Exterior(2R) 20-1-0 to 24-3-15, Interior (1) 24-3-15 to 27-11-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) All plates are 3x5 MT20 unless otherwise indicated.
7) * 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.
8) Ceiling dead load (5.0 psf) on member(s). 2-3, 9-10, 3-36, 36-37, 37-38, 9-38; Wall dead load (5.0psf) on member(s).2-33, 10-14
9) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 32-33, 30-32, 29-30, 27-29, 24-27, 23-24, 21-23, 19-21, 17-19, 15-17, 14-15
10) All bearings are assumed to be SP No.1 .
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

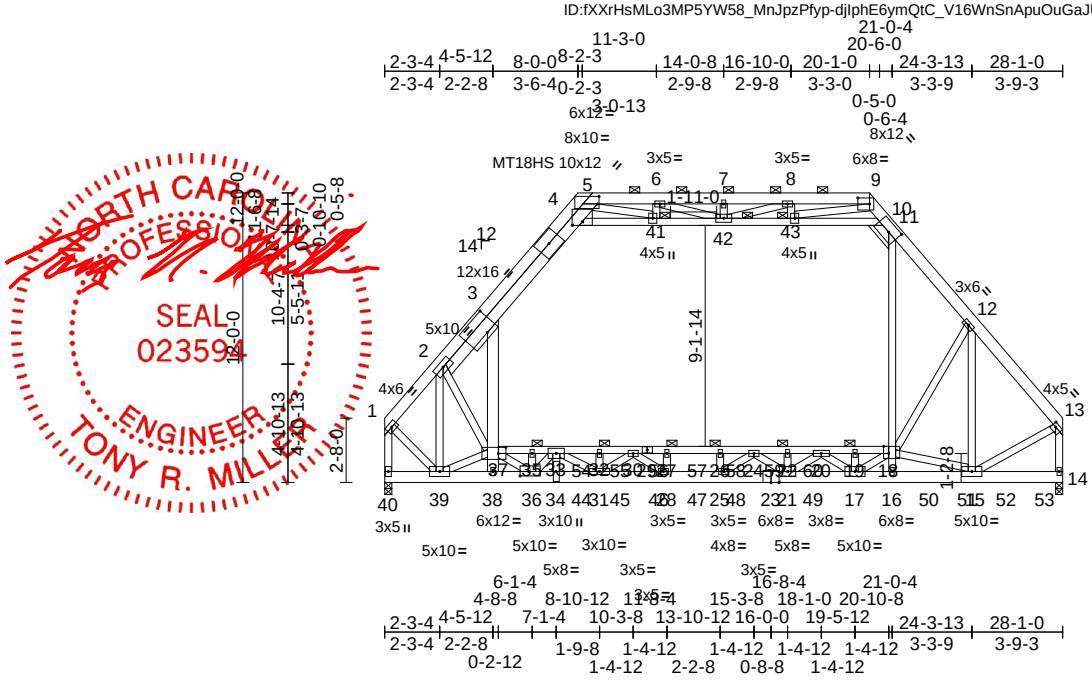
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	B7	Attic Girder	1	4	I74009659 Job Reference (optional)

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

Run: 8.73 E Mar 19 2025 Print: 8.730 E Mar 19 2025 MiTek Industries, Inc. Fri Jun 06 10:38:53 ID:fXXrHsMLo3MP5YW58_MnJpzPfyp-djIphE6ymQtC_V16WnSnApuOuGaJU0ND537O3rz9Bmo



Scale = 1:95.5

PLY-TO-PLY CONNECTION REQUIRES THAT AN APPROVED FACE MOUNT HANGER (SPECIFIED BY OTHERS) IS REQUIRED AT JOINT 34 FOR LOAD REPORTED IN NOTES. FACE MOUNT HANGER SHALL BE ATTACHED WITH A MINIMUM OF 0.25"x 6" SCREWS OR OTHER FASTENERS THAT PENETRATES ALL PLIES, PER HANGER MANUFACTURER SPECIFICATIONS.

Plate Offsets (X, Y): [3:0-5-12,0-9-12], [4:0-5-0,0-1-12], [5:0-0-12,0-3-12], [9:0-5-4,0-3-0], [11:0-5-0,0-4-4], [13:0-1-12,0-1-12], [18:0-2-8,Edge], [36:0-4-4,0-2-4], [37:0-3-12,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.69	Vert(LL)	-0.22	26-27	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.40	28-31	>829	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.90	Horz(CT)	0.03	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.14	18-37	>999	360		
BCDL	10.0										Weight: 1408 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 1-5,2-5:2x6 SP 2400F 2.0E

BOT CHORD 2x6 SP 2400F 2.0E *Except* 37-29,29-18:2x4 SP No.2

WEBS 2x4 SP No.3 *Except* 3-38:2x6 SP No.2, 11-16,4-10,15-18:2x4 SP No.2, 36-37,21-20,21-24,31-30,25-24,28-30,17-18, 17-20:2x4 SP No.1

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-9.

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

JOINTS 1 Brace at Jt(s): 35, 19, 22, 32, 26, 27, 41, 42, 43

REACTIONS (size) 14=0-3-8, 40=0-3-8
Max Horiz 40=231 (LC 8)
Max Grav 14=9552 (LC 15), 40=10172 (LC 15)

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

TOP CHORD 1-2=-6890/0, 2-3=-12288/0, 3-4=-4435/0, 4-5=0/4659, 5-6=0/5449, 6-7=-406/2337, 7-8=-406/2337, 8-9=-256/2121, 9-10=-145/615, 10-11=-3853/0, 11-12=-9576/0, 12-13=-7398/0, 13-14=-8691/0

BOT CHORD 38-39=-1029/2210, 36-38=-1839/1968, 34-36=0/15901, 34-44=0/15901, 31-44=0/15901, 31-45=0/18969, 45-46=0/18969, 28-46=0/18969, 28-47=0/18581, 25-47=0/18581, 25-48=0/15257, 23-48=0/15257, 21-23=0/15257, 21-49=0/7542, 17-49=0/7542, 16-17=-2984/0, 16-50=-2798/0, 50-51=-2798/0, 15-51=-2798/0, 35-37=-4807/0, 33-35=-4807/0, 33-54=-12714/0, 32-54=-12714/0, 32-55=-12714/0, 30-55=-12714/0, 29-30=-12616/0, 29-56=-12616/0, 27-56=-12616/0, 27-57=-12616/0, 26-57=-12616/0, 26-58=-12616/0, 24-58=-12616/0, 24-59=-5996/0, 22-59=-5996/0, 22-60=-5996/0, 20-60=-5996/0, 19-20=0/3810, 18-19=0/3810

WEBS 37-38=0/1739, 3-37=0/11157, 16-18=0/2215, 11-18=0/7320, 4-41=-13963/0, 41-42=-11461/0, 42-43=-8118/0, 10-43=-6303/0, 36-37=0/13215, 17-19=-266/0, 20-21=0/5675, 31-33=-65/4167, 21-24=-4265/0, 30-31=-411/1667, 24-25=0/4488, 28-30=-2326/0, 25-26=-597/0, 27-28=0/461, 12-15=-4119/0, 6-41=-1486/0, 7-42=0/770, 6-42=0/3294, 8-43=-737/0, 9-43=-1833/454, 13-15=0/5516, 15-18=0/7510, 12-18=0/1987, 5-41=0/2824, 17-18=0/7020, 17-20=-5819/0, 33-34=0/5295, 33-36=-10040/0, 1-40=-9991/0, 2-39=-8150/0, 37-39=0/6052, 2-37=-92/1730, 1-39=0/6514

NOTES

1) N/A

2) 4-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-4-0 oc, 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.

3) 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.

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

5) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33

June 6,2025

Continued on page 2

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6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
7) Provide adequate drainage to prevent water ponding.
8) All plates are MT20 plates unless otherwise indicated.
9) All plates are 2x4 MT20 unless otherwise indicated.
10) * 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.
11) Ceiling dead load (5.0 psf) on member(s). 3-4, 10-11, 4-41, 41-42, 42-43, 10-43; Wall dead load (5.0psf) on member(s).3-37, 11-18
12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 35-37, 33-35, 32-33, 30-32, 27-30, 26-27, 24-26, 22-24, 20-22, 19-20, 18-19
13) Load case(s) 1, 2 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
15) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 7199 lb down at 7-1-4, 691 lb down at 8-2-0, 691 lb down at 9-9-3, 691 lb down at 11-4-6, 691 lb down at 12-11-9, 691 lb down at 14-6-12, 691 lb down at 16-1-15, 691 lb down at 17-9-2, 691 lb down at 19-4-5, 691 lb down at 20-10-8, 691 lb down at 22-6-11, 691 lb down at 24-1-14, and 691 lb down at 25-9-1, and 693 lb down at 27-4-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
16) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-3=-48, 3-4=-58, 4-5=-48, 5-7=-58, 7-9=-98, 9-10=-88, 10-11=-98, 11-13=-168, 14-40=-20, 18-37=-20, 4-41=-10, 41-42=-10, 42-43=-10, 10-43=-10
   Drag: 3-37=-10, 11-18=-10
   Concentrated Loads (lb)
   Vert: 23=-177 (F), 16=-177 (F), 17=-177 (F), 34=-5015 (F), 44=-177 (F), 45=-177 (F), 46=-177 (F), 47=-177 (F), 48=-177 (F), 49=-177 (F), 50=-177 (F), 51=-177 (F), 52=-177 (F), 53=-179 (F)
2) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-3=-60, 3-4=-70, 4-5=-60, 5-7=-60, 7-9=-100, 9-10=-100, 10-11=-110, 11-13=-180, 14-40=-20, 18-37=-20, 4-41=-10, 41-42=-10, 42-43=-10, 10-43=-10
   Drag: 3-37=-10, 11-18=-10
   Concentrated Loads (lb)
   Vert: 23=-177 (F), 16=-177 (F), 17=-177 (F), 34=-5165 (F), 44=-177 (F), 45=-177 (F), 46=-177 (F), 47=-177 (F), 48=-177 (F), 49=-177 (F), 50=-177 (F), 51=-177 (F), 52=-177 (F), 53=-179 (F)

June 6,2025

ENGINEERING BY TRENCO
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009660
25040114-01	B5	Attic	2	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:08 Page: 1

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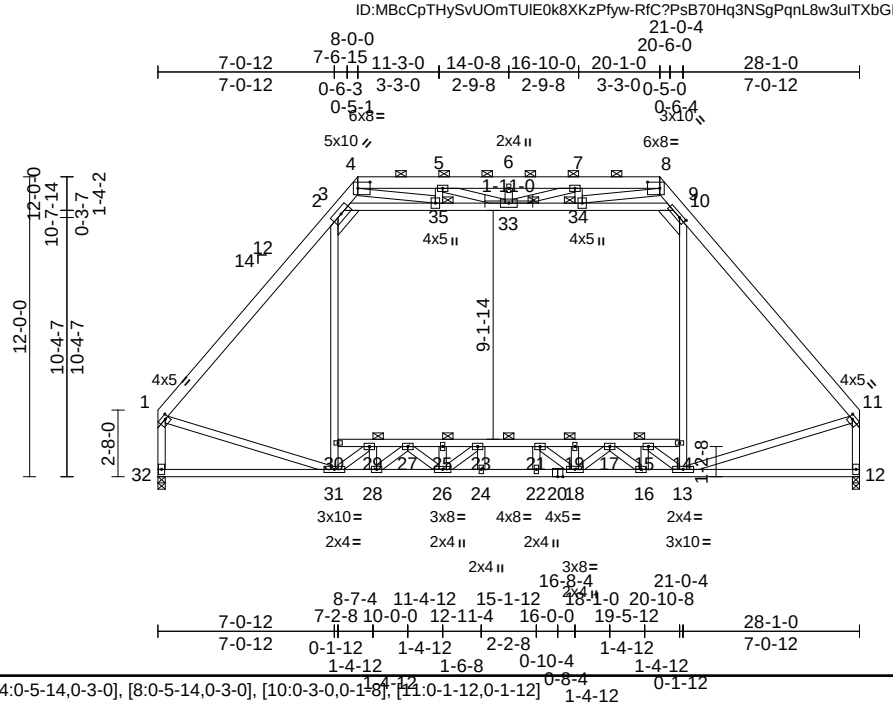

Scale = 1:92.2

Plate Offsets (X, Y): [1:0-1-12,0-1-12], [4:0-5-14,0-3-0], [8:0-5-14,0-3-0], [10:0-3-0,0-1-8], [11:0-1-12,0-1-12]

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	0.54	Vert(LL)	0.28	31-32	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.31	31-32	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.06	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.18	14-30	>930	360		
BCDL	10.0										Weight: 279 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 3-9,2-31,10-13:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-8-12 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-8.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
JOINTS 1 Brace at Jt(s): 29, 15, 19, 25, 33, 34, 35

REACTIONS (size) 12=0-3-8, 32=0-3-8
Max Horiz 32=246 (LC 12)
Max Grav 12=1693 (LC 3), 32=1693 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-1911/0, 2-3=-1251/115, 3-4=-444/196, 4-5=-1154/294, 5-6=-1331/176, 6-7=-1331/176, 7-8=-1153/295, 8-9=-442/197, 9-10=-1251/115, 10-11=-1911/0, 1-32=-1925/0, 11-12=-1926/0
BOT CHORD 31-32=-265/300, 28-31=0/1785, 26-28=0/2294, 24-26=0/3042, 22-24=0/3042, 18-22=0/3042, 16-18=0/2281, 13-16=0/1756, 12-13=-46/91, 29-30=-91/114, 27-29=-767/47, 25-27=-1903/0, 23-25=-1903/0, 21-23=-2172/0, 19-21=-1902/0, 17-19=-1902/0, 15-17=-766/57, 14-15=-93/117
WEBS 3-35=-1526/340, 33-35=-616/429, 33-34=-617/428, 9-34=-1546/344, 1-31=0/1106, 11-13=0/1106, 30-31=0/568, 2-30=0/723, 13-14=0/568, 10-14=0/723, 29-31=-1029/0, 15-16=0/463, 28-29=0/464, 16-17=-836/0, 27-28=-836/0, 17-18=0/667, 26-27=0/667, 18-19=-152/0, 25-26=-152/4, 18-21=-351/33, 23-26=-355/40, 23-24=-10/53, 21-22=-8/51, 6-33=-222/68, 7-34=-327/99, 5-35=-329/99, 4-35=-255/1094, 5-33=-122/409, 7-33=-123/412, 8-34=-255/1107, 13-15=-1029/0

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 8-0-0, Exterior(2R) 8-0-0 to 12-2-15, Interior (1) 12-2-15 to 20-1-0, Exterior(2R) 20-1-0 to 24-3-15, Interior (1) 24-3-15 to 27-11-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Provide adequate drainage to prevent water ponding.
5) All plates are 3x5 MT20 unless otherwise indicated.
6) * 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.
7) Ceiling dead load (5.0 psf) on member(s). 2-3, 9-10, 3-35, 33-35, 33-34, 9-34; Wall dead load (5.0psf) on member(s).2-30, 10-14
8) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 29-30, 27-29, 25-27, 23-25, 21-23, 19-21, 17-19, 15-17, 14-15
9) All bearings are assumed to be SP No.2 .
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

June 6,2025

ENGINEERING BY TRENCO
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	B4	Attic	1	1	I74009661
					Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:07

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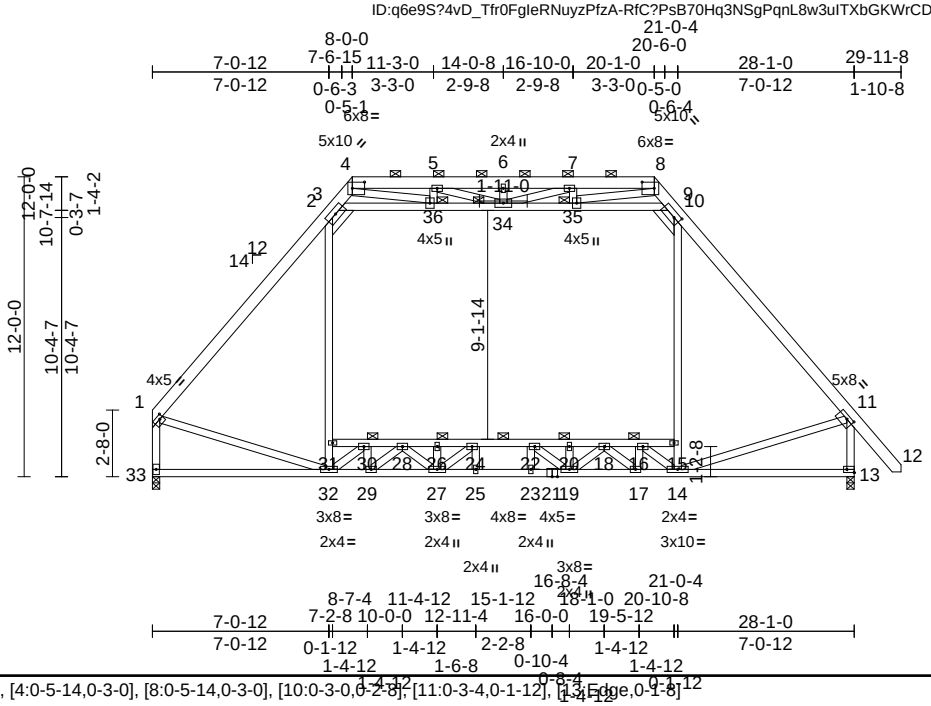
Page: 1



Scale = 1:92.2

Plate Offsets (X, Y): [1:0-1-12,0-1-12], [4:0-5-14,0-3-0], [8:0-5-14,0-3-0], [10:0-3-0,0-2-8], [11:0-3-4,0-1-12], [13:Edge,0-1-8]

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	0.60	Vert(LL)	0.28	32-33	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.32	32-33	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.06	13	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.18	15-31	>937	360		
BCDL	10.0										Weight: 285 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 3-9,2-32,10-14:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-7-11 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-8.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
JOINTS 1 Brace at Jt(s): 30, 16, 20, 26, 34, 35, 36

REACTIONS (size) 13=0-3-8, 33=0-3-8
Max Horiz 33=-273 (LC 9)
Max Grav 13=1788 (LC 3), 33=1690 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-1907/0, 2-3=-1246/117, 3-4=-449/192, 4-5=-1161/289, 5-6=-1353/184, 6-7=-1353/184, 7-8=-1176/309, 8-9=-455/208, 9-10=-1247/114, 10-11=-1911/0, 11-12=0/106, 1-33=-1920/0, 11-13=-2053/0
BOT CHORD 32-33=-267/327, 29-32=0/1809, 27-29=0/2292, 25-27=0/3039, 23-25=0/3039, 19-23=0/3039, 17-19=0/2262, 14-17=0/1702, 13-14=-40/83, 30-31=-90/110, 28-30=-771/44, 26-28=-1905/0, 24-26=-1905/0, 22-24=-2172/0, 20-22=-1900/0, 18-20=-1900/0, 16-18=-761/57, 15-16=-91/120
WEBS 3-36=-1497/337, 34-36=-604/437, 34-35=-607/458, 9-35=-1506/316, 1-32=0/1098, 11-14=0/1080, 31-32=0/567, 2-31=0/722, 14-15=0/571, 10-15=0/726, 30-32=-1032/0, 16-17=0/462, 29-30=0/465, 17-18=-838/0, 28-29=-834/0, 18-19=0/668, 27-28=0/665, 19-20=-152/0, 26-27=-153/3, 19-22=-355/32, 24-27=-349/40, 24-25=-10/52, 22-23=-8/52, 6-34=-226/69, 7-35=-321/94, 5-36=-324/100, 4-36=-260/1094, 5-34=-126/401, 7-34=-121/406, 8-35=-253/1108, 14-16=-1026/0

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 8-0-0, Exterior(2R) 8-0-0 to 12-2-15, Interior (1) 12-2-15 to 20-1-0, Exterior(2R) 20-1-0 to 24-3-15, Interior (1) 24-3-15 to 29-9-6 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) All plates are 3x5 MT20 unless otherwise indicated.
7) * 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.
8) Ceiling dead load (5.0 psf) on member(s). 2-3, 9-10, 3-36, 34-36, 34-35, 9-35; Wall dead load (5.0psf) on member(s).2-31, 10-15
9) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 30-31, 28-30, 26-28, 24-26, 22-24, 20-22, 18-20, 16-18, 15-16
10) All bearings are assumed to be SP No.2 .
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

June 6,2025

ENGINEERING BY TRENCO
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	A3	Attic Girder	1	2	I74009662 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:05 Page: 1

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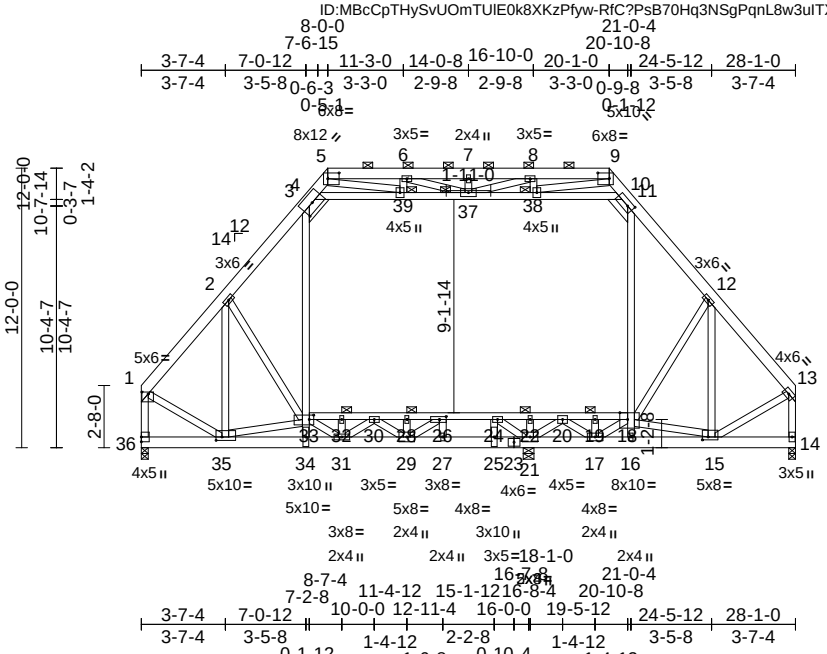


Plate Offsets (X, Y): [1:0-3-4,0-1-0], [4:0-6-0,0-3-12], [5:0-5-14,0-3-0], [9:0-5-14,0-3-0], [11:0-3-0,0-2-8], [15:0-3-0,0-1-8], [18:0-4-0,Edge], [26:0-3-8,0-1-8], [33:0-2-4,0-2-4], [35:0-3-0,0-1-12]

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	0.98	Vert(LL)	-0.14	31-34	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.29	31-34	>683	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.03	21	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.10	18-33	>999	360		
BCDL	10.0										Weight: 669 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2

BOT CHORD 2x6 SP No.2 *Except* 33-18:2x4 SP No.2, 23-36:2x6 SP 2400F 2.0E

WEBS 2x4 SP No.3 *Except* 4-10,3-34,11-16,35-33,15-18:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-2-2 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-9.

BOT CHORD Rigid ceiling directly applied or 4-11-13 oc bracing.

JOINTS 1 Brace at Jt(s): 19, 32, 22, 28, 37, 38, 39

REACTIONS (size) 14=0-3-8, 21=0-5-8, 36=0-3-8
Max Horiz 36=-244 (LC 5)
Max Uplift 21=-157 (LC 35)
Max Grav 14=3663 (LC 21), 21=392 (LC 22), 36=5776 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-4838/0, 2-3=-4763/0, 3-4=-2155/0, 4-5=-571/10, 5-6=-1266/257, 6-7=-1641/209, 7-8=-1641/209, 8-9=-1090/615, 9-10=-262/533, 10-11=-2418/0, 11-12=-4506/0, 12-13=-2979/0, 1-36=-5789/0, 13-14=-3564/0

BOT CHORD 35-36=-224/239, 34-35=0/9281, 31-34=0/8711, 29-31=0/7743, 27-29=0/3907, 25-27=0/3907, 21-25=0/3907, 17-21=-1095/0, 16-17=-4728/0, 15-16=-4557/0, 14-15=0/73, 32-33=-5747/0, 30-32=-5747/0, 28-30=-3722/0, 26-28=-3722/0, 24-26=-1019/0, 22-24=0/2265, 20-22=0/2265, 19-20=0/5758, 18-19=0/5758

WEBS 4-39=-2317/0, 37-39=-2637/0, 37-38=-3359/0, 10-38=-3972/0, 33-34=0/4866, 3-33=0/3593, 16-18=0/670, 11-18=0/2498, 31-33=-320/0, 17-19=-323/0, 31-32=-11/63, 17-20=-2280/0, 30-31=0/1180, 20-21=0/2241, 29-30=-1455/0, 21-22=-24/47, 28-29=-298/0, 26-29=0/3346, 26-27=-1788/0, 24-25=0/1819, 7-37=-159/212, 8-38=-673/0, 6-39=-344/0, 5-39=-527/812, 6-37=0/397, 8-37=0/903, 9-38=0/1451, 17-18=0/2387, 21-24=-4033/0, 2-35=-123/255, 33-35=-6415/0, 2-33=-581/0, 1-35=0/3775, 12-15=-3203/0, 13-15=0/2090, 15-18=0/6550, 12-18=0/1948

NOTES

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-2-0 oc, 2x4 - 1 row at 0-9-0 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.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
6) Provide adequate drainage to prevent water ponding.
7) * 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.
8) Ceiling dead load (5.0 psf) on member(s). 3-4, 10-11, 4-39, 37-39, 37-38, 10-38; Wall dead load (5.0psf) on member(s).3-33, 11-18
9) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 32-33, 30-32, 28-30, 26-28, 24-26, 22-24, 20-22, 19-20, 18-19
10) Bearings are assumed to be: Joint 36 SP 2400F 2.0E , Joint 21 SP No.2 , Joint 14 SP No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 157 lb uplift at joint 21.

June 6,2025

Continued on page 2

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

12) Load case(s) 1, 2 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 5747 lb down at 7-2-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
15) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-3=-48, 3-4=-58, 4-5=-48, 5-7=-58, 7-9=-98, 9-10=-88, 10-11=-98, 11-13=-168, 14-36=-20, 18-33=-20, 4-39=-10, 37-39=-10, 37-38=-10, 10-38=-10
   Drag: 3-33=-10, 11-18=-10
   Concentrated Loads (lb)
   Vert: 34=-3421 (B)
2) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-3=-60, 3-4=-70, 4-5=-60, 5-7=-60, 7-9=-100, 9-10=-100, 10-11=-110, 11-13=-180, 14-36=-20, 18-33=-20, 4-39=-10, 37-39=-10, 37-38=-10, 10-38=-10
   Drag: 3-33=-10, 11-18=-10
   Concentrated Loads (lb)
   Vert: 34=-3393 (B)

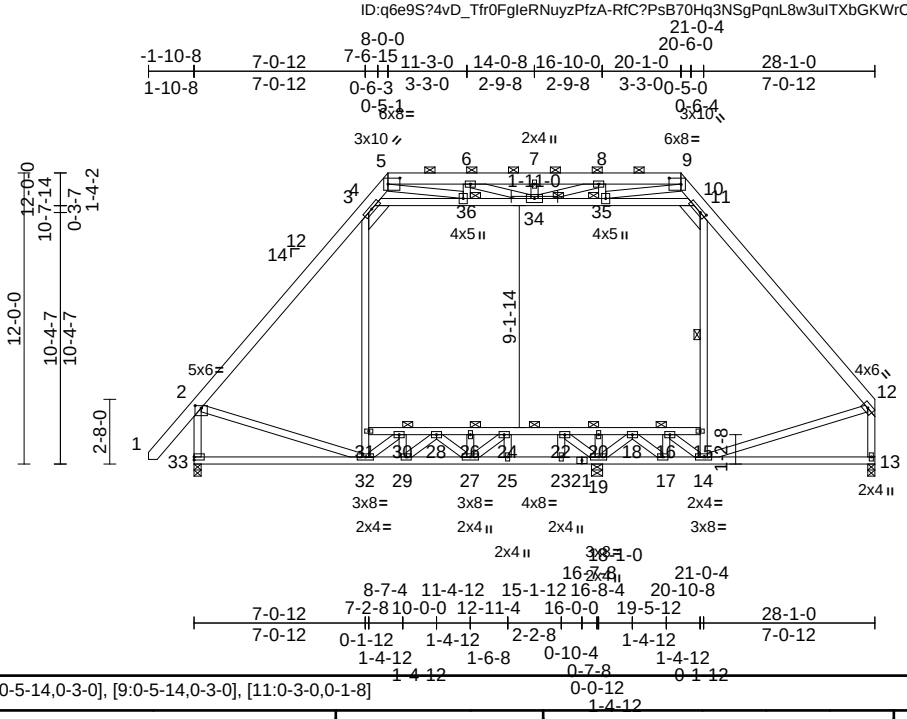
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	B3	Attic	2	1	I74009663 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:07
ID:q6e9S?4vD_Tfr0FgIeRNuyzPfzA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:95

Plate Offsets (X, Y): [2:0-3-0,0-1-4], [5:0-5-14,0-3-0], [9:0-5-14,0-3-0], [11:0-3-0,0-1-8]

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	0.73	Vert(LL)	-0.20	32	>972	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.31	32-33	>645	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.47	Horz(CT)	0.04	13	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.18	15-31	>928	360		
BCDL	10.0										Weight: 285 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 4-10,3-32,11-14:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-0-1 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-9.
BOT CHORD Rigid ceiling directly applied or 4-8-11 oc bracing.
WEBS 1 Row at midpt 11-15
JOINTS 1 Brace at Jt(s): 30, 16, 20, 26, 34, 35, 36

REACTIONS (size) 13=0-3-8, 19=0-5-8, 33=0-3-8
Max Horiz 33=273 (LC 12)
Max Uplift 19=-189 (LC 9)
Max Grav 13=1400 (LC 30), 19=894 (LC 31), 33=1592 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/106, 2-3=-1608/0, 3-4=-1068/140, 4-5=-480/81, 5-6=-1205/155, 6-7=-1375/186, 7-8=-1375/186, 8-9=-1121/276, 9-10=-367/166, 10-11=-1128/138, 11-12=-1506/57, 2-33=-1747/0, 12-13=-1533/0
BOT CHORD 32-33=-275/318, 29-32=-182/1582, 27-29=-202/1915, 25-27=-478/2025, 23-25=-478/2025, 19-23=-478/2025, 17-19=-516/1290, 14-17=-237/1018, 13-14=-51/78, 30-31=-83/41, 28-30=-689/112, 26-28=-1288/154, 24-26=-1288/154, 22-24=-1155/408, 20-22=-743/813, 18-20=-743/813, 16-18=-134/213, 15-16=-57/137
WEBS 4-36=-958/380, 34-36=-318/653, 34-35=-532/582, 10-35=-1506/344, 2-32=0/802, 12-14=-91/925, 31-32=0/394, 3-31=0/549, 14-15=-210/256, 11-15=-197/379, 30-32=-788/90, 16-17=-218/148, 29-30=-80/341, 17-18=-410/379, 28-29=-473/25, 18-19=-431/402, 27-28=-30/343, 19-20=-59/37, 26-27=-274/0, 24-27=-152/539, 24-25=-223/47, 22-23=-14/261, 7-34=-249/76, 8-35=-341/96, 6-36=-228/106, 5-36=-230/1028, 6-34=-100/222, 8-34=-73/506, 9-35=-153/1274, 14-16=-343/309, 19-22=-1075/28

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-8-6 to 1-3-10, Interior (1) 1-3-10 to 8-0-0, Exterior(2R) 8-0-0 to 12-2-15, Interior (1) 12-2-15 to 20-1-0, Exterior(2R) 20-1-0 to 24-3-15, Interior (1) 24-3-15 to 27-11-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) All plates are 3x5 MT20 unless otherwise indicated.
7) * 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.
8) Ceiling dead load (5.0 psf) on member(s). 3-4, 10-11, 4-36, 34-36, 34-35, 10-35; Wall dead load (5.0psf) on member(s).3-31, 11-15
9) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 30-31, 28-30, 26-28, 24-26, 22-24, 20-22, 18-20, 16-18, 15-16
10) All bearings are assumed to be SP No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 189 lb uplift at joint 19.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

