

**FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION**

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Lot 18 Wise Estates  
 Street:  
 City, State, Zip: Lake City, FL, 32055  
 Owner: TBD  
 Design Location: FL, Gainesville

Builder Name: Trent Giebeig  
 Permit Office: Columbia County  
 Permit Number:  
 Jurisdiction:  
 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	3
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft <sup>2</sup> )	1660
Conditioned floor area below grade (ft <sup>2</sup> )	0
7. Windows (125.0 sqft.)	Description Area
a. U-Factor:	DbI, U=0.40 125.00 ft <sup>2</sup>
SHGC:	SHGC=0.25
b. U-Factor:	N/A ft <sup>2</sup>
SHGC:	
c. U-Factor:	N/A ft <sup>2</sup>
SHGC:	
Area Weighted Average Overhang Depth:	1.500 ft.
Area Weighted Average SHGC:	0.250
8. Skylights	Area
c. U-Factor:(AVG)	N/A ft <sup>2</sup>
SHGC(AVG):	N/A
9. Floor Types (1660.0 sqft.)	Insulation Area
a. Slab-On-Grade Edge Insulation	R=0.0 1660.00 ft <sup>2</sup>
b. N/A	R= ft <sup>2</sup>
c. N/A	R= ft <sup>2</sup>

10. Wall Type (\$1627.5 sqft.)	Insulation Area
a. Face Brick - Wood, Exterior	R=13.0 1447.50 ft <sup>2</sup>
b. Frame - Wood, Adjacent	R=13.0 180.00 ft <sup>2</sup>
c. N/A	R= ft <sup>2</sup>
d. N/A	R= ft <sup>2</sup>
11. Ceiling Types (1660.0 sqft.)	Insulation Area
a. Under Attic (Vented)	R=38.0 1660.00 ft <sup>2</sup>
b. N/A	R= ft <sup>2</sup>
c. N/A	R= ft <sup>2</sup>
12. Ducts	R ft <sup>2</sup>
a. Sup: Attic, Ret: Attic, AH: Main	6 332
13. Cooling systems	kBtu/hr Efficiency
a. Central Unit	18.0 SEER:16.00
14. Heating systems	kBtu/hr Efficiency
a. Electric Heat Pump	20.5 HSPF:8.40
15. Hot water systems	Cap: 50 gallons EF: 0.950
a. Electric	
b. Conservation features	None
16. Credits	Pstat



Glass/Floor Area: 0.075

Total Proposed Modified Loads: 40.95

Total Baseline Loads: 41.91

**PASS**

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

PREPARED BY: William H. Freeman

DATE: 1/26/21

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

OWNER/AGENT: William H. Freeman

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 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 7.00 ACH50 (R402.4.1.2).

## INPUT SUMMARY CHECKLIST REPORT

## PROJECT

Title:	Lot 18 Wise Estates	Bedrooms:	3	Address Type:	Lot Information
Building Type:	User	Conditioned Area:	1660	Lot #	18
Owner Name:	TBD	Total Stories:	1	Block/Subdivision:	Wise Estates
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:	Trent Giebeig	Rotate Angle:	270	Street:	
Permit Office:	Columbia County	Cross Ventilation:		County:	Columbia
Jurisdiction:		Whole House Fan:		City, State, Zip:	Lake City , FL , 32055
Family Type:	Detached				
New/Existing:	New (From Plans)				
Comment:					

## CLIMATE

✓	Design Location	TMY Site	Design Temp 97.5 %	2.5 %	Int Design Temp Winter	Summer	Heating Degree Days	Design Moisture	Daily Temp Range
_____	FL, Gainesville	FL_GAINESVILLE_REGI	32	92	70	75	1305.5	51	Medium

## BLOCKS

Number	Name	Area	Volume
1	Block1	1660	14940

## SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	1660	14940	Yes	3	3	1	Yes	Yes	Yes

## FLOORS

✓	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	Main	180.83 ft	0	1660 ft²	----	0.25	0.25	0.5

