Reaction Summary of Order

ComTech ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park P.O. Box 40408
Fayetteville, N.C. 28309 (910) 864-TRUS

REQ. QUOTE DATE	/ /	ORDER #	J0223-0539
ORDER DATE	02/00/23	QUOTE #	
DELIVERY DATE	/ /	CUSTOMER ACCT #	000127
DATE OF INVOICE	/ /	CUSTOMER PO #	
ORDERED BY	NONE	INVOICE #	
COUNTY	Harnett	TERMS	TO BE PRE-PAID
SUPERINTENDANT	NONE	SALES REP	Dwayne Naylor
JOBSITE PHONE #	( ) -	SALES AREA	Jonathan Landry

SOLD TO
Cash
CASH OR CHECKS ONLY
NO CREDIT CARDS,
( ) -

SHIP TO
Charles Moore
-
Harnett Co., NC

JOB NAME: Moore Residence LOT # - SUBDIV:-
MODEL: Floor TAG: Custom JOB CATEGORY: B & S - Build and Ship

DELIVERY INSTRUCTIONS:

SPECIAL INSTRUCTIONS:
Charles Moore
(910)-333-7336
seymour1661@gmail.com

PLAN SEAL DATE: N/A

BUILDING DEPARTMENT
Floor Order

OVERHANG INFO		HEEL HEIGHT	00-04-05	REQ. LAYOUTS	REQ. ENGINEERING
END CUT	RETURN			NONE	NONE
PLUMB		GABLE STUDS	24 IN. OC		

	BY	DATE
QUOTE	JL	02/06/23
LAYOUT	JL	02/06/23
CUTTING	JL	02/06/23

FLOOR TRUSSES

LOADING INFORMATION

TCLL-TCDL-BCLL-BCDL	STRESS INCR.
40.0,10.0,0.0,5.0	1.00

FLOOR TRUSS SPACING: 24.0 IN. O.C. (TYP.)

FLOOR PROFILE	QTY / PLY	DEPTH ID	BASE SPAN	O/A SPAN	END TYPE LEFT	END TYPE RIGHT	INT BEARING SIZE	INT BEARING LOCATION	REACTIONS
	1	01-02-00 ET1	22-03-00	22-03-00					Joint 20 23.3 lbs. Joint 21 127.3 lbs. Joint 22 151.1 lbs. Joint 23 145.5 lbs. Joint 24 147.0 lbs.
	3	01-02-00 F1	22-03-00	22-03-00					Joint 17 83.2 lbs. -411.2 lbs. Joint 20 1783.7 lbs. 645.1 lbs. Joint 28 896.6 lbs. 243.4 lbs.
	1	01-02-00 F1A	22-03-00	22-03-00					Joint 19 -96.3 lbs. -541.3 lbs. Joint 22 2193.1 lbs. 1182.0 lbs. Joint 32 963.6 lbs. 322.1 lbs.
	1	01-02-00 F2	13-04-08	13-04-08					Joint 9 707.0 lbs. 372.7 lbs. Joint 16 707.0 lbs. 375.7 lbs.
	4	01-02-00 F3	18-04-08	18-04-08					Joint 14 990.6 lbs. 505.3 lbs. Joint 22 996.9 lbs. 506.6 lbs.
	1	01-02-00 F3A	18-04-08	18-04-08					Joint 16 1296.4 lbs. 859.6 lbs. Joint 26 1114.0 lbs. 623.7 lbs.
	1	00-11-00 FG1	03-06-08	03-06-08					Joint 5 522.9 lbs. 452.8 lbs. Joint 8 446.1 lbs. 374.9 lbs.

ITEMS

QTY	ITEM TYPE	SIZE	LENGTH FT-IN-16	PART NUMBER	NOTES
13	Hangers, USP	HUS 410			SIMPSON (HUS410)

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Fayetteville, N.C. 28309 (910) 864-TRUS

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ORDERED BY	NONE	INVOICE #	
COUNTY	Harnett	TERMS	TO BE PRE-PAID
SUPERINTENDANT	NONE	SALES REP	Dwayne Naylor
JOBSITE PHONE #	( ) -	SALES AREA	Jonathan Landry

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SHIP TO
Charles Moore
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MODEL: Floor **TAG:** Custom **JOB CATEGORY:** B & S - Build and Ship

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SPECIAL INSTRUCTIONS:
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seymour1661@gmail.com

PLAN SEAL DATE: N/A

BUILDING DEPARTMENT
Floor Order

OVERHANG INFO		HEEL HEIGHT	00-04-05
END CUT	RETURN		
PLUMB		GABLE STUDS	24 IN. OC

REQ. LAYOUTS	REQ. ENGINEERING
NONE	NONE

	BY	DATE
QUOTE	JL	02/06/23
LAYOUT	JL	02/06/23
CUTTING	JL	02/06/23

ITEMS

QTY	ITEM TYPE	SIZE	LENGTH FT-IN-16	PART NUMBER	NOTES
2	LVL Beams (Sized)	LVL, 1-3/4" x 11-7/8" (S)	19-00-00		BM1
5	LVL Beams (Sized)	LVL, 1-3/4" x 11-7/8" (S)	13-00-00		BM2 & BM3
2	LVL Beams (Sized)	LVL, 1-3/4" x 18" (S)	19-00-00		BM4
3	LVL Beams (Sized)	LVL, 1-3/4" x 18" (S)	23-00-00		GDH
2	Hangers, USP	MSH422			SIMPSON (THA422)

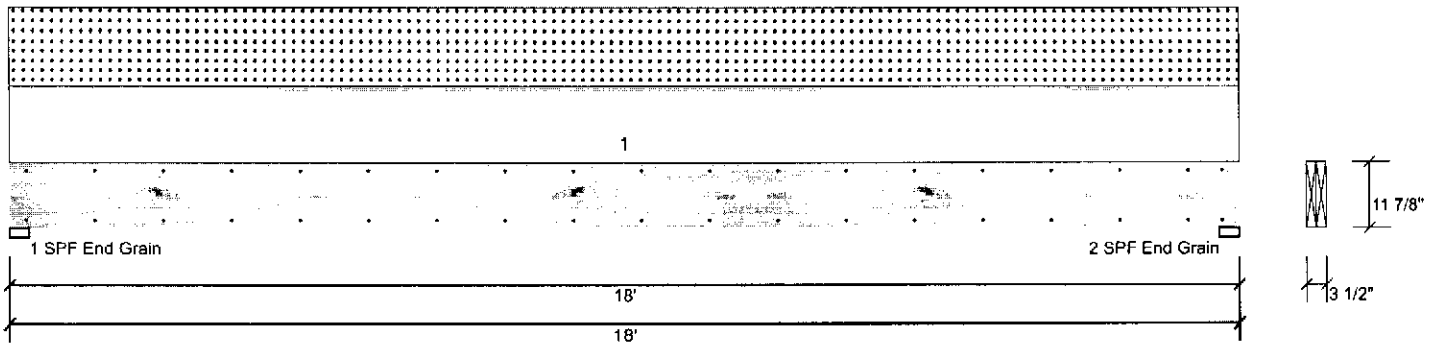
iStructDesign

Client: Cash
Project: Custom
Address:

Date: 2/6/2023
Input by: Jonathan Landry
Job Name: Moore Residence
Project #: J0223-0539

BM1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	758	675	0	0
2	Vertical	0	758	675	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	14%	758 / 675	1433	L	D+S
2 - SPF End Grain	3.500"	Vert	14%	758 / 675	1433	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6125 ft-lb	9'	22897 ft-lb	0.267 (27%)	D+S	L
Unbraced	6125 ft-lb	9'	6135 ft-lb	0.998 (100%)	D+S	L
Shear	1238 lb	1'3 3/8"	10197 lb	0.121 (12%)	D+S	L
LL Defl inch	0.172 (L/1227)	9' 1/16"	0.439 (L/480)	0.391 (39%)	S	L
TL Defl inch	0.364 (L/578)	9' 1/16"	0.585 (L/360)	0.623 (62%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at a maximum of 16'2 7/8" o.c.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	75 PLF	0 PLF	75 PLF	0 PLF	0 PLF	ZB1
	Self Weight				9 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech
Reilly Road Industrial Park P.O. Box 40408, NC
USA
28309
910-864-8787

