

RE: 3095757-2 - H&H, Jackson (B\_1), B, Lot 71, OAKMONT

Trenco  
818 Soundside Rd  
Edenton, NC 27932

**Site Information:**

Project Customer: H and H Project Name:  
Lot/Block: 71 Subdivision: OAKMONT  
Address:  
City: LILLINGTON State: NC

**Name Address and License # of Structural Engineer of Record, If there is one, for the building.**

Name: License #:  
Address:  
City, County: State:

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

Design Code: IRC2015/TPI2014 Design Program: MiTek 20/20 8.5  
Wind Code: ASCE 7-10 Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-10  
Wind Speed: 150 mph  
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 1 individual, dated Truss Design Drawings and 0 Additional Drawings.

| No. | Seal#     | Job ID#   | Truss Name | Date     |
|-----|-----------|-----------|------------|----------|
| 1   | 155167883 | 3095757-2 | B01        | 11/10/22 |

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Builders FirstSource-Sumter,SC.

Truss Design Engineer's Name: Gilbert, Eric  
My license renewal date for the state of North Carolina is December 31, 2022.

**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.



November 10, 2022

Gilbert, Eric

|                  |              |                            |           |          |   |
|------------------|--------------|----------------------------|-----------|----------|---|
| Job<br>3095757-2 | Truss<br>B01 | Truss Type<br>Roof Special | Qty<br>10 | Ply<br>1 | H&H, Jackson (B_1), B, Lot 71, OAKMONT<br>155167883 |
|------------------|--------------|----------------------------|-----------|----------|---|

Builders FirstSource, Sumter, SC 29153

ID:6U\_sNXmsGM6hZXeeE\_lIa6zQrSu-5ssWYivscH7X9IGGs3SWYkBs9CC8W8zxRaBLJEyKam9  
8.530 s May 26 2022 MiTek Industries, Inc. Thu Nov 10 13:33:24 2022 Page 1

|        |       |         |         |        |        |
|--------|-------|---------|---------|--------|--------|
| 0-10-8 | 7-2-8 | 14-1-4  | 21-0-0  | 28-7-9 | 32-3-8 |
| 0-10-8 | 7-2-8 | 6-10-12 | 6-10-12 | 7-7-9  | 3-7-15 |

Scale = 1:56.0

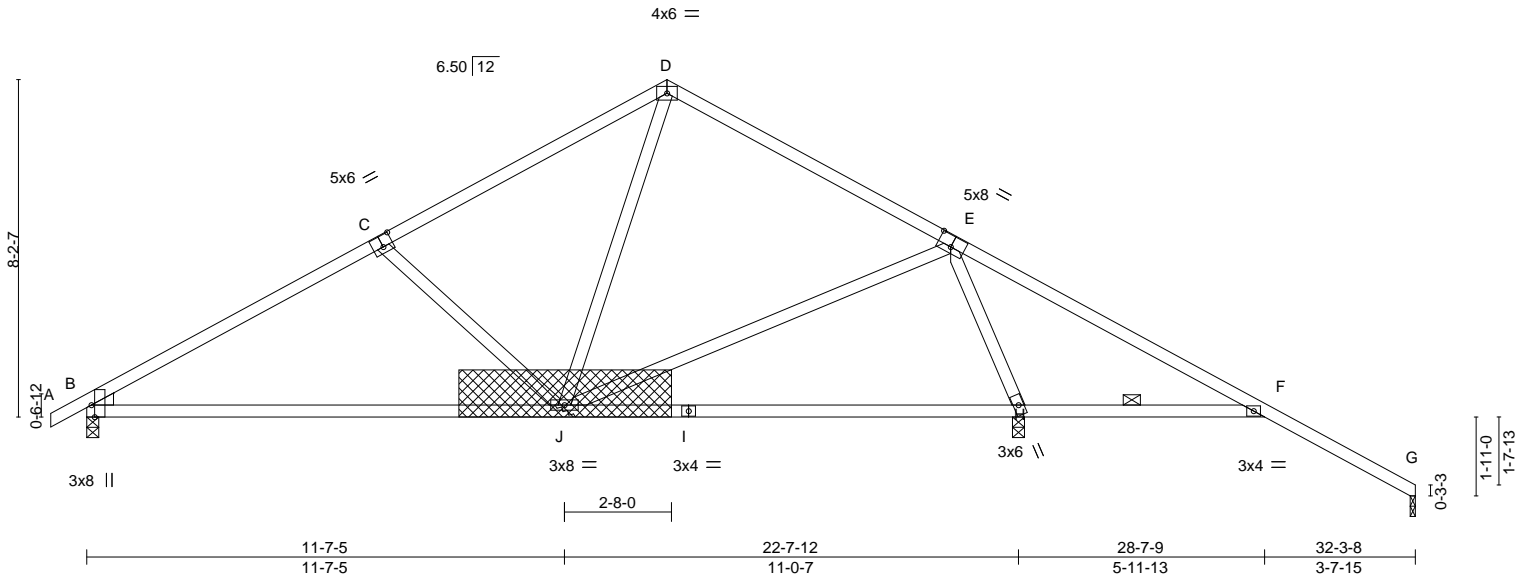


Plate Offsets (X,Y)-- [B:0-3-8,Edge], [C:0-3-0,0-3-4], [E:0-4-0,0-3-4]

