



Building Analysis

Entire House

DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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

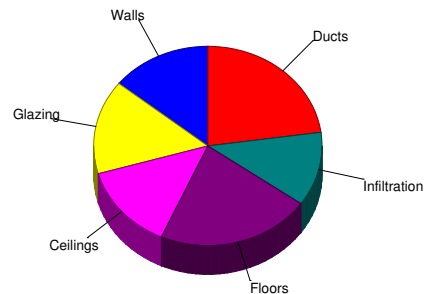
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

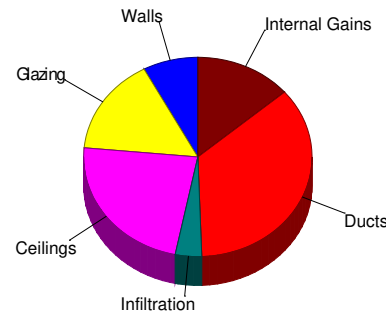
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.2	4590	14.2
Glazing	16.4	4940	15.3
Doors	0	0	0
Ceilings	2.0	4467	13.8
Floors	3.3	7056	21.8
Infiltration	2.2	3884	12.0
Ducts		7366	22.8
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		32302	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.4	2005	7.8
Glazing	13.3	4031	15.7
Doors	0	0	0
Ceilings	2.7	5975	23.3
Floors	0	0	0
Infiltration	0.5	960	3.7
Ducts		9166	35.7
Ventilation		0	0
Internal gains		3520	13.7
Blower		0	0
Adjustments		0	0
Total		25657	100.0



Latent Cooling Load = 4150 Btuh

Overall U-value = 0.099 Btuh/ft²·°F, Window / Floor Area = 13.9 %

Data entries checked.



Load Short Form

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Project Information

For: Adams Homes Preserve lot 13-2169, 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	44		

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model 4TWR6036H1
AHRI ref 7562981
Efficiency 7.8 HSPF2
Heating input
Heating output 33000 Btuh @ 47°F
Temperature rise 25 °F
Actual air flow 1200 cfm
Air flow factor 0.037 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 33 °F

Backup:
Input = 9 kW, Output = 31600 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 4TWR6036H1
Coil TEM6A0C36H31++TDR
AHRI ref 7562981
Efficiency 13.0 EER2, 15.4 SEER2
Sensible cooling 24360 Btuh
Latent cooling 10440 Btuh
Total cooling 34800 Btuh
Actual air flow 1050 cfm
Air flow factor 0.041 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.86

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
br2	182	4313	1574	160	64
wic3	20	0	0	0	0
ah	16	0	0	0	0
bath	72	1228	801	46	33
br3	164	1862	1553	69	64
br4	161	4170	2206	155	90
living	120	2274	1667	84	68
dining	120	2097	1929	78	79
hall	48	0	0	0	0
family	468	6713	7695	249	315
kitchen	216	954	3426	35	140
laundry	72	89	931	3	38
wic2	30	542	191	20	8
linebn	15	0	0	0	0

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S

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mbath	101	729	372	27	15
wic1	30	537	183	20	7
masrter bed	280	5057	2056	188	84
bkfst	54	1738	1075	65	44
Entire House	2169	32302	25657	1200	1050
Other equip loads		0	0		
Equip. @ 0.97 RSM			24939		
Latent cooling			4150		
TOTALS	2169	32302	29089	1200	1050

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Loads for Multiple Orientations

Entire House

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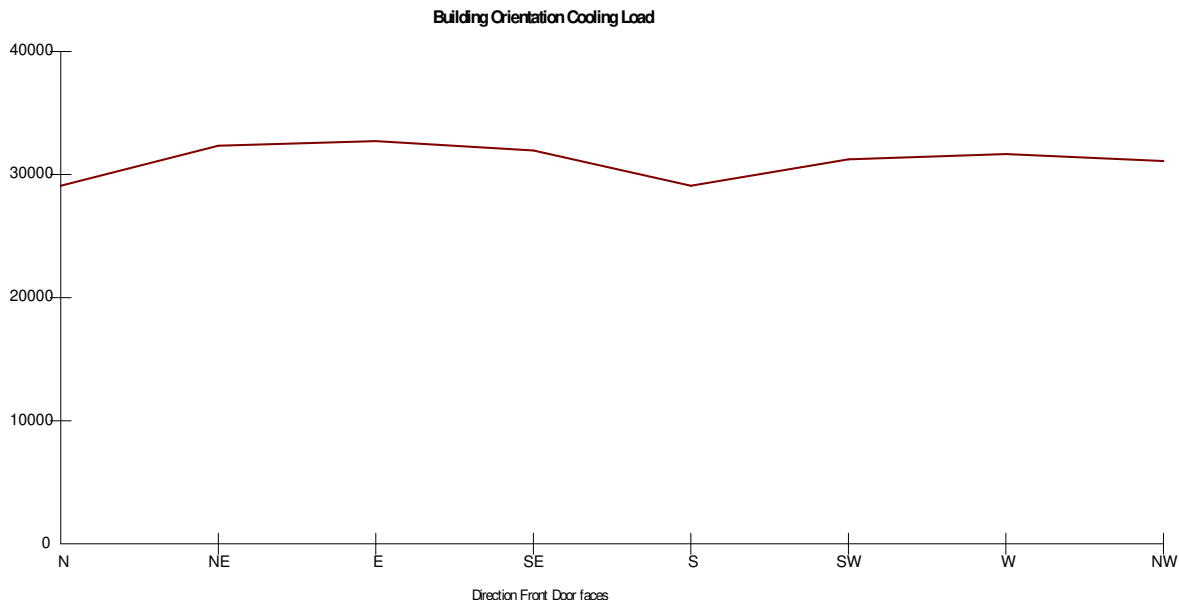
Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FI 32024

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)	24939	28193	28566	27802	24939	27084	27508	26945
Latent Load (Btuh)	4150	4150	4150	4150	4150	4150	4150	4150
Total Load (Btuh)	29089	32343	32716	31953	29089	31234	31659	31095
Heating AVF (cfm)	1200	1200	1200	1200	1200	1200	1200	1200
Cooling AVF (cfm)	1050	1050	1050	1050	1050	1050	1050	1050



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

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S



J1 Form - Worksheet A

Entire House

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Date: 02-21-2025

By: DL Williams Heating & C...

Plan: 2169

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

Supporting Detail

Project Name: Adams Preserve lot 86-2169 Manual

Date: 02-21-2025

Address: Lake City, FL 32024

Phone:

Job ID:

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.



