

Legend

Roads

- Roads
- others
- Dirt
- Interstate
- Main
- Other
- Paved
- Private
- 2018Aerials

Parcels

2009 Base Flood Elevations

DEFAULT

Base Flood Elevations

2018 Flood Zones

0.2 PCT ANNUAL CHANCE

- A
- AE
- AH

SRWMD Wetlands

LidarElevations



Columbia County, FLA - Building & Zoning Property Map

Printed: Mon Nov 04 2019 12:22:45 GMT-0500 (Eastern Standard Time)



Parcel Information

Parcel No: 18-5S-17-09280-127

Owner: M F BUTLER HOMES LLC

Subdivision: OAKS OF LAKE CITY PHASE 1

Lot: 27

Acres: 1.02686691

Deed Acres: 1.03 Ac

District: District 5 Tim Murphy

Future Land Uses: Agriculture - 3

Flood Zones:

Official Zoning Atlas: PRRD

All data, information, and maps are provided "as is" without warranty or any representation of accuracy, timeliness of completeness. Columbia County, FL makes no warranties, express or implied, as to the use of the information obtained here. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts all limitations, including the fact that the data, information, and maps are dynamic and in a constant state of maintenance, and update.

PLOT PLAN

IN SECTION 18, TOWNSHIP 5 SOUTH, RANGE 17 EAST
COLUMBIA COUNTY, FLORIDA

THIS IS NOT A BOUNDARY SURVEY

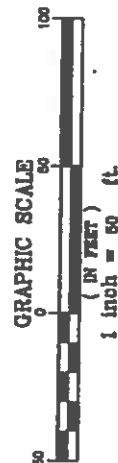
LEGAL DESCRIPTION
LOT 27, OAKS OF LAKE CITY
PHASE 1, A PLANNED RURAL
RESIDENTIAL DEVELOPMENT, AS PER
PLAT THEREOF, RECORDED IN PLAT
BOOK 9, PAGES 44-52 OF THE
PUBLIC RECORDS OF COLUMBIA
COUNTY, FLORIDA.

