



Load Short Form

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Information

	Htg	Clg	
Outside db (°F)	17	91	Method
Inside db (°F)	70	75	Construction quality
Design TD (°F)	53	16	Fireplaces
Daily range	-	M	
Inside humidity (%)	30	50	
Moisture difference (gr/lb)	22	35	



Simplified
Average
0

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model 4TWR5036H1
AHRI ref 10514560

Efficiency 9.5 HSPF
Heating input
Heating output 32600 Btuh @ 47°F
Temperature rise 25 °F
Actual air flow 1200 cfm
Air flow factor 0.024 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 34 °F

Backup:

Input = 15 kW, Output = 49771 Btuh, 100 AFUE

COOLING EQUIPMENT

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

Efficiency 12.5 EER, 15 SEER
Sensible cooling 24500 Btuh
Latent cooling 10500 Btuh
Total cooling 35000 Btuh
Actual air flow 1050 cfm
Air flow factor 0.039 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.90

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
br1	228	7942	3371	188	131
bath1	93	1320	886	31	35
lav	15	709	625	17	24
WIC	96	1436	474	34	18
man cave	312	7402	3705	176	144
great	650	10348	6580	246	256
foyer	72	1679	1107	40	43
craft	144	2568	1507	61	59
br2	180	5014	2376	119	93
bath2	80	1574	890	37	35
mud	100	4055	1368	96	53
pantry	80	1519	819	36	32
kitchen	312	5007	3250	119	127

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



Right-Suite® Universal 2023 23.0.05 RSU02245
...soft HVAC\Trane\Trent Giebeig Const Deloach.rup Calc = MJ8 Front Door faces: N

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Entire House	2362	50573	26957	1200	1050
Other equip loads		0	0		
Equip. @ 0.96 RSM			25879		
Latent cooling			3009		
TOTALS	2362	50573	28888	1200	1050

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



Right-Suite® Universal 2023 23.0.05 RSU02245

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...soft HVAC\Trane\Trent Giebeig Const Deloach.rup Calc = MJ8 Front Door faces: N



Building Analysis

Entire House

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

Project Information

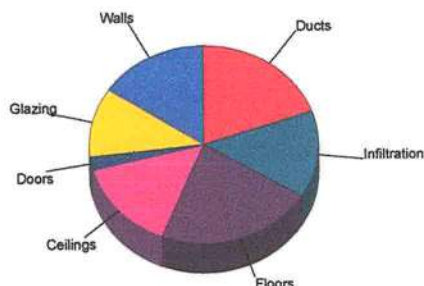
For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	17	91	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	74	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

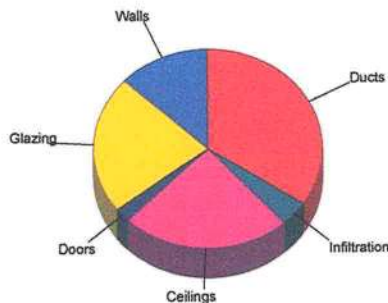
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.8	7843	15.5
Glazing	15.9	5753	11.4
Doors	26.2	1102	2.2
Ceilings	3.1	7530	14.9
Floors	4.7	11217	22.2
Infiltration	3.6	7208	14.3
Ducts		9919	19.6
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		50573	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.1	3478	12.9
Glazing	16.8	6066	22.5
Doors	14.1	593	2.2
Ceilings	2.7	6437	23.9
Floors	0	0	0
Infiltration	0.5	1088	4.0
Ducts		9296	34.5
Ventilation		0	0
Internal gains		0	0
Blower		0	0
Adjustments		0	0
Total		26957	100.0



Latent Cooling Load = 3009 Btuh
Overall U-value = 0.093 Btuh/ft²·°F, Window / Floor Area = 15.3 %

Data entries checked.



Wrightsoft®
A BENTLEY® Building Software Company

Right-Suite® Universal 2023 23.0.05 RSU02245
...soft HVAC\Trane\Trent Giebeig Const Deloach.rup Calc = MJ8 Front Door faces: N

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Component Constructions

Entire House

DL Williams Heating & Cooling LLC

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

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Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	74	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, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	398	0.091	13.0	4.82	1919	2.14	851
	se	428	0.091	13.0	4.82	2064	2.14	915
	sw	376	0.091	13.0	4.82	1815	2.14	805
	nw	424	0.091	13.0	4.82	2045	2.14	907
	all	1626	0.091	13.0	4.82	7843	2.14	3478

Partitions (none)

Windows

10D-v: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 9 ft overhang (6.8 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	41	0.300	0	15.9	649	10.3	420
4A5-2of: 2 glazing, clr low-e outr, air gas, insulated fiberglass frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	41	0.300	0	15.9	649	10.3	420
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% outdoor insect screen; 9 ft overhang (3.6 ft window ht, 2 ft sep.); 6.67 ft head ht	all	82	0.300	0	15.9	1297	10.3	840
4A5-2ov: 2 glazing, clr low-e outr, air gas, reinforced vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 9 ft overhang (3.6 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	30	0.300	0	15.9	477	14.7	441
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 9 ft overhang (3.6 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	14	0.300	0	15.9	229	17.3	250
4A5-2ov: 2 glazing, clr low-e outr, air gas, reinforced vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 9 ft overhang (3.6 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	7	0.300	0	15.9	114	14.7	106
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% outdoor insect screen; 4 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	se	15	0.300	0	15.9	239	13.2	198
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.8 ft overhang (4 ft window ht, 2 ft sep.); 6.67 ft head ht	se	12	0.300	0	15.9	191	16.7	200

4B5-2fv: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 1.8 ft overhang (1.6 ft window ht, 2 ft sep.); 6.67 ft head ht	se	8	0.300	0	15.9	127	20.5	164
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.8 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	60	0.300	0	15.9	954	16.8	1009
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	60	0.300	0	15.9	954	7.22	433
4B5-2fv: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 6 ft overhang (6.8 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	14	0.300	0	15.9	216	11.9	161
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% outdoor insect screen; 1.8 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	nw	60	0.300	0	15.9	954	17.3	1040

Doors

11J0: Door, mtl fbrgl type	se	21	0.600	6.3	31.8	668	17.1	359
11D0: Door, wd sc type	sw	21	0.390	0	20.7	434	11.1	233

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		1400	0.026	38.0	1.38	1929	1.35	1893
17B-6al: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns		1007	0.105	6.0	5.57	5601	4.51	4544

Floors

22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		214	0.989	0	52.4	11217	0	0
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Component Constructions
br1
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

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Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	17	91	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	74	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
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Walls 12C-0sw: Frm wall, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	78	0.091	13.0	4.82	376	2.14	167
	se	75	0.091	13.0	4.82	362	2.14	160
	nw	141	0.091	13.0	4.82	680	2.14	302
	all	294	0.091	13.0	4.82	1418	2.14	629

Partitions
(none)

Windows 4A5-2of: 2 glazing, clr low-e outr, air gas, insulated fiberglass frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht 4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% outdoor insect screen; 4 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht 4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% outdoor insect screen; 1.8 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	30	0.300	0	15.9	477	14.7	441
	se	15	0.300	0	15.9	239	13.2	198
	nw	30	0.300	0	15.9	477	17.3	520

Doors
(none)

Ceilings 16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		228	0.026	38.0	1.38	314	1.35	308
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Floors 22A-tp1: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		41	0.989	0	52.4	2149	0	0
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Component Constructions
bath1
DL Williams Heating & Cooling LLC

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Elevation: 0 ft			Design TD (°F)		53	16
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			Moisture difference (gr/lb)		22.3	34.7
Outdoor:	Heating	Cooling	Infiltration:			
Dry bulb (°F)	17	91	Method		Simplified	
Daily range (°F)	-	18 (M)	Construction quality		Average	
Wet bulb (°F)	-	74	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, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	nw	39	0.091	13.0	4.82	188	2.14	83
Partitions (none)								
Windows 4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% outdoor insect screen; 1.8 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	nw	15	0.300	0	15.9	239	17.3	260
Doors (none)								
Ceilings 16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		93	0.026	38.0	1.38	128	1.35	126
Floors 22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		6	0.989	0	52.4	315	0	0



Component Constructions
lav
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Walls 12C-0sw: Frm wall, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	nw	12	0.091	13.0	4.82	58	2.14	26
Partitions (none)								
Windows 4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% outdoor insect screen; 1.8 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	nw	15	0.300	0	15.9	239	17.3	260
Doors (none)								
Ceilings 16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		15	0.026	38.0	1.38	21	1.35	20
Floors 22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% fir fnsh		3	0.989	0	52.4	157	0	0



Component Constructions
WIC
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Wet bulb (°F)	-	74	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 Ctg HTM Btuh	Ctg HTM Btuh/ft²	Gain Btuh
Walls 12C-0sw: Frm wall, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	nw	72	0.091	13.0	4.82	347	2.14	154
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		96	0.026	38.0	1.38	132	1.35	130
Floors 22A-tpi: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		8	0.989	0	52.4	419	0	0



Component Constructions

man cave

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Wet bulb (°F)		-	74	Simplified		
Wind speed (mph)		15.0	7.5	Average		
				Fireplaces		
				0		