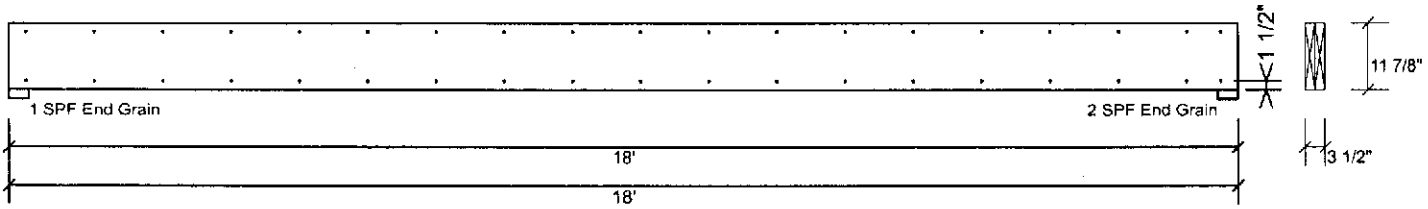
CSD

isDesign

Client:	Cash	Date:	2/6/2023
Project:	Custom	Input by:	Jonathan Landry
Address:		Job Name:	Moore Residence
		Project #:	J0223-0539

BM1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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CSD

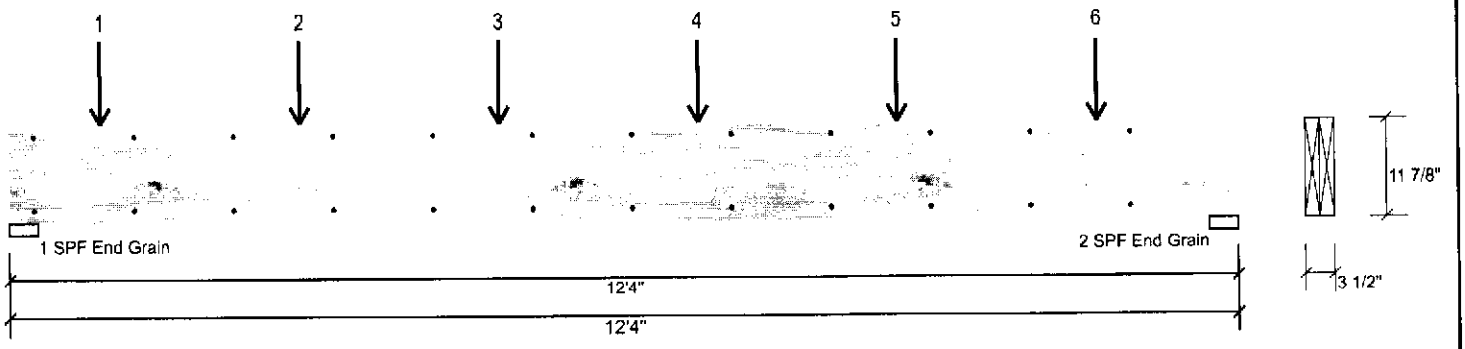
isDesign

Client: Cash
Project: Custom
Address:

Date: 2/6/2023
Input by: Jonathan Landry
Job Name: Moore Residence
Project #: J0223-0539

BM2 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1867	1810	0	0
2	Vertical	0	1203	1146	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	36%	1867 / 1810	3677	L	D+S
2 - SPF End Grain	3.500"	Vert	23%	1203 / 1146	2349	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9787 ft-lb	4'11"	22897 ft-lb	0.427 (43%)	D+S	L
Unbraced	9787 ft-lb	4'11"	9804 ft-lb	0.998 (100%)	D+S	L
Shear	3243 lb	1'3 3/8"	10197 lb	0.318 (32%)	D+S	L
LL Defl inch	0.137 (L/1042)	6' 1/2"	0.297 (L/480)	0.461 (46%)	S	L
TL Defl inch	0.278 (L/512)	6' 9/16"	0.396 (L/360)	0.703 (70%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at a maximum of 9'5 1/4" o.c.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Point	0-11-0		Top	585 lb	0 lb	585 lb	0 lb	0 lb	B5
	Bearing Length	0-3-8								
2	Point	2-11-0		Top	664 lb	0 lb	664 lb	0 lb	0 lb	B4
	Bearing Length	0-3-8								
3	Point	4-11-0		Top	603 lb	0 lb	603 lb	0 lb	0 lb	B3

Continued on page 2...

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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CSD

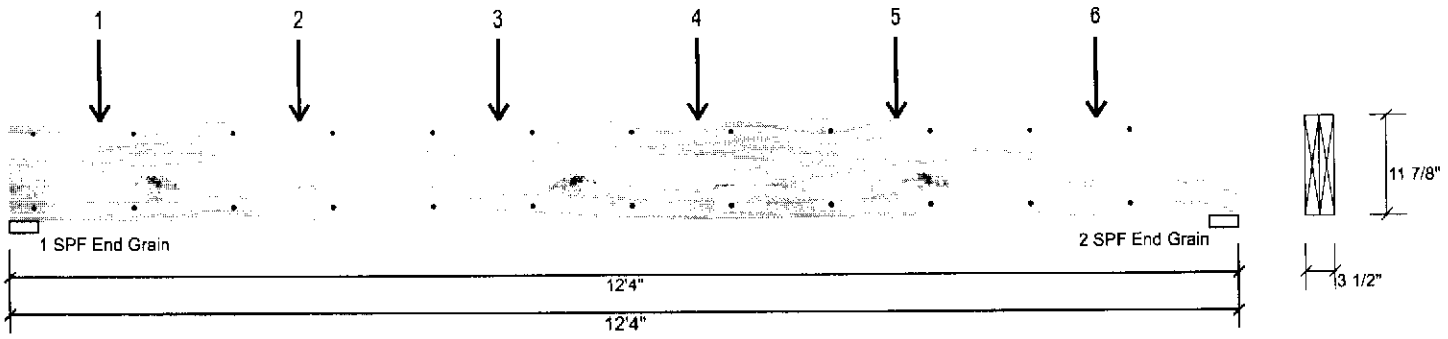
isDesign

Client: Cash
Project: Custom
Address:

Date: 2/6/2023
Input by: Jonathan Landry
Job Name: Moore Residence
Project #: J0223-0539

BM2 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	Bearing Length	0-3-8								
4	Point	6-11-0		Top	572 lb	0 lb	572 lb	0 lb	0 lb	B2
	Bearing Length	0-3-8								
5	Point	8-11-0		Top	457 lb	0 lb	457 lb	0 lb	0 lb	B1-GR
	Bearing Length	0-3-8								
6	Point	10-11-0		Top	75 lb	0 lb	75 lb	0 lb	0 lb	ZB1
	Bearing Length	0-3-8								
	Self Weight				9 PLF					

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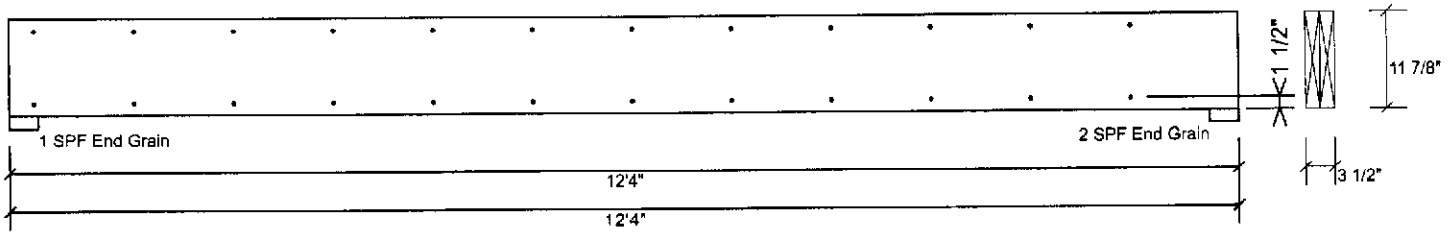
Address:		Job Name:	Moore Residence
		Project #:	J0223-0539