LEGEND

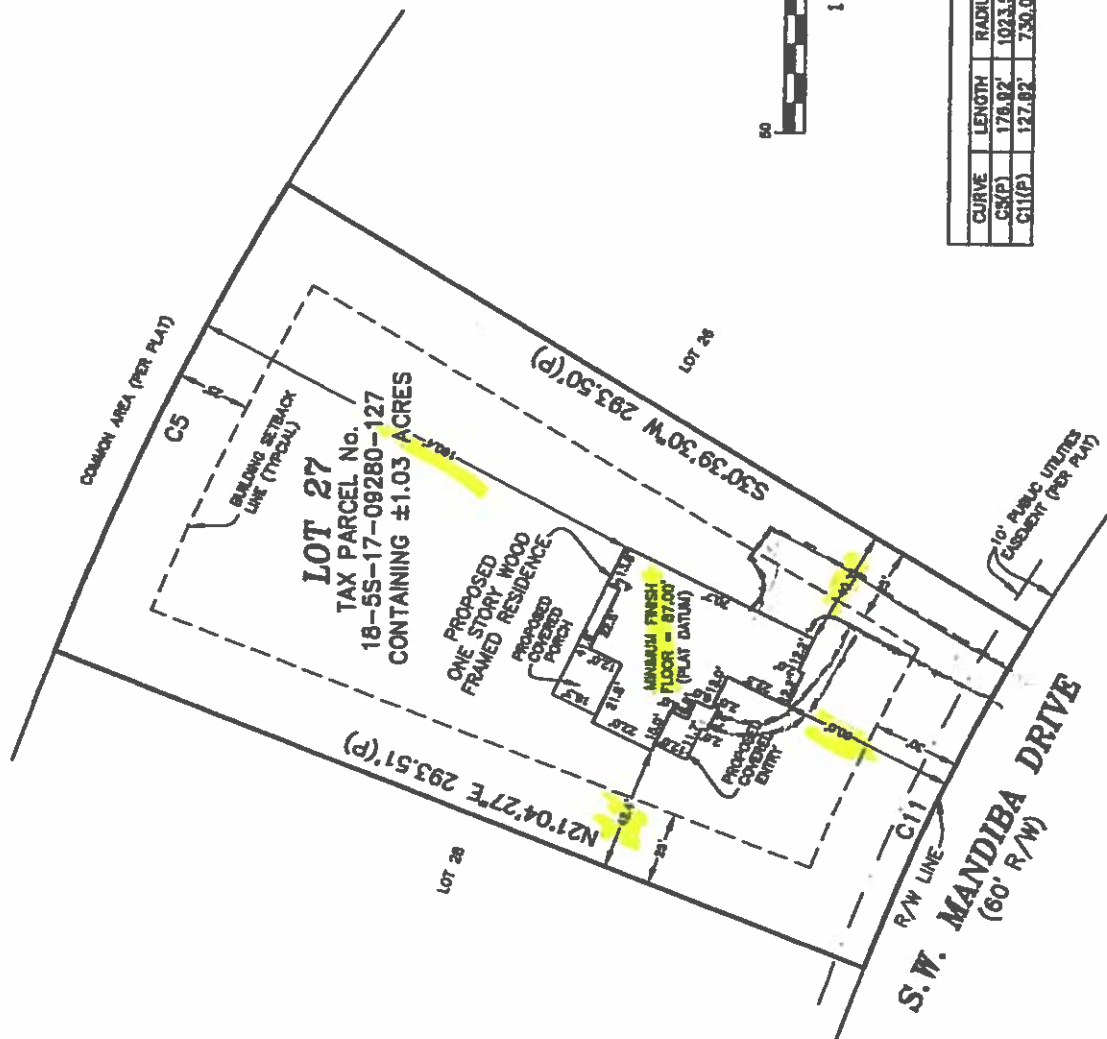
(P) = PER PLAT
R/W = RIGHT OF WAY

SURVEYOR NOTES:

1. THE BEARINGS SHOWN HEREON ARE BASED ON THE REPLAT OF OAKS OF LAKE CITY PHASE 1.
2. RECORDED EASEMENT AND/OR DEEDS NOT FURNISHED TO THE SURVEYOR ARE NOT SHOWN.
3. THIS IS NOT A BOUNDARY SURVEY



CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C5(P)	178.82'	1023.50'	95°15'	88.68'
C11(P)	127.82'	730.00'	100°55'	84.08'
				CHORD
				176.70'
				CHORD BEARING
				S84°17'38"E
				N84°21'27"W



FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

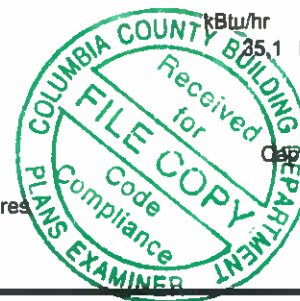
Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Lot 27 The Oaks Street: City, State, Zip: Lake City, FL, 32024 Owner: The Hamricks Design Location: FL, Gainesville	Builder Name: Gibraltar Contracting, LLC. Permit Office: Columbia County Permit Number: Jurisdiction: County: Columbia (Florida Climate Zone 2)
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<table style="width:100%;"> <tr> <td style="width:30%;">1. New construction or existing</td> <td style="width:70%;">New (From Plans)</td> </tr> <tr> <td>2. Single family or multiple family</td> <td>Single-family</td> </tr> <tr> <td>3. Number of units, if multiple family</td> <td>1</td> </tr> <tr> <td>4. Number of Bedrooms</td> <td>4</td> </tr> <tr> <td>5. Is this a worst case?</td> <td>No</td> </tr> <tr> <td>6. Conditioned floor area above grade (ft²)</td> <td>2205</td> </tr> <tr> <td>Conditioned floor area below grade (ft²)</td> <td>0</td> </tr> <tr> <td>7. Windows (410.3 sqft.)</td> <td>Description Area</td> </tr> <tr> <td>a. U-Factor:</td> <td>Dbl, U=0.36 410.33 ft²</td> </tr> <tr> <td>SHGC:</td> <td>SHGC=0.25</td> </tr> <tr> <td>b. U-Factor:</td> <td>N/A ft²</td> </tr> <tr> <td>SHGC:</td> <td></td> </tr> <tr> <td>c. U-Factor:</td> <td>N/A ft²</td> </tr> <tr> <td>SHGC:</td> <td></td> </tr> <tr> <td>d. U-Factor:</td> <td>N/A ft²</td> </tr> <tr> <td>SHGC:</td> <td></td> </tr> <tr> <td>Area Weighted Average Overhang Depth:</td> <td>7.973 ft.</td> </tr> <tr> <td>Area Weighted Average SHGC:</td> <td>0.250</td> </tr> <tr> <td>8. Floor Types (2205.0 sqft.)</td> <td>Insulation Area</td> </tr> <tr> <td>a. Slab-On-Grade Edge Insulation</td> <td>R=0.0 2205.00 ft²</td> </tr> <tr> <td>b. N/A</td> <td>R= ft²</td> </tr> <tr> <td>c. N/A</td> <td>R= ft²</td> </tr> </table>	1. New construction or existing	New (From Plans)	2. Single family or multiple family	Single-family	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)	2205	Conditioned floor area below grade (ft²)	0	7. Windows (410.3 sqft.)	Description Area	a. U-Factor:	Dbl, U=0.36 410.33 ft²	SHGC:	SHGC=0.25	b. U-Factor:	N/A ft²	SHGC:		c. U-Factor:	N/A ft²	SHGC:		d. U-Factor:	N/A ft²	SHGC:		Area Weighted Average Overhang Depth:	7.973 ft.	Area Weighted Average SHGC:	0.250	8. Floor Types (2205.0 sqft.)	Insulation Area	a. Slab-On-Grade Edge Insulation	R=0.0 2205.00 ft²	b. N/A	R= ft²	c. N/A	R= ft²	<table style="width:100%;"> <tr> <td style="width:30%;">9. Wall Types (1891.3 sqft.)</td> <td style="width:40%;">Insulation</td> <td style="width:30%;">Area</td> </tr> <tr> <td>a. Frame - Wood, Exterior</td> <td>R=13.0</td> <td>1672.30 ft²</td> </tr> <tr> <td>b. Frame - Wood, Adjacent</td> <td>R=13.0</td> <td>219.00 ft²</td> </tr> <tr> <td>c. N/A</td> <td>R=</td> <td>ft²</td> </tr> <tr> <td>d. N/A</td> <td>R=</td> <td>ft²</td> </tr> <tr> <td>10. Ceiling Types (2315.0 sqft.)</td> <td>Insulation</td> <td>Area</td> </tr> <tr> <td>a. Under Attic (Vented)</td> <td>R=38.0</td> <td>2315.00 ft²</td> </tr> <tr> <td>b. N/A</td> <td>R=</td> <td>ft²</td> </tr> <tr> <td>c. N/A</td> <td>R=</td> <td>ft²</td> </tr> <tr> <td>11. Ducts</td> <td>R</td> <td>ft²</td> </tr> <tr> <td>a. Sup: Attic, Ret: Attic, AH: Garage</td> <td>6</td> <td>535.75</td> </tr> <tr> <td>12. Cooling systems</td> <td>kBtu/hr</td> <td>Efficiency</td> </tr> <tr> <td>a. Central Unit</td> <td>27.6</td> <td>SEER:15.00</td> </tr> <tr> <td>13. Heating systems</td> <td>kBtu/hr</td> <td>Efficiency</td> </tr> <tr> <td>a. Electric Heat Pump</td> <td>35.1</td> <td>HSPF:8.20</td> </tr> <tr> <td>14. Hot water systems</td> <td></td> <td></td> </tr> <tr> <td>a. Electric</td> <td></td> <td>Cap: 50 gallons</td> </tr> <tr> <td>b. Conservation features</td> <td></td> <td>EF: 0.920</td> </tr> <tr> <td>None</td> <td></td> <td></td> </tr> <tr> <td>15. Credits</td> <td></td> <td>CV, Pstat</td> </tr> </table>	9. Wall Types (1891.3 sqft.)	Insulation	Area	a. Frame - Wood, Exterior	R=13.0	1672.30 ft²	b. Frame - Wood, Adjacent	R=13.0	219.00 ft²	c. N/A	R=	ft²	d. N/A	R=	ft²	10. Ceiling Types (2315.0 sqft.)	Insulation	Area	a. Under Attic (Vented)	R=38.0	2315.00 ft²	b. N/A	R=	ft²	c. N/A	R=	ft²	11. Ducts	R	ft²	a. Sup: Attic, Ret: Attic, AH: Garage	6	535.75	12. Cooling systems	kBtu/hr	Efficiency	a. Central Unit	27.6	SEER:15.00	13. Heating systems	kBtu/hr	Efficiency	a. Electric Heat Pump	35.1	HSPF:8.20	14. Hot water systems			a. Electric		Cap: 50 gallons	b. Conservation features		EF: 0.920	None			15. Credits		CV, Pstat
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Glass/Floor Area: 0.186	Total Proposed Modified Loads: 59.00	PASS
	Total Baseline Loads: 60.09	

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. PREPARED BY: <u> </u> DATE: <u>10/16/2019</u> I hereby certify that this building, as designed, is in compliance with the Florida Energy Code. OWNER/AGENT: <u> </u> DATE: <u> </u>	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: <u> </u> DATE: <u> </u>
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- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.
- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires an envelope leakage test report with envelope leakage no greater than 5.00 ACH50 (R402.4.1.2).

