



Building Analysis

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:

Gainesville Regional, FL, US
Elevation: 123 ft
Latitude: 30°N

Outdoor:

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

Heating

33
-
-
15.0

Cooling

92
18 (M)
76
7.5

Indoor:

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

Heating

68
35
30
8.2

Cooling

75
17
50
43.8

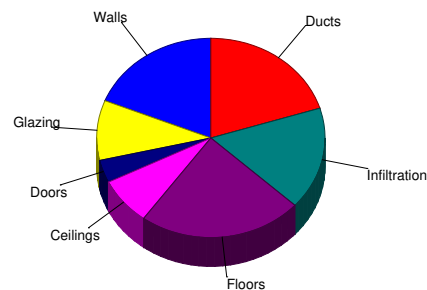
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

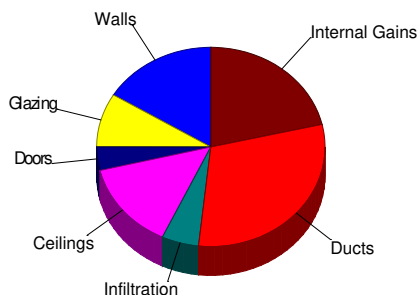
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.2	4516	18.9
Glazing	16.4	2323	9.7
Doors	20.9	877	3.7
Ceilings	1.1	1835	7.7
Floors	3.4	5541	23.2
Infiltration	2.5	3978	16.7
Ducts		4820	20.2
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		23889	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.2	3205	16.3
Glazing	12.1	1719	8.7
Doors	17.8	748	3.8
Ceilings	1.7	2806	14.2
Floors	0	0	0
Infiltration	0.6	1035	5.3
Ducts		5982	30.4
Ventilation		0	0
Internal gains		4210	21.4
Blower		0	0
Adjustments		0	0
Total		19705	100.0



Latent Cooling Load = 4183 Btuh

Overall U-value = 0.088 Btuh/ft²-°F, Window / Floor Area = 8.6 %

Data entries checked.



Load Short Form

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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	44		

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model 5TWR5030A1
AHRI ref 215610921
Efficiency 7.8 HSPF2
Heating input
Heating output 26200 Btuh @ 47°F
Temperature rise 26 °F
Actual air flow 907 cfm
Air flow factor 0.038 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 31 °F

Backup:
Input = 7 kW, Output = 22822 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 5TWR5030A1
Coil 5TEM4B03AC31++TDR+TSTAT
AHRI ref 215610921
Efficiency 12.0 EER2, 15.2 SEER2
Sensible cooling 19040 Btuh
Latent cooling 8160 Btuh
Total cooling 27200 Btuh
Actual air flow 907 cfm
Air flow factor 0.046 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.82

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
br4	143	1698	1159	64	53
utility	66	103	825	4	38
AH	18	0	0	0	0
mbath	110	1405	666	53	31
wic	45	1655	635	63	29
mbed	215	2957	2408	112	111
great	234	4814	5133	183	236
kitchen	123	174	2166	7	100
br2	156	1944	1052	74	48
bath	48	749	336	28	15
br3	156	4788	2209	182	102
foyer	118	1437	1151	55	53
dining	216	2165	1965	82	90

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



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...\\Trane\\Adams Preserve lot 88- 1635 manuals.rup Calc = MJ8 Front Door faces: N

Entire House	1648	23889	19705	907	907
Other equip loads		0	0		
Equip. @ 0.97 RSM			19153		
Latent cooling			4183		
TOTALS	1648	23889	23336	907	907

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Loads for Multiple Orientations

Entire House

DL Williams Heating & Cooling LLC

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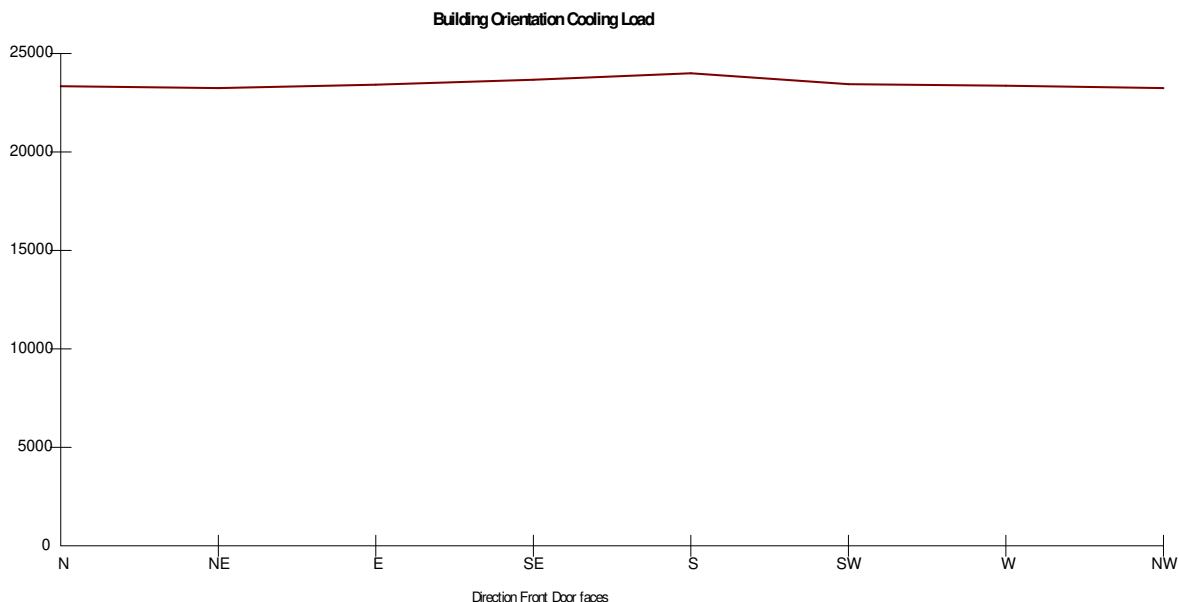
Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92			
Daily range (°F)	-	18 (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)	19153	19057	19229	19484	19811	19258	19177	19057
Latent Load (Btuh)	4183	4183	4183	4183	4183	4183	4183	4183
Total Load (Btuh)	23336	23240	23412	23667	23994	23440	23360	23240
Heating AVF (cfm)	907	907	907	907	907	907	907	907
Cooling AVF (cfm)	907	907	907	907	907	907	907	907



