Boise Cascade

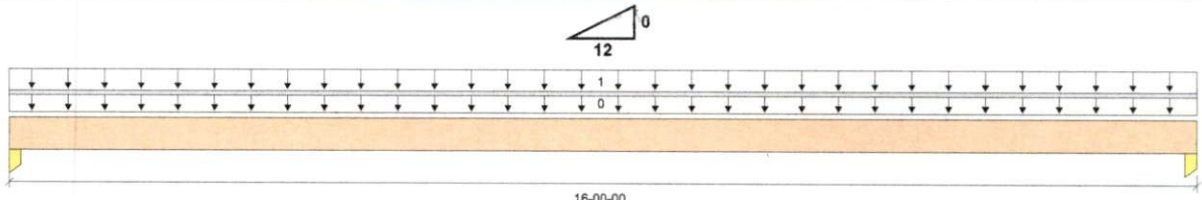
Triple 1-3/4" x 16" VERSA-LAM® 2.0 3100 SP

PASSED

RB01 (Roof Beam)

BC CALC® Member Report
Build 7295
Dry | 1 span | No cant.
November 12, 2019 09:23:16

Job name:		File name:	
Address:		Description:	
City, State, Zip:		Specifier:	
Customer:		Designer:	TOM WALKER
Code reports:	ESR-1040	Company:	LONGLEAF TRUSS COMPANY



Total Horizontal Product Length = 16-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 5-1/2"		2595 / 0	4800 / 0		4800 / 0
B2, 5-1/2"		2595 / 0	4800 / 0		4800 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-00-00	Top		24				00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	16-00-00	Top		10	20		20	30-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	26724 ft-lbs	41.5%	115%	5	08-00-00
End Shear	5739 lbs	31.3%	115%	5	01-09-08
Total Load Deflection	L/588 (0.31")	30.6%	n\a	4	08-00-00
Live Load Deflection	L/906 (0.202")	26.5%	n\a	6	08-00-00
Max Defl.	0.31"	62.1%	n\a	4	08-00-00
Span / Depth	11.4				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column	5-1/2" x 5-1/4"	7395 lbs	31.0%	34.1%	Southern Pine
B2	Column	5-1/2" x 5-1/4"	7395 lbs	31.0%	34.1%	Southern Pine

Cautions

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.

For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

Notes

Design meets Code minimum (L/180) Total load deflection criteria.
Design meets Code minimum (L/240) Live load deflection criteria.
Design meets arbitrary (0.5") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
BC CALC® analysis is based on IBC 2009.
Design based on Dry Service Condition.

Boise Cascade

Triple 1-3/4" x 16" VERSA-LAM® 2.0 3100 SP

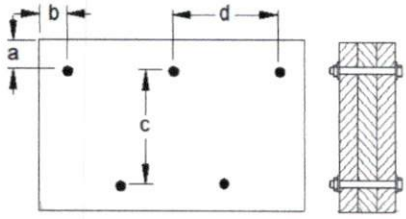
PASSED

RB01 (Roof Beam)

BC CALC® Member Report
Build 7295
Dry | 1 span | No cant.
November 12, 2019 09:23:16

Job name:		File name:	
Address:		Description:	
City, State, Zip:		Specifier:	
Customer:		Designer:	TOM WALKER
Code reports:	ESR-1040	Company:	LONGLEAF TRUSS COMPANY

Connection Diagram: Full Length of Member



a minimum = 2" c = 12"
b minimum = 2-1/2" d = 24"

Bolts are assumed to be Grade A307 or Grade 2 or higher.
Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade

Triple 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2650 SP

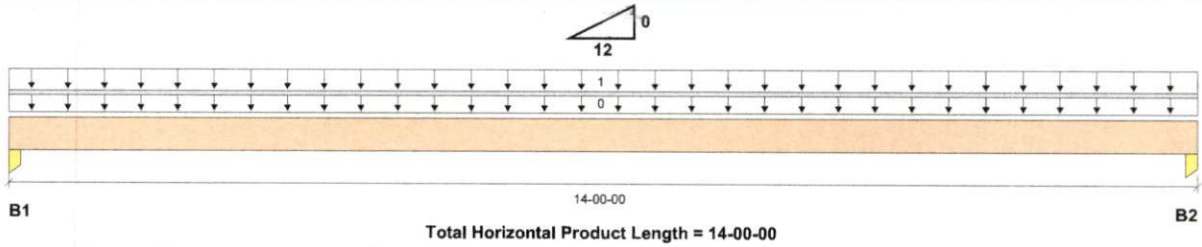
PASSED

RB02 (Roof Beam)

BC CALC® Member Report | Dry | 1 span | No cant. | November 12, 2019 09:25:37

Build 7295

Job name:		File name:	
Address:		Description:	
City, State, Zip:		Specifier:	
Customer:		Designer:	TOM WALKER
Code reports:	ESR-1040	Company:	LONGLEAF TRUSS COMPANY



Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 5-1/2"		1106 / 0	1960 / 0		1960 / 0
B2, 5-1/2"		1106 / 0	1960 / 0		1960 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	Top		18				00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	14-00-00	Top		10	20		20	14-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	9553 ft-lbs	30.5%	115%	5	07-00-00
End Shear	2432 lbs	17.9%	115%	5	01-05-06
Total Load Deflection	L/658 (0.241")	27.4%	n\a	4	07-00-00
Live Load Deflection	L/1029 (0.154")	23.3%	n\a	6	07-00-00
Max Defl.	0.241"	48.2%	n\a	4	07-00-00
Span / Depth	13.3				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column	5-1/2" x 5-1/4"	3066 lbs	12.9%	14.2%	Southern Pine
B2	Column	5-1/2" x 5-1/4"	3066 lbs	12.9%	14.2%	Southern Pine

Cautions

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.

For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

Notes

Design meets Code minimum (L/180) Total load deflection criteria.
Design meets Code minimum (L/240) Live load deflection criteria.
Design meets arbitrary (0.5") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
BC CALC® analysis is based on IBC 2009.
Design based on Dry Service Condition.

Boise Cascade

Triple 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2650 SP

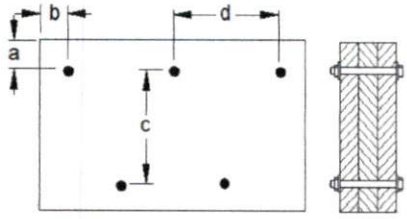
PASSED

RB02 (Roof Beam)

BC CALC® Member Report
Build 7295
Dry | 1 span | No cant.
November 12, 2019 09:25:37

Job name:		File name:	
Address:		Description:	
City, State, Zip:		Specifier:	
Customer:		Designer:	TOM WALKER
Code reports:	ESR-1040	Company:	LONGLEAF TRUSS COMPANY

Connection Diagram: Full Length of Member



a minimum = 2"
b minimum = 2-1/2"
c = 7-7/8"
d = 24"

Bolts are assumed to be Grade A307 or Grade 2 or higher.
Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue® , VERSA-LAM®, VERSA-RIM PLUS® ,

ENGINEERING BY
TRENCO
A MiTek Affiliate

RE: P19-10021 - PATTERSON

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:
Project Customer: Project Name:
Lot/Block: Subdivision:
Model:
Address:
City: State:

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):
Design Code: IRC2018/TPI2014
Wind Code: N/A Wind Speed: 130 mph
Roof Load: 40.0 psf
Design Program: MiTek 20/20 8.3
Design Method: User defined
Floor Load: 55.0 psf
Mean Roof Height (feet): 12
Exposure Category: B

No.	Seal#	Truss Name	Date
1	E13780449	F01	11/19/19
2	E13780450	F02	11/19/19
3	E13780451	F03	11/19/19
4	E13780452	F04	11/19/19
5	E13780453	F05	11/19/19
6	E13780454	F06	11/19/19
7		F07	11/19/19
8	E13780456	M01	11/19/19
9	E13780457	M02	11/19/19
10	E13780458	PB01	11/19/19
11	E13780459	PB02	11/19/19
12	E13780460	T01	11/19/19
13	E13780461	T01GE	11/19/19
14	E13780462	T02	11/19/19
	E13780463	T03	11/19/19
16		T04	11/19/19

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Longleaf Truss Company.
Truss Design Engineer's Name: Gilbert, Eric
My license renewal date for the state of North Carolina is December 31, 2019.

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.

