(20)

FORM R405-2020

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 97

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

Anyplace, Lake City, FL, 32055

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 (ft²)		1600
7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.55	111.00 ft²
SHGC:	SHGC=0.45	
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:		2.446 ft.
Area Weighted Average SHGC:		0.450
8. Skylights	Description	Area
a. U-Factor(AVG):	N/A	ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R=0.0	1600.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Type and Insulation	Insulation	Area
a. Face Brick - Wood, Exterior	R=13.0	1088.20 ft²
b. Frame - Wood, Exterior	R=13.0	201.44 ft²
c. Face Brick - Wood, Adjacent	R=13.0	160.00 ft²
d. N/A	R=	ft²

11. Ceiling Type and insulation level	Insulation	Area
a. Under Attic (Vented)	R=30.0	1600.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

12. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: Main	6	400

13. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	15.5	SEER:15.00

14. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	24.1	HSPF:8.40

15. Hot water systems	
a. Electric	Cap: 50 gallons
	EF: 0.95
b. Conservation features	
None	
Credits (Performance method)	CF

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.

2020 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

TABLE 402.4.1.1
AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA [a]

				CHECK
Project Name:	Lot 36 Crosswinds sub	Builder Name:	Trent Giebeig	
Street:	Anyplace	Permit Office:	Columbia County	
City, State, Zip:	Lake City , FL , 32055	Permit Number:		
Owner:	Trent Giebeig	Jurisdiction:		
Design Location:	FL, Gainesville			

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.

Duct Leakage Test Report

Residential Prescriptive, Performance or ERI Method Compliance
2020 Florida Building Code, Energy Conservation, 7th Edition

Jurisdiction:	Permit #:

Job Information

Builder: Trent Giebeig	Community:	Lot: 36
Address: Anyplace		
City: Lake City	State: FL	Zip: 32055

Duct Leakage Test Results

System 1	_____ cfm25
System 2	_____ cfm25
System 3	_____ cfm25
Sum of others	_____ cfm25
Total of all	_____ cfm25

_____ (Total of all systems) ÷ 1600 (Total Conditioned Square Footage) = _____ Qn

☐ **PASS** ☐ **FAIL**

○ **Prescriptive Method** cfm25 (Total)

To qualify as "substantially leak free" Qn Total must be less than or equal to 0.04 if air handler unit is installed. If air handler unit is not installed, Qn Total must be less than or equal to 0.03. This testing method meets the requirements in accordance with Section R403.3.3.

Is the air handler unit installed during testing? ☐ YES ($^{=.04}_{Qn}$) ☐ NO ($^{=.03}_{Qn}$)

○ **Performance/ERI Method** cfm25 (Out or Total)

To qualify using this method, Qn must not be greater than the proposed duct leakage Qn specified on Form R405-2020 or R406-2020.

Leakage Type selected on Form R405-2020 (EnergyCalc) or R406-2020	*Qn specified on Form R405-2020 (EnergyCalc) or R406-2020*
Proposed Qn	0.04

Duct tightness shall be verified by testing in accordance with ANSI/RESNET/ICC380 by either individuals as defined in Section 553.993(5) or (7), Florida Statutes, or individuals licensed as set forth in Section 489.105(3)(f), (g) or (i), Florida Statutes.

Testing Company

Company Name: _____ Phone: _____

I hereby verify that the above duct leakage testing results are in accordance with the Florida Building Code requirements with the selected compliance path as stated above, either the Prescriptive Method or Performance Method.

Signature of Tester: _____ Date of Test: _____

Printed Name of Tester: _____

License/Certification #: _____ Issuing Authority: _____

FORM R405-2020

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)*

FORM R405-2020

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Lot 36 Crosswinds sub	Builder Name:	Trent Giebeig
Street:	Anyplace	Permit Office:	Columbia County
City, State, Zip:	Lake City , FL , 32055	Permit Number:	
Owner:	Trent Giebeig	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		3	
5. Is this a worst case?		No	
6. Conditioned floor area above grade (ft²)		1600	
Conditioned floor area below grade (ft²)		0	
7. Windows(111.0 sqft.)	Description		Area
a. U-Factor:	Dbl, U=0.55		111.00 ft²
SHGC:	SHGC=0.45		
b. U-Factor:	N/A		ft²
SHGC:			
c. U-Factor:	N/A		ft²
SHGC:			
Area Weighted Average Overhang Depth:			2.446 ft.
Area Weighted Average SHGC:			0.450
8. Skylights			Area
c. U-Factor:(AVG)	N/A		ft²
SHGC(AVG):	N/A		
9. Floor Types (1600.0 sqft.)		Insulation	Area
a. Slab-On-Grade Edge Insulation		R=0.0	1600.00 ft²
b. N/A		R=	ft²
c. N/A		R=	ft²

10. Wall Types(1449.7 sqft.)	Insulation	Area
a. Face Brick - Wood, Exterior	R=13.0	1088.20 ft²
b. Frame - Wood, Exterior	R=13.0	201.44 ft²
c. Face Brick - Wood, Adjacent	R=13.0	160.00 ft²
d. N/A	R=	ft²
11. Ceiling Types (1600.0 sqft.)	Insulation	Area
a. Under Attic (Vented)	R=30.0	1600.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²
12. Ducts		R ft²
a. Sup: Attic, Ret: Attic, AH: Main		6 400
13. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	15.5	SEER:15.00
14. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	2 N/A	HSPF:8.40
15. Hot water systems		
a. Electric		Cap: 50 gallons
		EF: 0.950
b. Conservation features		
None		
16. Credits		CF

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

Glass/Floor Area: 0.069

Total Proposed Modified Loads: 37.63

Total Baseline Loads: 38.62

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: 10/28/21

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 7.00 ACH50 (R402.4.1.2).

