Load Short Form
Entire House
High Springs Electric

Job:
Date: Apr 26, 2024
By: Donna Brackeen
Plan: Suwannee Classic

Project Information

For: Salemi/Russell Residence, Red Door Homes
398 SW Sandersway, Fort White, FL

Design Information

	Htg	Clg
Outside db (°F)	33	92
Inside db (°F)	68	75
Design TD (°F)	35	17
Daily range	-	M
Inside humidity (%)	50	50
Moisture difference (gr/lb)	29	43

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

HEATING EQUIPMENT

Make	Trane
Trade	TRANE
Model	4TWR4018G1
AHRI ref	212612025

Efficiency	7.5 HSPF2	
Heating input		
Heating output	16800	Btuh @ 47°F
Temperature rise	0	°F
Actual air flow	0	cfm
Air flow factor	0	cfm/Btuh
Static pressure	0.50	in H2O
Space thermostat		

Capacity balance point = 34 °F

COOLING EQUIPMENT

Make	Trane
Trade	TRANE
Cond	4TWR4018G1
Coil	TEM8A0B30V31++TDR
AHRI ref	212612025

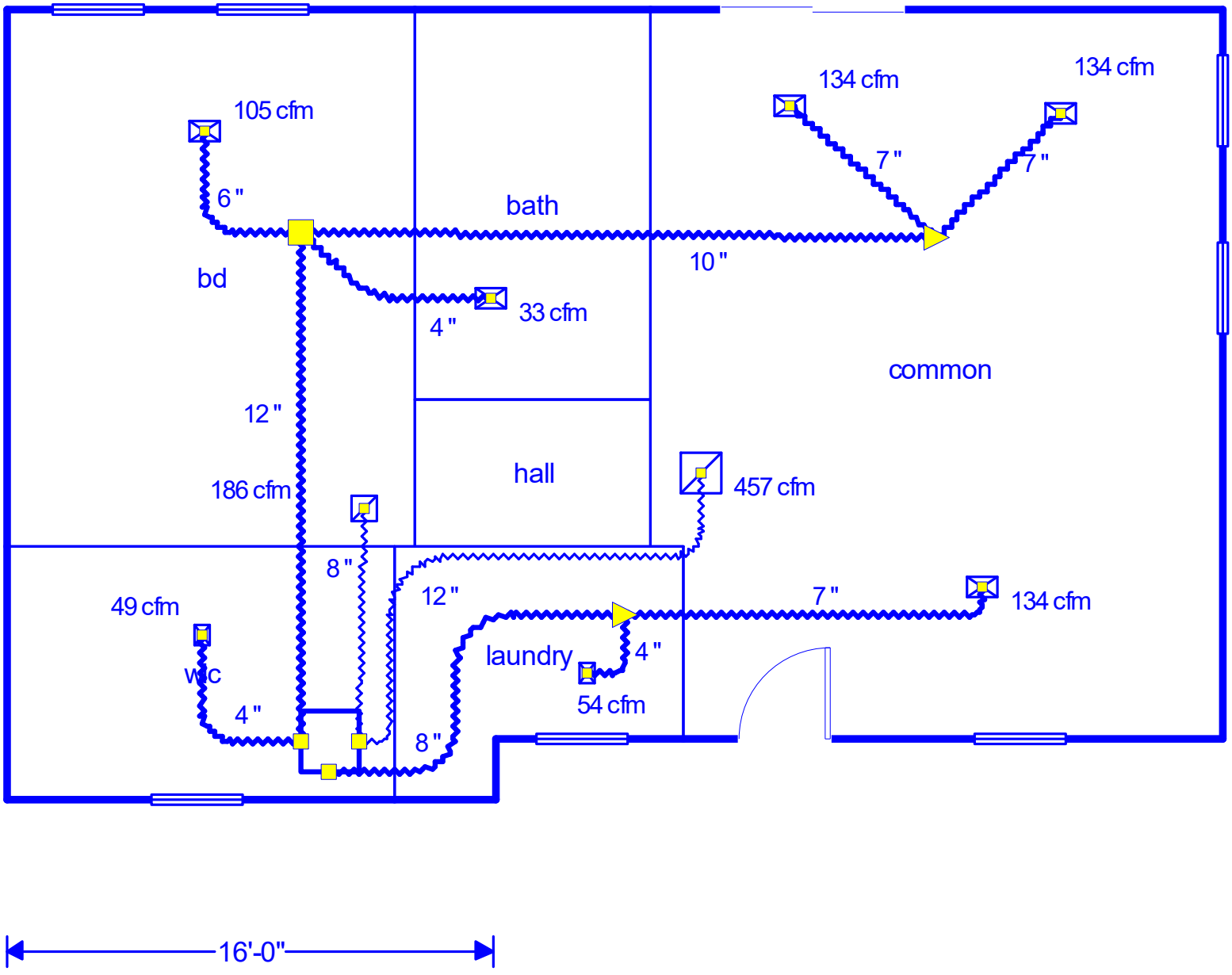
Efficiency	11.7 EER2,14.3 SEER2	
Sensible cooling	13510	Btuh
Latent cooling	5790	Btuh
Total cooling	19300	Btuh
Actual air flow	643	cfm
Air flow factor	0.042	cfm/Btuh
Static pressure	0.50	in H2O
Load sensible heat ratio	0.86	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
bd	237	3513	2508	0	105
bath	99	846	777	0	33
hall	37	0	0	0	0
wic	106	2245	1169	0	49
laundry	67	1259	1301	0	54
common	445	9416	9609	0	402

