FORM R405-2017

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	340CC30764BMO AH REGION 2A	Builder Name:	
Street:		Permit Office:	
City, State, Zip:	, FL ,	Permit Number:	
Owner:		Jurisdiction:	
Design Location:	FL, Lakeland	County:	POLK (Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Single-family
3. Number of units, if multiple family	1
4. Number of Bedrooms	4
5. Is this a worst case?	Yes
6. Conditioned floor area above grade (ft²)	2280
Conditioned floor area below grade (ft²)	0

7. Windows(214.3 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.30	214.25 ft²
SHGC:	SHGC=0.29	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
d. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		0.500 ft.
Area Weighted Average SHGC:		0.290

8. Floor Types (2280.0 sqft.)	Insulation	Area
a. Raised Floor	R=11.0	2280.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

9. Wall Types (1908.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=11.0	1908.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

10. Ceiling Types (2280.0 sqft.)	Insulation	Area
a. Under Attic (Vented)	R=33.0	2280.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

11. Ducts	R	ft²
a. Sup: Attic, Ret: Main, AH: Main	6	207

12. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	42.0	SEER:14.00

13. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	39.0	HSPF:8.20

14. Hot water systems	
a. Electric	Cap: 50 gallons
	EF: 0.910
b. Conservation features	
None	
15. Credits	None

COLUMBIA COUNTY BUILDING DEPARTMENT — Received for FILE COPY — Code Compliance — PLANS EXAMINER

Glass/Floor Area: 0.094

Total Proposed Modified Loads: 74.77

Total Baseline Loads: 77.13

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: Bruce Bussell

DATE: 11/1/18 RATER ID=608

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

GREAT SEAL OF THE STATE OF FLORIDA — IN GOD WE TRUST

BUILDING OFFICIAL: _____

DATE: _____

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires an envelope leakage test report with envelope leakage no greater than 3.00 ACH50 (R402.4.1.2).

SEE MANUFACTURER'S CONTRACT WITH FLORIDA

Plan No. _____

Date _____

Approved By SCOTT S. FRANCIS

Modular Building Plans Examiner

Florida License No. CBP 42

11/14/18

FORM R405-2017

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	340CC30764BMO AH REGIO	Bedrooms:	4	Address Type:	Street Address
Building Type:	User	Conditioned Area:	2280	Lot #	
Owner Name:		Total Stories:	1	Block/Subdivision:	
# of Units:	1	Worst Case:	Yes	PlatBook:	
Builder Name:		Rotate Angle:	270	Street:	
Permit Office:		Cross Ventilation:		County:	POLK
Jurisdiction:		Whole House Fan:		City, State, Zip:	, FL ,
Family Type:	Single-family				
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

√	Design Location	TMY Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
_____	FL, Lakeland	FL_LAKELAND_LINDER	34	92	70	75	973	48	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2280	20520

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	2280	20520	Yes	5	4	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	R-Value	Area	Tile	Wood	Carpet
_____	1	Raised Floor	Main	---	2280 ft²	11	0.45	0	0.55

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Gable or shed	Composition shingles	2350 ft²	284 ft²	Medium	N	0.96	No	0.9	No	0	14

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	150	2280 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	33	Blown	2280 ft²	0.1	Wood

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INPUT SUMMARY CHECKLIST REPORT

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
___	1	N=>W	Exterior	Frame - Wood	Main	11	76		9		684.0 ft²		0.19	0.75	0
___	2	S=>E	Exterior	Frame - Wood	Main	11	76		9		684.0 ft²		0.19	0.75	0
___	3	E=>N	Exterior	Frame - Wood	Main	11	30		9		270.0 ft²		0.19	0.75	0
___	4	W=>S	Exterior	Frame - Wood	Main	11	30		9		270.0 ft²		0.19	0.75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	N=>W	Insulated	Main	None	.4	1	38		80	27.8 ft²
_____	2	S=>E	Insulated	Main	None	.4	1	38		80	27.8 ft²

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case.

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	N=>W	1	Vinyl	Low-E Double	Yes	0.3	0.29	N	37.5 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	2	N=>W	1	Vinyl	Low-E Double	Yes	0.3	0.29	N	7.5 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	3	N=>W	1	Vinyl	Low-E Double	Yes	0.3	0.29	N	15.0 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	4	N=>W	1	Vinyl	Low-E Double	Yes	0.3	0.29	N	3.0 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	5	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	75.0 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	6	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	15.0 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	7	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	25.0 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	8	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	5.0 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	9	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	15.0 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	10	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	5.0 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	11	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	8.8 ft²	0 ft 6 in	0 ft 26 in	Drapes/blinds	Exterior 5
_____	12	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	2.5 ft²	0 ft 6 in	0 ft 12 in	None	Exterior 5

