FORM R405-2020

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Knoll Residence	Builder Name:	
Street:		Permit Office:	
City, State, Zip:	Lake City, FL,	Permit Number:	
Owner:		Jurisdiction:	
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Detached
3. Number of units, if multiple family	1
4. Number of Bedrooms	4
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	3155
Conditioned floor area below grade (ft²)	0

7. Windows(300.0 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.26	300.00 ft²
SHGC:	SHGC=0.20	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		3.687 ft
Area Weighted Average SHGC:		0.200

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	2718.00 ft²
b. Floor over Garage	R= 0.0	437.00 ft²
c. N/A	R=	ft²

10. Wall Types(3320.6 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	3152.60 ft²
b. Frame - Wood, Adjacent	R=13.0	168.00 ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

11. Ceiling Types(3155.0 sqft.)	Insulation	Area
a. Roof Deck (Unvented)	R=0.0	2718.00 ft²
b. Cathedral/Single Assembly (Unvented)	R=30.0	437.00 ft²
c. N/A	R=	ft²

12. Ducts, location & insulation level	R	ft²
a. a. Sup: Main, Ret: Main, AH: Garage	6	543.6
b.		
c.		

13. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	60.0	SEER:15.00

14. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	60.0	HSPF:8.50

15. Hot Water Systems	
a. ElectricTankless	Cap: 1 gallons
	EF: 0.920
b. Conservation features	None
16. Credits	Pstat

Glass/Floor Area: 0.095

Total Proposed Modified Loads: 72.54

Total Baseline Loads: 78.25

PASS

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

PREPARED BY: _____

10-10-22

DATE: _____

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.

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 with a proposed duct leakage Qn requires a PERFORMANCE Duct Leakage Test Report confirming duct leakage to outdoors, tested in accordance with ANSI/RESNET/ICC 380, is not greater than 0.030 Qn for whole house.

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 5.00 ACH50 (R402.4.1.2).

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INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Knoll Residence			Address type:	Lot
Building Type:	User	Bedrooms:	4	Lot #:	
Owner:		Conditioned Area:	3155	Block/SubDivision:	
		Total Stories:	1	PlatBook:	The Oaks S/D
Builder Name:		Worst Case:	No	Street:	
Permit Office:		Rotate Angle:	0	County:	Columbia
Jurisdiction:		Cross Ventilation:		City, State, Zip:	Lake City,
Family Type:	Detached	Whole House Fan:			FL,
New/Existing:	New (From Plans)	Terrain:	Rural		
Year Construct:	2022	Shielding:	Moderate/Rural		
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, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

√	Number	Name	Area	Volume
___	1	Block1	3155	27958

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	Main	2718	24462	Yes	8	4	Yes	Yes	Yes
___	2	bonus Room	437	3496	No	0	0	Yes	Yes	Yes

FLOORS (Total Exposed Area = 3155 sq.ft.)

√	#	Floor Type	Space	Exposed Perim	Perimeter R-Value	Area	U-Factor	Joist R-Value	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	Main	314	0	2718 ft	0.563	---	0.20	0.60	0.20
___	2	Floor over Garage	bonus Room	---	---	437 ft	0.173	0	0.00	0.00	1.00

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Hip	Composition shingles	3792 ft²	0 ft²	Medium	N	0.85	No	0.9	No	0	33.69

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	No attic	Unvented	0	3155 ft²	N	N

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INPUT SUMMARY CHECKLIST REPORT

CEILING (Total Exposed Area = 3155 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
	1	Under Attic(Unvented)	Main	30.0	Blown	2718.0ft²	0.053	0.11	Wood
	2	Cathedral/Single Assembly(Unvented)	bonus Room	30.0	Blown	437.0ft²	0.060	0.11	Wood

WALLS (Total Exposed Area = 3321 sq.ft.)

