FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: J-12152 - C-1309 Street: City, State, Zip: Columbia County, FL, Owner: ROSENBOOM/BARNARD RESIDENCE Design Location: FL, Gainesville	Builder Name: Permit Office: Permit Number: Jurisdiction: County: Columbia(Florida Climate Zone 2)
1. New construction or existing 2. Single family or multiple family 3. Number of units, if multiple family 4. Number of Bedrooms 5. Is this a worst case? 6. Conditioned floor area above grade (ft²) Conditioned floor area below grade (ft²) 7. Windows(593.8 sqft.) Description a. U-Factor: SHGC: SHGC: SHGC=0.25 b. U-Factor: N/A SHGC: C. U-Factor: N/A SHGC: Area Weighted Average Overhang Depth: Area Weighted Average SHGC: 8. Skylights U-Factor:(AVG) SHGC(AVG): N/A 9. Floor Types a. Slab-On-Grade Edge Insulation B. Floor over Garage C. other (see details) New (From Plans) Detached Detached 1. Detached 1. 1. 4016 Conditioned floor area above grade (ft²) 0.250 Area 593.75 ft² 593.75 ft² 593.75 ft² 593.75 ft² 593.75 ft² 1.000 ft Area N/A ft² N/A SHGC: Area Weighted Average Overhang Depth: Area N/A ft² N/A ft² SHGC: Area Weighted Average Overhang Depth: Area N/A ft² 1.000 ft Area N/A ft² 1.000 ft² 1.000 ft² 1.000 ft²	10. Wall Types(4480.0 sqft.) a. Frame - Wood, Exterior b. Frame - Wood, Adjacent c. N/A d. N/A 11. Ceiling Types(3898.0 sqft.) b. N/A c. N/A 12. Roof(Comp. Shingles, Vented) Deck R=38.0 4223 ft² a. Sup: Attic, Ret: Attic, AH: AC 1 b. Sup: Attic, Ret: Attic, AH: Storage c. 14. Cooling Systems a. Central Unit b. Central Unit c. N/A 15. Heating Systems a. Electric Heat Pump b. Conservation features 16. Hot Water Systems a. Electric c. N/A 17. Credits 18. Insulation Area R=13.0 3957.00 ft² R=13.0 523.00 ft² R=13.0 523.00 ft² R=38.0 3898.00 ft² R=38.0 4223 ft² R=38.0 3898.00 ft² R=38.0 4223 ft² R=38.0 3898.00 ft² R=38.0 4223 ft² R=28.0 4223 ft² R=28.0 422 ft² R=28.0 422 ft² R=28.0 420 delans R=50.0 420 del
Glass/Floor Area: 0.148 Total Proposed Modif Total Basel NOTE: Proposed residence must have annual total normalized Modified Loads that are less than or	ne Loads: 106.68 PASS
I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. PREPARED BY:	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. Review for Code Compliance William Statutes. BUILDING OFFICIAL: DATE: DATE: PX2707 09/10/2025

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.
- Compliance with a proposed duct leakage Qn requires a PERFORMANCE Duct Leakage Test Report confirming duct leakage to outdoors, tested in accordance with ANSI/RESNET/ICC 380, is not greater than 0.030 Qn for whole house.
- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 6.00 ACH50 (R402.4.1.2).

				PROJ	ECT				
Title: BuildingType: Owner: Builder Home! Builder Name: Permit Office: Jurisdiction: Family Type: New/Existing: Year Construct Comment:	Detached New (From Plans)	NARD RESIDEN	Total Stor Worst Ca Rotate Ar Cross Ver	ned Area: ries: ise: ngle: ntilation: ouse Fan:	0 4016 2 No 0 No No Suburban Suburban	Address typ Lot #: Block/SubD PlatBook: Street: County: City, State, 2	ivision: Columbia		
				CLIM	ATE				
Design Location		Tmy Site		Desig 97.5%	In Temp 2.5%	Int Design Temp Winter Summe		Design Moisture	Daily temp Range
FL, Gainesvi	ille FL	_GAINESVILLE	_REGION/	A 32	92	70 75	1305.5	51	Medium
				BLO	CKS				
√ Number	Name	Area	Vo	lume					
1	Unit 2 - Right Unit 1 - Left	1917 2099		944 cu ft 578 cu ft					
				SPAC	CES				
Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	l Heated
1234567891011121314151617	Den B3 WC Bath 3 Bed 3 Bath 2 AC 1 B3 WIC B2 WIC Bed 2 Great Room Study Foyer B2 WC Kitch/Dining Pantry Master Suite M WC	510 46 46 212 49 15 30 52 184 713 119 81 42 419 68 260 28	5100 460 460 2120 490 150 300 520 1840 8556 1190 972 420 5028 680 2600 280	No N	0 0 1 0 0 0 0 1 0 0 0 0		Yes	Yes	Yes
18	M Bath M WIC Pwd Stop Drop Stairs 1 Laundry Hall Bonus Room Bath 4 Storage	128 134 30 86 47 105 80 408 58 66	1280 1340 300 860 470 1050 800 3264 464 528	No No No No No No No No No	0 0 0 0 0 0 0	<u>U</u>	Yes	Yes	Yes

Laylency Parcellicense No.

