



Equipment Summary

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Base System:

Heat pump: Bryant Carrier - Mini Split System 37MGRAQ30EA3

Coil Model: 2 of 45MAHAQ12XA3 -1 of 45MAHAQ06XA3

Total cooling capacity = 24600 Btuh, 12.5 EER2, 15.3 SEER2, Sound level = 0.0, 7.5 HSPF2

At 17 °F: Heating Capacity= 14800 Btuh, COP = 2.52

At 47 °F: Heating Capacity= 25000 Btuh, COP = 3.84

Capacity balance point = 28 °F, Economic balance point = -99 °F

Backup:

Input = 4 kW, Output = 14940 Btuh, 100 AFUE

Water Heating: Electric conventional

40 gal tank, 5 kW input, 0.90 EF

Warranties:

Features:

Investment 1:

Cooling:

Coil Model:

Total cooling capacity = 0 Btuh, 0 SEER, Sound Level = 0.0

Heating:

Input = 0 Btuh, Output = 0 Btuh, 80 AFUE

Water Heating: Gas conventional

40 gal tank, 36 MBtuh input, 0.60 EF

Warranties:

Features:





Equipment Summary

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Investment 2:

Cooling:

Coil Model:

Total cooling capacity = 0 Btuh, 0 SEER, Sound Level = 0.0

Heating:

Input = 0 Btuh, Output = 0 Btuh, 80 AFUE

Water Heating: Gas conventional

40 gal tank, 36 MBtuh input, 0.60 EF

Warranties:

Features:

Investment 3:

Cooling:

Coil Model:

Total cooling capacity = 0 Btuh, 0 SEER, Sound Level = 0.0

Heating:

Input = 0 Btuh, Output = 0 Btuh, 80 AFUE

Water Heating: Gas conventional

40 gal tank, 36 MBtuh input, 0.60 EF

Warranties:

Features:



Manual S Compliance Report

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Cooling Equipment

Design Conditions

Outdoor design DB:	90.6°F	Sensible gain:	21239	Btuh	Entering coil DB:	77.5°F
Outdoor design WB:	75.5°F	Latent gain:	5648	Btuh	Entering coil WB:	64.3°F
Indoor design DB:	75.0°F	Total gain:	26887	Btuh		
Indoor RH:	50%	Estimated airflow:	1000	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Bryant	Model:	37MGRAQ30EA3+2 of 45MAHAQ12XA3 -1 of 45MAHAQ06XA3		
Actual airflow:	1000	cfm			
Sensible capacity:	18940	Btuh	89%	of load	
Latent capacity:	5842	Btuh	103%	of load	
Total capacity:	24782	Btuh	92%	of load	SHR: 76%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	19893	Btuh	Entering coil DB:	66.4°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Bryant	Model:	37MGRAQ30EA3+2 of 45MAHAQ12XA3 -1 of 45MAHAQ06XA3		
Actual airflow:	1000	cfm			
Output capacity:	25000	Btuh	126%	of load	Capacity balance: 28 °F
Supplemental heat required:	0	Btuh			Economic balance: -99 °F

Backup equipment type:	Elec strip				
Manufacturer:		Model:			
Actual airflow:	1000	cfm			
Output capacity:	4.4	kW	75%	of load	Temp. rise: 15 °F

Meets all requirements of ACCA Manual S.





Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form

RPER 2.0

Header Information

Contractor All-Rite Heating & Air Conditioning, Inc.
Mechanical license# Loren Walbaum
Building plan # CMC1249660
Home address (Street or Lot#, Block, Subdivision) 20273 NW 251st Terrace, Entire House

Applicable Attachments
Manual J1 Form and Worksheet A: ☐ Yes ☐ No
OEM performance data (heating, cooling, blower): ☐ Yes ☐ No
Duct distribution sketch: ☐ Yes ☐ No
IRC Table R301.2 (climate & geographic design criteria) ☐ Yes ☐ No

HVAC LOAD CALCULATION

(IRC M1401.3)

Manual J Design Criteria and Loads

Location

Elevation 123 ft
Altitude Correction Factor 1.00
Latitude 30 °N

Summer Design Conditions

Outdoor Cooling Temp 91 °F
Indoor Cooling Temp 75 °F
Cooling Temp Diff 16 °F
Indoor Summer Design RH 50 %
Coincident Wet Bulb Temp 76 °F

Manual J Loads

Total Heat Loss 19893 Btuh
Sensible Heat Gain 21239 Btuh
Latent Heat Gain 5648 Btuh
Total Heat Gain 26887 Btuh

Winter Design Conditions

Outdoor Winter Temp 33 °F
Indoor Winter Temp 70 °F
Heating Temp Diff 37 °F

The heat loss/gain was calculated in accordance with ACCA Manual J? Y ☒ N ☐

HVAC EQUIPMENT SELECTION

(IRC M1401.3)

Heating Equipment

☐ Furnace ☐ Boiler ☒ Electric Heat
☐ Single Speed ☐ Multi Stage ☐ Modulating

Model

Output 25000 Btuh Sizing Value 19893 Btuh
Supplemental 14940 Btuh Sizing Limit 175.0 %
Heat Load: Capacity 200.8 %

Size Factor is within Manual S Size Limit? Y ☐ N ☒

Cooling Equipment

☐ Air Conditioner ☒ Heat Pump
☒ Air-to-Air ☐ Geothermal Open Loop ☐ Geothermal Closed Loop
☐ Single Speed ☒ Multi Stage ☐ Variable Speed