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

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





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

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Supporting Detail	
Project Name: Adams Preserve lot 88- 1635 manuals	Date: 04/01/2025
Address: Lake City, FL	
Phone:	Job ID: 1

Worksheet A Location and Design Conditions	
Weather Location: Gainesville Regional, FL, US	Elevation = 123 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 = 44 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.





Component Constructions
Entire House
DL Williams Heating & Cooling LLC

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Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum	ne	525	0.091	13.0	3.17	1663	2.25	1180
board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	299	0.091	13.0	3.17	947	2.25	672
	sw	465	0.091	13.0	3.17	1473	2.25	1045
	nw	137	0.091	13.0	3.17	434	2.25	308
	all	1426	0.091	13.0	3.17	4516	2.25	3205

Partitions

(none)

Windows

4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr	ne	45	0.470	0	16.4	736	11.4	513
innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light; se	60	0.470	0	16.4	981	11.4	685	
50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.);	sw	15	0.470	0	16.4	245	11.4	171
6.67 ft head ht	nw	15	0.470	0	16.4	245	11.4	171
	all	135	0.470	0	16.4	2208	11.4	1540
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr	nw	7	0.470	0	16.4	114	11.4	80
innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light;								
50% outdoor insect screen; 8 ft overhang (7 ft window ht, 2 ft sep.);								
6.67 ft head ht								

Doors

11J0: Door, mtl fbrgl type	se	21	0.600	6.3	20.9	438	17.8	374
	nw	21	0.600	6.3	20.9	438	17.8	374
	all	42	0.600	6.3	20.9	877	17.8	748

Ceilings

16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		1648	0.032	30.0	1.11	1835	1.70	2806
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Floors

22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		161	0.989	0	34.4	5541	0	0
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Component Constructions

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Plan: 1635

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Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	95	0.091	13.0	3.17	301	2.25	214
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	15	0.470	0	16.4	245	11.4	171
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		143	0.032	30.0	1.11	159	1.70	243
Floors								
22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		11	0.989	0	34.4	379	0	0



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Component Constructions
utility
DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
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Plan: 1635

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Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		8.2	43.8
		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	18 (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 (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		66	0.032	30.0	1.11	73	1.70	112
Floors (none)								



Component Constructions

AH

DL Williams Heating & Cooling LLC

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PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:

Gainesville Regional, FL, US
Elevation: 123 ft
Latitude: 30°N

Outdoor:

	Heating	Cooling
Dry bulb (°F)	33	92
Daily range (°F)	-	18 (M)
Wet bulb (°F)	-	76
Wind speed (mph)	15.0	7.5

Indoor:

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

Heating

68
35
30
8.2

Cooling

75
17
50
43.8

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
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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

18	0.032	30.0	1.11	20	1.70	31
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Floors
(none)



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Component Constructions
mbath
DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
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For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	110	0.091	13.0	3.17	348	2.25	247
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		110	0.032	30.0	1.11	122	1.70	187
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		11	0.989	0	34.4	379	0	0



Component Constructions

wic
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Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		
		Infiltration:		Heating	Cooling
		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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum	se	50	0.091	13.0	3.17	158	2.25	112
board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	90	0.091	13.0	3.17	285	2.25	202
	all	140	0.091	13.0	3.17	443	2.25	315
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	1.11	50	1.70	77
Floors								
22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		14	0.989	0	34.4	482	0	0





Component Constructions

mbed
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Design Conditions

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Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum	se	120	0.091	13.0	3.17	380	2.25	270
board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	40	0.091	13.0	3.17	127	2.25	90
	all	160	0.091	13.0	3.17	507	2.25	360
Partitions								
(none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr	se	30	0.470	0	16.4	491	11.4	342
innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light;								
50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.);								
6.67 ft head ht								
Doors								
(none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2"		215	0.032	30.0	1.11	239	1.70	366
gypsum board int fnsh								
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		19	0.989	0	34.4	654	0	0



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...Trane\Adams Preserve lot 88- 1635 manuals.rup Calc = MJ8 Front Door faces: N

