FORM 405-10

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Williams Residence	Builder Name:	Bryan Zecher Construction
Street:	244 NW Kathy Glen	Permit Office.	Columbia Co
City, State, Zip:	Lake City , FL , 32055-	Permit Number:	
Owner:	Katherine Williams	Jurisdiction.	221000
Design Location.	FL, Gainesville		

1. New construction or existing	New (From Plans)	9. Wall Types (2538.8 sqft)	Insulation	Area
2. Single family or multiple family	Single-family	a. Frame - Wood, Exterior	R=13.0	2319 80 ft²
3. Number of units, if multiple family	1	b. Frame - Wood, Adjacent	R=13.0	219 00 ft²
4 Number of Bedrooms	4	c. N/A	R=	ft²
5. Is this a worst case?	No	d. N/A	R=	ft²
6 Conditioned floor area above grade (ft²)	3842	10. Ceiling Types (3842.0 sqft.)	Insulation	Area
Conditioned floor area below grade (ft²)	0	a. Under Attic (Vented)	R=30 0	3842.00 ft²
7. Windows (387.6 sqft.) Description	Area	b. N/A	R=	ft²
a. U-Factor: Dbl, U=0.55	387.56 ft²	c. N/A	R=	ft²
SHGC. SHGC=0.60		11. Ducts		R ft²
b. U-Factor: N/A	ft²	a. Sup: Attic, Ret· Attic, AH· Main		6 768.4
SHGC:				
c. U-Factor: N/A	ft²	12. Cooling systems	kBtu/hr	Efficiency
SHGC·		a. Central Unit	35.0	SEER:14.00
d U-Factor: N/A	ft²			
SHGC:		13. Heating systems	kBtu/hr	Efficiency
Area Weighted Average Overhang Depth:	7 261 ft.	a. Electric Heat Pump	35.0	HSPF:7.70
Area Weighted Average SHGC·	0.600			
8. Floor Types (3842.0 sqft) Insulation	Area	14. Hot water systems		
a. Slab-On-Grade Edge Insulation R=0.0	3842.00 ft²	a. Electric		Cap: 66 gallons
b. N/A R=	ft²			EF· 0.920
c. N/A R=	ft²	b. Conservation features		
		None		
		15. Credits		CF, Pstat

Glass/Floor Area: 0.101

Total Proposed Modified Loads: 44.59
Total Standard Reference Loads: 64.94

PASS

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

PREPARED BY: _____
DATE: 1/6/14

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

OWNER/AGENT: _____
DATE: 1/6/14

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 completion of a Florida Air Barrier and Insulation Inspection Checklist**

PROJECT

Title:	Williams Residence	Bedrooms:	4	Address Type:	Street Address
Building Type:	User	Conditioned Area:	3842	Lot #	
Owner:	Katherine Williams	Total Stories:	1	Block/SubDivision:	
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:	Bryan Zecher Construction	Rotate Angle:	0	Street:	244 NW Kathy Glen
Permit Office	Columbia Co	Cross Ventilation:		County:	Columbia
Jurisdiction:	221000	Whole House Fan:		City, State, Zip:	Lake City , FL , 32055-
Family Type:	Single-family				
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

√	Design Location	TMY Site	IECC Zone	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	2	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	3842	30736

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	3842	30736	Yes	1	4	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
	1	Slab-On-Grade Edge Insulation	Main	325 ft	0	3842 ft²	-----	0 3	0.4	0.3

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
	1	Hip	Composition shingles	4450 ft²	0 ft²	Medium	0.96	No	0.9	No	0	30.3

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
	1	Full attic	Vented	300	3842 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
	1	Under Attic (Vented)	Main	30	3842 ft²	0.11	Wood

