ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: P02057-24657
1057 Serenity

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by 84 Lumber 2383 (Dunn, NC).

Pages or sheets covered by this seal: T37069894 thru T37069923

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

North Carolina COA: C-0844


April 22,2025

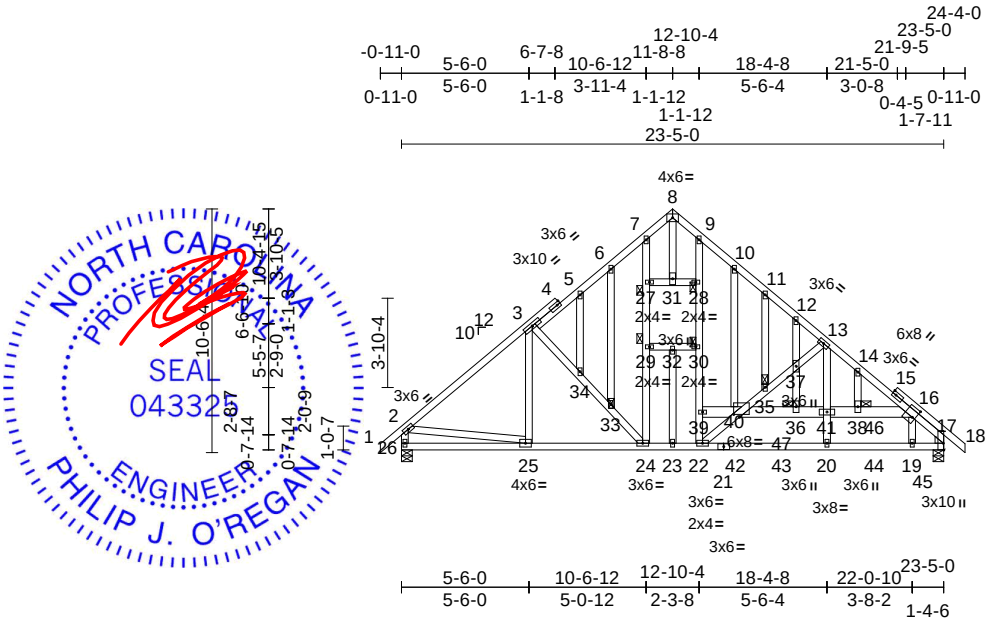
ORegan, Philip

**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 | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | A01SE | Attic Girder | 1 | 1 | T37069894 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:21 Page: 1
ID:VhdkN?qr6SKQygAoVXcUtdzOYQi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:99.5

Plate Offsets (X, Y): [16:0-5-0,0-1-8], [17:Edge,0-0-4], [40:0-2-15,0-1-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.47 | Vert(LL) | -0.09 | 20-22 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.47 | Vert(CT) | -0.15 | 20-22 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | NO | WB | 0.58 | Horz(CT) | 0.02 | 17 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 236 lb | FT = 20% |

**LUMBER**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.2 |
| BOT CHORD | 2x4 SP No.2 |
| WEBS | 2x4 SP No.3 *Except* 9-22,7-24,27-28:2x4 SP No.1, 22-13,24-3:2x4 SP No.2, 39-40,41-16,40-41:2x6 SP No.2 |
| OTHERS | 2x4 SP No.3 *Except* 33-6,40-10:2x4 SP No.2 |
| WEDGE | Right: 2x4 SP No.3 |

**BRACING**

| | |
|---|---|
| TOP CHORD | Structural wood sheathing directly applied or 5-2-9 oc purlins, except end verticals. |
| BOT CHORD | Rigid ceiling directly applied or 10-0-0 oc bracing. |
| JOINTS | 1 Brace at Jt(s): 27, 28, 29, 30, 33, 35, 36, 38 |

**REACTIONS** (size) 17=0-5-8, 26=0-5-8
Max Horiz 26=-201 (LC 8)
Max Uplift 17=-181 (LC 10), 26=-144 (LC 10)
Max Grav 17=1040 (LC 2), 26=976 (LC 2)

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

| | |
|---|---|
| TOP CHORD | 1-2=0/37, 2-3=-1082/165, 3-5=-826/176, 5-6=-806/192, 6-7=-781/207, 7-8=-712/226, 8-9=-638/227, 9-10=-879/247, 10-11=-795/210, 11-12=-834/195, 12-13=-848/180, 13-14=-1158/211, 14-16=-1204/187, 16-17=-1260/225, 17-18=0/21, 2-26=-924/160 |
| BOT CHORD | 25-26=-196/261, 24-25=-159/799, 23-24=-56/608, 22-23=-56/608, 20-22=-156/1023, 19-20=-158/1007, 17-19=-169/1060 |
| WEBS | 22-39=-192/555, 30-39=-193/553, 28-30=-198/552, 9-28=-119/327, 22-40=-706/329, 35-40=-332/126, 35-37=-335/120, 13-37=-355/128, 20-41=-21/268, 13-41=-66/332, 24-29=-86/291, 27-29=-93/282, 7-27=-28/65, 3-34=-258/177, 33-34=-281/172, 24-33=-324/213, 3-25=-8/150, 27-31=-45/14, 28-31=-45/14, 2-25=-20/656, 29-32=-6/26, 30-32=-6/26, 8-31=-200/577, 23-32=-38/0, 6-33=-60/57, 5-34=-58/14, 10-40=-258/153, 11-35=-14/27, 12-37=-68/48, 36-37=-103/62, 14-38=-46/41, 39-40=-2/16, 38-41=-144/123, 16-38=-144/123, 36-40=-172/122, 36-41=-173/123, 16-19=-186/45 |

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) All plates are 2x4 (||) MT20 unless otherwise indicated.
8) Gable studs spaced at 1-4-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * 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.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 144 lb uplift at joint 26 and 181 lb uplift at joint 17.
12) 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.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 54 lb down and 76 lb up at 22-4-3 on top chord, and 16 lb down and 8 lb up at 14-5-3, 16 lb down and 8 lb up at 16-5-3, 16 lb down and 8 lb up at 18-5-3, and 16 lb down and 8 lb up at 20-5-3, and 29 lb down and 13 lb up at 22-4-3 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
14) Attic room checked for L/360 deflection.

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Continued on page 2



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15) 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 + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-2=-29, 2-8=-29, 8-18=-29, 17-26=-20
   Concentrated Loads (lb)
   Vert: 20=-43 (B), 40=-39 (B), 16=10 (B), 19=-5 (B), 42=-5 (B), 43=-5 (B), 44=-5 (B), 45=1 (B), 46=-39 (B), 47=-39 (B)




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| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | |
|---|---|---|---|---|---|---|
| P02057-24657 | A02 | Common | 2 | 1 | Job Reference (optional) | T37069895 |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:23 Page: 1
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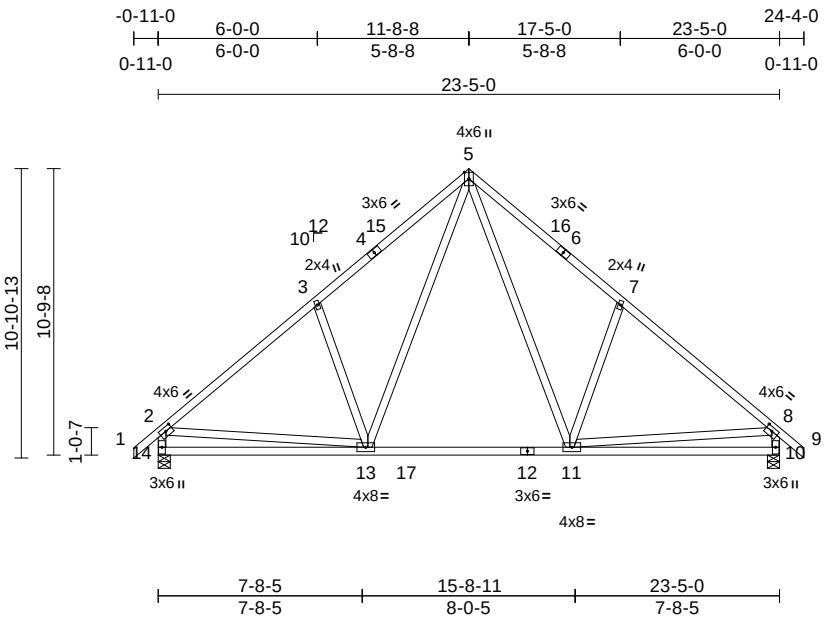


Scale = 1:86.8

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.41 | Vert(LL) | -0.13 | 11-13 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.61 | Vert(CT) | -0.18 | 11-13 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.37 | Horz(CT) | 0.01 | 10 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 158 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except*
11-7,13-3,14-2,10-8:2x4 SP No.3

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-5-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 10=0-5-8, 14=0-5-8
Max Horiz 14=215 (LC 13)
Max Uplift 10=-118 (LC 15), 14=-118 (LC 14)
Max Grav 10=1016 (LC 27), 14=1017 (LC 26)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1109/152, 3-5=-1035/239, 5-7=-1034/238, 7-8=-1108/152, 8-9=0/37, 2-14=-900/156, 8-10=-899/156
BOT CHORD 13-14=-204/387, 11-13=-15/611, 10-11=-68/233
WEBS 5-11=-168/580, 7-11=-292/212, 5-13=-169/581, 3-13=-293/212, 2-13=-12/610, 8-11=-17/617

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 11-8-8, Exterior(2R) 11-8-8 to 14-8-8, Interior (1) 14-8-8 to 24-4-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 118 lb uplift at joint 14 and 118 lb uplift at joint 10.
9) 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


April 22,2025



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| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | A03 | Attic | 5 | 1 | T37069896 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:23 Page: 1
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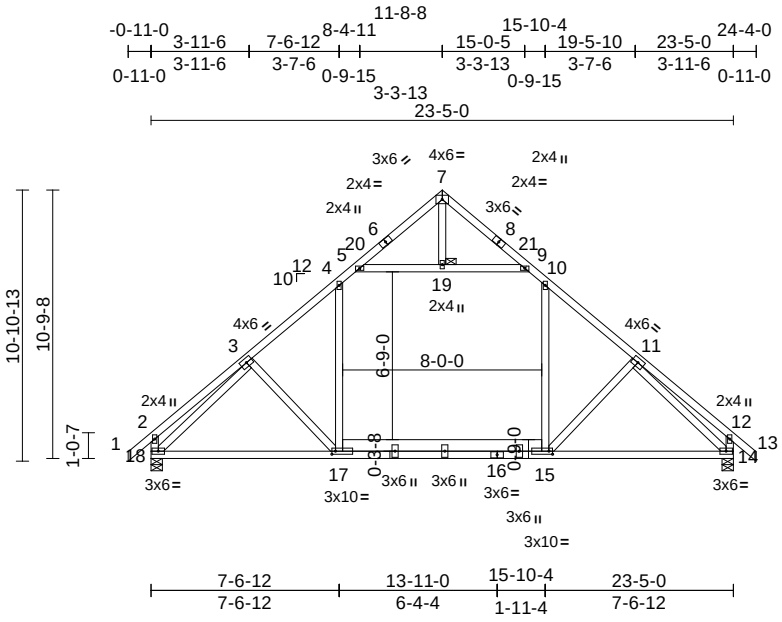


Scale = 1:92.6

Plate Offsets (X, Y): [15:0-1-12,0-1-8], [17:0-1-12,0-1-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.48 | Vert(LL) | -0.33 | 14-15 | >835 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.77 | Vert(CT) | -0.38 | 14-15 | >730 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.55 | Horz(CT) | 0.02 | 14 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | Attic | -0.28 | 15-17 | >360 | 360 | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 169 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 17-15:2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 10-15,4-17,5-9:2x4 SP No.1, 18-2,14-12:2x4 SP No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-3-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 19

**REACTIONS** (size) 14=0-5-8, 18=0-5-8
Max Horiz 18=215 (LC 13)
Max Uplift 14=-93 (LC 15), 18=-93 (LC 14)
Max Grav 14=975 (LC 28), 18=975 (LC 27)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-254/115, 3-4=-1044/143, 4-5=-699/153, 5-7=-172/65, 7-9=-172/65, 9-10=-699/153, 10-11=-1044/142, 11-12=-254/115, 12-13=0/37, 2-18=-269/114, 12-14=-269/113
BOT CHORD 17-18=-121/883, 15-17=-14/796, 14-15=-31/780
WEBS 10-15=0/374, 4-17=0/374, 5-19=-689/144, 9-19=-689/144, 7-19=0/2, 3-18=-1013/93, 11-14=-1012/92, 3-17=-143/155, 11-15=-143/155

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 11-8-8, Exterior(2R) 11-8-8 to 14-8-8, Interior (1) 14-8-8 to 24-4-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Bottom chord live load (20.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 15-17
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 93 lb uplift at joint 18 and 93 lb uplift at joint 14.
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) Attic room checked for L/360 deflection.

**LOAD CASE(S)** Standard


April 22,2025



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| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | A04 | Hip | 1 | 1 | T37069897 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:23 Page: 1
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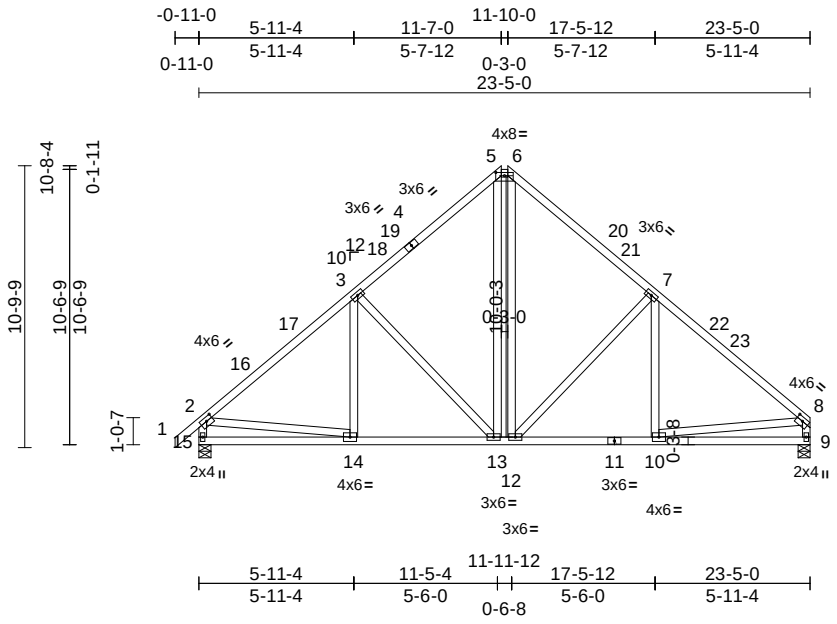


Scale = 1:88.3

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.40 | Vert(LL) | -0.03 | 14-15 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.34 | Vert(CT) | -0.06 | 9-10 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.36 | Horz(CT) | 0.02 | 9 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 169 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 13-3,13-5,12-6,12-7:2x4 SP No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-5-3 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 9=0-5-8, 15=0-5-8
Max Horiz 15=207 (LC 13)
Max Uplift 9=-101 (LC 17), 15=-118 (LC 16)
Max Grav 9=854 (LC 41), 15=914 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1033/137, 3-5=-838/189, 5-6=-546/169, 6-7=-838/189, 7-8=-1033/135, 2-15=-859/134, 8-9=-799/117
BOT CHORD 14-15=-216/312, 13-14=-127/767, 12-13=-21/546, 10-12=-50/757, 9-10=-55/137
WEBS 3-14=0/188, 3-13=-327/176, 5-13=-77/271, 6-12=-79/269, 7-12=-333/179, 7-10=0/186, 2-14=0/641, 8-10=-25/666

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 11-7-0, Exterior(2E) 11-7-0 to 11-10-0, Exterior(2R) 11-10-0 to 16-0-15, Interior (1) 16-0-15 to 23-3-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Provide adequate drainage to prevent water ponding.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 118 lb uplift at joint 15 and 101 lb uplift at joint 9.
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.

