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*
- ☒ N/A *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)*

4691L

FORM R405-2020

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Area 36 Residence	Builder Name:	Evanston Contracting
Street:	7387 SW Tustenuggee Ave	Permit Office:	
City, State, Zip:	Lake City , FL , 32024	Permit Number:	
Owner:	Area 36 Residence	Jurisdiction:	
Design Location:	FL, Jacksonville	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)	4696
Conditioned floor area below grade (ft²)	0

7. Windows(1353.0 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.35	1353.00 ft²
SHGC:	SHGC=0.27	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		0.717 ft.
Area Weighted Average SHGC:		0.270

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

9. Floor Types (4696.0 sqft.)	Insulation	Area
a. Slab-On-Grade Edge Insulation	R=0.0	2122.00 ft²
b. Floor Over Other Space	R=0.0	1739.00 ft²
c. other (see details)	R=	835.00 ft²

10. Wall Types(5721.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=19.0	5346.20 ft²
b. Frame - Wood, Adjacent	R=19.0	374.76 ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

11. Ceiling Types (2574.0 sqft.)	Insulation	Area
a. Roof Deck (Unvented)	R=20.0	2574.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

12. Ducts	R	ft²
a. Sup: Attic, Ret: Attic, AH: Garage	6	469.6
b. Sup: Attic, Ret: Attic, AH: Walkway	6	469.6

13. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	45.0	SEER:14.00
b. Central Unit	56.5	SEER:14.00

14. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	44.5	HSPF:8.20
b. Electric Heat Pump	59.0	HSPF:8.20

15. Hot water systems		
a. Propane	Tankless	Cap: 1 gallons
		EF: 0.820
b. Conservation features		
None		

16. Credits CF

Glass/Floor Area: 0.288

Total Proposed Modified Loads: 127.11

Total Baseline Loads: 129.14

PASS

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

PREPARED BY: Ronald Miller

DATE: 1/24/2021

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 5.25 ACH50 (R402.4.1.2).

Certified Energy Rater # 1494

FORM R405-2020

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Area 36 Residence	Bedrooms:	4	Address Type:	Street Address
Building Type:	User	Conditioned Area:	4696	Lot #	
Owner Name:	Area 36 Residence	Total Stories:	2	Block/Subdivision:	
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:	Evanston Contracting	Rotate Angle:	0	Street:	7387 SW Tustenuggee
Permit Office:		Cross Ventilation:		County:	Columbia
Jurisdiction:		Whole House Fan:		City, State, Zip:	Lake City , FL , 32024
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, Jacksonville	FL_JACKSONVILLE_INT	32	93	70	75	1281	49	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2212	22207
2	Block2	2484	22554.7

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Entry	77	776.2	No	0		1	Yes	Yes	Yes
2	Stairwell 1	109	1098.7	No	0	0	1	Yes	Yes	Yes
3	Bathroom 1	55	554.4	No	0	0	1	Yes	Yes	Yes
4	Gym	201	2026.1	No	0	0	1	Yes	Yes	Yes
5	Theater	285	2872.8	No	0	0	1	Yes	Yes	Yes
6	Hall	367	3699.4	No	0	0	1	Yes	Yes	Yes
7	Great Room	303	3054.2	No	0	0	1	Yes	Yes	Yes
8	Kitchen	191	1925.3	Yes	0	0	1	Yes	Yes	Yes
9	Stairwell 2	87	877	No	0	0	1	Yes	Yes	Yes
10	Powder	39	393.1	No	0	0	1	Yes	Yes	Yes
11	Pantry	110	1108.8	No	0	0	1	Yes	Yes	Yes
12	Wine Cellar	88	887	No	0	0	1	Yes	Yes	Yes
13	Dining Room	210	2116.8	No	0	0	1	Yes	Yes	Yes
14	Walkway	551	5003.1	No	0	0	1	Yes	Yes	Yes
15	Bedroom 2	154	1398.3	No	1	1	1	Yes	Yes	Yes
16	Bathroom 2	65	590.2	No	0	0	1	Yes	Yes	Yes
17	Bedroom 3	202	1834.2	No	1	1	1	Yes	Yes	Yes
18	Bathroom 3	41	372.3	No	0	0	1	Yes	Yes	Yes
19	Stairwell 3	90	817.2	No	0	0	1	Yes	Yes	Yes
20	Bedroom 4	180	1634.4	No	1	1	1	Yes	Yes	Yes
21	Bathroom 4	70	635.6	No	0	0	1	Yes	Yes	Yes