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S

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Component Constructions
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
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Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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:			
Drybulb (°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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	324	0.091	13.0	3.17	1026	1.38	448
	e	504	0.091	13.0	3.17	1595	1.38	697
	s	202	0.091	13.0	3.17	640	1.38	279
	w	420	0.091	13.0	3.17	1330	1.38	581
	all	1450	0.091	13.0	3.17	4590	1.38	2005

Partitions (none)

Windows

10D-v: 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); 8 ft overhang (7 ft window ht, 2 ft sep.); 6.67 ft head ht	n	21	0.470	0	16.4	343	10.2	214
	s	7	0.470	0	16.4	114	14.5	102
	s	7	0.470	0	16.4	114	14.5	102
	all	35	0.470	0	16.4	572	11.9	417
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; 2 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	n	60	0.470	0	16.4	981	11.4	685
	e	30	0.470	0	16.4	491	29.2	875
	s	75	0.470	0	16.4	1227	11.4	856
	all	165	0.470	0	16.4	2699	14.6	2415
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 (5 ft window ht, 2 ft sep.); 6.67 ft head ht	n	75	0.470	0	16.4	1227	11.4	856
	e	6	0.470	0	16.4	98	29.2	175
10D-v: 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; 2 ft overhang (7 ft window ht, 2 ft sep.); 6.67 ft head ht	s	21	0.470	0	16.4	343	7.99	168

Doors (none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh	1290	0.026	38.0	0.90	1167	1.38	1785
17B-6a1: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns	903	0.105	6.0	3.65	3299	4.64	4190

Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh	205	0.989	0	34.4	7056	0	0
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Component Constructions

br2

DL Williams Heating & Cooling L.L.C.

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Plan: 2169

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Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional, FL, US

Elevation: 123 ft

Latitude: 30°N

Outdoor:

Dry bulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

Indoor temperature (°F) 68

Design TD (°F) 35

Relative humidity (%) 30

Moisture difference (gr/lb) 8.2

Heating

Cooling

75

17

50

43.8

Infiltration:

Method Simplified

Construction quality Average

Fireplaces 0

Construction descriptions

Walls

12C-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

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
e	112	0.091	13.0	3.17	355	1.38	155
s	89	0.091	13.0	3.17	282	1.38	123
w	72	0.091	13.0	3.17	228	1.38	100
all	273	0.091	13.0	3.17	865	1.38	378

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; 2 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht

s 15 0.470 0 16.4 245 11.4 171

Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

182 0.026 38.0 0.90 165 1.38 252

Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh

36 0.989 0 34.4 1239 0 0



Component Constructions

wic3

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Project Information

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Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional, FL, US

Elevation: 123 ft

Latitude: 30°N

Outdoor:

Dry bulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

Indoor temperature (°F) 68

Design TD (°F) 35

Relative humidity (%) 30

Moisture difference (gr/lb) 8.2

Heating

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

12C-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

e	32	0.091	13.0	3.17	101	1.38	44
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Partitions

(none)

Windows

(none)

Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

20	0.026	38.0	0.90	18	1.38	28
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Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh

4	0.989	0	34.4	138	0	0
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Component Constructions

ah

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Design Conditions

Location:

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Elevation: 123 ft

Latitude: 30°N

Outdoor:

Dry bulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

18 (M)

Indoor:

Indoor temperature (°F)

Design TD (°F)

Relative humidity (%)

Moisture difference (gr/lb)

Infiltration:

Method

Construction quality

Fireplaces

Heating

68

35

30

8.2

Simplified

Average

0

Cooling

75

17

50

43.8

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-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2"
gypsum board int fnsh

16

0.026

38.0

0.90

14

1.38

22

Floors

(none)



Component Constructions

bath

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Design Conditions

Location:

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Elevation: 123 ft

Latitude: 30°N

Outdoor:

Dry bulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

Indoor temperature (°F)

Design TD (°F)

Relative humidity (%)

Moisture difference (gr/lb)

Infiltration:

Method

Construction quality

Fireplaces

Heating

68

35

30

8.2

Simplified

Average

0

Cooling

75

17

50

43.8

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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

e	58	0.091	13.0	3.17	184	1.38	80
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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, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light; 50% outdoor insect screen; 2 ft overhang (3 ft window ht, 2 ft sep.); 6.67 ft head ht

e	6	0.470	0	16.4	98	29.2	175
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Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

	72	0.026	38.0	0.90	65	1.38	100
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Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh

	8	0.989	0	34.4	275	0	0
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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S

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Component Constructions

br3

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Dry bulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

Indoor temperature (°F)

Design TD (°F)

Relative humidity (%)

Moisture difference (gr/lb)

Infiltration:

Method

Construction quality

Fireplaces

Heating

68

35

30

8.2

Simplified

Average

0

Cooling

75

17

50

43.8

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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

e	97	0.091	13.0	3.17	307	1.38	134
---	----	-------	------	------	-----	------	-----

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; 2 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht

e	15	0.470	0	16.4	245	29.2	438
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Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

	164	0.026	38.0	0.90	148	1.38	227
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Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh

	14	0.989	0	34.4	482	0	0
--	----	-------	---	------	-----	---	---



Component Constructions

br4

DL Williams Heating & Cooling L.L.C.

Job:

Date: 02-21-2025

By: DL Williams Heating & C...

Plan: 2169

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Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	74	0.091	13.0	3.17	234	1.38	102
	e	73	0.091	13.0	3.17	231	1.38	101
	w	64	0.091	13.0	3.17	203	1.38	89
	all	211	0.091	13.0	3.17	668	1.38	292
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; 2 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	n	30	0.470	0	16.4	491	11.4	342
	e	15	0.470	0	16.4	245	29.2	438
	all	45	0.470	0	16.4	736	17.3	780
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		161	0.026	38.0	0.90	146	1.38	223
Floors								
22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh		32	0.989	0	34.4	1101	0	0



Component Constructions living

DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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		
Drybulb (°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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	e	24	0.091	13.0	3.17	75	1.38	33
	s	50	0.091	13.0	3.17	158	1.38	69
	all	74	0.091	13.0	3.17	234	1.38	102
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; 2 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	s	30	0.470	0	16.4	491	11.4	342
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		2	0.026	38.0	0.90	2	1.38	3
17B-6al: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns		121	0.105	6.0	3.65	444	4.64	564
Floors								
22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh		10	0.989	0	34.4	344	0	0



Component Constructions

dining

DL Williams Heating & Cooling L.L.C.

Job:

Date: 02-21-2025

By: DL Williams Heating & C...

Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional, FL, US

Elevation: 123 ft

Latitude: 30°N

Outdoor:

Drybulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

Indoor temperature (°F)

Design TD (°F)

Relative humidity (%)

Moisture difference (gr/lb)

Infiltration:

Method

Construction quality

Fireplaces

Heating

68

35

30

8.2

Simplified

Average

0

Cooling

75

17

50

43.8

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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

s	50	0.091	13.0	3.17	158	1.38	69
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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, 1/8" thk; NFRC rated (SHGC=0.31); 50% blinds 45°, light; 50% outdoor insect screen; 2 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht

s	30	0.470	0	16.4	491	11.4	342
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Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

17B-6al: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns

	1	0.026	38.0	0.90	1	1.38	1
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	122	0.105	6.0	3.65	447	4.64	568
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Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh

	10	0.989	0	34.4	344	0	0
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Component Constructions hall

DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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

Walls
(none)

Partitions
(none)

Windows
(none)

Doors
(none)

Ceilings
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2"
gypsum board int fnsh

Floors
(none)

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
	48	0.026	38.0	0.90	43	1.38	66





Component Constructions
family
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	78	0.091	13.0	3.17	247	1.38	108
	e	44	0.091	13.0	3.17	139	1.38	61
	s	13	0.091	13.0	3.17	41	1.38	18
	all	135	0.091	13.0	3.17	427	1.38	187

Partitions

(none)

Windows

10D-v: 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); 8 ft overhang (7 ft window ht, 2 ft sep.); 6.67 ft head ht	n	21	0.470	0	16.4	343	10.2	214
	s	7	0.470	0	16.4	114	14.5	102
	s	7	0.470	0	16.4	114	14.5	102
	all	35	0.470	0	16.4	572	11.9	417
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 (5 ft window ht, 2 ft sep.); 6.67 ft head ht	n	45	0.470	0	16.4	736	11.4	513
10D-v: 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; 2 ft overhang (7 ft window ht, 2 ft sep.); 6.67 ft head ht	s	21	0.470	0	16.4	343	7.99	168

Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		4	0.026	38.0	0.90	3	1.38	5
17B-6al: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns		477	0.105	6.0	3.65	1743	4.64	2214

Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh		24	0.989	0	34.4	826	0	0
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Component Constructions kitchen

DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	w	32	0.091	13.0	3.17	101	1.38	44

Partitions
(none)

Windows
(none)

Doors
(none)

Ceilings 16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh	87	0.026	38.0	0.90	78	1.38	120
17B-6al: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns	133	0.105	6.0	3.65	486	4.64	617

Floors
(none)



Right-Suite® Universal 2025 25.0.01 RSU02245

...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S

2025-Feb-21 10:22:40

Page 14

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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)

Infiltration:

Method	Simplified
Construction quality	Average
Fireplaces	0

Heating

68	75
35	17
30	50
8.2	43.8

Cooling

75
17
50
43.8

Construction descriptions

Walls
(none)

Partitions

Windows
(none)

Doors
(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

Floors
(none)

Or	Area ft ²	U-value Btuh/ft ² ·°F	Insul R ft ² ·°F/Btuh	Htg HTM Btuh/ft ²	Loss Clg HTM Btuh	Gain Btuh
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72	0.026	38.0	0.90	65	1.38	100
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Component Constructions

wic2

DL Williams Heating & Cooling L.L.C.

Job:

Date: 02-21-2025

By: DL Williams Heating & C...

Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional, FL, US

Elevation: 123 ft

Latitude: 30°N

Outdoor:

Dry bulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

Indoor temperature (°F) 68

Design TD (°F) 35

Relative humidity (%) 30

Moisture difference (gr/lb) 8.2

Heating

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
----	-------------	------------------------	------------------------	---------------------	--------------	---------------------	--------------

Walls

12C-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

w	40	0.091	13.0	3.17	127	1.38	55
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Partitions

(none)

Windows

(none)

Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

30	0.026	38.0	0.90	27	1.38	41
----	-------	------	------	----	------	----

Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh

5	0.989	0	34.4	172	0	0
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Component Constructions

mbath

DL Williams Heating & Cooling L.L.C.

Job:

Date: 02-21-2025

By: DL Williams Heating & C...

Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional, FL, US

Elevation: 123 ft

Latitude: 30°N

Outdoor:

Dry bulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

Indoor temperature (°F)

Design TD (°F)

Relative humidity (%)

Moisture difference (gr/lb)

Infiltration:

Method

Construction quality

Fireplaces

Heating

68

35

30

8.2

Simplified

Average

0

Cooling

75

17

50

43.8

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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

w	48	0.091	13.0	3.17	152	1.38	66
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Partitions

(none)

Windows

(none)

Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

101	0.026	38.0	0.90	91	1.38	140
-----	-------	------	------	----	------	-----

Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh

6	0.989	0	34.4	207	0	0
---	-------	---	------	-----	---	---



Component Constructions

wic1

DL Williams Heating & Cooling L.L.C.

Job:

Date: 02-21-2025

By: DL Williams Heating & C...

Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

Design Conditions

Location:

Gainesville Regional, FL, US

Elevation: 123 ft

Latitude: 30°N

Outdoor:

Dry bulb (°F) 33

Daily range (°F) -

Wet bulb (°F) -

Wind speed (mph) 15.0

Heating

Cooling

(M)

Indoor:

Indoor temperature (°F) 68

Design TD (°F) 35

Relative humidity (%) 30

Moisture difference (gr/lb) 8.2

Heating

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
----	-------------	------------------------	------------------------	---------------------	--------------	---------------------	--------------

Walls

12C-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud

w	40	0.091	13.0	3.17	127	1.38	55
---	----	-------	------	------	-----	------	----

Partitions

(none)

Windows

(none)

Doors

(none)

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh

30	0.026	38.0	0.90	27	1.38	41
----	-------	------	------	----	------	----

Floors

22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh

5	0.989	0	34.4	172	0	0
---	-------	---	------	-----	---	---



Component Constructions
master bed
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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:			
Drybulb (°F)	33	92	Method		Simplified	
Dailyrange (°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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	130	0.091	13.0	3.17	412	1.38	180
	e	64	0.091	13.0	3.17	203	1.38	89
	w	112	0.091	13.0	3.17	355	1.38	155
	all	306	0.091	13.0	3.17	969	1.38	423
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; 2 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	n	30	0.470	0	16.4	491	11.4	342
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		280	0.026	38.0	0.90	253	1.38	387
Floors								
22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh		42	0.989	0	34.4	1446	0	0



Component Constructions

bkfst

DL Williams Heating & Cooling L.L.C.

Job:

Date: 02-21-2025

By: DL Williams Heating & C...

Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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-0bw: Frm wall, brk 4" ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	n	42	0.091	13.0	3.17	133	1.38	58
	w	12	0.091	13.0	3.17	37	1.38	16
	all	54	0.091	13.0	3.17	170	1.38	74
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 (5 ft window ht, 2 ft sep.); 6.67 ft head ht	n	30	0.470	0	16.4	491	11.4	342
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		6	0.026	38.0	0.90	6	1.38	9
17B-6al: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns		49	0.105	6.0	3.65	180	4.64	228
Floors								
22A-vpl: Bg floor, light dry soil, on grade depth, vinyl flr fnsh		9	0.989	0	34.4	310	0	0



Project Summary

Entire House

DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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 24936 Btuh
Ducts (R-6.0) 7366 Btuh
Central vent (0 cfm) 0 Btuh

Humidification 0 Btuh
Piping 0 Btuh
Equipment load 32302 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	2169	2169
Volume (ft ³)	19109	19109
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	102	51

Heating Equipment Summary

Make Trane
Trade TRANE
Model 4TWR6036H1
AHRI ref 7562981

Efficiency 7.8 HSPF2
Heating input
Heating output 33000 Btuh @ 47°F
Temperature rise 25 °F
Actual air flow 1200 cfm
Air flow factor 0.037 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 33 °F

Backup:
Input = 9 kW, Output = 31600 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 16491 Btuh
Ducts (R-6.0) 9166 Btuh
Central vent (0 cfm) 0 Btuh

Blower 0 Btuh

Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 24939 Btuh

Latent Cooling Equipment Load Sizing

Structure 2311 Btuh
Ducts 1839 Btuh
Central vent (0 cfm) 0 Btuh

Equipment latent load 4150 Btuh

Equipment Total Load (Sen+Lat) 29089 Btuh
Req. total capacity at 0.70 SHR 3.0 ton

Cooling Equipment Summary

Make Trane
Trade TRANE
Cond 4TWR6036H1
Coil TEM6A0C36H31++TDR
AHRI ref 7562981

Efficiency 13.0 EER2, 15.4 SEER2
Sensible cooling 24360 Btuh
Latent cooling 10440 Btuh
Total cooling 34800 Btuh
Actual air flow 1050 cfm
Air flow factor 0.041 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.86

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S

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AED Assessment
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

Design Conditions

Location:

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

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

Outdoor:

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

Heating

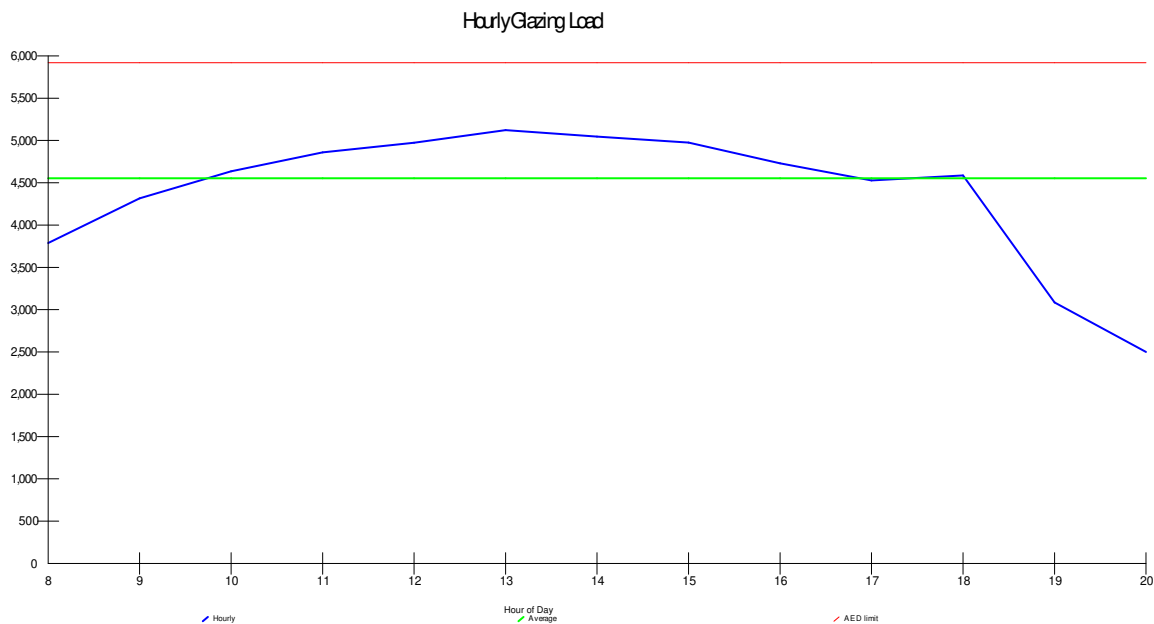
33
-
-
15.0

Cooling

92
18 (M)
76
7.5

Infiltration:

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 12.5%.

House has adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 0 Btuh



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					Entire House					br2				
2	Exposed wall					205.0 ft					36.0 ft				
3	Room height					8.8 ft					8.0 ft				
4	Room dimensions					2169.0 ft²					13.0 x 14.0 ft				
5	Room area					2169.0 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-0bw	0.091	n	3.17	1.38	480	324	1026	448	0	0	0	0	
.	G	10D-v	0.470	n	16.36	10.17	21	0	343	214	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	60	0	981	685	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	75	0	1227	856	0	0	0	0	
11	W	12C-0bw	0.091	e	3.17	1.38	540	504	1595	697	112	112	355	155	
.	G	4A5-2ov	0.470	e	16.36	29.17	6	0	98	175	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	30	0	491	875	0	0	0	0	
.	W	12C-0bw	0.091	s	3.17	1.38	312	202	640	279	104	89	282	123	
.	G	10D-v	0.470	s	16.36	7.99	21	42	343	168	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	14.54	7	14	114	102	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	11.41	75	150	1227	856	15	15	245	171	
.	G	4B5-2fv	0.470	s	16.36	14.54	7	14	114	102	0	0	0	0	
.	W	12C-0bw	0.091	w	3.17	1.38	420	420	1330	581	72	72	228	100	
.	C	16B-38ad	0.026	-	0.90	1.38	1290	1290	1167	1785	182	182	165	252	
.	C	17B-6al	0.105	-	3.65	4.64	903	903	3299	4190	0	0	0	0	
.	F	22A-vpl	0.989	-	34.42	0.00	2169	205	7056	0	182	36	1239	0	

