

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Bell Res_ Street: 255 Sugar Cane Lane City, State, Zip: Lake City, FL, 32055 Owner: The Bell's Design Location: FL, Gainesville	Builder Name: Seth Heitzman Construction Permit Office: Columbia County Permit Number: Jurisdiction: County: Columbia(Florida Climate Zone 2)
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1. New construction or existing New (From Plans) 2. Single family or multiple family Detached 3. Number of units, if multiple family 1 4. Number of Bedrooms 4 5. Is this a worst case? No 6. Conditioned floor area above grade (ft²) 2302 Conditioned floor area below grade (ft²) 0 7. Windows(390.8 sqft.) Description Area a. U-Factor: Dbl, U=0.36 390.78 ft² SHGC: SHGC=0.25 b. U-Factor: N/A ft² SHGC: c. U-Factor: N/A ft² SHGC: Area Weighted Average Overhang Depth: 5.518 ft Area Weighted Average SHGC: 0.250 8. Skylights Description Area U-Factor:(AVG) N/A N/A ft² SHGC(AVG): N/A 9. Floor Types Insulation Area a. Slab-On-Grade Edge Insulation R= 0.0 2302.00 ft² b. N/A R= ft² c. N/A R= ft²	10. Wall Types(2522.3 sqft.) Insulation Area a. Frame - Wood, Exterior R=13.0 2139.70 ft² b. Frame - Wood, Adjacent R=13.0 382.67 ft² c. N/A d. N/A 11. Ceiling Types(2532.0 sqft.) Insulation Area a. Flat ceiling under att (Vented) R=38.0 2532.00 ft² b. N/A c. N/A 12. Roof(Comp. Shingles, Vented) Deck R=0.0 2767 ft² 13. Ducts, location & insulation level R ft² a. Sup: Attic, Ret: Attic, AH: Garage 6 576 b. c. 14. Cooling Systems kBtu/hr Efficiency a. Central Unit 32.0 SEER2:15.50 15. Heating Systems kBtu/hr Efficiency a. Electric Heat Pump 39.2 HSPF2:8.80 16. Hot Water Systems a. Electric Cap: 50 gallons EF: 0.920 b. Conservation features None 17. Credits CV, Pstat
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Glass/Floor Area:0.170

Total Proposed Modified Loads: 59.68

Total Baseline Loads: 63.56

NOTE: Proposed residence must have annual total normalized Modified Loads that are less than or equal to 95 percent of the annual total loads of the standard reference design in order to comply.

PASS

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

PREPARED BY: Wm C. MyDATE: 02 / 03 / 2024

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.

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.
- 1 of the 1 duct systems requires a Duct Leakage Test Report. Systems with Default duct leakage do not require this 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).

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Bell Res_	Bedrooms:	4	Address type:	Street Address
Building Type:	User	Conditioned Area:	2302	Lot #:	---
Owner:	The Bell's	Total Stories:	1	Block/SubDivision:	---
Builder Home ID:		Worst Case:	No	PlatBook:	---
Builder Name:	Seth Heitzman Construction	Rotate Angle:	0	Street:	255 Sugar Cane Lane
Permit Office:	Columbia County	Cross Ventilation:	Yes	County:	Columbia
Jurisdiction:		Whole House Fan:	No	City, State, Zip:	Lake City, FL, 32055
Family Type:	Detached	Terrain:	Suburban		
New/Existing:	New (From Plans)	Shielding:	Suburban		
Year Construct:	2024				
Comment:					

CLIMATE

✓ Design Location	Tmy Site	Design Temp		Int Design Temp		Heating Degree Days	Design Moisture	Daily temp Range
		97.5%	2.5%	Winter	Summer			
___ FL, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

✓ Number	Name	Area	Volume
___ 1	Block1	2302	20718 cu ft

SPACES

✓ Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___ 1	1st Floor	2302	20718	Yes	8	4	Yes	Yes	Yes

FLOORS

(Total Exposed Area = 2302 sq.ft.)

