

James & Tara Gabriel
1023 SW Comorah Street
Ft White, FL 32024

Project Title:
Gabriel Residence

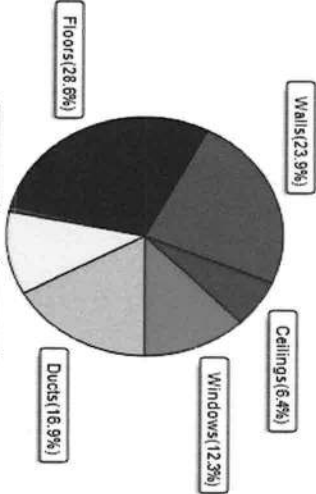
7/11/2023

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	51101 Btuh	Total cooling load calculation	44888 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.0 51100	Sensible (SHR = 0.70)	84.8 31422
Heat Pump + Auxiliary(0.0kW)	100.0 51100	Latent	172.2 13466
		Total (Electric Heat Pump)	100.0 44888

WINTER CALCULATIONS

Winter Heating Load (for 2923 sqft)

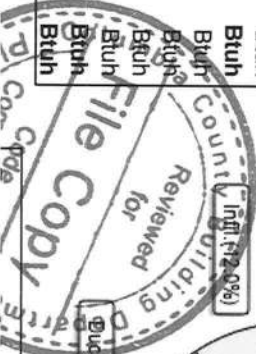
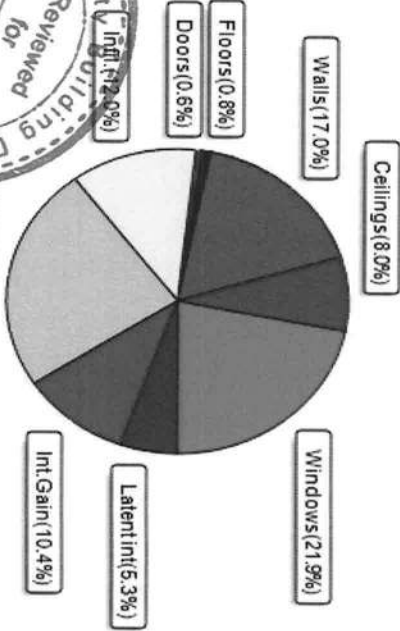
Load component	Load
Window total	436 sqft 6286 Btuh
Wall total	3446 sqft 12234 Btuh
Door total	20 sqft 368 Btuh
Ceiling total	3215 sqft 3264 Btuh
Floor total	See detail report 14637 Btuh
Infiltration	129 cfm 5667 Btuh
Duct loss	8645 Btuh
Subtotal	51101 Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm 0 Btuh
TOTAL HEAT LOSS	51101 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2923 sqft)

Load component	Load
Window total	436 sqft 9832 Btuh
Wall total	3446 sqft 7632 Btuh
Door total	20 sqft 276 Btuh
Ceiling total	3215 sqft 3590 Btuh
Floor total	365 Btuh
Infiltration	2019 Btuh
Internal gain	4660 Btuh
Duct gain	8694 Btuh
Sens. Ventilation	Ex:0 cfm; Sup:0 cfm 0 Btuh
Blower Load	0 Btuh
Total sensible gain	37068 Btuh
Latent gain(ducts)	2070 Btuh
Latent gain(infiltration)	3350 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	2400 Btuh
Total latent gain	7820 Btuh
TOTAL HEAT GAIN	44888 Btuh



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Project Title:
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Building Type: User

