CAROLINA SEASONS K20 - 951 PONDEROSA TRAIL

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes
and is subject to field inspection and verification.

APPROVED
Limited building only review
Permit holder responsible for
full compliance with the code

11/17/2025

Harnett COUNTY NORTH CAROLINA

ELEVATION NOTES:
GRADE ELEVATIONS SHOWN DO NOT NECESSARILY REFER TO THIS OR ANY OTHER LOT. THEY ARE FOR DIAGRAMMATIC PURPOSES ONLY AND MAY VARY. BUILDER IS RESPONSIBLE FOR ADAPTING THIS PLAN TO SUIT THE EXISTING TOPOGRAPHY OF THE SITE.

ROOF VENTILATION TO BE DETERMINED BY BUILDER AS PER CODE.

ALL EGRESS OR RESCUE WINDOWS FROM SLEEPING ROOMS MUST HAVE A MIN. NET CLEAR OPENING OF 4.0 SQ FT. THE MIN NET CLEAR OPENING HEIGHT DIMENSION SHALL BE 22". THE MIN NET CLEAR OPENING WIDTH SHALL BE 20".

EACH EGRESS WINDOW FROM SLEEPING ROOMS MUST HAVE A SILL HGHT OF NO MORE THAN 44" FROM THE FLOOR. ALL WINDOW SIZES ARE NOMINAL AND ARE TO BE VERIFIED WITH MANUFACTURER FOR AVAILABILITY AND CONFORMITY TO STATE AND LOCAL CODE REQUIREMENTS.

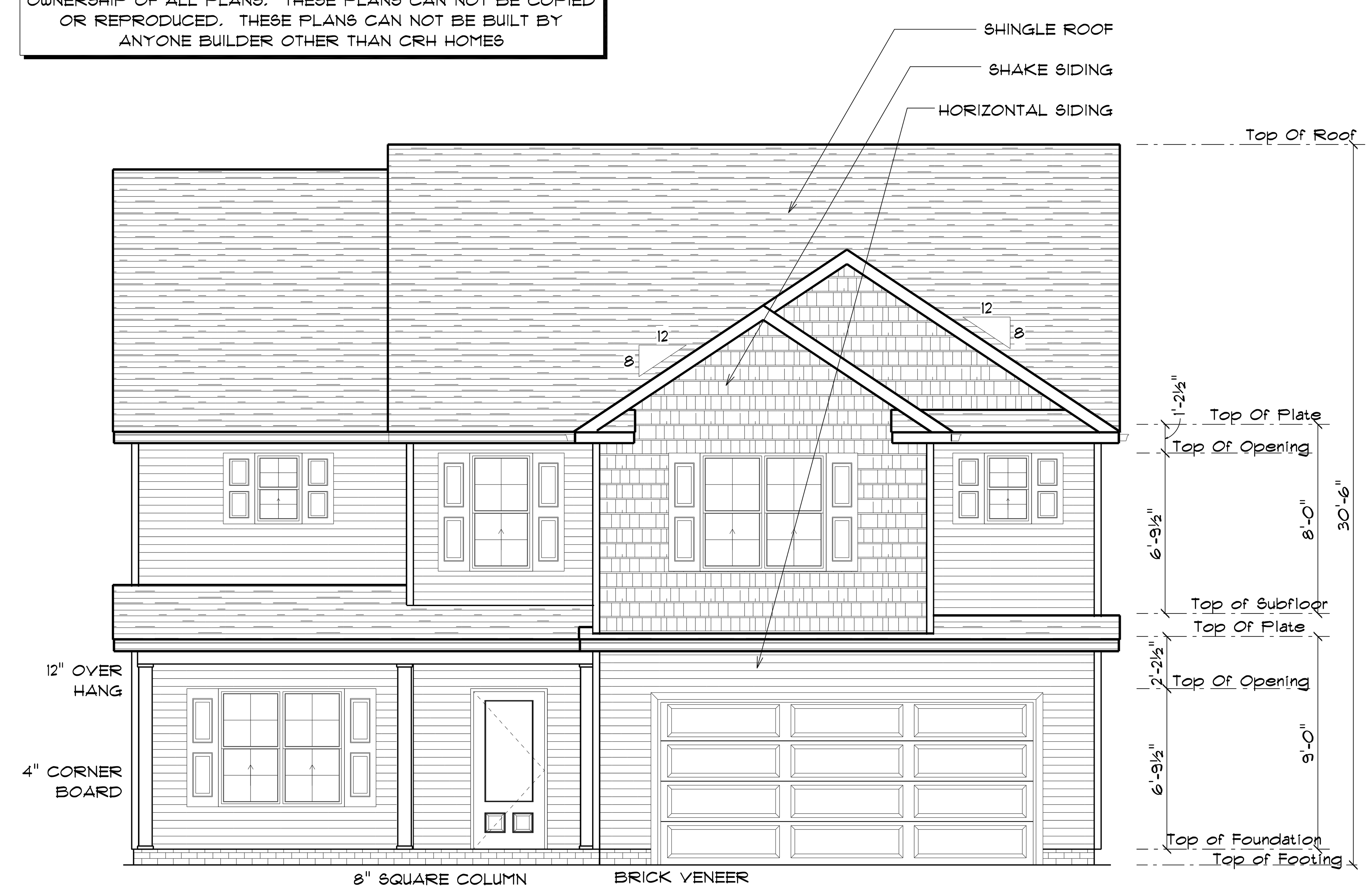
PORCHES, BALCONIES, OR RAISED FLOOR SURFACES LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDRAILS NOT LESS THAN 32" IN HEIGHT.

I ASSUME NO RESPONSIBILITY FOR ANY DISTANCES AFTER START OF CONSTRUCTION.
CONTRACTOR/BUILDER SHALL CONSULT WITH HOME OWNER ON ALL INTERIOR AND EXTERIOR MOLDINGS, TRIMS, COLORS, FINISHES, CABINET LAYOUTS, AND MANUFACTORS BEFORE CONSTRUCTION BEGINS.
ALL BEAMS AND FRAMING MEMBERS ARE SIZED BY OTHERS.

1.1 This plan has been drawn to comply with the 2018 NC Building Code

1.2 Minimum Design Loads for Building and Other Structures ASCE 7-9B
2 Roof Dead Load 15 PSF
3 Roof Live Load 20 PSF
4 Typical Floor Dead Load 10 PSF
5 Floor Live Loads
  5.1 Rooms other than sleeping rooms 40 PSF
  5.2 Sleeping Rooms 30 PSF
  5.3 Stairs 40 PSF
  5.4 Decks 40 PSF
  5.5 Exterior Balconies 60 PSF
6 Wind Loads
  6.1 Ultimate Design Wind Speeds 15 MPH
  6.2 Wind Importance Factor, IW 1.00
  6.3 Exposure B
  6.4 Walls (Component and Cladding) 25 PSF
  6.5 Roofs (Component and Cladding)
    6.5.1 Roof Slopes 2.25/12 to 7/12 34.8 PSF
    6.5.2 Roof Slopes 7/12 to 12/12 21 PSF

It is the sole responsibility of the Contractor and/or Builder to conform to all standards, provisions, requirements, methods of construction and uses of materials provided in buildings and/or structures as required by NC Uniform Building Code, Local Agencies and in accordance with good engineering practices. Verify all dimensions prior to construction.



FRONT ELEVATION
SCALE: 1'= 1/4"

DRD
Diane Rives Designs
6205 Mockingbird Lane
Sanford, N.C. 27332
919-770-0353
golfwoman@charter.net

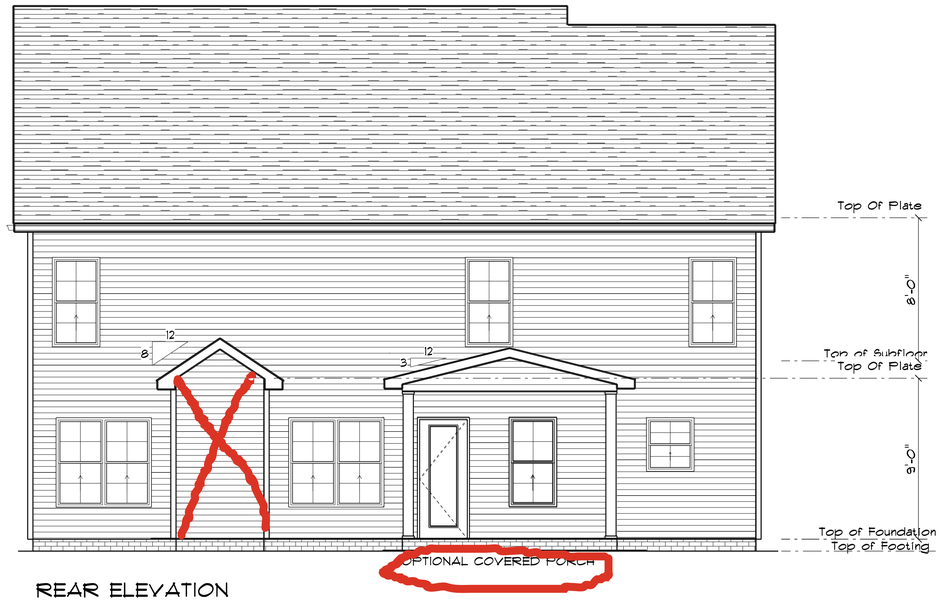
SCALE: 1'= 1/4"
DRAWN BY:
DATE: 9/5/2023

C

CRH HOMES

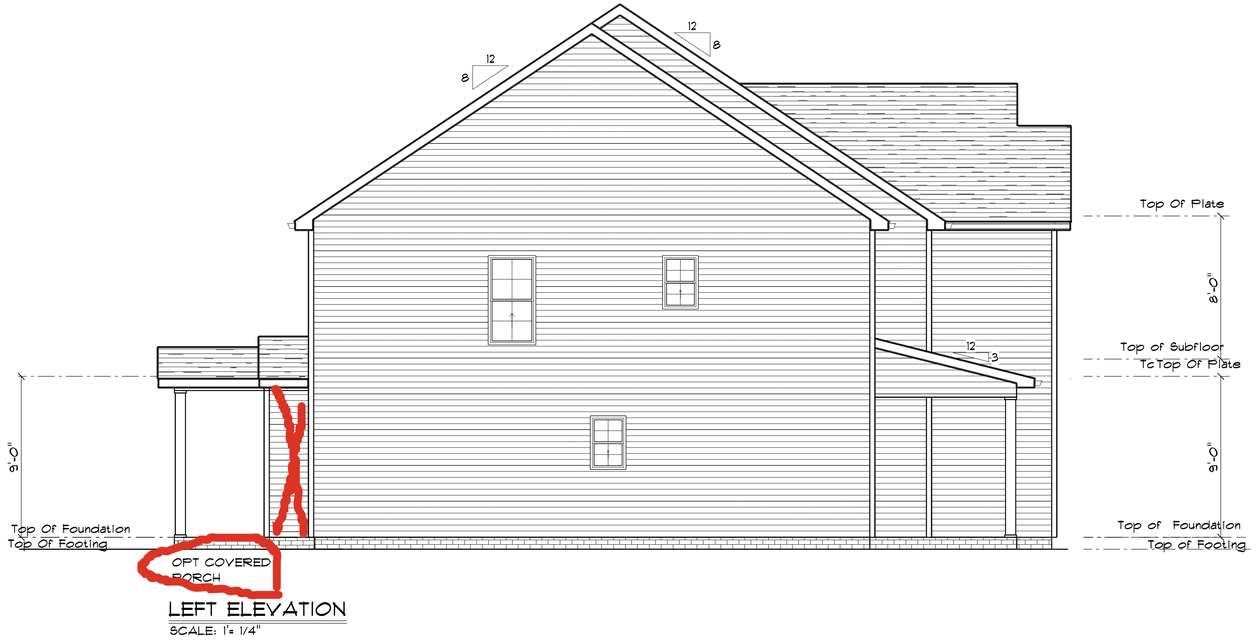
THE CHATHAM
RIGHT GARAGE

FRONT ELEVATION C



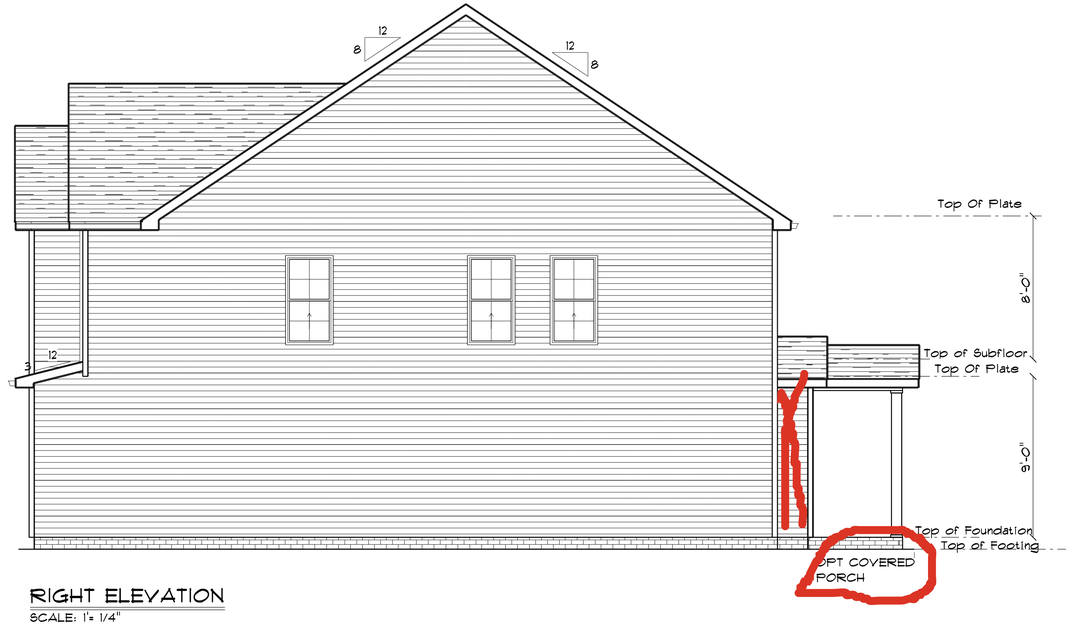
REAR ELEVATION

SCALE: 1"= 1/4"



LEFT ELEVATION

SCALE: 1"= 1/4"



RIGHT ELEVATION

SCALE: 1"= 1/4"

2A

Diane Rives Designs
6205 Mockingbird Lane
Sanford, N.C. 27332
919-710-0353
drivesmanchester.net

DRD

SCALE: 1"= 1/4"

DRAWN BY:

DATE: 10/8/2025

CRH HOMES

THE CHATHAM
RIGHT 2 CAR GARAGE

ELEVATIONS

CRH HOMES RETAINS TITLE AND OWNERSHIP OF ALL PLANS. THESE PLANS CAN NOT BE COPIED OR REPRODUCED. THESE PLANS CAN NOT BE BUILT BY ANYONE BUILDER OTHER THAN CRH HOMES

FOUNDATION NOTES:
ALL FOOTINGS SHALL BEAR ON ORIGINAL UNDISTURBED SOIL.
THE 28 DAY COMPRESSIVE STRENGTH OF ALL FOOTINGS IS 3000 PSI

PROVIDE WATER PROOFING AND PERIMETER DRAINS AS REQUIRED.

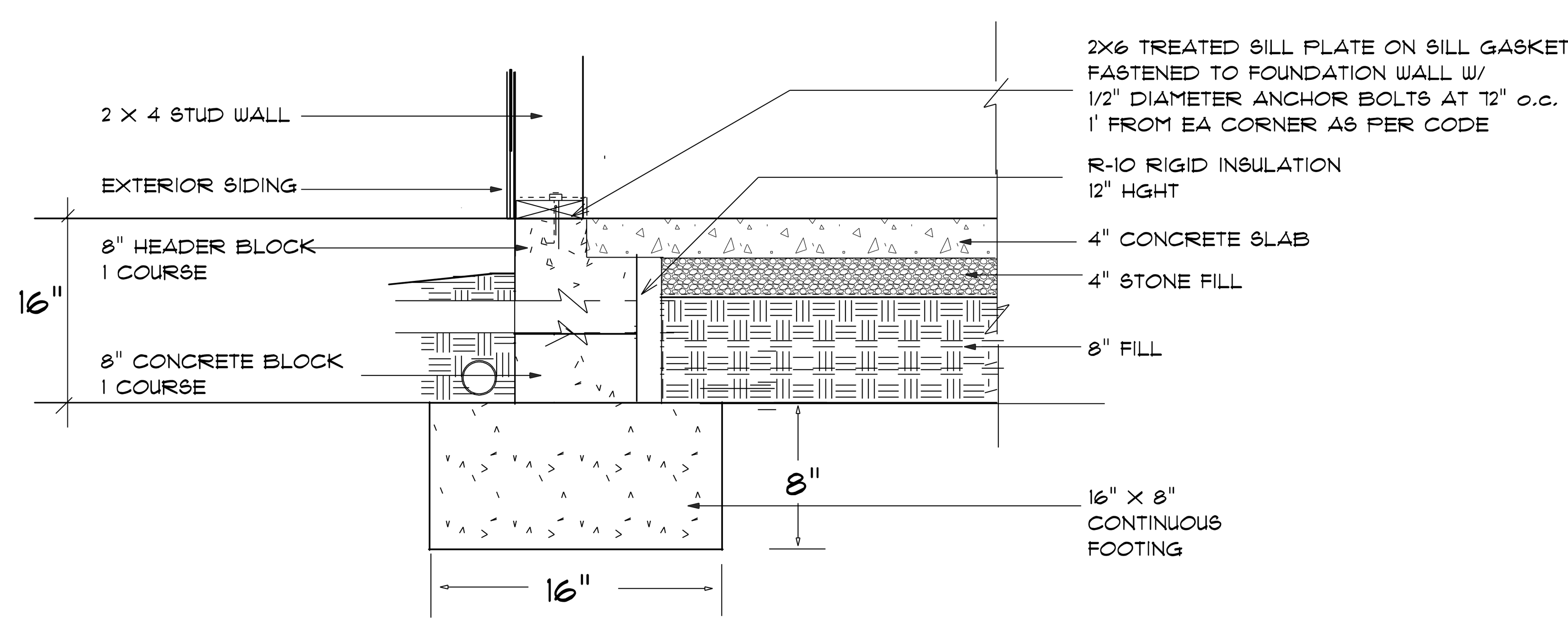
FOUNDATION CONCRETE MIX TO HAVE 1-1/2" MAX AGGREGATE SIZE. CONCRETE FILL MIX TO HAVE 1/2" MAX AGGREGATE SIZE.

FOOTING WIDTHS ARE BASED ON A LOAD-BEARING SOIL CAPACITY OF 2000 PSI.

PROVIDE 6 MIL POLY VAPOR BARRIER TO COVER GROUND SURFACE IN CRAWL SPACE

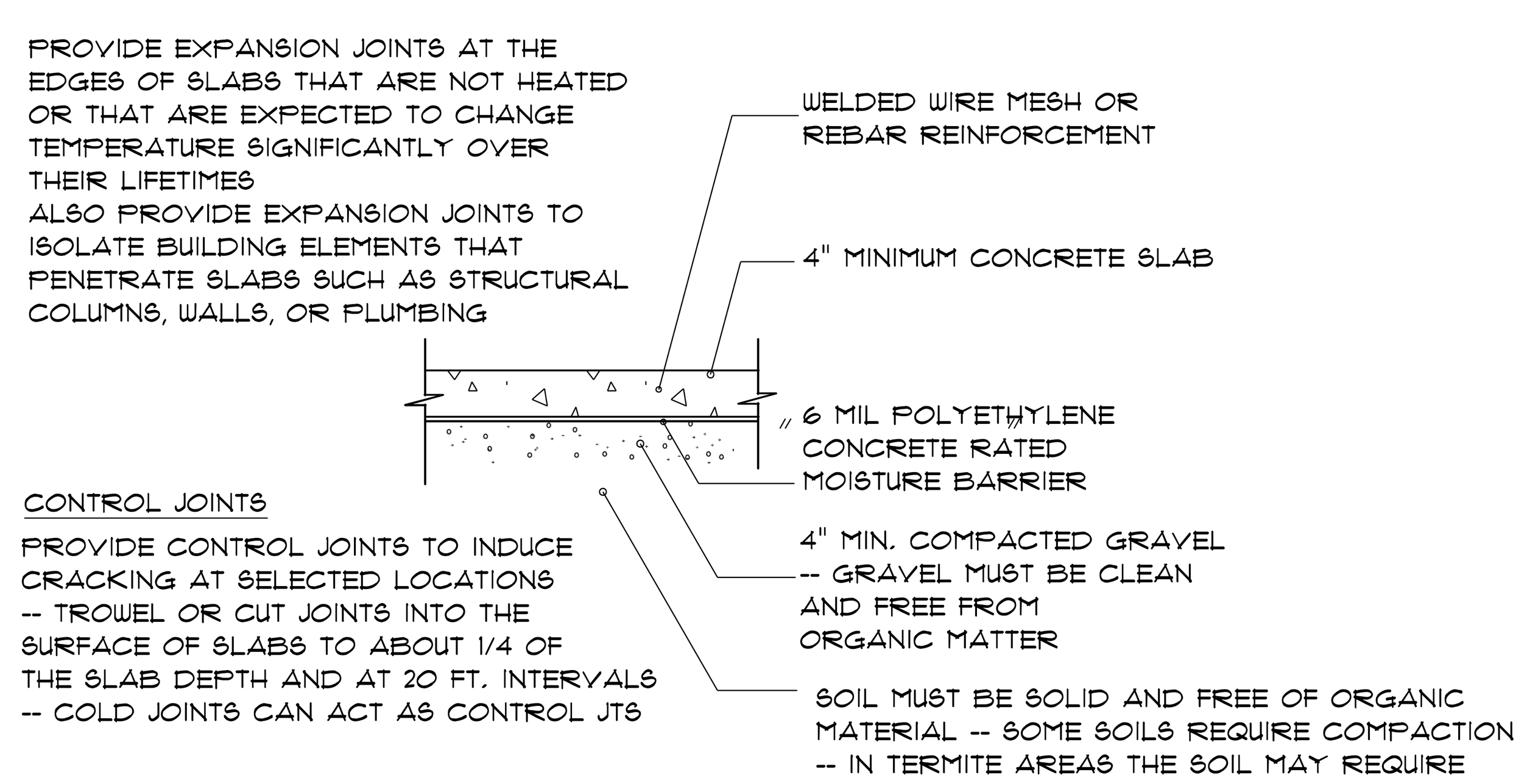
ALL ANCHOR BOLTS TO BE 12" LONG, 1/2" DIA. A36 UNO ANCHOR BOLTS SHALL BE SPACE AT A MAX OF 6' OC AND NO MORE THAN 1' FROM EA CORNER.

Termite Soil Treatment: Treat entire slab area soil or crawl space surface before vapor barrier is installed and slab is poured with a state approved termiticide. Termiticide should be applied by a licensed and certified pest control professional by the state of North Carolina.



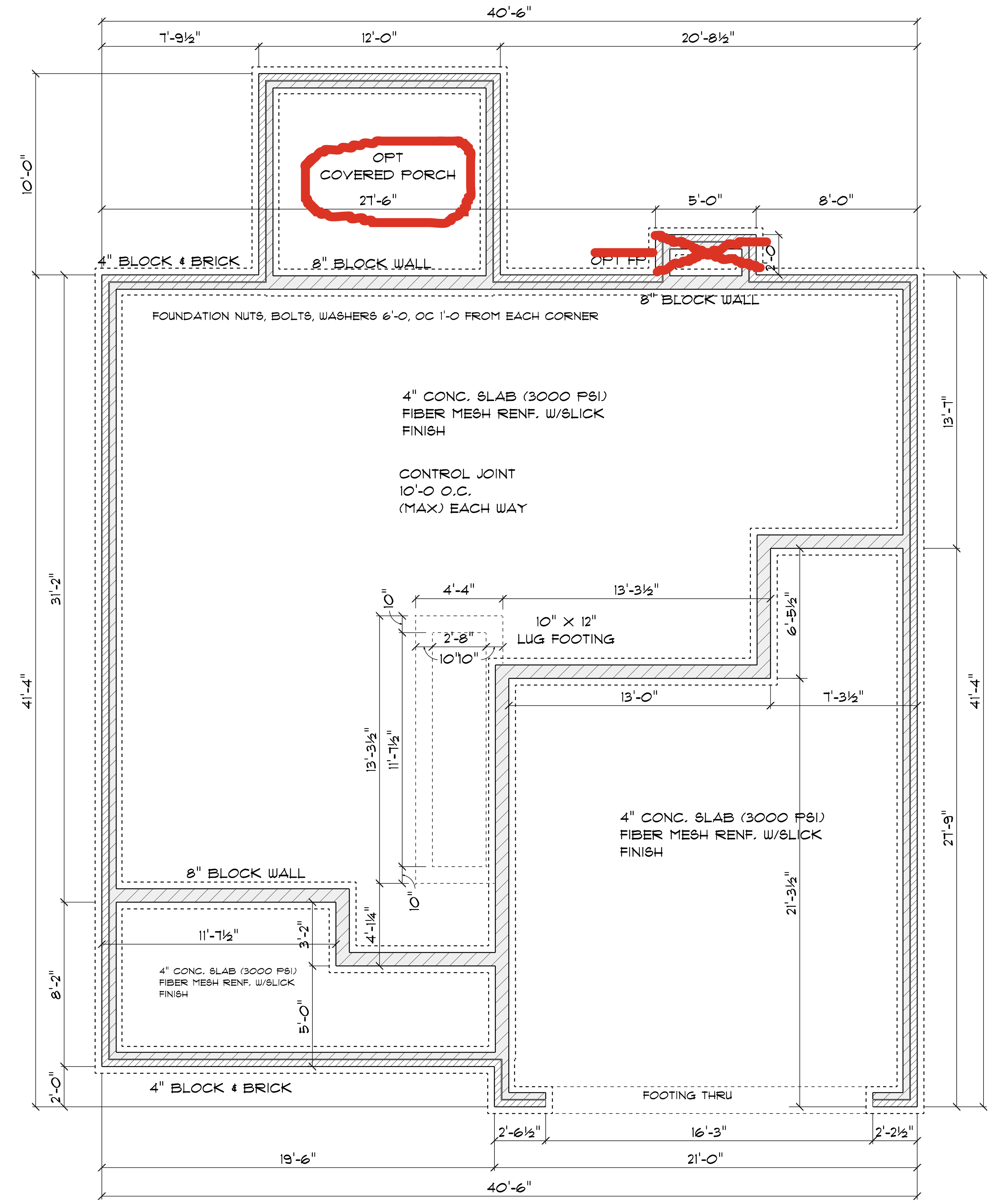
STEM WALL FOUNDATION Detail

not to scale



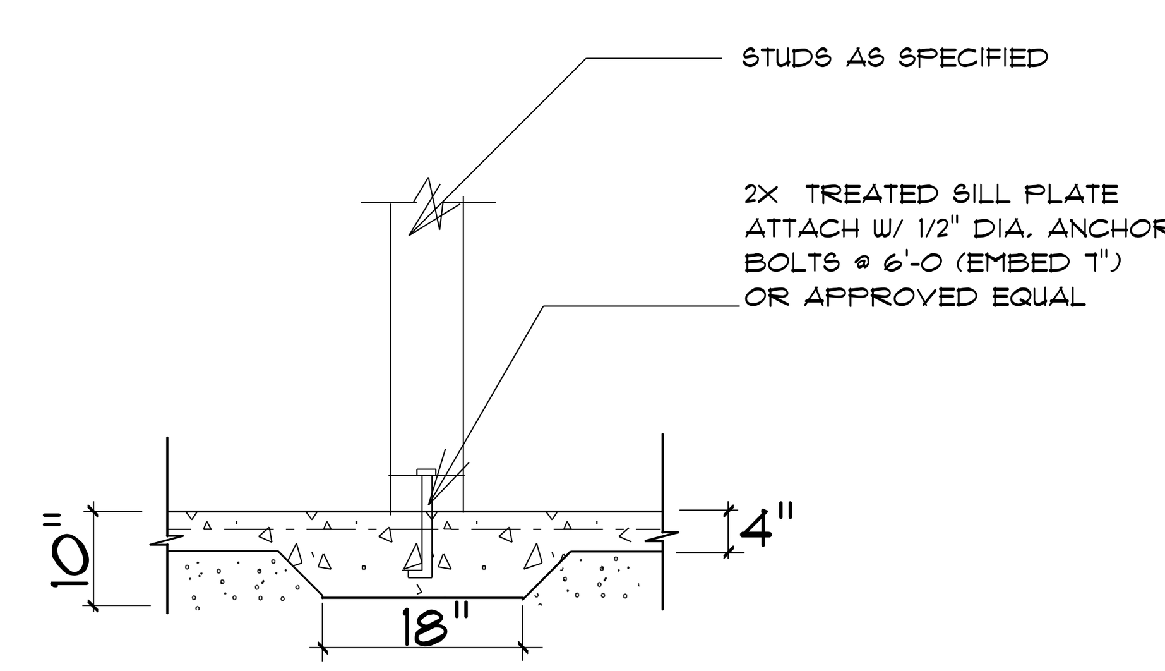
CONCRETE SLAB DETAILS / NOTES

not to scale



FOUNDATION PLAN

SCALE: 1'= 1/4"



TYPICAL THICKENED SLAB

not to scale

3B

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golfwomen@charter.net

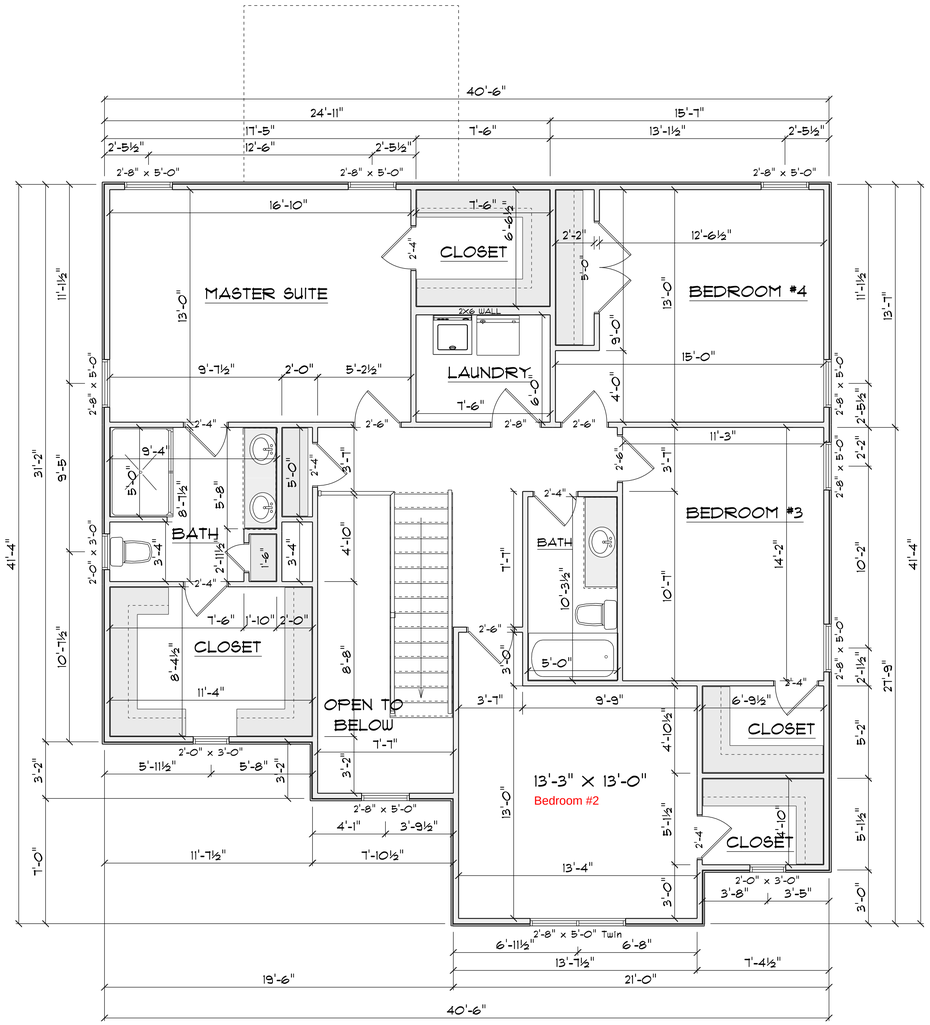
DRD

SCALE: 1'= 1/4"
DRAWN BY:
DATE: 10/8/2025

CRH HOMES

THE CHATHAM
RIGHT 2 CAR GARAGE

STEM WALL
FOUNDATION



AREA SCHEDULE	
NAME	AREA
Heated	1349 sq ft.

GENERAL FRAMING NOTES:

ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED

FRAMING LUMBER SHALL BE SYP #2 GRADE AND/OR SPRUCE PINE FIR #1 AND/OR #2, KILN DRIED.

WHERE PRE-ENGINEERED JOISTS ARE USED, JOIST MANUFACTURER SHALL PROVIDE SHOP DRAWINGS, WHICH BEAR SEAL OF A N.C. ENGINEER.

STUDS AND JOISTS SHALL NOT BE CUT TO INSTALL PLUMBING OR WIRING WITHOUT ADDING METAL OR WOOD SIDE PANELS TO STRENGTHEN THE MEMBER TO ITS ORIGINAL CAPACITY.

NAIL MULTIPLE MEMBERS WITH 2 ROWS OF 16d NAILS STAGGERED 32" OC AN USE 3-16d NAILS 2" IN AT EACH END. DOUBLE ALL STUDS UNDER ROOF POST DOWNS UNO.

NAIL FLOOR JOISTS TO SILL PLATE WITH 8d TOE NAILS.

ALL EXPOSED FRAMING ON PORCHES AND DECKS SHALL BE PRESSURE TREATED.