- Compliance requires a roof absorptance test and a roof emittance test in accordance with R405.7.2

- Compliance with a proposed duct leakage Qn requires a Duct Leakage Test Report confirming duct leakage to outdoors, tested in accordance with ANSI/RESNET/ICC 380, is not greater than 0.040 Qn for whole house.

FORM R405-2020

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Lot 36 Crosswinds sub	Bedrooms:	3	Address Type:	Lot Information
Building Type:	User	Conditioned Area:	1600	Lot #	36
Owner Name:	Trent Giebeig	Total Stories:	1	Block/Subdivision:	Crosswinds Sub
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:	Trent Giebeig	Rotate Angle:	0	Street:	Anyplace
Permit Office:	Columbia County	Cross Ventilation:	No	County:	Columbia
Jurisdiction:		Whole House Fan:	No	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 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp 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	1600	12800

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	1600	12800	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	178 ft	0	1600 ft²	----	0.25	0.5	0.25

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	1789 ft²	400 ft²	Medium	N	0.75	Yes	0.9	Yes	0	26.57

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	1600 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	30	Blown	1600 ft²	0.11	Wood

FORM R405-2020

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	Exterior	Face Brick - Wood	Main	13	52	8	8		421.3 ft²	0	0.23	0.75	0
____	2	E	Exterior	Face Brick - Wood	Main	13	30	1	8		240.7 ft²		0.23	0.75	0
____	3	S	Garage	Face Brick - Wood	Main	13	20	0	8	0	160.0 ft²		0.23	0.75	0
____	4	S	Exterior	Frame - Wood	Main	13	13	10	9	4	129.1 ft²		0.23	0.75	0
____	5	W	Exterior	Face Brick - Wood	Main	13	4	8	9	4	43.6 ft²		0.23	0.75	0
____	6	S	Exterior	Frame - Wood	Main	13	7	9	9	4	72.3 ft²		0.23	0.75	0
____	7	E	Exterior	Face Brick - Wood	Main	13	4	8	8	0	37.3 ft²		0.23	0.75	0
____	8	S	Exterior	Face Brick - Wood	Main	13	13	1	8		104.7 ft²		0.23	0.75	0
____	9	W	Exterior	Face Brick - Wood	Main	13	30	1	8		240.7 ft²		0.23	0.75	0

DOORS

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

WINDOWS

Orientation shown is the entered, Proposed orientation.

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	N	1	Vinyl	Double (Tinted)	Yes	0.55	0.45	N	15.0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
_____	2	N	1	Vinyl	Double (Tinted)	Yes	0.55	0.45	N	15.0 ft²	0 ft 6 in	1 ft 0 in	Drapes/blinds	None
_____	3	N	1	Vinyl	Double (Tinted)	Yes	0.55	0.45	N	30.0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
_____	4	E	2	Vinyl	Double (Tinted)	Yes	0.55	0.45	N	6.0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
_____	5	S	4	Vinyl	Double (Tinted)	Yes	0.55	0.45	N	30.0 ft²	5 ft 6 in	1 ft 0 in	Drapes/blinds	None
_____	6	S	8	Vinyl	Double (Tinted)	Yes	0.55	0.45	N	15.0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None

GARAGE

√	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
_____	1	400 ft²	400 ft²	60 ft	8 ft	13

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000356	1493.3	81.93	153.81	.1372	7

FORM R405-2020

INPUT SUMMARY CHECKLIST REPORT

HEATING SYSTEM

√	#	System Type	Subtype	Speed	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump/	None	Singl	HSPF:8.4	24.08 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit/	Split	Singl	SEER: 15	15.53 kBtu/hr	480 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	HVAC # Cool
_____	1	Attic	6	400 ft²	Attic	100 ft²	Proposed Qn	Main	--- cfm	64.0 cfm	0.04	0.50	1	1

TEMPERATURES

Programable Thermostat: N

Ceiling Fans:

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

Thermostat Schedule: FloridaCode 2014

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	75	75	75	75	75	75	75	75	75	75	75	75
	PM	75	75	75	75	75	75	75	75	75	75	75	75
Cooling (WEH)	AM	75	75	75	75	75	75	75	75	75	75	75	75
	PM	75	75	75	75	75	75	75	75	75	75	75	75
Heating (WD)	AM	72	72	72	72	72	72	72	72	72	72	72	72
	PM	72	72	72	72	72	72	72	72	72	72	72	72
Heating (WEH)	AM	72	72	72	72	72	72	72	72	72	72	72	72
	PM	72	72	72	72	72	72	72	72	72	72	72	72

MASS

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