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Component Constructions

great
DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum	ne	130	0.091	13.0	3.17	412	2.25	292
board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	129	0.091	13.0	3.17	409	2.25	290
	all	259	0.091	13.0	3.17	820	2.25	582
Partitions								
(none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr	se	30	0.470	0	16.4	491	11.4	342
innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light;								
50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.);								
6.67 ft head ht								
Doors								
11J0: Door, mtl flbrgl type	se	21	0.600	6.3	20.9	438	17.8	374
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2"		234	0.032	30.0	1.11	261	1.70	398
gypsum board int fnsh								
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		31	0.989	0	34.4	1067	0	0



Component Constructions

kitchen

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
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Plan: 1635

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Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		8.2	43.8
Heating	Cooling	Infiltration:			
Dry bulb (°F)	33	92	Method		Simplified
Daily range (°F)	-	18 (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
(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

123	0.032	30.0	1.11	137	1.70	209
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Floors
(none)





Component Constructions

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DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:			Indoor:	Heating	Cooling
Gainesville Regional, FL, US			Indoor temperature (°F)	68	75
Elevation: 123 ft			Design TD (°F)	35	17
Latitude: 30°N			Relative humidity (%)	30	50
			Moisture difference (gr/lb)	8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method	Simplified	
Daily range (°F)	-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	115	0.091	13.0	3.17	364	2.25	258
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	15	0.470	0	16.4	245	11.4	171
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		156	0.032	30.0	1.11	174	1.70	266
Floors								
22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		13	0.989	0	34.4	447	0	0



Component Constructions

bath

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
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Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	60	0.091	13.0	3.17	190	2.25	135
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		48	0.032	30.0	1.11	53	1.70	82
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		6	0.989	0	34.4	207	0	0



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Component Constructions

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DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum	ne	130	0.091	13.0	3.17	412	2.25	292
board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	130	0.091	13.0	3.17	412	2.25	292
	nw	105	0.091	13.0	3.17	333	2.25	236
	all	365	0.091	13.0	3.17	1156	2.25	820
Partitions								
(none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr	nw	15	0.470	0	16.4	245	11.4	171
innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light;								
50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.);								
6.67 ft head ht								
Doors								
(none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2"		156	0.032	30.0	1.11	174	1.70	266
gypsum board int fnsh								
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		38	0.989	0	34.4	1308	0	0



A M&M® / Berkshire Hathaway Company

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Component Constructions

foyer

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (M)	Construction quality		
Wet bulb (°F)	-	76	Simplified		
Wind speed (mph)	15.0	7.5	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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	nw	32	0.091	13.0	3.17	101	2.25	72
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light; 50% outdoor insect screen; 8 ft overhang (7 ft window ht, 2 ft sep.); 6.67 ft head ht	nw	7	0.470	0	16.4	114	11.4	80
Doors								
11J0: Door, mtl fbrgl type	nw	21	0.600	6.3	20.9	438	17.8	374
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		118	0.032	30.0	1.11	131	1.70	201
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		6	0.989	0	34.4	207	0	0



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...Trane\Adams Preserve lot 88- 1635 manuals.rup Calc = MJ8 Front Door faces: N

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Component Constructions

dining

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.2	43.8
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (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, vnl ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	90	0.091	13.0	3.17	285	2.25	202
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	30	0.470	0	16.4	491	11.4	342
Doors (none)								
Ceilings								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-30 ceil ins, 1/2" gypsum board int fnsh		216	0.032	30.0	1.11	241	1.70	368
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		12	0.989	0	34.4	413	0	0



Project Summary

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Notes:

Design Information

Weather: Gainesville Regional, FL, US

Winter Design Conditions

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

Ventilation Method MJ8

Heating Summary

Structure	19069 Btuh
Ducts (R-6.0)	4820 Btuh
Central vent (0 cfm)	0 Btuh

Humidification	0 Btuh
Piping	0 Btuh
Equipment load	23889 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft ²)	1648	1648
Volume (ft ³)	16480	16480
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	104	55

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	5TWR5030A1
AHRI ref	215610921

Efficiency	7.8 HSPF2
Heating input	
Heating output	26200 Btuh @ 47°F
Temperature rise	26 °F
Actual air flow	907 cfm
Air flow factor	0.038 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 31 °F	

Backup:
Input = 7 kW, Output = 22822 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	44 gr/lb

Sensible Cooling Equipment Load Sizing

Structure	13723 Btuh
Ducts (R-6.0)	5982 Btuh
Central vent (0 cfm)	0 Btuh

Blower 0 Btuh

Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	19153 Btuh

Latent Cooling Equipment Load Sizing

Structure	3029 Btuh
Ducts	1154 Btuh
Central vent (0 cfm)	0 Btuh

Equipment latent load 4183 Btuh

Equipment Total Load (Sen+Lat)	23336 Btuh
Req. total capacity at 0.70 SHR	2.3 ton

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	5TWR5030A1
Coil	5TEM4B03AC31++TDR+TSTAT
AHRI ref	215610921

Efficiency	12.0 EER2, 15.2 SEER2
Sensible cooling	19040 Btuh
Latent cooling	8160 Btuh
Total cooling	27200 Btuh
Actual air flow	907 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.82

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



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Page 1



AED Assessment
Entire House
DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

