ENGINEERING BY TRENCO
A MiTek Affiliate

Lumber design values are in accordance with ANSI/TPI 1-2007 section 6.3
These truss designs rely on lumber values established by others.

RE: MASTER - DREAM FINDERS HOMES, Southport (C_3), C, Lot 594, THE COLONY @ LEXINGTON PLANTA

TRENCO
818 Soundside Rd
Edenton, NC 27932

Site Information:

Project Customer: DREAM FINDERS HOMES Project Name:
Lot/Block: 594 Subdivision: THE COLONY @ LEXINGTON PLANTATION
Address: 80 WHITE DOE CROSSING
City: CAMERON 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: IRC2018/TPI2014 Design Program: MiTek 20/20 8.6
Wind Code: ASCE 7-16 Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16
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	I67247836	MASTER	C04	8/1/24

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, 2024.

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.

August 1,2024
Gilbert, Eric

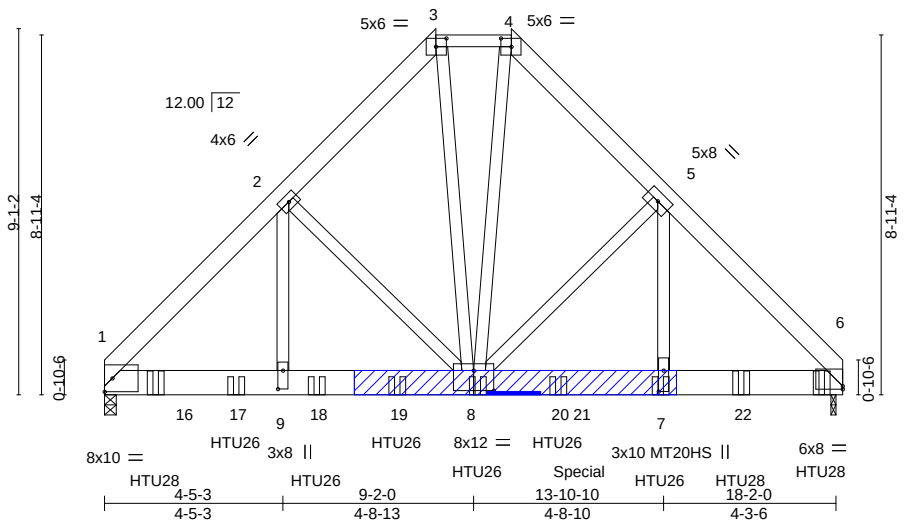
Job	Truss	Truss Type	Qty	Ply	DREAM FINDERS HOMES, Southport (C_3), C, Lot 594, THE COLONY @ LEX I67247836
MASTER	C04	Hip Girder	1	2	Job Reference (optional)

Builders FirstSource (Sumter, SC), Sumter, SC - 29153, 8.630 s Jul 12 2024 MiTek Industries, Inc. Wed Jul 31 15:50:58 2024 Page 1
ID:oMYUFR_W5RnH0V88pNA3fyzorLo-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

4-5-3	8-2-12	10-1-4	13-10-10	18-2-0
4-5-3	3-9-9	1-10-8	3-9-6	4-3-6

REPAIR:
1" TALL BY 16" LONG NOTCH IN BOTTOM CHORD CENTERED 6" TO THE RIGHT OF RIGHT EDGE OF PLATE AT JOINT 8 AS SHOWN

Scale = 1:57.2



APPLY 2 X 8 X 8' SP NO.2 SCAB(S) TO ONE FACE OF TRUSS CENTERED ON DAMAGE.
ATTACH WITH MiTek Pro Series WS/WSWH45 WOOD SCREWS OR EQUIVALENT FASTENER PER THE FOLLOWING SCHEDULE: 2 x 4'S - 2 ROWS, 2 x 6'S AND LARGER - 3 ROWS: SPACED @ 4" O.C.
USE 4" MEMBER END DISTANCE AND 1-1/4" EDGE DISTANCE. DO NOT OVERDRIVE THE SCREWS OR DRILL THROUGH METAL CONNECTOR PLATES. ALL SCREWS MUST BE INSTALLED FROM SCAB FACE OF TRUSS.

