ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: J0920-4401
Lot 60 Happy Acres

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Comtech, Inc - Fayetteville.

Pages or sheets covered by this seal: E14945109 thru E14945117

My license renewal date for the state of North Carolina is December 31, 2020.

North Carolina COA: C-0844


October 6,2020

Lassiter, Frank

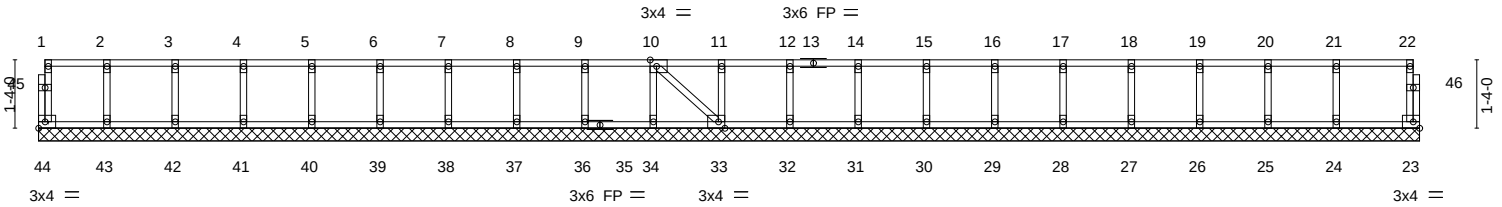
**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), 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 | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | ET1 | Floor Supported Gable | 1 | 1 | E14945109 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:25 2020 Page 1
ID:YkalB0Lf1uPsElrXS89ZzOzv2un-pMvGRC5KKy_8EeUvExhsmxU4m848ZEleBFHSZ2yWA9q

0-1-8 0-1-8

Scale = 1:45.0




26-11-8
26-11-8

Plate Offsets (X,Y)-- [10:0-1-8,Edge], [33:0-1-8,Edge]

| LOADING (psf) | | SPACING- | 2-0-0 | CSI. | | DEFL. | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.08 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.01 | Vert(CT) | n/a | - | n/a | 999 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.04 | Horz(CT) | 0.00 | 23 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2015/TPI2014 | Matrix-S | | | | | | | Weight: 119 lb | FT = 20%F, 11%E |

**LUMBER-**
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

**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.** All bearings 26-11-8.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 44, 23, 43, 42, 41, 40, 39, 38, 37, 36, 34, 33, 32, 31, 30, 29, 28, 27, 26, 25, 24

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

**NOTES-**
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.


October 6,2020



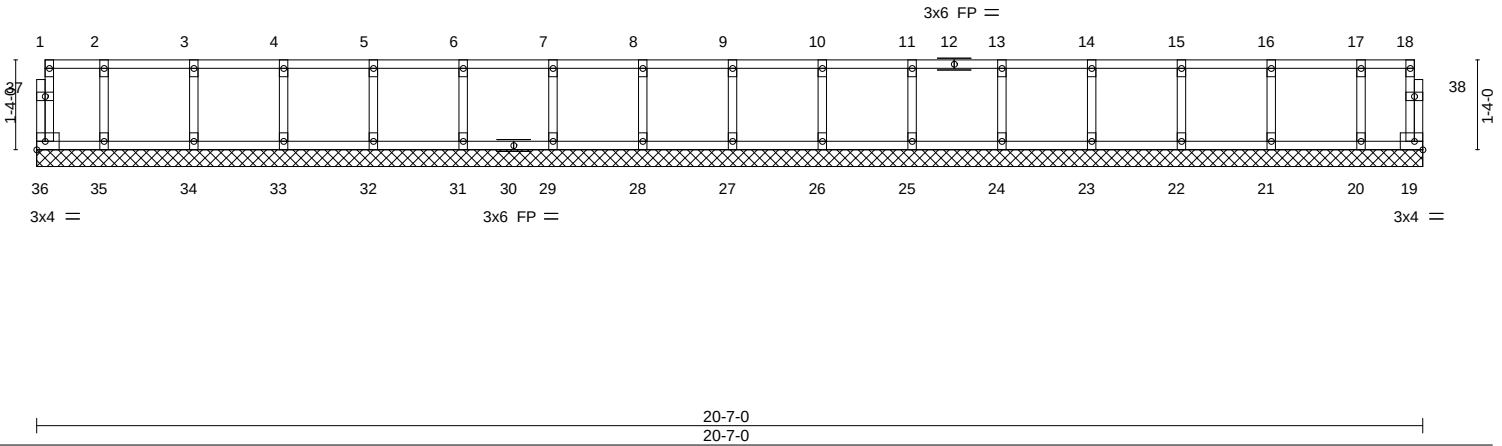

ENGINEERING BY TRENCO A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

| Job | Truss | Truss Type | Qty | Ply | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | ET2 | GABLE | 1 | 1 | E14945110 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:26 2020 Page 1
ID:YkalB0Lf1uPsElrXS89ZzOzv2un-HZTffY6y5G6?so36neC5I81GoYPQIh4nPv0?5UyWA9p

0-1-8 0-1-8

Scale = 1:34.2




| LOADING (psf) | | SPACING- | 2-0-0 | CSI. | | DEFL. | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.06 | Vert(LL) | n/a | - | n/a | 999 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.01 | Vert(CT) | n/a | - | n/a | 999 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.03 | Horz(CT) | 0.00 | 19 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2015/TPI2014 | Matrix-R | | | | | | | Weight: 91 lb | FT = 20%F, 11%E |

**LUMBER-**

| | |
|---|---|
| TOP CHORD | 2x4 SP No.1(flat) |
| BOT CHORD | 2x4 SP No.1(flat) |
| WEBS | 2x4 SP No.3(flat) |
| OTHERS | 2x4 SP No.3(flat) |