BM2 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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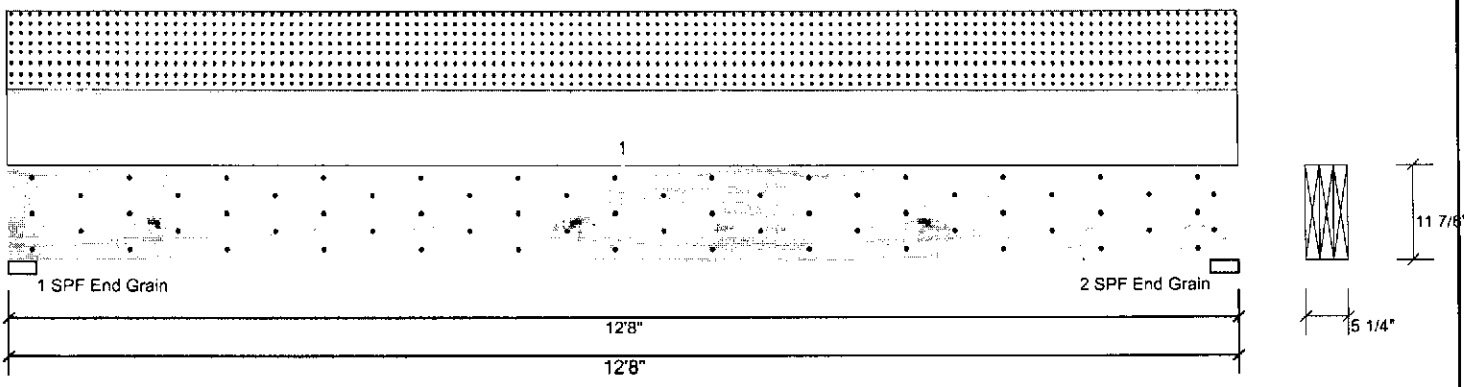
Project #: J0223-0539

BM3 Kerto-S LVL 1.750" X 11.875" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	2564	2476	0	0
2	Vertical	0	2564	2476	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	33%	2564 / 2476	5040	L	D+S
2 - SPF End Grain	3.500"	Vert	33%	2564 / 2476	5040	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	14827 ft-lb	6'4"	35719 ft-lb	0.415 (42%)	D+S	L
Unbraced	14827 ft-lb	6'4"	14854 ft-lb	0.998 (100%)	D+S	L
Shear	4808 lb	1'3 3/8"	15295 lb	0.314 (31%)	D+S	L
LL Defl inch	0.147 (L/998)	6'4"	0.305 (L/480)	0.481 (48%)	S	L
TL Defl inch	0.299 (L/490)	6'4"	0.407 (L/360)	0.734 (73%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 5 rows of 16d Box nails (.135x3.5") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top must be laterally braced at a maximum of 9'4 3/16" o.c.
6 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Near Face	391 PLF	0 PLF	391 PLF	0 PLF	0 PLF	A10
	Self Weight				14 PLF					

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Handling & Installation

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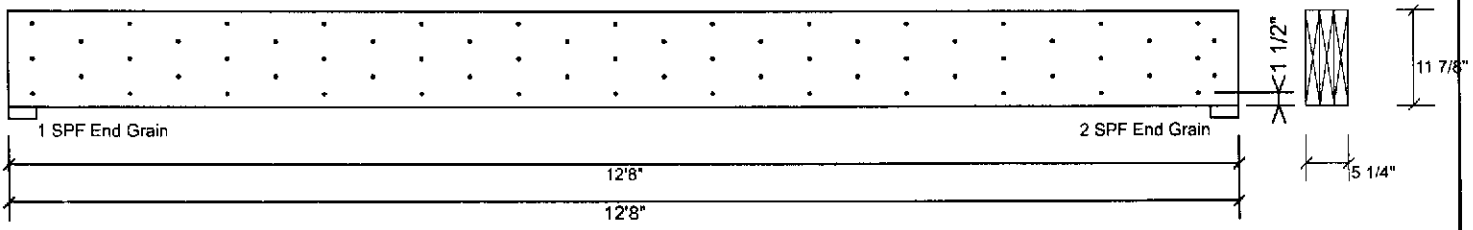
Client:	Cash	Date:	2/6/2023
Project:	Custom	Input by:	Jonathan Landry
Address:		Job Name:	Moore Residence
		Project #:	J0223-0539

BM3 Kerto-S LVL 1.750" X 11.875" 3-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 5 rows of 16d Box nails (.135x3.5") at 12" o.c.. Nail from both sides. Maximum end distance not to exceed 6".

Capacity	97.2 %
Load	521.3 PLF
Yield Limit per Foot	536.1 PLF
Yield Limit per Fastener	107.2 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+S
Duration Factor	1.15

Notes

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Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech
Reilly Road Industrial Park P.O. Box 40408, NC
USA
28309
910-864-8787

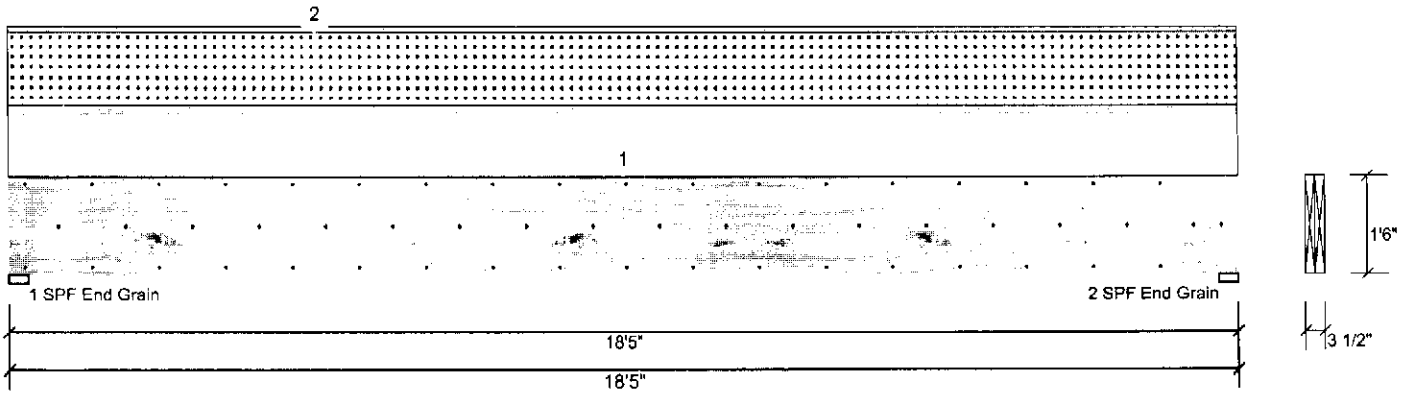
iStructDesign

Client: Cash
Project: Custom
Address:

Date: 2/6/2023
Input by: Jonathan Landry
Job Name: Moore Residence
Project #: J0223-0539

BM4 Kerto-S LVL 1.750" X 18.000" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	368	3398	3131	0	0
2	Vertical	368	3398	3131	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	63%	3398 / 3131	6529	L	D+S
2 - SPF End Grain	3.500"	Vert	63%	3398 / 3131	6529	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	28648 ft-lb	9'2 1/2"	49428 ft-lb	0.580 (58%)	D+S	L
Unbraced	28648 ft-lb	9'2 1/2"	28811 ft-lb	0.994 (99%)	D+S	L
Shear	5302 lb	1'9 1/2"	15456 lb	0.343 (34%)	D+S	L
LL Defl inch	0.260 (L/830)	9'2 9/16"	0.449 (L/480)	0.579 (58%)	S	L
TL Defl inch	0.542 (L/398)	9'2 9/16"	0.599 (L/360)	0.905 (90%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at a maximum of 4'5 15/16" o.c.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	340 PLF	0 PLF	340 PLF	0 PLF	0 PLF	C2
2	Tie-In Far	0-0-0 to 18-5-0	1-0-0	Far Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor Loads
2	Tie-In Near	0-0-0 to 18-5-0	0-0-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor Loads
	Self Weight				14 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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28309
910-864-8787