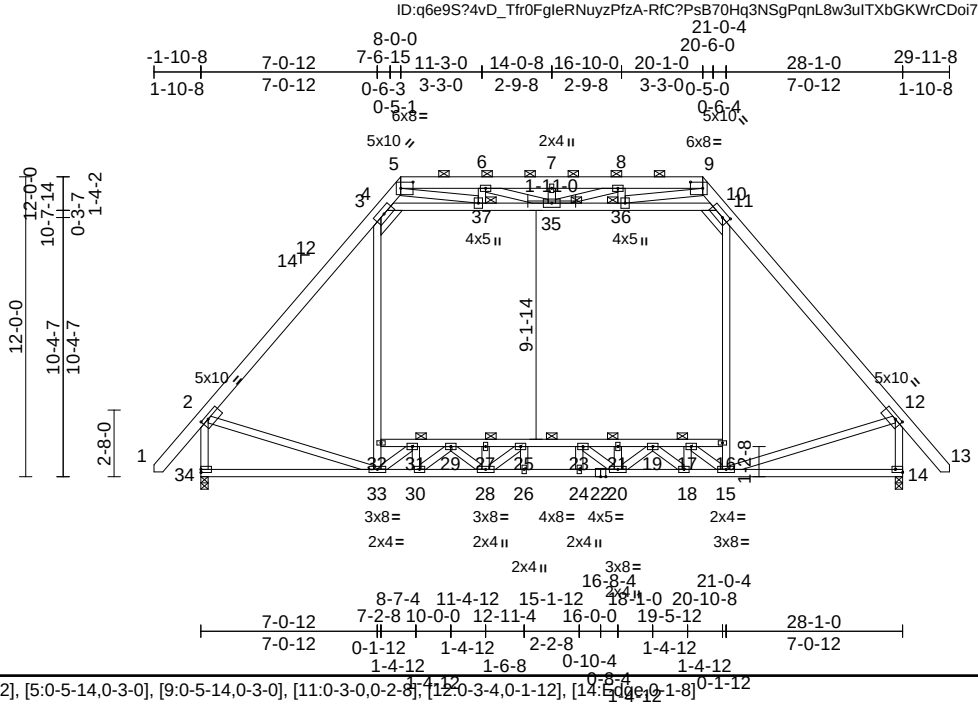
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	B2	Attic	3	1	I74009664 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:07 Page: 1

ID:q6e9S?4vD_Tfr0FgIeRNuyzPfzA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:92.2

Plate Offsets (X, Y): [2:0-3-4,0-1-12], [5:0-5-14,0-3-0], [9:0-5-14,0-3-0], [11:0-3-0,0-2-8], [12:0-3-4,0-1-12], [14:Edge,0-1-8]

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	0.62	Vert(LL)	0.27	33-34	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.31	33-34	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.06	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.16	16-32	>999	360		
BCDL	10.0										Weight: 291 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 3-33,11-15,4-10:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-2 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-9.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
JOINTS 1 Brace at Jt(s): 17, 31, 21, 27, 35, 36, 37

REACTIONS (size) 14=0-3-8, 34=0-3-8
Max Horiz 34=-288 (LC 11)
Max Grav 14=1785 (LC 3), 34=1785 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/106, 2-3=-1906/0, 3-4=-1242/116, 4-5=-462/202, 5-6=-1184/303, 6-7=-1358/181, 7-8=-1358/181, 8-9=-1183/304, 9-10=-459/204, 10-11=-1242/116, 11-12=-1906/0, 12-13=0/106, 2-34=-2048/0, 12-14=-2048/0
BOT CHORD 33-34=-296/348, 30-33=0/1790, 28-30=0/2277, 26-28=0/3037, 24-26=0/3037, 20-24=0/3037, 18-20=0/2263, 15-18=0/1708, 14-15=-40/84, 31-32=-88/111, 29-31=-767/44, 27-29=-1903/0, 25-27=-1903/0, 23-25=-2172/0, 21-23=-1902/0, 19-21=-1902/0, 17-19=-766/54, 16-17=-91/114
WEBS 32-33=0/570, 3-32=0/725, 15-16=0/570, 11-16=0/725, 4-37=-1457/309, 35-37=-593/468, 35-36=-594/467, 10-36=-1476/313, 15-17=-1029/0, 31-33=-1029/0, 17-18=0/464, 30-31=0/464, 18-19=-836/0, 29-30=-836/0, 19-20=0/667, 28-29=0/666, 20-21=-152/0, 27-28=-152/3, 20-23=-349/32, 25-28=-354/39, 25-26=-9/52, 23-24=-8/51, 2-33=0/1069, 12-15=0/1071, 7-35=-227/68, 8-36=-316/94, 6-37=-318/94, 5-37=-258/1096, 6-35=-124/395, 8-35=-125/398, 9-36=-257/1104

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-8-6 to 1-3-10, Interior (1) 1-3-10 to 8-0-0, Exterior(2R) 8-0-0 to 12-2-15, Interior (1) 12-2-15 to 20-1-0, Exterior(2R) 20-1-0 to 24-3-15, Interior (1) 24-3-15 to 29-9-6 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) All plates are 3x5 MT20 unless otherwise indicated.
7) * 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.
8) Ceiling dead load (5.0 psf) on member(s). 3-4, 10-11, 4-37, 35-37, 35-36, 10-36; Wall dead load (5.0psf) on member(s).3-32, 11-16
9) Bottom chord live load (40.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 31-32, 29-31, 27-29, 25-27, 23-25, 21-23, 19-21, 17-19, 16-17
10) All bearings are assumed to be SP No.2 .
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

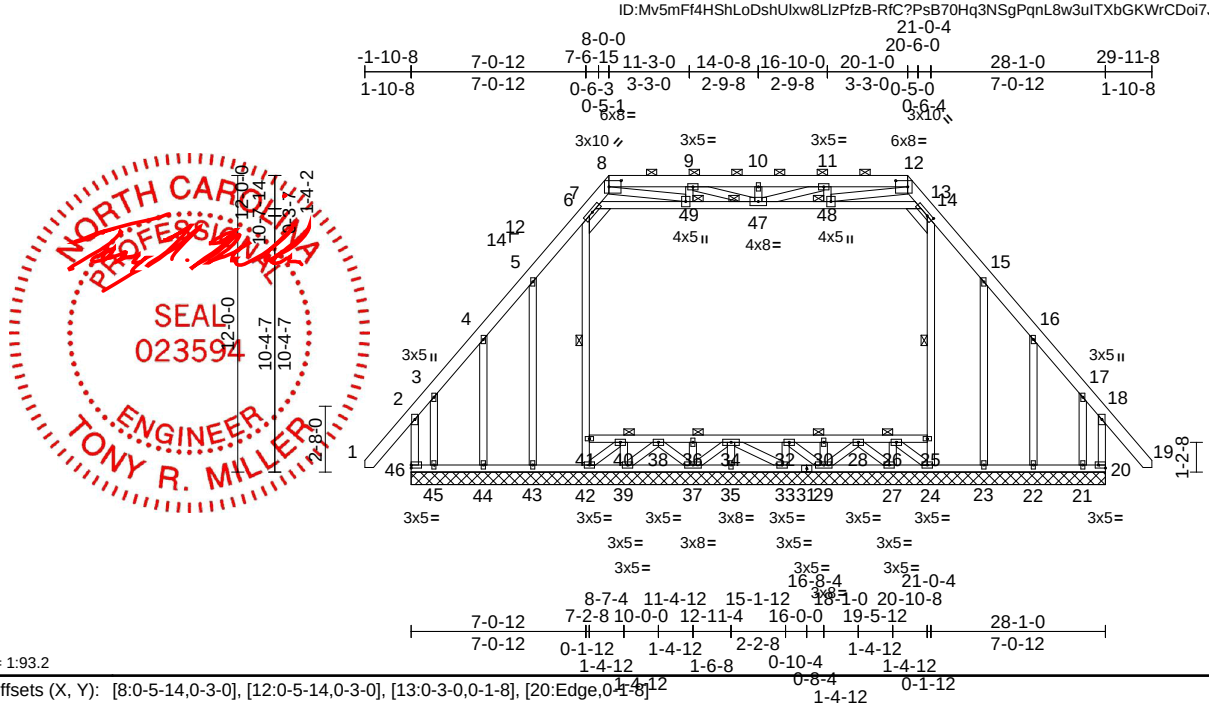
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	B1	Attic Supported Gable	2	1	I74009665 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:06 Page: 1

ID:Mv5mFf4HShLoDshUlxw8LlzPfzB-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:93.2

Plate Offsets (X, Y): [8:0-5-14,0-3-0], [12:0-5-14,0-3-0], [13:0-3-0,0-1-8], [20:Edge,0-1-8]

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	0.53	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.48	Horz(CT)	-0.01	20	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 320 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 6-42,14-24,7-13:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-5-1 max.): 8-12.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 38-40,26-28.
WEBS 1 Row at midpt 6-41, 14-25
JOINTS 1 Brace at Jt(s): 47, 48, 49, 40, 26, 30, 36

REACTIONS (size) 20=28-1-0, 21=28-1-0, 22=28-1-0, 23=28-1-0, 24=28-1-0, 27=28-1-0, 29=28-1-0, 33=28-1-0, 35=28-1-0, 37=28-1-0, 39=28-1-0, 42=28-1-0, 43=28-1-0, 44=28-1-0, 45=28-1-0, 46=28-1-0
Max Horiz 46=-288 (LC 11)
Max Uplift 20=-458 (LC 10), 21=-361 (LC 11), 22=-74 (LC 14), 23=-82 (LC 14), 43=-81 (LC 13), 44=-74 (LC 13), 45=-378 (LC 12), 46=-478 (LC 9)
Max Grav 20=599 (LC 30), 21=421 (LC 12), 22=172 (LC 31), 23=129 (LC 12), 24=761 (LC 2), 27=122 (LC 11), 29=102 (LC 12), 33=73 (LC 12), 35=94 (LC 11), 37=103 (LC 12), 39=128 (LC 11), 42=759 (LC 2), 43=129 (LC 11), 44=172 (LC 30), 45=438 (LC 11), 46=617 (LC 31)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-46=-419/304, 1-2=0/106, 2-3=-321/312, 3-4=-173/183, 4-5=-232/282, 5-6=-269/386, 6-7=-554/254, 7-8=-581/49, 8-9=-1569/135, 9-10=-1748/208, 10-11=-1748/208, 11-12=-1568/135, 12-13=-582/48, 13-14=-554/254, 14-15=-269/387, 15-16=-234/284, 16-17=-166/176, 17-18=-310/299, 18-19=0/106, 18-20=-408/292
BOT CHORD 45-46=-148/143, 44-45=-146/141, 43-44=-146/140, 42-43=-146/140, 39-42=-98/96, 37-39=-74/95, 35-37=-50/56, 33-35=-50/56, 29-33=-74/72, 27-29=-74/93, 24-27=-87/85, 23-24=-143/137, 22-23=-142/137, 21-22=-142/137, 20-21=-140/135, 40-41=-13/14, 38-40=-47/42, 36-38=-62/68, 34-36=-62/68, 32-34=-71/66, 30-32=-52/61, 28-30=-52/61, 26-28=-57/53, 25-26=-14/14
WEBS 10-47=-357/37, 11-48=-105/90, 9-49=-105/91, 9-47=-78/190, 11-47=-78/191, 41-42=-734/0, 6-41=-724/0, 24-25=-735/0, 14-25=-725/0, 7-49=-81/319, 47-49=-21/1394, 47-48=-16/1394, 13-48=-80/323, 40-42=-76/69, 26-27=-68/6, 39-40=-81/17, 27-28=-17/0, 38-39=-32/6, 28-29=-25/0, 37-38=-33/0, 29-30=-31/0, 36-37=-31/0, 29-32=-24/9, 34-37=-41/22, 34-35=-59/4, 32-33=-43/0, 8-49=-131/1303, 12-48=-134/1299, 24-26=-56/49, 33-34=-27/19, 5-43=-90/109, 4-44=-203/127, 3-45=-196/182, 15-23=-90/110, 16-22=-203/126, 17-21=-189/175

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-8-6 to 1-3-10, Interior (1) 1-3-10 to 8-0-0, Exterior(2R) 8-0-0 to 12-2-15, Interior (1) 12-2-15 to 20-1-0, Exterior(2R) 20-1-0 to 24-3-15, Interior (1) 24-3-15 to 29-9-6 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=1.33
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); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.

June 6,2025

Continued on page 2

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	B1	Attic Supported Gable	2	1	I74009665 Job Reference (optional)

7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) 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 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) Ceiling dead load (5.0 psf) on member(s). 6-47, 13-14, 7-49, 47-48, 47-48, 13-48; Wall dead load (5.0psf) on member(s).6-41, 14-25
13) All bearings are assumed to be SP No.2 .
14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 458 lb uplift at joint 20, 478 lb uplift at joint 46, 81 lb uplift at joint 43, 74 lb uplift at joint 44, 378 lb uplift at joint 45, 82 lb uplift at joint 23, 74 lb uplift at joint 22 and 361 lb uplift at joint 21.
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

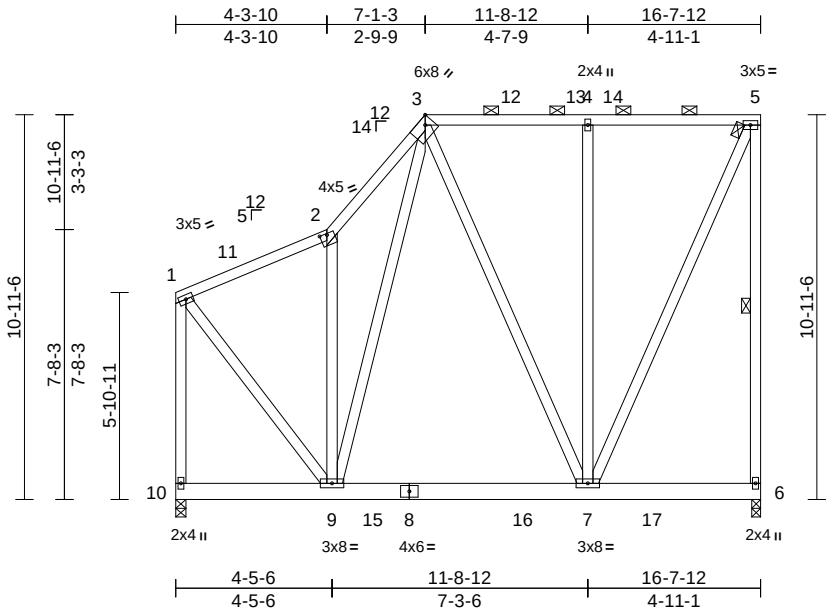
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	A9	Piggyback Base Girder	1	2	I74009666 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:06 ID:fG0Qj29goqDpZxjqfvYo7DzPfz4-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:65.6

Plate Offsets (X, Y): [2:0-2-8,0-0-8], [3:0-2-11,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	0.94	Vert(LL)	-0.03	7-9	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.04	7-9	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.44	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 348 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 3-5:2x4 SP No.1
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.2 *Except* 9-1,9-2,10-1:2x4 SP No.3

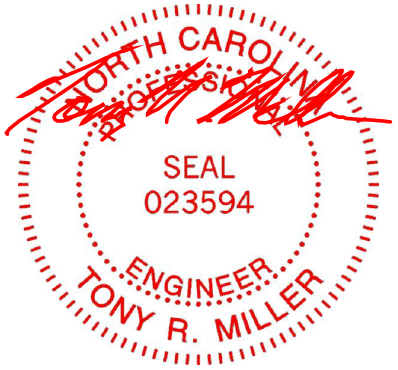
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 5-6

REACTIONS (size) 6=0-3-0, 10=0-3-8
Max Horiz 10=299 (LC 8)
Max Grav 6=1434 (LC 43), 10=1171 (LC 27)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-688/0, 2-3=-876/2, 3-4=-612/0, 4-5=-612/0, 5-6=-1341/0, 1-10=-1123/0
BOT CHORD 9-10=-280/174, 7-9=-70/614, 6-7=-119/86
WEBS 1-9=0/977, 2-9=-527/89, 3-9=-214/124, 3-7=-139/117, 4-7=-1047/0, 5-7=0/1407

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 0-5-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 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.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
6) Unbalanced snow loads have been considered for this design.
7) Provide adequate drainage to prevent water ponding.
8) * 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.
9) All bearings are assumed to be SP No.2 .
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 986 lb down at 20-10-6 on top chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-48, 2-3=-48, 3-5=-58, 6-10=-20
Concentrated Loads (lb)
Vert: 12=-759 (F)



June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009667
25040114-01	C6	Piggyback Base	1	1	Job Reference (optional)

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

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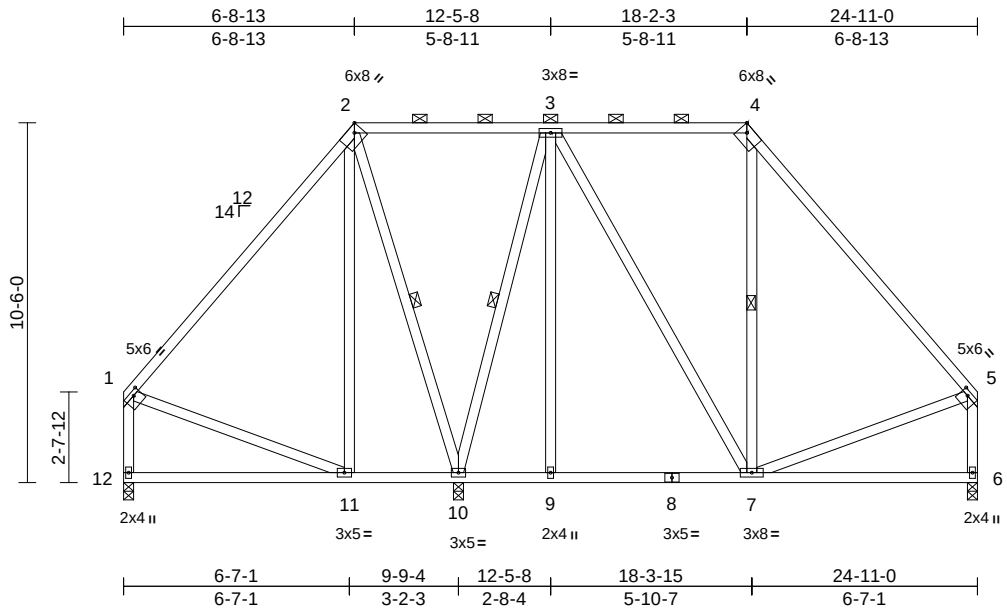

Scale = 1:67.2

Plate Offsets (X, Y): [1:0-2-8,0-1-8], [2:0-2-11,Edge], [4:0-2-11,Edge], [5:0-2-8,0-1-8]

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	0.88	Vert(LL)	-0.05	11-12	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.10	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 203 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-3,2-10,10-3:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 2-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-7, 2-10, 3-10

REACTIONS (size) 6=0-3-8, 10=0-3-8, 12=0-3-8
Max Horiz 12=219 (LC 12)
Max Grav 6=678 (LC 3), 10=1021 (LC 3), 12=462 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-419/111, 2-3=-170/165, 3-4=-461/187, 4-5=-714/136, 1-12=-466/91, 5-6=-744/89
BOT CHORD 11-12=-218/250, 10-11=-101/205, 9-10=-62/231, 7-9=-62/231, 6-7=-79/134
WEBS 2-11=0/224, 3-9=0/246, 4-7=-62/125, 1-11=-110/176, 5-7=-25/264, 3-7=-28/217, 2-10=-452/59, 3-10=-814/54

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 6-8-13, Exterior(2R) 6-8-13 to 10-11-11, Interior (1) 10-11-11 to 18-2-3, Exterior(2R) 18-2-3 to 22-5-2, Interior (1) 22-5-2 to 24-9-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Provide adequate drainage to prevent water ponding.
5) * 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.
6) All bearings are assumed to be SP No.2 .
7) 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

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009668
25040114-01	C5	Piggyback Base	1	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:09 Page: 1
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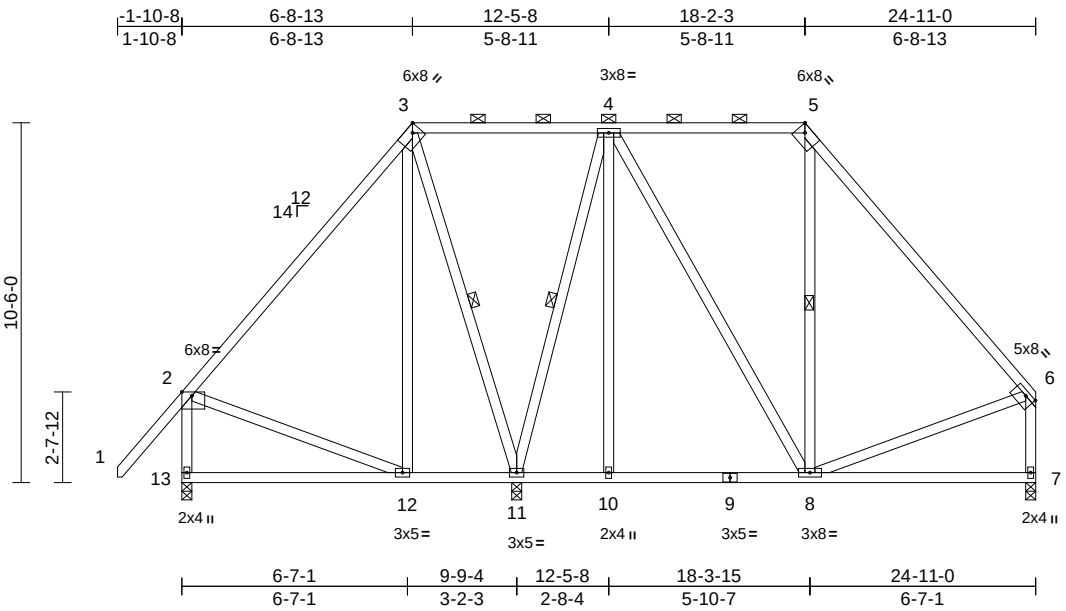

Scale = 1:67.2

Plate Offsets (X, Y): [2:Edge,0-1-5], [3:0-2-11,Edge], [5:0-2-11,Edge], [6:0-3-8,0-1-8]

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	0.87	Vert(LL)	-0.05	12-13	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.10	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 207 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except*
8-4,13-2,7-6,3-11,11-4:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 12-13.
WEBS 1 Row at midpt 5-8, 3-11, 4-11

REACTIONS (size) 7=0-3-8, 11=0-3-8, 13=0-3-8
Max Horiz 13=247 (LC 10)
Max Grav 7=676 (LC 38), 11=1019 (LC 3), 13=550 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/112, 2-3=-432/130, 3-4=-170/169, 4-5=-460/189, 5-6=-712/139, 2-13=-602/120, 6-7=-742/92
BOT CHORD 12-13=-252/272, 11-12=-105/197, 10-11=-65/229, 8-10=-65/229, 7-8=-79/135
WEBS 3-12=-8/225, 4-10=0/246, 4-8=-26/220, 5-8=-64/125, 2-12=-129/240, 6-8=-27/261, 3-11=-436/56, 4-11=-824/52

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-9-11 to 1-2-5, Interior (1) 1-2-5 to 6-8-13, Exterior(2R) 6-8-13 to 10-11-11, Interior (1) 10-11-11 to 18-2-3, Exterior(2R) 18-2-3 to 22-5-2, Interior (1) 22-5-2 to 24-9-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) * 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.
7) All bearings are assumed to be SP No.2 .
8) 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

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009669
25040114-01	C4	Piggyback Base	1	1	Job Reference (optional)

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

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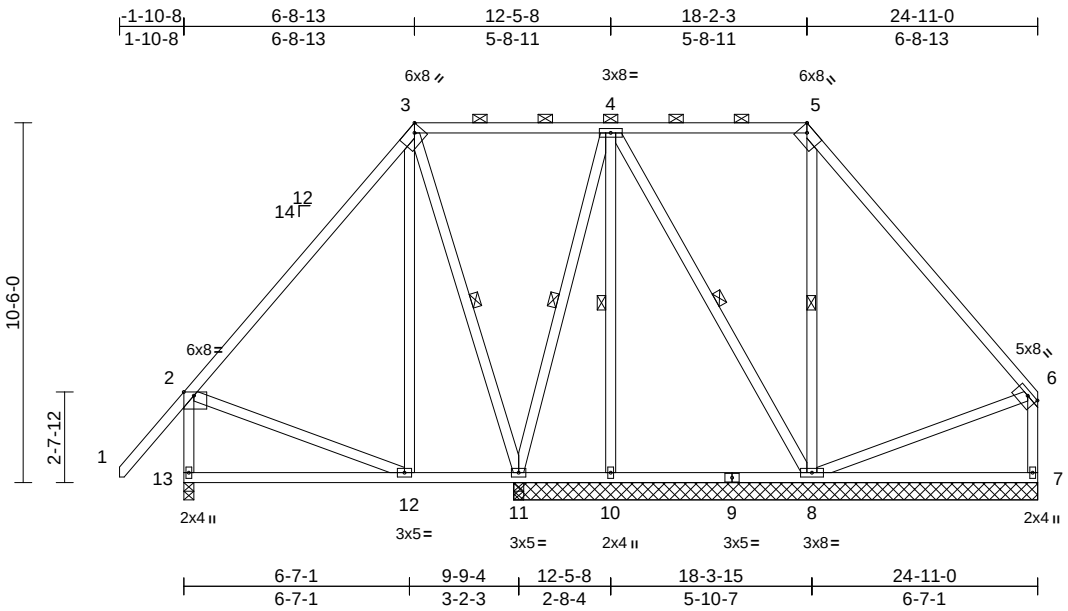


Scale = 1:67.2

Plate Offsets (X, Y): [2:Edge,0-1-5], [3:0-2-11,Edge], [5:0-2-11,Edge], [6:0-3-8,0-1-8]

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	0.74	Vert(LL)	-0.05	12-13	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.09	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	-0.01	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 207 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except*
8-4,13-2,7-6,3-11,11-4:2x4 SP No.2

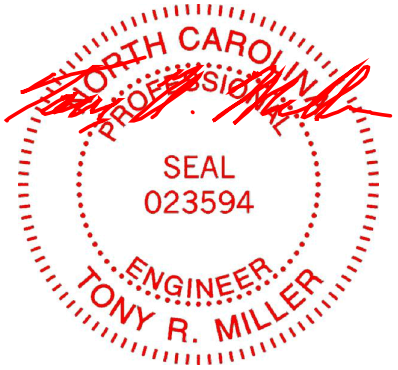
BRACING
TOP CHORD Structural wood sheathing directly applied or 5-6-9 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 12-13.
WEBS 1 Row at midpt 4-10, 4-8, 5-8, 3-11, 4-11

REACTIONS (size) 7=15-3-8, 8=15-3-8, 10=15-3-8, 11=15-3-8, 13=0-3-8
Max Horiz 13=247 (LC 12)
Max Uplift 11=-42 (LC 10)
Max Grav 7=318 (LC 30), 8=556 (LC 38), 10=346 (LC 38), 11=476 (LC 35), 13=574 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/112, 2-3=-462/132, 3-4=-187/171, 4-5=-188/171, 5-6=-266/110, 2-13=-632/123, 6-7=-293/64
BOT CHORD 12-13=-252/272, 11-12=-98/211, 10-11=-98/148, 8-10=-98/148, 7-8=-79/134
WEBS 3-12=-7/226, 4-10=-166/35, 4-8=-87/66, 5-8=-344/88, 2-12=-116/238, 6-8=-174/175, 3-11=-412/57, 4-11=-187/79

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-9-11 to 1-2-5, Interior (1) 1-2-5 to 6-8-13, Exterior(2R) 6-8-13 to 10-11-11, Interior (1) 10-11-11 to 18-2-3, Exterior(2R) 18-2-3 to 22-5-2, Interior (1) 22-5-2 to 24-9-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) * 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.
7) All bearings are assumed to be SP No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 11.
9) 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



June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	C3	Piggyback Base	3	1	I74009670 Job Reference (optional)

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

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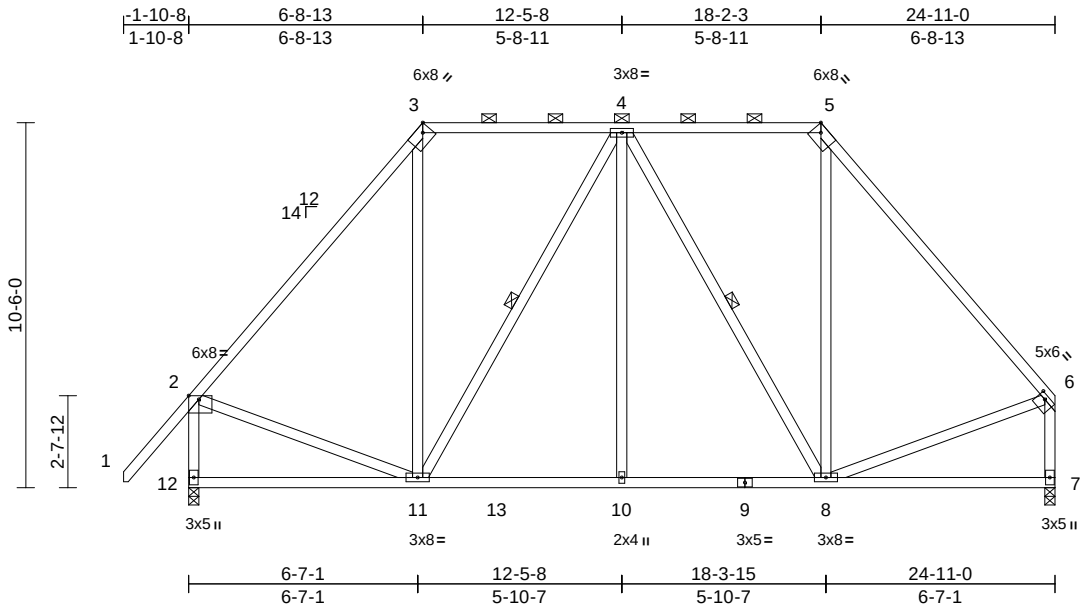

Scale = 1:66.3

Plate Offsets (X, Y): [2:Edge,0-1-5], [3:0-2-11,Edge], [5:0-2-11,Edge], [6:0-2-8,0-1-8]

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	0.86	Vert(LL)	-0.04	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.09	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 194 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 5-6:2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 11-4,8-4,12-2,7-6:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 11-12.
WEBS 1 Row at midpt 4-11, 4-8

REACTIONS (size) 7=0-3-8, 12=0-3-8
Max Horiz 12=247 (LC 10)
Max Grav 7=1096 (LC 3), 12=1202 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/112, 2-3=-1219/173, 3-4=-771/202, 4-5=-779/201, 5-6=-1214/158, 2-12=-1394/150, 6-7=-1255/124
BOT CHORD 11-12=-253/272, 10-11=-58/855, 8-10=-58/855, 7-8=-78/134
WEBS 3-11=0/417, 4-11=-407/87, 4-10=0/328, 4-8=-393/91, 5-8=0/399, 2-11=-18/560, 6-8=-24/567

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-9-11 to 1-2-5, Interior (1) 1-2-5 to 6-8-13, Exterior(2R) 6-8-13 to 10-11-11, Interior (1) 10-11-11 to 18-2-3, Exterior(2R) 18-2-3 to 22-5-2, Interior (1) 22-5-2 to 24-9-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) * 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.
7) All bearings are assumed to be SP No.2 .
8) 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

