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)*

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FORM R405-2022 Supplement

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	New residence @ 11041 SW 77th Ave	Builder Name:	
Street:	11041 SW 77th Ave	Permit Office:	
City, State, Zip:	Miami, FL, 33156	Permit Number:	
Owner:		Jurisdiction:	231000
Design Location:	FL, Miami	County:	Miami-Dade(Florida Climate Zone 1)

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	9
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	12617
Conditioned floor area below grade (ft²)	0

7. Windows(3737.2 sqft.)	Description	Area
a. U-Factor:	Sgl, U=0.66	3737.20 ft²
SHGC:	SHGC=0.32	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		7.172 ft
Area Weighted Average SHGC:		0.320

8. Skylights	Description	Area
U-Factor:(AVG)	U=0.66	9.9 ft²
SHGC(AVG):	SHGC=0.32	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	7703.00 ft²
b. Floor Over Other Space	R= 11.0	4634.00 ft²
c. other (see details)	R=	281.00 ft²

10. Wall Types(12899.0 sqft.)	Insulation	Area
a. Concrete Block - Ext Insul, Exterior	R=5.0	12318.00 ft²
b. Concrete Block - Ext Insul, Adjacent	R=5.0	581.00 ft²
c. N/A		
d. N/A		

11. Ceiling Types(7975.0 sqft.)	Insulation	Area
a. Roof Deck (Unvented)	R=0.0	7975.00 ft²
b. N/A		
c. N/A		

12. Roof(Concrete, Unvent)	Deck R=0.0	8004 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: AC1	6	600
b. Sup: Attic, Ret: Attic, AH: AC2	6	100
c. 3 additional duct system(s)		(see details)

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	57.0	SEER2:20.00
b. Central Unit	57.0	SEER2:20.00
3 additional cooling systems		(see details)

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Strip Heat	34.1	COP:1.00
b. Electric Strip Heat	34.1	COP:1.00
3 additional heating systems		(see details)

16. Hot Water Systems	
a. Electric	Cap: 80 gallons
	EF: 0.860
b. Conservation features	
Recirc(Demand control(pres. sens.)	
17. Credits	Pstat

Glass/Floor Area: 0.296

Total Proposed Modified Loads: 510.23

Total Baseline Loads: 547.08

PASS

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

PREPARED BY: EDUARDO BARRETO

DATE: 5-2-2024

Eduardo A Barreto

Digitally signed by Eduardo A Barreto
DN: c=US, o=Florida, dnQualifier=A01410C0000018998AF54FC000D0EC6, cn=Eduardo A Barreto
Date: 2024.05.07 10:22:39 -04'00'

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.

- Default duct leakage does not require a Duct Leakage Test Report.

- 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 7.00 ACH50 (R402.4.1.2).

FORM R405-2022S

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	New residence @ 11041 SW 77th Ave			Address type:	Street Address
Building Type:	User	Bedrooms:	9	Lot #:	---
Owner:		Conditioned Area:	12617	Block/SubDivision:	---
Builder Home ID:		Total Stories:	2	PlatBook:	---
Builder Name:		Worst Case:	No	Street:	11041 SW 77th Ave
Permit Office:		Rotate Angle:	0	County:	Miami-Dade
Jurisdiction:	231000	Cross Ventilation:	No	City, State, Zip:	Miami,
Family Type:	Detached	Whole House Fan:	No		FL, 33156
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		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, Miami	FL_MIAMI_INTL_AP	51	90	70	75	149.5	56	Low

BLOCKS

√	Number	Name	Area	Volume
___	1	Block1	2300	32200 cu ft
___	2	Block2	2396	33544 cu ft
___	3	Block3	2483	34762 cu ft
___	4	Block4	524	7336 cu ft
___	5	Block5	4914	56511 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	AC1	2300	32200	Yes	9	1	Yes	Yes	Yes
___	2	AC2	2396	33544	No	9	0	Yes	Yes	Yes
___	3	AC3	2483	34762	No	6	2	Yes	Yes	Yes
___	4	AC4	524	7336	No	2	1	Yes	Yes	Yes
___	5	AC5	2471	28417	No	4	1	Yes	Yes	Yes
___	6	AC6	2443	28095	No	4	4	Yes	Yes	Yes

FLOORS (Total Exposed Area = 7984 sq.ft.)

√	#	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim.	R-Value Joist	U-Factor	Slab Insul. Vert/Horiz	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	AC1	250	2300 sqft	0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	0.00
___	2	Slab-On-Grade Edge Ins	AC2	301	2396 sqft	0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	0.00
___	3	Slab-On-Grade Edge Ins	AC3	217	2483 sqft	0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	0.00
___	4	Slab-On-Grade Edge Ins	AC4	97	524 sqft	0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	0.00
___	5	Floor over Garage	AC5	---	281 sqft	---	11	0.079	-------	1.00	0.00	0.00
___	6	Floor Over Other Space	AC5	---	689 sqft	---	11	0.073	-------	1.00	0.00	0.00
___	7	Floor Over Other Space	AC5	---	1502 sqft	---	11	0.073	-------	1.00	0.00	0.00
___	8	Floor Over Other Space	AC6	---	366 sqft	---	11	0.073	-------	1.00	0.00	0.00
___	9	Floor Over Other Space	AC6	---	2077 sqft	---	11	0.073	-------	1.00	0.00	0.00

FORM R405-2022S

INPUT SUMMARY CHECKLIST REPORT

ROOF

√ #	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___ 1	Flat	Concrete	8004 ft²	332 ft²	Dark	N	0.96	No	0.9	No	0	4.76

ATTIC

√ #	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___ 1	Full attic	Unvented	0	7976 ft²	N	N

CEILING (Total Exposed Area = 7975 sq.ft.)