INPUT SUMMARY CHECKLIST REPORT

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
22	Sitting Area	142	1289.4	No	0	0	1	Yes	Yes	Yes
23	Master Bedroom	320	2905.6	No	2	1	1	Yes	Yes	Yes
24	Master Bathroom	250	2270	No	0	0	1	Yes	Yes	Yes
25	Master Closet	265	2406.2	No	0	0	1	Yes	Yes	Yes
26	Stairwell 4	84	762.7	No	0	0	1	Yes	Yes	Yes
27	Laundry Room	160	1452.8	No	0	0	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	Entry	8.67 ft	0	77 ft²	----	0	1	0
_____	2	Slab-On-Grade Edge Insulatio	Stairwell 1	16.17 ft	0	109 ft²	----	0	0	1
_____	3	Slab-On-Grade Edge Insulatio	Bathroom 1	5.33 ft	0	55 ft²	----	1	0	0
_____	4	Slab-On-Grade Edge Insulatio	Gym	28.17 ft	0	201 ft²	----	0	0	1
_____	5	Slab-On-Grade Edge Insulatio	Theater	48.33 ft	0	285 ft²	----	0	0	1
_____	6	Slab-On-Grade Edge Insulatio	Hall	23.83 ft	0	367 ft²	----	0	0	1
_____	7	Slab-On-Grade Edge Insulatio	Great Room	38.83 ft	0	303 ft²	----	0	0	1
_____	8	Slab-On-Grade Edge Insulatio	Kitchen	15.33 ft	0	191 ft²	----	0	1	0
_____	9	Slab-On-Grade Edge Insulatio	Stairwell 2	19.25 ft	0	87 ft²	----	0	0	1
_____	10	Slab-On-Grade Edge Insulatio	Powder	12.58 ft	0	39 ft²	----	1	0	0
_____	11	Slab-On-Grade Edge Insulatio	Pantry	15.67 ft	0	110 ft²	----	0	1	0
_____	12	Slab-On-Grade Edge Insulatio	Wine Cellar	8.5 ft	0	88 ft²	----	0	1	0
_____	13	Slab-On-Grade Edge Insulatio	Dining Room	23.5 ft	0	210 ft²	----	0	1	0
_____	14	Floor Over Other Space	Walkway	----	----	551 ft²	0	0	0	1
_____	15	Floor Over Other Space	Bedroom 2	----	----	154 ft²	0	0	0	1
_____	16	Floor Over Other Space	Bathroom 2	----	----	65 ft²	0	1	0	0
_____	17	Floor Over Other Space	Bedroom 3	----	----	202 ft²	0	0	0	1
_____	18	Floor Over Other Space	Bathroom 3	----	----	41 ft²	0	1	0	0
_____	19	Floor Over Other Space	Stairwell 3	----	----	90 ft²	0	0	0	1
_____	20	Floor Over Other Space	Bedroom 4	----	----	180 ft²	0	0	0	1
_____	21	Floor Over Other Space	Bathroom 4	----	----	70 ft²	0	1	0	0
_____	22	Floor Over Other Space	Sitting Area	----	----	142 ft²	0	0	0	1

INPUT SUMMARY CHECKLIST REPORT

FLOORS

√	#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
_____	23	Floor over Garage	Master Bedroom	----	----	320 ft²	19	0	0	1
_____	24	Floor over Garage	Master Bathroom	----	----	250 ft²	19	1	0	0
_____	25	Floor over Garage	Master Closet	----	----	265 ft²	19	0	0	1
_____	26	Floor Over Other Space	Stairwell 4	----	----	84 ft²	0	0	0	1
_____	27	Floor Over Other Space	Laundry Room	----	----	160 ft²	0	0	1	0

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	2789 ft²	0 ft²	Medium	N	0.96	No	0.9	No	20	22.62

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Unvented	0	2574 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Unvented)	Walkway	0.01	Blown	551 ft²	0.11	Wood
_____	2	Under Attic (Unvented)	Bedroom 2	0.01	Blown	154 ft²	0.11	Wood
_____	3	Under Attic (Unvented)	Bathroom 2	0.01	Blown	65 ft²	0.11	Wood
_____	4	Under Attic (Unvented)	Bedroom 3	0.01	Blown	202 ft²	0.11	Wood
_____	5	Under Attic (Unvented)	Bathroom 3	0.01	Blown	41 ft²	0.11	Wood
_____	6	Under Attic (Unvented)	Stairwell 3	0.01	Blown	90 ft²	0.11	Wood
_____	7	Under Attic (Unvented)	Bedroom 4	0.01	Blown	180 ft²	0.11	Wood
_____	8	Under Attic (Unvented)	Bathroom 4	0.01	Blown	70 ft²	0.11	Wood
_____	9	Under Attic (Unvented)	Sitting Area	0.01	Blown	142 ft²	0.11	Wood
_____	10	Under Attic (Unvented)	Master Bedroom	0.01	Blown	320 ft²	0.11	Wood
_____	11	Under Attic (Unvented)	Master Bathroom	0.01	Blown	250 ft²	0.11	Wood
_____	12	Under Attic (Unvented)	Master Closet	0.01	Blown	265 ft²	0.11	Wood
_____	13	Under Attic (Unvented)	Stairwell 4	0.01	Blown	84 ft²	0.11	Wood
_____	14	Under Attic (Unvented)	Laundry Room	0.01	Blown	160 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	W	Exterior	Frame - Wood	Entry	19	8	8	10	1	87.4 ft²		0.23	0.01	0
____	2	N	Exterior	Frame - Wood	Stairwell 1	19	4	10	10	1	48.7 ft²		0.23	0.01	0
____	3	W	Exterior	Frame - Wood	Stairwell 1	19	8		10	1	80.7 ft²		0.23	0.01	0
____	4	S	Exterior	Frame - Wood	Stairwell 1	19	3	4	10	1	33.6 ft²		0.23	0.01	0
____	5	W	Exterior	Frame - Wood	Bathroom 1	19	5	4	10	1	53.8 ft²		0.23	0.01	0