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009671
25040114-01	C2	Piggyback Base	12	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:09 Page: 1
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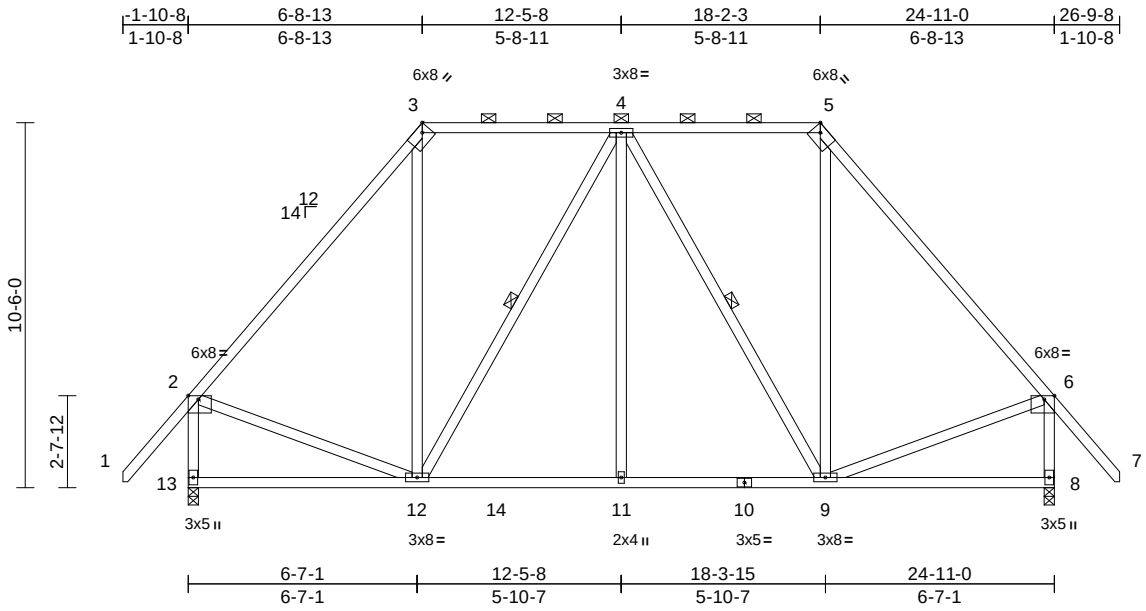


Scale = 1:66.3

Plate Offsets (X, Y): [2:Edge,0-1-5], [3:0-2-11,Edge], [5:0-2-11,Edge], [6:Edge,0-1-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.04	11-12	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.09	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horz(CT)	0.01	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 198 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 12-4,9-4,13-2,8-6:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-12, 4-9

REACTIONS (size) 8=0-3-8, 13=0-3-8
Max Horiz 13=-264 (LC 11)
Max Grav 8=1198 (LC 3), 13=1198 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/112, 2-3=-1215/176, 3-4=-769/203, 4-5=-769/203, 5-6=-1215/176, 6-7=0/112, 2-13=-1389/152, 6-8=-1389/152
BOT CHORD 12-13=-234/300, 11-12=-37/813, 9-11=-37/813, 8-9=-80/136
WEBS 3-12=0/415, 4-12=-403/90, 4-11=0/328, 4-9=-403/89, 5-9=0/414, 2-12=-19/557, 6-9=-20/557

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-9-11 to 1-2-5, Interior (1) 1-2-5 to 6-8-13, Exterior(2R) 6-8-13 to 10-11-11, Interior (1) 10-11-11 to 18-2-3, Exterior(2R) 18-2-3 to 22-5-2, Interior (1) 22-5-2 to 26-8-11 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) * 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.
7) All bearings are assumed to be SP No.2 .
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

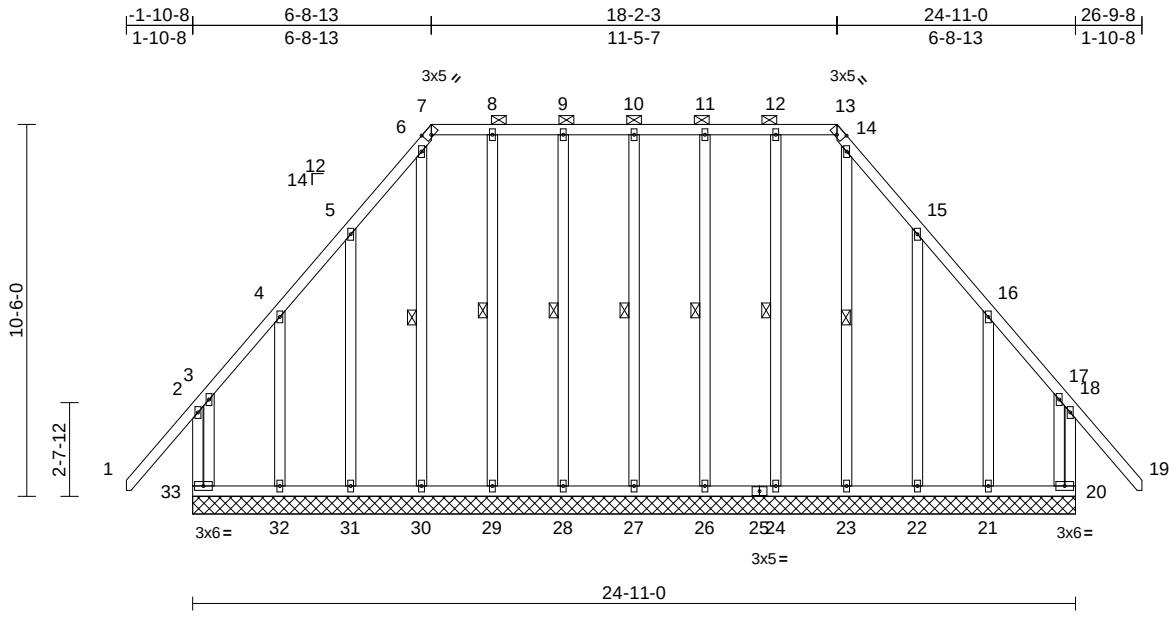
LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009672
25040114-01	C1	Piggyback Base Supported Gable	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:09 Page: 1
ID:JZkyE9ICzWk6?ne8MQmcclzPfyu-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:65

Plate Offsets (X, Y): [7:0-2-5,Edge], [13:0-2-5,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	-0.01	20	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 247 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 or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 7-13.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 10-27, 9-28, 8-29, 6-30, 11-26, 12-24, 14-23

REACTIONS (size) 20=24-11-0, 21=24-11-0, 22=24-11-0, 23=24-11-0, 24=24-11-0, 26=24-11-0, 27=24-11-0, 28=24-11-0, 29=24-11-0, 30=24-11-0, 31=24-11-0, 32=24-11-0, 33=24-11-0
Max Horiz 33=-264 (LC 11)
Max Uplift 20=-197 (LC 10), 21=-206 (LC 9), 22=-74 (LC 14), 26=-8 (LC 9), 27=-2 (LC 10), 28=-8 (LC 10), 31=-74 (LC 13), 32=-213 (LC 10), 33=-207 (LC 9)
Max Grav 20=311 (LC 29), 21=325 (LC 12), 22=167 (LC 36), 23=207 (LC 31), 24=166 (LC 35), 26=159 (LC 35), 27=160 (LC 2), 28=159 (LC 36), 29=166 (LC 36), 30=208 (LC 32), 31=167 (LC 35), 32=333 (LC 11), 33=320 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-33=-505/479, 1-2=0/112, 2-3=-309/392, 3-4=-194/221, 4-5=-181/263, 5-6=-285/403, 6-7=-185/225, 7-8=-211/295, 8-9=-211/295, 9-10=-211/295, 10-11=-211/295, 11-12=-211/295, 12-13=-211/295, 13-14=-184/226, 14-15=-294/407, 15-16=-188/274, 16-17=-184/212, 17-18=-302/378, 18-19=0/112, 18-20=-496/457
BOT CHORD 32-33=-142/135, 31-32=-142/135, 30-31=-142/135, 29-30=-142/135, 28-29=-142/135, 27-28=-142/135, 26-27=-142/135, 24-26=-142/135, 23-24=-142/135, 22-23=-142/135, 21-22=-142/135, 20-21=-142/135
WEBS 10-27=-140/37, 9-28=-151/59, 8-29=-126/11, 6-30=-216/78, 5-31=-223/170, 4-32=-231/193, 3-33=-530/545, 11-26=-151/60, 12-24=-126/12, 14-23=-225/89, 15-22=-224/170, 16-21=-226/182, 17-20=-509/523

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-9-11 to 1-2-5, Exterior(2N) 1-2-5 to 6-8-13, Corner(3R) 6-8-13 to 9-8-13, Exterior(2N) 9-8-13 to 18-2-3, Corner(3R) 18-2-3 to 21-2-3, Exterior(2N) 21-2-3 to 26-8-11 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=1.33
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); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) 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 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 .

June 6,2025

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13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 197 lb uplift at joint 20, 207 lb uplift at joint 33, 2 lb uplift at joint 27, 8 lb uplift at joint 28, 74 lb uplift at joint 31, 213 lb uplift at joint 32, 8 lb uplift at joint 26, 74 lb uplift at joint 22 and 206 lb uplift at joint 21.
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

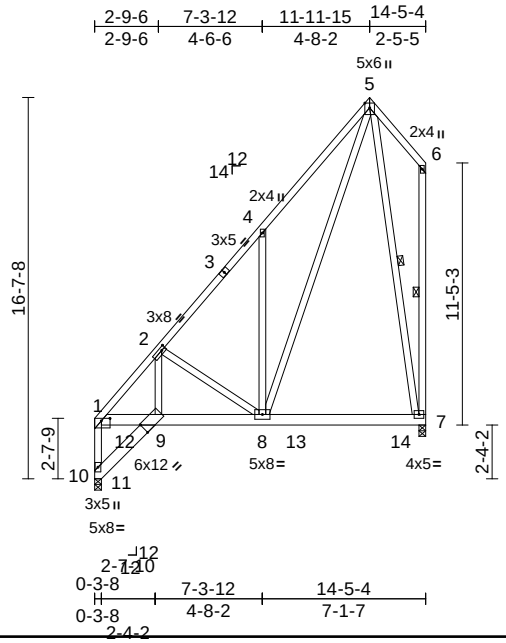
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	L3	Roof Special Girder	1	2	I74009673 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:13 ID:j8Q5sAL4GR6hsEMj1ZJJEOzPfyr-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:100.5

Plate Offsets (X, Y): [1:0-4-8,0-1-5], [2:0-2-4,0-1-8], [5:Edge,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	0.38	Vert(LL)	-0.05	8-9	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.09	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.96	Horz(CT)	0.08	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 319 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 8-5,7-6,7-5:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-0-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 9-10.
WEBS 1 Row at midpt 6-7, 5-7

REACTIONS (size) 7=0-3-8, 10=0-3-8
Max Horiz 10=413 (LC 6)
Max Grav 7=1765 (LC 20), 10=5235 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-6061/0, 2-4=-1834/0, 4-5=-1840/0, 5-6=-268/213, 1-10=-5102/0, 6-7=-249/178
BOT CHORD 9-10=-544/395, 1-9=0/3867, 8-9=0/4124, 7-8=-80/299
WEBS 2-9=0/5057, 2-8=-3513/0, 4-8=-359/249, 5-8=0/2869, 5-7=-1652/25

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.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-3-0 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.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) * 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.
7) All bearings are assumed to be SP No.2 .
8) Bearing at joint(s) 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 4799 lb down at 2-9-6 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-5=-48, 5-6=-48, 9-10=-20, 7-9=-20
Concentrated Loads (lb)
Vert: 9=-3852 (B), 12=-810 (B)

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	E3	Piggyback Base Girder	1	2	I74009674 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:11 ID:t1TvoBKSZI9w_UjyPCvCduzPuRt-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

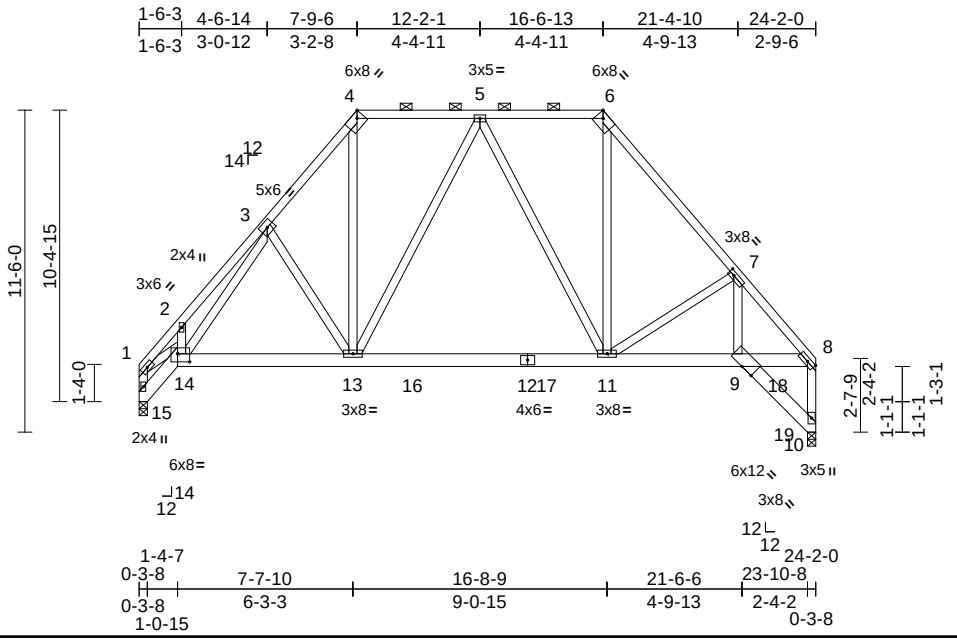


Plate Offsets (X, Y): [4:0-2-11,Edge], [6:0-2-11,Edge], [7:0-2-8,0-1-8], [8:0-3-8,0-1-8], [9:0-5-8,Edge], [14:0-5-4,0-3-8]

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	0.32	Vert(LL)	-0.06	11-13	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.11	11-13	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.93	Horz(CT)	0.13	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 409 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-7-14 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 10=0-3-8, 15=0-3-8
Max Horiz 15=176 (LC 6)
Max Grav 10=5811 (LC 20), 15=1575 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-2297/0, 2-3=-2302/0, 3-4=-1838/0, 4-5=-1135/0, 5-6=-1686/0, 6-7=-2721/0, 7-8=-6805/0
BOT CHORD 14-15=-308/218, 13-14=0/1357, 11-13=0/1495, 9-11=0/4431, 8-9=0/4471, 9-10=-140/0
WEBS 1-14=0/1516, 2-14=-76/120, 3-13=-275/143, 4-13=0/1178, 6-11=0/1813, 7-11=-3336/0, 7-9=0/4718, 3-14=-219/442, 5-13=-772/0, 5-11=0/585, 8-10=-5641/0, 1-15=-1536/0

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.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-3-0 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.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
6) Provide adequate drainage to prevent water ponding.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Bearing at joint(s) 15, 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 4729 lb down at 21-4-10 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-48, 4-6=-58, 6-8=-48, 14-15=-20, 9-14=-20, 9-10=-20
Concentrated Loads (lb)
Vert: 9=-3904 (B), 18=-810 (B)

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	VL1	Valley	1	1	I74009675 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:16
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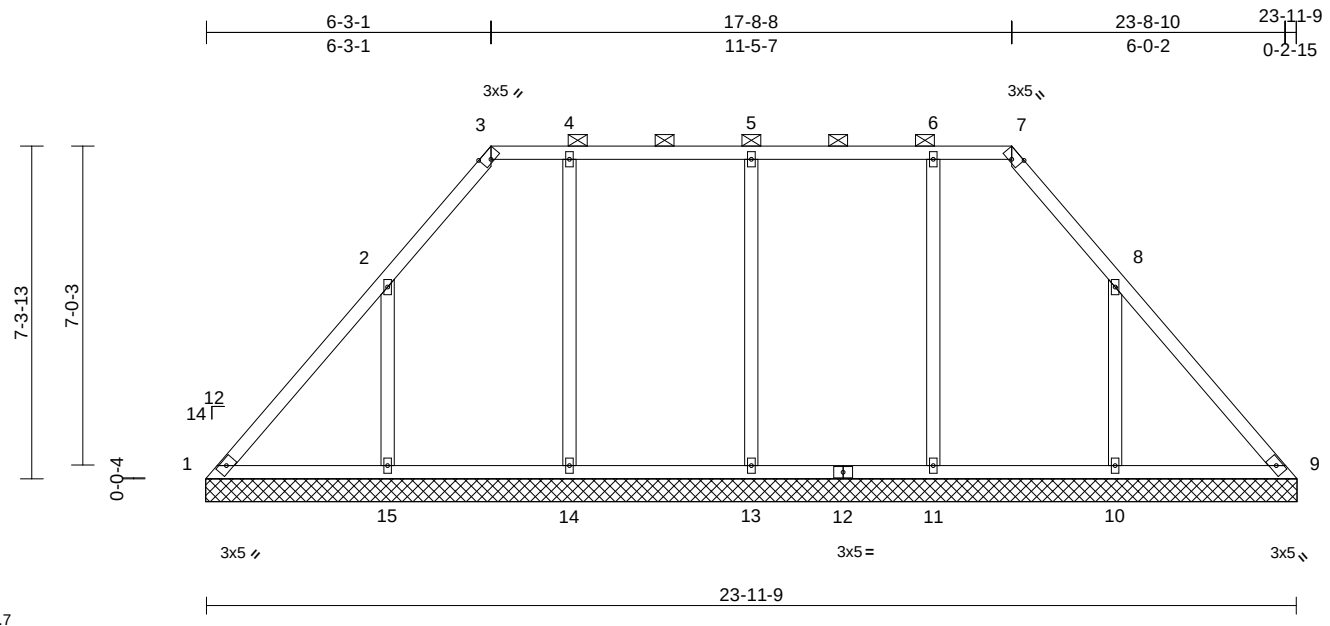


Scale = 1:50.7

Plate Offsets (X, Y): [3:0-2-5,Edge], [7:0-2-5,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.28	Horiz(TL)	0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 122 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 or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 3-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=24-0-0, 9=24-0-0, 10=24-0-0, 11=24-0-0, 13=24-0-0, 14=24-0-0, 15=24-0-0
Max Horiz 1=-141 (LC 9)
Max Uplift 10=-117 (LC 14), 13=-14 (LC 9), 14=-5 (LC 10), 15=-122 (LC 13)
Max Grav 1=181 (LC 30), 9=176 (LC 31), 10=487 (LC 29), 11=379 (LC 37), 13=410 (LC 36), 14=379 (LC 36), 15=495 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-204/145, 2-3=-140/52, 3-4=-65/62, 4-5=-65/62, 5-6=-65/62, 6-7=-65/62, 7-8=-140/52, 8-9=-201/145
BOT CHORD 1-15=-138/175, 14-15=-138/175, 13-14=-138/175, 11-13=-138/175, 10-11=-138/175, 9-10=-138/175
WEBS 5-13=-297/94, 4-14=-243/58, 2-15=-364/211, 6-11=-243/58, 8-10=-364/211

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 6-3-5, Corner (3R) 6-3-5 to 9-3-5, Exterior(2N) 9-3-5 to 17-8-11, Corner(3R) 17-8-11 to 20-8-11, Exterior(2N) 20-8-11 to 24-0-0 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=1.33
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); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
5) Provide adequate drainage to prevent water ponding.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 oc.
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, with BCDL = 10.0psf.
10) All bearings are assumed to be SP No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 13, 5 lb uplift at joint 14, 122 lb uplift at joint 15 and 117 lb uplift at joint 10.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 9.
13) 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

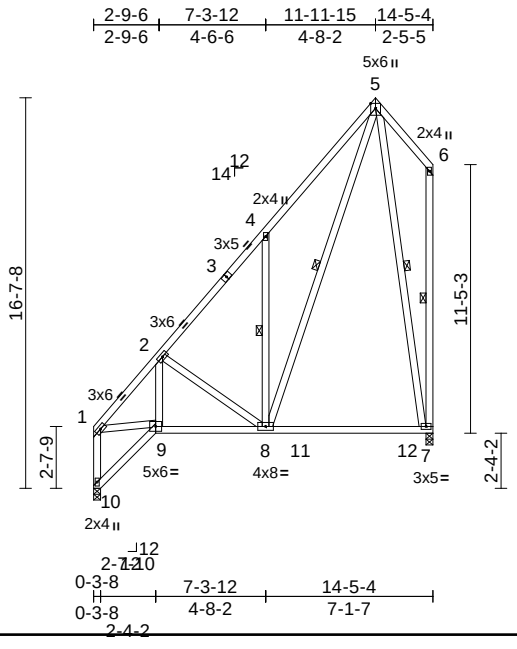
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	L1	Roof Special	2	1	I74009676 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:13 ID:BowcxuxO2IyMPALNb7EZPQzPfzM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:98.1

Plate Offsets (X, Y): [5:Edge,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	0.32	Vert(LL)	-0.15	7-8	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.23	7-8	>724	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.66	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 147 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 7-6,8-5,7-5:2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-8-12 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 8-2-11 oc bracing.
WEBS	1 Row at midpt 6-7, 4-8, 5-8, 5-7

REACTIONS (size) 7=0-3-8, 10=0-3-8
Max Horiz 10=310 (LC 13)
Max Uplift 7=-184 (LC 13)
Max Grav 7=794 (LC 28), 10=652 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	5-6=-52/77, 1-2=-999/280, 2-4=-620/32, 4-5=-844/329
BOT CHORD	9-10=-523/485, 8-9=-494/852, 7-8=-40/115
WEBS	2-9=-320/368, 1-10=-825/223, 1-9=-139/614, 6-7=-81/52, 2-8=-461/367, 4-8=-521/335, 5-8=-482/1141, 5-7=-762/265

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 11-11-15, Exterior(2E) 11-11-15 to 14-3-8 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) * 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.
5) All bearings are assumed to be SP No.2 .
6) Bearing at joint(s) 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 184 lb uplift at joint 7.

LOAD CASE(S) Standard

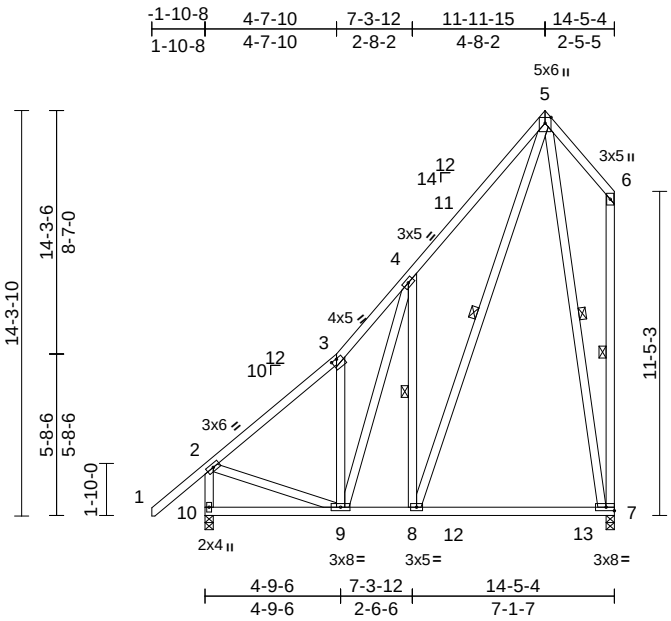
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009677
25040114-01	L2	Roof Special	5	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:13 Page: 1
ID:f_U?8Ey0pc4D0JwZ9rloxezPfzL-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:81.2

Plate Offsets (X, Y): [3:0-2-8,0-0-4], [5:Edge,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	0.80	Vert(LL)	-0.14	7-8	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.22	7-8	>787	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 157 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-6:2x4 SP No.1, 7-5,8-5:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-11-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 6-7, 5-7, 5-8, 4-8

REACTIONS (size) 7=0-3-8, 10=0-3-8
Max Horiz 10=396 (LC 12)
Max Uplift 7=-91 (LC 10)
Max Grav 7=777 (LC 29), 10=799 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/95, 2-3=-678/104, 3-4=-777/237, 4-5=-853/452, 5-6=-386/427, 2-10=-806/177, 6-7=-352/367
BOT CHORD 9-10=-650/549, 8-9=-304/529, 7-8=-197/252
WEBS 3-9=-363/162, 2-9=-19/446, 5-7=-854/508, 5-8=-378/938, 4-8=-589/433, 4-9=-205/336

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-9-14 to 1-2-2, Interior (1) 1-2-2 to 11-11-15, Exterior(2E) 11-11-15 to 14-3-8 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) All bearings are assumed to be SP No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 91 lb uplift at joint 7.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	E5	Piggyback Base Girder	1	2	I74009678 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:11 Page: 1
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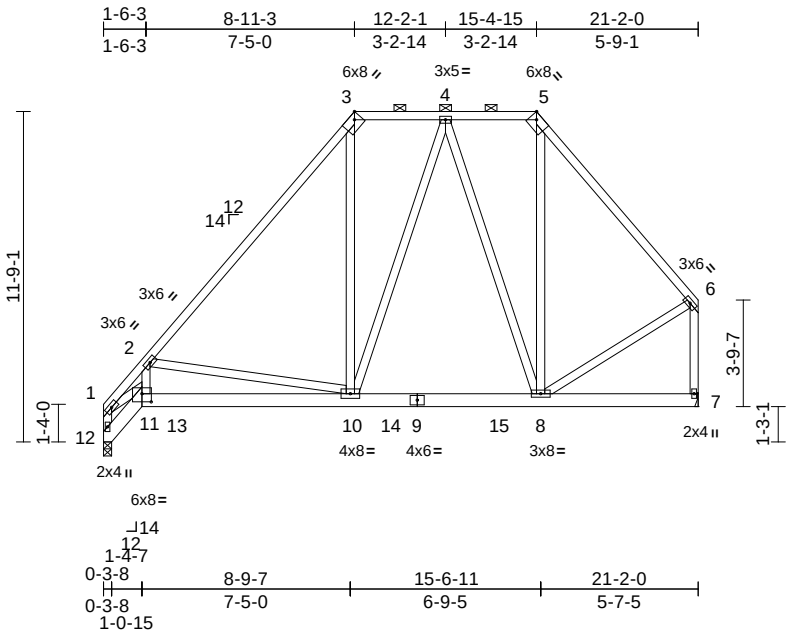

Scale = 1:82

Plate Offsets (X, Y): [3:0-2-11,Edge], [5:0-2-11,Edge], [11:0-4-0,0-3-8]

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	0.39	Vert(LL)	-0.06	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.11	10-11	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.42	Horz(CT)	0.04	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 369 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 10-4,8-4:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7= Mechanical, 12=0-3-8
Max Horiz 12=252 (LC 6)
Max Grav 7=1020 (LC 20), 12=1674 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-12=-1935/0, 1-2=-3184/0, 2-3=-1142/0, 3-4=-670/63, 4-5=-454/72, 5-6=-793/36, 6-7=-930/0
BOT CHORD 11-12=-263/333, 10-11=-182/2181, 8-10=-42/605, 7-8=-36/31
WEBS 1-11=0/2304, 2-11=0/1529, 2-10=-1483/159, 3-10=0/506, 4-10=-30/372, 4-8=-425/69, 5-8=0/335, 6-8=-11/528

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.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 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.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
6) Provide adequate drainage to prevent water ponding.
7) * 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.
8) Bearings are assumed to be: Joint 12 SP No.2 .
9) Refer to girder(s) for truss to truss connections.
10) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 879 lb down at 2-7-10 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-48, 3-5=-58, 5-6=-48, 11-12=-20, 7-11=-20
Concentrated Loads (lb)
Vert: 13=-710 (B)

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009679
25040114-01	E2	Piggyback Base	8	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:10 Page: 1
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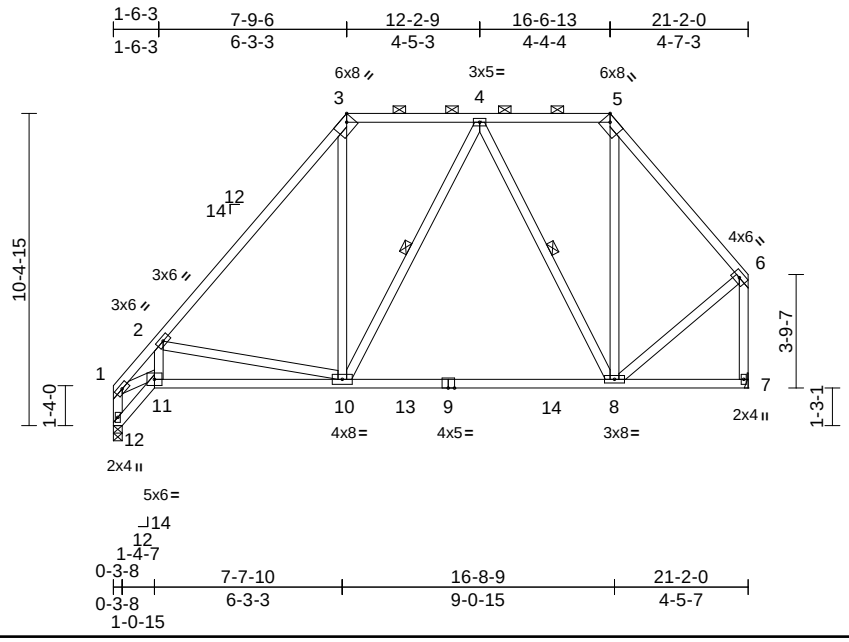


Scale = 1:76.8

Plate Offsets (X, Y): [3:0-2-11,Edge], [5:0-2-11,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	0.73	Vert(LL)	-0.26	8-10	>968	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.40	8-10	>633	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.05	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 156 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 or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-8, 4-10

REACTIONS (size) 7= Mechanical, 12=0-3-8
Max Horiz 12=209 (LC 10)
Max Grav 7=929 (LC 3), 12=918 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1942/479, 2-3=-1228/155, 3-4=-779/190, 4-5=-588/172, 5-6=-913/160, 6-7=-1154/114
BOT CHORD 11-12=-306/305, 10-11=-570/1510, 8-10=-101/708, 7-8=-60/70
WEBS 1-11=-374/1374, 2-11=-204/382, 2-10=-785/471, 3-10=0/456, 4-8=-403/105, 5-8=-11/319, 6-8=-17/616, 4-10=-80/147, 1-12=-1257/261

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 7-9-6, Exterior(2R) 7-9-6 to 12-2-9, Interior (1) 12-2-9 to 16-6-13, Exterior(2E) 16-6-13 to 21-0-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Provide adequate drainage to prevent water ponding.
5) * 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.
6) Bearings are assumed to be: Joint 12 SP No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) 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

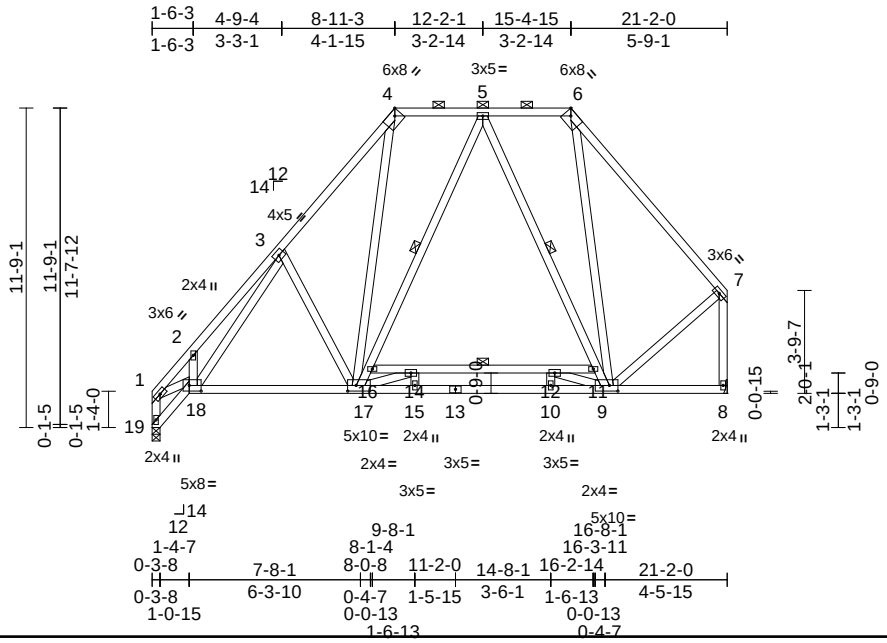
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	E1	Piggyback Base	5	1	I74009680 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:10 ID:2K2nPWrM_?6bBLfG3oBq0SzPuSV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:84.8