PX2707

				FLOORS	3		(Total E	xposed	d Are	a = 3	898 sq	.ft.)
/ #	Floor Type	Space	Expose Perim(R-Va Perim.		U-Factor	Slab In Vert/Hor		Tile	Wood	Carpet
1	Slab-On-Grade Edge Ins	Den	70	510 sqft			0.304	2 (ft)	/O (ft)	0.00	0.00	1.00
2	Slab-On-Grade Edge Ins	B3 WC	6.5	46 sqft			0.304		/0 (ft)	0.00	0.00	1.00
3	Slab-On-Grade Edge Ins	Bath 3	1	46 sqft	0.0		0.304	٠,	/0 (ft)	0.00	0.00	1.00
4	Slab-On-Grade Edge Ins	Bed 3	13.5	212 sqft			0.304	٠,	/0 (ft)	0.00	0.00	1.00
5	Slab-On-Grade Edge Ins	Bath 2	1	49 sqft			0.304		/0 (ft)	0.00	0.00	1.00
6	Slab-On-Grade Edge Ins	AC 1	1	15 sqft			0.304		/0 (ft)	0.00	0.00	1.00
7	Slab-On-Grade Edge Ins	B3 WIC	1	30 sqft			0.304		/0 (ft)	0.00	0.00	1.00
8	Slab-On-Grade Edge Ins	B2 WIC	8	52 sqft			0.304	٠,	/0 (ft)	0.00	0.00	1.00
9	Slab-On-Grade Edge Ins	Bed 2	36.5	184 sqft			0.304	٠,	/0 (ft)	0.00	0.00	1.00
		Great Room	25.5	713 sqft			0.304		/0 (ft)	0.00	0.00	1.00
11	Slab-On-Grade Edge Ins	Study	15.5	119 sqft			0.304		/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	Foyer	8.5	81 sqft			0.304		/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	B2 WC	6.5	42 sqft			0.304	٠,	/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	Kitch/Dining	30	419 sqft			0.304	٠,	/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	Pantry	8.5	68 sqft			0.304		/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	Master Suite	37	260 sqft			0.304		/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	M WC	7	28 sqft			0.304		/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	M Bath	11.5	128 sqft			0.304	٠,	/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	M WIC	25.5	134 sqft			0.304	٠,	/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	Pwd	11.5	30 sqft			0.304		/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	Stop Drop	6.5	86 sqft			0.304	٠,	/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	Stairs 1	1	47 sqft			0.304		/0 (ft)	0.00	0.00	1.00
	Slab-On-Grade Edge Ins	Laundry	1	105 sqft			0.304	2 (ft)	/0 (ft)	0.00	0.00	1.00
24	Slab-On-Grade Edge Ins	Hall	1	80 sqft	0.0		0.304	2 (ft)	/0 (ft)	0.00	0.00	1.00
	Floor over Garage	Bonus Room		408 sqft		0.0	0.220		-	0.00	1.00	0.00
	Floor over Garage	Bath 4		3 sqft		0.0	0.220		-	0.00	1.00	0.00
	Floor Over Other Space	Bath 4		55 sqft		0.0	0.173		-	0.00	0.00	1.00
	Floor over Garage	Storage		3 sqft		0.0	0.220		-	0.00	1.00	0.00
29	Floor Over Other Space	Storage		63 sqft		0.0	0.173			0.00	0.00	1.00
				ROOF								
/#	Туре		Roof Gal Area Are	U	Roof Color	Rad Bar		SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Hip Con	npositionshingles 42	223 ft² () ft² 0.11	Medium	N	0.9	No	0.9	No	38	22.62
				ATTIC								
/#	Туре	Ventilation	n	Vent Ratio (1	l in) A	rea	RBS		IRCC			
1	Fullattic	Vented		150	38	98 ft²	N		N			
				CEILING			(Total E	xposed	d Are	a = 3	898 sq	.ft.)
/#	CeilingType		Space	R-Value	Ins. Type	A	rea U-	Factor F	raming	Frac.	Trus	s Type
1	Flat ceiling under attic(Ven	ted)	Den	38.0	Blown	510).0ft² 0	.049	0.10)	W	ood
2	Flat ceiling under attic(Ven		B3 WC	38.0	Blown			.049	0.10			ood '
3	Flat ceiling under attic(Ven		Bath 3	38.0	Blown			.049	0.10		W	'ood
4	Flat ceiling under attic(Ven	ted)	Bed 3	38.0	Blown	212		.049	0.10)	W	'ood
5	Flat ceiling under attic(Ven	ted)	Bath 2	38.0	Blown			.049	0.10			'ood
6	Flat ceiling under attic(Ven	ted)	AC 1	38.0	Blown	4 5	aft² ₽	.049	0.10) dc C-	mplian	ood
7	Flat ceiling under attic(Ven		B3 WIC	38.0	Blown	N	∡t² 🗘	E V II	or Pb			
8	Flat ceiling under attic(Ven	ted)	B2 WIC	38.0	Blown			noixersa			ng Sci e	
9	Flat ceiling under attic(Ven		Bed 2	38.0	Blown			.049	0.10			ood '
4.0	Flat ceiling under attic(Ven	ted) Gr	eat Room	38.0	Blown	. 7 (1)	3.0ft ² LuleMer 0	.049	Ø 100.10	1	PX2707 ^W	and and
10	r lat coming diluci attic(veri	.04)	catitooni	00.0	DIOWIT	\sim $^{T/2}$	Pig Bin	10, 10	<u> </u>	,	PX2707**	004 09/