7/11/2023

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	TIM 0.36	W	48.0		14.4	691 Btuh
2	2, NFRC 0.25	Vinyl 0.36	W	63.0		14.4	907 Btuh
3	2, NFRC 0.25	Vinyl 0.36	W	6.0		14.4	86 Btuh
4	2, NFRC 0.25	Vinyl 0.36	W	30.0		14.4	432 Btuh
5	2, NFRC 0.25	Vinyl 0.36	S	20.0		14.4	288 Btuh
6	2, NFRC 0.25	Vinyl 0.36	S	4.0		14.4	58 Btuh
7	2, NFRC 0.25	Vinyl 0.36	E	30.0		14.4	432 Btuh
8	2, NFRC 0.25	TIM 0.36	E	100.0		14.4	1440 Btuh
9	2, NFRC 0.25	Vinyl 0.36	E	15.0		14.4	216 Btuh
10	2, NFRC 0.25	TIM 0.36	S	20.0		14.4	288 Btuh
11	2, NFRC 0.25	Vinyl 0.36	E	30.0		14.4	432 Btuh
12	2, NFRC 0.25	Vinyl 0.36	N	16.0		14.4	230 Btuh
13	2, NFRC 0.25	Vinyl 0.36	N	9.0		14.4	130 Btuh
14	2, NFRC 0.25	Vinyl 0.36	W	12.5		14.4	180 Btuh
15	2, NFRC 0.25	Vinyl 0.36	S	27.0		14.4	389 Btuh
16	2, NFRC 0.25	Vinyl 0.36	N	6.0		14.4	86 Btuh
Window Total				436.5(sqft)			6286 Btuh
Walls	Type	Orit. Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load	
1	Frame - Wood - Ext (0.089)		13.0/0.0	120	3.55	426 Btuh	
2	Frame - Wood - Ext (0.089)		13.0/0.0	136	3.55	483 Btuh	
3	Frame - Wood - Ext (0.089)		13.0/0.0	113	3.55	401 Btuh	
4	Frame - Wood - Ext (0.089)		13.0/0.0	132	3.55	469 Btuh	
5	Frame - Wood - Ext (0.089)		13.0/0.0	114	3.55	405 Btuh	
6	Frame - Wood - Ext (0.089)		13.0/0.0	249	3.55	884 Btuh	
7	Frame - Wood - Ext (0.089)		13.0/0.0	117	3.55	415 Btuh	
8	Frame - Wood - Ext (0.089)		13.0/0.0	87	3.55	309 Btuh	
9	Frame - Wood - Ext (0.089)		13.0/0.0	389	3.55	1381 Btuh	
10	Frame - Wood - Ext (0.089)		13.0/0.0	77	3.55	272 Btuh	
11	Frame - Wood - Ext (0.089)		13.0/0.0	117	3.55	414 Btuh	
12	Frame - Wood - Ext (0.089)		13.0/0.0	97	3.55	343 Btuh	
13	Frame - Wood - Ext (0.089)		13.0/0.0	54	3.55	192 Btuh	
14	Frame - Wood - Ext (0.089)		13.0/0.0	341	3.55	1211 Btuh	
15	Frame - Wood - Ext (0.089)		13.0/0.0	45	3.55	160 Btuh	
16	Frame - Wood - Adj (0.089)		13.0/0.0	153	3.55	543 Btuh	
17	Frame - Wood - Adj (0.089)		13.0/0.0	66	3.55	234 Btuh	
18	Frame - Wood - Adj (0.089)		13.0/0.0	70	3.55	249 Btuh	
19	Frame - Wood - Ext (0.089)		13.0/0.0	114	3.55	405 Btuh	
20	Frame - Wood - Ext (0.089)		13.0/0.0	142	3.55	505 Btuh	

