



Manual S Compliance Report

Entire House

All-Rite Heating & Air Conditioning, Inc.

Job: Lance-Ft White Home
Date: 2-8-2022
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: Phillip Evans, Evans Construction, Inc.
14260 W Newberry Rd. Suite #237, Jonesville, FL 32669
Phone: 352-494-3545
Email: pdevans@gmail.com

Cooling Equipment

Design Conditions

Outdoor design DB:	90.6°F	Sensible gain:	19975 Btuh	Entering coil DB:	77.6°F
Outdoor design WB:	75.5°F	Latent gain:	5600 Btuh	Entering coil WB:	64.5°F
Indoor design DB:	75.0°F	Total gain:	25575 Btuh		
Indoor RH:	50%	Estimated airflow:	850 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	A4HP4030A1000*+A4AH4P30A1B60*
Actual airflow:	850 cfm		
Sensible capacity:	21066 Btuh	105% of load	
Latent capacity:	5380 Btuh	96% of load	
Total capacity:	26446 Btuh	103% of load	SHR: 80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	18202 Btuh	Entering coil DB:	64.1°F
Indoor design DB:	68.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	A4HP4030A1000*+A4AH4P30A1B60*
Actual airflow:	875 cfm		
Output capacity:	20895 Btuh	115% of load	Capacity balance: 23 °F
Supplemental heat required:	0 Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	875 cfm		
Output capacity:	0 kW	0% of load	Temp. rise: 0 °F

Meets all requirements of ACCA Manual S.



Right-Suite® Universal 2022 22.0.01 RSU06193

...2022 Lance Spec Home-Ft White - #1227 sq ft.rup Calc = MJ8 Front Door faces: S

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

Form
RPER 1
15 Mar 09

Header Information

Contractor: All-Rite Heating & Air Conditioning, Inc.
Mechanical license: Loren Walbaum
CMC1249660
Building plan #:
Home address (Street or Lot#, Block, Subdivision): 14260 W Newberry Rd. Suite #237, Entire House

REQUIRED ATTACHMENTS
Manual J1 Form (and supporting worksheets):
or MJ1AE Form* (and supporting worksheets):
OEM performance data (heating, cooling, blower):
Manual D Friction Rate Worksheet:
Duct distribution sketch:

ATTACHED
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature: 33 °F
Indoor temperature: 68 °F
Total heat loss: 18202 Btuh

Summer Design Conditions

Outdoor temperature: 91 °F
Indoor temperature: 75 °F
Grains difference: 45 gr/lb @50% RH
Sensible heat gain: 20894 Btuh
Latent heat gain: 5858 Btuh
Total heat gain: 26752 Btuh

Building Construction Information

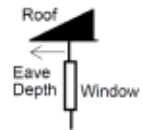
Building

Orientation: Front Door faces South
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms: 3
Conditioned floor area: 1226 ft²
Number of occupants: 6

Windows

Eave overhang depth: 2.0 ft
Internal shade: blinds, drapes
Number of skylights: 0



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: Split ASHP
Furnace, Heat pump, Boiler, etc.
Model: Trane
A4HP4030A1000*+A4AH4P30A1B60*
Heating output capacity: 20895 Btuh
Heat pumps - capacity at winter design outdoor conditions
Aux. heating output capacity: 0 Btuh

Cooling Equipment Data

Equipment type: Split ASHP
Air Conditioner, Heat pump, etc.
Model: Trane
A4HP4030A1000*+A4AH4P30A1B60*
Total cooling capacity: 26446 Btuh
Sensible cooling capacity: 21066 Btuh
Latent cooling capacity: 5380 Btuh

Blower Data

Heating cfm: 875
Cooling cfm: 850
Static pressure: 0.50 in H₂O
Fan's rated external static pressure for design airflow

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow:	875 cfm	Longest supply duct:	87 ft	Duct Materials Used	
Equipment design ESP:	0.50 in H ₂ O	Longest return duct:	46 ft	Trunk duct:	Round flex vinyl
Total device pressure losses:	-0.1 in H ₂ O	Total effective length (TEL):	133 ft	Branch duct:	Round flex vinyl
Available static pressure (ASP):	0.38 in H ₂ O	Friction rate:	0.286 in/100ft		

Friction Rate = ASP ÷ (TEL × 100)

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

Contractor's printed name: _____

Contractor's signature: _____ Date: _____

Reserved for County, Town Municipality or Authority having jurisdiction use.

