

Project Information

For: Parker Residence
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 211068818
Efficiency 7.5 HSPF2
Heating input
Heating output 23200 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 = 23 °F

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 4TWR4024N1
Coil TEM4A0B18S21++TDR
AHRI ref 211068818
Efficiency 11.7 EER2, 14.3 SEER2
Sensible cooling 16240 Btuh
Latent cooling 6960 Btuh
Total cooling 23200 Btuh
Actual air flow 773 cfm
Air flow factor 0.044 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)
laundry	78	2876	1921	0	85
common area	419	6115	9541	0	420
bd2	149	1467	2168	0	96
wic2	23	917	308	0	14
bath2	43	784	588	0	26
bd1	151	1613	1952	0	86
wic1	26	966	326	0	14
bath1	77	1108	740	0	33
ah	10	0	0	0	0

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

Entire House	977	15845	17543	0	773
Other equip loads		0	0		
Equip. @ 0.97 RSM			17052		
Latent cooling			2856		
TOTALS	977	15845	19909	0	773

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



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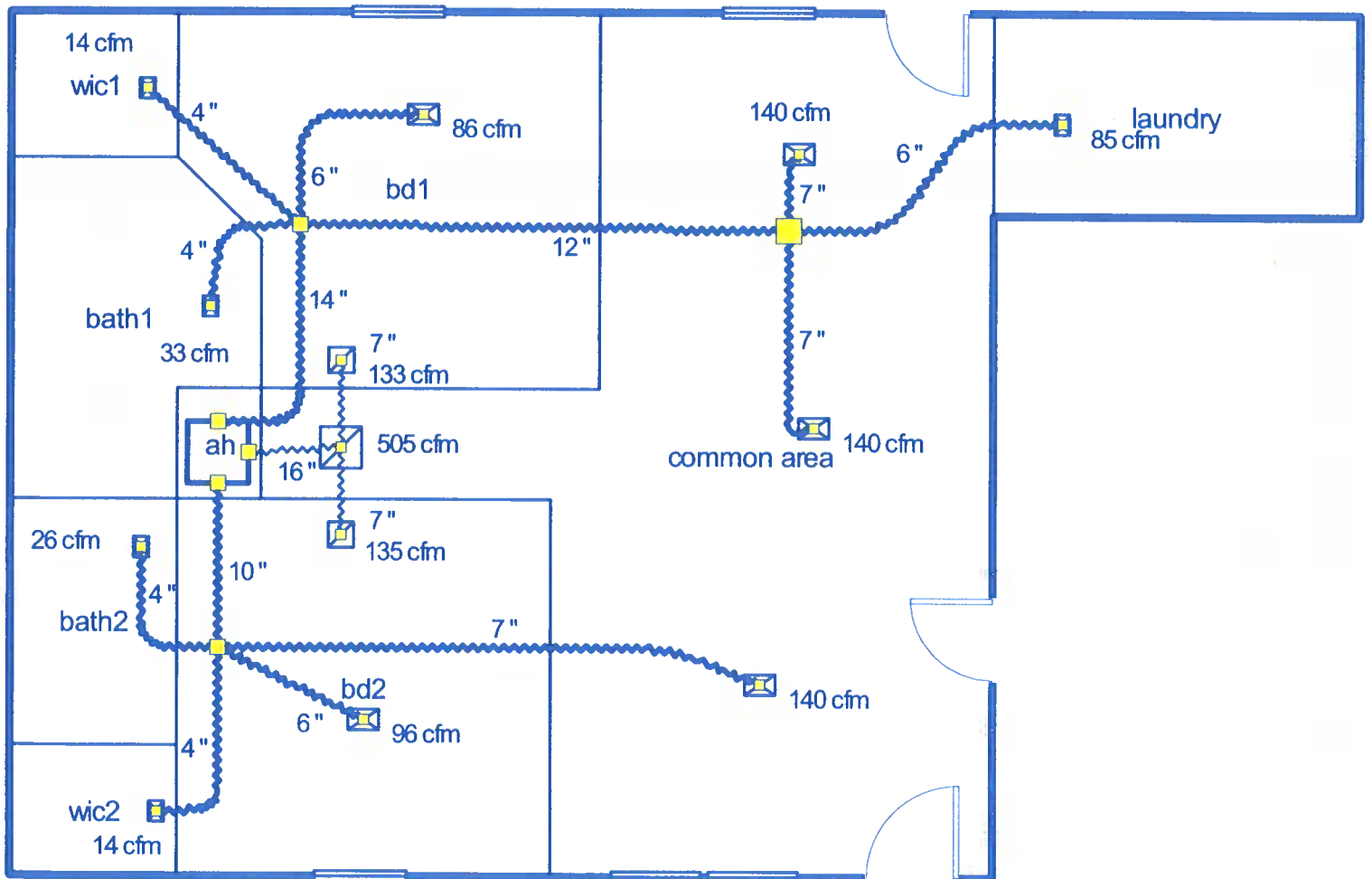
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Manual S Compliance Report