Model

Sensible 26887 Btuh Sizing Value 26887 Btuh
Latent 5842 Btuh Sizing Limit 120.0 %
Total 24782 Btuh Load: Capacity 92.2 %

Size Factor is within Manual S Size Limit? Y ☒ N ☐

HVAC DUCT DISTRIBUTION DESIGN

(IRC M1601.1)

Design airflow 1000 cfm Longest Supply Duct 0 ft Duct Materials Used
External Static Pressure (ESP) 0.50 in H2O Longest Return Duct 31.0 ft Trunk Duct: ☐ Duct Board ☐ Sheet Metal
Component Pressure Loss (CPL) 0.36 in H2O Total Effective Length (TEL) 31.0 ft ☐ Flex ☐ Lined Sheet Metal ☐ Other
Available static pressure (ASP) 0.14 in H2O Friction Rate 0.45 in/100ft Branch Duct: ☐ Duct Board ☐ Sheet Metal
ESP - CPL = ASP (ASP x 100) / TEL = Friction Rate ☒ Flex ☐ Lined Sheet Metal ☐ Other

Ducts are sized per Manual D? Y ☒ N ☐

I declare the load calculation, equipment selection, and duct system design were rigorously performed based on the building plan listed above and understand the claims made on these forms may be subject to review and verification.

Contractor's printed name: Loren Walbaum

Contractor's signature:

Date: 6-28-2026

Load Short Form

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid

Date: 6-28-2026

By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	91	Method	Simplified
Inside db (°F)	70	75	Construction quality	Average
Design TD (°F)	37	16	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	33	45		

HEATING EQUIPMENT

Make Bryant
Trade Carrier - Mini Split System
Model 37MGRAQ30EA3
AHRI ref 215618863
Efficiency 7.5 HSPF2
Heating input
Heating output 25000 Btuh @ 47°F
Temperature rise 23 °F
Actual air flow 1000 cfm
Air flow factor 0.060 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 28 °F

Backup:

Input = 4 kW, Output = 14940 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Bryant
Trade Carrier - Mini Split System
Cond 37MGRAQ30EA3
Coil 2 of 45MAHAQ12XA3 -1 of 45MAHAQ06XA3
AHRI ref 215618863
Efficiency 12.5 EER2, 15.3 SEER2
Sensible cooling 17220 Btuh
Latent cooling 7380 Btuh
Total cooling 24600 Btuh
Actual air flow 1000 cfm
Air flow factor 0.050 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.79

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Kitchen	273	0	0	0	0
Bdrm	169	0	0	0	0
Laundry	21	0	0	0	0
Bath	40	0	0	0	0
Closet	25	0	0	0	0
Family Rm	630	0	0	0	0
AC	18	16692	19882	1000	1000

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Entire House	1176	16692	19882	1000	1000
Other equip loads		3201	1357		
Equip. @ 0.96 RSM			21239		
Latent cooling			5648		
TOTALS	1176	19893	26887	1000	1000

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveyayoub@yahoo.com

Design Conditions

Location:

Gainesville Regional, FL, US
Elevation: 123 ft
Latitude: 30°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

33
-
15.0

Cooling

91
18 (M)
76
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
37
50
32.6

Cooling

75
16
50
44.6

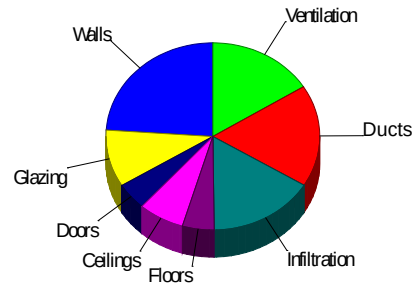
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

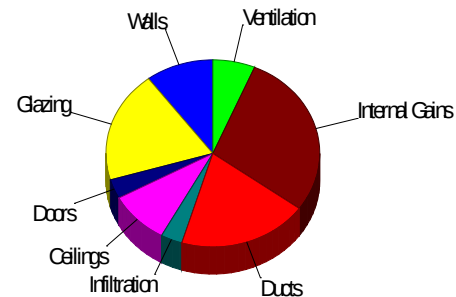
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.3	4755	23.9
Glazing	17.3	1965	9.9
Doors	22.1	927	4.7
Ceilings	1.2	1385	7.0
Floors	0.8	952	4.8
Infiltration	2.5	3199	16.1
Ducts		3509	17.6
Piping		0	0
Humidification		0	0
Ventilation		3201	16.1
Adjustments		0	0
Total		19893	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.0	2184	10.3
Glazing	36.0	4094	19.3
Doors	16.9	708	3.3
Ceilings	1.7	1942	9.1
Floors	0	0	0
Infiltration	0.6	693	3.3
Ducts		4181	19.7
Ventilation		1357	6.4
Internal gains		6080	28.6
Blower		0	0
Adjustments		0	0
Total		21239	100.0



Latent Cooling Load = 5648 Btuh
Overall U-value = 0.075 Btuh/ft²-°F, Window / Floor Area = 9.7 %

Data entries checked.