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000172	1026	56.33	105.93	.0605	3

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump/	None	HSPF:8.2	39 kBtu/hr	1	sys#1

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FORM R405-2017

INPUT SUMMARY CHECKLIST REPORT

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit/	None	SEER: 14	42 kBtu/hr	1260 cfm	0.75	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Electric	None	Main	0.91	50 gal	60 gal	120 deg	None

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
_____	None	None			ft²		

DUCTS

√	#	--- Supply --- Location	R-Value	Area	--- Return --- Location	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat	HVAC # Cool
_____	1	Attic	6	207 ft²	Main	0 ft²	Default Leakage	Main	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: N

Ceiling Fans:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[X]	[X]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]
Venting	[ ]	[ ]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[ ]

Thermostat Schedule: HERS 2006 Reference

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Main

11/14/18

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 97

The lower the Energy Performance Index, the more efficient the home.

1. New home or, addition	1. New (From Plans)
2. Single-family or multiple-family	2. Single-family
3. No. of units (if multiple-family)	3. 1
4. Number of bedrooms	4. 4
5. Is this a worst case? (yes/no)	5. Yes
6. Conditioned floor area (sq. ft.)	6. 2280
7. Windows, type and area	
a) U-factor:(weighted average)	7a. 0.300
b) Solar Heat Gain Coefficient (SHGC)	7b. 0.290
c) Area	7c. 214.3
8. Skylights	
a) U-factor:(weighted average)	8a. NA
b) Solar Heat Gain Coefficient (SHGC)	8b. NA
9. Floor type, insulation level:	
a) Slab-on-grade (R-value)	9a.
b) Wood, raised (R-value)	9b. 11.0
c) Concrete, raised (R-value)	9c.
10. Wall type and insulation:	
A. Exterior:	
1. Wood frame (Insulation R-value)	10A1. 11.0
2. Masonry (Insulation R-value)	10A2.
B. Adjacent:	
1. Wood frame (Insulation R-value)	10B1.
2. Masonry (Insulation R-value)	10B2.
11. Ceiling type and insulation level	
a) Under attic	11a. 33.0
b) Single assembly	11b.
c) Knee walls/skylight walls	11c.
d) Radiant barrier installed	11d. No

12. Ducts, location & insulation level	
a) Supply ducts	R 6.0
b) Return ducts	R 6.0
c) AHU location	Main
13. Cooling system:	Capacity 42.0
a) Split system	SEER
b) Single package	SEER
c) Ground/water source	SEER/COP
d) Room unit/PTAC	EER
e) Other	14.0
14. Heating system:	Capacity 39.0
a) Split system heat pump	HSPF
b) Single package heat pump	HSPF
c) Electric resistance	COP
d) Gas furnace, natural gas	AFUE
e) Gas furnace, LPG	AFUE
f) Other	8.20
15. Water heating system	
a) Electric resistance	EF 0.91
b) Gas fired, natural gas	EF
c) Gas fired, LPG	EF
d) Solar system with tank	EF
e) Dedicated heat pump with tank	EF
f) Heat recovery unit	HeatRec%
g) Other	
16. HVAC credits claimed (Performance Method)	
a) Ceiling fans	
b) Cross ventilation	No
c) Whole house fan	No
d) Multizone cooling credit	
e) Multizone heating credit	
f) Programmable thermostat	No

*Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

I certify that this home has complied with the Florida Building Code, Energy Conservation, through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL display card will be completed based on installed code compliant features.

Builder Signature:_____ Date:_____

Address of New Home: _____ City/FL Zip: __, FL_____

11/14/18

FORM R405-2017

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	340CC30764BMO PAC REGION 2A	Builder Name:	
Street:		Permit Office:	
City, State, Zip:	, FL ,	Permit Number:	
Owner:		Jurisdiction:	
Design Location:	FL, Lakeland	County:	POLK (Florida Climate Zone 2)

1. New construction or existing — New (From Plans)
2. Single family or multiple family — Single-family
3. Number of units, if multiple family — 1
4. Number of Bedrooms — 4
5. Is this a worst case? — Yes
6. Conditioned floor area above grade (ft²) — 2280

   Conditioned floor area below grade (ft²) — 0

7. Windows(214.3 sqft.)

		Description	Area
a.	U-Factor:	Dbl, U=0.30	214.25 ft²
	SHGC:	SHGC=0.29	
b.	U-Factor:	N/A	ft²
	SHGC:		
c.	U-Factor:	N/A	ft²
	SHGC:		
d.	U-Factor:	N/A	ft²
	SHGC:		

Area Weighted Average Overhang Depth: 0.500 ft.