			CEILIN	lG(Con	tinued	l)						
44 Flet	coiling under ett:	o(Vontod)	Ctudy	20.0	Dlaves	110.042	0.040		0.10		10/0-	nd.
	ceiling under atti- ceiling under atti-	'	Study	38.0 38.0	Blown Blown	119.0ft² 81.0ft²	0.049 0.049		0.10 0.10		Woo	
	ceiling under atti		Foyer B2 WC	38.0	Blown	42.0ft ²	0.049		0.10		Woo	
	ceiling under atti		Kitch/Dining	38.0	Blown	419.0ft ²	0.049		0.10		Woo	
	ceiling under atti		Pantry	38.0	Blown	68.0ft ²	0.049		0.10		Woo	
	ceiling under atti		Master Suite	38.0	Blown	260.0ft ²	0.049		0.10		Woo	
	ceiling under atti		M WC	38.0	Blown	28.0ft ²	0.049		0.10		Woo	
18 Flat	ceiling under atti	c(Vented)	M Bath	38.0	Blown	128.0ft ²	0.049		0.10		Woo	od
19 Flat	ceiling under atti	c(Vented)	M WIC	38.0	Blown	20.0ft ²	0.049		0.10		Woo	od
	ceiling under atti		M WIC	38.0	Blown	51.0ft ²	0.049		0.10		Woo	
	ceiling under atti		Pwd	38.0	Blown	30.0ft ²	0.049		0.10		Woo	
	ceiling under atti	'	Stop Drop	38.0	Blown	31.0ft ²	0.049		0.10		Woo	
	ceiling under atti		Stairs 1	38.0	Blown	47.0ft ²	0.049		0.10		Woo	
	ceiling under atti		Laundry	38.0	Blown	105.0ft²	0.049		0.10		Woo	
	ceiling under atti		Hall	38.0	Blown	80.0ft ²	0.049		0.10		Woo	
	ceiling under atti- ceiling under atti-		Bonus Room Bath 4	38.0 38.0	Blown Blown	408.0ft² 58.0ft²	0.049 0.049		0.10 0.10		Woo Woo	
	ceiling under atti		Storage	38.0	Blown	66.0ft²	0.049		0.10		Woo	
20 Fial	coming under alli	o(venieu)	Giorage	50.0	PIOMII	00.0II-	0.048		0.10		VVOC	,u
			1	WALLS	3	(Total	l Expos	sed A	\rea =	448	0 sq.f	t.)
. /	Adjacent			Cavity	Width	Height	Area		Sheath		Solar	Below
√ # Ornt	То	Wall Type	Space	R-Value	Ft In	Ft In	sq.ft. F	actor	R-Value	Frac.	Absor.	Grade
1 N	Exterior	Frame - Wood	Den	13.0	24.0 6	10.0 0		0.095	0	0.25	0.80	0.0 %
2 E	Exterior	Frame - Wood	Den	13.0	21.0 0	10.0 0		0.095	0	0.25	0.80	0.0 %
3 S	Exterior	Frame - Wood	Den	13.0	24.0 6	10.0 0		0.095	0	0.25	0.80	0.0 %
4 N 5 N	Exterior	Frame - Wood Frame - Wood	B3 WC Bed 3	13.0 13.0	6.0 6 13.0 6	10.0 0 10.0 0		0.095 0.095	0 0	0.25 0.25	0.80 0.80	0.0 % 0.0 %
5 N	Exterior Exterior	Frame - Wood	B2 WIC	13.0	8.0 0	10.0 0		0.095	0	0.25	0.80	0.0 %
	Exterior	Frame - Wood	Bed 2	13.0	11.0 6	10.0 0		0.095	0	0.25	0.80	0.0 %
8 S	Exterior	Frame - Wood	Bed 2	13.0	7.0 6	10.0 0		0.095	0	0.25	0.80	0.0 %
9 W	Exterior	Frame - Wood	Bed 2	13.0	17.0 6	10.0 0		0.095	Ō	0.25	0.80	0.0 %
10 E	Exterior	Frame - Wood	Great Room	13.0	25.0 6	12.0 0		0.095	0	0.25	0.80	0.0 %
11 S	Garage	Frame - Wood	Great Room	13.0	24.0 0	12.0 0	288.0	0.095	0	0.25	0.80	0.0 %
12 N	Exterior	Frame - Wood	Study	13.0	3.0 0	10.0 0	30.0	0.095	0	0.25	0.80	0.0 %
13 W	Exterior	Frame - Wood	Study	13.0	12.0 6	10.0 0		0.095	0	0.25	0.80	0.0 %
14 W	Exterior	Frame - Wood	Foyer	13.0	8.0 6	12.0 0		0.095	0	0.25	0.80	0.0 %
15 N	Exterior	Frame - Wood	B2 WC	13.0	6.0 6	10.0 0		0.095	0	0.25	0.80	0.0 %
16 E	Exterior	Frame - Wood	Kitch/Dining	13.0	12.0 6	12.0 0		0.095	0	0.25	0.80	0.0 %
17 S	Exterior	Frame - Wood	Kitch/Dining	13.0	5.0 0	12.0 0		0.095	0	0.25	0.80	0.0 %
18 W 19 W	Exterior	Frame - Wood Frame - Wood	Kitch/Dining	13.0	12.0 6	12.0 0 10.0 0		0.095	0 0	0.25	0.80 0.80	0.0 % 0.0 %
19 W 20 N	Exterior Exterior	Frame - Wood	Pantry Master Suite	13.0 13.0	8.0 6 5.0 0	10.0 0 10.0 0		0.095 0.095	0	0.25 0.25	0.80	0.0 %
20 N 21 S	Exterior	Frame - Wood	Master Suite	13.0	17.0 0	10.0 0		0.095	0	0.25	0.80	0.0 %
21	Exterior	Frame - Wood	Master Suite	13.0	15.0 0	10.0 0		0.095	0	0.25	0.80	0.0 %
23 E	Exterior	Frame - Wood	M WC	13.0	3.0 0	10.0 0		0.095	0	0.25	0.80	0.0 %
24 S	Exterior	Frame - Wood	M WC	13.0	4.0 0	10.0 0		0.095	0	0.25	0.80	0.0 %
25 S	Exterior	Frame - Wood	M Bath	13.0	8.0 6	10.0 0	85.0	0.095	Ö	0.25	0.80	0.0 %
26 W	Exterior	Frame - Wood	M Bath	13.0	3.0 0	10.0 0		0.095	Ō	0.25	0.80	0.0 %
27 S	Exterior	Frame - Wood	M WIC	13.0	12.0 0	10.0 0		0.095	0	0.25	0.80	0.0 %
28 E	Garage	Frame - Wood	M WIC	13.0	13.0 6	10.0 0		0.095	0	0.25	0.80	0.0 %
29 N	Exterior	Frame - Wood	Pwd	13.0	8.0 0	10.0 0		0.095	0	0.25	0.80	0.0 %
30 E	Garage	Frame - Wood	Pwd	13.0	3.0 6	10.0 0	35.0	0.095	0	0.25	0.80	0.0 %
31 E	Garage	Frame - Wood	Stop Drop	13.0	6.0 6	10.0 0		0.095	0	0.25	0.80	0.0 %
32 N	Exterior	Frame - Wood	Bonus Room	13.0	24.0 0	8.0 0		0.095	0	0.25	0.80	0.0 %
33 E	Exterior	Frame - Wood	Bonus Room	13.0	17.0 0	8.0 0		0.095		0.25	0.80	0.0 %
34 S	Exterior	Frame - Wood	Bonus Room	13.0	24.0 0	0 0	Re2/0e\	N.U95				
35 W	Exterior Exterior	Frame - Wood	Bonus Room Bath 4	13.0 13.0	2.0 0	8.0 0	Ungiyer	0.095	ngfhe	efifig 0.25	Science 0.80	e ^{0.0} %
36 N 37 W	Exterior Exterior	Frame - Wood Frame - Wood	Bath 4 Bath 4	13.0 13.0	11.0 6 2.0 6			0.095	U	0.25	0.80	0.0 % 0.0 %
37 W 38 S	Exterior	Frame - Wood	Storage	13.0	11.0 0	80 0	18 88 BH	10.095	0	0.25 0.7£X2	27 <u>87</u> 80	_ 0.0 % _ 0.0 %
	LXIGHOL	i iailie - Wood	Sidiage	13.0	11.0 0	_ ~Q.JVVUUVIC	- wooder1/	CKAN	~	0.25	U.0U	_ 0.0 %

