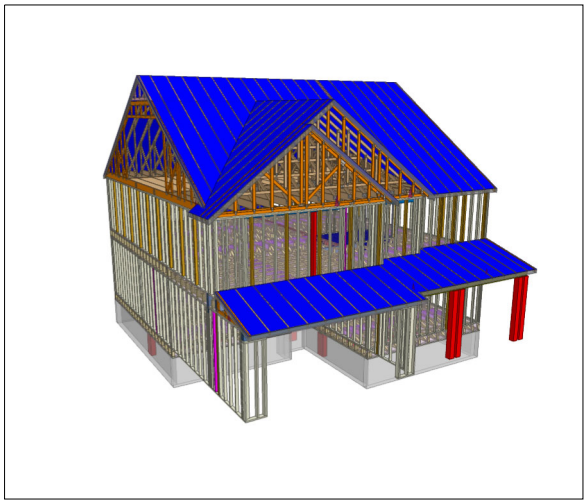
CARTER Lumber

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

Phone #:919-775-1450



**Builder:** **HH Hunt Homes Raleigh Durham**

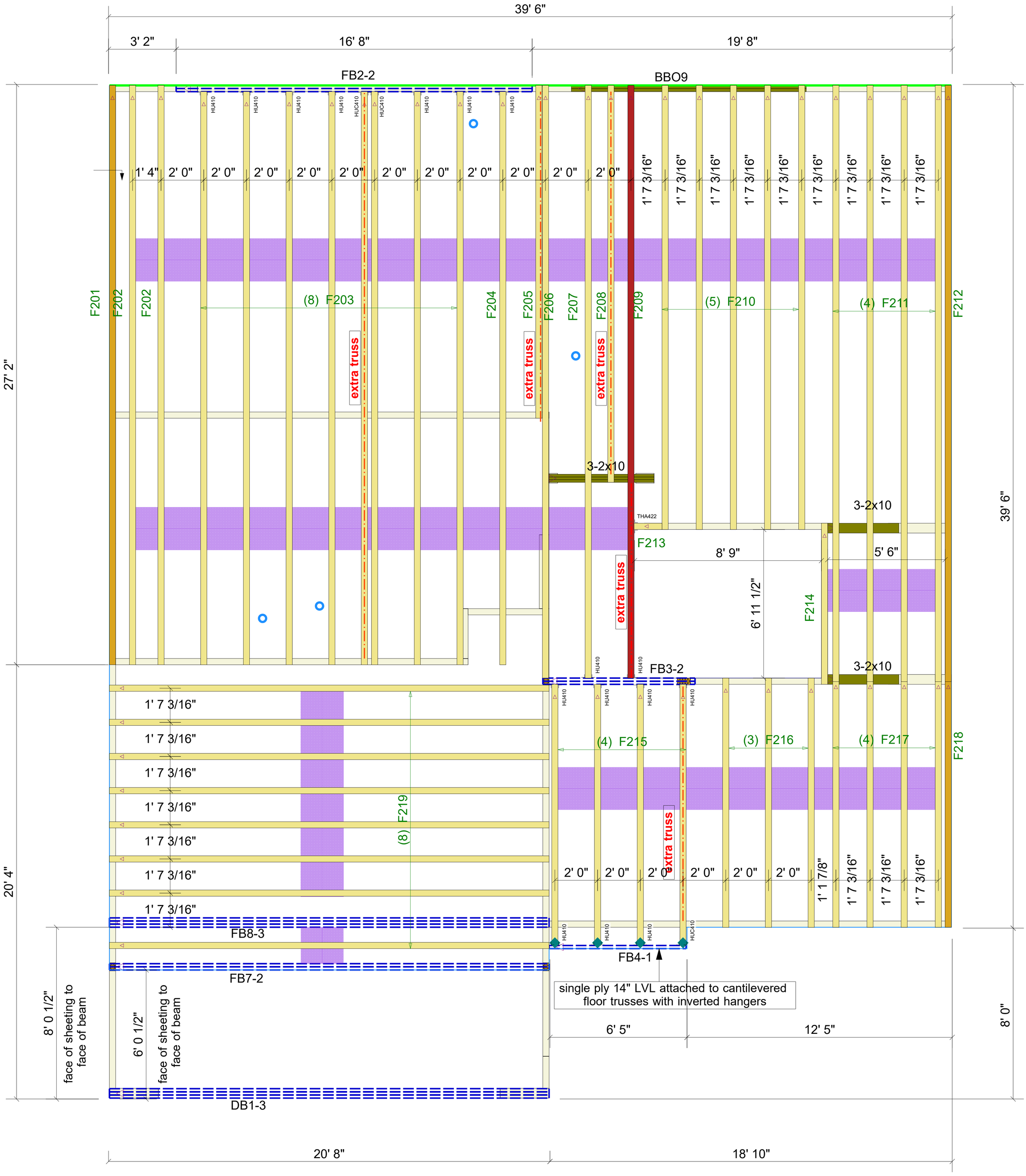
**Model:** **Grayson BC 3FL SP FE GLH**

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:** _____

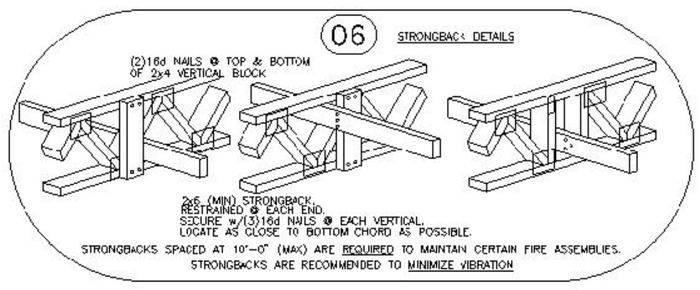
** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS. ** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT. ** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.




| Products | | | | | |
|---|---|---|---|---|---|
| PlotID | Length | Product | Plies | Net Qty | Fab Type |
| FB4-1 | 8' 0" | 2.0 RigidLam DF LVL 1-3/4 x 14 | 1 | 1 | FF |
| DB1-3 | 22' 0" | 2.1 RigidLam SP LVL 1-3/4 x 11-7/8 | 3 | 3 | FF |
| FB7-2 | 22' 0" | 2.1 RigidLam SP LVL 1-3/4 x 14 | 2 | 2 | FF |
| FB3-2 | 8' 0" | 2.1 RigidLam SP LVL 1-3/4 x 14 | 2 | 2 | FF |
| FB2-2 | 18' 0" | 2.1 RigidLam SP LVL 1-3/4 x 18 | 2 | 2 | FF |
| FB8-3 | 22' 0" | 2.1 RigidLam SP LVL 1-3/4 x 24 | 3 | 3 | FF |

| Truss Connector Total List | | |
|---|---|---|
| Manuf | Product | Qty |
| Simpson | HU410 | 16 |
| Simpson | HUC410 | 3 |
| Simpson | THA422 | 1 |

Truss Drawing Left End Indicator




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

Scale: NTS
Date: 6/5/2025
Designer: Geoff Weston
Project Number: 25060036-A
Sheet Number: 1/1

HH Hunt Homes Raleigh Durham

Lot 51 Magnolia Acres
Grayson Bungalow-C : 2nd Floor

**FLOOR PLACEMENT PLAN**

CARTER Lumber

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

| Revisions | |
|---|---|
| 00/00/00 | Name |
| 00/00/00 | Name |
| 00/00/00 | Name |
| 00/00/00 | Name |
| 00/00/00 | Name |

## General Notes:

** 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.

** 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.

ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 25060036-A
51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE GLH

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

Pages or sheets covered by this seal: I74007980 thru I74007998

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

North Carolina COA: C-0844


June 6,2025

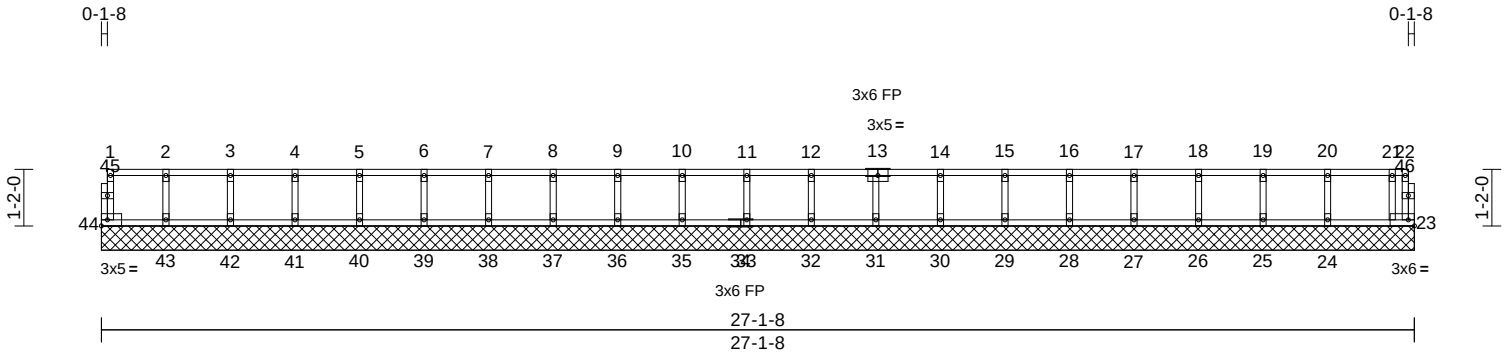
Galinski, John

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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F201 | Floor Supported Gable | 1 | 1 | I74007980<br>Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:28 Page: 1

ID:VVvouNmtYBP?4YsmA3PPKrzSA2h-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:47.6

| 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 | 0.02 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.03 | Horiz(TL) | 0.00 | 23 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MR | | | | | | | Weight: 113 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) 23=27-1-8, 24=27-1-8, 25=27-1-8, 26=27-1-8, 27=27-1-8, 28=27-1-8, 29=27-1-8, 30=27-1-8, 31=27-1-8, 32=27-1-8, 33=27-1-8, 35=27-1-8, 36=27-1-8, 37=27-1-8, 38=27-1-8, 39=27-1-8, 40=27-1-8, 41=27-1-8, 42=27-1-8, 43=27-1-8, 44=27-1-8
Max Grav 23=91 (LC 1), 24=161 (LC 1), 25=143 (LC 1), 26=148 (LC 1), 27=146 (LC 1), 28=146 (LC 1), 29=148 (LC 1), 30=143 (LC 1), 31=147 (LC 1), 32=150 (LC 1), 33=146 (LC 1), 35=147 (LC 1), 36=147 (LC 1), 37=147 (LC 1), 38=147 (LC 1), 39=147 (LC 1), 40=147 (LC 1), 41=146 (LC 1), 42=149 (LC 1), 43=138 (LC 1), 44=60 (LC 1)

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

TOP CHORD 1-44=-53/0, 22-23=0/10, 1-2=-13/0, 2-3=-13/0, 3-4=-13/0, 4-5=-13/0, 5-6=-13/0, 6-7=-13/0, 7-8=-13/0, 8-9=-13/0, 9-10=-13/0, 10-11=-13/0, 11-12=-13/0, 12-14=-19/0, 14-15=-19/0, 15-16=-19/0, 16-17=-19/0, 17-18=-19/0, 18-19=-19/0, 19-20=-19/0, 20-21=-19/0, 21-22=0/0