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Lot 27 The Oaks	Bedrooms:	4	Address Type:	Lot Information
Building Type:	User	Conditioned Area:	2205	Lot #:	27
Owner Name:	The Hamricks	Total Stories:	1	Block/Subdivision:	The Oaks
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:	Gibraltar Contracting, LLC.	Rotate Angle:	0	Street:	
Permit Office:	Columbia County	Cross Ventilation:	Yes	County:	Columbia
Jurisdiction:		Whole House Fan:	No	City, State, Zip:	Lake City , FL , 32024
Family Type:	Single-family				
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

✓	Design Location	TMY Site	Design Temp 97.5 %	2.5 %	Int Design Temp Winter	Summer	Heating Degree Days	Design Moisture	Daily Temp Range
_____	FL, Gainesville	FL_GAINESVILLE_REGI	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2205	19845

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	2205	19845	Yes	5	4	1	Yes	Yes	Yes

FLOORS

✓	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet	
_____	1	Slab-On-Grade	Edge Insulation	Main	217 ft	0	2205 ft²	_____	0	0	1

ROOF

✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt Tested	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Hip	Composition shingles	2650 ft²	0 ft²	Medium	Y	0.96	No	0.9	No	0	33.7

ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	2205 ft²	Y	N

CEILING

✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	38	Double Batt	2315 ft²	0.11	Wood

INPUT SUMMARY CHECKLIST REPORT

WALLS

✓ #	Omt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	S	Exterior	Frame - Wood	Main	13	12		9		108.0 ft²		0.23	0.75	0
2	E	Exterior	Frame - Wood	Main	13	6		9		54.0 ft²		0.23	0.75	0
3	S	Exterior	Frame - Wood	Main	13	8	4	9		75.0 ft²		0.23	0.75	0
4	E	Exterior	Frame - Wood	Main	13	6		9		54.0 ft²		0.23	0.75	0
5	S	Exterior	Frame - Wood	Main	13	13		9		117.0 ft²		0.23	0.75	0
6	E	Exterior	Frame - Wood	Main	13	22		9		198.0 ft²		0.23	0.75	0
7	N	Exterior	Frame - Wood	Main	13	21	4	9		192.0 ft²		0.23	0.75	0
8	E	Exterior	Frame - Wood	Main	13	12		9		108.0 ft²		0.23	0.75	0
9	N	Exterior	Frame - Wood	Main	13	36	4	9		327.0 ft²		0.23	0.75	0
10	W	Exterior	Frame - Wood	Main	13	44		9		396.0 ft²		0.23	0.75	0
11	S	Garage	Frame - Wood	Main	13	24	4	9		219.0 ft²		0.23	0.75	0
12	E	Exterior	Frame - Wood	Main	13	4	4	10		43.3 ft²		0.23	0.75	0

DOORS

✓ #	Omt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
1	S	Insulated	Main	None	.46	3		6	8	20 ft²
2	S	Insulated	Main	None	.46	3		6	8	20 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation.

✓ #	Omt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Separation	Int Shade	Screening
1	S	1	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	1 ft 6 in	1 ft 0 in	None	None
2	S	3	Vinyl	Low-E Double	Yes	0.36	0.25	N	13.3 ft²	8 ft 0 in	1 ft 0 in	None	None
3	S	3	Vinyl	Low-E Double	Yes	0.36	0.25	N	5.0 ft²	8 ft 0 in	0 ft 6 in	None	None
4	S	5	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	13 ft 0 in	1 ft 0 in	None	None
5	E	6	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	1 ft 6 in	1 ft 0 in	None	None
6	N	7	Vinyl	Low-E Double	Yes	0.36	0.25	N	60.0 ft²	17 ft 0 in	1 ft 0 in	None	None
7	N	7	Vinyl	Low-E Double	Yes	0.36	0.25	N	20.0 ft²	17 ft 0 in	1 ft 0 in	None	None
8	E	8	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	19 ft 0 in	1 ft 0 in	None	None
9	N	9	Vinyl	Low-E Double	Yes	0.36	0.25	N	36.0 ft²	5 ft 0 in	1 ft 0 in	None	None
10	N	9	Vinyl	Low-E Double	Yes	0.36	0.25	N	6.0 ft²	5 ft 0 in	1 ft 0 in	None	None
11	N	9	Vinyl	Low-E Double	Yes	0.36	0.25	N	16.0 ft²	5 ft 0 in	1 ft 0 in	None	None
12	N	9	Vinyl	Low-E Double	Yes	0.36	0.25	N	30.0 ft²	1 ft 6 in	1 ft 0 in	None	None
13	W	10	Vinyl	Low-E Double	Yes	0.36	0.25	N	30.0 ft²	1 ft 6 in	1 ft 0 in	None	None
14	W	10	Vinyl	Low-E Double	Yes	0.36	0.25	N	30.0 ft²	1 ft 6 in	1 ft 0 in	None	None
15	E	12	TIM	Low-E Double	Yes	0.36	0.25	N	20.0 ft²	4 ft 0 in	1 ft 0 in	None	None