Component Constructions

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveyayoub@yahoo.com

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		70	75
Elevation: 123 ft		Design TD (°F)		37	16
Latitude: 30°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		32.6	44.6
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	91	Method		
Daily range (°F)	-	18 (M)	Construction quality		
Wet bulb (°F)	-	76	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified Average 0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 13A-4fcs: Blk wall, stucco ext, r-4 ext bd ins, 8" thk, perlite core, 1/2" gypsum board int fnsh	n	252	0.117	21.8	4.31	1085	1.98	498
	e	327	0.117	21.8	4.31	1408	1.98	647
	s	243	0.117	21.8	4.31	1046	1.98	480
	w	282	0.117	21.8	4.31	1216	1.98	558
	all	1104	0.117	21.8	4.31	4755	1.98	2184

Partitions (none)

Windows

4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/4" thk; 50% blinds 45°, medium; 50% outdoor insect screen; foreground = green grass (0.23); 1.6 ft overhang (5 ft window ht, 1.6 ft sep.); 7 ft head ht	e	30	0.470	0	17.3	519	31.9	958
	w	15	0.470	0	17.3	259	31.9	479
	w	30	0.470	0	17.3	512	31.9	945
	w	30	0.470	0	17.3	519	31.9	958
	all	105	0.470	0	17.3	1809	31.9	3340
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/2" gap, 1/4" thk; 50% blinds 45°, medium; 50% outdoor insect screen; foreground = green grass (0.23); 1.6 ft overhang (3 ft window ht, 1.6 ft sep.); 7 ft head ht	s	9	0.470	0	17.3	156	13.0	117

Doors

11J0: Door, mtl fbrgl type	e	21	0.600	6.3	22.1	464	16.9	354
	w	21	0.600	6.3	22.1	464	16.9	354
	all	42	0.600	6.3	22.1	927	16.9	708

Ceilings

16B-30md: Attic ceiling, mtl roof mat, r-30 ceil ins, 5/8" gypsum board int fnsh	1176	0.032	30.0	1.18	1385	1.65	1942
--	------	-------	------	------	------	------	------

Floors

21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh	1176	0.022	0	0.81	952	0	0
--	------	-------	---	------	-----	---	---



Component Constructions

Laundry

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		70	75
Elevation: 123 ft		Design TD (°F)		37	16
Latitude: 30°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		32.6	44.6
		Heating	Cooling		
Dry bulb (°F)		33	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		
		Infiltration:			
		Method		Simplified	
		Construction quality		Average	
		Fireplaces		0	

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-30md: Attic ceiling, mtl roof mat, r-30 ceil ins, 5/8" gypsum board int fnsh		21	0.032	30.0	1.18	25	1.65	35
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		21	0.022	0	0.81	17	0	0



Component Constructions

Bath

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		70	75
Elevation: 123 ft		Design TD (°F)		37	16
Latitude: 30°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		32.6	44.6
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	91	Method		
Daily range (°F)	-	18 (M)	Construction quality		
Wet bulb (°F)	-	76	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified Average 0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
13A-4fcs: Blk wall, stucco ext, r-4 ext bd ins, 8" thk, perlite core, 1/2" gypsum board int fnsh	e	45	0.117	21.8	4.31	194	1.98	89
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
16B-30md: Attic ceiling, mtl roof mat, r-30 ceil ins, 5/8" gypsum board int fnsh		40	0.032	30.0	1.18	47	1.65	66
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		40	0.022	0	0.81	32	0	0



Component Constructions

Closet

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Design Conditions

Location:			Indoor:		Heating	Cooling
Gainesville Regional, FL, US			Indoor temperature (°F)		70	75
Elevation: 123 ft			Design TD (°F)		37	16
Latitude: 30°N			Relative humidity (%)		50	50
Outdoor:	Heating	Cooling	Moisture difference (gr/lb)		32.6	44.6
Dry bulb (°F)	33	91	Infiltration:			
Daily range (°F)	-	18 (M)	Method		Simplified	
Wet bulb (°F)	-	76	Construction quality		Average	
Wind speed (mph)	15.0	7.5	Fireplaces		0	

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings 16B-30md: Attic ceiling, mtl roof mat, r-30 ceil ins, 5/8" gypsum board int fnsh		25	0.032	30.0	1.18	29	1.65	41
Floors 21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		25	0.022	0	0.81	20	0	0



Project Summary

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com
Notes: Marcus Resid 369 SW Bufalo Ave., Ft White, FL - #1176 sq.ft. Custom Home. Bryant-Carrier Mini Split System 15-Seer2 - 2.5-Ton Heat Pump System with 2-12,000 btu heads, 1-6,000 btu head.

Design Information

Weather: Gainesville Regional, FL, US

Winter Design Conditions

Outside db 33 °F
Inside db 70 °F
Design TD 37 °F

Ventilation Method MJ8

Heating Summary

Structure 13183 Btuh
Ducts (R-6.0) 3509 Btuh
Central vent (79 cfm) 3201 Btuh
Outside air
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 19893 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	1176	1176
Volume (ft ³)	10584	10584
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	79	41

Heating Equipment Summary

Make Bryant
Trade Carrier - Mini Split System
Model 37MGRAQ30EA3
AHRI ref 215618863
Efficiency 7.5 HSPF2
Heating input
Heating output 25000 Btuh @ 47°F
Temperature rise 23 °F
Actual air flow 1000 cfm
Air flow factor 0.060 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 28 °F
Backup:
Input = 4 kW, Output = 14940 Btuh, 100 AFUE