November 19,2019
Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	F01	Floor Supported Gable	1	1	Job Reference (optional)	E13780449

Longleaf Truss Company, **West** End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:35 2019 Page 1
ID:X0bmUq2xtt7MgVT77UDFAxyQALw-kiDW0chM4uOX?OyPyc_?wvsEwPku2WX7BnWECOyHcoU

0-1-8

0-1-8

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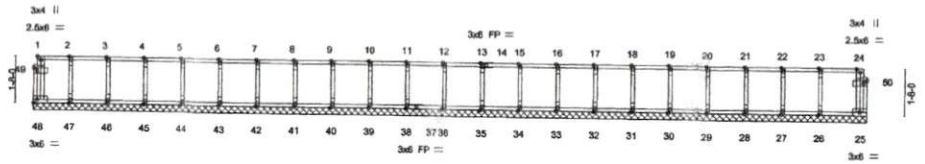

29-8-0
29-8-0

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [49:0-1-8,0-1-4], [50:0-1-8,0-1-4]

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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.02	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	25	n/a	n/a		
BCDL	5.0	Code IRC2018/TPI2014		Matrix-R							Weight: 144 lb	FT = 8%F, 4%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 Sheathed or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 29-8-0.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 48, 25, 47, 46, 45, 44, 43, 42, 41, 40, 39, 38, 36, 35, 34, 33, 32, 31, 30, 29, 28, 27, 26

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

NOTES-
1) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
2) All plates are 1.5x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 0 degree rotation about its center.
4) Gable requires continuous bottom chord bearing.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 1-4-0 oc.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	F02	Floor	4	1		E13780450

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:36 2019 Page 1
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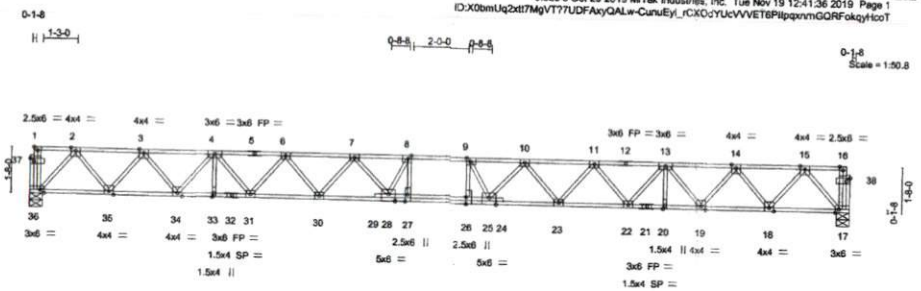

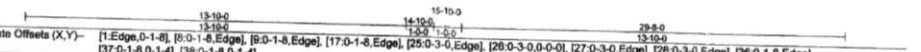

Plate Offsets (X,Y)– [1:Edge,0-1-8], [8:0-1-8,Edge], [9:0-1-8,Edge], [17:0-1-8,Edge], [25:0-3-0,Edge], [26:0-3-0,0-0-0], [27:0-3-0,Edge], [28:0-3-0,Edge], [36:0-1-8,Edge], [37:0-1-8,0-1-4], [38:0-1-8,0-1-4]

LOADING (psf)		SPACING- 1-4-0		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.54	Vert(LL)	-0.61	26-27	>578	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.99	Vert(CT)	-0.84	26-27	>421	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.13	17	n/a	n/a		
BCDL	5.0	Code IRC2018/TPI2014		Matrix-S							Weight: 175 lb	FT = 8%F, 4%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 Sheathed or 5-3-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
2-2-0 oc bracing: 28-30,23-25.

REACTIONS. (lb/size) 17=1070/0-5-8, 36=1070/0-5-8

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1686/0, 3-4=-2957/0, 4-6=-3975/0, 6-7=-4625/0, 7-8=-5053/0, 8-9=-5288/0, 9-10=-5053/0, 10-11=-4625/0, 11-13=-3975/0, 13-14=-2957/0, 14-15=-1686/0
BOT CHORD 35-36=0/965, 34-35=0/2392, 33-34=0/3538, 31-33=0/3538, 30-31=0/4370, 28-30=0/4897, 27-28=0/5288, 26-27=0/5288, 25-26=0/5288, 23-25=0/4897, 22-23=0/4370, 20-22=0/3538, 19-20=0/3538, 18-19=0/2392, 17-18=0/965
WEBS 8-27=-127/556, 9-26=-127/556, 2-36=-1413/0, 2-35=0/1146, 3-35=-1121/0, 3-34=0/897, 4-34=-895/0, 4-31=0/675, 6-31=-627/0, 6-30=0/405, 7-30=-431/0, 7-28=-1/404, 8-28=-766/25, 15-17=-1413/0, 15-18=0/1146, 14-18=-1121/0, 14-19=0/897, 13-19=-895/0, 13-22=0/675, 11-22=-627/0, 11-23=0/405, 10-23=-431/0, 10-25=-1/404, 9-25=-766/25

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
3) All plates are 3x4 MT20 unless otherwise indicated.
4) The Fabrication Tolerance at joint 32 = 4%, joint 21 = 4%
5) Plates checked for a plus or minus 0 degree rotation about its center.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) 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.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON
P19-10021	F03	Floor	3	1	E13780451 Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376,

8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:37 2019 Page 1

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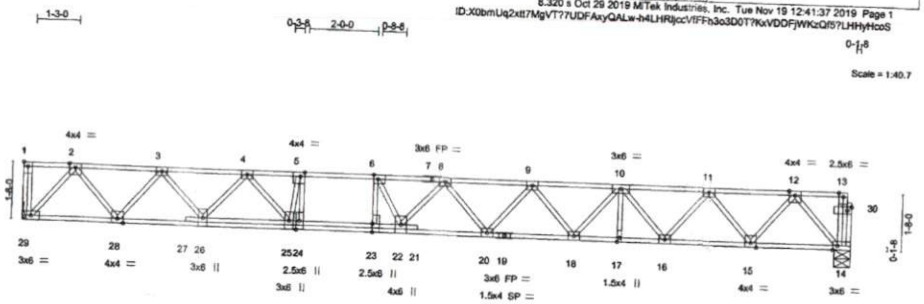

8-2-0 | 9-2-0 | 10-2-0 | 24-0-0

8-2-0 | 1-0-0 | 1-0-0 | 13-10-0

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [5:0-1-8,Edge], [6:0-1-8,Edge], [14:0-1-8,Edge], [23:0-3-0,0-0-0], [24:0-3-0,Edge], [30:0-1-8,0-1-4]

LOADING (psf)		SPACING-	1-4-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.40	Vert(LL)	-0.29	22	>983	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.70	Vert(CT)	-0.40	22	>715	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code IRC2018/TPI2014		Matrix-S							Weight: 146 lb	FT = 8%F, 4%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 Sheathed or 6-0-0 oc purlins, except end verticals.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 29=869/Mechanical, 14=864/0-5-8

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

TOP CHORD 2-3=-1298/0, 3-4=-2281/0, 4-5=-3089/0, 5-6=-3254/0, 6-8=-3324/0, 8-9=-3257/0, 9-10=-2935/0, 10-11=-2267/0, 11-12=-1329/0

BOT CHORD 28-29=0/740, 26-28=0/1854, 25-26=0/2727, 24-25=0/3229, 23-24=0/3254, 22-23=0/3254, 20-22=0/3360, 18-20=0/3164, 17-18=0/2673, 16-17=0/2673, 15-16=0/1868, 14-15=0/774

WEBS 5-24=-51/834, 6-23=-413/117, 2-29=-1112/0, 2-28=0/886, 3-28=-883/0, 3-26=0/682, 4-26=-691/0, 4-25=0/612, 5-25=-1008/0, 12-14=-1133/0, 12-15=0/882, 11-15=-857/0, 11-16=0/633, 10-16=-627/0, 10-18=0/403, 9-18=-364/0, 6-22=-236/373

NOTES-

1) Unbalanced floor live loads have been considered for this design.
2) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
3) All plates are 3x4 MT20 unless otherwise indicated.
4) The Fabrication Tolerance at joint 19 = 4%
5) Plates checked for a plus or minus 0 degree rotation about its center.
6) Refer to girder(s) for truss to truss connections.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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.
9) CAUTION, Do not erect truss backwards.

November 19,2019

ENGINEERING BY TRENCO A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	F04	Floor	8	1	Job Reference (optional)	E13780452

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:40 2019 Page 1
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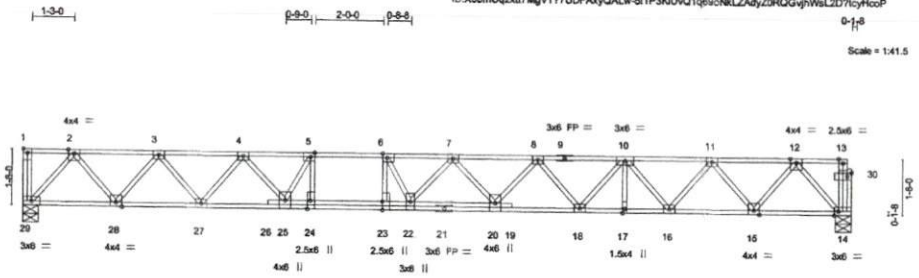

	8-7-8	9-7-8	10-7-8	24-5-8	
	8-7-8	1-0-0	1-0-0	13-10-8	

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [5:0-1-8,Edge], [6:0-1-8,Edge], [14:0-1-8,Edge], [23:0-3-0,0-0-0], [24:0-3-0,Edge], [30:0-1-8,0-1-4]