Area Weighted Average SHGC: 0.290

8. Floor Types (2280.0 sqft.)

	Insulation	Area
a. Raised Floor	R=11.0	2280.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

9. Wall Types (1908.0 sqft.)

	Insulation	Area
a. Frame - Wood, Exterior	R=11.0	1908.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

10. Ceiling Types (2280.0 sqft.)

	Insulation	Area
a. Under Attic (Vented)	R=33.0	2280.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

11. Ducts

	R	ft²
a. Sup: Attic, Ret: Main, AH: Main	6	207

12. Cooling systems

	kBtu/hr	Efficiency
a. Central Unit	42.0	SEER:14.00

13. Heating systems

	kBtu/hr	Efficiency
a. Electric Heat Pump	42.0	HSPF:8.20

14. Hot water systems

   a. Electric — Cap: 50 gallons, EF: 0.910

   b. Conservation features — None

15. Credits — None

Glass/Floor Area: 0.094

Total Proposed Modified Loads: 74.76

Total Baseline Loads: 77.13

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: Bruce Bussell

DATE: 11/11/18 RATER ID=608

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: ______________________

DATE: ______________________

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

GREAT SEAL OF THE STATE OF FLORIDA * IN GOD WE TRUST *

BUILDING OFFICIAL: ______________________

DATE: ______________________

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.
- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires an envelope leakage test report with envelope leakage no greater than 3.00 ACH50 (R402.4.1.2).

SEE MANUFACTURER'S CONTRACT WITH FLORIDA

Plan No.

Approved By SCOTT S. FRANCIS

Residential Building Plans Examiner

Florida License No. SMP-42

11/14/18

FORM R405-2017

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	340CC30764BMO PAC REGI	Bedrooms:	4	Address Type:	Street Address
Building Type:	User	Conditioned Area:	2280	Lot #	
Owner Name:		Total Stories:	1	Block/Subdivision:	
# of Units:	1	Worst Case:	Yes	PlatBook:	
Builder Name:		Rotate Angle:	270	Street:	
Permit Office:		Cross Ventilation:		County:	POLK
Jurisdiction:		Whole House Fan:		City, State, Zip:	, FL ,
Family Type:	Single-family				
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

√	Design Location	TMY Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
_____	FL, Lakeland	FL_LAKELAND_LINDER	34	92	70	75	973	48	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2280	20520

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	2280	20520	Yes	5	4	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	R-Value	Area		Tile	Wood	Carpet
_____	1	Raised Floor	Main	---	---	2280 ft²	11	0.45	0	0.55

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Gable or shed	Composition shingles	2350 ft²	284 ft²	Medium	N	0.96	No	0.9	No	0	14

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	150	2280 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	33	Blown	2280 ft²	0.1	Wood

11/14/18

FORM R405-2017

INPUT SUMMARY CHECKLIST REPORT

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor	Below Grade%
____	1	N=>W	Exterior	Frame - Wood	Main	11	76		9		684.0 ft²		0.19	0.75	0
____	2	S=>E	Exterior	Frame - Wood	Main	11	76		9		684.0 ft²		0.19	0.75	0
____	3	E=>N	Exterior	Frame - Wood	Main	11	30		9		270.0 ft²		0.19	0.75	0
____	4	W=>S	Exterior	Frame - Wood	Main	11	30		9		270.0 ft²		0.19	0.75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	N=>W	Insulated	Main	None	.4	1	38		80	27.8 ft²
_____	2	S=>E	Insulated	Main	None	.4	1	38		80	27.8 ft²

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case.

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	N=>W	1	Vinyl	Low-E Double	Yes	0.3	0.29	N	37.5 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	2	N=>W	1	Vinyl	Low-E Double	Yes	0.3	0.29	N	7.5 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	3	N=>W	1	Vinyl	Low-E Double	Yes	0.3	0.29	N	15.0 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	4	N=>W	1	Vinyl	Low-E Double	Yes	0.3	0.29	N	3.0 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	5	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	75.0 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	6	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	15.0 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	7	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	25.0 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	8	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	5.0 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	9	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	15.0 ft²	0 ft 6 in	0 ft 24 in	Drapes/blinds	Exterior 5
_____	10	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	5.0 ft²	0 ft 6 in	0 ft 10 in	None	Exterior 5
_____	11	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	8.8 ft²	0 ft 6 in	0 ft 26 in	Drapes/blinds	Exterior 5
_____	12	S=>E	2	Vinyl	Low-E Double	Yes	0.3	0.29	N	2.5 ft²	0 ft 6 in	0 ft 12 in	None	Exterior 5

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000172	1026	56.33	105.93	.0605	3

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump/	None	HSPF:8.2	42 kBtu/hr	1	sys#1

11/14/18

FORM R405-2017

INPUT SUMMARY CHECKLIST REPORT

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit/	None	SEER: 14	42 kBtu/hr	1260 cfm	0.75	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Electric	None	Main	0.91	50 gal	60 gal	120 deg	None

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
_____	None	None			ft²		

DUCTS

√	#	---- Supply ---- Location	R-Value	Area	---- Return ---- Location	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat	HVAC # Cool
_____	1	Attic	6	207 ft²	Main	143 ft²	Default Leakage	Main	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: N

Ceiling Fans:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[X]	[X]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]
Venting	[ ]	[ ]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[ ]

Thermostat Schedule: HERS 2006 Reference

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Main

11/14/18

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 97

The lower the Energy Performance Index, the more efficient the home.