**LOAD CASE(S)** Standard


April 22,2025



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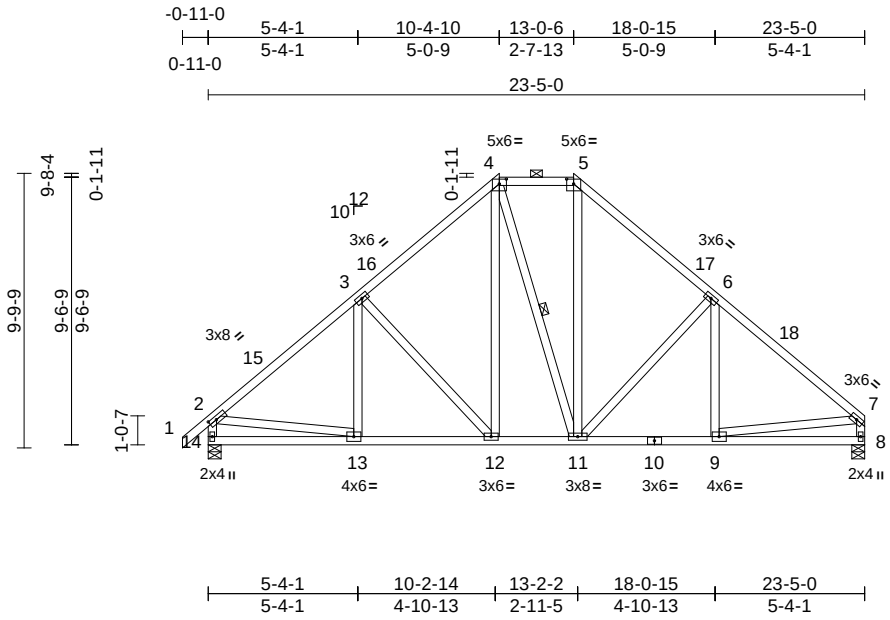
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | T37069898 |
|---|---|---|---|---|---|---|
| P02057-24657 | A05 | Hip | 1 | 1 | Job Reference (optional) | |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:24 Page: 1
ID:MiRorKWPyLJaej3VJkI1JkzOY1H-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:82.2

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.31 | Vert(LL) | -0.02 | 12-13 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 12.7/10.0 | Lumber DOL | 1.15 | BC | 0.30 | Vert(CT) | -0.05 | 12-13 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.25 | Horz(CT) | 0.02 | 8 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 173 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except*
12-3,12-4,11-4,11-5,11-6:2x4 SP No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-6-15 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-11

**REACTIONS** (size) 8=0-5-8, 14=0-5-8
Max Horiz 14=188 (LC 11)
Max Uplift 8=-98 (LC 15), 14=-116 (LC 14)
Max Grav 8=854 (LC 2), 14=914 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-996/124, 3-4=-789/165, 4-5=-532/163, 5-6=-792/177, 6-7=-996/131, 2-14=-864/131, 7-8=-804/112
BOT CHORD 13-14=-197/261, 12-13=-119/701, 11-12=-52/531, 9-11=-62/704, 8-9=-46/114
WEBS 3-13=0/155, 3-12=-271/153, 4-12=-88/269, 4-11=-103/108, 5-11=-76/272, 6-11=-276/155, 6-9=-4/152, 2-13=-1/572, 7-9=-24/597

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 10-4-10, Exterior(2E) 10-4-10 to 13-0-6, Exterior(2R) 13-0-6 to 17-3-5, Interior (1) 17-3-5 to 23-3-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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 116 lb uplift at joint 14 and 98 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.

**LOAD CASE(S)** Standard


April 22,2025



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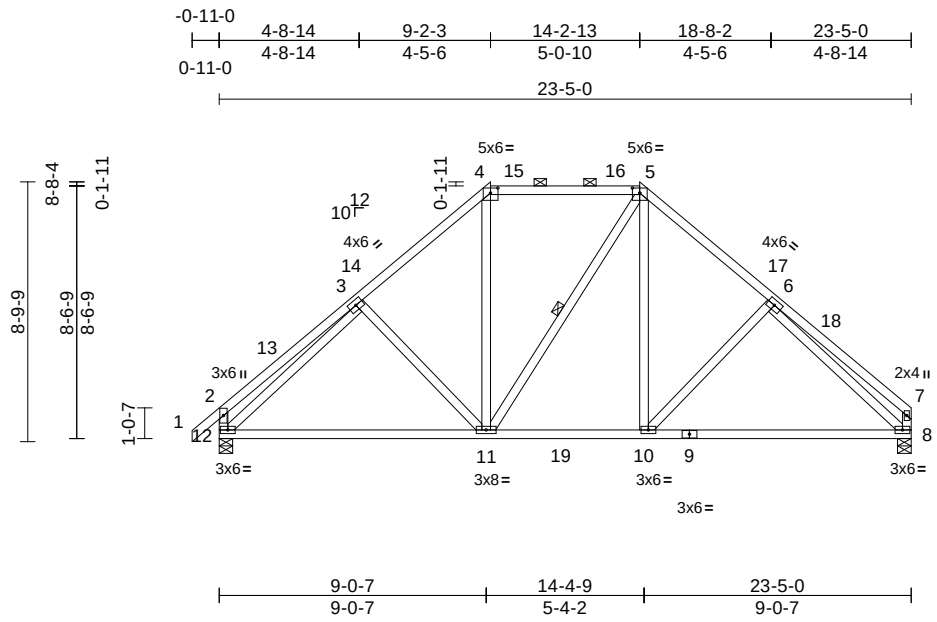
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | T37069899 |
|---|---|---|---|---|---|---|
| P02057-24657 | A06 | Hip | 1 | 1 | Job Reference (optional) | |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:24 Page: 1
ID:FkCkFVna?ozbfx9X1eAyg9zOY0y-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:78

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.51 | Vert(LL) | -0.17 | 8-10 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 12.7/10.0 | Lumber DOL | 1.15 | BC | 0.70 | Vert(CT) | -0.35 | 8-10 | >788 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.51 | Horz(CT) | 0.03 | 8 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 156 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 11-3,10-6,12-2,8-7:2x4 SP No.3

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-11-14 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-11

**REACTIONS** (size) 8=0-5-8, 12=0-5-8
Max Horiz 12=170 (LC 11)
Max Uplift 8=-94 (LC 15), 12=-112 (LC 14)
Max Grav 8=936 (LC 3), 12=980 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-408/106, 3-4=-918/168, 4-5=-654/166, 5-6=-927/171, 6-7=-379/74, 2-12=-387/118, 7-8=-310/77
BOT CHORD 11-12=-128/787, 10-11=-37/659, 8-10=-81/724
WEBS 3-11=-141/152, 4-11=-46/353, 5-11=-88/87, 5-10=-66/392, 6-10=-148/154, 3-12=-700/78, 6-8=-726/102

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 9-2-3, Exterior(2R) 9-2-3 to 13-5-2, Interior (1) 13-5-2 to 14-2-13, Exterior(2R) 14-2-13 to 18-5-11, Interior (1) 18-5-11 to 23-3-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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, with BCDL = 10.0psf.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 112 lb uplift at joint 12 and 94 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.

**LOAD CASE(S)** Standard


April 22,2025



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Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | |
|---|---|---|---|---|---|---|
| P02057-24657 | A07 | Hip | 1 | 1 | Job Reference (optional) | T37069900 |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:24 Page: 1
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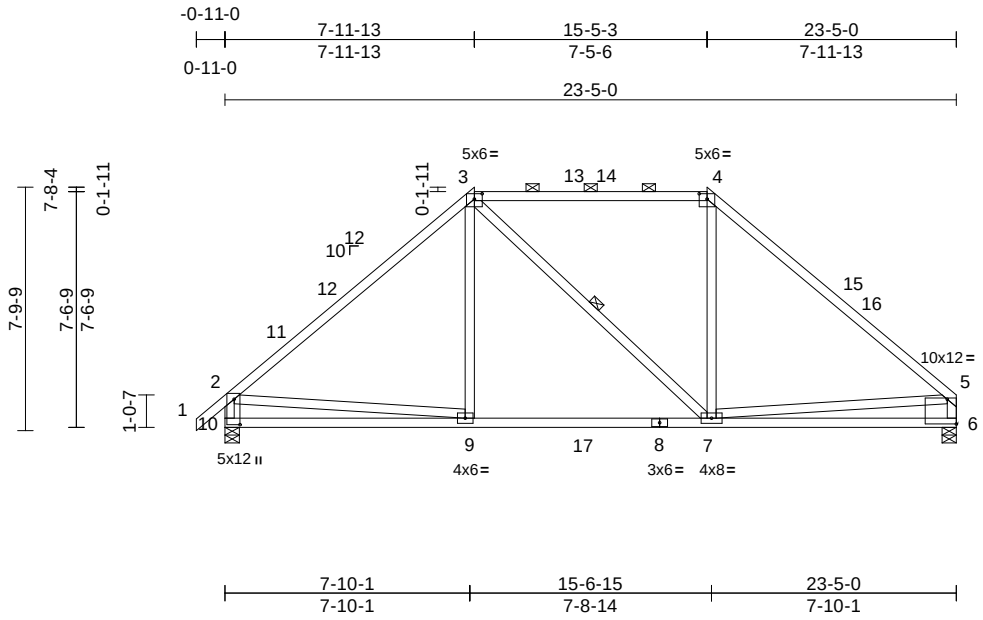


Scale = 1:73.8

Plate Offsets (X, Y): [3:0-3-0,0-2-1], [4:0-3-0,0-2-1], [5:Edge,0-9-8], [10:0-9-12,0-2-4]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.99 | Vert(LL) | -0.09 | 6-7 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 12.7/10.0 | Lumber DOL | 1.15 | BC | 0.61 | Vert(CT) | -0.18 | 6-7 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.15 | Horz(CT) | 0.02 | 6 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 139 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 10-2,6-5:2x4 SP No.3

**BRACING**
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (4-4-14 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-7

**REACTIONS** (size) 6=0-5-8, 10=0-5-8
Max Horiz 10=152 (LC 11)
Max Uplift 6=-89 (LC 15), 10=-106 (LC 14)
Max Grav 6=935 (LC 3), 10=993 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1066/140, 3-4=-720/163, 4-5=-1044/138, 2-10=-875/147, 5-6=-813/120
BOT CHORD 9-10=-318/563, 7-9=-104/731, 6-7=-148/336
WEBS 3-9=0/348, 3-7=-85/97, 4-7=0/318, 2-9=-147/503, 5-7=-118/513

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 7-11-13, Exterior(2R) 7-11-13 to 12-2-11, Interior (1) 12-2-11 to 15-5-3, Exterior(2R) 15-5-3 to 19-8-2, Interior (1) 19-8-2 to 23-3-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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, with BCDL = 10.0psf.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 106 lb uplift at joint 10 and 89 lb uplift at joint 6.
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.

**LOAD CASE(S)** Standard


April 22,2025



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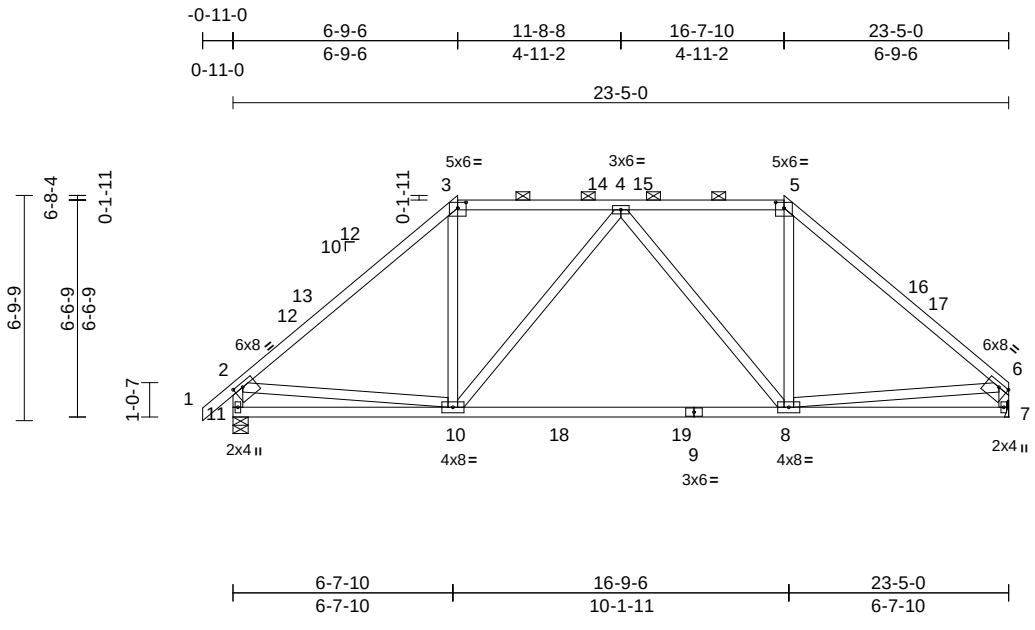
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | T37069901 |
|---|---|---|---|---|---|---|
| P02057-24657 | A08 | Hip | 1 | 1 | Job Reference (optional) | |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:25 Page: 1
ID:cn7LaTfMpD9Ew9FZpT_37YzOY?p-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:69.6

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.72 | Vert(LL) | -0.34 | 8-10 | >809 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 12.7/10.0 | Lumber DOL | 1.15 | BC | 0.96 | Vert(CT) | -0.54 | 8-10 | >511 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.28 | Horz(CT) | 0.02 | 7 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 139 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 11-2,7-6:2x4 SP No.3

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 4-4-5 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

**REACTIONS** (size) 7= Mechanical, 11=0-5-8
Max Horiz 11=133 (LC 11)
Max Uplift 7=-83 (LC 15), 11=-100 (LC 14)
Max Grav 7=940 (LC 3), 11=989 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1105/131, 3-4=-771/149, 4-5=-775/149, 5-6=-1102/130, 2-11=-914/139, 6-7=-865/111
BOT CHORD 10-11=-234/374, 8-10=-134/863, 7-8=-111/199
WEBS 3-10=-26/437, 4-10=-244/123, 4-8=-242/124, 5-8=-30/433, 2-10=-111/627, 6-8=-95/646

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 6-9-6, Exterior(2R) 6-9-6 to 11-0-5, Interior (1) 11-0-5 to 16-7-10, Exterior(2R) 16-7-10 to 20-10-8, Interior (1) 20-10-8 to 23-3-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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, with BCDL = 10.0psf.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint 11 and 83 lb uplift at joint 7.
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.