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Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					wic3					ah				
2	Exposed wall					4.0 ft					0 ft				
3	Room height					8.0 ft					8.0 ft				
4	Room dimensions					5.0 x 4.0 ft					4.0 x 4.0 ft				
5	Room area					20.0 ft²					16.0 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-0bw	0.091	n	3.17	1.38	0	0	0	0	0	0	0	0	
.	G	10D-v	0.470	n	16.36	10.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
11	W	12C-0bw	0.091	e	3.17	1.38	32	32	101	44	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	s	3.17	1.38	0	0	0	0	0	0	0	0	
.	G	10D-v	0.470	s	16.36	7.99	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4B5-2fv	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	w	3.17	1.38	0	0	0	0	0	0	0	0	
.	C	16B-38ad	0.026	-	0.90	1.38	20	20	18	28	16	16	14	22	
.	C	17B-6al	0.105	-	3.65	4.64	0	0	0	0	0	0	0	0	
.	F	22A-vpl	0.989	-	34.42	0.00	20	4	138	0	16	0	0	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 L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					bath					br3				
2	Exposed wall					8.0 ft					14.0 ft				
3	Room height					8.0 ft					8.0 ft				
4	Room dimensions					9.0 x 8.0 ft					1.0 x 164.0 ft				
5	Room area					72.0 ft²					164.0 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-0bw	0.091	n	3.17	1.38	0	0	0	0	0	0	0	0	
.	G	10D-v	0.470	n	16.36	10.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
11	W	12C-0bw	0.091	e	3.17	1.38	64	58	184	80	112	97	307	134	
.	G	4A5-2ov	0.470	e	16.36	29.17	6	0	98	175	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	15	0	245	438	
.	W	12C-0bw	0.091	s	3.17	1.38	0	0	0	0	0	0	0	0	
.	G	10D-v	0.470	s	16.36	7.99	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4B5-2fv	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	w	3.17	1.38	0	0	0	0	0	0	0	0	
.	C	16B-38ad	0.026	-	0.90	1.38	72	72	65	100	164	164	148	227	
.	C	17B-6al	0.105	-	3.65	4.64	0	0	0	0	0	0	0	0	
.	F	22A-vpl	0.989	-	34.42	0.00	72	8	275	0	164	14	482	0	
				</											

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					br4					living				
2	Exposed wall					32.0 ft					10.0 ft				
3	Room height					8.0 ft					10.0 ft				
4	Room dimensions					1.0 x 161.0 ft					10.0 x 12.0 ft				
5	Room area					161.0 ft²					120.0 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-0bw	0.091	n	3.17	1.38	104	74	234	102	0	0	0	0	
.	G	10D-v	0.470	n	16.36	10.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	30	0	491	342	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
11	W	12C-0bw	0.091	e	3.17	1.38	88	73	231	101	24	24	75	33	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	15	0	245	438	0	0	0	0	
.	W	12C-0bw	0.091	s	3.17	1.38	0	0	0	0	80	50	158	69	
.	G	10D-v	0.470	s	16.36	7.99	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	11.41	0	0	0	0	30	30	491	342	
.	G	4B5-2fv	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	w	3.17	1.38	64	64	203	89	0	0	0	0	
.	C	16B-38ad	0.026	-	0.90	1.38	161	161	146	223	2	2	2	3	
.	C	17B-6al	0.105	-	3.65	4.64	0	0	0	0	121	121	444	564	
.	F	22A-vpl	0.989	-	34.42	0.00	161	32	1101	0	120	10	344	0	

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					dining					hall				
2	Exposed wall					10.0 ft					0 ft				
3	Room height					10.0 ft					8.0 ft				
4	Room dimensions					10.0 x 12.0 ft					4.0 x 12.0 ft				
5	Room area					120.0 ft²					48.0 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-0bw	0.091	n	3.17	1.38	0	0	0	0	0	0	0	0	
.	G	10D-v	0.470	n	16.36	10.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
11	W	12C-0bw	0.091	e	3.17	1.38	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	s	3.17	1.38	80	50	158	69	0	0	0	0	
.	G	10D-v	0.470	s	16.36	7.99	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	11.41	30	30	491	342	0	0	0	0	
.	G	4B5-2fv	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	w	3.17	1.38	0	0	0	0	0	0	0	0	
.	C	16B-38ad	0.026	-	0.90	1.38	1	1	1	1	48	48	43	66	
.	C	17B-6al	0.105	-	3.65	4.64	122	122	447	568	0	0	0	0	
.	F	22A-vpl	0.989	-	34.42	0.00	120	10	344	0	48	0	0	0	

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					family					kitchen				
2	Exposed wall					24.0 ft					0 ft				
3	Room height					10.0 ft					9.2 ft				
4	Room dimensions					1.0 x 468.0 ft					1.0 x 216.0 ft				
5	Room area					468.0 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-0bw	0.091	n	3.17	1.38	144	78	247	108	0	0	0	0	
.	G	10D-v	0.470	n	16.36	10.17	21	0	343	214	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	45	0	736	513	0	0	0	0	
11	W	12C-0bw	0.091	e	3.17	1.38	44	44	139	61	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	s	3.17	1.38	48	13	41	18	0	0	0	0	
.	G	10D-v	0.470	s	16.36	7.99	21	21	343	168	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	14.54	7	7	114	102	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4B5-2fv	0.470	s	16.36	14.54	7	7	114	102	0	0	0	0	
.	W	12C-0bw	0.091	w	3.17	1.38	0	0	0	0	32	32	101	44	
.	C	16B-38ad	0.026	-	0.90	1.38	4	4	3	5	87	87	78	120	
.	C	17B-6al	0.105	-	3.65	4.64	477	477	1743	2214	133	133	486	617	
.	F	22A-vpl	0.989	-	34.42	0.00	468	24	826	0	216	0	0	0	

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					laundry				wic2				
2	Exposed wall					0 ft				5.0 ft				
3	Room height					8.0 ft				8.0 ft				
4	Room dimensions					6.0 x 12.0 ft				6.0 x 5.0 ft				
5	Room area					72.0 ft²				30.0 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-0bw	0.091	n	3.17	1.38	0	0	0	0	0	0	0	0
.	G	10D-v	0.470	n	16.36	10.17	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0
11	W	12C-0bw	0.091	e	3.17	1.38	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0
.	W	12C-0bw	0.091	s	3.17	1.38	0	0	0	0	0	0	0	0
.	G	10D-v	0.470	s	16.36	7.99	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	s	16.36	11.41	0	0	0	0	0	0	0	0
.	G	4B5-2fv	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0
.	W	12C-0bw	0.091	w	3.17	1.38	0	0	0	0	40	40	127	55
.	C	16B-38ad	0.026	-	0.90	1.38	72	72	65	100	30	30	27	41
.	C	17B-6al	0.105	-	3.65	4.64	0	0	0	0	0	0	0	0
.	F	22A-vpl	0.989	-	34.42	0.00	72	0	0	0	30	5	172	0
								</						