LOADING (psf)		SPACING-	1-4-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.40	Vert(LL)	-0.30	20-22	>963	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.73	Vert(CT)	-0.41	20-22	>700	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.43	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code IRC2018/TPI2014		Matrix-S							Weight: 148 lb	FT = 6%F, 4%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 Sheathed or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size) 29=885/0-5-8, 14=681/0-5-8

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1332/0, 3-4=-2298/0, 4-5=-3025/0, 5-6=-3421/0, 6-7=-3602/0, 7-8=-3424/0, 8-10=-3005/0, 10-11=-2323/0, 11-12=-1358/0
BOT CHORD 28-29=0/758, 27-28=0/1887, 25-27=0/2709, 24-25=0/3421, 23-24=0/3421, 22-23=0/3421, 20-22=0/3585, 18-20=0/3279, 17-18=0/2748, 16-17=0/2748, 15-16=0/1911, 14-15=0/789
WEBS 5-24=0/664, 6-23=-616/27, 2-29=-1139/0, 2-28=0/911, 3-28=-882/0, 3-27=0/652, 4-27=-653/0, 4-25=0/533, 5-25=-920/0, 12-14=-1156/0, 12-15=0/903, 11-15=-877/0, 11-16=0/654, 10-16=-656/0, 10-18=0/396, 8-18=-436/0, 6-22=-132/601

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
3) All plates are 3x4 MT20 unless otherwise indicated.
4) Plates checked for a plus or minus 0 degree rotation about its center.
5) 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.
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.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	F05	Floor	26	1		E13780453

Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:41 2019 Page 1
ID:X0bmUq2xtl7MgVT77UDFAxyQALw-ZsbnHgm8gk9hkJNZI24P9A8A7qZ5S6Q?aizYQ2yHcoO

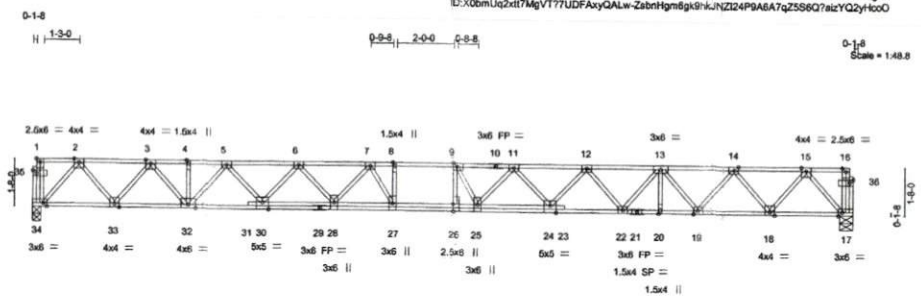

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [9:0-1-8,Edge], [14:0-1-12,Edge], [17:0-1-8,Edge], [19:0-1-12,Edge], [24:0-2-8,Edge], [26:0-3-0,0-0-0], [30:0-2-8,Edge], [34:0-1-8,Edge], [35:0-1-8,0-1-4], [36:0-1-8,0-1-4]

LOADING (psf)		SPACING-	1-4-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.47	Vert(LL)	-0.49	26	>688	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.92	Vert(CT)	-0.67	26	>501	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.10	17	n/a	n/a		
BCDL	5.0	Code IRC2018/TPI2014		Matrix-S							Weight: 178 lb	FT = 6%F, 4%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 Sheathed or 5-8-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 22-24.

REACTIONS. (lb/size) 34=1027/0-3-8, 17=1027/0-5-8

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1613/0, 3-4=-2842/0, 4-5=-2842/0, 5-6=-3815/0, 6-7=-4534/0, 7-8=-4850/0, 8-9=-4850/0, 9-11=-4868/0, 11-12=-4414/0, 12-13=-3739/0, 13-14=-2813/0, 14-15=-1612/0
BOT CHORD 33-34=0/928, 32-33=0/2274, 30-32=0/3369, 28-30=0/4251, 27-28=0/4756, 26-27=0/4850, 25-26=0/4850, 24-25=0/4708, 22-24=0/4140, 20-22=0/3383, 19-20=0/3363, 18-19=0/2283, 17-18=0/925
WEBS 9-26=-458/253, 2-34=-1359/0, 2-33=0/1087, 3-33=-1050/0, 3-32=0/876, 5-32=-844/0, 5-30=0/660, 6-30=-674/0, 6-28=0/439, 7-28=-487/0, 15-17=-1355/0, 15-18=0/1091, 14-18=-1065/0, 14-19=0/841, 13-19=-848/0, 13-22=0/581, 12-22=-637/0, 12-24=0/425, 11-24=-454/0, 11-25=0/388, 9-25=-428/421, 7-27=-156/489

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
3) All plates are 3x4 MT20 unless otherwise indicated.
4) The Fabrication Tolerance at joint 21 = 4%
5) Plates checked for a plus or minus 0 degree rotation about its center.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) 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.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	F06	Floor Supported Gable	1	1		E13780454

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:41 2019 Page 1
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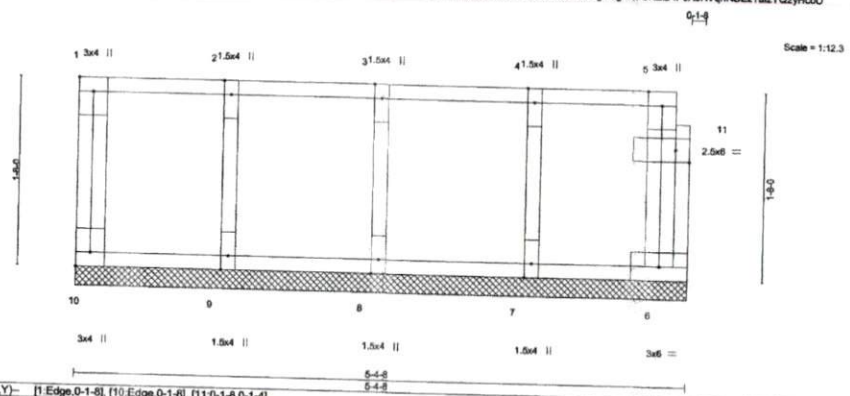

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [10:Edge,0-1-8], [11:0-1-8,0-1-4]

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	6	n/a	n/a		
BCDL	5.0	Code IRC2018/TPI2014		Matrix-R							Weight: 32 lb	FT = 8%F, 4%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 Sheathed or 5-4-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 5-4-8.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 10, 6, 9, 8, 7

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

NOTES-
1) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
2) Plates checked for a plus or minus 0 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) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) 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.

November 19,2019

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	F07	Floor Supported Gable	1	1		E13780455
					Job Reference (optional)	

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:42 2019 Page 1
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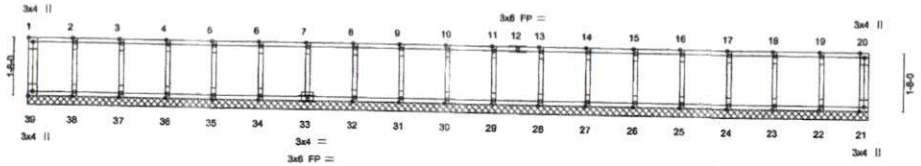

	8-2-0	9-2-0	10-2-0	24-0-0
	8-2-0	1-0-0	1-0-0	13-10-0

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [39: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	21	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 116 lb	FT = 8%F, 4%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 Sheathed or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 24-0-0.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 39, 21, 38, 37, 36, 35, 34, 33, 32, 31, 30, 29, 28, 27, 26, 25, 24, 23, 22

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

NOTES-
1) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
2) All plates are 1.5x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 0 degree rotation about its center.
4) Gable requires continuous bottom chord bearing.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 1-4-0 oc.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	M01	Monopitch	14	1	Job Reference (optional)	E13780456

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:43 2019 Page 1

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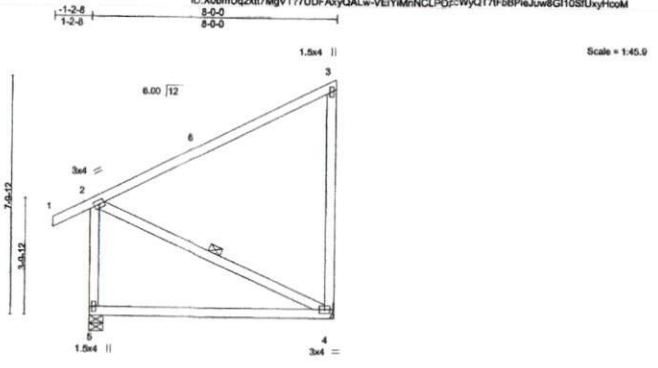

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.19	4-5	>499	240	MT20	244/190
Snow (Pf/Pg)	11.6/15.0	Lumber DOL	1.15	BC	0.58	Vert(CT)	-0.37	4-5	>250	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	-0.00	4	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-P							Weight: 85 lb	FT = 20%
BCDL	10.0											

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

BRACING-
TOP CHORD Sheathed or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 2-4

REACTIONS. (lb/size) 4=238/Mechanical, 5=307/0-5-8
Max Horz 5=225(LC 9)
Max Uplift 4=-85(LC 9), 5=-14(LC 12)
Max Grav 4=339(LC 24), 5=397(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-320/60