BOT CHORD 43-44=0/13, 42-43=0/13, 41-42=0/13, 40-41=0/13, 39-40=0/13, 38-39=0/13, 37-38=0/13, 36-37=0/13, 35-36=0/13, 33-35=0/13, 32-33=0/13, 31-32=0/13, 30-31=0/19, 29-30=0/19, 28-29=0/19, 27-28=0/19, 26-27=0/19, 25-26=0/19, 24-25=0/19, 23-24=0/19

WEBS 2-43=-128/0, 3-42=-135/0, 4-41=-133/0, 5-40=-133/0, 6-39=-133/0, 7-38=-133/0, 8-37=-133/0, 9-36=-133/0, 10-35=-134/0, 11-33=-133/0, 12-32=-136/0, 13-31=-134/0, 14-30=-130/0, 15-29=-134/0, 16-28=-133/0, 17-27=-133/0, 18-26=-134/0, 19-25=-131/0, 20-24=-143/0, 21-23=-98/0

**NOTES**

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

**LOAD CASE(S)** Standard

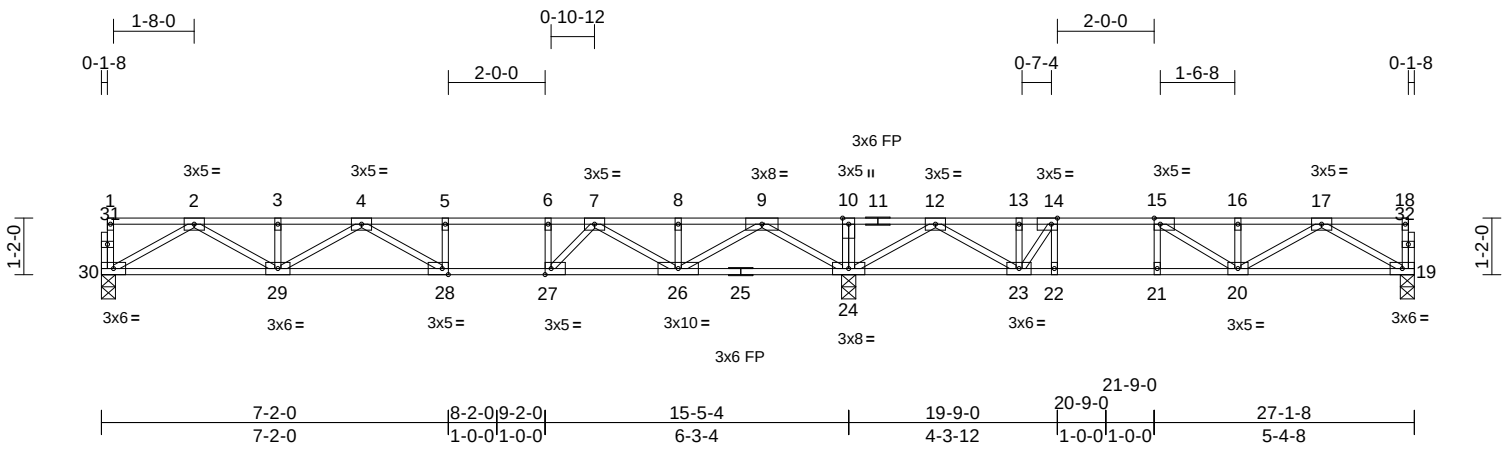

June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F202 | Floor | 2 | 1 | I74007981 Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:29 Page: 1
ID:_iTB5jnVJVXsihRzjmwet2zSA2g-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:47.6

Plate Offsets (X, Y): [14:0-1-8,Edge], [15:0-1-8,Edge], [27:0-1-8,Edge], [28:0-1-8,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 | 0.82 | Vert(LL) | -0.21 | 28-29 | >890 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.78 | Vert(CT) | -0.28 | 28-29 | >648 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.60 | Horz(CT) | 0.04 | 19 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 136 lb | FT = 20%F, 11%E |

**LUMBER**
TOP CHORD 2x4 SP No.1(flat) *Except* 11-18:2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

**REACTIONS** (size) 19=0-3-8, 24=0-3-8, 30=0-3-8
Max Grav 19=569 (LC 4), 24=1701 (LC 1), 30=760 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-30=-70/0, 18-19=-73/0, 1-2=-4/0, 2-3=-1963/0, 3-4=-1963/0, 4-5=-2468/0, 5-6=-2468/0, 6-7=-2468/0, 7-8=-1343/0, 8-9=-1343/0, 9-10=0/1418, 10-12=0/1418, 12-13=-1023/378, 13-14=-1023/378, 14-15=-1367/126, 15-16=-1331/0, 16-17=-1331/0, 17-18=-4/0
BOT CHORD 29-30=0/1169, 28-29=0/2411, 27-28=0/2468, 26-27=0/2062, 24-26=-249/301, 23-24=-697/378, 22-23=-126/1367, 21-22=-126/1367, 20-21=-126/1367, 19-20=0/838
WEBS 5-28=-128/23, 6-27=-453/0, 2-30=-1347/0, 2-29=0/927, 3-29=-150/0, 4-29=-522/0, 4-28=-190/292, 10-24=-200/0, 9-24=-1617/0, 9-26=0/1269, 8-26=-202/0, 7-26=-890/0, 7-27=0/805, 12-24=-1269/0, 12-23=0/875, 13-23=-9/215, 14-23=-937/0, 17-19=-965/0, 17-20=0/576, 16-20=-244/0, 15-20=-42/293, 14-22=0/327, 15-21=-179/0

**NOTES**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) All bearings are assumed to be SP No.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.

**LOAD CASE(S)** Standard


June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F203 | Floor | 8 | 1 | I74007982 Job Reference (optional) |

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:29 Page: 1
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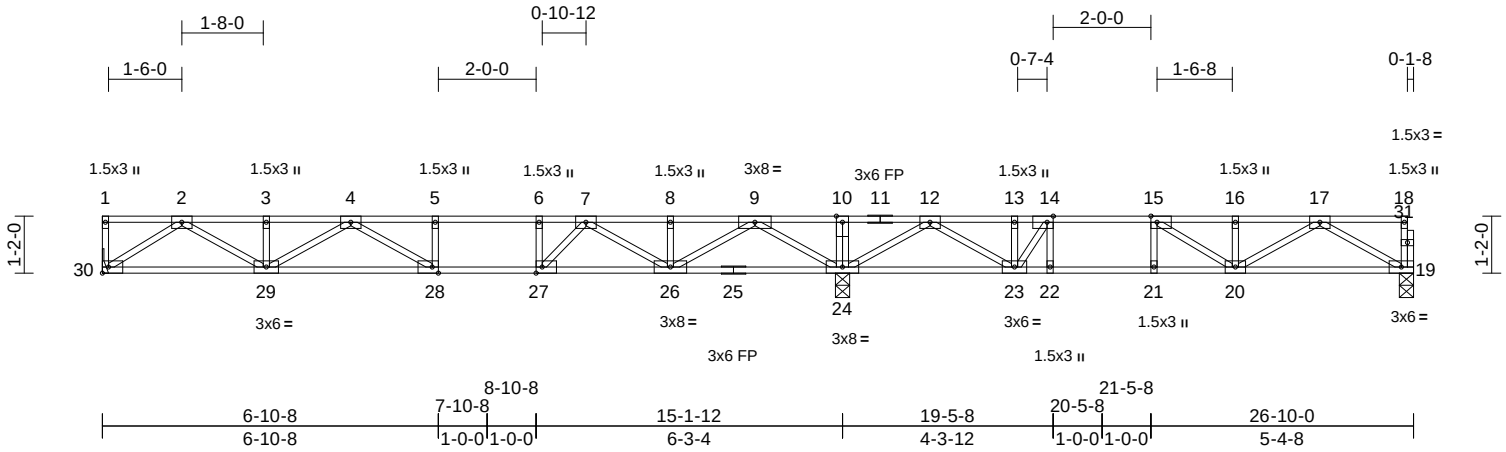


Scale = 1:47.2

Plate Offsets (X, Y): [14:0-1-8,Edge], [15:0-1-8,Edge], [27:0-1-8,Edge], [28:0-1-8,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 | 0.82 | Vert(LL) | -0.20 | 28-29 | >896 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.96 | Vert(CT) | -0.28 | 28-29 | >651 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.59 | Horz(CT) | 0.04 | 19 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 134 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 SP No.1(flat) *Except* 11-18:2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 25-19:2x4 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) 19=0-3-8, 24=0-3-8, 30= Mechanical
Max Grav 19=570 (LC 4), 24=1691 (LC 1), 30=751 (LC 3)

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

TOP CHORD 1-30=-62/0, 18-19=-73/0, 1-2=0/0, 2-3=-1832/0, 3-4=-1832/0, 4-5=-2383/0, 5-6=-2383/0, 6-7=-2383/0, 7-8=-1299/0, 8-9=-1299/0, 9-10=0/1422, 10-12=0/1422, 12-13=-1027/385, 13-14=-1027/385, 14-15=-1369/131, 15-16=-1333/0, 16-17=-1333/0, 17-18=-4/0

BOT CHORD 29-30=0/1017, 28-29=0/2298, 27-28=0/2383, 26-27=0/1994, 24-26=-249/273, 23-24=-706/382, 22-23=-131/1369, 21-22=-131/1369, 20-21=-131/1369, 19-20=0/839

WEBS 5-28=-132/22, 6-27=-452/0, 14-22=0/328, 15-21=-179/0, 9-24=-1597/0, 9-26=0/1249, 8-26=-202/0, 7-26=-861/0, 7-27=0/782, 4-28=-159/305, 4-29=-544/0, 3-29=-155/0, 2-29=0/951, 2-30=-1223/0, 17-19=-965/0, 17-20=0/576, 16-20=-245/0, 15-20=-43/296, 12-24=-1270/0, 12-23=0/876, 13-23=-9/216, 14-23=-940/0, 10-24=-200/0

**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 24 SP No.1 , Joint 19 SP No.1 .
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard


June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F204 | Floor | 1 | 1 | I74007983<br>Job Reference (optional) |