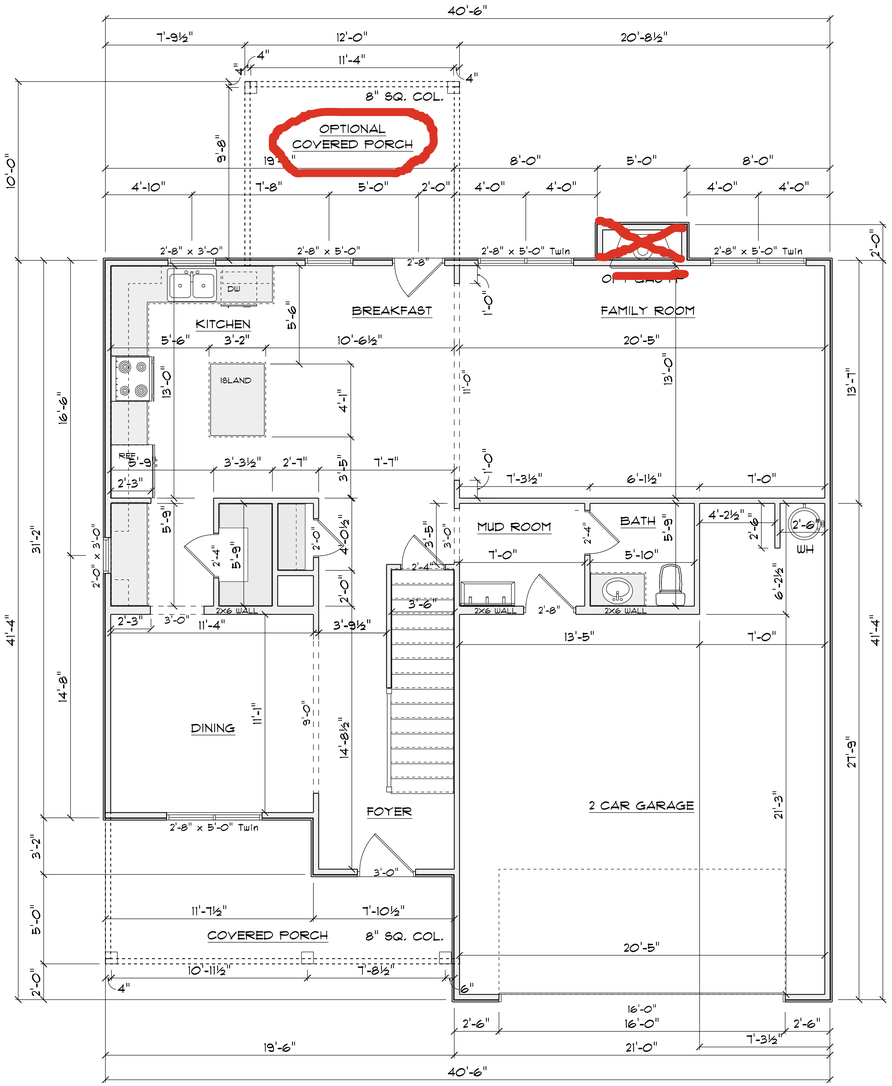
PROVIDE WATERPROOFING AND DRAINS AS REQUIRED.

ALL FRAMING TO BE 16" OC UNO. WALL FRAMING DIMENSIONS ARE BASED ON 2 X 4 STUDS UNO. DOUBLE STUDS UNDER ALL HEADERS.

LVL'S AND TJI'S TO BE SIZED BY OTHERS

EXTERIOR WALLS IN LIVING AREAS ARE 2 X 4

WINDOW SCHEDULE				
SIZE	COUNT	LIBRARY NAME	R.O. WIDTH	R.O. HEIGHT
2'-8" x 5'-0" Twin	4	Window\Single Hung	64"	60-1/2"
2'-8" x 5'-0"	9	Window\Single Hung	32"	60-1/2"
2'-0" x 3'-0"	4	Window\Single Hung	24"	36"
2'-8" x 3'-0"	1	Window\Single Hung	32"	36"



AREA SCHEDULE	
NAME	AREA
Heated	1006 sq ft.
Garage	515 sq ft.
Covered Front Porch	126 sq ft.
Opt Covered Rear Porch or Deck	120 sq ft.

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getfluent@charter.net

DRD

SCALE: 1'= 1/4"

DRAWN BY:

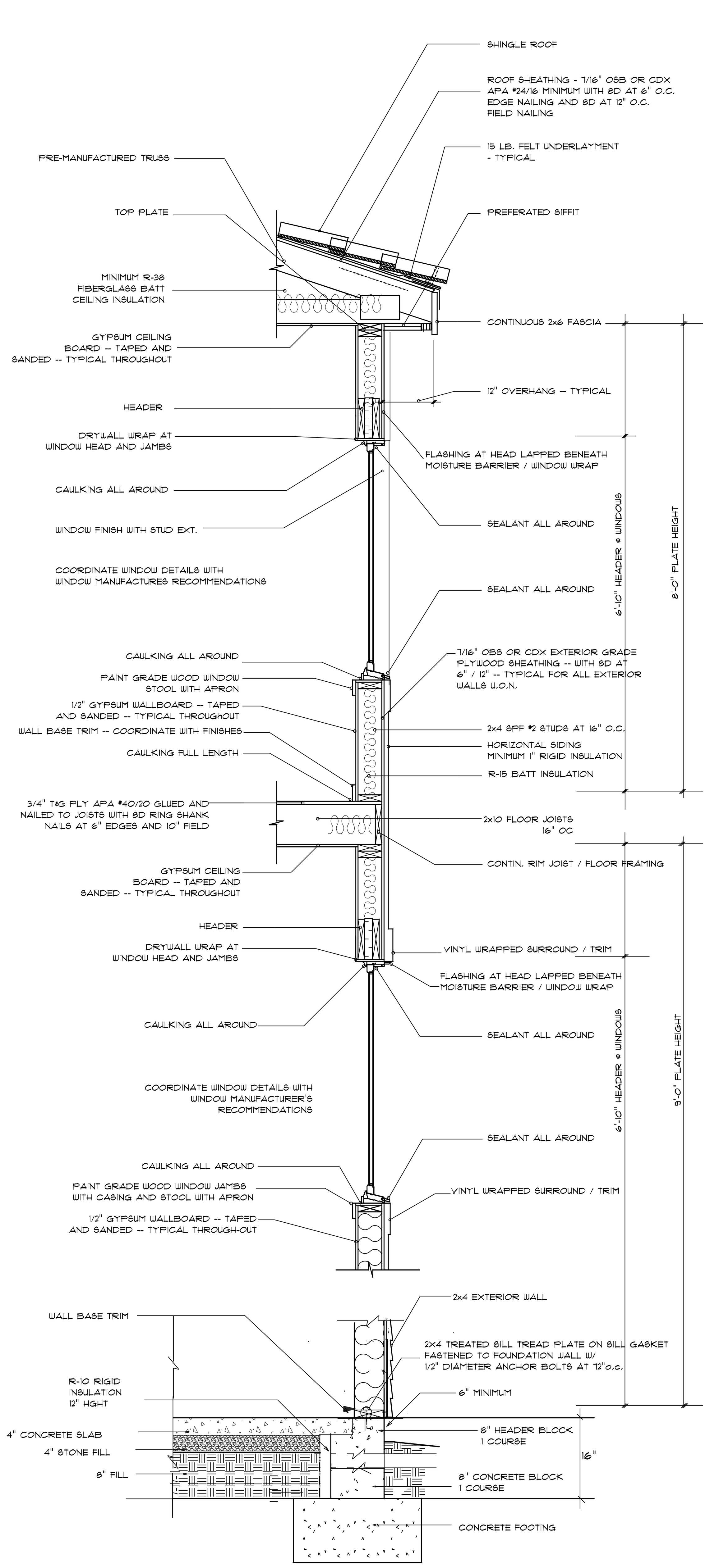
DATE: 10/8/2025

CRH HOMES

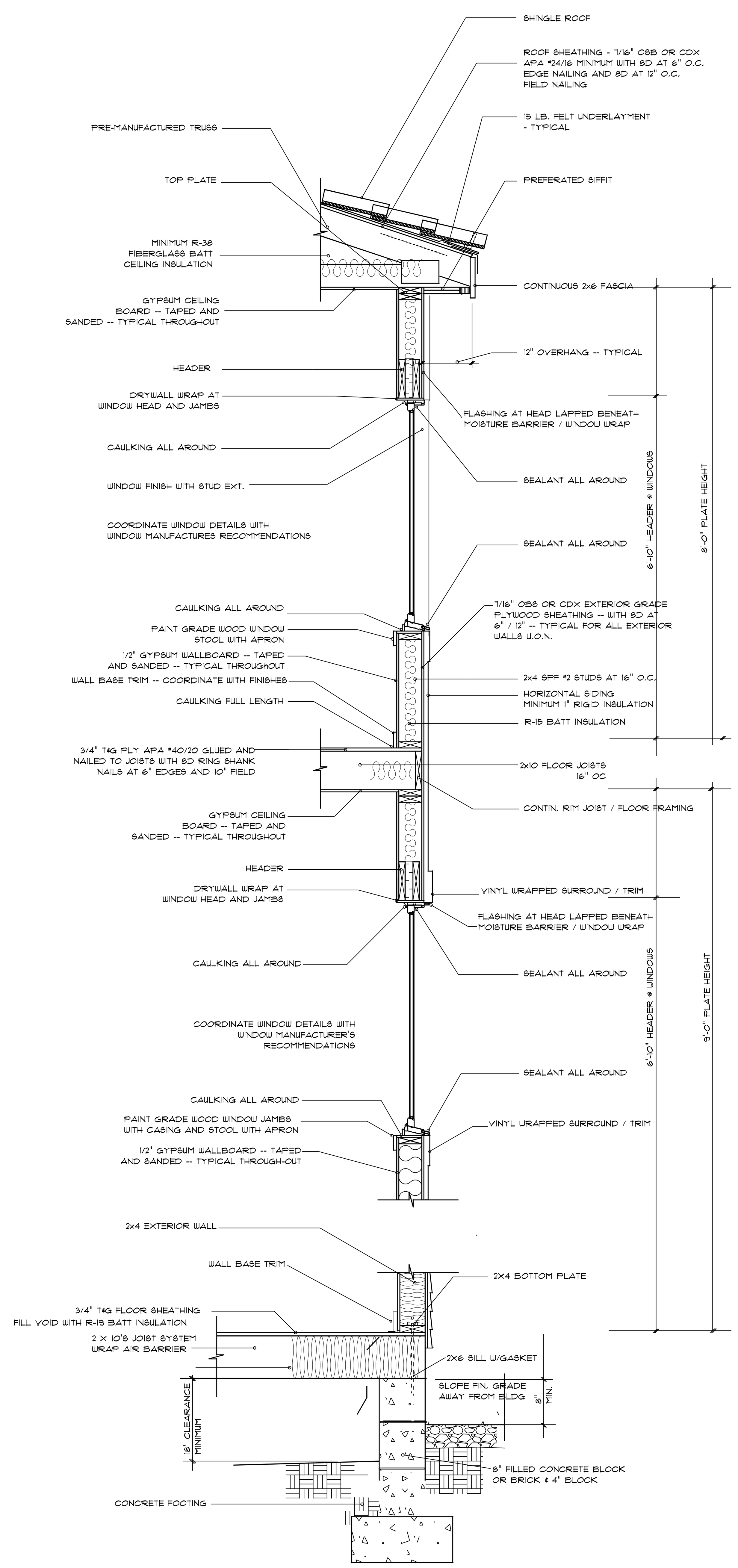
THE CHATHAM
RIGHT 2 CAR GARAGE

FLOOR PLAN

4


SHINGLE ROOF
ROOF SHEATHING - 7/16" OSB OR CDX APA #24/16 MINIMUM WITH 8D AT 6" O.C. EDGE NAILING AND 8D AT 12" O.C. FIELD NAILING
PRE-MANUFACTURED TRUSS
15 LB. FELT UNDERLAYMENT - TYPICAL
TOP PLATE
PREFERATED SIFFIT
MINIMUM R-38 FIBERGLASS BATT CEILING INSULATION
CONTINUOUS 2x6 FASCIA
GYPSUM CEILING BOARD -- TAPED AND SANDED -- TYPICAL THROUGHOUT
12" OVERHANG -- TYPICAL
HEADER
DRYWALL WRAP AT WINDOW HEAD AND JAMBS
FLASHING AT HEAD LAPPED BENEATH MOISTURE BARRIER / WINDOW WRAP
CAULKING ALL AROUND
WINDOW FINISH WITH STUD EXT.
SEALANT ALL AROUND
COORDINATE WINDOW DETAILS WITH WINDOW MANUFACTURES RECOMMENDATIONS
SEALANT ALL AROUND
CAULKING ALL AROUND
PAINT GRADE WOOD WINDOW STOOL WITH APRON
7/16" OSB OR CDX EXTERIOR GRADE PLYWOOD SHEATHING -- WITH 8D AT 6" / 12" -- TYPICAL FOR ALL EXTERIOR WALLS U.O.N.
1/2" GYPSUM WALLBOARD -- TAPED AND SANDED -- TYPICAL THROUGHOUT
WALL BASE TRIM -- COORDINATE WITH FINISHES
2x4 SPF #2 STUDS AT 16" O.C.
CAULKING FULL LENGTH
HORIZONTAL SIDING MINIMUM 1" RIGID INSULATION
R-15 BATT INSULATION
3/4" T&G PLY APA #40/20 GLUED AND NAILED TO JOISTS WITH 8D RING SHANK NAILS AT 6" EDGES AND 10" FIELD
2x10 FLOOR JOISTS 16" OC
CONTIN. RIM JOIST / FLOOR FRAMING
GYPSUM CEILING BOARD -- TAPED AND SANDED -- TYPICAL THROUGHOUT
HEADER
DRYWALL WRAP AT WINDOW HEAD AND JAMBS
VINYL WRAPPED SURROUND / TRIM
FLASHING AT HEAD LAPPED BENEATH MOISTURE BARRIER / WINDOW WRAP
CAULKING ALL AROUND
SEALANT ALL AROUND
COORDINATE WINDOW DETAILS WITH WINDOW MANUFACTURER'S RECOMMENDATIONS
SEALANT ALL AROUND
CAULKING ALL AROUND
PAINT GRADE WOOD WINDOW JAMBS WITH CASING AND STOOL WITH APRON
VINYL WRAPPED SURROUND / TRIM
1/2" GYPSUM WALLBOARD -- TAPED AND SANDED -- TYPICAL THROUGHOUT
6'-10" HEADER @ WINDOWS
8'-0" PLATE HEIGHT
9'-0" PLATE HEIGHT
2x4 EXTERIOR WALL
WALL BASE TRIM
2x4 TREATED SILL TREAD PLATE ON SILL GASKET FASTENED TO FOUNDATION WALL W/ 1/2" DIAMETER ANCHOR BOLTS AT 72"o.c.
R-10 RIGID INSULATION 12" HIGHT
6" MINIMUM
4" CONCRETE SLAB
8" HEADER BLOCK 1 COURSE
4" STONE FILL
16"
8" FILL
8" CONCRETE BLOCK 1 COURSE
CONCRETE FOOTING

TWO STORY STEM WALL FOUNDATION DETAIL
not to scale


SHINGLE ROOF
ROOF SHEATHING - 7/16" OSB OR CDX APA #24/16 MINIMUM WITH 8D AT 6" O.C. EDGE NAILING AND 8D AT 12" O.C. FIELD NAILING
PRE-MANUFACTURED TRUSS
15 LB. FELT UNDERLAYMENT - TYPICAL
TOP PLATE
PREFERATED SIFFIT
MINIMUM R-38 FIBERGLASS BATT CEILING INSULATION
CONTINUOUS 2x6 FASCIA
GYPSUM CEILING BOARD -- TAPED AND SANDED -- TYPICAL THROUGHOUT
12" OVERHANG -- TYPICAL
HEADER
DRYWALL WRAP AT WINDOW HEAD AND JAMBS
FLASHING AT HEAD LAPPED BENEATH MOISTURE BARRIER / WINDOW WRAP
CAULKING ALL AROUND
WINDOW FINISH WITH STUD EXT.
SEALANT ALL AROUND
COORDINATE WINDOW DETAILS WITH WINDOW MANUFACTURES RECOMMENDATIONS
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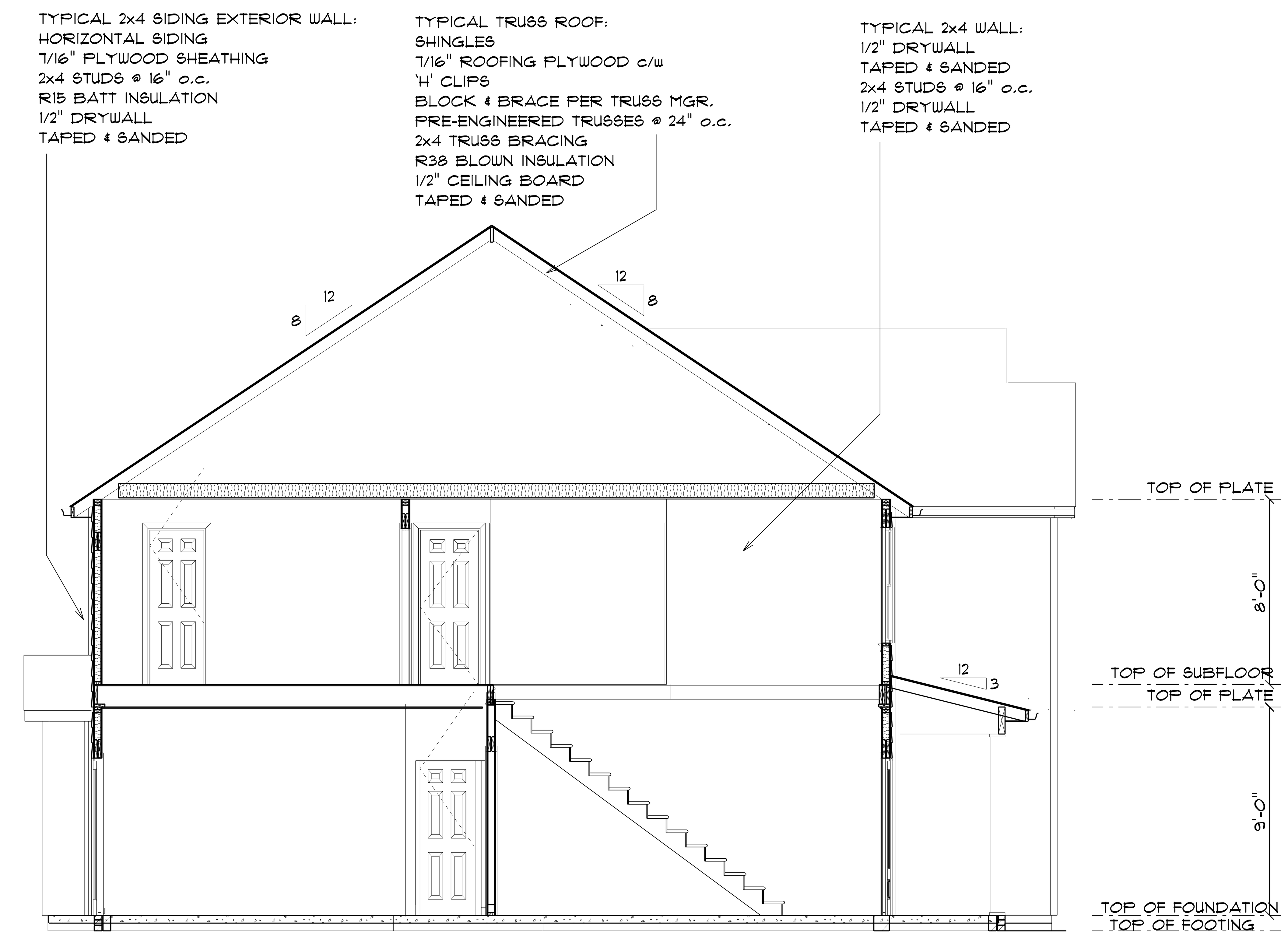
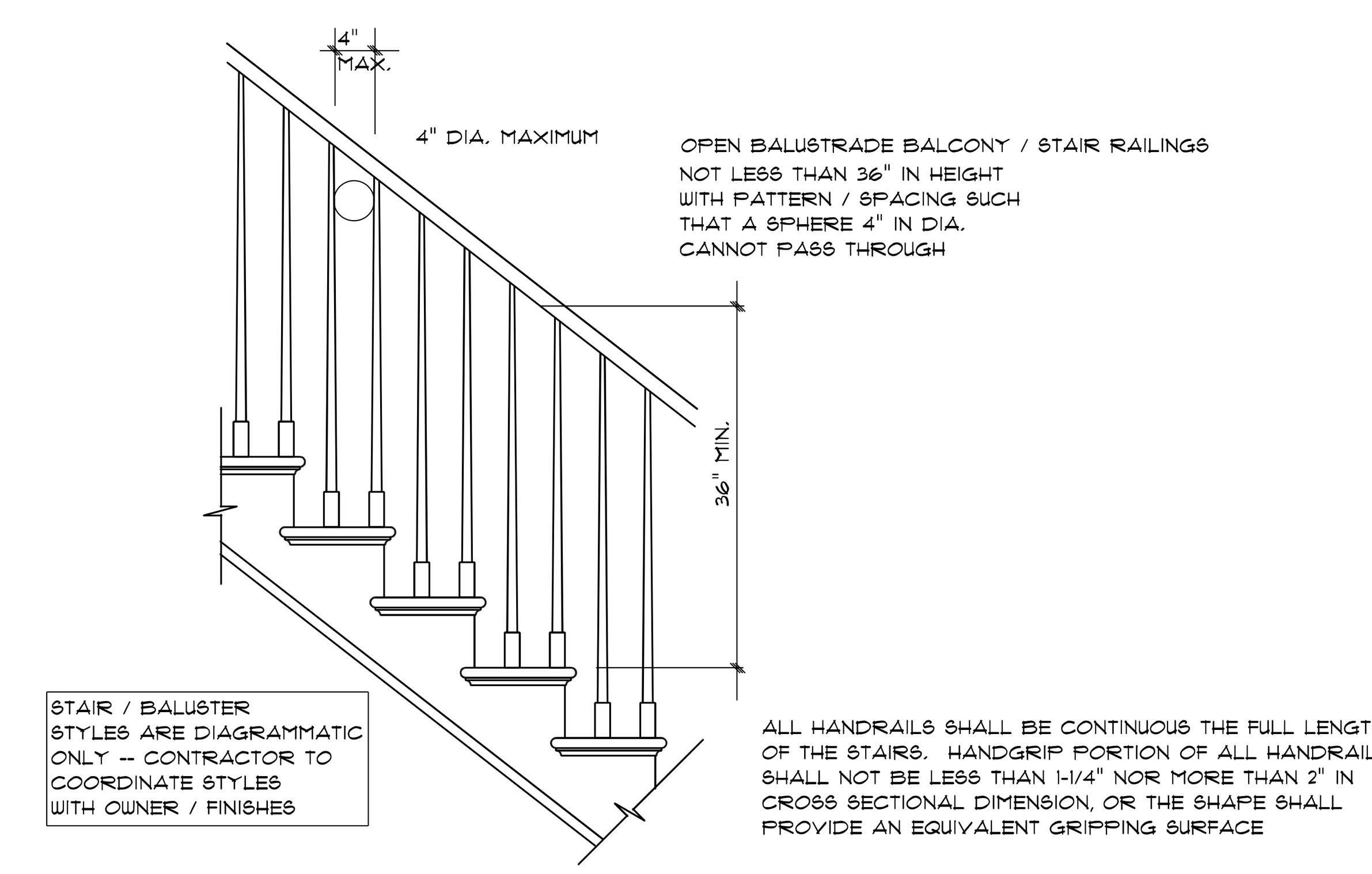
1/2" GYPSUM WALLBOARD -- TAPED AND SANDED -- TYPICAL THROUGHOUT
WALL BASE TRIM -- COORDINATE WITH FINISHES
2x4 SPF #2 STUDS AT 16" O.C.
CAULKING FULL LENGTH
HORIZONTAL SIDING MINIMUM 1" RIGID INSULATION
R-15 BATT INSULATION
3/4" T&G PLY APA #40/20 GLUED AND NAILED TO JOISTS WITH 8D RING SHANK NAILS AT 6" EDGES AND 10" FIELD
2x10 FLOOR JOISTS 16" OC
CONTIN. RIM JOIST / FLOOR FRAMING
GYPSUM CEILING BOARD -- TAPED AND SANDED -- TYPICAL THROUGHOUT
HEADER
VINYL WRAPPED SURROUND / TRIM
DRYWALL WRAP AT WINDOW HEAD AND JAMBS
FLASHING AT HEAD LAPPED BENEATH MOISTURE BARRIER / WINDOW WRAP
CAULKING ALL AROUND
SEALANT ALL AROUND
COORDINATE WINDOW DETAILS WITH WINDOW MANUFACTURER'S RECOMMENDATIONS
SEALANT ALL AROUND
CAULKING ALL AROUND
PAINT GRADE WOOD WINDOW JAMBS WITH CASING AND STOOL WITH APRON
VINYL WRAPPED SURROUND / TRIM
1/2" GYPSUM WALLBOARD -- TAPED AND SANDED -- TYPICAL THROUGHOUT
6'-10" HEADER @ WINDOWS
8'-0" PLATE HEIGHT
9'-0" PLATE HEIGHT
2x4 EXTERIOR WALL
WALL BASE TRIM
2x4 BOTTOM PLATE
3/4" T&G FLOOR SHEATHING
FILL VOID WITH R-15 BATT INSULATION
2 X 10'S JOIST SYSTEM
WRAP AIR BARRIER
2x6 SILL W/GASKET
SLOPE FIN. GRADE AWAY FROM BLDG
18" CLEARANCE MINIMUM
8" FILLED CONCRETE BLOCK OR BRICK & 4" BLOCK
CONCRETE FOOTING

TWO STORY CRAWL SPACE FOUNDATION DETAIL
not to scale


TYPICAL 2x4 SIDING EXTERIOR WALL:
HORIZONTAL SIDING
7/16" PLYWOOD SHEATHING
2x4 STUDS @ 16" o.c.
R15 BATT INSULATION
1/2" DRYWALL
TAPED & SANDED
TYPICAL TRUSS ROOF:
SHINGLES
7/16" ROOFING PLYWOOD c/w
'H' CLIPS
BLOCK & BRACE PER TRUSS MGR.
PRE-ENGINEERED TRUSSES @ 24" o.c.
2x4 TRUSS BRACING
R38 BLOWN INSULATION
1/2" CEILING BOARD
TAPED & SANDED
TYPICAL 2x4 WALL:
1/2" DRYWALL
TAPED & SANDED
2x4 STUDS @ 16" o.c.
1/2" DRYWALL
TAPED & SANDED
12
8
12
8
12
3
TOP OF PLATE
8'-0"
TOP OF SUBFLOOR
TOP OF PLATE
9'-0"
TOP OF FOUNDATION
TOP OF FOOTING

SECTION THROUGH
SCALE: 1'= 1/4"


4" MAX.
4" DIA. MAXIMUM
OPEN BALUSTRADE BALCONY / STAIR RAILINGS NOT LESS THAN 36" IN HEIGHT WITH PATTERN / SPACING SUCH THAT A SPHERE 4" IN DIA. CANNOT PASS THROUGH
36" MIN.
STAIR / BALUSTER STYLES ARE DIAGRAMMATIC ONLY -- CONTRACTOR TO COORDINATE STYLES WITH OWNER / FINISHES
ALL HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIRS. HANDGRIP PORTION OF ALL HANDRAILS SHALL NOT BE LESS THAN 1-1/4" NOR MORE THAN 2" IN CROSS SECTIONAL DIMENSION, OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE

STAIR RAILING
not to scale

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5A

SCALE: 1'= 1/4"
DRAWN BY:
DATE: 10/8/2025

CRH HOMES

THE CHATHAM
LEFT 2 CAR GARAGE

DETAIL SHEET

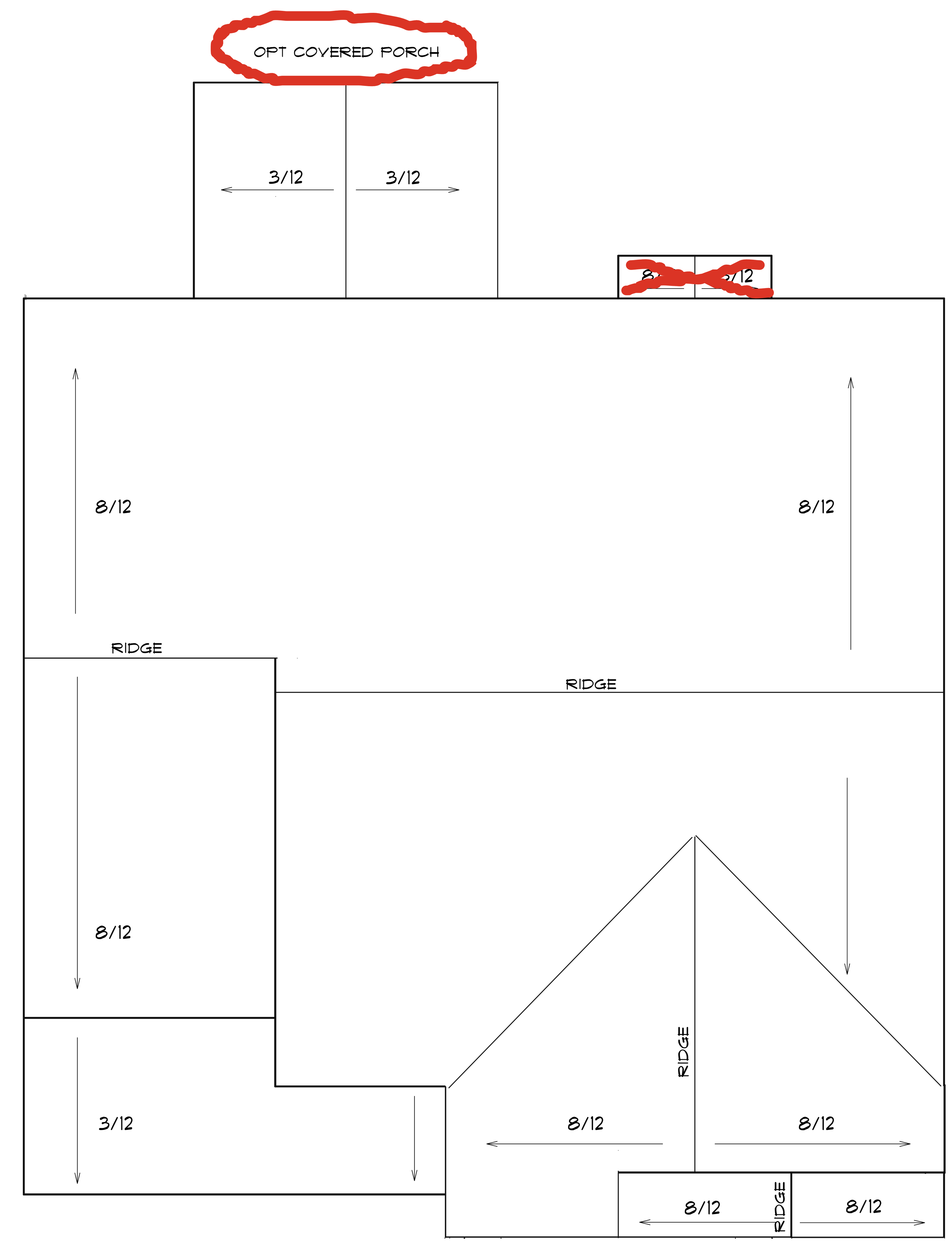
ROOF NOTES:

TRUSSES, BRACINGS, BRIDGING AND CONNECTORS ARE TO BE DESIGNED BY THE TRUSS MANUFACTURER.

IDENTIFY LUMBER BY OFFICIAL GRADE MARKINGS.

DO NOT CUT OR REMOVE CHORDS OR OTHER TRUSS MEMBERS.
DO NOT NOTCH OR DRILL TRUSS MEMBERS.

WHERE PRE-ENGINEERED ROOF TRUSSES ARE USED, TRUSS MANUFACTURER SHALL PROVIDE SHOP DRAWINGS, WHICH BEAR SEAL OF A N. C. REGISTERED ENGINEER.