√ #	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___ 1	Flat ceiling under attic(Unvented)	AC1	30.0	Batt	1614.0ft²	0.064	0.11	Wood
___ 2	Flat ceiling under attic(Unvented)	AC2	30.0	Batt	520.0ft²	0.064	0.11	Wood
___ 3	Flat ceiling under attic(Unvented)	AC3	30.0	Batt	403.0ft²	0.064	0.11	Wood
___ 4	Flat ceiling under attic(Unvented)	AC4	30.0	Batt	524.0ft²	0.064	0.11	Wood
___ 5	Flat ceiling under attic(Unvented)	AC5	30.0	Batt	2471.0ft²	0.064	0.11	Wood
___ 6	Flat ceiling under attic(Unvented)	AC6	30.0	Batt	2443.0ft²	0.064	0.11	Wood

WALLS (Total Exposed Area = 12899 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	W	Exterior	Conc. Blk - Ext Ins	AC2	5.0	39.0	10	14.0	0	557.7	0.117	0	0	0.30	0 %
___ 2	N	Exterior	Conc. Blk - Ext Ins	AC2	5.0	13.0	8	14.0	0	191.3	0.117	0	0	0.30	0 %
___ 3	S	Exterior	Conc. Blk - Ext Ins	AC2	5.0	13.0	8	14.0	0	191.3	0.117	0	0	0.30	0 %
___ 4	N	Exterior	Conc. Blk - Ext Ins	AC2	5.0	14.0	3	14.0	0	199.5	0.117	0	0	0.30	0 %
___ 5	W	Garage	Conc. Blk - Ext Ins	AC2	5.0	22.0	0	14.0	0	308.0	0.117	0	0	0.01	0 %
___ 6	N	Garage	Conc. Blk - Ext Ins	AC2	5.0	9.0	7	14.0	0	134.2	0.117	0	0	0.01	0 %
___ 7	S	Garage	Conc. Blk - Ext Ins	AC2	5.0	5.0	0	14.0	0	70.0	0.117	0	0	0.01	0 %
___ 8	NW	Garage	Conc. Blk - Ext Ins	AC2	5.0	4.0	11	14.0	0	68.8	0.117	0	0	0.01	0 %
___ 9	S	Exterior	Conc. Blk - Ext Ins	AC2	5.0	7.0	10	14.0	0	109.7	0.117	0	0	0.30	0 %
___ 10	W	Exterior	Conc. Blk - Ext Ins	AC1	5.0	11.0	10	14.0	0	165.7	0.117	0	0	0.30	0 %
___ 11	S	Exterior	Conc. Blk - Ext Ins	AC1	5.0	41.0	6	14.0	0	581.0	0.117	0	0	0.30	0 %
___ 12	E	Exterior	Conc. Blk - Ext Ins	AC1	5.0	12.0	0	14.0	0	168.0	0.117	0	0	0.30	0 %
___ 13	S	Exterior	Conc. Blk - Ext Ins	AC1	5.0	45.0	2	14.0	0	632.3	0.117	0	0	0.30	0 %
___ 14	E	Exterior	Conc. Blk - Ext Ins	AC1	5.0	26.0	1	14.0	0	365.2	0.117	0	0	0.30	0 %
___ 15	N	Exterior	Conc. Blk - Ext Ins	AC1	5.0	26.0	3	14.0	0	367.5	0.117	0	0	0.30	0 %
___ 16	E	Exterior	Conc. Blk - Ext Ins	AC2	5.0	39.0	10	14.0	0	557.7	0.117	0	0	0.30	0 %
___ 17	E	Exterior	Conc. Blk - Ext Ins	AC3	5.0	6.0	7	14.0	0	92.2	0.117	0	0	0.30	0 %
___ 18	S	Exterior	Conc. Blk - Ext Ins	AC3	5.0	16.0	8	14.0	0	233.3	0.117	0	0	0.30	0 %
___ 19	E	Exterior	Conc. Blk - Ext Ins	AC3	5.0	30.0	9	14.0	0	430.5	0.117	0	0	0.30	0 %
___ 20	N	Exterior	Conc. Blk - Ext Ins	AC3	5.0	72.0	6	14.0	0	1015.0	0.117	0	0	0.30	0 %
___ 21	W	Exterior	Conc. Blk - Ext Ins	AC3	5.0	21.0	6	14.0	0	301.0	0.117	0	0	0.30	0 %
___ 22	SW	Exterior	Conc. Blk - Ext Ins	AC3	5.0	8.0	10	14.0	0	123.7	0.117	0	0	0.30	0 %
___ 23	W	Exterior	Conc. Blk - Ext Ins	AC3	5.0	12.0	6	14.0	0	175.0	0.117	0	0	0.30	0 %
___ 24	W	Exterior	Conc. Blk - Ext Ins	AC4	5.0	14.0	11	14.0	0	208.8	0.117	0	0	0.30	0 %
___ 25	S	Exterior	Conc. Blk - Ext Ins	AC4	5.0	29.0	0	14.0	0	406.0	0.117	0	0	0.30	0 %
___ 26	E	Exterior	Conc. Blk - Ext Ins	AC4	5.0	14.0	11	14.0	0	208.8	0.117	0	0	0.30	0 %
___ 27	N	Exterior	Conc. Blk - Ext Ins	AC4	5.0	7.0	8	14.0	0	107.3	0.117	0	0	0.30	0 %
___ 28	E	Exterior	Conc. Blk - Ext Ins	AC4	5.0	4.0	7	14.0	0	64.2	0.117	0	0	0.30	0 %
___ 29	N	Exterior	Conc. Blk - Ext Ins	AC4	5.0	13.0	8	14.0	0	191.3	0.117	0	0	0.30	0 %
___ 30	W	Exterior	Conc. Blk - Ext Ins	AC4	5.0	4.0	7	14.0	0	64.2	0.117	0	0	0.30	0 %
___ 31	N	Exterior	Conc. Blk - Ext Ins	AC4	5.0	7.0	8	14.0	0	107.3	0.117	0	0	0.30	0 %
___ 32	W	Exterior	Conc. Blk - Ext Ins	AC5	5.0	18.0	0	11.5	0	207.0	0.117	0	0	0.30	0 %
___ 33	N	Exterior	Conc. Blk - Ext Ins	AC5	5.0	13.0	11	11.5	0	160.0	0.117	0	0	0.30	0 %

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INPUT SUMMARY CHECKLIST REPORT

WALLS(Continued)