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
25	Frame - Wood	- Ext	(0.089)	13.0/0.0	61	3.55	218 Btuh
26	Frame - Wood	- Ext	(0.089)	13.0/0.0	160	3.55	568 Btuh
	Wall Total				3446(sqft)		12234 Btuh
Doors	Type	Storm	Ueff.		Area X	HTM=	Load
1	Insulated - Garage, n		(0.460)		20	18.4	368 Btuh
	Door Total				20(sqft)		368Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
1	Flat ceil/M/Shing		(0.025)	38.0/0.0	2643	1.0	2683 Btuh
2	Flat ceil/M/Shing		(0.025)	38.0/0.0	572	1.0	581 Btuh
	Ceiling Total				3215(sqft)		3264Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	288.0 ft(perim.)	47.2	13594 Btuh
2	Raised Wood - Adj		(0.050)	19.0	520.0 sqft	2.0	1043 Btuh
	Floor Total				2923 sqft		14637 Btuh
	Envelope Subtotal:						36788 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.30	25787	1.00	129.4	5667 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.204)						8645 Btuh
All Zones	Sensible Subtotal All Zones						51101 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss Total Heat Loss	(Ex:0 cfm; Sup:0 cfm)	51101 Btuh 0 Btuh 51101 Btuh
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EQUIPMENT

1 Electric Heat Pump	#	51100 Btuh
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7/11/2023

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 - (Manual Heat Transfer Multiplier)



Version 8

James & Tara Gabriel
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Project Title:
Gabriel Residence

7/11/2023

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	Omt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2 NFRC	0.25, 0.36		No	No	W	7.5ft.	1.0ft.	48.0	31.3	16.7	12	31	894 Btuh
2	2 NFRC	0.25, 0.36		No	No	W	1.0ft.	2.0ft.	63.0	0.0	63.0	12	31	1949 Btuh
3	2 NFRC	0.25, 0.36		No	No	W	1.0ft.	1.0ft.	6.0	0.0	6.0	12	31	186 Btuh
4	2 NFRC	0.25, 0.36		No	No	W	1.0ft.	2.0ft.	30.0	0.0	30.0	12	31	928 Btuh
5	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	20.0	20.0	0.0	12	14	242 Btuh
6	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	4.0	4.0	0.0	12	14	48 Btuh
7	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	1.0ft.	30.0	1.5	28.5	12	31	901 Btuh
8	2 NFRC	0.25, 0.36		No	No	E	7.5ft.	1.0ft.	100.0	78.4	21.6	12	31	1617 Btuh
9	2 NFRC	0.25, 0.36		No	No	E	7.5ft.	1.0ft.	15.0	15.0	0.0	12	31	181 Btuh
10	2 NFRC	0.25, 0.36		No	No	S	7.5ft.	1.0ft.	20.0	20.0	0.0	12	14	242 Btuh
11	2 NFRC	0.25, 0.36		No	No	E	1.0ft.	2.0ft.	30.0	0.0	30.0	12	31	928 Btuh
12	2 NFRC	0.25, 0.36		No	No	N	1.5ft.	1.0ft.	16.0	0.0	16.0	12	12	194 Btuh
13	2 NFRC	0.25, 0.36		No	No	N	1.5ft.	1.0ft.	9.0	0.0	9.0	12	12	109 Btuh
14	2 NFRC	0.25, 0.36		No	No	W	1.0ft.	3.0ft.	12.5	0.0	12.5	12	31	387 Btuh
15	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	27.0	27.0	0.0	12	14	327 Btuh
16	2 NFRC	0.25, 0.36		No	No	N	1.5ft.	1.0ft.	6.0	0.0	6.0	12	12	73 Btuh
Excursion														625 Btuh
Window Total									436 (sqft)					9832 Btuh

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Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Gabriel Residence

