



Project Summary

Entire House

DL Williams Heating & Cooling LLC License

CAC1816913

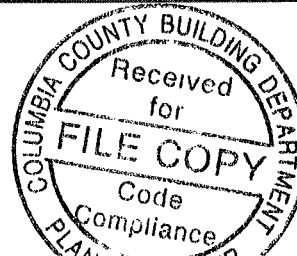
Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email Dwilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For Hudson, Mike Todd Construction
Lake City, FL

Notes



Design Information

Weather Gainesville Regional AP, FL, US

Winter Design Conditions

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

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	47 gr/lb

Heating Summary

Structure	22827 Btuh
Ducts	7491 Btuh
Central vent (0 cfm)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	30318 Btuh

Sensible Cooling Equipment Load Sizing

Structure	18047 Btuh
Ducts	9957 Btuh
Central vent (0 cfm)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	27164 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	2436	2436
Volume (ft³)	19488	19488
Air changes/hour	0.32	0.16
Equiv AVF (cfm)	104	52

Latent Cooling Equipment Load Sizing

Structure	2666 Btuh
Ducts	2099 Btuh
Central vent (0 cfm)	0 Btuh
Equipment latent load	4765 Btuh
Equipment total load	31928 Btuh
Req total capacity at 0.70 SHR	3.2 ton

Heating Equipment Summary

Make	
Trade	
Model	
AHRI ref	
Efficiency	80 AFUE
Heating input	0 Btuh
Heating output	0 Btuh
Temperature rise	0 °F
Actual air flow	1131 cfm
Air flow factor	0.037 cfm/Btuh
Static pressure	0 in H2O
Space thermostat	

Cooling Equipment Summary

Make	
Trade	
Cond	
Coil	
AHRI ref	
Efficiency	0 SEER
Sensible cooling	0 Btuh
Latent cooling	0 Btuh
Total cooling	0 Btuh
Actual air flow	1131 cfm
Air flow factor	0.040 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0.85

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



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Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJB Front Door faces. N

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**TRANE****Load Short Form****Entire House****DL Williams Heating & Cooling LLC License****CAC1816913**

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Project InformationFor Hudson, Mike Todd Construction
Lake City, FL**Design Information**

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	68	75	Construction quality	Average
Design TD (°F)	35	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	8	47		

HEATING EQUIPMENT

Make
Trade
Model
AHRI ref

Efficiency 80 AFUE

Heating input 0 Btuh

Heating output 0 Btuh

Temperature rise 0 °F

Actual air flow 1131 cfm

Air flow factor 0.037 cfm/Btuh

Static pressure 0 in H2O

Space thermostat

COOLING EQUIPMENT

Make
Trade
Cond
Coil
AHRI ref

Efficiency 0 SEER

Sensible cooling 0 Btuh

Latent cooling 0 Btuh

Total cooling 0 Btuh

Actual air flow 1131 cfm

Air flow factor 0.040 cfm/Btuh

Static pressure 0 in H2O

Load sensible heat ratio 0.85

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
lr	944	8467	13262	316	536
bath	72	710	352	26	14
mbed	255	4425	3895	165	157
mbath	180	1679	939	63	38
toilet	25	1045	364	39	15
Room6	50	1288	1047	48	42
clos3	104	958	488	36	20
br2	182	3195	1876	119	76
bath3	90	3231	1899	121	77
br3	182	1883	1479	70	60
hall	54	78	126	3	5
bath2	90	131	211	5	9
utility	120	1688	1431	63	58
clos	48	1482	540	55	22
hall2	40	58	94	2	4

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Building Analysis Entire House

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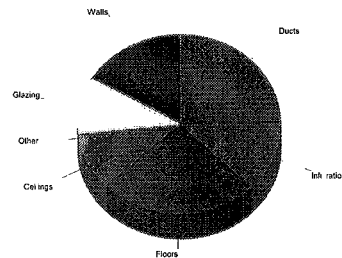
For: Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.0	47.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	76	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

