

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 38716-38716A
51 PRINCE PLACE - ROOF

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by 84 Components - #2383.

Pages or sheets covered by this seal: I61989026 thru I61989026

My license renewal date for the state of North Carolina is December 31, 2023.

North Carolina COA: C-0844



November 14, 2023

Gilbert, Eric

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

Job 38716-38716A	Truss B2	Truss Type MONOPICH	Qty 5	Ply 1	51 PRINCE PLACE - ROOF Job Reference (optional)	161989026
---------------------	-------------	------------------------	----------	----------	----------------------------------------------------	-----------

84 Components (Dunn, NC), Dunn, NC - 28334,

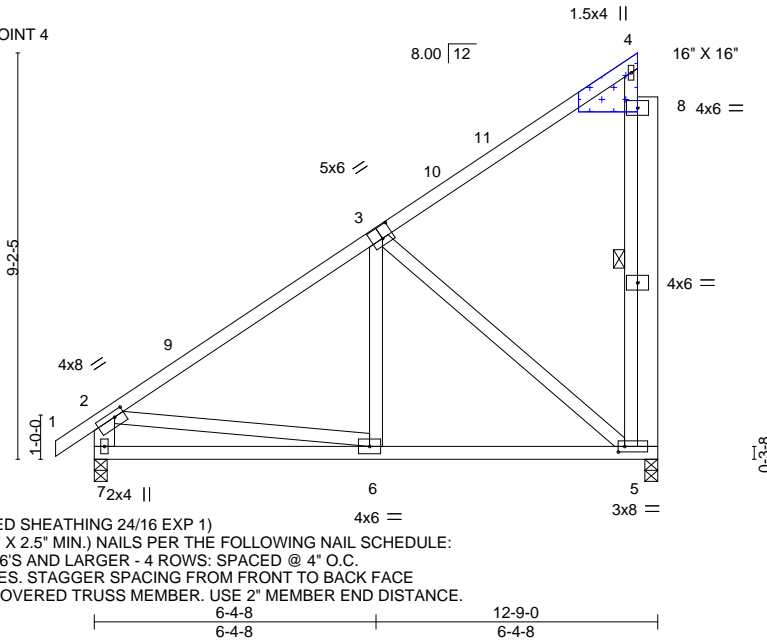
8.720 s Aug 11 2023 MiTek Industries, Inc. Mon Nov 13 13:59:43 2023 Page 1

ID:wI88M6Te4AKsZPQ32HGjMBYhydU-oclGKQSV_I51hm0G0N_3JgTLr_TjSWVDICSJrwyJaDE



Scale = 1:52.1

PLATE DAMAGED AT JOINT 4



ATTACH 7/16" OSB GUSSET (7/16" RATED SHEATHING 24/16 EXP 1) TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE: 2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C. NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.



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

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plate DOL	1.15	TC 0.79	Vert(LL)	-0.03	6-7	>999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.43	Vert(CT)	-0.06	6-7	>999		
BCLL 0.0 *	Rep Stress Incr	NO	WB 0.63	Horz(CT)	0.01	5	n/a		
BCDL 10.0	Code	IRC2015/TPI2014	Matrix-MS						
								Weight: 102 lb	FT = 20%

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

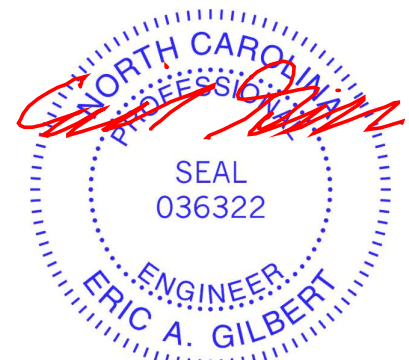
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-5

REACTIONS. (size) 7=0-3-8, 5=0-3-8
Max Horz 7=267(LC 9)
Max Grav 7=907(LC 1), 5=600(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-839/0, 2-7=-853/0
BOT CHORD 6-7=-70/876, 5-6=-25/567
WEBS 3-6=0/281, 3-5=-635/0, 2-6=-309/47