___ 34	W	Exterior	Conc. Blk - Ext Ins	AC5	5.0	12.0	10	11.5	0	147.6	0.117	0	0	0.30	0 %
___ 35	S	Exterior	Conc. Blk - Ext Ins	AC5	5.0	13.0	11	11.5	0	160.0	0.117	0	0	0.30	0 %
___ 36	N	Exterior	Conc. Blk - Ext Ins	AC5	5.0	23.0	10	11.5	0	274.1	0.117	0	0	0.30	0 %
___ 37	NW	Exterior	Conc. Blk - Ext Ins	AC5	5.0	29.0	4	11.5	0	337.3	0.117	0	0	0.30	0 %
___ 38	S	Exterior	Conc. Blk - Ext Ins	AC5	5.0	50.0	0	11.5	0	575.0	0.117	0	0	0.30	0 %
___ 39	SE	Exterior	Conc. Blk - Ext Ins	AC5	5.0	62.0	10	11.5	0	722.6	0.117	0	0	0.30	0 %
___ 40	SE	Exterior	Conc. Blk - Ext Ins	AC6	5.0	16.0	11	11.5	0	194.5	0.117	0	0	0.30	0 %
___ 41	S	Exterior	Conc. Blk - Ext Ins	AC6	5.0	18.0	6	11.5	0	212.8	0.117	0	0	0.30	0 %
___ 42	E	Exterior	Conc. Blk - Ext Ins	AC6	5.0	29.0	0	11.5	0	333.5	0.117	0	0	0.30	0 %
___ 43	N	Exterior	Conc. Blk - Ext Ins	AC6	5.0	56.0	2	11.5	0	645.9	0.117	0	0	0.30	0 %
___ 44	NW	Exterior	Conc. Blk - Ext Ins	AC6	5.0	20.0	11	11.5	0	240.5	0.117	0	0	0.30	0 %
___ 45	W	Exterior	Conc. Blk - Ext Ins	AC6	5.0	25.0	4	11.5	0	291.3	0.117	0	0	0.30	0 %

DOORS (Total Exposed Area = 611 sq.ft.)

√ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___ 1	W(Front)		Insulated	AC2	Metal	0.46	7.00	6	12.00	1	90.6ft²
___ 2	W		Wood	AC2	Wood	0.46	3.00	0	8.00	0	24.0ft²
___ 3	S		Insulated	AC2	Metal	0.46	3.00	0	8.00	0	24.0ft²
___ 4	S		Wood	AC1	Wood	0.46	3.00	0	8.00	0	24.0ft²
___ 5	W		Wood	AC1	Wood	0.46	3.00	0	8.00	0	24.0ft²
___ 6	E		Wood	AC1	Wood	0.46	3.00	0	8.00	0	24.0ft²
___ 7	S		Wood	AC1	Wood	0.46	3.00	0	8.00	0	24.0ft²
___ 8	E		Insulated	AC1	Metal	0.46	6.00	1	8.00	4	50.7ft²
___ 9	E		Insulated	AC2	Metal	0.46	6.00	1	8.00	4	50.7ft²
___ 10	E		Insulated	AC2	Metal	0.46	6.00	1	8.00	4	50.7ft²
___ 11	E		Wood	AC3	Wood	0.46	3.00	0	8.00	0	24.0ft²
___ 12	E		Insulated	AC3	Metal	0.46	3.00	0	8.00	4	25.0ft²
___ 13	SE		Insulated	AC5	Metal	0.46	3.00	0	8.00	4	25.0ft²
___ 14	SE		Insulated	AC5	Metal	0.46	3.00	0	8.00	4	25.0ft²
___ 15	SE		Insulated	AC6	Metal	0.46	3.00	0	8.00	4	25.0ft²
___ 16	E		Insulated	AC6	Metal	0.46	3.00	0	8.00	4	25.0ft²
___ 17	N		Insulated	AC6	Metal	0.46	3.00	0	8.00	4	25.0ft²
___ 18	N		Insulated	AC6	Metal	0.46	3.00	0	8.00	4	25.0ft²
___ 19	W		Insulated	AC6	Metal	0.46	3.00	0	8.00	4	25.0ft²

WINDOWS (Total Exposed Area = 3747 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)	Sep. (ft)	Interior Shade	Screen
___ 1	W	1	Metal	Low-E Single	Y	0.66	0.32	Y	N	94.3	1	7.75	12.17	12.0	11.0	None	None
___ 2	W	1	Metal	Low-E Single	Y	0.66	0.32	Y	N	139.9	1	11.50	12.17	12.0	11.0	None	None
___ 3	E	14	Metal	Low-E Single	Y	0.66	0.32	Y	N	45.5	1	3.50	13.00	45.4	0.3	None	None
___ 4	E	14	Metal	Low-E Single	Y	0.66	0.32	Y	N	136.5	3	3.50	13.00	45.4	0.3	None	None
___ 5	N	15	Metal	Low-E Single	Y	0.66	0.32	Y	N	131.1	1	10.08	13.00	0.1	0.3	None	None
___ 6	E	16	Metal	Low-E Single	Y	0.66	0.32	Y	N	44.4	1	3.75	11.83	6.6	0.3	None	None
___ 7	E	16	Metal	Low-E Single	Y	0.66	0.32	Y	N	88.8	2	3.75	11.83	6.6	0.3	None	None
___ 8	E	16	Metal	Low-E Single	Y	0.66	0.32	Y	N	177.5	4	3.75	11.83	6.6	0.3	None	None
___ 9	E	17	Metal	Low-E Single	Y	0.66	0.32	Y	N	74.9	2	3.17	11.83	6.6	0.3	None	None
___ 10S		18	Metal	Low-E Single	Y	0.66	0.32	Y	N	113.4	1	9.58	11.83	4.2	0.3	None	None
___ 11E		19	Metal	Low-E Single	Y	0.66	0.32	Y	N	78.9	2	3.33	11.83	4.5	0.3	None	None
___ 12E		19	Metal	Low-E Single	Y	0.66	0.32	Y	N	116.4	1	9.83	11.83	4.5	0.3	None	None
___ 13N		20	Metal	Low-E Single	Y	0.66	0.32	Y	N	173.6	1	14.67	11.83	2.8	0.3	None	None
___ 14N		20	Metal	Low-E Single	Y	0.66	0.32	Y	N	236.7	2	10.00	11.83	2.8	0.3	None	None
___ 15W		23	Metal	Low-E Single	Y	0.66	0.32	Y	N	53.4	1	4.33	12.33	7.8	0.1	None	None
___ 16W		23	Metal	Low-E Single	Y	0.66	0.32	Y	N	49.7	1	4.08	12.17	7.8	0.1	None	None
___ 17W		24	Metal	Low-E Single	Y	0.66	0.32	Y	N	121.9	1	11.08	11.00	3.7	1.0	None	None

