



Manual S Compliance Report
Entire House
 Bounds Heating&Air

Job:
 Date: Sep 05, 2019
 By:

Newberry, FL

Project Information

For: Peter & Rachele Kolacia, Harvey builders
 554 SW lime way, Fort White, FL

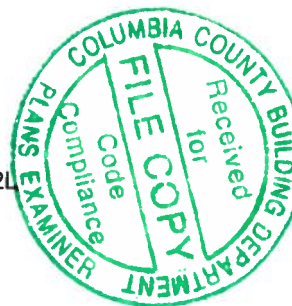
Cooling Equipment

Design Conditions

Outdoor design DB: 92.0°F	Sensible gain: 27407 Btuh	Entering coil DB: 77.2°F
Outdoor design WB: 76.3°F	Latent gain: 4131 Btuh	Entering coil WB: 63.6°F
Indoor design DB: 75.0°F	Total gain: 31538 Btuh	
Indoor RH: 50%	Estimated airflow: 1333 cfm	

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
 Manufacturer: Carrier Model: CH14NB04200G0A0+FB4CNP042L
 Actual airflow: 1333 cfm
 Sensible capacity: 28000 Btuh 102% of load
 Latent capacity: 12000 Btuh 290% of load
 Total capacity: 40000 Btuh 127% of load SHR: 70%



Heating Equipment

Design Conditions

Outdoor design DB: 33.4°F	Heat loss: 35320 Btuh	Entering coil DB: 68.9°F
Indoor design DB: 70.0°F		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
 Manufacturer: Carrier Model: CH14NB04200G0A0+FB4CNP042L
 Actual airflow: 1333 cfm
 Output capacity: 41000 Btuh 116% of load Capacity balance: 30 °F
 Supplemental heat required: 0 Btuh Economic balance: -99 °F

Backup equipment type: Elec strip
 Manufacturer: Model:
 Actual airflow: 1333 cfm
 Output capacity: 0 kW 0% of load Temp. rise: 0 °F

Meets all requirements of ACCA Manual S.



Load Short Form
Entire House
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Design Information

	Htg	Clg	Method	Infiltration	Simplified
Outside db (°F)	33	92	Construction quality		Semi-tight
Inside db (°F)	70	75	Fireplaces		1 (Semi-tight)
Design TD (°F)	37	17			
Daily range	-	M			
Inside humidity (%)	30	50			
Moisture difference (gr/lb)	10	47			

HEATING EQUIPMENT

Make Carrier
 Trade CARRIER
 Model CH14NB04200G0A0
 AHRI ref 9162578

Efficiency 8.2 HSPF
 Heating input
 Heating output 41000 Btuh @ 47°F
 Temperature rise 28 °F
 Actual air flow 1333 cfm
 Air flow factor 0.038 cfm/Btuh
 Static pressure 0.50 in H2O
 Space thermostat
 Capacity balance point = 30 °F

COOLING EQUIPMENT

Make Carrier
 Trade CARRIER
 Cond CH14NB04200G0A0
 Coil FB4CNP042L
 AHRI ref 9162578

Efficiency 11.5 EER, 14 SEER
 Sensible cooling 28000 Btuh
 Latent cooling 12000 Btuh
 Total cooling 40000 Btuh
 Actual air flow 1333 cfm
 Air flow factor 0.049 cfm/Btuh
 Static pressure 0.50 in H2O
 Load sensible heat ratio 0.87

Backup:
 Input = 0 kW, Output = 0 Btuh, 100 AFUE

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Master bedroom	225	5040	3559	190	173
Master bath	103	1224	578	46	28
master toilet	20	30	50	1	2
Master WIC	88	820	426	31	21
Mudd room	171	3900	3448	147	168
A/H	20	0	0	0	0
Great room	601	5915	5770	223	281
Kitchen	310	4359	5152	165	251
Office	152	3751	1979	142	96
Bedroom 2	195	2096	1677	79	82
Bath room 2	91	1068	527	40	26
Bedroom 3	195	5227	3525	197	171
Hallway	29	0	0	0	0
Spare bath	39	1890	717	71	35

