28-00-00

36-00-00

36-00-00

24" o/c START

J02 J01 J04 J04 J04 J04 J04 J04 J04 J04 J04 J04 J01 J02

J03   J03

A01
A02
A03
A04
A05
A06
A06

HVAC PLATFORM/
LIGHT STORAGE

A06
A06
A06
A05
A04
A03
A02
A01

J03   J03

J02 J01 J04 J04 J04 J04 J04 J04 J04 J04 J04 J04 J04 J01 J02

28-00-00

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY

These trusses are designed as individual building 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 system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult "Bracing of Wood Trusses" available from the Truss Plate Institute, 583 D'Onofrio Drive, Madison, WI 53179.

SHOP DRAWING APPROVAL

THIS LAYOUT IS THE SOLE SOURCE FOR FABRICATION OF TRUSSES AND VOIDS ALL PREVIOUS ARCHITECTURAL OR OTHER TRUSS LAYOUTS. REVIEW AND APPROVAL OF THIS LAYOUT MUST BE RECEIVED BEFORE ANY TRUSSES WILL BE BUILT. VERIFY ALL CONDITIONS TO INSURE AGAINST CHANGES THAT WILL RESULT IN EXTRA CHARGES TO YOU.

REVIEWED BY: APPROVED BY: DATE:

QUALITY AUDITED by:
IBC 1705.5   ANSI/TPI 1-2002
IBC 2303.4   ANSI/TPI 1-2007
             ANSI/TPI 1-2014

CAROLINA STRUCTURAL SYSTEMS, LLC
Star, NC   Plant 336-437
910-491-9004

Job #: Q2300339	Plan: GARAGE
Customer: WANE O'QUINN	Date: 3/2/2023
Site Address: TBD	Sales Rep: RW
City, ST, ZIP: LILLINGTON, NC	Designer: JSP

ROOF DATA

Roof Area: 1274.56 SF
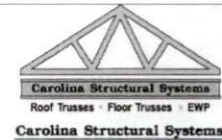
Carolina Structural Systems
Roof Trusses · Floor Trusses · EWP
Carolina Structural Systems
P.O. Box 157, Ether, NC 27247
225 Frame Shop Rd., Star, NC 27356
910-491-9004

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	J01	Jack-Open Girder	4	1	Job Reference (optional)

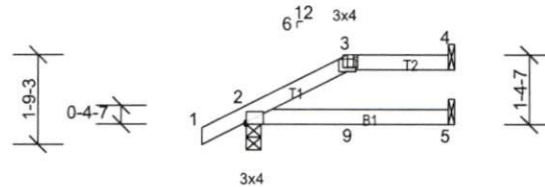Carolina Structural Systems, Star, NC 27356, Jeremy Phillips | Run: 8.62 S Oct 13 2022 Print: 8.620 S Oct 13 2022 MiTek Industries, Inc. Thu Mar 02 08:13:08 | Page: 1
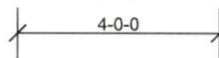
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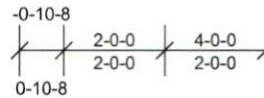
NAILED

Special
4-0-0

Scale = 1:43.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.38	Vert(LL)	-0.04	5-8	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.08	5-8	>608	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.09	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 14 lb	FT = 20%

LUMBER
TOP CHORD   2x4 SP No.2
BOT CHORD   2x4 SP No.2
BRACING
TOP CHORD   Structural wood sheathing directly applied or
4-0-0 oc purlins, except
2-0-0 oc purlins: 3-4.
BOT CHORD   Rigid ceiling directly applied or 10-0-0 oc
bracing.

REACTIONS (lb/size)   2=246/0-3-8, (min. 0-1-8), 4=58/
Mechanical, (min. 0-1-8), 5=124/
Mechanical, (min. 0-1-8)
Max Horiz 2=48 (LC 8)
Max Uplift 2=-31 (LC 8), 4=-23 (LC 4)

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

NOTES
1) Unbalanced roof live loads have been considered for this
design.
2) Wind: ASCE 7-16; Vult=125mph (3-second gust)
Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft;
B=45ft; L=24ft; eave=4ft; Ke=1.00; Cat. II; Exp B;
Enclosed; MWFRS (directional); cantilever left and right
exposed ; end vertical left and right exposed; Lumber
DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf
on the bottom chord in all areas where a rectangle
3-06-00 tall by 2-00-00 wide will fit between the bottom
chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 23 lb uplift at joint
4 and 31 lb uplift at joint 2.
8) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size
or the orientation of the purlin along the top and/or
bottom chord.
10) "NAILED" indicates 3-10d (0.148"x3") or 3-12d
(0.148"x3.25") toe-nails per NDS guidlines.