Plate Offsets (X, Y): [4:0-2-11,Edge], [6:0-2-11,Edge], [9:0-3-12,0-2-8], [17:0-3-12,0-2-8], [18:0-5-4,0-2-8]

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	0.82	Vert(LL)	-0.09	10-15	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.18	10-15	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.42	Horz(CT)	0.08	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 193 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 6-7:2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 5-17,5-9:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-6-9 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 14-16
5-0-6 oc bracing: 12-14.
WEBS 1 Row at midpt 5-17, 5-9

REACTIONS (size) 8= Mechanical, 19=0-3-8
Max Horiz 19=215 (LC 10)
Max Grav 8=1259 (LC 3), 19=1161 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-19=-1466/79, 1-2=-2029/93, 2-3=-2082/220, 3-4=-1533/71, 4-5=-888/112, 5-6=-694/115, 6-7=-1096/3
BOT CHORD 18-19=-300/296, 17-18=-21/1059, 15-17=0/1626, 10-15=0/1626, 9-10=0/1626, 8-9=0/0, 14-16=-27/21, 12-14=-1115/0, 11-12=-6/98
WEBS 1-18=-11/1261, 2-18=-139/126, 7-8=-1440/0, 16-17=-26/205, 5-16=-26/213, 5-11=-327/87, 9-11=-301/76, 4-17=0/831, 6-9=0/454, 7-9=0/768, 14-15=0/219, 10-12=0/253, 3-17=-412/229, 3-18=-259/571, 14-17=-1205/0, 9-12=-1279/0

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 8-11-3, Exterior(2R) 8-11-3 to 13-2-1, Interior (1) 13-2-1 to 15-4-15, Exterior(2R) 15-4-15 to 19-7-14, Interior (1) 19-7-14 to 21-0-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) 200.0lb AC unit load placed on the bottom chord, 12-2-1 from left end, supported at two points, 5-0-0 apart.
5) Provide adequate drainage to prevent water ponding.
6) * 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.
7) Bearings are assumed to be: Joint 19 SP No.2 .
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 19 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) 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

June 6,2025

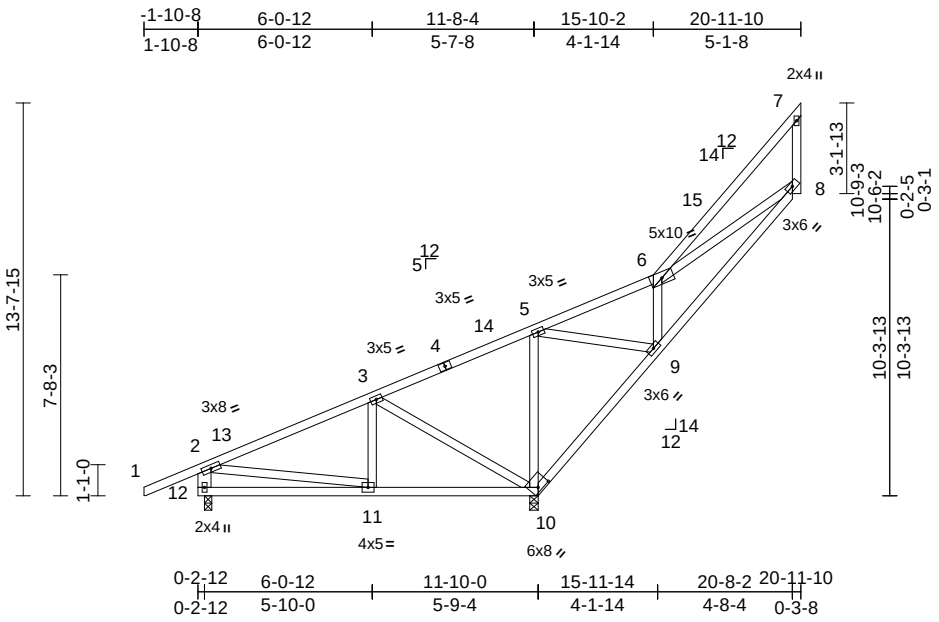
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009681
25040114-01	A5	Monopitch	2	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:05 ID:ujXO1J3fhNCybi6IBEPvoXzPfzC-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:80.1

Plate Offsets (X, Y): [10:0-4-12,0-1-8]

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	0.47	Vert(LL)	-0.02	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	-0.04	10-11	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.54	Horz(CT)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 133 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 12-2:2x6 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-2-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 10=0-3-8, 12=0-3-0
Max Horiz 12=464 (LC 12)
Max Uplift 10=-364 (LC 12), 12=-95 (LC 11)
Max Grav 10=1451 (LC 2), 12=428 (LC 34)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/60, 2-3=-1066/251, 3-5=-1247/720, 5-6=-1004/567, 6-7=-174/132, 7-8=-178/166, 2-12=-463/125
BOT CHORD 11-12=-749/186, 10-11=-167/229, 9-10=-923/864, 8-9=-666/859
WEBS 3-11=-71/170, 3-10=-624/297, 5-10=-483/281, 5-9=-276/241, 6-9=-261/82, 6-8=-819/524, 2-11=-237/990

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-2 to 1-1-14, Interior (1) 1-1-14 to 20-9-14 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) All bearings are assumed to be SP No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 95 lb uplift at joint 12 and 364 lb uplift at joint 10.

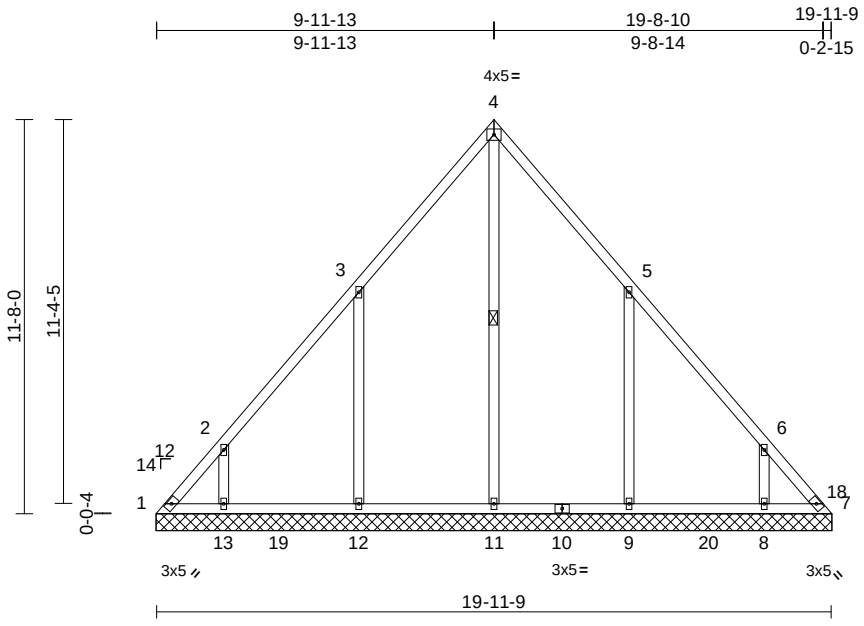
LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009682
25040114-01	VL2	Valley	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:16 Page: 1
ID:Wo8aAg3flXN2L61k7aV2kFzPuSD-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:68.2

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	0.25	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.36	Horiz(TL)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 115 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 11-4:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-11

REACTIONS (size) 1=20-0-0, 7=20-0-0, 8=20-0-0, 9=20-0-0, 11=20-0-0, 12=20-0-0, 13=20-0-0
Max Horiz 1=224 (LC 10)
Max Uplift 1=-110 (LC 11), 7=-71 (LC 12), 8=-80 (LC 14), 9=-167 (LC 14), 12=-166 (LC 13), 13=-87 (LC 13)
Max Grav 1=184 (LC 10), 7=154 (LC 14), 8=353 (LC 29), 9=523 (LC 29), 11=355 (LC 31), 12=522 (LC 28), 13=364 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-278/226, 2-3=-216/152, 3-4=-258/204, 4-5=-258/204, 5-6=-180/104, 6-7=-278/226
BOT CHORD 1-13=-141/193, 12-13=-141/193, 11-12=-141/193, 9-11=-141/193, 8-9=-141/193, 7-8=-141/193
WEBS 4-11=-204/106, 3-12=-440/304, 2-13=-329/219, 5-9=-440/305, 6-8=-328/218

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 10-0-0, Corner (3R) 10-0-0 to 13-0-0, Exterior(2N) 13-0-0 to 19-8-3 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) * 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.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 110 lb uplift at joint 1, 71 lb uplift at joint 7, 166 lb uplift at joint 12, 87 lb uplift at joint 13, 167 lb uplift at joint 9 and 80 lb uplift at joint 8.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 7.

LOAD CASE(S) Standard

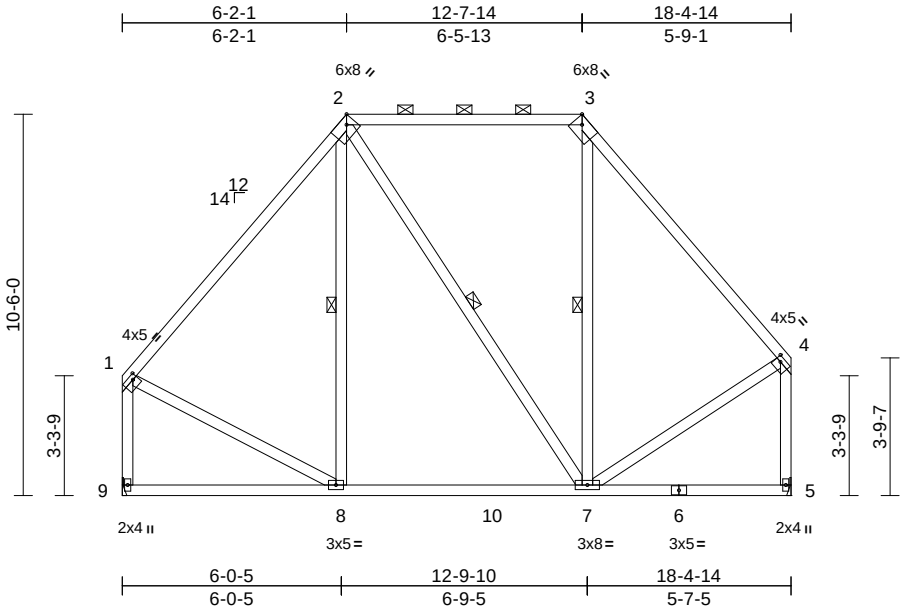
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	E4	Piggyback Base	2	1	I74009683 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:11 ID:EPosWCv7Whif9sB_UiB5J?zPfzO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:63.4

Plate Offsets (X, Y): [1:0-1-8,0-1-8], [2:0-2-11,Edge], [3:0-2-11,Edge], [4:0-1-12,0-1-8]

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	0.75	Vert(LL)	-0.08	7-8	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.11	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 140 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-2:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 2-3.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 2-8, 2-7, 3-7

REACTIONS (size) 5= Mechanical, 9= Mechanical
Max Horiz 9=229 (LC 10)
Max Grav 5=797 (LC 3), 9=805 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-827/143, 2-3=-519/191, 3-4=-794/157, 1-9=-931/116, 4-5=-934/117
BOT CHORD 8-9=-216/224, 7-8=-91/467, 5-7=-68/89
WEBS 2-8=-6/212, 2-7=-113/101, 3-7=-61/168, 1-8=-31/390, 4-7=-31/420

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-8-4 to 3-8-4, Interior (1) 3-8-4 to 6-8-9, Exterior(2R) 6-8-9 to 10-11-8, Interior (1) 10-11-8 to 13-2-6, Exterior(2R) 13-2-6 to 17-5-4, Interior (1) 17-5-4 to 18-9-10 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Provide adequate drainage to prevent water ponding.
5) * 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.
6) Refer to girder(s) for truss to truss connections.
7) 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

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009684
25040114-01	A8	Roof Special	1	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:06 Page: 1
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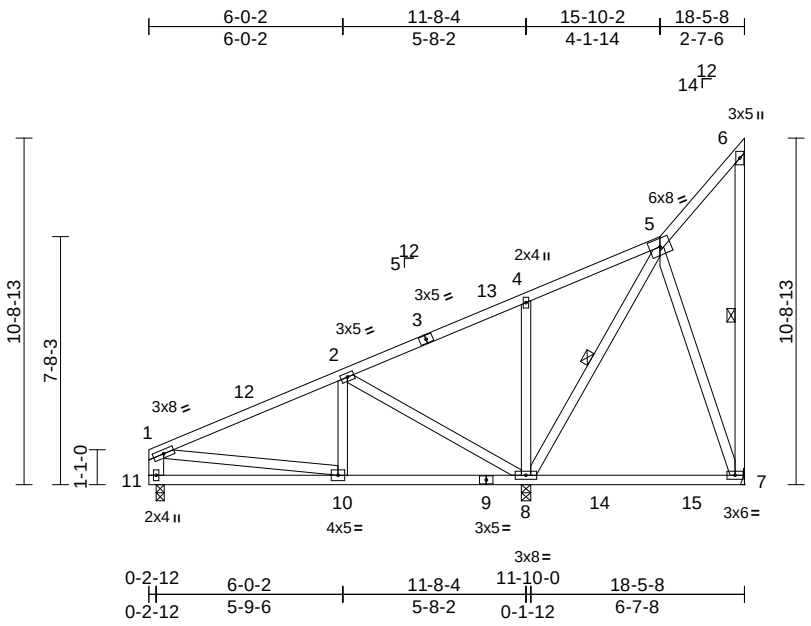


Scale = 1:71.4

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	0.75	Vert(LL)	-0.10	7-8	>805	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.15	7-8	>519	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.53	Horz(CT)	-0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 129 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 6-7:2x4 SP No.2, 11-1:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 6-7, 5-8

REACTIONS (size) 7= Mechanical, 8=0-3-8, 11=0-3-0
Max Horiz 11=301 (LC 12)
Max Uplift 7=-108 (LC 12), 8=-29 (LC 15)
Max Grav 7=222 (LC 32), 8=1007 (LC 3), 11=420 (LC 33)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-515/36, 2-4=-256/302, 4-5=-173/259, 5-6=-223/189, 6-7=-147/171, 1-11=-374/72
BOT CHORD 10-11=-582/473, 8-10=-374/579, 7-8=-151/143
WEBS 5-7=-50/125, 4-8=-335/160, 2-10=0/196, 2-8=-653/192, 1-10=-24/259, 5-8=-300/27

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-2-12 to 3-2-12, Interior (1) 3-2-12 to 18-3-12 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) * 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.
5) Bearings are assumed to be: Joint 11 SP No.2 , Joint 8 SP No.2 .
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 108 lb uplift at joint 7 and 29 lb uplift at joint 8.

LOAD CASE(S) Standard

June 6,2025

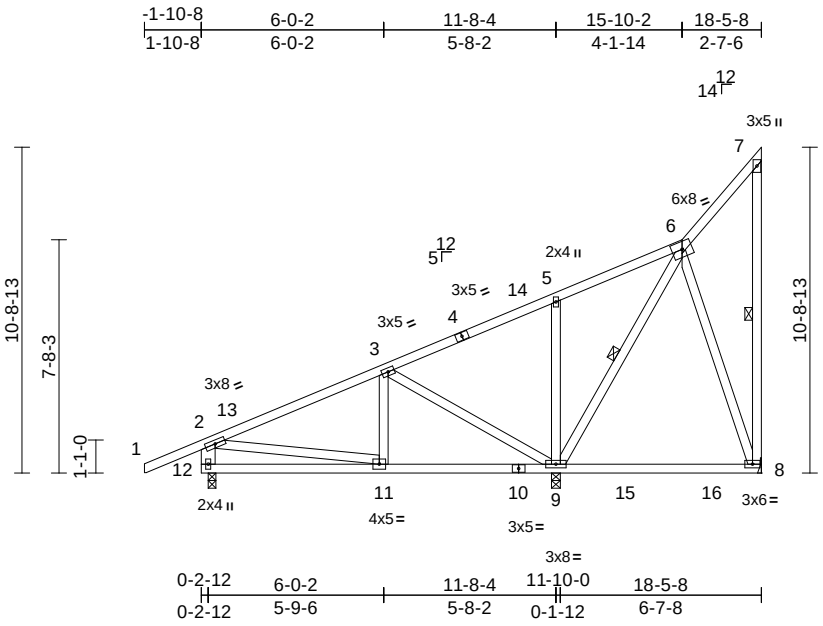
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009685
25040114-01	A4	Roof Special	6	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:05 ID:ujXO1J3fhNCybi6IBEPvoXzPfzC-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:75.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.75	Vert(LL)	-0.10	8-9	>805	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.15	8-9	>519	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.51	Horz(CT)	-0.01	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 132 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-8:2x4 SP No.2, 12-2:2x6 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 7-8, 6-9

REACTIONS (size) 8= Mechanical, 9=0-3-8, 12=0-3-0
Max Horiz 12=313 (LC 12)
Max Uplift 8=-109 (LC 12), 9=-27 (LC 15), 12=-16 (LC 11)
Max Grav 8=222 (LC 33), 9=997 (LC 3), 12=520 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/60, 2-3=-496/18, 3-5=-255/300, 5-6=-171/255, 6-7=-223/190, 7-8=-147/171, 2-12=-503/175
BOT CHORD 11-12=-582/485, 9-11=-369/560, 8-9=-150/144
WEBS 6-8=-50/126, 3-9=-628/184, 3-11=0/195, 5-9=-341/165, 6-9=-295/27, 2-11=-59/273

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-2 to 1-1-14, Interior (1) 1-1-14 to 18-3-12 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) Bearings are assumed to be: Joint 12 SP No.2 , Joint 9 SP No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 109 lb uplift at joint 8, 16 lb uplift at joint 12 and 27 lb uplift at joint 9.

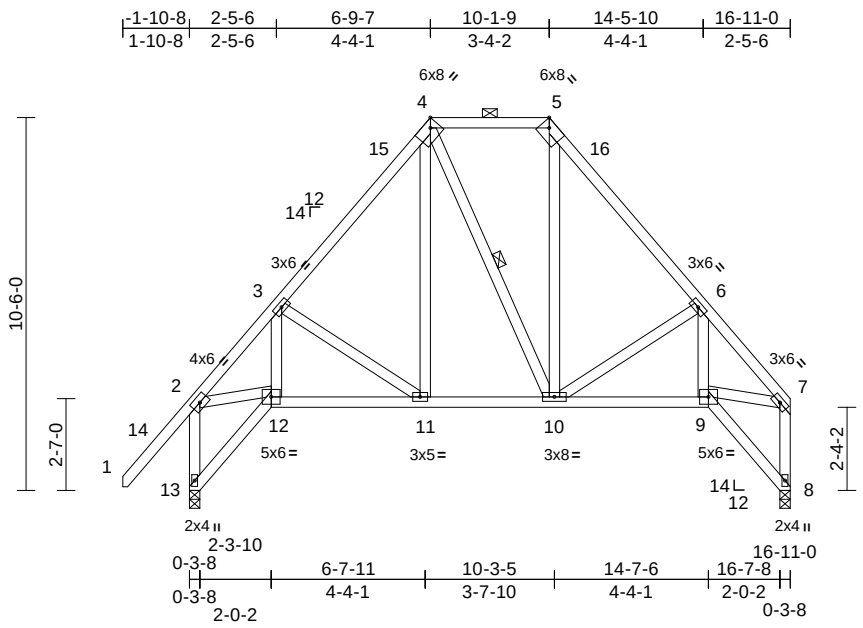
LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009686
25040114-01	G2	Piggyback Base	2	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:11 Page: 1
ID:2K2nPWrM_?6bBLfG3oBq0SzPuSV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:64.9

Plate Offsets (X, Y): [4:0-2-11,Edge], [5:0-2-11,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	0.43	Vert(LL)	-0.02	11	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	-0.04	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.29	Horz(CT)	0.07	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 139 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 or 5-0-5 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-10

REACTIONS (size) 8=0-3-8, 13=0-3-8
Max Horiz 13=249 (LC 14)
Max Grav 8=895 (LC 44), 13=1062 (LC 44)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-13=-1052/266, 1-2=0/116, 2-3=-1210/296, 3-4=-941/203, 4-5=-557/188, 5-6=-942/194, 6-7=-1180/166, 7-8=-948/124
BOT CHORD 12-13=-371/316, 11-12=-259/797, 10-11=-87/445, 9-10=-141/793, 8-9=-75/82
WEBS 2-12=-61/767, 3-12=-210/281, 3-11=-426/238, 4-11=-79/316, 4-10=-105/112, 5-10=-61/317, 6-10=-420/175, 6-9=0/89, 7-9=-112/773

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-9-11 to 1-2-5, Interior (1) 1-2-5 to 6-9-7, Exterior(2E) 6-9-7 to 10-1-9, Exterior(2R) 10-1-9 to 14-5-10, Interior (1) 14-5-10 to 16-9-4 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Bearing at joint(s) 8, 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

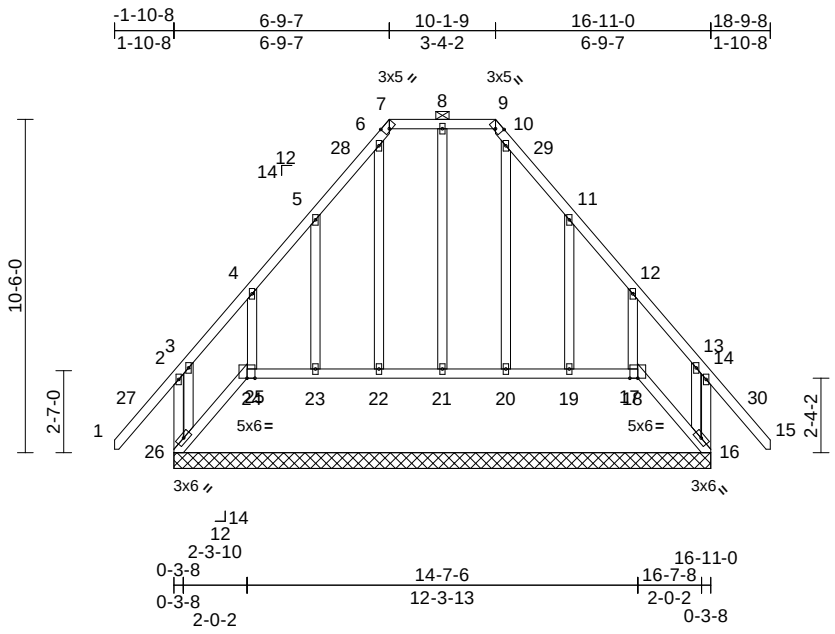
LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	G1	Piggyback Base Structural Gable	2	1	I74009687 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:11 Page: 1
ID:6DSSYe0nSc?TUeI9RSyL6dzPuSG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:72.6

Plate Offsets (X, Y): [7:0-2-5,Edge], [9:0-2-5,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	-0.01	16	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 143 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 or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 7-9.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 16=16-11-0, 17=16-11-0, 18=16-11-0, 19=16-11-0, 20=16-11-0, 21=16-11-0, 22=16-11-0, 23=16-11-0, 24=16-11-0, 25=16-11-0, 26=16-11-0
Max Horiz 26=266 (LC 14)
Max Uplift 16=-119 (LC 15), 17=-19 (LC 11), 18=-73 (LC 16), 19=-82 (LC 16), 23=-82 (LC 15), 24=-75 (LC 15), 25=-307 (LC 14), 26=-357 (LC 11)
Max Grav 16=317 (LC 44), 17=57 (LC 12), 18=210 (LC 44), 19=260 (LC 44), 20=224 (LC 60), 21=263 (LC 43), 22=224 (LC 62), 23=260 (LC 44), 24=220 (LC 56), 25=337 (LC 13), 26=525 (LC 58)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-26=-570/442, 1-2=0/116, 2-3=-343/364, 3-4=-202/230, 4-5=-201/267, 5-6=-320/403, 6-7=-218/246, 7-8=-234/295, 8-9=-234/295, 9-10=-218/246, 10-11=-319/399, 11-12=-202/270, 12-13=-192/221, 13-14=-333/359, 14-15=0/116, 14-16=-558/434
BOT CHORD 25-26=-263/230, 24-25=-143/126, 23-24=-143/126, 22-23=-143/126, 21-22=-143/126, 20-21=-143/126, 19-20=-143/126, 18-19=-143/126, 17-18=-143/126, 16-17=-197/169
WEBS 8-21=-223/24, 6-22=-195/82, 5-23=-304/175, 4-24=-303/192, 3-26=-577/595, 10-20=-192/81, 11-19=-304/174, 12-18=-302/186, 13-16=-552/570

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-9-11 to 1-2-5, Interior (1) 1-2-5 to 6-9-7, Exterior(2E) 6-9-7 to 10-1-9, Exterior(2R) 10-1-9 to 14-5-8, Interior (1) 14-5-8 to 18-8-11 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=1.33
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); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
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 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 357 lb uplift at joint 26, 307 lb uplift at joint 25, 19 lb uplift at joint 17, 119 lb uplift at joint 16, 82 lb uplift at joint 23, 75 lb uplift at joint 24, 82 lb uplift at joint 19 and 73 lb uplift at joint 18.
15) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 25, 17, 21, 22, 23, 24, 20, 19, 18.
16) 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

June 6,2025

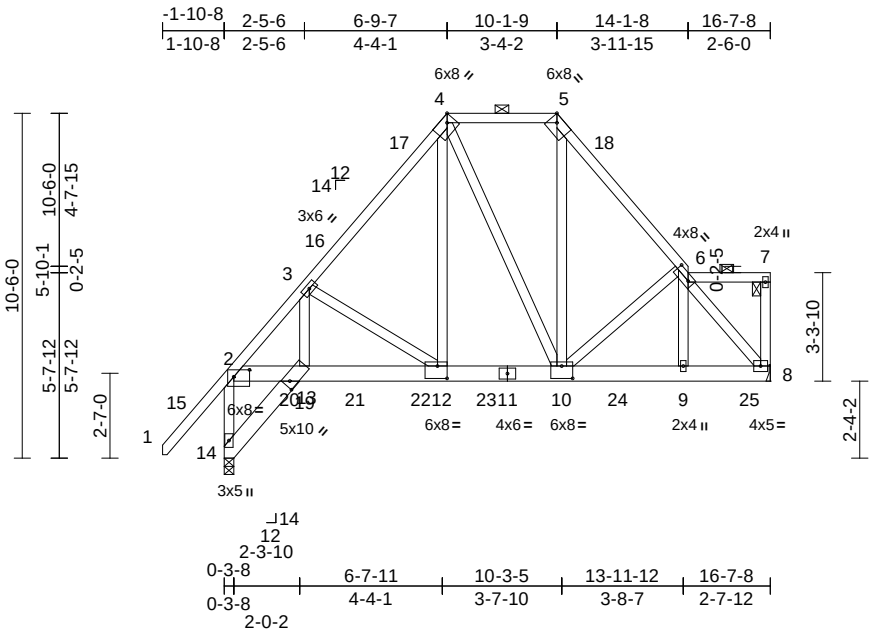
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	G5	Piggyback Base Girder	1	2	I74009688 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:12 ID:PqvXarJqo_13MK8mrUNz5gzPuRu-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:70.1

Plate Offsets (X, Y): [2:0-5-12,0-2-9], [4:0-2-11,Edge], [5:0-2-11,Edge], [6:0-6-0,0-2-0], [10:0-4-0,0-4-8], [12:0-3-8,0-4-8], [13:0-2-0,0-2-8]

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	0.38	Vert(LL)	-0.06	12-13	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.10	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.53	Horz(CT)	0.08	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 302 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-7-9 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5, 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 13-14.

REACTIONS (size) 8= Mechanical, 14=0-3-8
Max Horiz 14=246 (LC 60)
Max Grav 8=4529 (LC 3), 14=3992 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-14=-3879/0, 1-2=0/116, 2-3=-5008/0, 3-4=-3574/0, 4-5=-2197/0, 5-6=-3572/0, 6-7=-63/12, 7-8=-148/12
BOT CHORD 13-14=-365/763, 2-13=0/3256, 12-13=0/3349, 10-12=0/2215, 9-10=0/3055, 8-9=0/2982
WEBS 3-13=0/1635, 3-12=-1306/0, 4-12=0/2505, 4-10=-114/102, 5-10=0/2515, 6-10=-1040/0, 6-9=0/1474, 6-8=-4712/0

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.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-5-0 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.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
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 14 SP No.2 .
11) Refer to girder(s) for truss to truss connections.
12) Bearing at joint(s) 14 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 909 lb down at 2-0-0, 909 lb down at 4-0-0, 909 lb down at 6-0-0, 909 lb down at 8-0-0, 909 lb down at 10-0-0, 909 lb down at 12-0-0, and 909 lb down at 14-0-0, and 915 lb down at 16-0-0 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-48, 2-4=-48, 4-5=-58, 5-6=-48, 6-7=-58, 13-14=-20, 8-13=-20
Concentrated Loads (lb)
Vert: 10=-737 (F), 9=-737 (F), 19=-737 (F), 21=-737 (F), 22=-737 (F), 23=-737 (F), 24=-737 (F), 25=-743 (F)

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	G4	Piggyback Base Girder	1	2	I74009689 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:12 Page: 1
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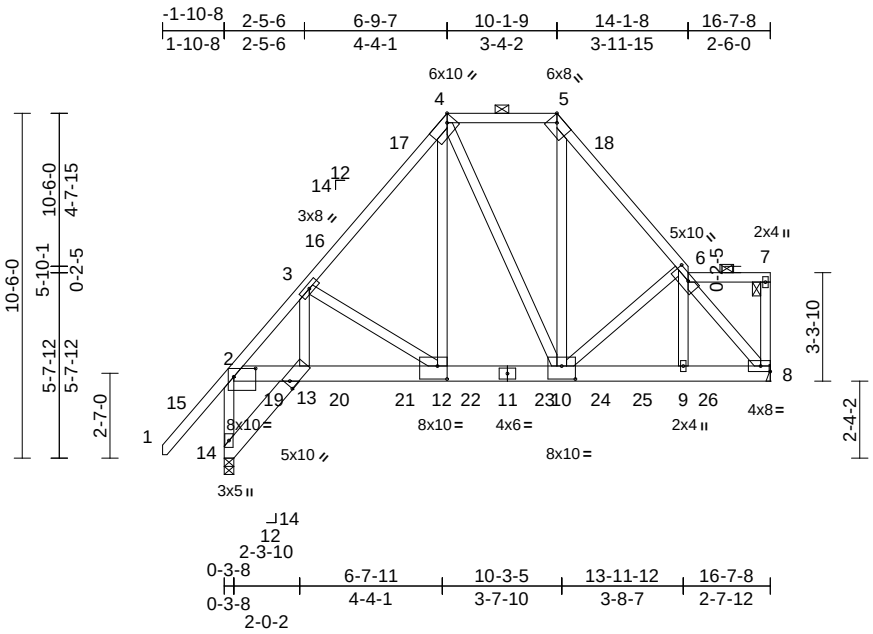


Scale = 1:70.1

Plate Offsets (X, Y): [2:0-8-0,0-3-1], [4:0-2-11,Edge], [5:0-2-11,Edge], [6:0-6-0,0-2-0], [10:0-5-0,0-4-12], [12:0-3-8,0-4-12], [13:0-1-8,0-2-8]

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	0.45	Vert(LL)	-0.07	12-13	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.14	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.74	Horz(CT)	0.11	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 302 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3

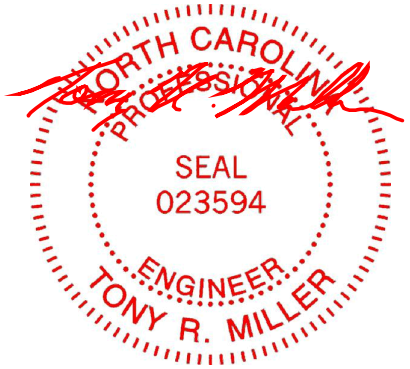
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-5 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5, 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 13-14.