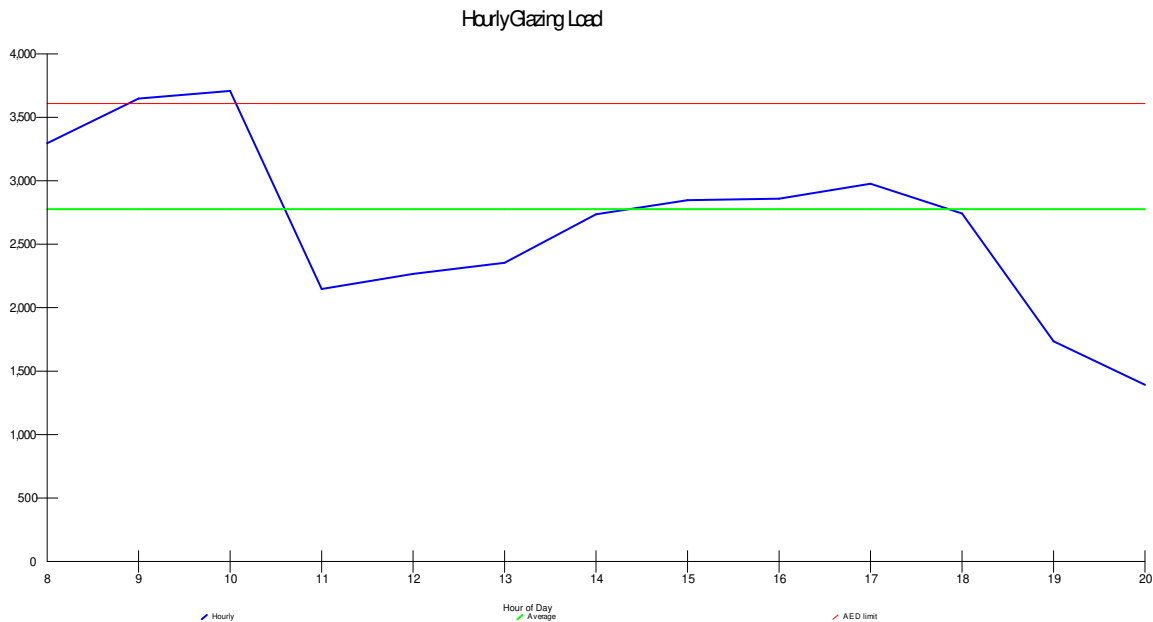
Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional, FL, US		Indoor temperature (°F)		68	75
Elevation: 123 ft		Design TD (°F)		35	17
Latitude: 30°N		Relative humidity (%)		30	50
Outdoor:		Heating	Cooling	Moisture difference (gr/lb)	
Drybulb (°F)		33	92	8.2	43.8
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		
Infiltration:					

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 33.6%.

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

AED excursion: 99 Btuh (PFG - 1.3*AFG)



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

Job: 1
Date: 04/01/2025
By: DL Williams Heating & Cooling
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

1	Room name					Entire House					br4			
2	Exposed wall					10.0 ft					11.0 ft			
3	Room height					10.0 ft					10.0 ft			
4	Room dimensions					13.0 x 11.0 ft					heat/cool			
5	Room area					1648.0 ft²					143.0 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	3.17	2.25	570	525	1663	1180	0	0	0	0
.	G	4A5-2ov	0.470	ne	16.36	11.41	45	0	736	513	0	0	0	0
.	W	12C-0sw	0.091	se	3.17	2.25	380	299	947	672	0	0	0	0
.	G	4A5-2ov	0.470	se	16.36	11.41	60	15	981	685	0	0	0	0
11	D	11J0	0.600	se	20.88	17.82	21	21	438	374	0	0	0	0
.	W	12C-0sw	0.091	sw	3.17	2.25	480	465	1473	1045	110	95	301	214
.	G	4A5-2ov	0.470	sw	16.36	11.41	15	4	245	171	15	2	245	171
.	W	12C-0sw	0.091	nw	3.17	2.25	180	137	434	308	0	0	0	0
.	G	4A5-2ov	0.470	nw	16.36	11.41	15	0	245	171	0	0	0	0
.	G	4A5-2ov	0.470	nw	16.36	11.41	7	0	114	80	0	0	0	0
.	D	11J0	0.600	nw	20.88	17.82	21	21	438	374	0	0	0	0
.	C	16B-30ad	0.032	-	1.11	1.70	1648	1648	1835	2806	143	143	159	243
.	F	22A-tpl	0.989	-	34.42	0.00	1648	161	5541	0	143	11	379	0

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



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

Job: 1
Date: 04/01/2025
By: DL Williams Heating & Cooling
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

1	Room name					utility					AH				
2	Exposed wall					0 ft					0 ft				
3	Room height					10.0 ft					10.0 ft				
4	Room dimensions					1.0 x 66.0 ft					3.0 x 6.0 ft				
5	Room area					66.0 ft²					18.0 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	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	ne	16.36	11.41	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	se	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	se	16.36	11.41	0	0	0	0	0	0	0	0	
11	D	11J0	0.600	se	20.88	17.82	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	sw	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	sw	16.36	11.41	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	nw	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0	
.	D	11J0	0.600	nw	20.88	17.82	0	0	0	0	0	0	0	0	
.	C	16B-30ad	0.032	-	1.11	1.70	66	66	73	112	18	18	20	31	
.	F	22A-tpl	0.989	-	34.42	0.00	66	0	0	0	18	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: 04/01/2025
By: DL Williams Heating & Cooling
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