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	174	0.091	13.0	4.82	839	2.14	372
	nw	108	0.091	13.0	4.82	521	2.14	231
	all	282	0.091	13.0	4.82	1360	2.14	603
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.8 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	30	0.300	0	15.9	477	16.8	504
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	30	0.300	0	15.9	477	7.22	217
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		312	0.026	38.0	1.38	430	1.35	422
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% fir fnsh		38	0.989	0	52.4	1992	0	0



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Component Constructions
great
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:			Indoor:		Heating	Cooling
Washington National AP, DC, US			Indoor temperature (°F)		70	75
Elevation: 0 ft			Design TD (°F)		53	16
Latitude: 38°N			Relative humidity (%)		30	50
			Moisture difference (gr/lb)		22.3	34.7
Outdoor:	Heating	Cooling	Infiltration:			
Dry bulb (°F)	17	91	Method		Simplified	
Daily range (°F)	-	18 (M)	Construction quality		Average	
Wet bulb (°F)	-	74	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, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	143	0.091	13.0	4.82	692	2.14	307
	nw	52	0.091	13.0	4.82	251	2.14	111
	all	195	0.091	13.0	4.82	942	2.14	418
Partitions (none)								
Windows								
10D-v: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 9 ft overhang (6.8 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	41	0.300	0	15.9	649	10.3	420
	nw	41	0.300	0	15.9	649	10.3	420
	all	82	0.300	0	15.9	1297	10.3	840
Doors (none)								
Ceilings								
17B-6al: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns		680	0.105	6.0	5.56	3785	4.51	3071
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		25	0.989	0	52.4	1310	0	0



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Component Constructions
foyer
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:		Heating	Cooling		
Dry bulb (°F)		17	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	74		
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, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	19	0.091	13.0	4.82	94	2.14	41
Partitions (none)								
Windows 4B5-2fv: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 6 ft overhang (6.8 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	14	0.300	0	15.9	216	11.9	161
Doors 11D0: Door, wd sc type	sw	21	0.390	0	20.7	434	11.1	233
Ceilings 16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		72	0.026	38.0	1.38	99	1.35	97
Floors 22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		6	0.989	0	52.4	315	0	0



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Component Constructions
craft
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:		Heating	Cooling		
Dry bulb (°F)		17	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	74		
Wind speed (mph)		15.0	7.5		
		Infiltration:		Simplified	
		Method		Average	
		Construction quality		0	
		Fireplaces			

Construction descriptions

	Or	Area ft²	U-value Btu/h/ft²·°F	Insul R ft²·°F/Btu/h	Htg HTM Btu/h/ft²	Loss Btu/h	Clg HTM Btu/h/ft²	Gain Btu/h
Walls								
12C-0sw: Frm wall, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	sw	78	0.091	13.0	4.82	376	2.14	167
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	30	0.300	0	15.9	477	7.22	217
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		144	0.026	38.0	1.38	198	1.35	195
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		12	0.989	0	52.4	629	0	0



Component Constructions
br2
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:		Heating	Cooling		
Dry bulb (°F)		17	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	74		
Wind speed (mph)		15.0	7.5		
		Infiltration:		Simplified	
		Method		Average	
		Construction quality		0	
		Fireplaces			

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Cig HTM Btuh/ft²	Gain Btuh
Walls								
12C-0sw: Frm wall, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	108	0.091	13.0	4.82	521	2.14	231
	sw	105	0.091	13.0	4.82	506	2.14	225
	all	213	0.091	13.0	4.82	1027	2.14	456
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.8 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	sw	30	0.300	0	15.9	477	16.8	504
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		180	0.026	38.0	1.38	248	1.35	243
Floors								
22A-1pl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		27	0.989	0	52.4	1415	0	0



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Component Constructions
bath2
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:			Indoor:	Heating	Cooling
Washington National AP, DC, US			Indoor temperature (°F)	70	75
Elevation: 0 ft			Design TD (°F)	53	16
Latitude: 38°N			Relative humidity (%)	30	50
			Moisture difference (gr/lb)	22.3	34.7
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	17	91	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	74	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, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	60	0.091	13.0	4.82	289	2.14	128
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 1.8 ft overhang (4 ft window ht, 2 ft sep.); 6.67 ft head ht	se	12	0.300	0	15.9	191	16.7	200
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		80	0.026	38.0	1.38	110	1.35	108
Floors								
22A-1pl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		8	0.989	0	52.4	419	0	0



Component Constructions
mud
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:		Infiltration:			
	Heating	Cooling			
Dry bulb (°F)	17	91	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	74	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, 1/2" gyp.bd 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	4.82	434	2.14	192
	se	69	0.091	13.0	4.82	333	2.14	148
	all	159	0.091	13.0	4.82	767	2.14	340
Partitions (none)								
Windows (none)								
Doors								
11J0: Door, mtl fbrgl type	se	21	0.600	6.3	31.8	668	17.1	359
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		100	0.026	38.0	1.38	138	1.35	135
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		20	0.989	0	52.4	1048	0	0



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Component Constructions
pantry
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:			Indoor:		Heating	Cooling
Washington National AP, DC, US			Indoor temperature (°F)		70	75
Elevation: 0 ft			Design TD (°F)		53	16
Latitude: 38°N			Relative humidity (%)		30	50
			Moisture difference (gr/lb)		22.3	34.7
Outdoor:	Heating	Cooling	Infiltration:			
Dry bulb (°F)	17	91	Method		Simplified	
Daily range (°F)	-	18 (M)	Construction quality		Average	
Wet bulb (°F)	-	74	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, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	se	64	0.091	13.0	4.82	309	2.14	137
Partitions (none)								
Windows								
4B5-2fv: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 1.8 ft overhang (1.6 ft window ht, 2 ft sep.); 6.67 ft head ht	se	8	0.300	0	15.9	127	20.5	164
Doors (none)								
Ceilings								
16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 1/2" gypsum board int fnsh		80	0.026	38.0	1.38	110	1.35	108
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		8	0.989	0	52.4	419	0	0



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Component Constructions
kitchen
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	17	91	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	74	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, 1/2" gyp.bd ext, 3/8" wood shth, r-13 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud	ne	86	0.091	13.0	4.82	417	2.14	185
	se	52	0.091	13.0	4.82	251	2.14	111
	all	138	0.091	13.0	4.82	668	2.14	296
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% outdoor insect screen; 9 ft overhang (3.6 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	14	0.300	0	15.9	229	17.3	250
4A5-2ov: 2 glazing, clr low-e outr, air gas, reinforced vinyl frm mat, clr innr, 1/4" gap, 1/4" thk; NFRC rated (SHGC=0.23); 50% blinds 45°, light; 50% outdoor insect screen; 9 ft overhang (3.6 ft window ht, 2 ft sep.); 6.67 ft head ht	ne	7	0.300	0	15.9	114	14.7	106
Doors (none)								
Ceilings								
17B-6al: Rf/clg ceiling, asphalt shingles roof mat, wd cons, r-6 deck ins, 1" thkns		326	0.105	6.0	5.57	1817	4.51	1474
Floors								
22A-tpl: Bg floor, light dry soil, on grade depth, carp 80% flr fnsh		12	0.989	0	52.4	629	0	0



Project Summary

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Notes:

Design Information

Weather: Washington National AP, DC, US

Winter Design Conditions

Outside db	17 °F
Inside db	70 °F
Design TD	53 °F

Summer Design Conditions

Outside db	91 °F
Inside db	75 °F
Design TD	16 °F
Daily range	M
Relative humidity	50 %
Moisture difference	35 gr/lb

Heating Summary

Structure	40653 Btuh
Ducts (R-6.0)	9919 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	50573 Btuh

Sensible Cooling Equipment Load Sizing

Structure	17661 Btuh
Ducts (R-6.0)	9296 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.96
Equipment sensible load	25879 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft ²)	2362	2362
Volume (ft ³)	23182	23182
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	124	62

Latent Cooling Equipment Load Sizing

Structure	1457 Btuh
Ducts	1553 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Equipment latent load	3009 Btuh
Equipment Total Load (Sen+Lat)	28888 Btuh
Req. total capacity at 0.70 SHR	3.1 ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR5036H1
AHRI ref	10514560
Efficiency	9.5 HSPF
Heating input	
Heating output	32600 Btuh @ 47°F
Temperature rise	25 °F
Actual air flow	1200 cfm
Air flow factor	0.024 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 34 °F	

Backup:
Input = 15 kW, Output = 49771 Btuh, 100 AFUE

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR5036H1
Coil	TEM6A0C42H41
AHRI ref	10514560
Efficiency	12.5 EER, 15 SEER
Sensible cooling	24500 Btuh
Latent cooling	10500 Btuh
Total cooling	35000 Btuh
Actual air flow	1050 cfm
Air flow factor	0.039 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.90

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



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AED Assessment
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