REACTIONS (size) 8= Mechanical, 14=0-3-8
Max Horiz 14=246 (LC 8)
Max Grav 8=4651 (LC 25), 14=5397 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-14=-5480/0, 1-2=0/116, 2-3=-6717/0, 3-4=-4587/0, 4-5=-2789/0, 5-6=-4544/0, 6-7=-62/11, 7-8=-151/9
BOT CHORD 13-14=-333/281, 2-13=0/4346, 12-13=0/4472, 10-12=0/2903, 9-10=0/3618, 8-9=0/3549
WEBS 3-13=0/2360, 3-12=-1784/0, 4-12=0/3417, 4-10=-205/44, 5-10=0/3294, 6-10=-993/0, 6-9=0/1395, 6-8=-5613/0

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.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 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.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
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 14 SP No.2 .
11) Refer to girder(s) for truss to truss connections.
12) Bearing at joint(s) 14 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1239 lb down at 3-6-4, 1239 lb down at 5-6-4, 1239 lb down at 7-6-4, 1239 lb down at 9-9-4, 1070 lb down at 11-5-12, and 777 lb down at 12-9-0, and 777 lb down at 14-9-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-48, 2-4=-48, 4-5=-58, 5-6=-48, 6-7=-58, 13-14=-20, 8-13=-20
Concentrated Loads (lb)
Vert: 19=-957 (B), 20=-937 (B), 21=-937 (B), 22=-937 (B), 23=-937 (B), 24=-809 (B), 25=-627 (B), 26=-627 (B)



June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	G3	Piggyback Base	2	1	I74009690 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:11
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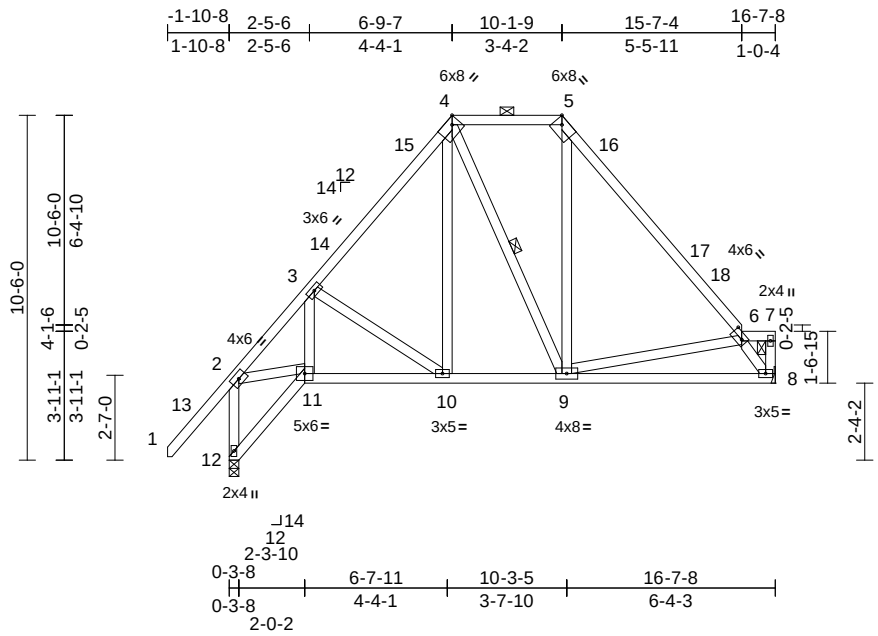

Scale = 1:70.1

Plate Offsets (X, Y): [4:0-2-11,Edge], [5:0-2-11,Edge], [6:0-4-4,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.81	Vert(LL)	-0.02	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.06	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.04	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 129 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 or 3-1-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5, 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 11-12.
WEBS 1 Row at midpt 4-9

REACTIONS (size) 8= Mechanical, 12=0-3-8
Max Horiz 12=233 (LC 12)
Max Grav 8=810 (LC 46), 12=1045 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-12=-1048/269, 1-2=0/116, 2-3=-1171/300, 3-4=-911/196, 4-5=-542/182, 5-6=-914/146, 6-7=-46/0, 7-8=-126/219
BOT CHORD 11-12=-317/293, 10-11=-230/785, 9-10=-68/417, 8-9=-161/734
WEBS 2-11=-65/753, 3-11=-191/266, 3-10=-433/247, 4-10=-92/308, 4-9=-103/127, 5-9=-28/205, 6-9=-346/204, 6-8=-1258/308

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-9-11 to 1-2-5, Interior (1) 1-2-5 to 6-9-7, Exterior(2R) 6-9-7 to 9-9-7, Interior (1) 9-9-7 to 10-1-9, Exterior(2R) 10-1-9 to 13-1-9, Interior (1) 13-1-9 to 16-5-12 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=1.33
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) The Fabrication Tolerance at joint 6 = 8%
8) * 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.
9) Bearings are assumed to be: Joint 12 SP No.2 .
10) Refer to girder(s) for truss to truss connections.
11) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) 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

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009691
25040114-01	VL3	Valley	1	1	Job Reference (optional)

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

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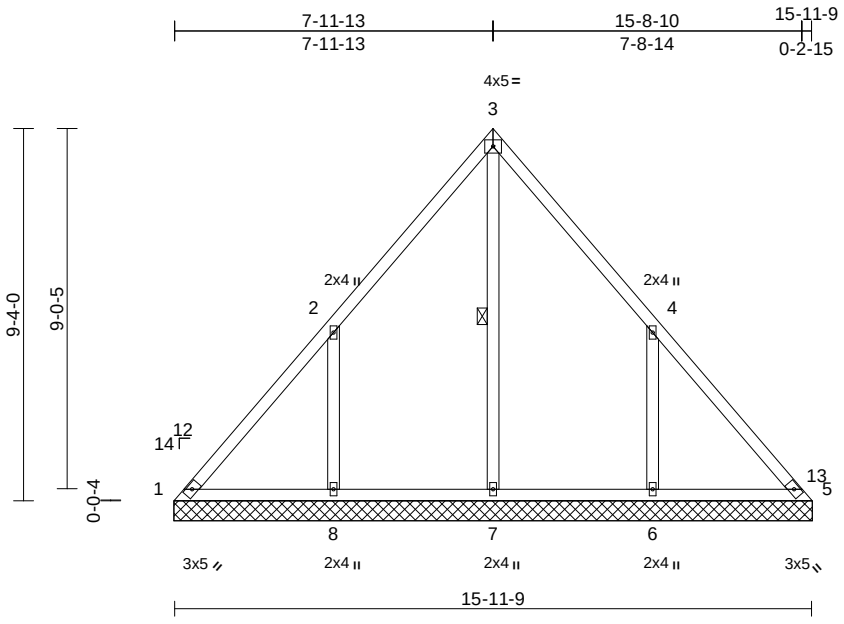

Scale = 1:57.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.16	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 84 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 or 10-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 3-7

REACTIONS (size) 1=16-0-0, 5=16-0-0, 6=16-0-0, 7=16-0-0, 8=16-0-0
Max Horiz 1=178 (LC 10)
Max Uplift 1=-42 (LC 11), 5=-13 (LC 12), 6=-157 (LC 14), 8=-160 (LC 13)
Max Grav 1=160 (LC 29), 5=122 (LC 31), 6=521 (LC 29), 7=437 (LC 28), 8=527 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-173/222, 2-3=-115/135, 3-4=-115/126, 4-5=-174/221
BOT CHORD 1-8=-161/175, 7-8=-161/175, 6-7=-161/175, 5-6=-161/175
WEBS 3-7=-244/0, 2-8=-444/306, 4-6=-443/306

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 8-0-0, Corner (3R) 8-0-0 to 11-0-0, Exterior(2N) 11-0-0 to 15-8-3 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 1, 13 lb uplift at joint 5, 160 lb uplift at joint 8 and 157 lb uplift at joint 6.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 5.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	C7	Piggyback Base Girder	1	2	I74009692 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:10 Page: 1
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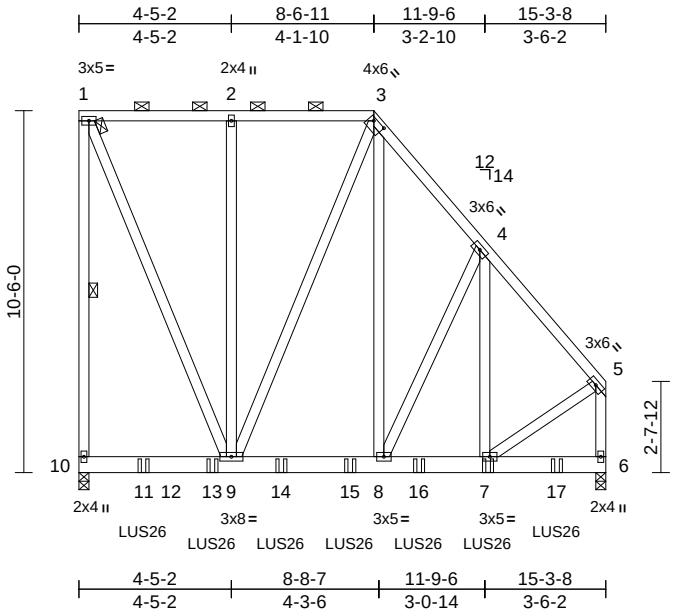

Scale = 1:66.9

Plate Offsets (X, Y): [3:0-4-4,0-1-0]

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	-0.02	8-9	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.03	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.16	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 333 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 9-1,9-3:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 1-3.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 1-10

REACTIONS (size) 6=0-3-8, 10=0-3-8
Max Horiz 10=-280 (LC 7)
Max Uplift 6=-214 (LC 10), 10=-333 (LC 5)
Max Grav 6=1979 (LC 22), 10=1921 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-10=-1630/301, 1-2=-691/155, 2-3=-691/155, 3-4=-1280/243, 4-5=-1418/180, 5-6=-1710/186
BOT CHORD 9-10=-167/225, 8-9=-140/806, 7-8=-123/899, 6-7=-18/36
WEBS 1-9=-315/1697, 2-9=-283/87, 3-9=-332/132, 3-8=-218/1069, 4-8=-303/155, 4-7=-67/226, 5-7=-133/1055

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.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 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.
3) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
5) Provide adequate drainage to prevent water ponding.
6) * 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.
7) All bearings are assumed to be SP No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 333 lb uplift at joint 10 and 214 lb uplift at joint 6.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 1-10-8 from the left end to 13-10-8 to connect truss(es) to back face of bottom chord.
11) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-56, 3-5=-46, 6-10=-19
Concentrated Loads (lb)
Vert: 7=-205 (B), 11=-211 (B), 13=-205 (B), 14=-205 (B), 15=-205 (B), 16=-205 (B), 17=-205 (B)

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009693
25040114-01	Q1	Roof Special Supported Gable	2	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:16 Page: 1
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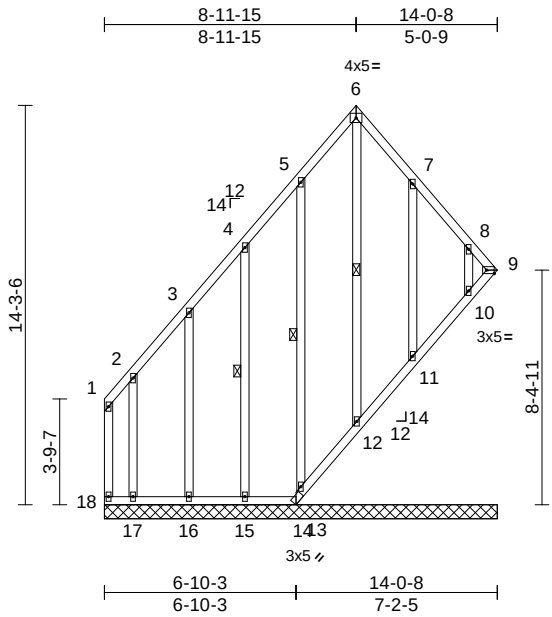

Scale = 1:82.4

Plate Offsets (X, Y): [9:Edge,0-1-8]

Loading	(psf)	Spacing	1-11-4	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	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.47	Horiz(TL)	-0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 140 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 *Except* 13-5,12-6:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 5-13, 4-15, 6-12

REACTIONS (size) 9=14-0-8, 10=14-0-8, 11=14-0-8, 12=14-0-8, 13=14-0-8, 14=14-0-8, 15=14-0-8, 16=14-0-8, 17=14-0-8, 18=14-0-8
Max Horiz 18=244 (LC 10)
Max Uplift 9=-365 (LC 10), 10=-113 (LC 13), 11=-59 (LC 14), 12=-247 (LC 11), 13=-92 (LC 13), 14=-282 (LC 11), 15=-77 (LC 13), 16=-69 (LC 13), 17=-107 (LC 13), 18=-6 (LC 11)
Max Grav 9=358 (LC 11), 10=180 (LC 28), 11=204 (LC 29), 12=472 (LC 13), 13=217 (LC 28), 14=295 (LC 10), 15=180 (LC 28), 16=181 (LC 28), 17=183 (LC 28), 18=67 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-18=-87/98, 1-2=-101/132, 2-3=-177/220, 3-4=-285/352, 4-5=-400/494, 5-6=-485/599, 6-7=-487/601, 7-8=-399/495, 8-9=-291/347
BOT CHORD 17-18=-221/193, 16-17=-221/193, 15-16=-221/193, 14-15=-221/193, 13-14=-383/359, 12-13=-350/312, 11-12=-350/311, 10-11=-356/315, 9-10=-297/250
WEBS 5-13=-192/123, 4-15=-209/167, 3-16=-208/153, 2-17=-188/162, 6-12=-828/605, 7-11=-200/127, 8-10=-208/197

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-1-12 to 3-0-4, Exterior(2N) 3-0-4 to 8-11-15, Corner(3R) 8-11-15 to 11-11-15, Exterior(2N) 11-11-15 to 14-0-8 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) * 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.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 18, 282 lb uplift at joint 14, 365 lb uplift at joint 9, 92 lb uplift at joint 13, 77 lb uplift at joint 15, 69 lb uplift at joint 16, 107 lb uplift at joint 17, 247 lb uplift at joint 12, 59 lb uplift at joint 11 and 113 lb uplift at joint 10.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 9, 13, 12, 11, 10.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB7	Piggyback	1	4	I74009694 Job Reference (optional)

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

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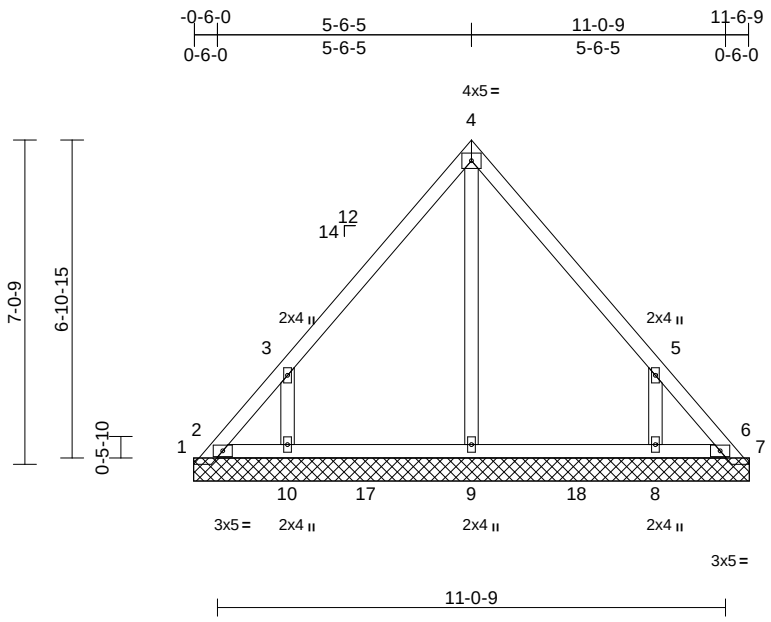


Scale = 1:50.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 233 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 or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=12-1-0, 2=12-1-0, 6=12-1-0, 7=12-1-0, 8=12-1-0, 9=12-1-0, 10=12-1-0
Max Horiz 1=-134 (LC 11)
Max Uplift 1=-102 (LC 9), 2=-22 (LC 24), 7=-26 (LC 12), 8=-124 (LC 14), 10=-149 (LC 13)
Max Grav 1=150 (LC 30), 2=89 (LC 14), 7=92 (LC 29), 8=397 (LC 30), 9=327 (LC 29), 10=415 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-194/172, 2-3=-166/141, 3-4=-208/126, 4-5=-207/126, 5-6=-157/121, 6-7=-73/37
BOT CHORD 2-10=-69/114, 9-10=-69/114, 8-9=-69/114, 6-8=-79/126
WEBS 4-9=-126/0, 3-10=-411/322, 5-8=-402/308

NOTES
1) 4-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-2-7 to 3-2-7, Exterior(2N) 3-2-7 to 6-0-8, Corner (3R) 6-0-8 to 9-0-8, Exterior(2N) 9-0-8 to 11-10-9 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=1.33
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 oc.
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, with BCDL = 10.0psf.
10) All bearings are assumed to be SP No.2 .
11) Bearing at joint(s) 2, 6, 1, 7, 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 2, 102 lb uplift at joint 1, 26 lb uplift at joint 7, 149 lb uplift at joint 10, 124 lb uplift at joint 8 and 22 lb uplift at joint 2.
13) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

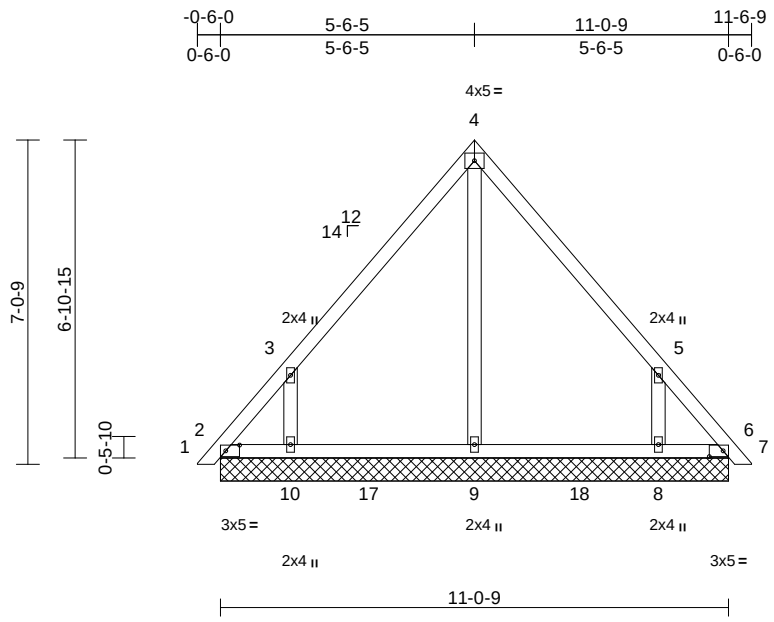
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB6	Piggyback	1	2	I74009695 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:15 ID:mGvYCTeUNZ0iu4wFTFCM7hzPa7J-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:50.1

Plate Offsets (X, Y): [2:0-3-10,0-1-8], [6:0-3-10,0-1-8]

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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 116 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 or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=11-0-9, 6=11-0-9, 8=11-0-9, 9=11-0-9, 10=11-0-9
Max Horiz 2=-134 (LC 11)
Max Uplift 2=-74 (LC 11), 6=-54 (LC 12), 8=-148 (LC 14), 10=-149 (LC 13)
Max Grav 2=129 (LC 10), 6=109 (LC 9), 8=396 (LC 30), 9=329 (LC 29), 10=397 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/18, 2-3=-180/142, 3-4=-195/112, 4-5=-195/112, 5-6=-180/143, 6-7=0/18
BOT CHORD	2-10=-75/121, 9-10=-75/121, 8-9=-75/121, 6-8=-75/121
WEBS	4-9=-129/0, 3-10=-405/321, 5-8=-405/321

NOTES

1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-2-7 to 3-2-7, Exterior(2N) 3-2-7 to 6-0-8, Corner (3R) 6-0-8 to 9-0-8, Exterior(2N) 9-0-8 to 11-10-9 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=1.33
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 4-0-0 oc.
10) * 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.
11) All bearings are assumed to be SP No.2 .
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint 2, 54 lb uplift at joint 6, 149 lb uplift at joint 10, 148 lb uplift at joint 8, 74 lb uplift at joint 2 and 54 lb uplift at joint 6.
13) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB5	Piggyback	13	1	I74009696 Job Reference (optional)

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

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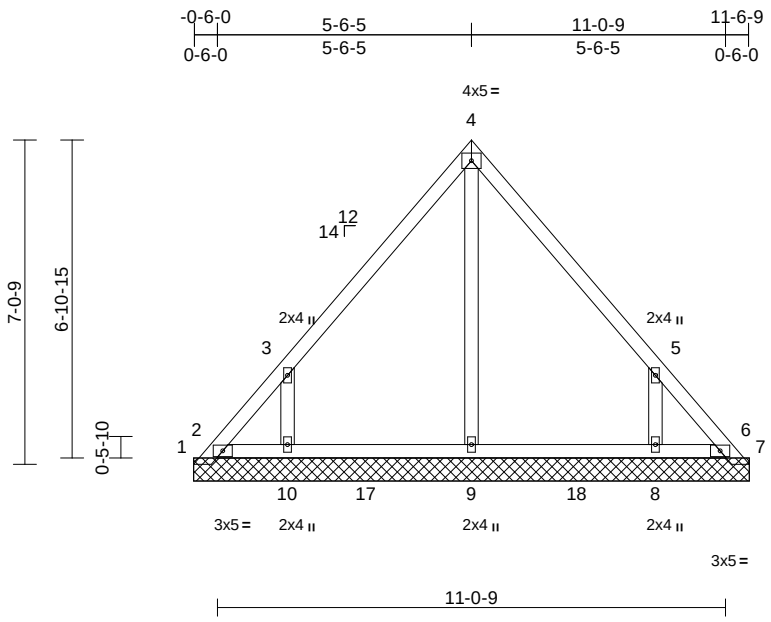

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 58 lb	FT = 20%

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

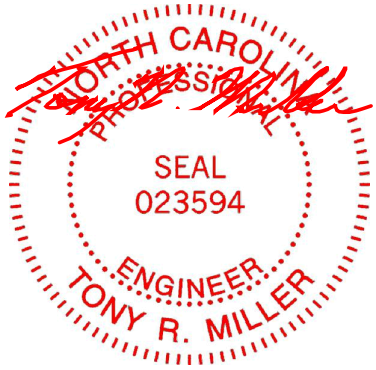
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=12-1-0, 2=12-1-0, 6=12-1-0, 7=12-1-0, 8=12-1-0, 9=12-1-0, 10=12-1-0
Max Horiz 1=-134 (LC 11)
Max Uplift 1=-101 (LC 9), 2=-29 (LC 37), 7=-27 (LC 12), 8=-124 (LC 14), 10=-151 (LC 13)
Max Grav 1=155 (LC 30), 2=95 (LC 14), 7=93 (LC 29), 8=397 (LC 30), 9=326 (LC 29), 10=417 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-194/171, 2-3=-171/142, 3-4=-207/124, 4-5=-207/123, 5-6=-161/125, 6-7=-74/38
BOT CHORD 2-10=-70/115, 9-10=-70/115, 8-9=-70/115, 6-8=-70/115
WEBS 4-9=-125/0, 3-10=-413/325, 5-8=-404/311

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-2-7 to 3-2-7, Exterior(2N) 3-2-7 to 6-0-8, Corner (3R) 6-0-8 to 9-0-8, Exterior(2N) 9-0-8 to 11-10-9 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Bearing at joint(s) 2, 6, 1, 7, 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 2, 101 lb uplift at joint 1, 27 lb uplift at joint 7, 151 lb uplift at joint 10, 124 lb uplift at joint 8 and 29 lb uplift at joint 2.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB4	Piggyback	2	1	I74009697 Job Reference (optional)

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

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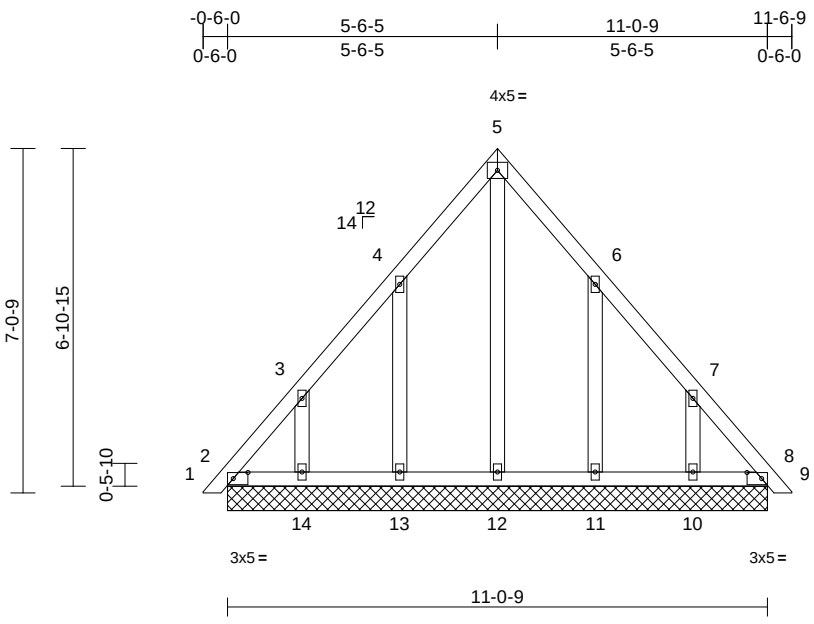


Scale = 1:47.2

Plate Offsets (X, Y): [2:0-3-10,0-1-8], [8:0-3-10,0-1-8]

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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 70 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 or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=11-0-9, 8=11-0-9, 10=11-0-9, 11=11-0-9, 12=11-0-9, 13=11-0-9, 14=11-0-9
Max Horiz 2=-134 (LC 11)
Max Uplift 2=-42 (LC 11), 8=-22 (LC 12), 10=-80 (LC 14), 11=-74 (LC 14), 13=-74 (LC 13), 14=-80 (LC 13)
Max Grav 2=127 (LC 30), 8=115 (LC 32), 10=179 (LC 30), 11=194 (LC 30), 12=118 (LC 32), 13=195 (LC 29), 14=179 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-145/129, 3-4=-112/73, 4-5=-142/108, 5-6=-142/108, 6-7=-93/48, 7-8=-145/130, 8-9=0/18
BOT CHORD 2-14=-107/131, 13-14=-107/131, 12-13=-107/131, 11-12=-107/131, 10-11=-107/131, 8-10=-107/131
WEBS 5-12=-108/68, 4-13=-222/142, 3-14=-195/129, 6-11=-222/142, 7-10=-195/129

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-2-7 to 3-2-7, Interior (1) 3-2-7 to 6-0-8, Exterior(2R) 6-0-8 to 9-0-8, Interior (1) 9-0-8 to 11-10-9 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
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 13.9 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
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) All bearings are assumed to be SP No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 2, 22 lb uplift at joint 8, 74 lb uplift at joint 13, 80 lb uplift at joint 14, 74 lb uplift at joint 11, 80 lb uplift at joint 10, 42 lb uplift at joint 2 and 22 lb uplift at joint 8.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

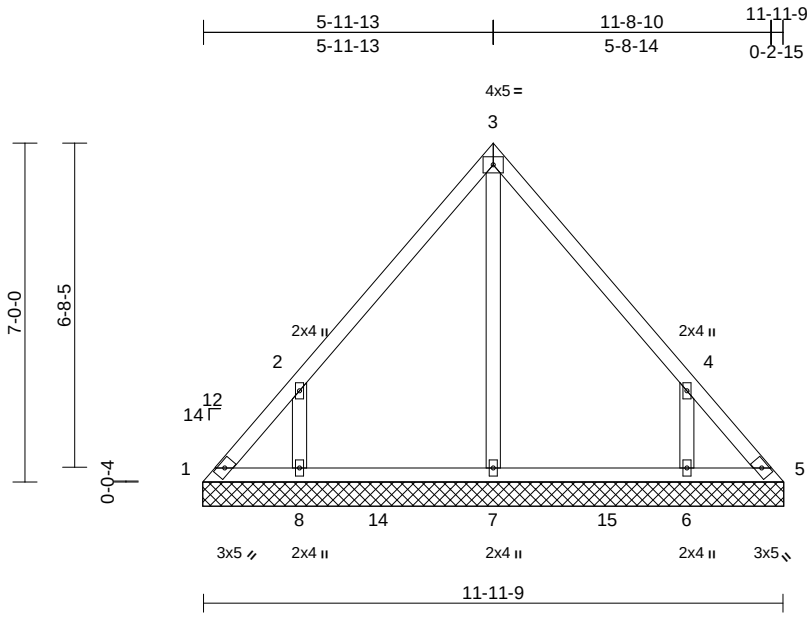
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	VL4	Valley	1	1	I74009698
					Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:17 ID:Wo8aAg3flXN2L61k7aV2kFzPuSD-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:47.6

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	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 59 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 or 10-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=12-0-0, 5=12-0-0, 6=12-0-0, 7=12-0-0, 8=12-0-0
Max Horiz 1=133 (LC 10)
Max Uplift 1=-118 (LC 11), 5=-1 (LC 28), 6=-115 (LC 14), 8=-130 (LC 13)
Max Grav 1=128 (LC 10), 6=401 (LC 29), 7=504 (LC 28), 8=389 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-178/230, 2-3=-184/241, 3-4=-184/240, 4-5=-34/118
BOT CHORD	1-8=-44/33, 7-8=-44/33, 6-7=-44/33, 5-6=-44/33
WEBS	3-7=-303/33, 2-8=-397/305, 4-6=-398/297

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 6-0-0, Corner (3R) 6-0-0 to 9-0-0, Exterior(2N) 9-0-0 to 12-0-0 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 118 lb uplift at joint 1, 1 lb uplift at joint 5, 130 lb uplift at joint 8, 115 lb uplift at joint 6 and 1 lb uplift at joint 5.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 5, 13.