11) Hanger(s) or other connection device(s) shall be
provided sufficient to support concentrated load(s) 61 lb
down at 2-0-0 on bottom chord. The design/selection of
such connection device(s) is the responsibility of others.
12) 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=1.00
Uniform Loads (lb/ft)
Vert: 1-3=-60, 3-4=-60, 5-6=-20
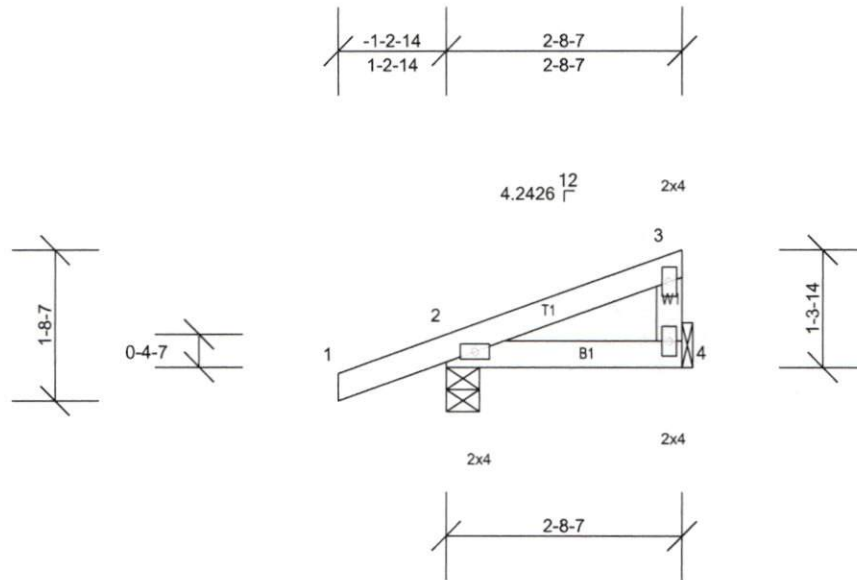Concentrated Loads (lb)
Vert: 9=-61 (B)

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	J02	Diagonal Hip Girder	4	1	Job Reference (optional)

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips   Run: 8.62 S Oct 13 2022 Print: 8.620 S Oct 13 2022 MiTek Industries, Inc. Thu Mar 02 08:13:08   Page: 1

ID:z?wIyuD3gikLrBI3I_Qynrzf1UQ-hpD31?nzIL_2p?6spaECV27taipRlZWZTMDhq2zf1SP

Scale = 1:25

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.12	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	0.00	4-7	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 11 lb	FT = 20%

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

BRACING
TOP CHORD   Structural wood sheathing directly applied or 2-8-7 oc purlins, except end verticals.
BOT CHORD   Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size)   2=195/0-4-9, (min. 0-1-8), 4=84/Mechanical, (min. 0-1-8)
            Max Horiz   2=38 (LC 7)
            Max Uplift   2=-53 (LC 8)

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

NOTES
1) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft; B=45ft; L=24ft; eave=4ft; Ke=1.00; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 2.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S)   Standard

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	A01	Hip Girder	2	2	Job Reference (optional)

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips 　　　Run: 8.62 S Oct 13 2022 Print: 8.620 S Oct 13 2022 MiTek Industries, Inc. Thu Mar 02 08:13:04 　　Page: 1
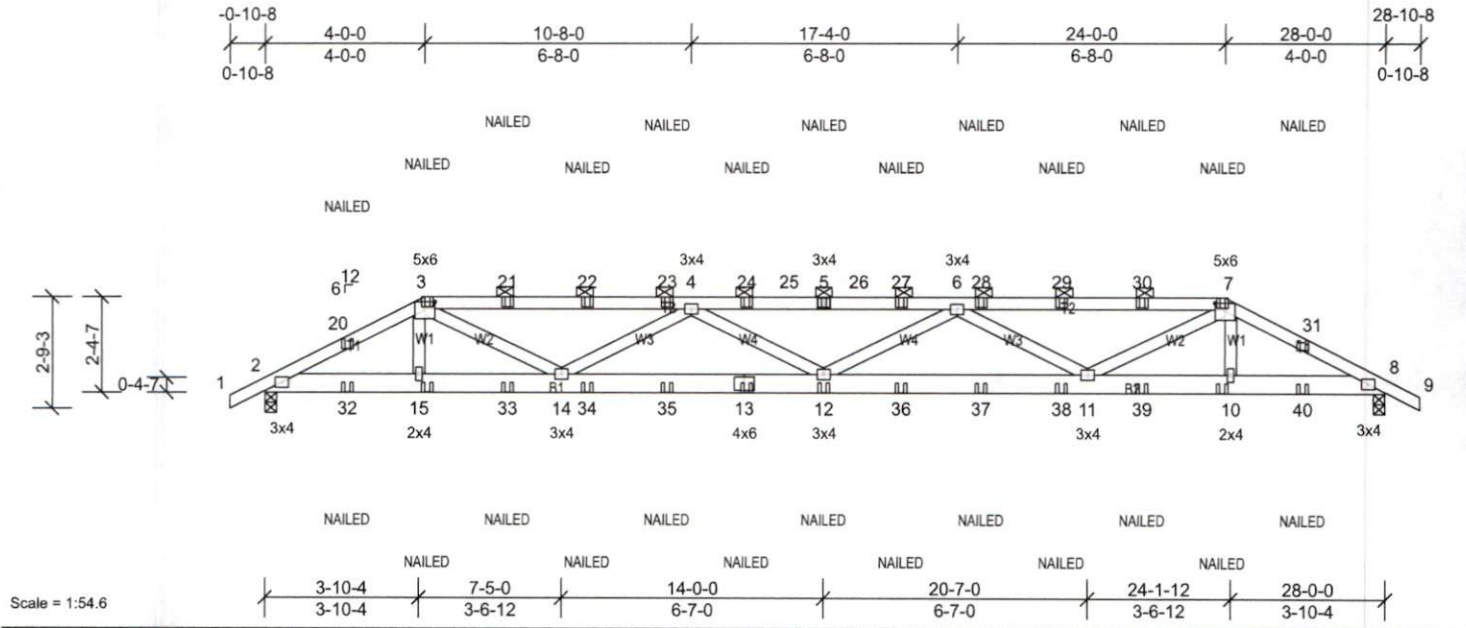ID:gwX33JLKJn_w1jW_L4blByzf1UG-OTIPZchaxB51Tw4WvbcZjZLW?tH3cLWXsm1p4yzf1SW