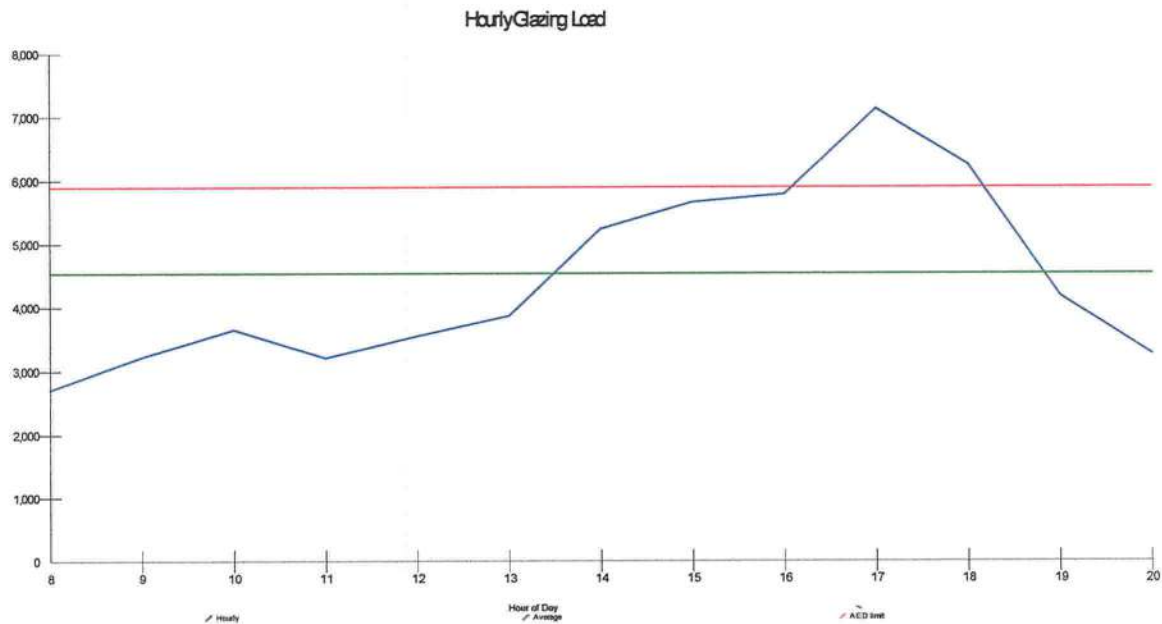
Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
Outdoor:		Heating	Cooling	Moisture difference (gr/lb)	
Dry bulb (°F)	17	91		22.3	34.7
Daily range (°F)	-	18 (M)			
Wet bulb (°F)	-	74			
Wind speed (mph)	15.0	7.5			
Infiltration:					

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 57.0%.

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

AED excursion: 1223 Btuh (PFG - 1.3*AFG)



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Right-Suite® Universal 2023 23.0.05 RSU02245

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Right-J® Worksheet Entire House

DL Williams Heating & Cooling LLC

Job:

Date: Mar 13, 2024

By:

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

1	Room name					Entire House					br1				
2	Exposed wall					214.0 ft					41.0 ft				
3	Room height					9.8 ft					9.0 ft				
4	Room dimensions					2362.0 ft²					12.0 x 19.0 ft				
5	Room area					2362.0 ft²					228.0 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	4.82	2.14	531	398	1919	851	108	78	376	167	
11	G	10D-v	0.300	ne	15.90	10.30	41	0	649	420	0	0	0	0	
	G	10D-v	0.300	ne	15.90	10.30	41	0	649	420	0	0	0	0	
	G	4A5-2of	0.300	ne	15.90	14.71	30	0	477	441	30	0	477	441	
	G	4A5-2ov	0.300	ne	15.90	17.33	14	0	229	250	0	0	0	0	
	G	4A5-2ov	0.300	ne	15.90	14.71	7	0	114	106	0	0	0	0	
	W	12C-0sw	0.091	se	4.82	2.14	484	428	2064	915	90	75	362	160	
	G	4A5-2ov	0.300	se	15.90	13.17	15	18	239	198	15	9	239	198	
	G	4A5-2ov	0.300	se	15.90	16.69	12	1	191	200	0	0	0	0	
	G	4B5-2fv	0.300	se	15.90	20.52	8	2	127	164	0	0	0	0	
	D	11J0	0.600	se	31.80	17.10	21	21	668	359	0	0	0	0	
	W	12C-0sw	0.091	sw	4.82	2.14	531	376	1815	805	0	0	0	0	
G	4A5-2ov	0.300	sw	15.90	16.82	60	6	954	1009	0	0	0	0		
G	4A5-2ov	0.300	sw	15.90	7.22	60	120	954	433	0	0	0	0		
G	4B5-2fv	0.300	sw	15.90	11.86	14	22	216	161	0	0	0	0		
D	11D0	0.390	sw	20.67	11.11	21	21	434	233	0	0	0	0		
W	12C-0sw	0.091	nw	4.82	2.14	484	424	2045	907	171	141	680	302		
G	4A5-2ov	0.300	nw	15.90	17.33	60	0	954	1040	30	0	477	520		
C	16B-38ad	0.026	-	1.38	1.35	1400	1400	1929	1893	228	228	314	308		
C	17B-6al	0.105	-	5.57	4.51	1007	1007	5601	4544	0	0	0	0		
F	22A-tpl	0.989	-	52.42	0.00	2362	214	11217	0	228	41	2149	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:
Date: Mar 13, 2024
By:

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

Room name					bath1					lav				
Exposed wall					6.0 ft					3.0 ft				
Room height					9.0 ft					9.0 ft				
Room dimensions					1.0 x 93.0 ft					5.0 x 3.0 ft				
Room area					93.0 ft²					15.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	4.82	2.14	0	0	0	0	0	0	0	0
11	G	10D-v	0.300	ne	15.90	10.30	0	0	0	0	0	0	0	0
	G	10D-v	0.300	ne	15.90	10.30	0	0	0	0	0	0	0	0
	G	4A5-2of	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	ne	15.90	17.33	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	se	4.82	2.14	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	se	15.90	13.17	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	se	15.90	16.69	0	0	0	0	0	0	0	0
	G	4B5-2fv	0.300	se	15.90	20.52	0	0	0	0	0	0	0	0
	D	11J0	0.600	se	31.80	17.10	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	4.82	2.14	0	0	0	0	0	0	0	0
11	G	4A5-2ov	0.300	sw	15.90	16.82	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	sw	15.90	7.22	0	0	0	0	0	0	0	0
	G	4B5-2fv	0.300	sw	15.90	11.86	0	0	0	0	0	0	0	0
	D	11D0	0.390	sw	20.67	11.11	0	0	0	0	0	0	0	0
11	W	12C-0sw	0.091	nw	4.82	2.14	54	39	188	83	27	12	58	26
	G	4A5-2ov	0.300	nw	15.90	17.33	15	0	239	260	15	0	239	260
11	C	16B-38ad	0.026	-	1.38	1.35	93	93	128	126	15	15	21	20
	C	17B-6al	0.105	-	5.57	4.51	0	0	0	0	0	0	0	0
	F	22A-tpi	0.989	-	52.42	0.00	93	6	315	0	15	3	157	0
6 c) AED excursion										83			89	
Envelope loss/gain									869	552			474	395
12 a) Infiltration									192	29			96	14
12 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)									1061	581			570	409
Less external load									0	0			0	0
Less transfer									0	0			0	0
Redistribution									0	0			0	0
Subtotal									1061	581			570	409
14 Duct loads							24%	53%	259	306	24%	53%	139	216
Total room load									1320	886			709	625
Air required (cfm)									31	35			17	24

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:
Date: Mar 13, 2024
By:

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

1	Room name					great 25.0 ft				foyer 6.0 ft				
2	Exposed wall					11.0 ft				9.0 ft				
3	Room height					25.0				6.0				
4	Room dimensions					x 26.0 ft				x 12.0 ft				
5	Room area					650.0 ft²				72.0 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	4.82	2.14	225	143	692	307	0	0	0	0
11	G	10D-v	0.300	ne	15.90	10.30	41	0	649	420	0	0	0	0
	G	10D-v	0.300	ne	15.90	10.30	41	0	649	420	0	0	0	0
	G	4A5-2of	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	ne	15.90	17.33	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	se	4.82	2.14	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	se	15.90	13.17	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	se	15.90	16.69	0	0	0	0	0	0	0	0
	G	4B5-2fv	0.300	se	15.90	20.52	0	0	0	0	0	0	0	0
	D	11J0	0.600	se	31.80	17.10	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	4.82	2.14	0	0	0	0	54	19	94	41
G	4A5-2ov	0.300	sw	15.90	16.82	0	0	0	0	0	0	0	0	
G	4A5-2ov	0.300	sw	15.90	7.22	0	0	0	0	0	0	0	0	
G	4B5-2fv	0.300	sw	15.90	11.86	0	0	0	0	14	11	216	161	
D	11D0	0.390	sw	20.67	11.11	0	0	0	0	21	21	434	233	
W	12C-0sw	0.091	nw	4.82	2.14	52	52	251	111	0	0	0	0	
G	4A5-2ov	0.300	nw	15.90	17.33	0	0	0	0	0	0	0	0	
C	16B-38ad	0.026	-	1.38	1.35	0	0	0	0	72	72	99	97	
C	17B-6al	0.105	-	5.57	4.51	680	680	3785	3071	0	0	0	0	
F	22A-tpl	0.989	-	52.42	0.00	650	25	1310	0	72	6	315	0	
</														

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



Right-Suite® Universal 2023 23.0.05 RSU02245

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

Job:
Date: Mar 13, 2024
By:

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

1	Room name					craft 12.0 ft					br2 27.0 ft				
2	Exposed wall					9.0 ft 12.0 x 12.0 ft					9.0 ft 15.0 x 12.0 ft				
3	Room height					heat/cool					heat/cool				
4	Room dimensions					144.0 ft²					180.0 ft²				
5	Room area														
	Ty	Construction number	U-value (Bt uh/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	4.82	2.14	0	0	0	0	0	0	0	0	
	G	10D-v	0.300	ne	15.90	10.30	0	0	0	0	0	0	0	0	
	G	10D-v	0.300	ne	15.90	10.30	0	0	0	0	0	0	0	0	
	G	4A5-2of	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0	
11	G	4A5-2ov	0.300	ne	15.90	17.33	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	se	4.82	2.14	0	0	0	0	108	108	521	231	
	G	4A5-2ov	0.300	se	15.90	13.17	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	se	15.90	16.69	0	0	0	0	0	0	0	0	
	G	4B5-2fv	0.300	se	15.90	20.52	0	0	0	0	0	0	0	0	
	D	11J0	0.600	se	31.80	17.10	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	sw	4.82	2.14	108	78	376	167	135	105	506	225	
	G	4A5-2ov	0.300	sw	15.90	16.82	0	0	0	0	30	1	477	504	
	G	4A5-2ov	0.300	sw	15.90	7.22	30	30	477	217	0	0	0	0	
	G	4B5-2fv	0.300	sw	15.90	11.86	0	0	0	0	0	0	0	0	
	D	11D0	0.390	sw	20.67	11.11	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	nw	4.82	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	nw	15.90	17.33	0	0	0	0	0	0	0	0	
	C	16B-38ad	0.026	-	1.38	1.35	144	144	198	195	180	180	248	243	
	C	17B-6al	0.105	-	5.57	4.51	0	0	0	0	0	0	0	0	
	F	22A-tpl	0.989	-	52.42	0.00	144	12	629	0	180	27	1415	0	

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



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Right-Suite® Universal 2023 23.0.05 RSU02245

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

Job:
Date: Mar 13, 2024
By:

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

1	Room name					bath2					mud				
2	Exposed wall					8.0 ft					20.0 ft				
3	Room height					heat/cool					heat/cool				
4	Room dimensions					9.0 ft	10.0	x	8.0 ft		9.0 ft	10.0	x	10.0 ft	
5	Room area					80.0 ft²					100.0 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	4.82	2.14	0	0	0	0	90	90	434	192	
	G	10D-v	0.300	ne	15.90	10.30	0	0	0	0	0	0	0	0	
	G	10D-v	0.300	ne	15.90	10.30	0	0	0	0	0	0	0	0	
	G	4A5-2of	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0	
11	G	4A5-2ov	0.300	ne	15.90	17.33	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	se	4.82	2.14	72	60	289	128	90	69	333	148	
	G	4A5-2ov	0.300	se	15.90	13.17	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	se	15.90	16.69	12	1	191	200	0	0	0	0	
	G	4B5-2fv	0.300	se	15.90	20.52	0	0	0	0	0	0	0	0	
	D	11J0	0.600	se	31.80	17.10	0	0	0	0	21	21	668	359	
	W	12C-0sw	0.091	sw	4.82	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	sw	15.90	16.82	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	sw	15.90	7.22	0	0	0	0	0	0	0	0	
	G	4B5-2fv	0.300	sw	15.90	11.86	0	0	0	0	0	0	0	0	
	D	11D0	0.390	sw	20.67	11.11	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	nw	4.82	2.14	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.300	nw	15.90	17.33	0	0	0	0	0	0	0	0	
	C	16B-38ad	0.026	-	1.38	1.35	80	80	110	108	100	100	138	135	
	C	17B-6al	0.105	-	5.57	4.51	0	0	0	0	0	0	0	0	
	F	22A-tpl	0.989	-	52.42	0.00	80	8	419	0	100	20	1048	0	
6	c) AED excursion									108				-35	
	Envelope loss/gain									1010	545			2621	800
12	a) Infiltration									256	39			639	96
	b) Room ventilation									0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0	0
			Appliances/other							0	0			0	0
	Subtotal (lines 6 to 13)									1265	583			3260	896
	Less external load									0	0			0	0
	Less transfer									0	0			0	0
	Redistribution									0	0			0	0
14	Subtotal									1265	583			3260	896
15	Duct loads							24%	53%	309	307	24%	53%	795	472
	Total room load									1574	890			4055	1368
	Air required (cfm)									37	35			96	53

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



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Right-Suite® Universal 2023 23.0.05 RSU02245

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...soft HVAC\Trane\Trent Giebeig Const Deloach.rup Calc = MJ8 Front Door faces: N



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

Job:
Date: Mar 13, 2024
By:

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

1	Room name					pantry 8.0 ft				kitchen 12.0 ft				
2	Exposed wall					9.0 ft				11.0 ft				
3	Room height					10.0 x 8.0 ft				12.0 x 26.0 ft				
4	Room dimensions					80.0 ft²				312.0 ft²				
5	Room area													
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	ne	4.82	2.14	0	0	0	0	108	86	417	185
	G	10D-v	0.300	ne	15.90	10.30	0	0	0	0	0	0	0	0
	G	10D-v	0.300	ne	15.90	10.30	0	0	0	0	0	0	0	0
	G	4A5-2of	0.300	ne	15.90	14.71	0	0	0	0	0	0	0	0
11	G	4A5-2ov	0.300	ne	15.90	17.33	0	0	0	0	14	0	229	250
	G	4A5-2ov	0.300	ne	15.90	14.71	0	0	0	0	7	0	114	106
	W	12C-0sw	0.091	se	4.82	2.14	72	64	309	137	52	52	251	111
	G	4A5-2ov	0.300	se	15.90	13.17	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	se	15.90	16.69	0	0	0	0	0	0	0	0
	G	4B5-2fv	0.300	se	15.90	20.52	8	1	127	164	0	0	0	0
	D	11J0	0.600	se	31.80	17.10	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	4.82	2.14	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	sw	15.90	16.82	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	sw	15.90	7.22	0	0	0	0	0	0	0	0
	G	4B5-2fv	0.300	sw	15.90	11.86	0	0	0	0	0	0	0	0
	D	11D0	0.390	sw	20.67	11.11	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	nw	4.82	2.14	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.300	nw	15.90	17.33	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.38	1.35	80	80	110	108	0	0	0	0
	C	17B-6al	0.105	-	5.57	4.51	0	0	0	0	326	326	1817	1474
	F	22A-tpl	0.989	-	52.42	0.00	80	8	419	0	312	12	629	0

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



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Right-Suite® Universal 2023 23.0.05 RSU02245

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...soft HVAC\Trane\Trent Giebig Const Deloach.rup Calc = MJ8 Front Door faces: N



Right-J8® Form J1
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

1	Name of Room				Entire House				br1				
2	Running Feet of Exposed Wall				214.0 ft				41.0 ft				
3	Ceiling Ht (Ft) and Gross Wall Area (SqFt)				9.8 ft 6150.3 ft²				9.0 ft 558.0 ft²				
4	Room Dimensions (Ft) and Floor Plan Area (SqFt)				17.1 ° 2362.0 ft²				12.0 x 19.0 ft 228.0 ft²				
5	Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)				2406.5 ft²				0 ° 228.0 ft²				
Type of Exposure		Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
				Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12C-0sw	ne	4.82	2.14	531	1919	851		108	376	167	
	Glaz	10D-v	ne	15.90	10.30	41	649	420		0	0	0	
11	Glaz	10D-v	ne	15.90	10.30	41	649	420		0	0	0	
	Glaz	4A5-2of	ne	15.90	14.71	30	477	441		30	477	441	
	Glaz	4A5-2ov	ne	15.90	17.33	14	229	250		0	0	0	
	Glaz	4A5-2ov	ne	15.90	14.71	7	114	106		0	0	0	
	Wall	12C-0sw	se	4.82	2.14	484	2064	915		90	362	160	
	Glaz	4A5-2ov	se	15.90	13.17	15	239	198		15	239	198	
	Glaz	4A5-2ov	se	15.90	16.69	12	191	200		0	0	0	
	Glaz	4B5-2fv	se	15.90	20.52	8	127	164		0	0	0	
	Door	11J0	se	31.80	17.10	21	668	359		0	0	0	
	Wall	12C-0sw	sw	4.82	2.14	531	1815	805		0	0	0	
	Glaz	4A5-2ov	sw	15.90	16.82	60	954	1009		0	0	0	
	Glaz	4A5-2ov	sw	15.90	7.22	60	954	433		0	0	0	
	Glaz	4B5-2fv	sw	15.90	11.86	14	216	161		0	0	0	
	Door	11D0	sw	20.67	11.11	21	434	233		0	0	0	
	Wall	12C-0sw	nw	4.82	2.14	484	2045	907		171	680	302	
	Glaz	4A5-2ov	nw	15.90	17.33	60	954	1040		30	477	520	
	Ceil	16B-38ad	-	1.38	1.35	1400	1929	1893		228	314	308	
	Ceil	17B-6al	-	5.57	4.51	1007	5601	4544		0	0	0	
	Flor	22A-tpi	-	52.42	0.00	2362	11217	0		228	2149	0	
12	Infiltration	Heating Load (Btuh)		Effect ACH	0.32	WAR 1.00	7208		WAR 0.18	1310			
		Sensible Load (Btuh)			0.16			1088			198		
		Latent Load (Btuh)						1457					
13	Internal	a Occupants at 230 and 200 Btuh				0		0	0		0	0	
		b Scenario number						0			0		
		c Default Adjustments											
		d Custom Appliances						0	0		0	0	
		e Plants							0			0	
14	Subtotals	Sum lines 6 through 12					40653	17661	1457		6384	2208	
15	Duct Loads	EHLF & ESGF		0.244	0.526		9919	9296			1558	1162	
		ELG						1553				150	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0		0	0	0				
17	Winter Humidification Load				Gal/Day	0		0					
18	Piping Load						0						
19	Blower Heat							0					
20	AED Excursion & Latent Moisture Migration Load							1223			-85		
21	Total Load				Sum lines 13 through 19		50573	26957	3009		7942	3371	