NOTES-
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.6 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 11.6 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be User Defined crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 85 lb uplift at joint 4 and 14 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.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	M02	Monopitch Supported Gable	1	1		E13780457

Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:43 2019 Page 1

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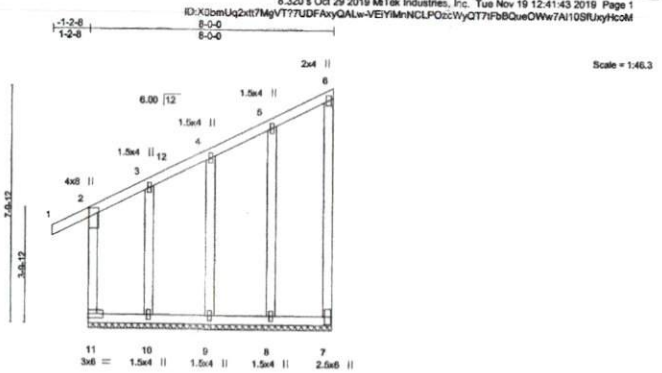

Plate Offsets (X,Y)-- [2:0-3-10,0-0-0], [7:0-3-0,0-0-12]

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	0.83	Vert(LL)	-0.00	2	n/r	120	MT20	244/190
Snow (Pf/Pg)	11.6/15.0	Lumber DOL	1.15	BC	0.29	Vert(CT)	-0.00	2	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.12	Horz(CT)	-0.00	7	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-R							Weight: 67 lb	FT = 20%
BCDL	10.0											

LUMBER-

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

BRACING-

TOP CHORD	Sheathed or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. All bearings 8-0-0.
(lb) - Max Horz 11=225(LC 11)
Max Uplift All uplift 100 lb or less at joint(s) 7 except 11=-147(LC 10), 10=-375(LC 9)
Max Grav All reactions 250 lb or less at joint(s) 7, 8, 9 except 11=370(LC 25), 10=344(LC 10)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-11=-250/53

NOTES-

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=24ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) 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.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.6 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 11.6 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 2-0-0 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
11) All bearings are assumed to be User Defined crushing capacity of 425 psi.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 7 except (jt=lb) 11=147, 10=375.
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.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	PB01	Piggyback	1	1		E13780458

Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:46 2019 Page 1
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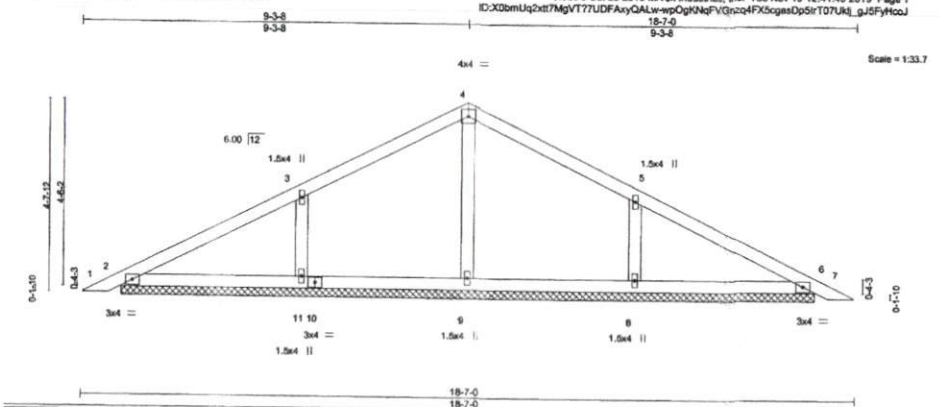

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	0.00	7	n/r	120	MT20	244/190
Snow (Pf/Pg)	11.6/15.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	0.01	7	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-S							Weight: 67 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Sheathed or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 16-7-14.
(lb) - Max Horz 2=77(LC 11)
Max Uplift All uplift 100 lb or less at joint(s) 2, 11, 8, 6
Max Grav All reactions 250 lb or less at joint(s) 2, 9, 6 except 11=397(LC 30), 8=397(LC 31)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 3-11=-293/82, 5-8=-293/82

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.6 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 11.6 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be User Defined crushing capacity of 425 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 11, 8, 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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	PB02	Piggyback	23	1	Job Reference (optional)	E13780459

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:47 2019 Page 1
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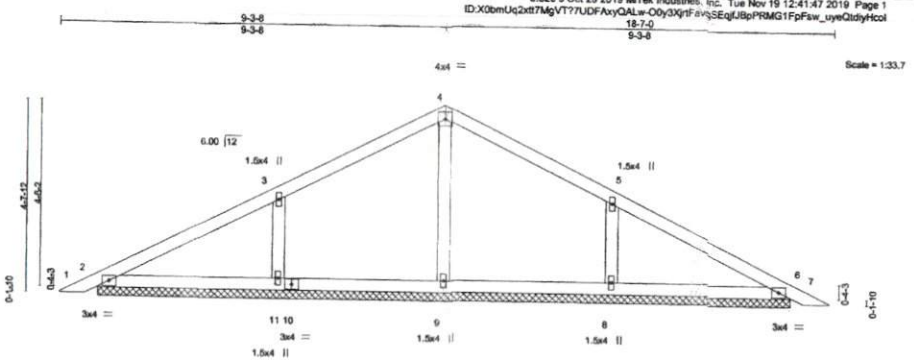

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	0.00	7	n/r	120	MT20	244/190
Snow (Pf/Pg)	11.6/15.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	0.01	7	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-S							Weight: 67 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Sheathed or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 16-7-14.
(lb) - Max Horz 2=77(LC 11)
Max Uplift All uplift 100 lb or less at joint(s) 2, 11, 8, 6
Max Grav All reactions 250 lb or less at joint(s) 2, 9, 6 except 11=397(LC 30), 8=397(LC 31)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 3-11=-293/82, 5-8=-293/82

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.6 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 11.6 psf on overhangs non-concurrent with other live loads.
6) Gable requires continuous bottom chord bearing.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be User Defined crushing capacity of 425 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 11, 8, 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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	E13780460
P19-10021	T01	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:52 2019 Page 1
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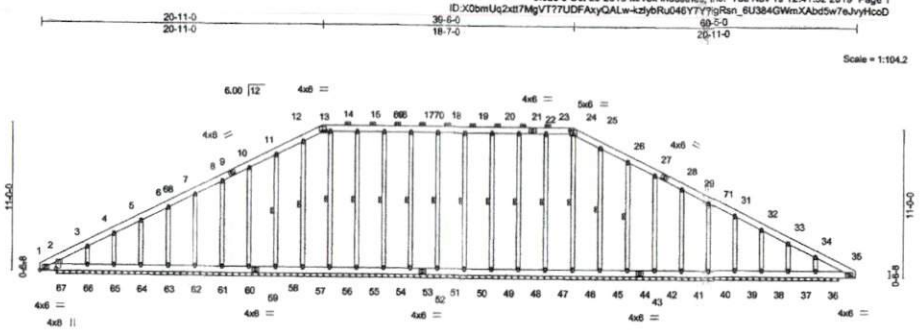

Plate Offsets (X,Y)-- [2:0-0-14,0-1-12], [24:0-3-0,0-3-4], [67:0-1-6,1-2-4], [67:0-0-0,0-1-12]

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	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horz(CT)	-0.01	36	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-S							Weight: 586 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
OTHERS 2x4 SP No.3

BRACING-
TOP CHORD Sheathed or 10-0-0 oc purlins, except 2-0-0 oc purlins (10-0-0 max.): 13-24.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 24-46, 23-47, 21-48, 20-49, 19-50, 18-51, 17-53, 16-54, 15-55, 14-56, 12-57, 11-58, 25-45, 26-44

REACTIONS. All bearings 58-0-0.
(lb) - Max Horz 67=-204(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 48, 49, 54, 58, 60, 61, 62, 63, 64, 65, 66, 67, 44, 42, 41, 40, 39, 38, 37
Max Grav All reactions 250 lb or less at joint(s) 46, 47, 48, 49, 50, 51, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 45, 44, 42, 41, 40, 39, 38, 37 except 36=408(LC 50)

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=60ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) 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=15.0 psf; Pf=16.5 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; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
5) Unbalanced snow loads have been considered for this design.
6) WARNING: This long span truss requires extreme care and experience for proper and safe handling and erection. For general handling and erection guidance, see Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses ("BCSI"), jointly produced by SBCA and TPI. The building owner or the owner's authorized agent shall contract with a qualified registered design professional for the design and inspection of the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing. MiTek assumes no responsibility for truss manufacture, handling, erection, or bracing.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) Gable studs spaced at 2-0-0 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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
12) All bearings are assumed to be User Defined crushing capacity of 425 psi.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 48, 49, 54, 58, Cont. 60, 61, 62, 63, 64, 65, 66, 67, 44, 42, 41, 40, 39, 38, 37.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON
P19-10021	T01	Piggyback Base Supported Gable	1	1	E13780460
					Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:53 2019 Page 2
ID:X0bmUq2xtt7MgVT77UDFAxyQALw-D9JKomvetQg_A9Ht?aIDfcJqgs?GdmKatBrLyHcoC