Scale = 1:54.6

Plate Offsets (X, Y): [3:0-3-0,0-2-0], [7:0-3-0,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.71	Vert(LL)	-0.18	12	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.36	12	>923	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.21	Horz(CT)	0.06	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 299 lb	FT = 20%

LUMBER
TOP CHORD　2x4 SP No.2
BOT CHORD　2x6 SP No.2
WEBS　　　　2x4 SP No.2

BRACING
TOP CHORD　Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (4-10-3 max.): 3-7.
BOT CHORD　Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size)　2=1671/0-3-8, (min. 0-1-8), 8=1671/0-3-8, (min. 0-1-8)
Max Horiz 2=-39 (LC 6)
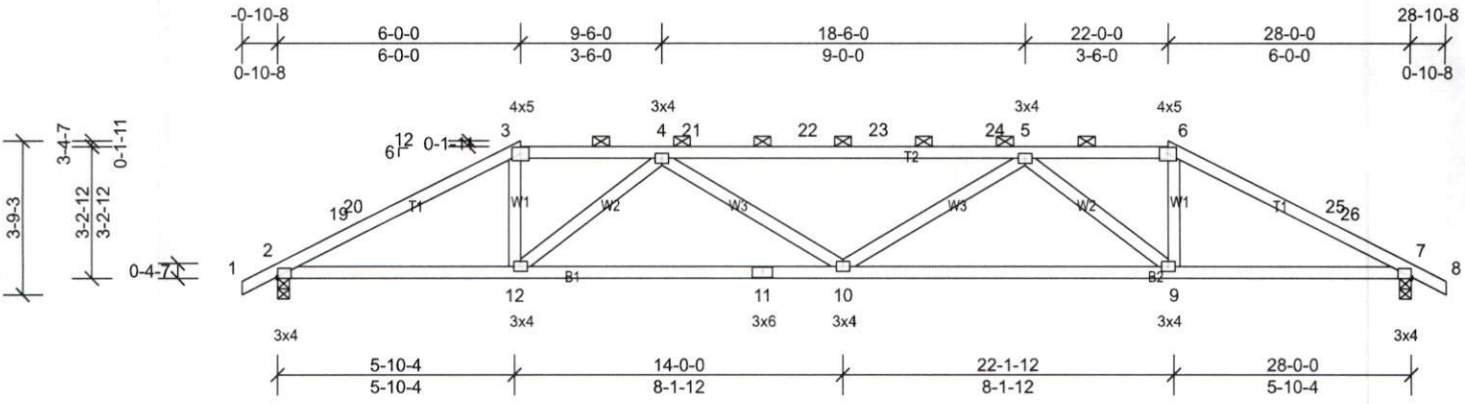Max Uplift 2=-106 (LC 8), 8=-106 (LC 8)

FORCES　(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD　2-20=-3230/180, 3-20=-3161/188, 3-21=-4318/232, 21-22=-4318/232, 22-23=-4318/232, 4-23=-4318/232, 4-24=-5642/316, 24-25=-5642/316, 5-25=-5642/316, 5-26=-5642/316, 26-27=-5642/316, 6-27=-5642/316, 6-28=-4317/232, 28-29=-4317/232, 29-30=-4317/232, 7-30=-4317/232, 7-31=-3161/188, 8-31=-3230/180
BOT CHORD　2-32=-124/2870, 15-32=-124/2870, 15-33=-129/2855, 14-33=-129/2855, 14-34=-363/5440, 34-35=-363/5440, 13-35=-363/5440, 12-13=-363/5440, 12-36=-364/5440, 36-37=-364/5440, 37-38=-364/5440, 11-38=-364/5440, 11-39=-131/2855, 10-39=-131/2855, 10-40=-125/2869, 8-40=-125/2869
WEBS　　　　3-14=-51/1711, 4-14=-1328/222, 4-12=0/379, 6-12=0/380, 6-11=-1329/222, 7-11=-51/1711

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.