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					linebn 0 ft					mbath 6.0 ft				
2	Exposed wall					8.0 ft					8.0 ft				
3	Room height					5.0 x 3.0 ft					1.0 x 101.0 ft				
4	Room dimensions					15.0 ft²					101.0 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-0bw	0.091	n	3.17	1.38	0	0	0	0	0	0	0	0	0
.	G	10D-v	0.470	n	16.36	10.17	0	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	0
11	W	12C-0bw	0.091	e	3.17	1.38	0	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	0
.	W	12C-0bw	0.091	s	3.17	1.38	0	0	0	0	0	0	0	0	0
.	G	10D-v	0.470	s	16.36	7.99	0	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	0
.	G	4A5-2ov	0.470	s	16.36	11.41	0	0	0	0	0	0	0	0	0
.	G	4B5-2fv	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	0
.	W	12C-0bw	0.091	w	3.17	1.38	0	0	0	0	48	48	152	66	0
.	C	16B-38ad	0.026	-	0.90	1.38	15	15	14	21	101	101	91	140	0
.	C	17B-6al	0.105	-	3.65	4.64	0	0	0	0	0	0	0	0	0
.	F	22A-vpl	0.989	-	34.42	0.00	15	0	0	0	101	6	207	0	0
6	c) AED excursion								0					-3	
	Envelope loss/gain								14	21			450	203	
12	a) Infiltration								0	0			106	26	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @	230			0			0	0			0	
			Appliances/other							0				0	
	Subtotal (lines 6 to 13)								14	21			556	230	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								-14	-21			6	9	
14	Subtotal								0	0			563	239	
15	Duct loads						30%	56%	0	0		30%	56%	166	133
	Total room load								0	0			729	372	
	Air required (cfm)								0	0			27	15	

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					wic1					masrter bed				
2	Exposed wall					5.0 ft					42.0 ft				
3	Room height					8.0 ft					8.0 ft				
4	Room dimensions					6.0 x 5.0 ft					20.0 x 14.0 ft				
5	Room area					30.0 ft²					280.0 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-0bw	0.091	n	3.17	1.38	0	0	0	0	160	130	412	180	
.	G	10D-v	0.470	n	16.36	10.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	30	0	491	342	
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0	0	0	0	0	
11	W	12C-0bw	0.091	e	3.17	1.38	0	0	0	0	64	64	203	89	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	s	3.17	1.38	0	0	0	0	0	0	0	0	
.	G	10D-v	0.470	s	16.36	7.99	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	G	4A5-2ov	0.470	s	16.36	11.41	0	0	0	0	0	0	0	0	
.	G	4B5-2fv	0.470	s	16.36	14.54	0	0	0	0	0	0	0	0	
.	W	12C-0bw	0.091	w	3.17	1.38	40	40	127	55	112	112	355	155	
.	C	16B-38ad	0.026	-	0.90	1.38	30	30	27	41	280	280	253	387	
.	C	17B-6al	0.105	-	3.65	4.64	0	0	0	0	0	0	0	0	
.	F	22A-vpl	0.989	-	34.42	0.00	30	5	172	0	280	42	1446	0	

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



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...VAC\Trane\Adams Preserve lot 86-2169 Manual.rup Calc = MJ8 Front Door faces: S



Right-J® Worksheet
Entire House
DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & Cooling
Plan: 2169

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

1	Room name					bkfst 9.0 ft								
2	Exposed wall					9.8 ft					heat/cool			
3	Room height					9.0					x 6.0 ft			
4	Room dimensions					54.0 ft²								
5	Room area													
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0bw	0.091	n	3.17	1.38	72	42	133	58				
.	G	10D-v	0.470	n	16.36	10.17	0	0	0	0				
.	G	4A5-2ov	0.470	n	16.36	11.41	0	0	0	0				
.	G	4A5-2ov	0.470	n	16.36	11.41	30	0	491	342				
11	W	12C-0bw	0.091	e	3.17	1.38	0	0	0	0				
	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0				
	G	4A5-2ov	0.470	e	16.36	29.17	0	0	0	0				
	W	12C-0bw	0.091	s	3.17	1.38	0	0	0	0				
	G	10D-v	0.470	s	16.36	7.99	0	0	0	0				
	G	4A5-2ov	0.470	s	16.36	14.54	0	0	0	0				
	G	4A5-2ov	0.470	s	16.36	11.41	0	0	0	0				
	G	4B5-2fv	0.470	s	16.36	14.54	0	0	0	0				
	W	12C-0bw	0.091	w	3.17	1.38	12	12	37	16				
	C	16B-38ad	0.026	-	0.90	1.38	6	6	6	9				
	C	17B-6al	0.105	-	3.65	4.64	49	49	180	228				
	F	22A-vpl	0.989	-	34.42	0.00	54	9	310	0				

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





Duct system multi orientation report

Entire House

DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

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

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	46 h	12x6	4	46 h	12x6	4	46 h	12x6	4	46 h	12x6	4
bkfst	65 h	12x6	6	71 c	12x6	6	70 c	12x6	6	65 h	12x6	6
br2	160 h	12x6	6	160 h	12x6	6	160 h	12x6	6	160 h	12x6	6
br3	69 h	12x6	5	69 h	12x6	5	69 h	12x6	5	69 h	12x6	5
br4	155 h	12x6	6	155 h	12x6	6	155 h	12x6	6	155 h	12x6	6
dining	79 c	12x6	7	93 c	12x6	7	97 c	12x6	7	81 c	12x6	7
family	157 c	12x6	6	159 c	12x6	6	157 c	12x6	6	161 c	12x6	6
family-A	157 c	12x6	6	159 c	12x6	6	157 c	12x6	6	161 c	12x6	6
kitchen	140 c	12x6	6	110 c	12x6	6	105 c	12x6	6	115 c	12x6	6
laundry	38 c	12x6	4	30 c	12x6	4	28 c	12x6	4	31 c	12x6	4
living	84 h	12x6	5	85 c	12x6	5	89 c	12x6	5	84 h	12x6	5
masrter bed	94 h	12x6	7	94 h	12x6	7	94 h	12x6	7	94 h	12x6	7
masrter bed-A	94 h	12x6	7	94 h	12x6	7	94 h	12x6	7	94 h	12x6	7
mbath	27 h	12x6	4	27 h	12x6	4	27 h	12x6	4	27 h	12x6	4
wic1	20 h	12x6	4	20 h	12x6	4	20 h	12x6	4	20 h	12x6	4
wic2	20 h	12x6	4	20 h	12x6	4	20 h	12x6	4	20 h	12x6	4
Supply Trunks												
st4	258 h		8	258 h		8	258 h		8	258 h		8
st3	349 h		6	349 h		6	349 h		6	349 h		6
st3A	155 h		6	155 h		6	155 h		6	155 h		6
st1	349 h		9	349 h		9	349 h		9	349 h		9
st2	573 c		14	587 c		14	591 c		14	575 c		14
Return Branches												
rb1	1200 h	12x12	0	1200 h	12x12	0	1200 h	12x12	0	1200 h	12x12	0
Friction Rates												
Heating FR	0.235			0.235			0.235			0.235		
Cooling FR	0.235			0.235			0.235			0.235		