NOTES-

14) Non Standard bearing condition. Review required.
15) 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.
16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	T01GE	Common Supported Gable	1	1		E13780461

Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:54 2019 Page 1
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15-2-8
30-5-0
15-2-8

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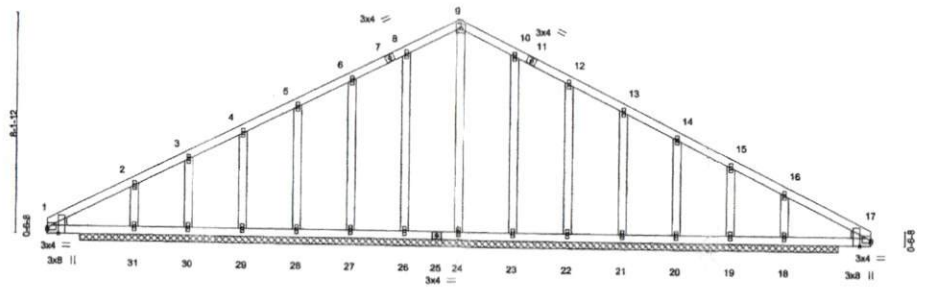

1-2-8
1-2-8
30-5-0
28-2-8

Plate Offsets (X,Y)-- [1:0-0-0,0-1-1], [1:0-2-9,Edge], [17:Edge,0-1-1], [17:0-2-9,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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	11.6/15.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	-0.01	18	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-S							Weight: 182 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
OTHERS 2x4 SP No.3
WEDGE
Left: 2x4 SP No.3 , Right: 2x4 SP No.3

BRACING-
TOP CHORD Sheathed or 10-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. All bearings 28-0-0.
(lb) - Max Horz 31=142(LC 11)
Max Uplift All uplift 100 lb or less at joint(s) 26, 27, 28, 29, 30, 31, 23, 22, 21, 20, 19, 18
Max Grav All reactions 250 lb or less at joint(s) 26, 27, 28, 29, 30, 23, 22, 21, 20, 19 except 24=304(LC 2), 31=373(LC 29), 18=373(LC 30)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-14/268, 16-17=-13/265
WEBS 9-24=-264/0

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=30ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) 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=15.0 psf, Pf=11.6 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) All plates are 1.5x4 MT20 unless otherwise indicated.
7) Gable studs spaced at 2-0-0 oc.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
10) All bearings are assumed to be User Defined crushing capacity of 425 psi.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 26, 27, 28, 29, 30, 31, 23, 22, 21, 20, 19, 18.
12) Non Standard bearing condition. Review required.
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.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	T02	Piggyback Base	7	1		E13780462

Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:56 2019 Page 1

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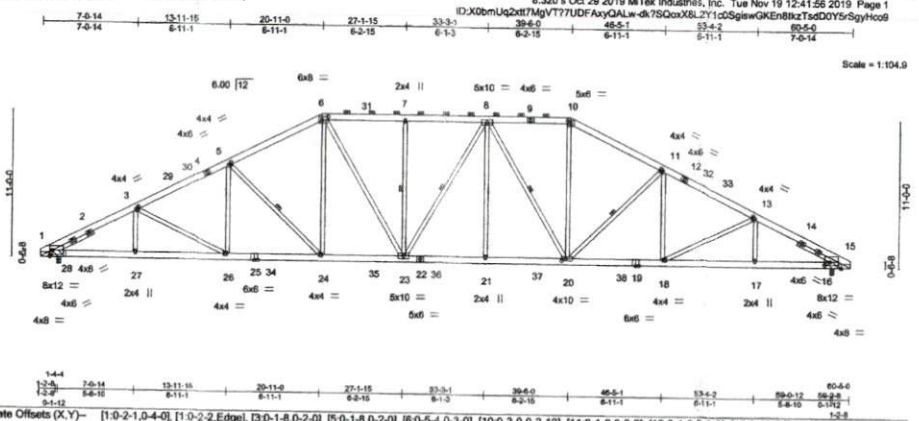

Plate Offsets (X,Y)-- [1:0-2-1,0-4-0], [1:0-2-2,Edge], [3:0-1-8,0-2-0], [5:0-1-8,0-2-0], [6:0-5-4,0-3-0], [10:0-3-0,0-2-12], [11:0-1-8,0-2-0], [13:0-1-8,0-2-0], [15:0-10-0,Edge], [15:0-4-13,0-2-14], [20:0-3-8,0-2-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	-0.31	21-23	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.56	21-23	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.23	15	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-S							Weight: 501 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x4 SP No.3
SLIDER	Left 2x4 SP No.3 -H 3-4-11, Right 2x4 SP No.3 -H 3-4-11

BRACING-

TOP CHORD	Sheathed or 3-4-5 oc purlins, except 2-0-0 oc purlins (3-10-9 max.): 6-10.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 5-24, 7-23, 8-23, 8-20, 11-20

REACTIONS. (lb/size) 1=1990/(0-3-8 + bearing block) (req. 0-4-6), 15=1990/(0-3-8 + bearing block) (req. 0-4-6)
Max Horz 1=-204(LC 10)
Max Grav 1=2799(LC 23), 15=2797(LC 24)

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

TOP CHORD	1-3=-5469/23, 3-5=-4872/69, 5-6=-4150/114, 6-7=-3954/125, 7-8=-3954/125, 8-10=-3666/123, 10-11=-4148/113, 11-13=-4866/70, 13-15=-5466/23
BOT CHORD	1-27=0/4942, 26-27=0/4942, 24-26=0/4409, 23-24=0/3726, 21-23=0/3984, 20-21=0/3984, 18-20=0/4249, 17-18=0/4787, 15-17=0/4787
WEBS	3-27=0/274, 3-26=-601/49, 5-26=0/570, 5-24=-1032/66, 6-24=0/1014, 6-23=-2/828, 7-23=-461/73, 8-21=0/332, 8-20=-835/5, 10-20=0/1469, 11-20=-1026/67, 11-18=0/568, 13-18=-606/49, 13-17=0/275

NOTES-

1) 2x6 SP No.1 bearing block 12" long at jt. 1 attached to front face with 3 rows of 10d (0.131"x3") nails spaced 3" o.c. 12 Total fasteners. User Defined Bearing crushing capacity= 425psi.
2) 2x6 SP No.1 bearing block 12" long at jt. 15 attached to front face with 3 rows of 10d (0.131"x3") nails spaced 3" o.c. 12 Total fasteners. User Defined Bearing crushing capacity= 425psi.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=60ft; eave=7ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 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; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
6) Unbalanced snow loads have been considered for this design.
7) WARNING: This long span truss requires extreme care and experience for proper and safe handling and erection. For general handling and erection guidance, see Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses ("BCSI"), jointly produced by SBCA and TPI. The building owner or the owner's authorized agent shall contract with a qualified registered design professional for the design and inspection of the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing. MiTek assumes no responsibility for truss manufacture, handling, erection, or bracing.
8) Provide adequate drainage to prevent water ponding.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

Continued on page 2

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON	E13780462
P19-10021	T02	Piggyback Base	7	1	Job Reference (optional)	

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:56 2019 Page 2
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NOTES-

10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) All bearings are assumed to be User Defined crushing capacity of 425 psi.
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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	T03	Piggyback Base	16	1	Job Reference (optional)	E13780463

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:58 2019 Page 1

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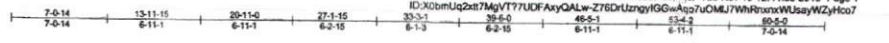

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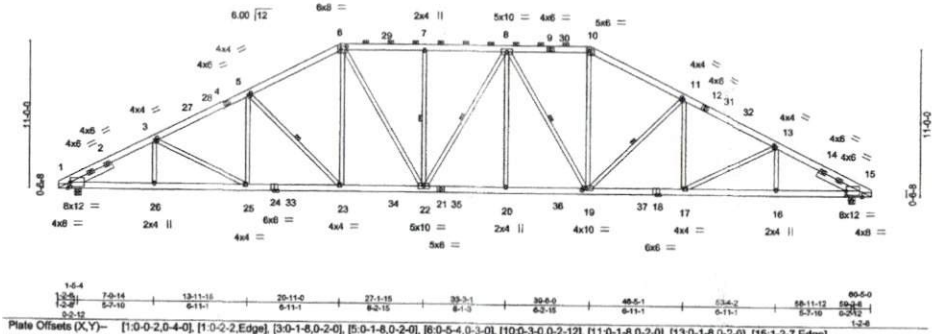