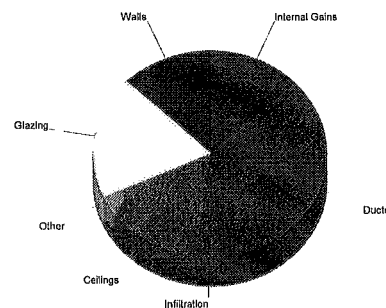
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.1	4978	16.4
Glazing	16.4	3119	10.3
Doors	20.8	436	1.4
Ceilings	1.1	2697	8.9
Floors	3.1	7665	25.3
Infiltration	2.2	3932	13.0
Ducts		7491	24.7
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		30318	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.2	3503	12.5
Glazing	28.6	5438	19.4
Doors	17.6	370	1.3
Ceilings	1.7	4120	14.7
Floors	0	0	0
Infiltration	0.5	966	3.4
Ducts		9957	35.6
Ventilation		0	0
Internal gains		3650	13.0
Blower		0	0
Adjustments		0	0
Total		28004	100.0



Latent Cooling Load = 4765 Btuh
Overall U-value = 0.082 Btuh/ft²·°F

Data entries checked



AED Assessment

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Lake City, FL

Design Conditions

Location:

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

Indoor:

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

Heating

68
35
30
8.0

Cooling

75
17
50
47.4

Outdoor:

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

Heating

33
-
-
15.0

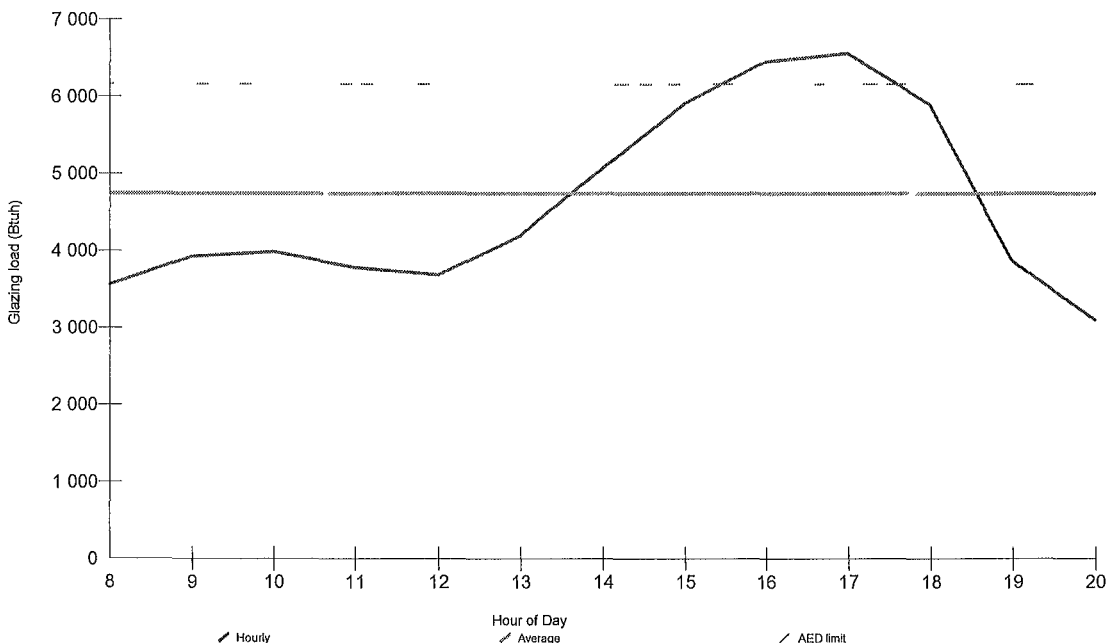
Cooling

92
18 (M)
76
7.5

Infiltration:

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 38.5%.