Summer Design Conditions

Outside db 91 °F
Inside db 75 °F
Design TD 16 °F
Daily range M
Relative humidity 50 %
Moisture difference 45 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 15700 Btuh
Ducts (R-6.0) 4181 Btuh
Central vent (79 cfm) 1357 Btuh
Outside air
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.96
Equipment sensible load 21239 Btuh

Latent Cooling Equipment Load Sizing

Structure 2425 Btuh
Ducts 824 Btuh
Central vent (79 cfm) 2399 Btuh
Outside air
Equipment latent load 5648 Btuh

Equipment Total Load (Sen+Lat) 26887 Btuh
Req. total capacity at 0.70 SHR 2.5 ton

Cooling Equipment Summary

Make Bryant
Trade Carrier - Mini Split System
Cond 37MGRAQ30EA3
Coil 2 of 45MAHAQ12XA3 -1 of 45MAHAQ06XA3
AHRI ref 215618863
Efficiency 12.5 EER2,15.3 SEER2
Sensible cooling 17220 Btuh
Latent cooling 7380 Btuh
Total cooling 24600 Btuh
Actual air flow 1000 cfm
Air flow factor 0.050 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.79

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



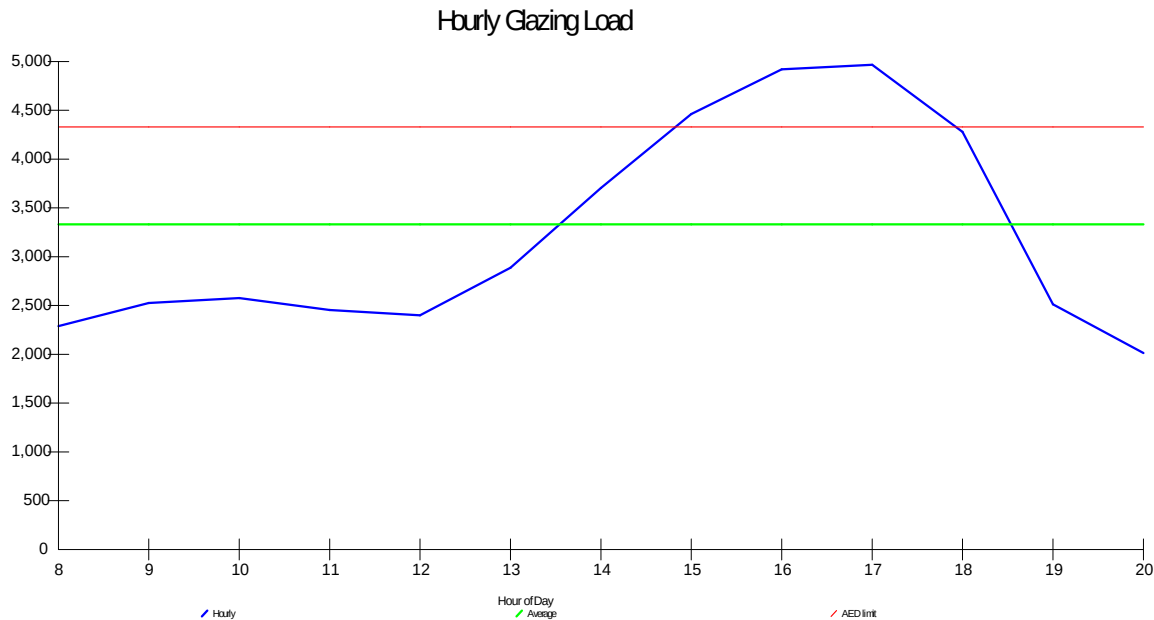
Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveyayoub@yahoo.com

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		70	75
Elevation: 123 ft		Design TD (°F)		37	16
Latitude: 30°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		32.6	44.6
Outdoor:		Heating	Cooling	Infiltration:	
Dry bulb (°F)		33	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 49.1%.

House does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 636 Btuh (PFG - 1.3*AFG)



Right-J® Worksheet

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

1	Room name					Entire House					Kitchen			
2	Exposed wall					140.0 ft					34.0 ft			
3	Room height					9.0 ft					9.0 ft			
4	Room dimensions					1176.0 ft²					21.0 x 13.0 ft			
5	Room area					1176.0 ft²					273.0 ft²			
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	13A-4fcs	0.117	n	4.31	1.98	252	252	1085	498	0	0	0	0
.	W	13A-4fcs	0.117	e	4.31	1.98	378	327	1408	647	189	168	723	332
.	└─G	4A5-2ov	0.470	e	17.30	31.94	30	0	519	958	0	0	0	0
.		11J0	0.600	e	22.08	16.86	21	21	464	354	21	21	464	354
11	W	13A-4fcs	0.117	s	4.31	1.98	252	243	1046	480	117	108	465	214
.	└─G	4A5-2ov	0.470	s	17.30	13.01	9	9	156	117	9	9	156	117
.		13A-4fcs	0.117	w	4.31	1.98	378	282	1216	558	0	0	0	0
.	└─G	4A5-2ov	0.470	w	17.30	31.94	15	0	259	479	0	0	0	0
.	└─G	4A5-2ov	0.470	w	17.30	31.94	30	0	512	945	0	0	0	0
.	└─G	4A5-2ov	0.470	w	17.30	31.94	30	0	519	958	0	0	0	0
.	└─D	11J0	0.600	w	22.08	16.86	21	21	464	354	0	0	0	0
.	C	16B-30md	0.032	-	1.18	1.65	1176	1176	1385	1942	273	273	321	451
.	F	21A-28t	0.022	-	0.81	0.00	1176	1176	952	0	273	273	221	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-Suite® Universal 2026 26.0.02 RSU06193