INPUT SUMMARY CHECKLIST REPORT

GARAGE											
✓	#	Floor Area	Celling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation					
	1	543.35589 ft²	543.35589 ft²	67 ft	9 ft	1					

INFILTRATION								
#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000286	1653.8	90.79	170.74	.1128	5

HEATING SYSTEM								
✓	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts	
	1	Electric Heat Pump/	None	HSPF:8.2	35.15 kBtu/hr	1	sys#1	

COOLING SYSTEM									
✓	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
	1	Central Unit/	None	SEER: 15	27.57 kBtu/hr	840 cfm	0.7	1	sys#1

HOT WATER SYSTEM									
✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
	1	Electric	None	Main	0.92	50 gal	40 gal	120 deg	None

SOLAR HOT WATER SYSTEM							
✓	FSEC	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
	None	None			ft²		

DUCTS													
✓	#	— Supply —			— Return —		Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat Cool
	1	Attic	6	535.75 f	Attic	107.15 f	Default Leakage	Garage	(Default) c	(Default) c			1 1

INPUT SUMMARY CHECKLIST REPORT

TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

Cooling	☒ Jan	☒ Feb	☒ Mar	☐ Apr	☐ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☐ Oct	☐ Nov	☒ Dec
Heating	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☐ Jun	☐ Jul	☐ Aug	☐ Sep	☒ Oct	☒ Nov	☒ Dec
Venting	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☐ Jun	☐ Jul	☐ Aug	☐ Sep	☒ Oct	☒ 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	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

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Main

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 98

The lower the Energy Performance Index, the more efficient the home.

1. New home or, addition	1. <u>New (From Plans)</u>	12. Ducts, location & insulation level
2. Single-family or multiple-family	2. <u>Single-family</u>	a) Supply ducts R <u>6.0</u>
3. No. of units (if multiple-family)	3. <u>1</u>	b) Return ducts R <u>6.0</u>
4. Number of bedrooms	4. <u>4</u>	c) AHU location <u>Garage</u>
5. Is this a worst case? (yes/no)	5. <u>No</u>	13. Cooling system: Capacity <u>27.6</u>
6. Conditioned floor area (sq. ft.)	6. <u>2205</u>	a) Split system SEER <u> </u>
7. Windows, type and area		b) Single package SEER <u> </u>
a) U-factor:(weighted average)	7a. <u>0.360</u>	c) Ground/water source SEER/COP <u> </u>
b) Solar Heat Gain Coefficient (SHGC)	7b. <u>0.250</u>	d) Room unit/PTAC EER <u> </u>
c) Area	7c. <u>410.3</u>	e) Other <u>15.0</u>
8. Skylights		14. Heating system: Capacity <u>35.1</u>
a) U-factor:(weighted average)	8a. <u>NA</u>	a) Split system heat pump HSPF <u> </u>
b) Solar Heat Gain Coefficient (SHGC)	8b. <u>NA</u>	b) Single package heat pump HSPF <u> </u>
9. Floor type, insulation level:		c) Electric resistance COP <u> </u>
a) Slab-on-grade (R-value)	9a. <u>0.0</u>	d) Gas furnace, natural gas AFUE <u> </u>
b) Wood, raised (R-value)	9b. <u> </u>	e) Gas furnace, LPG AFUE <u> </u>
c) Concrete, raised (R-value)	9c. <u> </u>	f) Other <u>8.20</u>
10. Wall type and insulation:		15. Water heating system
A. Exterior:		a) Electric resistance EF <u>0.92</u>
1. Wood frame (Insulation R-value)	10A1. <u>13.0</u>	b) Gas fired, natural gas EF <u> </u>
2. Masonry (Insulation R-value)	10A2. <u> </u>	c) Gas fired, LPG EF <u> </u>
B. Adjacent:		d) Solar system with tank EF <u> </u>
1. Wood frame (Insulation R-value)	10B1. <u>13.0</u>	e) Dedicated heat pump with tank EF <u> </u>
2. Masonry (Insulation R-value)	10B2. <u> </u>	f) Heat recovery unit HeatRec% <u> </u>
11. Ceiling type and insulation level		g) Other <u> </u>
a) Under attic	11a. <u>38.0</u>	16. HVAC credits claimed (Performance Method)
b) Single assembly	11b. <u> </u>	a) Ceiling fans <u> </u>
c) Knee walls/skylight walls	11c. <u> </u>	b) Cross ventilation <u>Yes</u>
d) Radiant barrier installed	11d. <u>Yes</u>	c) Whole house fan <u>No</u>
		d) Multizone cooling credit <u> </u>
		e) Multizone heating credit <u> </u>
		f) Programmable thermostat <u>Yes</u>

*Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

I certify that this home has complied with the Florida Building Code, Energy Conservation, 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: _____ City/FL Zip: Lake City, FL 32024

Envelope Leakage Test Report (Blower Door Test)

Residential Prescriptive, Performance or ERI Method Compliance

2017 Florida Building Code, Energy Conservation, 6th Edition

Jurisdiction:

Permit #:

Job Information

Builder: Gibraltar Contracting, LLC. Community:

Lot: 27

Address:

City: Lake City

State: FL

Zip: 32024

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 R405-2017 (Performance) or R406-2017 (ERI), section labeled as Infiltration, sub-section ACH50.
ACH(50) specified on Form R405-2017-Energy Calc (Performance) or R406-2017 (ERI): 5.000

$$\frac{\text{CFM}(50)}{\text{Building Volume}} \times 60 \div \frac{19845}{\text{ACH}(50)} =$$

☒ **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 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.

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 2017 6th 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: _____

Residential System Sizing Calculation

Summary

The Hamricks

Project Title:
Lot 27 The Oaks

Lake City, FL 32024

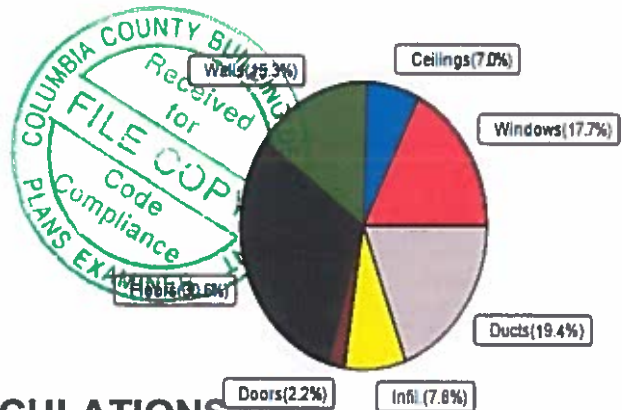
10/16/2019

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	33476 Btuh	Total cooling load calculation	25224 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	105.0 35149	Sensible (SHR = 0.70)	91.2 19298
Heat Pump + Auxiliary(0.0kW)	105.0 35149	Latent	203.6 8270
		Total (Electric Heat Pump)	109.3 27568

WINTER CALCULATIONS

Winter Heating Load (for 2205 sqft)

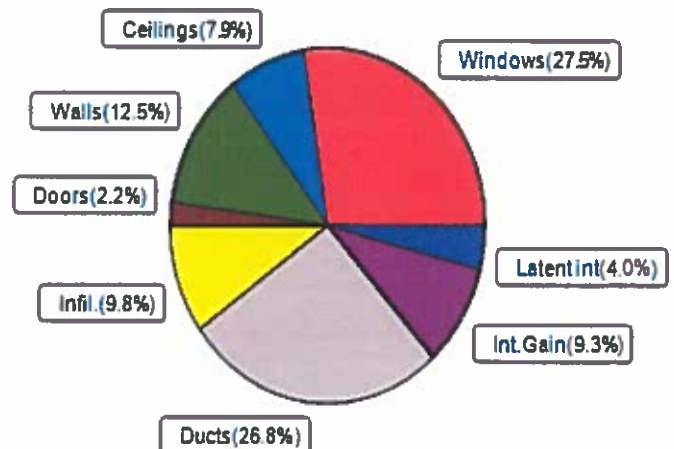
Load component			Load
Window total	410 sqft		5909 Btuh
Wall total	1441 sqft		5116 Btuh
Door total	40 sqft		736 Btuh
Ceiling total	2315 sqft		2350 Btuh
Floor total	2205 sqft		10242 Btuh
Infiltration	60 cfm		2613 Btuh
Duct loss			6509 Btuh
Subtotal			33476 Btuh
Ventilation	0 cfm		0 Btuh
TOTAL HEAT LOSS			33476 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2205 sqft)