					V	VALL	.S(0	Cont	inue	d)						
39 W		Exterior	Frame - Wood	d	Sto	orage		13.0	6.0) 8	3.0 0	48.0	0.09	5 0	0.25 0.80	0.0
							DO	ORS	3		(T	otal E	xpos	ed Ar	ea = 48 sq.	.ft.)
/# Ornt	t	Adjacent	t To Door Type		Space	1		Storr	ms	U	-Value		Nidth Ft In		Height Ft In Ai	ea
1 W	(Front)		Wood		Foye	r		No	ne		0.39	6.0	0 0	8.0	0 0 48	.Oft²
						W	/IN	DOW	/S		(To	tal Ex	cpose	d Are	ea = 594 sq.	.ft.)
/# Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	Ove Depth (ft)	rhang Sep. (ft)	Interior Shade	Scree
1 N 2 E 3 S	1 2 3	Metal Metal Metal	Low-E Double Low-E Double Low-E Double	Y Y Y	0.35 0.35 0.35	0.25 0.25 0.25	N N N	N N N	36.0 36.0 96.0	2 2 1	3.00 3.00 12.00	6.00 6.00 8.00	1.0 1.0 1.0	1.0 1.0 1.0	Drapes/blinds Drapes/blinds Drapes/blinds	None None None
3	4 5	Metal Metal	Low-E Double Low-E Double	Y Y	0.35 0.35	0.25 0.25	N N	N N	6.0 36.0	1 2	4.00	1.50 6.00	1.0 1.0 1.0	1.0 1.0 1.0	Drapes/blinds Drapes/blinds	None
6 W 7 W 8 E	6 9 10	Metal Metal Metal	Low-E Double Low-E Double Low-E Double	Y Y Y	0.35 0.35 0.35	0.25 0.25 0.25	N N N	N N N	8.0 18.0 128.0	1 1 1	2.00 3.00 16.00	4.00 6.00 8.00	1.0 1.0 1.0	1.0 1.0 1.0	Drapes/blinds Drapes/blinds Drapes/blinds	None None None
9 W 10N	13 15	Metal Metal	Low-E Double Low-E Double	Y Y	0.35 0.35	0.25 0.25	N N	N N	63.0 4.5	3 1	3.00 3.00	7.00 1.50	1.0 1.0	1.0 1.0	Drapes/blinds Drapes/blinds	None None
11E 12W 13W	16 18 19	Metal	Low-E Double Low-E Double Low-E Double	Y Y Y	0.35 0.35 0.35	0.25 0.25 0.25	N N N	N N N	16.0 63.0 8.0	1 3 1	4.00 3.00 2.00	4.00 7.00 4.00	1.0 1.0 1.0	1.0 1.0 1.0	Drapes/blinds Drapes/blinds Drapes/blinds	None None None
14S 15W 16S	21 22 24	Metal	Low-E Double Low-E Double Low-E Double	Y Y Y	0.35 0.35 0.35	0.25 0.25 0.25	N N N	N N N	24.0 18.0 8.0	2 1 1	2.00 3.00 2.00	6.00 6.00 4.00	1.0 1.0 1.0	1.0 1.0 1.0	Drapes/blinds Drapes/blinds Drapes/blinds	None None None
17S 18N	25 29		Low-E Double Low-E Double	Y Y	0.35 0.35	0.25 0.25	N N	N N	5.3 20.0	1 1	3.50 3.00	1.50 6.67	1.0 1.0	1.0 1.0	Drapes/blinds Drapes/blinds	None None
						INF	ILT	RAT	ION							
/# Sco	ре	Me	ethod	SI	LA (CFM50	ı	ELA	EqL	A	ACH	ACH	50 Spa	ice(s)	Infiltration Tes	t Volum
1 W	holeho	use Pro _l	posed ACH(50)	0.00	0039	4152	22	27.80	427.6	57 C).1719	6.0	A	All	41522 cu ft	
						(GAI	RAG	E							
/# Fl	oor Are	a Le	ength Widt	h	Roof Are	ea Ex	pose	d Perime	eter A	rea Und	er Uncor	nd. Avg	. Wall H	eight	Exposed Wall In	sulation
1 57	'6 ft²	24	.5 ft ² 23.5 f	t²	576 ft ²		7	73 ft		16	2 ft		8 ft		0	



Lause Mur Parmell Examiner-License No.