Plate Offsets (X,Y)-- [1:0-0-2,0-4-0], [1:0-2-2,Edge], [3:0-1-8,0-2-0], [5:0-1-8,0-2-0], [6:0-5-4,0-3-0], [10:0-3-0,0-2-12], [11:0-1-8,0-2-0], [13:0-1-8,0-2-0], [15:1-2-7,Edge], [15:0-0-2,0-4-0], [19:0-3-8,0-2-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	-0.31	20-22	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.55	20-22	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.23	15	n/a	n/a		
BCLL	0.0 *	Code IRC2018/TPI2014		Matrix-S							Weight: 502 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x4 SP No.3
SLIDER	Left 2x6 SP No.1 -H 3-4-11, Right 2x6 SP No.1 -H 3-4-11

BRACING-

TOP CHORD	Sheathed or 3-4-14 oc purlins, except 2-0-0 oc purlins (3-10-11 max.): 6-10.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 5-23, 7-22, 8-22, 8-19, 11-19

REACTIONS. (lb/size) 1=1985/0-5-8, 15=1985/0-5-8
Max Horz 1=204(LC 11)
Max Grav 1=2792(LC 23), 15=2790(LC 24)

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

TOP CHORD	1-3=-5400/23, 3-5=-4819/69, 5-6=-4127/114, 6-7=-3933/125, 7-8=-3932/125, 8-10=-3644/123, 10-11=-4124/113, 11-13=-4813/70, 13-15=-5397/23
BOT CHORD	1-26=0/4869, 25-26=0/4869, 23-25=0/4377, 22-23=0/3704, 20-22=0/3963, 19-20=0/3963, 17-19=0/4218, 16-17=0/4714, 15-16=0/4714
WEBS	3-26=0/268, 3-25=-554/49, 5-25=0/550, 5-23=-1020/66, 6-23=0/1005, 6-22=-2/828, 7-22=-481/73, 8-20=0/533, 8-19=-835/5, 10-19=0/1459, 11-19=-1013/67, 11-17=0/547, 13-17=-559/48, 13-16=0/269

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=60ft; eave=7ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 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; Min. flat roof snow load governs. Rain surcharge applied to all exposed surfaces with slopes less than 0.500/12 in accordance with IBC 1608.3.4.
4) Unbalanced snow loads have been considered for this design.
5) WARNING: This long span truss requires extreme care and experience for proper and safe handling and erection. For general handling and erection guidance, see Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses ("BCSI"), jointly produced by SBCA and TPI. The building owner or the owner's authorized agent shall contract with a qualified registered design professional for the design and inspection of the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing. MiTek assumes no responsibility for truss manufacture, handling, erection, or bracing.
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 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) All bearings are assumed to be User Defined crushing capacity of 425 psi.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and Continued on page 2 standard ANSI/TPI 1.

November 19,2019

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

Job	Truss	Truss Type	Qty	Ply	PATTERSON
P19-10021	T03	Piggyback Base	16	1	E13780463

Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:58 2019 Page 2

ID:tX0bmUq2xtt7MgVT?7UDFAxyQALw-Z76DrUznyyIGGwAqo7uOMiJ7WhRnxrxWUsayWZyHco7

NOTES-

11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	PATTERSON	
P19-10021	T04	Common	14	1		E13780464

Job Reference (optional)

Longleaf Truss Company, West End, NC - 27376, 8.320 s Oct 29 2019 MiTek Industries, Inc. Tue Nov 19 12:41:59 2019 Page 1

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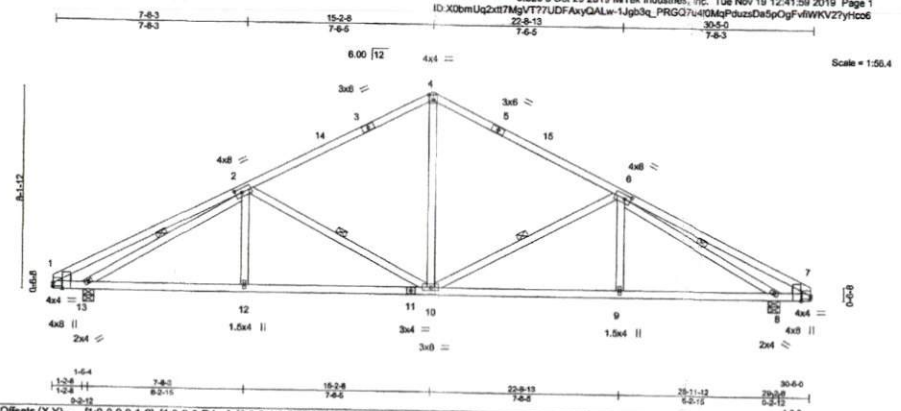

Plate Offsets (X,Y)-- [1:0-0-0,0-1-9], [1:0-2-9,Edge], [2:0-3-1,0-2-0], [4:0-2-0,0-2-8], [6:0-3-1,0-2-0], [7:Edge,0-1-9], [7:0-2-9,Edge]

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	0.60	Vert(LL)	-0.07	10-12	>999	240	MT20	244/190
Snow (Pf/Pg)	11.6/15.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	-0.17	10-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.06	8	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-S							Weight: 167 lb	FT = 20%
BCDL	10.0											

LUMBER-

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

Left: 2x4 SP No.3 , Right: 2x4 SP No.3

BRACING-

TOP CHORD	Sheathed or 4-10-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 6-10, 2-10, 2-13, 6-8

REACTIONS. (lb/size) 13=960/0-5-8, 8=960/0-5-8
Max Horz 13=142(LC 11)
Max Uplift 13=-20(LC 12)
Max Grav 13=1217(LC 2), 8=1217(LC 2)

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

TOP CHORD	1-2=-251/29, 2-4=-1265/75, 4-6=-1265/75, 6-7=-251/29
BOT CHORD	12-13=0/1455, 10-12=0/1455, 9-10=0/1455, 8-9=0/1455
WEBS	4-10=0/645, 6-10=-528/70, 6-9=0/268, 2-10=-526/68, 2-12=0/268, 2-13=-1592/62, 6-8=-1592/47

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=30ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.6 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 a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be User Defined crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 13.
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.

November 19,2019

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TRENCO
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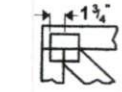
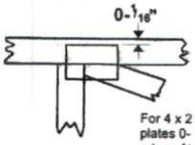
Symbols

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.

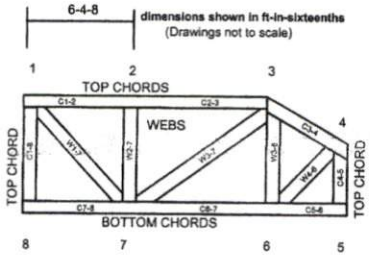
BEARING

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. 10/03/2015

⚠ General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

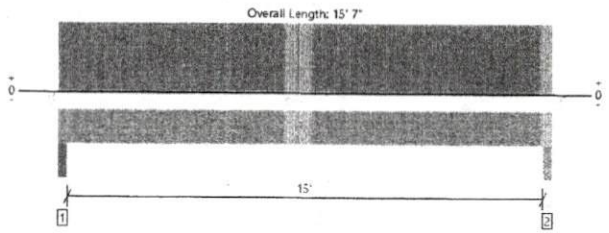
1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed 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.

FORTE WEB

MEMBER REPORT **PASSED**

Level, Beam over storage area TS2

3 piece(s) 1 3/4" x 16" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	7203 @ 2"	13322 (3.50")	Passed (54%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	5701 @ 1' 7 1/2"	19950	Passed (29%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	26876 @ 7' 9 1/2"	58339	Passed (46%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.228 @ 7' 9 1/2"	0.508	Passed (L/804)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.351 @ 7' 9 1/2"	0.762	Passed (L/522)	--	1.0 D + 1.0 Lr (All Spans)

System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 13' 5" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 15' 7" o/c unless detailed otherwise.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Roof Live	Snow	Total	
1 - Column - SPF	3.50"	3.50"	1.89"	2528	4675	3857	11060	None
2 - Column - SPF	3.50"	3.50"	1.89"	2528	4675	3857	11060	None

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 15' 7"	N/A	24.5	--	--	
1 - Uniform (PSF)	0 to 15' 7" (Top)	30"	10.0	20.0	16.5	TS 2 Truss load

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

Weyerhaeuser SUSTAINABLE FORESTRY INITIATIVE

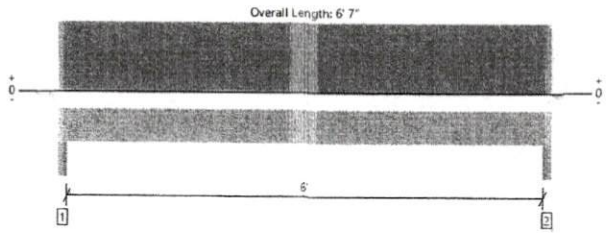
ForteWEB Software Operator	Job Notes
Jay Johnson Weyerhaeuser (910) 495-5383 jay.johnson@weyerhaeuser.com	