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



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Right-J8® Form J1
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

1	Name of Room					bath1				lav			
2	Running Feet of Exposed Wall					9.0 ft				3.0 ft			
3	Ceiling Ht (Ft) and Gross Wall Area (SqFt)					6.0 ft				3.0 ft			
4	Room Dimensions (Ft) and Floor Plan Area (SqFt)					378.0 ft²				144.0 ft²			
5	Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)					93.0 ft²				15.0 ft²			
						1.0 x 93.0 ft				5.0 x 3.0 ft			
						0 °				0 °			
						93.0 ft²				15.0 ft²			
Type of Exposure		Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
				Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12C-0sw	ne	4.82	2.14	0	0	0		0	0	0	
	Glaz	10D-v	ne	15.90	10.30	0	0	0		0	0	0	
	Glaz	10D-v	ne	15.90	10.30	0	0	0		0	0	0	
	Glaz	4A5-2of	ne	15.90	14.71	0	0	0		0	0	0	
11	Glaz	4A5-2ov	ne	15.90	17.33	0	0	0		0	0	0	
	Glaz	4A5-2ov	ne	15.90	14.71	0	0	0		0	0	0	
	Wall	12C-0sw	se	4.82	2.14	0	0	0		0	0	0	
	Glaz	4A5-2ov	se	15.90	13.17	0	0	0		0	0	0	
	Glaz	4A5-2ov	se	15.90	16.69	0	0	0		0	0	0	
	Glaz	4B5-2fv	se	15.90	20.52	0	0	0		0	0	0	
	Door	11J0	se	31.80	17.10	0	0	0		0	0	0	
	Wall	12C-0sw	sw	4.82	2.14	0	0	0		0	0	0	
	Glaz	4A5-2ov	sw	15.90	16.82	0	0	0		0	0	0	
	Glaz	4A5-2ov	sw	15.90	7.22	0	0	0		0	0	0	
	Glaz	4B5-2fv	sw	15.90	11.86	0	0	0		0	0	0	
	Door	11D0	sw	20.67	11.11	0	0	0		0	0	0	
	Wall	12C-0sw	nw	4.82	2.14	54	188	83		27	58	26	
	Glaz	4A5-2ov	nw	15.90	17.33	15	239	260		15	239	260	
	Ceil	16B-38ad	-	1.38	1.35	93	128	126		15	21	20	
	Ceil	17B-6al	-	5.57	4.51	0	0	0		0	0	0	
	Flor	22A-tpl	-	52.42	0.00	93	315	0		15	157	0	
Infiltration		Heating Load (Btuh)		Effect		0.32		WAR		192		96	
		Sensible Load (Btuh)		ACH		0.16		0.03		29		14	
		Latent Load (Btuh)											
Internal		a Occupants at 230 and 200 Btuh				0		0		0		0	
		b Scenario number						0				0	
		c Default Adjustments						0		0		0	
		d Custom Appliances						0		0		0	
		e Plants						0		0		0	
Subtotals		Sum lines 6 through 12						1061		581		570	
								259		306		139	
Duct Loads		EHLF & ESGF				0.244		0.526				216	
		ELG								61		10	
Ventilation Loads		Vent Cfm	0	E Cfm	0								
Winter Humidification Load		Gal/Day				0							
Piping Load													
Blower Heat													
AED Excursion & Latent Moisture Migration Load								83				89	
Total Load		Sum lines 13 through 19						1320		886		709	
												625	

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



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Right-J8® Form J1
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

1	Name of Room				craft 12.0 ft				br2 27.0 ft				
2	Running Feet of Exposed Wall				9.0 ft				9.0 ft				
3	Ceiling Ht (Ft) and Gross Wall Area (SqFt)				12.0 x 12.0 ft				15.0 x 12.0 ft				
4	Room Dimensions (Ft) and Floor Plan Area (SqFt)				0 °				0 °				
5	Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)				432.0 ft²				486.0 ft²				
					144.0 ft²				180.0 ft²				
					144.0 ft²				180.0 ft²				
	Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
				Htg.	Cig.		Heating	S-Cig	L-Cig		Heating	S-Cig	L-Cig
6	Wall	12C-0sw	ne	4.82	2.14	0	0	0		0	0	0	
	Glaz	10D-v	ne	15.90	10.30	0	0	0		0	0	0	
	Glaz	10D-v	ne	15.90	10.30	0	0	0		0	0	0	
	Glaz	4A5-2of	ne	15.90	14.71	0	0	0		0	0	0	
11	Glaz	4A5-2ov	ne	15.90	17.33	0	0	0		0	0	0	
	Glaz	4A5-2ov	ne	15.90	14.71	0	0	0		0	0	0	
	Wall	12C-0sw	se	4.82	2.14	0	0	0		108	521	231	
	Glaz	4A5-2ov	se	15.90	13.17	0	0	0		0	0	0	
	Glaz	4A5-2ov	se	15.90	16.69	0	0	0		0	0	0	
	Glaz	4B5-2fv	se	15.90	20.52	0	0	0		0	0	0	
	Door	11J0	se	31.80	17.10	0	0	0		0	0	0	
	Wall	12C-0sw	sw	4.82	2.14	108	376	167		135	506	225	
	Glaz	4A5-2ov	sw	15.90	16.82	0	0	0		30	477	504	
	Glaz	4A5-2ov	sw	15.90	7.22	30	477	217		0	0	0	
	Glaz	4B5-2fv	sw	15.90	11.86	0	0	0		0	0	0	
	Door	11D0	sw	20.67	11.11	0	0	0		0	0	0	
	Wall	12C-0sw	nw	4.82	2.14	0	0	0		0	0	0	
	Glaz	4A5-2ov	nw	15.90	17.33	0	0	0		0	0	0	
	Ceil	16B-38ad	-	1.38	1.35	144	198	195		180	248	243	
	Ceil	17B-6al	-	5.57	4.51	0	0	0		0	0	0	
	Floor	22A-tpl	-	52.42	0.00	144	629	0		180	1415	0	
12	Infiltration	Heating Load (Btuh)		Effect		0.32	WAR	383		WAR	863		
		Sensible Load (Btuh)		ACH		0.16	0.05		58	0.12	130		
		Latent Load (Btuh)											
13	Internal	a Occupants at 230 and 200 Btuh				0		0	0	0	0	0	
		b Scenario number						0			0		
		c Default Adjustments									0	0	
		d Custom Appliances						0	0			0	
		e Plants							0			0	
14	Subtotals	Sum lines 6 through 12						2064	987		4030	1556	
15	Duct Loads	EHLF & ESGF		0.244	0.526			504	520		983	819	
		ELG							95			118	
16	Ventilation Loads	Vent Cfm	0	E Cfm	0								
17	Winter Humidification Load	Gal/Day		0									
18	Piping Load												
19	Blower Heat												
20	AED Excursion & Latent Moisture Migration Load								351			223	
21	Total Load	Sum lines 13 through 19						2568	1507		5014	2376	

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



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Right-J8® Form J1
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

1	Name of Room					bath2 8.0 ft				mud 20.0 ft			
2	Running Feet of Exposed Wall					9.0 ft				9.0 ft			
3	Ceiling Ht (Ft) and Gross Wall Area (SqFt)					10.0 x 8.0 ft				10.0 x 10.0 ft			
4	Room Dimensions (Ft) and Floor Plan Area (SqFt)					0 °				0 °			
5	Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)					324.0 ft²				360.0 ft²			
						80.0 ft²				100.0 ft²			
						80.0 ft²							
	Type of Exposure	Const. Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
				Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12C-0sw	ne	4.82	2.14	0	0	0		90	434	192	
	Glaz	10D-v	ne	15.90	10.30	0	0	0		0	0	0	
	Glaz	10D-v	ne	15.90	10.30	0	0	0		0	0	0	
	Glaz	4A5-2of	ne	15.90	14.71	0	0	0		0	0	0	
11	Glaz	4A5-2ov	ne	15.90	17.33	0	0	0		0	0	0	
	Glaz	4A5-2ov	ne	15.90	14.71	0	0	0		0	0	0	
	Wall	12C-0sw	se	4.82	2.14	72	289	128		90	333	148	
	Glaz	4A5-2ov	se	15.90	13.17	0	0	0		0	0	0	
	Glaz	4A5-2ov	se	15.90	16.69	12	191	200		0	0	0	
	Glaz	4B5-2fv	se	15.90	20.52	0	0	0		0	0	0	
	Door	11J0	se	31.80	17.10	0	0	0		21	668	359	
	Wall	12C-0sw	sw	4.82	2.14	0	0	0		0	0	0	
	Glaz	4A5-2ov	sw	15.90	16.82	0	0	0		0	0	0	
	Glaz	4A5-2ov	sw	15.90	7.22	0	0	0		0	0	0	
	Glaz	4B5-2fv	sw	15.90	11.86	0	0	0		0	0	0	
	Door	11D0	sw	20.67	11.11	0	0	0		0	0	0	
	Wall	12C-0sw	nw	4.82	2.14	0	0	0		0	0	0	
	Glaz	4A5-2ov	nw	15.90	17.33	0	0	0		0	0	0	
	Ceil	16B-38ad	-	1.38	1.35	80	110	108		100	138	135	
	Ceil	17B-6al	-	5.57	4.51	0	0	0		0	0	0	
	Flor	22A-tpl	-	52.42	0.00	80	419	0		100	1048	0	
12	Infiltration	Heating Load (Btuh)		Effect	0.32	WAR	256			WAR	639		
		Sensible Load (Btuh)		ACH	0.16			39			96		
		Latent Load (Btuh)											
13	Internal	a Occupants at 230 and 200 Btuh				0		0	0	0		0	0
		b Scenario number						0				0	
		c Default Adjustments											
		d Custom Appliances						0	0			0	0
		e Plants							0				0
14	Subtotals	Sum lines 6 through 12					1265	583			3260	896	
15	Duct Loads	EHLF & ESGF		0.244	0.526		309	307			795	472	
		ELG							53				66
16	Ventilation Loads	Vent Cfm	0	E Cfm	0								
17	Winter Humidification Load	Gal/Day			0								
18	Piping Load												
19	Blower Heat												
20	AED Excursion & Latent Moisture Migration Load							108				-35	
21	Total Load	Sum lines 13 through 19					1574	890			4055	1368	