✓ #	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim.	U-Factor Joist	Slab Insul. Vert/Horiz	Tile	Wood	Carpet
___ 1	Slab-On-Grade Edge Ins	1st Floor	265.33	2302 sqft	0	---	0.304	2 (ft)/0 (ft)	0.00	1.00

ROOF

✓ #	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___ 1	Hip	Composition shingles	2767 ft²	0 ft²	Medium	Y	0.96	No	0.9	No	0	33.69

ATTIC

✓ #	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___ 1	Partial cathedral ceiling	Vented	300	2302 ft²	Y	N

CEILING

(Total Exposed Area = 2532 sq.ft.)

✓ #	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___ 1	Flat ceiling under attic(Vented)	1st Floor	38.0	Double Batt	2532.0ft²	0.024	0.11	Wood

INPUT SUMMARY CHECKLIST REPORT

WALLS (Total Exposed Area = 2522 sq.ft.)															
✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
___ 1	S	Exterior	Frame - Wood	1st Floor	13.0	18.0	8	10.0	0	186.7	0.084		0.23	0.75	0 %
___ 2	W	Exterior	Frame - Wood	1st Floor	13.0	3.0	0	10.0	0	30.0	0.084		0.23	0.75	0 %
___ 3	S	Exterior	Frame - Wood	1st Floor	13.0	11.0	4	10.0	0	113.3	0.084		0.23	0.75	0 %
___ 4	W	Exterior	Frame - Wood	1st Floor	13.0	4.0	4	9.0	0	39.0	0.084		0.23	0.75	0 %
___ 5	S	Exterior	Frame - Wood	1st Floor	13.0	14.0	0	9.0	0	126.0	0.084		0.23	0.75	0 %
___ 6	E	Exterior	Frame - Wood	1st Floor	13.0	45.0	4	9.0	0	408.0	0.084		0.23	0.75	0 %
___ 7	N	Exterior	Frame - Wood	1st Floor	13.0	11.0	8	9.0	0	105.0	0.084		0.23	0.75	0 %
___ 8	W	Exterior	Frame - Wood	1st Floor	13.0	10.0	0	9.0	0	90.0	0.084		0.23	0.75	0 %
___ 9	N	Exterior	Frame - Wood	1st Floor	13.0	21.0	4	10.0	0	213.3	0.084		0.23	0.75	0 %
___ 10	E	Exterior	Frame - Wood	1st Floor	13.0	10.0	0	10.0	0	100.0	0.084		0.23	0.75	0 %
___ 11	N	Exterior	Frame - Wood	1st Floor	13.0	10.0	4	10.0	0	103.3	0.084		0.23	0.75	0 %
___ 12	E	Exterior	Frame - Wood	1st Floor	13.0	10.0	0	10.0	0	100.0	0.084		0.23	0.75	0 %
___ 13	N	Exterior	Frame - Wood	1st Floor	13.0	24.0	0	10.0	0	240.0	0.084		0.23	0.75	0 %
___ 14	W	Exterior	Frame - Wood	1st Floor	13.0	31.0	8	9.0	0	285.0	0.084		0.23	0.75	0 %
___ 15	S	Garage	Frame - Wood	1st Floor	13.0	24.0	0	9.0	0	216.0	0.084		0.23	0.75	0 %
___ 16	W	Garage	Frame - Wood	1st Floor	13.0	16.0	8	10.0	0	166.7	0.084		0.23	0.75	0 %

DOORS (Total Exposed Area = 44 sq.ft.)											
✓ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
___ 1	S	Exterior	Insulated	1st Floor	None	0.46	3.00	0	8.00	0	24.0ft²
___ 2	S	Garage	Insulated	1st Floor	None	0.46	3.00	0	6.00	8	20.0ft²

