ENGINEERING BY TRENCO
A MiTek Affiliate

RE: J0121-0106
Lot 2 Sierra Villas

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: Project Name: J0121-0106
Lot/Block: Model:
Address: Subdivision:
City: State:

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2015/TPI2014 Design Program: MiTek 20/20 8.3
Wind Code: N/A Wind Speed: N/A mph
Roof Load: N/A psf Floor Load: 55.0 psf

This package includes 11 individual, dated Truss Design Drawings and 0 Additional Drawings.

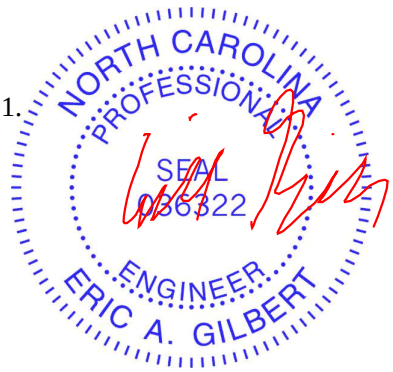
No.	Seal#	Truss Name	Date
1	E14489187	ET1	1/7/2021
2	E14489188	ET2	1/7/2021
3	E14489189	ET3	1/7/2021
4	E14489190	F1	1/7/2021
5	E14489191	F1A	1/7/2021
6	E14489192	F2	1/7/2021
7	E14489193	F3	1/7/2021
8	E14489194	F4	1/7/2021
9	E14489195	F5	1/7/2021
10	E14489196	F6	1/7/2021
11	E14489197	FG1	1/7/2021

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

Truss Design Engineer's Name: Gilbert, Eric

My license renewal date for the state of North Carolina is December 31, 2021.

North Carolina COA: C-0844



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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. 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.

January 07, 2021

Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	ET1	Floor Supported Gable	1	1	E14489187
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:38 2020 Page 1
ID:d6E6lizSYcm5g_canilVuiz8Ioe-sdTja5BGnU3K46qyaAnbA0NTEnDnkeBrzSxbJFz82Sp

0-1-8

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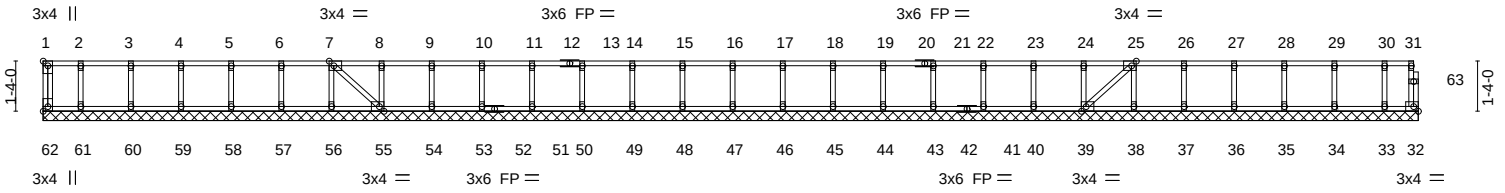

36-6-12
36-6-12

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [7:0-1-8,Edge], [25:0-1-8,Edge], [39:0-1-8,Edge], [55:0-1-8,Edge], [62:Edge,0-1-8]

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	39	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 163 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 6-0-0 oc bracing.

REACTIONS. All bearings 36-6-12.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 62, 32, 61, 60, 59, 58, 57, 56, 55, 54, 53, 51, 50, 49, 48, 47, 46, 45, 44, 43, 41, 40, 39, 38, 37, 36, 35, 34, 33

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.
7) CAUTION, Do not erect truss backwards.

June 9,2020

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818 Soundside Road
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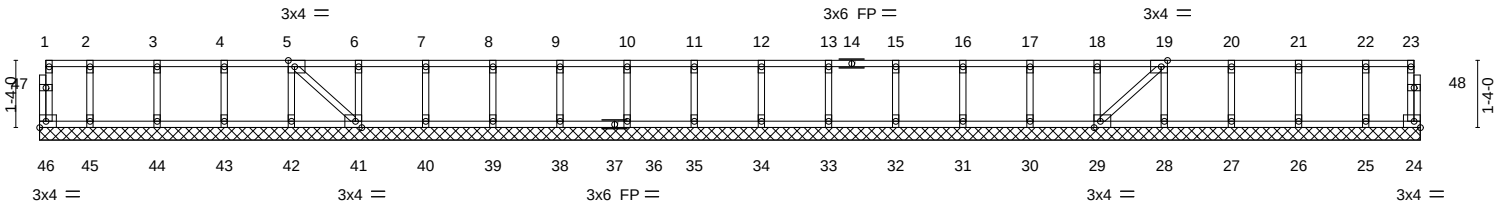
Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	ET2	Floor Supported Gable	1	1	E14489188
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:39 2020 Page 1
ID:d6E6lizSYcm5g_canilVuiz8Ioe-Kp15oRCuYoBAiGP98uIqiEwe?BZ0T5R_C6h8rhz82So

0-1-8 0-1-8

Scale = 1:45.8



27-5-0
27-5-0

Plate Offsets (X,Y)-- [5:0-1-8,Edge], [19:0-1-8,Edge], [29:0-1-8,Edge], [41:0-1-8,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	0.06	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	29	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 124 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 6-0-0 oc bracing.

REACTIONS. All bearings 27-5-0.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 46, 24, 45, 44, 43, 42, 41, 40, 39, 38, 36, 35, 34, 33, 32, 31, 30, 29, 28, 27, 26, 25

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.

