



Load Short Form

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	33	92	Method	Average
Inside db (°F)	68	75	Construction quality	0
Design TD (°F)	35	17	Fireplaces	
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	8	45		

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model 4TWR5036H1
AHRI ref 10514560
Efficiency 8 HSPF2
Heating input
Heating output 33200 Btuh @ 47°F
Temperature rise 29 °F
Actual air flow 1050 cfm
Air flow factor 0.037 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 30 °F

Backup:
Input = 8 kW, Output = 28679 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 4TWR5036H1
Coil TEM6A0C42H41++TDR
AHRI ref 10514560
Efficiency 12.0 EER2, 15.4 SEER2
Sensible cooling 24360 Btuh
Latent cooling 10440 Btuh
Total cooling 34800 Btuh
Actual air flow 1050 cfm
Air flow factor 0.039 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.84

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
LR	182	4483	4565	164	180
foy	63	1442	1218	53	48
lav	15	22	36	1	1
mbath	136	1323	842	49	33
Room5	35	52	84	2	3
Room6	35	777	302	28	12
mbed	208	4430	2234	162	88
dining	132	2089	2180	77	86
utility	79	563	1073	21	42
Bath2	45	79	128	3	5
BR2	165	1952	1370	72	54
br3	131	1728	1327	63	52
br4	153	3079	1491	113	59
hall	24	0	0	0	0

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



Right-Suite® Universal 2024 24.0.03 RSU02245

... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N

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bath3	93	1588	658	58	26
brkfst	118	1347	998	49	39
kitchen	154	262	2483	10	98
family	430	3434	5693	126	224
hall 2	56	0	0	0	0
ah	9	0	0	0	0
Entire House	2263	28649	26683	1050	1050
Other equip loads		0	0		
Equip. @ 0.97 RSM			25882		
Latent cooling			5207		
TOTALS	2263	28649	31090	1050	1050

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





Building Analysis

Entire House

DL Williams Heating & Cooling LLC

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Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional AP, FL, US
Elevation: 164 ft
Latitude: 30°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

33
-
-
15.0

Cooling

92
20 (M)
76
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

68
35
30
8.4

Cooling

75
17
50
45.4

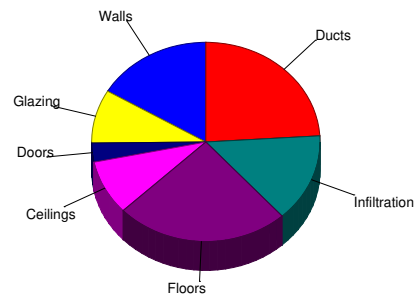
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

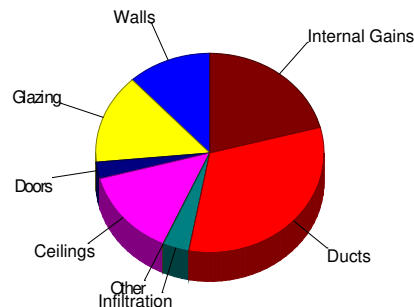
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.2	4724	16.5
Glazing	10.5	2489	8.7
Doors	21.0	882	3.1
Ceilings	1.1	2535	8.8
Floors	3.1	7030	24.5
Infiltration	2.3	4110	14.3
Ducts		6879	24.0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		28649	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.1	3172	11.9
Glazing	16.4	3893	14.6
Doors	17.1	718	2.7
Ceilings	1.7	3766	14.1
Floors	0.0	6	0.0
Infiltration	0.6	998	3.7
Ducts		8560	32.1
Ventilation		0	0
Internal gains		5570	20.9
Blower		0	0
Adjustments		0	0
Total		26683	100.0



Latent Cooling Load = 5207 Btuh

Overall U-value = 0.080 Btuh/ft²-°F, Window / Floor Area = 10.5 %

Data entries checked.



Component Constructions
Entire House
DL Williams Heating & Cooling LLC

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Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling			
Drybulb (°F)	33	92			
Daily range (°F)	-	20 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			
		Infiltration:			
		Method	Simplified		
		Construction quality	Average		
		Fireplaces	0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	367	0.091	13.0	3.18	1169	2.14	785
	e	16	0.091	13.0	3.18	50	2.14	34
	se	438	0.091	13.0	3.19	1395	2.14	937
	sw	237	0.091	13.0	3.18	756	2.14	508
	nw	425	0.091	13.0	3.18	1354	2.14	909
	all	1483	0.091	13.0	3.18	4724	2.14	3172

Partitions

(none)

Windows

4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	ne	45	0.300	0	10.5	473	15.7	706
	se	15	0.300	0	10.5	158	13.7	205
	sw	30	0.300	0	10.5	315	13.7	410
	nw	15	0.300	0	10.5	158	15.7	235
	all	105	0.300	0	10.5	1103	14.8	1556
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 6 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	ne	13	0.300	0	10.5	136	15.7	203
	e	13	0.300	0	10.5	131	10.3	129
	all	25	0.300	0	10.5	267	13.1	332
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 15 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	ne	30	0.300	0	10.5	315	15.7	471
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (3 ft window ht, 1 ft sep.); 6.67 ft head ht	se	9	0.300	0	10.5	95	11.8	106
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (6 ft window ht, 1 ft sep.); 6.67 ft head ht	sw	36	0.300	0	10.5	378	14.1	509
	nw	18	0.300	0	10.5	189	15.7	282
	all	54	0.300	0	10.5	567	14.7	791

4B5-2fv: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr sw 14 0.300 0 10.5 143 9.88 134
innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 10 ft overhang (6.8 ft
window ht, 1 ft sep.); 6.67 ft head ht

Doors

11J0: Door, mtl fbrgl type ne 21 0.600 6.3 21.0 441 17.1 359
sw 21 0.600 6.3 21.0 441 17.1 359
all 42 0.600 6.3 21.0 882 17.1 718

Ceilings

16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" 2263 0.032 30.0 1.12 2535 1.66 3766
gypsum board int fnsh

Floors

19A-19bscp: Part floor, carpet flr fnsh, r-19 ins, frm flr, 6" thkns 9 0.049 19.0 1.34 12 0.65 6
22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh 203 0.989 0 34.6 7018 0 0



Component Constructions

LR

DL Williams Heating & Cooling LLC

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Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified Average 0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	125	0.091	13.0	3.18	398	2.14	267
	sw	100	0.091	13.0	3.18	319	2.14	214
	nw	50	0.091	13.0	3.18	159	2.14	107
	all	275	0.091	13.0	3.18	876	2.14	588
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	se	15	0.300	0	10.5	158	13.7	205
	sw	30	0.300	0	10.5	315	13.7	410
	all	45	0.300	0	10.5	473	13.7	615
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		182	0.032	30.0	1.12	204	1.66	303
Floors								
22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		32	0.989	0	34.6	1108	0	0



A MGA® / Berkshire Hathaway Company

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... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N

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Component Constructions for DL Williams Heating & Cooling LLC

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Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	20 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		
		Infiltration:			
		Method		Simplified	
		Construction quality		Average	
		Fireplaces		0	

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	21	0.091	13.0	3.18	68	2.14	46
Partitions								
(none)								
Windows								
4B5-2fv: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 10 ft overhang (6.8 ft window ht, 1 ft sep.); 6.67 ft head ht	sw	14	0.300	0	10.5	143	9.88	134
Doors								
11J0: Door, mtl fbrgl type	sw	21	0.600	6.3	21.0	441	17.1	359
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		63	0.032	30.0	1.12	71	1.66	105
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		7	0.989	0	34.6	242	0	0



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... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N

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Design Conditions

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Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Drybulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Simplified		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			0		

Construction descriptions

Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
	ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh

Walls (none)							
Partitions (none)							
Windows (none)							
Doors (none)							
Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh	15	0.032	30.0	1.12	17	1.66	25
Floors (none)							





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Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Drybulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
				Average	0

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	71	0.091	13.0	3.18	226	2.14	152
Partitions (none)								
Windows 4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (3 ft window ht, 1 ft sep.); 6.67 ft head ht	se	9	0.300	0	10.5	95	11.8	106
Doors (none)								
Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		136	0.032	30.0	1.12	152	1.66	226
Floors 22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		10	0.989	0	34.6	346	0	0





Component Constructions
Room5
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

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Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Simplified		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			0		

Construction descriptions

Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
	ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh

Walls (none)							
Partitions (none)							
Windows (none)							
Doors (none)							
Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh	35	0.032	30.0	1.12	39	1.66	58
Floors (none)							





Component Constructions
Room6
DL Williams Heating & Cooling LLC

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Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling			
Dry bulb (°F)	33	92			
Daily range (°F)	-	20 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			
		Infiltration:			
		Method	Simplified		
		Construction quality	Average		
		Fireplaces	0		

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	56	0.091	13.0	3.18	178	2.14	120
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		35	0.032	30.0	1.12	39	1.66	58
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		7	0.989	0	34.6	242	0	0





Component Constructions
mbed
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Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified Average 0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	74	0.091	13.0	3.18	236	2.14	158
	se	128	0.091	13.0	3.18	408	2.14	274
	nw	64	0.091	13.0	3.18	204	2.14	137
	all	266	0.091	13.0	3.18	847	2.14	569
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	ne	30	0.300	0	10.5	315	15.7	471
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		208	0.032	30.0	1.12	233	1.66	346
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		37	0.989	0	34.6	1281	0	0



Component Constructions
dining
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
				Average	0

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	10	0.091	13.0	3.18	32	2.14	21
	sw	84	0.091	13.0	3.19	268	2.14	180
	all	94	0.091	13.0	3.19	299	2.14	201
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (6 ft window ht, 1 ft sep.); 6.67 ft head ht	sw	36	0.300	0	10.5	378	14.1	509
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		132	0.032	30.0	1.12	148	1.66	220
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		13	0.989	0	34.6	450	0	0





PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling			
Dry bulb (°F)	33	92			
Daily range (°F)	-	20 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			
		Infiltration:			
		Method	Simplified		
		Construction quality	Average		
		Fireplaces	0		

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	32	0.091	13.0	3.18	102	2.14	68
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		79	0.032	30.0	1.12	88	1.66	131
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		4	0.989	0	34.6	138	0	0





PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Drybulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Simplified		
Wind speed (mph)	15.0	7.5	Average		
				0	

Construction descriptions

Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
	ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh

Walls (none)							
Partitions (none)							
Windows (none)							
Doors (none)							
Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh	45	0.032	30.0	1.12	50	1.66	75
Floors (none)							





Component Constructions
BR2
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location: Gainesville Regional AP, FL, US Elevation: 164 ft Latitude: 30°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)		Heating 68 35 30 8.4	Cooling 75 17 50 45.4
Outdoor:	Heating	Cooling	Infiltration: Method Construction quality Fireplaces		Simplified Average 0	
Drybulb (°F)	33	92				
Daily range (°F)	-	20 (M)				
Wet bulb (°F)	-	76				
Wind speed (mph)	15.0	7.5				

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
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Walls 12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	nw	105	0.091	13.0	3.18	334	2.14	225
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Partitions
(none)

Windows 4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	nw	15	0.300	0	10.5	158	15.7	235
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Doors
(none)

Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		165	0.032	30.0	1.12	185	1.66	275
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Floors 22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		15	0.989	0	34.6	519	0	0
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Component Constructions
br3
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:			Indoor:	Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)	68	75
Elevation: 164 ft			Design TD (°F)	35	17
Latitude: 30°N			Relative humidity (%)	30	50
			Moisture difference (gr/lb)	8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method	Simplified	
Daily range (°F)	-	20 (M)	Construction quality	Average	
Wet bulb (°F)	-	76	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	nw	86	0.091	13.0	3.18	274	2.14	184
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (6 ft window ht, 1 ft sep.); 6.67 ft head ht	nw	18	0.300	0	10.5	189	15.7	282
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		131	0.032	30.0	1.12	147	1.66	218
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		13	0.989	0	34.6	450	0	0





Component Constructions

br4

DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:			Indoor:	Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)	68	75
Elevation: 164 ft			Design TD (°F)	35	17
Latitude: 30°N			Relative humidity (%)	30	50
Outdoor:			Moisture difference (gr/lb)	8.4	45.4
			Infiltration:		
Heating			Method	Simplified	
Cooling			Construction quality	Average	
			Fireplaces	0	
Dry bulb (°F)					
Daily range (°F)					
Wet bulb (°F)					
Wind speed (mph)					

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	73	0.091	13.0	3.18	233	2.14	156
	nw	120	0.091	13.0	3.18	382	2.14	257
	all	193	0.091	13.0	3.18	615	2.14	413
Partitions								
(none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	ne	15	0.300	0	10.5	158	15.7	235
Doors								
(none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		153	0.032	30.0	1.12	171	1.66	255
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		26	0.989	0	34.6	900	0	0



Right-Suite® Universal 2024 24.0.03 RSU02245

... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N

2024-Nov-01 11:08:08

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PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling			
Dry bulb (°F)	33	92			
Daily range (°F)	-	20 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			
		Infiltration:			
		Method	Simplified		
		Construction quality	Average		
		Fireplaces	0		

Construction descriptions

Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
	ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh

Walls (none)							
Partitions (none)							
Windows (none)							
Doors (none)							
Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh	24	0.032	30.0	1.12	27	1.66	40
Floors (none)							





Component Constructions
bath3
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:			Indoor:	Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)	68	75
Elevation: 164 ft			Design TD (°F)	35	17
Latitude: 30°N			Relative humidity (%)	30	50
			Moisture difference (gr/lb)	8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method	Simplified	
Daily range (°F)	-	20 (M)	Construction quality	Average	
Wet bulb (°F)	-	76	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	64	0.091	13.0	3.18	204	2.14	137
	se	48	0.091	13.0	3.19	153	2.14	103
	all	112	0.091	13.0	3.18	357	2.14	240
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		93	0.032	30.0	1.12	104	1.66	155
Floors								
22A-tpf: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		14	0.989	0	34.6	485	0	0





Component Constructions

brkfst

DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:			Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)		68	75
Elevation: 164 ft			Design TD (°F)		35	17
Latitude: 30°N			Relative humidity (%)		30	50
Outdoor:			Moisture difference (gr/lb) <td>8.4</td> <td>45.4</td>		8.4	45.4
Heating		Cooling		Infiltration:		
Drybulb (°F)	33	92	Method		Simplified	
Dailyrange (°F)	-	20 (M)	Construction quality		Average	
Wet bulb (°F)	-	76	Fireplaces		0	
Wind speed (mph)	15.0	7.5				

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	37	0.091	13.0	3.18	118	2.14	79
	e	16	0.091	13.0	3.18	50	2.14	34
	all	53	0.091	13.0	3.18	168	2.14	113
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 6 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	ne	13	0.300	0	10.5	136	15.7	203
	e	13	0.300	0	10.5	131	10.3	129
	all	25	0.300	0	10.5	267	13.1	332
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		118	0.032	30.0	1.12	132	1.66	196
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		8	0.989	0	34.6	268	0	0



PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Simplified		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			0		

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		154	0.032	30.0	1.12	172	1.66	256
Floors (none)								





Component Constructions
family
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:			Indoor:	Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)	68	75
Elevation: 164 ft			Design TD (°F)	35	17
Latitude: 30°N			Relative humidity (%)	30	50
Outdoor:			Moisture difference (gr/lb)	8.4	45.4
			Infiltration:		
Heating			Method	Simplified	
Cooling			Construction quality	Average	
			Fireplaces	0	
Drybulb (°F)					
Daily range (°F)					
Wet bulb (°F)					
Wind speed (mph)					

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, stucco ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	119	0.091	13.0	3.18	379	2.14	254
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 15 ft overhang (5 ft window ht, 1 ft sep.); 6.67 ft head ht	ne	30	0.300	0	10.5	315	15.7	471
Doors								
11J0: Door, mtl fbrgl type	ne	21	0.600	6.3	21.0	441	17.1	359
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		430	0.032	30.0	1.12	482	1.66	716
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		17	0.989	0	34.6	588	0	0



Right-Suite® Universal 2024 24.0.03 RSU02245

... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N

2024-Nov-01 11:08:08

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PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	20 (M)	Construction quality		
Wet bulb (°F)	-	76	Simplified		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			0		

Construction descriptions

Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
	ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh

Walls (none)							
Partitions (none)							
Windows (none)							
Doors (none)							
Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh	56	0.032	30.0	1.12	63	1.66	93
Floors (none)							





PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For:

Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:			Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)		68	75
Elevation: 164 ft			Design TD (°F)		35	17
Latitude: 30°N			Relative humidity (%)		30	50
			Moisture difference (gr/lb)		8.4	45.4
Outdoor:		Heating	Cooling	Infiltration:		
Drybulb (°F)		33	92	Method		
Daily range (°F)		-	20 (M)	Construction quality		
Wet bulb (°F)		-	76	Fireplaces		
Wind speed (mph)		15.0	7.5	Simplified		
				Average		
				0		

Construction descriptions	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		9	0.032	30.0	1.12	10	1.66	15
Floors 19A-19bscp: Part floor, carpet flr fnsh, r-19 ins, frm flr, 6" thkns		9	0.049	19.0	1.34	12	0.65	6





Project Summary

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Notes:

Design Information

Weather: Gainesville Regional AP, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

Ventilation Method MJ8

Heating Summary

Structure	21770 Btuh
Ducts (R-6.0)	6879 Btuh
Central vent (0 cfm)	0 Btuh

Humidification	0 Btuh
Piping	0 Btuh
Equipment load	28649 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft ²)	2263	2263
Volume (ft ³)	20136	20136
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	107	54

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR5036H1
AHRI ref	10514560

Efficiency	8 HSPF2
Heating input	
Heating output	33200 Btuh @ 47°F
Temperature rise	29 °F
Actual air flow	1050 cfm
Air flow factor	0.037 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 30 °F	

Backup:
Input = 8 kW, Output = 28679 Btuh, 100 AFUE

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	45 gr/lb

Sensible Cooling Equipment Load Sizing

Structure	18123 Btuh
Ducts (R-6.0)	8560 Btuh
Central vent (0 cfm)	0 Btuh

Blower 0 Btuh

Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	25882 Btuh

Latent Cooling Equipment Load Sizing

Structure	3449 Btuh
Ducts	1758 Btuh
Central vent (0 cfm)	0 Btuh

Equipment latent load 5207 Btuh

Equipment Total Load (Sen+Lat)	31090 Btuh
Req. total capacity at 0.70 SHR	3.1 ton

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR5036H1
Coil	TEM6A0C42H41++TDR
AHRI ref	10514560

Efficiency	12.0 EER2, 15.4 SEER2
Sensible cooling	24360 Btuh
Latent cooling	10440 Btuh
Total cooling	34800 Btuh
Actual air flow	1050 cfm
Air flow factor	0.039 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.84

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



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... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N

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AED Assessment
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional AP, FL, US
Elevation: 164 ft
Latitude: 30°N

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

68
35
30
8.4

Cooling

75
17
50
45.4

Outdoor:

Drybulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

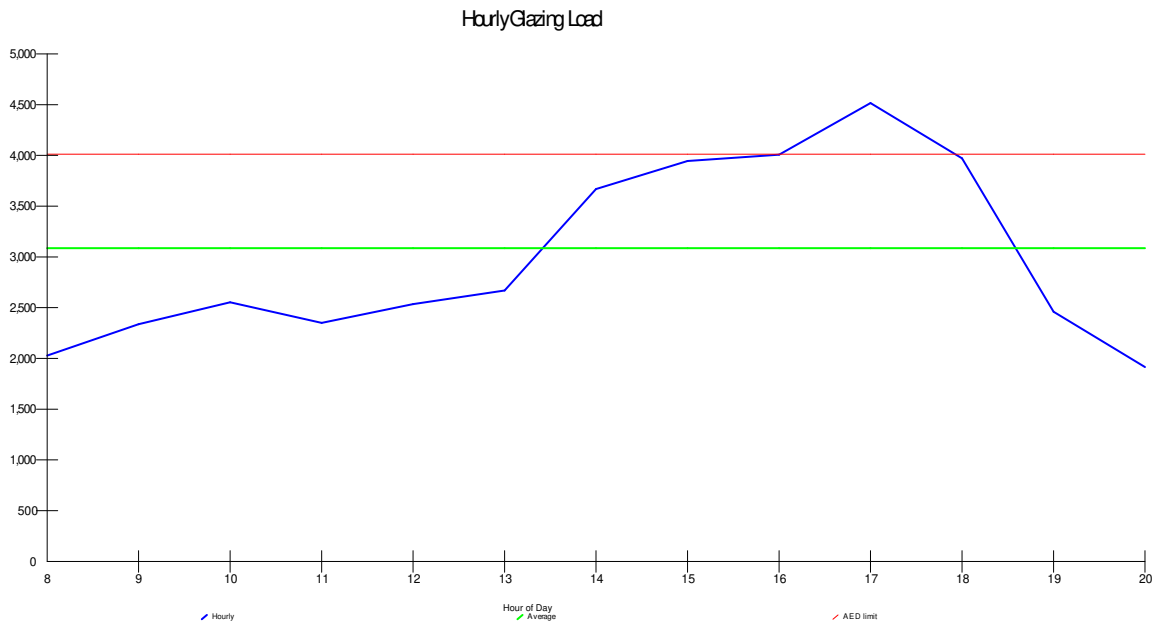
33
-
-
15.0

Cooling

92
20 (M)
76
7.5

Infiltration:

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 46.3%.