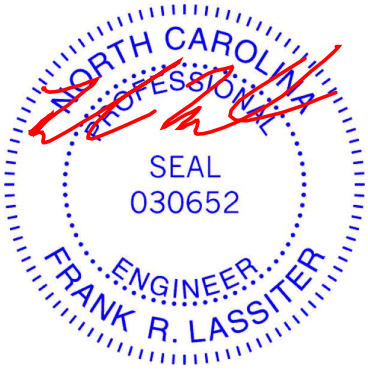
**BRACING-**

| | |
|---|---|
| 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.** All bearings 20-7-0.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 36, 19, 35, 34, 33, 32, 31, 29, 28, 27, 26, 25, 24, 23, 22, 21, 20

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

**NOTES-**
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.




October 6,2020




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

| Job | Truss | Truss Type | Qty | Ply | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | F1 | Floor | 6 | 1 | E14945111 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:27 2020 Page 1
ID:YkalB0Lf1uPsElrXS89ZzOzv2un-ll11st7asZEsUyeILMjKrMaE6xbq10ExeZmYdxyWA9o

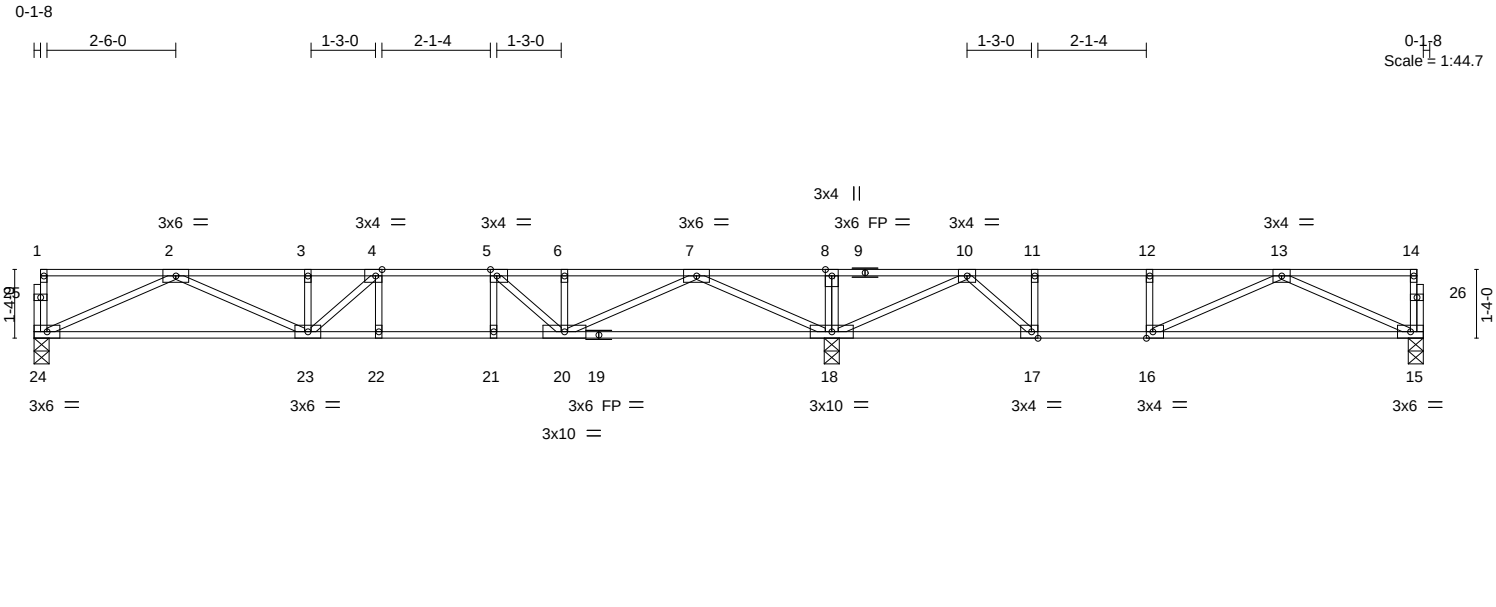



Plate Offsets (X,Y)-- [4:0-1-8,Edge], [5:0-1-8,Edge], [16:0-1-8,Edge], [17:0-1-8,Edge]

| LOADING (psf) | | SPACING- | 2-0-0 | CSI. | | DEFL. | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.85 | Vert(LL) | -0.19 | 15-16 | >720 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.70 | Vert(CT) | -0.30 | 15-16 | >453 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.55 | Horz(CT) | 0.05 | 15 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2015/TPI2014 | Matrix-S | | | | | | | Weight: 134 lb | FT = 20%F, 11%E |

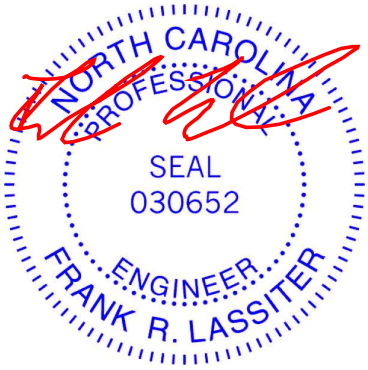
**LUMBER-**
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

**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, Except: 6-0-0 oc bracing: 17-18.

**REACTIONS.** (size) 24=0-3-8, 15=0-3-8, 18=0-3-8
Max Grav 24=800(LC 10), 15=597(LC 4), 18=1605(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2278/0, 3-4=-2278/0, 4-5=-2400/0, 5-6=-2111/0, 6-7=-2111/0, 7-8=0/922, 8-10=0/922, 10-11=-1325/0, 11-12=-1325/0, 12-13=-1325/0
BOT CHORD 23-24=0/1475, 22-23=0/2400, 21-22=0/2400, 20-21=0/2400, 18-20=0/1149, 17-18=-261/922, 16-17=0/1325, 15-16=0/1030
WEBS 8-18=-301/0, 2-24=-1618/0, 2-23=0/887, 3-23=-251/18, 7-18=-1806/0, 7-20=0/1153, 4-23=-378/124, 5-20=-621/0, 13-15=-1129/0, 10-18=-1290/0, 13-16=-111/326, 10-17=0/761, 11-17=-409/0