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



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Entire House	d	2239	35320	27407	1333	1333
Other equip loads			0	0		
Equip. @ 0.97 RSM				26585		
Latent cooling				4131		
TOTALS		2239	35320	30716	1333	1333

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Page 2



Project Summary
Entire House
Bounds Heating&Air

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Newberry, FL

Project Information

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 554 SW lime way, Fort White, FL

Notes:

Design Information

Weather: Gainesville Regional AP, 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 47 gr/lb

Heating Summary

Structure 27425 Btuh
 Ducts 7895 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 35320 Btuh

Sensible Cooling Equipment Load Sizing

Structure 17616 Btuh
 Ducts 9791 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.97
 Equipment sensible load 26585 Btuh

Infiltration

Method Simplified
 Construction quality Semi-tight
 Fireplaces 1 (Semi-tight)

	Heating	Cooling
Area (ft²)	2239	2239
Volume (ft³)	20147	20147
Air changes/hour	0.26	0.11
Equiv. AVF (cfm)	87	37

Latent Cooling Equipment Load Sizing

Structure 1984 Btuh
 Ducts 2147 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Equipment latent load 4131 Btuh
Equipment Total Load (Sen+Lat) 30716 Btuh
 Req. total capacity at 0.70 SHR 3.2 ton

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 Heating output
 Temperature rise 28 °F
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 Capacity balance point = 30 °F

Cooling Equipment Summary

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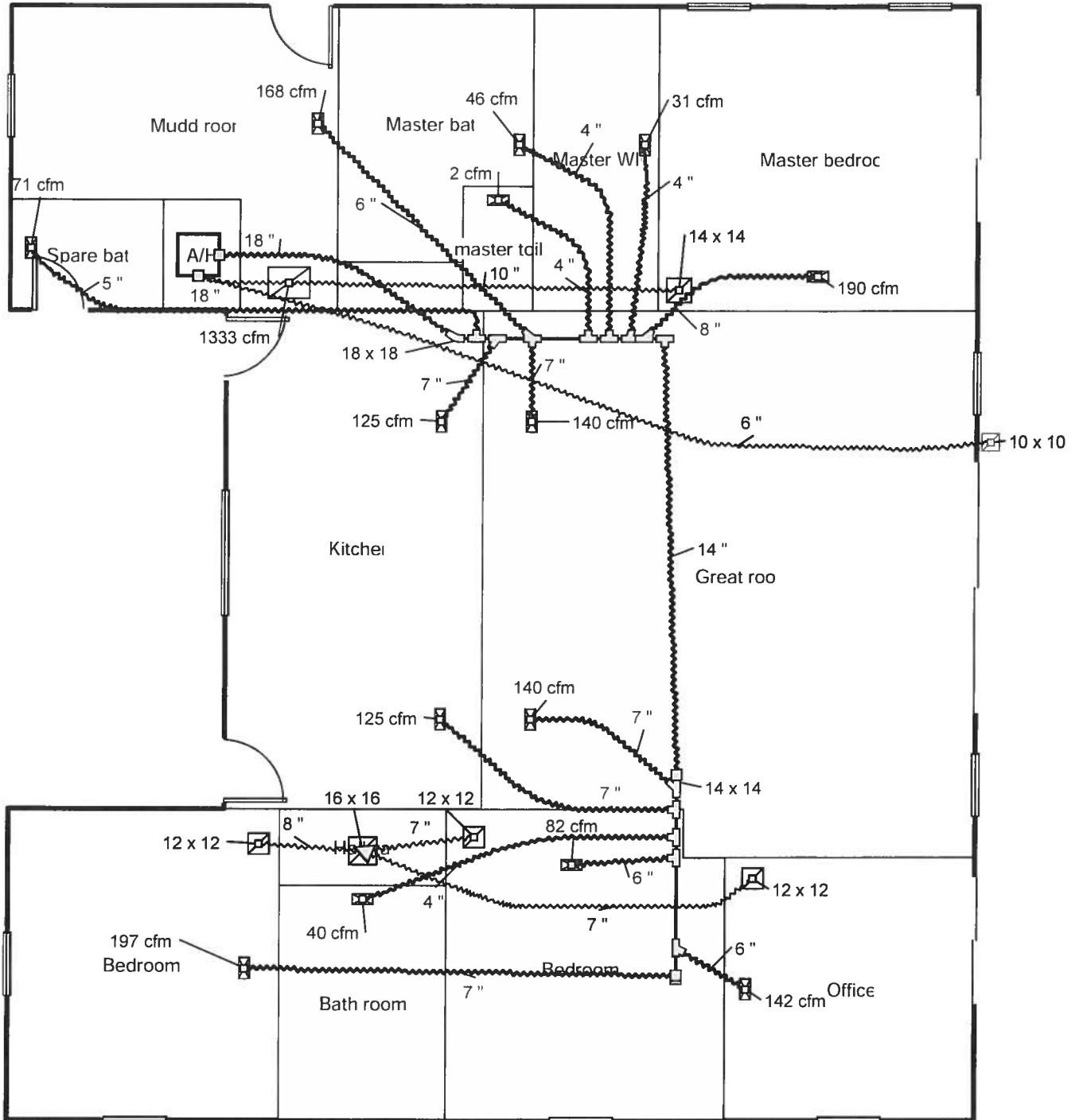
Backup:
 Input = 0 kW, Output = 0 Btuh, 100 AFUE