## ROOF

✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt Tested	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Hip	Composition shingles	1856 ft²	0 ft²	Medium	N	0.85	No	0.9	No	0	26.57

## ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	1660 ft²	N	N

## CEILING

✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	38	Blown	1660 ft²	0.11	Wood

## INPUT SUMMARY CHECKLIST REPORT

## WALLS

✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	Sheathing R-Value	Framing Fraction	Solar Absor	Below Grade%
1	E=>N	Exterior	Face Brick - Wood	Main	13	30	1	9		270.8 ft²		0.23	0.75	0
2	N=>W	Exterior	Face Brick - Wood	Main	13	26	10	9		241.5 ft²		0.23	0.75	0
3	N=>W	Exterior	Face Brick - Wood	Main	13	14		9		126.0 ft²		0.23	0.75	0
4	N=>W	Exterior	Face Brick - Wood	Main	13	15	6	9		139.5 ft²		0.23	0.75	0
5	E=>N	Exterior	Face Brick - Wood	Main	13	30	1	9		270.8 ft²		0.23	0.75	0
6	S=>E	Exterior	Face Brick - Wood	Main	13	13	10	9		124.5 ft²		0.23	0.75	0
7	W=>S	Exterior	Face Brick - Wood	Main	13	4		9		36.0 ft²		0.23	0.75	0
8	S=>E	Exterior	Face Brick - Wood	Main	13	7	9	9		69.8 ft²		0.23	0.75	0
9	E=>N	Exterior	Face Brick - Wood	Main	13	4		9		36.0 ft²		0.23	0.75	0
10	S=>E	Exterior	Face Brick - Wood	Main	13	14	9	9		132.8 ft²		0.23	0.75	0
11	S=>E	Garage	Frame - Wood	Main	13	20		9		180.0 ft²		0.23	0.75	0

## DOORS

✓ #	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
1	N=>W	Insulated	Main	None	.46	6		6	8	40 ft²
2	S=>E	Insulated	Main	None	.46	3		6	8	20 ft²
3	S=>E	Insulated	Main	None	.46	2	8	6	8	17.8 ft²

## WINDOWS

Orientation shown is the entered orientation (=&gt;) changed to As Built (rotated 270 degrees).

✓ #	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Separation	Int Shade	Screening
1	E=>N	1	Vinyl	Double (Tinted)	Yes	0.4	0.25	N	6.0 ft²	1 ft 6 in	1 ft 0 in	Roller shade	None
2	E=>N	1	Vinyl	Double (Tinted)	Yes	0.4	0.25	N	20.0 ft²	1 ft 6 in	1 ft 0 in	Roller shade	None
3	N=>W	2	Vinyl	Double (Tinted)	Yes	0.4	0.25	N	30.0 ft²	1 ft 6 in	1 ft 0 in	Roller shade	None
4	N=>W	4	Vinyl	Double (Tinted)	Yes	0.4	0.25	N	15.0 ft²	1 ft 6 in	1 ft 0 in	Roller shade	None
5	S=>E	6	Vinyl	Double (Tinted)	Yes	0.4	0.25	N	18.0 ft²	1 ft 6 in	1 ft 0 in	Roller shade	None
6	S=>E	10	Vinyl	Double (Tinted)	Yes	0.4	0.25	N	36.0 ft²	1 ft 6 in	1 ft 0 in	Roller shade	None

## GARAGE

✓ #	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
1	400 ft²	400 ft²	20 ft	9 ft	1

## INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.0004	1743	95.63	179.53	.1438	7

## INPUT SUMMARY CHECKLIST REPORT

## HEATING SYSTEM

✓	#	System Type	Subtype	Speed	Efficiency	Capacity	Block	Ducts
✓	1	Electric Heat Pump/	Split	Singl	HSPF:8.4	20 kBtu/hr	1	sys#1