**NOTES-**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.




October 6,2020



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

| Job | Truss | Truss Type | Qty | Ply | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | F2 | Floor | 2 | 1 | E14945112 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:28 2020 Page 1
ID:YkalB0Lf1uPsEIrXS89ZzOzv2un-DxbP3D8CdtMj55CUv3EZOZ6PxLy3mTl4tDV69NyWA9n

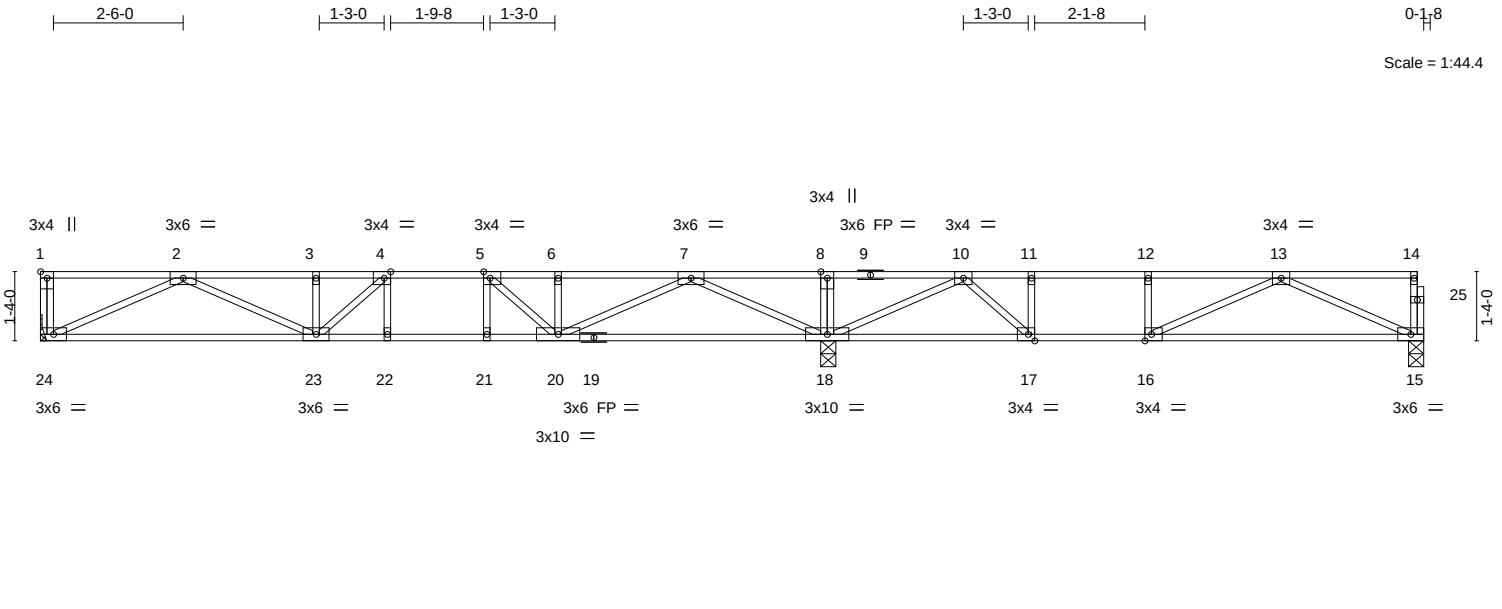



Plate Offsets (X,Y)-- [1:Edge,0-1-8], [4:0-1-8,Edge], [5:0-1-8,Edge], [16:0-1-8,Edge], [17:0-1-8,Edge]

| **LOADING** (psf) | | **SPACING-** | 2-0-0 | **CSI.** | | **DEFL.** | in | (loc) | l/defl | L/d | **PLATES** | **GRIP** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.85 | Vert(LL) | -0.19 | 15-16 | >724 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.64 | Vert(CT) | -0.30 | 15-16 | >455 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.53 | Horz(CT) | 0.05 | 15 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2015/TPI2014 | Matrix-S | | | | | | | Weight: 134 lb | FT = 20%F, 11%E |

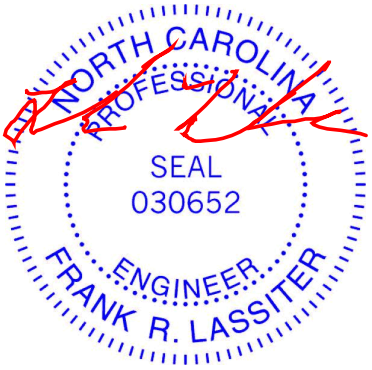
**LUMBER-**
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

**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, Except: 6-0-0 oc bracing: 17-18.

**REACTIONS.** (size) 24=Mechanical, 18=0-3-8, 15=0-3-8
Max Grav 24=791(LC 10), 18=1585(LC 1), 15=599(LC 4)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2213/0, 3-4=-2213/0, 4-5=-2317/0, 5-6=-2066/0, 6-7=-2066/0, 7-8=0/915, 8-10=0/915, 10-11=-1335/0, 11-12=-1335/0, 12-13=-1335/0
BOT CHORD 23-24=0/1444, 22-23=0/2317, 21-22=0/2317, 20-21=0/2317, 18-20=0/1142, 17-18=-245/931, 16-17=0/1335, 15-16=0/1035
WEBS 8-18=-301/0, 2-24=-1590/0, 2-23=0/849, 7-18=-1767/0, 7-20=0/1119, 5-20=-568/0, 4-23=-347/148, 10-18=-1284/0, 13-15=-1133/0, 13-16=-103/332, 10-17=0/754, 11-17=-406/0