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

AED excursion: 401 Btuh (PFG - 1.3*AFG)



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**TRANE**

Loads for Multiple Orientations

Entire House

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Lake City, FL

Design Conditions

Location:

Gainesville Regional AP, FL, US

Elevation 164 ft

Latitude 30°N

Indoor:

Indoor temperature (°F)

Design TD (°F)

Relative humidity (%)

Moisture difference (gr/lb)

Heating

68

35

30

8.0

Cooling

75

17

50

47.4

Outdoor:**Heating****Cooling**

Dry bulb (°F)

33

92

Daily range (°F)

-

18 (M)

Wet bulb (°F)

-

76

Wind speed (mph)

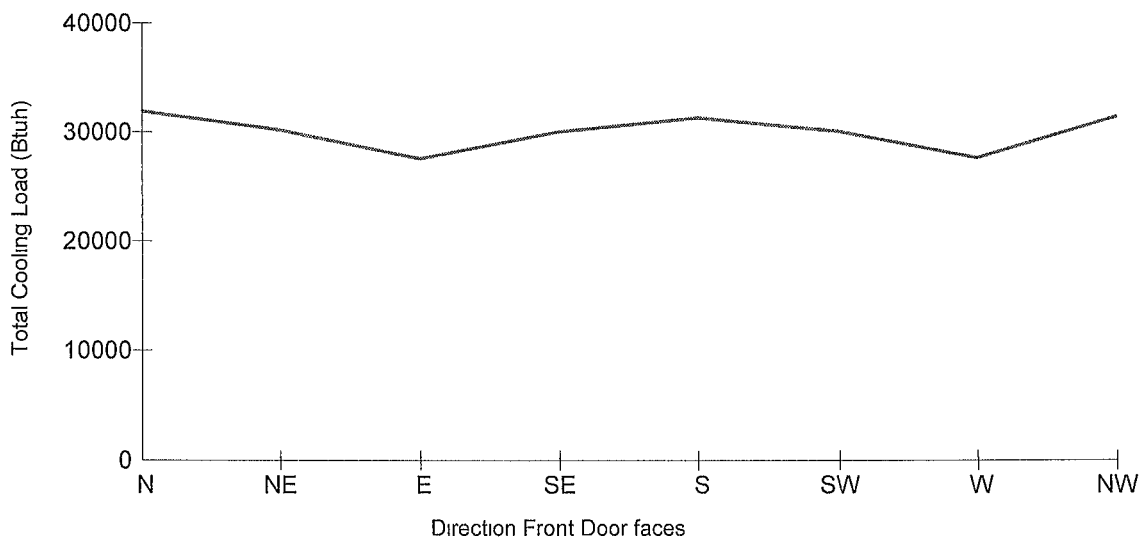
15.0

7.5

Infiltration:

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	27164	25586	23139	25436	26605	25469	23217	26691
Latent Load (Btuh)	4765	4623	4424	4622	4725	4622	4425	4728
Total Load (Btuh)	31928	30209	27564	30058	31330	30092	27642	31419
Heating AVF (cfm)	1131	1062	967	1057	1108	1057	970	1111
Cooling AVF (cfm)	1131	1062	967	1057	1108	1057	970	1111

Building Orientation Cooling Load

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

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



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Entire House	2436	30318	28004	1131	1131
Other equip loads		0	0		
Equip @ 0.97 RSM			27164		
Latent cooling			4765		
TOTALS	2436	30318	31928	1131	1131

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Right-J® Worksheet Entire House