ROOF PLAN

SCALE: 1'= 1/4"

12" OVER HANG ALL

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6205 Mockingbird Lane
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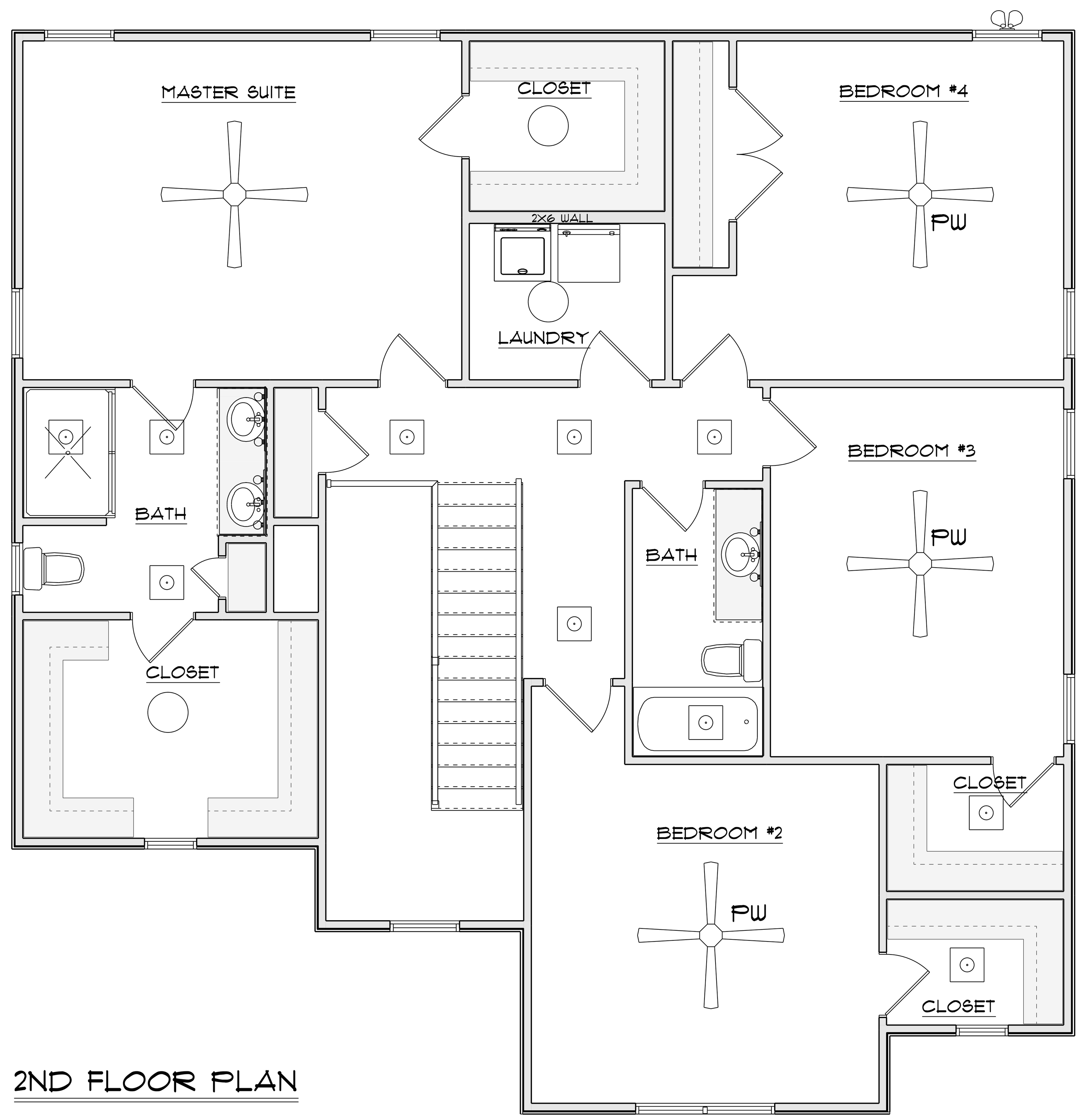
6A

SCALE: 1'= 1/4"
DRAWN BY:
DATE: 10/8/2025

CRH HOMES

THE CHATHAM
RIGHT 2 CAR GARAGE

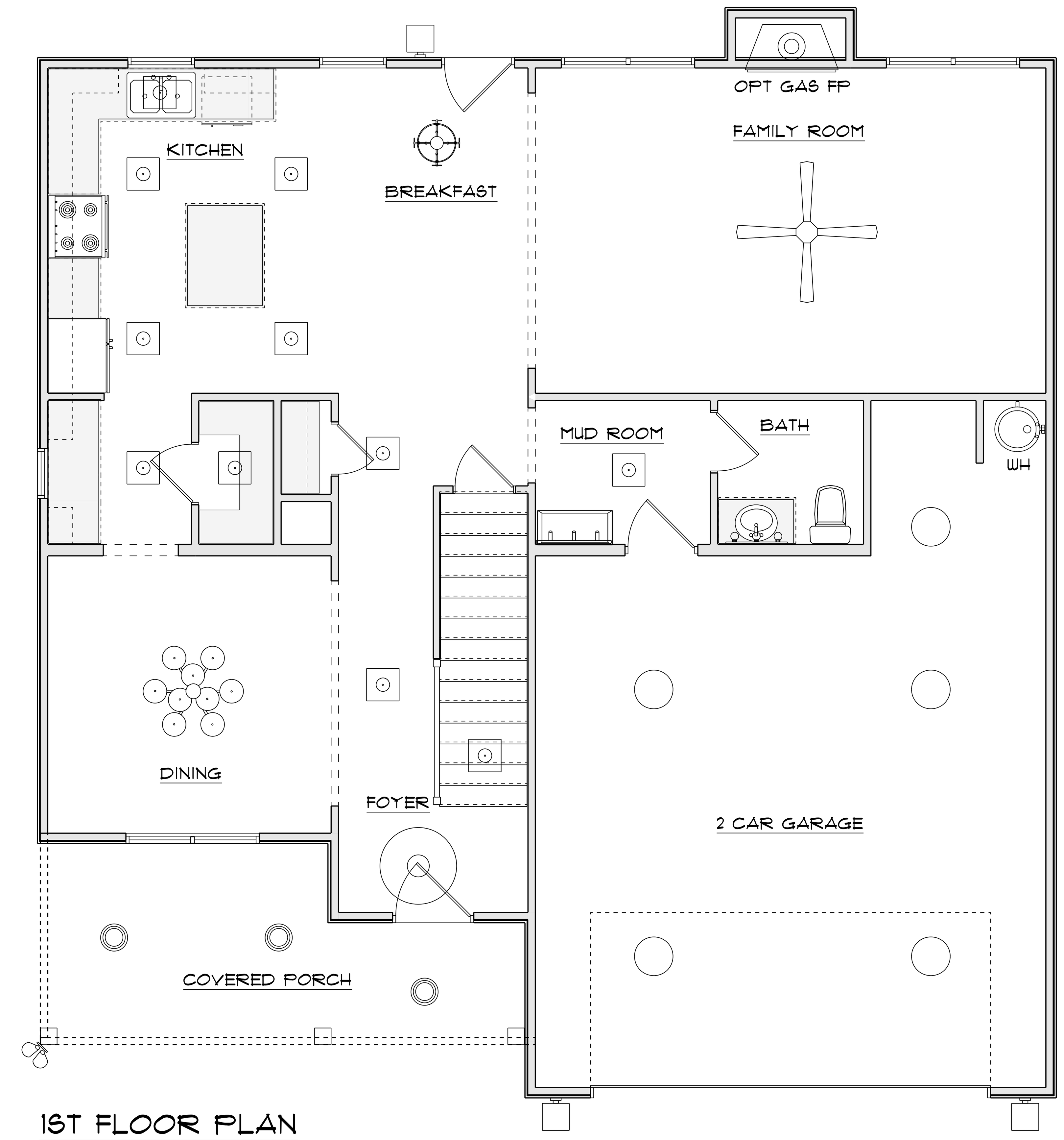
ROOF PLAN



2ND FLOOR PLAN

ELECTRICAL LEGEND

ELECTRICAL	COUNT	SYMBOL
ceiling fan	2	
10" led	8	
7" led	21	
foyer light	1	
dinning room light	2	
coach light	3	
exterior over head	3	
flood light	2	
vanity bar light	4	
wall sconce		
ceiling light	1	



1ST FLOOR PLAN

E1

DRD
Diane Rives Designs
6205 Mockingbird Lane
Sanford, N.C. 27332
919-770-0353
golfwoman@charter.net

SCALE: 1= 1/4"
DRAWN BY:
DATE: 9/6/2023

CRH HOMES

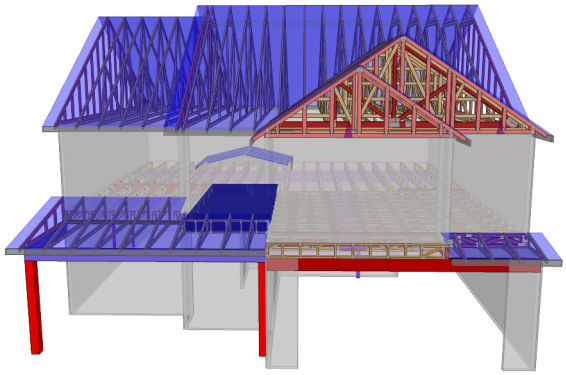
THE CHATHAM
RIGHT GARAGE

ELECTRICAL PLAN

CARTER Lumber

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

Phone #:919-775-1450



Builder: **CRH Homes LLC**

Model: **Chatham C - K20 Carolina Seasons**

THE PLACEMENT PLAN NOTES:

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

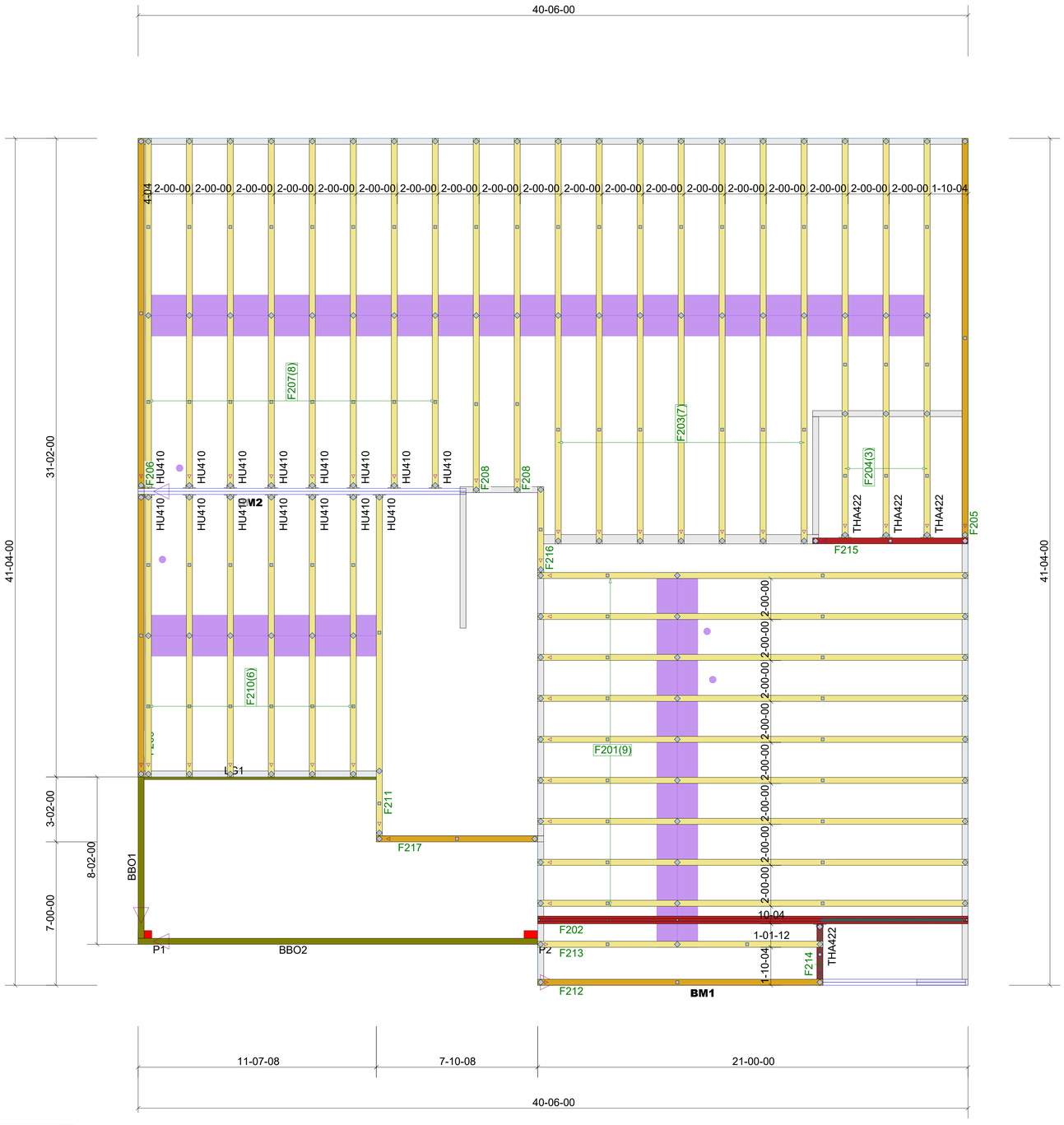
Approved By: _____ **Date:** _____

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.

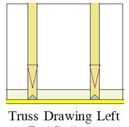
** ALL POINT LOADS FROM ABOVE MUST BE TRANSFERRED TO BEARING FROM UNDER SIDE OF SHEATHING.

** 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.

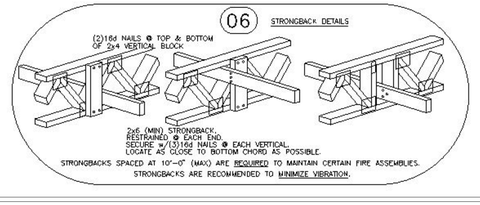


Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
BM1	22-00-00	2.0 RigidLam DF LVL 1-3/4 x 11-7/8	2	2	FF
BM2	16-00-00	2.0 RigidLam DF LVL 1-3/4 x 14	2	2	FF

Truss Connector Total List		
Manuf	Product	Qty
Simpson	HU410	15
Simpson	THA422	4



Truss Drawing Left End Indicator



** 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.

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

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

CARTER Lumber

CRH Homes LLC

K20 Carolina Seasons-2nd Floor-Chatham C

FLOOR PLACEMENT PLAN

Scale: ***NTS***

Date: 11/11/2025

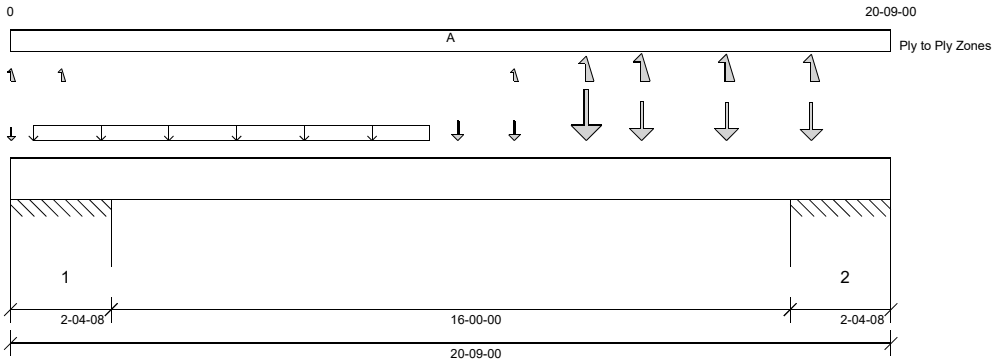
Designer: Mike Finch

Project Number: 25100169-A

Sheet Number: **1/1**

MiTek	Customer: Job Name: City: Customer Ph...	Job Name: **A** Level: **2nd floor** Label: **BM1 - i52** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12 | Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26 | Report Version: 2023.09.18 11/11/2025 09:42



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/360, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 13'- 6" Bottom: 20'- 9"

Bearing Stress of Support Material:

- 875 psi Wall @ 2'- 3"
- 875 psi Wall @ 18'- 6"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	10'- 6 1/2"	D + L	1.00	1192 lb ft	19472 lb ft	Passed - 6%
Max Neg. Moment:	18'- 6"	D + 0.75(L + S)	1.15	2207 lb ft	17439 lb ft	Passed - 13%
Max Shear:	17'- 4 5/8"	D + 0.75(L + S)	1.15	878 lb	9241 lb	Passed - 10%
Live Load (LL) Pos. Defl.:	10'- 9 15/16"	0.75(L + Lr + 0.6W)		0.021"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	10'- 10 1/16"	D + 0.75(L + Lr + 0.6W)		0.041"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	9-08	D + L	1.00		-810 lb	-	-	
1	1-06-00	D + L	1.00	1604 lb		47250 lb	55125 lb	Passed - 3%
2	1-06-00	D + 0.75(L + S)	1.15	2111 lb		47250 lb	55125 lb	Passed - 4%
2	1-06-00	0.6D + 0.6W	1.60		-70 lb	-	-	
2	8-08	D + L	1.00		-902 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	20'- 9"	Self Weight	Top	11 lb/ft	-	-	-	-
Uniform	0'- 6 1/2"	9'- 10 1/2"	Smoothed Load	Top	20 lb/ft	46 lb/ft	-	-	-
Point	0'- 1/4"	0'- 1/4"	F212(Cond01)	Top	-	12/-2 lb	-	-	-
Point	1'- 2 1/2"	1'- 2 1/2"	F212(Cond01)	Top	-	-	0 lb	-1 lb	-
Point	10'- 6 1/2"	10'- 6 1/2"	F212(Cond01)	Top	26 lb	61 lb	-	-	-
Point	11'- 10 1/2"	11'- 10 1/2"	F212(Cond01)	Top	27 lb	60 lb	0 lb	0 lb	-
Point	13'- 6 7/8"	13'- 6 7/8"	-	Top	169 lb	185/-24 lb	36 lb	85 lb	28/-143 lb
Point	14'- 10 1/2"	14'- 10 1/2"	I02(Cond03)	Top	86 lb	-	116 lb	116 lb	35/-202 lb
Point	16'- 10 1/2"	16'- 10 1/2"	I02(Cond02)	Top	84 lb	-	111 lb	111 lb	33/-194 lb
Point	18'- 10 1/2"	18'- 10 1/2"	I02(Cond01)	Top	83 lb	-	109 lb	109 lb	33/-191 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	2'- 4 1/2"	W27(i39)	1006/-557 lb	1195/-659 lb	210/-146 lb	292/-203 lb	0 lb/ -77 lb
==>	0'- 1 1/2"	0'- 1 1/2"	W27(i39)	-557 lb	40/-641 lb	-146 lb	1/-201 lb	-
==>	2'- 3"	2'- 3"	W27(i39)	1006 lb	1155/-18 lb	210 lb	291/-2 lb	-
2	18'- 4 1/2"	20'- 9"	W4(i13)	449 lb	217/-42 lb	308 lb	355 lb	0 lb/ -77 lb
==>	18'- 6"	18'- 6"	W4(i13)	449 lb	193/-42 lb	308 lb	338 lb	-
==>	20'- 7 1/2"	20'- 7 1/2"	W4(i13)	-	24 lb	-	17 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 0.76

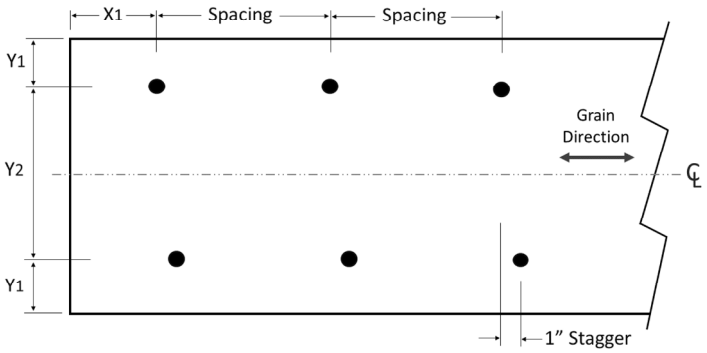
PLY TO PLY CONNECTION

MiTek	Customer: Job Name: City: Customer Ph...	Job Name: **A** Level: **2nd floor** Label: **BM1 - i52** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

PLY TO PLY CONNECTION

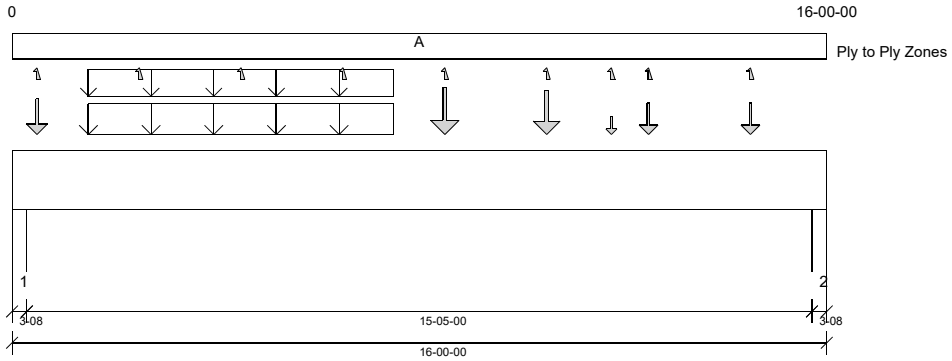
- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 42. Row = 2, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)



MiTek	Customer: Job Name: City: Customer Ph...	Job Name: **A** Level: **2nd floor** Label: **BM2 - i55** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 14**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12 | Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26 | Report Version: 2023.09.18 11/11/2025 09:42



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/360, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 8 1/2"

Bearing Stress of Support Material:

- 875 psi Wall @ 0'- 2 1/2"
- 875 psi Wall @ 15'- 9 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 6"	D + L	1.00	25210 lb ft	28972 lb ft	Passed - 87%
Max Shear:	1'- 5 1/2"	D + L	1.00	6675 lb	9473 lb	Passed - 70%
Live Load (LL) Pos. Defl.:	7'- 11 5/16"	L		0.484"	L/360	Passed - L/382
Total Load (TL) Pos. Defl.:	7'- 11 3/8"	D + L		0.680"	L/240	Passed - L/272

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3-08	D + L	1.00	6711 lb		9187 lb	10719 lb	Passed - 73%
2	3-08	D + L	1.00	5417 lb		9187 lb	10719 lb	Passed - 59%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	16'	Self Weight	Top	13 lb/ft	-	-	-	-
Uniform	1'- 6"	7'- 6"	Smoothed Load	Back	130 lb/ft	348 lb/ft	1 lb/ft	1 lb/ft	0 lb/ft
Uniform	1'- 6"	7'- 6"	Smoothed Load	Front	106 lb/ft	282 lb/ft	1 lb/ft	2 lb/ft	1 lb/ft
Point	2'- 6"	2'- 6"	-	Front	-	-	-	-	-11 lb
Point	4'- 6"	4'- 6"	-	Front	-	-	-	-	-11 lb
Point	6'- 6"	6'- 6"	-	Front	-	-	-	-	-11 lb
Point	8'- 6"	8'- 6"	-	Front	471 lb	1258 lb	2 lb	5 lb	2/-11 lb
Point	10'- 6"	10'- 6"	-	Front	446 lb	1156 lb	2 lb	6 lb	2/-11 lb
Point	11'- 9 1/4"	11'- 9 1/4"	F211(Cond01)	Front	117 lb	196 lb	7 lb	7/0 lb	2/-9 lb
Point	12'- 6"	12'- 6"	F207(Cond03)	Back	263 lb	701 lb	1 lb	3/0 lb	1/-5 lb
Point	14'- 6"	14'- 6"	F207(Cond04)	Back	262 lb	703 lb	1 lb	3/0 lb	1/-5 lb
Point	0'- 5 7/8"	0'- 5 7/8"	-	Top	349 lb	786 lb	8 lb	22 lb	7/-2 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3 1/2"	W1(i14)	1973 lb	4760 lb	16 lb	40 lb	23 lb/ -45 lb
2	15'- 8 1/2"	16'	-	1574 lb	3822 lb	11 lb	21 lb	-
++>	15'- 10 3/4"	15'- 10 3/4"	W29(i43)	1124 lb	2730 lb	8 lb	15 lb	-
++>	15'- 11 1/2"	15'- 11 1/2"	W28(i41)	450 lb	1092 lb	3 lb	6 lb	-

DESIGN NOTES

- CAUTION: One or more plies are not supported properly at 15-10-04. At least 75% of every ply must be contacting support.
- CAUTION: One or more plies are not supported properly at 15-10-04. At least 75% of every ply must be contacting support.
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.
- One or more plies are not properly supported at 2. Verify with structural engineer or EWP manufacturer if this condition is acceptable.

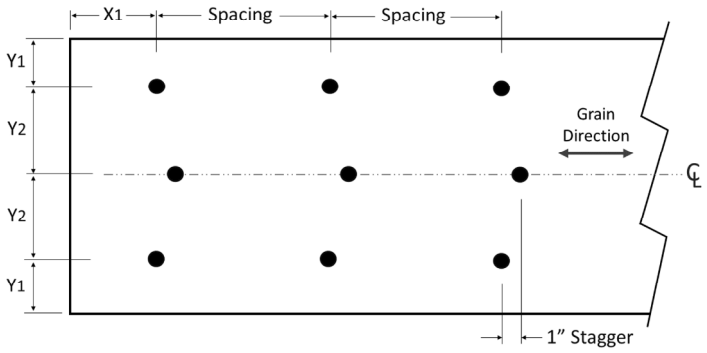
PLY TO PLY CONNECTION

MiTek	Customer: Job Name: City: Customer Ph...	Job Name: **A** Level: **2nd floor** Label: **BM2 - i55** Type: **Beam**	**2 Ply Member** **2.0 RigidLam DF LVL 1-3/4 x 14**	Status: **Design Passed**

PLY TO PLY CONNECTION

- Zone A: Factored load = 965 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 72. Row = 3, Spacing = 8"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)



Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F201	Floor	9	1	I77709408 Job Reference (optional)

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

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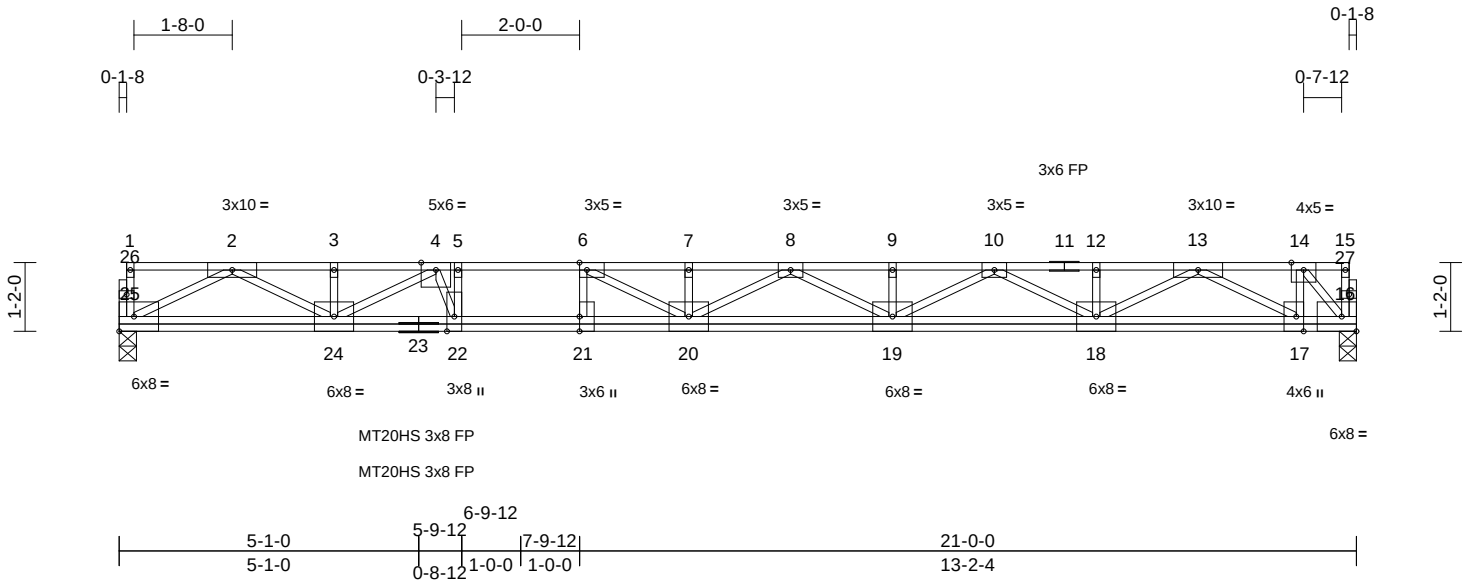

Scale = 1:39.1

Plate Offsets (X, Y): [6:0-1-8,Edge], [17:0-3-0,Edge], [21:0-3-0,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.61	Vert(LL)	-0.43	20-21	>575	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.60	Vert(CT)	-0.59	20-21	>418	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.03	16	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 136 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat) *Except* 11-1:2x4 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) 16=0-3-8, 25=0-3-8
Max Grav 16=1134 (LC 1), 25=1134 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-25=-71/0, 15-16=-11/0, 1-2=0/0, 2-3=-3257/0, 3-4=-3257/0, 4-5=-5134/0, 5-6=-5134/0, 6-7=-5939/0, 7-8=-5939/0, 8-9=-5533/0, 9-10=-5533/0, 10-12=-3855/0, 12-13=-3855/0, 13-14=-897/0, 14-15=0/0
BOT CHORD 24-25=0/1926, 22-24=0/4724, 21-22=0/5134, 20-21=0/5134, 19-20=0/5896, 18-19=0/4866, 17-18=0/2539, 16-17=0/906
WEBS 2-25=-2145/0, 2-24=0/1533, 3-24=-173/0, 4-24=-1686/0, 4-22=0/1319, 6-20=-59/1129, 7-20=-234/0, 8-20=-57/236, 8-19=-416/0, 9-19=-155/0, 10-19=0/767, 10-18=-1161/0, 12-18=-155/0, 13-18=0/1513, 13-17=-1887/0, 14-17=0/843, 14-16=-1338/0, 5-22=-648/0, 6-21=-580/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 1.5x3 MT20 unless otherwise indicated.
4) All bearings are assumed to be SP 2400F 2.0E .
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F202	Floor Girder	1	3	I77709409 Job Reference (optional)

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

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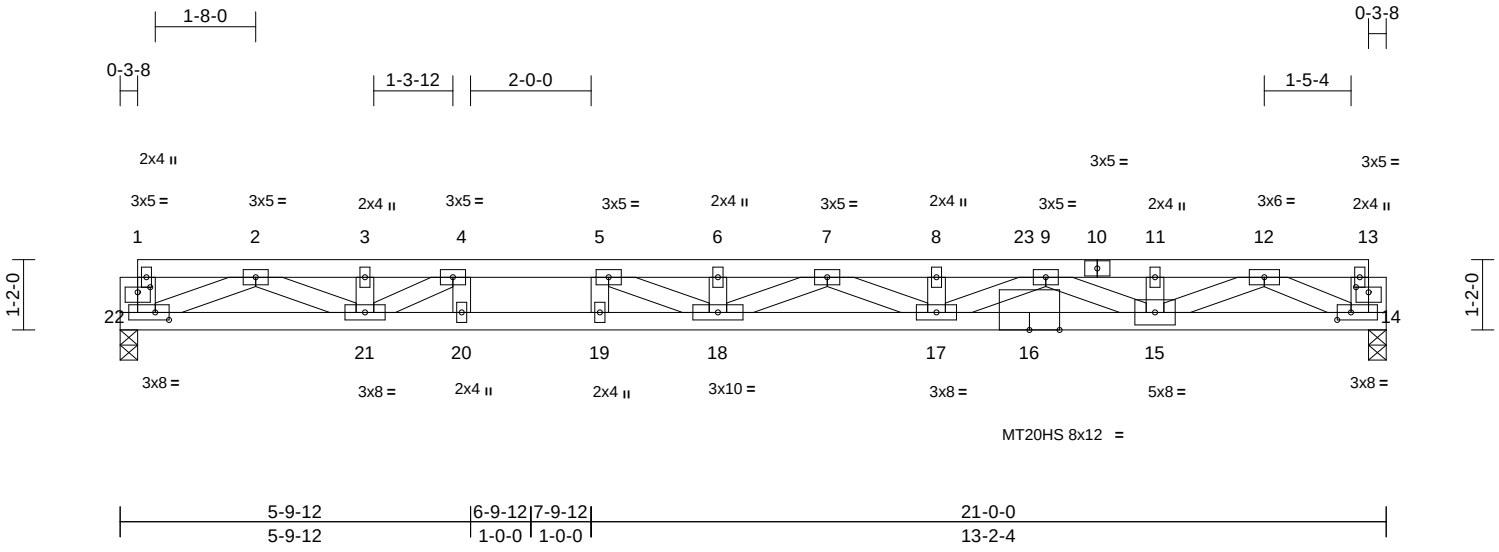

Scale = 1:38.2

Plate Offsets (X, Y): [1:0-2-8,0-1-0], [13:0-2-8,0-1-0], [14:0-2-12,0-1-8], [22:0-2-12,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.80	Vert(LL)	-0.33	17-18	>744	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.67	Vert(CT)	-0.67	17-18	>366	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.29	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 287 lb	FT = 11%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x4 SP No.1
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-7-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 14=0-3-8, 22=0-3-8
Max Grav 14=3019 (LC 5), 22=1668 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-22=-135/0, 13-14=-330/0, 1-2=-176/0, 2-3=-5819/0, 3-4=-5819/0, 4-5=-9439/0, 5-6=-12187/0, 6-7=-12187/0, 7-8=-14009/0, 8-9=-14009/0, 9-11=-9435/0, 11-12=-9435/0, 12-13=-247/0
BOT CHORD 21-22=0/3375, 20-21=0/9439, 19-20=0/9439, 18-19=0/9439, 17-18=0/13318, 15-17=0/12562, 14-15=0/5357
WEBS 4-20=0/1098, 5-19=-918/0, 2-22=-3503/0, 2-21=0/2714, 3-21=0/441, 4-21=-4196/0, 5-18=0/3401, 6-18=-395/0, 7-18=-1404/0, 7-17=0/1005, 8-17=-141/0, 9-17=-84/1813, 9-15=-3472/0, 11-15=-484/0, 12-15=0/4528, 12-14=-5726/0

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: 2x4 - 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 floor live loads have been considered for this design.
4) All plates are MT20 plates unless otherwise indicated.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) The Fabrication Tolerance at joint 16 = 11%, joint 10 = 11%
7) All bearings are assumed to be SP 2400F 2.0E .
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Load case(s) 1, 4 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
10) 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.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 93 lb down and 16 lb up at 15-0-0, and 93 lb down and 16 lb up at 17-0-0, and 93 lb down and 16 lb up at 19-0-0 on top chord, and 932 lb down at 13-9-4 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: 14-22=-10, 1-8=-100, 8-13=-270 (F=-70)
Concentrated Loads (lb)
Vert: 17=-890 (F), 11=-35 (F), 12=-35 (F), 23=-35 (F)
4) Dead + Roof Live (balanced): Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (lb/ft)
Vert: 14-22=-10, 1-8=-20, 8-13=-260 (F=-140)
Concentrated Loads (lb)
Vert: 17=-672 (F), 11=-86 (F), 12=-86 (F), 23=-86 (F)

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F203	Floor	7	1	I77709410 Job Reference (optional)

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

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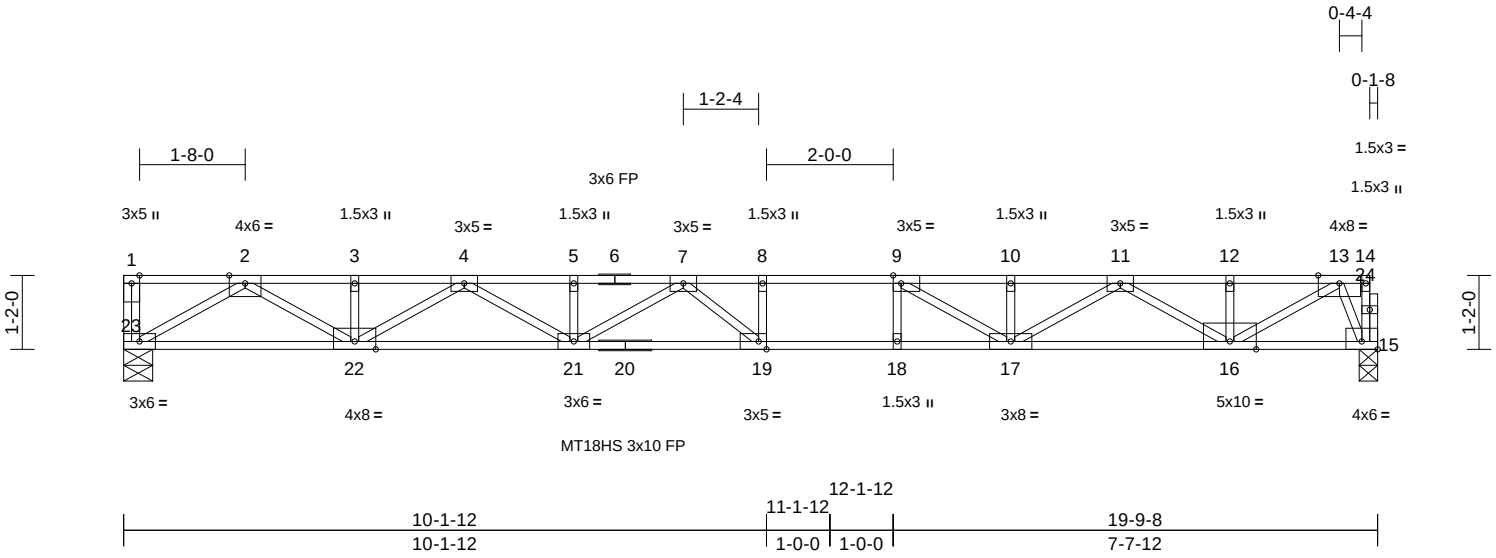


Scale = 1:36.4

Plate Offsets (X, Y): [9:0-1-8,Edge], [15:Edge,0-1-8], [19:0-1-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.64	Vert(LL)	-0.44	19-21	>534	480	MT18HS	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.97	Vert(CT)	-0.61	19-21	>386	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.08	15	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 101 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat) *Except* 6-14:2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP No.1(flat) *Except* 20-15:2x4 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 5-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 19-21.