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:29 Page: 1
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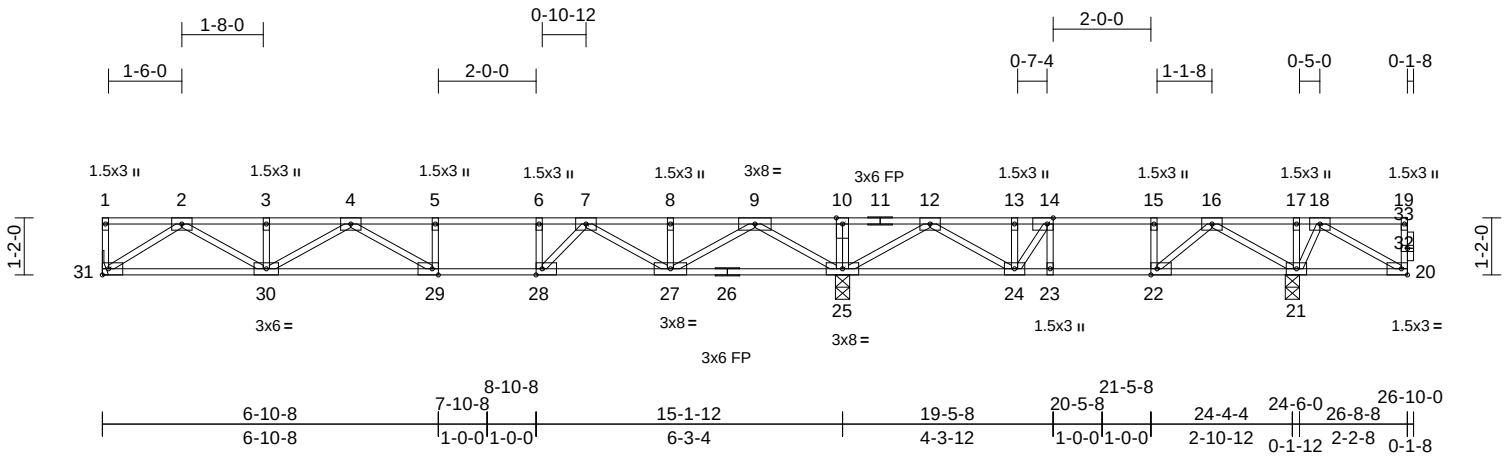



Scale = 1:47.2

Plate Offsets (X, Y): [14:0-1-8,Edge], [22:0-1-8,Edge], [28:0-1-8,Edge], [29:0-1-8,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 | 0.79 | Vert(LL) | -0.19 | 29-30 | >944 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.71 | Vert(CT) | -0.26 | 29-30 | >687 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.59 | Horz(CT) | 0.03 | 21 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 135 lb | FT = 20%F, 11%E |

**LUMBER**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.1(flat) *Except* 11-19:2x4 SP No.2(flat) |
| BOT CHORD | 2x4 SP No.1(flat) *Except* 26-20:2x4 SP No.2(flat) |
| WEBS | 2x4 SP No.3(flat) |
| OTHERS | 2x4 SP No.3(flat) |

**BRACING**

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

**REACTIONS** (size) 21=0-3-8, 25=0-3-8, 31= Mechanical
Max Grav 21=700 (LC 4), 25=1580 (LC 3), 31=756 (LC 14)

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

TOP CHORD 1-31=-61/0, 19-20=-71/0, 1-2=0/0, 2-3=-1845/0, 3-4=-1845/0, 4-5=-2415/0, 5-6=-2415/0, 6-7=-2415/0, 7-8=-1346/0, 8-9=-1346/0, 9-10=0/1403, 10-12=0/1403, 12-13=-622/472, 13-14=-622/472, 14-15=-743/301, 15-16=-743/301, 16-17=0/242, 17-18=0/242, 18-19=0/0

BOT CHORD 30-31=0/1024, 29-30=0/2318, 28-29=0/2415, 27-28=0/2038, 25-27=-315/328, 24-25=-724/150, 23-24=-301/743, 22-23=-301/743, 21-22=-224/511, 20-21=-130/0

WEBS 5-29=-135/25, 6-28=-439/0, 17-21=-144/26, 14-23=-16/153, 15-22=-197/50, 4-29=-158/314, 4-30=-551/0, 3-30=-155/0, 2-30=0/959, 2-31=-1231/0, 10-25=-199/0, 9-25=-1596/0, 9-27=0/1247, 8-27=-200/0, 7-27=-863/0, 7-28=0/776, 12-25=-1063/0, 12-24=0/685, 13-24=-105/142, 14-24=-600/0, 16-21=-674/0, 16-22=-102/353, 18-20=0/152, 18-21=-287/0

**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 25 SP No.2 , Joint 21 SP No.2 .
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard

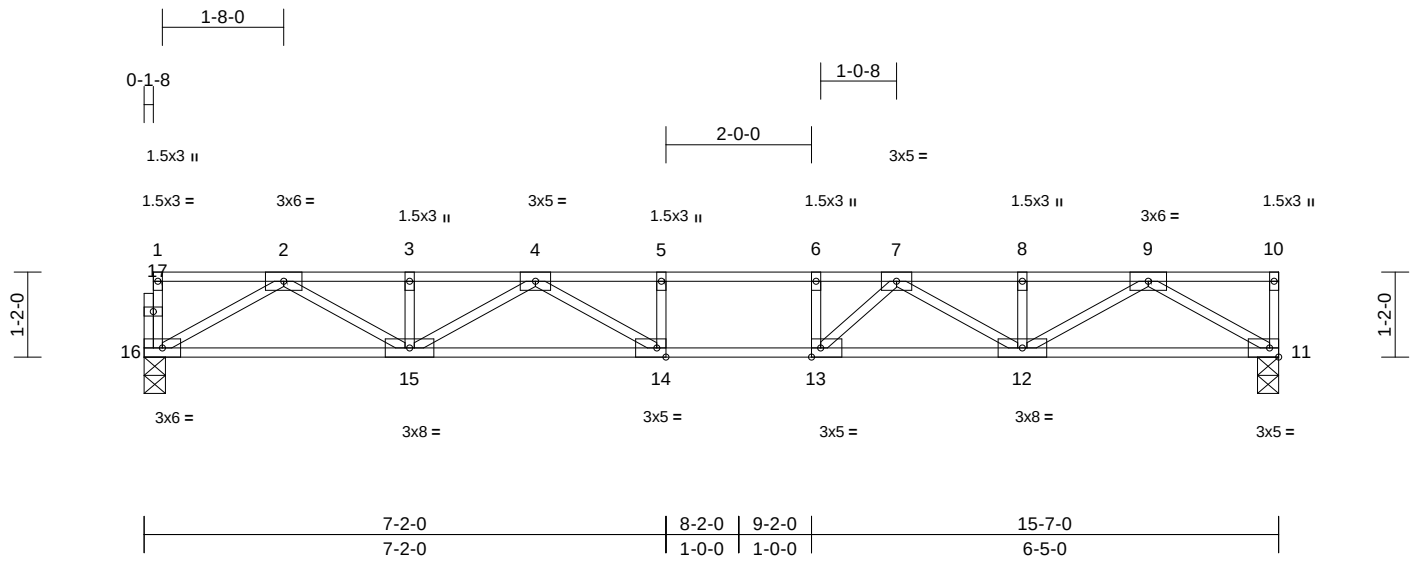

June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F205 | Floor | 1 | 1 | I74007984 Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:29 Page: 1
ID:Su1ZJ3n74pfjJr09HURtQGzSA2f-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:31.6

Plate Offsets (X, Y): [13:0-1-8,Edge], [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 | 0.77 | Vert(LL) | -0.23 | 14-15 | >799 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.99 | Vert(CT) | -0.31 | 14-15 | >587 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.52 | Horz(CT) | 0.05 | 11 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 77 lb | FT = 20%F, 11%E |

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

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-11-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

**REACTIONS** (size) 11=0-3-8, 16=0-3-8
Max Grav 11=847 (LC 1), 16=841 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-71/0, 10-11=-71/0, 1-2=-4/0, 2-3=-2232/0, 3-4=-2232/0, 4-5=-3084/0, 5-6=-3084/0, 6-7=-3084/0, 7-8=-2201/0, 8-9=-2201/0, 9-10=0/0
BOT CHORD 15-16=0/1303, 14-15=0/2816, 13-14=0/3084, 12-13=0/2796, 11-12=0/1260
WEBS 5-14=-231/0, 6-13=-340/0, 4-14=-3/590, 4-15=-681/0, 3-15=-162/0, 2-15=0/1084, 2-16=-1503/0, 9-11=-1470/0, 9-12=0/1099, 8-12=-180/0, 7-12=-695/0, 7-13=0/642

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

**LOAD CASE(S)** Standard

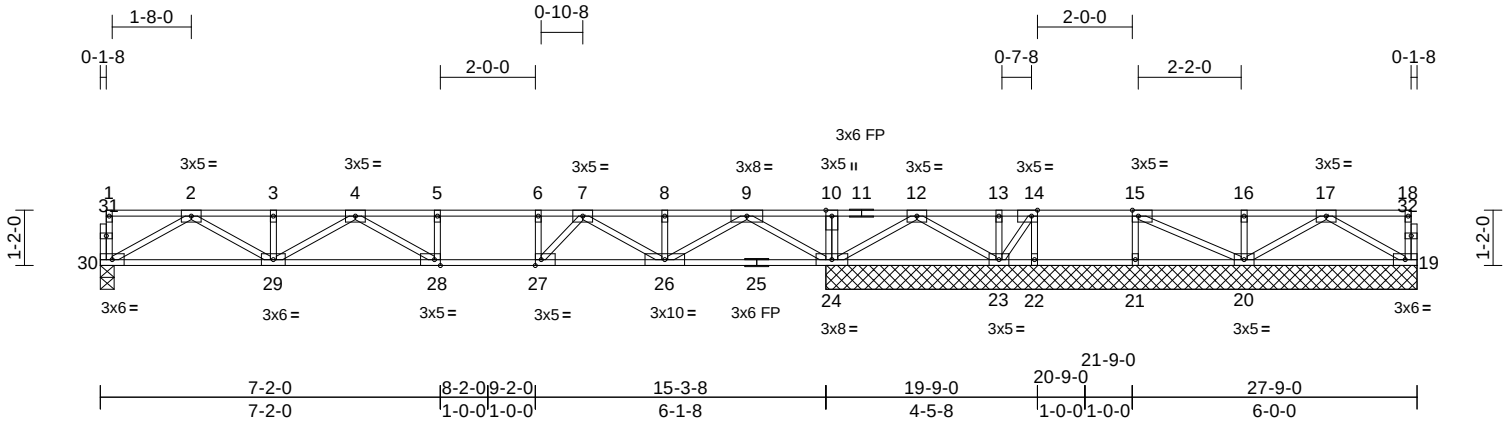

June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F206 | Floor | 1 | 1 | I74007985 Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:29 Page: 1
ID:w4bxWPolr6nZx?bLrBz6yTzSA2e-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:48.6

Plate Offsets (X, Y): [14:0-1-8,Edge], [15:0-1-8,Edge], [27:0-1-8,Edge], [28:0-1-8,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 | 0.80 | Vert(LL) | -0.20 | 28-29 | >898 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.74 | Vert(CT) | -0.28 | 28-29 | >651 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.61 | Horz(CT) | 0.03 | 24 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 139 lb | FT = 20%F, 11%E |

**LUMBER**
TOP CHORD 2x4 SP No.1(flat) *Except* 11-18:2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.1(flat) *Except* 25-19:2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