June 9,2020

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Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	ET3	Floor Supported Gable	1	1	E14489189
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:40 2020 Page 1
ID:d6E6lizSYcm5g_canilVuiz8Ioe-p0bU?nDWJ6J1JP_Libp3FRSpibvFCYg8RmQhN7z82Sn

0-1-8

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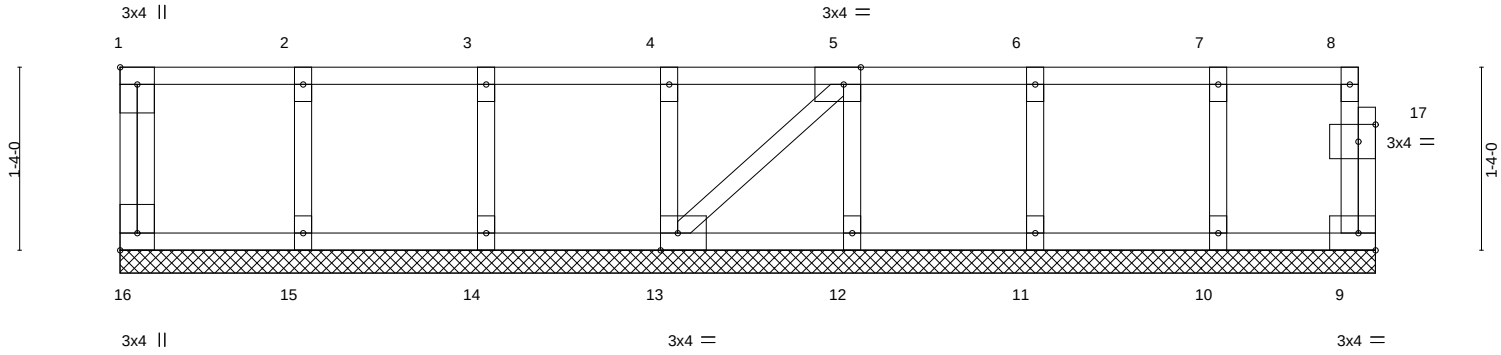

9-1-12
9-1-12

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [5:0-1-8,Edge], [13:0-1-8,Edge], [16:Edge,0-1-8], [17:0-1-8,0-1-8]

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	9	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 45 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 9-1-12.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 16, 9, 15, 14, 13, 12, 11, 10

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.
7) CAUTION, Do not erect truss backwards.

June 9,2020

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	F1	Floor	5	1	E14489190
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:42 2020 Page 1
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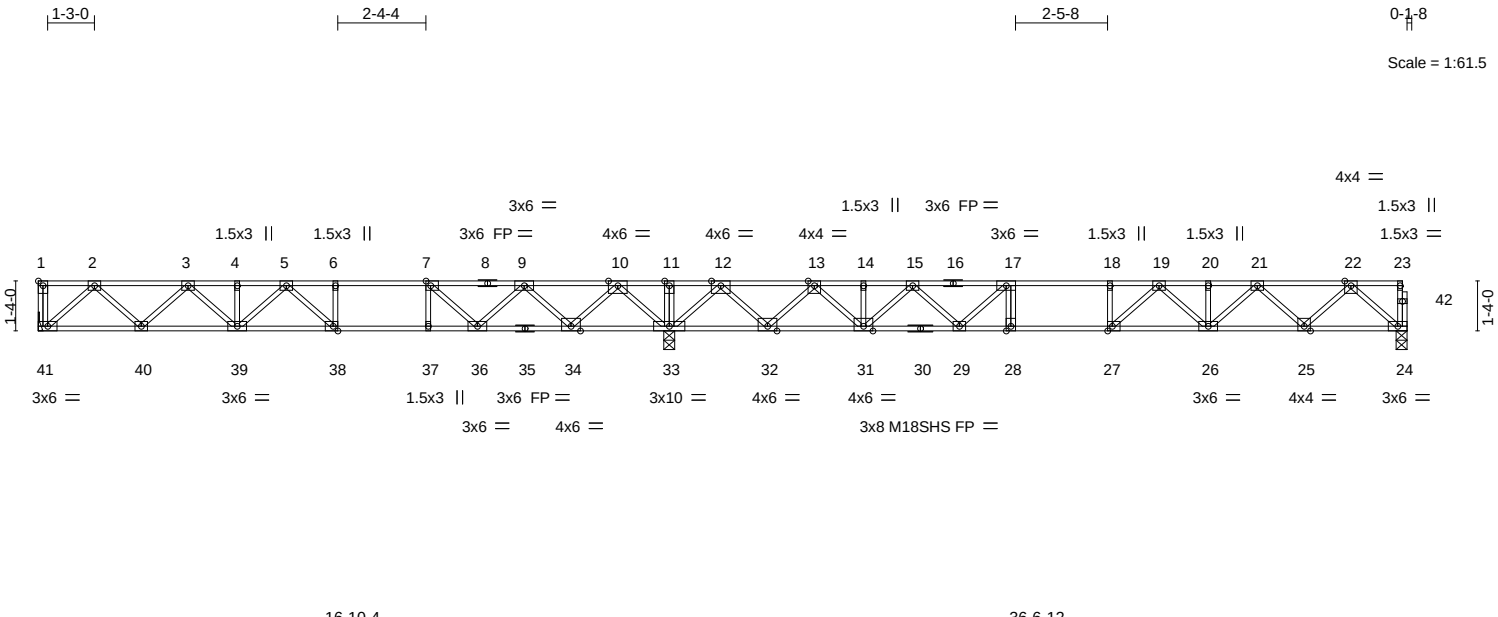

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [7:0-1-8,Edge], [27:0-1-8,Edge], [38:0-1-8,Edge]