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
	1	N	Exterior	Frame - Wood	Main	13.0	12.0	0	9.0	0	108.0	0.087	0.625	0.23	0.75	0 %
	2	E	Exterior	Frame - Wood	Main	13.0	7.0	11	9.0	0	71.3	0.087	0.625	0.23	0.75	0 %
	3	NE	Exterior	Frame - Wood	Main	13.0	7.0	2	9.0	0	64.5	0.087	0.625	0.23	0.75	0 %
	4	N	Exterior	Frame - Wood	Main	13.0	9.0	11	10.0	0	99.2	0.087	0.625	0.23	0.75	0 %
	5	E	Exterior	Frame - Wood	Main	13.0	9.0	4	10.0	0	93.3	0.087	0.625	0.23	0.75	0 %
	6	N	Exterior	Frame - Wood	Main	13.0	23.0	6	10.0	0	235.0	0.087	0.625	0.23	0.75	0 %
	7	W	Exterior	Frame - Wood	Main	13.0	11.0	4	9.0	0	102.0	0.087	0.625	0.23	0.75	0 %
	8	N	Exterior	Frame - Wood	Main	13.0	13.0	8	9.0	0	123.0	0.087	0.625	0.23	0.75	0 %
	9	E	Exterior	Frame - Wood	Main	13.0	15.0	2	9.0	0	136.5	0.087	0.625	0.23	0.75	0 %
	10	N	Exterior	Frame - Wood	Main	13.0	2.0	0	9.0	0	18.0	0.087	0.625	0.23	0.75	0 %
	11	E	Exterior	Frame - Wood	Main	13.0	16.0	8	9.0	0	150.0	0.087	0.625	0.23	0.75	0 %
	12	S	Exterior	Frame - Wood	Main	13.0	2.0	0	9.0	0	18.0	0.087	0.625	0.23	0.75	0 %
	13	E	Exterior	Frame - Wood	Main	13.0	11.0	4	10.0	0	113.3	0.087	0.625	0.23	0.75	0 %
	14	N	Exterior	Frame - Wood	Main	13.0	4.0	1	9.0	0	36.8	0.087	0.625	0.23	0.75	0 %
	15	SW	Garage	Frame - Wood	Main	13.0	18.0	8	9.0	0	168.0	0.087	0.625	0.23	0.75	0 %
	16	SW	Exterior	Frame - Wood	Main	13.0	9.0	8	9.0	0	87.0	0.087	0.625	0.23	0.75	0 %
	17	W	Exterior	Frame - Wood	Main	13.0	15.0	9	9.0	0	141.8	0.087	0.625	0.23	0.75	0 %
	18	S	Exterior	Frame - Wood	Main	13.0	32.0	0	10.0	0	320.0	0.087	0.625	0.23	0.75	0 %
	19	E	Exterior	Frame - Wood	Main	13.0	14.0	2	9.0	0	127.5	0.087	0.625	0.23	0.75	0 %
	20	S	Exterior	Frame - Wood	Main	13.0	12.0	8	9.0	0	114.0	0.087	0.625	0.23	0.75	0 %
	21	W	Exterior	Frame - Wood	Main	13.0	35.0	8	9.0	0	321.0	0.087	0.625	0.23	0.75	0 %
	22	S	Exterior	Frame - Wood	Main	13.0	2.0	0	9.0	0	18.0	0.087	0.625	0.23	0.75	0 %
	23	W	Exterior	Frame - Wood	Main	13.0	26.0	6	9.0	0	238.5	0.087	0.625	0.23	0.75	0 %
	24	NW	Exterior	Frame - Wood	bonus Room	13.0	8.0	0	8.0	0	64.0	0.094		0.23	0.75	0 %
	25	NE	Exterior	Frame - Wood	bonus Room	13.0	5.0	4	8.0	0	42.7	0.094		0.23	0.75	0 %
	26	SE	Exterior	Frame - Wood	bonus Room	13.0	8.0	0	8.0	0	64.0	0.094		0.23	0.75	0 %
	27	SE	Exterior	Frame - Wood	bonus Room	13.0	9.0	4	8.0	0	74.7	0.094		0.23	0.75	0 %
	28	SE	Exterior	Frame - Wood	bonus Room	13.0	8.0	0	8.0	0	64.0	0.094		0.23	0.75	0 %
	29	SW	Exterior	Frame - Wood	bonus Room	13.0	5.0	4	8.0	0	42.7	0.094		0.23	0.75	0 %
	30	NW	Exterior	Frame - Wood	bonus Room	13.0	8.0	0	8.0	0	64.0	0.094		0.23	0.75	0 %

DOORS (Total Exposed Area = 357 sq.ft.)