*Home qualifies for MJ1AE Form based on Abridged Edition Checklist



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Phone: 352-494-3545
Email: pdevans@gmail.com

Notes: LANCE-Ft White Spec Home.14-Seer RunTru/Trane Equipment. Split System Heat
Pump.Cond-A4HP4030A1000*-28.6H x 34.3W x 34.3D-Max
Amp:25-A.H.-A4AH4P30A1B60*-45.02H x 18.5W x 21D-Heater-BAYHTR1508LUG*-Lines: 3/8"-3/4"

Design Information

Weather: Gainesville Regional, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

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

Heating Summary

Structure	11729 Btuh
Ducts	3356 Btuh
Central vent (82 cfm)	3117 Btuh
Outside air	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	18202 Btuh

Sensible Cooling Equipment Load Sizing

Structure	15109 Btuh
Ducts	3468 Btuh
Central vent (82 cfm)	1397 Btuh
Outside air	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.96
Equipment sensible load	19975 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2335 Btuh
Ducts	795 Btuh
Central vent (82 cfm)	2470 Btuh
Outside air	
Equipment latent load	5600 Btuh

	Heating	Cooling
Area (ft²)	1226	1226
Volume (ft³)	9808	9808
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	74	38

Equipment Total Load (Sen+Lat)	25575 Btuh
Req. total capacity at 0.70 SHR	2.4 ton

Heating Equipment Summary

Make	Trane
Trade	RunTru-Trane
Model	A4HP4030A1000*
AHRI ref	204631558
Efficiency	8.5 HSPF
Heating input	
Heating output	26600 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	875 cfm
Air flow factor	0.058 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 23 °F	
Backup:	
Input = 0 kW, Output = 0 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Trane
Trade	RunTru-Trane
Cond	A4HP4030A1000*
Coil	A4AH4P30A1B60*
AHRI ref	204631558
Efficiency	11.5 EER, 14 SEER
Sensible cooling	19040 Btuh
Latent cooling	8160 Btuh
Total cooling	27200 Btuh
Actual air flow	850 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.78