REACTIONS (size) 15=0-3-8, 23=0-5-8
Max Grav 15=1069 (LC 1), 23=1075 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-73/0, 14-15=0/35, 1-2=0/0, 2-3=-2991/0, 3-4=-2991/0, 4-5=-4644/0, 5-7=-4644/0, 7-8=-4909/0, 8-9=-4909/0, 9-10=-4128/0, 10-11=-4128/0, 11-12=-2043/0, 12-13=-2043/0, 13-14=0/2
BOT CHORD 22-23=0/1692, 21-22=0/3968, 19-21=0/4959, 18-19=0/4909, 17-18=0/4909, 16-17=0/3246, 15-16=0/502
WEBS 8-19=-214/119, 9-18=-39/207, 2-23=-1957/0, 2-22=0/1517, 3-22=-161/0, 4-22=-1140/0, 4-21=0/789, 5-21=-160/0, 7-21=-462/0, 7-19=-384/441, 9-17=-1173/0, 10-17=-200/113, 11-17=0/1030, 11-16=-1405/0, 12-16=-174/0, 13-16=0/1799, 13-15=-1206/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 1.5x3 MT20 unless otherwise indicated.
4) Bearings are assumed to be: Joint 23 SP No.1 , Joint 15 SP 2400F 2.0E .
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

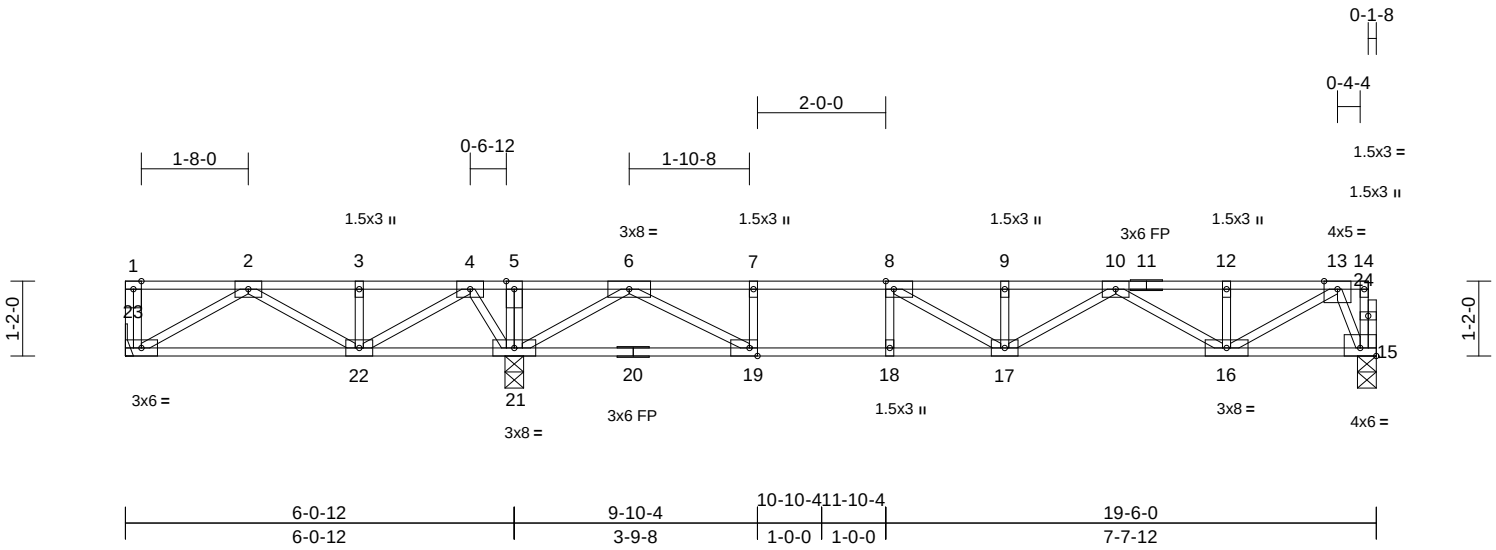
November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F204	Floor	3	1	I77709411 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:03 ID:juUve7kZDADcedwyYj?F3TyeBU?-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35.9

Plate Offsets (X, Y): [8:0-1-8,Edge], [15:Edge,0-1-8], [19:0-1-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.81	Vert(LL)	-0.23	17-18	>691	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.98	Vert(CT)	-0.31	17-18	>512	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.60	Horz(CT)	0.03	15	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 101 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.1(flat) *Except* 11-14:2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 20-15:2x4 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 2-2-0 oc bracing.

REACTIONS (size) 15=0-3-8, 21=0-3-8, 23=Mechanical
Max Grav 15=696 (LC 4), 21=1169 (LC 1), 23=311 (LC 8)

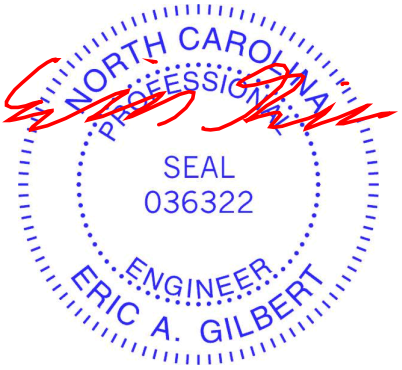
FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-23=-73/0, 14-15=0/28, 1-2=0/0, 2-3=-431/67, 3-4=-431/67, 4-5=0/599, 5-6=0/603, 6-7=-1865/0, 7-8=-1865/0, 8-9=-2199/0, 9-10=-2199/0, 10-12=-1252/0, 12-13=-1252/0, 13-14=0/2
BOT CHORD 22-23=-1/386, 21-22=-343/112, 19-21=0/771, 18-19=0/1865, 17-18=0/1865, 16-17=0/1844, 15-16=0/326
WEBS 5-21=-191/0, 7-19=-428/0, 8-18=-194/0, 2-23=-447/2, 2-22=-131/52, 3-22=-173/0, 4-22=0/532, 4-21=-452/0, 6-21=-1299/0, 6-19=0/1261, 8-17=-5/466, 9-17=-301/0, 10-17=0/415, 10-16=-692/0, 12-16=-182/0, 13-16=0/1081, 13-15=-784/0

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
3) Bearings are assumed to be: , Joint 21 SP No.2 , Joint 15 SP No.1 .
4) Refer to girder(s) for truss to truss connections.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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



November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F205	Floor Supported Gable	1	1	I77709412 Job Reference (optional)

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

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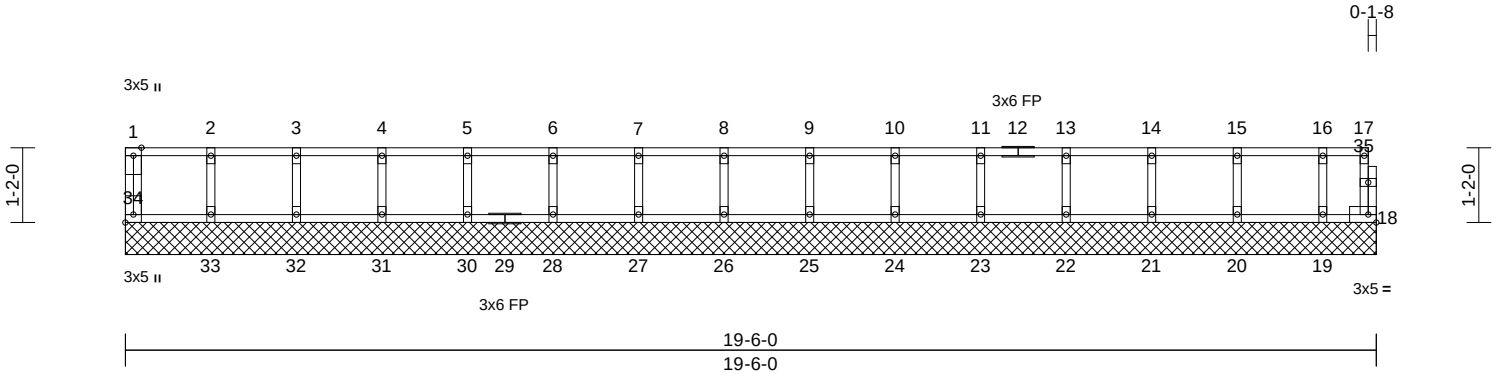

Scale = 1:35.9

Plate Offsets (X, Y): [34:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.08	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	18	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 82 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) 18=19-6-0, 19=19-6-0, 20=19-6-0, 21=19-6-0, 22=19-6-0, 23=19-6-0, 24=19-6-0, 25=19-6-0, 26=19-6-0, 27=19-6-0, 28=19-6-0, 30=19-6-0, 31=19-6-0, 32=19-6-0, 33=19-6-0, 34=19-6-0

Max Grav 18=27 (LC 1), 19=113 (LC 1), 20=153 (LC 1), 21=145 (LC 1), 22=147 (LC 1), 23=147 (LC 1), 24=147 (LC 1), 25=147 (LC 1), 26=147 (LC 1), 27=147 (LC 1), 28=147 (LC 1), 30=147 (LC 1), 31=147 (LC 1), 32=147 (LC 1), 33=148 (LC 1), 34=58 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-34=-54/0, 17-18=-20/0, 1-2=-6/0, 2-3=-6/0, 3-4=-6/0, 4-5=-6/0, 5-6=-6/0, 6-7=-6/0, 7-8=-6/0, 8-9=-6/0, 9-10=-6/0, 10-11=-6/0, 11-13=-6/0, 13-14=-6/0, 14-15=-6/0, 15-16=-6/0, 16-17=-6/0

BOT CHORD 33-34=0/6, 32-33=0/6, 31-32=0/6, 30-31=0/6, 28-30=0/6, 27-28=0/6, 26-27=0/6, 25-26=0/6, 24-25=0/6, 23-24=0/6, 22-23=0/6, 21-22=0/6, 20-21=0/6, 19-20=0/6, 18-19=0/6

WEBS 2-33=-133/0, 3-32=-134/0, 4-31=-133/0, 5-30=-133/0, 6-28=-133/0, 7-27=-133/0, 8-26=-133/0, 9-25=-133/0, 10-24=-133/0, 11-23=-133/0, 13-22=-134/0, 14-21=-132/0, 15-20=-138/0, 16-19=-107/0

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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) 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) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F206	Floor Supported Gable	1	1	I77709413 Job Reference (optional)

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

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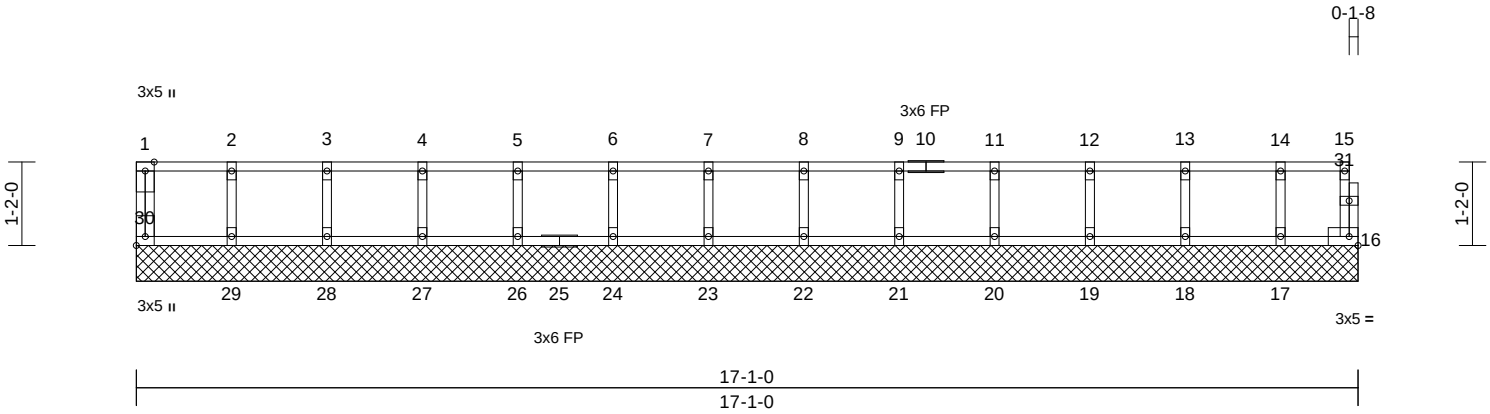

Scale = 1:32.2

Plate Offsets (X, Y): [30:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.08	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	IRC2018/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) 16=17-1-0, 17=17-1-0, 18=17-1-0, 19=17-1-0, 20=17-1-0, 21=17-1-0, 22=17-1-0, 23=17-1-0, 24=17-1-0, 26=17-1-0, 27=17-1-0, 28=17-1-0, 29=17-1-0, 30=17-1-0
Max Grav 16=42 (LC 1), 17=127 (LC 1), 18=151 (LC 1), 19=146 (LC 1), 20=147 (LC 1), 21=147 (LC 1), 22=147 (LC 1), 23=147 (LC 1), 24=147 (LC 1), 26=147 (LC 1), 27=147 (LC 1), 28=147 (LC 1), 29=146 (LC 1), 30=60 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-30=-55/0, 15-16=-36/0, 1-2=-8/0, 2-3=-8/0, 3-4=-8/0, 4-5=-8/0, 5-6=-8/0, 6-7=-8/0, 7-8=-8/0, 8-9=-8/0, 9-11=-8/0, 11-12=-8/0, 12-13=-8/0, 13-14=-8/0, 14-15=-8/0
BOT CHORD 29-30=0/8, 28-29=0/8, 27-28=0/8, 26-27=0/8, 24-26=0/8, 23-24=0/8, 22-23=0/8, 21-22=0/8, 20-21=0/8, 19-20=0/8, 18-19=0/8, 17-18=0/8, 16-17=0/8
WEBS 2-29=-132/0, 3-28=-134/0, 4-27=-133/0, 5-26=-133/0, 6-24=-133/0, 7-23=-133/0, 8-22=-133/0, 9-21=-133/0, 11-20=-134/0, 12-19=-132/0, 13-18=-137/0, 14-17=-117/0

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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) 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) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F207	Floor	8	1	I77709414 Job Reference (optional)

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

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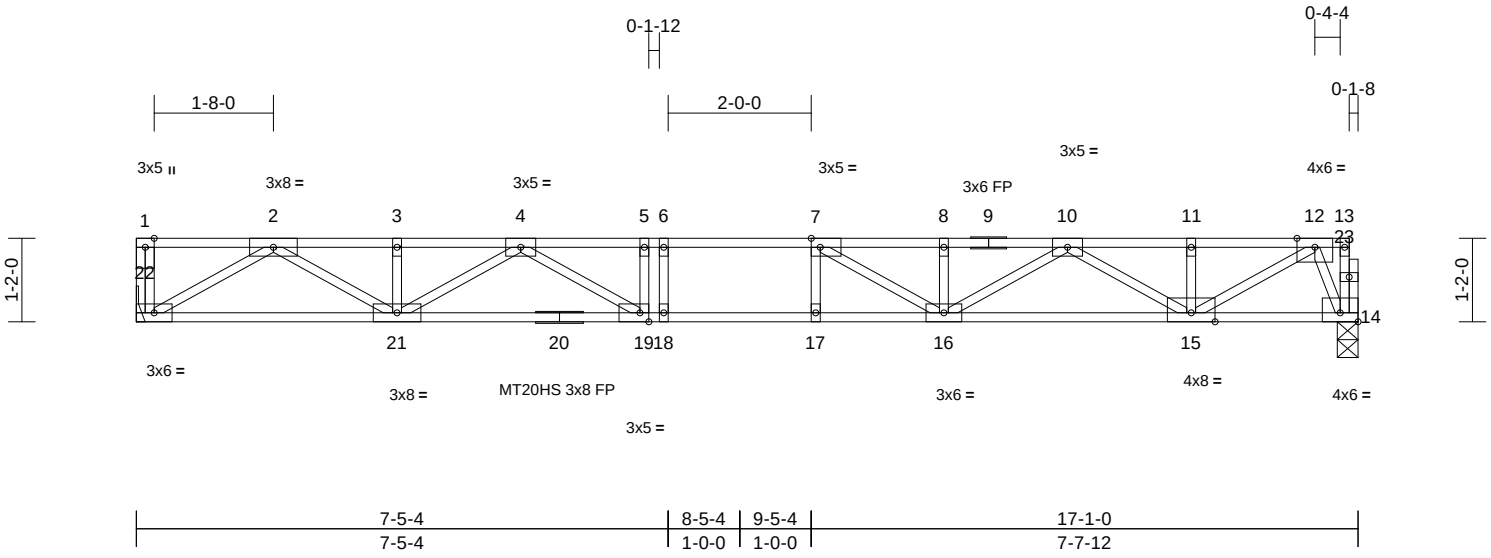


Scale = 1:32.2

Plate Offsets (X, Y): [7:0-1-8,Edge], [14:Edge,0-1-8], [19:0-1-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.83	Vert(LL)	-0.28	16-17	>713	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.96	Vert(CT)	-0.38	16-17	>527	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.06	14	n/a	n/a		
BCDL	5.0	Code	IRC2018/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) *Except* 20-14:2x4 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 4-8-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 17-18,16-17.

REACTIONS (size) 14=0-3-8, 22= Mechanical
Max Grav 14=920 (LC 1), 22=926 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-22=-74/0, 13-14=0/32, 1-2=0/0, 2-3=-2492/0, 3-4=-2492/0, 4-5=-3684/0, 5-6=-3684/0, 6-7=-3684/0, 7-8=-3357/0, 8-10=-3357/0, 10-11=-1726/0, 11-12=-1726/0, 12-13=0/2
BOT CHORD 21-22=0/1436, 19-21=0/3216, 18-19=0/3684, 17-18=0/3684, 16-17=0/3684, 15-16=0/2686, 14-15=0/431
WEBS 6-18=-69/0, 7-17=-120/1, 2-22=-1661/0, 2-21=0/1233, 3-21=-170/0, 4-21=-845/0, 4-19=0/806, 5-19=-273/0, 7-16=-378/84, 8-16=-244/0, 10-16=0/783, 10-15=-1120/0, 11-15=-177/0, 12-15=0/1512, 12-14=-1037/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 1.5x3 MT20 unless otherwise indicated.
4) Bearings are assumed to be: , Joint 14 SP No.1 .
5) Refer to girder(s) for truss to truss connections.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) 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) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

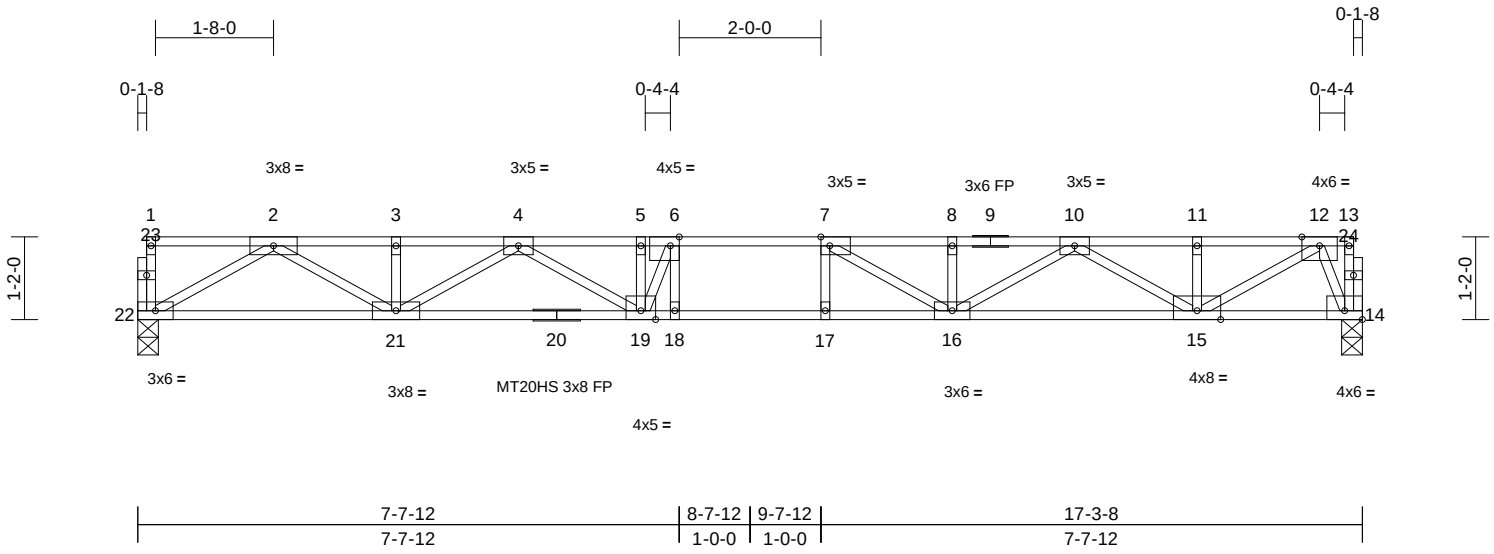
November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F208	Floor	2	1	I77709415 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:04 ID:ERQfXpZ8gr4pfZ35ZvlhYUyeAyf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:32.5

Plate Offsets (X, Y): [6:0-1-8,Edge], [7:0-1-8,Edge], [14:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.69	Vert(LL)	-0.28	17-18	>742	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.94	Vert(CT)	-0.38	17-18	>537	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.06	14	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 90 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 20-14:2x4 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 5-10-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 19-21.

REACTIONS (size) 14=0-3-8, 22=0-3-8
Max Grav 14=931 (LC 1), 22=931 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-22=-71/0, 13-14=0/32, 1-2=-4/0, 2-3=-2533/0, 3-4=-2533/0, 4-5=-3708/0, 5-6=-3708/0, 6-7=-3789/0, 7-8=-3414/0, 8-10=-3414/0, 10-11=-1751/0, 11-12=-1751/0, 12-13=0/2
BOT CHORD 21-22=0/1456, 19-21=0/3274, 18-19=0/3789, 17-18=0/3789, 16-17=0/3789, 15-16=0/2729, 14-15=0/437
WEBS 6-18=-252/255, 7-17=-95/130, 2-22=-1680/0, 2-21=0/1257, 3-21=-164/0, 4-21=-865/0, 4-19=0/549, 5-19=-233/221, 6-19=-727/339, 7-16=-734/0, 8-16=-217/36, 10-16=0/799, 10-15=-1142/0, 11-15=-175/0, 12-15=0/1534, 12-14=-1050/0

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 1.5x3 MT20 unless otherwise indicated.
4) Bearings are assumed to be: Joint 22 SP No.2 , Joint 14 SP No.1 .
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F209	Floor Supported Gable	1	1	I77709416 Job Reference (optional)

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

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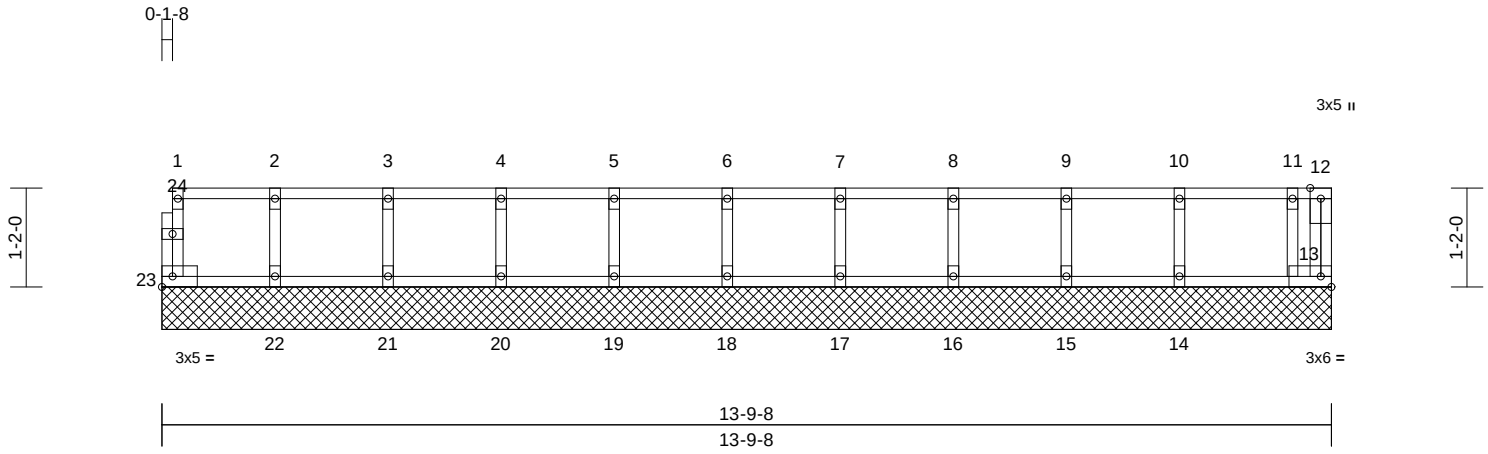


Scale = 1:27.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	13	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 60 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)

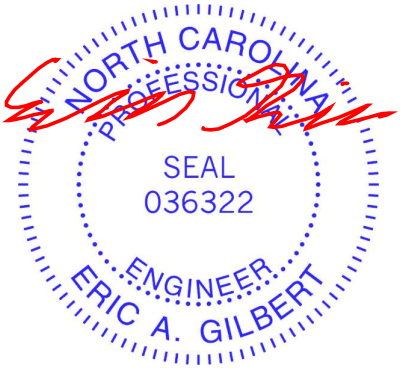
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 13=13-9-8, 14=13-9-8, 15=13-9-8, 16=13-9-8, 17=13-9-8, 18=13-9-8, 19=13-9-8, 20=13-9-8, 21=13-9-8, 22=13-9-8, 23=13-9-8
Max Grav 13=97 (LC 1), 14=162 (LC 1), 15=142 (LC 1), 16=148 (LC 1), 17=146 (LC 1), 18=147 (LC 1), 19=147 (LC 1), 20=146 (LC 1), 21=150 (LC 1), 22=134 (LC 1), 23=64 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-55/0, 12-13=0/1, 1-2=-17/0, 2-3=-17/0, 3-4=-17/0, 4-5=-17/0, 5-6=-17/0, 6-7=-17/0, 7-8=-17/0, 8-9=-17/0, 9-10=-17/0, 10-11=-17/0, 11-12=0/1
BOT CHORD 22-23=0/17, 21-22=0/17, 20-21=0/17, 19-20=0/17, 18-19=0/17, 17-18=0/17, 16-17=0/17, 15-16=0/17, 14-15=0/17, 13-14=0/17
WEBS 2-22=-126/0, 3-21=-135/0, 4-20=-133/0, 5-19=-133/0, 6-18=-133/0, 7-17=-133/0, 8-16=-134/0, 9-15=-130/0, 10-14=-144/0, 11-13=-94/0

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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) 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) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard



November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F210	Floor	6	1	I77709417 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:04 Page: 1
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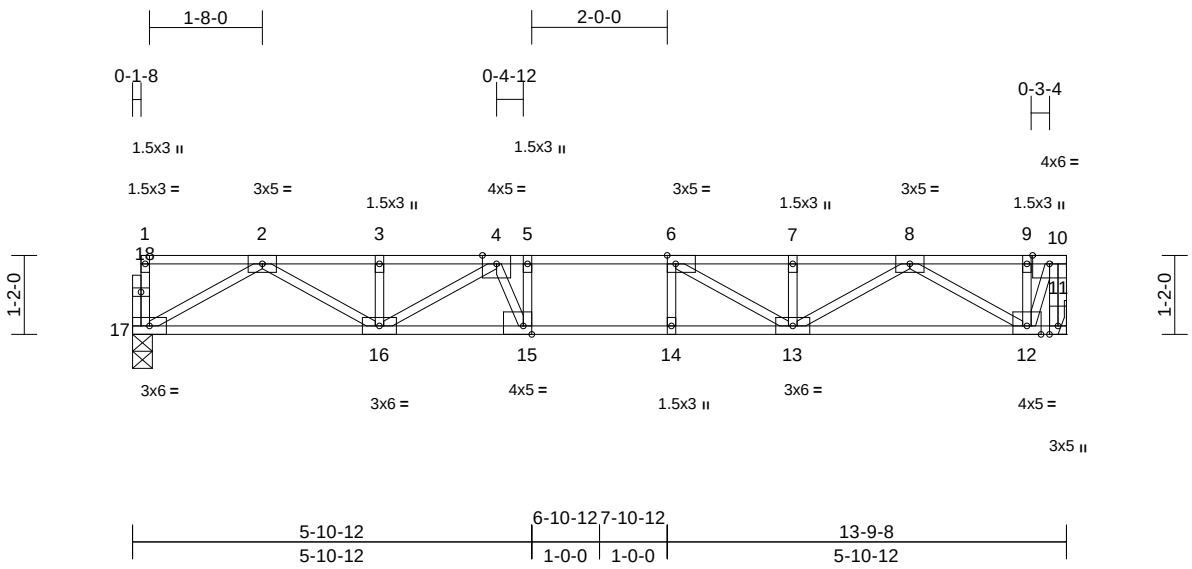


Scale = 1:34

Plate Offsets (X, Y): [6:0-1-8,Edge], [15:0-1-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.52	Vert(LL)	-0.13	15-16	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.17	15-16	>943	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.04	11	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 73 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) 11= Mechanical, 17=0-3-8
Max Grav 11=745 (LC 1), 17=739 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-17=-71/0, 10-11=-761/0, 1-2=-4/0, 2-3=-1886/0, 3-4=-1886/0, 4-5=-2382/0, 5-6=-2382/0, 6-7=-2009/0, 7-8=-2009/0, 8-9=-344/0, 9-10=-344/0
BOT CHORD 16-17=0/1125, 15-16=0/2304, 14-15=0/2382, 13-14=0/2382, 12-13=0/1323, 11-12=0/0
WEBS 5-15=-394/56, 6-14=-54/88, 2-17=-1296/0, 2-16=0/889, 3-16=-173/0, 4-16=-505/0, 4-15=-113/518, 6-13=-632/0, 7-13=-214/31, 8-13=0/800, 8-12=-1144/0, 9-12=-155/0, 10-12=0/853

LOAD CASE(S) Standard

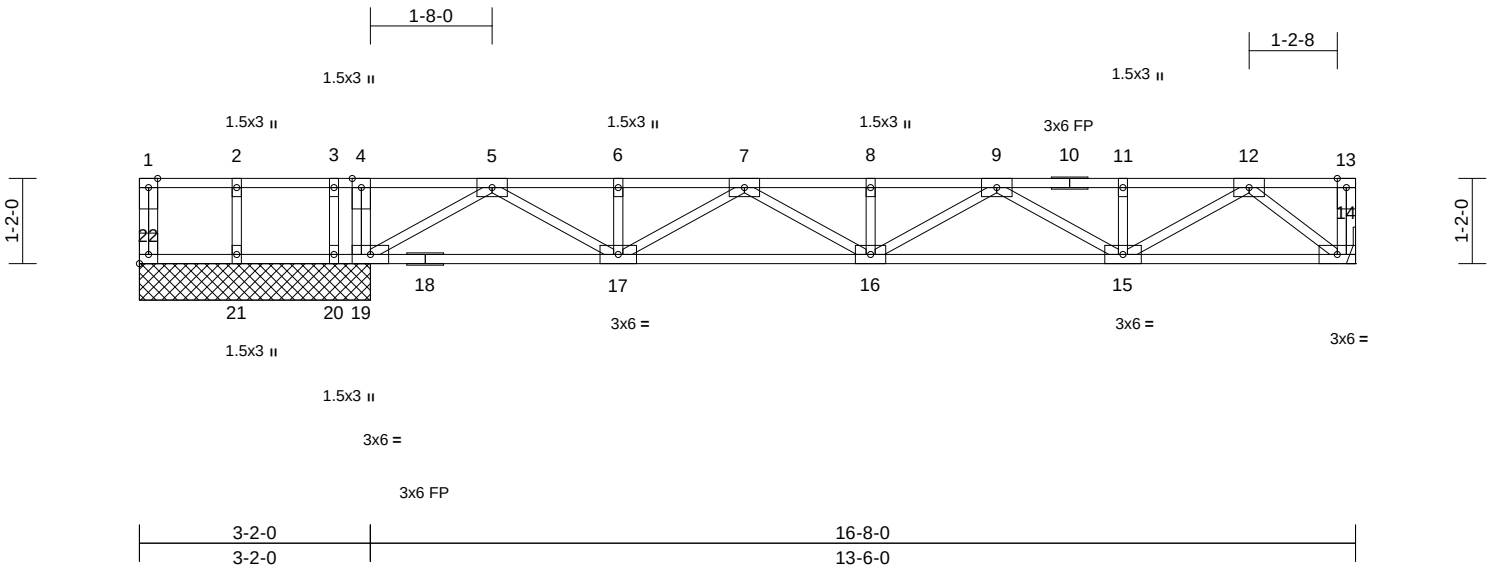
NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 17 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
4) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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.