1	Room name					mbath 11.0 ft					wic 14.0 ft				
2	Exposed wall					10.0 ft					10.0 ft				
3	Room height					heat/cool					heat/cool				
4	Room dimensions					10.0 x 11.0 ft					5.0 x 9.0 ft				
5	Room area					110.0 ft²					45.0 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	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	ne	16.36	11.41	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	se	3.17	2.25	0	0	0	0	50	50	158	112	
.	G	4A5-2ov	0.470	se	16.36	11.41	0	0	0	0	0	0	0	0	
11	D	11J0	0.600	se	20.88	17.82	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	sw	3.17	2.25	110	110	348	247	90	90	285	202	
.	G	4A5-2ov	0.470	sw	16.36	11.41	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	nw	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0	
.	D	11J0	0.600	nw	20.88	17.82	0	0	0	0	0	0	0	0	
.	C	16B-30ad	0.032	-	1.11	1.70	110	110	122	187	45	45	50	77	
.	F	22A-tpl	0.989	-	34.42	0.00	110	11	379	0	45	14	482	0	

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...Trane\Adams Preserve lot 88- 1635 manuals.rup Calc = MJ8 Front Door faces: N



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

Job: 1
Date: 04/01/2025
By: DL Williams Heating & Cooling
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

1	Room name					mbed 19.0 ft					great 31.0 ft				
2	Exposed wall					10.0 ft					10.0 ft				
3	Room height					1.0					18.0				
4	Room dimensions					215.0 ft					234.0 ft				
5	Room area					215.0 ft²					234.0 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	3.17	2.25	0	0	0	0	130	130	412	292	
.	G	4A5-2ov	0.470	ne	16.36	11.41	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	se	3.17	2.25	150	120	380	270	180	129	409	290	
.	G	4A5-2ov	0.470	se	16.36	11.41	30	4	491	342	30	4	491	342	
11	D	11J0	0.600	se	20.88	17.82	0	0	0	0	21	21	438	374	
.	W	12C-0sw	0.091	sw	3.17	2.25	40	40	127	90	0	0	0	0	
.	G	4A5-2ov	0.470	sw	16.36	11.41	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	nw	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0	
.	D	11J0	0.600	nw	20.88	17.82	0	0	0	0	0	0	0	0	
.	C	16B-30ad	0.032	-	1.11	1.70	215	215	239	366	234	234	261	398	
.	F	22A-tpl	0.989	-	34.42	0.00	215	19	654	0	234	31	1067	0	
	</														

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



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...\\Trane\\Adams Preserve lot 88- 1635 manuals.rup Calc = MJ8 Front Door faces: N

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

Job: 1
Date: 04/01/2025
By: DL Williams Heating & Cooling
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

1	Room name					kitchen				br2				
2	Exposed wall					0 ft				13.0 ft				
3	Room height					10.0 ft				10.0 ft				
4	Room dimensions					1.0 x 123.0 ft				12.0 x 13.0 ft				
5	Room area					123.0 ft²				156.0 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	3.17	2.25	0	0	0	0	130	115	364	258
.	G	4A5-2ov	0.470	ne	16.36	11.41	0	0	0	0	15	0	245	171
.	W	12C-0sw	0.091	se	3.17	2.25	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	se	16.36	11.41	0	0	0	0	0	0	0	0
11	D	11J0	0.600	se	20.88	17.82	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	sw	3.17	2.25	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	sw	16.36	11.41	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	nw	3.17	2.25	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0
.	D	11J0	0.600	nw	20.88	17.82	0	0	0	0	0	0	0	0
.	C	16B-30ad	0.032	-	1.11	1.70	123	123	137	209	156	156	174	266
.	F	22A-tpl	0.989	-	34.42	0.00	123	0	0	0	156	13	447	0

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



A Wrightsoft® / Wrightsoft® Heating & Cooling Company

Right-Suite® Universal 2025 25.0.01 RSU02245

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

Job: 1
Date: 04/01/2025
By: DL Williams Heating & Cooling
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

1	Room name					bath 6.0 ft				br3 38.0 ft				
2	Exposed wall					10.0 ft				10.0 ft				
3	Room height					8.0				12.0				
4	Room dimensions					48.0 ft ²				156.0 ft ²				
5	Room area					heat/cool				heat/cool				
	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	3.17	2.25	60	60	190	135	130	130	412	292
.	G	4A5-2ov	0.470	ne	16.36	11.41	0	0	0	0	0	0	0	0
.	W	12C-0sw	0.091	se	3.17	2.25	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	se	16.36	11.41	0	0	0	0	0	0	0	0
11	D	11J0	0.600	se	20.88	17.82	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	3.17	2.25	0	0	0	0	130	130	412	292
	G	4A5-2ov	0.470	sw	16.36	11.41	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	nw	3.17	2.25	0	0	0	0	120	105	333	236
	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	15	0	245	171
	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0
	D	11J0	0.600	nw	20.88	17.82	0	0	0	0	0	0	0	0
	C	16B-30ad	0.032	-	1.11	1.70	48	48	53	82	156	156	174	266
	F	22A-tpl	0.989	-	34.42	0.00	48	6	207	0	156	38	1308	0

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



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...\\Trane\\Adams Preserve lot 88- 1635 manuals.rup Calc = MJ8 Front Door faces: N

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

Job: 1
Date: 04/01/2025
By: DL Williams Heating & Cooling
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