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



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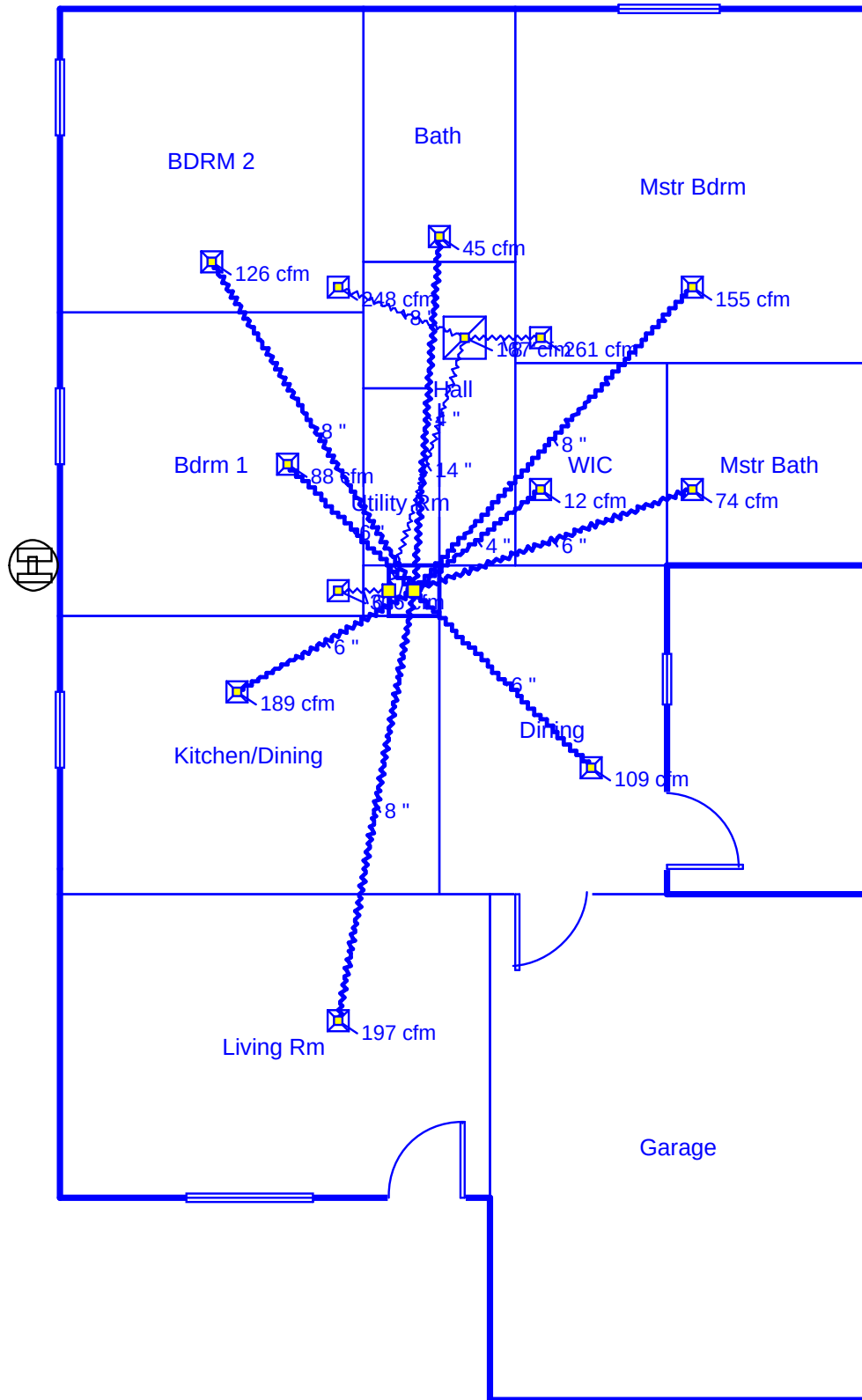
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...2022 Lance Spec Home-Ft White - #1227 sq ft.rup Calc = M38 Front Door faces: S



Sheet 1



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Performed by Loren Walbaum for:

Phillip Evans
14260 W Newberry Rd. Suite #237
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Phone: 352-494-3545
pdevans@gmail.com

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Scale: 1 : 80

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... Home-Ft White - #1227 sq ft.rup



Duct System Summary

Entire House

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	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0.12 in H ₂ O	0.12 in H ₂ O
Available static pressure	0.38 in H ₂ O	0.38 in H ₂ O
Supply / return available pressure	0.249 / 0.131 in H ₂ O	0.249 / 0.131 in H ₂ O
Lowest friction rate	0.286 in/100ft	0.286 in/100ft
Actual air flow	875 cfm	850 cfm
Total effective length (TEL)	133 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
BDRM 2	h 2177	126	95	0.292	8.0	0x0	VIFx	15.3	70.0	
Bath	c 974	34	45	0.296	4.0	0x0	VIFx	14.0	70.0	
Bdrm 1	h 1515	88	83	0.323	6.0	0x0	VIFx	7.1	70.0	
Dining	h 1877	109	84	0.312	6.0	0x0	VIFx	9.9	70.0	
Kitchen/Dining	c 4135	79	189	0.319	6.0	0x0	VIFx	8.1	70.0	
Living Rm	h 3399	197	147	0.286	8.0	0x0	VIFx	17.3	70.0	
Mstr Bath	h 1274	74	72	0.305	6.0	0x0	VIFx	11.7	70.0	
Mstr Bdrm	h 2680	155	128	0.289	8.0	0x0	VIFx	16.3	70.0	
WIC	h 202	12	9	0.326	4.0	0x0	VIFx	6.4	70.0	

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
rb3	0x0	153	261	43.4	0.301	747	8.0	0x 0		VIFx	rt1
rb4	0x0	248	223	45.8	0.286	712	8.0	0x 0		VIFx	rt1
rb2	0x0	306	230	32.0	0.409	1558	6.0	0x 0		VIFx	
rb1	0x0	167	136	35.4	0.369	479	8.0	0x 0		VIFx	rt1

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	569	620	0.286	580	14.0	0 x 0	VinIFlx	