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F211	Floor	1	1	I77709418 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:04 Page: 1
ID:9KVAivn9KDncx4PpLRpucpye9Sq-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.34	Vert(LL)	-0.12	16-17	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.67	Vert(CT)	-0.16	16-17	>985	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.04	14	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 87 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= Mechanical, 19=3-2-0, 20=3-2-0, 21=3-2-0, 22=3-2-0
Max Uplift 20=-278 (LC 4)
Max Grav 14=735 (LC 4), 19=1049 (LC 4), 20=18 (LC 3), 21=172 (LC 1), 22=50 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-22=-46/0, 13-14=-50/0, 1-2=0/0, 2-3=0/0, 3-4=0/0, 4-5=0/0, 5-6=-1800/0, 6-7=-1800/0, 7-8=-2376/0, 8-9=-2376/0, 9-11=-1689/0, 11-12=-1689/0, 12-13=0/0
BOT CHORD 21-22=0/0, 20-21=0/0, 19-20=0/0, 17-19=0/1033, 16-17=0/2231, 15-16=0/2177, 14-15=0/859
WEBS 4-19=-313/0, 5-19=-1195/0, 5-17=0/895, 6-17=-181/0, 7-17=-503/0, 7-16=0/170, 8-16=-171/0, 9-16=0/233, 9-15=-570/0, 11-15=-171/0, 12-15=0/968, 12-14=-1090/0, 2-21=-152/0, 3-20=-58/177

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x5 MT20 unless otherwise indicated.
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) Bearings are assumed to be: Joint 20 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 278 lb uplift at joint 20.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) 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.
10) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

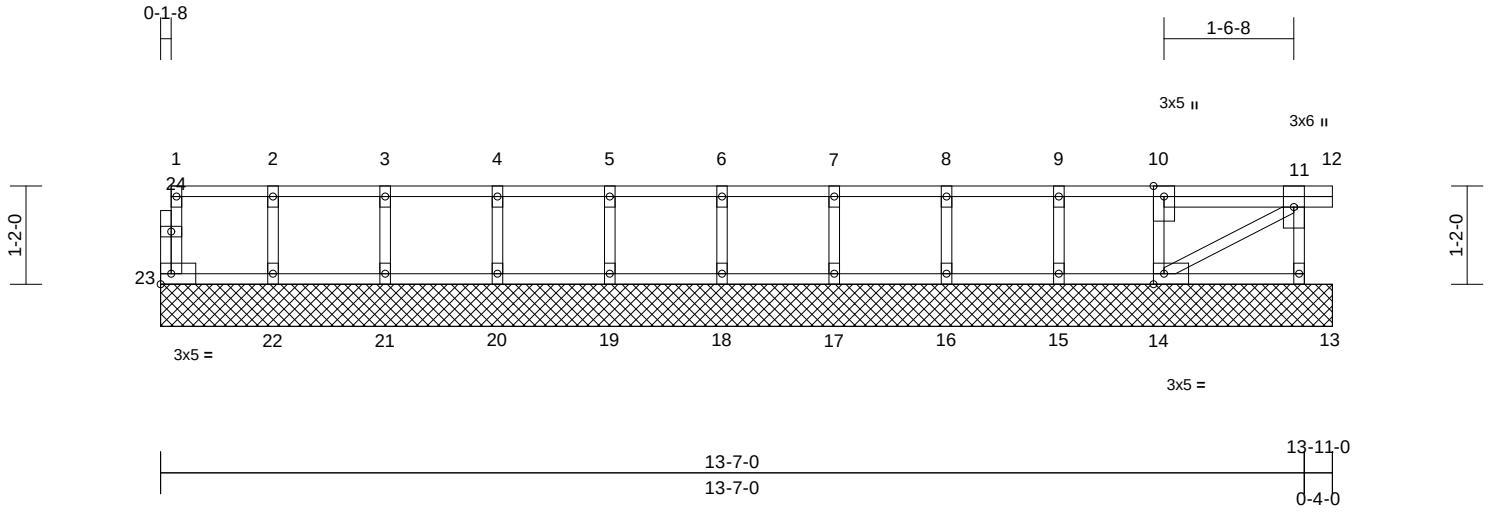
November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F212	Floor Supported Gable	1	1	I77709419 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:04 ID:2i5xpBBGH7rrcCwNRgmBTfyeB_Q-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:27.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.02	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	13	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 62 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) 13=13-11-0, 14=13-11-0, 15=13-11-0, 16=13-11-0, 17=13-11-0, 18=13-11-0, 19=13-11-0, 20=13-11-0, 21=13-11-0, 22=13-11-0, 23=13-11-0

Max Grav 13=127 (LC 1), 14=166 (LC 1), 15=132 (LC 1), 16=150 (LC 1), 17=146 (LC 1), 18=147 (LC 1), 19=147 (LC 1), 20=147 (LC 1), 21=146 (LC 1), 22=152 (LC 1), 23=48 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-23=-44/0, 11-13=-120/0, 1-2=-3/0, 2-3=-3/0, 3-4=-3/0, 4-5=-3/0, 5-6=-3/0, 6-7=-3/0, 7-8=-3/0, 8-9=-3/0, 9-10=-3/0, 10-11=-6/1, 11-12=0/0
BOT CHORD	22-23=0/3, 21-22=0/3, 20-21=0/3, 19-20=0/3, 18-19=0/3, 17-18=0/3, 16-17=0/3, 15-16=0/3, 14-15=0/3, 13-14=0/0
WEBS	10-14=-150/0, 11-14=0/3, 2-22=-138/0, 3-21=-133/0, 4-20=-134/0, 5-19=-133/0, 6-18=-134/0, 7-17=-133/0, 8-16=-136/0, 9-15=-121/0

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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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.

LOAD CASE(S) Standard

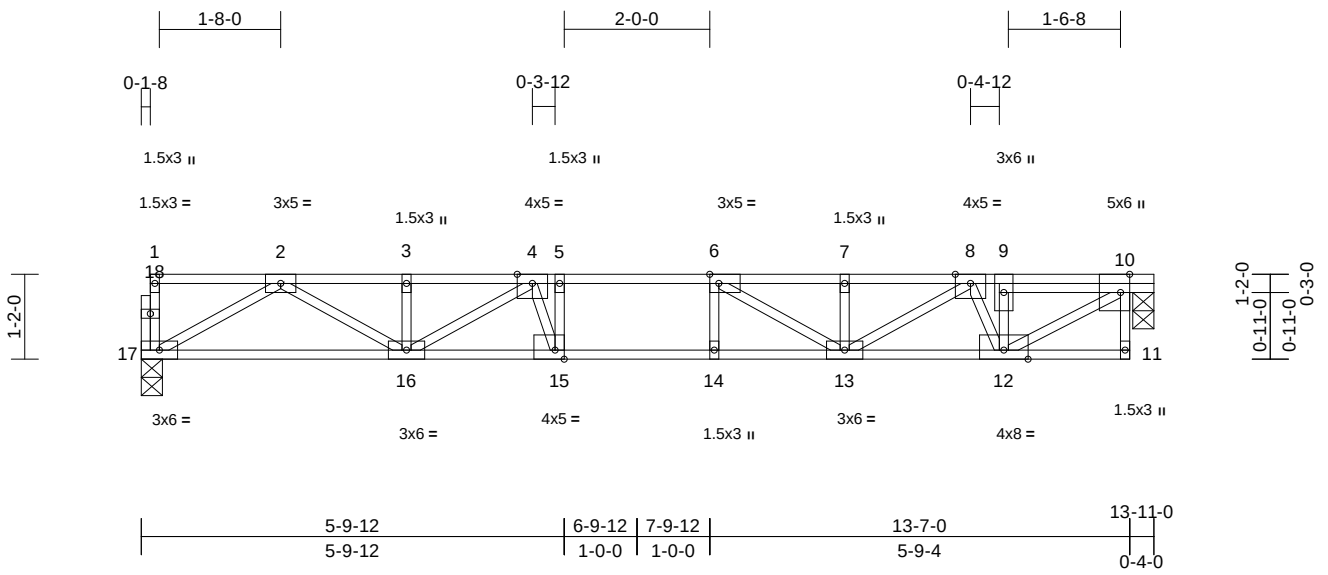
November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F213	Floor	1	1	I77709420 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:04 ID:prrsKp43K5Ztn1X6qllCC5yeBkK-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.7

Plate Offsets (X, Y): [6:0-1-8,Edge], [10:0-3-0,Edge], [15:0-1-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.53	Vert(LL)	-0.12	15-16	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.75	Vert(CT)	-0.16	15-16	>978	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.60	Horz(CT)	0.01	10	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 74 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, 17=0-3-8
Max Grav 10=737 (LC 1), 17=731 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-17=-71/0, 10-11=0/9, 1-2=-4/0, 2-3=-1859/0, 3-4=-1859/0, 4-5=-2331/0, 5-6=-2331/0, 6-7=-1958/0, 7-8=-1958/0, 8-9=-1095/0, 9-10=-1090/0
BOT CHORD 16-17=0/1111, 15-16=0/2265, 14-15=0/2331, 13-14=0/2331, 12-13=0/1281, 11-12=0/0
WEBS 9-12=-187/0, 10-12=0/1265, 5-15=-437/80, 6-14=-51/90, 2-17=-1281/0, 2-16=0/873, 3-16=-172/0, 4-16=-505/0, 4-15=-136/549, 6-13=-632/0, 7-13=-217/33, 8-13=0/790, 8-12=-474/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
3) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
6) CAUTION, Do not erect truss backwards.

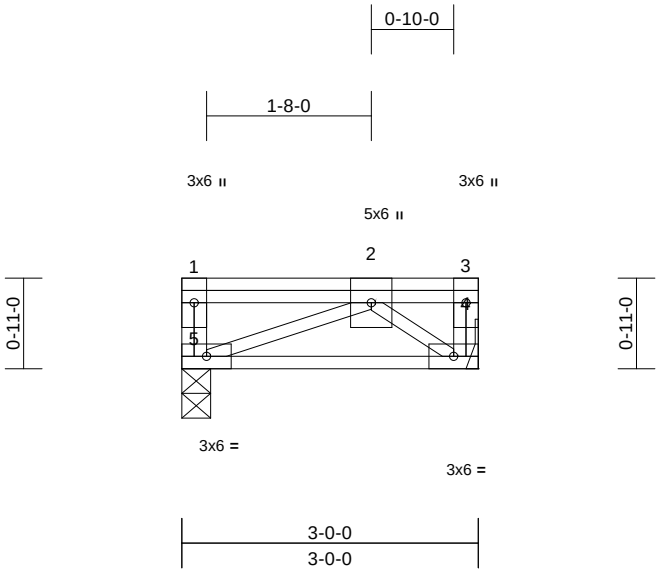
LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F214	Floor Girder	1	1	I77709421 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:04 Page: 1
ID:prrsKp43K5Ztn1X6qllCC5yeBkK-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:23.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.32	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.36	Vert(CT)	-0.01	4-5	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.30	Horz(CT)	0.00	4	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 21 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 3-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5=0-3-8
Max Grav 4=942 (LC 4), 5=782 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-5=-348/0, 3-4=-142/0, 1-2=0/0, 2-3=0/0
BOT CHORD 4-5=0/1034
WEBS 2-5=-1116/0, 2-4=-1299/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: Joint 5 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
4) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
5) 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.
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) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 4-5=-10, 1-3=-340 (F=-240)
Concentrated Loads (lb)
Vert: 2=-643
3) Dead + Roof Live (balanced): Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (lb/ft)
Vert: 4-5=-10, 1-3=-400 (F=-380)
Concentrated Loads (lb)
Vert: 2=-182

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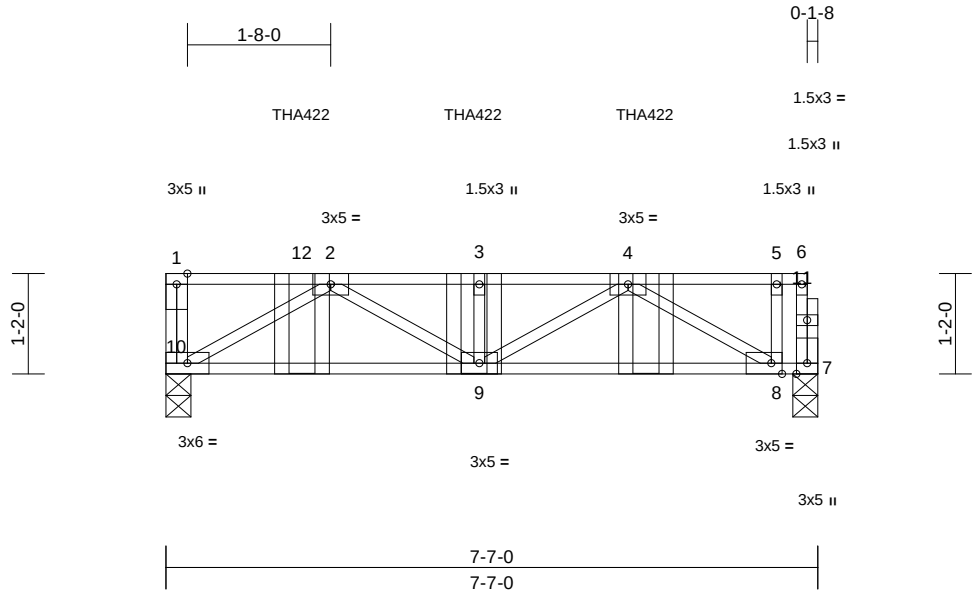
Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F215	Floor Girder	1	1	I77709422 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:05 Page: 1
ID:juUve7kZDADcedwyYj?F3TyeBU?-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:26.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.88	Vert(LL)	-0.09	8-9	>974	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.96	Vert(CT)	-0.12	8-9	>728	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.39	Horz(CT)	0.02	7	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 42 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.1(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) 7=0-3-8, 10=0-3-8
Max Grav 7=803 (LC 3), 10=870 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-10=-105/0, 6-7=-603/0, 1-2=0/0, 2-3=-1727/0, 3-4=-1727/0, 4-5=-36/0, 5-6=-36/0
BOT CHORD 9-10=0/1297, 8-9=0/1421, 7-8=0/36
WEBS 2-10=-1500/0, 2-9=0/502, 3-9=-374/0, 4-9=0/357, 4-8=-1617/0, 5-8=0/627

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
3) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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.
6) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent spaced at 2-0-0 oc max. starting at 1-7-0 from the left end to 5-7-0 to connect truss(es) to back face of top chord.
7) Fill all nail holes where hanger is in contact with lumber.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 7-10=-10, 1-6=-100
Concentrated Loads (lb)
Vert: 3=-211 (B), 4=-211 (B), 12=-211 (B)

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Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F216	Floor	1	1	I77709423 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:05 Page: 1
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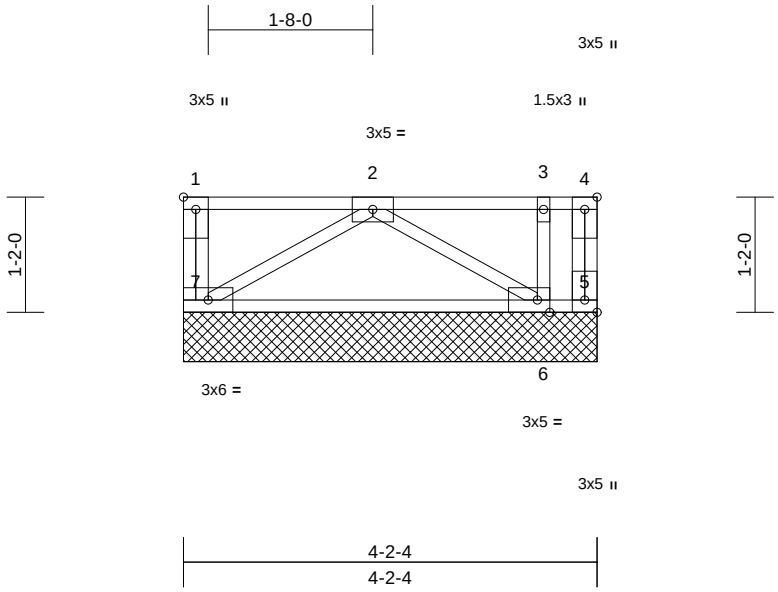

Scale = 1:23.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 25 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 4-2-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=4-2-4, 6=4-2-4, 7=4-2-4
Max Uplift 5=-53 (LC 1)
Max Grav 5=-53 (LC 1), 6=302 (LC 1), 7=185 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-7=-71/0, 4-5=0/22, 1-2=0/0, 2-3=0/0, 3-4=0/0
BOT CHORD 6-7=0/171, 5-6=0/0
WEBS 2-7=-198/0, 2-6=-200/0, 3-6=-142/0

NOTES
1) Gable requires continuous bottom chord bearing.
2) All bearings are assumed to be SP No.2 .
3) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 5.
4) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

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Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-2nd Floor-Chatham C
25100169-A	F217	Floor Supported Gable	1	1	I77709424 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:46:05 Page: 1
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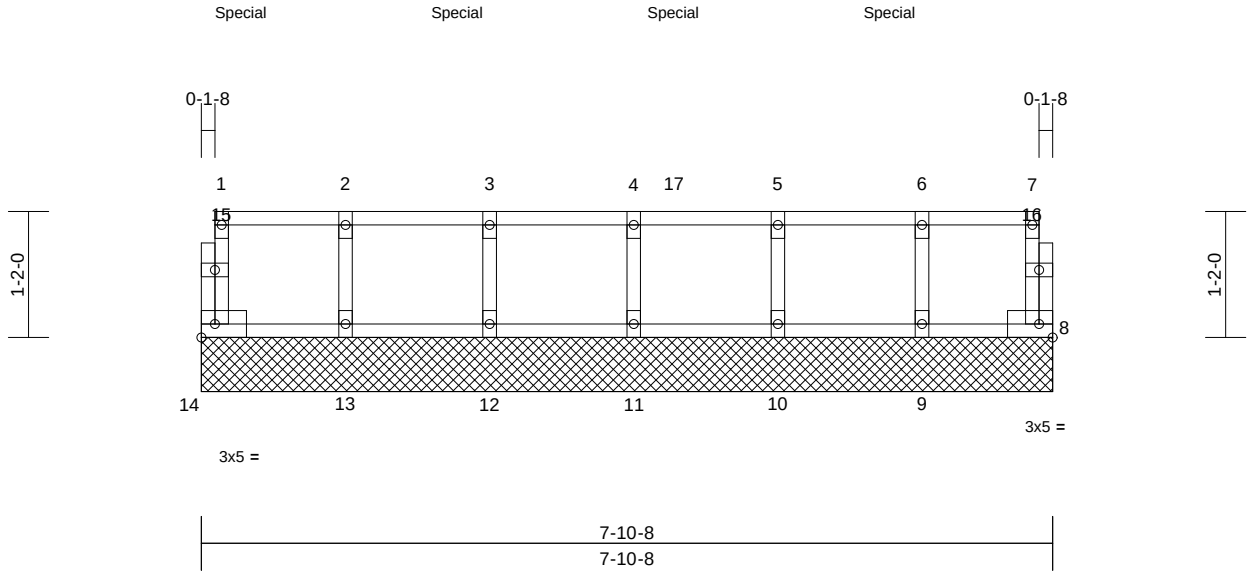

Scale = 1:21.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.22	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	0.06	Horiz(TL)	0.00	8	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 35 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) 8=7-10-8, 9=7-10-8, 10=7-10-8, 11=7-10-8, 12=7-10-8, 13=7-10-8, 14=7-10-8
Max Uplift 14=-4 (LC 7)
Max Grav 8=54 (LC 1), 9=249 (LC 6), 10=175 (LC 6), 11=256 (LC 6), 12=259 (LC 6), 13=150 (LC 1), 14=208 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-14=-205/8, 7-8=-48/0, 1-2=-13/0, 2-3=-13/0, 3-4=-13/0, 4-5=-13/0, 5-6=-13/0, 6-7=-13/0
BOT CHORD 13-14=0/13, 12-13=0/13, 11-12=0/13, 10-11=0/13, 9-10=0/13, 8-9=0/13
WEBS 2-13=-135/0, 3-12=-246/0, 4-11=-242/0, 5-10=-161/0, 6-9=-240/2

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 14.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) 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.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 197 lb down and 14 lb up at 0-2-4, 189 lb down and 19 lb up at 2-4-8, and 189 lb down and 19 lb up at 4-4-8, and 189 lb down and 19 lb up at 6-4-8 on top 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 8-14=-10, 1-7=-100
Concentrated Loads (lb)
Vert: 1=-84 (F), 3=-76 (F), 6=-76 (F), 17=-76 (F)

November 11,2025

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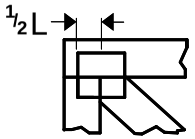
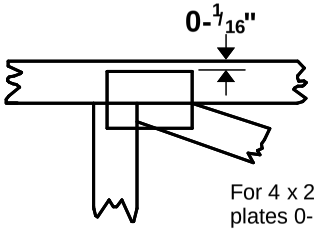
Edenton, NC 27932

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.

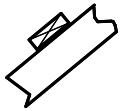
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

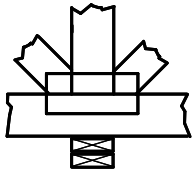
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

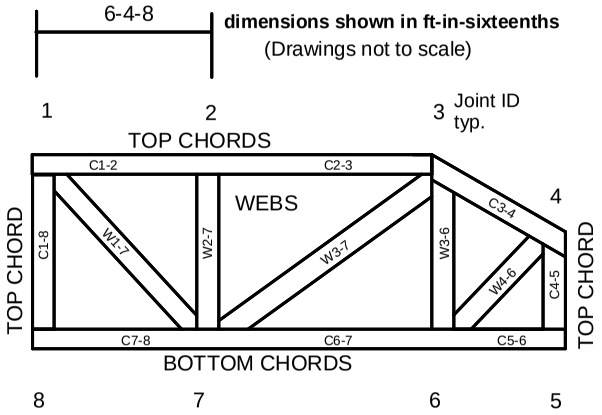


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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®

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

General Safety Notes

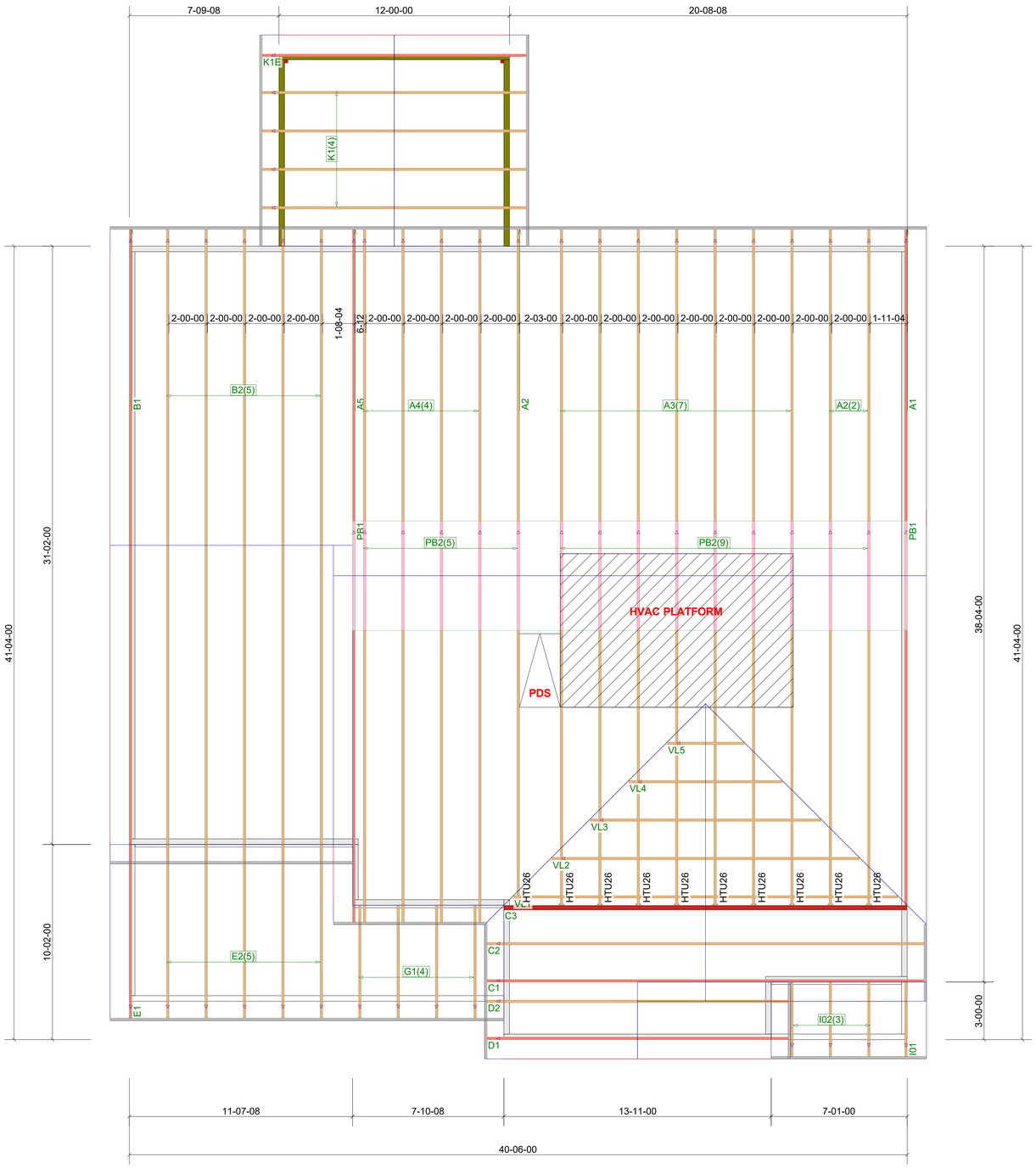
Failure to Follow Could Cause Property Damage or Personal Injury

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 BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.



Truss Connector Total List		
Manuf	Product	Qty
Simpson	HTU26	10
	One H2.5A	68

Truss Drawing Left End Indicator

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 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 Trusses" available from the Truss Plate Institute, 583 D'Onofrio Drive; Madison, WI 53179

CARTER Lumber

CRH Homes LLC	**K20 Carolina Seasons-Roof-Chatham C**	**ROOF PLACEMENT PLAN**

Scale:	***NTS***
Date:	11/11/2025
Designer:	Mike Finch
Project Number:	**25100169-01**
Sheet Number:	**1/1**

** 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.

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

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

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

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

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.

** 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.

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	A1	Piggyback Base Supported Gable	1	1	I77709483 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:47:30 Page: 1
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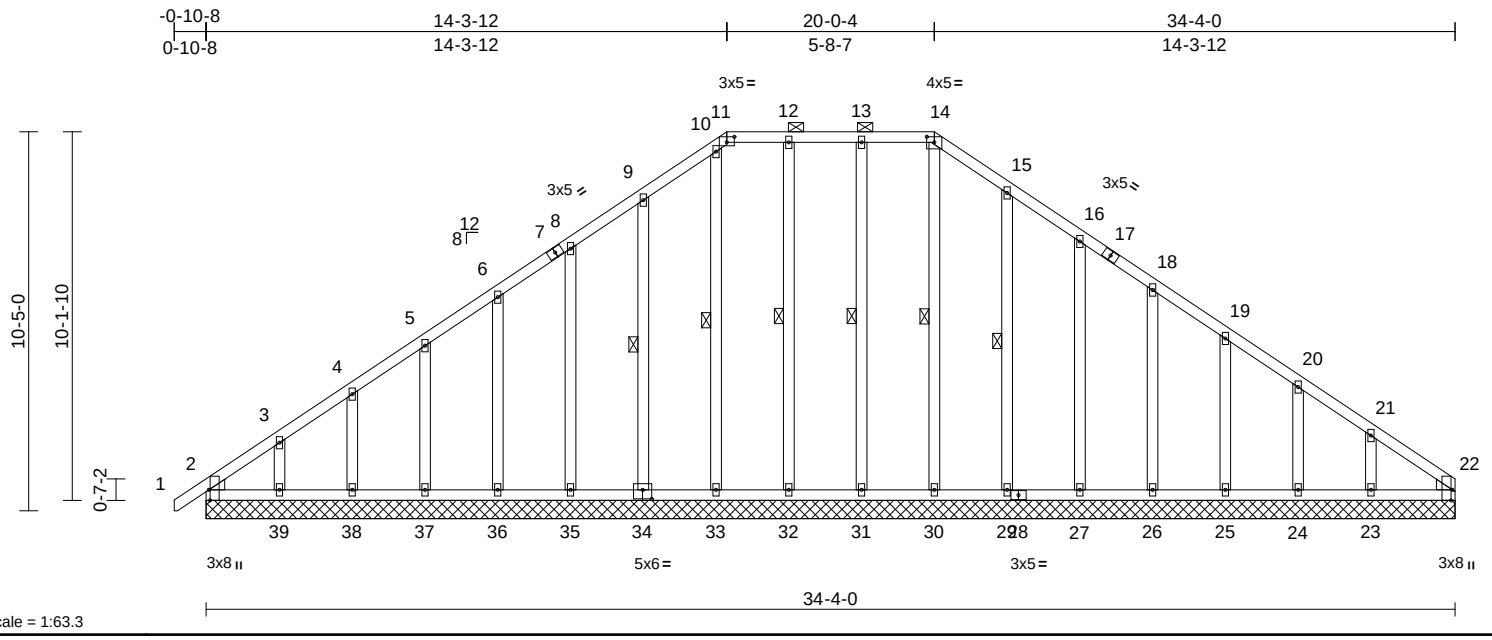

Scale = 1:63.3

Plate Offsets (X, Y): [2:0-3-8,Edge], [11:0-2-8,0-1-13], [14:0-2-8,0-1-13], [22:0-3-8,Edge], [34:0-3-0,0-3-0]

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	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.01	22	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 257 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3
WEDGE	Left: 2x4 SP No.3 Right: 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.): 11-14.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 14-30, 13-31, 12-32, 10-33, 9-34, 15-29

REACTIONS (size) 2=34-4-0, 22=34-4-0, 23=34-4-0, 24=34-4-0, 25=34-4-0, 26=34-4-0, 27=34-4-0, 29=34-4-0, 30=34-4-0, 31=34-4-0, 32=34-4-0, 33=34-4-0, 34=34-4-0, 35=34-4-0, 36=34-4-0, 37=34-4-0, 38=34-4-0, 39=34-4-0
Max Horiz 2=186 (LC 12)
Max Uplift 2=-53 (LC 9), 23=-52 (LC 14), 24=-18 (LC 14), 25=-28 (LC 14), 26=-25 (LC 14), 27=-27 (LC 14), 29=-25 (LC 14), 31=-5 (LC 10), 32=-1 (LC 10), 34=-33 (LC 13), 35=-26 (LC 13), 36=-25 (LC 13), 37=-28 (LC 13), 38=-19 (LC 13), 39=-55 (LC 13)
Max Grav 2=176 (LC 30), 22=105 (LC 32), 23=212 (LC 30), 24=151 (LC 30), 25=168 (LC 30), 26=164 (LC 30), 27=165 (LC 30), 29=171 (LC 30), 30=137 (LC 36), 31=168 (LC 35), 32=159 (LC 36), 33=152 (LC 32), 34=169 (LC 29), 35=164 (LC 29), 36=165 (LC 29), 37=166 (LC 29), 38=159 (LC 2), 39=189 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/35, 2-3=-176/154, 3-4=-144/129, 4-5=-127/112, 5-6=-117/108, 6-8=-109/107, 8-9=-119/162, 9-10=-150/222, 10-11=-132/186, 11-12=-131/206, 12-13=-131/206, 13-14=-131/206, 14-15=-153/227, 15-16=-123/171, 16-18=-99/115, 18-19=-75/59, 19-20=-70/37, 20-21=-80/52, 21-22=-125/79
BOT CHORD	2-39=-93/126, 38-39=-61/126, 37-38=-61/126, 36-37=-61/126, 35-36=-61/126, 33-35=-61/126, 32-33=-61/125, 31-32=-61/125, 30-31=-61/125, 29-30=-61/125, 27-29=-61/125, 26-27=-61/125, 25-26=-61/125, 24-25=-61/125, 23-24=-61/125, 22-23=-61/125
WEBS	14-30=-97/7, 13-31=-135/45, 12-32=-119/25, 10-33=-112/15, 9-34=-150/87, 8-35=-143/75, 6-36=-143/76, 5-37=-143/76, 4-38=-143/75, 3-39=-146/83, 15-29=-148/75, 16-27=-144/78, 18-26=-143/75, 19-25=-145/77, 20-24=-138/72, 21-23=-163/90

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) -0-10-0 to 2-7-4, Exterior(2N) 2-7-4 to 14-3-12, Corner(3R) 14-3-12 to 18-0-4, Exterior(2N) 18-0-4 to 20-0-4, Corner(3R) 20-0-4 to 23-5-7, Exterior(2N) 23-5-7 to 34-4-0 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) 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) Gable studs spaced at 2-0-0 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 .

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Continued on page 2

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12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 2, 5 lb uplift at joint 31, 1 lb uplift at joint 32, 33 lb uplift at joint 34, 26 lb uplift at joint 35, 25 lb uplift at joint 36, 28 lb uplift at joint 37, 19 lb uplift at joint 38, 55 lb uplift at joint 39, 25 lb uplift at joint 29, 27 lb uplift at joint 27, 25 lb uplift at joint 26, 28 lb uplift at joint 25, 18 lb uplift at joint 24, 52 lb uplift at joint 23 and 53 lb uplift at joint 2.