WINDOWS (Total Exposed Area = 391 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	S	1	Vinyl	Low-E Double	Y	0.36	0.25	N	N	18.0	1	3.00	6.00	8.5	1.0	None	None
___ 2	S	3	Vinyl	Low-E Double	Y	0.36	0.25	N	N	15.0	1	3.00	5.00	1.5	1.0	None	None
___ 3	S	5	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	3	2.00	5.00	1.0	4.0	None	None
___ 4	E	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	2	3.00	5.00	1.5	1.0	None	None
___ 5	E	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	4.0	1	4.00	1.00	1.5	1.0	None	None
___ 6	W	8	TIM	Low-E Double	Y	0.36	0.25	N	N	17.8	1	2.67	6.67	5.5	1.0	None	None
___ 7	N	9	TIM	Low-E Double	Y	0.36	0.25	N	N	128.0	6	2.67	8.00	11.5	1.0	None	None
___ 8	E	10	Vinyl	Low-E Double	Y	0.36	0.25	N	N	36.0	3	2.00	6.00	4.5	1.0	None	None
___ 9	N	11	Vinyl	Low-E Double	Y	0.36	0.25	N	N	36.0	3	2.00	6.00	1.5	1.0	None	None
___ 10	E	12	Vinyl	Low-E Double	Y	0.36	0.25	N	N	18.0	1	3.00	6.00	1.5	1.0	None	None
___ 11	N	13	Vinyl	Low-E Double	Y	0.36	0.25	N	N	36.0	3	2.00	6.00	1.5	1.0	None	None
___ 12	W	14	Vinyl	Low-E Double	Y	0.36	0.25	N	N	6.0	1	2.00	3.00	1.5	1.0	None	None
___ 13	W	14	Vinyl	Low-E Double	Y	0.36	0.25	N	N	4.0	1	4.00	1.00	1.5	1.0	None	None
___ 14	W	14	Vinyl	Low-E Double	Y	0.36	0.25	N	N	12.0	3	2.00	2.00	1.5	1.0	None	None

INFILTRATION										
✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00040	2417	132.61	248.96	0.1438	7.0	All	20718 cu ft

GARAGE					
✓ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	720 ft²	720 ft²	67 ft	9 ft	1

INPUT SUMMARY CHECKLIST REPORT

MASS

✓ #	Mass Type	Area	Thickness	Furniture Fraction	Space
1	Default(8 lbs/sq.ft.)	0 ft ²	0 ft	0.30	1st Floor

HEATING SYSTEM

✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	---Geothermal HeatPump--- Entry Power Volt Current	Ducts	Block
1	Electric Heat Pump	None/Single		HSPF2: 8.80	39.2	0.00 0.00 0.00	sys#1	1

COOLING SYSTEM

✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
1	Central Unit	None/Single		SEER2:15.5	32.0	960	0.70	sys#1	1

HOT WATER SYSTEM

✓ #	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
1	Electric	None	Garage	0.92 (0.92)	50.00 gal	40 gal	120 deg	Standard	None	12
	Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
1	No		NA	NA	NA	No	NA	NA	NA	None

DUCTS

✓ Duct #	-----Supply----- Location R-Value Area	-----Return----- Location R-Value Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN OUT	HVAC # Heat Cool
1	Attic 6.0 576 ft ²	Attic 6.0 115 ft ²	Default Leakage	Garage	(Default)	(Default)		1 1

TEMPERATURES

Programable Thermostat: Y		Ceiling Fans: N											
Cooling	[] Jan	[] Feb	[] Mar	[] Apr	[] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[] Oct	[] Nov	[] Dec	
Heating	[X] Jan	[X] Feb	[X] Mar	[] Apr	[] May	[] Jun	[] Jul	[] Aug	[] Sep	[] Oct	[X] Nov	[X] Dec	
Venting	[] Jan	[] Feb	[X] Mar	[X] Apr	[] May	[] Jun	[] Jul	[] Aug	[] Sep	[X] Oct	[X] Nov	[] Dec	
Thermostat Schedule: HERS 2006 Reference		Hours											
✓ Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM PM	78 80	78 80	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	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78
Heating (WD)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66
Heating (WEH)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 94