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	0.95	Vert(LL)	-0.26	38-39	>760	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.88	Vert(CT)	-0.35	38-39	>566	360	M18SHS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.66	Horz(CT)	0.06	24	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 190 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (size) 41=Mechanical, 33=0-3-8, 24=0-3-8
Max Grav 41=826(LC 3), 33=2343(LC 1), 24=949(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1447/0, 3-4=-2338/0, 4-5=-2338/0, 5-6=-2423/216, 6-7=-2423/216, 7-9=-1785/630, 9-10=-562/1212, 10-11=0/2612, 11-12=0/2612, 12-13=-281/575, 13-14=-1941/20, 14-15=-1941/20, 15-17=-2942/0, 17-18=-3375/0, 18-19=-3375/0, 19-20=-2877/0, 20-21=-2877/0, 21-22=-1729/0
BOT CHORD 40-41=0/880, 39-40=0/2001, 38-39=0/2509, 37-38=-216/2423, 36-37=-216/2423, 34-36=-920/1281, 33-34=-1592/0, 32-33=-1326/0, 31-32=-281/1210, 29-31=0/2561, 28-29=0/3375, 27-28=0/3375, 26-27=0/3205, 25-26=0/2405, 24-25=0/1027
WEBS 2-41=-1171/0, 2-40=0/789, 3-40=-770/0, 3-39=-31/459, 10-33=-1582/0, 10-34=0/1175, 9-34=-1116/0, 9-36=0/859, 7-36=-1183/0, 5-38=-547/0, 7-37=0/417, 22-24=-1365/0, 22-25=0/976, 21-25=-941/0, 21-26=0/640, 12-33=-1768/0, 12-32=0/1379, 13-32=-1353/0, 13-31=0/1057, 15-31=-888/0, 15-29=0/644, 19-26=-446/0, 19-27=-188/429, 17-29=-876/0, 17-28=-43/263

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 3x4 MT20 unless otherwise indicated.
4) Plates checked for a plus or minus 1 degree rotation about its center.
5) Refer to girder(s) for truss to truss connections.
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.
7) CAUTION, Do not erect truss backwards.

June 9,2020

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Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	F1A	Floor	2	1	E14489191
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:44 2020 Page 1
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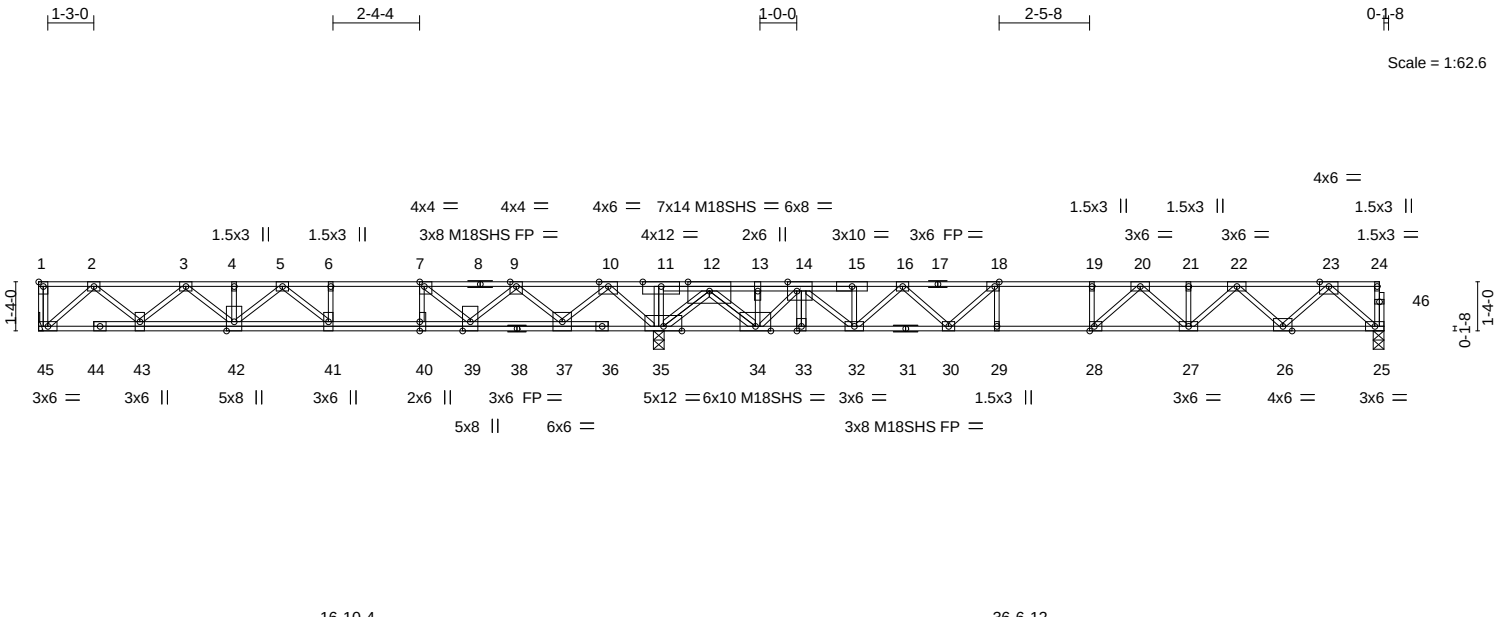

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [7:0-1-8,Edge], [14:0-3-0,Edge], [18:0-1-8,Edge], [28:0-1-8,Edge], [40:0-3-0,0-0-0]

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	0.72	Vert(LL)	-0.34	29-30	>689	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.82	Vert(CT)	-0.45	29-30	>523	360	M18SHS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.90	Horz(CT)	0.05	25	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 223 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 6-0-0 oc bracing.

REACTIONS. (size) 45=Mechanical, 35=0-3-8, 25=0-3-8
Max Uplift 45=-96(LC 4)
Max Grav 45=623(LC 3), 35=4065(LC 1), 25=1104(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1038/316, 3-4=-1593/708, 4-5=-1593/708, 5-6=-974/1802, 6-7=-974/1802, 7-9=0/2762, 9-10=0/3680, 10-11=0/5687, 11-12=0/5686, 12-13=-863/0, 13-14=-878/0, 14-15=-3835/0, 15-16=-3832/0, 16-18=-4469/0, 18-19=-4543/0, 19-20=-4543/0, 20-21=-3527/0, 21-22=-3527/0, 22-23=-2069/0
BOT CHORD 43-45=-136/655, 42-43=-480/1435, 41-42=-1182/1413, 40-41=-1802/974, 39-40=-1802/974, 37-39=-3215/0, 35-37=-4181/0, 34-35=-2640/0, 33-34=0/3271, 32-33=0/3271, 30-32=0/4299, 29-30=0/4543, 28-29=0/4543, 27-28=0/4042, 26-27=0/2892, 25-26=0/1206
WEBS 2-45=-872/181, 2-43=-244/520, 3-43=-539/222, 3-42=-303/209, 10-35=-2120/0, 10-37=0/1433, 9-37=-1374/0, 9-39=0/1068, 7-39=-1994/0, 5-42=0/628, 5-41=-1011/0, 7-40=0/1005, 12-35=-4080/0, 12-34=0/3778, 13-34=-302/0, 14-34=-3316/0, 14-32=0/816, 16-32=-681/0, 16-30=-72/344, 18-30=-358/214, 23-25=-1603/0, 23-26=0/1201, 22-26=-1145/0, 22-27=0/863, 20-27=-699/0, 20-28=0/867, 19-28=-403/0