2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft; B=45ft; L=28ft; eave=4ft; Ke=1.00; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; 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 3x4 MT20 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 106 lb uplift at joint 2 and 106 lb uplift at joint 8.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 1-3=-60, 3-7=-60, 7-9=-60, 2-8=-20
Concentrated Loads (lb)
Vert: 5=-42 (F), 13=-30 (F), 3=-42 (F), 12=-30 (F), 7=-42 (F), 15=-30 (F), 10=-30 (F), 21=-42 (F), 22=-42 (F), 23=-42 (F), 24=-42 (F), 27=-42 (F), 28=-42 (F), 29=-42 (F), 30=-42 (F), 32=-104 (F), 33=-30 (F), 34=-30 (F), 35=-30 (F), 36=-30 (F), 37=-30 (F), 38=-30 (F), 39=-30 (F), 40=-104 (F)

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	A02	Hip	2	1	Job Reference (optional)

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips

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Scale = 1:53.9

Plate Offsets (X, Y): [2:Edge,0-0-8], [7:Edge,0-0-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.60	Vert(LL)	-0.14	10	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.80	Vert(CT)	-0.32	9-10	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.43	Horz(CT)	0.09	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 125 lb FT = 20%	

LUMBER
TOP CHORD   2x4 SP No.2 *Except* T2:2x4 SP DSS
BOT CHORD   2x4 SP No.2
WEBS   2x4 SP No.3

BRACING
TOP CHORD   Structural wood sheathing directly applied,
            except
            2-0-0 oc purlins (3-4-15 max.): 3-6.
BOT CHORD   Rigid ceiling directly applied.

REACTIONS (lb/size)   2=1172/0-3-8, (min. 0-1-8),
                          7=1173/0-3-8, (min. 0-1-8)
            Max Horiz 2=53 (LC 11)
            Max Uplift 2=-94 (LC 12), 7=-94 (LC 12)

FORCES   (lb) - Max. Comp./Max. Ten. - All forces 250
                (lb) or less except when shown.
TOP CHORD   2-19=-2094/119, 19-20=-2051/121,
            3-20=-2020/142, 3-4=-1783/157,
            4-21=-2596/154, 21-22=-2596/154,
            22-23=-2596/154, 23-24=-2596/154,
            5-24=-2596/154, 5-6=-1783/157,
            6-25=-2020/142, 25-26=-2051/121,
            7-26=-2094/119
BOT CHORD   2-12=-49/1816, 11-12=-140/2470,
            10-11=-140/2470, 9-10=-131/2470,
            7-9=-54/1816
WEBS   4-12=-959/130, 4-10=0/312, 5-10=0/312,
            5-9=-959/130, 3-12=0/746, 6-9=0/746

NOTES
1) Unbalanced roof live loads have been considered for this
    design.
2) Wind: ASCE 7-16; Vult=125mph (3-second gust)
    Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft;
    B=45ft; L=28ft; eave=4ft; Ke=1.00; Cat. II; Exp B;
    Enclosed; MWFRS (directional) and C-C Exterior(2E)
    -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 6-0-0, Exterior(2R)
    6-0-0 to 10-2-15, Interior (1) 10-2-15 to 22-0-0, Exterior
    (2R) 22-0-0 to 26-2-15, Interior (1) 26-2-15 to 28-10-8
    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
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom
    chord live load nonconcurrent with any other live loads.

5) * This truss has been designed for a live load of 20.0psf
    on the bottom chord in all areas where a rectangle
    3-06-00 tall by 2-00-00 wide will fit between the bottom
    chord and any other members.
6) Provide mechanical connection (by others) of truss to
    bearing plate capable of withstanding 94 lb uplift at joint
    2 and 94 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018
    International Residential Code sections R502.11.1 and
    R802.10.2 and referenced standard ANSI/TPI 1.
8) 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.
9) Graphical purlin representation does not depict the size
    or the orientation of the purlin along the top and/or
    bottom chord.
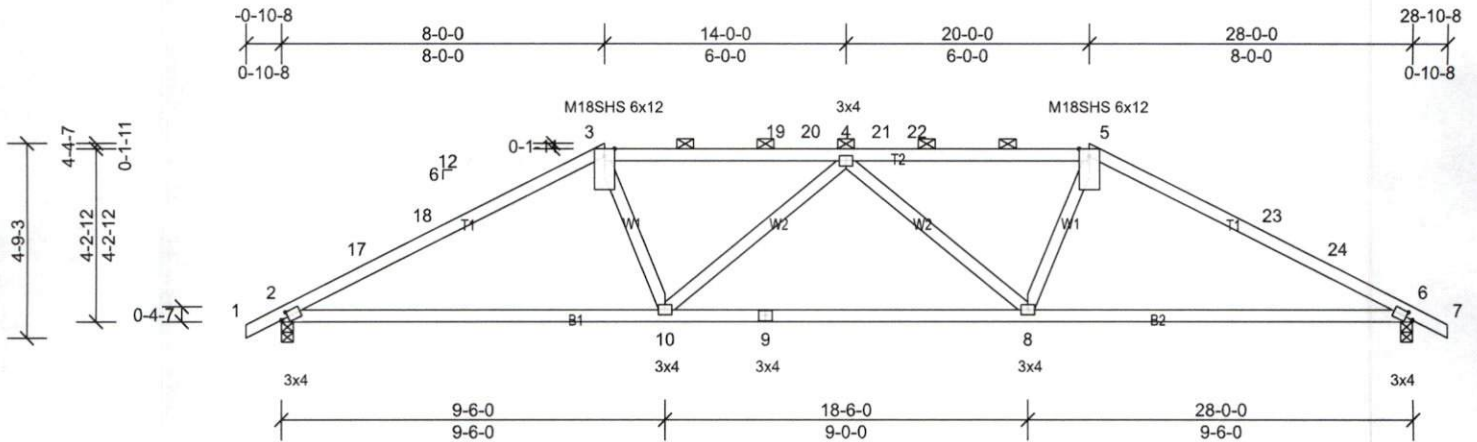
LOAD CASE(S)   Standard