LOAD CASE(S) Standard

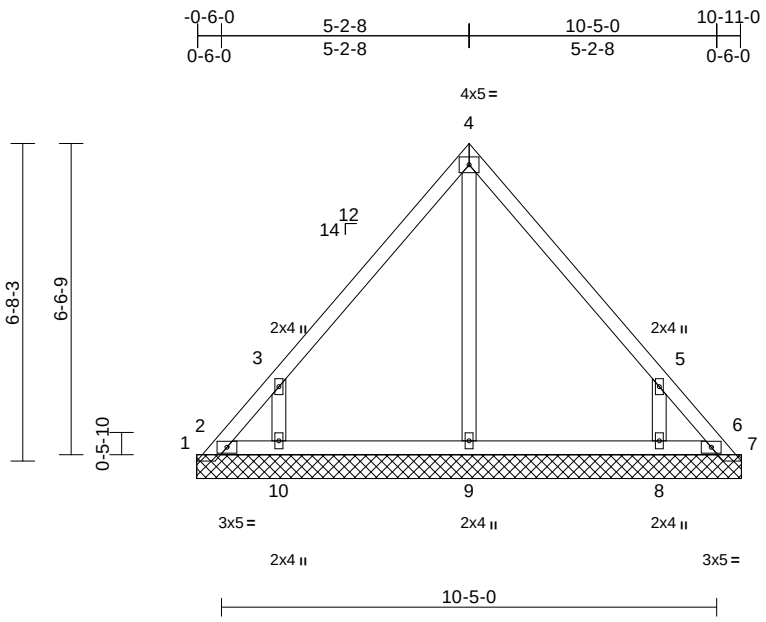
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB2	Piggyback	19	1	I74009699 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:14 ID:caiZZ4aio3?h_754UmO1PtzPdKh-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:48.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 54 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 or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=11-5-7, 2=11-5-7, 6=11-5-7, 7=11-5-7, 8=11-5-7, 9=11-5-7, 10=11-5-7
Max Horiz 1=-126 (LC 11)
Max Uplift 1=-90 (LC 9), 2=-62 (LC 35), 7=-42 (LC 12), 8=-123 (LC 14), 10=-158 (LC 13)
Max Grav 1=143 (LC 30), 2=102 (LC 13), 7=87 (LC 14), 8=337 (LC 30), 9=207 (LC 2), 10=368 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-187/158, 2-3=-195/156, 3-4=-206/118, 4-5=-205/118, 5-6=-182/143, 6-7=-82/56
BOT CHORD 2-10=-62/107, 9-10=-62/107, 8-9=-62/107, 6-8=-77/107
WEBS 4-9=-120/0, 3-10=-445/353, 5-8=-430/335

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-2-7 to 3-2-7, Exterior(2N) 3-2-7 to 5-8-11, Corner (3R) 5-8-11 to 8-8-11, Exterior(2N) 8-8-11 to 11-3-0 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Bearing at joint(s) 2, 6, 1, 7, 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 62 lb uplift at joint 2, 90 lb uplift at joint 1, 42 lb uplift at joint 7, 158 lb uplift at joint 10, 123 lb uplift at joint 8 and 62 lb uplift at joint 2.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

NORTH CAROLINA PROFESSIONAL SEAL 023594 ENGINEER TONY R. MILLER

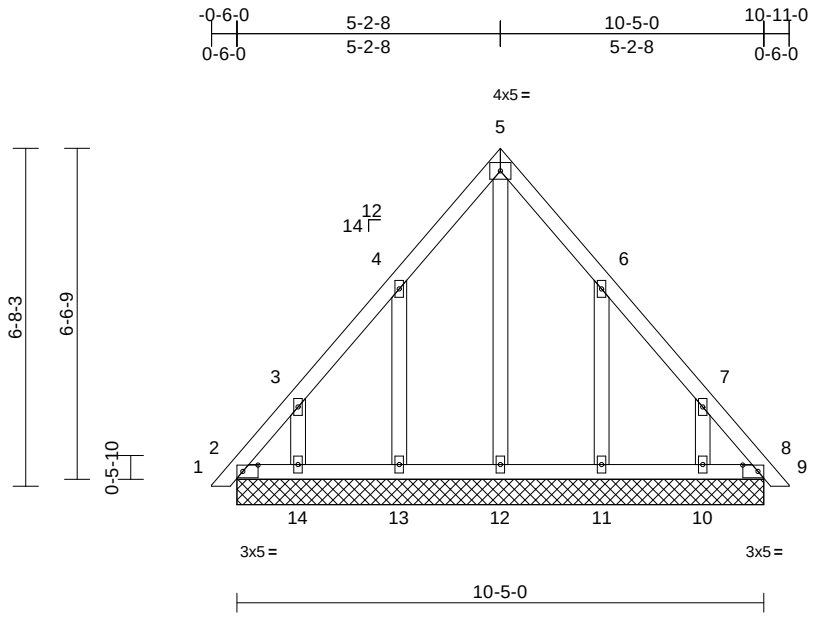
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB1	Piggyback	1	1	I74009700 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:14 ID:1hRZKk1w5RgRwpQB92ZjPgzPdK6-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:45.5

Plate Offsets (X, Y): [2:0-3-10,0-1-8], [8:0-3-10,0-1-8]

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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 65 lb	FT = 20%

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

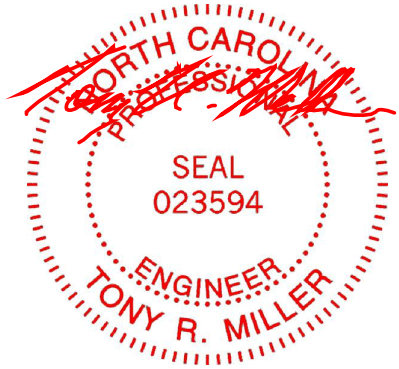
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=10-5-0, 8=10-5-0, 10=10-5-0, 11=10-5-0, 12=10-5-0, 13=10-5-0, 14=10-5-0
Max Horiz 2=-126 (LC 11)
Max Uplift 2=-50 (LC 11), 8=-30 (LC 12), 10=-74 (LC 14), 11=-76 (LC 14), 13=-76 (LC 13), 14=-75 (LC 13)
Max Grav 2=114 (LC 30), 8=104 (LC 32), 10=163 (LC 30), 11=197 (LC 30), 12=115 (LC 32), 13=198 (LC 29), 14=164 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-146/132, 3-4=-110/74, 4-5=-136/102, 5-6=-136/102, 6-7=-92/50, 7-8=-147/133, 8-9=0/18
BOT CHORD 2-14=-101/125, 13-14=-101/125, 12-13=-101/125, 11-12=-101/125, 10-11=-101/125, 8-10=-101/125
WEBS 5-12=-98/58, 4-13=-225/145, 3-14=-183/123, 6-11=-225/145, 7-10=-183/123

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-2-7 to 3-2-7, Interior (1) 3-2-7 to 5-8-11, Exterior(2R) 5-8-11 to 8-8-11, Interior (1) 8-8-11 to 11-3-0 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
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 13.9 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
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) All bearings are assumed to be SP No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 50 lb uplift at joint 2, 30 lb uplift at joint 8, 76 lb uplift at joint 13, 75 lb uplift at joint 14, 76 lb uplift at joint 11, 74 lb uplift at joint 10, 50 lb uplift at joint 2 and 30 lb uplift at joint 8.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	HJ1	Roof Special Girder	2	1	I74009701 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:12 Page: 1
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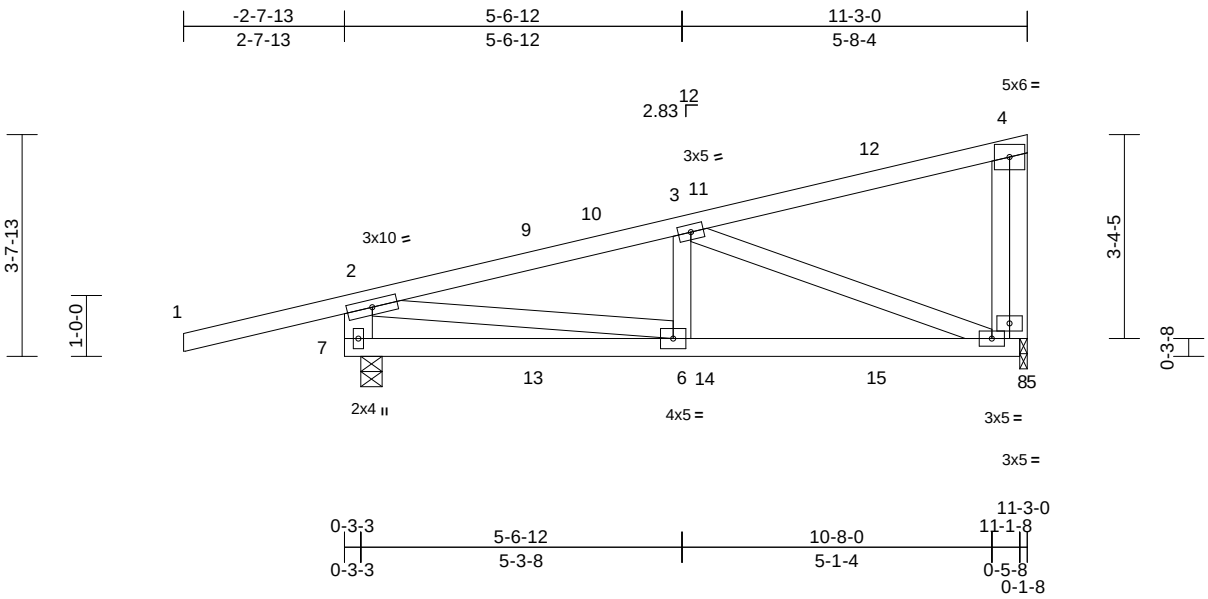

Scale = 1:38

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.03	5-6	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.09	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.51	Horz(CT)	0.01	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 66 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-2:2x6 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-4-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 7=0-4-4, 8=0-1-8
Max Horiz 7=79 (LC 7)
Max Uplift 7=-78 (LC 7), 8=-27 (LC 11)
Max Grav 7=695 (LC 29), 8=633 (LC 18)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/48, 2-3=-937/0, 3-4=-177/13, 4-5=0/391, 2-7=-652/104
BOT CHORD 6-7=-245/48, 5-6=-41/881
WEBS 2-6=-60/981, 3-6=0/130, 3-5=-831/38, 4-8=-636/27

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) Bearings are assumed to be: Joint 7 SP No.2 , Joint 8 SP No.3 .
7) Bearing at joint(s) 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 8.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 78 lb uplift at joint 7 and 27 lb uplift at joint 8.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 13 lb down and 11 lb up at 3-1-6, 13 lb down and 11 lb up at 3-1-6, 66 lb down and 35 lb up at 5-11-5, 66 lb down and 35 lb up at 5-11-5, and 142 lb down and 43 lb up at 8-9-4, and 142 lb down and 43 lb up at 8-9-4 on top chord, and 14 lb down and 20 lb up at 3-1-6, 14 lb down and 20 lb up at 3-1-6, 21 lb down and 9 lb up at 5-11-5, 21 lb down and 9 lb up at 5-11-5, and 41 lb down at 8-9-4, and 41 lb down at 8-9-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-46, 2-4=-46, 5-7=-19
Concentrated Loads (lb)
Vert: 11=-78 (F=-39, B=-39), 12=-231 (F=-116, B=-115), 13=7 (F=3, B=3), 14=-11 (F=-6, B=-6), 15=-82 (F=-41, B=-41)

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	M2	Monopitch	8	1	I74009702 Job Reference (optional)

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

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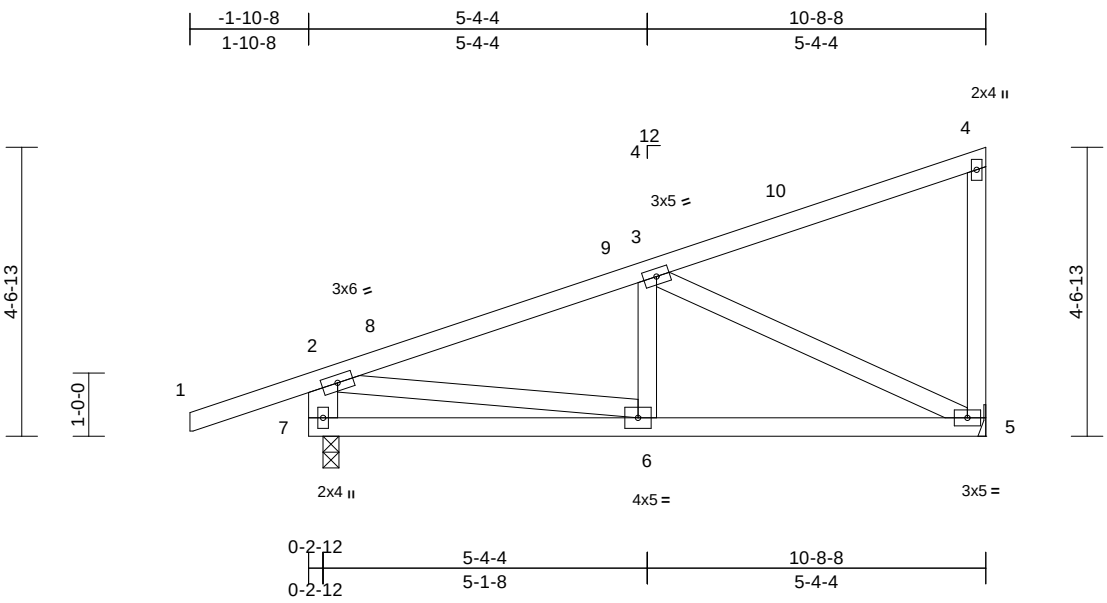

Scale = 1:36.4

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	0.38	Vert(LL)	-0.01	6	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.03	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.36	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 61 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-3-0
Max Horiz 7=135 (LC 12)
Max Uplift 5=-16 (LC 15), 7=-59 (LC 11)
Max Grav 5=437 (LC 22), 7=551 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/50, 2-3=-602/139, 3-4=-109/74, 4-5=-160/112, 2-7=-536/267
BOT CHORD 6-7=-280/294, 5-6=-260/586
WEBS 3-6=0/96, 3-5=-584/224, 2-6=-119/474

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-3 to 1-1-13, Interior (1) 1-1-13 to 10-6-12 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) Bearings are assumed to be: Joint 7 SP No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 59 lb uplift at joint 7 and 16 lb uplift at joint 5.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB9	Piggyback	1	2	I74009703 Job Reference (optional)

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

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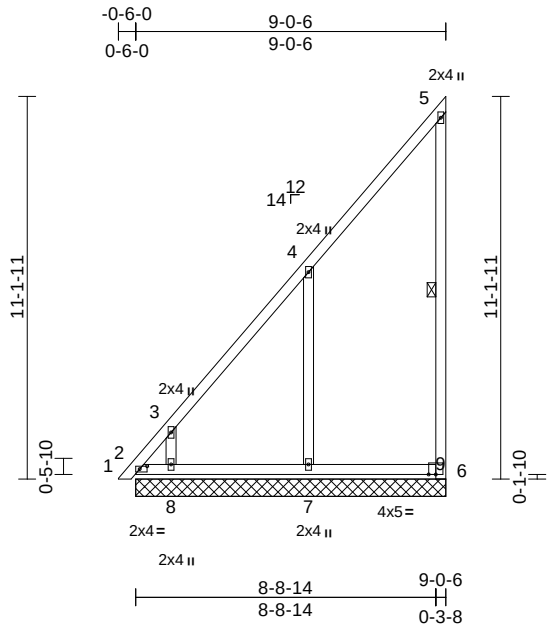


Scale = 1:67.1

Plate Offsets (X, Y): [2:0-2-10,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.39	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.29	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	-0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 122 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 5-9

REACTIONS (size) 2=9-0-6, 6=9-0-6, 7=9-0-6, 8=9-0-6, 9=9-0-6
Max Horiz 2=312 (LC 12)
Max Uplift 2=-219 (LC 11), 6=-114 (LC 12), 7=-180 (LC 13), 8=-131 (LC 13)
Max Grav 2=314 (LC 10), 6=222 (LC 29), 7=501 (LC 29), 8=358 (LC 29)

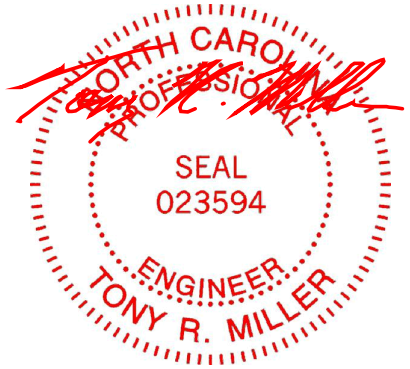
FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/18, 2-3=-867/792, 3-4=-627/607, 4-5=-273/300, 6-9=0/0, 5-6=-281/228
BOT CHORD	2-8=-229/254, 7-8=-182/234, 6-7=-182/234
WEBS	4-7=-510/418, 3-8=-412/370

NOTES

1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-2-7 to 3-2-7, Exterior(2N) 3-2-7 to 9-4-13 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=1.33
4) 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.
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
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 13.9 psf on overhangs non-concurrent with other live loads.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 oc.
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, with BCDL = 10.0psf.
10) All bearings are assumed to be SP No.2 .
11) Bearing at joint(s) 9, 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 219 lb uplift at joint 2, 114 lb uplift at joint 6, 180 lb uplift at joint 7, 131 lb uplift at joint 8 and 219 lb uplift at joint 2.
13) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009704
25040114-01	PB8	Piggyback	8	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:15 Page: 1
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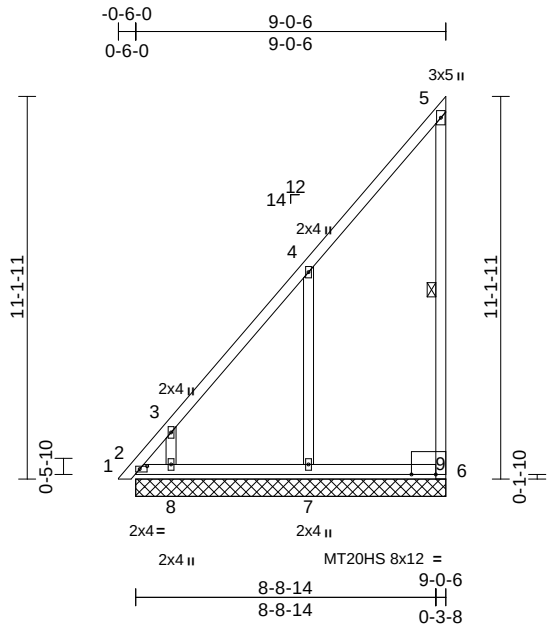


Scale = 1:67.1

Plate Offsets (X, Y): [2:0-2-10,0-1-0], [6:0-8-8,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	0.82	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	n/a	-	n/a	999	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	-0.02	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 61 lb	FT = 20%

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

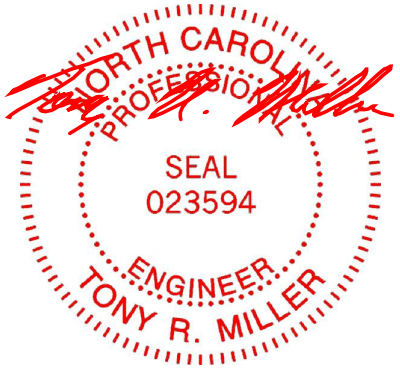
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-9

REACTIONS (size) 2=9-0-6, 6=9-0-6, 7=9-0-6, 8=9-0-6, 9=9-0-6
Max Horiz 2=312 (LC 12)
Max Uplift 2=-219 (LC 11), 6=-114 (LC 12), 7=-180 (LC 13), 8=-131 (LC 13)
Max Grav 2=314 (LC 10), 6=222 (LC 29), 7=501 (LC 29), 8=358 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-867/791, 3-4=-627/607, 4-5=-273/300, 6-9=0/0, 5-6=-281/228
BOT CHORD 2-8=-182/234, 7-8=-182/234, 6-7=-182/234
WEBS 4-7=-510/418, 3-8=-415/374

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-2-7 to 3-2-7, Exterior(2N) 3-2-7 to 9-4-13 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) All plates are MT20 plates unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) * 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.
9) All bearings are assumed to be SP No.2 .
10) Bearing at joint(s) 9, 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 219 lb uplift at joint 2, 114 lb uplift at joint 6, 180 lb uplift at joint 7, 131 lb uplift at joint 8 and 219 lb uplift at joint 2.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



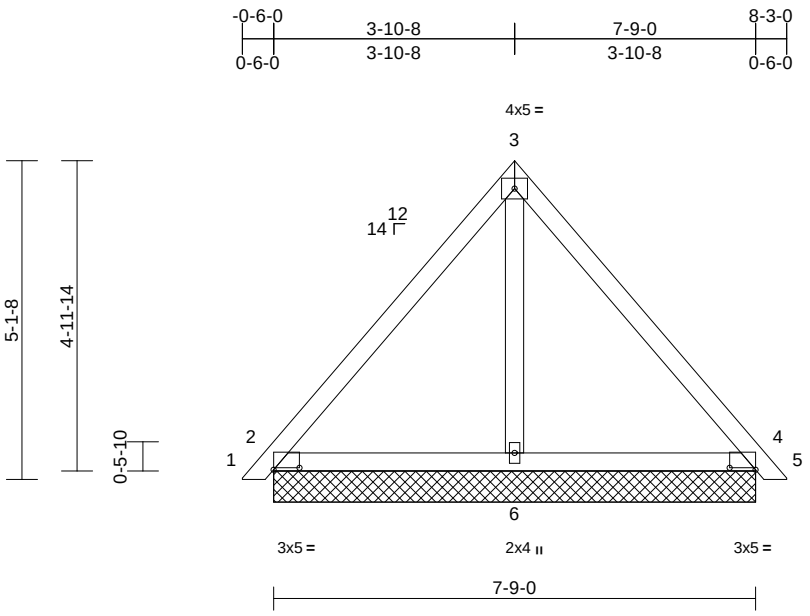
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009705
25040114-01	PB16	Piggyback	8	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:16 ID:oxAWL48IhMvFjzakA3SUeKzPcR9-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:37

Plate Offsets (X, Y): [2:0-5-0,0-0-6], [4:0-5-0,0-0-6]

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	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 38 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 or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=7-9-0, 4=7-9-0, 6=7-9-0
Max Horiz 2=-96 (LC 11)
Max Uplift 2=-21 (LC 14), 4=-17 (LC 14)
Max Grav 2=238 (LC 2), 4=238 (LC 2), 6=181 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/18, 2-3=-254/109, 3-4=-254/109, 4-5=0/18
BOT CHORD	2-6=-67/140, 4-6=-68/143
WEBS	3-6=-75/69

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-2-7 to 3-2-7, Interior (1) 3-2-7 to 4-4-11, Exterior(2R) 4-4-11 to 7-4-11, Interior (1) 7-4-11 to 8-7-0 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) * 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.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 2, 17 lb uplift at joint 4, 21 lb uplift at joint 2 and 17 lb uplift at joint 4.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB17	Piggyback	1	2	I74009706 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:16
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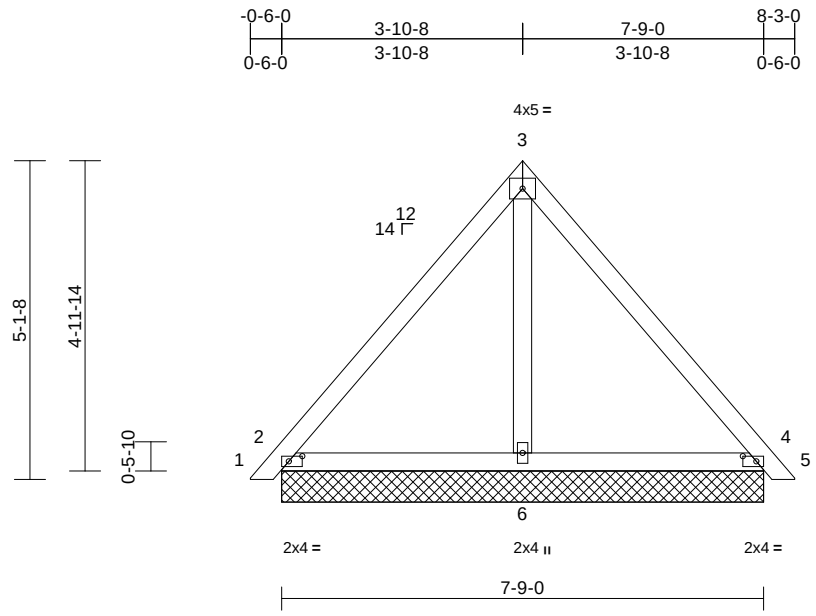

Scale = 1:37

Plate Offsets (X, Y): [2:0-2-10,0-1-0], [4:0-2-10,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 76 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 or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=7-9-0, 4=7-9-0, 6=7-9-0
Max Horiz 2=-96 (LC 11)
Max Uplift 2=-22 (LC 14), 4=-18 (LC 14)
Max Grav 2=239 (LC 2), 4=239 (LC 2), 6=181 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-254/110, 3-4=-254/110, 4-5=0/18
BOT CHORD 2-6=-77/163, 4-6=-78/167
WEBS 3-6=-76/70

NOTES
1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-2-7 to 3-2-7, Interior (1) 3-2-7 to 4-4-11, Exterior(2R) 4-4-11 to 7-4-11, Interior (1) 7-4-11 to 8-7-0 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=1.33
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 4-0-0 oc.
10) * 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.
11) All bearings are assumed to be SP No.2 .
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 2, 18 lb uplift at joint 4, 22 lb uplift at joint 2 and 18 lb uplift at joint 4.
13) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB3	Piggyback	1	2	I74009707 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:14 ID:LR_lEul6rS2vTsCpX1?KGDzPdA8-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1

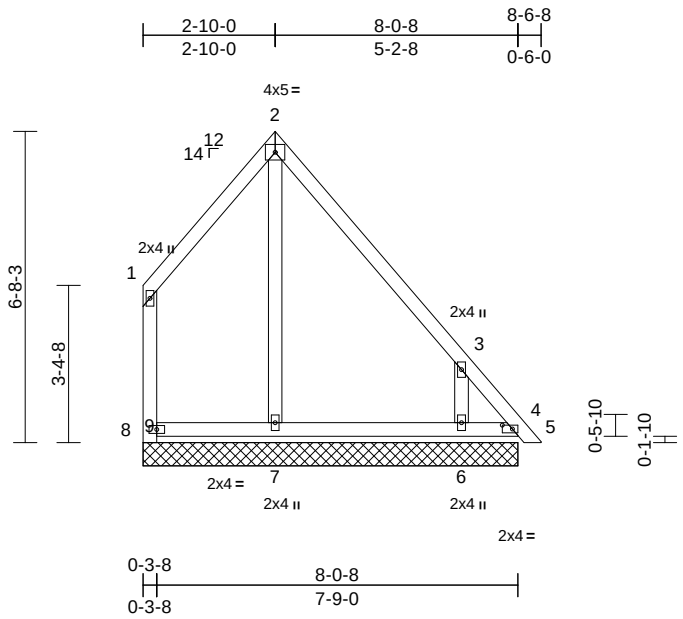

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Plate Offsets (X, Y): [4:0-2-10,0-1-0]

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 94 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 or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4=8-0-8, 6=8-0-8, 7=8-0-8, 8=8-0-8, 9=8-0-8
Max Horiz 9=-154 (LC 11)
Max Uplift 4=-172 (LC 12), 6=-166 (LC 14), 7=-64 (LC 9), 8=-68 (LC 10)
Max Grav 4=192 (LC 9), 6=372 (LC 30), 7=307 (LC 30), 8=151 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	8-9=0/0, 1-8=-187/197, 1-2=-171/216, 2-3=-200/197, 3-4=-348/352, 4-5=0/18
BOT CHORD	7-8=-155/191, 6-7=-155/191, 4-6=-155/191
WEBS	2-7=-257/126, 3-6=-496/416

NOTES

1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-1-12 to 2-10-0, Corner(3R) 2-10-0 to 5-10-0, Exterior(2N) 5-10-0 to 8-4-5 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=1.33
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 4-0-0 oc.
10) * 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.
11) All bearings are assumed to be SP No.2 .
12) Bearing at joint(s) 9, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 68 lb uplift at joint 8, 172 lb uplift at joint 4, 64 lb uplift at joint 7, 166 lb uplift at joint 6 and 172 lb uplift at joint 4.
14) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

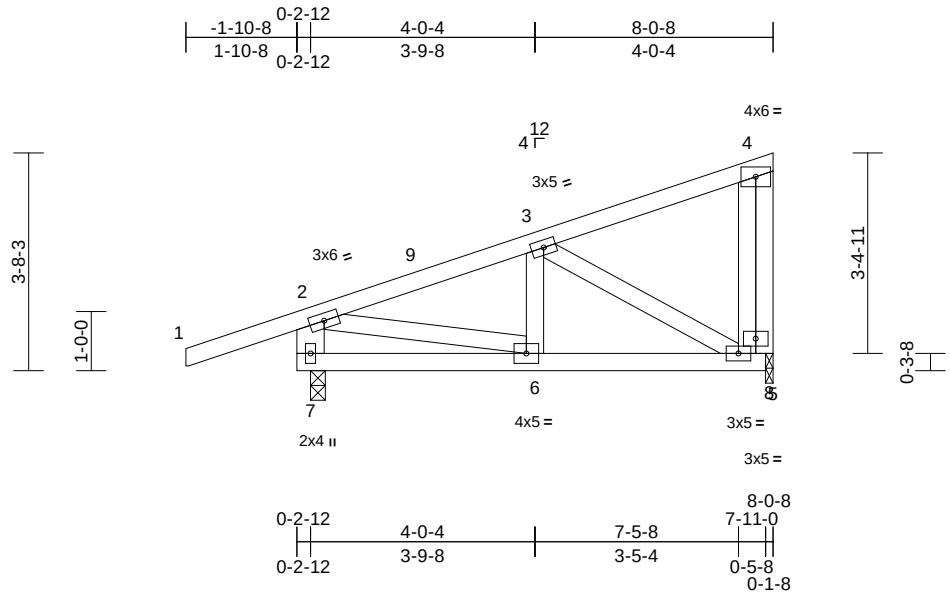
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	M1	Monopitch	18	1	I74009708 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:13 ID:joSjNCUwG4JKyJKerZ17G9zPcUa-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	-0.01	6	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	-0.01	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 51 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 7-2:2x6 SP No.2
OTHERS	2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-0, 8=0-1-8
Max Horiz 7=90 (LC 11)
Max Uplift 7=-48 (LC 11), 8=-21 (LC 15)
Max Grav 7=451 (LC 2), 8=315 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/50, 2-3=-406/96, 3-4=-72/5, 4-5=-85/220
BOT CHORD	6-7=-205/66, 5-6=-197/369
WEBS	3-5=-395/211, 3-6=0/68, 2-7=-440/261, 2-6=-2/360, 4-8=-316/169

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-3 to 1-1-13, Interior (1) 1-1-13 to 7-9-0 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) Bearings are assumed to be: Joint 7 SP No.2 , Joint 8 SP No.3 .
7) Bearing at joint(s) 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 8.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 7 and 21 lb uplift at joint 8.

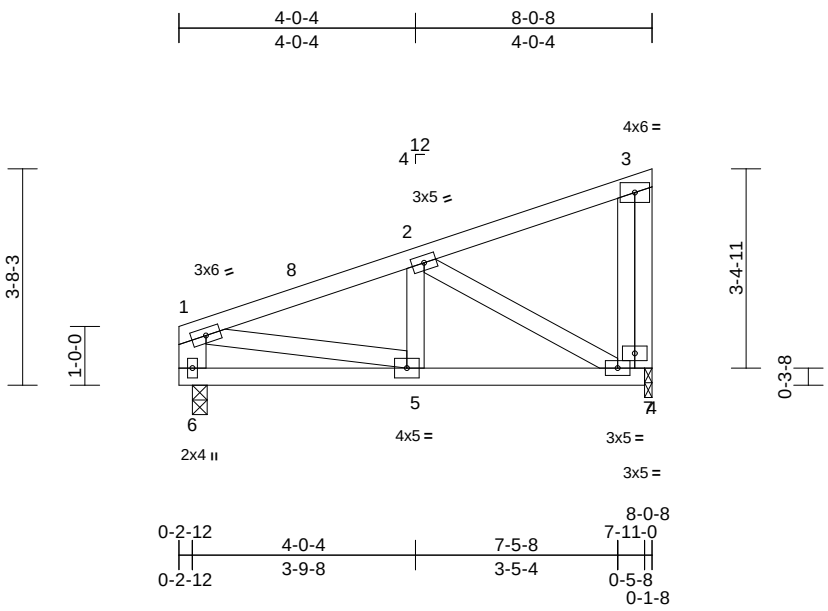
LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009709
25040114-01	M4	Monopitch	2	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:13 Page: 1
ID:B3S2Vi821X5yxn8e5C1Zb0zPfz5-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?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	1.15	TC	0.22	Vert(LL)	-0.01	5	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.01	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 48 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 6-1:2x6 SP No.2
OTHERS 2x4 SP No.3

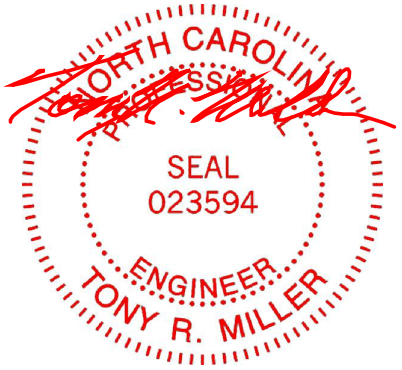
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 6=0-3-0, 7=0-1-8
Max Horiz 6=64 (LC 11)
Max Uplift 7=-22 (LC 11)
Max Grav 6=315 (LC 22), 7=328 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-429/119, 2-3=-75/1, 3-4=-103/236
BOT CHORD 5-6=-155/55, 4-5=-230/399
WEBS 2-4=-429/247, 2-5=0/74, 1-6=-293/122, 1-5=-76/399, 3-7=-329/180

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-2-12 to 3-2-12, Interior (1) 3-2-12 to 7-9-0 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) * 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.
5) Bearings are assumed to be: Joint 6 SP No.2 , Joint 7 SP No.3 .
6) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 7.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 7.