**REACTIONS** (size) 19=12-5-8, 20=12-5-8, 21=12-5-8, 22=12-5-8, 23=12-5-8, 24=12-5-8, 30=0-3-8
Max Uplift 23=-40 (LC 1)
Max Grav 19=159 (LC 3), 20=358 (LC 3), 21=248 (LC 1), 22=58 (LC 3), 23=139 (LC 3), 24=1547 (LC 1), 30=729 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-30=-70/0, 18-19=-71/0, 1-2=-4/0, 2-3=-1864/0, 3-4=-1864/0, 4-5=-2239/0, 5-6=-2239/0, 6-7=-2239/0, 7-8=-1015/0, 8-9=-1015/0, 9-10=0/1483, 10-12=0/1483, 12-13=0/153, 13-14=0/153, 14-15=0/47, 15-16=0/58, 16-17=0/58, 17-18=-4/0
BOT CHORD 29-30=0/1119, 28-29=0/2260, 27-28=0/2239, 26-27=0/1784, 24-26=-235/46, 23-24=-659/0, 22-23=-47/0, 21-22=-47/0, 20-21=-47/0, 19-20=0/132
WEBS 5-28=-118/11, 6-27=-446/0, 14-22=-45/0, 15-21=-231/0, 2-30=-1290/0, 2-29=0/869, 3-29=-146/0, 4-29=-463/0, 4-28=-165/265, 9-24=-1625/0, 9-26=0/1277, 8-26=-203/0, 7-26=-897/0, 7-27=0/780, 10-24=-200/0, 12-24=-953/0, 12-23=0/590, 13-23=-102/0, 14-23=-182/0, 15-20=-26/0, 17-19=-148/0, 17-20=-217/0, 16-20=-201/0

**NOTES**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Bearings are assumed to be: Joint 30 SP No.1 , Joint 20 SP No.2 .
4) N/A
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard

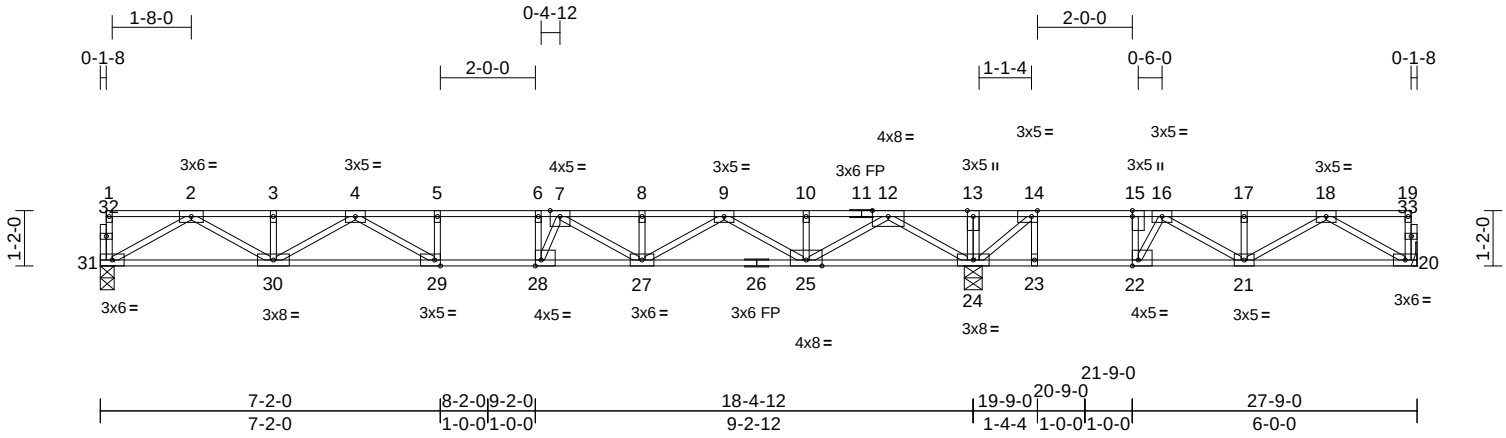

June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F207 | Floor | 1 | 1 | I74007986 Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:30 Page: 1
ID:OH9JklpNcQvQZ9AYPvULVhzSA2d-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:48.6

Plate Offsets (X, Y): [14:0-1-8,Edge], [15:0-1-8,Edge], [22:0-1-8,Edge], [28:0-1-8,Edge], [29:0-1-8,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 | 1.00 | Vert(LL) | -0.29 | 28 | >768 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.96 | Vert(CT) | -0.39 | 28 | >561 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.77 | Horz(CT) | 0.06 | 24 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 140 lb | FT = 20%F, 11%E |

**LUMBER**
TOP CHORD 2x4 SP No.2(flat) *Except* 11-19:2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

**REACTIONS** (size) 20= Mechanical, 24=0-4-8, 31=0-3-8
Max Uplift 20=-96 (LC 3)
Max Grav 20=473 (LC 4), 24=1822 (LC 1), 31=897 (LC 10)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-31=-71/0, 19-20=-70/0, 1-2=-4/0, 2-3=-2418/0, 3-4=-2418/0, 4-5=-3513/0, 5-6=-3513/0, 6-7=-3513/0, 7-8=-3071/0, 8-9=-3071/0, 9-10=-1327/0, 10-12=-1327/0, 12-13=0/2067, 13-14=0/2067, 14-15=-630/1312, 15-16=-630/1312, 16-17=-1006/468, 17-18=-1006/468, 18-19=-4/0
BOT CHORD 30-31=0/1397, 29-30=0/3099, 28-29=0/3513, 27-28=0/3457, 25-27=0/2347, 24-25=-276/199, 23-24=-1312/630, 22-23=-1312/630, 21-22=-913/924, 20-21=-199/680
WEBS 5-29=-271/0, 6-28=-422/149, 14-23=0/344, 15-22=0/785, 2-31=-1611/0, 2-30=0/1191, 3-30=-168/0, 4-30=-795/0, 4-29=0/720, 13-24=0/202, 12-24=-2078/0, 12-25=0/1611, 10-25=-161/0, 9-25=-1219/0, 9-27=0/878, 8-27=-176/0, 7-27=-535/0, 7-28=-241/556, 14-24=-1685/0, 18-20=-782/231, 18-21=-313/380, 17-21=-154/0, 16-21=0/521, 16-22=-1159/0

**NOTES**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Bearings are assumed to be: Joint 31 SP No.1 , Joint 24 SP No.1 .
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 96 lb uplift at joint 20.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
7) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard


June 6,2025



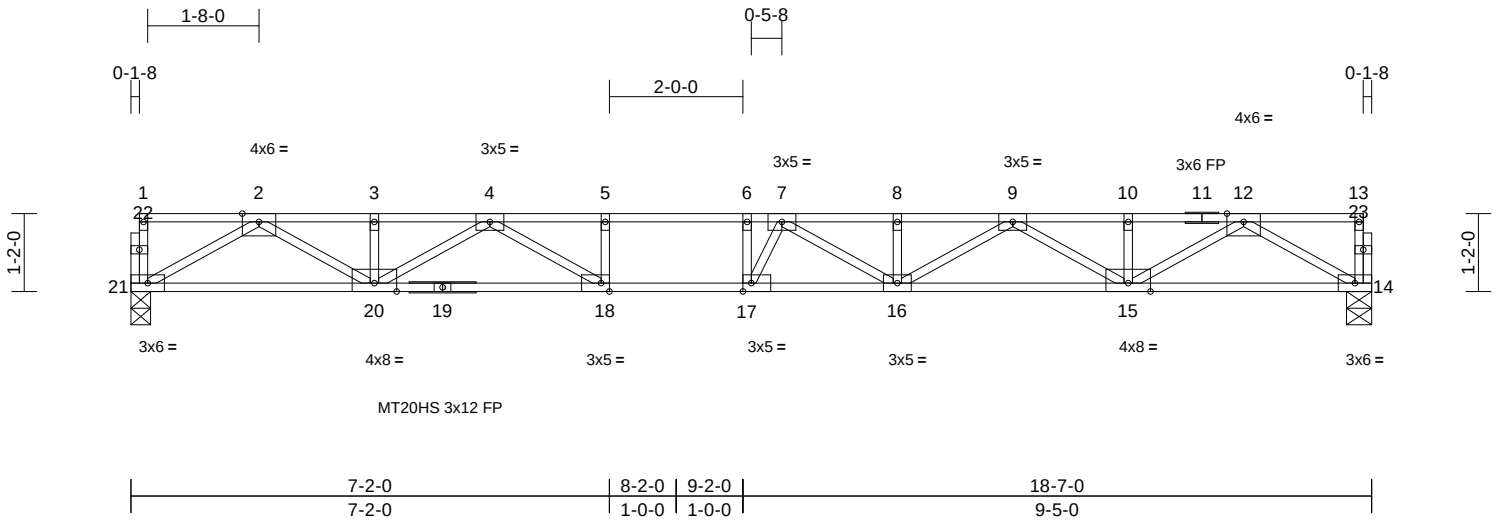
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F208 | Floor | 1 | 1 | I74007987 Job Reference (optional) |

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:30 ID:OH9JklpNcQvQZ9AYPvULVhzSA2d-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f






Scale = 1:34.5

Plate Offsets (X, Y): [17:0-1-8,Edge], [18:0-1-8,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 | 0.62 | Vert(LL) | -0.33 | 16-17 | >676 | 480 | MT20HS | 187/143 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.95 | Vert(CT) | -0.45 | 16-17 | >492 | 360 | MT20 | 244/190 |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.67 | Horz(CT) | 0.07 | 14 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 94 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 SP 2400F 2.0E(flat) *Except* 11-13:2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 19-14:2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 18-20.

**REACTIONS** (size) 14=0-4-8, 21=0-3-8
Max Grav 14=1002 (LC 1), 21=1002 (LC 1)

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

TOP CHORD 1-21=-74/0, 13-14=-71/0, 1-2=-4/0, 2-3=-2772/0, 3-4=-2772/0, 4-5=-4309/0, 5-6=-4309/0, 6-7=-4309/0, 7-8=-4201/0, 8-9=-4201/0, 9-10=-2768/0, 10-12=-2768/0, 12-13=-4/0
BOT CHORD 20-21=0/1570, 18-20=0/3622, 17-18=0/4309, 16-17=0/4391, 15-16=0/3632, 14-15=0/1577
WEBS 5-18=-381/0, 6-17=-310/346, 2-21=-1811/0, 2-20=0/1404, 3-20=-189/0, 4-20=-992/0, 4-18=0/1008, 12-14=-1819/0, 12-15=0/1391, 10-15=-163/0, 9-15=-1008/0, 9-16=0/665, 8-16=-169/0, 7-16=-432/20, 7-17=-521/410

**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) The Fabrication Tolerance at joint 19 = 11%
5) Bearings are assumed to be: Joint 21 SP No.2 , Joint 14 SP 2400F 2.0E .
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard

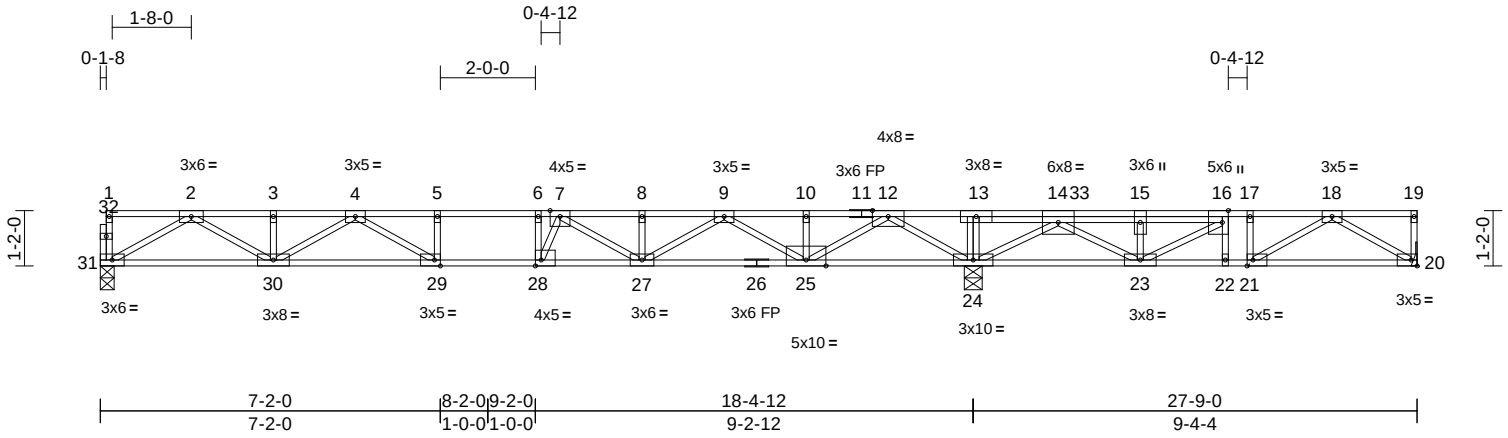

June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F209 | Floor Girder | 1 | 1 | I74007988<br>Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:30 Page: 1
ID:lEyCnStWQyYjfw2VBS3WCkzSA2Y-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:48.6

Plate Offsets (X, Y): [16:0-3-0,Edge], [21:0-1-8,Edge], [28:0-1-8,Edge], [29:0-1-8,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 | 0.85 | Vert(LL) | -0.23 | 28-29 | >956 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.76 | Vert(CT) | -0.31 | 29 | >701 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | NO | WB | 0.82 | Horz(CT) | 0.04 | 24 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 148 lb | FT = 20%F, 11%E |

**LUMBER**
TOP CHORD 2x4 SP No.1(flat) *Except* 13-16:2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.1(flat) *Except* 26-20:2x4 SP No.2(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

**REACTIONS** (size) 20= Mechanical, 24=0-4-8, 31=0-3-8
Max Uplift 20=-158 (LC 3)
Max Grav 20=398 (LC 4), 24=2023 (LC 1), 31=846 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-31=-71/0, 19-20=-69/0, 1-2=-4/0, 2-3=-2251/0, 3-4=-2251/0, 4-5=-3131/0, 5-6=-3131/0, 6-7=-3131/0, 7-8=-2528/0, 8-9=-2528/0, 9-10=-614/82, 10-12=-614/82, 12-13=0/3026, 13-14=0/3008, 14-15=-501/1452, 15-16=-501/1452, 16-17=-717/724, 17-18=-713/747, 18-19=0/0
BOT CHORD 30-31=0/1313, 29-30=0/2845, 28-29=0/3131, 27-28=0/3007, 25-27=0/1713, 24-25=-1057/0, 23-24=-2041/0, 22-23=-755/715, 21-22=-747/713, 20-21=-305/522
WEBS 5-29=-213/0, 6-28=-562/12, 13-24=-119/0, 2-31=-1514/0, 2-30=0/1096, 3-30=-163/0, 4-30=-694/0, 4-29=-40/539, 12-24=-2273/0, 12-25=0/1712, 10-25=-176/0, 9-25=-1309/0, 9-27=0/980, 8-27=-182/0, 7-27=-644/0, 7-28=-45/735, 14-24=-1503/0, 18-20=-609/356, 14-23=0/1072, 18-21=-516/223, 15-23=-192/67, 17-21=-63/194, 16-23=-977/0, 16-22=-24/141

**NOTES**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Bearings are assumed to be: Joint 31 SP No.1 , Joint 24 SP No.2 .
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 158 lb uplift at joint 20.
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.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 50 lb down at 20-7-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
9) 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: 20-31=-10, 1-19=-100
Concentrated Loads (lb)
Vert: 33=-17 (B)

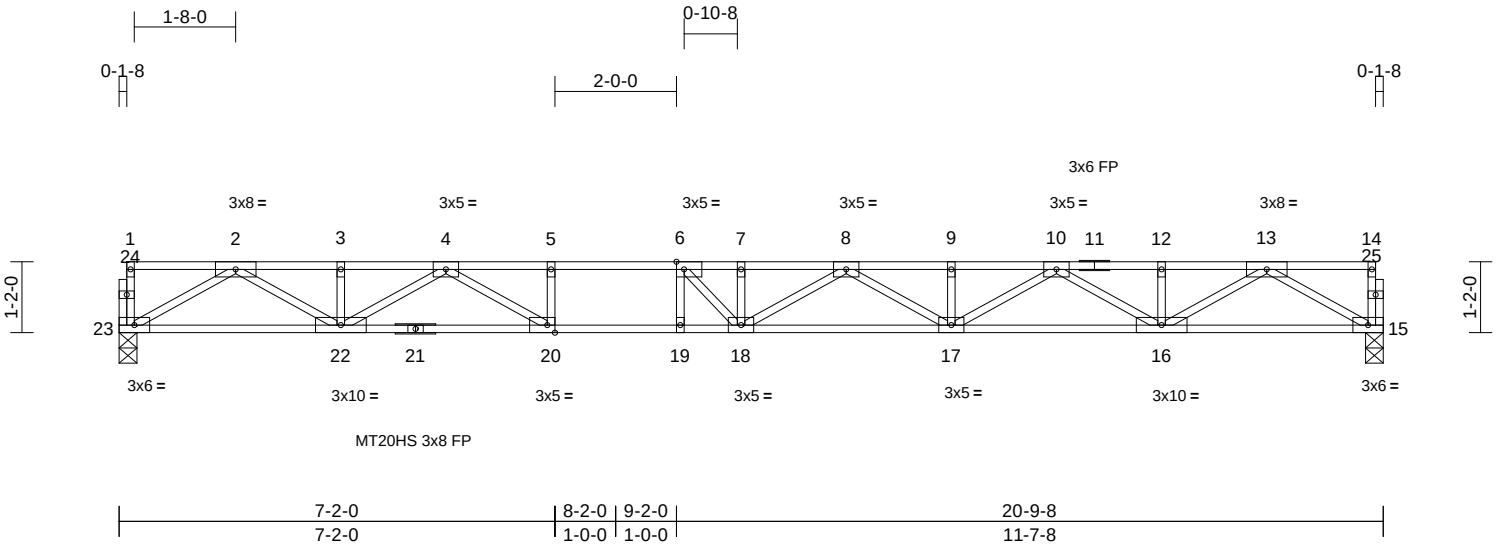

June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F210 | Floor | 5 | 1 | I74007989 Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:30 Page: 1
ID:DQWa_ou8BGgaH4dhl9blkyzSA2X-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:37.9

Plate Offsets (X, Y): [6:0-1-8,Edge], [20:0-1-8,Edge]

| Loading | (psf) | Spacing | 1-7-3 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.62 | Vert(LL) | -0.42 | 18-19 | >592 | 480 | MT20HS | 187/143 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.92 | Vert(CT) | -0.57 | 18-19 | >431 | 360 | MT20 | 244/190 |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.62 | Horz(CT) | 0.07 | 15 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 105 lb | FT = 20%F, 11%E |

**LUMBER**
TOP CHORD 2x4 SP 2400F 2.0E(flat) *Except* 11-14:2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 21-15:2x4 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 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 20-22.

**REACTIONS** (size) 15=0-3-8, 23=0-3-8
Max Grav 15=898 (LC 1), 23=898 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-60/0, 14-15=-56/0, 1-2=-4/0, 2-3=-2539/0, 3-4=-2539/0, 4-5=-4176/0, 5-6=-4176/0, 6-7=-4477/0, 7-8=-4477/0, 8-9=-3998/0, 9-10=-3998/0, 10-12=-2541/0, 12-13=-2541/0, 13-14=-3/0
BOT CHORD 22-23=0/1416, 20-22=0/3384, 19-20=0/4176, 18-19=0/4176, 17-18=0/4344, 16-17=0/3388, 15-16=0/1428
WEBS 5-20=-369/0, 6-19=-284/17, 2-23=-1634/0, 2-22=0/1311, 3-22=-164/0, 4-22=-987/0, 4-20=0/1057, 13-15=-1648/0, 13-16=0/1299, 12-16=-130/0, 10-16=-989/0, 10-17=0/712, 9-17=-139/0, 8-17=-404/0, 8-18=0/283, 7-18=-312/16, 6-18=-204/689

**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) The Fabrication Tolerance at joint 21 = 11%
5) Bearings are assumed to be: Joint 23 SP No.2 , Joint 15 SP 2400F 2.0E .
6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard


June 6,2025

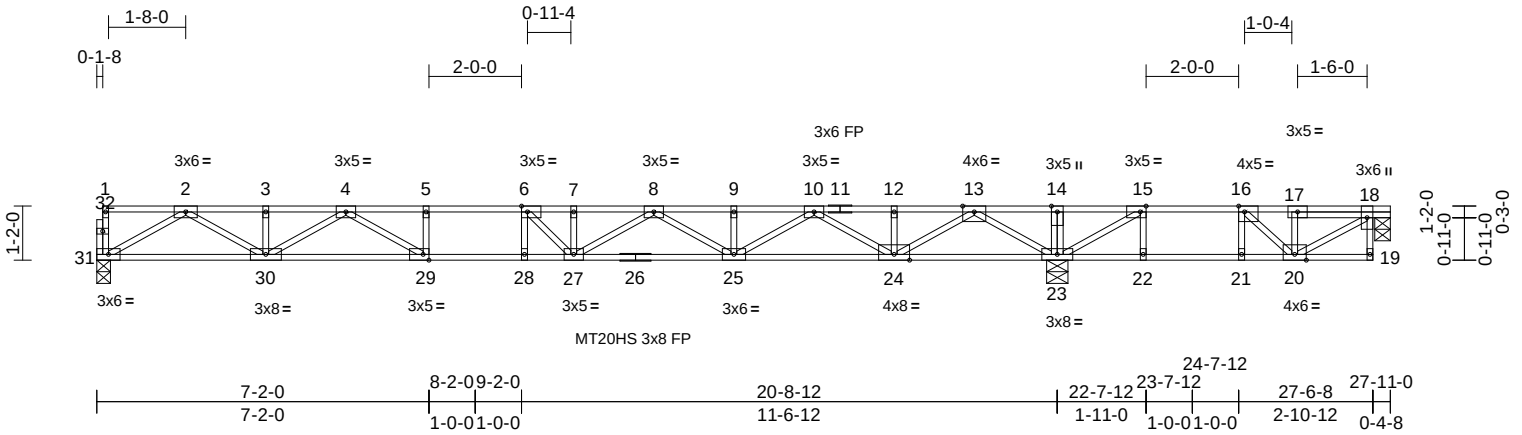


ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F211 | Floor | 4 | 1 | I74007990 Job Reference (optional) |