**LOAD CASE(S)** Standard


April 22,2025



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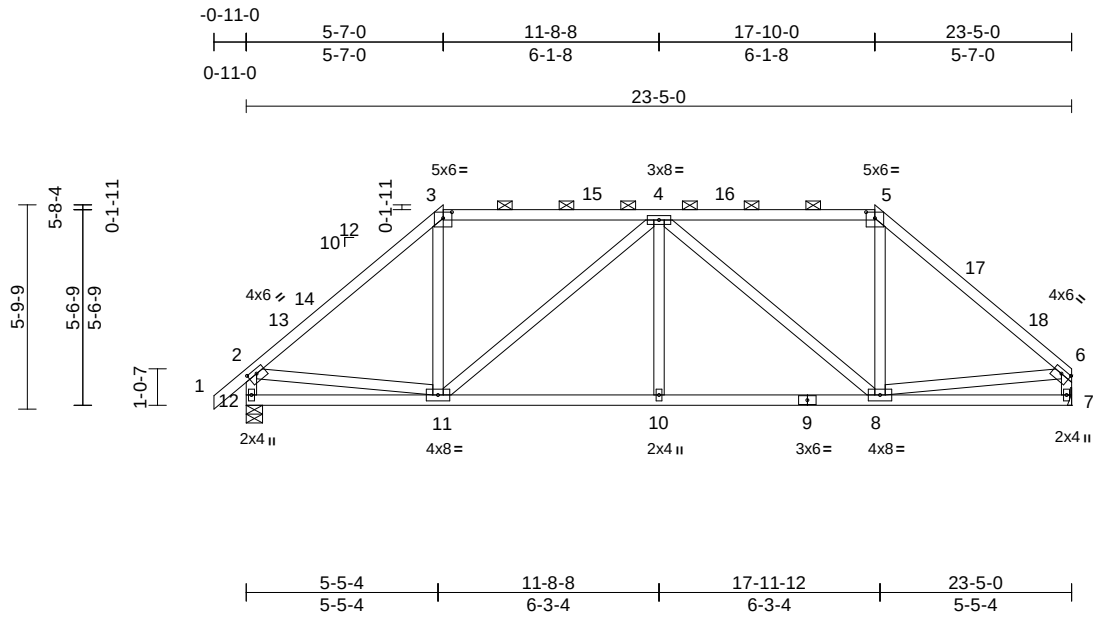
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | T37069902 |
|---|---|---|---|---|---|---|
| P02057-24657 | A09 | Hip | 1 | 1 | Job Reference (optional) | |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:25 Page: 1
ID:1eKunIvv5NhPKEmP_gLlxmzOY?V-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:65.4

Plate Offsets (X, Y): [2:0-3-0,0-1-8], [3:0-3-0,0-2-1], [5:0-3-0,0-2-1], [6:0-3-0,0-1-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.47 | Vert(LL) | -0.03 | 8-10 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 12.7/10.0 | Lumber DOL | 1.15 | BC | 0.39 | Vert(CT) | -0.08 | 8-10 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.50 | Horz(CT) | 0.02 | 7 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 139 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 11-4,8-4:2x4 SP No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 5-5-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 7= Mechanical, 12=0-5-8
Max Horiz 12=115 (LC 11)
Max Uplift 7=-75 (LC 10), 12=-92 (LC 14)
Max Grav 7=854 (LC 2), 12=914 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-999/129, 3-4=-694/140, 4-5=-699/140, 5-6=-997/129, 2-12=-865/137, 6-7=-805/110
BOT CHORD 11-12=-157/260, 10-11=-171/988, 8-10=-171/988, 7-8=-73/140
WEBS 3-11=-25/355, 4-11=-434/123, 4-10=0/247, 4-8=-432/124, 5-8=-27/352, 2-11=-117/549, 6-8=-107/566

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 5-7-0, Exterior(2R) 5-7-0 to 9-9-15, Interior (1) 9-9-15 to 17-10-0, Exterior(2R) 17-10-0 to 22-0-15, Interior (1) 22-0-15 to 23-3-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 92 lb uplift at joint 12 and 75 lb uplift at joint 7.
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.

**LOAD CASE(S)** Standard


April 22,2025



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

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | A10 | Hip | 1 | 1 | T37069903 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:25 Page: 1

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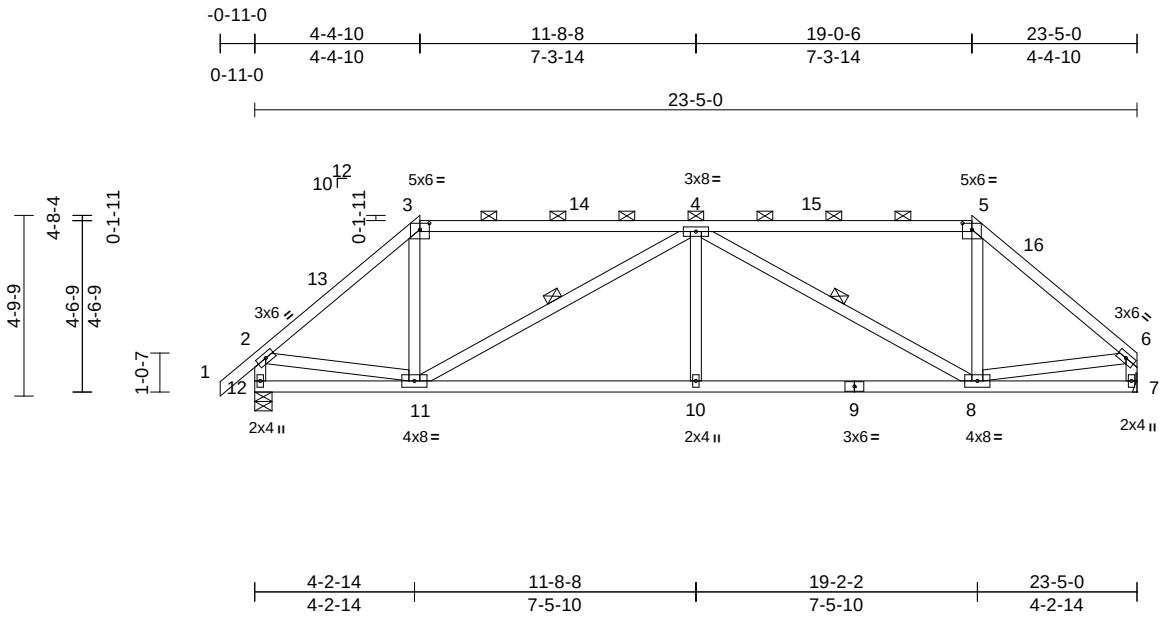





Scale = 1:61.2

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.69 | Vert(LL) | -0.06 | 8-10 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 12.7/10.0 | Lumber DOL | 1.15 | BC | 0.57 | Vert(CT) | -0.14 | 8-10 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.28 | Horz(CT) | 0.03 | 7 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 132 lb | FT = 20% |

**LUMBER**

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 11-4,8-4:2x4 SP No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-8-8 oc purlins, except end verticals, and 2-0-0 oc purlins (5-10-10 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-11, 4-8

**REACTIONS** (size) 7= Mechanical, 12=0-5-8
Max Horiz 12=96 (LC 11)
Max Uplift 7=-98 (LC 10), 12=-102 (LC 11)
Max Grav 7=854 (LC 2), 12=914 (LC 2)

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

TOP CHORD 1-2=0/37, 2-3=-1002/143, 3-4=-723/131, 4-5=-728/131, 5-6=-1004/141, 2-12=-883/127, 6-7=-823/106
BOT CHORD 11-12=-112/149, 10-11=-232/1252, 8-10=-232/1252, 7-8=-47/73
WEBS 3-11=-18/369, 4-11=-646/158, 4-10=0/309, 4-8=-643/158, 5-8=-20/368, 2-11=-120/659, 6-8=-114/667

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 4-4-10, Exterior(2R) 4-4-10 to 8-7-8, Interior (1) 8-7-8 to 19-0-6, Exterior(2E) 19-0-6 to 23-3-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 102 lb uplift at joint 12 and 98 lb uplift at joint 7.
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.

**LOAD CASE(S)** Standard


April 22,2025



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818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | A11 | Half Hip | 1 | 1 | T37069904 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:26 Page: 1

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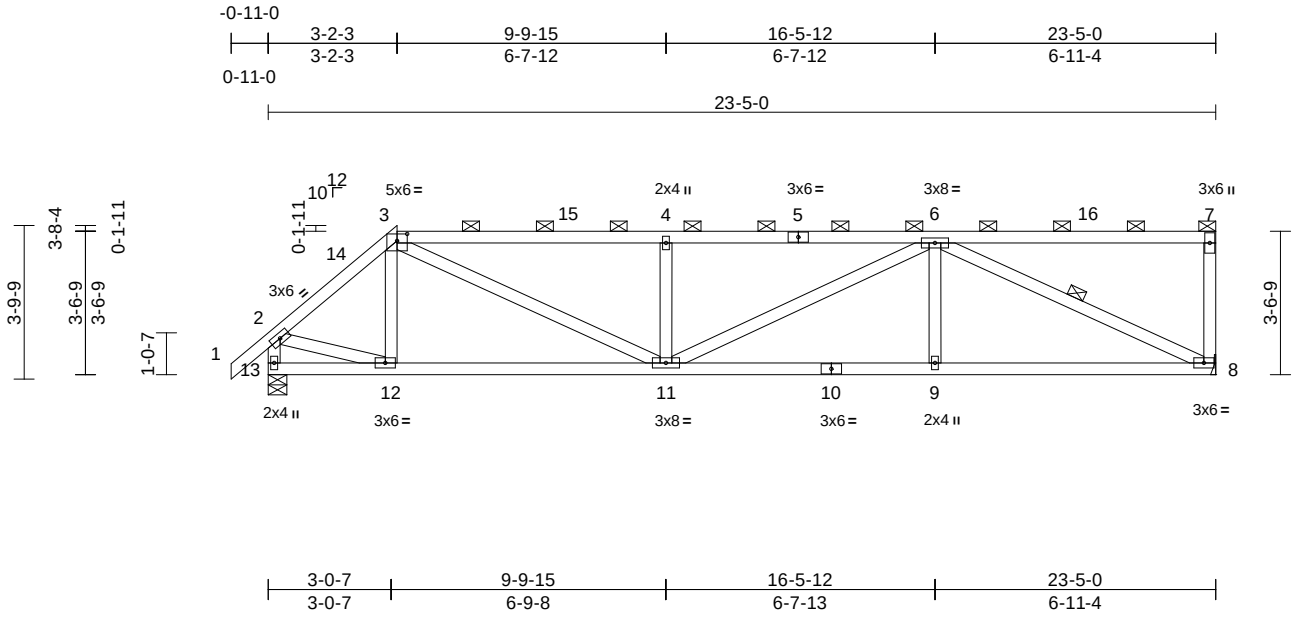





Scale = 1:56.9

Plate Offsets (X, Y): [3:0-3-0,0-2-1]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.58 | Vert(LL) | -0.08 | 9-11 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 12.7/10.0 | Lumber DOL | 1.15 | BC | 0.55 | Vert(CT) | -0.15 | 9-11 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.39 | Horz(CT) | 0.04 | 8 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 127 lb | FT = 20% |

**LUMBER**

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 8-6,11-3,11-6:2x4 SP No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-10-8 max.): 3-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 12-13.
WEBS 1 Row at midpt 6-8

**REACTIONS** (size) 8= Mechanical, 13=0-5-8
Max Horiz 13=101 (LC 11)
Max Uplift 8=-169 (LC 11), 13=-128 (LC 11)
Max Grav 8=854 (LC 2), 13=914 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-963/159, 3-4=-1558/301, 4-6=-1558/300, 6-7=-68/50, 7-8=-164/61, 2-13=-904/130
BOT CHORD 12-13=-169/121, 11-12=-181/719, 9-11=-288/1347, 8-9=-288/1347
WEBS 6-8=-1451/290, 2-12=-122/731, 3-12=-85/80, 3-11=-209/953, 4-11=-384/144, 6-11=-56/234, 6-9=0/287

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 3-2-3, Exterior(2R) 3-2-3 to 7-5-2, Interior (1) 7-5-2 to 23-3-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 169 lb uplift at joint 8 and 128 lb uplift at joint 13.
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.