2026-Jun-30 21:24:03

Page 1

... J-D-Full Set #1176 sq ft Mini Split System.rup Calc = MJ8 Front Door faces: W



Right-J® Worksheet

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

1	Room name					Bdrm				Laundry				
2	Exposed wall					26.0 ft				0 ft				
3	Room height					9.0 ft				9.0 ft				
4	Room dimensions					13.0 x 13.0 ft				3.0 x 7.0 ft				
5	Room area					169.0 ft²				21.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	13A-4fcs	0.117	n	4.31	1.98	117	117	504	231	0	0	0	0
.	W	13A-4fcs	0.117	e	4.31	1.98	117	87	375	172	0	0	0	0
.	└─G	4A5-2ov	0.470	e	17.30	31.94	30	0	519	958	0	0	0	0
.		11J0	0.600	e	22.08	16.86	0	0	0	0	0	0	0	0
11	W	13A-4fcs	0.117	s	4.31	1.98	0	0	0	0	0	0	0	0
	└─G	4A5-2ov	0.470	s	17.30	13.01	0	0	0	0	0	0	0	0
		13A-4fcs	0.117	w	4.31	1.98	0	0	0	0	0	0	0	0
	└─G	4A5-2ov	0.470	w	17.30	31.94	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	w	17.30	31.94	0	0	0	0	0	0	0	0
	└─G	4A5-2ov	0.470	w	17.30	31.94	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	w	17.30	31.94	0	0	0	0	0	0	0	0
	└─D	11J0	0.600	w	22.08	16.86	0	0	0	0	0	0	0	0
		16B-30md	0.032	-	1.18	1.65	169	169	199	279	21	21	25	35
	C	21A-28t	0.022	-	0.81	0.00	169	169	137	0	21	21	17	0
	F													

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Right-Suite® Universal 2026 26.0.02 RSU06193

2026-Jun-30 21:24:03

Page 2

... J-D-Full Set #1176 sq ft Mini Split System.rup Calc = MJ8 Front Door faces: W



Right-J® Worksheet

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

1	Room name					Bath				Closet				
2	Exposed wall					5.0 ft				0 ft				
3	Room height					9.0 ft				9.0 ft				
4	Room dimensions					5.0 x 8.0 ft				5.0 x 5.0 ft				
5	Room area					40.0 ft²				25.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	13A-4fcs	0.117	n	4.31	1.98	0	0	0	0	0	0	0	0
.	W	13A-4fcs	0.117	e	4.31	1.98	45	45	194	89	0	0	0	0
.	└─G	4A5-2ov	0.470	e	17.30	31.94	0	0	0	0	0	0	0	0
.		11J0	0.600	e	22.08	16.86	0	0	0	0	0	0	0	0
11	W	13A-4fcs	0.117	s	4.31	1.98	0	0	0	0	0	0	0	0
└─G	W	4A5-2ov	0.470	s	17.30	13.01	0	0	0	0	0	0	0	0
		13A-4fcs	0.117	w	4.31	1.98	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	w	17.30	31.94	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	w	17.30	31.94	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	w	17.30	31.94	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	w	17.30	31.94	0	0	0	0	0	0	0	0
		11J0	0.600	w	22.08	16.86	0	0	0	0	0	0	0	0
		16B-30md	0.032	-	1.18	1.65	40	40	47	66	25	25	29	41
C	21A-28t	0.022	-	0.81	0.00	40	40	32	0	25	25	20	0	
F														
											</			

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.





Right-J® Worksheet

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

1	Room name					Family Rm				AC				
2	Exposed wall					72.0 ft				3.0 ft				
3	Room height					9.0 ft				9.0 ft				
4	Room dimensions					42.0 x 15.0 ft				3.0 x 6.0 ft				
5	Room area					630.0 ft²				18.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	13A-4fcs	0.117	n	4.31	1.98	135	135	581	267	0	0	0	0
.	W	13A-4fcs	0.117	e	4.31	1.98	0	0	0	0	27	27	116	53
.	G	4A5-2ov	0.470	e	17.30	31.94	0	0	0	0	0	0	0	0
.	D	11J0	0.600	e	22.08	16.86	0	0	0	0	0	0	0	0
11	W	13A-4fcs	0.117	s	4.31	1.98	135	135	581	267	0	0	0	0
.	G	4A5-2ov	0.470	s	17.30	13.01	0	0	0	0	0	0	0	0
.	W	13A-4fcs	0.117	w	4.31	1.98	378	282	1216	558	0	0	0	0
.	G	4A5-2ov	0.470	w	17.30	31.94	15	0	259	479	0	0	0	0
.	G	4A5-2ov	0.470	w	17.30	31.94	30	0	512	945	0	0	0	0
.	G	4A5-2ov	0.470	w	17.30	31.94	30	0	519	958	0	0	0	0
.	D	11J0	0.600	w	22.08	16.86	21	21	464	354	0	0	0	0
.	C	16B-30md	0.032	-	1.18	1.65	630	630	742	1040	18	18	21	30
.	F	21A-28t	0.022	-	0.81	0.00	630	630	510	0	18	18	15	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Project Information