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:30 Page: 1
ID:sTjhx4q?Nk1HAJlkyc?a1uzSA2c-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:49.7

Plate Offsets (X, Y): [6:0-1-8,Edge], [15:0-1-8,Edge], [16:0-1-8,Edge], [29:0-1-8,Edge]

| Loading | (psf) | Spacing | 1-7-3 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.89 | Vert(LL) | -0.38 | 27-28 | >656 | 480 | MT20HS | 187/143 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.81 | Vert(CT) | -0.51 | 27-28 | >481 | 360 | MT20 | 244/190 |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.72 | Horz(CT) | 0.05 | 23 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 142 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 SP No.2(flat) *Except* 11-18:2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat) *Except* 26-19:2x4 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 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 18=0-4-0, 23=0-5-8, 31=0-3-8
Max Uplift 18=-215 (LC 3)
Max Grav 18=224 (LC 4), 23=1589 (LC 1), 31=809 (LC 10)

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

TOP CHORD 1-31=-57/0, 18-19=-14/0, 1-2=-3/0, 2-3=-2234/0, 3-4=-2234/0, 4-5=-3504/0, 5-6=-3504/0, 6-7=-3597/0, 7-8=-3597/0, 8-9=-2823/0, 9-10=-2823/0, 10-12=-1059/0, 12-13=-1059/0, 13-14=0/1986, 14-15=0/1986, 15-16=-171/988, 16-17=-275/271, 17-18=-277/273
BOT CHORD 30-31=0/1270, 29-30=0/2947, 28-29=0/3504, 27-28=0/3504, 25-27=0/3328, 24-25=0/2059, 23-24=-362/0, 22-23=-988/171, 21-22=-988/171, 20-21=-988/171, 19-20=0/0
WEBS 17-20=-395/0, 18-20=-316/321, 5-29=-258/0, 6-28=-228/71, 2-31=-1465/0, 2-30=0/1126, 3-30=-142/0, 4-30=-831/0, 4-29=0/799, 14-23=-40/68, 13-23=-1887/0, 13-24=0/1502, 12-24=-129/0, 10-24=-1183/0, 10-25=0/908, 9-25=-137/0, 8-25=-605/0, 8-27=0/356, 7-27=-211/43, 6-27=-348/402, 15-22=0/250, 16-21=-309/0, 15-23=-1440/0, 16-20=0/970

**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 31 SP 2400F 2.0E , Joint 23 SP No.1 , Joint 18 SP No.2 .
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 215 lb uplift at joint 18.
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) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
8) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard


June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F212 | Floor Supported Gable | 1 | 1 | I74007991<br>Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:30 Page: 1
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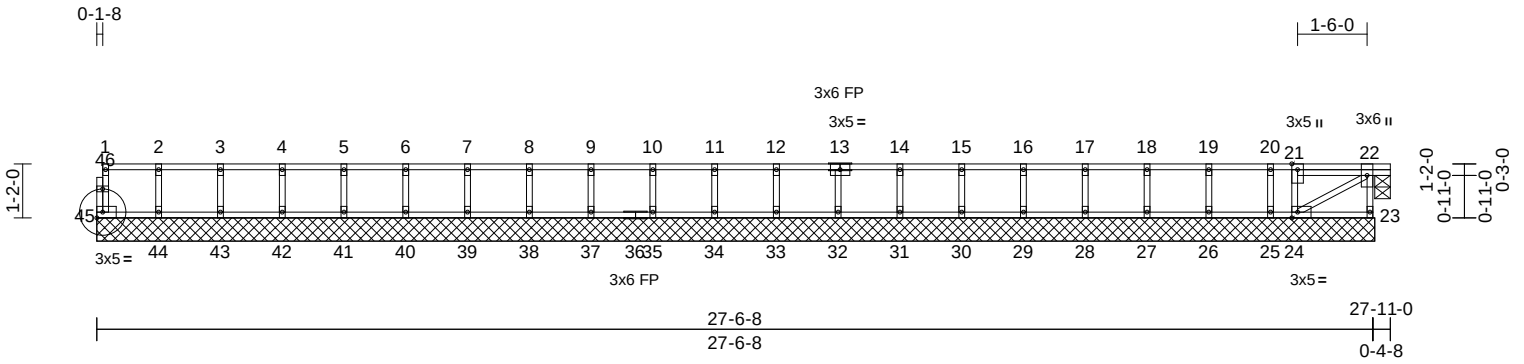


Scale = 1:49.7

Plate Offsets (X, Y): [24:0-1-8,Edge]

| Loading | (psf) | Spacing | 1-7-3 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.06 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.01 | Vert(CT) | 0.00 | 23-24 | >999 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.03 | Horz(CT) | 0.00 | 22 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 119 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) 22=0-4-0, 23=27-7-0, 24=27-7-0, 25=27-7-0, 26=27-7-0, 27=27-7-0, 28=27-7-0, 29=27-7-0, 30=27-7-0, 31=27-7-0, 32=27-7-0, 33=27-7-0, 34=27-7-0, 35=27-7-0, 37=27-7-0, 38=27-7-0, 39=27-7-0, 40=27-7-0, 41=27-7-0, 42=27-7-0, 43=27-7-0, 44=27-7-0, 45=27-7-0
Max Grav 22=63 (LC 1), 23=5 (LC 1), 24=102 (LC 1), 25=72 (LC 1), 26=123 (LC 1), 27=116 (LC 1), 28=118 (LC 1), 29=117 (LC 1), 30=118 (LC 1), 31=115 (LC 1), 32=117 (LC 1), 33=120 (LC 1), 34=117 (LC 1), 35=117 (LC 1), 37=117 (LC 1), 38=117 (LC 1), 39=117 (LC 1), 40=117 (LC 1), 41=117 (LC 1), 42=117 (LC 1), 43=116 (LC 1), 44=122 (LC 1), 45=39 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-45=-35/0, 22-23=0/0, 1-2=-2/0, 2-3=-2/0, 3-4=-2/0, 4-5=-2/0, 5-6=-2/0, 6-7=-2/0, 7-8=-2/0, 8-9=-2/0, 9-10=-2/0, 10-11=-2/0, 11-12=-2/0, 12-14=-6/0, 14-15=-6/0, 15-16=-6/0, 16-17=-6/0, 17-18=-6/0, 18-19=-6/0, 19-20=-6/0, 20-21=-6/0, 21-22=-8/0
BOT CHORD 44-45=0/2, 43-44=0/2, 42-43=0/2, 41-42=0/2, 40-41=0/2, 39-40=0/2, 38-39=0/2, 37-38=0/2, 35-37=0/2, 34-35=0/2, 33-34=0/2, 32-33=0/2, 31-32=0/6, 30-31=0/6, 29-30=0/6, 28-29=0/6, 27-28=0/6, 26-27=0/6, 25-26=0/6, 24-25=0/6, 23-24=0/0
WEBS 21-24=-94/0, 22-24=0/7, 2-44=-110/0, 3-43=-106/0, 4-42=-107/0, 5-41=-107/0, 6-40=-107/0, 7-39=-107/0, 8-38=-107/0, 9-37=-107/0, 10-35=-107/0, 11-34=-106/0, 12-33=-109/0, 13-32=-107/0, 14-31=-104/0, 15-30=-107/0, 16-29=-106/0, 17-28=-107/0, 18-27=-105/0, 19-26=-111/0, 20-25=-68/0

**NOTES**
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
4) All bearings are assumed to be SP No.2 .
5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
7) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard


June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F213 | Floor | 1 | 1 | I74007992<br>Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:30 Page: 1
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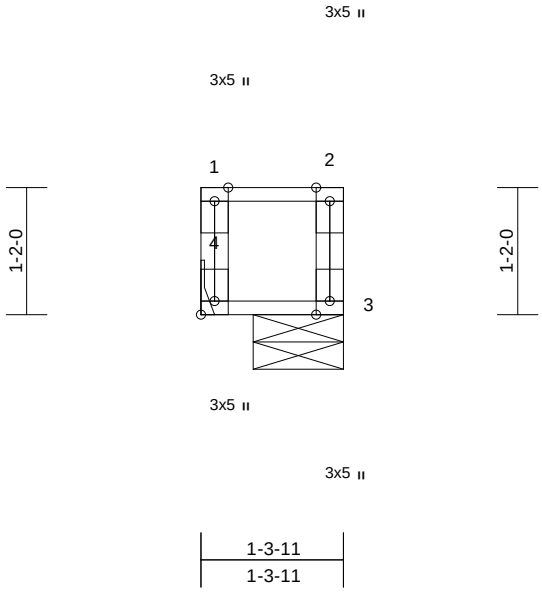


Scale = 1:21.1

Plate Offsets (X, Y): [4: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 | 0.04 | Vert(LL) | 0.00 | 4 | >999 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.01 | Vert(CT) | 0.00 | 4 | >999 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.00 | Horz(CT) | 0.00 | 3 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MR | | | | | | | Weight: 9 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 1-3-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 3=0-9-15, 4= Mechanical
Max Grav 3=58 (LC 1), 4=58 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-4=-53/0, 2-3=-53/0, 1-2=-9/0
BOT CHORD 3-4=0/9

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

**LOAD CASE(S)** Standard


June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F214 | Floor | 1 | 1 | I74007993<br>Job Reference (optional) |

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:30 Page: 1
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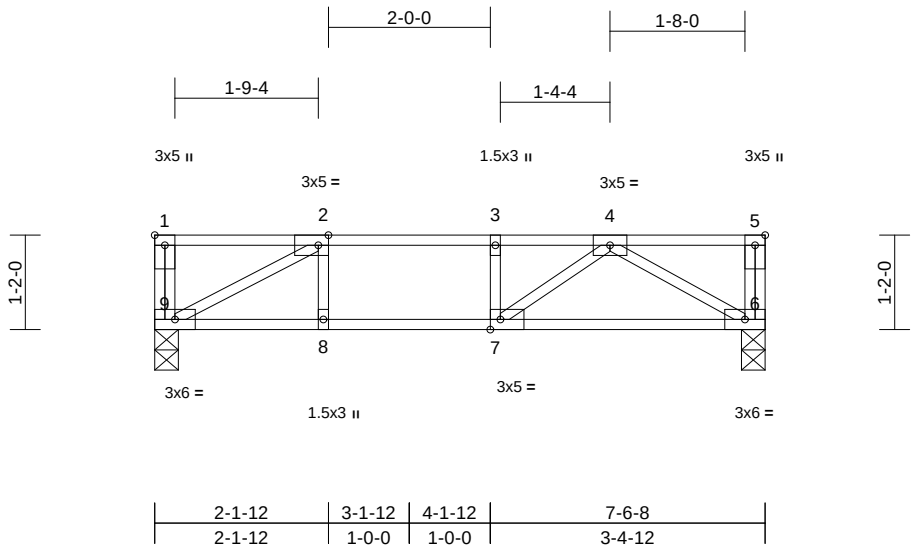