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	Garage	Frame - Wood	Main	13	24	4	9	0	219 0 ft²	0.63	0.23	0.75	0
	2	N	Exterior	Frame - Wood	Main	13	36		9		324.0 ft²	0.63	0.23	0.75	0
	3	N	Exterior	Frame - Wood	Main	13	11	8	9	0	105.0 ft²	0.63	0.23	0.75	0
	4	E	Exterior	Frame - Wood	Main	13	51		9		459.0 ft²	0.63	0.23	0.75	0
	5	S	Exterior	Frame - Wood	Main	13	12	8	9	0	114 0 ft²	0.63	0.23	0.75	0
	6	S	Exterior	Frame - Wood	Main	13	19		9		171.0 ft²	0.63	0.23	0 75	0
	7	E	Exterior	Frame - Wood	Main	13	17	6	9		157.5 ft²	0.63	0.23	0.75	0
	8	S	Exterior	Frame - Wood	Main	13	16		9		144.0 ft²	0.63	0.23	0.75	0
	9	S	Exterior	Frame - Wood	Main	13	17	4	9	0	156 0 ft²	0.63	0.23	0.75	0
	10	N	Exterior	Frame - Wood	Main	13	76	7	9	0	689.3 ft²	0.63	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	Metal	.28	6		6	8	40 ft²
	2	E	Insulated	Main	Metal	.28	2	6	6	8	16.7 ft²
	3	S	Insulated	Main	Metal	.28	2	8	6	8	17.8 ft²
	4	N	Insulated	Main	Metal	.28	3		6	8	20 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Overhang Area	Overhang Depth	Overhang Separation	Int Shade	Screening
	1	N	2	Vinyl	Low-E Double	Yes	0.55	0.6	2.8 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	2	N	2	Vinyl	Low-E Double	Yes	0 55	0 6	35.9 ft²	8 ft 0 in	0 ft 4 in	Drapes/blinds	None
	3	N	2	Vinyl	Low-E Double	Yes	0.55	0.6	10.9 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	4	N	3	Vinyl	Low-E Double	Yes	0.55	0.6	2.8 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	5	N	3	Vinyl	Low-E Double	Yes	0.55	0 6	10.9 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	6	E	4	Vinyl	Low-E Double	Yes	0.55	0.6	10.9 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	7	E	4	Vinyl	Low-E Double	Yes	0.55	0.6	6.1 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	8	E	4	Vinyl	Low-E Double	Yes	0.55	0.6	15.1 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	9	S	6	Vinyl	Low-E Double	Yes	0.55	0.6	75.6 ft²	9 ft 8 in	0 ft 4 in	Drapes/blinds	None
	10	E	7	Vinyl	Low-E Double	Yes	0.55	0.6	62.2 ft²	7 ft 0 in	0 ft 4 in	Drapes/blinds	None
	11	S	8	Vinyl	Low-E Double	Yes	0.55	0.6	62.2 ft²	17 ft 0 in	0 ft 4 in	Drapes/blinds	None
	12	S	9	Vinyl	Low-E Double	Yes	0.55	0.6	30.2 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	13	N	10	Vinyl	Low-E Double	Yes	0.55	0.6	49.8 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	14	N	10	Vinyl	Low-E Double	Yes	0.55	0.6	6.1 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None
	15	N	10	Vinyl	Low-E Double	Yes	0.55	0.6	6.1 ft²	2 ft 0 in	0 ft 4 in	Drapes/blinds	None

GARAGE

√	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
	1	586.96 ft²	586.96 ft²	73.5 ft	9 ft	1

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	.0005	5038.8	276.62	520.23	.385	9 8363

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
	1	Electric Heat Pump	None	HSPF: 7 7	35 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
	1	Central Unit	Split	SEER: 14	35 kBtu/hr	1050 cfm	0.75	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
	1	Electric	None	Main	0.92	66 gal	70 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	768.4 ft²	Attic	192.1 ft²	Default Leakage	Main	(Default) c	(Default) c			1	1

TEMPERATURES

Programable Thermostat Y

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	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
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 405-10

Florida Code Compliance Checklist

Florida Department of Business and Professional Regulations
Residential Whole Building Performance Method

ADDRESS: 244 NW Kathy Glen Lake City, FL, 32055-	PERMIT #:

MANDATORY REQUIREMENTS SUMMARY - See individual code sections for full details.

COMPONENT	SECTION	SUMMARY OF REQUIREMENT(S)	CHECK
Air leakage	402.4	To be caulked, gasketed, weatherstripped or otherwise sealed. Recessed lighting IC-rated as meeting ASTM E 283. Windows and doors = 0.30 cfm/sq.ft. Testing or visual inspection required. Fireplaces: gasketed doors & outdoor combustion air. Must complete envelope leakage report or visually verify Table 402.4.2.	✓
Thermostat & controls	403.1	At least one thermostat shall be provided for each separate heating and cooling system. Where forced-air furnace is primary system, programmable thermostat is required. Heat pumps with supplemental electric heat must prevent supplemental heat when compressor can meet the load.	✓
Ducts	403.2.2 403.3.3	All ducts, air handlers, filter boxes and building cavities which form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers, shall be constructed and sealed in accordance with Section 503.2.7.2 of this code. Building framing cavities shall not be used as supply ducts.	✓
Water heaters	403.4	Heat trap required for vertical pipe risers. Comply with efficiencies in Table 403.4.3.2. Provide switch or clearly marked circuit breaker (electric) or shutoff (gas). Circulating system pipes insulated to = R-2 + accessible manual OFF switch.	✓
Mechanical ventilation	403.5	Homes designed to operate at positive pressure or with mechanical ventilation systems shall not exceed the minimum ASHRAE 62 level. No make-up air from attics, crawlspaces, garages or outdoors adjacent to pools or spas.	✓
Swimming Pools & Spas	403.9	Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds. Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy. Off/timer switch required. Gas heaters minimum thermal efficiency=78% (82% after 4/16/13). Heat pump pool heaters minimum COP= 4.0.	N/A
Cooling/heating equipment	403.6	Sizing calculation performed & attached. Minimum efficiencies per Tables 503.2.3. Equipment efficiency verification required. Special occasion cooling or heating capacity requires separate system or variable capacity system. Electric heat >10kW must be divided into two or more stages.	✓
Ceilings/knee walls	405.2.1	R-19 space permitting.	✓