House does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 503 Btuh (PFG - 1.3*AFG)



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					Entire House				LR				
2	Exposed wall					202.8 ft				32.0 ft				
3	Room height					8.9 ft				10.0 ft				
4	Room dimensions									13.0 x 14.0 ft				
5	Room area					2263.0 ft²				182.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	3.18	2.14	476	367	1169	785	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	45	0	473	706	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	13	0	136	203	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	30	0	315	471	0	0	0	0
11	D	11J0	0.600	ne	21.00	17.10	21	21	441	359	0	0	0	0
.	W	12C-0sw	0.091	e	3.18	2.14	28	16	50	34	0	0	0	0
.	G	4A5-2ov	0.300	e	10.50	10.34	13	10	131	129	0	0	0	0
.	W	12C-0sw	0.091	se	3.18	2.14	462	438	1395	937	140	125	398	267
.	G	4A5-2ov	0.300	se	10.50	11.76	9	5	95	106	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	13.66	15	5	158	205	15	5	158	205
.	W	12C-0sw	0.091	sw	3.18	2.14	338	237	756	508	130	100	318	214
.	G	4A5-2ov	0.300	sw	10.50	13.66	30	10	315	410	30	10	315	410
.	G	4A5-2ov	0.300	sw	10.50	14.14	36	10	378	509	0	0	0	0
.	G	4B5-2fv	0.300	sw	10.50	9.88	14	14	143	134	0	0	0	0
.	D	11J0	0.600	sw	21.00	17.10	21	21	441	359	0	0	0	0
.	W	12C-0sw	0.091	nw	3.18	2.14	458	425	1354	909	50	50	159	107
.	G	4A5-2ov	0.300	nw	10.50	15.69	15	0	158	235	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	18	0	189	282	0	0	0	0
.	C	16B-30ad	0.032	-	1.12	1.66	2263	2263	2535	3766	182	182	204	303
.	F	19A-19bscp	0.049	-	1.34	0.65	9	9	12	6	0	0	0	0
.	F	22A-tpl	0.989	-	34.62	0.00	2254	203	7018	0	182	32	1108	0

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



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Page 1

... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					foyer				lav				
2	Exposed wall					7.0 ft				0 ft				
3	Room height					8.0 ft				8.0 ft				
4	Room dimensions					7.0 x 9.0 ft				3.0 x 5.0 ft				
5	Room area					63.0 ft²				15.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	e	10.50	10.34	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	se	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	11.76	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	sw	3.18	2.14	56	21	68	46	0	0	0	0
.	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0	0	0	0	0
.	G	4B5-2fv	0.300	sw	10.50	9.88	14	14	143	134	0	0	0	0
.	D	11J0	0.600	sw	21.00	17.10	21	21	441	359	0	0	0	0
.	W	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0
.	C	16B-30ad	0.032	-	1.12	1.66	63	63	71	105	15	15	17	25
.	F	19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0
.	F	22A-tpl	0.989	-	34.62	0.00	63	7	242	0	15	0	0	0

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





Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					mbath				Room5				
2	Exposed wall					10.0 ft				0 ft				
3	Room height					8.0 ft				8.0 ft				
4	Room dimensions					1.0 x 136.0 ft				5.0 x 7.0 ft				
5	Room area					136.0 ft²				35.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	e	10.50	10.34	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	se	3.18	2.14	80	71	226	152	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	11.76	9	5	95	106	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	sw	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0	0	0	0	0
.	G	4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0	0	0	0	0
.	D	11J0	0.600	sw	21.00	17.10	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0
.	C	16B-30ad	0.032	-	1.12	1.66	136	136	152	226	35	35	39	58
.	F	19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0
.	F	22A-tpl	0.989	-	34.62	0.00	136	10	346	0	35	0	0	0

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





Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					Room6					mbed				
2	Exposed wall					7.0 ft					37.0 ft				
3	Room height					8.0 ft					8.0 ft				
4	Room dimensions					5.0 x 7.0 ft					13.0 x 16.0 ft				
5	Room area					35.0 ft²					208.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12C-0sw	0.091	ne	3.18	2.14	0	0	0	0	104	74	236	158	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	30	0	315	471	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	e	10.50	10.34	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	se	3.18	2.14	56	56	178	120	128	128	408	274	
.	G	4A5-2ov	0.300	se	10.50	11.76	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	sw	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0	0	0	0	0	
.	G	4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0	0	0	0	0	
.	D	11J0	0.600	sw	21.00	17.10	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0	64	64	204	137	
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0	
C		16B-30ad	0.032	-	1.12	1.66	35	35	39	58	208	208	233	346	
F		19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0	
F		22A-tpl	0.989	-	34.62	0.00	35	7	242	0	208	37	1281	0	

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



Right-Suite® Universal 2024 24.0.03 RSU02245

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... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					dining 13.0 ft				utility 4.0 ft				
2	Exposed wall					10.0 ft				8.0 ft				
3	Room height					12.0 x 11.0 ft				1.0 x 79.0 ft				
4	Room dimensions					132.0 ft²				79.0 ft²				
5	Room area													
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	e	10.50	10.34	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	se	3.18	2.14	10	10	32	21	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	11.76	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	sw	3.18	2.14	120	84	268	180	32	32	102	68
.	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	sw	10.50	14.14	36	10	378	509	0	0	0	0
.	G	4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0	0	0	0	0
.	D	11J0	0.600	sw	21.00	17.10	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0
.	C	16B-30ad	0.032	-	1.12	1.66	132	132	148	220	79	79	88	131
.	F	19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0
.	F	22A-tpl	0.989	-	34.62	0.00	132	13	450	0	79	4	138	0
														</

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





Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					Bath2 0 ft					BR2 15.0 ft				
2	Exposed wall					8.0 ft					8.0 ft				
3	Room height					5.0					11.0				
4	Room dimensions					45.0 ft ² x 9.0 ft					165.0 ft ² x 15.0 ft				
5	Room area														
	Ty	Construction number	U-value (Btuh/ft ² ·°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12C-0sw	0.091	ne	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	e	10.50	10.34	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	se	3.18	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	se	10.50	11.76	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	sw	3.18	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0	0	0	0	0	
	G	4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0	0	0	0	0	
	D	11J0	0.600	sw	21.00	17.10	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0	120	105	334	225	
	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	15	0	158	235	
	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0	
	C	16B-30ad	0.032	-	1.12	1.66	45	45	50	75	165	165	185	275	
	F	19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0	
	F	22A-tpl	0.989	-	34.62	0.00	45	0	0	0	165	15	519	0	
												</			

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



Right-Suite® Universal 2024 24.0.03 RSU02245

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... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					br3 8.0 ft 13.0 ft heat/cool 1.0 x 131.0 ft 131.0 ft²					br4 8.0 ft 26.0 ft heat/cool 1.0 x 153.0 ft 153.0 ft²				
2	Exposed wall														
3	Room height														
4	Room dimensions														
5	Room area														
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12C-0sw	0.091	ne	3.18	2.14	0	0	0	0	88	73	233	156	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	15	0	158	235	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	e	10.50	10.34	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	se	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	se	10.50	11.76	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	sw	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0	0	0	0	0	
.	G	4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0	0	0	0	0	
.	D	11J0	0.600	sw	21.00	17.10	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	nw	3.18	2.14	104	86	274	184	120	120	382	257	
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	nw	10.50	15.69	18	0	189	282	0	0	0	0	
C		16B-30ad	0.032	-	1.12	1.66	131	131	147	218	153	153	171	255	
F		19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0	
F		22A-tpl	0.989	-	34.62	0.00	131	13	450	0	153	26	900	0	

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





Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					hall 0 ft					bath3 14.0 ft				
2	Exposed wall					8.0 ft					8.0 ft				
3	Room height					6.0					1.0				
4	Room dimensions					24.0 ft x 4.0 ft					93.0 ft x 93.0 ft				
5	Room area					24.0 ft²					93.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12C-0sw	0.091	ne	3.18	2.14	0	0	0	0	64	64	204	137	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	e	10.50	10.34	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	se	3.18	2.14	0	0	0	0	48	48	153	103	
.	G	4A5-2ov	0.300	se	10.50	11.76	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	sw	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0	0	0	0	0	
.	G	4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0	0	0	0	0	
.	D	11J0	0.600	sw	21.00	17.10	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0	
.	C	16B-30ad	0.032	-	1.12	1.66	24	24	27	40	93	93	104	155	
.	F	19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0	
.	F	22A-tpl	0.989	-	34.62	0.00	24	0	0	0	93	14	485	0	

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





Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					brkfst 7.8 ft				kitchen 0 ft				
2	Exposed wall					10.0 ft				10.0 ft				
3	Room height					1.0				14.0				
4	Room dimensions					118.0 ft				11.0 ft				
5	Room area					118.0 ft²				154.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	3.18	2.14	50	37	118	79	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	13	0	136	203	0	0	0	0
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	e	3.18	2.14	28	16	50	34	0	0	0	0
.	G	4A5-2ov	0.300	e	10.50	10.34	13	10	131	129	0	0	0	0
.	W	12C-0sw	0.091	se	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	11.76	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	sw	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0	0	0	0	0
.	G	4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0	0	0	0	0
.	D	11J0	0.600	sw	21.00	17.10	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0
.	C	16B-30ad	0.032	-	1.12	1.66	118	118	132	196	154	154	172	256
.	F	19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0
.	F	22A-tpl	0.989	-	34.62	0.00	118	8	268	0	154	0	0	0

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





Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					family					hall 2				
2	Exposed wall					17.0 ft					0 ft				
3	Room height					10.0 ft					8.0 ft				
4	Room dimensions					1.0 x 430.0 ft					14.0 x 4.0 ft				
5	Room area					430.0 ft²					56.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12C-0sw	0.091	ne	3.18	2.14	170	119	379	254	0	0	0	0	
11	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	ne	10.50	15.69	30	0	315	471	0	0	0	0	
	D	11J0	0.600	ne	21.00	17.10	21	21	441	359	0	0	0	0	
	W	12C-0sw	0.091	e	3.18	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	e	10.50	10.34	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	se	3.18	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	se	10.50	11.76	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	sw	3.18	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0	0	0	0	0	
	G	4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0	0	0	0	0	
	D	11J0	0.600	sw	21.00	17.10	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0	0	0	0	0	
	C	16B-30ad	0.032	-	1.12	1.66	430	430	482	716	56	56	63	93	
	F	19A-19bscp	0.049	-	1.34	0.65	0	0	0	0	0	0	0	0	
	F	22A-tpl	0.989	-	34.62	0.00	430	17	588	0	56	0	0	0	

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





Right-J® Worksheet
Entire House
DL Williams Heating & Cooling LLC

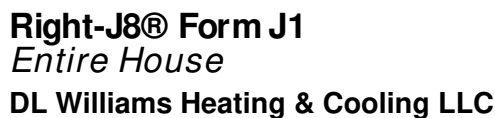
Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooling
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

1	Room name					ah								
2	Exposed wall					0 ft								
3	Room height					8.0 ft				heat/cool				
4	Room dimensions					3.0 x 3.0 ft								
5	Room area					9.0 ft²								
	Ty	Construction number	U-value (Bt uh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	3.18	2.14	0	0	0	0				
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0				
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0				
.	G	4A5-2ov	0.300	ne	10.50	15.69	0	0	0	0				
11	D	11J0	0.600	ne	21.00	17.10	0	0	0	0				
W	G	12C-0sw	0.091	e	3.18	2.14	0	0	0	0				
		4A5-2ov	0.300	e	10.50	10.34	0	0	0	0				
W	G	12C-0sw	0.091	se	3.18	2.14	0	0	0	0				
		4A5-2ov	0.300	se	10.50	11.76	0	0	0	0				
W	G	4A5-2ov	0.300	se	10.50	13.66	0	0	0	0				
		4A5-2ov	0.300	se	10.50	13.66	0	0	0	0				
W	G	12C-0sw	0.091	sw	3.18	2.14	0	0	0	0				
		4A5-2ov	0.300	sw	10.50	13.66	0	0	0	0				
W	G	4A5-2ov	0.300	sw	10.50	14.14	0	0	0	0				
		4B5-2fv	0.300	sw	10.50	9.88	0	0	0	0				
W	D	11J0	0.600	sw	21.00	17.10	0	0	0	0				
		11J0	0.600	sw	21.00	17.10	0	0	0	0				
W	G	12C-0sw	0.091	nw	3.18	2.14	0	0	0	0				
		4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0				
W	G	4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0				
		4A5-2ov	0.300	nw	10.50	15.69	0	0	0	0				
C		16B-30ad	0.032	-	1.12	1.66	9	9	10	15				
F		19A-19bscp	0.049	-	1.34	0.65	9	9	12	6				
F		22A-tpl	0.989	-	34.62	0.00	0	0	0	0				