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%
____ 6	W	Exterior	Frame - Wood	Gym	19	12	6	10	1	126.0 ft²		0.23	0.01	0
____ 7	S	Exterior	Frame - Wood	Gym	19	15	8	10	1	158.0 ft²		0.23	0.01	0
____ 8	S	Exterior	Frame - Wood	Theater	19	14		10	1	141.2 ft²		0.23	0.01	0
____ 9	E	Exterior	Frame - Wood	Theater	19	20	4	10	1	205.0 ft²		0.23	0.01	0
____ 10	N	Exterior	Frame - Wood	Theater	19	14		10	1	141.2 ft²		0.23	0.01	0
____ 11	N	Garage	Frame - Wood	Hall	19	5	4	10	1	53.8 ft²		0.23	0.01	0
____ 12	E	Exterior	Frame - Wood	Hall	19	18	6	10	1	186.5 ft²		0.23	0.01	0
____ 13	S	Exterior	Frame - Wood	Great Room	19	18		10	1	181.5 ft²		0.23	0.01	0
____ 14	E	Exterior	Frame - Wood	Great Room	19	16	10	10	1	169.7 ft²		0.23	0.01	0
____ 15	N	Exterior	Frame - Wood	Great Room	19	4		10	1	40.3 ft²		0.23	0.01	0
____ 16	E	Exterior	Frame - Wood	Kitchen	19	13	4	10	1	134.4 ft²		0.23	0.01	0
____ 17	N	Exterior	Frame - Wood	Kitchen	19	2		10	1	20.2 ft²		0.23	0.01	0
____ 18	E	Exterior	Frame - Wood	Stairwell 2	19	5		10	1	50.4 ft²		0.23	0.01	0
____ 19	E	Garage	Frame - Wood	Stairwell 2	19	2	3	10	1	22.7 ft²		0.23	0.01	0
____ 20	N	Garage	Frame - Wood	Stairwell 2	19	12		10	1	121.0 ft²		0.23	0.01	0
____ 21	N	Garage	Frame - Wood	Powder	19	5	4	10	1	53.8 ft²		0.23	0.01	0
____ 22	W	Garage	Frame - Wood	Powder	19	7	3	10	1	73.1 ft²		0.23	0.01	0
____ 23	N	Garage	Frame - Wood	Pantry	19	5		10	1	50.4 ft²		0.23	0.01	0
____ 24	W	Exterior	Frame - Wood	Pantry	19	10	8	10	1	107.6 ft²		0.23	0.01	0
____ 25	W	Exterior	Frame - Wood	Wine Cellar	19	8	6	10	1	85.7 ft²		0.23	0.01	0
____ 26	N	Exterior	Frame - Wood	Dining Room	19	3	4	10	1	33.6 ft²		0.23	0.01	0
____ 27	W	Exterior	Frame - Wood	Dining Room	19	15	4	10	1	154.6 ft²		0.23	0.01	0
____ 28	S	Exterior	Frame - Wood	Dining Room	19	4	10	10	1	48.7 ft²		0.23	0.01	0
____ 29	W	Exterior	Frame - Wood	Walkway	19	8	8	9	1	78.7 ft²		0.23	0.01	0
____ 30	N	Exterior	Frame - Wood	Walkway	19	4		9	1	36.3 ft²		0.23	0.01	0
____ 31	E	Exterior	Frame - Wood	Walkway	19	35	4	9	1	320.9 ft²		0.23	0.01	0
____ 32	S	Exterior	Frame - Wood	Walkway	19	18		9	1	163.5 ft²		0.23	0.01	0
____ 33	N	Exterior	Frame - Wood	Bedroom 2	19	14		9	1	127.2 ft²		0.23	0.01	0
____ 34	E	Exterior	Frame - Wood	Bedroom 2	19	14	9	9	1	134.0 ft²		0.23	0.01	0
____ 35	E	Exterior	Frame - Wood	Bathroom 2	19	5	7	9	1	50.7 ft²		0.23	0.01	0
____ 36	S	Exterior	Frame - Wood	Bathroom 2	19	14		9	1	127.2 ft²		0.23	0.01	0
____ 37	S	Exterior	Frame - Wood	Bedroom 3	19	15	8	9	1	142.3 ft²		0.23	0.01	0
____ 38	W	Exterior	Frame - Wood	Bedroom 3	19	12	6	9	1	113.5 ft²		0.23	0.01	0
____ 39	W	Exterior	Frame - Wood	Bathroom 3	19	5	4	9	1	48.4 ft²		0.23	0.01	0
____ 40	S	Exterior	Frame - Wood	Stairwell 3	19	3	4	9	1	30.3 ft²		0.23	0.01	0
____ 41	W	Exterior	Frame - Wood	Stairwell 3	19	8		9	1	72.7 ft²		0.23	0.01	0
____ 42	N	Exterior	Frame - Wood	Stairwell 3	19	3	4	9	1	30.3 ft²		0.23	0.01	0
____ 43	S	Exterior	Frame - Wood	Bedroom 4	19	3	4	9	1	30.3 ft²		0.23	0.01	0
____ 44	W	Exterior	Frame - Wood	Bedroom 4	19	14		9	1	127.2 ft²		0.23	0.01	0
____ 45	N	Exterior	Frame - Wood	Bedroom 4	19	3	4	9	1	30.3 ft²		0.23	0.01	0
____ 46	W	Exterior	Frame - Wood	Bathroom 4	19	8	4	9	1	75.7 ft²		0.23	0.01	0
____ 47	W	Exterior	Frame - Wood	Sitting Area	19	18	5	9	1	167.3 ft²		0.23	0.01	0
____ 48	S	Exterior	Frame - Wood	Master Bedro	19	3		9	1	27.3 ft²		0.23	0.01	0