**NOTES-**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.




October 6,2020




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

| Job | Truss | Truss Type | Qty | Ply | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | F2A | Floor Girder | 1 | 1 | E14945113 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:29 2020 Page 1
ID:YkalB0Lf1uPsEIrXS89ZzOzv2un-h79nHZ8qOBUajFnhTmlownfbilMqVxtE6tFfipyWA9m

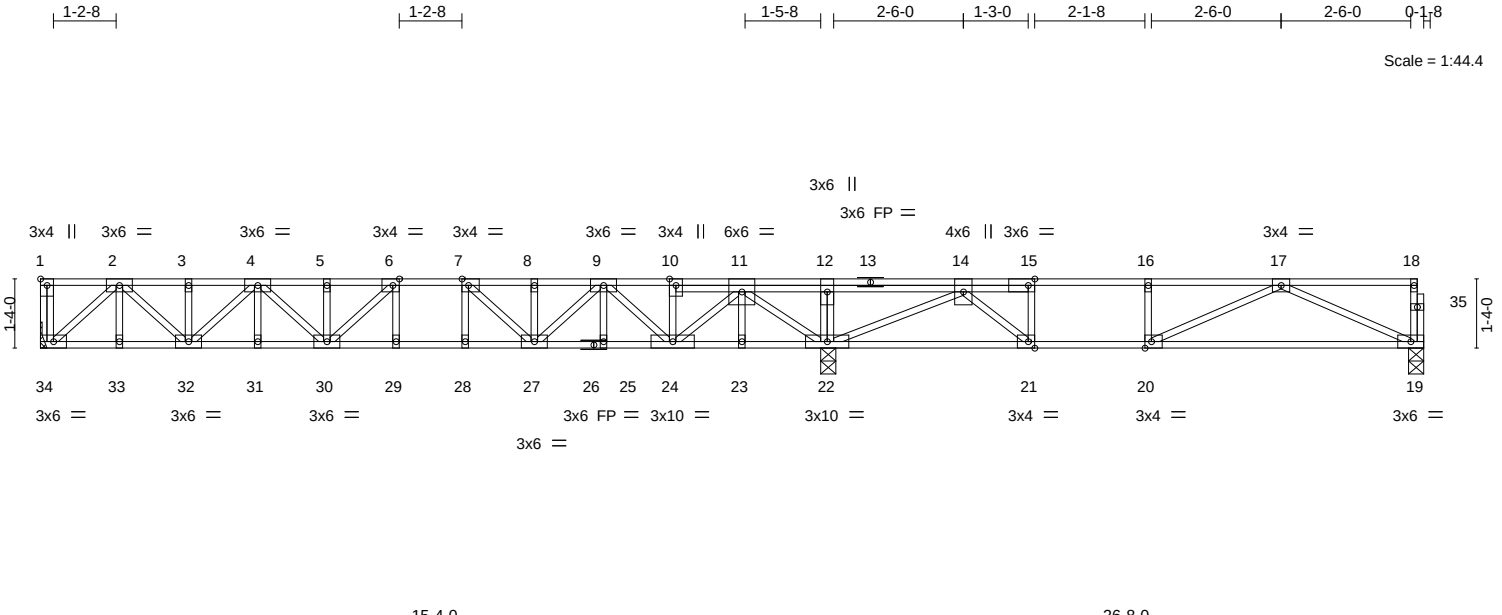



Plate Offsets (X,Y)-- [1:Edge,0-1-8], [6:0-1-8,Edge], [7:0-1-8,Edge], [15:0-1-8,Edge], [20:0-1-8,Edge], [21:0-1-8,Edge]

| LOADING (psf) | | SPACING- | 2-0-0 | CSI. | | DEFL. | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.78 | Vert(LL) | -0.14 | 19-20 | >990 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.35 | Vert(CT) | -0.22 | 19-20 | >610 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | NO | WB | 0.48 | Horz(CT) | 0.03 | 19 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2015/TPI2014 | Matrix-S | | | | | | | Weight: 156 lb | FT = 20%F, 11%E |

**LUMBER-**
TOP CHORD 2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)

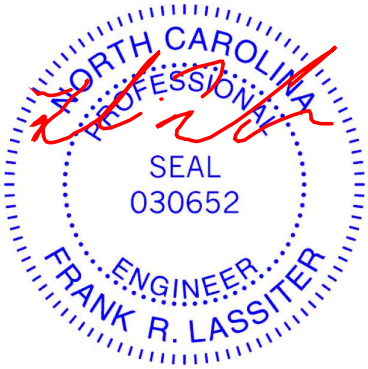
**BRACING-**
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 23-24,22-23,21-22,20-21.

**REACTIONS.** (size) 34=Mechanical, 22=0-3-8, 19=0-3-8
Max Grav 34=778(LC 10), 22=1916(LC 1), 19=585(LC 4)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1425/0, 3-4=-1425/0, 4-5=-2160/0, 5-6=-2160/0, 6-7=-2259/0, 7-8=-2035/0, 8-9=-2035/0, 9-10=-1158/0, 10-11=-1161/0, 11-12=0/1134, 12-14=0/1151, 14-15=-1278/55, 15-16=-1279/49, 16-17=-1279/49
BOT CHORD 33-34=0/824, 32-33=0/824, 31-32=0/1872, 30-31=0/1872, 29-30=0/2259, 28-29=0/2259, 27-28=0/2259, 25-27=0/1680, 24-25=0/1680, 23-24=-43/479, 22-23=-43/479, 21-22=-391/841, 20-21=-49/1279, 19-20=0/1007
WEBS 12-22=-652/0, 2-34=-1090/0, 2-32=0/811, 4-32=-602/0, 4-30=0/389, 6-30=-331/161, 7-27=-528/0, 9-27=0/535, 9-24=-773/0, 11-24=0/1000, 11-22=-1342/0, 14-22=-1319/0, 17-19=-1103/0, 17-20=-147/301, 14-21=0/838, 15-21=-446/0