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INPUT SUMMARY CHECKLIST REPORT

WINDOWS(Continued)

___ 18S	25	Metal	Low-E Single	Y	0.66	0.32	Y	N	316.3	1	28.75	11.00	3.7	1.0	None	None
___ 19E	26	Metal	Low-E Single	Y	0.66	0.32	Y	N	121.9	1	11.08	11.00	3.7	1.0	None	None
___ 20N	27	Metal	Low-E Single	Y	0.66	0.32	Y	N	82.5	1	7.50	11.00	4.6	1.0	None	None
___ 21N	31	Metal	Low-E Single	Y	0.66	0.32	Y	N	82.5	1	7.50	11.00	4.6	1.0	None	None
___ 22W	32	Metal	Low-E Single	Y	0.66	0.32	Y	N	186.0	1	18.00	10.33	16.8	0.1	None	None
___ 23SE	39	Metal	Low-E Single	Y	0.66	0.32	Y	N	62.0	1	6.00	10.33	3.0	0.1	None	None
___ 24SE	39	Metal	Low-E Single	Y	0.66	0.32	Y	N	77.5	1	7.50	10.33	3.0	0.1	None	None
___ 25SE	39	Metal	Low-E Single	Y	0.66	0.32	Y	N	291.1	1	28.17	10.33	3.0	0.1	None	None
___ 26SE	40	Metal	Low-E Single	Y	0.66	0.32	Y	N	124.9	1	12.08	10.33	3.0	0.1	None	None
___ 27E	42	Metal	Low-E Single	Y	0.66	0.32	Y	N	67.2	1	6.50	10.33	3.3	0.1	None	None
___ 28N	43	Metal	Low-E Single	Y	0.66	0.32	Y	N	98.2	1	9.50	10.33	3.3	0.1	None	None
___ 29N	43	Metal	Low-E Single	Y	0.66	0.32	Y	N	74.1	1	7.17	10.33	3.3	0.1	None	None
___ 30W	45	Metal	Low-E Single	Y	0.66	0.32	Y	N	47.4	1	4.58	10.33	6.6	0.1	None	None
___ 31W	45	Metal	Low-E Single	Y	0.66	0.32	Y	N	131.8	1	12.75	10.33	8.9	0.1	None	None
___ 32S	11	Metal	Low-E Single	Y	0.66	0.32	Y	N	97.3	1	8.00	12.17	0.1	0.1	None	None
___ 33H	Skylt	Metal	Low-E Single	Y	0.66	0.32	Y	N	9.9	1	4.75	2.08	0.0	0.0	None	None

INFILTRATION

√ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00058	19175	1051.97	1974.96	0.2373	7.0	All	164353 cu ft

GARAGE

√ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	816 ft²	816 ft²	109 ft	13 ft	1

MASS

√ #	Mass Type	Area	Thickness	Furniture Fraction	Space
___ 1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	AC1
___ 2	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	AC2
___ 3	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	AC3
___ 4	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	AC4
___ 5	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	AC5
___ 6	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	AC6

HEATING SYSTEM

√ #	System Type	Subtype	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___ 1	Electric Strip Heat	None		COP: 1.00	34.1		0.00	0.00	0.00	sys#1	1
___ 2	Electric Strip Heat	None		COP: 1.00	34.1		0.00	0.00	0.00	sys#2	2
___ 3	Electric Strip Heat	None		COP: 1.00	34.1		0.00	0.00	0.00	sys#3	3
___ 4	Electric Strip Heat	None		COP: 1.00	27.3		0.00	0.00	0.00	sys#4	4
___ 5A	Electric Strip Heat	None		COP: 1.00	34.1		0.00	0.00	0.00	sys#5	5
___ 5B	Electric Strip Heat	None		COP: 1.00	34.1		0.00	0.00	0.00	sys#5	5
___ 5C	Electric Strip Heat	None		COP: 1.00	0.0		0.00	0.00	0.00	sys#5	5
___ 5D	Electric Strip Heat	None		COP: 1.00	0.0		0.00	0.00	0.00	sys#5	5
___ 5E	Electric Strip Heat	None		COP: 1.00	0.0		0.00	0.00	0.00	sys#5	5

FORM R405-2022S

INPUT SUMMARY CHECKLIST REPORT

COOLING SYSTEM

√	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___	1	Central Unit	None/Single		SEER2:20.0	57.0	2000	0.75	sys#1	1
___	2	Central Unit	None/Single		SEER2:20.0	57.0	2000	0.75	sys#2	2
___	3	Central Unit	None/Single		SEER2:20.0	57.0	2000	0.75	sys#3	3
___	4	Central Unit	None/Single		SEER2:17.5	35.6	1200	0.75	sys#4	4
___	5A	Central Unit	None/Single		SEER:20.0	57.0	2000	0.75	sys#5	5
___	5B	Central Unit	None/Single		SEER:20.0	57.0	2000	0.75	sys#5	5

HOT WATER SYSTEM

√	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	None	Exterior	0.86 (0.89)	80.00 gal	50 gal	120 deg	Standard	None	50

	Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
___ 1	Yes	Demand control(presence sensor)	125.00	20.00	650.0	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	600 ft²	Attic	6.0	200 ft²	Default Leakage	AC1	(Default)	(Default)			1	1
___	2	Attic	6.0	100 ft²	Attic	6.0	25 ft²	Default Leakage	AC2	(Default)	(Default)			2	2
___	3	Attic	6.0	150 ft²	Attic	6.0	150 ft²	Default Leakage	AC3	(Default)	(Default)			3	3
___	4	Attic	6.0	100 ft²	Attic	6.0	25 ft²	Default Leakage	AC4	(Default)	(Default)			4	4
___	5	Attic	6.0	650 ft²	Attic	6.0	200 ft²	Default Leakage	AC5	(Default)	(Default)			5	5

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

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: 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

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 93

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

11041 SW 77th Ave,Miami,FL,33156

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		9
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		12617
Conditioned floor area below grade (ft²)		0