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 3x4 MT20 unless otherwise indicated.
4) Plates checked for a plus or minus 1 degree rotation about its center.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 96 lb uplift at joint 45.
7) 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.
8) CAUTION, Do not erect truss backwards.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1742 lb down at 20-6-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
10) 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

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Continued on page 2

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LOAD CASE(S) Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
   Uniform Loads (plf)
   Vert: 25-45=-10, 1-24=-100
   Concentrated Loads (lb)
   Vert: 14=-1662(B)

Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	F2	Floor	5	1	E14489192
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:45 2020 Page 1
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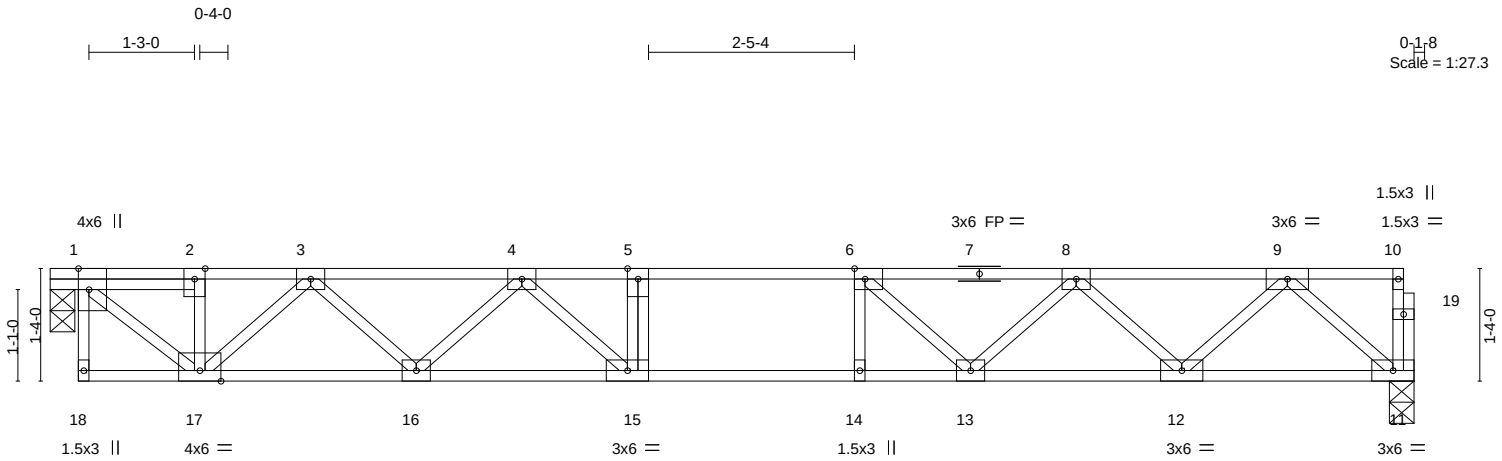

0-4-0 16-1-12
0-4-0 15-9-12

Plate Offsets (X,Y)-- [1:0-3-0,Edge], [6:0-1-8,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	0.53	Vert(LL)	-0.19	15-16	>995	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.76	Vert(CT)	-0.24	15-16	>791	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.02	11	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 85 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) 11=0-3-8, 1=0-3-8
Max Grav 11=853(LC 1), 1=859(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-897/0, 2-3=-894/0, 3-4=-2061/0, 4-5=-2734/0, 5-6=-2734/0, 6-8=-2422/0, 8-9=-1527/0
BOT CHORD 16-17=0/1611, 15-16=0/2484, 14-15=0/2734, 13-14=0/2734, 12-13=0/2107, 11-12=0/917
WEBS 1-17=0/1163, 3-17=-976/0, 3-16=0/625, 4-16=-588/0, 4-15=0/605, 9-11=-1218/0, 9-12=0/849, 8-12=-807/0, 8-13=0/499, 6-13=-608/0, 5-15=-285/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 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) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
6) CAUTION, Do not erect truss backwards.

June 9,2020

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

Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	F3	Floor	5	1	E14489193
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:46 2020 Page 1
ID:d6E6lizSYcm5g_canilVuiz8Ioe-d9ylGqHHvy3B1KRV2swTViihH0pzcAk0pit0bnz82Sh