1. New home or, addition	1. New (From Plans)
2. Single-family or multiple-family	2. Single-family
3. No. of units (if multiple-family)	3. 1
4. Number of bedrooms	4. 4
5. Is this a worst case? (yes/no)	5. Yes
6. Conditioned floor area (sq. ft.)	6. 2280
7. Windows, type and area	
a) U-factor:(weighted average)	7a. 0.300
b) Solar Heat Gain Coefficient (SHGC)	7b. 0.290
c) Area	7c. 214.3
8. Skylights	
a) U-factor:(weighted average)	8a. NA
b) Solar Heat Gain Coefficient (SHGC)	8b. NA
9. Floor type, insulation level:	
a) Slab-on-grade (R-value)	9a.
b) Wood, raised (R-value)	9b. 11.0
c) Concrete, raised (R-value)	9c.
10. Wall type and insulation:	
A. Exterior:	
1. Wood frame (Insulation R-value)	10A1. 11.0
2. Masonry (Insulation R-value)	10A2.
B. Adjacent:	
1. Wood frame (Insulation R-value)	10B1.
2. Masonry (Insulation R-value)	10B2.
11. Ceiling type and insulation level	
a) Under attic	11a. 33.0
b) Single assembly	11b.
c) Knee walls/skylight walls	11c.
d) Radiant barrier installed	11d. No

12. Ducts, location & insulation level	
a) Supply ducts	R 6.0
b) Return ducts	R 6.0
c) AHU location	Main
13. Cooling system:	Capacity 42.0
a) Split system	SEER
b) Single package	SEER
c) Ground/water source	SEER/COP
d) Room unit/PTAC	EER
e) Other	14.0
14. Heating system:	Capacity 42.0
a) Split system heat pump	HSPF
b) Single package heat pump	HSPF
c) Electric resistance	COP
d) Gas furnace, natural gas	AFUE
e) Gas furnace, LPG	AFUE
f) Other	8.20
15. Water heating system	
a) Electric resistance	EF 0.91
b) Gas fired, natural gas	EF
c) Gas fired, LPG	EF
d) Solar system with tank	EF
e) Dedicated heat pump with tank	EF
f) Heat recovery unit	HeatRec%
g) Other	
16. HVAC credits claimed (Performance Method)	
a) Ceiling fans	
b) Cross ventilation	No
c) Whole house fan	No
d) Multizone cooling credit	
e) Multizone heating credit	
f) Programmable thermostat	No

*Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

I certify that this home has complied with the Florida Building Code, Energy Conservation, through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL display card will be completed based on installed code compliant features.

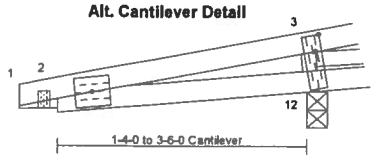
Builder Signature:_____ Date:_____

Address of New Home: _____ City/FL Zip: __, FL _____

11/14/18

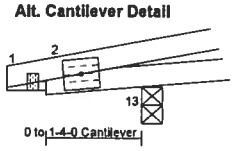
Job	Truss	Truss Type	Qty	Ply	Palm Harbor 216
90642	C556007	CATHEDRAL	1	1	Plant 6/9 Plant City, Fl
					Ref. #2163030

Alt. Cantilever Detail



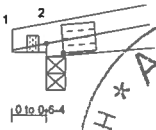
REACTIONS.
(lb/size) 12=701/0-3-8 (min. 0-1-8), 8=335/Mechanical
Max Horz 12=274(LC 5)
Max Uplift 12=-1028(LC 5), 8=-427(LC 7)

Alt. Cantilever Detail



REACTIONS.
(lb/size) 8=444/Mechanical, 13=593/0-3-8 (min. 0-1-8)
Max Horz 13=266(LC 5)
Max Uplift 8=-557(LC 7), 13=-781(LC 5)