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%
____ 49	W	Exterior	Frame - Wood	Master Bedro	19	21	8	9	1	196.8 ft²		0.23	0.01	0
____ 50	N	Exterior	Frame - Wood	Master Bedro	19	17		9	1	154.4 ft²		0.23	0.01	0
____ 51	N	Exterior	Frame - Wood	Master Bathro	19	14		9	1	127.2 ft²		0.23	0.01	0
____ 52	N	Exterior	Frame - Wood	Master Closet	19	12	8	9	1	115.1 ft²		0.23	0.01	0
____ 53	E	Exterior	Frame - Wood	Master Closet	19	23	8	9	1	215.0 ft²		0.23	0.01	0
____ 54	S	Exterior	Frame - Wood	Master Closet	19	14	4	9	1	130.2 ft²		0.23	0.01	0
____ 55	E	Exterior	Frame - Wood	Stairwell 4	19	5		9	1	45.4 ft²		0.23	0.01	0
____ 56	N	Exterior	Frame - Wood	Laundry Roo	19	2		9	1	18.2 ft²		0.23	0.01	0
____ 57	E	Exterior	Frame - Wood	Laundry Roo	19	13	4	9	1	121.1 ft²		0.23	0.01	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	N	Insulated	Hall	None	.46	3		8		24 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	W	1	Vinyl	Low-E Double	Yes	0.35	0.27	N	48.0 ft²	4 ft 10 in	1 ft 8 in	Drapes/blinds	None
_____	2	W	1	Vinyl	Low-E Double	Yes	0.35	0.27	N	12.0 ft²	4 ft 10 in	1 ft 8 in	Drapes/blinds	None
_____	3	W	3	Vinyl	Low-E Double	Yes	0.35	0.27	N	18.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	4	W	3	Vinyl	Low-E Double	Yes	0.35	0.27	N	6.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	5	W	6	Vinyl	Low-E Double	Yes	0.35	0.27	N	80.0 ft²	3 ft 0 in	1 ft 8 in	Drapes/blinds	None
_____	6	S	7	Vinyl	Low-E Double	Yes	0.35	0.27	N	36.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	7	E	12	Vinyl	Low-E Double	Yes	0.35	0.27	N	56.0 ft²	4 ft 0 in	1 ft 8 in	Drapes/blinds	None
_____	8	E	12	Vinyl	Low-E Double	Yes	0.35	0.27	N	54.0 ft²	4 ft 0 in	1 ft 8 in	Drapes/blinds	None
_____	9	S	13	Vinyl	Low-E Double	Yes	0.35	0.27	N	72.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	10	S	13	Vinyl	Low-E Double	Yes	0.35	0.27	N	24.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	11	E	14	Vinyl	Low-E Double	Yes	0.35	0.27	N	72.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	12	E	14	Vinyl	Low-E Double	Yes	0.35	0.27	N	24.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	13	E	16	Vinyl	Low-E Double	Yes	0.35	0.27	N	24.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	14	E	18	Vinyl	Low-E Double	Yes	0.35	0.27	N	12.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	15	W	24	Vinyl	Low-E Double	Yes	0.35	0.27	N	48.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	16	W	25	Vinyl	Low-E Double	Yes	0.35	0.27	N	12.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	17	W	27	Vinyl	Low-E Double	Yes	0.35	0.27	N	44.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	18	W	27	Vinyl	Low-E Double	Yes	0.35	0.27	N	16.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	19	W	29	Vinyl	Low-E Double	Yes	0.35	0.27	N	27.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	20	E	31	Vinyl	Low-E Double	Yes	0.35	0.27	N	120.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	21	E	31	Vinyl	Low-E Double	Yes	0.35	0.27	N	36.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	22	S	32	Vinyl	Low-E Double	Yes	0.35	0.27	N	72.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	23	E	34	Vinyl	Low-E Double	Yes	0.35	0.27	N	48.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	24	S	37	Vinyl	Low-E Double	Yes	0.35	0.27	N	36.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	25	W	38	Vinyl	Low-E Double	Yes	0.35	0.27	N	48.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None