FORTE WEB

MEMBER REPORT **PASSED**

Level, Front Porch beam/side FO2

3 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	3369 @ 2"	13322 (3.50")	Passed (25%)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Shear (lbs)	1907 @ 1' 3 3/8"	11845	Passed (16%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	4631 @ 3' 3 1/2"	26772	Passed (17%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.022 @ 3' 3 1/2"	0.313	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Total Load Defl. (in)	0.033 @ 3' 3 1/2"	0.417	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Top Edge Bracing (Lu): Top compression edge must be braced at 6' 7" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 6' 7" o/c unless detailed otherwise.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Snow	Total	
1 - Column - SPF	3.50"	3.50"	1.50"	1147	1975	988	741	4851	None
2 - Column - SPF	3.50"	3.50"	1.50"	1147	1975	988	741	4851	None

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (non-snow: 1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 6' 7"	N/A	18.2	--	--	--	
1 - Uniform (PSF)	0 to 6' 7" (Top)	15'	12.0	-	20.0	15.0	Roof Load
2 - Uniform (PSF)	0 to 6' 7" (Top)	15'	10.0	40.0	-	-	Floor load

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

Weyerhaeuser SUSTAINABLE FORESTRY INITIATIVE

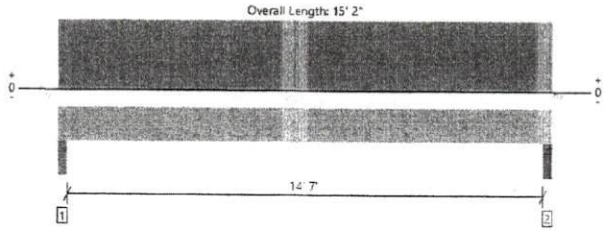
ForteWEB Software Operator	Job Notes
Jay Johnson Weyerhaeuser (910) 495-5383 jay.johnson@weyerhaeuser.com	

FORTE WEB

MEMBER REPORT **PASSED**

Level, Front Porch beam/front F01

3 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1174 @ 15"	7809 (3.50")	Passed (15%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	975 @ 1' 3 3/8"	14807	Passed (7%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	4256 @ 7' 7"	33465	Passed (13%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.064 @ 7' 7"	0.742	Passed (L/999+)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.123 @ 7' 7"	0.989	Passed (L/999+)	--	1.0 D + 1.0 Lr (All Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Top Edge Bracing (Lu): Top compression edge must be braced at 15' 2" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 15' 2" o/c unless detailed otherwise.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Roof Live	Snow	Total	
1 - Column - SPF	3.50"	3.50"	1.50"	567	607	455	1629	None
2 - Stud wall - SPF	3.50"	3.50"	1.50"	567	607	455	1629	None

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 15' 2"	N/A	18.2	--	--	
1 - Uniform (PSF)	0 to 15' 2" (Top)	2'	14.1	20.0	15.0	Roof gable end
2 - Uniform (PSF)	0 to 15' 2" (Top)	2'	14.1	20.0	15.0	Floor

Weyerhaeuser Notes

Weyerhaeuser warrants that the sizing of its products will be in accordance with Weyerhaeuser product design criteria and published design values. Weyerhaeuser expressly disclaims any other warranties related to the software. Use of this software is not intended to circumvent the need for a design professional as determined by the authority having jurisdiction. The designer of record, builder or framer is responsible to assure that this calculation is compatible with the overall project. Accessories (Rim Board, Blocking Panels and Squash Blocks) are not designed by this software. Products manufactured at Weyerhaeuser facilities are third-party certified to sustainable forestry standards. Weyerhaeuser Engineered Lumber Products have been evaluated by ICC-ES under evaluation reports ESR-1153 and ESR-1387 and/or tested in accordance with applicable ASTM standards. For current code evaluation reports, Weyerhaeuser product literature and installation details refer to www.weyerhaeuser.com/woodproducts/document-library.

The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

Weyerhaeuser SUSTAINABLE FORESTRY INITIATIVE

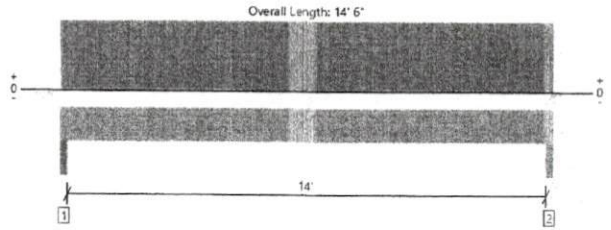
ForteWEB Software Operator	Job Notes
Jay Johnson Weyerhaeuser (910) 495-5383 jay.johnson@weyerhaeuser.com	

FORTE WEB

MEMBER REPORT **PASSED**

Level, Garage Beam

3 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	4739 @ 1 1/2"	11813 (3.00")	Passed (40%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	3928 @ 1' 2 7/8"	14807	Passed (27%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	16590 @ 7' 3"	33465	Passed (50%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.204 @ 7' 3"	0.712	Passed (L/838)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.445 @ 7' 3"	0.950	Passed (L/385)	--	1.0 D + 1.0 Lr (All Spans)

System : Roof
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Top Edge Bracing (Lu): Top compression edge must be braced at 14' 6" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 14' 6" o/c unless detailed otherwise.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Roof Live	Snow	Total	
1 - Column - SYP	3.00"	3.00"	1.50"	2564	2175	1631	6370	None
2 - Column - SYP	3.00"	3.00"	1.50"	2564	2175	1631	6370	None

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 14' 6"	N/A	18.2	--	--	
1 - Uniform (PSF)	0 to 14' 6" (Top)	15'	22.4	20.0	15.0	roof

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

Weyerhaeuser SUSTAINABLE FORESTRY INITIATIVE

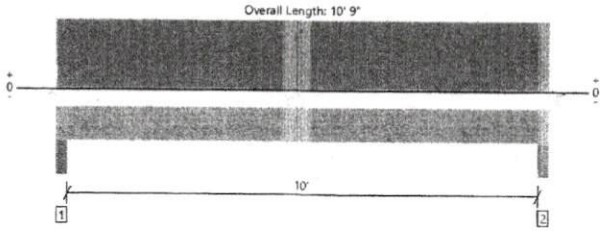
ForteWEB Software Operator	Job Notes
Jay Johnson Weyerhaeuser (910) 495-5383 jay.johnson@weyerhaeuser.com	

FORTE WEB

MEMBER REPORT **PASSED**

Level, Garage Door header

3 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	5261 @ 3"	17128 (4.50")	Passed (31%)	--	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	3925 @ 1' 4 3/8"	14807	Passed (27%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	12854 @ 5' 4 1/2"	33465	Passed (38%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.116 @ 5' 4 1/2"	0.342	Passed (L/999+)	--	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.190 @ 5' 4 1/2"	0.512	Passed (L/649)	--	1.0 D + 1.0 Lr (All Spans)

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2015
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 10' 9" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 10' 9" o/c unless detailed otherwise.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Roof Live	Snow	Total	
1 - Trimmer - SPF	4.50"	4.50"	1.50"	2036	3225	2419	7680	None
2 - Trimmer - SPF	4.50"	4.50"	1.50"	2036	3225	2419	7680	None

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 10' 9"	N/A	18.2	--	--	
1 - Uniform (PSF)	0 to 10' 9"	30"	12.0	20.0	15.0	Roof Load

Weyerhaeuser Notes

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

Weyerhaeuser SUSTAINABLE FORESTRY INITIATIVE

ForteWEB Software Operator	Job Notes
Jay Johnson Weyerhaeuser (910) 495-5383 jay.johnson@weyerhaeuser.com	

Boise Cascade

Triple 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2650 SP

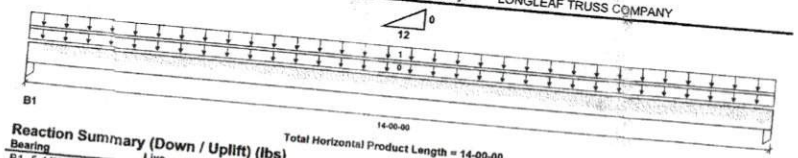
RB02 (Roof Beam)
Dry | 1 span | No cant.

PASSED

November 12, 2019 09:25:37

BC CALC® Member Report
Build 7295
Job name:
Address:
City, State, Zip:
Customer:
Code reports: ESR-1040

File name:
Description:
Specifier:
Designer: TOM WALKER
Company: LONGLEAF TRUSS COMPANY



Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 5-1/2"		1106 / 0	1960 / 0		1960 / 0
B2, 5-1/2"		1106 / 0	1960 / 0		1960 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	Top		18				00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	14-00-00	Top		10	20		20	14-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	9553 ft-lbs	30.5%	115%	5	07-00-00
End Shear	2432 lbs	17.9%	115%	5	01-05-06
Total Load Deflection	L/658 (0.241")	27.4%	n/a	4	07-00-00
Live Load Deflection	L/1029 (0.154")	23.3%	n/a	6	07-00-00
Max Defl.	0.241"	48.2%	n/a	4	07-00-00
Span / Depth	13.3				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column 5-1/2" x 5-1/4"	3066 lbs	12.9%	14.2%	Southern Pine
B2	Column 5-1/2" x 5-1/4"	3066 lbs	12.9%	14.2%	Southern Pine

Cautions

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.