CSD

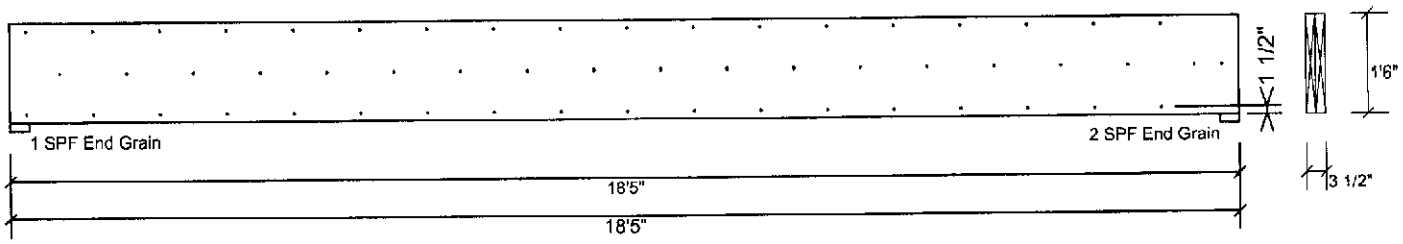
iStructDesign

Client: Cash
Project: Custom
Address:

Date: 2/6/2023
Input by: Jonathan Landry
Job Name: Moore Residence
Project #: J0223-0539

BM4 Kerto-S LVL 1.750" X 18.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	11.2 %
Load	27.5 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treatec with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product Informatinn regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avnid lateral displacement and rotation
6. For flat roofs provice proper drainage to prevent ponding

This design is valid until 11/3/2024

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(800) 622-5850
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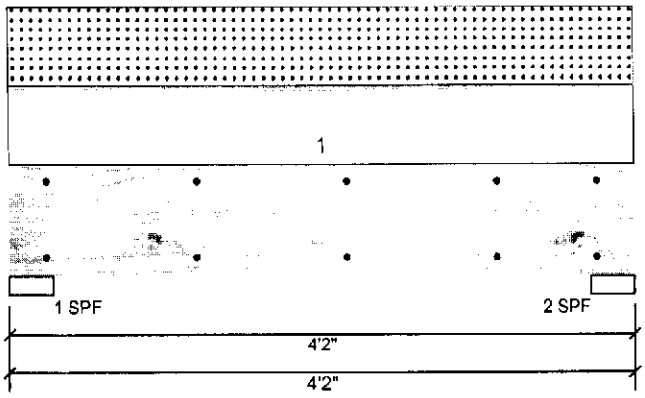
Comtech
Reilly Road Industrial Park P.O. Box 40408, NC
USA
28309
910-864-8787

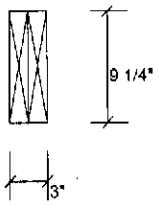
CSD

Client:	Cash	Date:	2/6/2023
Project:	Custom	Input by:	Jonathan Landry
Address:		Job Name:	Moore Residence
		Project #:	J0223-0539

BM5 S-P-F #1 2.000" X 10.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	625	625	0	0
2	Vertical	0	625	625	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	28%	625 / 625	1250	L	D+S
2 - SPF	3.500"	Vert	28%	625 / 625	1250	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1031 ft-lb	2'1"	3946 ft-lb	0.261 (26%)	D+S	L
Unbraced	1031 ft-lb	2'1"	3780 ft-lb	0.273 (27%)	D+S	L
Shear	613 lb	1' 3/4"	2872 lb	0.213 (21%)	D+S	L
LL Defl inch	0.005 (L/9657)	2'1 1/16"	0.093 (L/480)	0.050 (5%)	S	L
TL Defl inch	0.009 (L/4828)	2'1 1/16"	0.124 (L/360)	0.075 (7%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	300 PLF	0 PLF	300 PLF	0 PLF	0 PLF	C3

This design is valid until 11/3/2024

Manufacturer Info

Comtech
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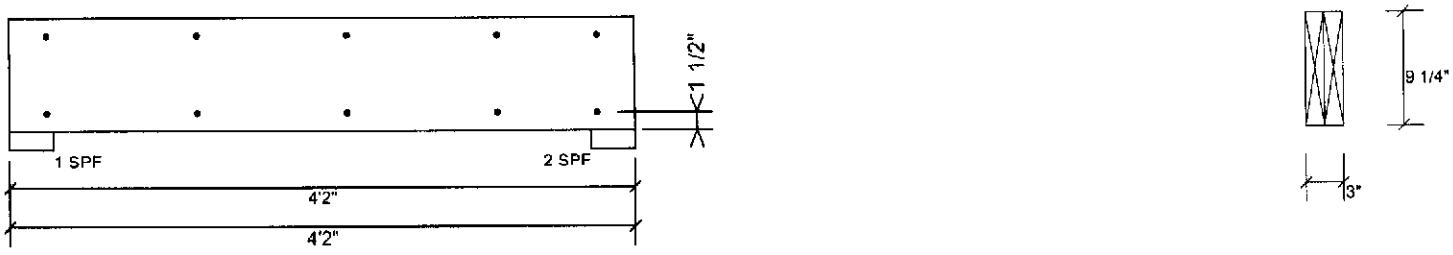
Client:	Cash	Date:	2/6/2023
Project:	Custom	Input by:	Jonathan Landry
Address:		Job Name:	Moore Residence
		Project #:	J0223-0539

BM5 S-P-F #1 2.000" X 10.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	157.4 PLF
Yield Limit per Fastener	78.7 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Manufacturer Info	Comtech Reilly Road Industrial Park P.O. Box 40408, NC USA 28309 910-864-8787

This design is valid until 11/3/2024

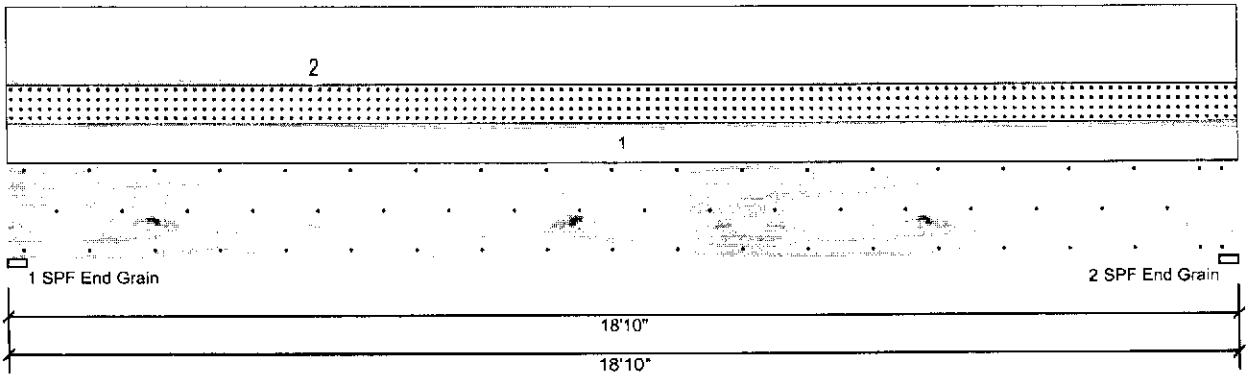
isDesign

Client: Cash
Project: Custom
Address:

Date: 2/6/2023
Input by: Jonathan Landry
Job Name: Moore Residence
Project #: J0223-0539