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	A03	Hip	2	1	Job Reference (optional)

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips   Run: 8.62 S Oct 13 2022 Print: 8.620 S Oct 13 2022 MiTek Industries, Inc. Thu Mar 02 08:13:06   Page: 1
ID:2AmNcK4bg755GNSH44GCnDzf1YT-lQ5IcJljmjkKaiyTh9BkQd2KDuwAHbfG?2kal9zf1SR

Scale = 1:54

Plate Offsets (X, Y): [2:0-2-2,0-1-8], [6:0-2-2,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.94	Vert(LL)	-0.17	10-13	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.41	10-13	>822	180	M18SHS	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.07	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 118 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied,
except
2-0-0 oc purlins (3-11-13 max.): 3-5.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (lb/size) 2=1173/0-3-8, (min. 0-1-8),
6=1173/0-3-8, (min. 0-1-8)
Max Horiz 2=-69 (LC 10)
Max Uplift 2=-94 (LC 12), 6=-94 (LC 12)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250
(lb) or less except when shown.
TOP CHORD 2-17=-1914/128, 17-18=-1847/141,
3-18=-1844/163, 3-19=-1801/162,
19-20=-1803/162, 4-20=-1804/162,
4-21=-1804/162, 21-22=-1803/162,
5-22=-1801/162, 5-23=-1844/163,
23-24=-1847/141, 6-24=-1914/128
BOT CHORD 2-10=-49/1656, 9-10=-86/2015,
8-9=-86/2015, 6-8=-55/1656
WEBS 3-10=0/472, 4-10=-385/85, 4-8=-385/85,
5-8=0/472

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=125mph (3-second gust)
Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft;
B=45ft; L=28ft; eave=4ft; Ke=1.00; Cat. II; Exp B;
Enclosed; MWFRS (directional) and C-C Exterior(2E)
-0-10-8 to 2-1-8, Interior (1) 2-1-8 to 8-0-0, Exterior(2R)
8-0-0 to 12-2-15, Interior (1) 12-2-15 to 20-0-0, Exterior
(2R) 20-0-0 to 24-2-15, Interior (1) 24-2-15 to 28-10-8
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
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf
on the bottom chord in all areas where a rectangle
3-06-00 tall by 2-00-00 wide will fit between the bottom
chord and any other members.
7) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 94 lb uplift at joint
2 and 94 lb uplift at joint 6.
8) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.
9) 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.
10) Graphical purlin representation does not depict the size
or the orientation of the purlin along the top and/or
bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)
Wayne O'Quinn	A04	Hip	2	1	

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips

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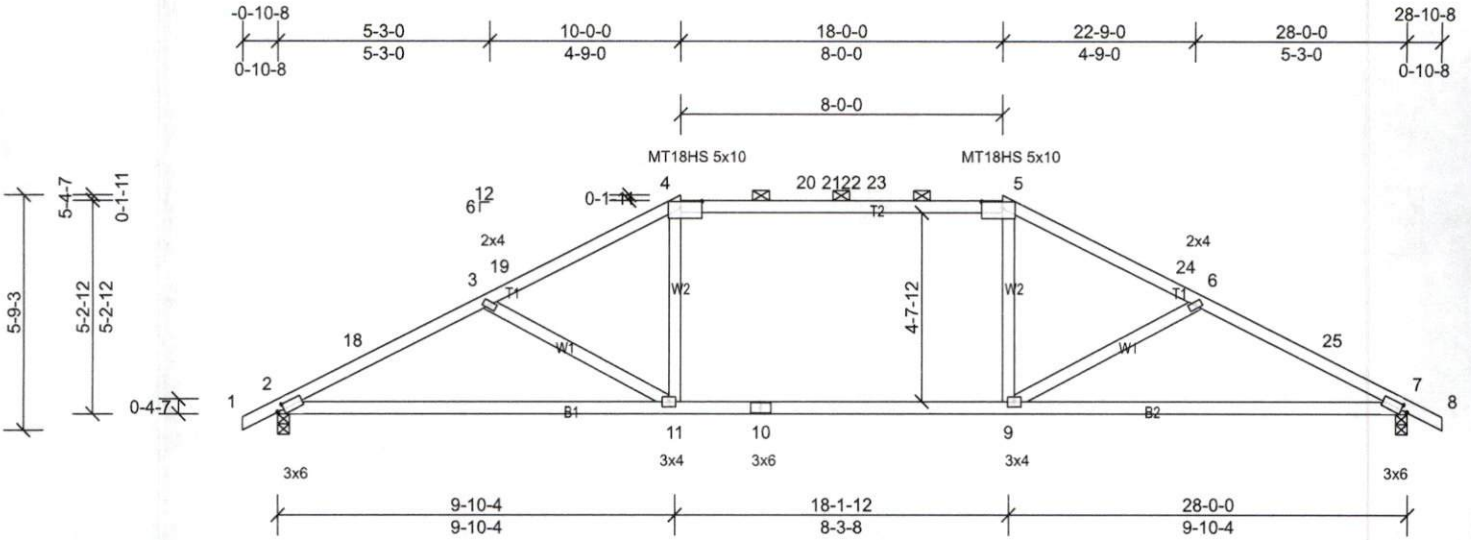
Scale = 1:54.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.84	Vert(LL)	-0.45	11-14	>742	240	MT18HS	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.61	11-14	>551	180	MT20	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.07	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 120 lb	FT = 20%