Alt. Overhang Detail



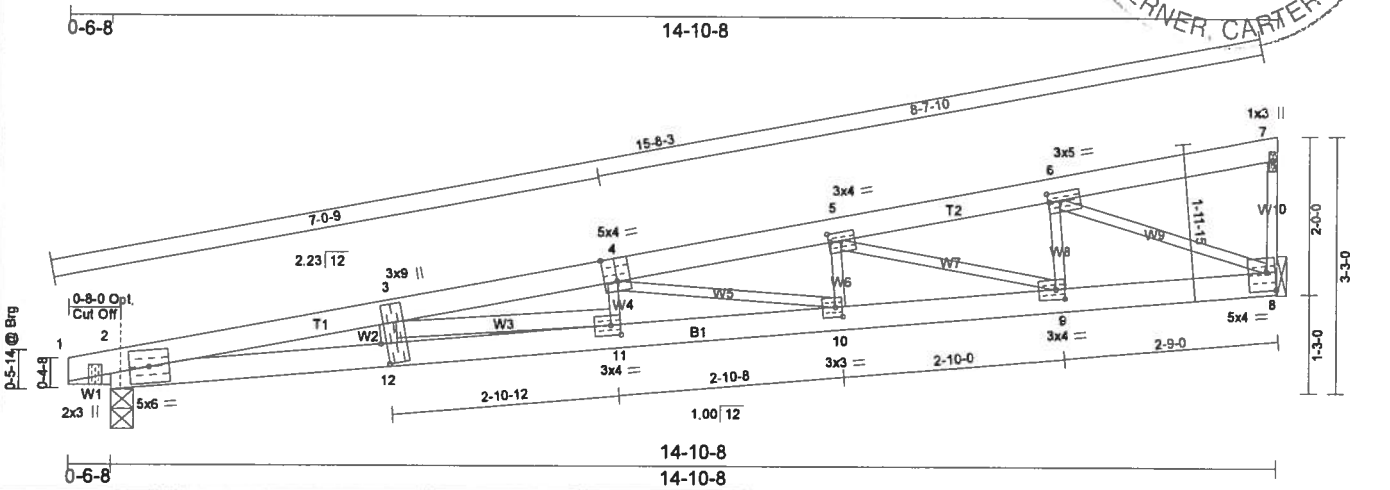


Plate Offsets (X,Y)-- [4:0-2-0,Edge], [5:0-0-5,0-1-4], [6:0-0-3,0-1-4], [8:Edge,0-2-12], [9:0-1-4,0-1-8], [10:0-1-0,0-1-8], [11:0-1-8,0-1-8], [12:0-3-5,0-0-12], [12:0-3-5,3-5-3]

SPACING-:	2-0-0	**SPACING-:**	1-4-0	**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
LOADING	(psf)	**LOADING**	(psf)	Plate Grip DOL	1.25	TC	0.72	Vert(LL)	0.37	11-12	>482	240	MT20	244/190
TCLL	20.0	TCLL	30.0	Lumber DOL	1.25	BC	0.46	Vert(CT)	0.32	11-12	>547	180		
TCDL	7.0	TCDL	10.5	Rep Stress Incr	YES	WB	0.54	Horz(CT)	-0.05	8	n/a	n/a		
BCLL	0.0 *	BCLL	0.0 *	Code	FBC2017/TPI2014	Matrix-R							Weight: 57 lb	
BCDL	7.0	BCDL	10.5										FT = 0%	

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS 2x2 SP No.2 *Except*
W2,W3: 2x3 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-9-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 3-4-9 oc bracing.

REACTIONS. (lb/size) 2=537/0-3-8 (min. 0-1-8), 8=498/Mechanical
Max Horz 2=264(LC 7)
Max Uplift 2=-651(LC 5), 8=-621(LC 7)

FORCES. (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4/0, 2-3=-2136/2884, 3-4=-2106/2899, 4-5=-1541/2116, 5-6=-827/1115, 6-7=-21/5, 7-8=-62/119
BOT CHORD 2-12=-3065/2053, 11-12=-3064/2057, 10-11=-3062/2073, 9-10=-2248/1530, 8-9=-1216/830
WEBS 3-12=-6/93, 4-11=-12/108, 5-10=-231/213, 6-9=-385/317, 6-8=-890/1307, 5-9=-754/1105, 4-10=-571/849, 3-11=-0/17

Revised by Kevin Freeman

The professional engineering seal indicates that a licensed professional has reviewed the design under the standards referenced within this document, not necessarily the current state building code. The engineering seal is not an approval to use in a specific state. The final determination on whether a truss design is acceptable under the locally adopted building code rest with the building official or designated appointee.