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





Job: 1
Date: 09/25/2024
By: DL Williams Heating & Cooli...
Plan: 2065

[illegible]

... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N

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Page 2



Loads for Multiple Orientations

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

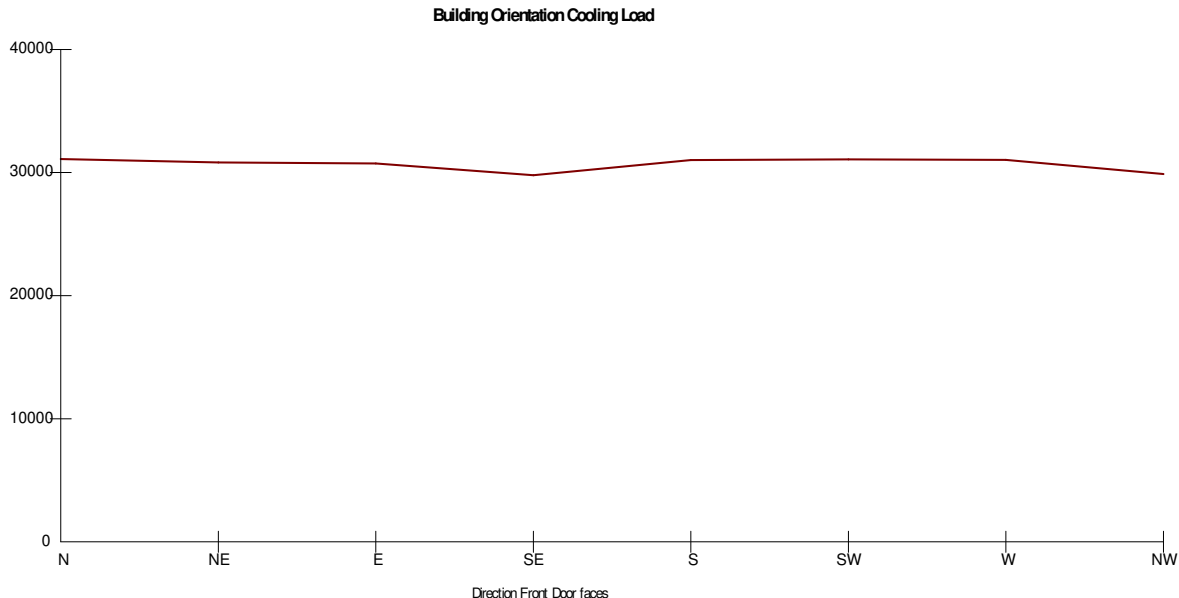
Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation: 164 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.4	45.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92			
Daily range (°F)	-	20 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	25882	25611	25526	24573	25807	25855	25815	24670
Latent Load (Btuh)	5207	5207	5207	5207	5207	5207	5207	5207
Total Load (Btuh)	31090	30819	30733	29780	31014	31063	31022	29878
Heating AVF (cfm)	1050	1050	1050	1050	1050	1050	1050	1050
Cooling AVF (cfm)	1050	1050	1050	1050	1050	1050	1050	1050



Current Orientation: Front Door faces North
Highest Cooling Load: Front Door faces North

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



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Page 1

... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N



J1 Form - Worksheet A
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Supporting Detail	
Project Name: Adams Homes Preserve at Laurel lot 141 plan 2265	Date: 09/25/2024
Address: Lake City, FL 32024	
Phone:	Job ID: 1

Worksheet A Location and Design Conditions	
Weather Location: Gainesville Regional AP, FL, US	Elevation = 164 Latitude = 30
Indoor Conditions, Heating: DB = 68 °F RH = 30 % Indoor Conditions, Cooling: DB = 75 °F RH = 50 %	
Table 1 Conditions 99% DB = 33 °F 1% DB = 92 °F Grains Difference = 45 gr/lb Daily Range = M	
Design Temperature Differences	HTD = 35 °F CTD = 17 °F

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





Duct System Summary
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

	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	0.373 / 0.127 in H2O	0.373 / 0.127 in H2O
Lowest friction rate	0.207 in/100ft	0.207 in/100ft
Actual air flow	1050 cfm	1050 cfm
Total effective length (TEL)	241 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
BR2	h 1952	72	54	0.233	5.0	0x0	VIFx	25.2	135.0	st2
Bath2	c 128	3	5	0.269	4.0	0x0	VIFx	23.6	115.0	st2
LR	c 2283	82	90	0.208	6.0	0x0	VIFx	39.6	140.0	st3
LR-A	c 2283	82	90	0.207	6.0	0x0	VIFx	40.0	140.0	st3
Room5	c 84	2	3	0.215	4.0	0x0	VIFx	33.7	140.0	st3
Room6	h 777	28	12	0.215	4.0	0x0	VIFx	33.7	140.0	st3
bath3	h 1588	58	26	0.245	5.0	0x0	VIFx	27.5	125.0	st2
br3	h 1728	63	52	0.283	5.0	0x0	VIFx	17.0	115.0	st2
br4	h 3079	113	59	0.263	6.0	0x0	VIFx	27.1	115.0	st2
brkfst	h 1347	49	39	0.262	5.0	0x0	VIFx	27.6	115.0	st2
dining	c 2180	77	86	0.366	5.0	0x0	VIFx	7.1	95.0	
family	c 2846	63	112	0.258	6.0	0x0	VIFx	25.0	120.0	st1
family-A	c 2846	63	112	0.261	6.0	0x0	VIFx	22.9	120.0	st1
foy	h 1442	53	48	0.267	5.0	0x0	VIFx	19.9	120.0	st1
kitchen	c 2483	10	98	0.362	5.0	0x0	VIFx	8.1	95.0	
lav	c 36	1	1	0.213	4.0	0x0	VIFx	35.6	140.0	st3
mbath	h 1323	49	33	0.216	5.0	0x0	VIFx	32.8	140.0	st3
mbed	h 4430	162	88	0.208	7.0	0x0	VIFx	39.2	140.0	st3
utility	c 1073	21	42	0.282	4.0	0x0	VIFx	2.2	130.0	

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	406	317	0.207	745	10.0	0 x 0	VinIFlx	st1
st2	Peak AVF	358	235	0.233	657	10.0	0 x 0	VinIFlx	
st1	Peak AVF	585	589	0.207	750	12.0	0 x 0	VinIFlx	

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	0x 0	522	477	61.0	0.207	174	12.1	18.00x24	24x36	SJSp	
rb7	0x 0	528	573	0	0	0	0	0x 0		VIFx	



Duct system multi orientation report

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Group 1: (N, S) Group 2: (NE, E, SE, SW, NW) Group 3: (W)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
BR2	72 h	12x12	5	72 h	12x12	5	72 h	12x12	5	72 h	12x12	5
Bath2	5 c	12x12	4	5 c	12x12	4	5 c	12x12	4	5 c	12x12	4
LR	90 c	12x12	6	90 c	12x12	6	88 c	12x12	6	88 c	12x12	6
LR-A	90 c	12x12	6	90 c	12x12	6	88 c	12x12	6	88 c	12x12	6
Room5	4 c	12x12	4	3 c	12x12	4	3 c	12x12	4	3 c	12x12	4
Room6	28 h	12x12	4	28 h	12x12	4	28 h	12x12	4	28 h	12x12	4
bath3	58 h	12x12	5	58 h	12x12	5	58 h	12x12	5	58 h	12x12	5
br3	65 c	12x12	5	63 h	12x12	5	63 h	12x12	5	63 h	12x12	5
br4	113 h	12x12	6	113 h	12x12	6	113 h	12x12	6	113 h	12x12	6
brkfst	49 h	12x12	5	49 h	12x12	5	58 c	12x12	5	55 c	12x12	5
dining	77 h	12x12	5	85 c	12x12	5	91 c	12x12	5	77 h	12x12	5
family	112 c	12x12	6	116 c	12x12	6	114 c	12x12	6	110 c	12x12	6
family-A	112 c	12x12	6	116 c	12x12	6	114 c	12x12	6	110 c	12x12	6
foy	53 h	12x12	5	53 h	12x12	5	53 h	12x12	5	53 h	12x12	5
kitchen	104 c	12x12	6	95 c	12x12	5	94 c	12x12	5	97 c	12x12	5
lav	2 c	12x12	4	1 c	12x12	4	1 c	12x12	4	1 c	12x12	4
mbath	49 h	12x12	5	49 h	12x12	5	49 h	12x12	5	49 h	12x12	5
mbed	162 h	12x12	7	162 h	12x12	7	162 h	12x12	7	162 h	12x12	7
utility	45 c	12x12	4	41 c	12x12	4	40 c	12x12	4	42 c	12x12	4
Supply Trunks												
st3	406 h		10	406 h		10	406 h		10	406 h		10
st2	358 h		10	358 h		10	358 h		10	358 h		10
st1	585 h		12	596 c		12	596 c		12	591 c		12
Return Branches												
rb1	522 h	24x18	0x0	522 h	24x18	0x0	522 h	24x18	0x0	522 h	24x18	0x0
rb7	582 c	12x12	0	570 c	12x12	0	568 c	12x12	0	569 c	12x12	0
Friction Rates												
Heating FR	0.207			0.207			0.207			0.207		
Cooling FR	0.207			0.207			0.207			0.207		

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
BR2	72 h	12x12	5	72 h	12x12	5	72 h	12x12	5	72 h	12x12	5
Bath2	5 c	12x12	4	5 c	12x12	4	5 c	12x12	4	5 c	12x12	4
LR	94 c	12x12	6	98 c	12x12	6	98 c	12x12	6	90 c	12x12	6
LR-A	94 c	12x12	6	98 c	12x12	6	98 c	12x12	6	90 c	12x12	6
Room5	4 c	12x12	4	3 c	12x12	4	3 c	12x12	4	3 c	12x12	4
Room6	28 h	12x12	4	28 h	12x12	4	28 h	12x12	4	28 h	12x12	4
bath3	58 h	12x12	5	58 h	12x12	5	58 h	12x12	5	58 h	12x12	5
br3	63 h	12x12	5	63 h	12x12	5	63 h	12x12	5	63 h	12x12	5
br4	113 h	12x12	6	113 h	12x12	6	113 h	12x12	6	113 h	12x12	6
brkfst	49 h	12x12	5	49 h	12x12	5	49 h	12x12	5	49 h	12x12	5
dining	77 h	12x12	5	91 c	12x12	5	107 c	12x12	6	86 c	12x12	5
family	112 c	12x12	6	104 c	12x12	6	104 c	12x12	6	112 c	12x12	6
family-A	112 c	12x12	6	104 c	12x12	6	104 c	12x12	6	112 c	12x12	6
foy	53 h	12x12	5	53 c	12x12	5	53 h	12x12	5	53 h	12x12	5
kitchen	104 c	12x12	6	97 c	12x12	5	96 c	12x12	5	98 c	12x12	5
lav	2 c	12x12	4	1 c	12x12	4	1 c	12x12	4	1 c	12x12	4
mbath	49 h	12x12	5	49 h	12x12	5	49 h	12x12	5	49 h	12x12	5
mbed	162 h	12x12	7	162 h	12x12	7	162 h	12x12	7	162 h	12x12	7
utility	45 c	12x12	4	42 c	12x12	4	42 c	12x12	4	42 c	12x12	4
Supply Trunks												
st3	406 h		10	406 h		10	406 h		10	406 h		10
st2	358 h		10	358 h		10	358 h		10	358 h		10
st1	594 c		12	606 c		12	602 c		12	589 c		12
Return Branches												
rb1	522 h	24x18	0x0	522 h	24x18	0x0	522 h	24x18	0x0	522 h	24x18	0x0
rb7	569 c	12x12	0	548 c	12x12	0	552 c	12x12	0	573 c	12x12	0
Friction Rates												
Heating FR	0.207			0.207			0.207			0.207		
Cooling FR	0.207			0.207			0.207			0.207		



Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches						
BR2	72 h	12x12	5	72 h	12x12	5
Bath2	5 c	12x12	4	5 c	12x12	4
LR	98 c	12x12	6	88 c	12x12	6
LR-A	98 c	12x12	6	88 c	12x12	6
Room5	4 c	12x12	4	3 c	12x12	4
Room6	28 h	12x12	4	28 h	12x12	4
bath3	58 h	12x12	5	58 h	12x12	5
br3	65 c	12x12	5	63 h	12x12	5
br4	113 h	12x12	6	113 h	12x12	6
brkfst	58 c	12x12	5	49 h	12x12	5
dining	107 c	12x12	6	77 h	12x12	5
family	116 c	12x12	6	104 c	12x12	6
family-A	116 c	12x12	6	104 c	12x12	6
foyer	53 c	12x12	5	53 h	12x12	5
kitchen	104 c	12x12	6	94 c	12x12	5
lav	2 c	12x12	4	1 c	12x12	4
mbath	49 h	12x12	5	49 h	12x12	5
mbed	162 h	12x12	7	162 h	12x12	7
utility	45 c	12x12	4	40 c	12x12	4
Supply Trunks						
st3	406 h		10	406 h		10
st2	358 h		10	358 h		10
st1	606 c		12	585 h		12
Return Branches						
rb1	522 h	24x18	0x0	522 h	24x18	0x0
rb7	582 c	12x12	0	548 c	12x12	0
Friction Rates						
Heating FR	0.207			0.207		
Cooling FR	0.207			0.207		

Background Color Legend

Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

Pink background column header

Largest cooling load orientation





Static Pressure and Friction Rate
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.50	0.50
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0	0
Return grilles	0	0
Filter	0	0
Humidifier	0	0
Balancing damper	0	0
Other device	0	0
Available static pressure	0.50	0.50

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	11	1
Measured length of trunk	29	0
Equivalent length of fittings	140	60
Total length	180	61
Total effective length		241

Friction Rate

	Heating (in/100ft)	Cooling (in/100ft)
Supply Ducts	0.207 > 0.18	0.207 > 0.18
Return Ducts	0.207 > 0.18	0.207 > 0.18

Fitting Equivalent Length Details

Supply	4AD=60, 11A=20, 11A=20, 1A=35, 11G=5: TotalEL=140
Return	6M=20, 5D=40: TotalEL=60



Manual S Compliance Report

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	26683	Btuh	Entering coil DB:	77.5°F
Outdoor design WB:	76.0°F	Latent gain:	5207	Btuh	Entering coil WB:	63.7°F
Indoor design DB:	75.0°F	Total gain:	31890	Btuh		
Indoor RH:	50%	Estimated airflow:	1050	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR5036H1+TEM6A0C42H41++TDR
Actual airflow:	1050	cfm	
Sensible capacity:	27585	Btuh	103% of load
Latent capacity:	5650	Btuh	108% of load
Total capacity:	33235	Btuh	104% of load SHR: 83%

Heating Equipment

Design Conditions

Outdoor design DB:	33.0°F	Heat loss:	28649	Btuh	Entering coil DB:	66.8°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR5036H1+TEM6A0C42H41++TDR
Actual airflow:	1050	cfm	
Output capacity:	25358	Btuh	89% of load
Supplemental heat required:	3291	Btuh	
Capacity balance:	30	°F	
Economic balance:	-99	°F	

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1050	cfm	
Output capacity:	8.4	kW	100% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



Right-Suite® Universal 2024 24.0.03 RSU02245

... Homes Preserve at Laurel lot 141 plan 2265.rup Calc = MJ8 Front Door faces: N

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Page 1



DHW Report
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 09/25/2024
By: DL Williams Heating & C...
Plan: 2065

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: Office@DLWilliamsHeatingandCooling.com

Project Information

For: Adams Homes Preserve lot 95 2265, Adams Homes
Lake City, FL 32024

Design Criteria

Occupants		Not occupied during the day	
Age	Number	Dishwasher	
0-5	0	Clothes washer	
6-13	2	Additional use (gpd)	0
14-59	2	Setpoint (°F)	120
60+	0	Daily use (gpd)	61

Electric conventional (40 gal, 0.90 EF)

Manufacturer	Tank size (gal)	40
Trade name	Energy factor	0.90
Model	Input (kWh)	0.0
AHRI ref. number	1st hour (gal)	50
	Recovery eff. (%)	98



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 2.0

Columbia Header Information

Contractor DL Williams Heating & Cooling LLC
Derrick Williams

Mechanical license# _____

Building plan # 2065

Home address (Street or Lot#, Block, Subdivision) , Entire House

Applicable Attachments

Manual J1 Form and Worksheet A:

OEM performance data (heating, cooling, blower):

Duct distribution sketch:

IRC Table R301.2 (climate & geographic design criteria)

☐ Yes ☐ No

☐ Yes ☐ No

☐ Yes ☐ No

☐ Yes ☐ No

HVAC LOAD CALCULATION

(IRC M1401.3)

Manual J Design Criteria and Loads

Location

Elevation 164 ft
Altitude Correction Factor 0.99
Latitude 30 °N

Summer Design Conditions

Outdoor Cooling Temp 92 °F
Indoor Cooling Temp 75 °F
Cooling Temp Diff 17 °F
Indoor Summer Design RH 50 %
Coincident Wet Bulb Temp 76 °F

Manual J Loads

Total Heat Loss 28649 Btuh
Sensible Heat Gain 26683 Btuh
Latent Heat Gain 5207 Btuh
Total Heat Gain 31890 Btuh

Winter Design Conditions

Outdoor Winter Temp 33 °F
Indoor Winter Temp 68 °F
Heating Temp Diff 35 °F

The heat loss/gain was calculated in accordance with ACCA Manual J? Y ☒ N ☐

HVAC EQUIPMENT SELECTION

(IRC M1401.3)

Heating Equipment

☐ Furnace ☐ Boiler ☒ Electric Heat
☐ Single Speed ☐ Multi Stage ☐ Modulating

Model

Output 25358 Btuh Sizing Value 28649 Btuh
Supplemental 3291 Btuh Sizing Limit 175.0 %
Heat Load: Capacity 100.1 %

Size Factor is within Manual S Size Limit?

Y ☒ N ☐

Cooling Equipment

☐ Air Conditioner ☒ Heat Pump
☒ Air-to-Air ☐ Geothermal Open Loop ☐ Geothermal Closed Loop
☒ Single Speed ☐ Multi Stage ☐ Variable Speed

Model 4TWR5036H1+TEM6A0C42H41++TDR

Sensible 27585 Btuh Sizing Value 31890 Btuh
Latent 5650 Btuh Sizing Limit 115.0 %
Total 33235 Btuh Load: Capacity 104.2 %

Size Factor is within Manual S Size Limit?

Y ☒ N ☐

HVAC DUCT DISTRIBUTION DESIGN

(IRC M1601.1)

Design airflow 1050 cfm Longest Supply Duct 180 ft Duct Materials Used
External Static Pressure (ESP) 0.50 in H2O Longest Return Duct 61.0 ft Trunk Duct: ☐ Duct Board ☐ Sheet Metal
Component Pressure Loss (CPL) 0 in H2O Total Effective Length (TEL) 241 ft ☒ Flex ☐ Lined Sheet Metal ☐ Other
Available static pressure (ASP) 0.50 in H2O Friction Rate 0.21 in/100ft Branch Duct: ☐ Duct Board ☐ Sheet Metal
ESP - CPL = ASP (ASP x 100) / TEL = Friction Rate ☒ Flex ☐ Lined Sheet Metal ☐ Other

Ducts are sized per Manual D? Y ☒ N ☐

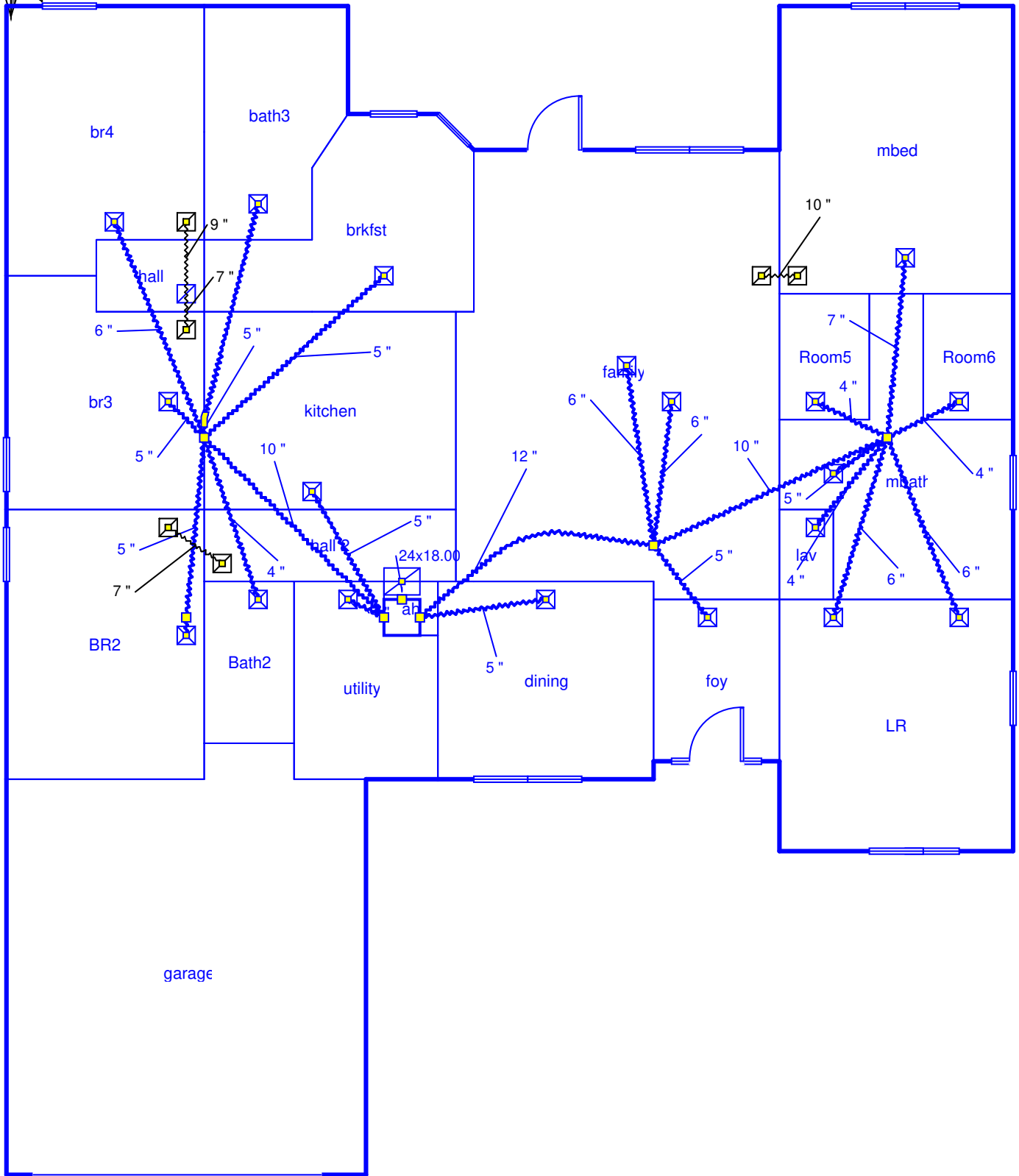
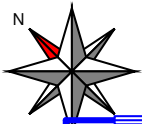
I declare the load calculation, equipment selection, and duct system design were rigorously performed based on the building plan listed above and understand the claims made on these forms may be subject to review and verification.