PX2707

2 Defaulti 3 Defaulti 4 Defaulti 5 Defaulti 6 Defaulti 7 Defaulti 9 Defaulti 11 Defaulti 12 Defaulti 13 Defaulti 14 Defaulti 15 Defaulti 17 Defaulti 18 Defaulti 19 Defaulti 20 Defaulti 21 Defaulti 22 Defaulti 23 Defaulti 24 Defaulti 25 Defaulti 25 Defaulti 26 Defaulti 27 Defaulti 4 System # System	(8 lbs/sq.ft.)))))))))))	Area 0 ft²	HEATI AHRI #				0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30	C P	Den B3 WC Bath 3 Bed 3 Bath 2 AC 1 B3 WIC B2 WIC B2 WC Study Foyer B2 WC Citch/Din Pantry Master St M WC M Bath M WIC Pwd Stop Drc Stairs 1 Laundr Hall Sonus Ro Bath 4 Storage	om ing uite		
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8 Defaulti 9 Defaulti 10 Defaulti 11 Defaulti 12 Defaulti 13 Defaulti 15 Defaulti 16 Defaulti 17 Defaulti 18 Defaulti 19 Defaulti 20 Defaulti 21 Defaulti 22 Defaulti 23 Defaulti 24 Defaulti 25 Defaulti 27 Defaulti 27 Defaulti 27 Defaulti 28 Defaulti 29 Defaulti 21 Defaulti 21 Defaulti 22 Defaulti 23 Defaulti 24 Defaulti 25 Defaulti 26 Defaulti 27 Defaulti 37 Defaulti 4 System 1 Electric 4 System 1 Central	(8 lbs/sq.ft.)))))))))))	0 ft²		0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft	STEM		0.30 0.30	ŀ	B2 WIC Bed 2 Great Roo Study Foyer B2 WC (itch/Din Pantry Master St M WC M Bath M WIC Pwd Stop Dro Stairs 1 Laundry Hall Gonus Ro Bath 4	om ing uite pp		
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13	(8 lbs/sq.ft.) (8 lbs/sq.ft.)	.) .) .) .) .) .) .) .) .) .) .) .) .) .	0 ft2 0 ft2		0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft	STEM		0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30	N	B2 WC (itch/Din Pantry Master St M WC M Bath M WIC Pwd Stop Dro Stairs 1 Laundry Hall Bonus Ro Bath 4	ing uite pp		
14 Defaulti 15 Defaulti 16 Defaulti 17 Defaulti 18 Defaulti 19 Defaulti 20 Defaulti 21 Defaulti 22 Defaulti 23 Defaulti 24 Defaulti 25 Defaulti 27 Defaulti 27 Defaulti 4 System 1 Electric 2 Electric	(8 lbs/sq.ft.)))))))))))	0 ft2 0 ft2		0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft	STEM		0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30	N	Kitch/Din Pantry Master St M WC M Bath M WIC Pwd Stop Dro Stairs 1 Laundr Hall Bonus Ro Bath 4	ing uite pp		
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16 Defaulti 17 Defaulti 18 Defaulti 19 Defaulti 20 Defaulti 21 Defaulti 22 Defaulti 23 Defaulti 25 Defaulti 26 Defaulti 27 Defaulti 27 Defaulti 4 System 1 Electric 2 Electric	(8 lbs/sq.ft.) (8 lbs/sq.ft.)))))))))))	0 ft2 0 ft2		0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft	STEM		0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30		Master Sum WC M WC M Bath M WIC Pwd Stop Dro Stairs 1 Laundr Hall Bonus Ro Bath 4	pp y om		
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18	(8 lbs/sq.ft.) (8 lbs/sq.ft.)	.) .) .) .) .) .) .) .) .) .) .) .)	0 ft2 0 ft2 0 ft2 0 ft2 0 ft2 0 ft2 0 ft2 0 ft2 0 ft2 0 ft2		0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft	STEM	0 0 0 0 0 0	0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30		M Bath M WIC Pwd Stop Dro Stairs 1 Laundr Hall Sonus Ro Bath 4	op y 		
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21	(8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.))))))	0 ft ² 0 ft ² 0 ft ² 0 ft ² 0 ft ² 0 ft ²		0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft	STEM	0 0 0 0 0	0.30 0.30 0.30 0.30 0.30 0.30		Stop Dro Stairs 1 Laundr Hall Sonus Ro Bath 4	y om		
22 Default(23 Default(24 Default(25 Default(26 Default(27 Default(4 System 1 Electric 2 Electric # System 1 Central	(8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.)) :.) :.) :.) :.)	0 ft ² 0 ft ² 0 ft ² 0 ft ² 0 ft ²		0 ft 0 ft 0 ft 0 ft 0 ft 0 ft	STEM	0 0 0 0	0.30 0.30 0.30 0.30 0.30		Stairs 1 Laundr Hall Sonus Ro Bath 4	y om		
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24 Defaulti 25 Defaulti 26 Defaulti 27 Defaulti # System 1 Electric 2 Electric # System 1 Central	(8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.)	i.) i.) i.)	0 ft² 0 ft² 0 ft² 0 ft²		0 ft 0 ft 0 ft 0 ft 0 ft	STEM	0).30).30).30	В	Hall Sonus Ro Bath 4	om		
25 Default(26 Default(27 Default(2	(8 lbs/sq.ft.) (8 lbs/sq.ft.) (8 lbs/sq.ft.)	i.) i.)	0 ft² 0 ft² 0 ft²		0 ft 0 ft 0 ft NG SY	STEM	0).30).30	В	Sonus Ro Bath 4			
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# System 1 Electric 2 Electric # System	(8 lbs/sq.ft.)				NG SY	STEN	C	0.30		Storage	e		
# System 1 Electric 2 Electric # System 1 Central			Subtype/Speed			STEM							
1 Electric2 Electric	Туре		Subtype/Speed			O : — ::	Л						
1 Electric2 Electric	гтурс		Oubtype/Opecu	ALIINI	τ Lilic	iency	Capacity		Geothermal	HeatPun	n	Ducts	Block
2 Electric /# System1 Central							kBtu/hr	Entry		Volt			
2 Electric /# System1 Central	: Heat Pump	nn	Split/Single		HSPF	2: 8.50	33.4		0.00	0.00	0.00	sys#1	2
1 Central	Heat Pump		Split/Single			2: 8.50	33.4		0.00	0.00		sys#1	
1 Central				COOLI	NG SY	STEN	/1						
	Туре		Subtype/Speed	AHRI #	# Eff	ficiency	Ca	pacity	Air Flo	N S	SHR	Duct	Block
							kB	Stu/hr	cfm				
2 Central	-		Split/Single			ER2:16.0	33.4		0		0.80	sys#1	2
	Unit		Split/Single		SEE	ER2:16.0	33.4		0	(0.80	sys#2	1
			ŀ	HOT WA	TER S	YSTE	EM						
# System	Туре	Subtype	Location	EF(U	EF) Ca	p l	Jse Se	etPnt	Fixt. Flow	Trap	Pipe	elns.	Pipe len
2 Electric	;	None	Garage	0.95 (0	0.93) 40.0	gal 61	1 gal 12	0 deg	Standard	Yes	=>	R-3	137
Recircul Syste		Recirc Cont		Loop Bran		np D\		acilities	Equal I Flow	DWHR Eff		Other C	redits
1 No		Type	le	ength leng	jui pow	/er	Co	onnected					
	em O			•	A NA	A No		NA F	Review fo Jnive/sal				