Load component			Load
Window total	410 sqft		6941 Btuh
Wall total	1441 sqft		3147 Btuh
Door total	40 sqft		552 Btuh
Ceiling total	2315 sqft		1998 Btuh
Floor total			0 Btuh
Infiltration	45 cfm		931 Btuh
Internal gain			2350 Btuh
Duct gain			5245 Btuh
Sens. Ventilation	0 cfm		0 Btuh
Blower Load			0 Btuh
Total sensible gain			21163 Btuh
Latent gain(ducts)			1517 Btuh
Latent gain(infiltration)			1545 Btuh
Latent gain(ventilation)			0 Btuh
Latent gain(internal/occupants/other)			1000 Btuh
Total latent gain			4061 Btuh
TOTAL HEAT GAIN			25224 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY:

DATE:

[Signature]
10/16/2019

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

The Hamricks

Project Title:

Lot 27 The Oaks

Lake City, FL 32024

Building Type: User

10/16/2019

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 F (TMY3 99%)

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	36.0		14.4	518 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	13.3		14.4	192 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	5.0		14.4	72 Btuh
4	2, NFRC 0.25	Vinyl	0.36	S	36.0		14.4	518 Btuh
5	2, NFRC 0.25	Vinyl	0.36	E	36.0		14.4	518 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	60.0		14.4	864 Btuh
7	2, NFRC 0.25	Vinyl	0.36	N	20.0		14.4	288 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	N	6.0		14.4	86 Btuh
11	2, NFRC 0.25	Vinyl	0.36	N	16.0		14.4	230 Btuh
12	2, NFRC 0.25	Vinyl	0.36	N	30.0		14.4	432 Btuh
13	2, NFRC 0.25	Vinyl	0.36	W	30.0		14.4	432 Btuh
14	2, NFRC 0.25	Vinyl	0.36	W	30.0		14.4	432 Btuh
15	2, NFRC 0.25	TIM	0.36	E	20.0		14.4	288 Btuh
Window Total					410.3(sqft)			5909 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	72		3.55	256 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	54		3.55	192 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	37		3.55	130 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	54		3.55	192 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	81		3.55	288 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	162		3.55	575 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	112		3.55	398 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	239		3.55	849 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	336		3.55	1193 Btuh
11	Frame - Wood	- Adj	(0.089)	13.0/0.0	199		3.55	707 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	23		3.55	83 Btuh
Wall Total					1441(sqft)			5116 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Garage, n		(0.460)		20		18.4	368 Btuh
2	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
Door Total					40(sqft)			736Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Vented Attic/L/Shing		(0.025)	38.0/0.0	2315		1.0	2350 Btuh
Ceiling Total					2315(sqft)			2350Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	217.0 ft(perim.)		47.2	10242 Btuh
Floor Total					2205 sqft			10242 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

The Hamricks

Lake City, FL 32024

Project Title:
Lot 27 The Oaks
Building Type: User

10/16/2019

	Envelope Subtotal:						24353 Btuh
Infiltration	Type Natural	Wholehouse ACH 0.18	Volume(cuft) 19845	Wall Ratio 1.00	CFM= 59.7		2613 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.241)						6509 Btuh
All Zones	Sensible Subtotal All Zones						33476 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	33476 Btuh 0 Btuh 33476 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	35149 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 Hamricks