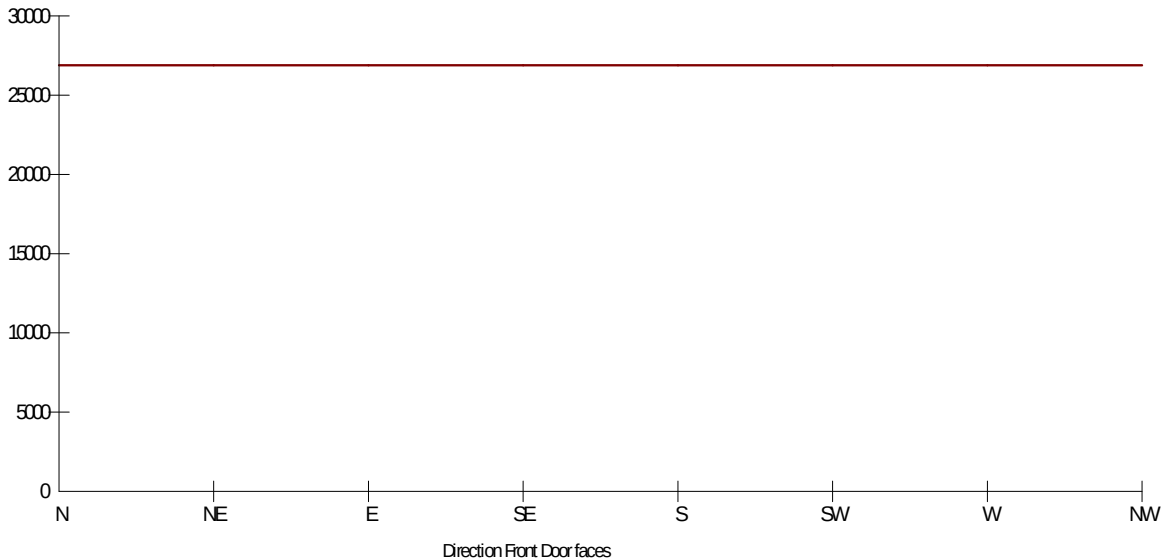
For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		70	75
Elevation:	123 ft	Design TD (°F)		37	16
Latitude:	30°N	Relative humidity (%)		50	50
		Moisture difference (gr/lb)		32.6	44.6
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	91			
Daily range (°F)	-	18 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	21239	21239	21239	21239	21239	21239	21239	21239
Latent Load (Btuh)	5648	5648	5648	5648	5648	5648	5648	5648
Total Load (Btuh)	26887	26887	26887	26887	26887	26887	26887	26887
Heating AVF (cfm)	1000	1000	1000	1000	1000	1000	1000	1000
Cooling AVF (cfm)	1000	1000	1000	1000	1000	1000	1000	1000

Building Orientation Cooling Load



Current Orientation: Front Door faces West
Highest Cooling Load: Front Door faces North

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Duct System Summary

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid

Date: 6-28-2026

By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0.36 in H ₂ O	0.36 in H ₂ O
Available static pressure	0.14 in H ₂ O	0.14 in H ₂ O
Supply / return available pressure	0.070 / 0.070 in H ₂ O	0.070 / 0.070 in H ₂ O
Lowest friction rate	0.452 in/100ft	0.452 in/100ft
Actual air flow	1000 cfm	1000 cfm
Total effective length (TEL)	31 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
AC-A	c 19882	1000	1000	0	0	0x0	VIFx	0	0	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x0	1000	1000	31.0	0.452	183k	1.0	0x0		VIFx	



Static Pressure and Friction Rate

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.50	0.50
Pressure losses		
Coil	0.12	0.12
Heat exchanger	0	0
Supply diffusers	0.12	0.12
Return grilles	0.12	0.12
Filter	0	0
Humidifier	0	0
Balancing damper	0	0
Other device	0	0
Available static pressure	0.14	0.14

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	0	1
Measured length of trunk	0	0
Equivalent length of fittings	0	30
Total length	0	31
Total effective length		31

Friction Rate

	Heating (in/100ft)	Cooling (in/100ft)
Supply Ducts	0.452 > 0.18	0.452 > 0.18
Return Ducts	0.452 > 0.18	0.452 > 0.18

Fitting Equivalent Length Details

Supply	TotalEL=0
Return	5E1=10, 6M=20: TotalEL=30



Duct system multi orientation report

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Marcus Resid
Date: 6-28-2026
By: Loren Walbaum

4751 NE 155th Ave, Williston, FL 32696 Phone: 352-528-2511 Fax: 352-528-2505 Email: info@allriteheatcool.com Web: www.allriteheatcool.com License: CMC1249660

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveyoub@yahoo.com

Group 1: (N, NE, E, SE, S, SW, W, NW)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
AC-A	1000 c	10x10	0	1000 c	10x10	0	1000 c	10x10	0	1000 c	10x10	0
Return Branches												
rb1	1000 c	20x20	1	1000 c	20x20	1	1000 c	20x20	1	1000 c	20x20	1
Friction Rates												
Heating FR	0.452			0.452			0.452			0.452		
Cooling FR	0.452			0.452			0.452			0.452		

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
 20273 NW 251st Terrace, High Springs, FL 32643
 Phone: 352-215-0131
 Email: steveyoub@yahoo.com