7. Windows**	Description	Area
a. U-Factor:	Sgl, U=0.66	3737.20 ft²
SHGC:	SHGC=0.32	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		7.172 ft
Area Weighted Average SHGC:		0.320

8. Skylights	Description	Area
U-Factor:(AVG)	U=0.66	9.9 ft²
SHGC(AVG):	SHGC=0.32	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	7703.00 ft²
b. Floor Over Other Space	R= 11.0	4634.00 ft²
c. other (see details)	R=	281.00 ft²

10. Wall Types(12899.0 sqft.)	Insulation	Area
a. Concrete Block - Ext Insul, Exterior	R=5.0	12318.00 ft²
b. Concrete Block - Ext Insul, Adjacent	R=5.0	581.00 ft²
c. N/A		
d. N/A		

11. Ceiling Types(7975.0 sqft.)	Insulation	Area
a. Roof Deck (Unvented)	R=0.0	7975.00 ft²
b. N/A		
c. N/A		

12. Roof(Concrete, Unvent)	Deck R=0.0	8004 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: AC1	6	600
b. Sup: Attic, Ret: Attic, AH: AC2	6	100
c. 3 additional duct system(s)		(see details)

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	57.0	SEER2:20.00
b. Central Unit	57.0	SEER2:20.00
3 additional cooling systems		(see details)

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Strip Heat	34.1	COP:1.00
b. Electric Strip Heat	34.1	COP:1.00
3 additional heating systems		(see details)

16. Hot Water Systems	
a. Electric	Cap: 80 gallons
	EF: 0.860
b. Conservation features	
Recirc(Demand control(pres. sens.)	

17. Credits	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: 11041 SW 77th Ave City/FL Zip: Miami,FL,33156

*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.

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

ADDRESS:	11041 SW 77th Ave Miami, FL 33156	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.

☐ **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.

MANDATORY REQUIREMENTS (Continued)

☑ **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

☑ **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).

☐ **403.10 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.

MANDATORY REQUIREMENTS (Continued)

☐ **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). uel gas lighting systems shall not have continuously burning pilot lights.

2020 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA-TABLE 402.4.1.1[a]

Project Name:	New residence @ 11041 SW 77th Ave	Builder Name:	
Street:	11041 SW 77th Ave	Permit Office:	
City, State, Zip:	Miami, FL, 33156	Permit Number:	
Owner:		Jurisdiction:	231000
Design Location:	FL, Miami	County:	Miami-Dade(Florida Climate Zone 1)

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA	CHECK
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.	N/A
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.	N/A
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.	N/A
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.		N/A
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.	N/A
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.	N/A
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.	N/A
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.		N/A
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.	N/A
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.		N/A
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 ceiling penetrated by the boot.		✓
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 voids between fire sprinkler cover plates and walls or ceilings.		N/A

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

Envelope Leakage Test Report (Blower Door Test)
Residential Prescriptive, Performance or ERI Method Compliance
2020 and 2022 Supplement Florida Building Code, Energy Conservation, 7th Edition

Jurisdiction: 231000	Permit #:

Job Information

Builder: Community: Lot: NA

Address: 11041 SW 77th Ave

City: Miami State: FL Zip: 33156

Air Leakage Test Results *Passing results must meet either the Performance, Prescriptive, or ERI Method*

○ **PRESCRIPTIVE METHOD-**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.

● **PERFORMANCE or ERI METHOD-**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): 7.000

_____ x 60 ÷ 164353 = _____
CFM(50) Building Volume ACH(50)

☐ **PASS**

☐ When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.

Method for calculating building volume:

○ Retrieved from architectural plans

● Code software calculated

○ Field measured and calculated

R402.4.1.2 Testing. 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 Statues.*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.*
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, back draft 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.

Testing Company

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: _____

System Sizing Calculations - Summer

Residential Load - Room by Room Component Details

Project Title:
11041 SW 77th Ave
Miami, FL 33156

New residence @ 11041 SW 77th Ave

10/25/2023

Reference City: Miami, FL (Defaults)
Humidity difference: 56gr.

Temperature Difference: 17.0F(TMY3 99%)
Summer Setpoint: 75 °F (Required Manual J default)

Component Loads for Room #1: AC1

	Type*					Overhang		Window Area(sqft)			HTM		Load
Window	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
3	1 NFRC	0.32, 0.66		No	No	E	45.4f	0.3ft	45.5	45.5	0.0	18	42	826 Btuh
4	1 NFRC	0.32, 0.66		No	No	E	45.4f	0.3ft	136.5	136.5	0.0	18	42	2479 Btuh
5	1 NFRC	0.32, 0.66		No	No	N	0.1ft	0.3ft	131.1	0.0	131.1	18	18	2380 Btuh
32	1 NFRC	0.32, 0.66		No	No	S	0.1ft	0.1ft	97.3	0.0	97.3	18	19	1864 Btuh
	Window Total								410 (sqft)					7549 Btuh

Walls	Type	U-Value	R-Value	Area(sqft)	HTM	Load
			Cav/Sheath			
10	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	141.7	2.5	354 Btuh
11	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	459.7	2.5	1149 Btuh
12	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	144.0	2.5	360 Btuh
13	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	608.3	2.5	1521 Btuh
14	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	132.5	2.5	331 Btuh
15	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	236.4	2.5	591 Btuh
	Wall Total			1723 (sqft)		4306 Btuh

Doors	Type	Area (sqft)	HTM	Load
4	Wood - Exterior	24.0	9.6	230 Btuh
5	Wood - Exterior	24.0	9.6	230 Btuh
6	Wood - Exterior	24.0	9.6	230 Btuh
7	Wood - Exterior	24.0	9.6	230 Btuh
8	Insulated - Exterior	50.7	10.6	535 Btuh
	Door Total	147 (sqft)		1457 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Unvented Attic/DarkConcrete	0.032	30.0/0.0	1614.0	2.42	3906 Btuh
	Ceiling Total			1614 (sqft)		3906 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	2300 (ft-perimeter)	0.0	0 Btuh
	Floor Total		2300.0 (sqft)		0 Btuh

	Zone Envelope Subtotal:	17219 Btuh

Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.35	32200	0.20	193.1	3611 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		9	X 230	+	5000	7070 Btuh
				Sensible Envelope Load:		27900 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.419)	11677 Btuh
				Sensible Zone Load		**39577 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_MIAMI_INTL_AP