Project Title:
Lot 27 The Oaks

Lake City, FL 32024

10/16/2019

Reference City: Gainesville, FL

Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

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		1.5ft.	1.0ft.	36.0	36.0	0.0	12	14	436 Btuh
2	2 NFRC	0.25, 0.36	No	No	S		8.0ft.	1.0ft.	13.3	13.3	0.0	12	14	161 Btuh
3	2 NFRC	0.25, 0.36	No	No	S		8.0ft.	0.5ft.	5.0	5.0	0.0	12	14	60 Btuh
4	2 NFRC	0.25, 0.36	No	No	S		13.0ft	1.0ft.	36.0	36.0	0.0	12	14	436 Btuh
5	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	36.0	1.5	34.5	12	31	1086 Btuh
6	2 NFRC	0.25, 0.36	No	No	N		17.0ft	1.0ft.	60.0	0.0	60.0	12	12	726 Btuh
7	2 NFRC	0.25, 0.36	No	No	N		17.0ft	1.0ft.	20.0	0.0	20.0	12	12	242 Btuh
8	2 NFRC	0.25, 0.36	No	No	E		19.0ft	1.0ft.	36.0	36.0	0.0	12	31	436 Btuh
9	2 NFRC	0.25, 0.36	No	No	N		5.0ft.	1.0ft.	36.0	0.0	36.0	12	12	436 Btuh
10	2 NFRC	0.25, 0.36	No	No	N		5.0ft.	1.0ft.	6.0	0.0	6.0	12	12	73 Btuh
11	2 NFRC	0.25, 0.36	No	No	N		5.0ft.	1.0ft.	16.0	0.0	16.0	12	12	194 Btuh
12	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	30.0	0.0	30.0	12	12	363 Btuh
13	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	30.0	1.2	28.8	12	31	905 Btuh
14	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	30.0	1.5	28.5	12	31	901 Btuh
15	2 NFRC	0.25, 0.36	No	No	E		4.0ft.	1.0ft.	20.0	7.0	13.0	12	31	488 Btuh
Window Total									410 (sqft)					6941 Btuh
Walls	Type	U-Value		R-Value		Area(sqft)		HTM		Load				
1	Frame - Wood - Ext		0.09		13.0/0.0		72.0		2.3		163 Btuh			
2	Frame - Wood - Ext		0.09		13.0/0.0		54.0		2.3		122 Btuh			
3	Frame - Wood - Ext		0.09		13.0/0.0		36.7		2.3		83 Btuh			
4	Frame - Wood - Ext		0.09		13.0/0.0		54.0		2.3		122 Btuh			
5	Frame - Wood - Ext		0.09		13.0/0.0		81.0		2.3		183 Btuh			
6	Frame - Wood - Ext		0.09		13.0/0.0		162.0		2.3		367 Btuh			
7	Frame - Wood - Ext		0.09		13.0/0.0		112.0		2.3		253 Btuh			
8	Frame - Wood - Ext		0.09		13.0/0.0		72.0		2.3		163 Btuh			
9	Frame - Wood - Ext		0.09		13.0/0.0		239.0		2.3		541 Btuh			
10	Frame - Wood - Ext		0.09		13.0/0.0		336.0		2.3		760 Btuh			
11	Frame - Wood - Adj		0.09		13.0/0.0		199.0		1.7		336 Btuh			
12	Frame - Wood - Ext		0.09		13.0/0.0		23.3		2.3		53 Btuh			
Wall Total							1441 (sqft)			3147 Btuh				
Doors	Type	Area (sqft)		HTM		Load								
1	Insulated - Garage		20.0		13.8	276 Btuh								
2	Insulated - Exterior		20.0		13.8	276 Btuh								
Door Total			40 (sqft)		552 Btuh									
Ceilings	Type/Color/Surface	U-Value		R-Value		Area(sqft)		HTM		Load				
1	Vented AtticLight/Shingle/RB		0.025		38.0/0.0		2315.0		0.86		1998 Btuh			
Ceiling Total							2315 (sqft)			1998 Btuh				
Floors	Type	R-Value		Size		HTM		Load						
1	Slab On Grade		0.0		2205 (ft-perimeter)		0.0		0 Btuh					
Floor Total							2205.0 (sqft)			0 Btuh				
Envelope Subtotal:											12637 Btuh			

Manual J Summer Calculations

Residential Load - Component Details (continued)

The Hamricks

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Lot 27 The Oaks

Lake City, FL 32024

10/16/2019

Infiltration	Type Natural	Average ACH 0.14	Volume(cuft) 19845	Wall Ratio 1	CFM= 44.8	Load 931 Btuh
Internal gain		Occupants 5	Btuh/occupant X 230	Appliance +	1200	Load 2350 Btuh
					Sensible Envelope Load:	15918 Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.329)	5245 Btuh
					Sensible Load All Zones	21163 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

The Hamricks

Project Title:
Lot 27 The Oaks

Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL 32024

10/16/2019

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	15918 Btuh
	Sensible Duct Load	5245 Btuh
	Total Sensible Zone Loads	21163 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	21163 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1545 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1517 Btuh
	Latent occupant gain (5.0 people @ 200 Btuh per person)	1000 Btuh
	Latent other gain	0 Btuh
	Latent total gain	4061 Btuh
	TOTAL GAIN	25224 Btuh

EQUIPMENT

1. Central Unit	#	27568 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(N), 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))
 (Omt - compass orientation)



Version 8