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





Level 1



Job #:
Performed for:
Peter & Rachelle Kolacia
554 SW lime way
Fort White, FL

Bounds Heating&Air

Newberry, FL

Scale: 1 : 85

Page 1
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Duct System Summary

Entire House

Bounds Heating&Air

Job:
Date: Sep 05, 2019
By:

Newberry, FL

Project Information

For: Peter & Rachelle Kolacia, Harvey builders
554 SW lime way, Fort White, FL

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.50 in H2O	0.50 in H2O
Supply / return available pressure	0.422 / 0.078 in H2O	0.422 / 0.078 in H2O
Lowest friction rate	0.099 in/100ft	0.099 in/100ft
Actual air flow	1333 cfm	1333 cfm
Total effective length (TEL)		507 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 room 2	h 1068	40	26	0.099	4.0	0x 0	VIFx	62.2	365.0	st4
Bedroom 2	c 1677	79	82	0.107	6.0	0x 0	VIFx	52.6	340.0	st4
Bedroom 3	h 5227	197	171	0.107	7.0	0x 0	VIFx	73.9	320.0	st4
Great room	c 2885	112	140	0.201	7.0	0x 0	VIFx	20.3	190.0	st2
Great room-A	c 2885	112	140	0.100	7.0	0x 0	VIFx	52.5	370.0	st4
Kitchen	c 2576	82	125	0.101	7.0	0x 0	VIFx	58.2	360.0	st4
Kitchen-A	c 2576	82	125	0.201	7.0	0x 0	VIFx	19.4	190.0	st2
Master WIC	h 820	31	21	0.145	4.0	0x 0	VIFx	30.3	260.0	st2
Master bath	h 1224	46	28	0.140	4.0	0x 0	VIFx	31.9	270.0	st2
Master bedroom	h 5040	190	173	0.155	8.0	0x 0	VIFx	31.2	240.0	st2
Mudd room	c 3448	147	168	0.191	6.0	0x 0	VIFx	30.9	190.0	st2
Office	h 3751	142	96	0.109	6.0	0x 0	VIFx	55.8	330.0	st4
Spare bath	h 1890	71	35	0.167	5.0	0x 0	VIFx	37.4	215.0	st2
master toilet	c 50	1	2	0.144	4.0	0x 0	VIFx	28.2	265.0	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
st4	Peak AVF	652	640	0.099	479	14.0	14 x 14	RectFbg	st3
st2	Peak AVF	1333	1333	0.099	592	18.0	18 x 18	RectFbg	st1
st3	Peak AVF	652	640	0.099	610	14.0	0 x 0	VinIFlx	st2
st1	Peak AVF	1333	1333	0.099	754	18.0	0 x 0	VinIFlx	

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Page 1

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	0x0	1333	1333	79.4	0.099	677	19.0	0x 0		VIFx	rst9

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rst9	Peak AVF	1333	1333	0.099	754	<i>18.0</i>	<i>0 x 0</i>	VinIFlx	

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