For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

Notes

Design meets Code minimum (L/180) Total load deflection criteria.
Design meets Code minimum (L/240) Live load deflection criteria.
Design meets arbitrary (0.5") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
BC CALC® analysis is based on IBC 2009.
Design based on Dry Service Condition.

Boise Cascade

Triple 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2650 SP

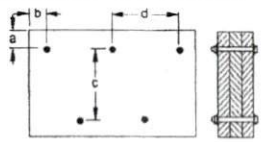
PASSED

RB02 (Roof Beam)

BC CALC® Member Report
Build 7295
Dry | 1 span | No cant.
November 12, 2019 09:25:37

Job name:		File name:	
Address:		Description:	
City, State, Zip:		Specifier:	
Customer:		Designer:	TOM WALKER
Code reports:	ESR-1040	Company:	LONGLEAF TRUSS COMPANY

Connection Diagram: Full Length of Member



a minimum = 2" c = 7-7/8"
b minimum = 2-1/2" d = 24"

Bolts are assumed to be Grade A307 or Grade 2 or higher.
Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade

Triple 1-3/4" x 16" VERSA-LAM® 2.0 3100 SP

PASSED

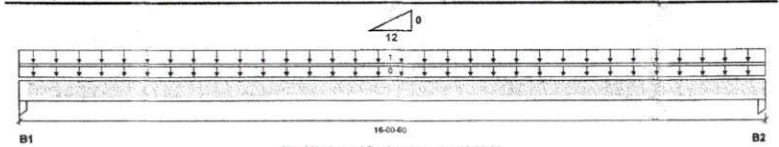
RB01 (Roof Beam)

Dry | 1 span | No cant.

BC CALC® Member Report
Build 7295
Job name:
Address:
City, State, Zip:
Customer:
Code reports: ESR-1040

November 12, 2019 09:23:16

File name:
Description:
Specifier:
Designer: TOM WALKER
Company: LONGLEAF TRUSS COMPANY



Total Horizontal Product Length = 16-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 5-1/2"		2595 / 0	4800 / 0		4800 / 0
B2, 5-1/2"		2595 / 0	4800 / 0		4800 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-00-00	Top		24				00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	16-00-00	Top		10	20		20	30-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	26724 ft-lbs	41.5%	115%	5	08-00-00
End Shear	5739 lbs	31.3%	115%	5	01-09-08
Total Load Deflection	L/588 (0.31")	30.6%	n\a	4	08-00-00
Live Load Deflection	L/906 (0.202")	26.5%	n\a	6	08-00-00
Max Defl.	0.31"	62.1%	n\a	4	08-00-00
Span / Depth	11.4				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column	5-1/2" x 5-1/4"	7395 lbs	31.0%	34.1%	Southern Pine
B2	Column	5-1/2" x 5-1/4"	7395 lbs	31.0%	34.1%	Southern Pine

Cautions

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.
For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

Notes

Design meets Code minimum (L/180) Total load deflection criteria.
Design meets Code minimum (L/240) Live load deflection criteria.
Design meets arbitrary (0.5") Maximum Total load deflection criteria.
Calculations assume member is fully braced.
BC CALC® analysis is based on IBC 2009.
Design based on Dry Service Condition.

Boise Cascade

Triple 1-3/4" x 16" VERSA-LAM® 2.0 3100 SP

PASSED

RB01 (Roof Beam)

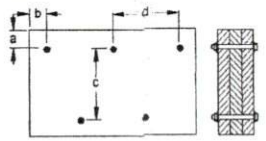
Dry | 1 span | No cant.

November 12, 2019 09:23:16

BC CALC® Member Report
Build 7295
Job name:
Address:
City, State, Zip:
Customer:
Code reports: ESR-1040

File name:
Description:
Specifier:
Designer: TOM WALKER
Company: LONGLEAF TRUSS COMPANY

Connection Diagram: Full Length of Member



a minimum = 2" c = 12"
b minimum = 2-1/2" d = 24"

Bolts are assumed to be Grade A307 or Grade 2 or higher.
Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

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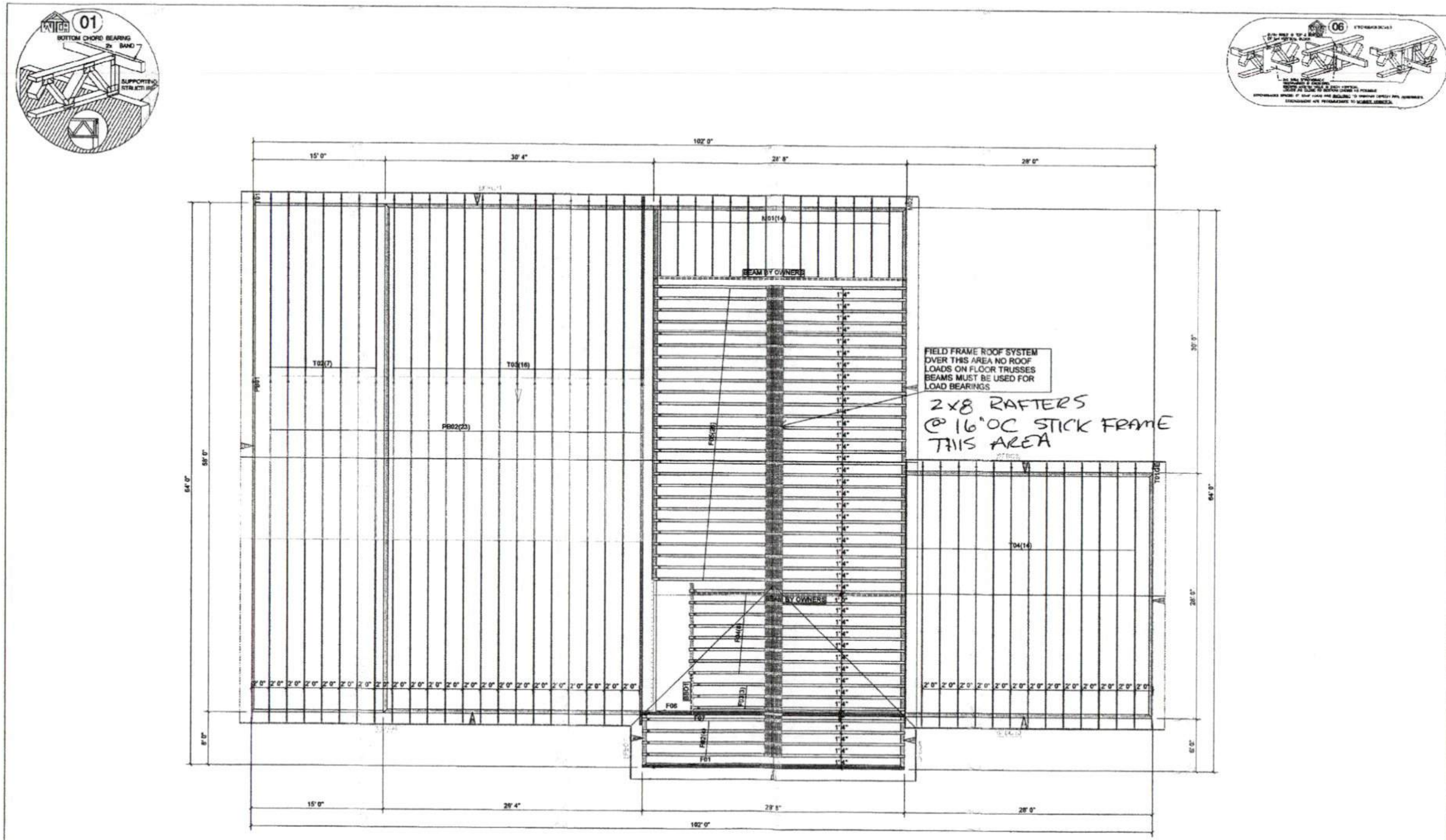

Floor Area: 1603 SF
Floor Plywood: 1843.45

Roof Area: 6422.73 SF
Roof Plywood: 90 sheets
Roof Shingles: 80 Squares

FLOOR TRUSS LAYOUT

1/4" = 1'-0"

PRELIMINARY

FOR APPROVAL ONLY

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

APPROVED BY: ____________________

DATE: ____________________

NOTE

IT IS THE RESPONSIBILITY OF THE BUILDING DESIGNER OR ARCHITECT TO PROVIDE AN APPROPRIATE CONNECTION FOR TRUSSES TO SUPPORTING STRUCTURE PERREACTIONS SHOWN ON TRUSS ENGINEERING. SPECIAL CONSIDERATIONS FOR MECHANICAL EQUIPMENT AND/OR PLUMBING (AND THEIR CONNECTIONS) IN TRUSS SPACE MUST BE DIAGRAMMED BY BUILDER ON APPROVED TRUSS LAYOUT PRIOR TO FABRICATION.

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LONGLEAF TRUSS CO.
4476 Hwy. 21 W
West End, NC 27376
(910) 673-4711

Client:	SERVICE BUILDING SUPPLY SANF
Project:	PATTERSON
Model:	FLOOR
Lot #:	Subdivision:
Order #: P19-10021F	Designer:
Date:	/ /