



Load Short Form
Entire House
High Springs Electric

Job:
Date: Oct 12, 2023
By: Donna Brackeen

Project Information

For: Hollingsworth Residence, John Norris Construction
Columbia County, FL

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	68	75	Construction quality	Average
Design TD (°F)	35	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	29	44		

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model 4TWR4024N1
AHRI ref 209323523
Efficiency 7.5 HSPF2
Heating input
Heating output 22000 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 = 31 °F

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 4TWR4024N1
Coil TAM9A0B30V31
AHRI ref 209323523
Efficiency 11.7 EER2, 14.3 SEER2
Sensible cooling 16800 Btuh
Latent cooling 7200 Btuh
Total cooling 24000 Btuh
Actual air flow 800 cfm
Air flow factor 0.046 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.82

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
m bath	81	1989	965	0	44
wic	62	905	367	0	17
ac	12	0	0	0	0
bd2	172	3284	2237	0	103
hall	48	0	0	0	0
m bd	206	2132	2412	0	111
bath	48	139	422	0	19
laundry	70	1296	1342	0	62
common area	470	8255	9691	0	445

Bold/italic values have been manually overridden

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

Entire House	1169	18000	17436	0	800
Other equip loads		1683	832		
Equip. @ 0.97 RSM			17756		
Latent cooling			4005		
TOTALS	1169	19683	21761	0	800

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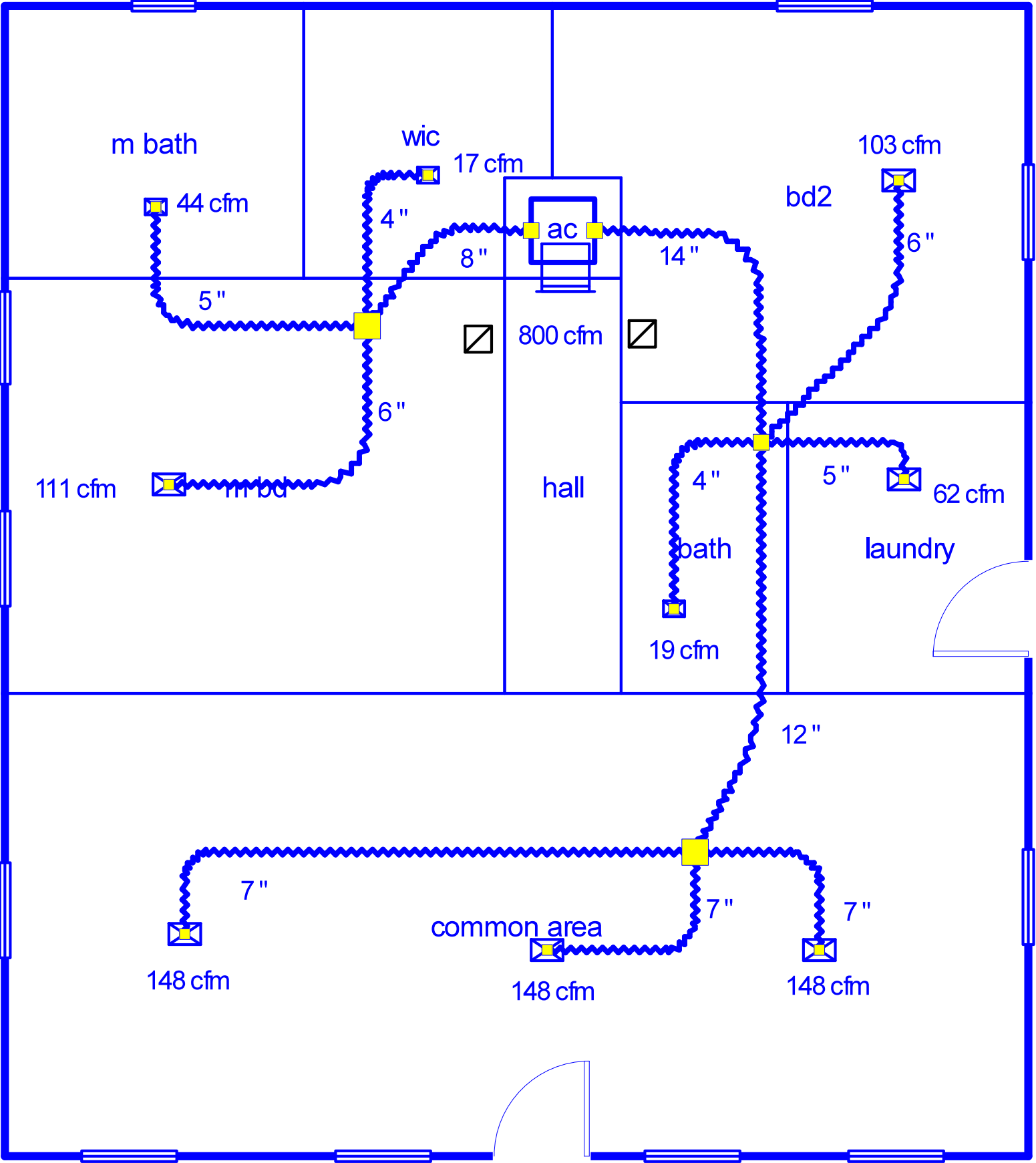


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Manual S Compliance Report

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	18268	Btuh	Entering coil DB:	77.7°F
Outdoor design WB:	75.8°F	Latent gain:	4005	Btuh	Entering coil WB:	64.2°F
Indoor design DB:	75.0°F	Total gain:	22273	Btuh		
Indoor RH:	50%	Estimated airflow:	800	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Trane	Model:	4TWR4024N1+TAM9A0B30V31	
Actual airflow:	800	cfm		
Sensible capacity:	16800	Btuh	92% of load	
Latent capacity:	7200	Btuh	180% of load	
Total capacity:	24000	Btuh	108% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	19683	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:	4TWR4024N1+TAM9A0B30V31	
Actual airflow:	0	cfm		
Output capacity:	22000	Btuh	112% of load	Capacity balance: 31 °F
Supplemental heat required:	0	Btuh		Economic balance: -99 °F

Meets all requirements of ACCA Manual S.



Duct System Summary

Entire House

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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	0.160 / 0.160 in H2O	0.160 / 0.160 in H2O
Lowest friction rate	0.190 in/100ft	0.190 in/100ft
Actual air flow	0 cfm	800 cfm
Total effective length (TEL)	169 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 422	0	19	0.267	4.0	0x 0	VIFx	19.8	100.0	st1
bd2	c 2237	0	103	0.263	6.0	0x 0	VIFx	21.8	100.0	st1
common area	c 3231	0	148	0.190	7.0	0x 0	VIFx	43.9	125.0	st3
common area-A	c 3230	0	148	0.203	7.0	0x 0	VIFx	32.9	125.0	st3
common area-B	c 3230	0	148	0.204	7.0	0x 0	VIFx	32.2	125.0	st3
laundry	c 1342	0	62	0.273	5.0	0x 0	VIFx	17.4	100.0	st1
m bath	c 965	0	44	0.273	5.0	0x 0	VIFx	17.2	100.0	st2
m bd	c 2412	0	111	0.271	6.0	0x 0	VIFx	18.0	100.0	st2
wic	c 367	0	17	0.282	4.0	0x 0	VIFx	13.4	100.0	st2

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	0	445	0.190	566	12.0	0 x 0	VinIFlx	st1
st1	Peak AVF	0	628	0.190	588	14.0	0 x 0	VinIFlx	
st2	Peak AVF	0	172	0.271	492	8.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden

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	0 x 0	0	800	0	0	0	0	0 x 0		VIFx	