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
AC-A	1000 c	10x10	0	1000 c	10x10	0	1000 c	10x10	0	1000 c	10x10	0
Return Branches												
rb1	1000 c	20x20	1	1000 c	20x20	1	1000 c	20x20	1	1000 c	20x20	1
Friction Rates												
Heating FR	0.452			0.452			0.452			0.452		
Cooling FR	0.452			0.452			0.452			0.452		

Project Information

For: Steve Ayoub, Ayoub Construction, Corp #CRC1332955
20273 NW 251st Terrace, High Springs, FL 32643
Phone: 352-215-0131
Email: steveayoub@yahoo.com

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches						
AC-A	1000 c	10x10	0	1000 c	10x10	0
Return Branches						
rb1	1000 c	20x20	1	1000 c	20x20	1
Friction Rates						
Heating FR	0.452			0.452		
Cooling FR	0.452			0.452		

Background Color Legend

Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

Pink background column header

Largest cooling load orientation



ENERGY STAR Single-Family New Homes National HVAC Design Report, Version 3.1 /3.2 /3.3 (Rev. 14)

HVAC Designer Responsibilities:

- Complete one National HVAC Design Report for each system design for a house plan, created for either the specific plan configuration (i.e., elevation, option, orientation, & county) of the home to be certified or for a plan that is intended to be built with different configurations (i.e., different elevations, options, and/or orientations). Visit www.energystar.gov/newhomeshvacdesign and see Footnote 2 for more information.
- Obtain efficiency features (e.g., window performance, insulation levels, and infiltration rate) from the builder or Rater. ³
- Provide the completed National HVAC Design Report to the builder or credentialed HVAC contractor and to the Rater.

1. Design Overview

1.1 Designer name: Loren Walbaum Designer company: All-Rite Heating & Air Conditioning, Inc. Date: 6-28-2026
1.2 Select which party you are providing these design services to: ☒ Builder or ☐ Credentialed HVAC contractor
1.3 Name of company you are providing these design services to (if different than Item 1.1): Ayoub Construction, Corp #CRC1332955
1.4 Area that system serves: ☒ Whole-house ☐ Upper-level ☐ Lower-level ☐ Other
1.5 Is cooling system for a temporary occupant load? ☐ Yes ☒ No
1.6 House plan: Check box to indicate whether the system design is site-specific or part of a group:
☒ Site-specific design. Option(s) & elevation(s) modeled:
☐ Group design. Group #: 0 out of 0 total groups for this house plan. Configuration modeled:

2. Dwelling Unit Mechanical Ventilation System Design ("Vent System") & Inlets in Return Duct

Designer
Verified

Airflow:

2.1 Ventilation airflow design rate & run-time meet the requirements of ASHRAE 62.2-2010 or later ☐
2.2 Ventilation airflow rate required by 62.2 for a continuous system: 79 CFM -
2.3 Design for this system: Vent. airflow rate: CFM Run-time per cycle: 0 minutes Cycle time: 0 minutes -

System Type & Controls:

2.4 Specified system type: ☐ Supply ☐ Exhaust ☒ Balanced -
2.5 Specified control location: (e.g., Master bath, utility room) -
2.6 Specified controls allow the system to operate automatically, without occupant intervention. ☐
2.7 Specified controls include a readily-accessible ventilation override and a label has also been specified if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment). ☐
2.8 For any outdoor air inlet designed to connect to a ducted return of the HVAC system, specified controls automatically restrict airflow using a motorized damper during ventilation off-cycle and occupant override. ☐

Sound: 2.9 The fan of the specified system is rated ≤ 3 sones if intermittent and ≤ 1 sone if continuous, or exempted ☐

Efficiency:

2.10 If Vent System controller operates the HVAC fan, then HVAC fan operation is intermittent and either the fan type in Item 4.7 is ECM / ICM or the controls will reduce the run-time by accounting for HVAC system heating or cooling hours. ☐
2.11 If bathroom fans are specified as part of the system, then they are ENERGY STAR certified ☐

Air Inlet Location: (Complete this section if system has a specified air inlet location; otherwise check "N/A") ☐ N/A

2.12 Inlet pulls ventilation air directly from outdoors and not from attic, crawlspace, garage, or adjacent dwelling unit ☐
2.13 Inlet is ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources (e.g., stack, vent, exhaust, vehicles) not exiting the roof, and ≥ 3 ft. from known sources exiting the roof ☐

3. Room-by-Room Heating & Cooling Loads

3.1 Room-by-room loads calculated using: ☒ Unabridged ACCA Manual J v8 ☐ 2013 ASHRAE Fundamentals ☐ Other per AHJ -

3.2 Indoor design temperatures used in loads are 70°F for heating and 75°F for cooling ☒

3.3 Outdoor design temperatures used in loads: (See Footnote 18 and www.energystar.gov/hvacdesigntemps)
County & State, or US Territory, selected: Alachua, FL Cooling season: 91 °F Heating season: 33 °F -

3.4 Number of occupants used in loads: 6 -

3.5 Conditioned floor area used in loads: 1176 Sq. Ft. -

3.6 Window area used in loads: 114 Sq. Ft. -

3.7 Predominant window SHGC used in loads: 0.31 -

3.8 Infiltration rate used in loads: Summer: 0.23 Winter: 0.45 -

3.9 Mechanical ventilation rate used in loads: 79 CFM -

Loads At Design Conditions (kBtuh)