GDH Kerto-S LVL 1.750" X 18.000" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	6130	1978	0	0
2	Vertical	0	6130	1978	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	53%	6130 / 1978	8108	L	D+S
2 - SPF End Grain	3.500"	Vert	53%	6130 / 1978	8108	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	36421 ft-lb	9'5"	77108 ft-lb	0.472 (47%)	D+S	L
Unbraced	36421 ft-lb	9'5"	36512 ft-lb	0.998 (100%)	D+S	L
Shear	6597 lb	1'9 1/2"	23184 lb	0.285 (28%)	D+S	L
LL Defl inch	0.117 (L/1889)	9'5 1/16"	0.460 (L/480)	0.254 (25%)	S	L
TL Defl inch	0.479 (L/461)	9'5 1/16"	0.613 (L/360)	0.781 (78%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at a maximum of 5'5 1/8" o.c.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	210 PLF	0 PLF	210 PLF	0 PLF	0 PLF	C1GE
2	Uniform			Top	420 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Brick
	Self Weight				21 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

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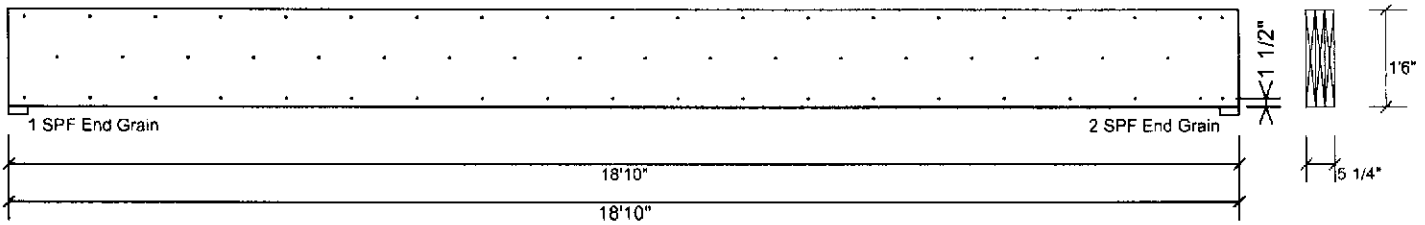
CSD

Client:	Cash	Date:	2/6/2023
Project:	Custom	Input by:	Jonathan Landry
Address:		Job Name:	Moore Residence
		Project #:	J0223-0539

GDH Kerto-S LVL 1.750" X 18.000" 3-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Nail from both sides. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
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Comtech
Reilly Road Industrial Park P.O. Box 40408, NC
USA
28309
910-864-8767

CSD

ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: J0223-0539
Moore Residence

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

Pages or sheets covered by this seal: I56496098 thru I56496104

My license renewal date for the state of North Carolina is December 31, 2023.

North Carolina COA: C-0844

February 7,2023

Liu, Xuegang

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job	Truss	Truss Type	Qty	Ply	Moore Residence	I56496098
J0223-0539	ET1	GABLE	1	1	Job Reference (optional)	

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Feb 6 10:56:43 2023 Page 1
ID:H?WdV7YlehtS?ynQPhAFS1zqDSo-?hx8mixzi_r79r8rOaJ758jUCW29QK8NiLcXeczntio

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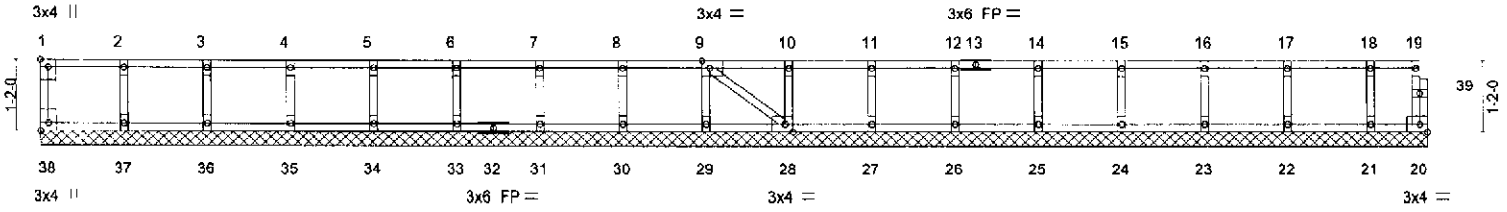


1-4-0	2-8-0	4-0-0	5-4-0	6-8-0	8-0-0	9-4-0	10-8-0	12-0-0	13-4-0	14-8-0	16-0-0	17-4-0	18-8-0	20-0-0	21-4-0	22-3-0
1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	0-11-0

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [9:0-1-8,Edge], [28:0-1-8,Edge], [38: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	20	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 95 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-

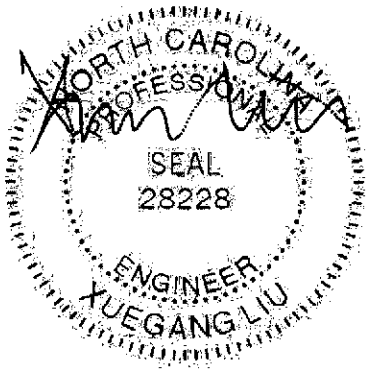
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 22-3-0.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 38, 20, 37, 36, 35, 34, 33, 31, 30, 29, 28, 27, 26, 25, 24, 23, 22, 21

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.



February 7,2023

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

Job	Truss	Truss Type	Qty	Ply	Moore Residence	I56496099
J0223-0539	F1	Floor	3	1	Job Reference (optional)	

Comtech, Inc. Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Feb 6 10:56:45 2023 Page 1
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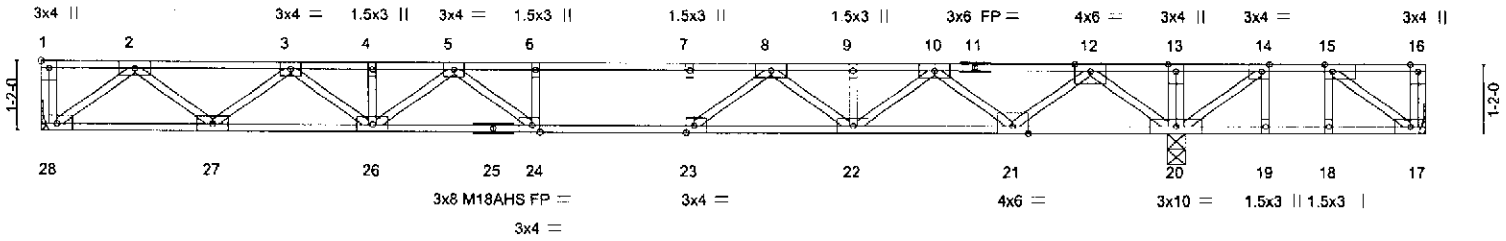


18-2-12 22-3-0
18-2-12 4-0-4

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [14:0-1-8,Edge], [15:0-1-8,Edge], [23:0-1-8,Edge], [24:0-1-8,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	0.92	Vert(LL)	-0.30	24-26	>732	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.97	Vert(CT)	-0.41	24-26	>532	360	M18AHS	186/179
BCLL	0.0	Rep Stress Incr	YES	WB	0.61	Horz(CT)	0.05	20	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 115 lb	FT = 20%F, 11%E

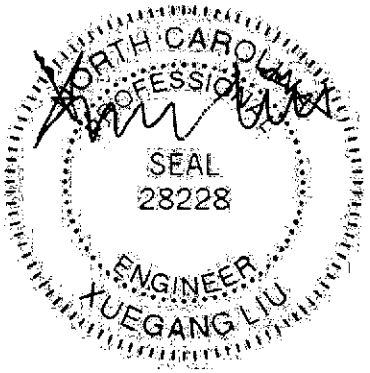
LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 28=Mechanical, 17=Mechanical, 20=0-3-8
Max Uplift 17=-411(LC 3)
Max Grav 28=897(LC 10), 17=83(LC 4), 20=1784(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1856/0, 3-4=-3049/0, 4-5=-3049/0, 5-6=-3412/0, 6-7=-3412/0, 7-8=-3412/0, 8-9=-2301/0, 9-10=-2301/0, 10-12=-648/0, 12-13=0/1813, 13-14=0/1813, 14-15=0/816
BOT CHORD 27-28=0/1114, 26-27=0/2574, 24-26=0/3353, 23-24=0/3412, 22-23=0/2869, 21-22=0/1582, 20-21=-438/0, 19-20=-816/0, 18-19=-816/0, 17-18=-816/0
WEBS 2-28=-1397/0, 2-27=0/966, 3-27=-934/0, 3-26=0/607, 12-20=-1766/0, 12-21=0/1290, 10-21=-1225/0, 10-22=0/924, 5-26=-388/0, 8-22=-733/0, 8-23=0/894, 5-24=-196/443, 7-23=-410/0, 15-17=0/1007, 14-20=-1360/0, 14-19=0/352, 15-18=-317/0

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 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 411 lb uplift at joint 17.
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.