**LOAD CASE(S)** Standard


April 22,2025



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818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | A12G | Half Hip Girder | 1 | 1 | T37069905 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:26 Page: 1

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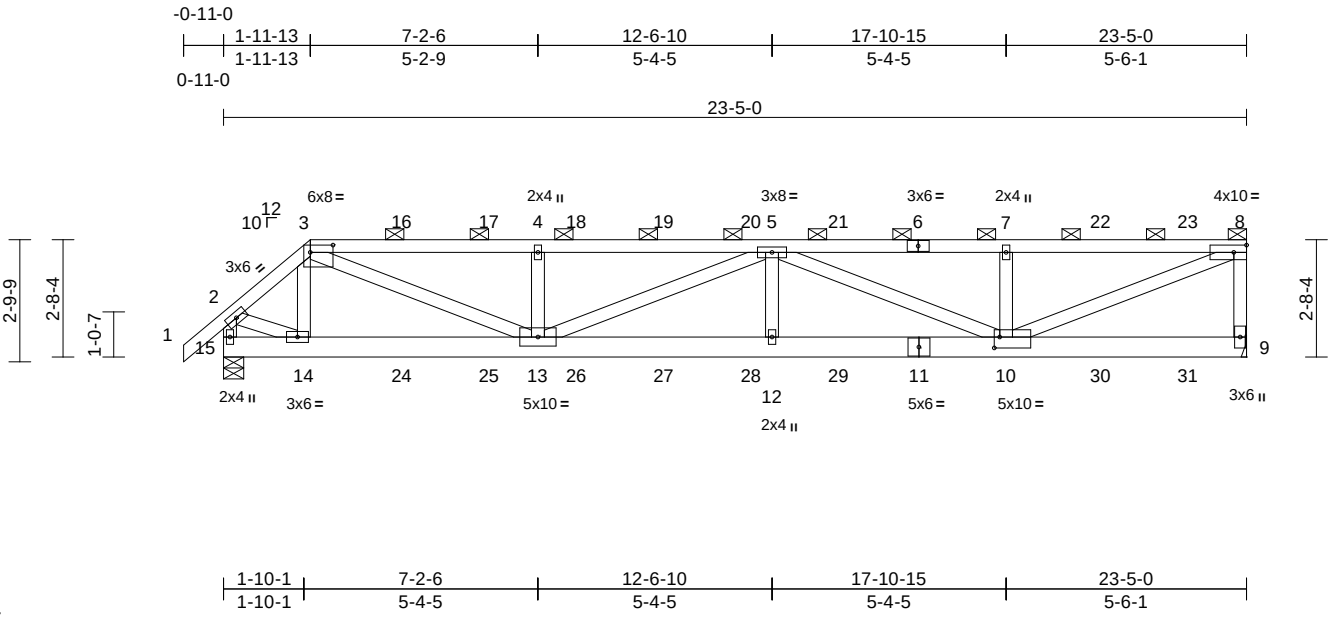


Scale = 1:52.7

Plate Offsets (X, Y): [3:0-6-4,0-2-0], [10:0-1-8,0-3-0]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.65 | Vert(LL) | -0.15 | 12-13 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 12.7/10.0 | Lumber DOL | 1.15 | BC | 0.71 | Vert(CT) | -0.29 | 12-13 | >955 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | NO | WB | 0.99 | Horz(CT) | 0.04 | 9 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 142 lb | FT = 20% |

**LUMBER**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.2 |
| BOT CHORD | 2x6 SP No.2 |
| WEBS | 2x4 SP No.3 |

**BRACING**

| | |
|---|---|
| TOP CHORD | Structural wood sheathing directly applied or 5-0-15 oc purlins, except end verticals, and 2-0-0 oc purlins (3-0-4 max.): 3-8. |
| BOT CHORD | Rigid ceiling directly applied or 7-7-10 oc bracing. |

**REACTIONS** (size) 9= Mechanical, 15=0-5-8
Max Horiz 15=75 (LC 7)
Max Uplift 9=-354 (LC 7), 15=-364 (LC 7)
Max Grav 9=1230 (LC 30), 15=1280 (LC 2)

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

| | |
|---|---|
| TOP CHORD | 1-2=0/37, 2-3=-1276/390, 3-4=-2681/790, 4-5=-2681/790, 5-7=-2271/664, 7-8=-2271/664, 8-9=-1128/350, 2-15=-1312/370 |
| BOT CHORD | 14-15=-72/56, 13-14=-346/983, 12-13=-941/3162, 10-12=-941/3162, 9-10=-36/66 |
| WEBS | 3-14=-210/118, 3-13=-528/1860, 4-13=-411/186, 5-13=-527/148, 5-12=0/296, 5-10=-970/293, 7-10=-416/189, 8-10=-693/2402, 2-14=-322/1035 |

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 354 lb uplift at joint 9 and 364 lb uplift at joint 15.
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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 102 lb down and 101 lb up at 1-11-13, 52 lb down and 45 lb up at 4-0-15, 52 lb down and 45 lb up at 6-0-15, 52 lb down and 45 lb up at 8-0-15, 52 lb down and 45 lb up at 10-0-15, 52 lb down and 45 lb up at 12-0-15, 52 lb down and 45 lb up at 14-0-15, 52 lb down and 45 lb up at 16-0-15, 52 lb down and 45 lb up at 18-0-15, and 52 lb down and 45 lb up at 20-0-15, and 52 lb down and 45 lb up at 22-0-15 on top chord, and 65 lb down and 17 lb up at 1-11-13, 30 lb down and 6 lb up at 4-0-15, 30 lb down and 6 lb up at 6-0-15, 30 lb down and 6 lb up at 8-0-15, 30 lb down and 6 lb up at 10-0-15, 30 lb down and 6 lb up at 12-0-15, 30 lb down and 6 lb up at 14-0-15, 30 lb down and 6 lb up at 16-0-15, 30 lb down and 6 lb up at 18-0-15, and 30 lb down and 6 lb up at 20-0-15, and 30 lb down and 6 lb up at 22-0-15 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
14) 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


April 22,2025

Continued on page 2



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

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-29, 2-3=-29, 3-8=-39, 9-15=-20
Concentrated Loads (lb)
Vert: 6=-47 (F), 11=-25 (F), 14=-38 (F), 3=-80 (F), 7=-47 (F), 10=-25 (F), 16=-47 (F), 17=-47 (F), 18=-47 (F), 19=-47 (F), 20=-47 (F), 21=-47 (F), 22=-47 (F), 23=-47 (F), 24=-25 (F), 25=-25 (F), 26=-25 (F), 27=-25 (F), 28=-25 (F), 29=-25 (F), 30=-25 (F), 31=-25 (F)

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | B01E | Common Supported Gable | 1 | 1 | T37069906 |

Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:27 Page: 1

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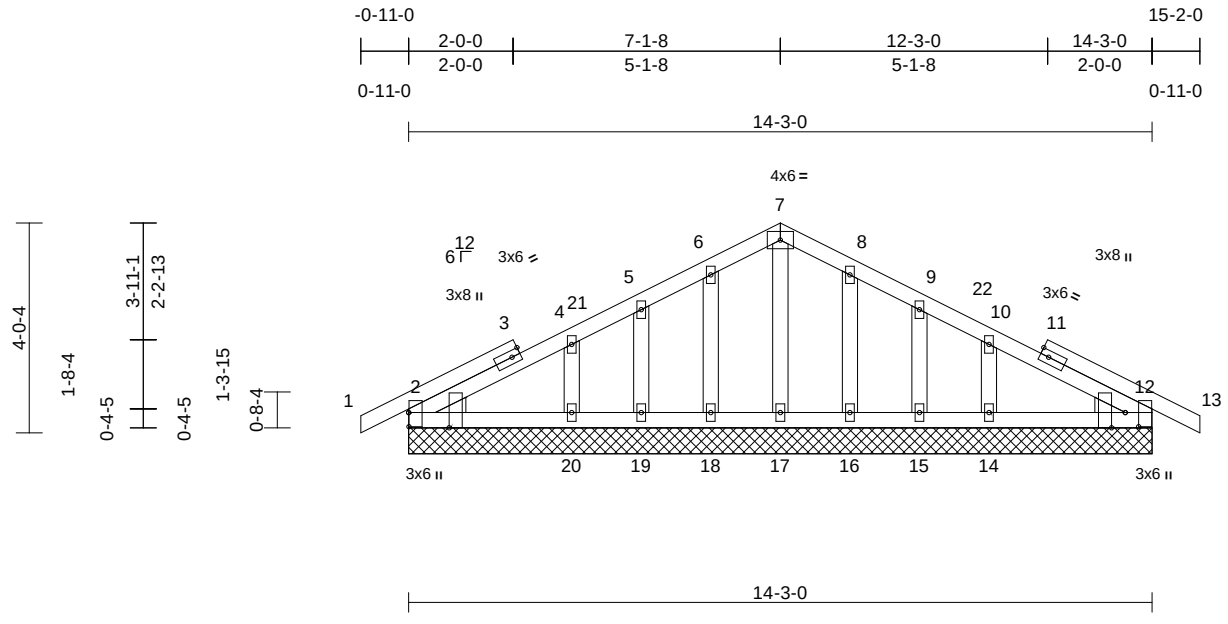



Scale = 1:44.2

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.07 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.05 | Vert(CT) | n/a | - | n/a | 999 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.03 | Horz(CT) | 0.00 | 12 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 80 lb | FT = 20% |

**LUMBER**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.2 |
| BOT CHORD | 2x4 SP No.2 |
| OTHERS | 2x4 SP No.3 |
| WEDGE | Left: 2x4 SP No.3<br>Right: 2x4 SP No.3 |

**BRACING**

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

**REACTIONS** (size) 2=14-3-0, 12=14-3-0, 14=14-3-0, 15=14-3-0, 16=14-3-0, 17=14-3-0, 18=14-3-0, 19=14-3-0, 20=14-3-0

Max Horiz 2=46 (LC 20)

Max Uplift 2=-22 (LC 16), 12=-28 (LC 17), 14=-52 (LC 17), 15=-25 (LC 17), 16=-28 (LC 17), 18=-29 (LC 16), 19=-25 (LC 16), 20=-48 (LC 16)

Max Grav 2=165 (LC 2), 12=165 (LC 2), 14=189 (LC 2), 15=71 (LC 24), 16=110 (LC 37), 17=90 (LC 33), 18=110 (LC 36), 19=71 (LC 23), 20=189 (LC 2)

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

| | |
|---|---|
| TOP CHORD | 1-2=0/18, 2-4=-45/47, 4-5=-28/41, 5-6=-25/65, 6-7=-38/95, 7-8=-38/95, 8-9=-25/65, 9-10=-24/39, 10-12=-32/36, 12-13=0/18 |
| BOT CHORD | 2-20=-24/63, 19-20=-23/62, 18-19=-23/62, 17-18=-23/62, 16-17=-23/62, 15-16=-23/62, 14-15=-23/62, 12-14=-24/63 |
| WEBS | 7-17=-65/0, 6-18=-80/55, 5-19=-57/47, 4-20=-132/95, 8-16=-80/55, 9-15=-57/47, 10-14=-132/96 |

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 2-1-0, Exterior(2N) 2-1-0 to 7-1-8, Corner(3R) 7-1-8 to 10-1-8, Exterior(2N) 10-1-8 to 15-2-0 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) All plates are 2x4 (||) MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 1-4-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * 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.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 18, 25 lb uplift at joint 19, 48 lb uplift at joint 20, 28 lb uplift at joint 16, 25 lb uplift at joint 15, 52 lb uplift at joint 14, 22 lb uplift at joint 2 and 28 lb uplift at joint 12.
14) 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


April 22,2025



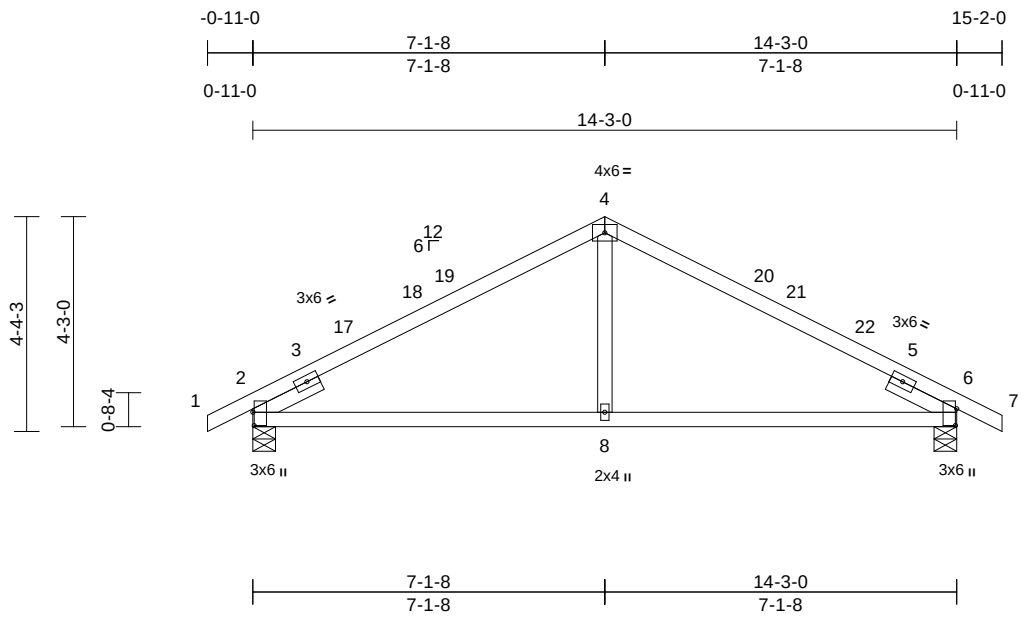
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | |
|---|---|---|---|---|---|---|
| P02057-24657 | B02 | Common | 2 | 1 | Job Reference (optional) | T37069907 |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:27 ID:E4xuA3KQSKLFmjvo3cw7vSzOXx4-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f






Scale = 1:46.6

Plate Offsets (X, Y): [2:0-3-4,0-0-5], [6:0-4-1,0-0-5]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.55 | Vert(LL) | -0.07 | 8-11 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.46 | Vert(CT) | -0.12 | 8-11 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.12 | Horz(CT) | 0.02 | 2 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 58 lb | FT = 20% |

**LUMBER**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.2 |
| BOT CHORD | 2x4 SP No.2 |
| WEBS | 2x4 SP No.3 |
| SLIDER | Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0 |

**BRACING**

| | |
|---|---|
| TOP CHORD | Structural wood sheathing directly applied or 6-0-0 oc purlins. |
| BOT CHORD | Rigid ceiling directly applied or 10-0-0 oc bracing. |

**REACTIONS** (size) 2=0-5-8, 6=0-5-8
Max Horiz 2=-50 (LC 17)
Max Uplift 2=-88 (LC 16), 6=-88 (LC 17)
Max Grav 2=577 (LC 2), 6=577 (LC 2)

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

| | |
|---|---|
| TOP CHORD | 1-2=0/22, 2-4=-671/202, 4-6=-671/202, 6-7=0/22 |
| BOT CHORD | 2-8=-167/540, 6-8=-168/540 |
| WEBS | 4-8=0/302 |

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 7-1-8, Exterior(2R) 7-1-8 to 10-1-8, Interior (1) 10-1-8 to 15-2-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 88 lb uplift at joint 2 and 88 lb uplift at joint 6.
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.