Entire House

High Springs Electric

Job:
Date: Jan 24, 2024
By: Donna Brackeen

Project Information

For: Parker Residence
Columbia County, FL

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	17543	Btuh	Entering coil DB:	76.7°F
Outdoor design WB:	75.8°F	Latent gain:	2856	Btuh	Entering coil WB:	63.3°F
Indoor design DB:	75.0°F	Total gain:	20400	Btuh		
Indoor RH:	50%	Estimated airflow:	773	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4024N1+TEM4A0B18S21++TDR
Actual airflow:	773	cfm	
Sensible capacity:	16240	Btuh	93% of load
Latent capacity:	6960	Btuh	244% of load
Total capacity:	23200	Btuh	114% of load SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	15845	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+TEM4A0B18S21++TDR
Actual airflow:	0	cfm	
Output capacity:	23200	Btuh	146% of load
Supplemental heat required:	0	Btuh	
Capacity balance:	23	°F	
Economic balance:	-99	°F	

Meets all requirements of ACCA Manual S.



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Duct System Summary

Entire House

High Springs Electric

Job:
Date: Jan 24, 2024
By: Donna Brackeen

Project Information

For: Parker Residence
Columbia County, FL

	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	0.252 / 0.068 in H2O	0.252 / 0.068 in H2O
Lowest friction rate	0.157 in/100ft	0.157 in/100ft
Actual air flow	0 cfm	773 cfm
Total effective length (TEL)	204 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
bath1	c 740	0	33	0.221	4.0	0x0	VIFx	14.3	100.0	st1
bath2	c 588	0	26	0.238	4.0	0x0	VIFx	11.1	95.0	st2
bd1	c 1952	0	86	0.216	6.0	0x0	VIFx	16.7	100.0	st1
bd2	c 2168	0	96	0.251	6.0	0x0	VIFx	10.6	90.0	st2
common area	c 3181	0	140	0.166	7.0	0x0	VIFx	32.5	120.0	st3
common area-A	c 3180	0	140	0.171	7.0	0x0	VIFx	27.6	120.0	st3
common area-B	c 3180	0	140	0.214	7.0	0x0	VIFx	23.2	95.0	st2
laundry	c 1921	0	85	0.157	6.0	0x0	VIFx	35.7	125.0	st3
wic1	c 326	0	14	0.228	4.0	0x0	VIFx	15.8	95.0	st1
wic2	c 308	0	14	0.235	4.0	0x0	VIFx	12.6	95.0	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
st2	Peak AVF	0	275	0.214	504	10.0	0 x 0	VinIFx	st1
st3	Peak AVF	0	365	0.157	465	12.0	0 x 0	VinIFx	
st1	Peak AVF	0	498	0.157	466	14.0	0 x 0	VinIFx	



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	0x 0	0	135	35.8	0.188	505	7.0	0x 0		VIFx	rt1
rb2	0x 0	0	133	35.8	0.188	498	7.0	0x 0		VIFx	rt1
rb1	0x 0	0	505	43.0	0.157	472	14.0	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	PeakAVF	0	773	0.157	554	16.0	0 x 0	VinIFix	