√	#	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
	1	NE	Exterior	Insulated	Main	None	0.40	3.00	0	8.00	0	24.0ft²
	2	N	Exterior	Insulated	Main	None	0.40	9.00	0	8.00	0	72.0ft²
	3	E	Exterior	Insulated	Main	None	0.40	9.00	0	8.00	0	72.0ft²
	4	N	Exterior	Insulated	Main	None	0.40	9.00	0	8.00	0	72.0ft²
	5	N	Exterior	Insulated	Main	None	0.40	2.00	8	8.00	0	21.3ft²
	6	E	Exterior	Insulated	Main	None	0.40	3.00	0	8.00	0	24.0ft²
	7	SW	Garage	Insulated	Main	None	0.40	3.00	0	8.00	0	24.0ft²
	8	S	Exterior	Insulated	Main	None	0.40	6.00	0	8.00	0	48.0ft²

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INPUT SUMMARY CHECKLIST REPORT

WINDOWS (Total Exposed Area = 300 sq.ft.)

√ #	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Area	-----Overhang----- Depth	Separation	Interior Shade	Screening
___ 1	N	1	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	30.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 2	N	6	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	16.0ft²	16.0 ft 6 in	2.0 ft 4 in	None	None
___ 3	N	8	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	30.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 4	E	9	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	20.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 5	E	11	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	20.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 6	SW	16	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	12.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 7	S	18	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	16.0ft²	9.0 ft 6 in	2.0 ft 4 in	None	None
___ 8	S	18	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	36.0ft²	9.0 ft 6 in	2.0 ft 4 in	None	None
___ 9	S	20	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	20.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 10	W	21	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	30.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 11	W	23	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	6.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 12	W	23	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	10.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 13	W	23	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	9.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 14	NE	25	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	15.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 15	SE	27	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	15.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None
___ 16	SW	29	Vinyl	Low-E Double	Yes	0.26	0.20	N	N	15.0ft²	1.0 ft 6 in	2.0 ft 4 in	None	None

INFILTRATION

√ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)
___ 1	Wholehouse	Proposed ACH(50)	0.00028	2330	127.82	239.97	0.1021	5.0	All

GARAGE

√ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	1064 ft²	1064 ft²	113 ft	9 ft	1

MASS

√ #	Mass Type	Area	Thickness	Furniture Fraction	Space
___ 1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Main
___ 2	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	bonus Room

HEATING SYSTEM

√ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___ 1	Electric Heat Pump	None/Single		HSPF: 8.50	60.0		0.00	0.00	0.00	sys#1	1

COOLING SYSTEM

√ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___ 1	Central Unit	None/Single		SEER:15.0	60.0	1800	0.85	sys#1	1

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INPUT SUMMARY CHECKLIST REPORT

HOT WATER SYSTEM

√ #	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___ 1	Electric	Tankless	Exterior	0.92 (0.92)	1.00 gal	70 gal	120 deg	Standard	None	99

	Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
___ 1	No		NA	NA	NA	No	NA	NA	NA	None

DUCTS

√ Duct #	---------Supply--------- Location	R-Value	Area	---------Return--------- Location	R-Value	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN	RLF	HVAC # Heat	Cool
___ 1	Main	6.0	544 ft²	Main	6.0	136 ft²	Prop. Leak Free	Garage	---	---	0.03	0.50	1	1

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

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

√ 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	80	80	80	80
	PM	80	80	80	80	78	78	78	78	78	78	78	78
___ Cooling (WEH)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	80	80	78	78	78	78	78	78	78	78
___ Heating (WD)	AM	65	65	65	65	65	65	65	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
___ Heating (WEH)	AM	65	65	65	65	65	65	65	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

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ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 93

The lower the EnergyPerformance Index, the more efficient the home.

,Lake City,FL,

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Detached
3. Number of units, if multiple family		1
4. Number of Bedrooms		4
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		3155
Conditioned floor area below grade (ft²)		0

7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.26	300.00 ft²
SHGC:	SHGC=0.20	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		3.687 ft
Area Weighted Average SHGC:		0.200

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	2718.00 ft²
b. Floor over Garage	R= 0.0	437.00 ft²
c. N/A	R=	ft²

10. Wall Types(3320.6 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	3152.60 ft²
b. Frame - Wood, Adjacent	R=13.0	168.00 ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

11. Ceiling Types(3155.0 sqft.)	Insulation	Area
a. Roof Deck (Unvented)	R=0.0	2718.00 ft²
b. Cathedral/Single Assembly (Unvented)	R=30.0	437.00 ft²
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12. Ducts, location & insulation level	R	ft²
a. a. Sup: Main, Ret: Main, AH: Garage	6	543.6
b.		
c.		

13. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	60.0	SEER:15.00

14. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	60.0	HSPF:8.50

15. Hot Water Systems	
a. ElectricTankless	Cap: 1 gallons
	EF: 0.920
b. Conservation features	None
16. Credits	Pstat

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction 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: Lake City,FL,

*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

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