**LOAD CASE(S)** Standard


April 22,2025



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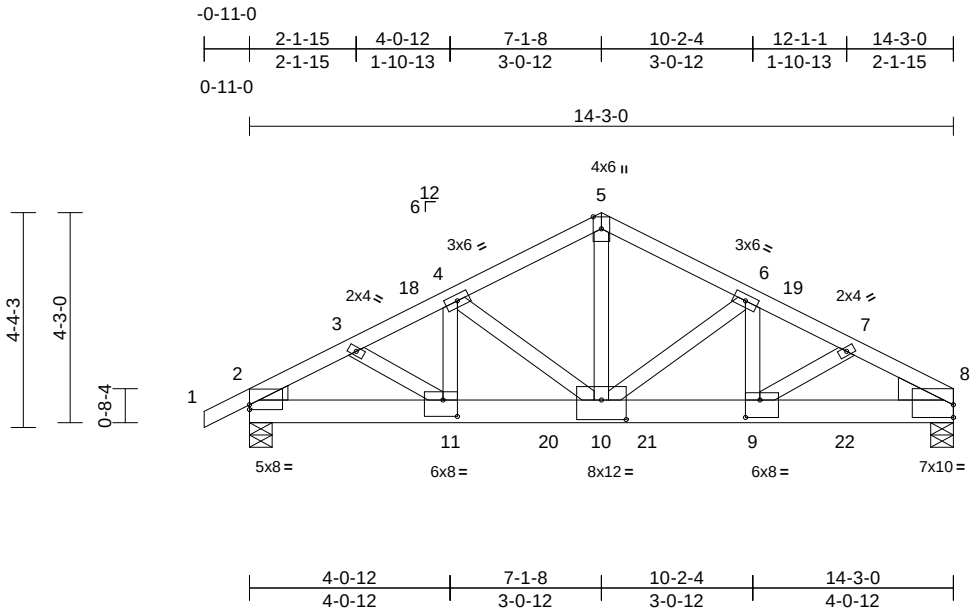
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | |
|---|---|---|---|---|---|---|
| P02057-24657 | B03G | Common Girder | 1 | 1 | Job Reference (optional) | T37069908 |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 E Feb 1 2025 Print: 8.830 E Feb 1 2025 MiTek Industries, Inc. Tue Apr 22 15:00:30 Page: 1
ID:g5MsvPDHjF_6UiqnCNjiELzOXue-8hq?uA6onC82OQlHpuNi4YB3V1hQVXgk0tdSAjzO7iV




Scale = 1:46.6

Plate Offsets (X, Y): [2:Edge,0-1-3], [8:Edge,0-3-1], [9:0-3-8,0-4-4], [10:0-6-0,0-4-12], [11:0-3-8,0-4-0]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.95 | Vert(LL) | -0.10 | 10-11 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.61 | Vert(CT) | -0.17 | 10-11 | >984 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | NO | WB | 0.76 | Horz(CT) | 0.04 | 8 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 90 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.1 *Except* 5-8:2x4 SP No.2
BOT CHORD 2x6 SP DSS
WEBS 2x4 SP No.2
WEDGE Left: 2x4 SP No.2
Right: 2x6 SP No.2

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 1-10-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 9-4-4 oc bracing.

**REACTIONS** (lb/size) 2=2068/0-5-8, 8=2238/0-5-8
Max Horiz 2=55 (LC 16)
Max Uplift 2=-529 (LC 12), 8=-443 (LC 13)
Max Grav 2=2651 (LC 2), 8=3000 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-3=-4436/888, 3-18=-4569/911, 4-18=-4533/918, 4-5=-3688/663, 5-6=-3687/663, 6-19=-4708/728, 7-19=-4743/721, 7-8=-4691/719
BOT CHORD 2-11=-793/3818, 11-20=-829/4106, 10-20=-829/4106, 10-21=-611/4250, 9-21=-611/4250, 9-22=-609/4092, 8-22=-609/4092
WEBS 4-10=-1075/359, 4-11=-265/838, 5-10=-541/3090, 6-10=-1256/140, 6-9=-53/1053, 3-11=-74/376, 7-9=-36/229

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 443 lb uplift at joint 8 and 529 lb uplift at joint 2.
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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1210 lb down and 360 lb up at 4-0-12, 834 lb down and 175 lb up at 6-0-12, 834 lb down and 104 lb up at 8-0-12, and 834 lb down and 81 lb up at 10-0-12, and 920 lb down and 89 lb up at 12-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
13) 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 + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-5=-29, 5-8=-29, 12-15=-20
Concentrated Loads (lb)
Vert: 11=-1076 (B), 9=-612 (B), 20=-664 (B), 21=-624 (B), 22=-600 (B)


April 22,2025



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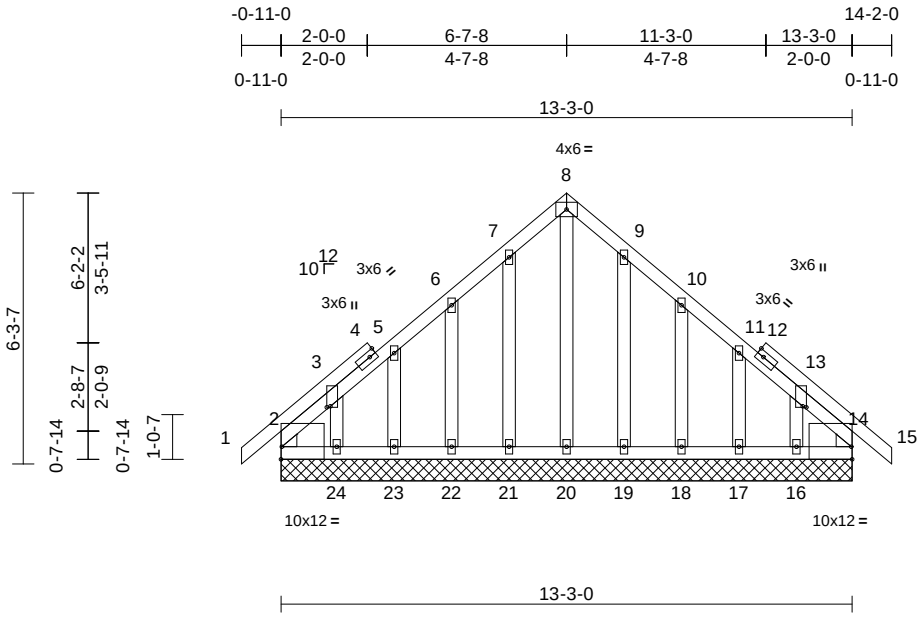
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | C01E | Common Supported Gable | 1 | 1 | T37069909 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:27 Page: 1
ID:_P4CdlZz1sRamWf3Z6CC5FzOXrc-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:53.5

Plate Offsets (X, Y): [2:Edge,0-3-8], [3:0-0-5,0-1-0], [13:0-0-5,0-1-0], [14:Edge,0-3-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.04 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.02 | Vert(CT) | n/a | - | n/a | 999 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.07 | Horz(CT) | 0.00 | 14 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 101 lb | FT = 20% |

**LUMBER**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.2 |
| BOT CHORD | 2x4 SP No.2 |
| OTHERS | 2x4 SP No.3 |
| WEDGE | Left: 2x4 SP No.3<br>Right: 2x4 SP No.3 |

**BRACING**

| | |
|---|---|
| TOP CHORD | Structural wood sheathing directly applied or 6-0-0 oc purlins. |
| BOT CHORD | Rigid ceiling directly applied or 10-0-0 oc bracing. |

**REACTIONS** (size) 2=13-3-0, 14=13-3-0, 16=13-3-0, 17=13-3-0, 18=13-3-0, 19=13-3-0, 20=13-3-0, 21=13-3-0, 22=13-3-0, 23=13-3-0, 24=13-3-0
Max Horiz 2=108 (LC 13)
Max Uplift 2=-9 (LC 10), 14=-7 (LC 11), 16=-70 (LC 15), 17=-38 (LC 15), 18=-50 (LC 15), 19=-38 (LC 15), 21=-41 (LC 14), 22=-49 (LC 14), 23=-36 (LC 14), 24=-58 (LC 14)
Max Grav 2=111 (LC 2), 14=111 (LC 2), 16=111 (LC 27), 17=100 (LC 27), 18=105 (LC 27), 19=104 (LC 27), 20=102 (LC 29), 21=107 (LC 26), 22=104 (LC 26), 23=99 (LC 2), 24=98 (LC 26)

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

| | |
|---|---|
| TOP CHORD | 1-2=0/21, 2-3=-110/81, 3-5=-73/64, 5-6=-70/54, 6-7=-62/75, 7-8=-65/120, 8-9=-65/120, 9-10=-42/75, 10-11=-43/19, 11-13=-52/30, 13-14=-92/53, 14-15=0/21 |
| BOT CHORD | 2-24=-53/130, 23-24=-47/125, 22-23=-47/125, 21-22=-47/125, 20-21=-47/125, 19-20=-47/125, 18-19=-47/125, 17-18=-47/125, 16-17=-47/125, 14-16=-52/130 |
| WEBS | 8-20=-103/32, 7-21=-80/60, 6-22=-77/78, 5-23=-73/68, 3-24=-78/79, 9-19=-77/60, 10-18=-78/78, 11-17=-74/69, 13-16=-76/78 |

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 2-1-0, Exterior(2N) 2-1-0 to 6-7-8, Corner(3R) 6-7-8 to 9-7-8, Exterior(2N) 9-7-8 to 14-2-0 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) All plates are 2x4 (||) MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 1-4-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * 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.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 41 lb uplift at joint 21, 49 lb uplift at joint 22, 36 lb uplift at joint 23, 58 lb uplift at joint 24, 38 lb uplift at joint 19, 50 lb uplift at joint 18, 38 lb uplift at joint 17, 70 lb uplift at joint 16, 9 lb uplift at joint 2 and 7 lb uplift at joint 14.
13) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 14.
14) 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

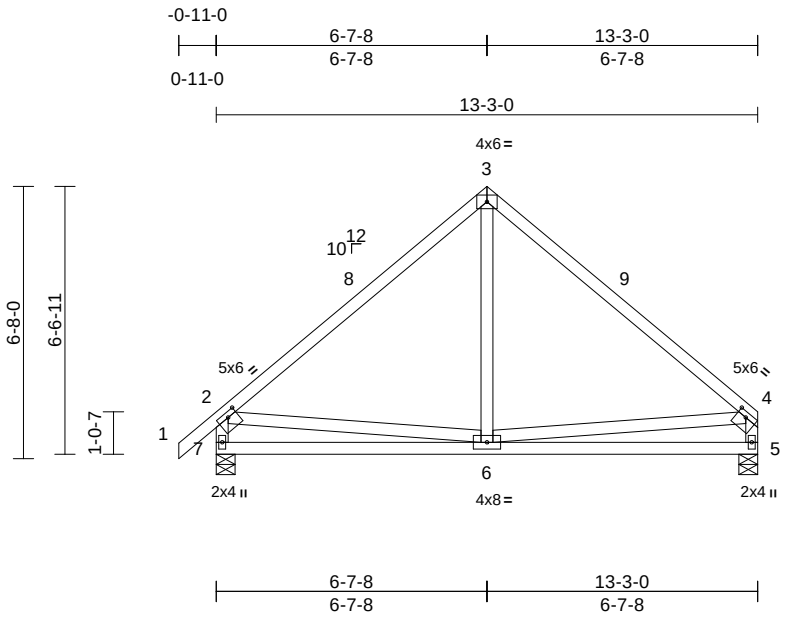

April 22,2025



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

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | T37069910 |
|---|---|---|---|---|---|---|
| P02057-24657 | C02 | Common | 1 | 1 | Job Reference (optional) | |






Scale = 1:56.4

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.67 | Vert(LL) | -0.04 | 5-6 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.38 | Vert(CT) | -0.07 | 5-6 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.10 | Horz(CT) | 0.00 | 5 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 77 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 6-2,6-4:2x4 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.

**REACTIONS** (size) 5=0-5-8, 7=0-5-8
Max Horiz 7=132 (LC 11)
Max Uplift 5=-55 (LC 15), 7=-72 (LC 14)
Max Grav 5=477 (LC 2), 7=539 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-484/120, 3-4=-476/115, 2-7=-482/151, 4-5=-420/114
BOT CHORD 6-7=-216/349, 5-6=-101/192
WEBS 3-6=0/271, 2-6=-99/216, 4-6=-61/162

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 6-7-8, Exterior(2R) 6-7-8 to 9-7-8, Interior (1) 9-7-8 to 13-1-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 7 and 55 lb uplift at joint 5.
9) 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

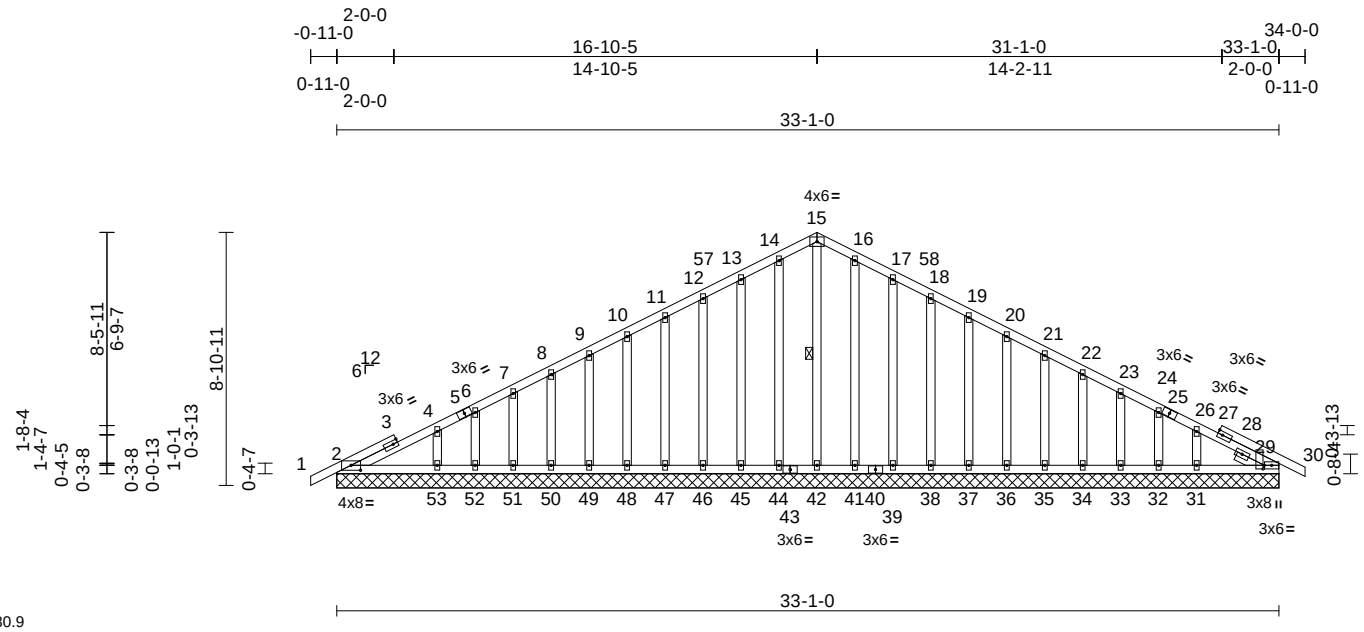

April 22,2025



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

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | G01E | Common Supported Gable | 1 | 1 | T37069911 |
| | | | | | Job Reference (optional) |