| LOADING (psf) | SPACING-             | CSI.      | DEFL.          | in (loc) | l/defl | L/d | PLATES         | GRIP     |
|---------------|----------------------|-----------|----------------|----------|--------|-----|----------------|----------|
| TCLL 20.0     | 2-0-0                | TC 0.75   | Vert(LL) -0.23 | J-M      | >999   | 360 | MT20           | 244/190  |
| TCDL 10.0     | Lumber DOL 1.15      | BC 0.83   | Vert(CT) -0.48 | J-M      | >566   | 240 |                |          |
| BCLL 0.0 *    | Rep Stress Incr YES  | WB 0.74   | Horz(CT) 0.04  | G        | n/a    | n/a |                |          |
| BCDL 10.0     | Code IRC2015/TPI2014 | Matrix-AS | Wind(LL) 0.15  | J-M      | >999   | 240 |                |          |
|               |                      |           |                |          |        |     | Weight: 142 lb | FT = 20% |

**LUMBER-**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2 \*Except  
 B-I: 2x4 SP No.1  
 WEBS 2x4 SP No.3  
 WEDGE  
 Left: 2x4 SP No.3

**BRACING-**

TOP CHORD Sheathed.  
 BOT CHORD Rigid ceiling directly applied. Except:  
 5-1-0 oc bracing: F-H

**REACTIONS.**

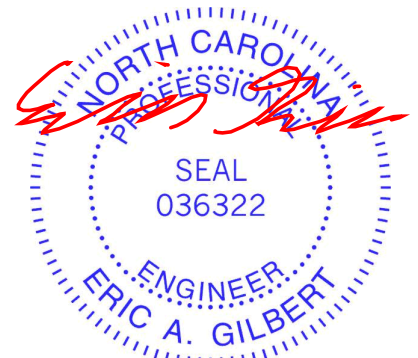
(size) B=0-3-8, H=0-3-8, G=0-1-8  
 Max Horz B=-366(LC 13)  
 Max Uplift B=-444(LC 12), H=-769(LC 13), G=-67(LC 13)  
 Max Grav B=844(LC 1), H=1690(LC 1), G=111(LC 20)

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

TOP CHORD B-C=-1280/640, C-D=-1014/522, D-E=-869/482, E-F=-539/1047  
 BOT CHORD B-J=-526/1068, H-J=-404/392, F-H=-1102/730  
 WEBS C-J=-660/541, D-J=-163/415, E-J=-203/773, E-H=-1888/1017

**NOTES-**

- 1) Repair Condition: bottom chord has 0-6-0 long break centered at 3-0-0 to the left of joint I.
- 2) Attach 14"H X 64"W X 7/16" OSB (APA Rated Sheathing 24/16 Exposure 1) gusset to both sides of truss at joint 10 with 16d (0.131"x3") nails from each face, driven through both sheets of plywood and clinched. Connected together as follows: 2x4 - 2 rows 0-4-0 o.c. Minimum 0-3-0 end distance.
- 3) N/A
- 4) Unbalanced roof live loads have been considered for this design.
- 5) Wind: ASCE 7-10; Vult=150mph Vasd=119mph; TCDL=6.0psf; BC DL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
- 8) All bearings are assumed to be User Defined crushing capacity of 565 psi.
- 9) Bearing at joint(s) G considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 10) Provide mechanical connection (by others) of truss to bearing plate at joint(s) G.
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 444 lb uplift at joint B, 769 lb uplift at joint H and 67 lb uplift at joint G.
- 12) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



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Continued on page 2

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see

**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



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 Edenton, NC 27932

|                  |              |                            |           |          |   |
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Builders FirstSource, Sumter, SC 29153

8.530 s May 26 2022 MiTek Industries, Inc. Thu Nov 10 13:33:24 2022 Page 2  
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- NOTES-**
- 13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

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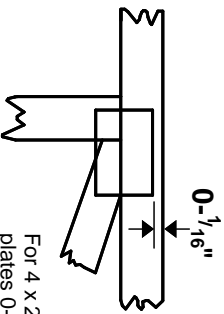
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# Symbols

## 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.

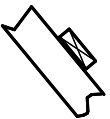
\* Plate location details available in **MITek 20/20 software** or upon request.

## PLATE SIZE

**4 X 4**

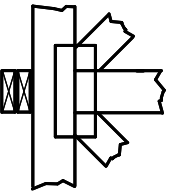
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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 where bearings occur. Min size shown is for crushing only.

### Industry Standards:

ANSI/TPI 1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: Design Standard for Bracing, Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System

6-4-8  
dimensions shown in ft-in-sixteenths  
(Drawings not to scale)



**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-1311, ESR-1352, ESR1988  
ER-3907, ESR-2362, ESR-1397, ESR-3282

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: Mill-7473 rev. 5/19/2020



# 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. Rewriting 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.