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



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Right-Suite® Universal 2023 23.0.05 RSU02245

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Right-J8® Form J1
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

1	Name of Room					pantry				kitchen			
2	Running Feet of Exposed Wall					8.0 ft				12.0 ft			
3	Ceiling Ht (Ft) and Gross Wall Area (SqFt)					9.0 ft				11.0 ft			
4	Room Dimensions (Ft) and Floor Plan Area (SqFt)					10.0 x 8.0 ft				12.0 x 26.0 ft			
5	Ceiling Slope (Deg.) and Gross Ceiling Area (SqFt)					0 °				17.1 °			
	Type of Exposure	Const., Number	Panel Faces	HTM		Area or Length	Btuh			Area or Length	Btuh		
				Htg.	Clg.		Heating	S-Clg	L-Clg		Heating	S-Clg	L-Clg
6	Wall	12C-0sw	ne	4.82	2.14	0	0	0		108	417	185	
	Glaz	10D-v	ne	15.90	10.30	0	0	0		0	0	0	
	Glaz	10D-v	ne	15.90	10.30	0	0	0		0	0	0	
	Glaz	4A5-2of	ne	15.90	14.71	0	0	0		0	0	0	
11	Glaz	4A5-2ov	ne	15.90	17.33	0	0	0		14	229	250	
	Glaz	4A5-2ov	ne	15.90	14.71	0	0	0		7	114	106	
	Wall	12C-0sw	se	4.82	2.14	72	309	137		52	251	111	
	Glaz	4A5-2ov	se	15.90	13.17	0	0	0		0	0	0	
	Glaz	4A5-2ov	se	15.90	16.69	0	0	0		0	0	0	
	Glaz	4B5-2fv	se	15.90	20.52	8	127	164		0	0	0	
	Door	11J0	se	31.80	17.10	0	0	0		0	0	0	
	Wall	12C-0sw	sw	4.82	2.14	0	0	0		0	0	0	
	Glaz	4A5-2ov	sw	15.90	16.82	0	0	0		0	0	0	
	Glaz	4A5-2ov	sw	15.90	7.22	0	0	0		0	0	0	
	Glaz	4B5-2fv	sw	15.90	11.86	0	0	0		0	0	0	
	Door	11D0	sw	20.67	11.11	0	0	0		0	0	0	
	Wall	12C-0sw	nw	4.82	2.14	0	0	0		0	0	0	
	Glaz	4A5-2ov	nw	15.90	17.33	0	0	0		0	0	0	
	Ceil	16B-38ad	-	1.38	1.35	80	110	108		0	0	0	
	Ceil	17B-6al	-	5.57	4.51	0	0	0		326	1817	1474	
	Flor	22A-tpl	-	52.42	0.00	80	419	0		312	629	0	
12	Infiltration	Heating Load (Btuh)		Effect		0.32	256			WAR	568		
		Sensible Load (Btuh)		ACH		0.16		39		0.08		86	
		Latent Load (Btuh)											
13	Internal	a Occupants at 230 and 200 Btuh				0		0	0	0		0	0
		b Scenario number						0				0	
		c Default Adjustments											
		d Custom Appliances						0	0			0	0
		e Plants							0				0
14	Subtotals	Sum lines 6 through 12					1221	537			4025	2129	
15	Duct Loads	EHLF & ESGF		0.244	0.526		298	282			982	1121	
		ELG							53				205
16	Ventilation Loads	Vent Cfm	0	E Cfm	0								
17	Winter Humidification Load	Gal/Day			0								
18	Piping Load												
19	Blower Heat												
20	AED Excursion & Latent Moisture Migration Load							89				-82	
21	Total Load	Sum lines 13 through 19					1519	819			5007	3250	

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



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A Wrightsoft Company

Right-Suite® Universal 2023 23.0.05 RSU02245
...soft HVAC\Trane\Trent Giebeig Const Deloach.rup Calc = MJ8 Front Door faces: N

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Loads for Multiple Orientations

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

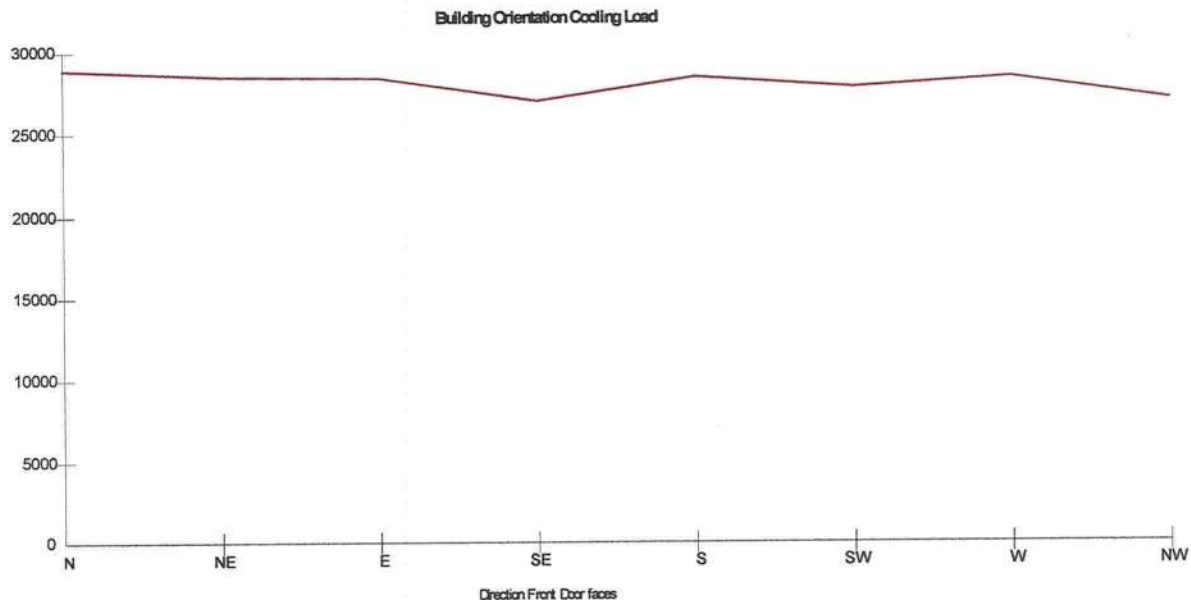
Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Washington National AP, DC, US		Indoor temperature (°F)		70	75
Elevation: 0 ft		Design TD (°F)		53	16
Latitude: 38°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		22.3	34.7
Outdoor:		Heating	Cooling	Infiltration:	
Dry bulb (°F)		17	91		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	74		
Wind speed (mph)		15.0	7.5		

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	25879	25467	25357	23940	25386	24739	25340	23974
Latent Load (Btuh)	3009	3009	3009	3009	3009	3009	3009	3009
Total Load (Btuh)	28888	28476	28367	26950	28395	27749	28349	26984
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 North
Highest Cooling Load: Front Door faces North

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:
Date: Mar 13, 2024
By:

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

Supporting Detail	
Project Name: Trent Giebeig Const Deloach	Date: Mar 13, 2024
Address: Lake City, FL	
Phone:	Job ID:

Worksheet A Location and Design Conditions	
Weather Location: Washington National AP, DC, US	Elevation = 0 Latitude = 38
Indoor Conditions, Heating: DB = 70 °F RH = 30 %	Indoor Conditions, Cooling: DB = 75 °F RH = 50 %
Table 1 Conditions 99% DB = 17 °F 1% DB = 91 °F	Grains Difference = 35 gr/lb Daily Range = M
Design Temperature Differences	HTD = 53 °F CTD = 16 °F