13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	A2	Piggyback Base	3	1	I77709484 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:47:31 Page: 1
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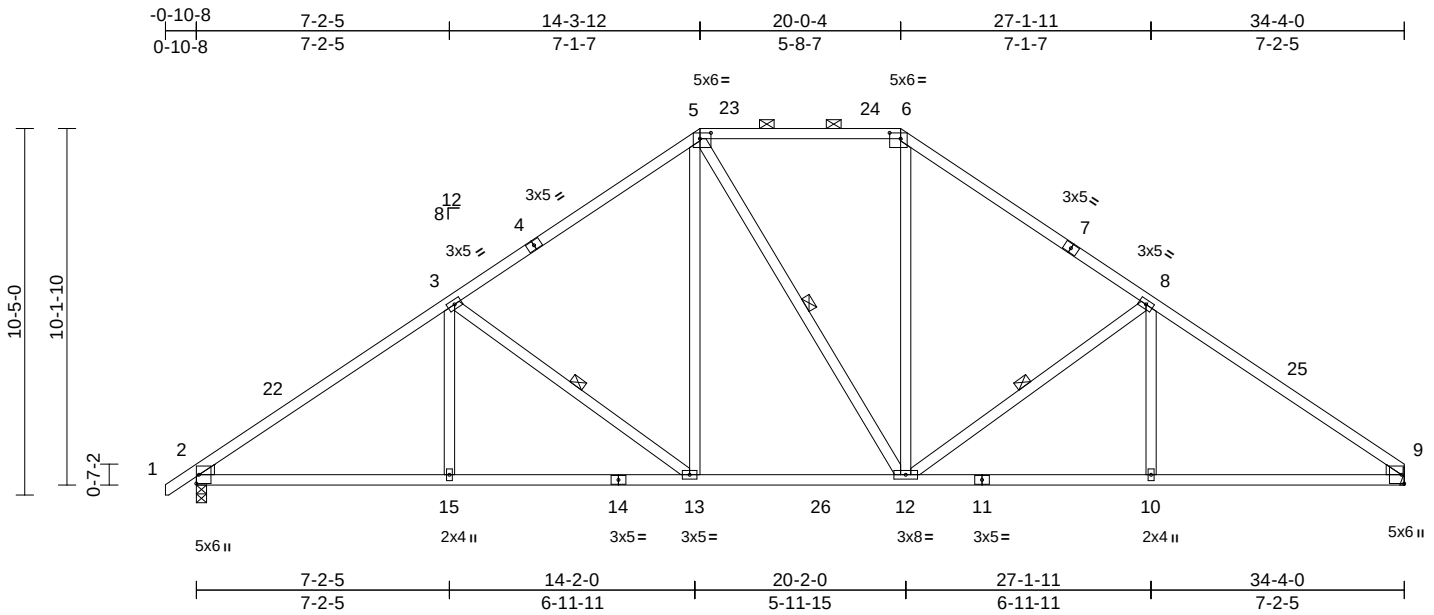

Scale = 1:65.5

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

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	0.75	Vert(LL)	-0.12	12-13	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.24	13-15	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horz(CT)	0.09	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/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* 12-5:2x4 SP No.2
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

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

REACTIONS (size) 2=0-3-8, 9= Mechanical
Max Horiz 2=187 (LC 12)
Max Grav 2=1563 (LC 29), 9=1513 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-2446/94, 3-5=-1910/164, 5-6=-1505/184, 6-8=-1904/166, 8-9=-2442/100
BOT CHORD 2-15=-77/1936, 13-15=-33/1936, 12-13=0/1409, 10-12=-8/1933, 9-10=-37/1933
WEBS 3-15=0/267, 3-13=-640/111, 5-13=0/645, 5-12=-148/150, 6-12=0/633, 8-12=-643/112, 8-10=0/268

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) -0-10-0 to 2-7-4, Interior (1) 2-7-4 to 14-3-12, Exterior(2R) 14-3-12 to 19-2-1, Interior (1) 19-2-1 to 20-0-4, Exterior(2R) 20-0-4 to 24-10-8, Interior (1) 24-10-8 to 34-4-0 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) 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) Bearings are assumed to be: Joint 2 SP No.2 .
8) Refer to girder(s) for truss to truss connections.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) 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

November 11,2025

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	A3	Piggyback Base	7	1	I77709485 Job Reference (optional)

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

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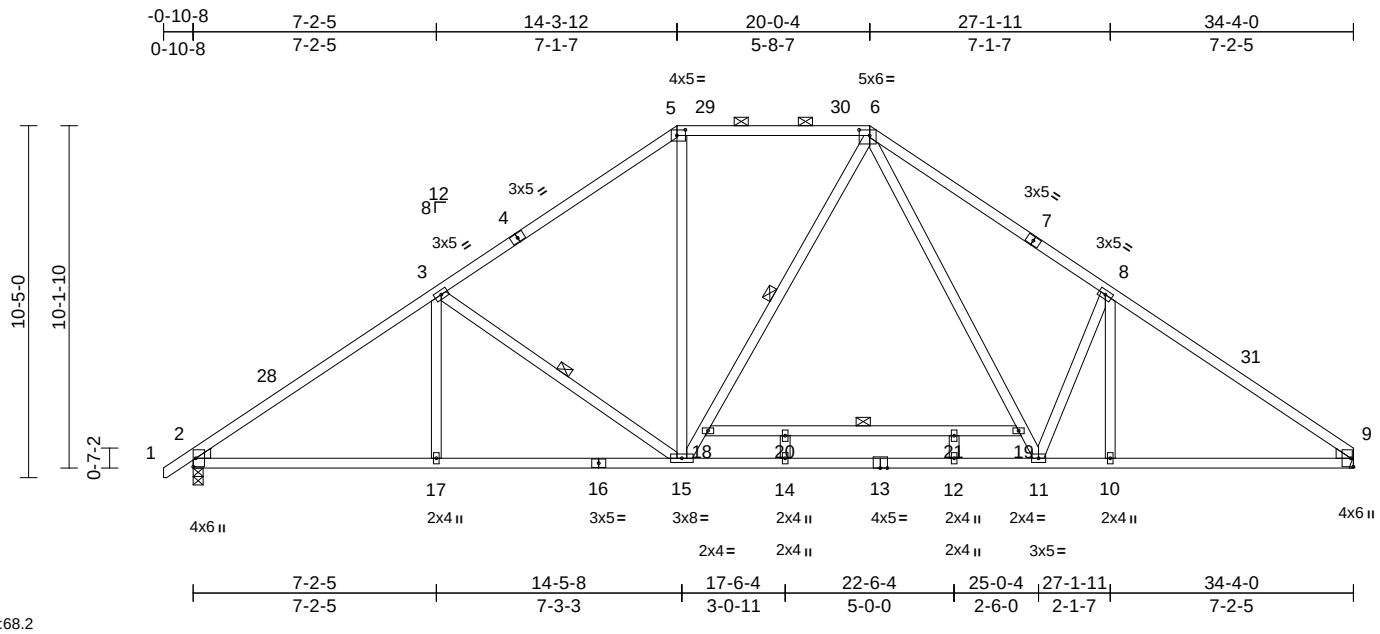

Scale = 1:68.2

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

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	0.97	Vert(LL)	-0.08	15-17	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.50	12-14	>830	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.67	Horz(CT)	0.08	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 211 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2 *Except* 13-9:2x4 SP No.1
WEBS	2x4 SP No.3 *Except* 6-15,6-11,18-19:2x4 SP No.2
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (4-6-13 max.): 5-6.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 3-15, 6-15, 18-19

REACTIONS (size) 2=0-3-8, 9= Mechanical
Max Horiz 2=187 (LC 12)
Max Grav 2=1507 (LC 2), 9=1489 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/35, 2-3=-2171/0, 3-5=-1734/5, 5-6=-1381/49, 6-8=-2139/0, 8-9=-2221/0
BOT CHORD	2-17=-43/1713, 15-17=0/1713, 14-15=0/1323, 12-14=0/1323, 11-12=0/1323, 10-11=0/1756, 9-10=0/1756
WEBS	3-17=0/117, 3-15=-531/135, 5-15=0/538, 8-10=-86/0, 15-18=-157/146, 6-18=-81/214, 6-19=0/792, 11-19=0/734, 8-11=-369/242, 18-20=-43/0, 20-21=-43/0, 19-21=-43/0, 14-20=0/77, 12-21=0/35

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) -0-10-0 to 2-7-4, Interior (1) 2-7-4 to 14-3-12, Exterior(2R) 14-3-12 to 19-2-1, Interior (1) 19-2-1 to 20-0-4, Exterior(2R) 20-0-4 to 24-10-8, Interior (1) 24-10-8 to 34-4-0 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) 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) 200.0lb AC unit load placed on the bottom chord, 20-0-4 from left end, supported at two points, 5-0-0 apart.
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) Bearings are assumed to be: Joint 2 SP No.2 .
10) Refer to girder(s) for truss to truss connections.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

November 11,2025

ENGINEERING BY TRENCO
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	A4	Piggyback Base	4	1	I77709486 Job Reference (optional)

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

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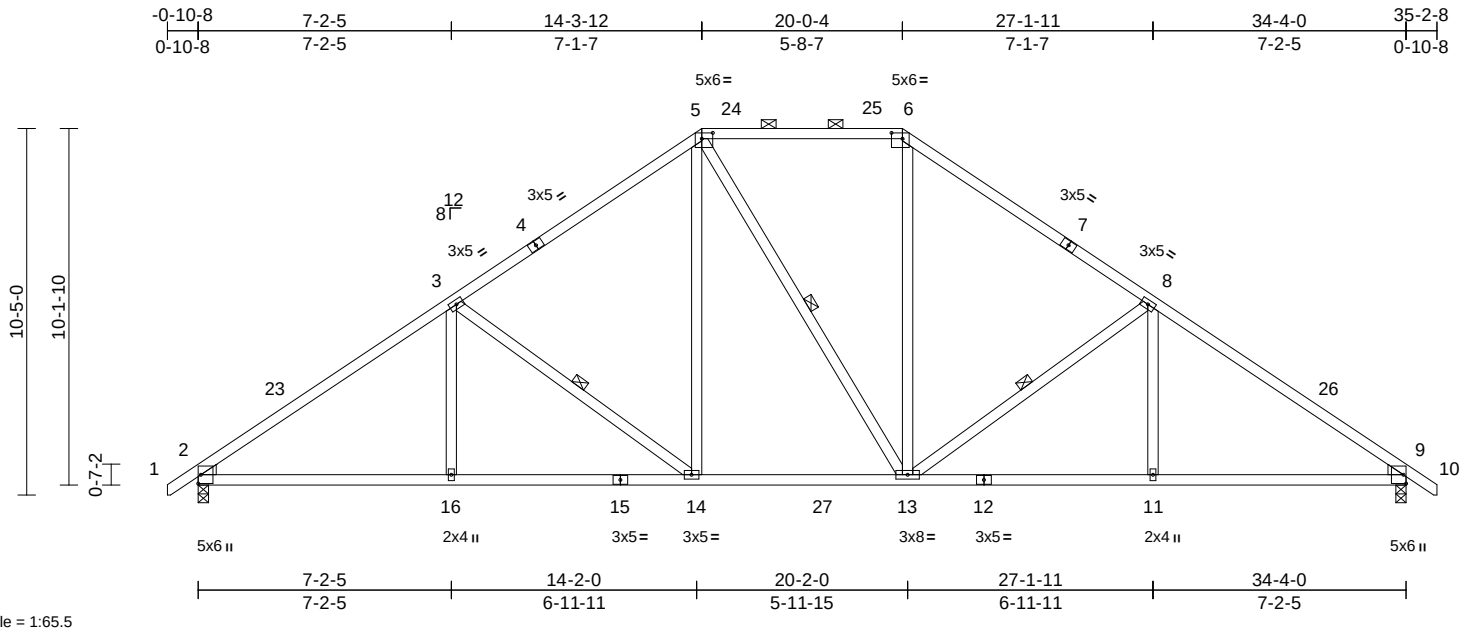

Scale = 1:65.5

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

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	0.75	Vert(LL)	-0.12	13-14	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.24	14-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horz(CT)	0.09	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 199 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 13-5:2x4 SP No.2
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-2-0 oc purlins, except 2-0-0 oc purlins (4-6-3 max.): 5-6.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 3-14, 5-13, 8-13

REACTIONS (size) 2=0-3-8, 9=0-3-8
Max Horiz 2=-190 (LC 11)
Max Grav 2=1562 (LC 29), 9=1559 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/35, 2-3=-2445/93, 3-5=-1909/163, 5-6=-1504/183, 6-8=-1903/163, 8-9=-2438/93, 9-10=0/35
BOT CHORD	2-16=-72/1938, 14-16=-9/1938, 13-14=0/1411, 11-13=0/1934, 9-11=-12/1934
WEBS	3-16=0/267, 3-14=-640/111, 5-14=0/645, 5-13=-148/150, 6-13=0/631, 8-13=-640/111, 8-11=0/267

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) -0-10-0 to 2-7-4, Interior (1) 2-7-4 to 14-3-12, Exterior(2R) 14-3-12 to 19-2-1, Interior (1) 19-2-1 to 20-0-4, Exterior(2R) 20-0-4 to 24-10-8, Interior (1) 24-10-8 to 35-2-0 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) 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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 11,2025

ENGINEERING BY TRENCO
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	A5	Piggyback Base Structural Gable	1	1	I77709487 Job Reference (optional)

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

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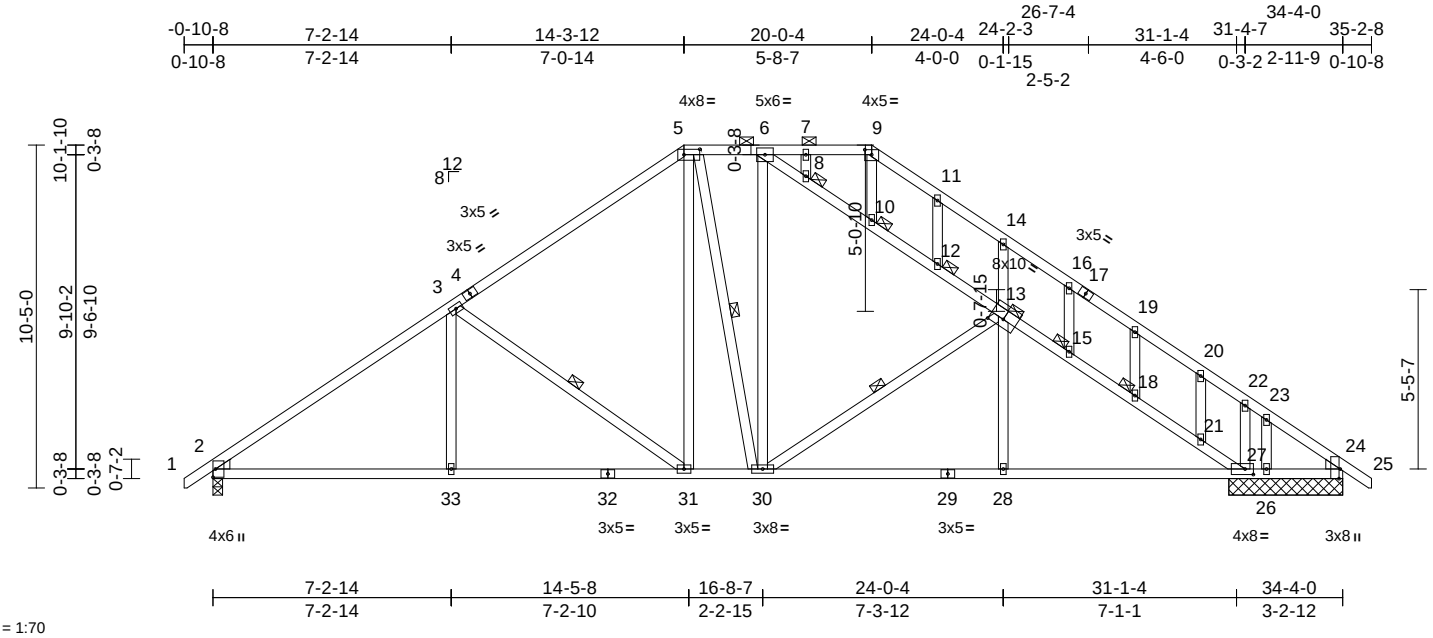

Scale = 1:70

Plate Offsets (X, Y): [5:0-5-12,0-2-0], [9:0-2-8,0-1-13], [13:0-5-0,0-2-12], [24:0-3-8,Edge], [27:0-3-0,0-2-0]

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	0.64	Vert(LL)	-0.07	31-33	>999	240	MT20	244/190
Snow (Pf/Pg)	18.9/20.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.18	31-33	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horz(CT)	0.07	24	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 249 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
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-6-5 oc purlins, except 2-0-0 oc purlins (5-3-12 max.): 5-9, 6-27.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 3-31, 5-30, 13-30
JOINTS	1 Brace at Jt(s): 10, 8, 12, 15, 18, 13

REACTIONS (size) 2=0-3-8, 24=3-5-8, 26=3-5-8, 27=3-5-8
Max Horiz 2=-190 (LC 11)
Max Uplift 26=-637 (LC 2), 27=-112 (LC 14)
Max Grav 2=1318 (LC 2), 24=476 (LC 2), 26=15 (LC 14), 27=1690 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/35, 2-3=-1944/256, 3-5=-1453/275, 5-6=-1148/274, 6-7=-444/170, 7-9=-445/170, 9-11=-542/181, 11-14=-548/142, 14-16=-461/48, 16-19=-486/11, 19-20=-528/0, 20-22=-535/0, 22-23=-356/18, 23-24=-508/0, 24-25=0/35, 6-8=-858/124, 8-10=-875/135, 10-12=-820/117, 12-15=-1280/218, 15-18=-1321/240, 18-21=-1359/259, 21-27=-1405/290
BOT CHORD	2-33=-94/1514, 31-33=-94/1514, 30-31=0/1027, 28-30=-26/1411, 27-28=-26/1412, 26-27=0/393, 24-26=0/393
WEBS	9-10=-33/98, 7-8=-29/19, 11-12=-88/45, 13-14=-262/148, 15-16=-74/39, 18-19=-68/35, 20-21=-82/56, 23-26=-40/181, 3-33=0/155, 3-31=-618/196, 5-31=-53/440, 5-30=-164/152, 6-30=-56/397, 13-30=-486/121, 13-28=0/150, 22-27=-437/174

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) -0-10-0 to 2-7-4, Exterior(2N) 2-7-4 to 14-3-12, Corner(3R) 14-3-12 to 18-0-4, Exterior(2N) 18-0-4 to 20-0-4, Corner(3R) 20-0-4 to 23-5-7, Exterior(2N) 23-5-7 to 35-2-0 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) 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 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 637 lb uplift at joint 26.
12) N/A
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	B1	Common Supported Gable	1	1	I77709488 Job Reference (optional)

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

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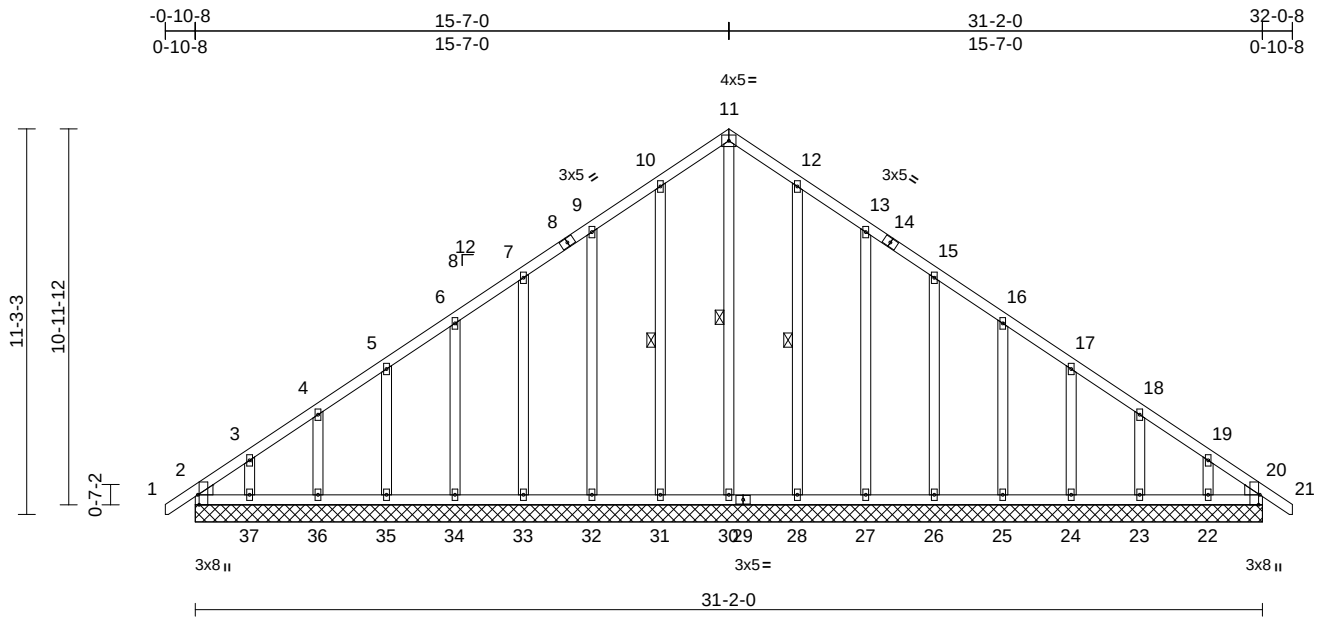


Scale = 1:67.3

Plate Offsets (X, Y): [2:0-3-8,Edge], [20:0-3-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.01	20	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 229 lb	FT = 20%

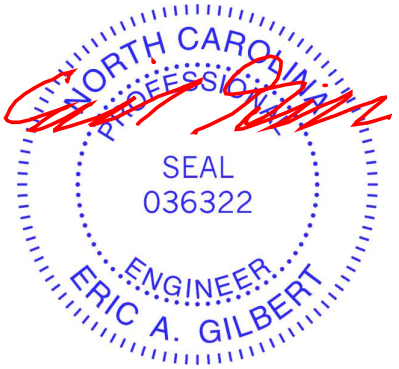
LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 30-11:2x4 SP No.2
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

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.
WEBS 1 Row at midpt 11-30, 10-31, 12-28

REACTIONS (size) 2=31-2-0, 20=31-2-0, 22=31-2-0, 23=31-2-0, 24=31-2-0, 25=31-2-0, 26=31-2-0, 27=31-2-0, 28=31-2-0, 30=31-2-0, 31=31-2-0, 32=31-2-0, 33=31-2-0, 34=31-2-0, 35=31-2-0, 36=31-2-0, 37=31-2-0
Max Horiz 2=206 (LC 12)
Max Uplift 2=-63 (LC 9), 20=-12 (LC 10), 22=-51 (LC 14), 23=-22 (LC 14), 24=-27 (LC 14), 25=-26 (LC 14), 26=-25 (LC 14), 27=-29 (LC 14), 28=-19 (LC 14), 31=-21 (LC 13), 32=-29 (LC 13), 33=-25 (LC 13), 34=-25 (LC 13), 35=-27 (LC 13), 36=-20 (LC 13), 37=-58 (LC 13)
Max Grav 2=170 (LC 30), 20=130 (LC 29), 22=157 (LC 30), 23=167 (LC 30), 24=164 (LC 30), 25=165 (LC 30), 26=165 (LC 30), 27=165 (LC 30), 28=169 (LC 30), 30=172 (LC 14), 31=172 (LC 29), 32=164 (LC 29), 33=165 (LC 29), 34=165 (LC 29), 35=165 (LC 29), 36=165 (LC 29), 37=168 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-194/166, 3-4=-164/145, 4-5=-137/127, 5-6=-122/110, 6-7=-113/109, 7-9=-104/135, 9-10=-125/193, 10-11=-154/243, 11-12=-154/243, 12-13=-125/193, 13-15=-98/135, 15-16=-75/80, 16-17=-67/41, 17-18=-76/54, 18-19=-105/73, 19-20=-156/97, 20-21=0/35
BOT CHORD 2-37=-106/167, 36-37=-82/167, 35-36=-82/167, 34-35=-82/167, 33-34=-82/167, 32-33=-82/167, 31-32=-82/167, 30-31=-82/167, 28-30=-82/167, 27-28=-82/167, 26-27=-82/167, 25-26=-82/167, 24-25=-82/167, 23-24=-82/167, 22-23=-82/167, 20-22=-82/167
WEBS 11-30=-208/77, 10-31=-143/65, 9-32=-145/82, 7-33=-143/75, 6-34=-143/76, 5-35=-143/76, 4-36=-146/77, 3-37=-131/78, 12-28=-143/65, 13-27=-145/82, 15-26=-143/75, 16-25=-143/76, 17-24=-143/76, 18-23=-146/77, 19-22=-132/79

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 Corner (3E) -0-10-0 to 2-3-7, Exterior(2N) 2-3-7 to 15-7-0, Corner(3R) 15-7-0 to 18-8-6, Exterior(2N) 18-8-6 to 32-0-0 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) 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 .



November 11,2025

Continued on page 2

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

11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 63 lb uplift at joint 2, 12 lb uplift at joint 20, 21 lb uplift at joint 31, 29 lb uplift at joint 32, 25 lb uplift at joint 33, 25 lb uplift at joint 34, 27 lb uplift at joint 35, 20 lb uplift at joint 36, 58 lb uplift at joint 37, 19 lb uplift at joint 28, 29 lb uplift at joint 27, 25 lb uplift at joint 26, 26 lb uplift at joint 25, 27 lb uplift at joint 24, 22 lb uplift at joint 23, 51 lb uplift at joint 22, 63 lb uplift at joint 2 and 12 lb uplift at joint 20.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	B2	Common	5	1	I77709489 Job Reference (optional)

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

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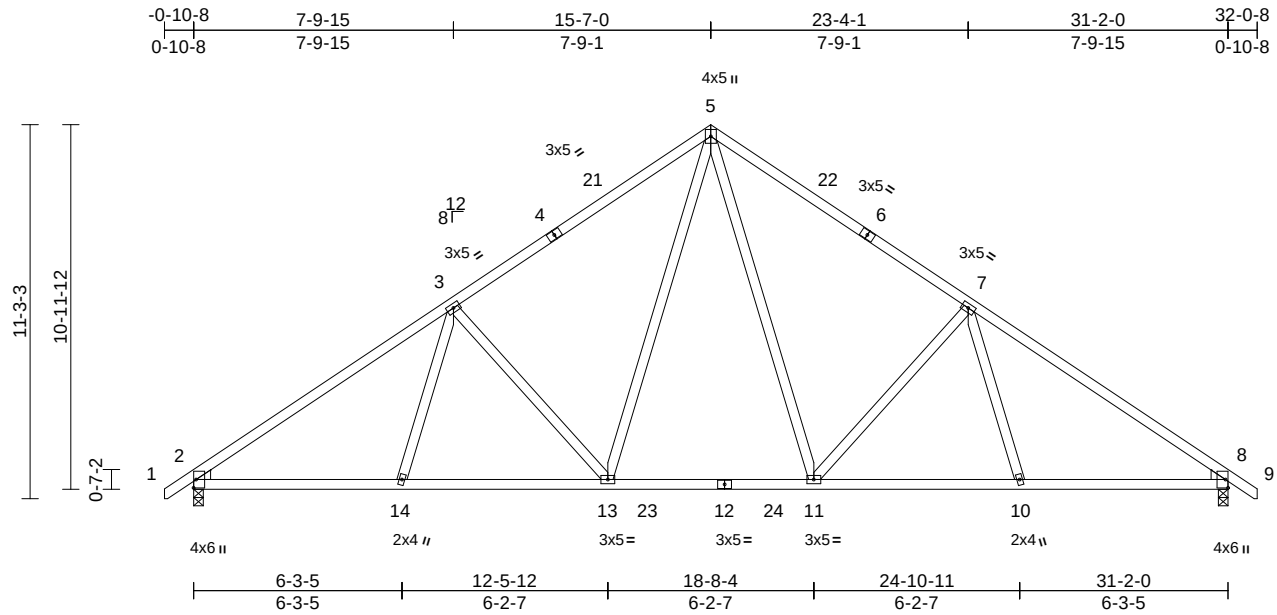

Scale = 1:69.4

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	0.92	Vert(LL)	-0.12	11-13	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.20	11-13	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.07	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 176 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 13-5,11-5:2x4 SP No.2
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

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

REACTIONS (size) 2=0-3-8, 8=0-3-8
Max Horiz 2=206 (LC 12)
Max Grav 2=1452 (LC 29), 8=1452 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-2292/163, 3-5=-1852/241, 5-7=-1852/241, 7-8=-2292/163, 8-9=0/35
BOT CHORD 2-14=-69/1794, 13-14=-38/1734, 11-13=0/1116, 10-11=-39/1735, 8-10=-37/1796
WEBS 3-14=0/233, 3-13=-628/175, 5-13=-58/763, 5-11=-58/763, 7-11=-628/175, 7-10=0/233

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) -0-10-0 to 2-3-7, Interior (1) 2-3-7 to 15-7-0, Exterior(2R) 15-7-0 to 18-8-6, Interior (1) 18-8-6 to 32-0-0 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) 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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C	I77709490
25100169-01	C1	Common Structural Gable	1	1	Job Reference (optional)	

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

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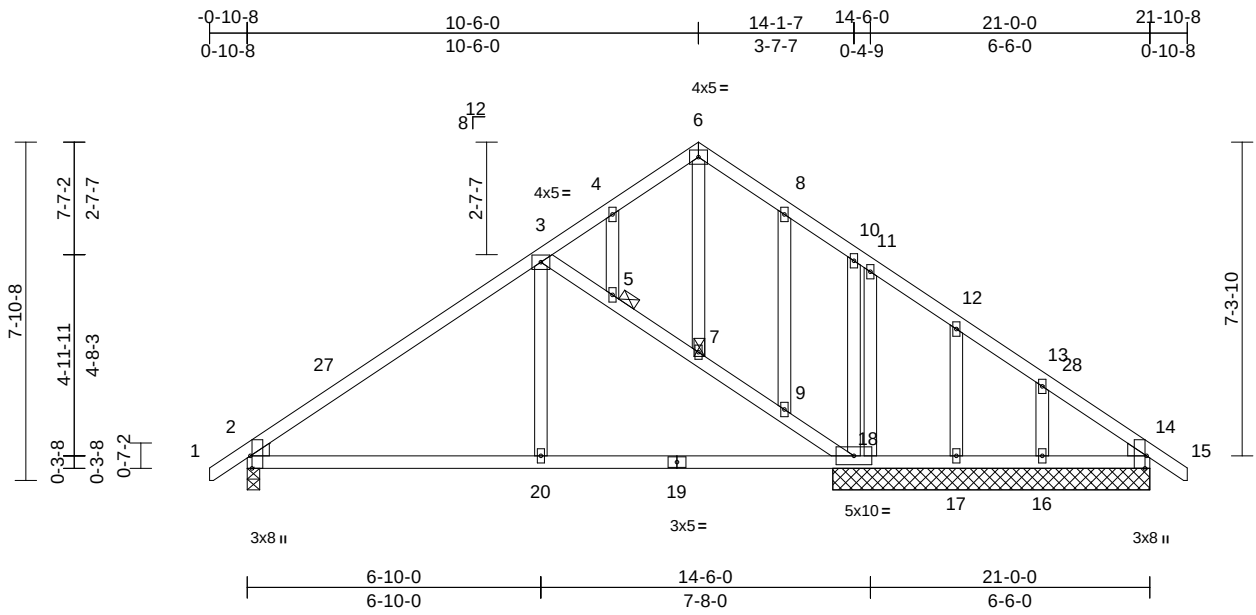

Scale = 1:53.6

Plate Offsets (X, Y): [2:0-3-8,Edge], [14:0-3-8,Edge]

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	0.45	Vert(LL)	0.05	20-23	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.37	Vert(CT)	-0.09	20-23	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 131 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
WEDGE	Left: 2x4 SP No.3 Right: 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.
JOINTS	1 Brace at Jt(s): 7, 5

REACTIONS (size) 2=0-3-8, 14=7-4-8, 16=7-4-8, 17=7-4-8, 18=7-4-8

Max Horiz 2=137 (LC 12)

Max Uplift 16=-51 (LC 14), 17=-27 (LC 14), 18=-3 (LC 14)

Max Grav 2=626 (LC 2), 14=228 (LC 2), 16=202 (LC 30), 17=108 (LC 2), 18=580 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/34, 2-3=-701/87, 3-4=-202/50, 4-6=-179/78, 6-8=-162/73, 8-10=-184/29, 10-11=-109/0, 11-12=-167/0, 12-13=-172/5, 13-14=-187/38, 14-15=0/34, 3-5=-519/160, 5-7=-542/174, 7-9=-530/163, 9-18=-563/194
BOT CHORD	2-20=-67/542, 18-20=0/542, 17-18=-46/207, 16-17=-46/207, 14-16=-46/207
WEBS	6-7=-20/21, 4-5=-40/26, 8-9=-58/56, 11-18=-35/62, 12-17=-127/75, 13-16=-158/109, 3-20=0/174, 10-18=-167/37

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) -0-10-0 to 2-2-0, Exterior(2N) 2-2-0 to 10-6-0, Corner(3R) 10-6-0 to 13-6-0, Exterior(2N) 13-6-0 to 21-10-0 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 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) N/A
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	C2	Common	1	1	I77709491 Job Reference (optional)

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

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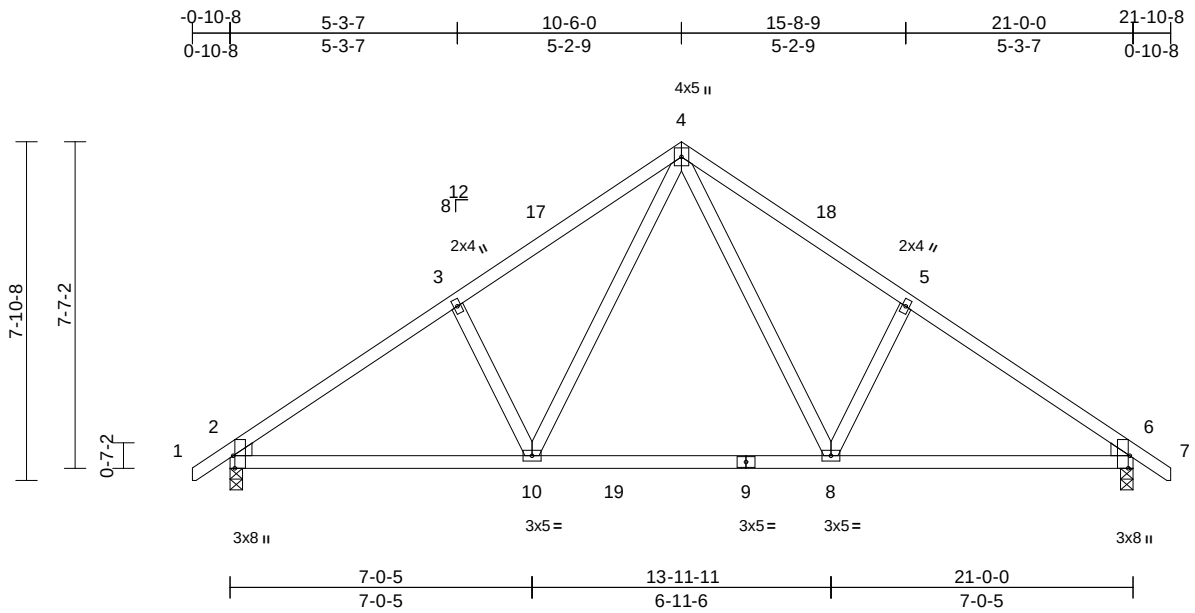

Scale = 1:53.6

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

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	0.32	Vert(LL)	-0.10	8-10	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.15	8-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.02	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 108 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-9-11 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=137 (LC 12)
Max Grav 2=965 (LC 29), 6=965 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/34, 2-3=-1418/121, 3-4=-1336/173, 4-5=-1335/173, 5-6=-1418/121, 6-7=0/34
BOT CHORD	2-10=-44/1111, 8-10=0/716, 6-8=-22/1112
WEBS	4-8=-50/603, 5-8=-314/138, 4-10=-50/604, 3-10=-314/138