Scale = 1:28.5

Plate Offsets (X, Y): [1:Edge,0-1-8], [2:0-1-8,Edge], [7:0-1-8,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 | 0.48 | Vert(LL) | -0.07 | 6-7 | >999 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.46 | Vert(CT) | -0.09 | 6-7 | >943 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.18 | Horz(CT) | 0.01 | 6 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 39 lb | FT = 20%F, 11%E |

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

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

**REACTIONS** (size) 6=0-3-8, 9=0-3-8
Max Grav 6=401 (LC 1), 9=401 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-9=-74/20, 5-6=-70/0, 1-2=0/0, 2-3=-656/0, 3-4=-656/0, 4-5=0/0
BOT CHORD 8-9=0/656, 7-8=0/656, 6-7=0/531
WEBS 2-8=0/82, 3-7=-117/0, 2-9=-743/0, 4-6=-614/0, 4-7=0/249

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

**LOAD CASE(S)** Standard


June 6,2025



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

| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F215 | Floor | 4 | 1 | I74007994 Job Reference (optional) |

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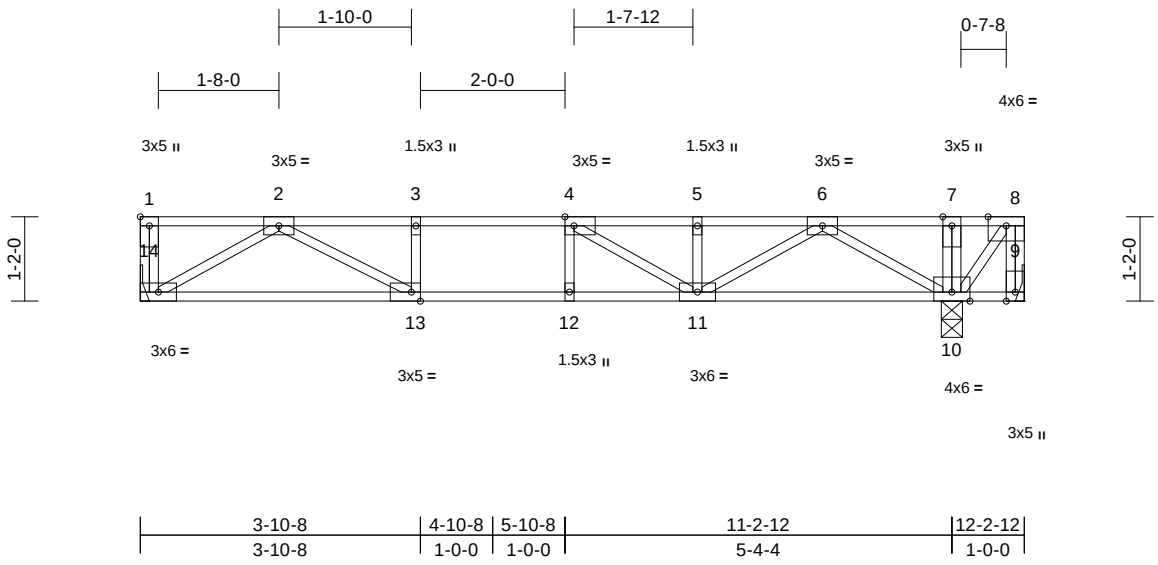


Scale = 1:31.9

Plate Offsets (X, Y): [1:Edge,0-1-8], [4:0-1-8,Edge], [13:0-1-8,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 | 0.49 | Vert(LL) | -0.06 | 13-14 | >999 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.45 | Vert(CT) | -0.08 | 13-14 | >999 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | NO | WB | 0.38 | Horz(CT) | 0.01 | 9 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 65 lb | FT = 20%F, 11%E |

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

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 10-11.

**REACTIONS** (size) 9= Mechanical, 10=0-3-8, 14= Mechanical
Max Uplift 9=-944 (LC 3)
Max Grav 9=250 (LC 4), 10=1975 (LC 8), 14=524 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-14=-72/0, 8-9=-259/927, 1-2=0/0, 2-3=-1172/0, 3-4=-1172/0, 4-5=-803/0, 5-6=-803/0, 6-7=0/1014, 7-8=0/1014
BOT CHORD 13-14=0/750, 12-13=0/1172, 11-12=0/1172, 10-11=-77/212, 9-10=0/0
WEBS 3-13=-197/0, 4-12=-20/48, 7-10=-180/0, 2-14=-868/0, 2-13=0/481, 6-10=-1158/0, 6-11=0/791, 5-11=-185/9, 4-11=-454/0, 8-10=-1575/0

**NOTES**
1) Unbalanced floor live loads have been considered for this design.
2) Bearings are assumed to be: , Joint 10 SP No.2 .
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 944 lb uplift at joint 9.
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.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 500 lb down at 12-1-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
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: 9-14=-10, 1-8=-100
Concentrated Loads (lb)
Vert: 8=-500 (F)


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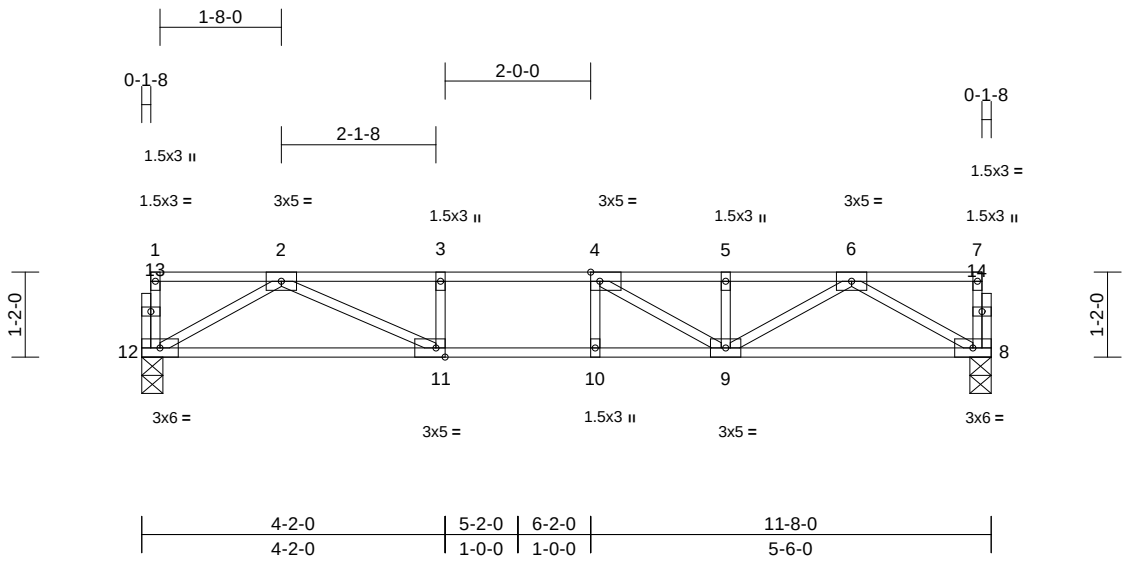
| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F216 | Floor | 3 | 1 | I74007995 Job Reference (optional) |

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:31 Page: 1
ID:1eTUVlrEOOMUAYIwoRU2Elz9KWY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:31.6

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

| Loading | (psf) | Spacing | 1-7-3 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.49 | Vert(LL) | -0.11 | 9-10 | >999 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.67 | Vert(CT) | -0.13 | 9-10 | >999 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.31 | Horz(CT) | 0.02 | 8 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 58 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=0-3-8, 12=0-3-8
Max Grav 8=497 (LC 1), 12=497 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-12=-57/0, 7-8=-58/0, 1-2=-3/0, 2-3=-1329/0, 3-4=-1329/0, 4-5=-1204/0, 5-6=-1204/0, 6-7=-3/0
BOT CHORD 11-12=0/744, 10-11=0/1329, 9-10=0/1329, 8-9=0/741
WEBS 3-11=-219/0, 4-10=-77/29, 2-12=-857/0, 2-11=0/656, 6-8=-853/0, 6-9=0/541, 5-9=-184/4, 4-9=-328/20

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

**LOAD CASE(S)** Standard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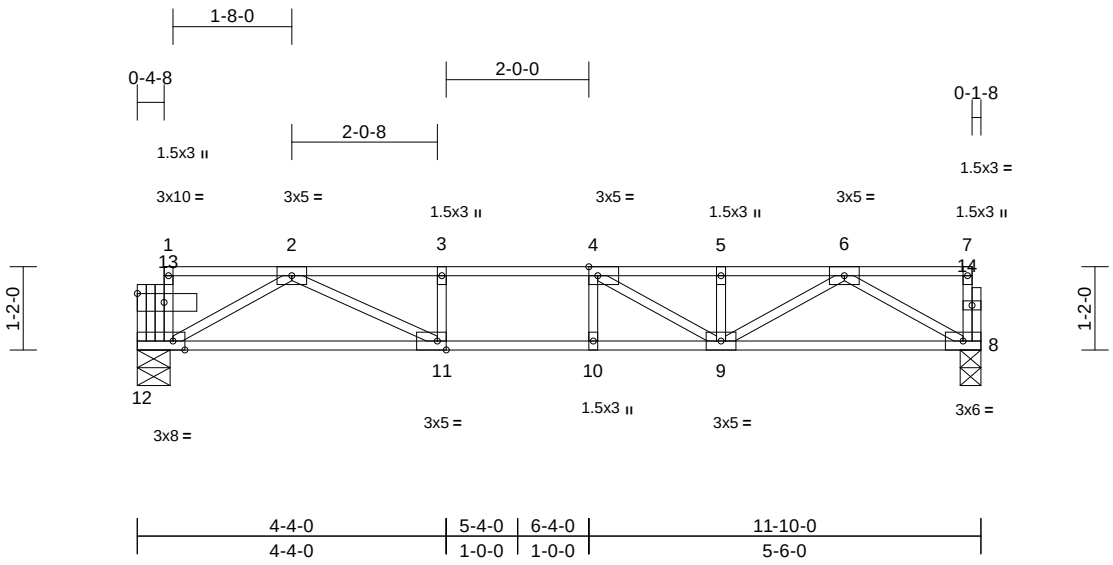
| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F217 | Floor | 4 | 1 | I74007996<br>Job Reference (optional) |

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:31 ID:lEyCnStWQyYjfw2VBS3WCkzSA2Y-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f






Scale = 1:32.3

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

| Loading | (psf) | Spacing | 1-7-3 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.49 | Vert(LL) | -0.11 | 9-10 | >999 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.67 | Vert(CT) | -0.13 | 9-10 | >999 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.30 | Horz(CT) | 0.02 | 8 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 61 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=0-3-8, 12=0-5-8
Max Grav 8=502 (LC 1), 12=676 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-12=-276/193, 7-8=-58/0, 1-2=-49/34, 2-3=-1358/0, 3-4=-1358/0, 4-5=-1219/0, 5-6=-1219/0, 6-7=-3/0
BOT CHORD 11-12=0/814, 10-11=0/1358, 9-10=0/1358, 8-9=0/749
WEBS 3-11=-220/0, 4-10=-76/33, 2-12=-890/0, 2-11=0/636, 6-8=-862/0, 6-9=0/549, 5-9=-183/6, 4-9=-345/16

Uniform Loads (lb/ft)
Vert: 8-12=-8, 1-7=-80
Concentrated Loads (lb)
Vert: 1=-191

**NOTES**
1) Unbalanced floor live loads have been considered for this design.
2) All bearings are assumed to be SP No.2 .
3) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
4) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 222 lb down and 248 lb up at 0-5-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.