	N	NE	E	SE	S	SW	W	NW
--	---	----	---	----	---	----	---	----

Cooling	3.10 Sensible heat gain (By orientation)	21.2	21.2	21.2	21.2	21.2	21.2	21.2	-
	3.11 Latent heat gain (Not by orientation)	5.6							-
	3.12 Total heat gain (By orientation)	26.9	26.9	26.9	26.9	26.9	26.9	26.9	-
	3.13 Maximum – minimum total heat gain (Item 3.12) across orientations =	0 kBtuh							Variation is ≤ 6 kBtuh ☒
Heating	3.14 Total heat loss (Not by orientation)	19.9							-



ENERGY STAR Single-Family New Homes National HVAC Design Report, Version 3.1 /3.2 /3.3 (Rev. 14)

4. Heating & Cooling Equipment Selection						Designer Verified	
4.1 Equipment selected per ACCA Manual S (see Footnote 26 & 27).						☐	
Air Conditioner / Heat Pump (Complete if air conditioner or heat pump will be installed; otherwise check "N/A")						☐ N/A	
4.2 Equipment type: ☐ Cooling-only air conditioner or ☒ Cooling & heating heat pump						-	
4.3 Condenser manufacturer & model: Bryant 37MGRAQ30EA3						-	
4.4 Evaporator / fan coil manufacturer & model: Bryant 2 of 45MAHAQ12XA3 -1 of 45MAHAQ06XA3						-	
4.5 AHRI reference #: 215618863						-	
4.6 Rated cooling efficiency: 12.5 EER2/15.3 SEER2 Rated heating efficiency: 7.5 HSPF2							
4.7 Evaporator fan type: ☐ PSC ☐ ECM / ICM ☒ Other:						-	
4.8 Compressor type: ☐ Single-speed ☒ Two-speed ☐ Variable-speed						-	
4.9 Latent capacity at design conditions, from OEM expanded performance data: 5.8 kBtuh						-	
4.10 Sensible capacity at design conditions, from OEM expanded performance data: 18.9 kBtuh						-	
4.11 Total capacity at design conditions, from OEM expanded performance data: 24.8 kBtuh						-	
4.12 Air-source heat pump capacity: At 17°F: 8.9 kBtuh At 47°F: 16.7 kBtuh ☐ N/A						-	
4.13 Cooling sizing % = Total capacity (Item 4.11) divided by maximum total heat gain (Item 3.12): 92 %						-	
4.14 Complete this item if Condition B Climate will be used to select sizing limit in Item 4.15. Otherwise, check "N/A": ☒ N/A						-	
4.14.1 Load sensible heat ratio = Max. sensible heat gain (Item 3.10) / Max. total heat gain (Item 3.12) = 79%						-	
4.14.2 HDD / CDD ratio (Visit www.energystar.gov/hvacdesign temps to determine this value for the design location)= 0.2						-	
4.15 Check box of applicable cooling sizing limit from chart below:						-	
Equipment Type (Per Item 4.2) & Climate Condition (Per Item 4.14)		Compressor Type (Per Item 4.8)					
		Single-Speed		Two-Speed		Variable-Speed	
For Cooling-Only Equipment or For Cooling Mode of Heat Pump in Condition A Climate		☐ Recommended: 90 – 115% Allowed: 90 – 130%		☒ Recommended: 90 – 120% Allowed: 90 – 140%		☐ Recommended: 90 – 130% Allowed: 90 – 160%	
For Cooling Mode of Heat Pump in Condition B Climate		☐ 90% - 100%, plus 15 kBtuh		☐ 90% - 100%, plus 15 kBtuh		☐ 90% - 100%, plus 15 kBtuh	
4.16 Cooling sizing % (4.13) is within cooling sizing limit (4.15)						☒	
Furnace (Complete if furnace will be installed; otherwise check "N/A")						☒ N/A	
4.17 Furnace manufacturer & model:						-	
4.18 Rated heating efficiency: AFUE						-	
4.19 Total capacity: kBtuh						-	
4.20 Heating sizing % = Total capacity (Item 4.19) divided by total heat loss (Item 3.14): 0%						-	
4.21 Check box of applicable heating sizing limit from chart below:						-	
When Used for Heating Only		When Paired With Cooling					
☐ 100 - 140%		☐ Recommended: 100 – 140% Allowed: 100 – 400%					
4.22 Heating sizing % (4.20) is within heating sizing limit (4.21)						☐	
5. Duct Design (Complete if heating or cooling equipment will be installed with ducts; otherwise check "N/A")						☐ N/A	
5.1 Duct system designed for the equipment selected in Section 4, per ACCA Manual D						☒	
5.2 Design HVAC fan airflow: Cooling mode 1000 CFM Heating mode 1000 CFM						-	
5.3 Design HVAC fan speed setting (e.g., low, medium, high): Cooling mode Medium Heating mode Medium						-	
5.4 Design total external static pressure (corresponding to the mode with the higher airflow in Item 5.2): 0.5 IWC						-	
5.5 Room-by-room design airflows documented below (which must sum to the mode with the higher airflow in Item 5.2)						-	
Room Name		Design Airflow (CFM)		Room Name		Design Airflow (CFM)	
1	AC	1000		12		23	
2	Bath	0		13		24	
3	Bdrm	0		14		25	
4	Closet	0		15		26	
5	Family Rm	0		16		27	
6	Kitchen	0		17		28	
7	Laundry	0		18		29	
8				19		30	
9				20		31	
10				21		32	
11				22		Total for all rooms 1000	