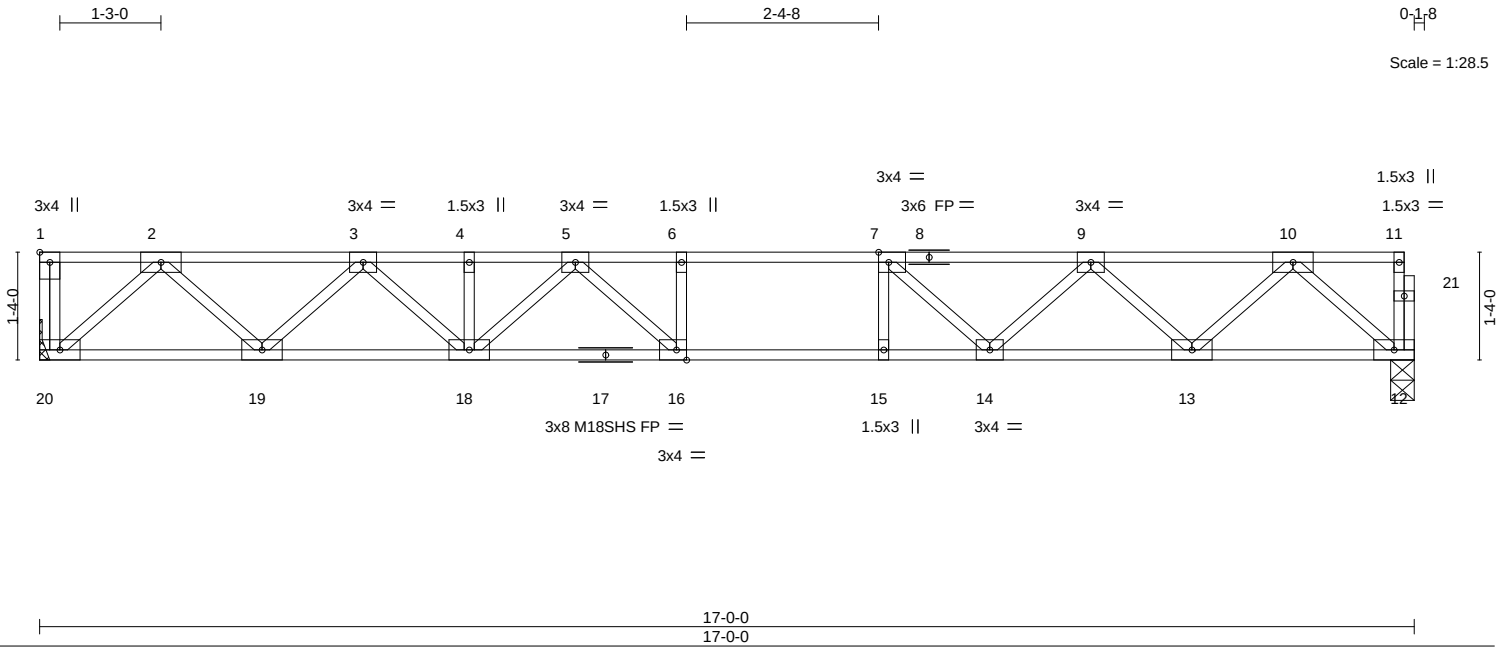

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [7:0-1-8,Edge], [16:0-1-8,Edge]

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	0.63	Vert(LL)	-0.24	16-18	>851	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.63	Vert(CT)	-0.31	16-18	>645	360	M18SHS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.44	Horz(CT)	0.04	12	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 88 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(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) 20=Mechanical, 12=0-3-8
Max Grav 20=921(LC 1), 12=915(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1656/0, 3-4=-2736/0, 4-5=-2736/0, 5-6=-3131/0, 6-7=-3131/0, 7-9=-2685/0, 9-10=-1661/0
BOT CHORD 19-20=0/989, 18-19=0/2300, 16-18=0/3024, 15-16=0/3131, 14-15=0/3131, 13-14=0/2295, 12-13=0/990
WEBS 2-20=-1317/0, 2-19=0/927, 3-19=-895/0, 3-18=0/593, 10-12=-1316/0, 10-13=0/932, 9-13=-882/0, 9-14=0/582, 7-14=-769/0, 5-18=-393/0, 5-16=-135/488

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 3x6 MT20 unless otherwise indicated.
4) Plates checked for a plus or minus 1 degree rotation about its center.
5) Refer to girder(s) for truss to truss connections.
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.
7) CAUTION, Do not erect truss backwards.

June 9,2020

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

Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	F4	Floor	3	1	E14489194
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:47 2020 Page 1
ID:d6E6lizSYcm5g_canilVuiz8Ioe-5MW7TAIvgFB2fU0hcZRi1wFwgP9xLb9A2MdZ7Dz82Sg