**NOTES-**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 339 lb down at 15-2-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
8) 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 19-34=-10, 1-18=-100
Concentrated Loads (lb)
Vert: 12=-293(F)




October 6,2020




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

| Job | Truss | Truss Type | Qty | Ply | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | F3 | Floor | 1 | 1 | E14945114 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:30 2020 Page 1
ID:YkalB0Lf1uPsEIrXS89ZzOzv2un-9Kj9Uv9S9UcRLPMt0UG1T_CqY9gBEQXNKX_DEFyWA9l

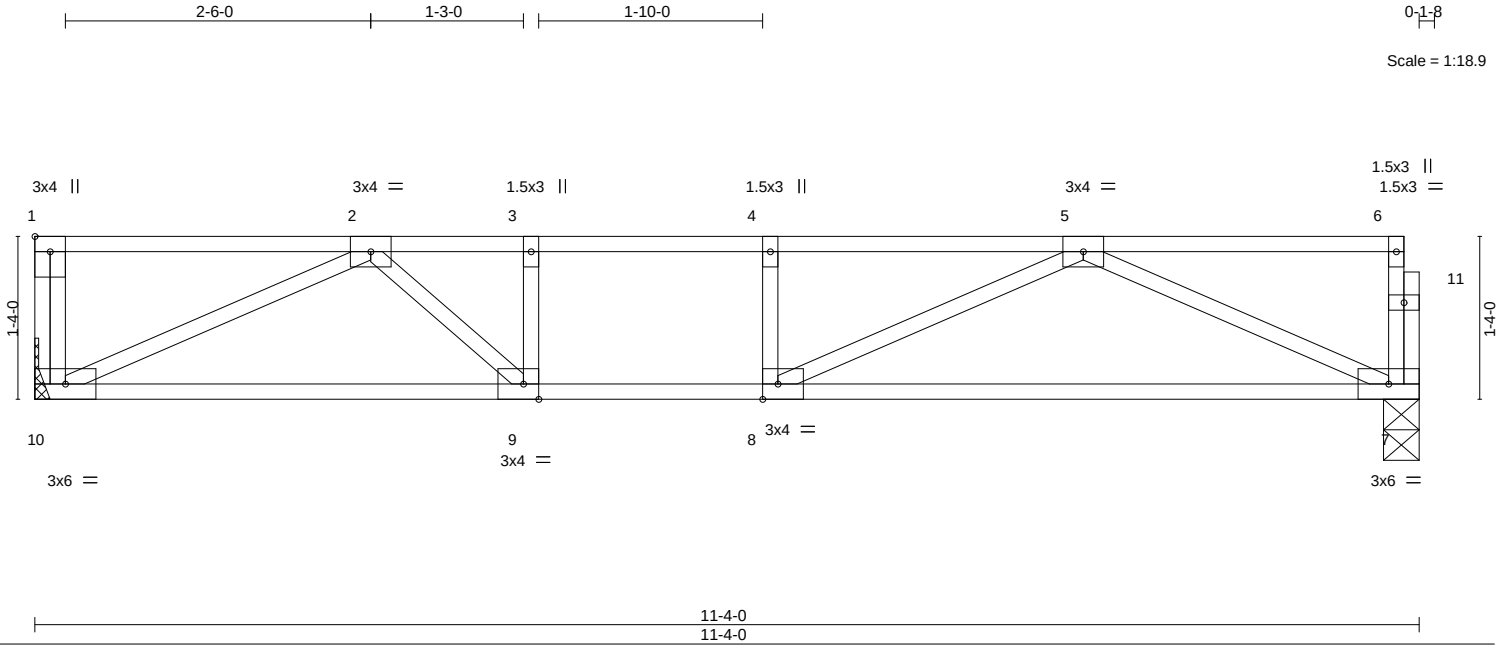



Plate Offsets (X,Y)-- [1:Edge,0-1-8], [8:0-1-8,Edge], [9:0-1-8,Edge]

| LOADING (psf) | | SPACING- | 2-0-0 | CSI. | | DEFL. | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.52 | Vert(LL) | -0.14 | 7-8 | >974 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.47 | Vert(CT) | -0.22 | 7-8 | >596 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.32 | Horz(CT) | 0.02 | 7 | n/a | n/a | | |
| BCDL | 5.0 | Code IRC2015/TPI2014 | | Matrix-S | | | | | | | Weight: 58 lb | FT = 20%F, 11%E |

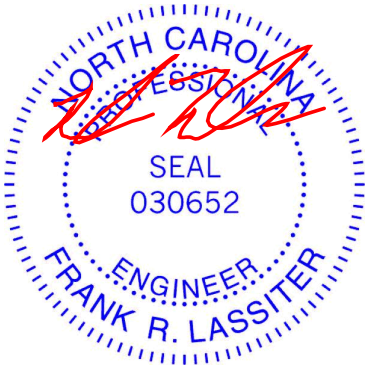
**LUMBER-**
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

**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) 10=Mechanical, 7=0-3-8
Max Grav 10=610(LC 1), 7=603(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1375/0, 3-4=-1375/0, 4-5=-1375/0
BOT CHORD 9-10=0/1055, 8-9=0/1375, 7-8=0/1046
WEBS 2-10=-1162/0, 5-7=-1146/0, 5-8=0/474, 2-9=0/558, 3-9=-293/0

**NOTES-**
1) Unbalanced floor live loads have been considered for this design.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Refer to girder(s) for truss to truss connections.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.