**LOAD CASE(S)** Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00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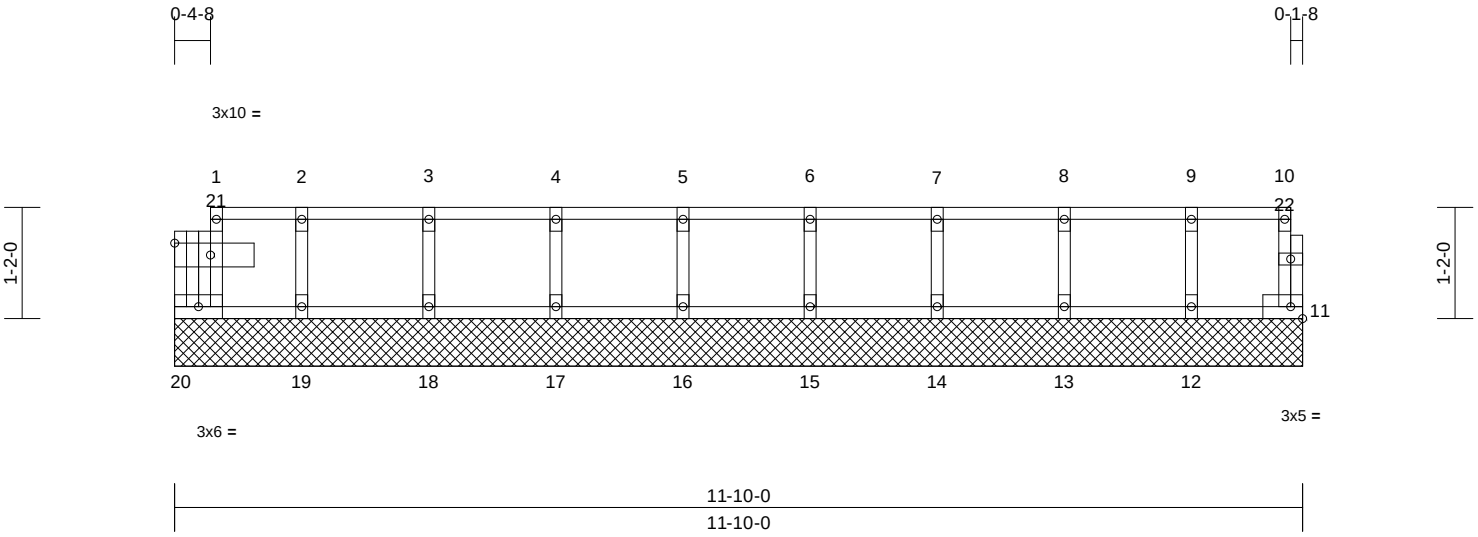
| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F218 | Floor Supported Gable | 1 | 1 | I74007997<br>Job Reference (optional) |

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:31 ID:lEyCnStWQyYjfw2VBS3WCkzSA2Y-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f






Scale = 1:24.2

Plate Offsets (X, Y): [21:0-4-8,0-1-8]

| Loading | (psf) | Spacing | 1-7-3 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.06 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.01 | Vert(TL) | n/a | - | n/a | 999 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.02 | Horiz(TL) | 0.00 | 11 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MR | | | | | | | Weight: 53 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=11-10-0, 12=11-10-0, 13=11-10-0, 14=11-10-0, 15=11-10-0, 16=11-10-0, 17=11-10-0, 18=11-10-0, 19=11-10-0, 20=11-10-0
Max Grav 11=39 (LC 1), 12=103 (LC 1), 13=121 (LC 1), 14=116 (LC 1), 15=117 (LC 1), 16=117 (LC 1), 17=117 (LC 1), 18=119 (LC 1), 19=111 (LC 1), 20=52 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-20=-51/0, 10-11=-34/0, 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, 9-10=-8/0
BOT CHORD 19-20=0/8, 18-19=0/8, 17-18=0/8, 16-17=0/8, 15-16=0/8, 14-15=0/8, 13-14=0/8, 12-13=0/8, 11-12=0/8
WEBS 2-19=-98/0, 3-18=-109/0, 4-17=-106/0, 5-16=-107/0, 6-15=-107/0, 7-14=-106/0, 8-13=-109/0, 9-12=-96/0

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

**LOAD CASE(S)** Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 11-20=-8, 1-10=-80
Concentrated Loads (lb)
Vert: 1=-25


June 6,2025



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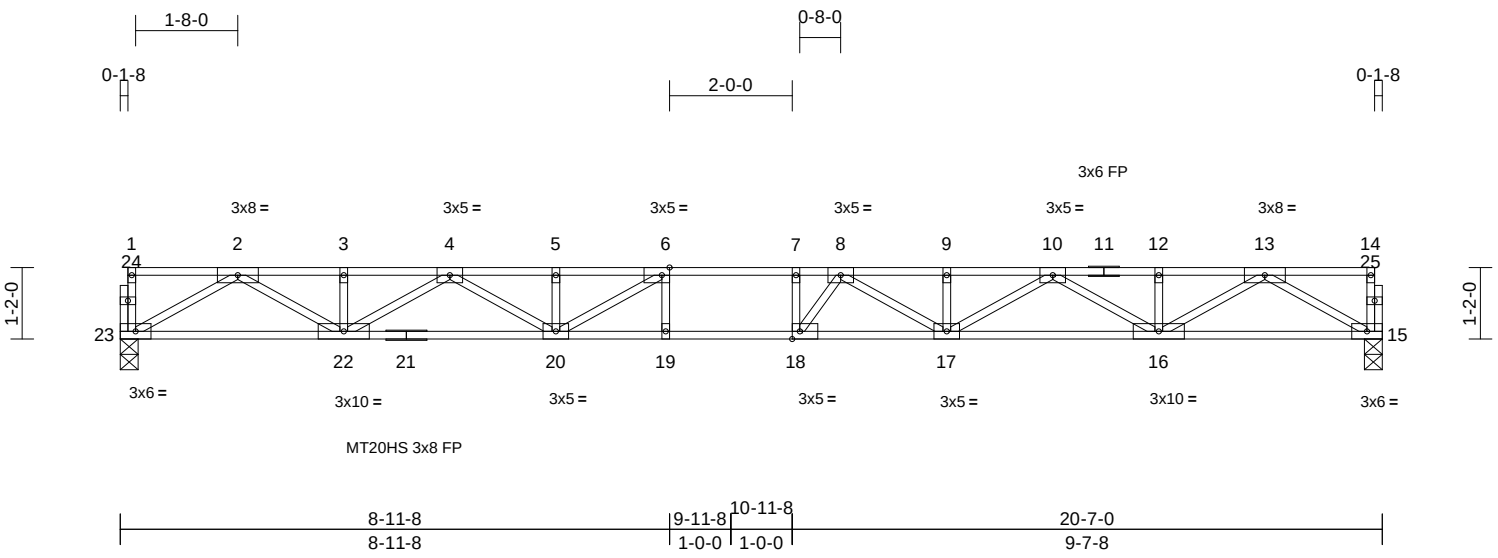
| Job | Truss | Truss Type | Qty | Ply | 51 Magnolia Acres-2nd Floor-Grayson BC 3FL SP FE |
|---|---|---|---|---|---|
| 25060036-A | F219 | Floor | 8 | 1 | I74007998 Job Reference (optional) |

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

Run: 8.73 S Feb 19 2025 Print: 8.730 S Feb 19 2025 MiTek Industries, Inc. Thu Jun 05 13:14:31 ID:sTjhx4q?Nk1HAJlkyc?a1uzSA2c-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f






Scale = 1:37.6

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

| Loading | (psf) | Spacing | 1-7-3 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.41 | Vert(LL) | -0.33 | 18 | >733 | 480 | MT20HS | 187/143 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.51 | Vert(CT) | -0.46 | 18 | >532 | 360 | MT20 | 244/190 |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.61 | Horz(CT) | 0.07 | 15 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2021/TPI2014 | Matrix-MSH | | | | | | | Weight: 104 lb | FT = 20%F, 11%E |

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

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

**REACTIONS** (size) 15=0-3-8, 23=0-3-8
Max Grav 15=889 (LC 1), 23=889 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-57/0, 14-15=-58/0, 1-2=-3/0, 2-3=-2512/0, 3-4=-2512/0, 4-5=-3930/0, 5-6=-3930/0, 6-7=-4314/0, 7-8=-4314/0, 8-9=-3941/0, 9-10=-3941/0, 10-12=-2512/0, 12-13=-2512/0, 13-14=-3/0
BOT CHORD 22-23=0/1412, 20-22=0/3342, 19-20=0/4314, 18-19=0/4314, 17-18=0/4257, 16-17=0/3342, 15-16=0/1411
WEBS 13-15=-1628/0, 13-16=0/1285, 12-16=-133/0, 10-16=-969/0, 10-17=0/699, 9-17=-141/0, 8-17=-483/0, 8-18=-239/479, 2-23=-1629/0, 2-22=0/1285, 3-22=-136/0, 4-22=-968/0, 4-20=0/687, 5-20=-187/61, 6-20=-754/25, 6-19=-69/123, 7-18=-304/117

**LOAD CASE(S)** Standard

**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) 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.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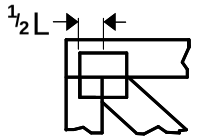
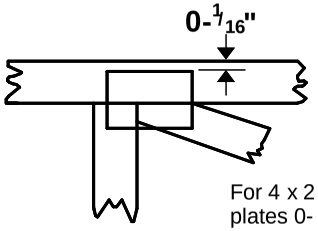
# Symbols

### 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.

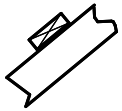
* Plate location details available in MiTek software or upon request.

### PLATE SIZE

4 x 4

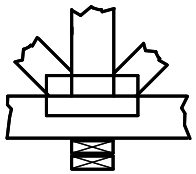
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

### 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

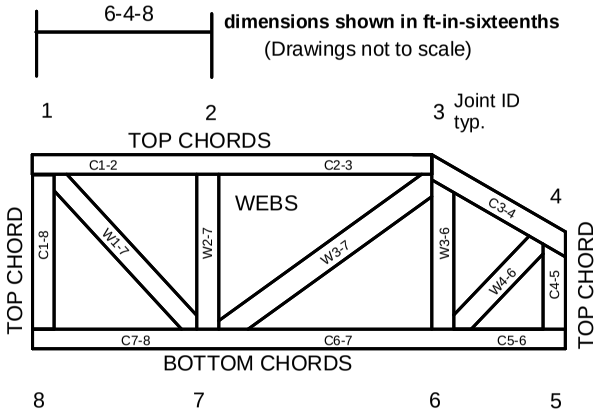


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

**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.



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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.