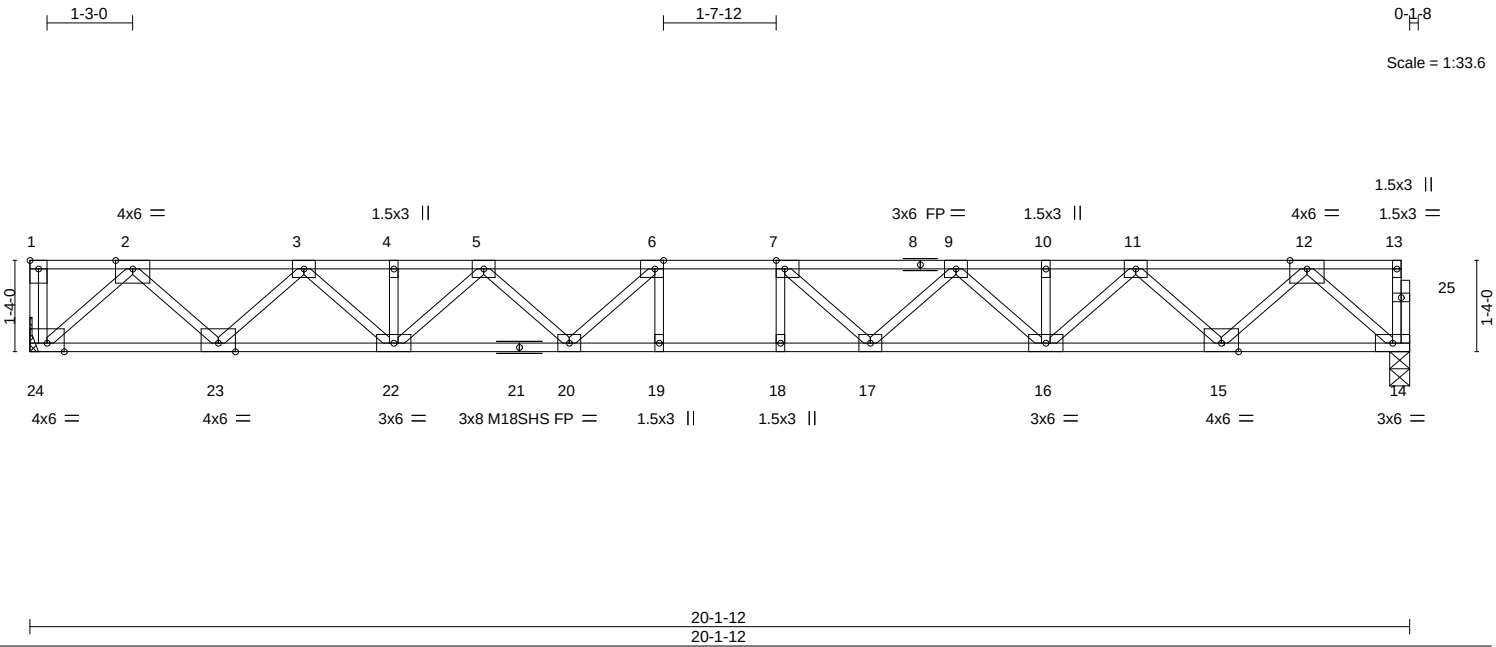

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [6:0-1-8,Edge], [7:0-1-8,Edge]

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	0.33	Vert(LL)	-0.28	18-19	>862	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.58	Vert(CT)	-0.38	18-19	>626	360	M18SHS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.56	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 107 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) 24=Mechanical, 14=0-3-8
Max Grav 24=1094(LC 1), 14=1088(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2033/0, 3-4=-3462/0, 4-5=-3462/0, 5-6=-4241/0, 6-7=-4487/0, 7-9=-4241/0, 9-10=-3462/0, 10-11=-3462/0, 11-12=-2032/0
BOT CHORD 23-24=0/1186, 22-23=0/2850, 20-22=0/3985, 19-20=0/4487, 18-19=0/4487, 17-18=0/4487, 16-17=0/3985, 15-16=0/2850, 14-15=0/1186
WEBS 2-24=-1579/0, 2-23=0/1177, 3-23=-1136/0, 3-22=0/833, 12-14=-1576/0, 12-15=0/1178, 11-15=-1137/0, 11-16=0/833, 9-16=-710/0, 9-17=0/491, 5-22=-710/0, 5-20=0/491, 6-20=-611/82, 7-17=-611/82

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 3x4 MT20 unless otherwise indicated.
4) Plates checked for a plus or minus 1 degree rotation about its center.
5) Refer to girder(s) for truss to truss connections.
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.
7) CAUTION, Do not erect truss backwards.

June 9,2020

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

Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	F5	Floor	3	1	E14489195
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:48 2020 Page 1
ID:d6E6lizSYcm5g_canilVuiz8Ioe-aY4VgWJXQZJvHebtAHyxa7n73pb?48vJH0M7fgz82Sf

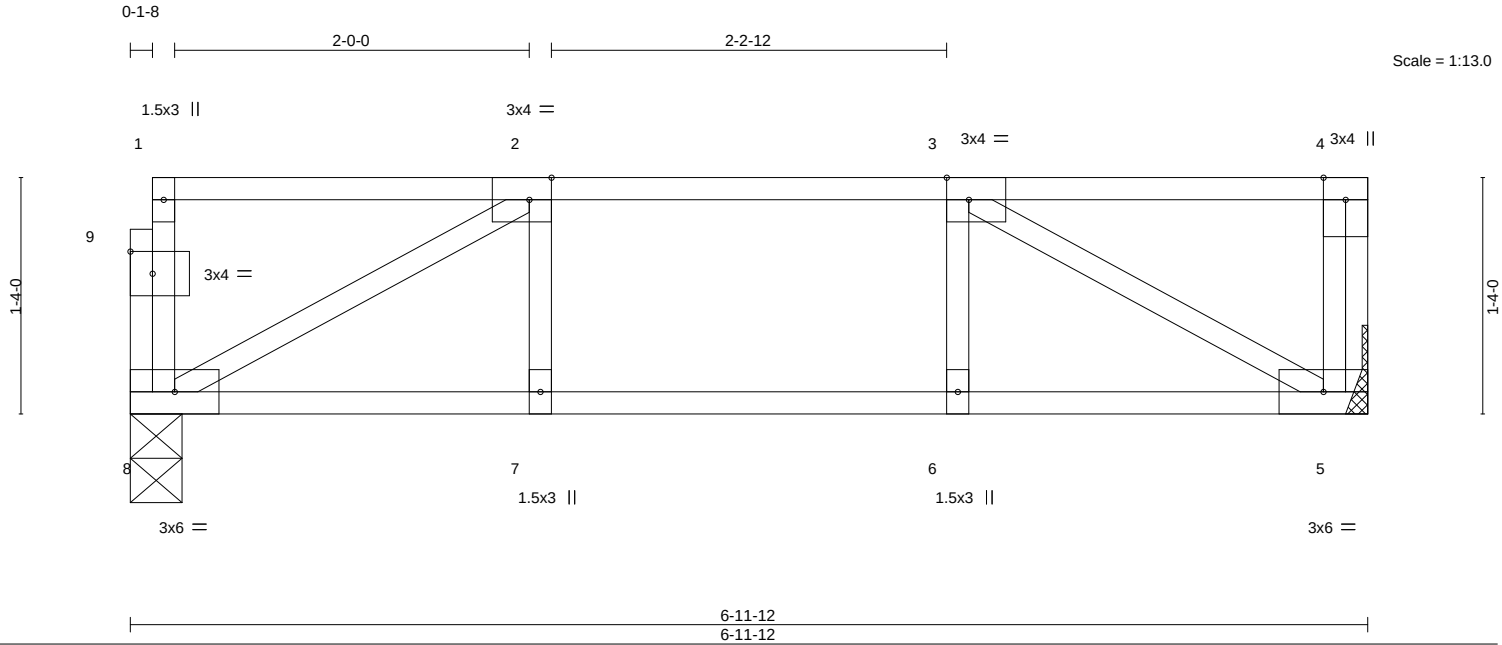

Plate Offsets (X,Y)-- [2:0-1-8,Edge], [3:0-1-8,Edge], [9:0-1-8,0-1-8]

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	0.23	Vert(LL)	-0.03	6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.21	Vert(CT)	-0.03	5-6	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 37 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) 8=0-3-8, 5=Mechanical
Max Grav 8=364(LC 1), 5=370(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-494/0
BOT CHORD 7-8=0/494, 6-7=0/494, 5-6=0/494
WEBS 2-8=-560/0, 3-5=-565/0

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.