1	Room name					foyer 6.0 ft					dining 12.0 ft				
2	Exposed wall					10.0 ft					10.0 ft				
3	Room height					1.0					18.0				
4	Room dimensions					118.0 ft					12.0 ft				
5	Room area					118.0 ft²					216.0 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	3.17	2.25	0	0	0	0	120	90	285	202	
.	G	4A5-2ov	0.470	ne	16.36	11.41	0	0	0	0	30	0	491	342	
.	W	12C-0sw	0.091	se	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	se	16.36	11.41	0	0	0	0	0	0	0	0	
11	D	11J0	0.600	se	20.88	17.82	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	sw	3.17	2.25	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	sw	16.36	11.41	0	0	0	0	0	0	0	0	
.	W	12C-0sw	0.091	nw	3.17	2.25	60	32	101	72	0	0	0	0	
.	G	4A5-2ov	0.470	nw	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	nw	16.36	11.41	7	0	114	80	0	0	0	0	
.	D	11J0	0.600	nw	20.88	17.82	21	21	438	374	0	0	0	0	
.	C	16B-30ad	0.032	-	1.11	1.70	118	118	131	201	216	216	241	368	
.	F	22A-tpl	0.989	-	34.42	0.00	118	6	207	0	216	12	413	0	

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



Right-Suite® Universal 2025 25.0.01 RSU02245

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Duct system multi orientation report

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Group 1: (N, SE, S, SW, NW) Group 2: (NE, E, 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												
bath	28 h	12x12	4	28 h	12x12	4	28 h	12x12	4	28 h	12x12	4
br2	74 h	12x12	5	74 h	12x12	5	74 h	12x12	5	74 h	12x12	5
br3	182 h	12x12	8	182 h	12x12	8	182 h	12x12	8	182 h	12x12	8
br4	64 h	12x12	5	64 h	12x12	5	64 h	12x12	5	64 h	12x12	5
dining	110 c	12x12	6	90 c	12x12	5	90 c	12x12	5	111 c	12x12	6
foyer	55 h	12x12	5	55 h	12x12	5	58 c	12x12	5	55 c	12x12	5
great	222 c	12x12	8	236 c	12x12	8	234 c	12x12	8	217 c	12x12	8
kitchen	104 c	12x12	6	100 c	12x12	6	102 c	12x12	6	101 c	12x12	6
mbath	53 h	12x12	5	53 h	12x12	5	53 h	12x12	5	53 h	12x12	5
mbed	112 h	12x12	6	112 h	12x12	6	112 h	12x12	6	112 h	12x12	6
utility	40 c	12x12	4	38 c	12x12	4	39 c	12x12	4	39 c	12x12	4
wic	63 h	12x12	5	63 h	12x12	5	63 h	12x12	5	63 h	12x12	5
Supply Trunks												
st1	589 c		12	597 c		12	593 c		12	580 c		12
st2A	55 h		5	55 h		5	58 c		5	55 c		5
st2	339 h		10	339 h		10	339 h		10	339 h		10
Return Branches												
rb1	907 c	12x12	16	907 c	12x12	16	907 c	12x12	16	907 c	12x12	16
Friction Rates												
Heating FR	0.182			0.182			0.182			0.182		
Cooling FR	0.182			0.182			0.182			0.182		

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

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												
path	28 h	12x12	4	28 h	12x12	4	28 h	12x12	4	28 h	12x12	4
br2	74 h	12x12	5	74 h	12x12	5	74 h	12x12	5	74 h	12x12	5
br3	182 h	12x12	8	182 h	12x12	8	182 h	12x12	8	182 h	12x12	8
br4	64 h	12x12	5	64 h	12x12	5	64 h	12x12	5	64 h	12x12	5
dining	121 c	12x12	6	109 c	12x12	6	91 c	12x12	5	111 c	12x12	6
foyer	55 h	12x12	5	55 h	12x12	5	55 h	12x12	5	55 h	12x12	5
great	218 c	12x12	8	231 c	12x12	8	244 c	12x12	8	230 c	12x12	8
kitchen	103 c	12x12	6	99 c	12x12	6	101 c	12x12	6	98 c	12x12	6
mbath	53 h	12x12	5	53 h	12x12	5	53 h	12x12	5	53 h	12x12	5
mbed	112 h	12x12	6	112 h	12x12	6	117 c	12x12	6	112 h	12x12	6
utility	39 c	12x12	4	38 c	12x12	4	38 c	12x12	4	37 c	12x12	4
wic	63 h	12x12	5	63 h	12x12	5	63 h	12x12	5	63 h	12x12	5
Supply Trunks												
st1	593 c		12	604 c		12	613 c		12	606 c		12
st2A	55 h		5	55 h		5	55 h		5	55 h		5
st2	339 h		10	339 h		10	339 h		10	339 h		10
Return Branches												
rb1	907 c	12x12	16	907 c	12x12	16	907 c	12x12	16	907 c	12x12	16
Friction Rates												
Heating FR	0.182			0.182			0.182			0.182		
Cooling FR	0.182			0.182			0.182			0.182		



Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Duct Name	Largest			Smalest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches						
bath	28 h	12x12	4	28 h	12x12	4
br2	74 h	12x12	5	74 h	12x12	5
br3	182 h	12x12	8	182 h	12x12	8
br4	64 h	12x12	5	64 h	12x12	5
dining	121 c	12x12	6	90 c	12x12	5
foyer	58 c	12x12	5	55 h	12x12	5
great	244 c	12x12	8	217 c	12x12	8
kitchen	104 c	12x12	6	98 c	12x12	6
mbath	53 h	12x12	5	53 h	12x12	5
mbed	117 c	12x12	6	112 h	12x12	6
utility	40 c	12x12	4	37 c	12x12	4
wic	63 h	12x12	5	63 h	12x12	5
Supply Trunks						
st1	613 c		12	580 c		12
st2A	58 c		5	55 h		5
st2	339 h		10	339 h		10
Return Branches						
rb1	907 c	12x12	16	907 c	12x12	16
Friction Rates						
Heating FR	0.182			0.182		
Cooling FR	0.182			0.182		

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: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

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	3	1
Measured length of trunk	6	0
Equivalent length of fittings	205	60
Total length	214	61
Total effective length		275

Friction Rate

	Heating (in/100ft)	Cooling (in/100ft)
Supply Ducts	0.182 > 0.18	0.182 > 0.18
Return Ducts	0.182 > 0.18	0.182 > 0.18

Fitting Equivalent Length Details

Supply	4AD=60, 11M=20, 11M=20, 12J1=10, 11M=20, 11M=20, 11M=20, 1A=35: TotalEL=205
Return	6M=20, 5D=40: TotalEL=60



Duct System Summary

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Supply / return available pressure	0.389 / 0.111 in H ₂ O	0.389 / 0.111 in H ₂ O
Lowest friction rate	0.182 in/100ft	0.182 in/100ft
Actual air flow	907 cfm	907 cfm
Total effective length (TEL)	275 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
bath	h 749	28	15	0.227	4.0	0x0	VIFx	16.2	155.0	st2
br2	h 1944	74	48	0.270	5.0	0x0	VIFx	9.3	135.0	st2
br3	h 4788	182	102	0.200	8.0	0x0	VIFx	19.9	175.0	st2
br4	h 1698	64	53	0.377	5.0	0x0	VIFx	8.1	95.0	
dining	c 1965	82	90	0.309	5.0	0x0	VIFx	11.1	115.0	st1
foyer	h 1437	55	53	0.182	5.0	0x0	VIFx	8.8	205.0	st2A
great	c 5133	183	236	0.215	8.0	0x0	VIFx	26.1	155.0	st1
kitchen	c 2166	7	100	0.304	6.0	0x0	VIFx	12.8	115.0	st1
mbath	h 1405	53	31	0.291	5.0	0x0	VIFx	18.9	115.0	st1
mbed	h 2957	112	111	0.213	6.0	0x0	VIFx	28.0	155.0	st1
utility	c 825	4	38	0.458	4.0	0x0	VIFx	5.0	80.0	
wic	h 1655	63	29	0.203	5.0	0x0	VIFx	36.4	155.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	500	597	0.203	760	12.0	0 x 0	VinIFlx	st2
st2A	Peak AVF	55	53	0.182	400	5.0	0 x 0	VinIFlx	
st2	Peak AVF	339	219	0.182	621	10.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden



Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	907	907	61.0	0.182	650	16.0	0x 0		VIFx	



Manual S Compliance Report

Entire House

DL Williams Heating & Cooling LLC

Job: 1
Date: 04/01/2025
By: DL Williams Heating & C...
Plan: 1635

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: office@dlwilliamsheatingandcooling.com Web: www.dlwilliamsheatingandcooling.com

Project Information

For: Preserve lot 88- 1635, Adams Homes
Lake City, FL

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	19705 Btuh	Entering coil DB:	77.0°F
Outdoor design WB:	75.8°F	Latent gain:	4183 Btuh	Entering coil WB:	63.5°F
Indoor design DB:	75.0°F	Total gain:	23888 Btuh		
Indoor RH:	50%	Estimated airflow:	907 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	5TWR5030A1+5TEM4B03AC31++TDR+TSTAT
Actual airflow:	907 cfm		
Sensible capacity:	19040 Btuh	97% of load	
Latent capacity:	8160 Btuh	195% of load	
Total capacity:	27200 Btuh	114% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	23889 Btuh	Entering coil DB:	67.1°F
Indoor design DB:	68.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	5TWR5030A1+5TEM4B03AC31++TDR+TSTAT
Actual airflow:	907 cfm		
Output capacity:	26200 Btuh	110% of load	Capacity balance: 31 °F
Supplemental heat required:	0 Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	907 cfm		
Output capacity:	6.7 kW	96% of load	Temp. rise: 26 °F

Meets all requirements of ACCA Manual S.