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





Duct System Summary

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.50 in H2O	0.50 in H2O
Supply / return available pressure	0.422 / 0.078 in H2O	0.422 / 0.078 in H2O
Lowest friction rate	0.093 in/100ft	0.093 in/100ft
Actual air flow	1200 cfm	1050 cfm
Total effective length (TEL)	537 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
WIC	h 1436	34	18	0.118	5.0	0x0	VIFx	47.2	310.0	st4
bath1	c 886	31	35	0.093	4.0	0x0	VIFx	43.4	410.0	st4C
bath2	h 1574	37	35	0.283	4.0	0x0	VIFx	14.0	135.0	st3
br1	h 3971	94	66	0.103	7.0	0x0	VIFx	54.1	355.0	st4A
br1-A	h 3971	94	66	0.102	7.0	0x0	VIFx	47.4	365.0	st4B
br2	h 5014	119	93	0.274	6.0	0x0	VIFx	19.0	135.0	st3
craft	h 2568	61	59	0.145	5.0	0x0	VIFx	30.0	260.0	st4
foyer	c 1107	40	43	0.145	5.0	0x0	VIFx	40.0	250.0	st4
great	c 2193	82	85	0.142	6.0	0x0	VIFx	31.0	265.0	st4
great-A	c 2193	82	85	0.119	6.0	0x0	VIFx	45.2	310.0	st4
great-B	c 2193	82	85	0.173	6.0	0x0	VIFx	39.0	205.0	st4
kitchen	c 1625	59	63	0.257	5.0	0x0	VIFx	19.0	145.0	st3
kitchen-A	c 1625	59	63	0.306	5.0	0x0	VIFx	8.0	130.0	
lav	c 625	17	24	0.102	4.0	0x0	VIFx	49.7	365.0	st4B
man cave	h 3701	88	72	0.100	7.0	0x0	VIFx	54.9	365.0	st4A
man cave-A	h 3701	88	72	0.153	6.0	0x0	VIFx	50.0	225.0	st4
mud	h 4055	96	53	0.430	5.0	0x0	VIFx	3.0	95.0	
pantry	h 1519	36	32	0.262	4.0	0x0	VIFx	6.0	155.0	st3

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4	Peak AVF	793	711	0.093	741	14.0	0 x 0	ShtMetl	st1
st4A	Peak AVF	324	262	0.093	734	9.0	0 x 0	ShtMetl	st4
st4B	Peak AVF	142	125	0.093	533	7.0	0 x 0	ShtMetl	st4A
st4C	Peak AVF	31	35	0.093	396	4.0	0 x 0	ShtMetl	st4B
st3	Peak AVF	252	222	0.257	942	7.0	0 x 0	ShtMetl	st1
st1	Peak AVF	1044	933	0.093	748	16.0	0 x 0	ShtMetl	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x0	1200	1050	84.1	0.093	679	18.0	0x 0		VIFx	





Duct system multi orientation report

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Group 1: (N, S) Group 2: (NE, SE) Group 3: (E) Group 4: (SW, W) Group 5: (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												
WIC	34 h	12x12	5	34 h	12x12	5	34 h	12x12	5	34 h	12x12	5
bath1	49 c	12x12	5	37 c	12x12	4	31 h	12x12	4	38 c	12x12	4
bath2	39 c	12x12	4	37 h	12x12	4	37 h	12x12	4	37 h	12x12	4
br1	94 h	12x12	7	94 h	12x12	7	94 h	12x12	7	94 h	12x12	7
br1-A	94 h	12x12	7	94 h	12x12	7	94 h	12x12	7	94 h	12x12	7
br2	119 h	12x12	6	119 h	12x12	6	119 h	12x12	6	119 h	12x12	6
craft	61 h	12x12	5	61 h	12x12	5	61 h	12x12	5	61 h	12x12	5
foyer	40 h	12x12	5	40 h	12x12	5	40 h	12x12	5	40 h	12x12	5
great	86 c	12x12	6	94 c	12x12	6	101 c	12x12	7	94 c	12x12	6
great-A	86 c	12x12	6	94 c	12x12	7	101 c	12x12	7	94 c	12x12	7
great-B	86 c	12x12	6	94 c	12x12	6	101 c	12x12	6	94 c	12x12	6
kitchen	65 c	12x12	5	67 c	12x12	5	69 c	12x12	5	68 c	12x12	5
kitchen-A	65 c	12x12	5	67 c	12x12	5	69 c	12x12	5	68 c	12x12	5
lav	38 c	12x12	5	27 c	12x12	4	17 h	12x12	4	28 c	12x12	4
man cave	88 h	12x12	7	88 h	12x12	7	88 h	12x12	7	88 h	12x12	7
man cave-A	88 h	12x12	6	88 h	12x12	6	88 h	12x12	6	88 h	12x12	6
mud	96 h	12x12	5	96 h	12x12	5	96 h	12x12	5	96 h	12x12	5
pantry	36 h	12x12	4	36 h	12x12	4	36 h	12x12	4	36 h	12x12	4
Supply Trunks												
st4	793 h		14	793 h		14	793 h		14	793 h		14
st4A	324 h		9	324 h		9	324 h		9	324 h		9
st4B	168 c		7	146 c		7	142 h		7	142 h		7
st4C	49 c		5	37 c		4	31 h		4	38 c		4
st3	252 h		7	252 h		7	252 h		7	252 h		7
st1	1044 h		16	1044 h		16	1044 h		16	1044 h		16
Return Branches												
rb1	1200 h	12x12	18	1200 h	12x12	18	1200 h	12x12	18	1200 h	12x12	18
Friction Rates												
Heating FR	0.093			0.093			0.093			0.093		
Cooling FR	0.093			0.093			0.093			0.093		

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
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												
WIC	34 h	12x12	5	34 h	12x12	5	34 h	12x12	5	34 h	12x12	5
bath1	42 c	12x12	5	31 h	12x12	4	31 h	12x12	4	35 c	12x12	4
bath2	43 c	12x12	4	37 h	12x12	4	37 h	12x12	4	37 h	12x12	4
br1	94 h	12x12	7	94 h	12x12	7	94 h	12x12	7	94 h	12x12	7
br1-A	94 h	12x12	7	94 h	12x12	7	94 h	12x12	7	94 h	12x12	7
br2	119 h	12x12	6	119 h	12x12	6	119 h	12x12	6	119 h	12x12	6
craft	61 h	12x12	5	68 c	12x12	6	77 c	12x12	6	61 h	12x12	5
foyer	40 h	12x12	5	46 c	12x12	5	52 c	12x12	5	43 c	12x12	5
great	89 c	12x12	6	82 h	12x12	6	82 c	12x12	6	85 c	12x12	6
great-A	89 c	12x12	6	82 h	12x12	6	82 c	12x12	6	85 c	12x12	6
great-B	89 c	12x12	6	82 h	12x12	6	82 c	12x12	6	85 c	12x12	6
kitchen	67 c	12x12	5	60 c	12x12	5	59 h	12x12	5	63 c	12x12	5
kitchen-A	67 c	12x12	5	60 c	12x12	5	59 h	12x12	5	63 c	12x12	5
lav	31 c	12x12	5	19 c	12x12	4	17 h	12x12	4	24 c	12x12	4
man cave	88 h	12x12	7	88 h	12x12	7	90 c	12x12	7	88 h	12x12	7
man cave-A	88 h	12x12	6	88 h	12x12	6	90 c	12x12	6	88 h	12x12	6
mud	96 h	12x12	5	96 h	12x12	5	96 h	12x12	5	96 h	12x12	5
pantry	39 c	12x12	4	36 h	12x12	4	36 h	12x12	4	36 h	12x12	4
Supply Trunks												
st4	793 h		14	793 h		14	793 h		14	793 h		14
st4A	324 h		9	324 h		9	324 h		9	324 h		9
st4B	153 c		7	142 h		7	142 h		7	142 h		7
st4C	42 c		5	31 h		4	31 h		4	35 c		4
st3	252 h		7	252 h		7	252 h		7	252 h		7
st1	1044 h		16	1044 h		16	1044 h		16	1044 h		16
Return Branches												
rb1	1200 h	12x12	18	1200 h	12x12	18	1200 h	12x12	18	1200 h	12x12	18
Friction Rates												
Heating FR	0.093			0.093			0.093			0.093		
Cooling FR	0.093			0.093			0.093			0.093		



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Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches						
WIC	34 h	12x12	5	34 h	12x12	5
bath1	49 c	12x12	5	31 h	12x12	4
bath2	43 c	12x12	4	37 h	12x12	4
br1	94 h	12x12	7	94 h	12x12	7
br1-A	94 h	12x12	7	94 h	12x12	7
br2	119 h	12x12	6	119 h	12x12	6
craft	77 c	12x12	6	61 h	12x12	5
foyer	52 c	12x12	5	40 h	12x12	5
great	101 c	12x12	7	82 h	12x12	6
great-A	101 c	12x12	7	82 h	12x12	6
great-B	101 c	12x12	6	82 h	12x12	6
kitchen	69 c	12x12	5	59 h	12x12	5
kitchen-A	69 c	12x12	5	59 h	12x12	5
lav	38 c	12x12	5	17 h	12x12	4
man cave	90 c	12x12	7	88 h	12x12	7
man cave-A	90 c	12x12	6	88 h	12x12	6
mud	96 h	12x12	5	96 h	12x12	5
pantry	39 c	12x12	4	36 h	12x12	4
Supply Trunks						
st4	793 h		14	793 h		14
st4A	324 h		9	324 h		9
st4B	168 c		7	142 h		7
st4C	49 c		5	31 h		4
st3	252 h		7	252 h		7
st1	1044 h		16	1044 h		16
Return Branches						
rb1	1200 h	12x12	18	1200 h	12x12	18
Friction Rates						
Heating FR	0.093			0.093		
Cooling FR	0.093			0.093		