June 9,2020

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

Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	F6	Floor	4	1	E14489196
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:49 2020 Page 1
ID:d6E6lizSYcm5g_canilVuiz8loe-2ketusK9BtRmuoA4k_UA6KK9oDpLpUgSVg6gB6z82Se

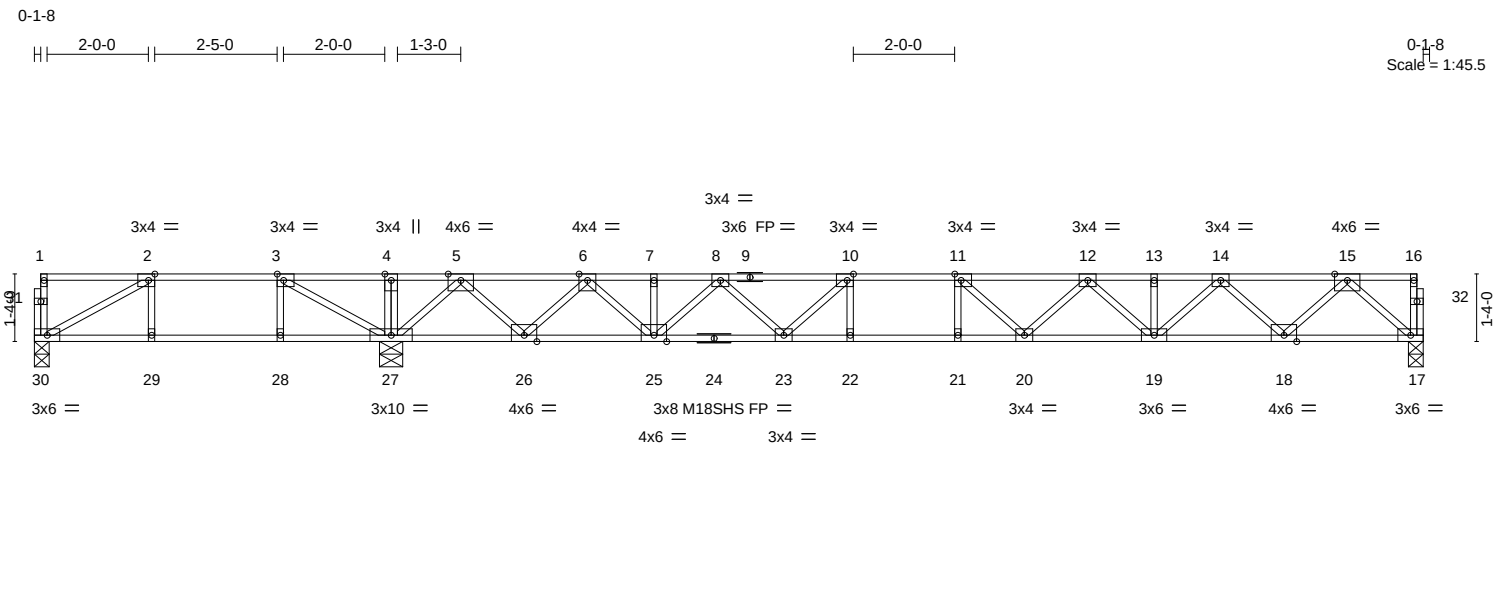

Plate Offsets (X,Y)-- [2:0-1-8,Edge], [3:0-1-8,Edge], [10:0-1-8,Edge], [11:0-1-8,Edge]

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	0.81	Vert(LL)	-0.31	21	>781	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.71	Vert(CT)	-0.43	21	>570	360	M18SHS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.06	17	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 141 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-9-13 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 29-30,28-29,27-28.

REACTIONS. (size) 30=0-3-8, 27=0-5-8, 17=0-3-8
Max Uplift 30=-67(LC 4)
Max Grav 30=323(LC 3), 27=1729(LC 8), 17=1058(LC 7)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-371/339, 3-4=0/1124, 4-5=0/1123, 5-6=-1364/0, 6-7=-2936/0, 7-8=-2936/0, 8-10=-3860/0, 10-11=-4227/0, 11-12=-4052/0, 12-13=-3332/0, 13-14=-3332/0, 14-15=-1969/0
BOT CHORD 29-30=-339/371, 28-29=-339/371, 27-28=-339/371, 26-27=0/441, 25-26=0/2248, 23-25=0/3522, 22-23=0/4227, 21-22=0/4227, 20-21=0/4227, 19-20=0/3831, 18-19=0/2755, 17-18=0/1152
WEBS 2-30=-418/391, 3-27=-1162/0, 15-17=-1531/0, 15-18=0/1136, 14-18=-1094/0, 14-19=0/784, 12-19=-679/0, 12-20=0/436, 5-27=-1744/0, 5-26=0/1308, 6-26=-1258/0, 6-25=0/959, 8-25=-817/0, 8-23=0/568, 10-23=-757/0, 11-20=-543/157, 10-22=-142/273

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 30.
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.
7) CAUTION, Do not erect truss backwards.