## COOLING SYSTEM

✓	#	System Type	Subtype	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
✓	1	Central Unit/	Split	Singl	SEER: 16	18.03 kBtu/hr	540 cfm	0.75	1	sys#1

## HOT WATER SYSTEM

✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
✓	1	Electric	None	Garage	0.95	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	Cool
✓	1	Attic	6	332 ft²	Attic	83 ft²	Default Leakage	Main	(Default)	(Default)			1	1

## TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

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

Thermostat Schedule: HERS 2006 Reference

Schedule Type	1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM PM	78 80	78 80	78 78	78 78	78 78	78 78	78 78	80 78	80 78	80 78	80 78
Cooling (WEH)	AM PM	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78
Heating (WD)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 66	68 66
Heating (WEH)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 66	68 66

## MECHANICAL VENTILATION

Type	Supply CFM	Exhaust CFM	Fan Watts	HRV	Heating System	Run Time	Cooling System
None	0	0	0	0	1 - Electric Heat Pump	0%	1 - Central Unit

## MASS

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



## **RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST**

### **Florida Department of Business and Professional Regulation Simulated Performance Alternative (Performance) Method**

**Applications for compliance with the 2020 Florida Building Code, Energy Conservation via the Residential Simulated Performance Alternative shall include:**

- ☒ This checklist
- ☒ Form R405-2020 report
- ☒ Input summary checklist that can be used for field verification (usually four pages/may be greater)
- ☒ Energy Performance Level (EPL) Display Card (one page)
- ☒ HVAC system sizing and selection based on ACCA Manual S or per exceptions provided in Section R403.7
- ☒ Mandatory Requirements (five pages)

**Required prior to CO:**

- ☒ Air Barrier and Insulation Inspection Component Criteria checklist (Table R402.4.1.1 - one page)
- ☒ A completed 2020 Envelope Leakage Test Report (usually one page); exception in R402.4 allows dwelling units of R-2 Occupancies and multiple attached single family dwellings to comply with Section C402.5
- ☐ If Form R405 duct leakage type indicates anything other than "default leakage", then a completed 2020 Duct Leakage Test Report - Performance Method (usually one page)

# ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX\* = 98

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

, Lake City, FL, 32055

1. New construction or existing	New (From Plans)		10. Wall Type and Insulation	Insulation	Area
2. Single family or multiple family	Detached		a. Face Brick - Wood, Exterior	R=13.0	1447.50 ft <sup>2</sup>
3. Number of units, if multiple family	1		b. Frame - Wood, Adjacent	R=13.0	180.00 ft <sup>2</sup>
4. Number of Bedrooms	3		c. N/A	R=	ft <sup>2</sup>
5. Is this a worst case?	No		d. N/A	R=	ft <sup>2</sup>
6. Conditioned floor area (ft <sup>2</sup> )	1660		11. Ceiling Type and insulation level	Insulation	Area
7. Windows**	Description	Area	a. Under Attic (Vented)	R=38.0	1660.00 ft <sup>2</sup>
a. U-Factor:	Dbl, U=0.40	125.00 ft <sup>2</sup>	b. N/A	R=	ft <sup>2</sup>
SHGC:	SHGC=0.25		c. N/A	R=	ft <sup>2</sup>
b. U-Factor:	N/A	ft <sup>2</sup>	12. Ducts, location & insulation level		R ft <sup>2</sup>
SHGC:			a. Sup: Attic, Ret: Attic, AH: Main	6	332
c. U-Factor:	N/A	ft <sup>2</sup>	13. Cooling systems	kBtu/hr	Efficiency
SHGC:			a. Central Unit	18.0	SEER:16.00
d. U-Factor:	N/A	ft <sup>2</sup>	14. Heating systems	kBtu/hr	Efficiency
SHGC:			a. Electric Heat Pump	20.0	HSPF:8.40
Area Weighted Average Overhang Depth:	1.500 ft.		15. Hot water systems		Cap: 50 gallons
Area Weighted Average SHGC:	0.250		a. Electric		EF: 0.95
8. Skylights	Description	Area	b. Conservation features		
a. U-Factor(AVG):	N/A	ft <sup>2</sup>	None		
SHGC(AVG):	N/A		Credits (Performance method)		Pstat
9. Floor Types	Insulation	Area			
a. Slab-On-Grade Edge Insulation	R=0.0	1660.00 ft <sup>2</sup>			
b. N/A	R=	ft <sup>2</sup>			
c. N/A	R=	ft <sup>2</sup>			