LOAD CASE(S) Standard



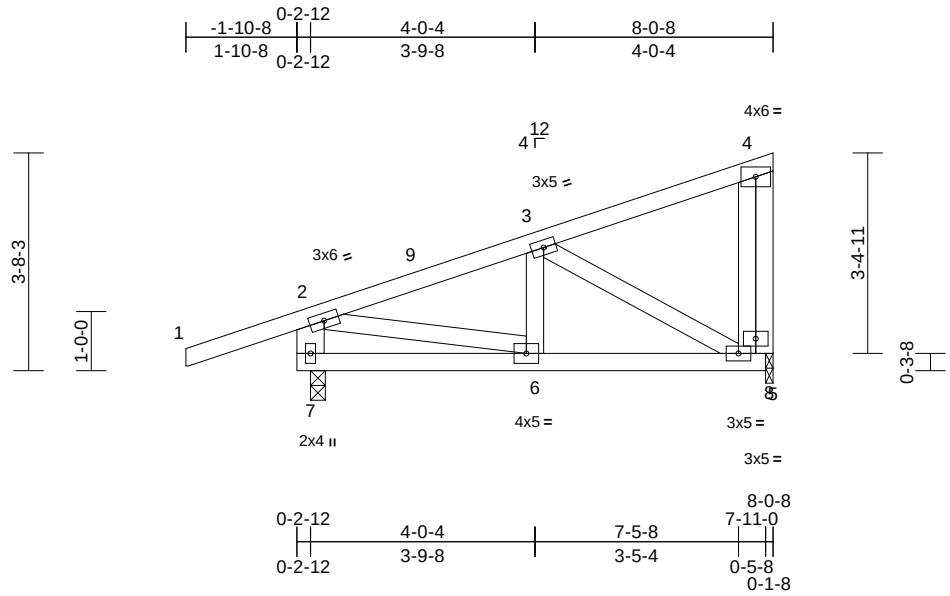
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	M3	Monopitch	4	1	I74009710 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:13 Page: 1
ID:B3S2Vi821X5yxn8e5C1Zb0zPfz5-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?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	1.15	TC	0.38	Vert(LL)	-0.01	6	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	-0.01	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 51 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-2:2x6 SP No.2
OTHERS 2x4 SP No.3

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

REACTIONS (size) 7=0-3-0, 8=0-1-8
Max Horiz 7=90 (LC 11)
Max Uplift 7=-48 (LC 11), 8=-21 (LC 15)
Max Grav 7=451 (LC 2), 8=315 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/50, 2-3=-406/96, 3-4=-72/5, 4-5=-85/220
BOT CHORD 6-7=-205/66, 5-6=-197/369
WEBS 3-5=-395/211, 3-6=0/68, 2-7=-440/261, 2-6=-2/360, 4-8=-316/169

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-3 to 1-1-13, Interior (1) 1-1-13 to 7-9-0 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) Bearings are assumed to be: Joint 7 SP No.2 , Joint 8 SP No.3 .
7) Bearing at joint(s) 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 8.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 7 and 21 lb uplift at joint 8.

LOAD CASE(S) Standard

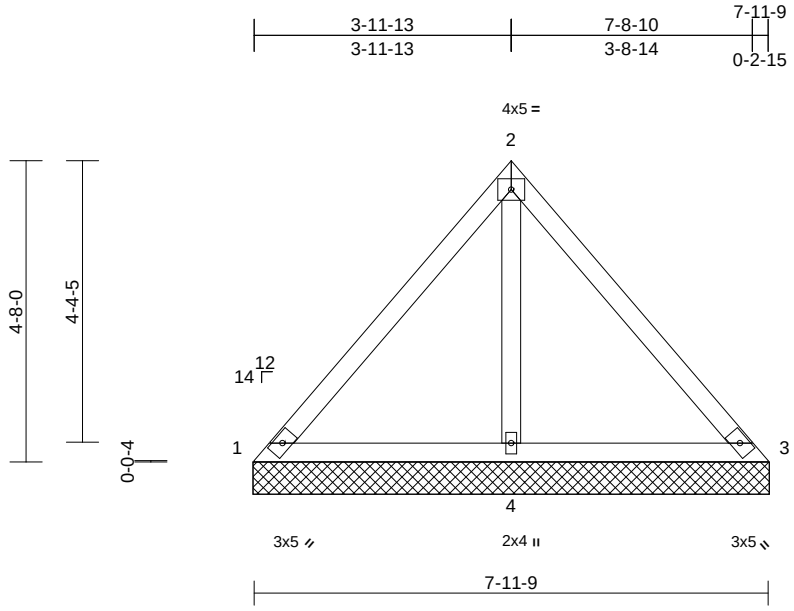
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009711
25040114-01	VL7	Valley	2	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:17 ID:WXc9css?lJESoVETdVi3YgzPuSU-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.25	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.24	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 35 lb	FT = 20%

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

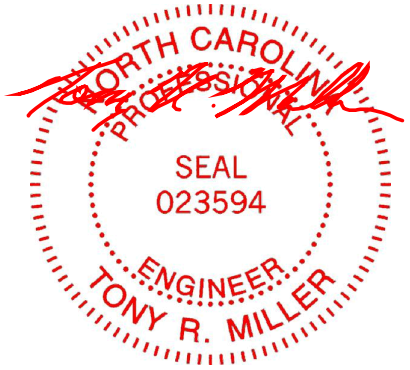
BRACING
TOP CHORD Structural wood sheathing directly applied or 7-11-9 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=8-0-0, 3=8-0-0, 4=8-0-0
Max Horiz 1=87 (LC 12)
Max Uplift 1=-13 (LC 35), 3=-13 (LC 34), 4=-65 (LC 13)
Max Grav 1=67 (LC 34), 3=67 (LC 35), 4=566 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-151/262, 2-3=-151/262
BOT CHORD 1-4=-215/191, 3-4=-215/191
WEBS 2-4=-553/254

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 4-0-0, Corner (3R) 4-0-0 to 7-0-0, Exterior(2N) 7-0-0 to 8-0-0 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1, 13 lb uplift at joint 3 and 65 lb uplift at joint 4.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.

LOAD CASE(S) Standard



June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	VL5	Valley	1	1	I74009712 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:17 Page: 1
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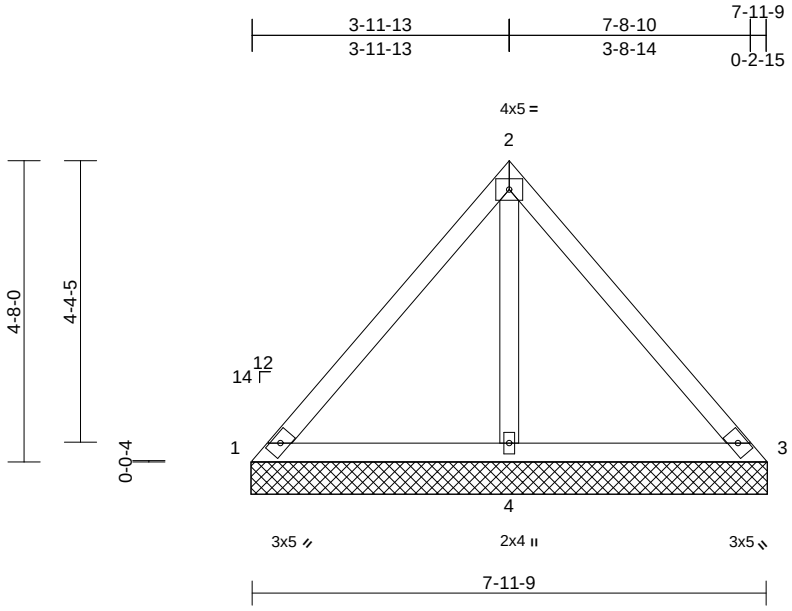


Scale = 1:35.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.25	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.24	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 35 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 or 7-11-9 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=8-0-0, 3=8-0-0, 4=8-0-0
Max Horiz 1=87 (LC 12)
Max Uplift 1=-13 (LC 35), 3=-13 (LC 34), 4=-65 (LC 13)
Max Grav 1=67 (LC 34), 3=67 (LC 35), 4=566 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-151/262, 2-3=-151/262
BOT CHORD 1-4=-215/191, 3-4=-215/191
WEBS 2-4=-553/254

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-0-0 to 3-0-0, Exterior(2N) 3-0-0 to 4-0-0, Corner (3R) 4-0-0 to 7-0-0, Exterior(2N) 7-0-0 to 8-0-0 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1, 13 lb uplift at joint 3 and 65 lb uplift at joint 4.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.

LOAD CASE(S) Standard

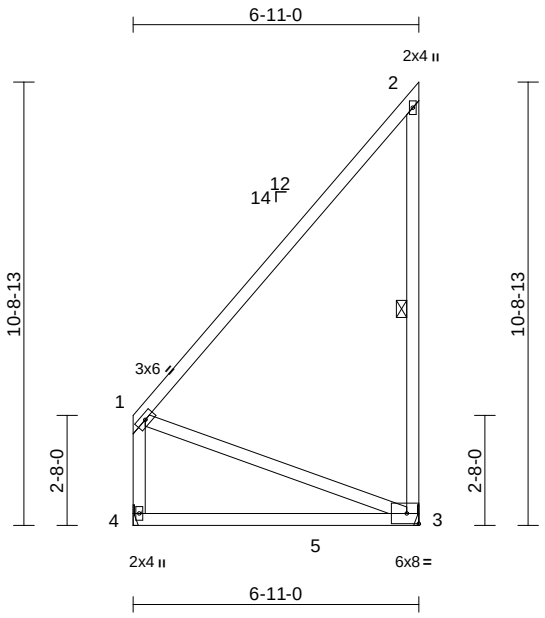
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009713
25040114-01	N2	Monopitch	1	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:14 ID:Pb0WkMkGkE8xruIEl6v0q5zPenR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:55.8

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	0.68	Vert(LL)	-0.07	3-4	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.20	3-4	>389	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.43	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 55 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-11-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 7-6-6 oc bracing.
WEBS	1 Row at midpt 2-3

REACTIONS (size) 3= Mechanical, 4= Mechanical
Max Horiz 4=291 (LC 12)
Max Uplift 3=-176 (LC 10), 4=-54 (LC 9)
Max Grav 3=459 (LC 28), 4=402 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-407/429, 2-3=-473/372, 1-4=-372/276
BOT CHORD	3-4=-545/549
WEBS	1-3=-454/466

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 6-9-4 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) * 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.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 54 lb uplift at joint 4 and 176 lb uplift at joint 3.
6) Load case(s) 1, 3 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-48, 4-5=-20, 3-5=-35
3) Dead + 0.75 Roof Live (balanced) + 0.75 Attic Floor: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-50, 4-5=-20, 3-5=-65

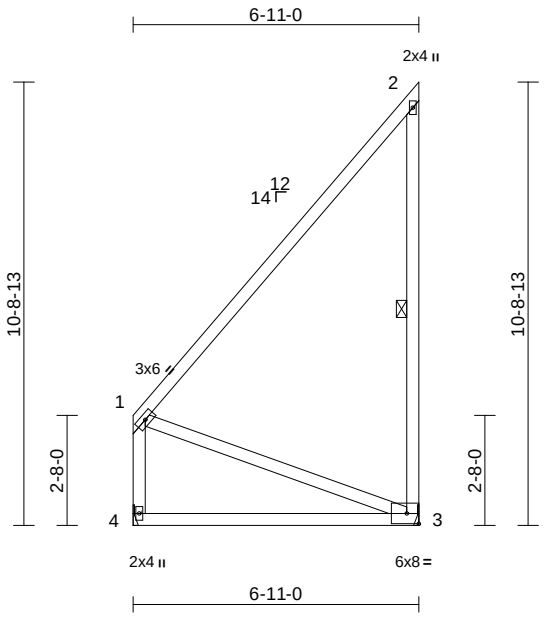
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020 I74009714
25040114-01	N1	Monopitch	6	1	Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:13 ID:Pb0WkMkGkE8xruIEl6v0q5zPenR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:55.8

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	0.59	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.12	3-4	>688	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.43	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 55 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-11-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-8-2 oc bracing.
WEBS 1 Row at midpt 2-3

REACTIONS (size) 3= Mechanical, 4= Mechanical
Max Horiz 4=291 (LC 12)
Max Uplift 3=-205 (LC 10), 4=-60 (LC 9)
Max Grav 3=372 (LC 28), 4=383 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-407/429, 2-3=-473/372, 1-4=-372/276
BOT CHORD 3-4=-545/549
WEBS 1-3=-454/466

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 6-9-4 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) * 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.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 4 and 205 lb uplift at joint 3.

LOAD CASE(S) Standard

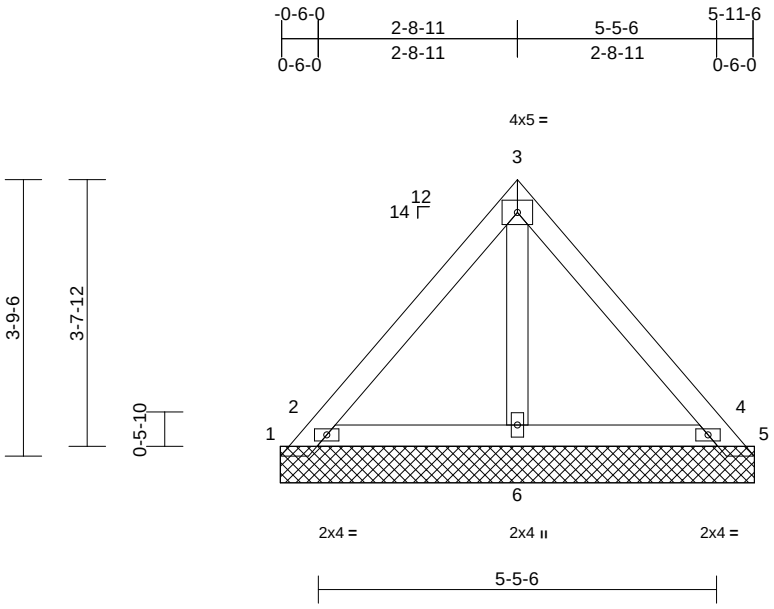
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB10	Piggyback	1	2	I74009715 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:15 ID:5H69pTDh1WnF32c45147QpzPcR2-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 54 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 or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=6-5-13, 2=6-5-13, 4=6-5-13, 5=6-5-13, 6=6-5-13
Max Horiz 1=-70 (LC 9)
Max Uplift 1=-204 (LC 29), 2=-111 (LC 13), 6=-5 (LC 14)
Max Grav 1=121 (LC 10), 2=327 (LC 29), 5=96 (LC 2), 6=276 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-137/208, 2-3=-153/159, 3-4=-82/77, 4-5=-75/12
BOT CHORD 2-6=-93/106, 4-6=-93/106
WEBS 3-6=-203/69

NOTES
1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 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=1.33
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 oc.
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) All bearings are assumed to be SP No.2 .
11) Bearing at joint(s) 2, 4, 1, 5, 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 111 lb uplift at joint 2, 204 lb uplift at joint 1, 5 lb uplift at joint 6 and 111 lb uplift at joint 2.
13) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB11	Piggyback	7	1	I74009716 Job Reference (optional)

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

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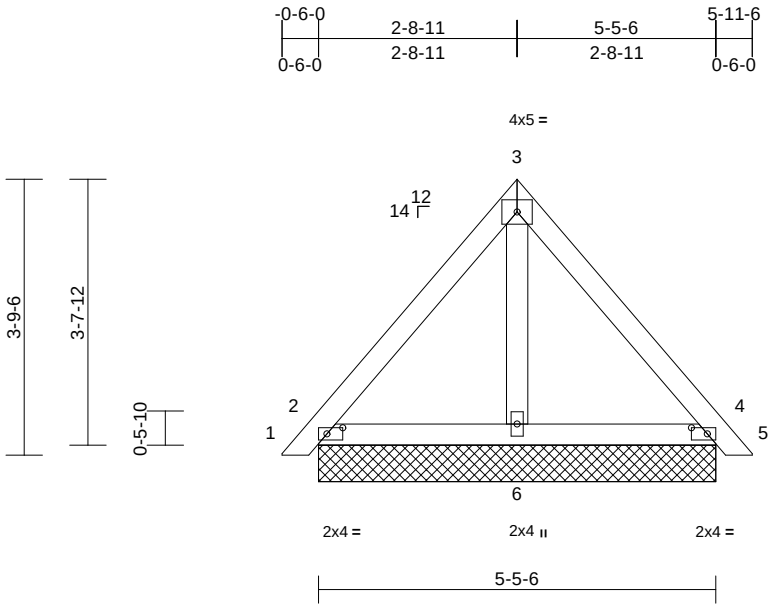

Scale = 1:31.6

Plate Offsets (X, Y): [2:0-2-10,0-1-0], [4:0-2-10,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 27 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 or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=5-5-6, 4=5-5-6, 6=5-5-6
Max Horiz 2=-70 (LC 11)
Max Uplift 2=-10 (LC 14), 4=-8 (LC 14)
Max Grav 2=164 (LC 2), 4=164 (LC 2), 6=146 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-157/85, 3-4=-157/85, 4-5=0/18
BOT CHORD 2-6=-37/74, 4-6=-37/78
WEBS 3-6=-44/22

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) * 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.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 2, 8 lb uplift at joint 4, 10 lb uplift at joint 2 and 8 lb uplift at joint 4.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	CJ3	Jack-Open	4	1	I74009717 Job Reference (optional)

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

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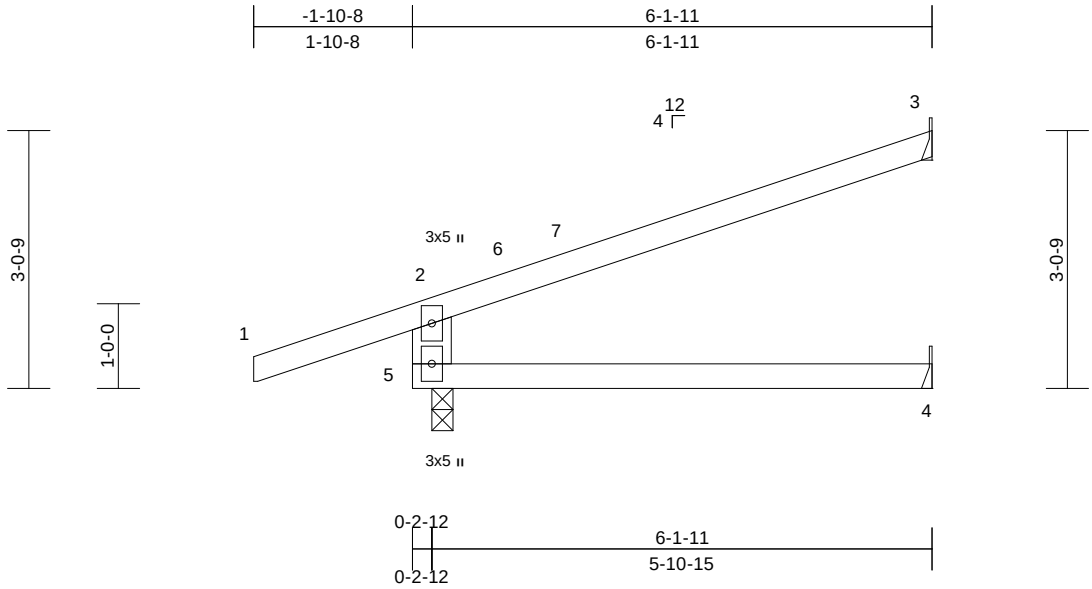

Scale = 1:27.2

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	0.62	Vert(LL)	0.06	4-5	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.10	4-5	>706	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.05	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 23 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x6 SP No.2

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-0
Max Horiz 5=67 (LC 11)
Max Uplift 3=-40 (LC 15), 5=-51 (LC 11)
Max Grav 3=181 (LC 22), 4=69 (LC 22), 5=384 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-357/243, 1-2=0/50, 2-3=-77/49
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-3 to 1-1-13, Interior (1) 1-1-13 to 6-0-15 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) Bearings are assumed to be: , Joint 5 SP No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 51 lb uplift at joint 5 and 40 lb uplift at joint 3.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	CJ2	Jack-Open	4	1	I74009718 Job Reference (optional)

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

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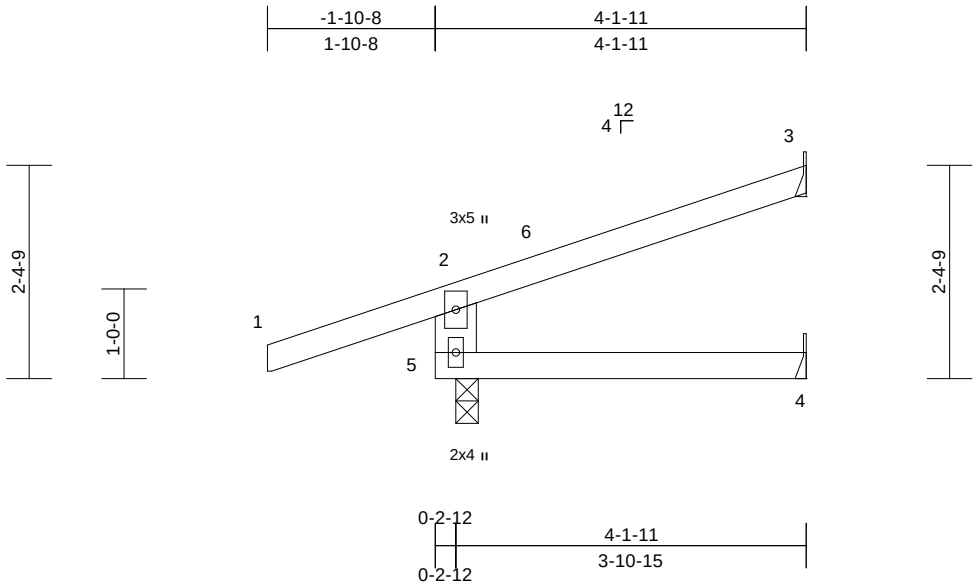

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	0.01	4-5	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	-0.02	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 17 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-0
Max Horiz 5=50 (LC 11)
Max Uplift 3=-26 (LC 15), 5=-57 (LC 11)
Max Grav 3=104 (LC 22), 4=34 (LC 20), 5=364 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-319/215, 1-2=0/50, 2-3=-54/31
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-3 to 1-1-13, Interior (1) 1-1-13 to 4-0-15 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) Bearings are assumed to be: , Joint 5 SP No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 57 lb uplift at joint 5 and 26 lb uplift at joint 3.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	K1	Flat Girder	1	2	I74009719 Job Reference (optional)

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

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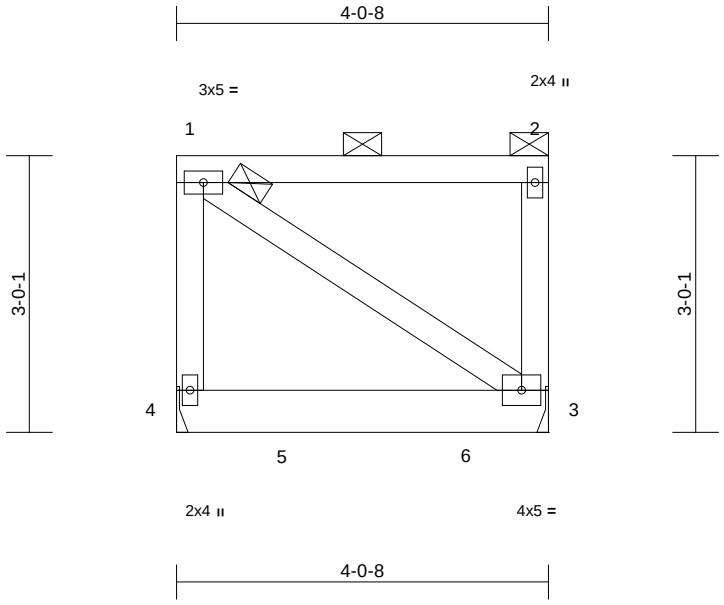

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Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	-0.02	3-4	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.03	3-4	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.01	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 57 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3

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

REACTIONS (size) 3= Mechanical, 4= Mechanical
Max Horiz 4=-70 (LC 7)
Max Grav 3=967 (LC 3), 4=861 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-4=-109/49, 1-2=-28/21, 2-3=-109/25
BOT CHORD 3-4=-62/55
WEBS 1-3=-43/43

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.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 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.
3) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=18.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10, Lu=50-0-0
5) Unbalanced snow loads have been considered for this design.
6) Provide adequate drainage to prevent water ponding.
7) * 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.
8) Refer to girder(s) for truss to truss connections.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 786 lb down at 1-1-12, and 788 lb down at 3-1-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-56, 3-4=-19
Concentrated Loads (lb)
Vert: 5=-626 (F), 6=-628 (F)

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	VL8	Valley	2	1	I74009720 Job Reference (optional)

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

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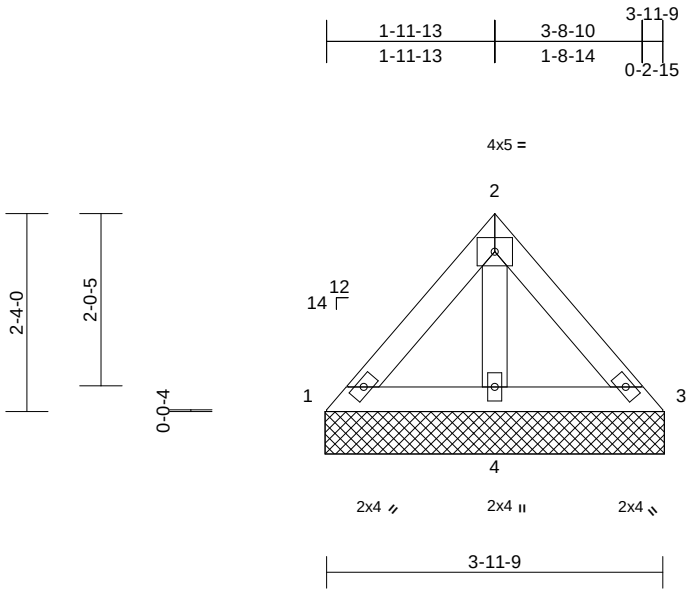

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	3	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
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-9 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=4-0-0, 3=4-0-0, 4=4-0-0
Max Horiz 1=-41 (LC 9)
Max Uplift 4=-9 (LC 13)
Max Grav 1=57 (LC 34), 3=57 (LC 35), 4=219 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-47/58, 2-3=-47/53
BOT CHORD 1-4=-65/69, 3-4=-65/69
WEBS 2-4=-149/51

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 4.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	VL6	Valley	1	1	I74009721 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:17
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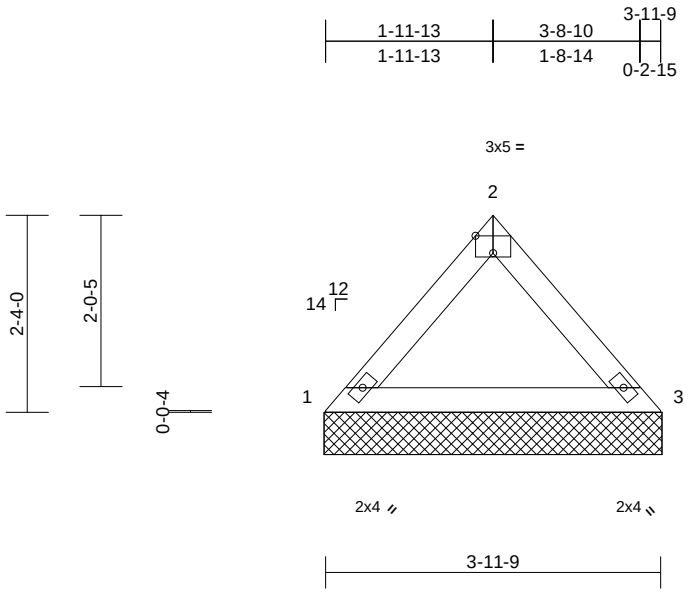
Page: 1



Scale = 1:27.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	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.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-9 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=4-0-0, 3=4-0-0
Max Horiz 1=-41 (LC 9)
Max Grav 1=160 (LC 2), 3=160 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-220/45, 2-3=-220/45
BOT CHORD 1-3=-18/135

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.