INPUT SUMMARY CHECKLIST REPORT

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
_____	26	W	41	Vinyl	Low-E Double	Yes	0.35	0.27	N	18.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	27	W	44	Vinyl	Low-E Double	Yes	0.35	0.27	N	48.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	28	W	46	Vinyl	Low-E Double	Yes	0.35	0.27	N	10.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	29	W	47	Vinyl	Low-E Double	Yes	0.35	0.27	N	10.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	30	W	47	Vinyl	Low-E Double	Yes	0.35	0.27	N	48.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	31	W	49	Vinyl	Low-E Double	Yes	0.35	0.27	N	18.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	32	W	49	Vinyl	Low-E Double	Yes	0.35	0.27	N	48.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	33	N	50	Vinyl	Low-E Double	Yes	0.35	0.27	N	12.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	34	N	51	Vinyl	Low-E Double	Yes	0.35	0.27	N	16.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	35	N	52	Vinyl	Low-E Double	Yes	0.35	0.27	N	6.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	36	E	53	Vinyl	Low-E Double	Yes	0.35	0.27	N	20.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	37	S	54	Vinyl	Low-E Double	Yes	0.35	0.27	N	18.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	38	E	55	Vinyl	Low-E Double	Yes	0.35	0.27	N	12.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	39	E	57	Vinyl	Low-E Double	Yes	0.35	0.27	N	24.0 ft²	0 ft 0 in	0 ft 0 in	Drapes/blinds	None

GARAGE

√	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
_____	1	1041.48 ft²	1041.48 ft²	104.66 ft	10.08 ft	1

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000318	3914.2	214.75	403.16	.1455	5.2468

HEATING SYSTEM

√	#	System Type	Subtype	Speed	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump/	Split	Singl	HSPF:8.2	44.5 kBtu/hr	1	sys#1
_____	2	Electric Heat Pump/	Split	Singl	HSPF:8.2	59 kBtu/hr	2	sys#2

COOLING SYSTEM

√	#	System Type	Subtype	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit/	Split	Singl	SEER: 14	45 kBtu/hr	1600 cfm	0.75	1	sys#1
_____	2	Central Unit/	Split	Singl	SEER: 14	56.5 kBtu/hr	2000 cfm	0.75	2	sys#2

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Propane	Tankless	Exterior	0.82	1 gal	70 gal	120 deg	None

INPUT SUMMARY CHECKLIST REPORT

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
_____	None	None			ft²		

DUCTS

√	#	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat	HVAC # Cool
_____	1	Attic	6	469.6 ft	Attic	117.4 ft	Default Leakage	Garage	(Default)	(Default)			1	1
_____	2	Attic	6	469.6 ft	Attic	117.4 ft	Default Leakage	Walkway	(Default)	(Default)			2	2

TEMPERATURES

Programable Thermostat: N

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	78	78	78	78
	PM	78	78	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	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Entry
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Stairwell 1
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Bathroom 1
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Gym
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Theater
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Hall
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Great Room
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Kitchen
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Stairwell 2
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Powder
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Pantry
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Wine Cellar
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Dining Room
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Walkway
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Bedroom 2
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Bathroom 2
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Bedroom 3
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Bathroom 3
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Stairwell 3

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Bedroom 4
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Bathroom 4
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Sitting Area
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Master Bedroom
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Master Bathroom
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Master Closet
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Stairwell 4
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Laundry Room

Florida Building Code, Energy Conservation, 7th Edition (2020)
Mandatory Requirements for Residential Performance, Prescriptive and ERI Methods

ADDRESS:	7387 SW Tustenuggee Ave Lake City , FL , 32024	Permit Number:

MANDATORY REQUIREMENTS - See individual code sections for full details.

SECTION R401 GENERAL

R401.3 Energy Performance Level (EPL) display card (Mandatory). The building official shall require that an energy performance level (EPL) display card be completed and certified by the builder to be accurate and correct before final approval of the building for occupancy. Florida law (Section 553.9085, Florida Statutes) requires the EPL display card to be included as an addendum to each sales contract for both presold and nonpresold residential buildings. The EPL display card contains information indicating the energy performance level and efficiencies of components installed in a dwelling unit. The building official shall verify that the EPL display card completed and signed by the builder accurately reflects the plans and specifications submitted to demonstrate code compliance for the building. A copy of the EPL display card can be found in Appendix RD.

SECTION R402 BUILDING THERMAL ENVELOPE

R402.4 Air leakage (Mandatory). The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of Sections R402.4.1 through R402.4.5.

Exception: Dwelling units of R-2 Occupancies and multiple attached single family dwellings shall be permitted to comply with Section C402.5.

R402.4.1 Building thermal envelope The building thermal envelope shall comply with Sections R402.4.1.1 and R402.4.1.2. The sealing methods between dissimilar materials shall allow for differential expansion and contraction.

R402.4.1.1 Installation. The components of the building thermal envelope as listed in Table R402.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table R402.4.1.1, as applicable to the method of construction. Where required by the code official, an approved third party shall inspect all components and verify compliance.

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding seven air changes per hour in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8. 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), Florida Statutes, 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 building thermal envelope.

Exception: Testing is not required for additions, alterations, renovations, or repairs, of the building thermal envelope of existing buildings in which the new construction is less than 85 percent of the building thermal envelope.

During testing:
1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

R402.4.2 Fireplaces. New wood-burning fireplaces shall have tight-fitting flue dampers or doors, and outdoor combustion air. Where using tight-fitting doors on factory-built fireplaces listed and labeled in accordance with UL 127, the doors shall be tested and listed for the fireplace. Where using tight-fitting doors on masonry fireplaces, the doors shall be listed and labeled in accordance with UL 907.