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: \_\_\_\_\_



\*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.

# Envelope Leakage Test Report (Blower Door Test)

## Residential Prescriptive, Performance or ERI Method Compliance

### 2020 Florida Building Code, Energy Conservation, 7th Edition

Jurisdiction:	Permit #:
<b>Job Information</b>	
Builder: Trent Giebeig	Community: Lot: 18
Address:	
City: Lake City	State: FL Zip: 32055
<b>Air Leakage Test Results</b> <i>Passing results must meet either the Performance, Prescriptive, or ERI Method</i>	
<input type="radio"/> <b>PRESCRIPTIVE METHOD</b> -The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 Pascals) in Climate Zones 1 and 2.	
<input type="radio"/> <b>PERFORMANCE or ERI METHOD</b> -The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on Form R405-2020 (Performance) or R406-2020 (ERI), section labeled as infiltration, sub-section ACH50. ACH(50) specified on Form R405-2020-Energy Calc (Performance) or R406-2020 (ERI): <span style="border: 1px solid black; padding: 2px 20px;">7.000</span>	
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> <math display="block">\frac{\text{CFM}(50)}{\text{Building Volume}} \times 60 \div 14940 = \text{ACH}(50)</math> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <div style="width: 10px; height: 10px; background-color: black;"></div> <div style="margin-left: 5px;"><b>PASS</b></div> </div> <input type="checkbox"/> When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.         </div> <div style="width: 35%;"> <p><u>Method for calculating building volume:</u></p> <input type="radio"/> Retrieved from architectural plans  <input checked="" type="radio"/> Code software calculated  <input type="radio"/> Field measured and calculated         </div> </div>	
<p><b>R402.4.1.2 Testing.</b> Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), <i>Florida Statutes</i>, or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the <i>building thermal envelope</i>.</p> <p>During testing:</p> <ol style="list-style-type: none"> <li>1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.</li> <li>2. Dampers including exhaust, intake, makeup air, back draft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.</li> <li>3. Interior doors, if installed at the time of the test, shall be open.</li> <li>4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.</li> <li>5. Heating and cooling systems, if installed at the time of the test, shall be turned off.</li> <li>6. Supply and return registers, if installed at the time of the test, shall be fully open.</li> </ol>	
<b>Testing Company</b>	
Company Name: _____ Phone: _____ I hereby verify that the above Air Leakage results are in accordance with the 2020 7th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above.	
Signature of Tester: _____ Date of Test: _____ Printed Name of Tester: _____ License/Certification #: _____ Issuing Authority: _____	

# 2020 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

**TABLE 402.4.1.1**  
**AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA<sup>a</sup>**

Project Name: Lot 18 Wise Estates Street: City, State, Zip: Lake City , FL , 32055 Owner: TBD Design Location: FL, Gainesville			Builder Name: Trent Giebeig Permit Office: Columbia County Permit Number: Jurisdiction:	CHECK
COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA		
General requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material.		
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.		
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.		
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.			
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.		
Floors (including above-garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.		
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawlspace walls.		
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.			
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity spaces.		
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.			
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the finished surface.	Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated.		
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.		
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.		
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.			
HVAC register boots	HVAC supply and return register boots that penetrate building thermal envelope shall be sealed to the sub-floor, wall covering or			
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.			

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC-400.