October 6,2020




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

| Job | Truss | Truss Type | Qty | Ply | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | F4 | Floor | 2 | 1 | E14945115 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:30 2020 Page 1
ID:YkalB0Lf1uPsElrXS89ZzOzv2un-9Kj9Uv9S9UcRLPMt0UG1T_Cvt9g?EJNNKX_DEFyWA9l

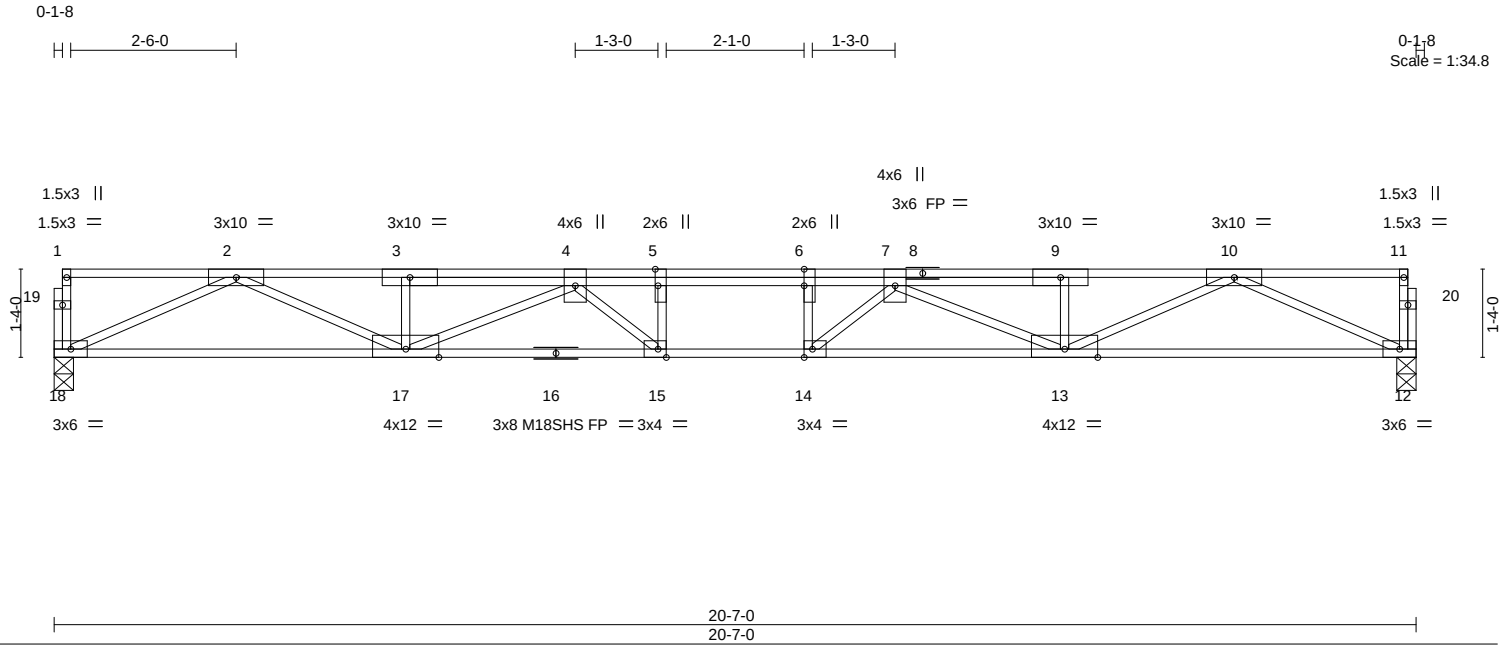



Plate Offsets (X,Y)-- [5:0-3-0,Edge], [6:0-3-0,0-0-0], [14:0-1-8,Edge], [15:0-1-8,Edge]

| LOADING (psf) | | SPACING- | 2-0-0 | CSI. | | DEFL. | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.24 | Vert(LL) | -0.30 | 14-15 | >823 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.48 | Vert(CT) | -0.41 | 14-15 | >599 | 360 | M18SHS | 244/190 |
| BCLL | 0.0 | Rep Stress Incr | YES | WB | 0.78 | Horz(CT) | 0.08 | 12 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2015/TPI2014 | Matrix-S | | | | | | | Weight: 116 lb | FT = 20%F, 11%E |

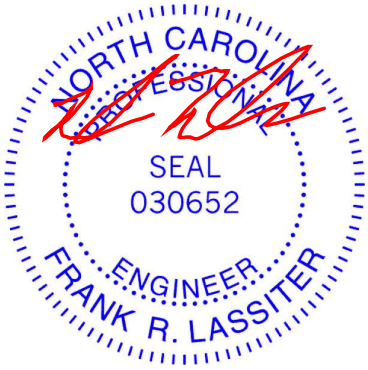
**LUMBER-**
TOP CHORD 2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)

**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) 18=0-3-8, 12=0-3-8
Max Grav 18=1112(LC 1), 12=1112(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3625/0, 3-4=-3628/0, 4-5=-4893/0, 5-6=-4893/0, 6-7=-4893/0, 7-9=-3628/0, 9-10=-3627/0
BOT CHORD 17-18=0/2146, 15-17=0/4631, 14-15=0/4893, 13-14=0/4649, 12-13=0/2146
WEBS 2-18=-2357/0, 2-17=0/1635, 10-12=-2356/0, 10-13=0/1637, 7-13=-1120/0, 4-17=-1102/0, 4-15=-130/750, 7-14=-150/736, 6-14=-438/102, 5-15=-447/88

