FORM R405-2022 Supplement

20

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	BUTLER RESIDENCE	Builder Name:	
Street:		Permit Office:	Columbia
City, State, Zip:	, 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	3
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	2255
Conditioned floor area below grade (ft²)	0

7. Windows(220.5 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.55	168.50 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	Dbl, U=0.40	32.00 ft²
SHGC:	SHGC=0.25	
c. U-Factor:	Dbl, U=0.40	20.00 ft²
SHGC:	SHGC=0.25	
Area Weighted Average Overhang Depth:		2.803 ft
Area Weighted Average SHGC:		0.250

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= 1.0	2255.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(2486.7 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=19.0	2075.00 ft²
b. Frame - Wood, Exterior	R=13.0	411.67 ft²
c. N/A		
d. N/A		

11. Ceiling Types(2255.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	2255.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	2710 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Main, AH: Main	6	128
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	23.1	SEER:16.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	32.9	HSPF:8.00

16. Hot Water Systems	
a. Electric	Cap: 50 gallons EF: 0.920
b. Conservation features	None
17. Credits	CF, Pstat

Glass/Floor Area: 0.098

Total Proposed Modified Loads: 48.73

Total Baseline Loads: 60.99

PASS

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

PREPARED BY: David Royal

DATE: SEPT. 12 2023

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 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 6.20 ACH50 (R402.4.1.2).

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 80

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

,,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		3
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		2255
Conditioned floor area below grade (ft²)		0
7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.55	168.50 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	Dbl, U=0.40	32.00 ft²
SHGC:	SHGC=0.25	
c. U-Factor:	Dbl, U=0.40	20.00 ft²
SHGC:	SHGC=0.25	
Area Weighted Average Overhang Depth:		2.803 ft
Area Weighted Average SHGC:		0.250
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= 1.0	2255.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(2486.7 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=19.0	2075.00 ft²
b. Frame - Wood, Exterior	R=13.0	411.67 ft²
c. N/A		
d. N/A		

11. Ceiling Types(2255.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	2255.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	2710 ft²
13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Main, AH: Main	6	128
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	23.1	SEER:16.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	32.9	HSPF:8.00

16. Hot Water Systems	
a. Electric	Cap: 50 gallons
	EF: 0.920
b. Conservation features	
	None
17. Credits	CF, 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: ,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.

INPUT SUMMARY CHECKLIST REPORT

TEMPERATURES(Continued)

___ Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
___ Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

FORM R405-2022S

INPUT SUMMARY CHECKLIST REPORT

MASS

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

HEATING SYSTEM

✓	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___	1	Electric Heat Pump	Single/Single		HSPF: 8.00	32.9		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	Single/Single		SEER:16.0	23.1	720	0.70	sys#1	1

HOT WATER SYSTEM

✓	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	None	Exterior	0.92 (0.92)	50.00 gal	40 gal	120 deg	Standard	=>R-3	50

		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	Supply R-Value	Supply Area	Return Location	Return R-Value	Return Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN	RLF	HVAC # Heat	HVAC # Cool
___	1 Attic		6.0	128 ft²	Main	6.0	32 ft²	Prop. Leak Free	Main	---	---	0.03	0.60	1	1

MECHANICAL VENTILATION

✓	Type	Supply CFM	Exhaust CFM	HRV	Fan	Run Time	Heating System	Cooling System
___	Fans/ERV	100.0	120.0	0.0	400.0 W	10 %	1 - Electric Heat Pump	1 - Central Unit

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: Y

	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	80	80	80	80
		PM	80	80	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

FORM R405-2022S

INPUT SUMMARY CHECKLIST REPORT

WALLS (Total Exposed Area = 2487 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	S	Exterior	Frame - Wood	Main	19.0	10.0	4	10.0	0	103.3	0.061		0.23	0.75	0 %
2	E	Exterior	Frame - Wood	Main	19.0	5.0	0	10.0	0	50.0	0.061		0.23	0.75	0 %
3	S	Exterior	Frame - Wood	Main	19.0	11.0	0	10.0	0	110.0	0.061		0.23	0.75	0 %
4	W	Exterior	Frame - Wood	Main	19.0	5.0	0	10.0	0	50.0	0.061		0.23	0.75	0 %
5	S	Exterior	Frame - Wood	Main	19.0	20.0	8	10.0	0	206.7	0.061		0.23	0.75	0 %
6	E	Exterior	Frame - Wood	Main	19.0	5.0	0	10.0	0	50.0	0.061		0.23	0.75	0 %
7	S	Exterior	Frame - Wood	Main	19.0	10.0	2	10.0	0	101.7	0.061		0.23	0.75	0 %
8	E	Exterior	Frame - Wood	Main	19.0	3.0	2	10.0	0	31.7	0.061		0.23	0.75	0 %
9	S	Exterior	Frame - Wood	Main	19.0	14.0	4	10.0	0	143.3	0.061		0.23	0.75	0 %
10	W	Exterior	Frame - Wood	Main	19.0	34.0	6	10.0	0	345.0	0.061		0.23	0.75	0 %
11	N	Exterior	Frame - Wood	Main	19.0	24.0	0	10.0	0	240.0	0.061		0.23	0.75	0 %
12	W	Exterior	Frame - Wood	Main	19.0	2.0	6	10.0	0	25.0	0.061		0.23	0.75	0 %
13	N	Exterior	Frame - Wood	Main	19.0	14.0	2	10.0	0	141.7	0.061		0.23	0.75	0 %
14	E	Exterior	Frame - Wood	Main	19.0	2.0	6	10.0	0	25.0	0.061		0.23	0.75	0 %
15	N	Exterior	Frame - Wood	Main	19.0	17.0	4	10.0	0	173.3	0.061		0.23	0.75	0 %
16	W	Exterior	Frame - Wood	Main	19.0	14.0	10	10.0	0	148.3	0.061		0.23	0.75	0 %
17	N	Exterior	Frame - Wood	Main	19.0	13.0	0	10.0	0	130.0	0.061		0.23	0.75	0 %
18	E	Exterior	Frame - Wood	Main	13.0	41.0	2	10.0	0	411.7	0.084		0.23	0.75	0 %