R402.4.3 Fenestration air leakage. Windows, skylights and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m2), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m2), when tested according to NFRC 400 or AAMA/ WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer.

Exception: Site-built windows, skylights and doors.

MANDATORY REQUIREMENTS - (Continued)

☐ **R402.4.4 Rooms containing fuel-burning appliances.** In Climate Zones 3 through 8, where open combustion air ducts provide combustion air to open combustion fuel burning appliances, the appliances and combustion air opening shall be located outside the building thermal envelope or enclosed in a room, isolated from inside the thermal envelope. Such rooms shall be sealed and insulated in accordance with the envelope requirements of Table R402.1.2, where the walls, floors and ceilings shall meet not less than the basement wall R-value requirement. The door into the room shall be fully gasketed and any water lines and ducts in the room insulated in accordance with Section R403. The combustion air duct shall be insulated where it passes through conditioned space to a minimum of R-8.

Exceptions:

1. Direct vent appliances with both intake and exhaust pipes installed continuous to the outside.
2. Fireplaces and stoves complying with Section R402.4.2 and Section R1006 of the Florida Building Code, Residential.

☐ **R402.4.5 Recessed lighting.** Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.

SECTION R403 SYSTEMS

R403.1 Controls.

☑ **R403.1.1 Thermostat provision (Mandatory).** At least one thermostat shall be provided for each separate heating and cooling system.

☑ **R403.1.3 Heat pump supplementary heat (Mandatory).** Heat pumps having supplementary electric-resistance heat shall have controls that, except during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load.

☑ **R403.3.2 Sealing (Mandatory)** All ducts, air handlers, filter boxes and building cavities that 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 C403.2.9.2 of the Commercial Provisions of this code and shall be shown to meet duct tightness criteria below.

Duct tightness shall be verified by testing in accordance with ANSI/RESNET/ICC 380 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, to be "substantially leak free" in accordance with Section R403.3.3.

☐ **R403.3.2.1 Sealed air handler.** Air handlers shall have a manufacturer's designation for an air leakage of no more than 2 percent of the design airflow rate when tested in accordance with ASHRAE 193.

☑ **R403.3.3 Duct testing (Mandatory).** Ducts shall be pressure tested to determine air leakage by one of the following methods:

1. Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.
2. Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

Exceptions:

1. A duct air leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.
2. *Duct testing is not mandatory for buildings complying by Section 405 of this code. Duct leakage testing is required for Section R405 compliance where credit is taken for leakage, and a duct air leakage Qn to the outside of less than 0.080 (where Qn = duct leakage to the outside in cfm per 100 square feet of conditioned floor area tested at 25 Pascals) is indicated in the compliance report for the proposed design.*

A written report of the results of the test shall be signed by the party conducting the test and provided to the code official.

☑ **R403.3.5 Building cavities (Mandatory).** Building framing cavities shall not be used as ducts or plenums.

☑ **R403.4 Mechanical system piping insulation (Mandatory).** Mechanical system piping capable of carrying fluids above 105°F (41°C) or below 55°F (13°C) shall be insulated to a minimum of R-3.

☐ **R403.4.1 Protection of piping insulation.** Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesive tape shall not be permitted.

☑ **R403.5.1 Heated water circulation and temperature maintenance systems (Mandatory).** If heated water circulation systems are installed, they shall be in accordance with Section R403.5.1.1. Heat trace temperature maintenance systems shall be in accordance with Section R403.5.1.2. Automatic controls, temperature sensors and pumps shall be accessible. Manual controls shall be readily accessible.

☐ **R403.5.1.1 Circulation systems.** Heated water circulation systems shall be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. Gravity and thermosiphon circulation systems shall be prohibited. Controls for circulating hot water system pumps shall start the pump based on the identification of a demand for hot water within the occupancy. The controls shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is no demand for hot water.

☐ **R403.5.1.2 Heat trace systems.** Electric heat trace systems shall comply with IEEE 515.1 or UL 515. Controls for such systems shall automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping in accordance with the times when heated water is used in the occupancy.

MANDATORY REQUIREMENTS - (Continued)

☑ **R403.5.5 Heat traps (Mandatory).** Storage water heaters not equipped with integral heat traps and having vertical pipe risers shall have heat traps installed on both the inlets and outlets. External heat traps shall consist of either a commercially available heat trap or a downward and upward bend of at least 3 ½ inches (89 mm) in the hot water distribution line and cold water line located as close as possible to the storage tank.

R403.5.6 Water heater efficiencies (Mandatory).

☑ **R403.5.6.1.1 Automatic controls.** Service water-heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use. The minimum temperature setting range shall be from 100°F to 140°F (38°C to 60°C).

☐ **R403.5.6.1.2 Shut down.** A separate switch or a clearly marked circuit breaker shall be provided to permit the power supplied to electric service systems to be turned off. A separate valve shall be provided to permit the energy supplied to the main burner(s) of combustion types of service water-heating systems to be turned off.