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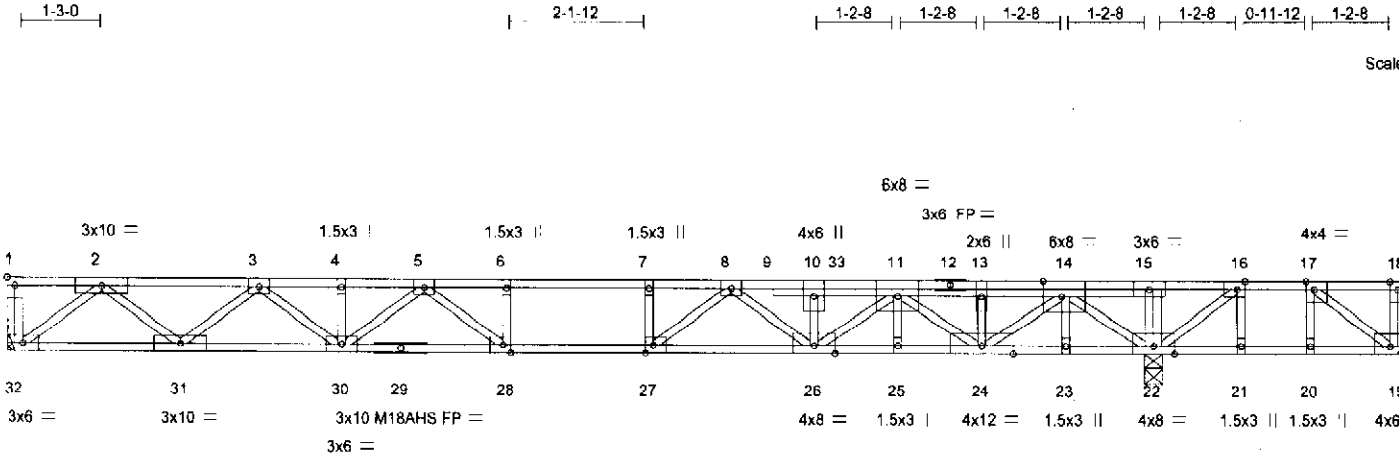
Job	Truss	Truss Type	Qty	Ply	Moore Residence	I56496100
J0223-0539	F1A	Floor	1	1	Job Reference (optional)	

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Feb 6 10:56:47 2023 Page 1
ID:H?WdV7YiehtS?ynQPhAFS1zqDSo-tSAec4_TmDMZeSScdQO3F_uzO7CfMwSzdyalnNzntlk



18-2-12 22-3-0
18-2-12 4-0-4

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [14:0-3-8,Edge], [16:0-1-8,Edge], [17:0-1-8,Edge], [19:Edge,0-1-8], [27:0-1-8,Edge], [28:0-1-8,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	0.88	Vert(LL)	-0.26	28	>836	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.87	Vert(CT)	-0.36	27-28	>607	360	M18AHS	186/179
BCLL	0.0	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.06	22	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 126 lb	FT = 20%F, 11%E

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

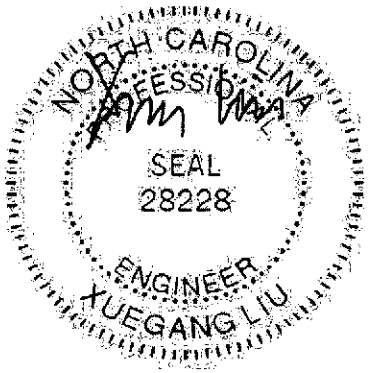
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (size) 32=Mechanical, 22=0-3-8, 19=Mechanical
Max Uplift 19=-541(LC 3)
Max Grav 32=964(LC 10), 22=2193(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2026/0, 3-4=-3376/0, 4-5=-3376/0, 5-6=-4002/0, 6-7=-4002/0, 7-8=-4002/0, 8-10=-3383/0, 10-11=-3378/0, 11-13=-1049/0, 13-14=-1049/0, 14-15=0/2470, 15-16=0/2464, 16-17=0/1059
BOT CHORD 31-32=0/1203, 30-31=0/2816, 28-30=0/3769, 27-28=0/4002, 26-27=0/3648, 25-26=0/2407, 24-25=0/2407, 23-24=-565/0, 22-23=-565/0, 21-22=-1059/0, 20-21=-1059/0, 19-20=-1059/0
WEBS 2-32=-1509/0, 2-31=0/1071, 3-31=-1029/0, 3-30=0/715, 5-30=-502/0, 5-28=0/659, 6-28=-317/0, 14-22=-2355/0, 14-24=0/1909, 11-24=-1693/0, 11-26=0/1213, 10-26=-479/0, 8-26=-355/70, 16-22=-1861/0, 16-21=0/413, 17-19=0/1321, 17-20=-369/0, 8-27=-44/632, 7-27=-311/21

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 541 lb uplift at joint 19.
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) 426 lb down at 13-2-12 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
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 19-32=-10, 1-18=-100



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LOAD CASE(S) Standard
Concentrated Loads (lb)
Vert: 33=-346(F)

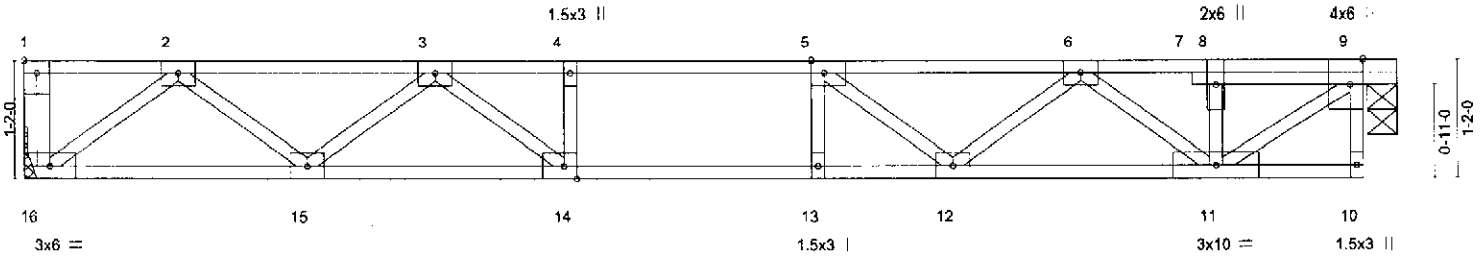
Job	Truss	Truss Type	Qty	Ply	Moore Residence	I56496101
J0223-0539	F2	Floor	1	1	Job Reference (optional)	

Comtech, Inc, Fayetteville, NC - 28314,

8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Feb 6 10:56:48 2023 Page 1
ID:H?WdV7YlehtS?ynQPhAFS1zqDSo-Lek1pQ?5XWUQFc1pB7vIoBQFTXcr5U77rcJIJqzntij