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

Entire House	992	17279	15364	0	643
Other equip loads		0	0		
Equip. @ 0.97 RSM			14965		
Latent cooling			2491		
TOTALS	992	17279	17456	0	643

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



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Manual S Compliance Report
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Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	15364	Btuh	Entering coil DB:	77.0°F
Outdoor design WB:	75.8°F	Latent gain:	2491	Btuh	Entering coil WB:	63.5°F
Indoor design DB:	75.0°F	Total gain:	17856	Btuh		
Indoor RH:	50%	Estimated airflow:	643	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane		Model:	4TWR4018G1+TEM8A0B30V31++TDR	
Actual airflow:	643	cfm			
Sensible capacity:	13510	Btuh	88% of load		
Latent capacity:	5790	Btuh	232% of load		
Total capacity:	19300	Btuh	108% of load	SHR:	70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	17279	Btuh	Entering coil DB:	68.0°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP					
Manufacturer:	Trane		Model:	4TWR4018G1+TEM8A0B30V31++TDR		
Actual airflow:	0	cfm				
Output capacity:	16800	Btuh	97% of load		Capacity balance:	34 °F
Supplemental heat required:	479	Btuh			Economic balance:	-99 °F

Meets all requirements of ACCA Manual S.

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Duct System Summary
Entire House
High Springs Electric

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Project Information

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	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0.18 in H2O	0.18 in H2O
Available static pressure	0.32 in H2O	0.32 in H2O
Supply / return available pressure	0.196 / 0.124 in H2O	0.196 / 0.124 in H2O
Lowest friction rate	0.127 in/100ft	0.127 in/100ft
Actual air flow	0 cfm	643 cfm
Total effective length (TEL)	252 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
bath	c 777	0	33	0.165	4.0	0x 0	VlFx	23.9	95.0	st2
bd	c 2508	0	105	0.166	6.0	0x 0	VlFx	23.3	95.0	st2
common	c 3204	0	134	0.148	7.0	0x 0	VlFx	27.6	105.0	st1
common-A	c 3203	0	134	0.127	7.0	0x 0	VlFx	44.2	110.0	st3
common-B	c 3203	0	134	0.128	7.0	0x 0	VlFx	43.4	110.0	st3
laundry	c 1301	0	54	0.159	4.0	0x 0	VlFx	18.1	105.0	st1
wic	c 1169	0	49	0.240	4.0	0x 0	VlFx	6.8	75.0	

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	0	189	0.148	540	8.0	0 x 0	VinlFlx	
st3	Peak AVF	0	268	0.127	491	10.0	0 x 0	VinlFlx	st2
st2	Peak AVF	0	406	0.127	516	12.0	0 x 0	VinlFlx	

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	16x 13	0	457	65.1	0.191	581	12.0	0x 0		VlFx	
rb2	10x 9	0	186	97.7	0.127	534	8.0	0x 0		VlFx	