Scale = 1:80.9

Plate Offsets (X, Y): [2:0-4-0,0-2-1], [29:0-1-8,0-0-8]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.11 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.07 | Vert(CT) | n/a | - | n/a | 999 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.07 | Horz(CT) | 0.01 | 29 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 253 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 42-15,44-14,45-13,41-16,39-17:2x4 SP No.2
SLIDER Right 2x4 SP No.3 -- 1-0-8

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 15-42

**REACTIONS** (size) 2=33-1-0, 29=33-1-0, 31=33-1-0, 32=33-1-0, 33=33-1-0, 34=33-1-0, 35=33-1-0, 36=33-1-0, 37=33-1-0, 38=33-1-0, 39=33-1-0, 41=33-1-0, 42=33-1-0, 44=33-1-0, 45=33-1-0, 46=33-1-0, 47=33-1-0, 48=33-1-0, 49=33-1-0, 50=33-1-0, 51=33-1-0, 52=33-1-0, 53=33-1-0
Max Horiz 2=111 (LC 16)
Max Uplift 2=-14 (LC 17), 29=-7 (LC 13), 31=-48 (LC 17), 32=-27 (LC 17), 33=-29 (LC 17), 34=-29 (LC 17), 35=-29 (LC 17), 36=-29 (LC 17), 37=-29 (LC 17), 38=-28 (LC 17), 39=-34 (LC 17), 41=-15 (LC 17), 44=-20 (LC 16), 45=-33 (LC 16), 46=-28 (LC 16), 47=-29 (LC 16), 48=-29 (LC 16), 49=-29 (LC 16), 50=-28 (LC 16), 51=-31 (LC 16), 52=-18 (LC 16), 53=-51 (LC 16)
Max Grav 2=168 (LC 2), 29=179 (LC 37), 31=134 (LC 2), 32=89 (LC 37), 33=101 (LC 2), 34=98 (LC 37), 35=99 (LC 2), 36=99 (LC 37), 37=99 (LC 2), 38=98 (LC 2), 39=100 (LC 37), 41=101 (LC 37), 42=124 (LC 33), 44=102 (LC 36), 45=100 (LC 36), 46=98 (LC 2), 47=99 (LC 2), 48=98 (LC 36), 49=99 (LC 2), 50=96 (LC 36), 51=113 (LC 2), 52=34 (LC 36), 53=246 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-4=-123/64, 4-6=-92/51, 6-7=-74/61, 7-8=-55/67, 8-9=-42/79, 9-10=-34/91, 10-11=-45/103, 11-12=-57/117, 12-13=-69/140, 13-14=-83/166, 14-15=-91/183, 15-16=-91/183, 16-17=-83/166, 17-18=-69/140, 18-19=-57/117, 19-20=-45/93, 20-21=-33/69, 21-22=-21/46, 22-23=-21/25, 23-24=-32/20, 24-26=-50/20, 26-29=-75/37, 29-30=0/19
BOT CHORD 2-53=-47/105, 52-53=-47/105, 51-52=-47/105, 50-51=-47/105, 49-50=-47/105, 48-49=-47/105, 47-48=-47/105, 46-47=-47/105, 45-46=-47/105, 44-45=-47/105, 42-44=-47/105, 41-42=-47/105, 39-41=-47/105, 38-39=-47/105, 37-38=-47/105, 36-37=-47/105, 35-36=-47/105, 34-35=-47/105, 33-34=-47/105, 32-33=-47/105, 31-32=-47/105, 29-31=-49/106
WEBS 15-42=-112/39, 14-44=-75/28, 13-45=-73/48, 12-46=-71/41, 11-47=-72/42, 10-48=-72/42, 9-49=-72/42, 8-50=-71/41, 7-51=-78/44, 6-52=-39/31, 4-53=-158/78, 16-41=-75/26, 17-39=-73/48, 18-38=-71/41, 19-37=-72/42, 20-36=-72/42, 21-35=-72/42, 22-34=-72/42, 23-33=-73/42, 24-32=-68/39, 26-31=-93/54

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 2-4-11, Exterior(2N) 2-4-11 to 16-10-5, Corner(3R) 16-10-5 to 20-2-1, Exterior(2N) 20-2-1 to 34-0-0 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


April 22,2025

Continued on page 2



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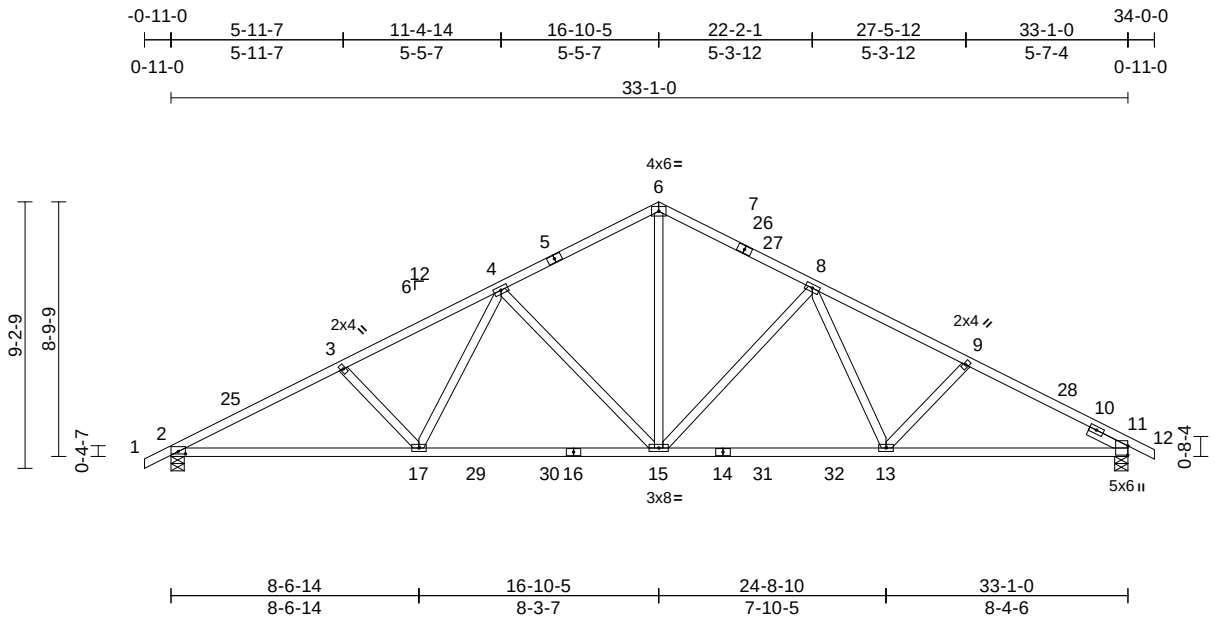
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) All plates are 2x4 (||) MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 1-4-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * 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.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 2, 20 lb uplift at joint 44, 33 lb uplift at joint 45, 28 lb uplift at joint 46, 29 lb uplift at joint 47, 29 lb uplift at joint 48, 29 lb uplift at joint 49, 28 lb uplift at joint 50, 31 lb uplift at joint 51, 18 lb uplift at joint 52, 51 lb uplift at joint 53, 15 lb uplift at joint 41, 34 lb uplift at joint 39, 28 lb uplift at joint 38, 29 lb uplift at joint 37, 29 lb uplift at joint 36, 29 lb uplift at joint 35, 29 lb uplift at joint 34, 29 lb uplift at joint 33, 27 lb uplift at joint 32, 48 lb uplift at joint 31, 7 lb uplift at joint 29 and 14 lb uplift at joint 2.
14) 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 | 1057 Serenity | |
|---|---|---|---|---|---|---|
| P02057-24657 | G02 | Common | 3 | 1 | Job Reference (optional) | T37069912 |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:28 Page: 1
ID:cdn1y5PNh32ESd7EqzwJ6pzOXnx-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:79.7

Plate Offsets (X, Y): [2:0-3-0,0-1-0], [11:0-3-13,0-0-1]

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.74 | Vert(LL) | -0.21 | 13-15 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.89 | Vert(CT) | -0.35 | 13-15 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.67 | Horz(CT) | 0.10 | 11 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 174 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1 *Except* 16-14:2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 17-3,13-9:2x4 SP No.3
SLIDER Right 2x4 SP No.3 -- 1-6-0

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 2-6-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 11=0-5-8
Max Horiz 2=115 (LC 16)
Max Uplift 2=-189 (LC 16), 11=-185 (LC 17)
Max Grav 2=1384 (LC 3), 11=1385 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-3=-2479/327, 3-4=-2315/310, 4-6=-1573/268, 6-8=-1574/272, 8-9=-2123/292, 9-11=-2257/299, 11-12=0/22
BOT CHORD 2-17=-344/2191, 15-17=-221/1766, 13-15=-139/1707, 11-13=-202/1961
WEBS 3-17=-297/142, 4-17=-63/580, 4-15=-604/192, 6-15=-139/1141, 8-15=-536/181, 8-13=-45/424, 9-13=-203/123

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-4-11, Interior (1) 2-4-11 to 16-10-5, Exterior(2R) 16-10-5 to 20-2-1, Interior (1) 20-2-1 to 34-0-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) All plates are 3x6 (=) MT20 unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 189 lb uplift at joint 2 and 185 lb uplift at joint 11.
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.

**LOAD CASE(S)** Standard


April 22,2025



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| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | G03 | Common | 2 | 1 | T37069913 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:29 Page: 1

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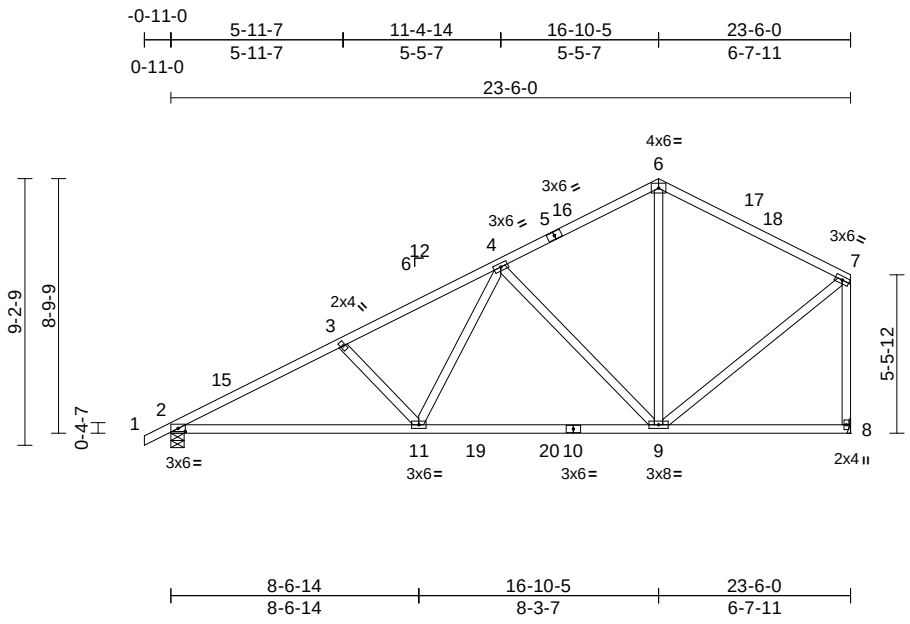


Scale = 1:79.7

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.63 | Vert(LL) | -0.14 | 9-11 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.87 | Vert(CT) | -0.23 | 11-14 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.67 | Horz(CT) | 0.03 | 8 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MS | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 134 lb | FT = 20% |

**LUMBER**

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 11-3,8-7:2x4 SP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 4-1-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-8-5 oc bracing.

**REACTIONS** (size) 2=0-5-8, 8= Mechanical
Max Horiz 2=189 (LC 15)
Max Uplift 2=-151 (LC 16), 8=-118 (LC 16)
Max Grav 2=982 (LC 3), 8=941 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-3=-1604/266, 3-4=-1437/254, 4-6=-678/196, 6-7=-685/182, 7-8=-852/186
BOT CHORD 2-11=-367/1426, 9-11=-265/986, 8-9=-59/70
WEBS 3-11=-307/143, 4-11=-65/597, 4-9=-610/191, 6-9=-45/341, 7-9=-129/697

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 16-10-5, Exterior(2R) 16-10-5 to 19-10-5, Interior (1) 19-10-5 to 23-4-4 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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, with BCDL = 10.0psf.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 151 lb uplift at joint 2 and 118 lb uplift at joint 8.
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.

**LOAD CASE(S)** Standard


April 22,2025



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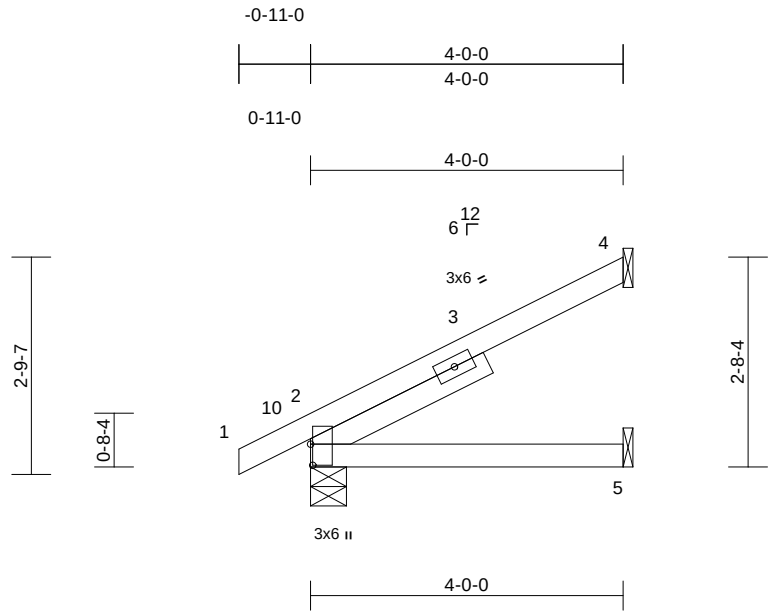
| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | |
|---|---|---|---|---|---|---|
| P02057-24657 | J01 | Jack-Open | 11 | 1 | Job Reference (optional) | T37069914 |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:29 ID:COx2NhZimNHpoGFswXkx_TzOaA4-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f






Scale = 1:29.5

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.21 | Vert(LL) | 0.01 | 5-8 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.13 | Vert(CT) | -0.02 | 5-8 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.00 | Horz(CT) | 0.01 | 2 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MP | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 18 lb | FT = 20% |

**LUMBER**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.2 |
| BOT CHORD | 2x4 SP No.2 |
| SLIDER | Left 2x4 SP No.3 -- 2-6-0 |

**BRACING**

| | |
|---|---|
| TOP CHORD | Structural wood sheathing directly applied or 4-0-0 oc purlins. |
| BOT CHORD | Rigid ceiling directly applied or 10-0-0 oc bracing. |

**REACTIONS** (size) 2=0-5-8, 4= Mechanical, 5= Mechanical

| | |
|---|---|
| Max Horiz | 2=68 (LC 16) |
| Max Uplift | 2=-25 (LC 16), 4=-46 (LC 16) |
| Max Grav | 2=201 (LC 2), 4=94 (LC 2), 5=67 (LC 7) |

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

| | |
|---|---|
| TOP CHORD | 1-2=0/22, 2-4=-165/58 |
| BOT CHORD | 2-5=-118/61 |

**NOTES**

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 46 lb uplift at joint 4 and 25 lb uplift at joint 2.
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.