LOAD CASE(S) Standard

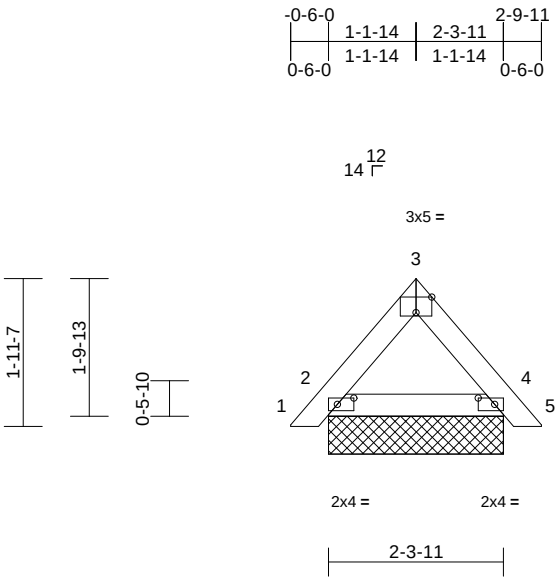
June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB14	Piggyback	2	2	I74009722 Job Reference (optional)

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:53:16 Page: 1
ID:_Jt6DfUs5zQH4Hj6pxy2nEzPcQj-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:30.4

Plate Offsets (X, Y): [2:0-2-10,0-1-0], [3:Edge,0-2-7], [4:0-2-10,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.01	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.01	Vert(CT)	n/a	-	n/a	999		
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: 22 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=2-3-11, 4=2-3-11
Max Horiz 2=-34 (LC 11)
Max Grav 2=111 (LC 2), 4=111 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-66/25, 3-4=-66/25, 4-5=0/18
BOT CHORD 2-4=-14/38

NOTES
1) 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 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=1.33
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 4-0-0 oc.
10) * 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.
11) All bearings are assumed to be SP No.2 .
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB13	Piggyback	4	1	I74009723 Job Reference (optional)

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

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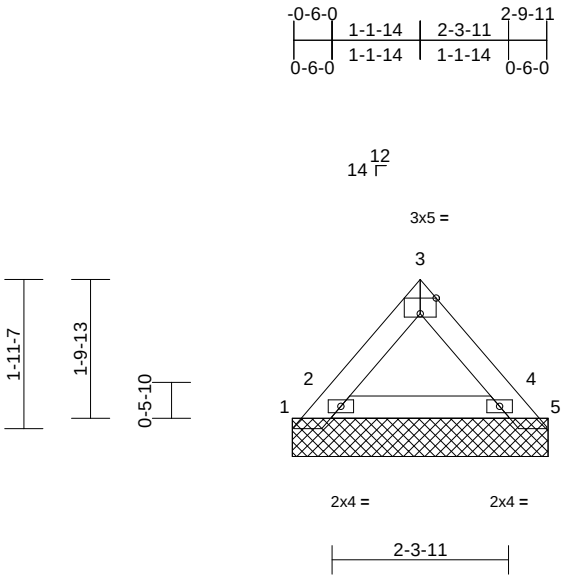

Scale = 1:30.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 11 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-4-2, 2=3-4-2, 4=3-4-2, 5=3-4-2
Max Horiz 1=-34 (LC 9)
Max Uplift 1=-78 (LC 29), 2=-11 (LC 13)
Max Grav 1=24 (LC 10), 2=215 (LC 29), 5=100 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-40/95, 2-3=-75/27, 3-4=-76/22, 4-5=-87/24
BOT CHORD 2-4=-32/48

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) * 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.
8) All bearings are assumed to be SP No.2 .
9) Bearing at joint(s) 2, 4, 1, 5, 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 2, 78 lb uplift at joint 1 and 11 lb uplift at joint 2.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	PB12	Piggyback	2	1	I74009724 Job Reference (optional)

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

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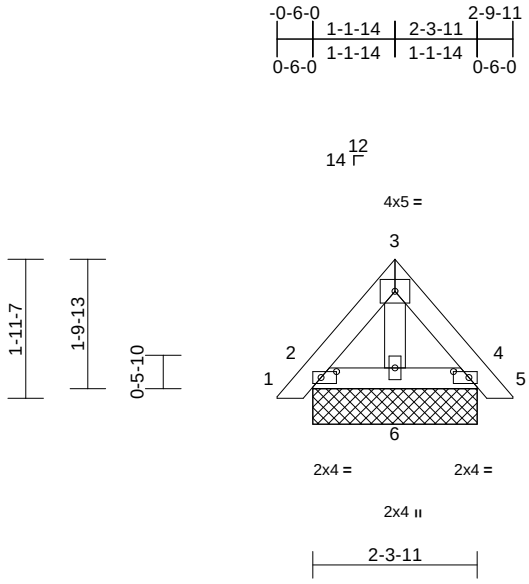
Page: 1



Scale = 1:32.4

Plate Offsets (X, Y): [2:0-2-10,0-1-0], [4:0-2-10,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.02	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.02	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: 13 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 or 3-4-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=2-3-11, 4=2-3-11, 6=2-3-11
Max Horiz 2=-34 (LC 11)
Max Uplift 2=-1 (LC 14), 4=-1 (LC 14)
Max Grav 2=76 (LC 2), 4=76 (LC 2), 6=70 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-49/22, 3-4=-50/23, 4-5=0/18
BOT CHORD 2-6=-21/35, 4-6=-21/35
WEBS 3-6=-24/0

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; 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=1.33
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); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
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 13.9 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) * 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.
9) All bearings are assumed to be SP No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1 lb uplift at joint 2, 1 lb uplift at joint 4, 1 lb uplift at joint 2 and 1 lb uplift at joint 4.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

June 6,2025

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

Job	Truss	Truss Type	Qty	Ply	Overhills-Roof-CL-20-020
25040114-01	CJ1	Jack-Open	4	1	I74009725 Job Reference (optional)

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

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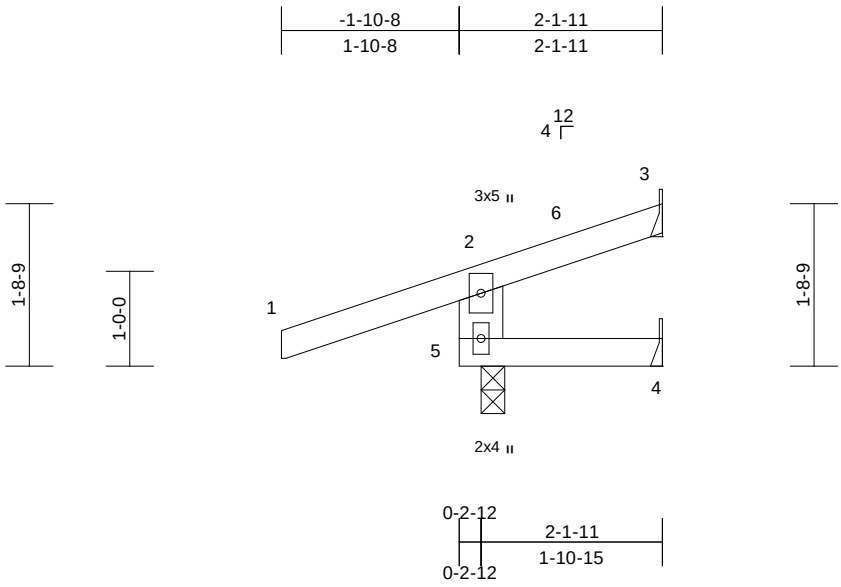


Scale = 1:24.3

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	0.38	Vert(LL)	0.00	4-5	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	0.00	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 11 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-1-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-0
Max Horiz 5=34 (LC 12)
Max Uplift 3=-31 (LC 21), 4=-21 (LC 21), 5=-72 (LC 11)
Max Grav 3=14 (LC 22), 4=16 (LC 11), 5=305 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-256/197, 1-2=0/50, 2-3=-36/14
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-10-3 to 1-1-13, Interior (1) 1-1-13 to 2-0-15 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=1.33
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=13.9 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 13.9 psf on overhangs non-concurrent with other live loads.
5) * 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.
6) Bearings are assumed to be: , Joint 5 SP No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 5, 31 lb uplift at joint 3 and 21 lb uplift at joint 4.

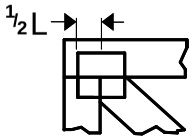
LOAD CASE(S) Standard

June 6,2025

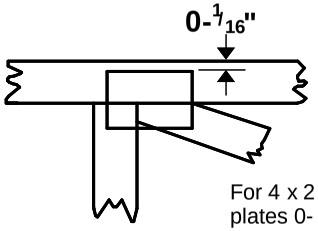
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

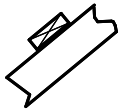
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

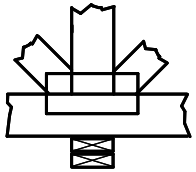
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

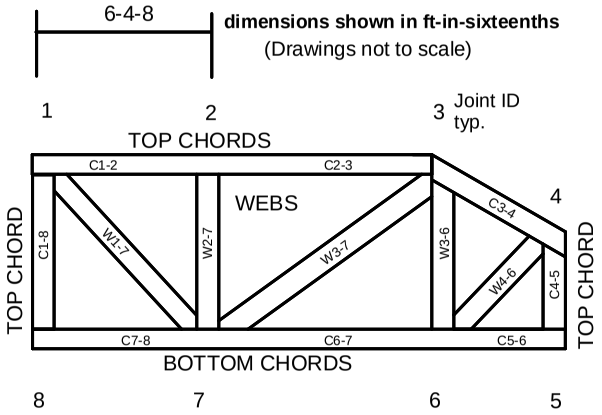


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

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

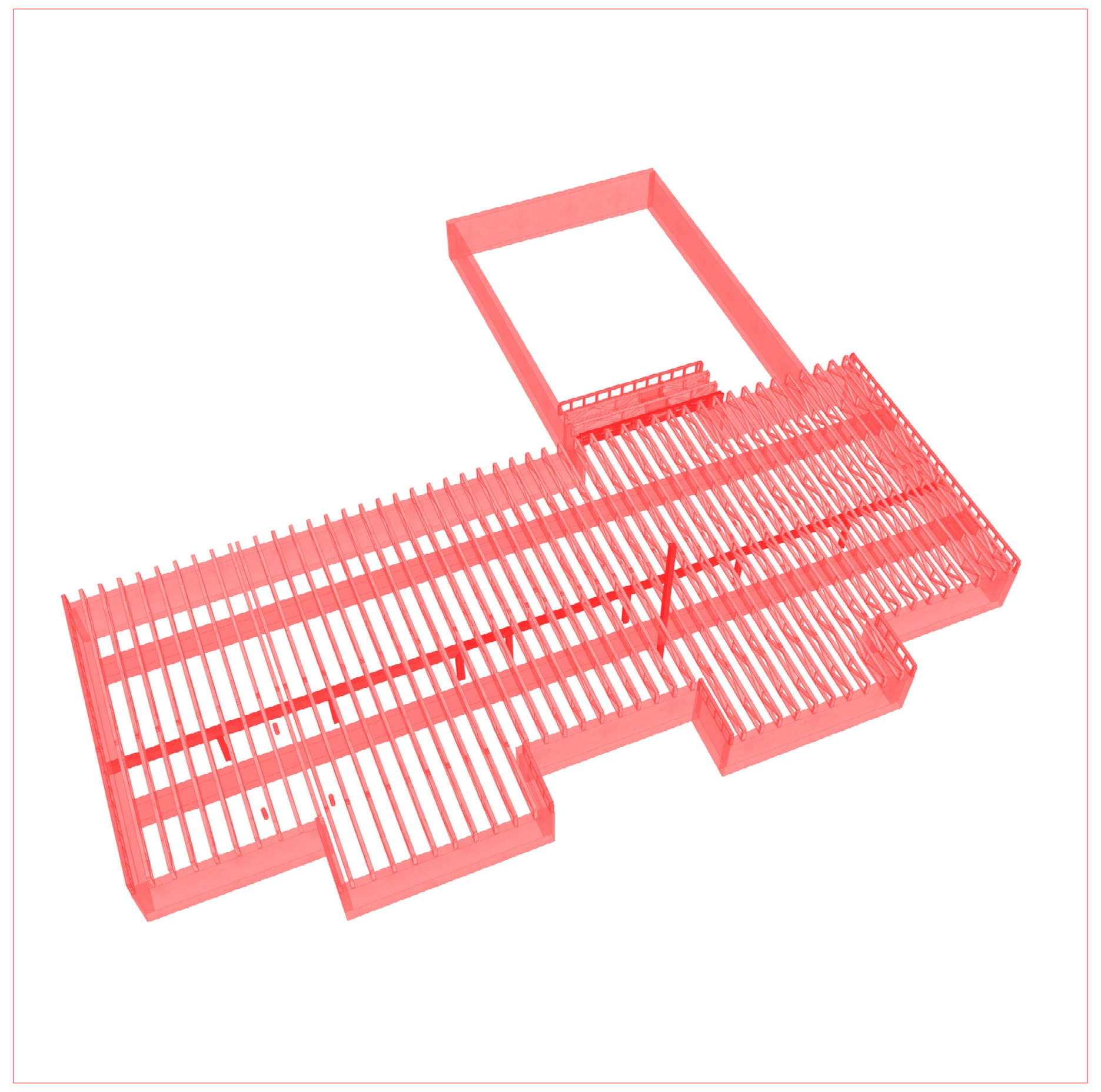
General Safety Notes

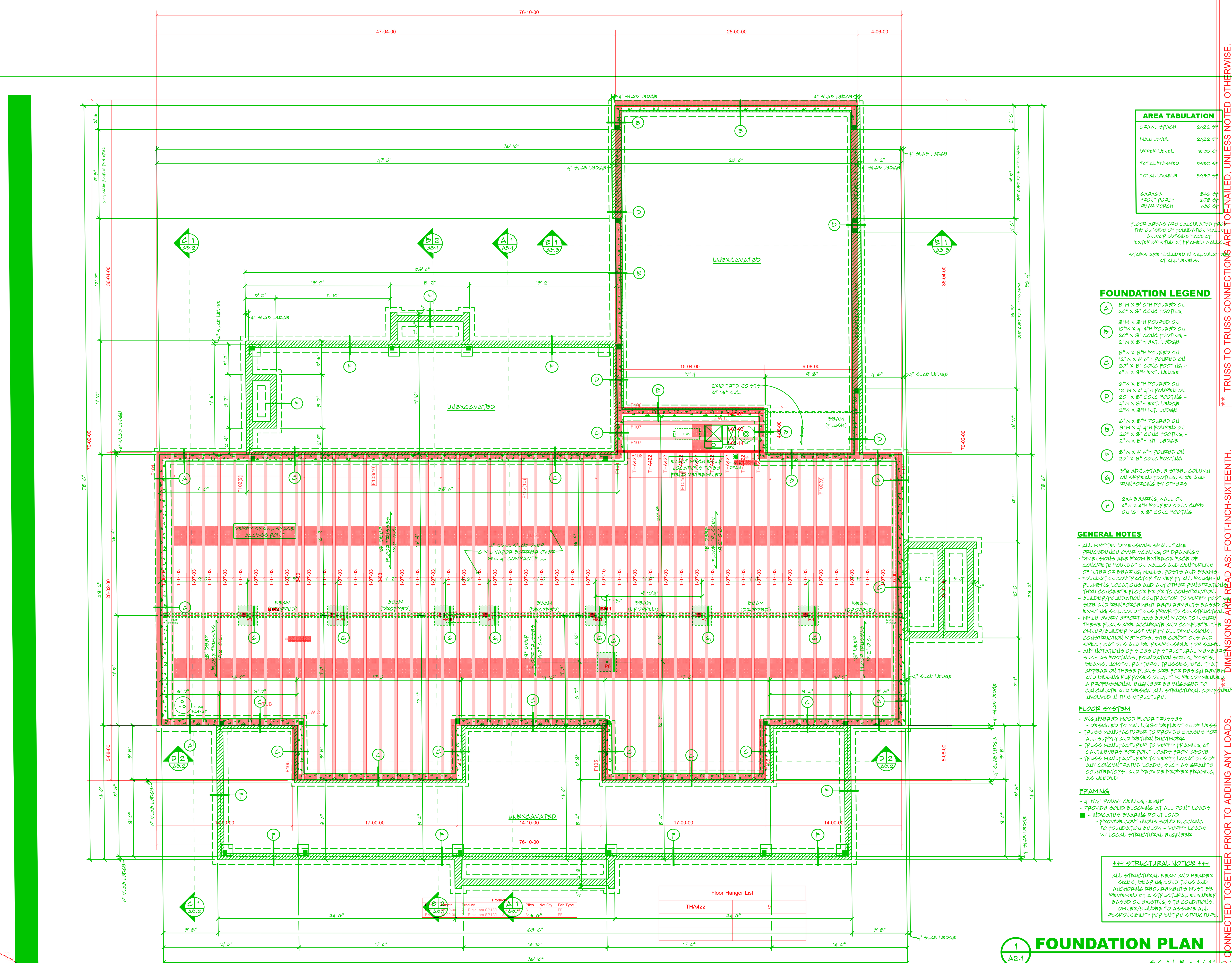
Failure to Follow Could Cause Property Damage or Personal Injury

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

General Notes: ** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION. ** ALL POINT LOADS FROM ABOVE MUST BE TRANSFERRED TO BEARING FROM UNDER SIDE OF SHEATHING.

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS. ** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT. ** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.





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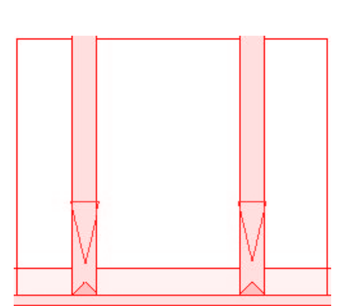
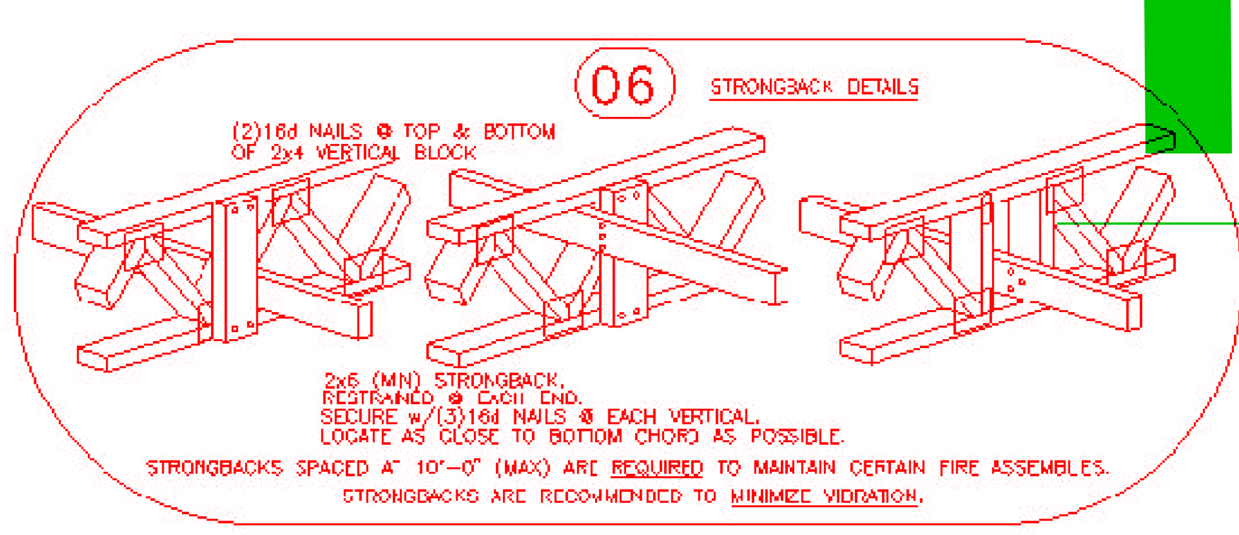
100% SCALE @ 36"x24"



Truss Drawing Left End Indicator



PRELIMINARY - NOT FOR CONSTRUCTION

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Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor systems and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding the bracing, consult "Bracing of Wood Trusses" available from the Truss Plate Institute, 583 D'Onofrio Drive: Madison, WI 53179

CL-20-020
THE RUTH
CRAWL SPACE - 2x4 EXTERIOR
3-CAR SIDE-STANDARD

Please scan or visit www.royaloaksdesign.com to see more of our plans or to request modifications.

Original Draft Date: 07/09/2020
Document Date: 4/25/2024
Document Phase:
Drawn by: DML

Probuild
Overhills
1ST FLOOR TRUSS PLACEMENT PLAN

FOUNDATION PLAN

Scale: NTS
A2.1
Date: 6/1/2025
Designer: NP
Project Number: 25040114
Sheet Number:
1/3

** TRIANGULAR SYMBOL NEAR END OF TRUSS INDICATES LEFT END OF TRUSS AS SHOWN ON INDIVIDUAL TRUSS DRAWINGS. ** PLUMBING DROPS NOTED ARE IN THE APPROXIMATE LOCATIONS PER PLAN. BUILDER TO VERIFY LOCATIONS BEFORE SETTING TRUSSES. ** REFER TO FINAL TRUSS ENGINEERING SHEETS FOR PLY TO PLY CONNECTIONS.

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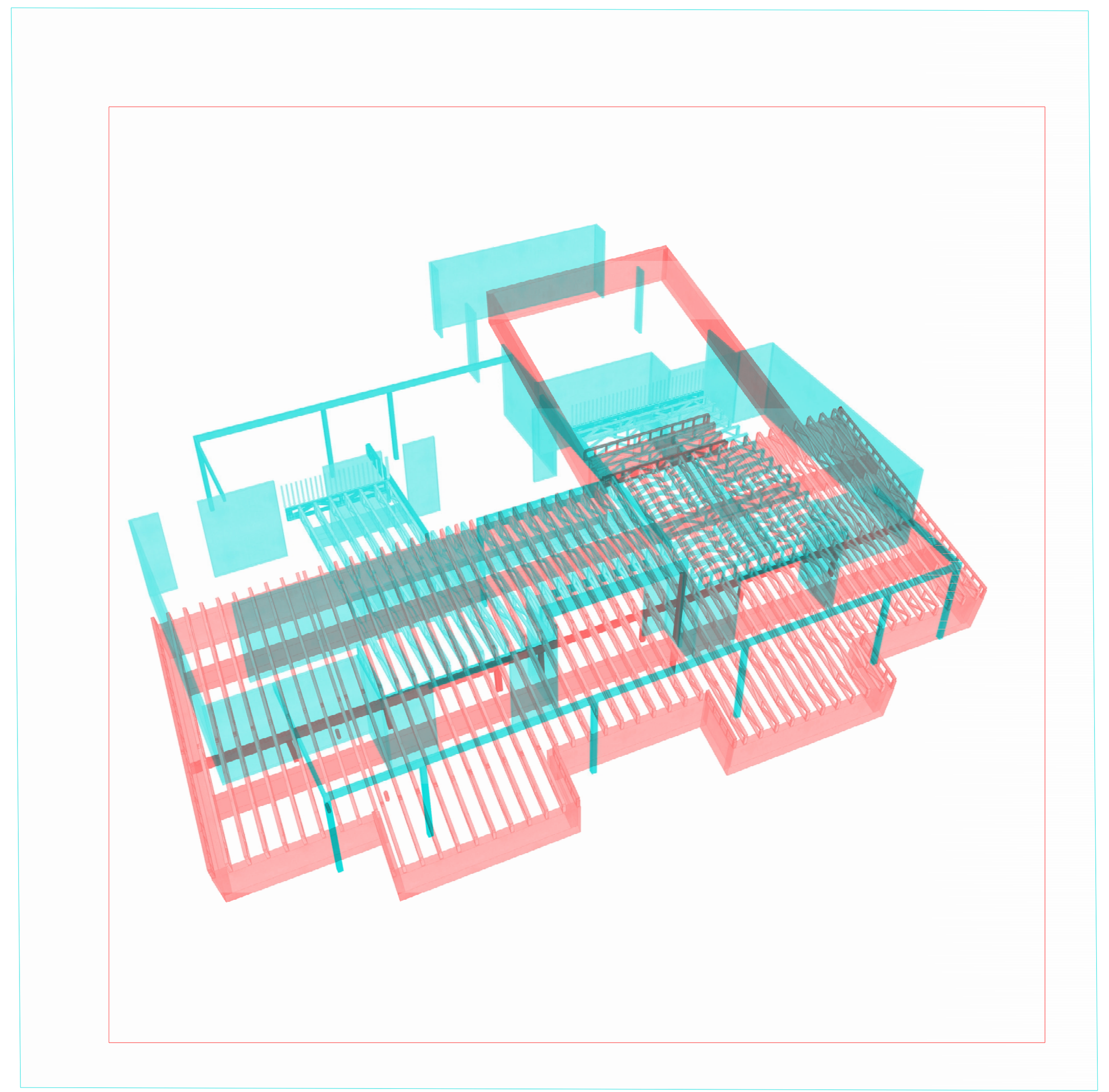
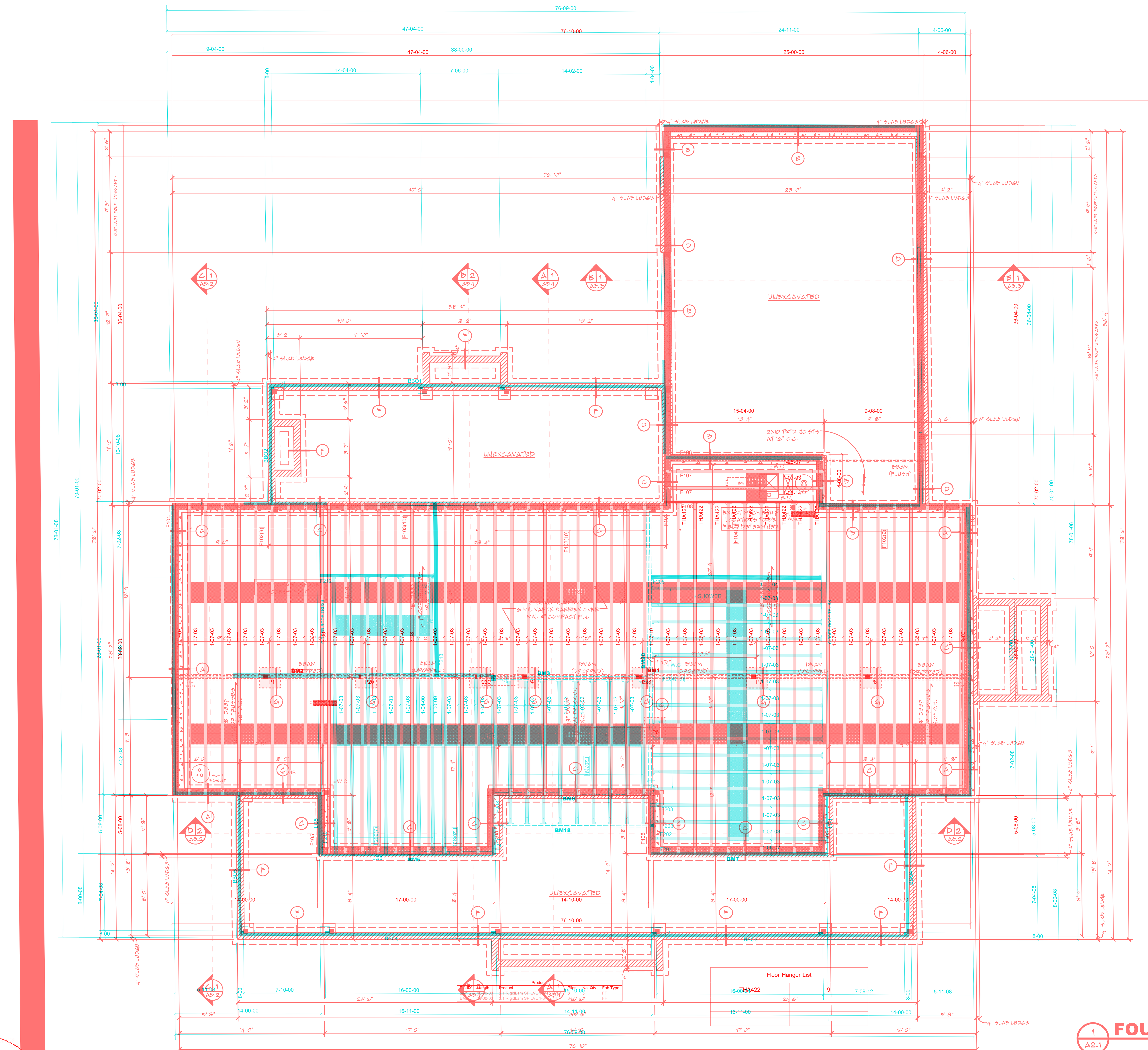




AREA TABULATION

CRAWL SPACE	2422 SF
MAIN LEVEL	2422 SF
UPPER LEVEL	1530 SF
TOTAL FINISHED	3952 SF
TOTAL LIVABLE	3952 SF
GARAGE	846 SF
FRONT PORCH	678 SF
REAR PORCH	430 SF

FLOOR AREAS ARE CALCULATED FROM THE OUTSIDE OF FOUNDATION WALLS AND/OR OUTSIDE FACE OF EXTERIOR STUD AT FRAMED WALLS.

STAIRS ARE INCLUDED IN CALCULATIONS AT ALL LEVELS.

FOUNDATION LEGEND

- (A) 8"W X 5' 0"H POURED ON 20" X 8" CONC FOOTING
- (B) 8"W X 8"H POURED ON 10"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING - 2"W X 8"H EXT. LEDGE
- (C) 8"W X 8"H POURED ON 12"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING - 4"W X 8"H EXT. LEDGE
- (D) 6"W X 8"H POURED ON 12"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING - 4"W X 8"H EXT. LEDGE 2"W X 8"H INT. LEDGE
- (E) 6"W X 8"H POURED ON 8"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING - 2"W X 8"H INT. LEDGE
- (F) 8"W X 4' 4"H POURED ON 20" X 8" CONC FOOTING
- (G) 3"ø ADJUSTABLE STEEL COLUMN ON SPREAD FOOTING. SIZE AND REINFORCING BY OTHERS
- (H) 2X4 BEARING WALL ON 4"W X 4"H POURED CONC CURB ON 16" X 8" CONC FOOTING

GENERAL NOTES

- ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALING OF DRAWINGS
- DIMENSIONS ARE FROM EXTERIOR FACE OF CONCRETE FOUNDATION WALLS AND CENTERLINE OF INTERIOR BEARING WALLS, POSTS AND BEAMS.
- FOUNDATION CONTRACTOR TO VERIFY ALL ROUGH-IN PLUMBING LOCATIONS AND ANY OTHER PENETRATIONS THRU CONCRETE FLOOR PRIOR TO CONSTRUCTION.
- BUILDER/FOUNDATION CONTRACTOR TO VERIFY FOOTING SIZE AND REINFORCEMENT REQUIREMENTS BASED ON EXISTING SOIL CONDITIONS PRIOR TO CONSTRUCTION.
- WHILE EVERY EFFORT HAS BEEN MADE TO INSURE THESE PLANS ARE ACCURATE AND COMPLETE, THE OWNER/BUILDER MUST VERIFY ALL DIMENSIONS, CONSTRUCTION METHODS, SITE CONDITIONS AND SPECIFICATIONS AND BE RESPONSIBLE FOR SAME.
- ANY NOTATIONS OF SIZES OF STRUCTURAL MEMBERS SUCH AS FOOTINGS, FOUNDATION SIZING, POSTS, BEAMS, JOISTS, RAFTERS, TRUSSES, ETC. THAT APPEAR ON THESE PLANS ARE FOR DESIGN REVIEW AND BIDDING PURPOSES ONLY. IT IS RECOMMENDED A PROFESSIONAL ENGINEER BE ENGAGED TO CALCULATE AND DESIGN ALL STRUCTURAL COMPONENTS INVOLVED IN THIS STRUCTURE.

FLOOR SYSTEM

- ENGINEERED WOOD FLOOR TRUSSES
  - DESIGNED TO MIN. L/480 DEFLECTION OF LESS
- TRUSS MANUFACTURER TO PROVIDE CHASES FOR ALL SUPPLY AND RETURN DUCTWORK
- TRUSS MANUFACTURER TO VERIFY FRAMING AT CANTILEVERS FOR POINT LOADS FROM ABOVE
- TRUSS MANUFACTURER TO VERIFY LOCATIONS OF ANY CONCENTRATED LOADS, SUCH AS GRANITE COUNTERTOPS, AND PROVIDE PROPER FRAMING AS NEEDED

FRAMING

- 4' 11½" ROUGH CEILING HEIGHT
- PROVIDE SOLID BLOCKING AT ALL POINT LOADS
- ■ - INDICATES BEARING POINT LOAD
  - PROVIDE CONTINUOUS SOLID BLOCKING TO FOUNDATION BELOW - VERIFY LOADS W/ LOCAL STRUCTURAL ENGINEER

+++ STRUCTURAL NOTICE +++

ALL STRUCTURAL BEAM AND HEADER SIZES, BEARING CONDITIONS AND ANCHORING REQUIREMENTS MUST BE REVIEWED BY A STRUCTURAL ENGINEER BASED ON EXISTING SITE CONDITIONS. OWNER/BUILDER TO ASSUME ALL RESPONSIBILITY FOR ENTIRE STRUCTURE.

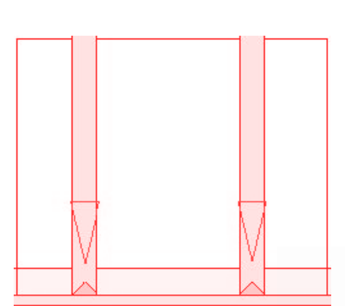
FOUNDATION PLAN

SCALE : 1/4" = 1' 0"

100% SCALE @ 36"x24"

Floor Hanger List

THA422	7
HU410	45
HGUS28-2	2
HGUS210-3	2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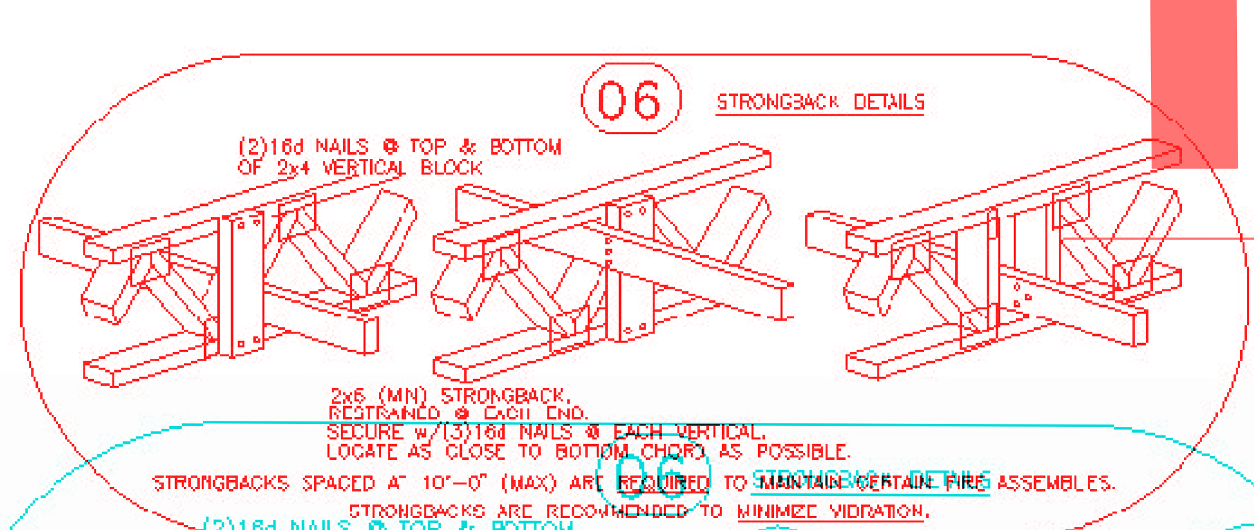

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