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

255 Sugar Cane Lane,Lake City,FL,32055

1. New construction or existing	New (From Plans)	10. Wall Types(2522.3 sqft.)	Insulation	Area
2. Single family or multiple family	Detached	a. Frame - Wood, Exterior	R=13.0	2139.70 ft ²
3. Number of units, if multiple family	1	b. Frame - Wood, Adjacent	R=13.0	382.67 ft ²
4. Number of Bedrooms	4	c. N/A		
5. Is this a worst case?	No	d. N/A		
6. Conditioned floor area above grade (ft ²)	2302	11. Ceiling Types(2532.0 sqft.)	Insulation	Area
Conditioned floor area below grade (ft ²)	0	a. Flat ceiling under att (Vented)	R=38.0	2532.00 ft ²
7. Windows**	Description	b. N/A		
a. U-Factor:	DbI, U=0.36	c. N/A		
SHGC:	SHGC=0.25	12. Roof(Comp. Shingles, Vented) Deck	R=0.0	2767 ft ²
b. U-Factor:	N/A	13. Ducts, location & insulation level	R	ft ²
SHGC:		a. Sup: Attic, Ret: Attic, AH: Garage	6	576
c. U-Factor:	N/A	b.		
SHGC:		c.		
Area Weighted Average Overhang Depth:	5.518 ft	14. Cooling Systems	kBtu/hr	Efficiency
Area Weighted Average SHGC:	0.250	a. Central Unit	32.0	SEER2:15.50
8. Skylights	Description	15. Heating Systems	kBtu/hr	Efficiency
U-Factor:(AVG)	N/A	a. Electric Heat Pump	39.2	HSPF2:8.80
SHGC(AVG):	N/A			
9. Floor Types	Insulation	16. Hot Water Systems		
a. Slab-On-Grade Edge Insulation	R= 0.0	a. Electric	Cap: 50 gallons	
b. N/A	R=		EF: 0.920	
c. N/A	R=	b. Conservation features		
				None
		17. Credits		CV, 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: 255 Sugar Cane Lane

City/FL Zip: Lake City,FL,32055



*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.

Residential System Sizing Calculation

Summary

The Bell's
255 Sugar Cane Lane
Lake City, FL 32055

Project Title:
Bell Res_

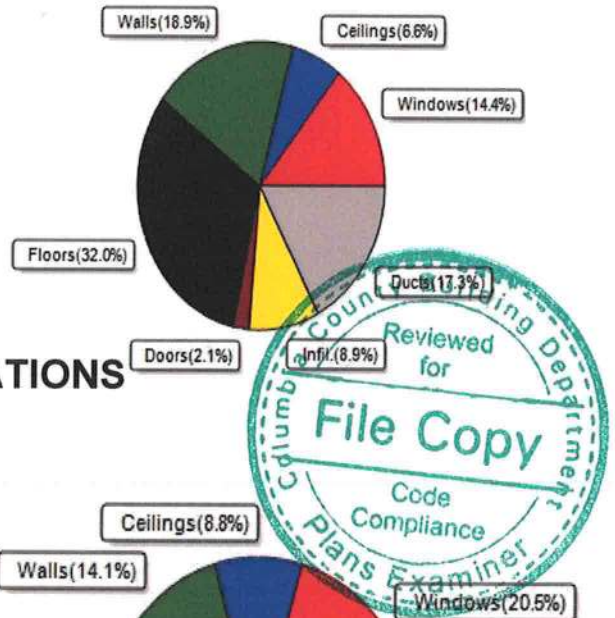
2/3/2024

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)					
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(51gr.)					
Winter design temperature(TMY3 99%)	30	F	Summer design temperature(TMY3 99%)	94	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	40	F	Summer temperature difference	19	F
Total heating load calculation		39185 Btuh	Total cooling load calculation		31975 Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	100.0	39185	Sensible (SHR = 0.70)	84.0	22382
Heat Pump + Auxiliary(0.0kW)	100.0	39185	Latent	180.5	9592
			Total (Electric Heat Pump)	100.0	31975