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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:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Available Static Pressure

	Heating (in H ₂ O) 0.50	Cooling (in H ₂ O) 0.50
External static pressure		
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) 1	Return (ft) 19
Measured length of run-out	1	19
Measured length of trunk	42	0
Equivalent length of fittings	410	65
Total length	453	84
Total effective length		537

Friction Rate

	Heating (in/100ft) 0.093	OK	Cooling (in/100ft) 0.093	OK
Supply Ducts	0.093	OK	0.093	OK
Return Ducts	0.093	OK	0.093	OK

Fitting Equivalent Length Details

Supply	4AD=60, 2A0=35, 2A0=35, 12J1=10, 12J1=10, 9I1=85, 12J1=10, 11M=20, 11M=20, 9I2=5, 9I1=85, 1A=35: TotalEL=410
Return	6M=20, 5D=40, 11G=5: TotalEL=65



Manual S Compliance Report

Entire House

DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Cooling Equipment

Design Conditions

Outdoor design DB:	91.0°F	Sensible gain:	26957	Btuh	Entering coil DB:	77.7°F
Outdoor design WB:	74.0°F	Latent gain:	3009	Btuh	Entering coil WB:	63.7°F
Indoor design DB:	75.0°F	Total gain:	29967	Btuh		
Indoor RH:	50%	Estimated airflow:	1050	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR5036H1+TEM6A0C42H41
Actual airflow:	1050	cfm	
Sensible capacity:	30092	Btuh	112% of load
Latent capacity:	3838	Btuh	128% of load
Total capacity:	33930	Btuh	113% of load SHR: 89%

Heating Equipment

Design Conditions

Outdoor design DB:	17.0°F	Heat loss:	50573	Btuh	Entering coil DB:	68.1°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR5036H1+TEM6A0C42H41
Actual airflow:	1200	cfm	
Output capacity:	21700	Btuh	43% of load
Supplemental heat required:	28873	Btuh	
			Capacity balance: 34 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1200	cfm	
Output capacity:	14.6	kW	98% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



DHW Report
Entire House
DL Williams Heating & Cooling LLC

Job:
Date: Mar 13, 2024
By:

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

Project Information

For: Karen and Ricky Deloach, Trent Giebeig Construction
Lake City, FL

Design Criteria

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

Electric conventional (40 gal, 0.90 EF)

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



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

Form
RPER 1
15 Mar 09

Header Information

Contractor: DL Williams Heating & Cooling LLC
Derrick Williams
Mechanical license:
Building plan #:
Home address (Street or Lot#, Block, Subdivision): , Entire House

REQUIRED ATTACHMENTS
Manual J1 Form (and supporting worksheets):
or MJ1AE Form* (and supporting worksheets):
OEM performance data (heating, cooling, blower):
Manual D Friction Rate Worksheet:
Duct distribution sketch:

ATTACHED
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature: 17 °F
Indoor temperature: 70 °F
Total heat loss: 50573 Btuh

Summer Design Conditions

Outdoor temperature: 91 °F
Indoor temperature: 75 °F
Grains difference: 35 gr/lb @ 50% RH
Sensible heat gain: 28080 Btuh
Latent heat gain: 3135 Btuh
Total heat gain: 31215 Btuh

Building Construction Information

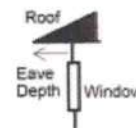
Building

Orientation: Front Door faces North
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms: 1
Conditioned floor area: 2362 ft²
Number of occupants: 0

Windows

Eave overhang depth: 9.0 ft
Internal shade: blinds
Blinds, drapes, etc.
Number of skylights: 0



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: Split ASHP
Furnace, Heat pump, Boiler, etc.
Model: Trane
4TWR5036H1+TEM6A0C42H41
Heating output capacity: 21700 Btuh
Heat pumps - capacity at winter design outdoor conditions
Aux. heating output capacity: 49771 Btuh

Cooling Equipment Data

Equipment type: Split ASHP
Air Conditioner, Heat pump, etc.
Model: Trane
4TWR5036H1+TEM6A0C42H41
Total cooling capacity: 33930 Btuh
Sensible cooling capacity: 30092 Btuh
Latent cooling capacity: 3838 Btuh

Blower Data

Heating cfm: 1200
Cooling cfm: 1050
Static pressure: 0.50 in H₂O
Fan's rated external static pressure for design airflow

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow: 1200 cfm
Equipment design ESP: 0.50 in H₂O
Total device pressure losses: 0 in H₂O
Available static pressure (ASP): 0.50 in H₂O
Longest supply duct: 453 ft
Longest return duct: 84 ft
Total effective length (TEL): 537 ft
Friction rate: 0.093 in/100ft
Duct Materials Used
Trunk duct: Sheet metal
Branch duct: Round flex vinyl
Friction Rate = ASP ÷ (TEL × 100)

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

Contractor's printed name: _____

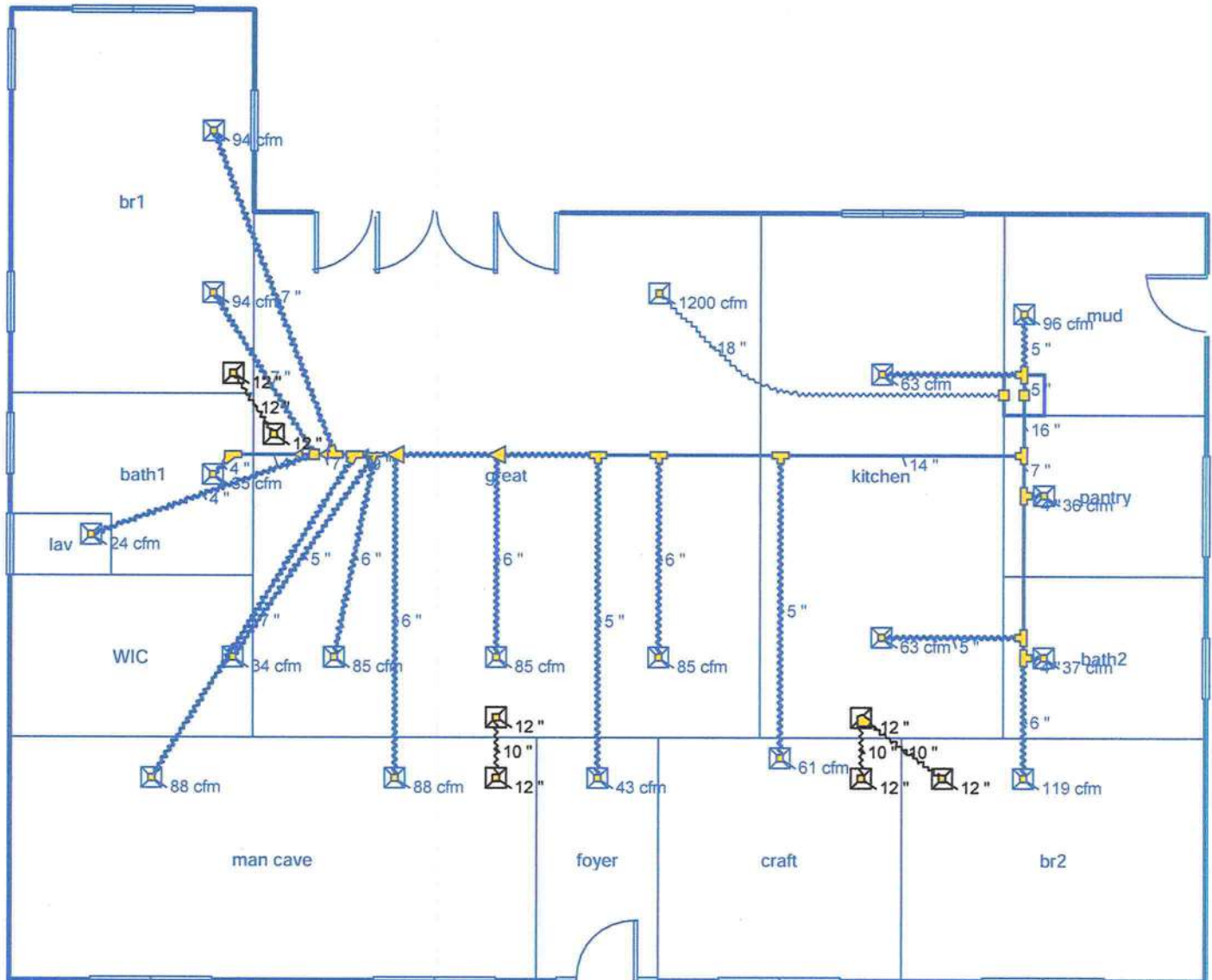
Contractor's signature: _____ Date: _____

Reserved for County, Town Municipality or Authority having jurisdiction use.

*Home qualifies for MJ1AE Form based on Abridged Edition Checklist



Sheet 1



Job #:
Performed for:
Karen and Ricky Deloach
Lake City, FL

DL Williams Heating & Cooling LLC

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

Scale: 1 : 98

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