Plate Offsets (X,Y)-- [3:0-3-2,0-2-8], [4:0-3-2,0-2-8], [6:Edge,0-0-15], [7:0-6-4,0-1-8], [8:0-6-0,0-6-0], [9:0-5-8,0-1-8]

LOADING (psf)		SPACING- 2-0-0		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.25	Vert(LL)	-0.08	7-8	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.14	7-8	>999	240	MT20HS	187/143
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.54	Horz(CT)	0.03	6	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MS		Wind(LL)	0.08	7-8	>999	240	Weight: 340 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.2 *Except* 3-4: 2x4 SP No.2
BOT CHORD 2x8 SP 2400F 2.0E or 2x8 SP DSS
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-0-9 oc purlins, except 2-0-0 oc purlins (5-9-2 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 1=0-3-8 (req. 0-4-6), 6=0-1-8 (req. 0-5-7)
Max Horz 1=367(LC 26)
Max Uplift 1=-2553(LC 8), 6=-2311(LC 9)
Max Grav 1=7414(LC 2), 6=9181(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-8156/2794, 2-3=-6075/2101, 3-4=-4720/1699, 4-5=-6069/2100, 5-6=-9192/2571
BOT CHORD 1-9=-2031/5697, 8-9=-2031/5697, 7-8=-1704/6424, 6-7=-1704/6424
WEBS 2-9=-1041/2706, 2-8=-2014/1127, 3-8=-1419/4137, 4-8=-1417/4117, 5-7=-738/4185, 5-8=-3042/901

NOTES-
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-4-0 oc.
Webs 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=150mph (3-second gust) Vasd=119mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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.
9) WARNING: Required bearing size at joint(s) 1, 6 greater than input bearing size.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=2553, 6=2311.
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.
13) Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent at 1-3-4 from the left end to connect truss(es) to back face of bottom chord.
14) Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 2-0-0 oc max. starting at 3-3-4 from the left end to 21-3-4 to connect truss(es) to back face of bottom chord.

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NOTES-

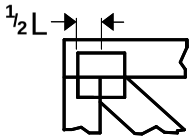
15) Use Simpson Strong-Tie HTU26 (20-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent at 13-9-12 from the left end to connect truss(es) to back face of bottom chord, skewed 0.0 deg.to the left, sloping 0.0 deg. down.
16) Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 15-9-12 from the left end to 17-9-12 to connect truss(es) to back face of bottom chord.
17) Fill all nail holes where hanger is in contact with lumber.
18) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1764 lb down and 310 lb up at 11-9-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

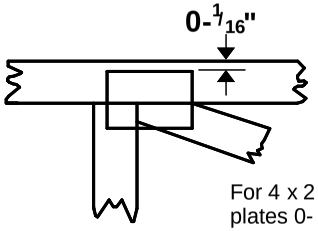
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-3=-60, 3-4=-60, 4-6=-60, 10-13=-20
   Concentrated Loads (lb)
   Vert: 8=-1219(B) 7=-1445(B) 15=-1450(B) 16=-1219(B) 17=-1219(B) 18=-1219(B) 19=-1219(B) 20=-1219(B) 21=-1445(B) 22=-1445(B)

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.

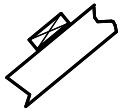
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

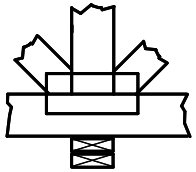
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

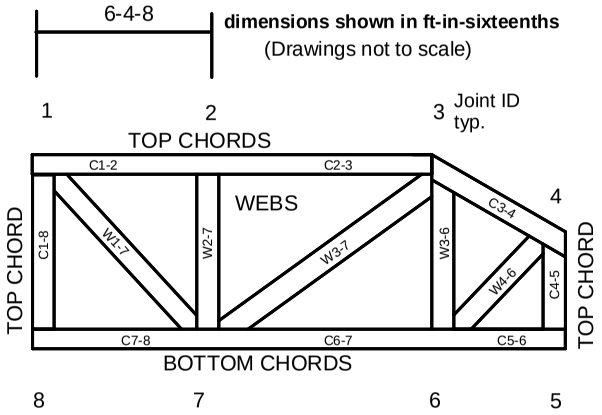


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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
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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.