WINTER CALCULATIONS

Winter Heating Load (for 2302 sqft)

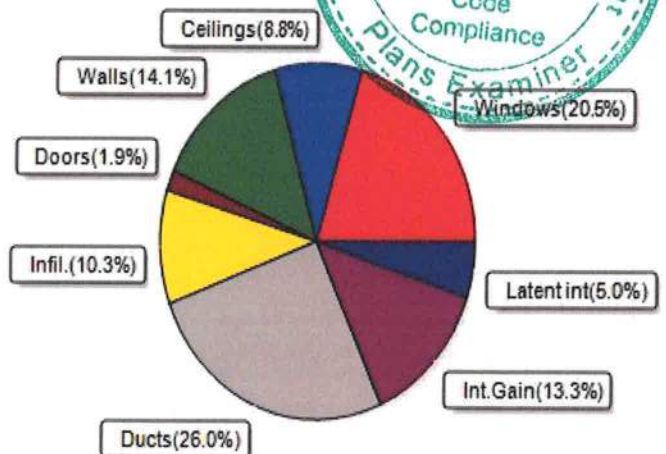
Load component			Load	
Window total	391	sqft	5627	Btuh
Wall total	2088	sqft	7412	Btuh
Door total	44	sqft	810	Btuh
Ceiling total	2532	sqft	2571	Btuh
Floor total	2302	sqft	12524	Btuh
Infiltration	79	cfm	3479	Btuh
Duct loss			6764	Btuh
Subtotal			39185	Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
TOTAL HEAT LOSS			39185	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2302 sqft)

Load component			Load	
Window total	391	sqft	6571	Btuh
Wall total	2088	sqft	4516	Btuh
Door total	44	sqft	607	Btuh
Ceiling total	2532	sqft	2828	Btuh
Floor total			0	Btuh
Infiltration	60	cfm	1239	Btuh
Internal gain			4240	Btuh
Duct gain			6659	Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load			0	Btuh
Total sensible gain			26659	Btuh
Latent gain(ducts)			1659	Btuh
Latent gain(infiltration)			2056	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1600	Btuh
Total latent gain			5316	Btuh
TOTAL HEAT GAIN			31975	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: Will C. Smith

DATE: 02 / 03 / 2024



System Sizing Calculations - Winter

Residential Load - Whole House Component Details

The Bell's
255 Sugar Cane Lane
Lake City, FL 32055

Project Title:
Bell Res_
Building Type: User

2/3/2024

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)
Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.25	Vinyl	0.36	S	18.0		14.4	259 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	15.0		14.4	216 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	30.0		14.4	432 Btuh
4	2, NFRC 0.25	Vinyl	0.36	E	30.0		14.4	432 Btuh
5	2, NFRC 0.25	Vinyl	0.36	E	4.0		14.4	58 Btuh
6	2, NFRC 0.25	TIM	0.36	W	17.8		14.4	256 Btuh
7	2, NFRC 0.25	TIM	0.36	N	128.0		14.4	1843 Btuh
8	2, NFRC 0.25	Vinyl	0.36	E	36.0		14.4	518 Btuh
9	2, NFRC 0.25	Vinyl	0.36	N	36.0		14.4	518 Btuh
10	2, NFRC 0.25	Vinyl	0.36	E	18.0		14.4	259 Btuh
11	2, NFRC 0.25	Vinyl	0.36	N	36.0		14.4	518 Btuh
12	2, NFRC 0.25	Vinyl	0.36	W	6.0		14.4	86 Btuh
13	2, NFRC 0.25	Vinyl	0.36	W	4.0		14.4	58 Btuh
14	2, NFRC 0.25	Vinyl	0.36	W	12.0		14.4	173 Btuh
Window Total					390.8(sqft)			5627 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	145		3.55	514 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	30		3.55	107 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	98		3.55	349 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	39		3.55	138 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	96		3.55	341 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	374		3.55	1328 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	105		3.55	373 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	72		3.55	256 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	85		3.55	303 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	64		3.55	227 Btuh
11	Frame - Wood	- Ext	(0.089)	13.0/0.0	67		3.55	239 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	82		3.55	291 Btuh
13	Frame - Wood	- Ext	(0.089)	13.0/0.0	204		3.55	724 Btuh
14	Frame - Wood	- Ext	(0.089)	13.0/0.0	263		3.55	934 Btuh
15	Frame - Wood	- Adj	(0.089)	13.0/0.0	196		3.55	696 Btuh
16	Frame - Wood	- Adj	(0.089)	13.0/0.0	167		3.55	592 Btuh
Wall Total					2088(sqft)			7412 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		24		18.4	442 Btuh
2	Insulated - Garage, n		(0.460)		20		18.4	368 Btuh
Door Total					44(sqft)			810Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	2532		1.0	2571 Btuh
Ceiling Total					2532(sqft)			2571Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