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...TraneAdams Preserve lot 88- 1635 manuals.rup Calc = MJ8 Front Door faces: N



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 # 1635

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

Applicable Attachments

Manual J1 Form and Worksheet A: ☐ Yes ☐ No
OEM performance data (heating, cooling, blower): ☐ Yes ☐ No
Duct distribution sketch: ☐ Yes ☐ No
IRC Table R301.2 (climate & geographic design criteria) ☐ Yes ☐ No

HVAC LOAD CALCULATION

(IRC M1401.3)

Manual J Design Criteria and Loads

Location

Elevation 123 ft
Altitude Correction Factor 1.00
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 23889 Btuh
Sensible Heat Gain 19705 Btuh
Latent Heat Gain 4183 Btuh
Total Heat Gain 23888 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 26200 Btuh Sizing Value 23889 Btuh
Supplemental 0 Btuh Sizing Limit 175.0 %
Heat Load: Capacity 95.5 %

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 5TWR5030A1

Sensible 19040 Btuh Sizing Value 23888 Btuh
Latent 8160 Btuh Sizing Limit 115.0 %
Total 27200 Btuh Load: Capacity 113.9 %

Size Factor is within Manual S Size Limit? Y ☒ N ☐

HVAC DUCT DISTRIBUTION DESIGN

(IRC M1601.1)

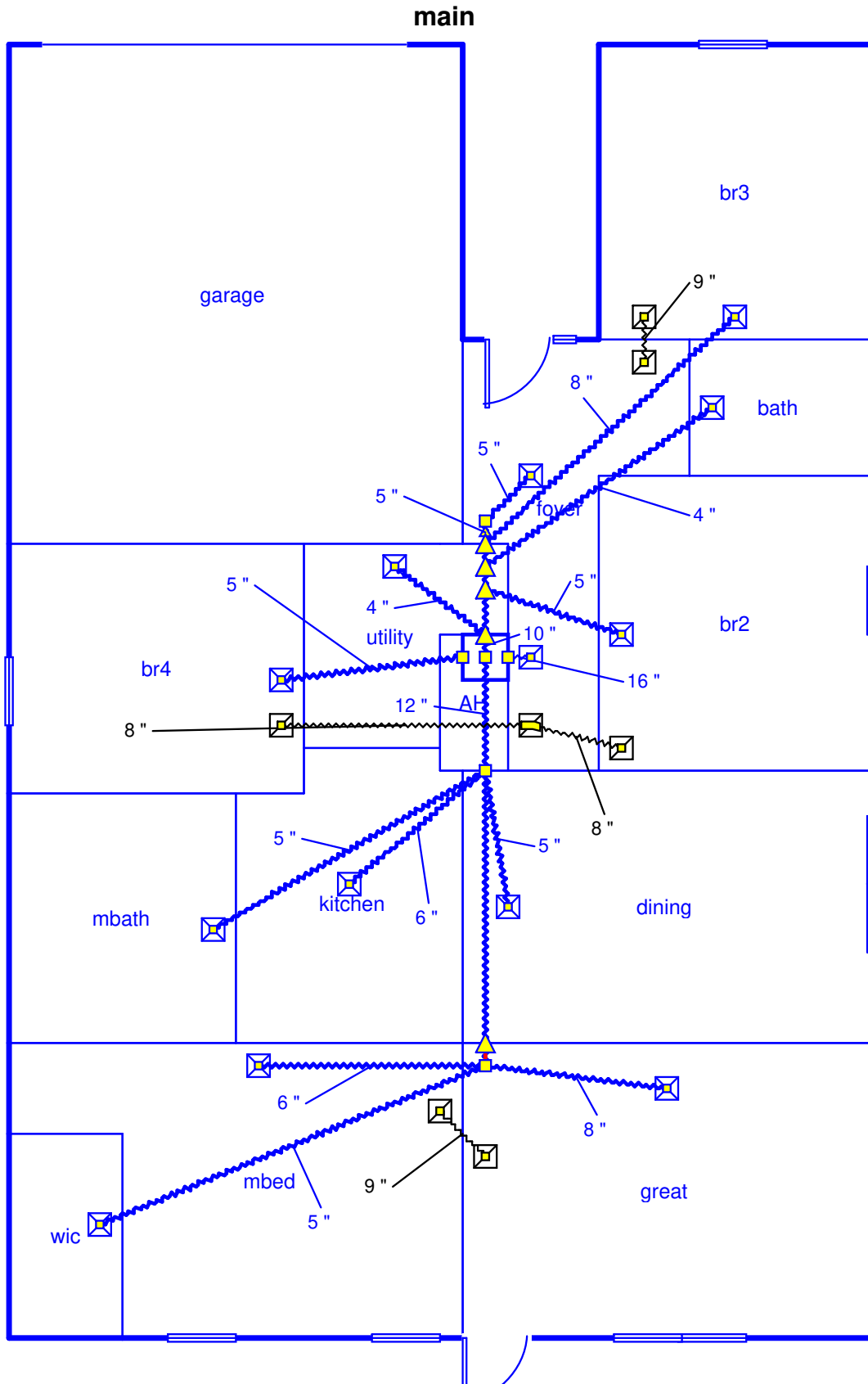
Design airflow 907 cfm Longest Supply Duct 214 ft Duct Materials Used
External Static Pressure (ESP) 0.50 in H2O Longest Return Duct 61.0 ft Trunk Duct: ☐ Duct Board ☐ Sheet Metal
Component Pressure Loss (CPL) 0 in H2O Total Effective Length (TEL) 275 ft ☒ Flex ☐ Lined Sheet Metal ☐ Other
Available static pressure (ASP) 0.50 in H2O Friction Rate 0.18 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: _____



Job #: 1
Performed by DL Williams Heating & Cooling
Preserve lot 88- 1635
Lake City, FL

DL Williams Heating & Cooling LLC
PO Box 2156
Lake City, FL 32056
Phone: 386-754-1987
www.dlwilliamsheatingandcooling.com office@dlwilliamsheati

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