**LOAD CASE(S)** Standard


April 22,2025



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818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | J02 | Jack-Open | 1 | 1 | T37069915 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:29 Page: 1
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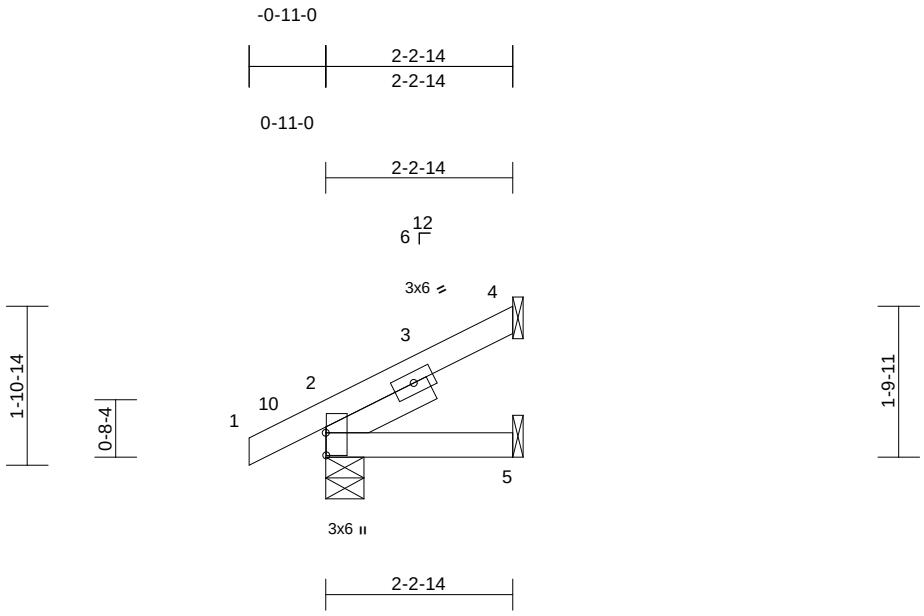



Scale = 1:27.6

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.05 | Vert(LL) | 0.00 | 5-8 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.03 | Vert(CT) | 0.00 | 5-8 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.00 | Horz(CT) | 0.00 | 4 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MP | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 11 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-4-8

**BRACING**
TOP CHORD Structural wood sheathing directly applied or 2-2-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=43 (LC 16)
Max Uplift 2=-20 (LC 16), 4=-25 (LC 16), 5=-1 (LC 16)
Max Grav 2=140 (LC 2), 4=48 (LC 2), 5=35 (LC 7)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-4=-41/18
BOT CHORD 2-5=-40/29

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 25 lb uplift at joint 4, 20 lb uplift at joint 2 and 1 lb uplift at joint 5.
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.

**LOAD CASE(S)** Standard


April 22,2025

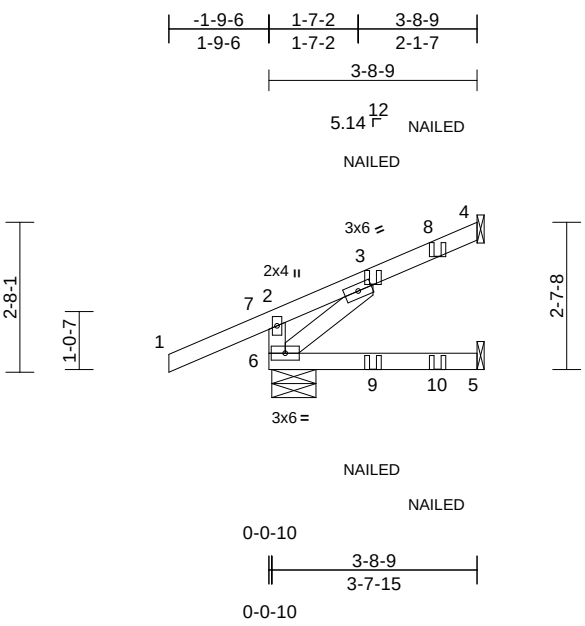


ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | J03 | Diagonal Hip Girder | 1 | 1 | T37069916 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:29 Page: 1
ID:3sk8jkx4InJM9_WHDvj8F5zOa5k-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f




Scale = 1:41.1

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.25 | Vert(LL) | -0.01 | 5-6 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.16 | Vert(CT) | -0.02 | 5-6 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | NO | WB | 0.01 | Horz(CT) | -0.01 | 4 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MP | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 18 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 or 3-8-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 4= Mechanical, 5= Mechanical, 6=0-9-7
Max Horiz 6=56 (LC 12)
Max Uplift 4=-53 (LC 12), 5=-3 (LC 8), 6=-52 (LC 8)
Max Grav 4=69 (LC 19), 5=70 (LC 7), 6=264 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-6=-227/110, 1-2=0/41, 2-3=-49/52, 3-4=-25/24
BOT CHORD 5-6=0/0
WEBS 3-6=-80/15

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 4, 3 lb uplift at joint 5 and 52 lb uplift at joint 6.
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) "NAILED" indicates 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
13) 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 + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-29, 2-4=-29, 5-6=-20
Concentrated Loads (lb)
Vert: 9=-4 (F), 10=1 (B)


April 22,2025



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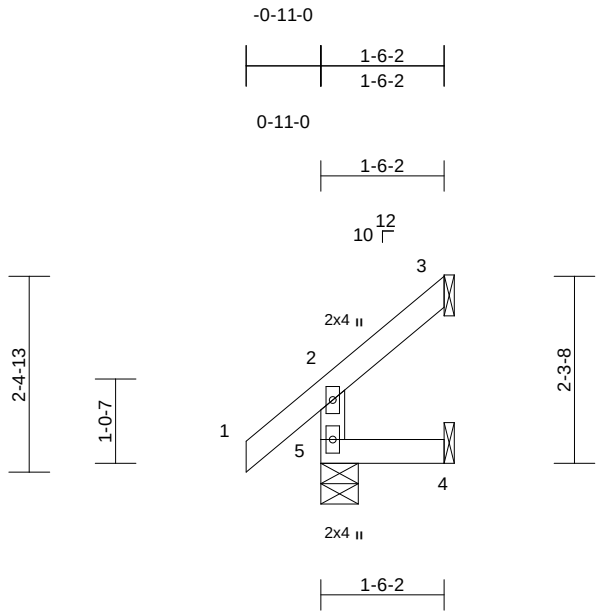
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | J04 | Jack-Open | 1 | 1 | T37069917 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:29 Page: 1
ID:MMyDo8BJ47_nDghie3VvrdzOa_y-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:28.3

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.17 | Vert(LL) | 0.00 | 4-5 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.07 | Vert(CT) | 0.00 | 4-5 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.00 | Horz(CT) | 0.00 | 3 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MR | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 8 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 or 1-6-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 3= Mechanical, 4= Mechanical, 5=0-5-8
Max Horiz 5=46 (LC 14)
Max Uplift 3=-30 (LC 14), 4=-10 (LC 14)
Max Grav 3=27 (LC 26), 4=24 (LC 5), 5=130 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-111/75, 1-2=0/37, 2-3=-48/27
BOT CHORD 4-5=0/0

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 4 and 30 lb uplift at joint 3.
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.

**LOAD CASE(S)** Standard


April 22,2025



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A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | J05 | Jack-Open | 5 | 1 | T37069918 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:30 Page: 1
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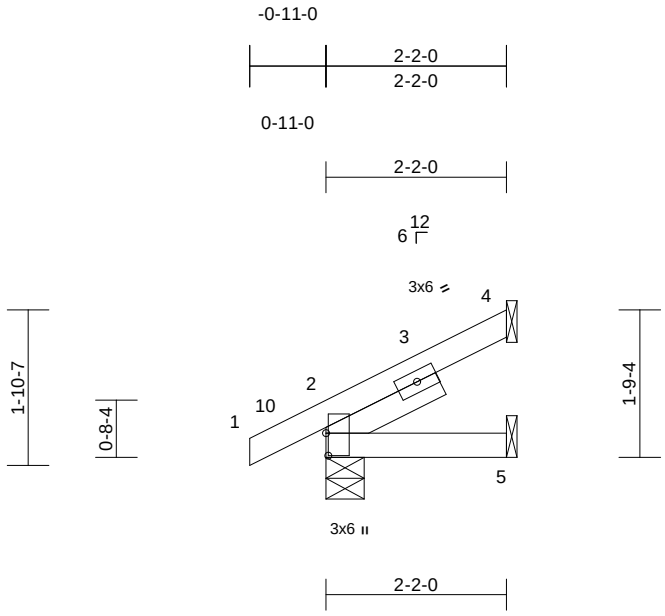


Scale = 1:27.7

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.05 | Vert(LL) | 0.00 | 5-8 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.03 | Vert(CT) | 0.00 | 5-8 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.00 | Horz(CT) | 0.00 | 2 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MP | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 11 lb | FT = 20% |

**LUMBER**
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0

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

**REACTIONS** (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=41 (LC 16)
Max Uplift 2=-19 (LC 16), 4=-24 (LC 16), 5=-2 (LC 16)
Max Grav 2=138 (LC 2), 4=44 (LC 2), 5=34 (LC 7)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-4=-47/17
BOT CHORD 2-5=-39/28

**NOTES**
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 4, 19 lb uplift at joint 2 and 2 lb uplift at joint 5.
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.

**LOAD CASE(S)** Standard


April 22,2025



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818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | J06 | Jack-Open | 1 | 1 | T37069919 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:30 Page: 1
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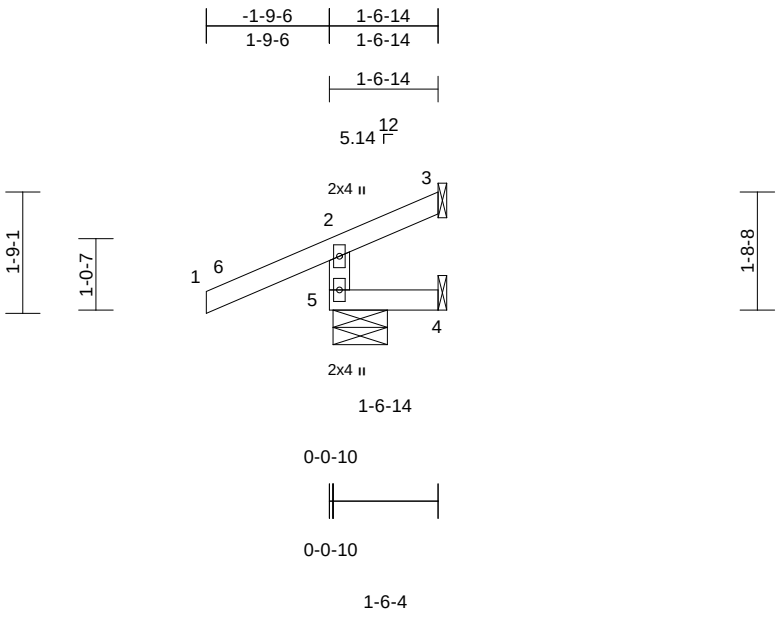


Scale = 1:33.4

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.23 | Vert(LL) | 0.00 | 4-5 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.06 | Vert(CT) | 0.00 | 4-5 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.00 | Horz(CT) | 0.00 | 3 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MR | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 9 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 or 1-6-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 3= Mechanical, 4= Mechanical, 5=0-9-7
Max Horiz 5=36 (LC 13)
Max Uplift 3=-17 (LC 22), 4=-4 (LC 2), 5=-55 (LC 12)
Max Grav 3=6 (LC 12), 4=22 (LC 7), 5=227 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-195/196, 1-2=0/41, 2-3=-36/12
BOT CHORD 4-5=0/0

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 4, 17 lb uplift at joint 3 and 55 lb uplift at joint 5.
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.