☐ **R403.5.6.2 Water-heating equipment.** Water-heating equipment installed in residential units shall meet the minimum efficiencies of Table C404.2 in Chapter 4 of the Florida Building Code, Energy Conservation, Commercial Provisions, for the type of equipment installed. Equipment used to provide heating functions as part of a combination system shall satisfy all stated requirements for the appropriate water-heating category. Solar water heaters shall meet the criteria of Section R403.5.6.2.1.

☐ **R403.5.6.2.1 Solar water-heating systems.** Solar systems for domestic hot water production are rated by the annual solar energy factor of the system. The solar energy factor of a system shall be determined from the Florida Solar Energy Center Directory of Certified Solar Systems. Solar collectors shall be tested in accordance with ISO Standard 9806, Test Methods for Solar Collectors, and SRCC Standard TM-1, Solar Domestic Hot Water System and Component Test Protocol. Collectors in installed solar water-heating systems should meet the following criteria:

1. Be installed with a tilt angle between 10 degrees and 40 degrees of the horizontal; and
2. Be installed at an orientation within 45 degrees of true south.

☑ **R403.6 Mechanical ventilation (Mandatory).** The building shall be provided with ventilation that meets the requirements of the Florida Building Code, Residential, or Florida Building Code, Mechanical, as applicable, or with other approved means of ventilation including: Natural, Infiltration or Mechanical means. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.

☐ **R403.6.1 Whole-house mechanical ventilation system fan efficacy.** When installed to function as a whole-house mechanical ventilation system, fans shall meet the efficacy requirements of Table R403.6.1.

Exception: Where an air handler that is integral to tested and listed HVAC equipment is used to provide whole-house mechanical ventilation, the air handler shall be powered by an electronically commutated motor.

☐ **R403.6.2 Ventilation air.** Residential buildings designed to be operated at a positive indoor pressure or for mechanical ventilation shall meet the following criteria:

1. The design air change per hour minimums for residential buildings in ASHRAE 62.2, Ventilation for Acceptable Indoor Air Quality, shall be the maximum rates allowed for residential applications.
2. No ventilation or air-conditioning system make-up air shall be provided to conditioned space from attics, crawlspaces, attached enclosed garages or outdoor spaces adjacent to swimming pools or spas.
3. If ventilation air is drawn from enclosed space(s), then the walls of the space(s) from which air is drawn shall be insulated to a minimum of R-11 and the ceiling shall be insulated to a minimum of R-19, space permitting, or R-10 otherwise.

R403.7 Heating and cooling equipment.

☑ **R403.7.1 Equipment sizing (Mandatory).** Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on the equipment loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies, based on building loads for the directional orientation of the building. The manufacturer and model number of the outdoor and indoor units (if split system) shall be submitted along with the sensible and total cooling capacities at the design conditions described in Section R302.1. This Code does not allow designer safety factors, provisions for future expansion or other factors that affect equipment sizing. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed.

TABLE R403.6.1
WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY

FAN LOCATION	AIRFLOW RATE MINIMUM (CFM)	MINIMUM EFFICACY [a] (CFM/WATT)	AIRFLOW RATE MAXIMUM (CFM)
HRV or ERV	Any	1.2 cfm/watt	Any
Range hoods	Any	2.8 cfm/watt	Any
In-line fan	Any	2.8 cfm/watt	Any
Bathroom, utility room	10	1.4 cfm/watt	<90
Bathroom, utility room	90	2.8 cfm/watt	Any

For SI: 1 cfm = 28.3 L/min. a. When tested in accordance with HVI Standard 916

MANDATORY REQUIREMENTS - (Continued)

☐ **R403.7.1.1 Cooling equipment capacity.** Cooling only equipment shall be selected so that its total capacity is not less than the calculated total load but not more than 1.15 times greater than the total load calculated according to the procedure selected in Section R403.7, or the closest available size provided by the manufacturer's product lines. The corresponding latent capacity of the equipment shall not be less than the calculated latent load.

The published value for AHRI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacturer's expanded performance data shall be used to select cooling-only equipment. This selection shall be based on the outdoor design dry-bulb temperature for the load calculation (or entering water temperature for water-source equipment), the blower CFM provided by the expanded performance data, the design value for entering wet-bulb temperature and the design value for entering dry-bulb temperature.

Design values for entering wet-bulb and dry-bulb temperatures shall be for the indoor dry bulb and relative humidity used for the load calculation and shall be adjusted for return side gains if the return duct(s) is installed in an unconditioned space.

Exceptions:

1. Attached single- and multiple-family residential equipment sizing may be selected so that its cooling capacity is less than the calculated total sensible load but not less than 80 percent of that load.
2. When signed and sealed by a Florida-registered engineer, in attached single- and multiple-family units, the capacity of equipment may be sized in accordance with good design practice.

R403.7.1.2 Heating equipment capacity.

☐ **R403.7.1.2.1 Heat pumps.** Heat pump sizing shall be based on the cooling requirements as calculated according to Section R403.7.1.1, and the heat pump total cooling capacity shall not be more than 1.15 times greater than the design cooling load even if the design heating load is 1.15 times greater than the design cooling load.

☐ **R403.7.1.2.2 Electric resistance furnaces.** Electric resistance furnaces shall be sized within 4 kW of the design requirements calculated according to the procedure selected in Section R403.7.1.