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) -0-10-0 to 2-2-0, Interior (1) 2-2-0 to 10-6-0, Exterior(2R) 10-6-0 to 13-6-0, Interior (1) 13-6-0 to 21-10-0 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) 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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	C3	Common Girder	1	2	I77709492 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:47:33 Page: 1
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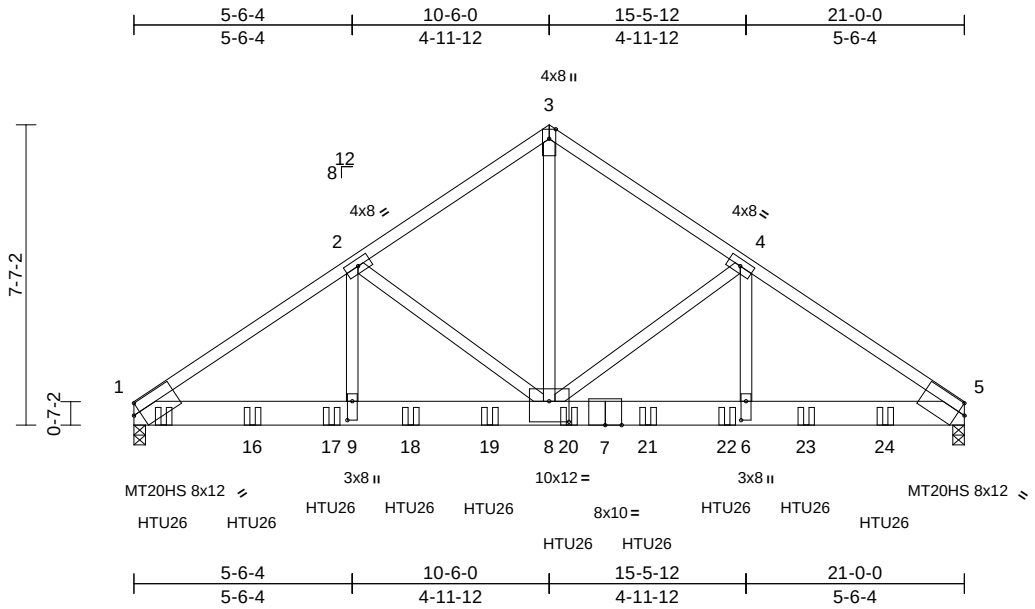

Scale = 1:58.3

Plate Offsets (X, Y): [1:Edge,0-3-2], [5:Edge,0-3-2], [6:0-5-12,0-1-8], [8:0-6-0,0-6-4], [9:0-5-12,0-1-8]

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	0.41	Vert(LL)	-0.10	8-9	>999	240	MT20HS	187/143
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.21	6-8	>999	180	MT20	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.76	Horz(CT)	0.05	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 280 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E
BOT CHORD 2x8 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 8-3:2x4 SP No.1

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

REACTIONS (size) 1=0-3-8, 5=0-3-8
Max Horiz 1=127 (LC 8)
Max Grav 1=8401 (LC 2), 5=7579 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-11117/0, 2-3=-7821/0, 3-4=-7820/0, 4-5=-11062/0
BOT CHORD 1-9=0/9201, 8-9=0/9201, 6-8=0/9154, 5-6=0/9154
WEBS 3-8=0/8282, 4-8=-3460/0, 4-6=0/3618, 2-8=-3478/0, 2-9=0/3657

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: 2x8 - 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=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) All plates are MT20 plates 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) All bearings are assumed to be SP 2400F 2.0E .
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 2-3-0 oc max. starting at 0-9-0 from the left end to 19-0-0 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=-46, 3-5=-46, 10-13=-19
Concentrated Loads (lb)
Vert: 12=-1174 (B), 16=-1288 (B), 17=-1288 (B), 18=-1288 (B), 19=-1288 (B), 20=-1288 (B), 21=-1288 (B), 22=-1288 (B), 23=-1171 (B), 24=-1171 (B)

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	D1	Common Supported Gable	1	1	I77709493 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:47:33 Page: 1
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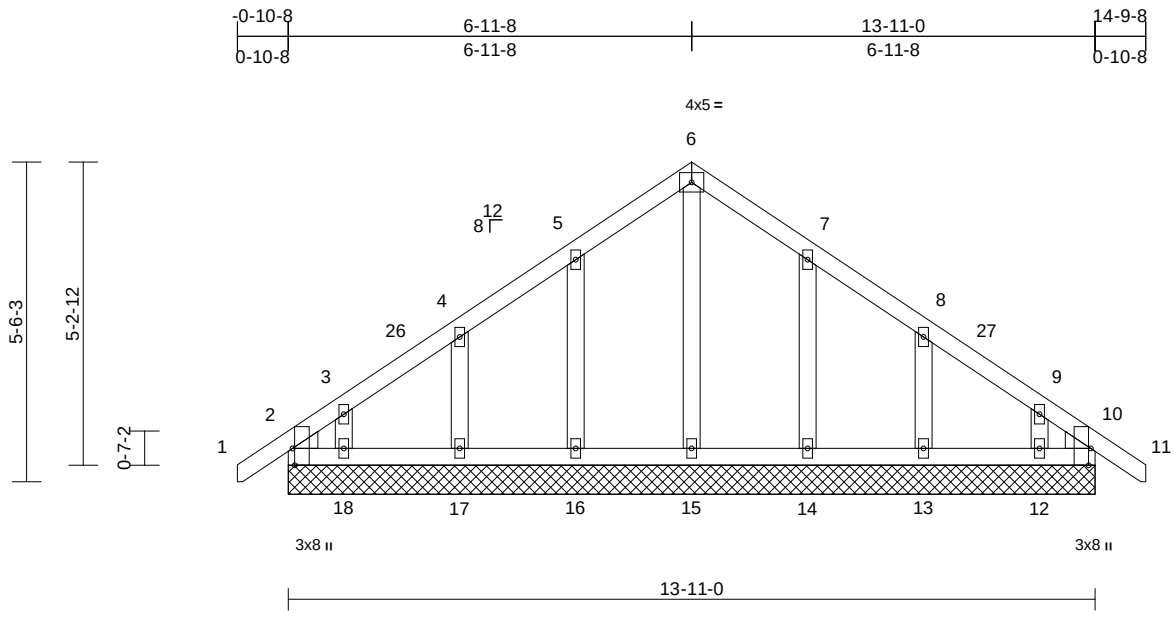

Scale = 1:39.7

Plate Offsets (X, Y): [2:0-3-8,Edge], [10:0-3-8,Edge]

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	0.06	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	0.04	Horz(CT)	0.00	23	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 75 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3
Right: 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=13-11-0, 10=13-11-0, 12=13-11-0, 13=13-11-0, 14=13-11-0, 15=13-11-0, 16=13-11-0, 17=13-11-0, 18=13-11-0
Max Horiz 2=-94 (LC 11)
Max Uplift 2=-32 (LC 9), 10=-8 (LC 10), 12=-33 (LC 14), 13=-25 (LC 14), 14=-26 (LC 14), 16=-27 (LC 13), 17=-25 (LC 13), 18=-38 (LC 13)
Max Grav 2=111 (LC 30), 10=102 (LC 2), 12=118 (LC 30), 13=164 (LC 30), 14=165 (LC 30), 15=128 (LC 32), 16=166 (LC 29), 17=163 (LC 29), 18=125 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/34, 2-3=-89/72, 3-4=-79/60, 4-5=-72/71, 5-6=-91/141, 6-7=-91/141, 7-8=-62/71, 8-9=-54/30, 9-10=-79/46, 10-11=0/34
BOT CHORD 2-18=-47/115, 17-18=-38/115, 16-17=-38/115, 15-16=-38/115, 14-15=-38/115, 13-14=-38/115, 12-13=-38/115, 10-12=-38/115
WEBS 6-15=-89/4, 5-16=-149/105, 4-17=-147/113, 3-18=-113/106, 7-14=-149/105, 8-13=-148/114, 9-12=-114/105

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) -0-10-0 to 2-2-0, Exterior(2N) 2-2-0 to 6-11-8, Corner(3R) 6-11-8 to 9-11-8, Exterior(2N) 9-11-8 to 14-9-0 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
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 32 lb uplift at joint 2, 8 lb uplift at joint 10, 27 lb uplift at joint 16, 25 lb uplift at joint 17, 38 lb uplift at joint 18, 26 lb uplift at joint 14, 25 lb uplift at joint 13, 33 lb uplift at joint 12, 32 lb uplift at joint 2 and 8 lb uplift at joint 10.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 10, 19, 23.
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	D2	Common	1	1	I77709494 Job Reference (optional)

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

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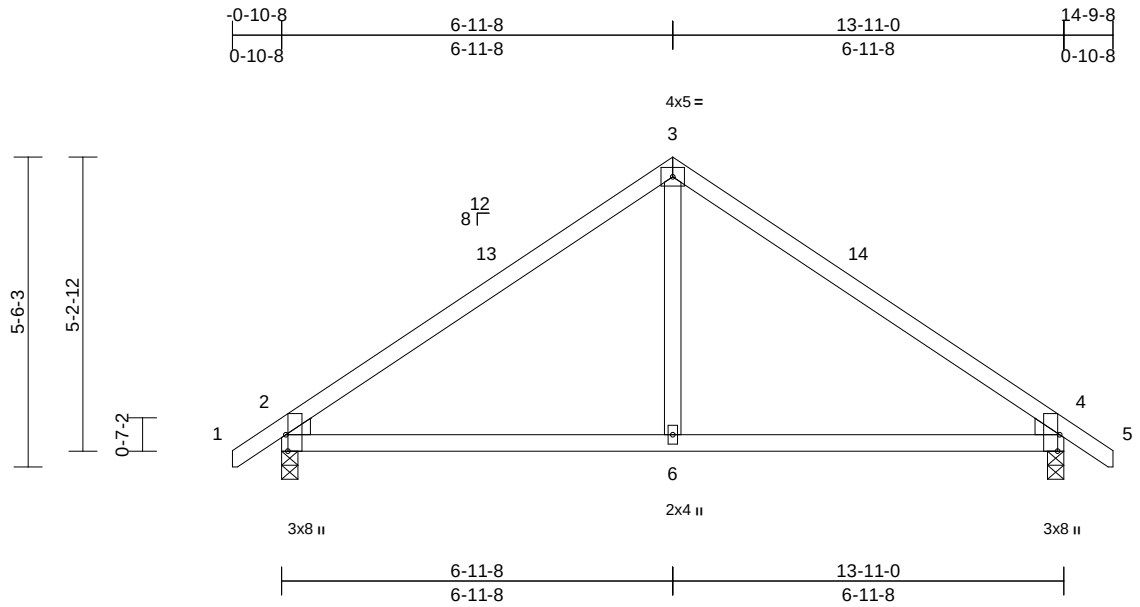

Scale = 1:41

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

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	0.59	Vert(LL)	-0.07	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.12	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 57 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-9-9 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4=0-3-8
Max Horiz 2=-94 (LC 11)
Max Grav 2=588 (LC 2), 4=588 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/34, 2-3=-672/124, 3-4=-672/124, 4-5=0/34
BOT CHORD	2-6=-36/456, 4-6=-35/456
WEBS	3-6=0/227

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) -0-10-0 to 2-2-0, Interior (1) 2-2-0 to 6-11-8, Exterior(2R) 6-11-8 to 9-11-8, Interior (1) 9-11-8 to 14-9-0 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
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.
6) All bearings are assumed to be SP No.2 .
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C	I77709495
25100169-01	E1	Monopitch Supported Gable	1	1	Job Reference (optional)	

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

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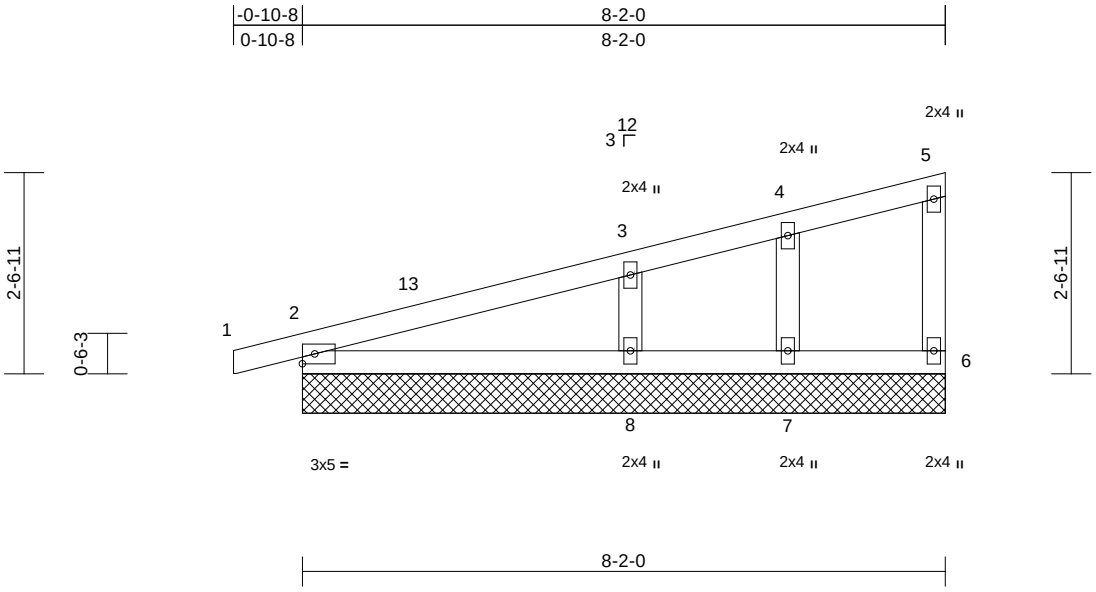

Scale = 1:29.3

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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 33 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) 2=8-2-0, 6=8-2-0, 7=8-2-0, 8=8-2-0
Max Horiz 2=66 (LC 14)
Max Uplift 2=-19 (LC 11), 7=-4 (LC 11), 8=-16 (LC 15)
Max Grav 2=194 (LC 2), 6=77 (LC 22), 7=114 (LC 22), 8=354 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/16, 2-3=-154/87, 3-4=-79/55, 4-5=-48/49, 5-6=-65/67
BOT CHORD	2-8=-147/101, 7-8=-38/52, 6-7=-38/52
WEBS	4-7=-99/108, 3-8=-259/263

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) -0-10-5 to 2-1-11, Exterior(2N) 2-1-11 to 8-0-4 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
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) 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) 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 19 lb uplift at joint 2, 4 lb uplift at joint 7, 16 lb uplift at joint 8 and 19 lb uplift at joint 2.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	E2	Monopitch	5	1	I77709496 Job Reference (optional)

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

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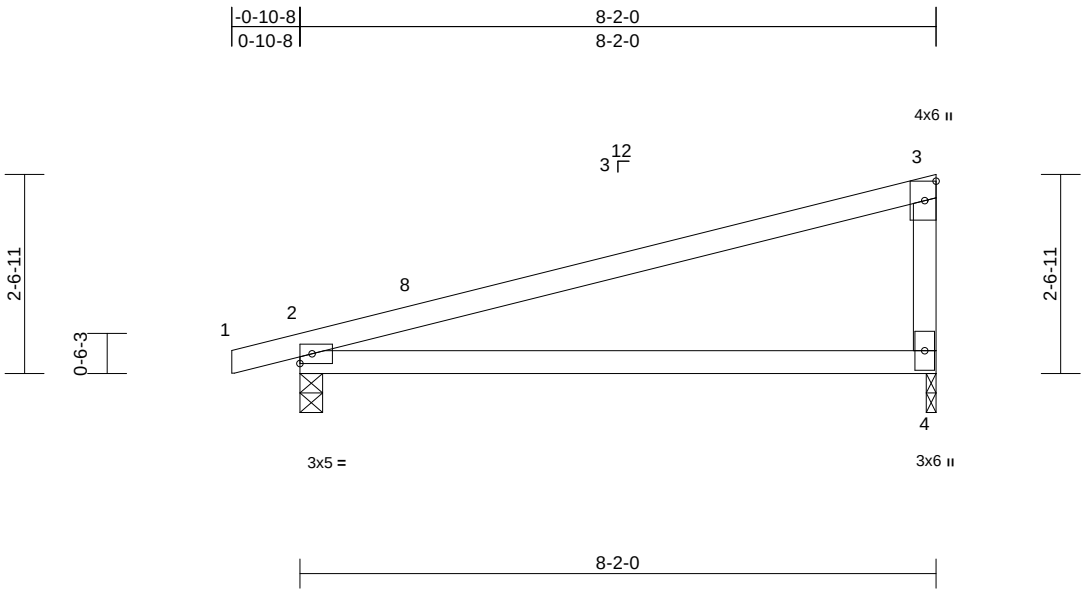

Scale = 1:29.6

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	0.99	Vert(LL)	0.07	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.58	Vert(CT)	-0.17	4-7	>569	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 29 lb	FT = 20%

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

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

REACTIONS (size) 2=0-3-8, 4=0-1-8
Max Horiz 2=75 (LC 12)
Max Uplift 2=-25 (LC 11), 4=-12 (LC 15)
Max Grav 2=375 (LC 2), 4=349 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-329/110, 3-4=-230/190
BOT CHORD 2-4=-285/304

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) -0-10-5 to 2-1-11, Interior (1) 2-1-11 to 8-0-4 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
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 at joint(s) 4.
8) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	G1	Monopitch	4	1	I77709497 Job Reference (optional)

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

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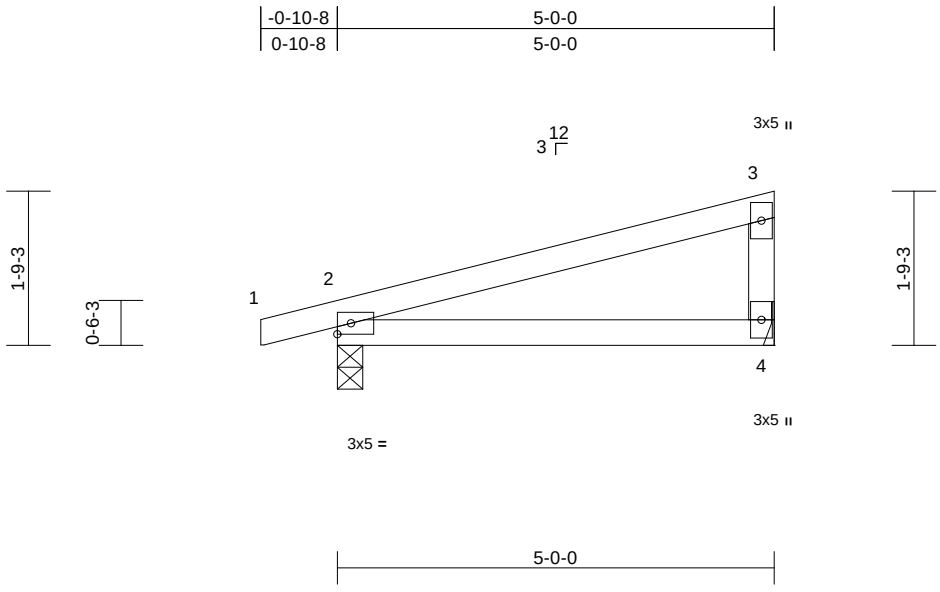

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	0.01	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.02	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 18 lb	FT = 20%

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

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

REACTIONS (size) 2=0-3-8, 4= Mechanical
Max Horiz 2=48 (LC 12)
Max Uplift 2=-25 (LC 11), 4=-7 (LC 15)
Max Grav 2=278 (LC 22), 4=209 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-184/63, 3-4=-146/120
BOT CHORD 2-4=-138/176

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) -0-10-5 to 2-1-11, Interior (1) 2-1-11 to 4-10-4 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) 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 2 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 7 lb uplift at joint 4.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	I01	Monopitch Supported Gable	1	1	I77709498 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:47:33 Page: 1
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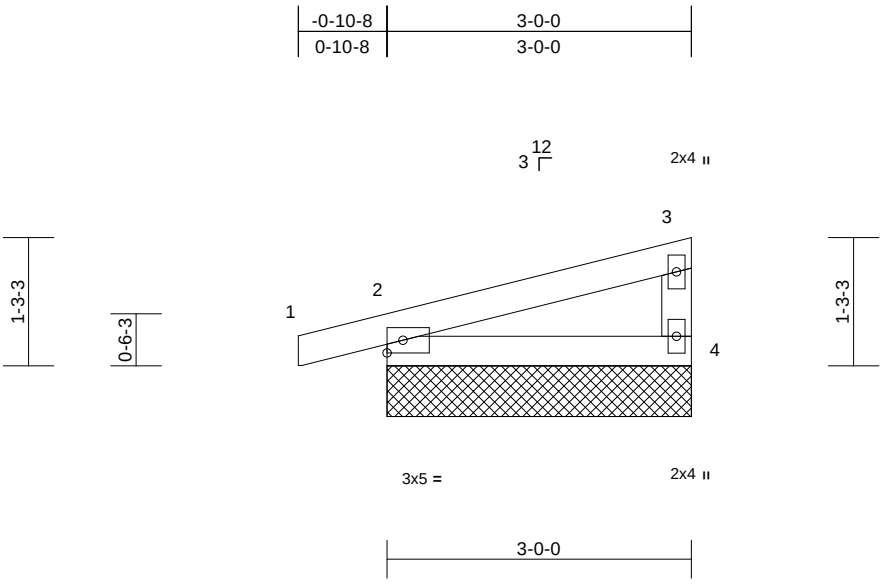


Scale = 1:22.7

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	0.11	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(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	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 12 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 3-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=3-0-0, 4=3-0-0
Max Horiz 2=28 (LC 14)
Max Uplift 2=-26 (LC 11), 4=-1 (LC 15)
Max Grav 2=186 (LC 22), 4=116 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-91/42, 3-4=-91/103
BOT CHORD 2-4=-70/57

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) -0-10-5 to 2-1-11, Exterior(2N) 2-1-11 to 2-10-4 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) 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) Gable requires continuous bottom chord bearing.
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) All bearings are assumed to be SP No.2 .
8) N/A
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

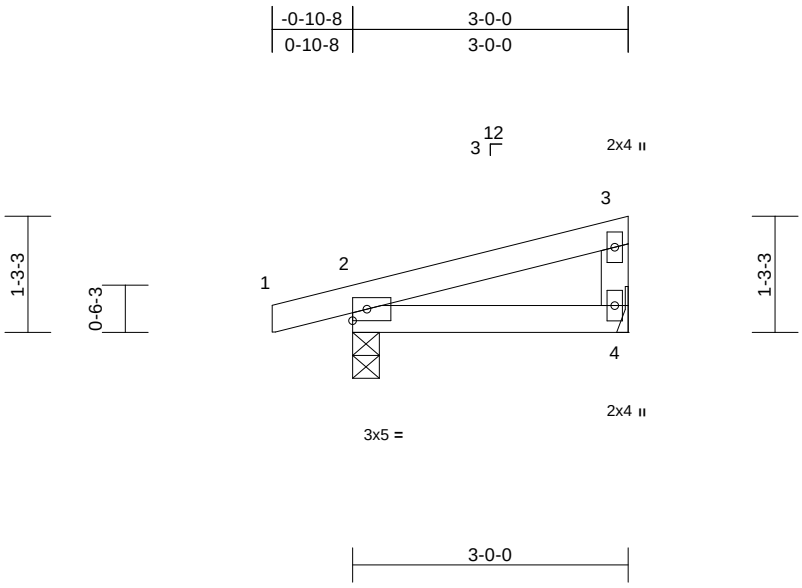
November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	I02	Monopitch	3	1	I77709499 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:47:34 ID:5p1dxQzrKC5nxDdbKjYfeGyeB6S-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:25.1

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	0.09	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	0.00	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 12 lb	FT = 20%

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

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

REACTIONS (size) 2=0-3-8, 4= Mechanical
Max Horiz 2=31 (LC 12)
Max Uplift 2=-25 (LC 11), 4=-4 (LC 15)
Max Grav 2=186 (LC 22), 4=113 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-88/38, 3-4=-85/69
BOT CHORD 2-4=-62/89

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) -0-10-5 to 2-1-11, Interior (1) 2-1-11 to 2-10-4 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) 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 2 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 4 lb uplift at joint 4.
9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

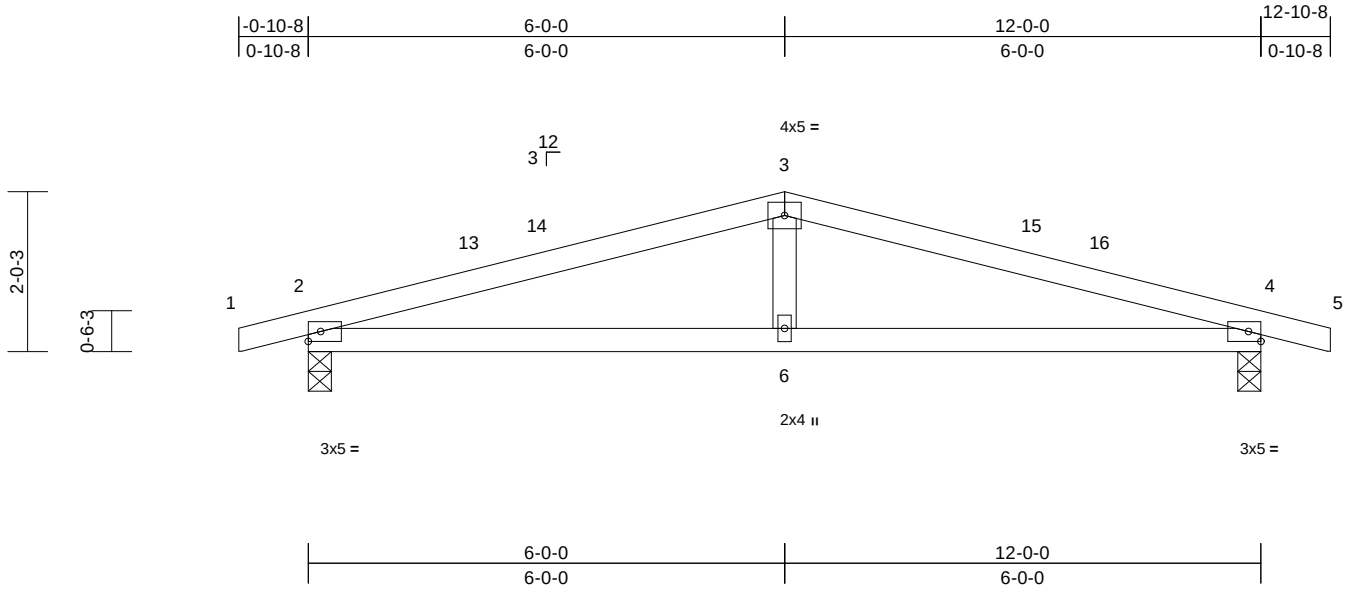
November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	K1	Common	4	1	I77709500 Job Reference (optional)

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:47:34 ID:2RMYgZBFgcGqugwAZywshhyTAvp-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:29

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	0.49	Vert(LL)	-0.04	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.08	6-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 41 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4=0-3-8
Max Horiz 2=17 (LC 11)
Max Uplift 2=-20 (LC 11), 4=-20 (LC 12)
Max Grav 2=531 (LC 2), 4=531 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-1027/317, 3-4=-1027/317, 4-5=0/16
BOT CHORD 2-6=-248/952, 4-6=-248/952
WEBS 3-6=0/140

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) -0-10-5 to 2-1-11, Interior (1) 2-1-11 to 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior (1) 9-0-0 to 12-10-5 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
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) 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) * 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) All bearings are assumed to be SP No.2 .
8) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	K1E	Common Supported Gable	1	1	I77709501 Job Reference (optional)

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

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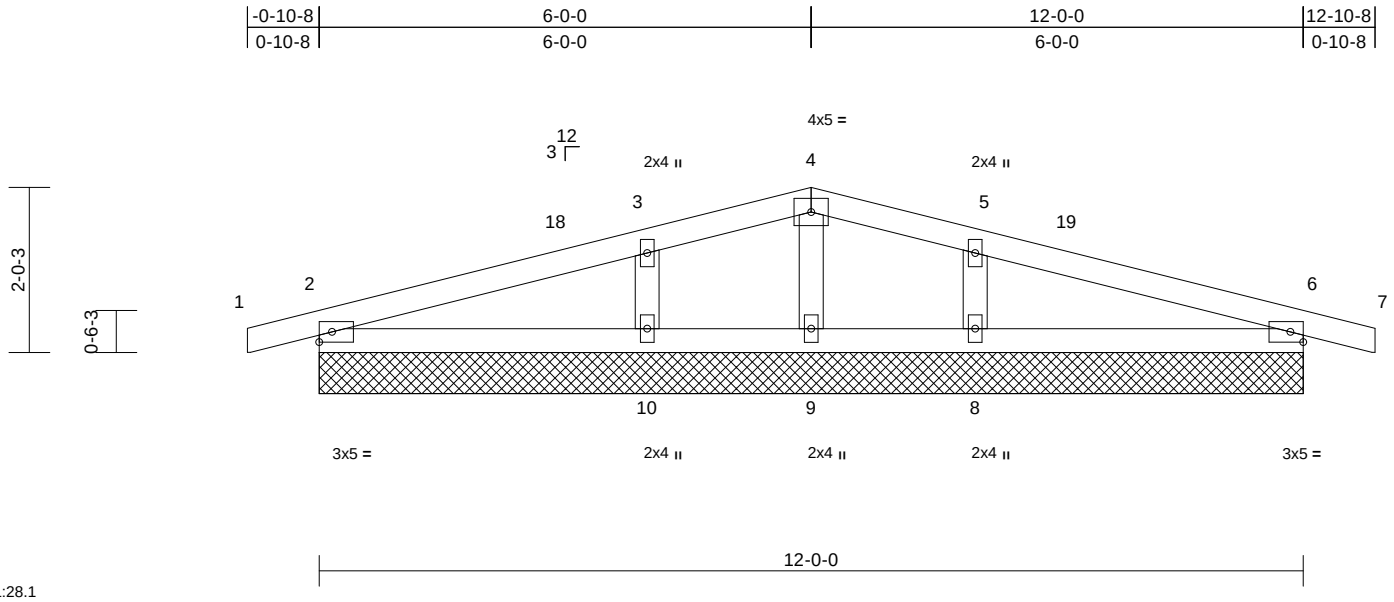

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 44 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=12-0-0, 6=12-0-0, 8=12-0-0, 9=12-0-0, 10=12-0-0
Max Horiz 2=17 (LC 11)
Max Uplift 2=-24 (LC 11), 6=-26 (LC 12), 8=-13 (LC 16), 9=-12 (LC 2), 10=-14 (LC 15)
Max Grav 2=241 (LC 22), 6=241 (LC 23), 8=345 (LC 23), 9=13 (LC 16), 10=345 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-149/87, 3-4=-161/139, 4-5=-161/138, 5-6=-150/86, 6-7=0/16
BOT CHORD 2-10=-29/120, 9-10=-26/120, 8-9=-26/120, 6-8=-28/120
WEBS 4-9=-5/27, 3-10=-247/218, 5-8=-247/218

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) -0-10-5 to 2-1-11, Exterior(2N) 2-1-11 to 6-0-0, Corner(3R) 6-0-0 to 9-0-0, Exterior(2N) 9-0-0 to 12-10-5 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
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) 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) 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 24 lb uplift at joint 2, 26 lb uplift at joint 6, 12 lb uplift at joint 9, 14 lb uplift at joint 10, 13 lb uplift at joint 8, 24 lb uplift at joint 2 and 26 lb uplift at joint 6.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	PB1	Piggyback	2	1	I77709502 Job Reference (optional)

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

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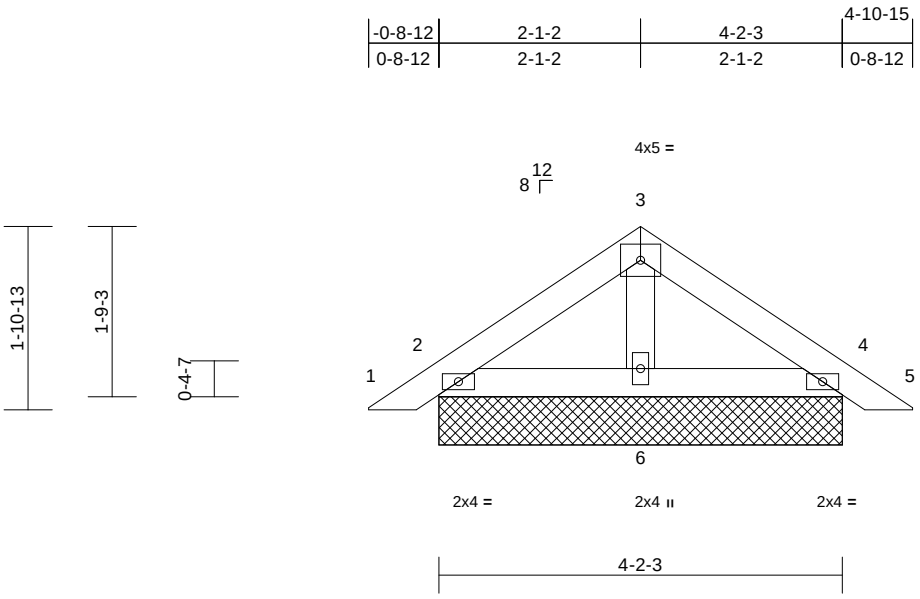

Scale = 1:23.9

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	0.04	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(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	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 18 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 5-8-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=4-2-3, 4=4-2-3, 6=4-2-3
Max Horiz 2=-32 (LC 11)
Max Uplift 2=-7 (LC 13), 4=-10 (LC 14)
Max Grav 2=121 (LC 2), 4=121 (LC 2), 6=150 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/20, 2-3=-66/54, 3-4=-70/54, 4-5=0/20
BOT CHORD 2-6=-5/35, 4-6=-2/35
WEBS 3-6=-72/17

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) N/A
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	PB2	Piggyback	14	1	I77709503 Job Reference (optional)