11041 SW 77th Ave
Miami, FL 33156

New residence @ 11041 SW 77th Ave

10/25/2023

Component Loads for Room #2: AC2

Window	Type* Panes	SHGC	U	InSh	IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	1 NFRC	0.32, 0.66	No	No	W	12.0f	11.0f	94.3	0.0	94.3	18	42	4000	Btuh
2	1 NFRC	0.32, 0.66	No	No	W	12.0f	11.0f	139.9	0.0	139.9	18	42	5936	Btuh
6	1 NFRC	0.32, 0.66	No	No	E	6.6ft	0.3ft	44.4	19.2	25.1	18	42	1416	Btuh
7	1 NFRC	0.32, 0.66	No	No	E	6.6ft	0.3ft	88.8	38.5	50.3	18	42	2831	Btuh
8	1 NFRC	0.32, 0.66	No	No	E	6.6ft	0.3ft	177.5	77.0	100.5	18	42	5663	Btuh
	Window Total							545 (sqft)					19845	Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	232.8	2.5	582 Btuh
2	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	191.3	2.5	478 Btuh
3	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	191.3	2.5	478 Btuh
4	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	199.5	2.5	499 Btuh
5	Concrete Blk,Hollow - Adj	0.12	5.0/0.0	284.0	2.0	567 Btuh
6	Concrete Blk,Hollow - Adj	0.12	5.0/0.0	134.2	2.0	268 Btuh
7	Concrete Blk,Hollow - Adj	0.12	5.0/0.0	70.0	2.0	140 Btuh
8	Concrete Blk,Hollow - Adj	0.12	5.0/0.0	68.8	2.0	137 Btuh
9	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	85.7	2.5	214 Btuh
16	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	145.7	2.5	364 Btuh
	Wall Total			1603 (sqft)		3727 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	90.6	10.6	957 Btuh
2	Wood - Garage	24.0	9.6	230 Btuh
3	Insulated - Exterior	24.0	10.6	253 Btuh
9	Insulated - Exterior	50.7	10.6	535 Btuh
10	Insulated - Exterior	50.7	10.6	535 Btuh
	Door Total	240 (sqft)		2512 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
2	Unvented Attic/DarkConcrete	0.032	30.0/0.0	520.0	2.42	1259 Btuh
	Ceiling Total			520 (sqft)		1259 Btuh

Floors	Type	R-Value	Size	HTM	Load
2	Slab On Grade	0.0	2396 (ft-perimeter)	0.0	0 Btuh
	Floor Total		2396.0 (sqft)		0 Btuh
			Zone Envelope Subtotal:		27342 Btuh

Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.35	33544	0.19	179.8	3361 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		9	X 230	+	3400	5470 Btuh
				Sensible Envelope Load:		36173 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.049)	1765 Btuh
				Sensible Zone Load		**37938 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_MIAMI_INTL_AP

11041 SW 77th Ave
Miami, FL 33156

New residence @ 11041 SW 77th Ave

10/25/2023

Component Loads for Room #3: AC3

Window	Type* Panes	SHGC	U	InSh	IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
9	1 NFRC	0.32, 0.66		No	No	E	6.6ft	0.3ft	74.9	32.5	42.4	18	42	2391 Btuh
10	1 NFRC	0.32, 0.66		No	No	S	4.2ft	0.3ft	113.4	113.4	0.0	18	19	2059 Btuh
11	1 NFRC	0.32, 0.66		No	No	E	4.5ft	0.3ft	78.9	22.7	56.2	18	42	2796 Btuh
12	1 NFRC	0.32, 0.66		No	No	E	4.5ft	0.3ft	116.4	33.4	82.9	18	42	4125 Btuh
13	1 NFRC	0.32, 0.66		No	No	N	2.8ft	0.3ft	173.6	0.0	173.6	18	18	3152 Btuh
14	1 NFRC	0.32, 0.66		No	No	N	2.8ft	0.3ft	236.7	0.0	236.7	18	18	4298 Btuh
15	1 NFRC	0.32, 0.66		No	No	W	7.8ft	0.1ft	53.4	27.5	25.9	18	42	1600 Btuh
16	1 NFRC	0.32, 0.66		No	No	W	7.8ft	0.1ft	49.7	25.9	23.8	18	42	1479 Btuh
	Window Total								897 (sqft)					21899 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
17	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	17.2	2.5	43 Btuh
18	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	119.9	2.5	300 Btuh
19	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	186.3	2.5	466 Btuh
20	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	604.8	2.5	1512 Btuh
21	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	301.0	2.5	752 Btuh
22	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	123.7	2.5	309 Btuh
23	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	71.9	2.5	180 Btuh
	Wall Total			1425 (sqft)		3561 Btuh

Doors	Type	Area (sqft)	HTM	Load
11	Wood - Exterior	24.0	9.6	230 Btuh
12	Insulated - Exterior	25.0	10.6	264 Btuh
	Door Total	49 (sqft)		494 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
3	Unvented Attic/DarkConcrete	0.032	30.0/0.0	403.0	2.42	975 Btuh
	Ceiling Total			403 (sqft)		975 Btuh

Floors	Type	R-Value	Size	HTM	Load
3	Slab On Grade	0.0	2483 (ft-perimeter)	0.0	0 Btuh
	Floor Total		2483.0 (sqft)		0 Btuh
			Zone Envelope Subtotal:		26930 Btuh

Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.35	34762	0.17	159.7	2986 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		6	X 230	+	3400	4780 Btuh
				Sensible Envelope Load:		34696 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.149)	5163 Btuh
				Sensible Zone Load		**39859 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_MIAMI_INTL_AP