DOORS (Total Exposed Area = 136 sq.ft.)

√ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	S(Front)		Insulated	Main	None	0.40	3.00	0	6.00	8	20.0ft²
2	N		Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²
3	N		Insulated	Main	None	0.46	12.00	0	8.00	0	96.0ft²

WINDOWS (Total Exposed Area = 221 sq.ft.)

√ #	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	--Overhang-- Sep. (ft)	Interior Shade	Screen
1	S	1	Vinyl	Low-E Double	Y	0.40	0.25	N	N	20.0	2	1.67	6.00	1.3	3.0	Drapes/blinds	None
2	S	1	Vinyl	Double (Tinted)	Y	0.40	0.25	N	N	16.0	1	2.67	6.00	1.3	3.0	Drapes/blinds	None
3	S	3	Vinyl	Double (Tinted)	Y	0.40	0.25	N	N	16.0	1	2.67	6.00	1.3	3.0	Drapes/blinds	None
4	S	5	Vinyl	Double (Tinted)	Y	0.55	0.25	N	N	36.0	2	3.00	6.00	6.3	2.0	Drapes/blinds	None
5	S	7	Vinyl	Double (Tinted)	Y	0.55	0.25	N	N	16.0	1	2.67	6.00	1.3	3.0	Drapes/blinds	None
6	S	9	Vinyl	Double (Tinted)	Y	0.55	0.25	N	N	16.0	1	2.67	6.00	1.3	3.0	Drapes/blinds	None
7	S	9	Vinyl	Double (Tinted)	Y	0.55	0.25	N	N	20.0	2	1.67	6.00	1.3	3.0	Drapes/blinds	None
8	W	10	Vinyl	Double (Tinted)	Y	0.55	0.25	N	N	16.0	1	4.00	4.00	1.3	2.0	Drapes/blinds	None
9	N	13	Vinyl	Double (Tinted)	Y	0.55	0.25	N	N	16.0	1	4.00	4.00	10.3	2.0	Drapes/blinds	None
10	N	17	Vinyl	Double (Tinted)	Y	0.55	0.25	N	N	36.0	2	3.00	6.00	1.3	3.0	Drapes/blinds	None
11	E	18	Vinyl	Double (Tinted)	Y	0.55	0.25	N	N	12.5	1	2.50	5.00	1.3	2.0	Drapes/blinds	None

INFILTRATION

√ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
1	Wholehouse	Proposed ACH(50)	0.00039	2330	127.84	240.01	0.1328	6.2	All	22550 cu ft

FORM R405-2022S

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	BUTLER RESIDENCE			Address type:	Street Address
Building Type:	User	Bedrooms:	3	Lot #:	---
Owner:		Conditioned Area:	2255	Block/SubDivision:	---
Builder Home ID:		Total Stories:	1	PlatBook:	---
Builder Name:		Worst Case:	No	Street:	
Permit Office:	Columbia	Rotate Angle:	0	County:	Columbia
Jurisdiction:		Cross Ventilation:		City, State, Zip:	, FL,
Family Type:	Detached	Whole House Fan:			
New/Existing:	New (From Plans)	Terrain:	Rural		
Year Construct:	2023	Shielding:	Suburban		
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	2255	22550 cu ft

SPACES

✓	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	Main	2255	22550	Yes	4	3	Yes	Yes	Yes

FLOORS (Total Exposed Area = 2255 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	250	1	2255 ft	0.321	---	0.00	1.00	0.00

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	2710 ft²	752 ft²	Light	Y	0.6	No	0.9	No	0	33.69

ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	Full attic	Vented	300	2255 ft²	Y	N

CEILING (Total Exposed Area = 2255 sq.ft.)

✓	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___	1	Flat ceiling under attic(Vented)	Main	38.0	Batt	2255.0ft²	0.040	0.11	Wood

RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST

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

Applications for compliance with the 2022 Florida Building Code, Energy Conservation via the Residential Simulated Performance Alternative shall include:

- ☐ *This checklist*
- ☐ *Form R405-2022 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 2022 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)*