**LOAD CASE(S)** Standard


April 22,2025



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

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | P01 | Monopitch Supported Gable | 1 | 1 | T37069920 |

Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:30 Page: 1
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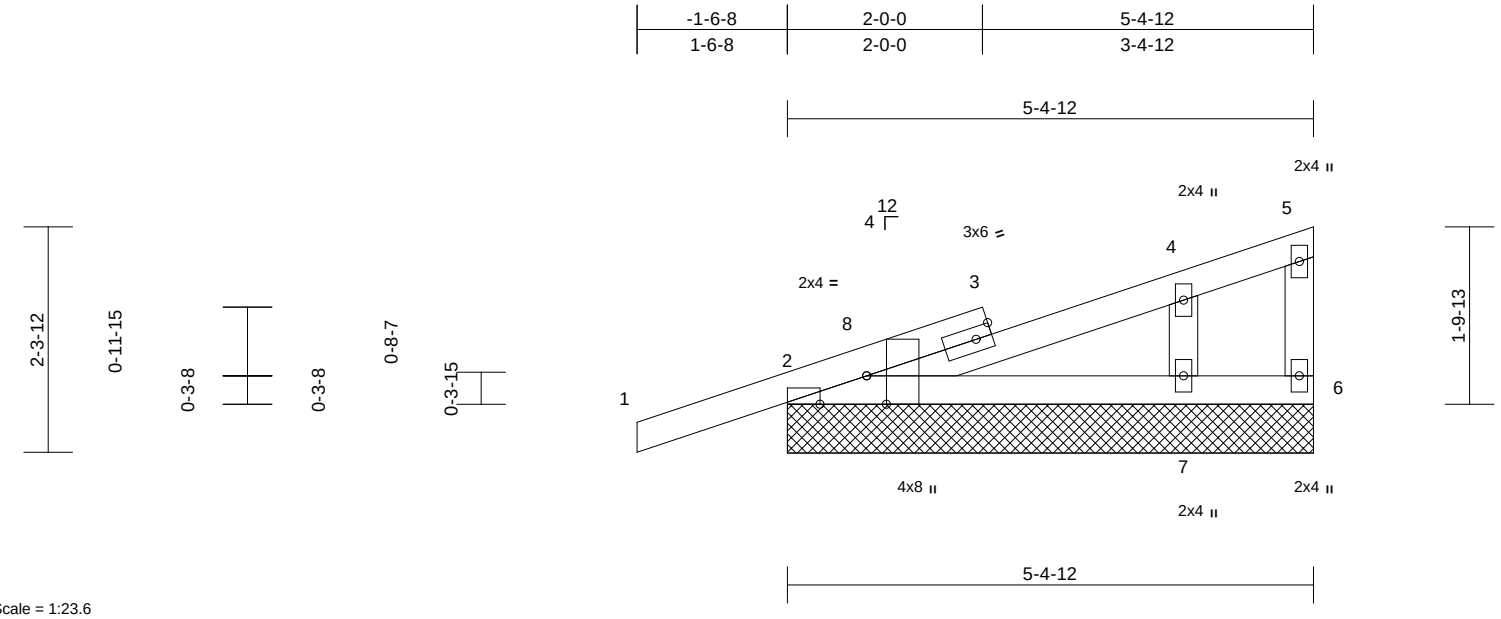


Scale = 1:23.6

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.17 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.13 | Vert(CT) | n/a | - | n/a | 999 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.07 | Horz(CT) | 0.00 | 6 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MP | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 24 lb | FT = 20% |

**LUMBER**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.2 |
| BOT CHORD | 2x4 SP No.2 |
| WEBS | 2x4 SP No.3 |
| OTHERS | 2x4 SP No.3 |

**BRACING**

| | |
|---|---|
| TOP CHORD | Structural wood sheathing directly applied or 5-4-12 oc purlins, except end verticals. |
| BOT CHORD | Rigid ceiling directly applied or 6-0-0 oc bracing. |

**REACTIONS** (size) 2=5-4-12, 6=5-4-12, 7=5-4-12
Max Horiz 2=54 (LC 15)
Max Uplift 2=-79 (LC 12), 6=-35 (LC 7), 7=-51 (LC 16)
Max Grav 2=228 (LC 2), 6=4 (LC 16), 7=273 (LC 2)

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

| | |
|---|---|
| TOP CHORD | 1-2=0/26, 2-4=-95/56, 4-5=-32/30, 5-6=-16/16 |
| BOT CHORD | 2-7=-20/27, 6-7=-20/27 |
| WEBS | 4-7=-184/228 |

**NOTES**

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -1-6-8 to 1-8-13, Exterior(2N) 1-8-13 to 5-3-0 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 1-4-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * 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.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 79 lb uplift at joint 2, 35 lb uplift at joint 6 and 51 lb uplift at joint 7.
13) 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


April 22,2025



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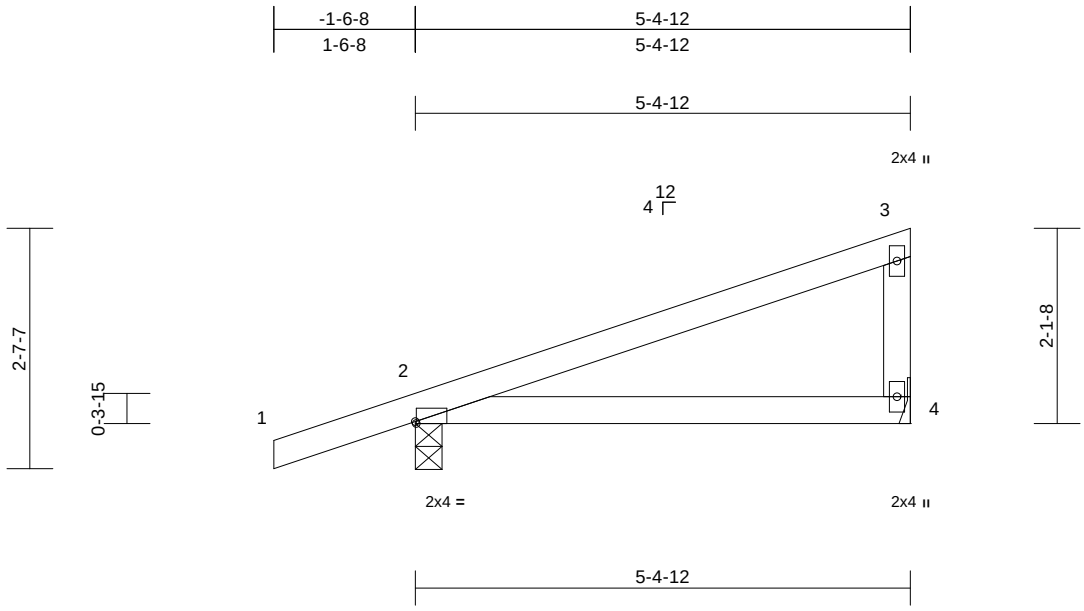
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | P02 | Monopitch | 5 | 1 | T37069921 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:30 Page: 1
ID:_af27V1jkKbRvo9svvD0sAzOZxH-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f




Scale = 1:25.1

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.34 | Vert(LL) | 0.03 | 4-7 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.26 | Vert(CT) | -0.07 | 4-7 | >965 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.00 | Horz(CT) | 0.00 | 2 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MP | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 21 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 or 5-4-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-8, 4= Mechanical
Max Horiz 2=63 (LC 15)
Max Uplift 2=-87 (LC 12), 4=-38 (LC 16)
Max Grav 2=290 (LC 2), 4=182 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/26, 2-3=-73/45, 3-4=-119/100
BOT CHORD 2-4=-24/100

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-6-8 to 1-5-8, Interior (1) 1-5-8 to 5-3-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 4 and 87 lb uplift at joint 2.
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.

**LOAD CASE(S)** Standard


April 22,2025



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818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity | |
|---|---|---|---|---|---|---|
| P02057-24657 | P03 | Monopitch Supported Gable | 1 | 1 | Job Reference (optional) | T37069922 |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:30 Page: 1
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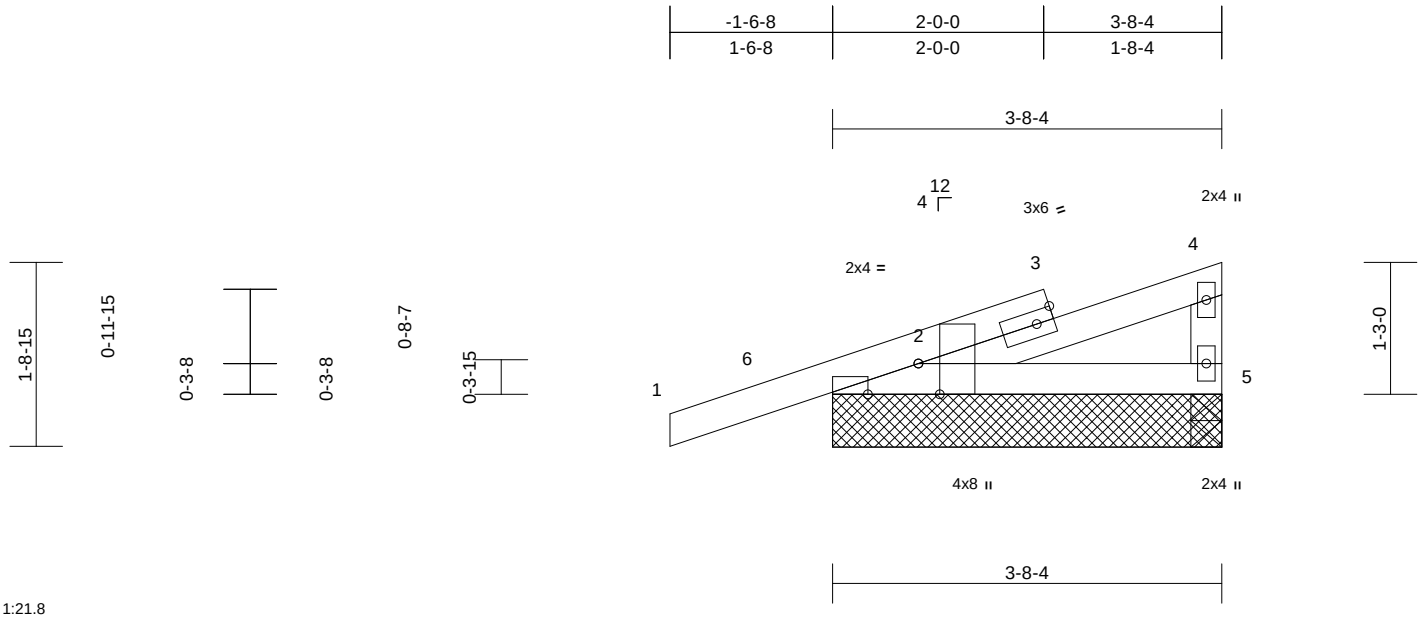


Scale = 1:21.8

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

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.32 | Vert(LL) | 0.00 | 2-5 | >999 | 240 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.08 | Vert(CT) | -0.01 | 2-5 | >999 | 180 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.00 | Horz(CT) | 0.00 | 5 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MP | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 17 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 or 3-8-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=3-8-4, 5=3-8-4
Max Horiz 2=36 (LC 15)
Max Uplift 2=-122 (LC 12), 5=-3 (LC 16)
Max Grav 2=283 (LC 2), 5=59 (LC 7)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/33, 2-4=-31/25, 4-5=-55/23
BOT CHORD 2-5=-13/14

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-6-8 to 1-5-8, Interior (1) 1-5-8 to 3-6-8 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) Gable studs spaced at 1-4-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * 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.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 122 lb uplift at joint 2 and 3 lb uplift at joint 5.
12) 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


April 22,2025



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818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | 1057 Serenity |
|---|---|---|---|---|---|
| P02057-24657 | V01 | Valley | 1 | 1 | T37069923 |
| | | | | | Job Reference (optional) |

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 9.13 S 8.83 Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Mon Apr 21 09:43:31 Page: 1
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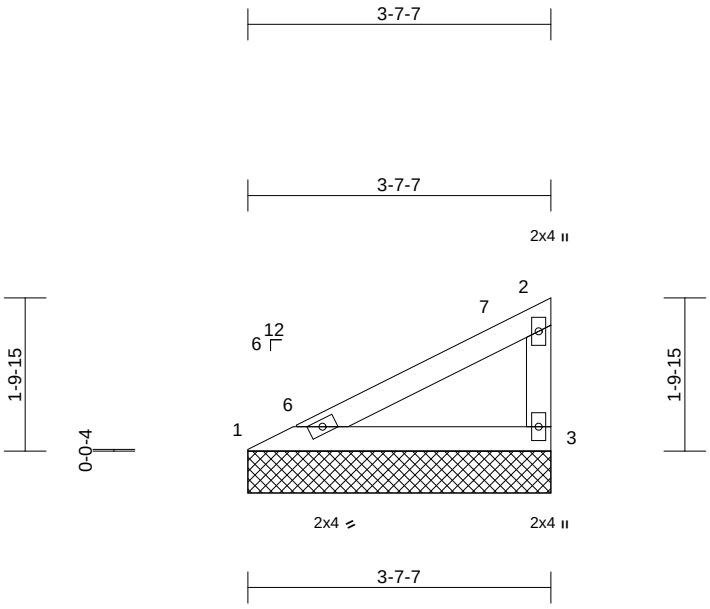


Scale = 1:27.5

| Loading | (psf) | Spacing | 2-0-0 | CSI | | DEFL | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL (roof) | 20.0 | Plate Grip DOL | 1.15 | TC | 0.13 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| Snow (Pf/Pg) | 7.7/10.0 | Lumber DOL | 1.15 | BC | 0.15 | Vert(TL) | n/a | - | n/a | 999 | | |
| TCDL | 7.0 | Rep Stress Incr | YES | WB | 0.00 | Horiz(TL) | 0.00 | 3 | n/a | n/a | | |
| BCLL | 0.0* | Code | IRC2018/TPI2014 | Matrix-MP | | | | | | | | |
| BCDL | 10.0 | | | | | | | | | | Weight: 12 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 or 3-7-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=3-7-7, 3=3-7-7
Max Horiz 1=45 (LC 13)
Max Uplift 1=-19 (LC 16), 3=-30 (LC 16)
Max Grav 1=128 (LC 2), 3=128 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-203/80, 2-3=-77/72
BOT CHORD 1-3=-132/176

**NOTES**
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 3-6-3 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * 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.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 3 and 19 lb uplift at joint 1.
12) 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


April 22,2025



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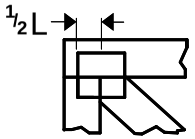
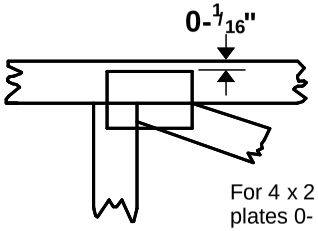
Edenton, NC 27932

# 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- 1/16" from outside edge of truss.

This symbol indicates the required direction of slots in connector plates.

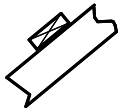
* Plate location details available in MiTek software or upon request.

## PLATE SIZE

4 x 4

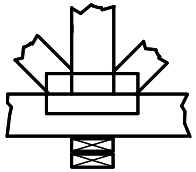
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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

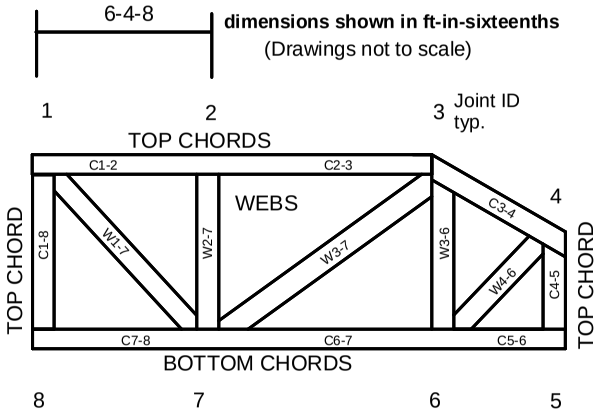


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

**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®

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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.