1-3-0 2-3-8 0-4-0

Scale = 1:22.5



13-0-8 13-4-8
13-0-8 0-4-0

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [5:0-1-8,Edge], [9:0-3-0,Edge], [14:0-1-8,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	0.41	Vert(LL)	-0.12	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.61	Vert(CT)	-0.15	13	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.01	9	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 68 lb	FT = 20%F, 11%E

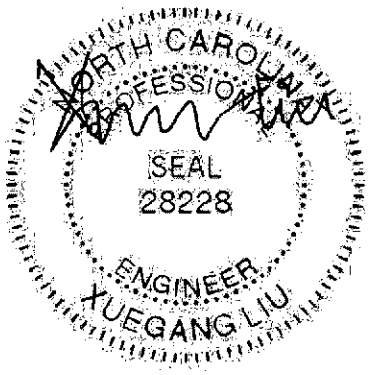
LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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) 16=Mechanical, 9=0-3-8
Max Grav 16=707(LC 1), 9=707(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1379/0, 3-4=-2139/0, 4-5=-2139/0, 5-6=-1816/0, 6-8=-850/0, 8-9=-850/0
BOT CHORD 15-16=0/867, 14-15=0/1864, 13-14=0/2139, 12-13=0/2139, 11-12=0/1472
WEBS 9-11=0/1043, 2-16=-1088/0, 2-15=0/667, 3-15=-630/0, 3-14=0/559, 6-11=-794/0, 6-12=0/467, 5-12=-535/0

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) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
7) CAUTION, Do not erect truss backwards.



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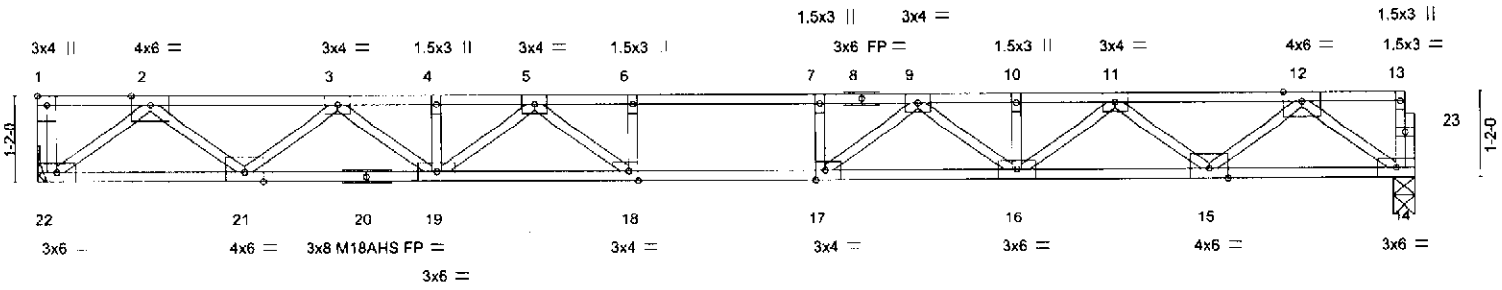
Job	Truss	Truss Type	Qty	Ply	Moore Residence	156496102
J0223-0539	F3	Floor	4	1	Job Reference (optional)	

Comtech, Inc, Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Feb 6 10:56:49 2023 Page 1
ID:H?WdV7YlehtS?ynQPhAFS1zqDSo-qqIP1m0klqcHtmc?krQXKPzlaxtVqwmG4G3srGzntii

1-3-0 2-4-8 0-1-8

Scale = 1:30.8



18-4-8
18-4-8

Plate Offsets (X,Y)-- [1:Edge,0-1-8], [17:0-1-8,Edge], [18:0-1-8,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)	-0.32	17-18	>688	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.91	Vert(CT)	-0.44	17-18	>499	360	M18AHS	186/179
BCLL	0.0	Rep Stress Incr	YES	WB	0.54	Horz(CT)	0.08	14	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 93 lb	FT = 20%F, 11%E

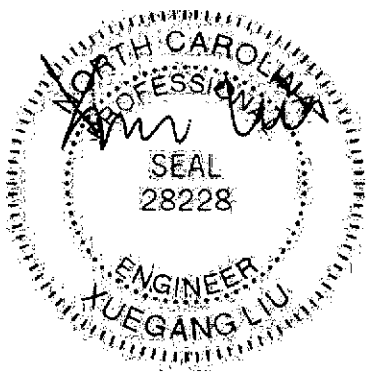
LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 22=Mechanical, 14=0-3-8
Max Grav 22=997(LC 1), 14=991(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2110/0, 3-4=-3538/0, 4-5=-3538/0, 5-6=-4278/0, 6-7=-4278/0, 7-9=-4278/0, 9-10=-3538/0, 10-11=-3538/0, 11-12=-2110/0
BOT CHORD 21-22=0/1247, 19-21=0/2939, 18-19=0/3975, 17-18=0/4278, 16-17=0/3975, 15-16=0/2940, 14-15=0/1246
WEBS 2-22=-1565/0, 2-21=0/1123, 3-21=-1079/0, 3-19=0/764, 5-19=-558/0, 5-18=-36/740, 6-18=-346/0, 12-14=-1561/0, 12-15=0/1124, 11-15=-1080/0, 11-16=0/764, 9-16=-558/0, 9-17=-36/740, 7-17=-346/0

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



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Job	Truss	Truss Type	Qty	Ply	Moore Residence	I56496103
J0223-0539	F3A	Floor	1	1	Job Reference (optional)	

Comtech, Inc. Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Feb 6 10:56:51 2023 Page 1
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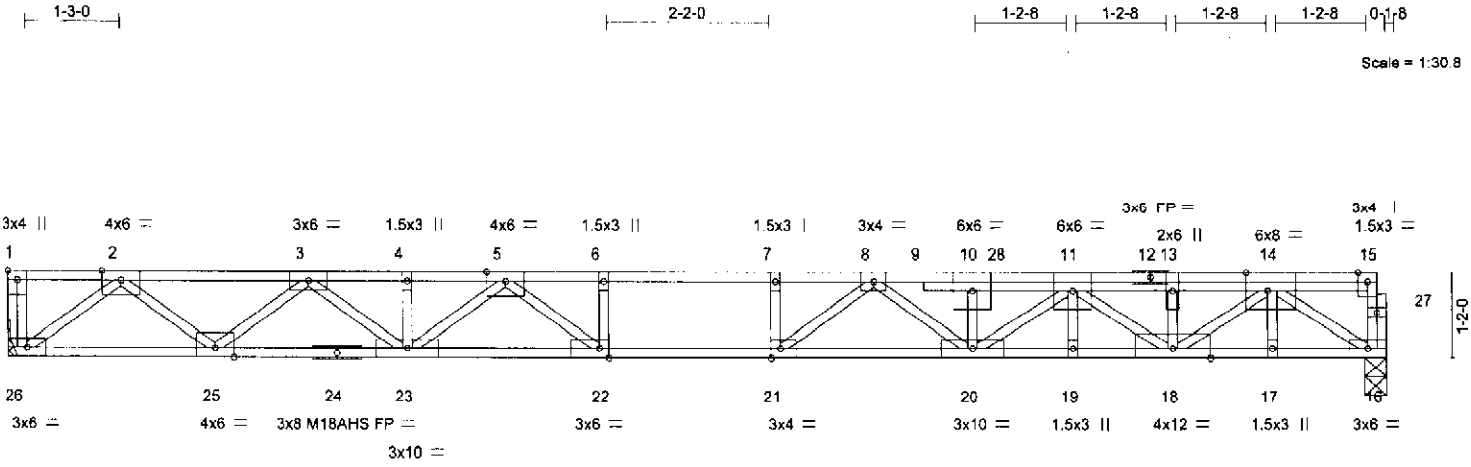


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [14:0-3-8,Edge], [21:0-1-8,Edge], [22:0-1-8,Edge]