LUMBER
TOP CHORD   2x4 SP No.2 *Except* T2:2x4 SP No.1
BOT CHORD   2x4 SP No.1
WEBS   2x4 SP No.3

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

REACTIONS (lb/size)   2=1173/0-3-8, (min. 0-1-9),
                          7=1173/0-3-8, (min. 0-1-9)
            Max Horiz   2=-85 (LC 10)
            Max Uplift   2=-94 (LC 12), 7=-94 (LC 12)
            Max Grav   2=1322 (LC 17), 7=1322 (LC 18)

FORCES   (lb) - Max. Comp./Max. Ten. - All forces 250
                (lb) or less except when shown.
TOP CHORD   2-18=-2275/176, 3-18=-2249/198,
            3-19=-2013/142, 4-19=-1916/165,
            4-20=-1753/176, 20-21=-1753/176,
            21-22=-1753/176, 22-23=-1753/176,
            5-23=-1753/176, 5-24=-1916/165,
            6-24=-2013/142, 6-25=-2250/198,
            7-25=-2276/176
BOT CHORD   2-11=-105/2078, 10-11=-19/1771,
            9-10=-19/1771, 7-9=-114/2015
WEBS   3-11=-377/110, 4-11=0/527, 5-9=0/527,
            6-9=-377/110

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=125mph (3-second gust)
   Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft;
   B=45ft; L=28ft; eave=4ft; Ke=1.00; Cat. II; Exp B;
   Enclosed; MWFRS (directional) and C-C Exterior(2E)
   -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 10-0-0, Exterior(2R)
   10-0-0 to 14-2-15, Interior (1) 14-2-15 to 18-0-0, Exterior
   (2R) 18-0-0 to 22-2-15, Interior (1) 22-2-15 to 28-10-8
   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
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.

5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 2 and 94 lb uplift at joint 7.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) 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.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	A05	Hip	2	1	Job Reference (optional)

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips   Run: 8.62 S Oct 13 2022 Print: 8.620 S Oct 13 2022 MiTek Industries, Inc. Thu Mar 02 08:13:07   Page: 1

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.53	Vert(LL)	-0.26	9-17	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.42	9-17	>801	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.06	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 123 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS   2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied, except
2-0-0 oc purlins (4-9-8 max.): 4-5.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (lb/size) 2=1172/0-3-8, (min. 0-1-9),
7=1173/0-3-8, (min. 0-1-9)
Max Horiz 2=100 (LC 11)
Max Uplift 2=-94 (LC 12), 7=-94 (LC 12)
Max Grav 2=1299 (LC 17), 7=1299 (LC 18)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-18=-2205/165, 3-18=-2177/193,
3-19=-1970/145, 4-19=-1896/173,
4-20=-1453/192, 20-21=-1453/192,
5-21=-1453/192, 5-22=-1896/173,
6-22=-1970/145, 6-23=-2177/193,
7-23=-2205/165
BOT CHORD 2-11=95/2017, 11-24=-8/1475,
10-24=-8/1475, 10-25=-8/1475,
9-25=-8/1475, 7-9=-104/1941
WEBS 5-9=0/684, 4-11=0/683, 3-11=-433/142,
6-9=-433/142