				D	UCTS							
DuctS # Location	Supply R-Value Area		Return R-Valu	e Area	Leakage	Туре	AHU Location	CFM 25 TOT OUT	QN OUT	AHU SEALED	RLF	HVAC # Heat Cool
1 Attic 2 Attic	6.0 420 ft ² 6.0 383 ft ²	Attic Attic		105 ft² 96 ft²	Prop. Lea Prop. Lea		AC 1 Storage		0.030 0.030	Yes Yes	0.50 0.50	1 1 2 2
			Т	EMP	ERATU	RES						
Programable Therm Cooling [] Jan Heating [X] Jan Venting [] Jan	[] Feb [X] Feb [X] Mar [] Apr []	Ceiling I May May May	ans: N [X] Jun [] Jun [] Jun	[X] Jul [] Jul [] Jul	[X] Aug [] Aug [] Aug	[X] Sep [] Sep [] Sep	[] Oc [] Oc [X] Oc	t [X]	Nov Nov Nov	[] Dec [X] Dec [] Dec
Thermostat Sched	lule: HERS 200	6 Reference 1 2	3	4	5	6	Hours 7	8	9	10	11	12
Cooling (WD)	AM PM	78 78 80 8	3 78) 78	78 78	78 78	78 78	78 78	78 78	80 78	80 78	80 78	80 78
Cooling (WEH)	AM PM	78 78 78 78	3 78 3 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78
Heating (WD)	AM PM	66 66 68 66	66 8 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66
Heating (WEH)	AM PM	66 66 68 66	66 8 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66	

Review for Code Compliance Universal Engineering Science

Lawer Panelle Examiner-License No.

PX2707

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD ESTIMATED ENERGY PERFORMANCE INDEX* = 92

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

,Columbia County,FL,

1. New construction or e	existing	New (F	rom Plans)	10. Wall Types(4480.0 sqft.) Insulation Are	a
2. Single family or multip	ole family		Detached	a. Frame - Wood, Exterior R=13.0 3957.00 ft	
3. Number of units, if mu	ultiple family		1	b. Frame - Wood, Adjacent R=13.0 523.00 ft c. N/A	t
4. Number of Bedrooms			0	d. N/A	
5. Is this a worst case?			No	11. Ceiling Types(3898.0 sqft.) Insulation Are	2
Conditioned floor area Conditioned floor area			4016 0	a. Flat ceiling under att (Vented)b. N/Ac. N/A	τ
7. Windows**	Description		Area	12. Roof(Comp. Shingles, Vented) Deck R=38.0 4223 ft	
a. U-Factor:	Dbl, U=0.35		593.75 ft ²		ft ²
SHGC:	SHGC=0.25		ft ²	a. Sup: Attic, Ret: Attic, AH: AC 1 6 420	
b. U-Factor: SHGC:	N/A		Ιτ	b. Sup: Attic, Ret: Attic, AH: Storage 6 383	3
c. U-Factor: SHGC:	N/A		ft ²	c. 14. Cooling Systems kBtu/hr Efficienc a. Central Unit 33.4 SEER2:16.0	,
Area Weighted Average Area Weighted Average		oth:	1.000 ft 0.250	b. Central Unit 33.4 SEER2:16.0	
8. Skylights	Description		Area	15. Heating Systems kBtu/hr Efficience	,
U-Factor:(AVG)	N/A		N/A ft ²	a. Electric Heat Pump 33.4 HSPF2:8.5	-
SHGC(AVG):	N/A			b. Electric Heat Pump 33.4 HSPF2:8.5	0
9. Floor Types a. Slab-On-Grade Edge		nsulation = 0.0	Area 3484.00 ft ²	16. Hot Water Systems a. Electric Cap: 40 gallon	20
b. Floor over Garage		= 0.0	414.00 ft ²	a. Electric Cap: 40 gallon EF: 0.95	
c. other (see details)	R	=	118.00 ft ²	b. Conservation features	
				Non	ıe
				17. Credits Psta	at

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.