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1	Room name					Entire House				Ir				
2	Exposed wall					8 0 ft				48.0 ft				
3	Room height					224 0 ft				8 0 ft				
4	Room dimensions					2436.0 ft²				1 0 x 944 0 ft				
5	Room area					2436.0 ft²				944 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	n	3 15	2 22	344	308	970	682	0	0	0	0
11	G	4A5-2ov	0 470	n	16 26	11 33	36	0	585	408	0	0	0	0
	W	12C-0sw	0 091	e	3 15	2 22	552	479	1508	1061	64	43	135	95
	G	4A5-2ov	0 470	e	16 26	31 08	52	0	846	1616	0	0	0	0
	D	11J0	0 600	e	20 76	17 61	21	21	436	370	21	21	436	370
	W	12C-0sw	0 091	s	3.15	2 22	344	344	1083	762	0	0	0	0
	W	12C-0sw	0 091	w	3 15	2 22	552	450	1417	997	320	242	762	536
	G	10D-v	0 490	w	16 95	27 33	42	0	712	1148	42	0	712	1148
	G	4A5-2ov	0 470	w	16.26	31 08	60	0	976	1865	36	0	585	1119
	C	16B-30ad	0 032	-	1 11	1 69	2436	2436	2697	4120	944	944	1045	1596
	F	22A-wpl	0 989	-	34.22	0 00	2436	224	7665	0	944	48	1643	0
	6	c) AED excursion								401				428
	Envelope loss/gain							18895	13431			5319	5293	
12	a) Infiltration							3932	966			843	207	
	b) Room ventilation							0	0			0	0	
13	Internal gains					Occupants @ 230	5			1150	3		690	
	Appliances/other									2500			2000	
	Subtotal (lines 6 to 13)								22827	18047			6161	8190
14	Less external load								0	0			0	0
	Less transfer								0	0			0	0
15	Redistribution								0	0			0	0
	Subtotal								22827	18047			6161	8190
	Duct loads						33%	55%	7491	9957	37%	62%	2305	5072
	Total room load								30318	28004			8467	13262
	Air required (cfm)								1131	1131			316	536

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Right-J® Worksheet Entire House

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1	Room name					bath					mbed				
2	Exposed wall					6 0 ft					32 0 ft				
3	Room height					8.0 ft					8 0 ft				
4	Room dimensions					6 0 x 12 0 ft					15 0 x 17 0 ft				
5	Room area					72 0 ft²					255 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	n	3.15	2 22	0	0	0	0	136	112	353	248	
11	G	4A5-2ov	0.470	n	16.26	11 33	0	0	0	0	24	0	390	272	
	W	12C-0sw	0 091	e	3.15	2 22	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	e	16.26	31 08	0	0	0	0	0	0	0	0	
	D	11J0	0 600	e	20.76	17 61	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	s	3.15	2.22	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	w	3.15	2 22	48	48	151	106	120	96	302	213	
	G	10D-v	0 490	w	16.95	27 33	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	w	16.26	31 08	0	0	0	0	24	0	390	746	
	C	16B-30ad	0 032	-	1 11	1 69	72	72	80	122	255	255	282	431	
	F	22A-wpl	0 989	-	34.22	0 00	72	6	205	0	255	32	1095	0	
	6	c) AED excursion									-19				97
	Envelope loss/gain								436	209			2813	2007	
12	a) Infiltration								105	26			562	138	
	b) Room ventilation								0	0			0	0	
13	Internal gains					Occupants @ 230	0			0	2			460	
	Appliances/other									0				0	
	Subtotal (lines 6 to 13)								542	235			3375	2605	
14	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
	Subtotal								542	235			3375	2605	
15	Duct loads						31%	50%	168	117	31%	50%	1050	1291	
	Total room load								710	352			4425	3895	
	Air required (cfm)								26	14			165	157	

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1	Room name					mbath					toilet				
2	Exposed wall					12.0 ft					10.0 ft				
3	Room height					8.0 ft					8.0 ft				
4	Room dimensions					15.0 x 12.0 ft					5.0 x 5.0 ft				
5	Room area					180.0 ft²					25.0 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	n	3.15	2.22	96	84	264	186	40	40	126	89	
		4A5-2ov	0.470	n	16.26	11.33	12	0	195	136	0	0	0	0	
		12C-0sw	0.091	e	3.15	2.22	0	0	0	0	40	40	126	89	
		4A5-2ov	0.470	e	16.26	31.08	0	0	0	0	0	0	0	0	
		11J0	0.600	e	20.76	17.61	0	0	0	0	0	0	0	0	
		12C-0sw	0.091	s	3.15	2.22	0	0	0	0	0	0	0	0	
		12C-0sw	0.091	w	3.15	2.22	0	0	0	0	0	0	0	0	
		10D-v	0.490	w	16.95	27.33	0	0	0	0	0	0	0	0	
		4A5-2ov	0.470	w	16.26	31.08	0	0	0	0	0	0	0	0	
		16B-30ad	0.032	-	1.11	1.69	180	180	199	304	25	25	28	42	
		22A-wpl	0.989	-	34.22	0.00	180	12	411	0	25	10	342	0	
c) AED excursion									-50			-19			
Envelope loss/gain									1070	576			622	200	
a) Infiltration									211	52			176	43	
b) Room ventilation									0	0			0	0	
Internal gains							Occupants @ 230	0		0	0			0	0
Appliances/other															
Subtotal (lines 6 to 13)									1280	628			797	243	
Less external load									0	0			0	0	
Less transfer									0	0			0	0	
Redistribution									0	0			0	0	
Subtotal									1280	628			797	243	
Duct loads							31%	50%	398	311	31%	50%	248	121	
Total room load									1679	939			1045	364	
Air required (cfm)									63	38			39	15	