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft; B=45ft; L=28ft; eave=4ft; Ke=1.00; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 12-0-0, Exterior(2E) 12-0-0 to 16-0-0, Exterior(2R) 16-0-0 to 20-2-15, Interior (1) 20-2-15 to 28-10-8 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
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 2 and 94 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
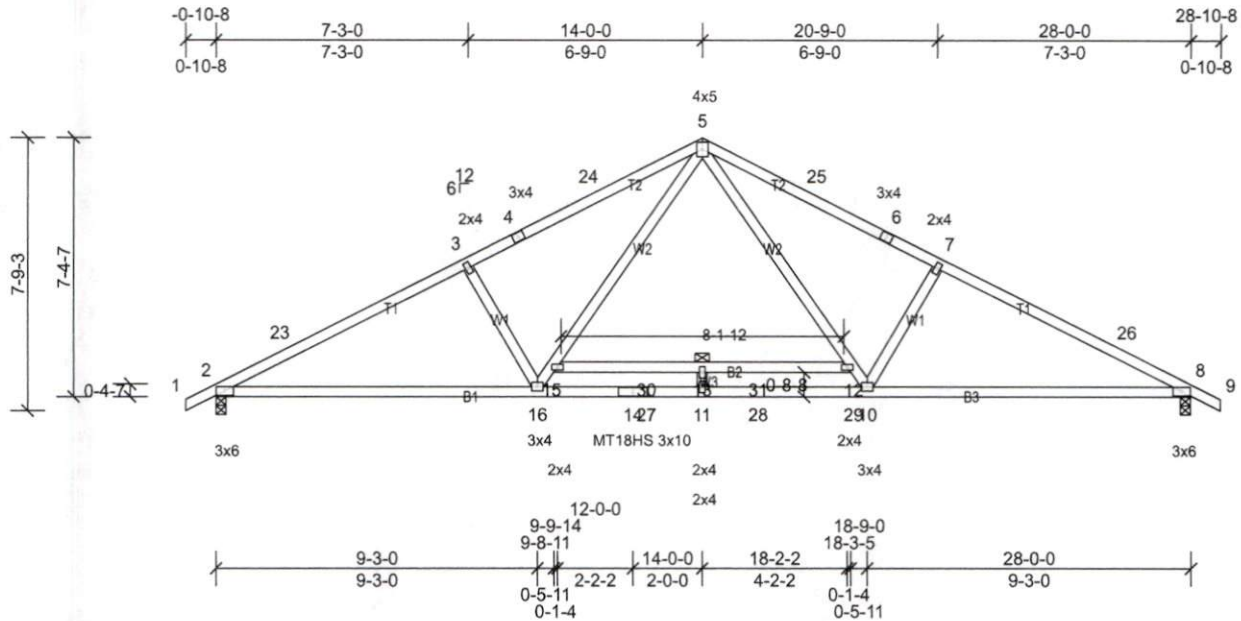
LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	A06	Common	5	1	Job Reference (optional)

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips   Run: 8.62 S Oct 13 2022 Print: 8.620 S Oct 13 2022 MiTek Industries, Inc. Thu Mar 02 08:13:08   Page: 1

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.53	Vert(LL)	-0.40	13	>843	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.67	13	>498	180	MT18HS	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.60	Horz(CT)	0.07	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 141 lb	FT = 20%

LUMBER
TOP CHORD   2x4 SP No.2
BOT CHORD   2x4 SP No.1 *Except* B2:2x4 SP No.2
WEBS   2x4 SP No.3

BRACING
TOP CHORD   Structural wood sheathing directly applied.
BOT CHORD   Rigid ceiling directly applied. Except:
    6-0-0 oc bracing: 12-15

REACTIONS (lb/size)   2=1260/0-3-8, (min. 0-1-11),
         8=1260/0-3-8, (min. 0-1-11)
    Max Horiz   2=117 (LC 11)
    Max Uplift   2=-42 (LC 12), 8=-42 (LC 12)
    Max Grav   2=1452 (LC 17), 8=1452 (LC 18)

FORCES   (lb) - Max. Comp./Max. Ten. - All forces 250
    (lb) or less except when shown.
TOP CHORD   2-23=-2529/41, 3-23=-2485/69,
    3-4=-2376/64, 4-24=-2293/80,
    5-24=-2291/97, 5-25=-2291/97,
    6-25=-2293/80, 6-7=-2376/64,
    7-26=-2485/69, 8-26=-2529/41
BOT CHORD   2-16=0/2296, 14-16=0/1624, 14-27=0/1624,
    11-27=0/1624, 11-28=0/1624, 28-29=0/1624,
    10-29=0/1624, 8-10=0/2223
WEBS   5-12=0/1096, 10-12=-14/916, 7-10=-424/163,
    15-16=-14/917, 5-15=0/1096, 3-16=-424/163

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft; B=45ft; L=28ft; eave=4ft; Ke=1.00; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 14-0-0, Exterior(2R) 14-0-0 to 17-0-0, Interior (1) 17-0-0 to 28-10-8 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
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.

6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 2 and 42 lb uplift at joint 8.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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.
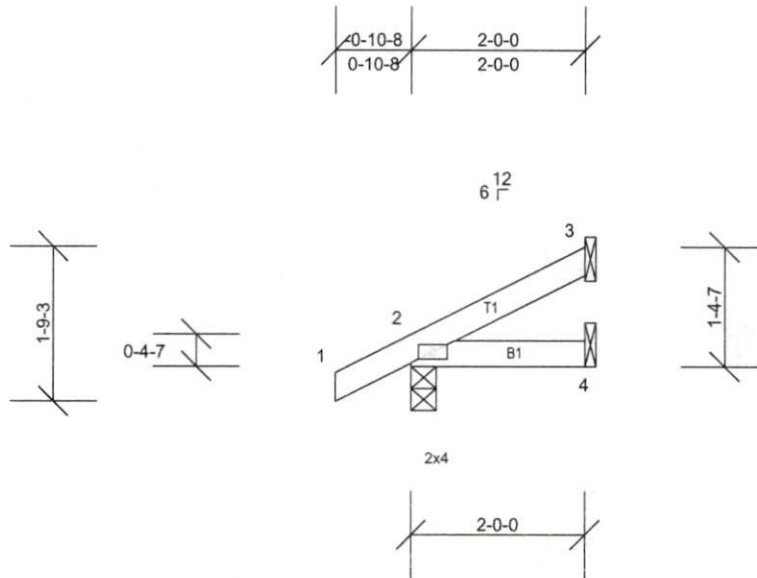
LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	J03	Jack-Open	4	1	Job Reference (optional)

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips   Run: 8.62 S Oct 13 2022 Print: 8.620 S Oct 13 2022 MiTek Industries, Inc. Thu Mar 02 08:13:09   Page: 1
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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.05	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	0.00	4-7	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 8 lb	FT = 20%

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

BRACING
TOP CHORD   Structural wood sheathing directly applied or
            2-0-0 oc purlins.
BOT CHORD   Rigid ceiling directly applied or 10-0-0 oc
            bracing.