Contractor's printed name: _____

Contractor's signature: _____

Date: _____

Sheet 1



Job #: 1
Performed by DL Williams Heating & Cooling
Adams Homes Preserve lot 95 2265
Lake City, FL 32024

DL Williams Heating & Cooling LLC
PO Box 2156
Lake City, FL 32056
Phone: 386-754-1987
Office@DLWilliamsHeatingandCooling.com

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ENERGY STAR Single-Family New Homes National HVAC Design Report, Version 3 / 3.1 /3.2 (Rev. 13)

HVAC Designer Responsibilities:

- Complete one National HVAC Design Report for each system design for a house plan, created for either the specific plan configuration (i.e., elevation, option, orientation, & county) of the home to be certified or for a plan that is intended to be built with different configurations (i.e., different elevations, options, and/or orientations). Visit www.energystar.gov/newhomeshvacdesign and see Footnote 2 for more information.
- Obtain efficiency features (e.g., window performance, insulation levels, and infiltration rate) from the builder or Rater. ³
- Provide the completed National HVAC Design Report to the builder or credentialed HVAC contractor and to the Rater.

1. Design Overview

1.1 Designer name: Derrick Williams Designer company: DL Williams Heating & Cooling LLC Date: 09/25/2024
1.2 Select which party you are providing these design services to: ☒ Builder or ☐ Credentialed HVAC contractor
1.3 Name of company you are providing these design services to (if different than Item 1.1): Adams Homes
1.4 Area that system serves: ☒ Whole-house ☐ Upper-level ☐ Lower-level ☐ Other
1.5 Is cooling system for a temporary occupant load? ☐ Yes ☒ No
1.6 House plan: 2065 Check box to indicate whether the system design is site-specific or part of a group:
☒ Site-specific design. Option(s) & elevation(s) modeled:
☐ Group design. Group #: 0 out of 0 total groups for this house plan. Configuration modeled:

2. Dwelling Unit Mechanical Ventilation System Design ("Vent System") & Inlets in Return Duct

Designer
Verified

Airflow:

2.1 Ventilation airflow design rate & run-time meet the requirements of ASHRAE 62.2-2010 or later ☐
2.2 Ventilation airflow rate required by 62.2 for a continuous system: 0 CFM -
2.3 Design for this system: Vent. airflow rate: CFM Run-time per cycle: 0 minutes Cycle time: 0 minutes -

System Type & Controls:

2.4 Specified system type: ☐ Supply ☐ Exhaust ☒ Balanced -
2.5 Specified control location: (e.g., Master bath, utility room) -
2.6 Specified controls allow the system to operate automatically, without occupant intervention. ☐
2.7 Specified controls include a readily-accessible ventilation override and a label has also been specified if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the ventilation equipment). ☐
2.8 For any outdoor air inlet designed to connect to a ducted return of the HVAC system, specified controls automatically restrict airflow using a motorized damper during ventilation off-cycle and occupant override. ☐

Sound: 2.9 The fan of the specified system is rated ≤ 3 sones if intermittent and ≤ 1 sone if continuous, or exempted ☐

Efficiency:

2.10 If Vent System controller operates the HVAC fan, then HVAC fan operation is intermittent and either the fan type in Item 4.7 is ECM / ICM or the controls will reduce the run-time by accounting for HVAC system heating or cooling hours. ☐
2.11 If bathroom fans are specified as part of the system, then they are ENERGY STAR certified ☐

Air Inlet Location: (Complete this section if system has a specified air inlet location; otherwise check "N/A") ☐ N/A

2.12 Inlet pulls ventilation air directly from outdoors and not from attic, crawlspace, garage, or adjacent dwelling unit ☐
2.13 Inlet is ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources (e.g., stack, vent, exhaust, vehicles) not exiting the roof, and ≥ 3 ft. from known sources exiting the roof ☐

3. Room-by-Room Heating & Cooling Loads

3.1 Room-by-room loads calculated using: ☒ Unabridged ACCA Manual J v8 ☐ 2013 ASHRAE Fundamentals ☐ Other per AHJ -

3.2 Indoor design temperatures used in loads are 70°F for heating and 75°F for cooling ☐

3.3 Outdoor design temperatures used in loads: (See Footnote 18 and www.energystar.gov/hvacdesigntemps)
County & State, or US Territory, selected: Union, FL Cooling season: 92 °F Heating season: 33 °F -

3.4 Number of occupants used in loads: 9 -

3.5 Conditioned floor area used in loads: 2263 Sq. Ft. -

3.6 Window area used in loads: 237 Sq. Ft. -

3.7 Predominant window SHGC used in loads: 0.23 -

3.8 Infiltration rate used in loads: Summer: 0.16 Winter: 0.32 -

3.9 Mechanical ventilation rate used in loads: 0 CFM -

Loads At Design Conditions (kBtuh)

	N	NE	E	SE	S	SW	W	NW	
--	---	----	---	----	---	----	---	----	--

Cooling	3.10 Sensible heat gain (By orientation)	25.9	25.6	25.5	24.6	25.8	25.9	25.8	24.7	-
	3.11 Latent heat gain (Not by orientation)	5.2								-
	3.12 Total heat gain (By orientation)	31.1	30.8	30.7	29.8	31.0	31.1	31.0	29.9	-
	3.13 Maximum – minimum total heat gain (Item 3.12) across orientations =	1.3 kBtuh						Variation is ≤ 6 kBtuh		☒
Heating	3.14 Total heat loss (Not by orientation)	28.6								-



ENERGY STAR Single-Family New Homes National HVAC Design Report, Version 3 / 3.1 / 3.2 (Rev. 13)

4. Heating & Cooling Equipment Selection										Designer Verified	
4.1 Equipment selected per ACCA Manual S (see Footnote 26 & 27).										☐	
Air Conditioner / Heat Pump (Complete if air conditioner or heat pump will be installed; otherwise check "N/A")										☐ N/A	
4.2 Equipment type: ☐ Cooling-only air conditioner or ☒ Cooling & heating heat pump										-	
4.3 Condenser manufacturer & model: Trane 4TWR5036H1										-	
4.4 Evaporator / fan coil manufacturer & model: Trane TEM6A0C42H41++TDR										-	
4.5 AHRI reference #: 10514560										-	
4.6 Rated cooling efficiency: 12.0 EER2/15.4 SEER2 Rated heating efficiency: 8 HSPF2										-	
4.7 Evaporator fan type: ☐ PSC ☐ ECM / ICM ☒ Other:										-	
4.8 Compressor type: ☒ Single-speed ☐ Two-speed ☐ Variable-speed										-	
4.9 Latent capacity at design conditions, from OEM expanded performance data: 5.6 kBtuh										-	
4.10 Sensible capacity at design conditions, from OEM expanded performance data: 27.6 kBtuh										-	
4.11 Total capacity at design conditions, from OEM expanded performance data: 33.2 kBtuh										-	
4.12 Air-source heat pump capacity: At 17°F: 21.4 kBtuh At 47°F: 33.2 kBtuh ☐ N/A										-	
4.13 Cooling sizing % = Total capacity (Item 4.11) divided by maximum total heat gain (Item 3.12): 107 %										-	
4.14 Complete this item if Condition B Climate will be used to select sizing limit in Item 4.15. Otherwise, check "N/A": ☒ N/A										-	
4.14.1 Load sensible heat ratio = Max. sensible heat gain (Item 3.10) / Max. total heat gain (Item 3.12) = 83%										-	
4.14.2 HDD / CDD ratio (Visit www.energystar.gov/hvacdesign temps to determine this value for the design location)= 0.2										-	
4.15 Check box of applicable cooling sizing limit from chart below:										-	
Equipment Type (Per Item 4.2) & Climate Condition (Per Item 4.14)		Compressor Type (Per Item 4.8)									
		Single-Speed		Two-Speed		Variable-Speed					
For Cooling-Only Equipment or For Cooling Mode of Heat Pump in Condition A Climate		☒ Recommended: 90 – 115% Allowed: 90 – 130%		☐ Recommended: 90 – 120% Allowed: 90 – 140%		☐ Recommended: 90 – 130% Allowed: 90 – 160%					
For Cooling Mode of Heat Pump in Condition B Climate		☐ 90% - 100%, plus 15 kBtuh		☐ 90% - 100%, plus 15 kBtuh		☐ 90% - 100%, plus 15 kBtuh					
4.16 Cooling sizing % (4.13) is within cooling sizing limit (4.15) ☒											
Furnace (Complete if furnace will be installed; otherwise check "N/A") ☒ N/A											
4.17 Furnace manufacturer & model:										-	
4.18 Rated heating efficiency: AFUE										-	
4.19 Total capacity: kBtuh										-	
4.20 Heating sizing % = Total capacity (Item 4.19) divided by total heat loss (Item 3.14): 0%										-	
4.21 Check box of applicable heating sizing limit from chart below:										-	
When Used for Heating Only					When Paired With Cooling						
☐ 100 - 140%					☐ Recommended: 100 – 140% Allowed: 100 – 400%						
4.22 Heating sizing % (4.20) is within heating sizing limit (4.21) ☐											
5. Duct Design (Complete if heating or cooling equipment will be installed with ducts; otherwise check "N/A") ☐ N/A											
5.1 Duct system designed for the equipment selected in Section 4, per ACCA Manual D ☒											
5.2 Design HVAC fan airflow: Cooling mode 1050 CFM Heating mode 1050 CFM										-	
5.3 Design HVAC fan speed setting (e.g., low, medium, high): Cooling mode Medium Heating mode Medium										-	
5.4 Design total external static pressure (corresponding to the mode with the higher airflow in Item 5.2): 0.5 IWC										-	
5.5 Room-by-room design airflows documented below (which must sum to the mode with the higher airflow in Item 5.2)										-	
Room Name		Design Airflow (CFM)		Room Name		Design Airflow (CFM)		Room Name		Design Airflow (CFM)	
1	ah	0		12	hall 2	0		23			
2	Bath2	5		13	kitchen	98		24			
3	bath3	26		14	lav	1		25			
4	BR2	54		15	LR	180		26			
5	br3	52		16	mbath	33		27			
6	br4	59		17	mbed	88		28			
7	brkfst	39		18	Room5	3		29			
8	dining	86		19	Room6	12		30			
9	family	224		20	utility	42		31			
10	foy	48		21				32			
11	hall	0		22				Total for all rooms			1050



ENERGY STAR Single-Family New Homes, All Versions (Rev. 11)
ENERGY STAR Multifamily New Construction, All Versions (Rev. 02)
National HVAC Design Supplement to Std. 310 for Dwellings & Units