The Bell's
255 Sugar Cane Lane
Lake City, FL 32055

Project Title:
Bell Res_
Building Type: User

2/3/2024

Floors 1	Type Slab On Grade Floor Total	Ueff. (1.180)	R-Value 0.0	Size X 265.3 ft(perim.) 2302 sqft	HTM= 47.2	Load 12524 Btuh 12524 Btuh
	Envelope Subtotal:					28942 Btuh
Infiltration	Type Natural	Wholehouse ACH 0.23	Volume(cuft) 20718	Wall Ratio 1.00	CFM= 79.4	3479 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.209)					6764 Btuh
All Zones	Sensible Subtotal All Zones					39185 Btuh

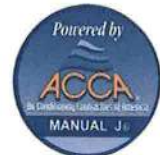
WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss Total Heat Loss	(Ex:0 cfm; Sup:0 cfm)	39185 Btuh 0 Btuh 39185 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	39185 Btuh
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Key: Window types - NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)
or - Glass as 'Clear' or 'Tint' (Uses U-Factor and SHGC defaults)
U - (Window U-Factor)
HTM - (ManualJ Heat Transfer Multiplier)



Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

The Bell's
255 Sugar Cane Lane
Lake City, FL 32055

Project Title:
Bell Res_

2/3/2024

Reference City: Gainesville, FL (Defaults)
Humidity difference: 51gr.

Temperature Difference: 19.0F(TMY3 99%)
Summer Setpoint: 75 °F (Required Manual J default)