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 12-1-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 3) * 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.
 - 4) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
 - 5) 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 + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-2=-60, 4-10=-60, 5-7=-20
Trapezoidal Loads (plf)
Vert: 2=-177(F=-117)-to-10=-60
2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-2=-50, 4-10=-50, 5-7=-20
Trapezoidal Loads (plf)
Vert: 2=-167(F=-117)-to-10=-50



November 14, 2023

Continued on Page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 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/TPH Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

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

Job	Truss	Truss Type	Qty	Ply	51 PRINCE PLACE - ROOF	161989026
38716-38716A	B2	MONOPICTH	5	1	Job Reference (optional)	

84 Components (Dunn, NC), Dunn, NC - 28334,

8.720 s Aug 11 2023 MiTek Industries, Inc. Mon Nov 13 13:59:43 2023 Page 2
ID:wI88M6Te4AKsZPQ32HGjMBYhydU-oclGKQSV_I51hm0G0N_3JgTLr_TJSWVDICSJrwyJaDE

LOAD CASE(S) Standard

- 3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-20, 4-10=-20, 5-7=-40
Trapezoidal Loads (plf)
Vert: 2=-137(F=-117)-to-10=-20
- 4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=33, 4-10=13, 5-8=-28, 5-7=-12
Horz: 1-2=-45, 2-9=-30, 4-9=-25, 4-5=28, 2-7=17
Trapezoidal Loads (plf)
Vert: 2=-99(F=-117)-to-9=-70(F=-88), 9=-75(F=-88)-to-10=13
- 5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=9, 10-11=13, 4-11=18, 5-8=17, 5-7=-12
Horz: 1-2=-21, 2-11=-25, 4-11=-30, 4-5=-17, 2-7=-28
Trapezoidal Loads (plf)
Vert: 2=-104(F=-117)-to-10=13
- 6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 4-10=-44, 5-8=25, 5-7=-20
Horz: 1-2=-20, 2-4=24, 4-5=-25, 2-7=-19
Trapezoidal Loads (plf)
Vert: 2=-161(F=-117)-to-10=-44
- 7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-40, 4-10=-44, 5-8=-19, 5-7=-20
Horz: 1-2=20, 2-4=24, 4-5=19, 2-7=25
Trapezoidal Loads (plf)
Vert: 2=-161(F=-117)-to-10=-44
- 8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-4, 4-10=-14, 5-8=-16, 5-7=-12
Horz: 1-2=-8, 2-4=2, 4-5=16, 2-7=12
Trapezoidal Loads (plf)
Vert: 2=-131(F=-117)-to-10=-14
- 9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=1, 4-10=5, 5-8=12, 5-7=-12
Horz: 1-2=-13, 2-4=-17, 4-5=-12, 2-7=-16
Trapezoidal Loads (plf)
Vert: 2=-111(F=-117)-to-10=5
- 10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-27, 4-10=-31, 5-8=-7, 5-7=-20
Horz: 1-2=7, 2-4=11, 4-5=7, 2-7=21
Trapezoidal Loads (plf)
Vert: 2=-147(F=-117)-to-10=-31
- 11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-7, 4-10=-12, 5-8=21, 5-7=-20
Horz: 1-2=-13, 2-4=-8, 4-5=-21, 2-7=-7
Trapezoidal Loads (plf)
Vert: 2=-128(F=-117)-to-10=-12
- 12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=14, 4-10=18, 5-8=-15, 5-7=-12
Horz: 1-2=-26, 2-4=-30, 4-5=15, 2-7=10
Trapezoidal Loads (plf)
Vert: 2=-98(F=-117)-to-10=18
- 13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=1, 4-10=5, 5-8=10, 5-7=-12
Horz: 1-2=-13, 2-4=-17, 4-5=-10, 2-7=-15
Trapezoidal Loads (plf)
Vert: 2=-111(F=-117)-to-10=5
- 14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=14, 4-10=18, 5-8=-15, 5-7=-12
Horz: 1-2=-26, 2-4=-30, 4-5=15, 2-7=10
Trapezoidal Loads (plf)
Vert: 2=-98(F=-117)-to-10=18
- 15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=1, 4-10=5, 5-8=10, 5-7=-12
Horz: 1-2=-13, 2-4=-17, 4-5=-10, 2-7=-15

Continued on page 3

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 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/TP1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	51 PRINCE PLACE - ROOF	I61989026
38716-38716A	B2	MONOPITCH	5	1	Job Reference (optional)	