1. Design Basis									
1.1 Design description (optional):									
1.2 Designer company:		DL Williams Heating & Cooling LLC		Designer name:		Derrick Williams		Date: 09/25/2024	
2. Dwelling Unit Mechanical Ventilation System Design ("Vent System") Inlets in Return Duct								Verified	N/A
Airflow:									
2.1 Ventilation airflow design rate & run-time for each Vent System meets ASHRAE 62.2-2010 or later edition.								☐	
2.2 Access point is specified for Rater to measure ventilation airflow rate and inspect any motorized / shutoff dampers.								☐	
System Controls:									
2.3 Specified controls for each Vent System allow it to operate automatically, without occupant intervention.								☐	
2.4 Specified controls for each Vent System include a readily-accessible override & a label has also been specified if its function is not obvious (e.g., a label is required for a toggle wall switch, but not for a switch that's on the vent. equip.).								☐	
2.5 For any outdoor air inlet designed to connect to a ducted return of the HVAC system, specified controls automatically restrict airflow using a motorized damper during ventilation off-cycle and occupant override.								☐	☐
Sound:		2.6 Specified fan of each Vent System is rated ≤ 3 sones if intermittent and ≤ 1 sone if continuous, or exempted.						☐	
Efficiency: (Complete if Vent System controller operates HVAC fan or Vent System uses bath fans; otherwise, check "N/A")								☐	
2.7 If Vent System controller operates the HVAC fan, then HVAC fan operation is intermittent and either fan type in HVAC design report is ECM or controls will reduce the run-time by accounting for HVAC system heating or cooling hours.								☐	☐
2.8 If bathroom fans are specified as part of any Vent System, then they are ENERGY STAR certified.								☐	☐
2.9 MFNC Only: If central exhaust fans are specified as part of the Vent System, then if ≤ 1 HP, they are direct-drive, ECM, with variable speed controllers; and if > 1 HP, they are specified with NEMA Premium™ Motors or equivalent.								☐	☐
Air Inlet Location: (Complete this section if system has a specified air inlet location; otherwise check "N/A")								☐	
2.10 Inlet(s) pull ventilation air directly from outdoors and not from attic, crawlspace, garage, or adjacent dwelling unit.								☐	
2.11 Inlet(s) are ≥ 2 ft. above grade or roof deck; ≥ 10 ft. of stretched-string distance from known contamination sources (e.g., stack, vent, exhaust, vehicles) not exiting the roof, and ≥ 3 ft. from known sources exiting the roof.								☐	
2.12 Inlet(s) are provided with rodent / insect screen with ≤ 0.5 inch mesh.								☐	
3. Dwelling Unit Local Mechanical Exhaust Design									
3.1 System(s) are designed that mechanically exhaust air from each dwelling unit kitchen and bathroom directly to the outdoors or to ventilation risers and meet the requirements in Table 1.								☐	
Kitchens:	Runtime:	☒ Continuous	☐ Intermittent	Dwelling Units Served by Fan:		☒ Single Unit	☐ Multiple Units		
Bathrooms:	Runtime:	☒ Continuous	☐ Intermittent	Dwelling Units Served by Fan:		☒ Single Unit	☐ Multiple Units		
4. Heating Equipment, Cooling Equipment, & Equipment Controls Selection									
4.1 MFNC Only: If using Prescriptive Path, equipment serving dwelling units meet the efficiency levels specified in Exhibit X of the National Rater Field Checklist, have programmable thermostatic controls, & do not use electric resistance heating.								☐	☐
4.2 MFNC Only: Thermostatic controls for systems serving a dwelling unit are within the unit and not located on exterior walls. If more than one system provides heating or cooling to the same space, controls prevent simultaneous operation.								☐	☐
Air Conditioners & Heat Pumps		If none will be installed, check N/A ☐		1		2		3	
4.3 Unique name or ID for each system:				Entire House					
4.4 Maximum sensible and total heat gain load of zone served (kBtuh):				25.9 31.1					
4.5 Sensible, latent, & total cooling capacity at design conditions (kBtuh):				27.6 5.6 33.2					
4.6 If HP, heating capacity at 17°F and at 47°F (kBtuh):				21.4 33.2 N/A ☐		N/A ☐		N/A ☐	
4.7 Compressor speed type:				Single					
4.8 Cooling sizing % & applicable sizing limit key from Table 2:				106.9 C1					
4.9 If C2 chosen in Item 4.8, load sensible heat ratio & HDD / CDD ratio:				N/A ☒		N/A ☒		N/A ☒	
4.10 Affirm that cooling sizing % is within cooling sizing limit (4.8):				☒		☐		☐	
Furnaces		If none will be installed, check N/A ☒		1		2		3	
4.11 Unique name or ID for each system:				Entire House					
4.12 Total heat loss load of zone served (kBtuh):									
4.13 Total heating capacity (kBtuh):									
4.14 Heating sizing % & applicable sizing limit key from Table 3:									
4.15 Affirm that heating sizing % is within heating sizing limit (4.14):				☐		☐		☐	
5. Duct Design		5.1 All duct requirements in Table 4 have been included in the design, where applicable.						☐	☐

ANSI / RESNET / ACCA 310 HVAC Design Report (1,2)

1. Design Basis & Architectural Scope												
1.1 Design description (optional):												
1.2 Design company:			DL Williams Heating & Cooling LLC		Designer name:		Derrick Williams		Date: 09/25/2024			
1.3 Software name and version used to complete design:					Right-Suite® Universal 2024 24.0.03 RSU02245			N/A ☐				
For a Dwelling, Townhouse, or Dwelling / Sleeping Unit Within (i.e. duplex):												
1.4 Architectural plan name or address of property:												
1.5 Architectural options used in the design(3):												
1.6 Other architectural options that the design can be used with:(4)												
For a Dwelling / Sleeping Unit Not Within a Dwelling or Townhouse (e.g. condo, apartment):												
1.7 Unique ID for bldg. that the dwelling / sleeping unit is in:(5)												
1.8 Architectural plan used in design (e.g. dwelling unit model):												
1.9 Other architectural plans that the design can be used with:(6)												
1.10 Architectural options used in the design:(3)												
1.11 Other architectural options that the design can be used with:(4)												
1.12 Dwelling / sleeping unit location used in design:(7)												
2. Dwelling-Unit Mechanical Ventilation System Design												
Ventilation System Type & Control Location:				System 1		System 2		System 3				
2.1 Unique name or ID for each system:(8)												
2.2 Vent. equipment manufacturer & model #:(9)												
2.3 Specified system type:(10)				Balanced w/o Recovery								
2.4 Specified control location:(11)												
2.5 Ventilation zone name(s) served by system:(12)				Entire House								
Ventilation Zone Served by Ventilation System:				Zone 1		Zone 2		Zone 3				
2.6 Ventilation zone name:(12)				Entire House								
2.7 Design basis:(13)				Other								
2.8 Floor area (sq. ft.) and # bedrooms in vent. zone:				2263 1								
2.9 Ventilation design airflow rate (CFM):(14)												
2.10 Vent. runtime per cycle & cycle time (mins):				0 of every 0								
2.11 Time-averaged mechanical vent. rate (CFM):(15)												
3. Heat Gain & Heat Loss Loads												
3.1 Design basis for the loads:(16)			ACCA Manual J v8 2016			3.2 Load methodology:(17)			Room-by-Room			
3.3 Indoor design temperatures used in loads (°F):					Heating Season:		68		Cooling Season: 75			
3.4 Outdoor design temperatures used in loads (°F):(18)					Heating Season:		33		Cooling Season: 92			
3.5 Outdoor design temperature location & data source:(19)					Union, FL			Data Source:		ACCA std.		
Zone-Specific Inputs & Loads at Design Conditions				Zone 1		Zone 2		Zone 3				
3.6 Name of heated or cooled zone:(20)				Entire House								
3.7 Occupants & total occup. internal gains (Btuh):(21)				9 2070								
3.8 Total non-occupant internal gains (Btuh):				3500								
3.9 Conditioned floor area (sq. ft.):(22)				2263								
3.10 Window area (sq. ft.):(23)				237								
3.11 Predominant window SHGC:(24)				0.23								
3.12 Predominant insulation nominal R-value:(24,25)				Wall: 13.0 Ceiling:30.0		Wall: Ceiling:		Wall: Ceiling:				
3.13 Infiltration rate (Qualitative or ACH50):(26)				Average								
3.14 Time-averaged mechanical vent. rate (CFM):				0								
3.15 Heat gain (kBtuh):(27)				Sensible	Latent	Total	Sensible	Latent	Total	Sensible	Latent	Total
				N	25.9	5.2	31.1					
				NE	25.6	5.2	30.8					
				E	25.5	5.2	30.7					
				SE	24.6	5.2	29.8					
				S	25.8	5.2	31.0					
				SW	25.9	5.2	31.1					
				W	25.8	5.2	31.0					
				NW	24.7	5.2	29.9					
3.16 Maximum – minimum total heat gain (kBtuh):(28)						1.3						
3.17 Total heat loss (kBtuh):				28.6								

ANSI / RESNET / ACCA 310 HVAC Design Report (1,2)

4. Heating & Cooling Equipment Selection		1		2		3	
Air Conditioners, Heat Pumps, & Other Cooling Equipment (If none of these will be installed, check "N/A")							N/A ☐
4.1 Unique name or ID for each system:	Entire House						
4.2 Zone(s) that system serves (See Item 3.6):	Entire House						
4.3 Equipment type:(29)	HP						
4.4 Evaporator / fan coil mfr. & model #:(30)	TRAN TEM6A0C42H41						
4.5 Condenser mfr. & model #:(30)	TRAN 4TWR5036H1		N/A ☐	N/A ☒			N/A ☒
4.6 AHRI ref. #, or check box for alt. OEM doc.:(31)	10514560	OEM ☐		OEM ☒			OEM ☒
4.7 If AC / HP, rated cooling efficiency:(32)	15.4 SEER2	N/A ☐		N/A ☒			N/A ☒
4.8 If HP, rated heating efficiency:(33)	8 HSPF2	N/A ☐		N/A ☒			N/A ☒
4.9 If HP, ratio of max. to min. rated capacity:	1.6	N/A ☐		N/A ☒			N/A ☒
4.10 If AC / HP, blower fan motor & speed type:(34)	Other	Single	N/A ☐	N/A ☒			N/A ☒
4.11 If AC / HP, compressor speed type:(35)	Single	N/A ☐		N/A ☒			N/A ☒
4.12 If AC / HP, meter device type:(36)		N/A ☐		N/A ☒			N/A ☒
4.13 If TXV or EEV, OEM subcooling target (°F):(37)	0.0	N/A ☐		N/A ☒			N/A ☒
4.14 Filter performance metric and rating:(38)		N/A ☒		N/A ☒			N/A ☒
Furnaces, Boilers, & Other Heating Equipment (If none of these will be installed, check "N/A")							N/A ☒
4.15 Unique name or ID for each system:							
4.16 Zone(s) that system serves (See Item 3.6):							
4.17 Equipment type:(39)							
4.18 Equipment manufacturer & model #:							
4.19 AHRI ref. #, or check box for alt. OEM doc.:(31)		OEM ☒		OEM ☒			OEM ☒
4.20 If furnace or boiler, rated heating efficiency:		N/A ☒		N/A ☒			N/A ☒
4.21 If furnace, blower fan motor & speed type:(34)		N/A ☒		N/A ☒			N/A ☒
4.22 If furnace or boiler, heating capacity type:(40)		N/A ☒		N/A ☒			N/A ☒
4.23 If furnace or boiler, venting type:(41)		N/A ☒		N/A ☒			N/A ☒
4.24 Filter performance metric and rating:(38)		N/A ☒		N/A ☒			N/A ☒
5. Duct Design (Complete if duct system will be installed; otherwise check "N/A")							N/A ☐
5.1 Unique name or ID for each system:	Entire House						
5.2 Zone(s) that system serves (See Item 3.6):	Entire House						
Design Values for Cooling and Heating Mode	Cooling	Heating	Cooling	Heating	Cooling	Heating	
5.3 Design blower fan airflow (CFM):(42)	1050	1050					
5.4 Design blower fan speed setting:(43)	Medium	Medium					
5.5 Design external static pressure (IWC):(44)	0.5						
5.6 Room-by-room design airflows (CFM):	Room Name	Airflow	Room Name	Airflow	Room Name	Airflow	
Total Design Airflow:	[All rooms]	1050	[All rooms]		[All rooms]		
1.	ah	0					
2.	Bath2	5					
3.	bath3	26					
4.	BR2	54					
5.	br3	52					
6.	br4	59					
7.	brkfst	39					
8.	dining	86					
9.	family	224					
10.	foy	48					
11.	hall	0					
12.	hall 2	0					
13.	kitchen	98					
14.	lav	1					
15.	LR	180					
16.	mbath	33					
17.	mbed	88					
18.	Room5	3					
19.	Room6	12					

ANSI / RESNET / ACCA 310 HVAC Design Report (1,2)

5.6 Room-by-room design airflows (Continued):	Room Name	Airflow	Room Name	Airflow	Room Name	Airflow
21.						
22.						
23.						
24.						
25.						
26.						
27.						
28.						
29.						
30.						
31.						
32.						
33.						
34.						
35.						