REACTIONS (lb/size)   2=144/0-3-8, (min. 0-1-8), 3=45/
                          Mechanical, (min. 0-1-8), 4=23/
                          Mechanical, (min. 0-1-8)
          Max Horiz   2=47 (LC 12)
          Max Uplift   2=-31 (LC 12), 3=-13 (LC 12)
          Max Grav   2=144 (LC 1), 3=45 (LC 1), 4=34
                     (LC 3)

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

NOTES
1) Wind: ASCE 7-16; Vult=125mph (3-second gust)
   Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft;
   B=45ft; L=24ft; eave=4ft; Ke=1.00; Cat. II; Exp B;
   Enclosed; MWFRS (directional) and C-C Exterior(2E)
   zone; cantilever left and right exposed ; end vertical left
   and right exposed;C-C for members and forces &
   MWFRS for reactions shown; Lumber DOL=1.60 plate
   grip DOL=1.60
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
   3-06-00 tall by 2-00-00 wide will fit between the bottom
   chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to
   bearing plate capable of withstanding 13 lb uplift at joint
   3 and 31 lb uplift at joint 2.
6) This truss is designed in accordance with the 2018
   International Residential Code sections R502.11.1 and
   R802.10.2 and referenced standard ANSI/TPI 1.
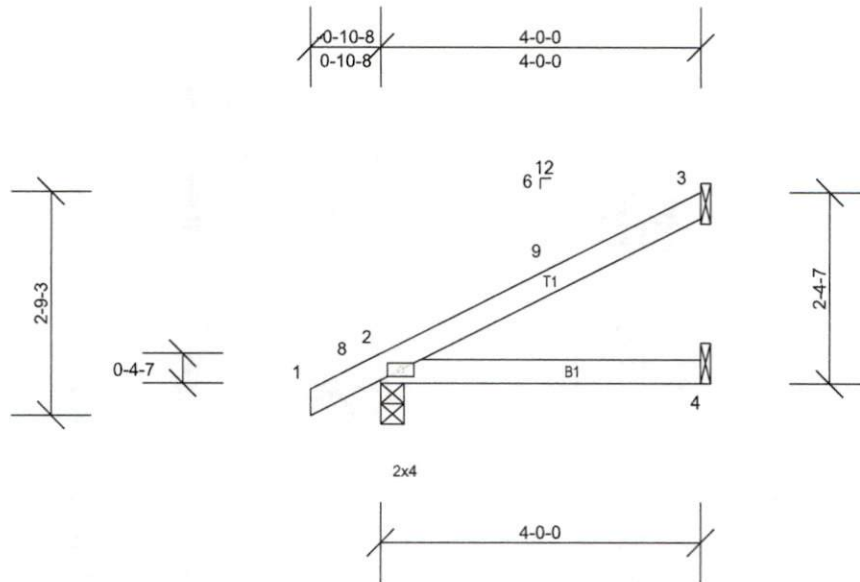
LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	
Wayne O'Quinn	J04	Jack-Open	22	1	Job Reference (optional)

Carolina Structural Systems, Star, NC 27356, Jeremy Phillips   Run: 8.62 S Oct 13 2022 Print: 8.620 S Oct 13 2022 MiTek Industries, Inc. Thu Mar 02 08:13:09   Page: 1

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Scale = 1:27.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.20	Vert(LL)	0.01	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.02	4-7	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 14 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (lb/size) 2=216/0-3-8, (min. 0-1-8), 3=102/
Mechanical, (min. 0-1-8), 4=50/
Mechanical, (min. 0-1-8)
Max Horiz 2=75 (LC 12)
Max Uplift 2=-25 (LC 12), 3=-34 (LC 12)
Max Grav 2=216 (LC 1), 3=102 (LC 1), 4=71
(LC 3)

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

NOTES
1) Wind: ASCE 7-16; Vult=125mph (3-second gust)
Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=28ft;
B=45ft; L=24ft; eave=4ft; Ke=1.00; Cat. II; Exp B;
Enclosed; MWFRS (directional) and C-C Exterior(2E)
-0-10-8 to 2-1-8, Interior (1) 2-1-8 to 3-11-4 zone;
cantilever left and right exposed ; end vertical left and
right exposed;C-C for members and forces & MWFRS
for reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60
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
3-06-00 tall by 2-00-00 wide will fit between the bottom
chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 34 lb uplift at joint
3 and 25 lb uplift at joint 2.
6) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.
7) 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.

LOAD CASE(S) Standard