Component Loads for Whole House

Window	Type*						Overhang		Window Area(sqft)			HTM		Load		
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded			
1	2 NFRC	0.25, 0.36	No	No	S		8.5ft.	1.0ft.	18.0	18.0	0.0	12	14	218	Btuh	
2	2 NFRC	0.25, 0.36	No	No	S		1.5ft.	1.0ft.	15.0	15.0	0.0	12	14	181	Btuh	
3	2 NFRC	0.25, 0.36	No	No	S		1.0ft.	4.0ft.	30.0	10.1	19.9	12	14	402	Btuh	
4	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	30.0	1.5	28.5	12	31	901	Btuh	
5	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	4.0	1.0	3.0	12	31	105	Btuh	
6	2 NFRC	0.25, 0.36	No	No	W		5.5ft.	1.0ft.	17.8	9.5	8.3	12	31	371	Btuh	
7	2 NFRC	0.25, 0.36	No	No	N		11.5f	1.0ft.	128.0	0.0	128.0	12	12	1549	Btuh	
8	2 NFRC	0.25, 0.36	No	No	E		4.5ft.	1.0ft.	36.0	16.4	19.6	12	31	805	Btuh	
9	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	36.0	0.0	36.0	12	12	436	Btuh	
10	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	18.0	0.7	17.3	12	31	543	Btuh	
11	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	36.0	0.0	36.0	12	12	436	Btuh	
12	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	6.0	0.5	5.5	12	31	176	Btuh	
13	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	4.0	1.0	3.0	12	31	105	Btuh	
14	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	12.0	1.5	10.5	12	31	344	Btuh	
Window Total									391 (sqft)					6571 Btuh		
Walls	Type					U-Value	R-Value	Area(sqft)			HTM		Load			
							Cav/Sheath									
1	Frame - Wood - Ext						0.09	13.0/0.0	144.7			2.3		327	Btuh	
2	Frame - Wood - Ext						0.09	13.0/0.0	30.0			2.3		68	Btuh	
3	Frame - Wood - Ext						0.09	13.0/0.0	98.3			2.3		223	Btuh	
4	Frame - Wood - Ext						0.09	13.0/0.0	39.0			2.3		88	Btuh	
5	Frame - Wood - Ext						0.09	13.0/0.0	96.0			2.3		217	Btuh	
6	Frame - Wood - Ext						0.09	13.0/0.0	374.0			2.3		846	Btuh	
7	Frame - Wood - Ext						0.09	13.0/0.0	105.0			2.3		238	Btuh	
8	Frame - Wood - Ext						0.09	13.0/0.0	72.2			2.3		163	Btuh	
9	Frame - Wood - Ext						0.09	13.0/0.0	85.3			2.3		193	Btuh	
10	Frame - Wood - Ext						0.09	13.0/0.0	64.0			2.3		145	Btuh	
11	Frame - Wood - Ext						0.09	13.0/0.0	67.3			2.3		152	Btuh	
12	Frame - Wood - Ext						0.09	13.0/0.0	82.0			2.3		186	Btuh	
13	Frame - Wood - Ext						0.09	13.0/0.0	204.0			2.3		462	Btuh	
14	Frame - Wood - Ext						0.09	13.0/0.0	263.0			2.3		595	Btuh	
15	Frame - Wood - Adj						0.09	13.0/0.0	196.0			1.7		331	Btuh	
16	Frame - Wood - Adj						0.09	13.0/0.0	166.7			1.7		281	Btuh	
Wall Total									2088 (sqft)					4516 Btuh		
Doors	Type					Area (sqft)			HTM		Load					
	1 Insulated - Exterior						24.0			13.8		331 Btuh				
	2 Insulated - Garage						20.0			13.8		276 Btuh				
Door Total									44 (sqft)					607 Btuh		
Ceilings	Type/Color/Surface					U-Value	R-Value	Area(sqft)			HTM		Load			
	1 Vented Attic/DarkShingle/RB						0.025	38.0/0.0	2532.0			1.12		2828	Btuh	
Ceiling Total									2532 (sqft)					2828 Btuh		
Floors	Type					R-Value			Size			HTM		Load		
	1 Slab On Grade						0.0			2302 (ft-perimeter)			0.0		0	Btuh
Floor Total												2302.0 (sqft)			0 Btuh	
Envelope Subtotal:														14521 Btuh		

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Manual J Summer Calculations

Residential Load - Component Details (continued)

The Bell's
255 Sugar Cane Lane
Lake City, FL 32055

Project Title:
Bell Res_

Climate:FL_GAINESVILLE_REGIONAL_A

2/3/2024

Infiltration	Type Natural	Average ACH 0.17	Volume(cuft) 20718	Wall Ratio 1	CFM= 59.6	Load 1239 Btuh
Internal gain		Occupants 8	Btuh/occupant X 230	Appliance +	2400	Load 4240 Btuh
					Sensible Envelope Load:	20000 Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.333)	6659 Btuh
					Sensible Load All Zones	26659 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

The Bell's
255 Sugar Cane Lane
Lake City, FL 32055

Project Title:
Bell Res_

Climate:FL_GAINESVILLE_REGIONAL_A

2/3/2024

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	20000 Btuh
	Sensible Duct Load	6659 Btuh
	Total Sensible Zone Loads	26659 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	26659 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	2056 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1659 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	5316 Btuh
	TOTAL GAIN	31975 Btuh

EQUIPMENT

1. Central Unit	#	31975 Btuh
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*Key: Window types (Panels - 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)



Version 8