Scott Rosenboom 9.5.25 Builder Signature: Date:

Address of New Home:

City/FL Zip: Columbia County,FL,

*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Consen

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Review for Code Compliance

Lander Pernell

Florida Building Code, Energy Conservation, 8th Edition (2023) Mandatory Requirements for Residential Performance, Prescriptive and ERI Methods

ADDRESS:		Permit Number:
	Columbia County, FL	

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 leve (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
R402.2.10.1 Slab-on-grade floor insulation installation (Mandatory). Where installed, the insulation shall extend downward from the top of the slab on the outside or inside of the foundation wall. Insulation located below grade shall be extended the distance provided in Table R402.1.2, or the distance of the proposed design as applicable, by any combination of vertical insulation, insulation extending under the slab or insulation extending out from the building. Insulation extending away from the building shall be protected by pavement or by not less than 10 inches (254 mm) of soil. The top edge of the insulation installed between the exterior wall and the edge of the interior slab shall be permitted to be cut at a 45-degree (0.79 rad) angle away from the exterior wall.
R402.2.11.1 Crawl space walls insulation installation (Mandatory). Where crawl space wall insulation is installed, it shall be permanently fastened to the wall and extend downward from the floor to the finished grade level and then vertically and/or horizontally for at least an additional 24 inches (610 mm). Exposed earth in unvented crawl space foundations shall be covered with a continuous Class I vapor retarder in accordance with the Florida Building Code, Building, or Florida Building Code, Residential, as applicable. All joints of the vapor retarder shall overlap by 6 inches (153 mm) and be sealed or taped. The edges of the vapor retarder shall extend not less than 6 inches (153 mm) up the stem wall and shall be attached to the stem wall.
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. Dwelling units with an air leakage rate less than three air changes per hour shall be provided with whole-house mechanical ventilation in accordance with Section R403.6.1 of this code and Section M1507.3 of the Florida Building Code, Residential. 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

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.

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

Duringtesting:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.

official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

- 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.
- 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.

7. If an attic is both air sealed and insulated at the roof deck, interior access doors and hatches between the conditioned space volume and the attic shall be opened during the test and the volume of the attic shallow added by the conditioned space volume for purposes of reporting an infiltration volume and calculating the air leakage of the home. Examiner-License No.

4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall to ed and recovery for Code Compliance

Universal Engineering Science

PX2707

Flo	rida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)
	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. 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.
	R402.4.6 Air-sealed electrical and communication boxes. Air-sealed electrical and communication boxes that penetrate the air barrier of the building thermal envelope shall be caulked, taped, gasketed, or otherwise sealed to the air barrier element being penetrated. Air-sealed boxes shall be buried in or surrounded by insulation. Air-sealed boxes shall be marked in accordance with NEMA OS 4. Air-sealed boxes shall be installed in accordance with the manufacturer's instructions.
	SECTION R403 SYSTEMS
R	403.1 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 with supplementary electric-resistance heaters shall have controls that limit supplemental heat operation to only those times when one of the following applies: 1. The vapor compression cycle cannot provide the necessary heating energy to satisfy the thermostat setting. 2. The heat pump is operating in defrost mode. 3. The vapor compression cycle malfunctions. 4. The thermostat malfunctions
	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 section R405 compliance where credit is taken for leakage, and a duct a age Qn to the quisider of leasage test 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 results of the code official X2707 Framiner License No.

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. П 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. П R403.5.2 Demand recirculation water systems (Mandatory). Where installed, demand recirculation water systems shall have controls that comply with both of the following: 1. The control shall start the pump upon receiving a signal from the action of a user of a fixture or appliance, sensing the presence of a user of a fixture or sensing the flow of hot or tempered water to a fixture fitting or appliance. 2. The control shall limit the temperature of the water entering the cold water piping to 104°F (40°C). 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 including: Natural, Infiltration or Mechanical means. Outdoor air intakes and exhausts should be a comparity or should be a comparable of the comparity of the comparable of the or gravity dampers that close when the ventilation system is not operating. Landerer Pernell PX2707 09/10/2025

Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)

Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)

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.

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	3.8 cfm/watt	Any
Bathroom, utility room	10	2.8 cfm/watt	<90
Bathroom, utility room	90	3.5 cfm/watt	Any

For SI: 1 cfm = 28.3 L/min.

- a. When tested in accordance with HVI Standard 916
- 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.

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Florida Building Code, Energy Conservation, Mandatory Requirements (2023 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).
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

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

Exceptions:

1. Where public health standards require 24-hour pump operation.

to a circuit breaker for the power to the heater.

time switches shall be in compliance with this section.

2. Pumps that operate solar- and waste-heat-recovery pool heating systems

Gas-fired heaters shall not be equipped with continuously burning ignition pilots.

3. Where pumps are powered exclusively from on-site renewable generation.



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Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued) 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. \Box 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). All permanently installed luminaires, excluding those in kitchen appliances, 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.



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Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)

SECTION R405 SIMULATED PERFORMANCE ALTERNATIVE (PERFORMANCE)

R405.2 Mandatory requirements. Compliance with this section requires that the mandatory provisions identified in Section R401.2 be met. All supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6, except site-wrapped supply ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-8.				
R405.2.1 Ceiling insulation. Ceilings shall have an insulation level of at least R-19, space permitting. For the purposes of this code, types of ceiling construction that are considered to have inadequate space to install R-19 include single assembly ceilings of the exposed deck and beam type and concrete deck roofs. Such ceiling assemblies shall be insulated to at least a level of R-10.				
R405.2.2 Building air leakage testing. Building or dwelling air leakage testing shall be in accordance with Sections R402.4 through R402.4.1.2. If an air leakage rate below seven air changes per hour at a pressure of 0.2 inch w.g. (50 pascals) is specified for the proposed design, testing shall verify the air leakage rate does not exceed the air leakage rate of the proposed design instead of seven air changes per hour.				
R405.2.3 Duct air leakage testing. In cases where duct air leakage lower than the default Qn to outside of 0.080 (where Qn = duct leakage to the outside in cfm per 100 square feet of conditioned floor area tested at 25 Pascals) is specified for the proposed design, testing in accordance with Section R403.3.2 shall verify a duct air leakage rate not exceeding the leakage rate of the proposed design. Otherwise, in accordance with Section R403.3.3, duct testing is not mandatory for buildings complying by Section R405.				
SECTION R406				
ENERGY RATING INDEX				
COMPLIANCE ALTERNATIVE				
R406.2 Mandatory requirements. Compliance with this section requires that the provisions identified in Sections R401 through R404 labeled as "mandatory" and Section R403.5.3 of the 2015 International Energy Conservation Code be met. For buildings that do not utilize on-site renewable power production for compliance with this section, the building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table 402.1.1 or 402.1.3 of the 2009 International Energy Conservation Code. For buildings that utilize on-site renewable power production for compliance with this section, the building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table R402.1.2 or Table R402.1.4 of the 2015 International Energy Conservation Code.				
Exception: Supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6.				
R406.2.1 Site-wrapped supply ducts. Site-wrapped supply ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-8.				