Universal Forest Products, Inc. 2801 EAST BELTLINE RD, NE
PHONE (616)-364-6161 FAX (616)-365-0069 GRAND RAPIDS, MI 49525

11/14/18

Job	Truss	Truss Type	Qty	Ply	Palm Harbor 216
90642	C556007	CATHEDRAL	1	1	Plant 6/9 Plant City, FI
					Ref. #2163030

NOTES-

1) This truss has been checked for uniform roof live load only, except as noted.
2) Wind: ASCE 7-10; Vult=154mph (3-second gust) Vasd=119mph @24in o.c.; TCDL=2.8psf; BCDL=2.8psf; (Alt. 180mph @16in o.c.; TCDL=4.2psf; BCDL=4.2psf); h=35ft; Cat. II; Exp D; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 651 lb uplift at joint 2 and 621 lb uplift at joint 8.
6) Fixity of member 8 - 7 has been changed.
7) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2.
8) Based on: C556001
9) Revision:: Updated FBC code, reduced overhang

11/14/18

Job	Truss	Truss Type	Qty	Ply	Palm Harbor 216 FL
90563	HM547214	HINGE MONO	1	1	I32144145

Job Reference (optional)

Universal Forest Products Inc., Grand Rapids, MI 49525

8.130 e Oct 26 2017 MiTek Industries, Inc. Mon Jan 15 10:10:10 2018 Page 1

ID:GX4ydpW2WOofjVoz?aOZiHyCQLA-ROt?mThHZ2V_15j2ZfRagM9pgcP4ths89T05WFzv8SR

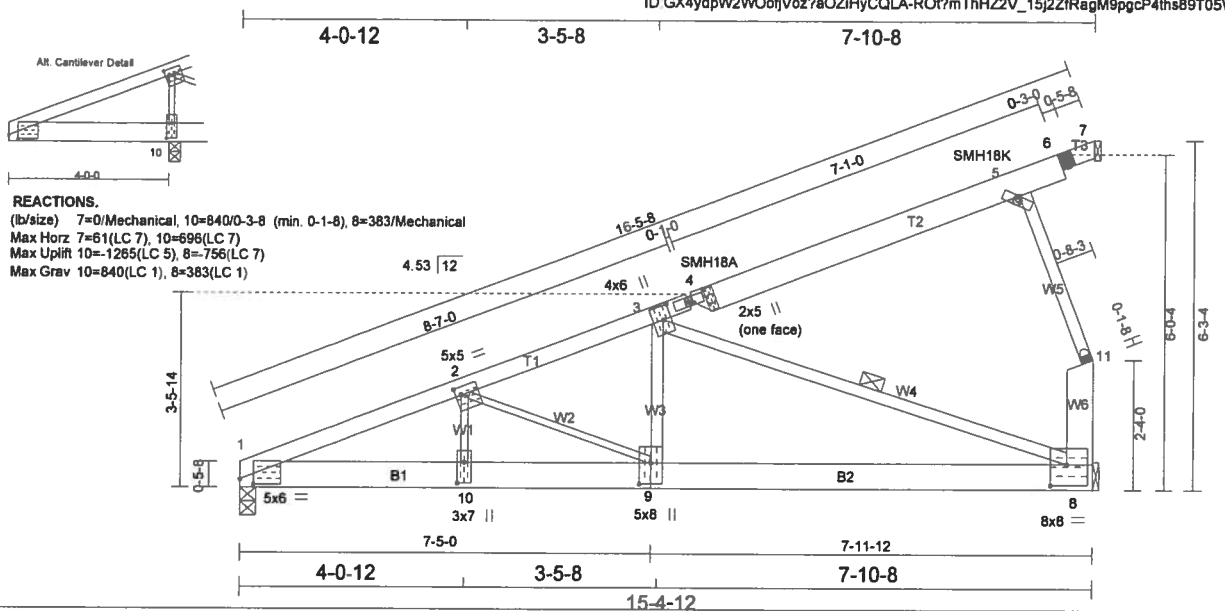


Plate Offsets (X,Y)-- [1:0-2-15,0-1-2], [2:0-1-3,0-1-12], [3:0-3-0,0-1-12], [4:0-1-0,0-0-8], [4:0-2-0,0-2-12], [5:0-0-0,0-1-0], [8:0-3-8,0-4-8], [9:0-4-8,0-2-8], [10:0-4-8,0-1-8]

SPACING-: 2-0-0	SPACING-: 1-4-0	SPACING- 2-0-0	CSI.	DEFL. in (loc) l/defl L/d	PLATES GRIP
LOADING (psf)	LOADING (psf)	Plate Grip DOL 1.25	TC 0.67	Vert(LL) 0.11 9-10 >999 240	MT20 197/144
TCLL 20.0	TCLL 30.0	Lumber DOL 1.25	BC 0.33	Vert(CT) 0.10 9-10 >999 180	MT18HS 197/144
TCDL 10.0	TCDL 15.0	Rep Stress Incr YES	WB 0.95	Horz(CT) -0.03 8 n/a n/a	
BCLL 0.0 *	BCLL 0.0 *	Code FBC2017/TPI2014	Matrix-R		Weight: 68 lb
BCDL 10.0	BCDL 15.0				FT = 0%