Project Information

For: Adams Homes Preserve lot 13-2169, 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												
bath	46 h	12x6	4	46 h	12x6	4	46 h	12x6	4	46 h	12x6	4
bkfst	65 h	12x6	6	65 h	12x6	6	65 h	12x6	6	65 h	12x6	6
br2	160 h	12x6	6	160 h	12x6	6	160 h	12x6	6	160 h	12x6	6
br3	69 h	12x6	5	69 h	12x6	5	69 h	12x6	5	69 h	12x6	5
br4	155 h	12x6	6	155 h	12x6	6	155 h	12x6	6	155 h	12x6	6
dining	78 h	12x6	7	104 c	12x6	7	114 c	12x6	7	96 c	12x6	7
family	155 c	12x6	6	148 c	12x6	6	149 c	12x6	6	160 c	12x6	6
family-A	155 c	12x6	6	148 c	12x6	6	149 c	12x6	6	160 c	12x6	6
kitchen	138 c	12x6	6	119 c	12x6	6	112 c	12x6	6	117 c	12x6	6
laundry	37 c	12x6	4	32 c	12x6	4	30 c	12x6	4	32 c	12x6	4
living	84 h	12x6	5	95 c	12x6	5	106 c	12x6	5	87 c	12x6	5
masrter bed	94 h	12x6	7	94 h	12x6	7	94 h	12x6	7	94 h	12x6	7
masrter bed-A	94 h	12x6	7	94 h	12x6	7	94 h	12x6	7	94 h	12x6	7
mbath	27 h	12x6	4	27 h	12x6	4	27 h	12x6	4	27 h	12x6	4
wic1	20 h	12x6	4	20 h	12x6	4	20 h	12x6	4	20 h	12x6	4
wic2	20 h	12x6	4	20 h	12x6	4	20 h	12x6	4	20 h	12x6	4
Supply Trunks												
st4	258 h		8	258 h		8	258 h		8	258 h		8
st3	349 h		6	349 h		6	349 h		6	349 h		6
st3A	155 h		6	155 h		6	155 h		6	155 h		6
st1	349 h		9	349 h		9	349 h		9	349 h		9
st2	564 c		14	573 c		14	576 c		14	571 c		14
Return Branches												
rb1	1200 h	12x12	0	1200 h	12x12	0	1200 h	12x12	0	1200 h	12x12	0
Friction Rates												
Heating FR	0.235			0.235			0.235			0.235		
Cooling FR	0.235			0.235			0.235			0.235		

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches						
bath	46 h	12x6	4	46 h	12x6	4
bkfst	71 c	12x6	6	65 h	12x6	6
br2	160 h	12x6	6	160 h	12x6	6
br3	69 h	12x6	5	69 h	12x6	5
br4	155 h	12x6	6	155 h	12x6	6
dining	114 c	12x6	7	78 h	12x6	7
family	161 c	12x6	6	148 c	12x6	6
family-A	161 c	12x6	6	148 c	12x6	6
kitchen	140 c	12x6	6	105 c	12x6	6
laundry	38 c	12x6	4	28 c	12x6	4
living	106 c	12x6	5	84 h	12x6	5
masrter bed	94 h	12x6	7	94 h	12x6	7
masrter bed-A	94 h	12x6	7	94 h	12x6	7
mbath	27 h	12x6	4	27 h	12x6	4
wic1	20 h	12x6	4	20 h	12x6	4
wic2	20 h	12x6	4	20 h	12x6	4
Supply Trunks						
st4	258 h		8	258 h		8
st3	349 h		6	349 h		6
st3A	155 h		6	155 h		6
st1	349 h		9	349 h		9
st2	591 c		14	564 c		14
Return Branches						
rb1	1200 h	12x12	0	1200 h	12x12	0
Friction Rates						
Heating FR	0.235			0.235		
Cooling FR	0.235			0.235		

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 L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FI 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	8	0
Measured length of trunk	20	0
Equivalent length of fittings	185	0
Total length	213	0
Total effective length		213

Friction Rate

	Heating (in/100ft)	Cooling (in/100ft)
Supply Ducts	0.235 > 0.18	0.235 > 0.18
Return Ducts	0.235 > 0.18	0.235 > 0.18

Fitting Equivalent Length Details

Supply	4AD=60, 11A=20, 11A=20, 11A=20, 12J1=10, 1A=35, 11A=20: TotalEL=185
Return	TotalEL=0



Duct System Summary

Entire House

DL Williams Heating & Cooling L.L.C.

Job:

Date: 02-21-2025

By: DL Williams Heating & C...

Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

	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	0.250 / 0.250 in H ₂ O	0.250 / 0.250 in H ₂ O
Lowest friction rate	0.235 in/100ft	0.235 in/100ft
Actual air flow	1200 cfm	1050 cfm
Total effective length (TEL)	213 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 1228	46	33	0.495	4.0	0x0	VIFx	6.0	95.0	st2
bkfst	h 1738	65	44	0.326	6.0	0x0	VIFx	38.2	115.0	
br2	h 4313	160	64	0.519	6.0	0x0	VIFx	1.4	95.0	st3
br3	h 1862	69	64	0.318	5.0	0x0	VIFx	22.2	135.0	
br4	h 4170	155	90	0.235	6.0	0x0	VIFx	28.1	185.0	st3A
dining	c 1929	78	79	0.348	7.0	0x0	VIFx	28.5	115.0	st2
family	c 3848	125	157	0.304	6.0	0x0	VIFx	29.3	135.0	st3
family-A	c 3848	125	157	0.351	6.0	0x0	VIFx	27.3	115.0	st2
kitchen	c 3426	35	140	0.345	6.0	0x0	VIFx	29.8	115.0	st2
laundry	c 931	3	38	0.283	4.0	0x0	VIFx	41.4	135.0	st4
living	h 2274	84	68	0.467	5.0	0x0	VIFx	12.1	95.0	st4
masrter bed	h 2528	94	42	0.266	7.0	0x0	VIFx	53.3	135.0	
masrter bed-A	h 2528	94	42	0.273	7.0	0x0	VIFx	48.2	135.0	st4
mbath	h 729	27	15	0.279	4.0	0x0	VIFx	44.1	135.0	st4
wic1	h 537	20	7	0.271	4.0	0x0	VIFx	49.8	135.0	st4
wic2	h 542	20	8	0.269	4.0	0x0	VIFx	51.1	135.0	st4

Bold/italic values have been manually overridden



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Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4	Peak AVF	258	153	0.266	740	8.0	0 x 0	VinIFlx	st2
st3	Peak AVF	349	311	0.235	1776	6.0	0 x 0	VinIFlx	st1
st3A	Peak AVF	155	90	0.235	789	6.0	0 x 0	VinIFlx	st3
st1	Peak AVF	349	311	0.235	789	9.0	0 x 0	VinIFlx	
st2	Peak AVF	561	573	0.266	536	14.0	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	1200	1050	0	0	0	0	0x 0		VIFx	

Bold/italic values have been manually overridden



Manual S Compliance Report

Entire House

DL Williams Heating & Cooling L.L.C.