11041 SW 77th Ave
Miami, FL 33156

New residence @ 11041 SW 77th Ave

10/25/2023

Component Loads for Room #4: AC4

	Type*					Overhang		Window Area(sqft)			HTM		Load
Window	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
17	1 NFRC	0.32,	0.66	No	No	W	3.7ft	1.0ft	121.9	22.6	99.3	18	42	4623 Btuh
18	1 NFRC	0.32,	0.66	No	No	S	3.7ft	1.0ft	316.3	316.3	0.0	18	19	5743 Btuh
19	1 NFRC	0.32,	0.66	No	No	E	3.7ft	1.0ft	121.9	22.6	99.3	18	42	4623 Btuh
20	1 NFRC	0.32,	0.66	No	No	N	4.6ft	1.0ft	82.5	0.0	82.5	18	18	1498 Btuh
21	1 NFRC	0.32,	0.66	No	No	N	4.6ft	1.0ft	82.5	0.0	82.5	18	18	1498 Btuh
	Window Total								725 (sqft)					17984 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
24	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	86.9	2.5	217 Btuh
25	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	89.8	2.5	224 Btuh
26	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	86.9	2.5	217 Btuh
27	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	24.8	2.5	62 Btuh
28	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	64.2	2.5	160 Btuh
29	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	191.3	2.5	478 Btuh
30	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	64.2	2.5	160 Btuh
31	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	24.8	2.5	62 Btuh
	Wall Total			633 (sqft)		1582 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
4	Unvented Attic/DarkConcrete	0.032	30.0/0.0	524.0	2.42	1268 Btuh
	Ceiling Total			524 (sqft)		1268 Btuh

Floors	Type	R-Value	Size	HTM	Load
4	Slab On Grade	0.0	524 (ft-perimeter)	0.0	0 Btuh
	Floor Total		524.0 (sqft)		0 Btuh
			Zone Envelope Subtotal:		20834 Btuh

Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.35	7336	0.07	71.0	1327 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		2	X 230	+	3400	3860 Btuh
				Sensible Envelope Load:		26021 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.066)	1716 Btuh
				Sensible Zone Load		**27737 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_MIAMI_INTL_AP

11041 SW 77th Ave
Miami, FL 33156

New residence @ 11041 SW 77th Ave

10/25/2023

Component Loads for Room #5: AC5

	Type*					Overhang		Window Area(sqft)			HTM		Load	
Window	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
22	1 NFRC	0.32, 0.66		No	No	W	16.8f	0.1ft	186.0	186.0	0.0	18	42	3378	Btuh
23	1 NFRC	0.32, 0.66		No	No	SE	3.0ft	0.1ft	62.0	32.8	29.2	18	33	1573	Btuh
24	1 NFRC	0.32, 0.66		No	No	SE	3.0ft	0.1ft	77.5	40.9	36.6	18	33	1966	Btuh
25	1 NFRC	0.32, 0.66		No	No	SE	3.0ft	0.1ft	291.1	153.8	137.3	18	33	7384	Btuh
33	1 NFRC	0.32, 0.95		Skylight		H	(0deg.)		9.9	0.0	9.9	18	102	1006	Btuh
	Window Total								626 (sqft)					15306	Btuh

Walls	Type	U-Value	R-Value	Area(sqft)	HTM	Load	
			Cav/Sheath				
32	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	21.0	2.5	52	Btuh
33	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	160.0	2.5	400	Btuh
34	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	147.6	2.5	369	Btuh
35	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	160.0	2.5	400	Btuh
36	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	274.1	2.5	685	Btuh
37	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	337.3	2.5	843	Btuh
38	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	575.0	2.5	1437	Btuh
39	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	242.0	2.5	605	Btuh
	Wall Total			1917 (sqft)		4792	Btuh

Doors	Type	Area (sqft)	HTM	Load	
13	Insulated - Exterior	25.0	10.6	264	Btuh
14	Insulated - Exterior	25.0	10.6	264	Btuh
	Door Total	50 (sqft)		528	Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load	
5	Unvented Attic/DarkConcrete	0.032	30.0/0.0	2471.0	2.42	5981	Btuh
	Ceiling Total			2471 (sqft)		5981	Btuh

Floors	Type	R-Value	Size	HTM	Load	
5	Raised Wood - Adj	11.0	281 (sqft)	1.2	338	Btuh
6	Interior	11.0	689 (sqft)	0.0	0	Btuh
7	Interior	11.0	1502 (sqft)	0.0	0	Btuh
	Floor Total		2472.0 (sqft)		338	Btuh
				Zone Envelope Subtotal:	26946	Btuh

Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load	
	Natural	0.35	28417	0.22	214.9	4019	Btuh
Internal gain	Occupants		Btuh/occupant		Appliance	Load	
	4	X	230	+	4500	5420	Btuh
				Sensible Envelope Load:		36384	Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)			(DGM of 0.178)		6460	Btuh
				Sensible Zone Load		**42844**	**Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_MIAMI_INTL_AP

11041 SW 77th Ave
Miami, FL 33156

New residence @ 11041 SW 77th Ave

10/25/2023

Component Loads for Room #6: AC6

Window	Type* Panes	SHGC	U	InSh	IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
26	1 NFRC	0.32, 0.66		No	No	SE	3.0ft	0.1ft	124.9	66.0	58.9	18	33	3167 Btuh
27	1 NFRC	0.32, 0.66		No	No	E	3.3ft	0.1ft	67.2	17.4	49.7	18	42	2426 Btuh
28	1 NFRC	0.32, 0.66		No	No	N	3.3ft	0.1ft	98.2	0.0	98.2	18	18	1783 Btuh
29	1 NFRC	0.32, 0.66		No	No	N	3.3ft	0.1ft	74.1	0.0	74.1	18	18	1345 Btuh
30	1 NFRC	0.32, 0.66		No	No	W	6.6ft	0.1ft	47.4	24.7	22.7	18	42	1411 Btuh
31	1 NFRC	0.32, 0.66		No	No	W	8.9ft	0.1ft	131.8	93.3	38.5	18	42	3325 Btuh
	Window Total								543 (sqft)					13457 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
40	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	44.7	2.5	112 Btuh
41	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	212.8	2.5	532 Btuh
42	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	241.3	2.5	603 Btuh
43	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	423.7	2.5	1059 Btuh
44	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	240.5	2.5	601 Btuh
45	Concrete Blk,Hollow - Ext	0.12	5.0/0.0	87.2	2.5	218 Btuh
	Wall Total			1250 (sqft)		3125 Btuh

Doors	Type	Area (sqft)	HTM	Load
15	Insulated - Exterior	25.0	10.6	264 Btuh
16	Insulated - Exterior	25.0	10.6	264 Btuh
17	Insulated - Exterior	25.0	10.6	264 Btuh
18	Insulated - Exterior	25.0	10.6	264 Btuh
19	Insulated - Exterior	25.0	10.6	264 Btuh
	Door Total	125 (sqft)		1320 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
6	Unvented Attic/DarkConcrete	0.032	30.0/0.0	2443.0	2.42	5913 Btuh
	Ceiling Total			2443 (sqft)		5913 Btuh