LUMBER-

TOP CHORD 2x4 SPF No.2 *Except* 4-6: 2x6 SPF No.2

BOT CHORD 2x6 SPF No.2

WEBS 2x3 SPF Stud *Except* 3-8: 2x3 SPF No.2, 8-11: 2x6 SPF Stud, 2-10,2-9: 2x2 SPF Stud

BRACING-

TOP CHORD Structural wood sheathing directly applied or 5-1-12 oc purlins, except end verticals. [P]

BOT CHORD Rigid ceiling directly applied or 4-9-12 oc bracing.

WEBS 1 Row at midpt 3-8

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 1=609/0-3-8 (min. 0-1-8), 7=0/Mechanical, 8=602/Mechanical
Max Horz 1=696(LC 7), 7=61(LC 7)
Max Uplift 1=-762(LC 7), 8=-1031(LC 7)
Max Grav 1=609(LC 1), 8=602(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1227/1657, 2-3=-948/1197, 8-11=-219/598
BOT CHORD 1-10=-2199/1069, 9-10=-2200/1070, 8-9=-1602/834
WEBS 3-9=-122/363, 3-8=-814/1499, 5-11=-231/631, 2-9=-251/655

REQUIRED FIELD JOINT CONNECTIONS - Maximum Compression (lb)/ Maximum Tension (lb)/ Maximum Shear (lb)/ Maximum Moment (lb-in)
6=32/59/45/0, 11=231/631/202/0

NOTES-

1) Wind: ASCE 7-10; Vult=180mph (3-second gust) Vasd=139mph @24in o.c.; TCDL=2.8psf; BCDL=2.8psf; (Alt. 180mph @16in o.c.; TCDL=4.2psf; BCDL=4.2psf); h=40ft; Cat. II; Exp D; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Exterior(2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) All plates are MT20 plates unless otherwise indicated.
3) See HINGE PLATE DETAILS for plate placement.
4) Provisions must be made to prevent lateral movement of hinged member(s) during transportation.
5) All additional member connections shall be provided by others for forces as indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 762 lb uplift at joint 1 and 1031 lb uplift at joint 8.
9) Take precaution to keep the chords in plane, any bending or twisting of the hinge plate must be repaired before the building is put into service.
10) The field-installed members are an integral part of the truss design. Retain a design professional to specify final field connections and temporary supports. All field-installed members must be properly fastened prior to applying any loading to the truss. This design anticipates the final set position.

APPROVED * TH * BORN, WERNER, CARTER & ASSOC.
NOV 19 2018

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MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

11/14/18

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

RE: 90563 - Palm Harbor 216 FL

MiTek USA, Inc.
16023 Swingley Ridge Rd
Chesterfield, MO 63017
314-434-1200

Site Information:
Customer Info: erwer Project Name: werwer Model: werwer
Lot/Block: werw Subdivision: werw
Address: werwe
City: werw State: werwe

Name Address and License # of Structural Engineer of Record, If there is one, for the building.
Name: wrwer License #: werwe
Address: werwe
City: werwe State: werwe

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

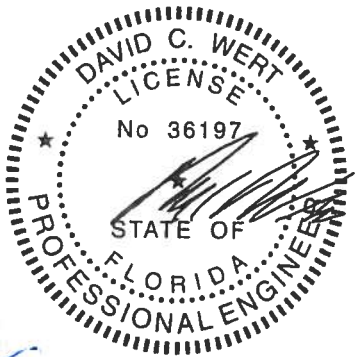
Design Code: FBC2014/TPI2007 Design Program: MiTek 20/20 8.0
Wind Code: ASCE 7-10 Wind Speed: 180 mph
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 1 individual, Truss Design Drawings and 0 Additional Drawings.
With my seal affixed to this sheet, I hereby certify that I am the Truss Design Engineer and this index sheet conforms to 61G15-31.003, section 5 of the Florida Board of Professional Engineers Rules.

No.	Seal#	Truss Name	Date
1	I32144144	HM547214	1/15/18

The truss drawing(s) referenced above have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by UFP-Grand Rapids, MI.

Truss Design Engineer's Name: Wert, David
My license renewal date for the state of Florida is FEBRUARY 28, 2019.