**NOTES-**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.



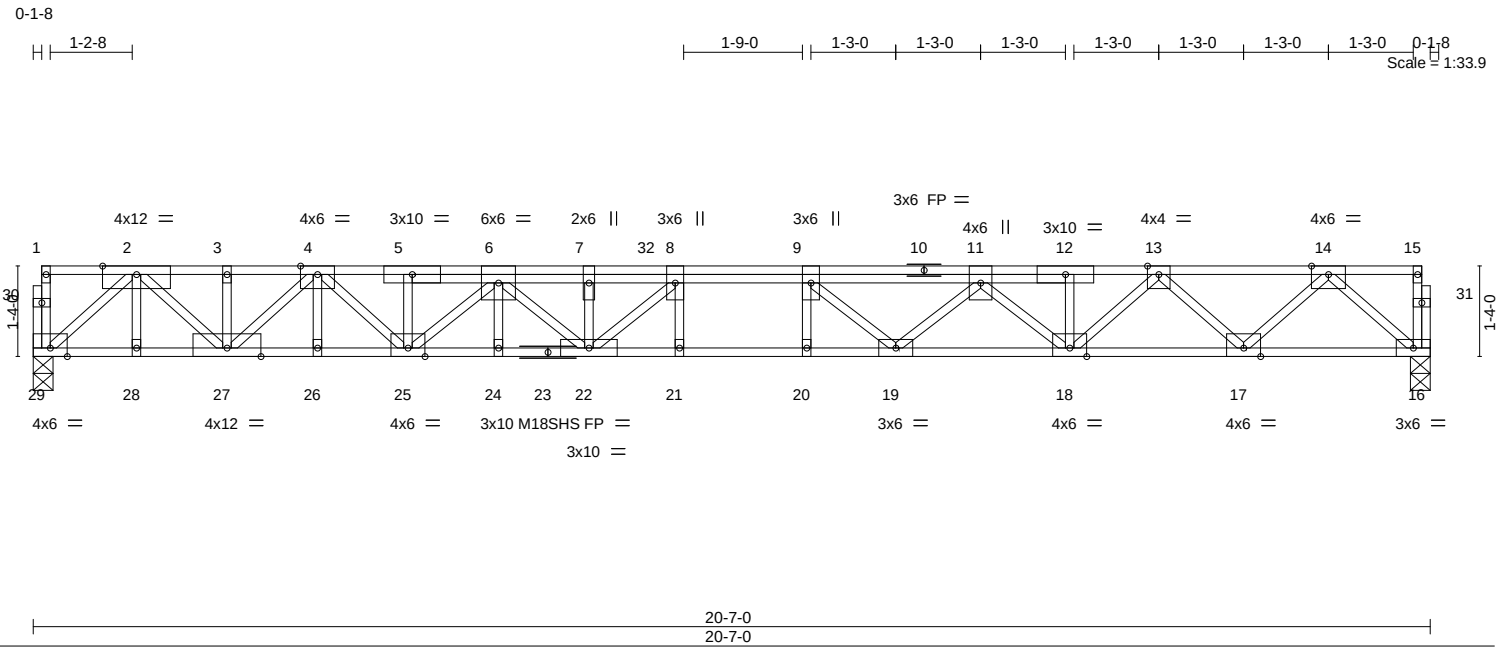

October 6,2020



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

| Job | Truss | Truss Type | Qty | Ply | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | F4A | Floor | 1 | 1 | E14945116 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:31 2020 Page 1
ID:YkalB0Lf1uPsElrXS89ZzOzv2un-eWGYiFA4wokIyZx3aBoG?Ck2wZyqzloWZBkmmiyWA9k




| LOADING (psf) | | SPACING- | 2-0-0 | CSI. | | DEFL. | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.35 | Vert(LL) | -0.34 | 21 | >721 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.76 | Vert(CT) | -0.47 | 21 | >518 | 360 | M18SHS | 244/190 |
| BCLL | 0.0 | Rep Stress Incr | NO | WB | 0.77 | Horz(CT) | 0.09 | 16 | n/a | n/a | | |
| BCDL | 5.0 | Code | IRC2015/TPI2014 | Matrix-S | | | | | | | Weight: 128 lb | FT = 20%F, 11%E |

**LUMBER-**
TOP CHORD 2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)

**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) 29=0-3-8, 16=0-3-8
Max Grav 29=1311(LC 1), 16=1269(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2637/0, 3-4=-2637/0, 4-5=-4560/0, 5-6=-4565/0, 6-7=-6181/0, 7-8=-6181/0, 8-9=-6253/0, 9-11=-5685/0, 11-12=-4249/0, 12-13=-4244/0, 13-14=-2423/0
BOT CHORD 28-29=0/1442, 27-28=0/1442, 26-27=0/3673, 25-26=0/3673, 24-25=0/5473, 22-24=0/5473, 21-22=0/6253, 20-21=0/6253, 19-20=0/6253, 18-19=0/5148, 17-18=0/3428, 16-17=0/1391
WEBS 2-29=-1903/0, 2-27=0/1613, 4-27=-1398/0, 4-25=0/1197, 6-25=-1204/0, 6-22=0/942, 7-22=-615/0, 8-22=-522/378, 14-16=-1849/0, 14-17=0/1436, 13-17=-1397/0, 13-18=0/1109, 11-18=-1201/0, 11-19=0/902, 9-19=-987/0

**NOTES-**
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 1.5x3 MT20 unless otherwise indicated.
4) Plates checked for a plus or minus 1 degree rotation about its center.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 412 lb down at 9-1-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
7) 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 16-29=-10, 1-15=-100
Concentrated Loads (lb)
Vert: 32=-355(B)