PX2707

2023 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA-TABLE 402.4.1.1a

J-12152 - C-1309 Builder Name: Project Name: Permit Office: Street: City, State, Zip: Columbia County, FL, Permit Number: Owner: ROSENBOOM/BARNARD RESIDENCE Jurisdiction:

FL, Gainesville Columbia(Florida Climate Zone 2) Design Location: County:

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA	CHEC	
General requirements A continuous air barrier shall be installed in the building of The exterior thermal envelope contains a continuous air Breaks or joints in the air barrier shall be sealed.		Air-permeable insulation shall not be used as a sealing material.		
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.		
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.		
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.			
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.		
Floors (including above-garage and cantilevered floors) The air barrier shall be installed at any exposed edge of insulation.		Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.		
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawlspace walls.		
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.			
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity spaces.		
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.			
Recessedlighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the finished surface. Recessed light fixtures installed in the building thermal thermal envelope shall be air tight at the sealed to the finished surface.			
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, communication, and other equipment boxes, housings, and enclosures	Boxes, housings, and enclosures that penetrate the air barrier shall be caulked, taped, gasketed, or otherwise sealed to the air barrier element being penetrated. All concealed openings into the box, housing, or enclosure shall be sealed. The continuity of the air barrier shall be maintained around boxes, housings, and enclosures that penetrate the air barrier. Alternatively, air-sealed boxes shall be installed in accordance with R402.4.6	Boxes, housings, and enclosures shall be buried in or surrounded by tightly fitted insulation.		
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.	Review for Code Compliand Universal Engineering Scien		
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.	Laylette Parrell PX2707 Examiner-License No.	09/	

Envelope Leakage Test Report (Blower Door Test) Residential Prescriptive, Performance or ERI Method Compliance 2023 Florida Building Code, Energy Conservation, 8th Edition

Jurisdiction:	Permit #:							
Job Information								
Builder: Community:	Lot: NA							
Address:								
City: Columbia County State	e: FL Zip:							
Air Leakage Test Results Passing results must mee	t 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 R405-2023 (Performance) or R406-2023 (ERI), section labeled as infiltration, sub-section ACH50. ACH(50) specified on Form R405-2023-Energy Calc (Performance) or R406-2023 (ERI): 6.000								
x 60 ÷ 41522 Building Volume = ACH(50) PASS When ACH(50) is less than 3, Mechanical Ventilation is 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. The building or dwelling unit shall be tested and verifie per hour in Climate Zones 1 and 2, and three air changes per hour in Climat than three air changes per hour shall be provided with whole-house mechar and Section M1507.3 if the <i>Florida Building Code, Residential</i> . Testing shall reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be condu. <i>Florida Statues</i> , or individuals licensed as set forth in Section 489.105(3)(f), results of the test shall be signed by the party conducting the test and providater creation of all penetrations of the <i>building thermal envelope</i> . Duringtesting: 1. Exterior windows and doors, fireplace and stove doors shall be closed, but control measures. 2. Dampers including exhaust, intake, makeup air, back draft and flue damp 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 ventities. Heating and cooling systems, if installed at the time of the test, shall be tulting. If an attic is both sealed and insulated at the roof deck, interior access do attic shall be opened during the test and the volume of the attic shall be add the infiltration volume and calculating the air leakage of the home.	the Zones 3 through 8. Dwelling units with an air leakage rate less nical ventilation in accordance with Section R403.6.1 of this code all be conducted in accordance with ANSI/RESNET/ICC 380 and acted by either individuals as defined in Section 553.993(5) or (7), (g), or (i) or an approved third party. A written report of the ded to the code official. Testing shall be performed at any time at not sealed, beyond the intended weatherstripping or other infiltration pers shall be closed, but not sealed beyond intended infiltration control lators shall be closed and sealed. Lurned off. Ly open. Ors and hatches between the conditioned space volume and the							
Testing Company								
Company Name: Phone: Phone: Phone: I hereby verify that the above Air Leakage results are in accordance with the 2023 8th Edition Florida Building Code Energy Conservatior requirements according to the compliance method selected above.								
Signature of Tester:	Date of Test:							
Printed Name of Tester:	_							
License/Certification #:	Issuing Authority:							

Duct Leakage Test Report

Residential Prescriptive, Performance or ERI Method Compliance 2023 Florida Building Code, Energy Conservation, 8th Edition

Jurisdiction:	Permit #:							
Job Information								
Builder:	Community:		Lot:	NA				
Address:								
City: Columbia County	State	: FL	Zip:					
Duct Leakage Test Results								
System 1cfm25 System 2cfm25 System 3cfm25 Sum of otherscfm25 Total of allcfm25 Total of allcfm25 Total of allcfm25 PASS FAIL Duct tightness shall be verified by testing in ac 553.993(5) or (7), Florida Statutes, or individual	To qualify as equal to 0.04 installed, Qn method meet Is the air has proposed due Leakage Typ R405-2023 (Ene	ince/ERI Method cfi ing this method, Qn much leakage Qn specified e selected on Form rgyCalc) or R406-2023 Leak Free	" Qn Total I stalled. If air or equal to ccordance g testing? m25 (Out o st not be gron Form R Qn specific (Energy) 0.030	r handler unit is not to 0.03. This testing with Section R403.3.3. YES (= 04 NO (= 03 NO (= 03 NO (= 04 NO (= 0				
Testing Company								
Company Name: Phone: Phone: I hereby verify that the above duct leakage testing results are in accordance with the Florida Building Code requirements with the selected compliance path as stated above, either the Prescriptive Method or Performance Method.								
Signature of Tester:		Date of Tes	t:					
Printed Name of Tester:								
License/Certification #:	Issuing Auth	nority:						