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)	-0.35	20-21	>618	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.90	Vert(CT)	-0.49	20-21	>444	360	M18AHS	186/179
BCLL	0.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.08	16	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 104 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)

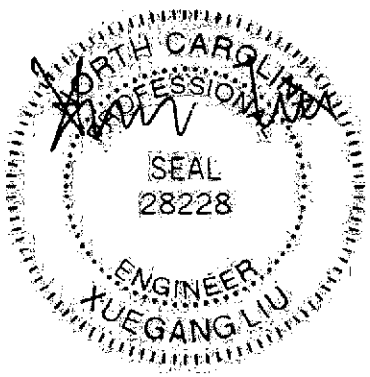
BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 26=Mechanical, 16=0-3-8
Max Grav 26=1114(LC 1), 16=1296(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2407/0, 3-4=-4108/0, 4-5=-4108/0, 5-6=-5288/0, 6-7=-5288/0, 7-8=-5288/0, 8-10=-5275/0, 10-11=-5275/0, 11-13=-3201/0, 13-14=-3201/0
BOT CHORD 25-26=0/1403, 23-25=0/3367, 22-23=0/4705, 21-22=0/5288, 20-21=0/5280, 19-20=0/4454, 18-19=0/4454, 17-18=0/1725, 16-17=0/1725
WEBS 2-26=-1760/0, 2-25=0/1307, 3-25=-1249/0, 3-23=0/947, 5-23=-761/0, 5-22=0/1079, 6-22=-476/0, 14-16=-2101/0, 14-18=0/1832, 11-18=-1555/0, 11-20=0/1018, 10-20=-518/0, 8-21=-406/297

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 503 lb down at 13-2-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 16-26=-10, 1-15=-100
Concentrated Loads (lb)
Vert: 28=-423(B)



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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Moore Residence	I56496104
J0223-0539	FG1	FLOOR	1	1	Job Reference (optional)	

Comtech, Inc. Fayetteville, NC - 28314, 8.430 s Jan 6 2022 MiTek Industries, Inc. Mon Feb 6 10:56:52 2023 Page 1
ID:H?WdV7YlehtS?ynQPhAFS1zqDSo-EPzXfn2cbl_rkDKaQz_Ey1bz68091LsimEHWSbzntif

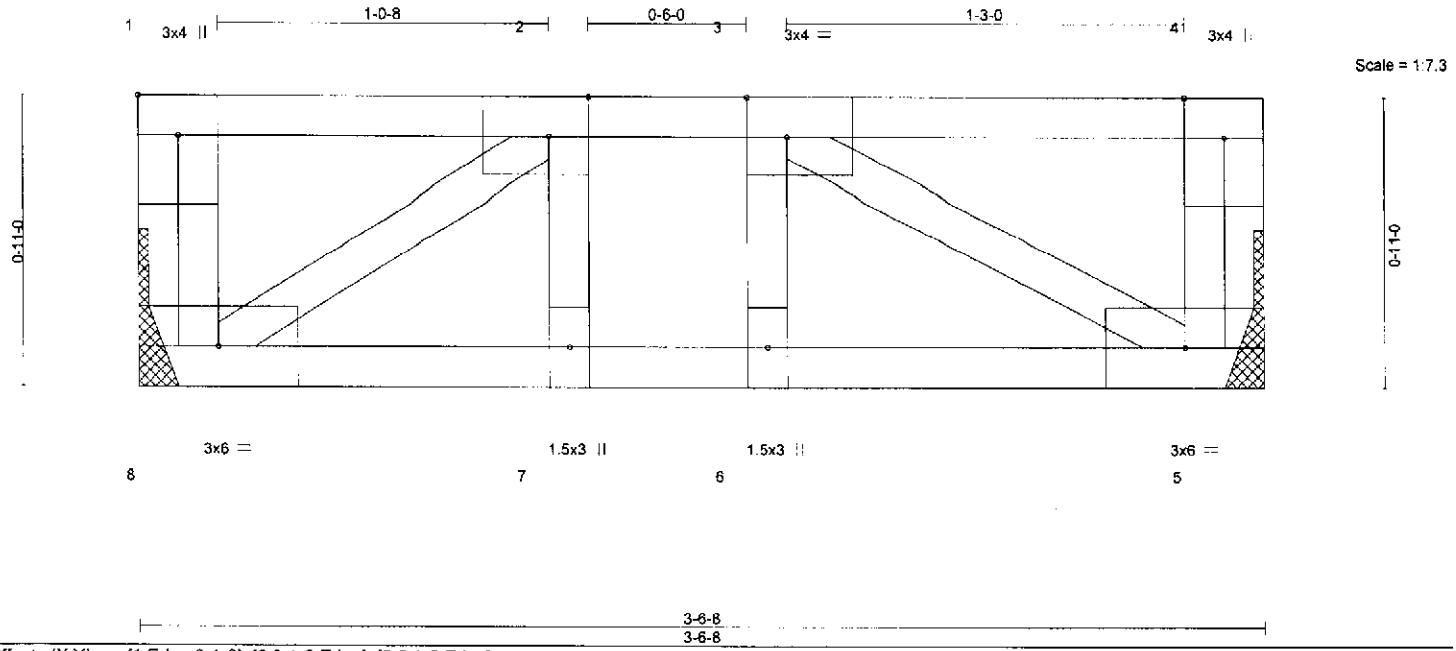


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [2:0-1-8,Edge], [3:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.24	Vert(LL)	-0.01	5-6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.40	Vert(CT)	-0.02	5-6	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.19	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code IRC2015/TPI2014		Matrix-S							Weight: 20 lb	FT = 20%F, 11%E

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

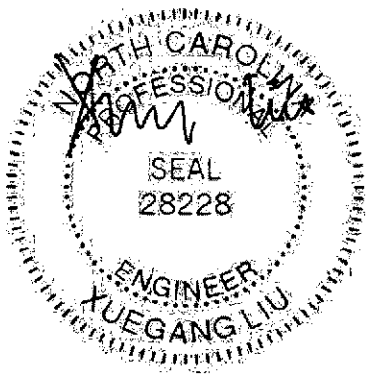
BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-6-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 8=Mechanical, 5=Mechanical
Max Grav 8=446(LC 1), 5=523(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-705/0
BOT CHORD 7-8=0/705, 6-7=0/705, 5-6=0/705
WEBS 3-5=-804/0, 2-8=-838/0

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.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 5-8=-10, 1-4=-100
Concentrated Loads (lb)
Vert: 3=-607



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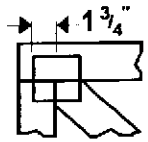
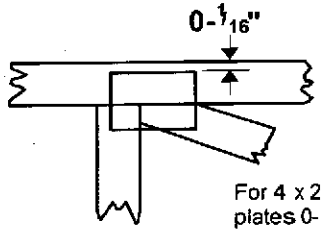
Symbols

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.

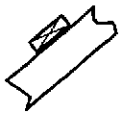
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

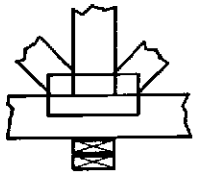
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

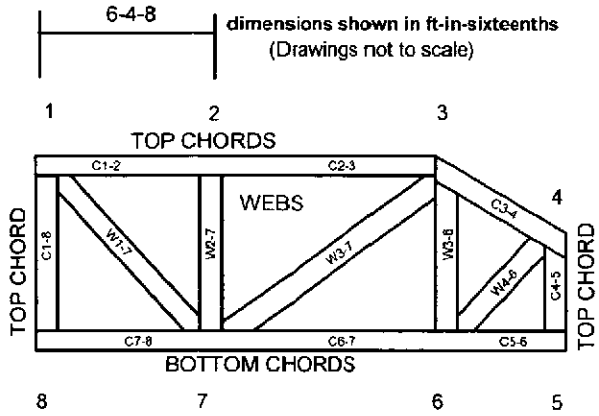


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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

ENGINEERING BY TRENCO
A MiTek Affiliate

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 T or 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.