7/11/2023

Walls	Type	U-Value	R-Value	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0.09	Cav/Sheath 13.0/0.0	120.0	2.3	272 Btuh
2	Frame - Wood - Ext	0.09	13.0/0.0	136.0	2.3	308 Btuh
3	Frame - Wood - Ext	0.09	13.0/0.0	113.0	2.3	256 Btuh
4	Frame - Wood - Ext	0.09	13.0/0.0	132.0	2.3	299 Btuh
5	Frame - Wood - Ext	0.09	13.0/0.0	114.0	2.3	258 Btuh
6	Frame - Wood - Ext	0.09	13.0/0.0	249.0	2.3	564 Btuh
7	Frame - Wood - Ext	0.09	13.0/0.0	117.0	2.3	265 Btuh
8	Frame - Wood - Ext	0.09	13.0/0.0	87.0	2.3	197 Btuh
9	Frame - Wood - Ext	0.09	13.0/0.0	389.0	2.3	880 Btuh
10	Frame - Wood - Ext	0.09	13.0/0.0	76.7	2.3	174 Btuh
11	Frame - Wood - Ext	0.09	13.0/0.0	116.7	2.3	264 Btuh
12	Frame - Wood - Ext	0.09	13.0/0.0	96.7	2.3	219 Btuh
13	Frame - Wood - Ext	0.09	13.0/0.0	54.0	2.3	122 Btuh
14	Frame - Wood - Ext	0.09	13.0/0.0	341.0	2.3	772 Btuh
15	Frame - Wood - Ext	0.09	13.0/0.0	45.0	2.3	102 Btuh
16	Frame - Wood - Adj	0.09	13.0/0.0	153.0	1.7	258 Btuh
17	Frame - Wood - Adj	0.09	13.0/0.0	66.0	1.7	111 Btuh
18	Frame - Wood - Adj	0.09	13.0/0.0	70.0	1.7	118 Btuh
19	Frame - Wood - Ext	0.09	13.0/0.0	114.0	2.3	258 Btuh
20	Frame - Wood - Ext	0.09	13.0/0.0	142.2	2.3	322 Btuh
21	Frame - Wood - Ext	0.09	13.0/0.0	207.7	2.3	470 Btuh
22	Frame - Wood - Ext	0.09	13.0/0.0	61.3	2.3	139 Btuh
23	Frame - Wood - Ext	0.09	13.0/0.0	154.7	2.3	350 Btuh
24	Frame - Wood - Ext	0.09	13.0/0.0	68.7	2.3	155 Btuh
25	Frame - Wood - Ext	0.09	13.0/0.0	61.3	2.3	139 Btuh
26	Frame - Wood - Ext	0.09	13.0/0.0	160.0	2.3	362 Btuh
Wall Total				3446 (sqft)		7632 Btuh
Doors	Type	Area (sqft)		HTM	Load	
1	Insulated - Garage Door Total	20.0		13.8	276 Btuh	
Doors Total		20 (sqft)			276 Btuh	
Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented AtticMed/Shingle/RB	0.025	38.0/0.0	2643.0	1.12	2952 Btuh
2	Vented AtticMed/Shingle/RB Ceiling Total	0.025	38.0/0.0	572.0	1.12	639 Btuh
				3215 (sqft)		3590 Btuh
Floors	Type	R-Value	Size	HTM	Load	
1	Slab On Grade	0.0	2403 (ft-perimeter)	0.0	0 Btuh	
2	Raised Wood - Adj Floor Total	19.0	520 (sqft)	0.7	365 Btuh	
				2923.0 (sqft)		365 Btuh
Envelope Subtotal:						21695 Btuh

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Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Gabriel Residence

7/11/2023

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.23	25787	1	97.1	2019 Btuh
Internal gain		Occupants 12	Btuh/occupant X 230	+	Appliance 1900	Load 4660 Btuh
			Sensible Envelope Load:			28374 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.306)	8694 Btuh
	Sensible Load All Zones					37068 Btuh

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	28374 Btuh
	Sensible Duct Load	8694 Btuh
	Total Sensible Zone Loads	37068 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	37068 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	3350 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	2070 Btuh
	Latent occupant gain (12.0 people @ 200 Btuh per person)	2400 Btuh
	Latent other gain	0 Btuh
	Latent total gain	7820 Btuh
	TOTAL GAIN	44888 Btuh

EQUIPMENT

1. Central Unit	#	44888 Btuh
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*Key: Window types (Panee - 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(1/2))
 (Ornt - compass orientation)