84 Components (Dunn, NC), Dunn, NC - 28334,

8.720 s Aug 11 2023 MiTek Industries, Inc. Mon Nov 13 13:59:43 2023 Page 3
ID:wI88M6Te4AKsZPQ32HGjMBYhydU-oclGKQSV_I51hm0G0N_3JgTLr_TjSWVDICSJrwyJaDE

LOAD CASE(S) Standard

- Trapezoidal Loads (plf)
Vert: 2=-111(F=-117)-to-10=5
- 16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=6, 4-10=2, 5-8=-6, 5-7=-20
Horz: 1-2=-26, 2-4=-22, 4-5=6, 2-7=19
Trapezoidal Loads (plf)
Vert: 2=-115(F=-117)-to-10=2
- 17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-7, 4-10=-12, 5-8=19, 5-7=-20
Horz: 1-2=-13, 2-4=-8, 4-5=-19, 2-7=-6
Trapezoidal Loads (plf)
Vert: 2=-128(F=-117)-to-10=-12
- 18) Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-2=-20, 4-10=-20, 5-7=-20
Trapezoidal Loads (plf)
Vert: 2=-137(F=-117)-to-10=-20
- 19) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-55, 4-10=-58, 5-8=-5, 5-7=-20
Horz: 1-2=5, 2-4=8, 4-5=5, 2-7=16
Trapezoidal Loads (plf)
Vert: 2=-175(F=-117)-to-10=-58
- 20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-40, 4-10=-44, 5-8=16, 5-7=-20
Horz: 1-2=-10, 2-4=-6, 4-5=-16, 2-7=-5
Trapezoidal Loads (plf)
Vert: 2=-160(F=-117)-to-10=-44
- 21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-31, 4-10=-34, 5-8=-5, 5-7=-20
Horz: 1-2=-19, 2-4=-16, 4-5=5, 2-7=14
Trapezoidal Loads (plf)
Vert: 2=-150(F=-117)-to-10=-34
- 22) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-40, 4-10=-44, 5-8=14, 5-7=-20
Horz: 1-2=-10, 2-4=-6, 4-5=-14, 2-7=-5
Trapezoidal Loads (plf)
Vert: 2=-160(F=-117)-to-10=-44

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

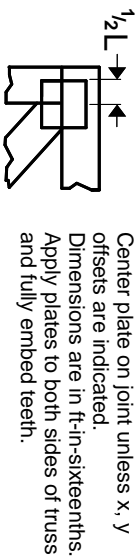
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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/TPH Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



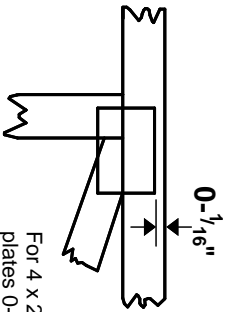
818 Soundside Road
Edenton, NC 27932

Symbols

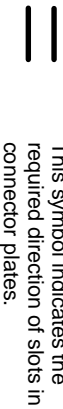
PLATE LOCATION AND ORIENTATION



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



For 4 x 2 orientation, locate plates 0- $\frac{1}{16}$ \" 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

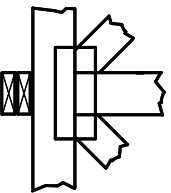
4 X 4
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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.

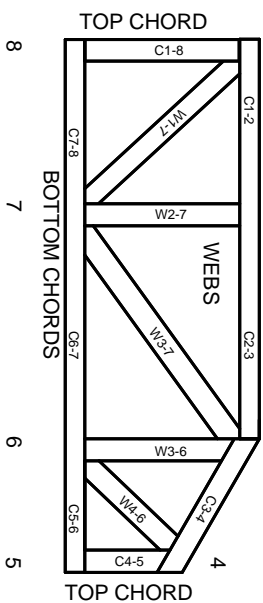
Industry Standards:

ANSI/TP1: 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



1 TOP CHORDS
2 Joint ID
3 typ.



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/TP1 section 6.3. These truss designs rely on lumber values established by others.

© 2023 MITek® All Rights Reserved

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/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 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/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

MITek

ENGINEERING BY
TRENGO
A MITek Affiliate

MITek Engineering Reference Sheet: MIL-7473 rev. 1/2/2023