☐ **R403.7.1.2.3 Fossil fuel heating equipment.** The capacity of fossil fuel heating equipment with natural draft atmospheric burners shall not be less than the design load calculated in accordance with Section R403.7.1.

☐ **R403.7.1.3 Extra capacity required for special occasions.** Residences requiring excess cooling or heating equipment capacity on an intermittent basis, such as anticipated additional loads caused by major entertainment events, shall have equipment sized or controlled to prevent continuous space cooling or heating within that space by one or more of the following options:

1. A separate cooling or heating system is utilized to provide cooling or heating to the major entertainment areas.
2. A variable capacity system sized for optimum performance during base load periods is utilized.

☐ **R403.8 Systems serving multiple dwelling units (Mandatory).** Systems serving multiple dwelling units shall comply with Sections C403 and C404 of the Florida Building Code, Energy Conservation—Commercial Provisions in lieu of Section R403.

☐ **R403.9 Snow melt and ice system controls (Mandatory)** Snow- and ice-melting systems, supplied through energy service to the building, shall include automatic controls capable of shutting off the system when the pavement temperature is above 50°F (10°C), and no precipitation is falling and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F (4.8°C).

☐ **R403.10 Pools and permanent spa energy consumption (Mandatory).** The energy consumption of pools and permanent spas shall be in accordance with Sections R403.10.1 through R403.10.5.

☐ **R403.10.1 Heaters.** The electric power to heaters shall be controlled by a readily accessible on-off switch that is an integral part of the heater mounted on the exterior of the heater, or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater. Gas-fired heaters shall not be equipped with continuously burning ignition pilots.

☐ **R403.10.2 Time switches.** Time switches or other control methods that can automatically turn off and on according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section.

Exceptions:

1. Where public health standards require 24-hour pump operation.
2. Pumps that operate solar- and waste-heat-recovery pool heating systems.
3. Where pumps are powered exclusively from on-site renewable generation.

☐ **R403.10.3 Covers.** Outdoor heated swimming pools and outdoor permanent spas shall be equipped with a vapor-retardant cover on or at the water surface or a liquid cover or other means proven to reduce heat loss.

Exception: Where more than 70 percent of the energy for heating, computed over an operation season, is from site-recovered energy, such as from a heat pump or solar energy source, covers or other vapor-retardant means shall not be required.

☐ **R403.10.4 Gas- and oil-fired pool and spa heaters.** All gas- and oil-fired pool and spa heaters shall have a minimum thermal efficiency of 82 percent for heaters manufactured on or after April 16, 2013, when tested in accordance with ANSI Z 21.56. Pool heaters fired by natural or LP gas shall not have continuously burning pilot lights.

☐ **R403.10.5 Heat pump pool heaters.** Heat pump pool heaters shall have a minimum COP of 4.0 when tested in accordance with AHRI 1160, Table 2, Standard Rating Conditions-Low Air Temperature. A test report from an independent laboratory is required to verify procedure compliance. Geothermal swimming pool heat pumps are not required to meet this standard.

☐ **R403.11 Portable spas (Mandatory).** The energy consumption of electric-powered portable spas shall be controlled by the requirements of APSP-14.

☑ **R403.13 Dehumidifiers (Mandatory** If installed, a dehumidifier shall conform to the following requirements:

1. The minimum rated efficiency of the dehumidifier shall be greater than 1.7 liters/ kWh if the total dehumidifier capacity for the house is less than 75 pints/day and greater than 2.38 liters/kWh if the total dehumidifier capacity for the house is greater than or equal to 75 pints/day.
2. The dehumidifier shall be controlled by a sensor that is installed in a location where it is exposed to mixed house air.
3. Any dehumidifier unit located in unconditioned space that treats air from conditioned space shall be insulated to a minimum of R-2.
4. Condensate disposal shall be in accordance with Section M1411.3.1 of the Florida Building Code, Residential.

☐ **R403.13.1 Ducted dehumidifiers.** Ducted dehumidifiers shall, in addition to conforming to the requirements of Section R403.13, conform to the following requirements:

1. If a ducted dehumidifier is configured with return and supply ducts both connected into the supply side of the cooling system, a backdraft damper shall be installed in the supply air duct between the dehumidifier inlet and outlet duct.
2. If a ducted dehumidifier is configured with only its supply duct connected into the supply side of the central heating and cooling system, a backdraft damper shall be installed in the dehumidifier supply duct between the dehumidifier and central supply duct.
3. A ducted dehumidifier shall not be ducted to or from a central ducted cooling system on the return duct side upstream from the central cooling evaporator coil.
4. Ductwork associated with a dehumidifier located in unconditioned space shall be insulated to a minimum of R-6.

SECTION R404

ELECTRICAL POWER AND LIGHTING SYSTEMS

☑ **R404.1 Lighting equipment (Mandatory).** Not less than 90 percent of the lamps in permanently installed luminaires shall have an efficacy of at least 45 lumens-per-watt or shall utilize lamps with an efficacy of not less than 65 lumens-per-watt.

R404.1.1 Lighting equipment (Mandatory). Fuel gas lighting systems shall not have continuously burning pilot lights.