David C. Wert PE No.36197
MiTek USA, Inc. FL Cert 6634
16023 Swingley Ridge Road, Chesterfield, MO 63017
Date:

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. Any project specific information included is for MiTek's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

January 15,2018

Wert, David

Job	Truss	Truss Type	Qty	Ply	Palm Harbor 216 FL	I32174210
90608	M678916	MONO TRUSS	1	1	Job Reference (optional)	

Universal Forest Products Inc., Grand Rapids, MI 49525

8.130 s Oct 26 2017 MiTek Industries, Inc. Wed Jan 17 13:14:26 2018 Page 1
ID:U2VbBIccdUQkDTqm3EKIXRyT7v?-BGA96CihDpQyQq6i4ixUEswSF47New88nrwxXhzuRZh

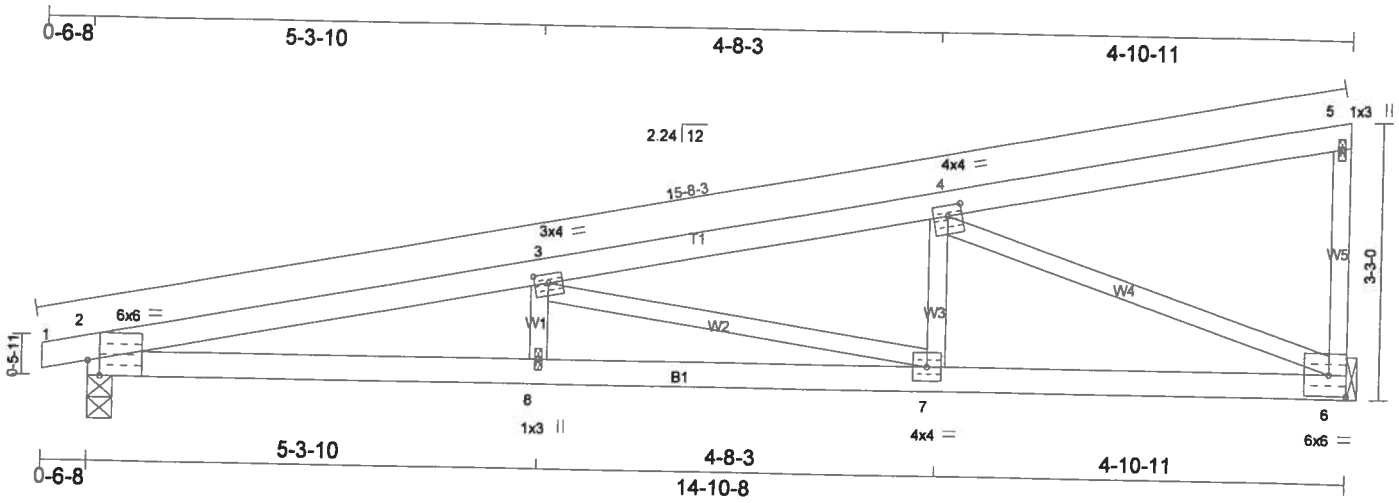


Plate Offsets (X,Y)-- [2:0-1-11,Edge], [3:0-2-0,0-1-4], [4:0-2-0,0-1-8]

SPACING-: 2-0-0	SPACING-: 1-4-0	SPACING- 2-0-0	CSI.	DEFL. in (loc) l/defl L/d	PLATES GRIP
LOADING (psf)	LOADING (psf)	Plate Grip DOL 1.00	TC 0.85	Vert(LL) 0.27 8 >653 240	MT20 197/144
TCLL 20.0	TCLL 30.0	Lumber DOL 1.00	BC 0.61	Vert(CT) 0.24 8 >734 180	
TCDL 10.0	TCDL 15.0	Rep Stress Incr YES	WB 0.82	Horz(CT) -0.06 6 n/a n/a	
BCLL 0.0 *	BCLL 0.0 *	Code FBC2017/TPI2014	Matrix-R		Weight: 47 lb
BCDL 7.0	BCDL 10.5				FT = 0%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF Stud

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-11-7 oc purlins, except end verticals. [P]
BOT CHORD Rigid ceiling directly applied or 3-1-12 oc bracing.

REACTIONS. (lb/size) 2=583/0-3-8, 6=540/Mechanical
Max Horz 2=353(LC 7)
Max Uplift 2=-873(LC 5), 6=-834(LC 7)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1674/2656, 3-4=-967/1523, 5-6=-114/266
BOT CHORD 2-8=-2920/1600, 7-8=-2920/1600, 6-7=-1687/928
WEBS 4-6=-1003/1831, 4-7=-284/300, 3-7=-692/1271

NOTES-
1) Wind: ASCE 7-10; Vult=180mph (3-second gust) Vasd=139mph @24in o.c.; TCDL=4.0psf; BCDL=2.8psf; (Alt. 180mph @16in o.c.; TCDL=6.0psf; BCDL=4.2psf); h=30ft; Cat. II; Exp D; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Exterior(2) zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * 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.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 873 lb uplift at joint 2 and 834 lb uplift at joint 6.

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MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017