June 9,2020

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

Job	Truss	Truss Type	Qty	Ply	Lot 2 Sierra Villas
J0121-0106	FG1	Floor Girder	1	1	E14489197
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.330 s May 6 2020 MiTek Industries, Inc. Tue Jun 9 10:03:51 2020 Page 1
ID:d6E6lizSYcm5g_canilVuiz8Ioe-_7meJXLQjUiU86KSrPWeClPUg1UiHPqlz_bnG?z82Sc

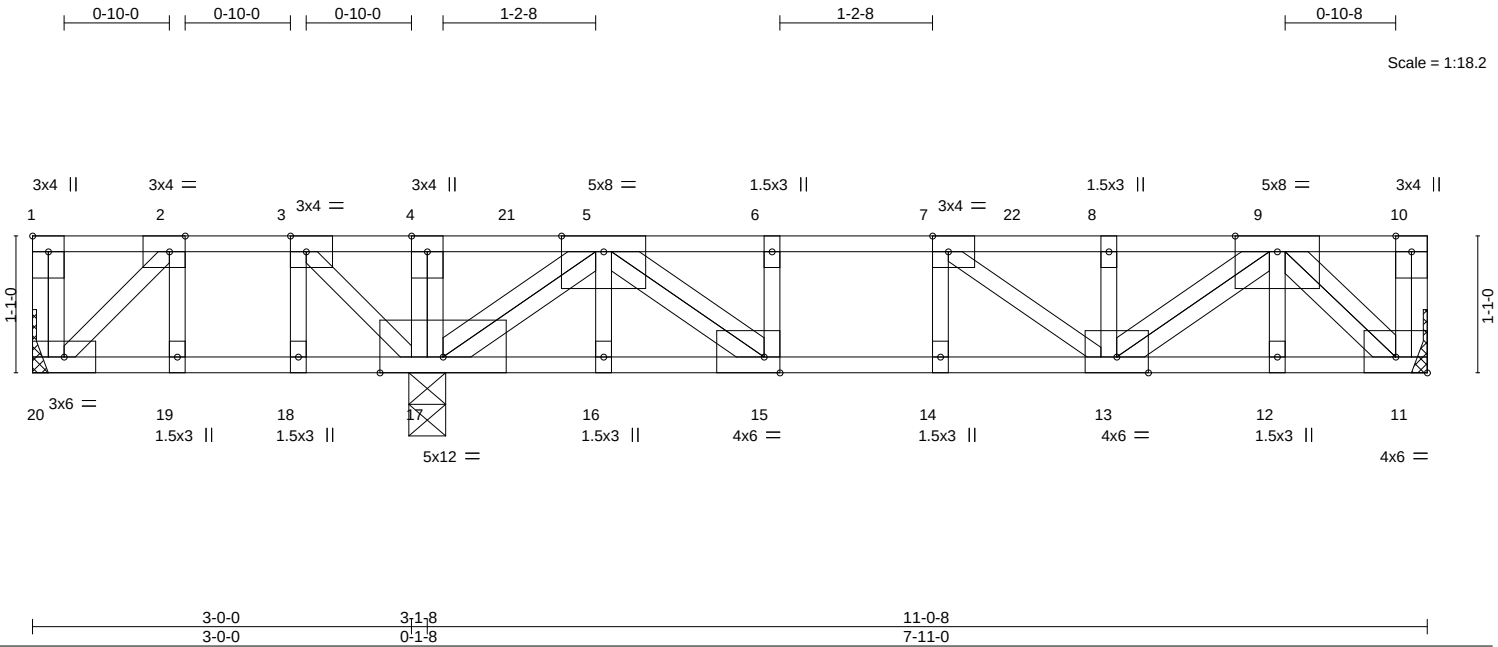

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [2:0-1-8,Edge], [3:0-1-8,Edge], [7:0-1-8,Edge], [11:Edge,0-1-8], [15:0-1-8,Edge]

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	0.84	Vert(LL)	-0.08	13-14	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.72	Vert(CT)	-0.11	13-14	>852	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.52	Horz(CT)	0.02	11	n/a	n/a		
BCDL	5.0	Code	IRC2015/TPI2014	Matrix-S							Weight: 71 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 6-0-0 oc bracing.

REACTIONS. (size) 20=Mechanical, 11=Mechanical, 17=0-3-8
Max Grav 20=127(LC 10), 11=1762(LC 7), 17=3123(LC 8)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 3-4=0/858, 4-5=0/858, 5-6=-3281/0, 6-7=-3281/0, 7-8=-3160/0, 8-9=-3119/0
BOT CHORD 16-17=0/1538, 15-16=0/1538, 14-15=0/3281, 13-14=0/3281, 12-13=0/1886, 11-12=0/1885
WEBS 4-17=-654/0, 3-17=-1168/0, 5-17=-2860/0, 5-15=0/2170, 6-15=-967/0, 7-14=-278/0, 8-13=-717/0, 9-13=0/1550, 9-11=-2518/0

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.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 11-20=-10, 1-10=-100
Concentrated Loads (lb)
Vert: 3=-759 6=-759 9=-759 21=-759 22=-759

June 9,2020

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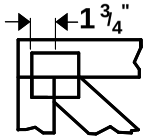
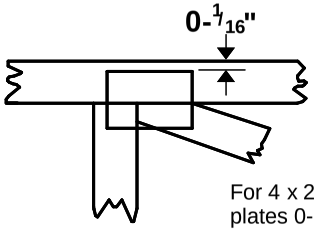
Edenton, NC 27932

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.

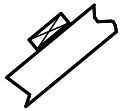
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

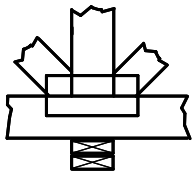
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

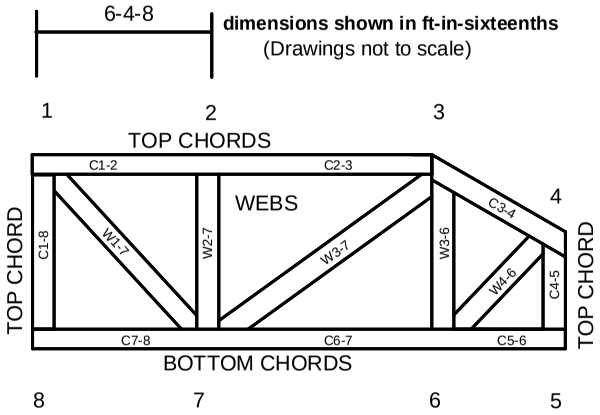


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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
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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.