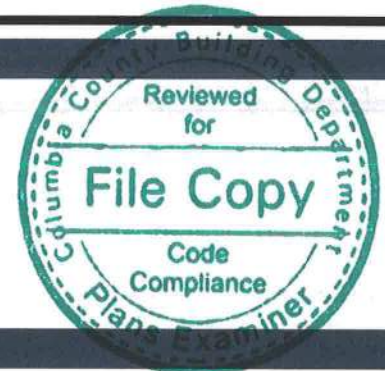


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Project Information

For: 359 SW Heathridge
359 SW Heathridge, Lake City, FL 32025

Notes:



Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

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

Summer Design Conditions

Outside db 92 °F
Inside db 75 °F
Design TD 17 °F
Daily range M
Relative humidity 50 %
Moisture difference 43 gr/lb

Heating Summary

Structure 23548 Btuh
Ducts 3946 Btuh
Central vent (0 cfm) 0 Btuh
(none)
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 27494 Btuh

Sensible Cooling Equipment Load Sizing

Structure 19314 Btuh
Ducts 5972 Btuh
Central vent (0 cfm) 0 Btuh
(none)
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 24629 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 2352 Btuh
Ducts 1248 Btuh
Central vent (0 cfm) 0 Btuh
(none)
Equipment latent load 3599 Btuh

	Heating	Cooling
Area (ft²)	1702	1702
Volume (ft³)	15817	15817
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	100	53

Equipment Total Load (Sen+Lat) 28228 Btuh
Req. total capacity at 0.80 SHR 2.6 ton

Heating Equipment Summary

Make Goodman Mfg.
Trade GOODMAN
Model GSZB403610A
AHRI ref 210318839
Efficiency 7.5 HSPF2
Heating input 33600 Btuh @ 47°F
Heating output 27 °F
Temperature rise 1120 cfm
Actual air flow 0.041 cfm/Btuh
Air flow factor 0.53 in H2O
Static pressure
Space thermostat
Capacity balance point = 29 °F
Backup:
Input = 8 kW, Output = 27318 Btuh, 100 AFUE

Cooling Equipment Summary

Make Goodman Mfg.
Trade GOODMAN
Cond GSZB403610A
Coil AMST36BU1400A
AHRI ref 210318839
Efficiency 12.0 EER2, 14.3 SEER2
Sensible cooling 26880 Btuh
Latent cooling 6720 Btuh
Total cooling 33600 Btuh
Actual air flow 1120 cfm
Air flow factor 0.044 cfm/Btuh
Static pressure 0.53 in H2O
Load sensible heat ratio 0.88

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

Project Information

For: 359 SW Heathridge
359 SW Heathridge, Lake City, FL 32025

	Heating	Cooling
External static pressure	0.53 in H ₂ O	0.53 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.53 in H ₂ O	0.53 in H ₂ O
Supply / return available pressure	0.325 / 0.205 in H ₂ O	0.325 / 0.205 in H ₂ O
Lowest friction rate	0.253 in/100ft	0.253 in/100ft
Actual air flow	1120 cfm	1120 cfm
Total effective length (TEL)	210 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 2	h 668	27	13	0.263	4.0	0x0	VIFx	28.3	95.0	st2
BED 2	h 3578	146	97	0.253	7.0	0x0	VIFx	33.5	95.0	st2
BED 3	h 3828	156	96	0.253	7.0	0x0	VIFx	33.5	95.0	st2
CLST	h 891	36	28	0.327	4.0	0x0	VIFx	9.3	90.0	st3
DINING	c 2533	98	112	0.287	6.0	0x0	VIFx	23.3	90.0	st3
FOYER	c 1049	43	46	0.301	5.0	0x0	VIFx	17.9	90.0	st3
GREAT RM	c 2648	54	117	0.296	6.0	0x0	VIFx	19.7	90.0	st3
GREAT RM-A	c 2648	54	117	0.319	6.0	0x0	VIFx	11.7	90.0	st3
KITCHEN	c 2793	31	124	0.313	7.0	0x0	VIFx	13.8	90.0	st3
LDY	c 956	35	42	0.288	4.0	0x0	VIFx	22.7	90.0	st1
MBATH	h 2263	92	41	0.263	6.0	0x0	VIFx	33.7	90.0	st1
MBED	h 2813	115	96	0.284	6.0	0x0	VIFx	24.4	90.0	st1
MPWD	h 581	24	9	0.256	4.0	0x0	VIFx	37.1	90.0	st1
MWIC	h 1966	80	28	0.266	6.0	0x0	VIFx	32.1	90.0	st1
PAN	h 979	40	32	0.329	4.0	0x0	VIFx	8.9	90.0	st3
STUDY	c 2708	89	120	0.318	7.0	0x0	VIFx	12.1	90.0	st3

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	329	207	0.253	419	12.0	0 x 0	VinIFix	
st3	Peak AVF	446	697	0.287	499	16.0	0 x 0	VinIFix	
st1	Peak AVF	345	216	0.256	439	12.0	0 x 0	VinIFix	

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
rb2	0x0	311	174	56.4	0.364	569	10.0	0x 0		VIFx	
rb5	0x0	125	148	80.5	0.255	555	7.0	0x 0		VIFx	rt1
rb4	0x0	146	97	76.6	0.268	545	7.0	0x 0		VIFx	rt1
rb3	0x0	156	96	81.1	0.253	583	7.0	0x 0		VIFx	rt1
rb1	0x0	383	604	43.2	0.475	565	14.0	0x 0		VIFx	