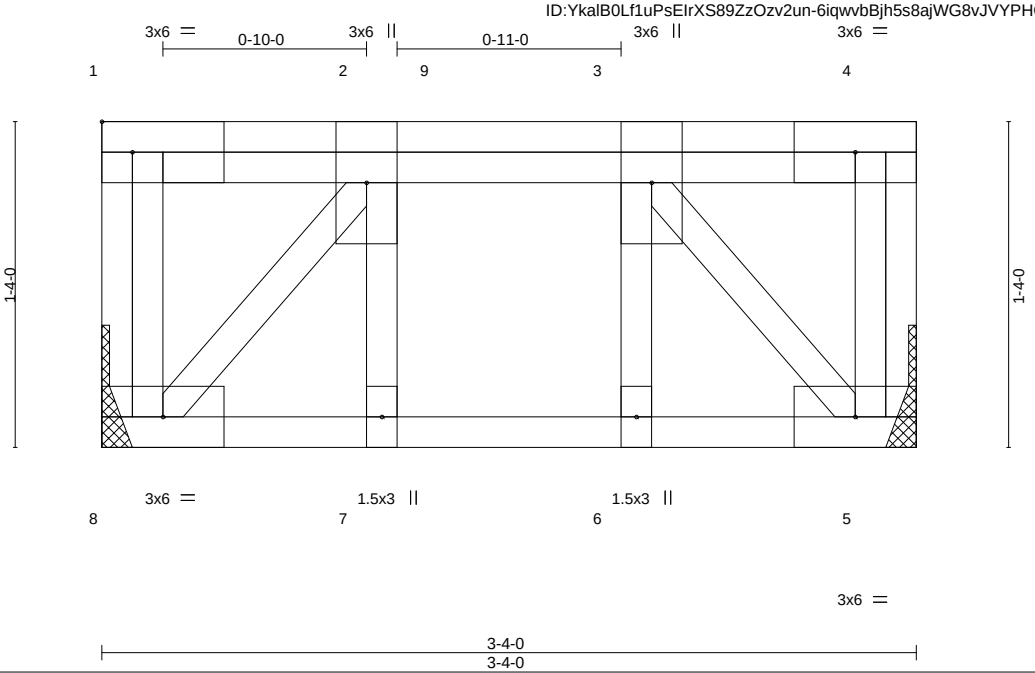

October 6,2020



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

| Job | Truss | Truss Type | Qty | Ply | Lot 60 Happy Acres |
|---|---|---|---|---|---|
| J0920-4401 | FG1 | Floor Girder | 1 | 1 | E14945117 |
| | | | | | Job Reference (optional) |

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s Jul 22 2020 MiTek Industries, Inc. Tue Oct 6 10:00:32 2020 Page 1
ID:YkalB0Lf1uPsElrXS89ZzOzv2un-6iqwvbBjh5s8ajWG8vJVYPHGayR9iN7gorTJI8yWA9j




| LOADING (psf) | | SPACING- | 2-0-0 | CSI. | | DEFL. | in | (loc) | l/defl | L/d | PLATES | GRIP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCLL | 40.0 | Plate Grip DOL | 1.00 | TC | 0.17 | Vert(LL) | -0.00 | 7 | >999 | 480 | MT20 | 244/190 |
| TCDL | 10.0 | Lumber DOL | 1.00 | BC | 0.11 | Vert(CT) | -0.00 | 7 | >999 | 360 | | |
| BCLL | 0.0 | Rep Stress Incr | NO | WB | 0.12 | Horz(CT) | 0.00 | 5 | n/a | n/a | | |
| BCDL | 5.0 | Code IRC2015/TPI2014 | | Matrix-S | | | | | | | Weight: 27 lb | FT = 20%F, 11%E |

**LUMBER-**
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

**BRACING-**
TOP CHORD Structural wood sheathing directly applied or 3-4-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS.** (size) 8=Mechanical, 5=Mechanical
Max Grav 8=455(LC 1), 5=393(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-354/0
BOT CHORD 7-8=0/354, 6-7=0/354, 5-6=0/354
WEBS 2-8=-533/0, 3-5=-533/0

**NOTES-**
1) Unbalanced floor live loads have been considered for this design.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Refer to girder(s) for truss to truss connections.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 536 lb down at 1-5-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
6) 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 5-8=-10, 1-4=-100
Concentrated Loads (lb)
Vert: 9=-510(F)

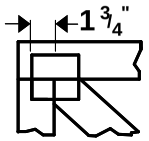

October 6,2020



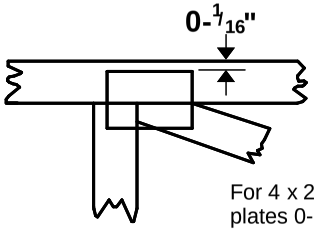

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

# Symbols

## PLATE LOCATION AND ORIENTATION




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




For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

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

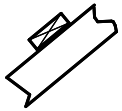
*** Plate location details available in MiTek 20/20 software or upon request.**

## PLATE SIZE

4 x 4

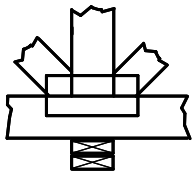
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

## BEARING

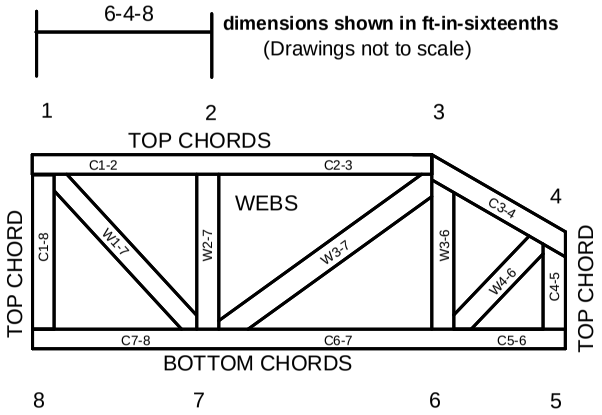


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

**Industry Standards:**

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & 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-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

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



MiTek

ENGINEERING BY TRENCO
A MiTek Affiliate

MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

# General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. 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.