Floors	Type	R-Value	Size	HTM	Load
8	Interior	11.0	366 (sqft)	0.0	0 Btuh
9	Interior	11.0	2077 (sqft)	0.0	0 Btuh
	Floor Total		2443.0 (sqft)		0 Btuh

	Zone Envelope Subtotal:	23815 Btuh

Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.35	28095	0.15	140.2	2621 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		4	X 230	+	4500	5420 Btuh
				Sensible Envelope Load:		31856 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.178)	5656 Btuh
					Sensible Zone Load	**37512 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_MIAMI_INTL_AP

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New residence @ 11041 SW 77th Ave

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The following window Excursion will be assigned to the system loads.

Windows	July excursion for System 1	0 Btuh
	July excursion for System 2	1693 Btuh
	July excursion for System 3	0 Btuh
	July excursion for System 4	0 Btuh
	July excursion for System 5	0 Btuh
	Excursion Subtotal:	1693 Btuh
Duct load		83 Btuh
	Sensible Excursion Load	**1776 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_MIAMI_INTL_AP

11041 SW 77th Ave
Miami, FL 33156

New residence @ 11041 SW 77th Ave

10/25/2023

SYSTEM GROUPS (BLOCK LOADS)

	Sensible Envelope Load	**27900 Btuh**
	Window Excursion	0 Btuh
Cooling Loads	Sensible Duct Load (duct gain multiplier of 0.419)	11677 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
For System(s): 1	**Zone Sensible gain**	**39577 Btuh**
Block #1:Block1	Latent infiltration/ventilation gain	7353 Btuh
Serving Zones:	Latent duct gain	2145 Btuh
1	Latent occupant gain	1800 Btuh
	Latent other gain	2000 Btuh
	Total block load	**52875 Btuh**

	Sensible Envelope Load	**36173 Btuh**
	Window Excursion	1693 Btuh
Cooling Loads	Sensible Duct Load (duct gain multiplier of 0.049) (Includes 83 Btuh due to window excursion)	1847 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
For System(s): 2	**Zone Sensible gain**	**39713 Btuh**
Block #2:Block2	Latent infiltration/ventilation gain	6844 Btuh
Serving Zones:	Latent duct gain	409 Btuh
2	Latent occupant gain	1800 Btuh
	Latent other gain	1750 Btuh
	Total block load	**50516 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

	Project Title:	Climate:FL_MIAMI_INTL_AP
11041 SW 77th Ave Miami, FL 33156	New residence @ 11041 SW 77th Ave	

10/25/2023

SYSTEM GROUPS (BLOCK LOADS)

	Sensible Envelope Load	**34696 Btuh**
	Window Excursion	0 Btuh
Cooling Loads	Sensible Duct Load (duct gain multiplier of 0.149)	5163 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
For System(s): 3	**Zone Sensible gain**	**39859 Btuh**
Block #3:Block3	Latent infiltration/ventilation gain	6082 Btuh
Serving Zones:	Latent duct gain	1454 Btuh
3	Latent occupant gain	1200 Btuh
	Latent other gain	1750 Btuh
	Total block load	**50345 Btuh**

	Sensible Envelope Load	**26021 Btuh**
	Window Excursion	0 Btuh
Cooling Loads	Sensible Duct Load (duct gain multiplier of 0.066)	1716 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
For System(s): 4	**Zone Sensible gain**	**27737 Btuh**
Block #4:Block4	Latent infiltration/ventilation gain	2702 Btuh
Serving Zones:	Latent duct gain	299 Btuh
4	Latent occupant gain	400 Btuh
	Latent other gain	1750 Btuh
	Total block load	**32887 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

	Project Title:	Climate:FL_MIAMI_INTL_AP
11041 SW 77th Ave Miami, FL 33156	New residence @ 11041 SW 77th Ave	

10/25/2023

SYSTEM GROUPS (BLOCK LOADS)

	Sensible Envelope Load	**68240 Btuh**
	Window Excursion	0 Btuh
Cooling Loads	Sensible Duct Load (duct gain multiplier of 0.178)	12116 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
For System(s): 5	**Zone Sensible gain**	**80356 Btuh**
Block #5:Block5	Latent infiltration/ventilation gain	13520 Btuh
Serving Zones:	Latent duct gain	2272 Btuh
5, 6	Latent occupant gain	1600 Btuh
	Latent other gain	4000 Btuh
	Total block load	**101748 Btuh**

WHOLE HOUSE TOTALS

	Sensible Envelope Load All Zones	**194723 Btuh**
	Sensible Duct Load	32519 Btuh
	Total Sensible Zone Loads	**227242 Btuh**
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
Whole House	**Total sensible gain**	**227242 Btuh**
Totals for Cooling	Latent infiltration gain (for 56 gr. humidity difference)	36500 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	6578 Btuh
	Latent occupant gain (34.0 people @ 200 Btuh per person)	6800 Btuh
	Latent other gain	11250 Btuh
	Latent total gain	**61129 Btuh**
	TOTAL GAIN	**288371 Btuh**

Eduardo A Barreto

Digitally signed by Eduardo A Barreto
DN: c=US, o=Florida, dnQualifier=A01410C000001899 8AF54FC000D0EC6, cn=Eduardo A Barreto
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Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_MIAMI_INTL_AP

11041 SW 77th Ave
Miami, FL 33156

New residence @ 11041 SW 77th Ave

10/25/2023

EQUIPMENT

1. Central Unit	#	57000 Btuh
2. Central Unit	#	57000 Btuh
3. Central Unit	#	57000 Btuh
4. Central Unit	#	35600 Btuh
5. Central Unit	Multiple #Multiple	114000 Btuh

*Key: Window types (Panes - Number and type of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value)
(U - Window U-Factor)
(InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))
- For Blinds: Assume medium color, half closed
For Draperies: Assume medium weave, half closed
For Roller shades: Assume translucent, half closed
(IS - Insect screen: none(N), Full(F) or Half(½))
(Ornt - compass orientation)

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