Job:
Date: 02-21-2025
By: DL Williams Heating & C...
Plan: 2169

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

Project Information

For: Adams Homes Preserve lot 13-2169, Adams Homes
Lake City, FL 32024

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	25657	Btuh	Entering coil DB:	77.7°F
Outdoor design WB:	75.8°F	Latent gain:	4150	Btuh	Entering coil WB:	63.8°F
Indoor design DB:	75.0°F	Total gain:	29808	Btuh		
Indoor RH:	50%	Estimated airflow:	1050	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR6036H1+TEM6A0C36H31++TDR
Actual airflow:	1050	cfm	
Sensible capacity:	29114	Btuh	113% of load
Latent capacity:	4352	Btuh	105% of load
Total capacity:	33466	Btuh	112% of load SHR: 87%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	32302	Btuh	Entering coil DB:	66.9°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR6036H1+TEM6A0C36H31++TDR
Actual airflow:	1200	cfm	
Output capacity:	25635	Btuh	79% of load
Supplemental heat required:	6667	Btuh	
Capacity balance:	33	°F	
Economic balance:	-99	°F	

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1200	cfm	
Output capacity:	9.3	kW	98% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



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

Form
RPER 2.0

Header Information

Contractor DL Williams Heating & Cooling L.L.C.
Mechanical license# _____
Building plan # 2169
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 32302 Btuh
Sensible Heat Gain 25657 Btuh
Latent Heat Gain 4150 Btuh
Total Heat Gain 29808 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 25635 Btuh Sizing Value 32302 Btuh
Supplemental 6667 Btuh Sizing Limit 175.0 %
Heat Load: Capacity 97.8 %

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

4TWR6036H1+TEM6A0C36H31++TDR
Sensible 29114 Btuh Sizing Value 29808 Btuh
Latent 4352 Btuh Sizing Limit 115.0 %
Total 33466 Btuh Load: Capacity 112.3 %

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

HVAC DUCT DISTRIBUTION DESIGN

(IRC M1601.1)

Design airflow 1200 cfm Longest Supply Duct 213 ft Duct Materials Used
External Static Pressure (ESP) 0.50 in H2O Longest Return Duct 0 ft Trunk Duct: ☐ Duct Board ☐ Sheet Metal
Component Pressure Loss (CPL) 0 in H2O Total Effective Length (TEL) 213 ft ☒ Flex ☐ Lined Sheet Metal ☐ Other
Available static pressure (ASP) 0.50 in H2O Friction Rate 0.23 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.

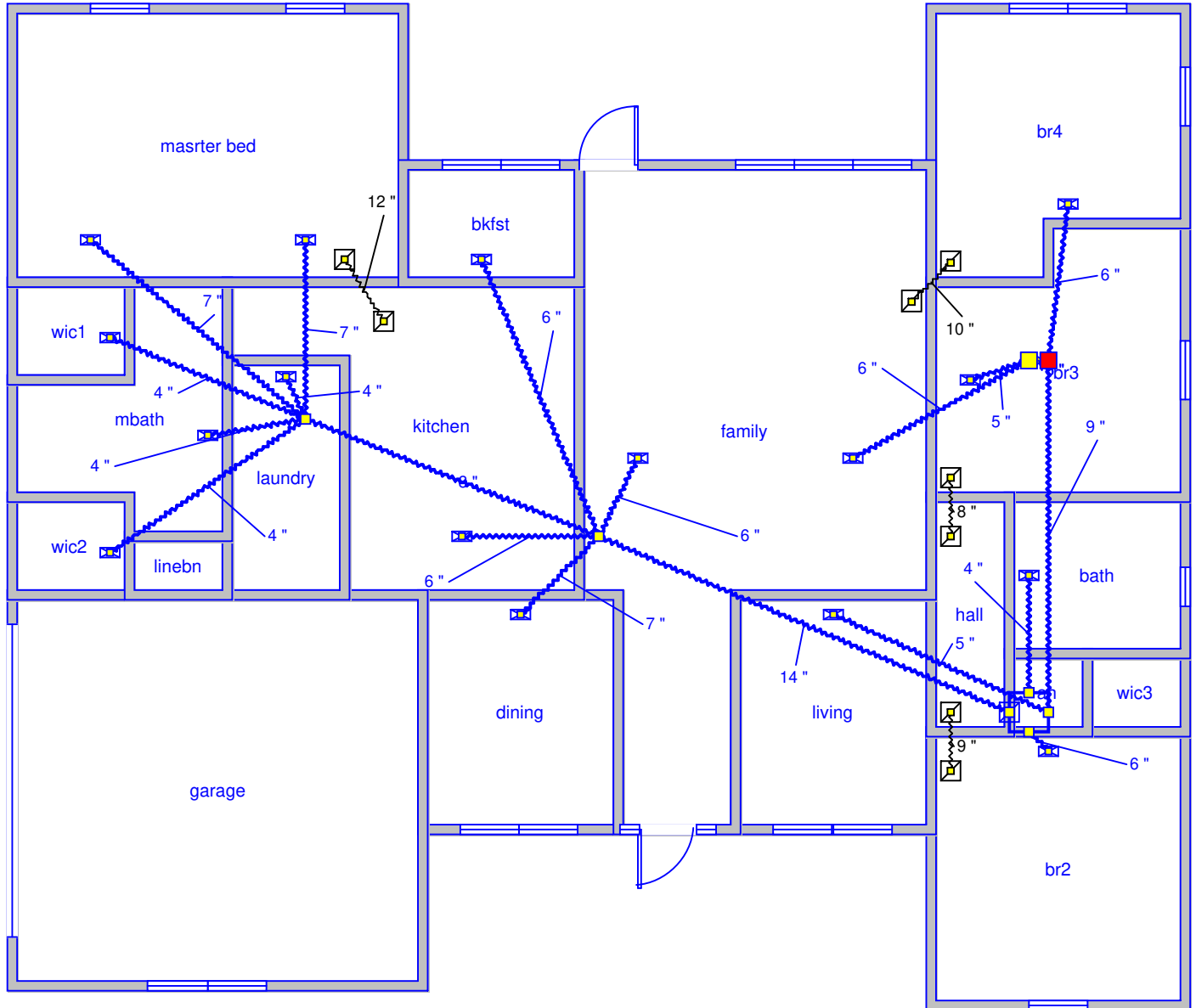
Contractor's printed name: _____

Contractor's signature: _____

Date: _____



main



Job #:
Performed by DL Williams Heating & Cool
Adams Homes Preserve lot 13-2169
Lake City, FL 32024

DL Williams Heating & Cooling L.L.C.

PO Box 2156
Lake City, FL 32056
Phone: 386-754-1987
williamscoolingllc@gmail.com

Scale: 1 : 100

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