Footnotes

- The purpose of this report is to document the design information required by ANSI / RESNET / ACCA 310 – a standard for grading the installation of HVAC systems - for a dwelling, townhouse, or dwelling / sleeping unit. The HVAC designer should complete one report per dwelling, townhouse, or dwelling / sleeping unit that encompasses all HVAC systems (e.g., for a dwelling with two zones, the HVAC system for each zone should be documented in the same report).
- Note that this report will be reviewed by users of the standard (e.g., a rater) to ensure that the design meets the tolerances defined in Section 4.3 of ANSI / RESNET / ACCA 310. The HVAC systems will not be eligible to earn recognition for proper installation unless all tolerances are met.
- If the HVAC design documented in this report incorporated one or more options (e.g., media room option), then list those options.
- If this same HVAC design could be used with other options (e.g., bonus room, balcony with sliding glass door), then list those option(s).
- For example, the name of the development or the building's address.
- If this same HVAC design could be used with other plans (e.g., other dwelling unit models) in the building, then list those plan(s).
- Because the loads are dependent on the dwelling / sleeping unit's location in the building, indicate whether the design is for the Top Floor, a Mid-Level-Floor, or the Bottom-Floor of the building; and either a Corner Unit or Middle Unit that is between two other units.
- For example, the unique ID might be "Pow der Bath Fan" or "Whole-House ERV".
- The ventilation equipment manufacturer and model number are required to be reported for dwelling / sleeping units not within a dwelling or townhouse; and are optional for dwellings, townhouses, and sleeping / dwelling units within (i.e., duplex).
- Ventilation system types are: Supply - a supply-only system, Exhaust - an exhaust-only system, Balanced w/o Recov. - a balanced system without energy or heat recovery, ERV - an energy recovery ventilator, HRV - a heat recovery ventilator, Vent. Dehumidifier - a ventilation system with integrated dehumidifier, or Other - any other system type.
- For example, common ventilation control locations include a bathroom or utility room.
- For example, the ventilation zone name may be "Whole Dw elling", "Upper Level", "Lower Level", or "Basement".
- Design basis options are: 62.2-2010 - ASHRAE 62.2-2010, 62.2-2013 - ASHRAE 62.2-2013, 62.2-2016 - ASHRAE 62.2-2016, 62.2-2019 - ASHRAE 62.2 - 2019, or Other - any other ventilation standard.
- Enter the airflow rate of the ventilation system when operating (e.g., a 50 CFM cycled bath fan has a ventilation airflow rate of 50 CFM).
- The following formula shall be used to determine the time-averaged ventilation airflow rate: Time Averaged Vent Rate = Vent Rate * Runtime Per Cycle / Cycle Time Where : • Time Averaged Vent Rate = The time - averaged ventilation airflow rate. • Vent Rate = The design's ventilation airflow rate reported in Item 2.9. • Runtime Per Cycle = The runtime per cycle reported in Item 2.10. • Cycle Time = The cycle time reported in Item 2.10.
- Design basis options for the heat gain and heat loss loads are: ACCA Manual J v8 2013 - ACCA Manual J v8, 2013 edition; ACCA Manual J v8 2016 - ACCA Manual J v8, 2016 edition; 2017 ASHRAE Fund. - 2017 ASHRAE Fundamentals; or Per AHJ - a design basis prescribed by the Authority Having Jurisdiction.
- Load methodology options are: Room-by-Room or Single Block. Note that for dwellings, townhouses, and dwelling / sleeping units within (i.e., duplex), the room - by - room load methodology must be used. See Fn. 2 for details.
- Note that the outdoor design temperatures must meet the limits defined in ANSI / RESNET / ACCA 310 Appendix A for the county or U.S. Territory where the project will be constructed. See Fn. 2 for details.
- The location shall include the city or weather station and the state. The data source options are: ACCA - ACCA Manual J, ASHRAE - ASHRAE Handbook of Fundamentals, or AHJ - design conditions prescribed by the Authority Having Jurisdiction.
- For example, the heated or cooled zone name may be "Upper Level", "Master Suite", or "Basement".

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21. To determine the number of occupants, calculate the number of bedrooms in the zone and add one. ANSI / RESNET / ACCA 310 defines a "bedroom" for one - and two - family dwellings and townhouses as a room or space 70 square feet of floor area or greater, with egress window or skylight, and doorway to the main body of the dwelling unit, that can be used for sleeping. For all other Dwelling Units, a room or space that can be used for sleeping. For all dwelling or sleeping units, the number of bedrooms shall not be less than one. ANSI / RESNET / ACCA 310 defines an "egress window" as an operable window that provides for a means of escape and access for rescue in the event of an emergency and with the following attributes : • Has a sill height of not more than 44 inches above the floor; and, • Has a minimum net clear opening of 5.7 sq.ft., opening height of 24 in., and opening width of 20 in.; and, • Is operational from the inside of the room without the use of keys, tools or special knowledge. The number of occupants must fall within the tolerance specified in ANSI / RESNET / ACCA 310. See Fn. 2 for details.
22. The difference between the Conditioned Floor Area (CFA) used in the design and the actual dwelling, townhouse, or dwelling / sleeping unit must fall within the tolerance specified in ANSI / RESNET / ACCA 310. See Fn. 2 for details. Be advised, the CFA will be evaluated using the definition in ANSI / RESNET / ACCA 310, which defines this value, in part, as the floor area of the Conditioned Space Volume within a building or dwelling unit, not including the floor area of attics, crawlspaces, and basements below air sealed and insulated floors.
23. The difference between the window area used in the design and the actual dwelling, townhouse, or dwelling / sleeping unit must fall within the tolerance specified in ANSI / RESNET / ACCA 310. See Fn. 2 for details. Be advised, the window area will be evaluated by calculating it using the on - site inspection protocol provided in Normative Appendix B of ANSI / RESNET / ICC 301, which instructs the user to measure the width and height of the rough opening for the window and round to the nearest inch, and then to use these measurements to calculate window area, rounding to the nearest tenth of a square foot. See <https://codes.iccsafe.org/content/chapter/16191/> for the complete protocol.
24. "Predominant" is defined as the SHGC or R-value used in the greatest amount of window, wall, or ceiling area in the zone.
25. If both cavity and continuous insulation are used, report the sum of the nominal R-value of the cavity and continuous insulation.
26. The infiltration rate shall be reported using a qualitative input (i.e., Tight, Semi-Tight, Average, Semi-Leaky, Leaky) or in units of ACH50.
27. Provide loads for the orientation(s) that the design is intended to be used in (e.g., N, S, E, W), where orientation is defined as the direction that the front door of the dwelling is facing. For example, if a site - specific design has been completed for a single project, only the loads for the single orientation of that project need to be provided.
28. If the heat gain has been provided for multiple orientations, then the difference between the max. and min. total heat gain across the orientations specified must be reported and fall within the tolerance specified in ANSI / RESNET / ACCA 310. See Fn. 2 for details.
29. Equipment type options are: AC - Air Conditioner, HP - Heat Pump, MNAC - Mini-Split Air Conditioner, MNHP - Mini-Split Heat Pump, MTAC - Multi - Split Air Conditioner, MTHP - Multi - Split Heat Pump, and Other - any other cooling equipment type.
30. For single-package systems or systems without a condenser (e.g., evaporative cooler), provide manufacturer and model number in Item 4.4 and select "N / A" for Item 4.5.
31. If an AHRI Reference Number is not available, OEM-provided documentation shall be collected with the rated efficiency of the equipment. If the equipment contains multiple components, the rated efficiency shall reflect the specific combination of indoor and outdoor components, along with confirmation from the OEM that the two components are designed to be used together.
32. For example, if the metric for the rated efficiency of the equipment is SEER, then its SEER rating shall be reported; if the metric is EER, then its EER rating shall be reported; if both SEER and EER, then both rated values shall be reported.
33. For example, if the metric for the rated efficiency of the equipment is HSPF, then its HSPF rating shall be reported; if the metric is COP, then its COP rating shall be reported; if both HSPF and COP, then both rated values shall be reported.
34. Blower fan motor type options are: PSC - Permanent Split Capacitor, ECM - Electronically Commutated Motor, or Other - any other motor type. For blower fan speed type, while equipment typically has multiple speed settings to select from during installation, this parameter is related to the number of operational speeds that the blower fan is capable of : Single - a system that operates at no more than one speed setting each for heating mode and cooling mode, Two - a system that can operate at no more than two speeds each for heating mode and cooling mode, Variable - a system that can operate at more than two speeds.
35. The compressor speed type is related to the number of operational speeds that the compressor is capable of: Single - a system that operates at no more than one speed setting each for heating mode and cooling mode, Two - a system that can operate at no more than two speeds each for heating mode and cooling mode, Variable - a system that can operate at more than two speeds.
36. Meter device type options are: Piston/Cap - piston / capillary tube, TXV - thermal expansion valve, or EEV - electronic expansion valve.
37. If the meter device type is TXV or EEV, then provide then the OEM-specified subcooling target at the service valve.
38. For example, MERV or FPR.
39. Equipment type options are: Furnace, Boiler, or Other - any other heating equipment type.
40. Heating capacity type options are: Single-Stage, Two-Stage, or Modulating.
41. Vent. type options are: Natural Draft - natural draft system, Mech. Draft - mechanical draft system, or Direct Vent - direct-vent appliance.
42. Provide design airflow in cubic feet per minute of air with a density of 0.075 pounds per cubic foot. Airflow at this air density is often referred to as Standard CFM (SCFM) and represents air at 68 °F, 50 % relative humidity, and at a barometric pressure of 29.92" Hg.
43. This is the OEM setting that corresponds with the design blower fan airflow. Common examples include low, medium-low, medium, medium - high, and high, but also may be defined in terms of dip - switch settings or other classifications