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

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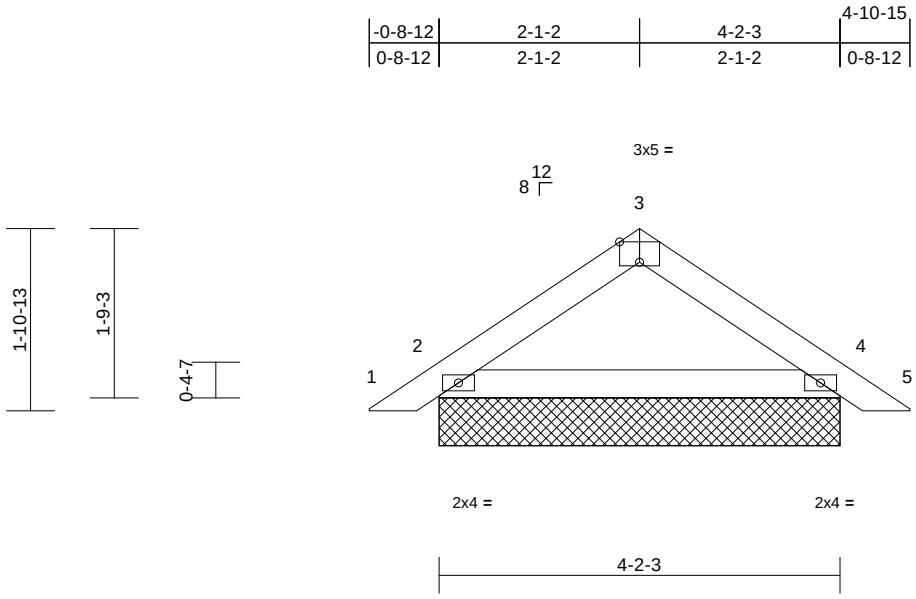

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Plate Offsets (X, Y): [3:0-2-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	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(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 16 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 5-8-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=4-2-3, 4=4-2-3
Max Horiz 2=-32 (LC 11)
Max Grav 2=197 (LC 2), 4=204 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/20, 2-3=-154/74, 3-4=-154/72, 4-5=0/20
BOT CHORD 2-4=-1/107

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 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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	VL1	Valley	1	1	I77709504 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Tue Nov 11 08:47:34 Page: 1
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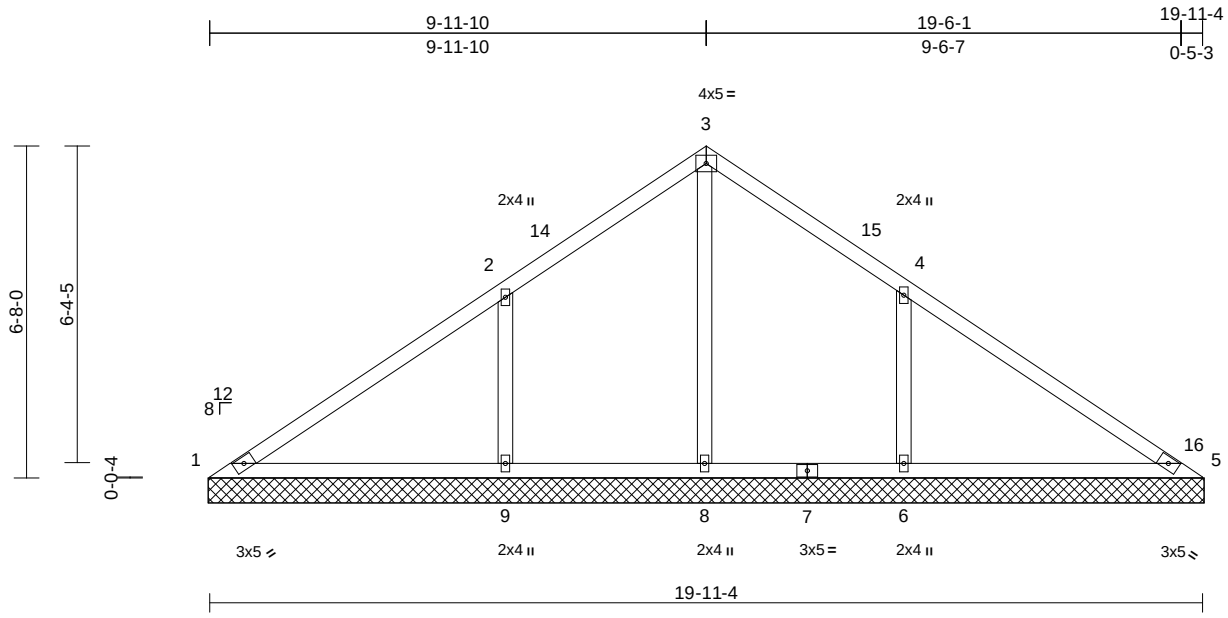

Scale = 1:46.3

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	0.43	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.31	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.36	Horiz(TL)	0.00	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 83 lb	FT = 20%

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

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=20-0-0, 5=20-0-0, 6=20-0-0, 8=20-0-0, 9=20-0-0
Max Horiz 1=122 (LC 10)
Max Uplift 1=-8 (LC 35), 5=-15 (LC 34), 6=-76 (LC 14), 9=-77 (LC 13)
Max Grav 1=88 (LC 34), 5=64 (LC 35), 6=619 (LC 29), 8=634 (LC 28), 9=618 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-85/456, 2-3=0/356, 3-4=0/339, 4-5=-79/453
BOT CHORD 1-9=-333/105, 8-9=-333/105, 6-8=-330/105, 5-6=-330/105
WEBS 3-8=-518/1, 2-9=-404/160, 4-6=-404/160

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) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 10-0-0, Exterior(2R) 10-0-0 to 13-0-0, Interior (1) 13-0-0 to 19-6-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
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 8 lb uplift at joint 1, 15 lb uplift at joint 5, 77 lb uplift at joint 9 and 76 lb uplift at joint 6.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 5.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	VL2	Valley	1	1	I77709505 Job Reference (optional)

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

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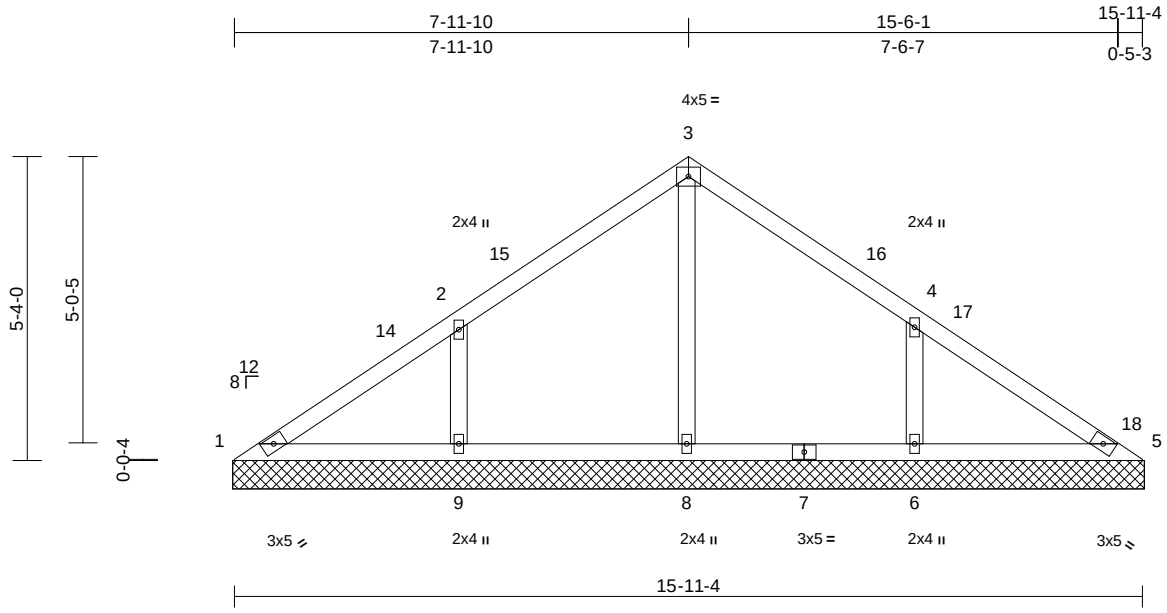

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 64 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=16-0-0, 5=16-0-0, 6=16-0-0, 8=16-0-0, 9=16-0-0
Max Horiz 1=97 (LC 10)
Max Uplift 6=-58 (LC 14), 9=-60 (LC 13)
Max Grav 1=97 (LC 34), 5=74 (LC 35), 6=379 (LC 29), 8=352 (LC 2), 9=382 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-124/171, 2-3=-27/131, 3-4=-26/123, 4-5=-102/148
BOT CHORD 1-9=-89/115, 8-9=-89/61, 6-8=-88/61, 5-6=-88/87
WEBS 3-8=-285/4, 2-9=-316/143, 4-6=-313/141

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) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 8-0-0, Exterior(2R) 8-0-0 to 11-0-0, Interior (1) 11-0-0 to 15-6-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.33
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 60 lb uplift at joint 9 and 58 lb uplift at joint 6.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 5.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	VL3	Valley	1	1	I77709506 Job Reference (optional)

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

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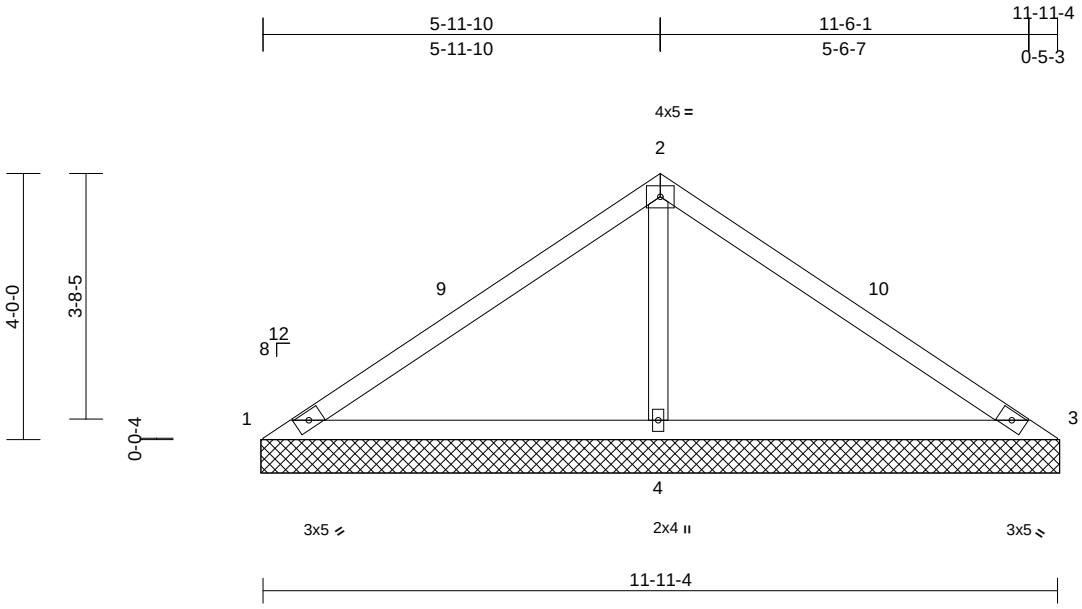

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.44	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.36	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 43 lb	FT = 20%

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

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, 3=12-0-0, 4=12-0-0
Max Horiz 1=-72 (LC 11)
Max Uplift 1=-69 (LC 35), 3=-66 (LC 34), 4=-6 (LC 13)
Max Grav 1=50 (LC 34), 3=54 (LC 35), 4=981 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-144/555, 2-3=-140/547
BOT CHORD 1-4=-437/188, 3-4=-429/186
WEBS 2-4=-892/273

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) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior (1) 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.
8) All bearings are assumed to be SP No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 69 lb uplift at joint 1, 66 lb uplift at joint 3 and 6 lb uplift at joint 4.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	VL4	Valley	1	1	I77709507 Job Reference (optional)

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

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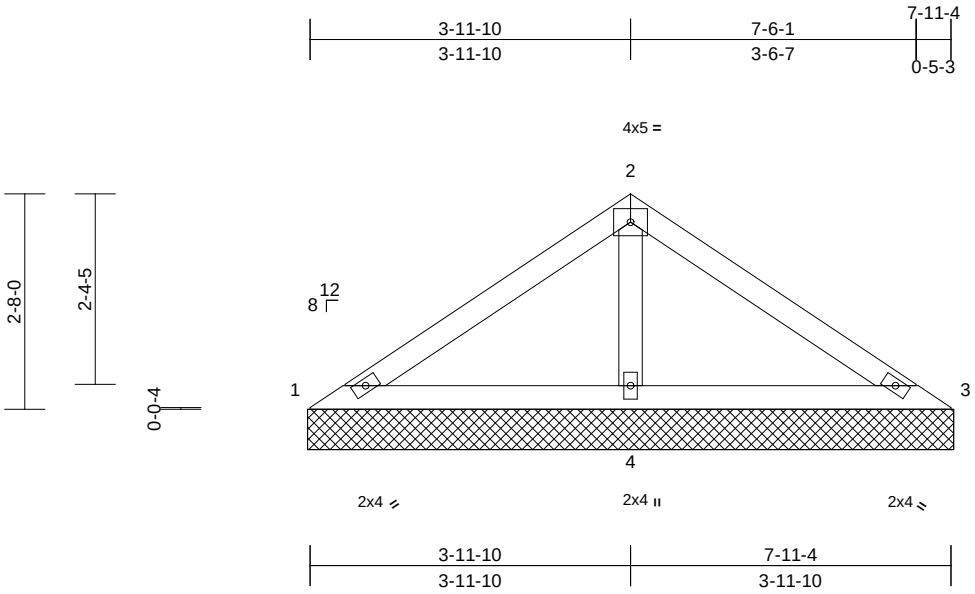

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	13.9/20.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 27 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 7-11-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (lb/size) 1=30/8-0-0, 3=30/8-0-0, 4=481/8-0-0
Max Horiz 1=-47 (LC 11)
Max Uplift 1=-13 (LC 31), 3=-13 (LC 30)
Max Grav 1=67 (LC 30), 3=67 (LC 31), 4=569 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-97/254, 2-3=-97/254
BOT CHORD 1-4=-203/150, 3-4=-203/150
WEBS 2-4=-412/193

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) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 4-0-0, Exterior(2R) 4-0-0 to 7-0-7, Interior (1) 7-0-7 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1 and 13 lb uplift at joint 3.
9) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 11,2025

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

Job	Truss	Truss Type	Qty	Ply	K20 Carolina Seasons-Roof-Chatham C
25100169-01	VL5	Valley	1	1	I77709508 Job Reference (optional)

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

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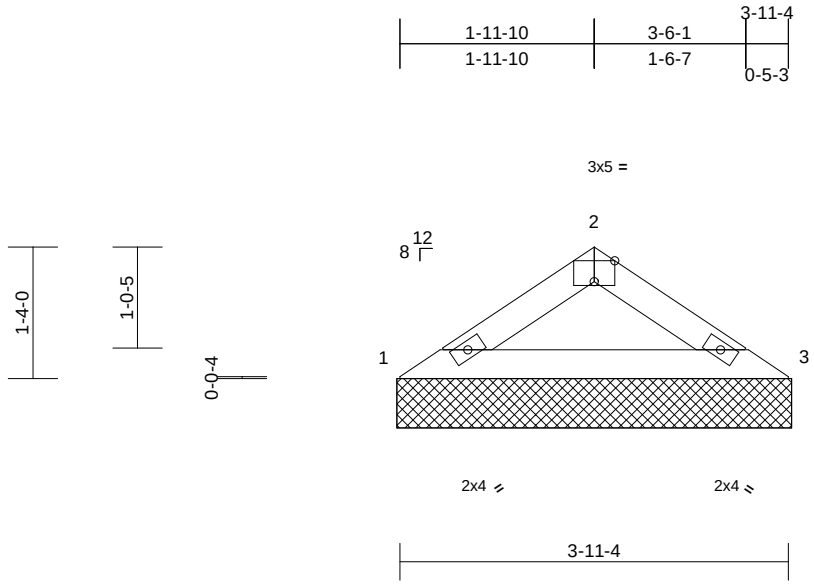

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Plate Offsets (X, Y): [2:0-2-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	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	0.10	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	IRC2018/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 3-11-4 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=22 (LC 10)
Max Grav 1=160 (LC 2), 3=160 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-282/101, 2-3=-282/101
BOT CHORD 1-3=-72/226

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) 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.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

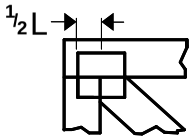
LOAD CASE(S) Standard

November 11,2025

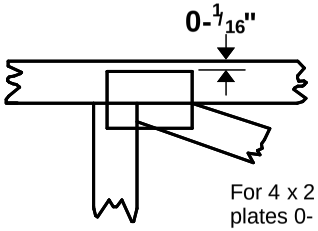
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

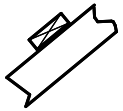
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

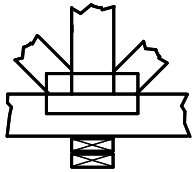
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

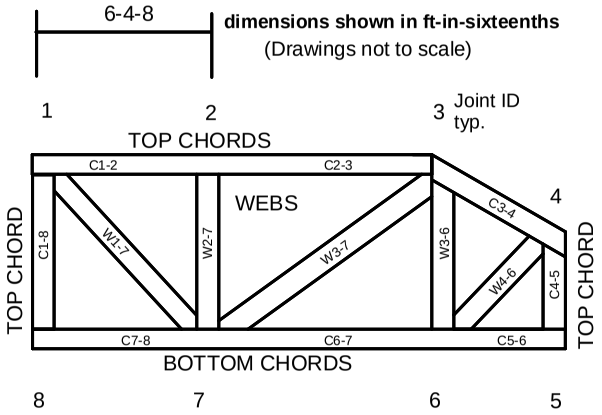


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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.

** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS. ** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.

FOUNDATION NOTES:
ALL FOOTINGS SHALL BEAR ON ORIGINAL UNDISTURBED SOIL.
THE 28 DAY COMPRESSIVE STRENGTH OF ALL FOOTINGS IS 3000 PSI

PROVIDE WATER PROOFING AND PERIMETER DRAINS AS REQUIRED.

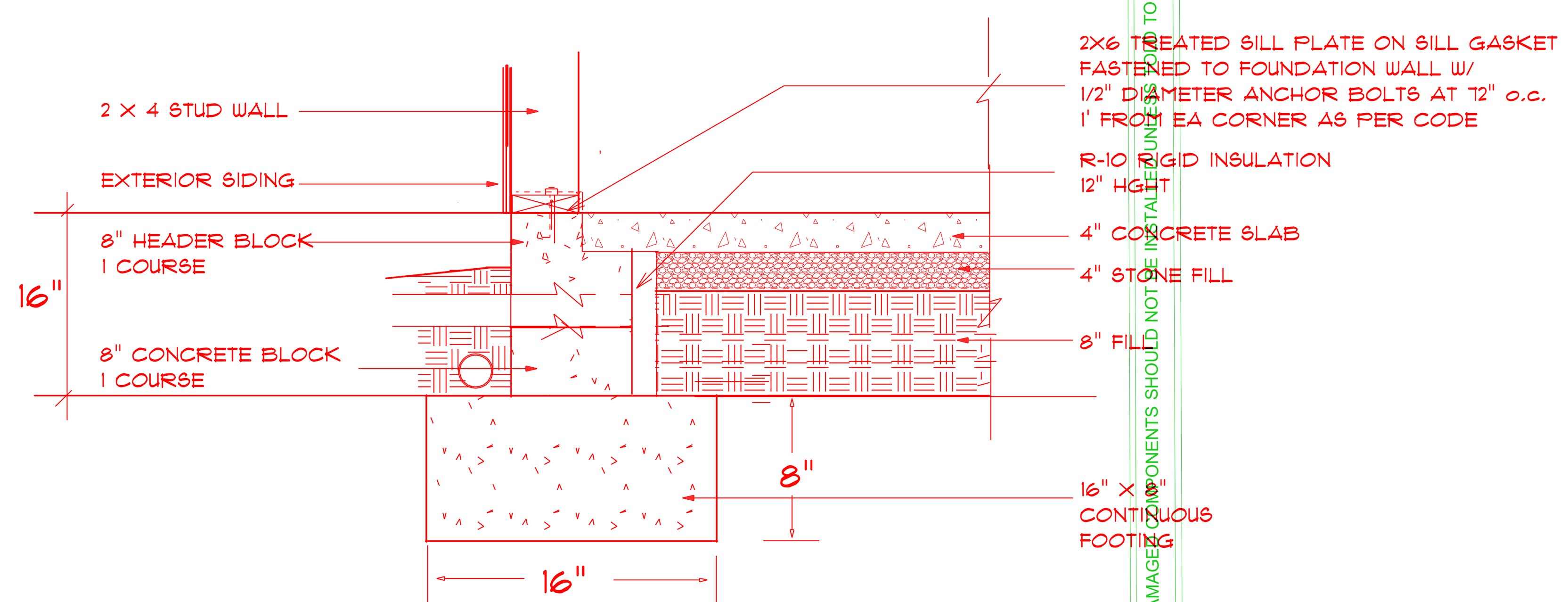
FOUNDATION CONCRETE MIX TO HAVE 1-1/2" MAX AGGREGATE SIZE. CONCRETE FILL MIX TO HAVE 1/2" MAX AGGREGATE SIZE.

FOOTING WIDTHS ARE BASED ON A LOAD-BEARING SOIL CAPACITY OF 2000 PSI.

PROVIDE 6 MIL POLY VAPOR BARRIER TO COVER GROUND SURFACE IN CRAWL SPACE

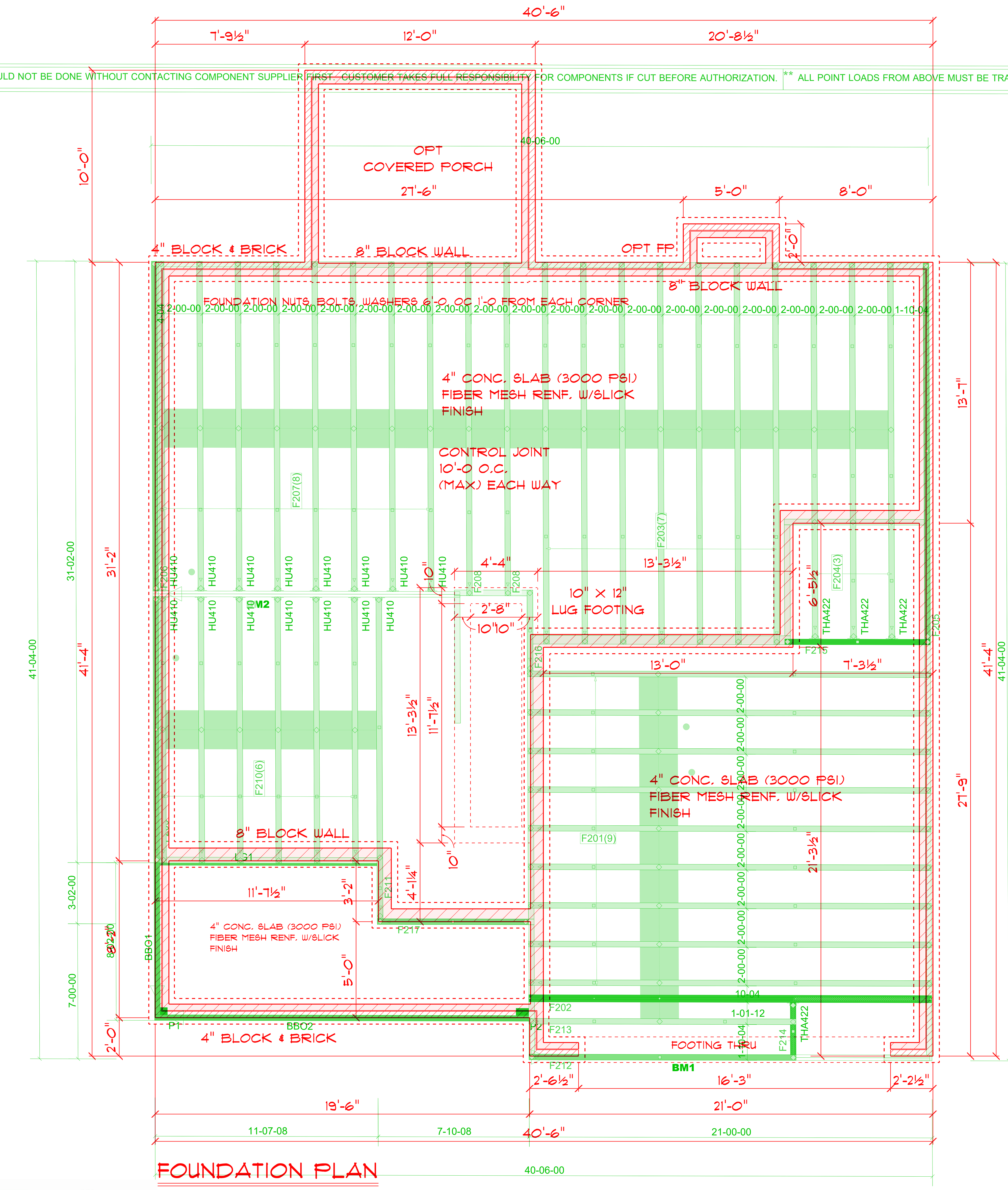
ALL ANCHOR BOLTS TO BE 12" LONG, 1/2" DIA. A36 UNO ANCHOR BOLTS SHALL BE SPACE AT A MAX OF 6' OC AND NO MORE THAN 1' FROM EA CORNER.

Termite Soil Treatment: Treat entire slab area soil or crawl space surface before vapor barrier is installed and slab is poured with a state approved termiticide. Termiticide should be applied by a licensed and certified pest control professional by the state of North Carolina.



STEM WALL FOUNDATION Detail

not to scale



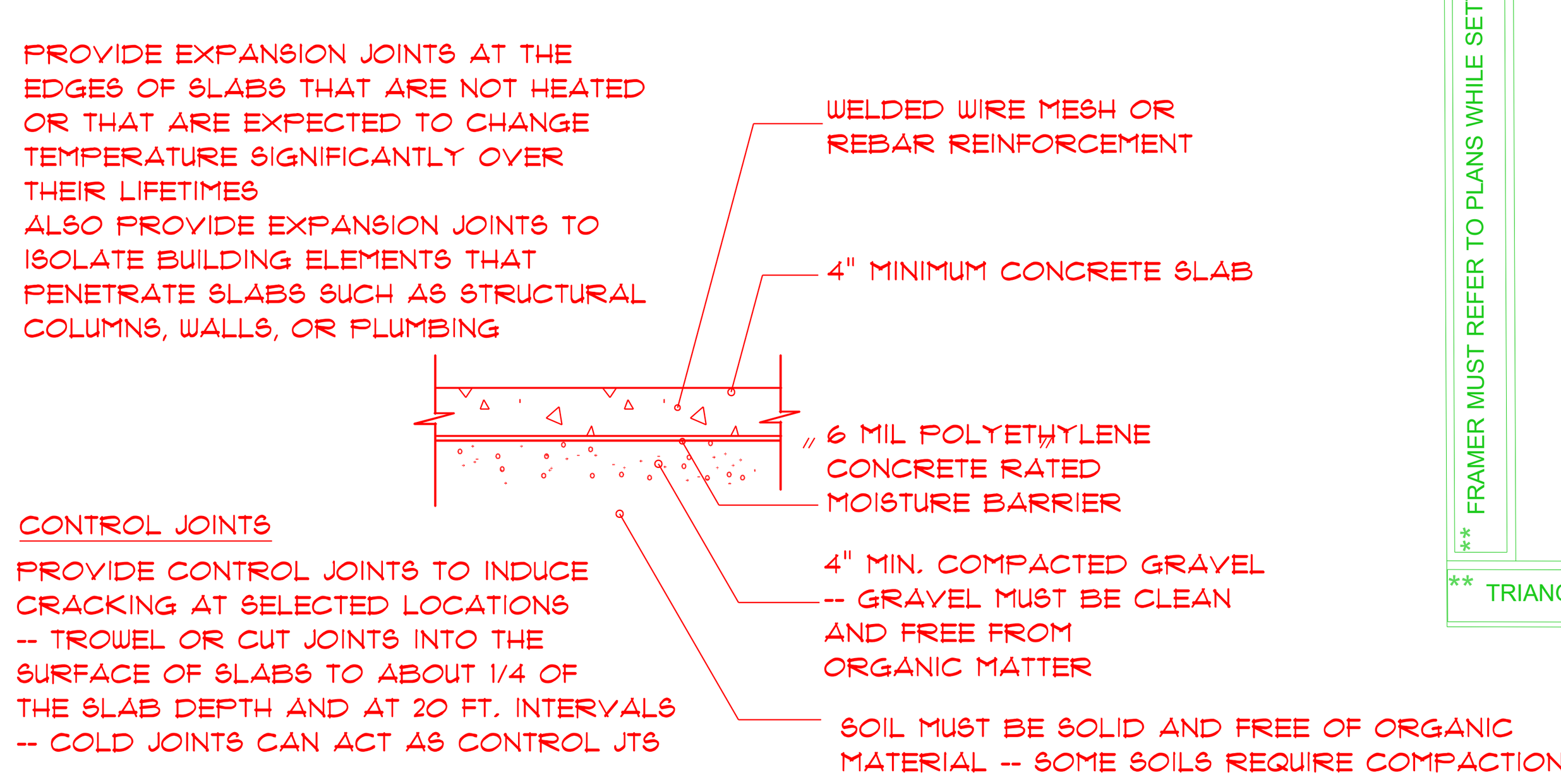
FOUNDATION PLAN

SCALE: 1'= 1/4"

PlotID	Length	Product		Plies	Net Qty
BM1	22-00-00	2.0 RigidLam DF LVL	1-3/4 x 11-7/8	2	2
BM2	16-00-00	2.0 RigidLam DF LVL	1-3/4 x 14	2	2

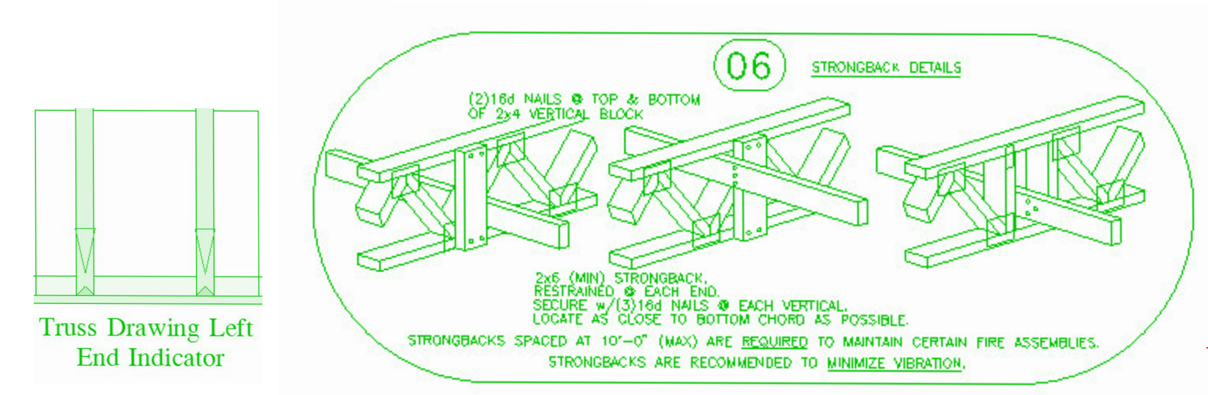
Truss Connector Total List

Manuf	Product	Qty
Simpson	HU410	15
Simpson	THA422	4

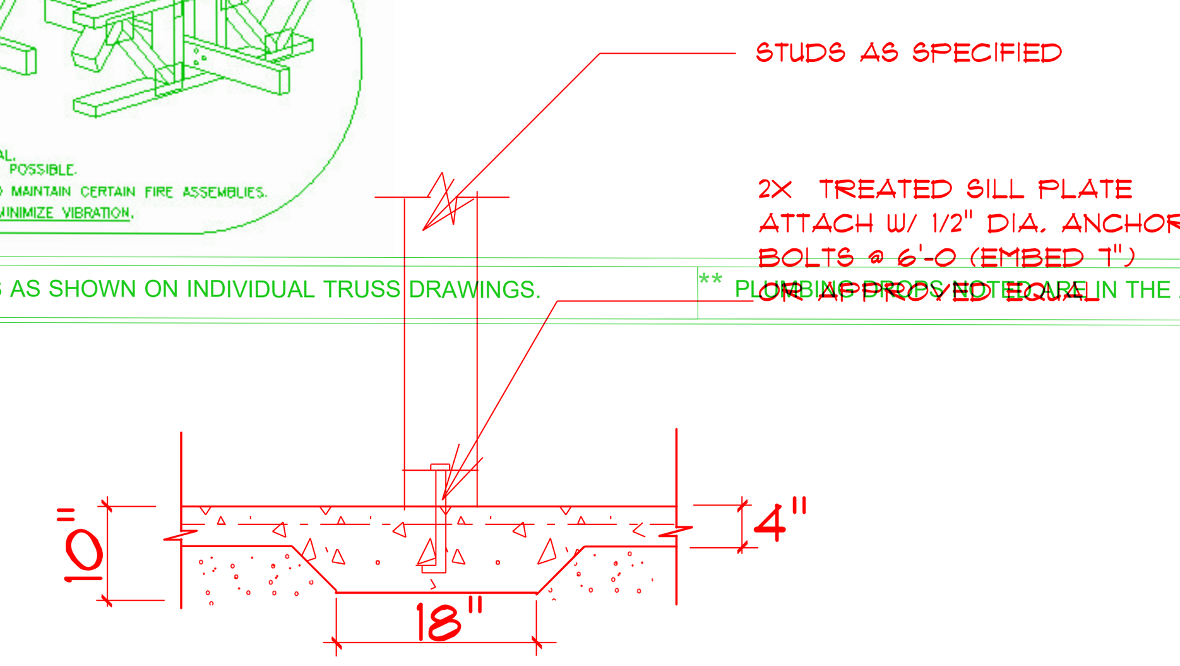


CONCRETE SLAB DETAILS / NOTES

not to scale



** TRIANGULAR SYMBOL NEAR END OF TRUSS INDICATES LEFT END OF TRUSS AS SHOWN ON INDIVIDUAL TRUSS DRAWINGS. ** PLACE HANGERS/BEAMS IN THE APPROXIMATE LOCATIONS PER PLAN. BUILDER TO VERIFY LOCATIONS BEFORE SETTING TRUSSES. ** REFER TO FINAL TRUSS ENGINEERING SHEETS FOR PLY TO PLY



TYPICAL THICKENED SLAB

not to scale

3B

DRD
Diane Rives Designs
6205 Mockingbird Lane
Sanford, N.C. 27332
919-770-0353
golfwoman@charter.net

SCALE: 1'= 1/4"

DRAWN BY:

DATE: 10/8/2025

CRH HOMES

THE CHATHAM
RIGHT 2 CAR GARAGE

STEM WALL
FOUNDATION