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	427	342	0.253	543	12.0	0 x 0	VinIFlx	

Project Information

For: 359 SW Heathridge
359 SW Heathridge, Lake City, FL 32025

Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	25286	Btuh	Entering coil DB:	77.9°F
Outdoor design WB:	75.8°F	Latent gain:	3599	Btuh	Entering coil WB:	63.9°F
Indoor design DB:	75.0°F	Total gain:	28885	Btuh		
Indoor RH:	50%	Estimated airflow:	1120	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Goodman Mfg.	Model:	GSZB403610A+AMST36BU1400A
Actual airflow:	1120	cfm	
Sensible capacity:	28154	Btuh	111% of load
Latent capacity:	4770	Btuh	133% of load
Total capacity:	32924	Btuh	114% of load SHR: 86%

Heating Equipment

Design Conditions

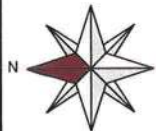
Outdoor design DB:	33.3°F	Heat loss:	27494	Btuh	Entering coil DB:	68.6°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

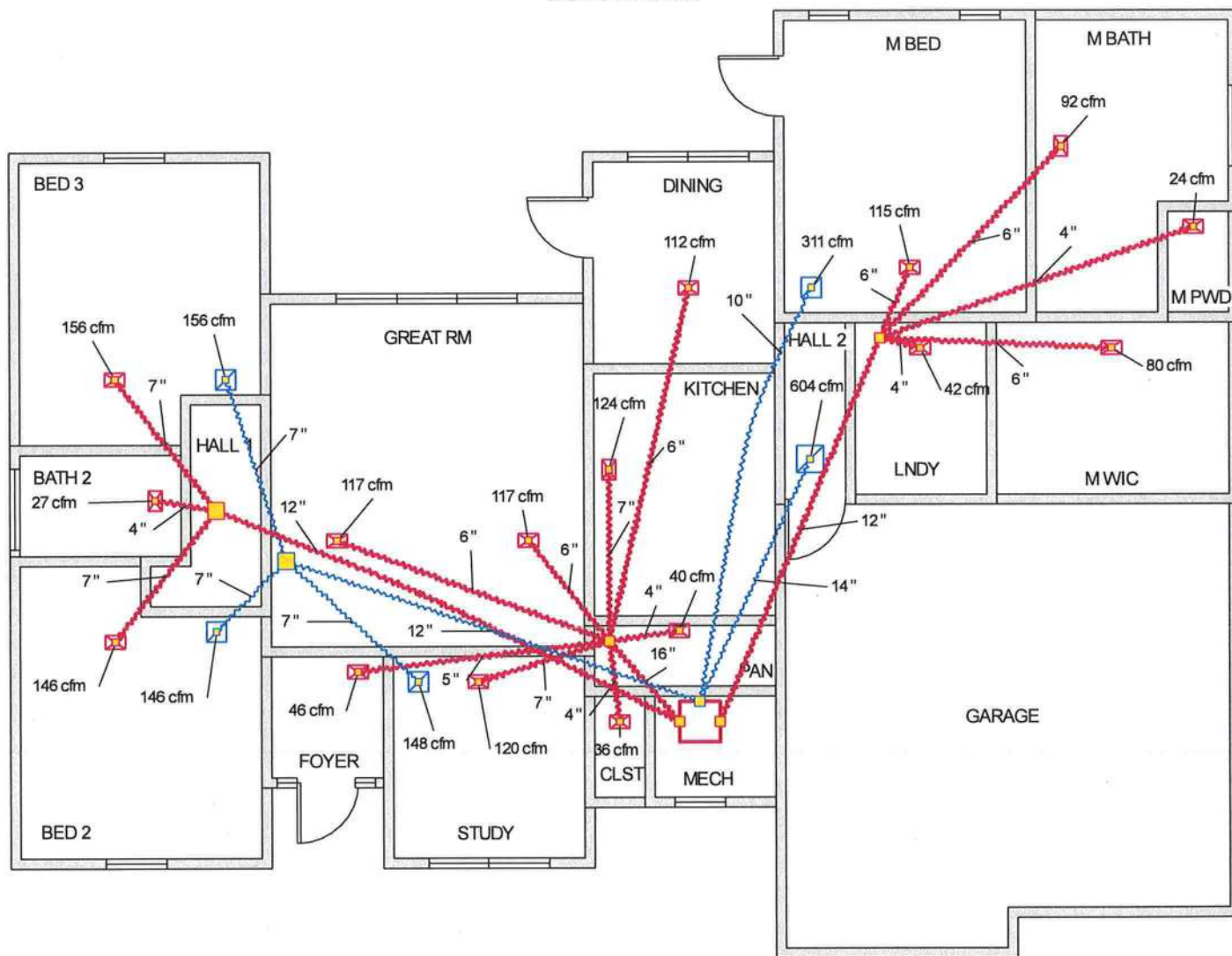
Equipment type:	Split ASHP		
Manufacturer:	Goodman Mfg.	Model:	GSZB403610A+AMST36BU1400A
Actual airflow:	1120	cfm	
Output capacity:	33600	Btuh	122% of load
Supplemental heat required:	0	Btuh	
Capacity balance:	29	°F	
Economic balance:	-99	°F	

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1120	cfm	
Output capacity:	8.0	KW	99% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



DUCT DESIGN



Job #: J-9820 - C-1304 Rev
Performed by LaTisha Furmon for:
359 SW Heathridge
359 SW Heathridge
Lake City, FL 32025

Scale: 1 : 101

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