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1	Room name					Room6					clos3				
2	Exposed wall					10 0 ft					8.0 ft				
3	Room height					8 0 ft					8 0 ft				
4	Room dimensions					10 0 x 5 0 ft					8 0 x 13.0 ft				
5	Room area					50 0 ft²					104 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	n	3 15	2 22	0	0	0	0	0	0	0	0	
11	G	4A5-2ov	0 470	n	16.26	11 33	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	e	3 15	2 22	80	68	214	151	64	64	202	142	
	G	4A5-2ov	0 470	e	16.26	31 08	12	0	195	373	0	0	0	0	
	D	11J0	0 600	e	20 76	17 61	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	s	3 15	2 22	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	w	3 15	2 22	0	0	0	0	0	0	0	0	
	G	10D-v	0 490	w	16 95	27 33	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	w	16 26	31 08	0	0	0	0	0	0	0	0	
	C	16B-30ad	0 032	-	1 11	1 69	50	50	55	85	104	104	115	176	
	F	22A-wpl	0 989	-	34 22	0 00	50	10	342	0	104	8	274	0	
	6	c) AED excursion								49				-26	
	Envelope loss/gain								807	657			590	292	
12	a) Infiltration								176	43			140	35	
	b) Room ventilation								0	0			0	0	
13	Internal gains		Occupants @	230		0			0	0	0			0	
			Appliances/other						0					0	
	Subtotal (lines 6 to 13)								982	700			731	326	
14	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
15	Subtotal								982	700			731	326	
	Duct loads						31%	50%	306	347	31%	50%	227	162	
	Total room load								1288	1047			958	488	
	Air required (cfm)								48	42			36	20	

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



wrightsoft®

Right-Suite® Universal 2013 13.0.09 RSU02245
Wrightsoft HVACTraneWilke Todd Hudson Res.rup Calc= MJ8 Front Door faces: N

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Right-J® Worksheet Entire House

DL Williams Heating & Cooling LLC

License CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax 386-243-8480 Email Dwilliams@williamscooling.com Web dwilliamsheatingandcooling.com

1	Room name					br2					bath3				
2	Exposed wall					27 0 ft					28 0 ft				
3	Room height					8 0 ft					8 0 ft				
4	Room dimensions					14 0 x 13 0 ft					10 0 x 9 0 ft				
5	Room area					182.0 ft²					90 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	n	3 15	2 22	0	0	0	0	72	72	227	160	
	G	4A5-2ov	0 470	n	16.26	11 33	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	e	3.15	2 22	112	100	315	222	80	64	202	142	
	G	4A5-2ov	0 470	e	16.26	31 08	12	0	195	373	16	0	260	497	
11	D	11J0	0 600	e	20 76	17 61	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	s	3.15	2.22	104	104	327	230	72	72	227	160	
	W	12C-0sw	0 091	w	3 15	2.22	0	0	0	0	0	0	0	0	
	G	10D-v	0 490	w	16 95	27 33	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	w	16 26	31 08	0	0	0	0	0	0	0	0	
	C	16B-30ad	0 032	-	1 11	1 69	182	182	202	308	90	90	100	152	
	F	22A-wpl	0 989	-	34 22	0 00	182	27	924	0	90	28	958	0	
6	c) AED excursion									5				39	
	Envelope loss/gain								1963	1138			1973	1149	
12	a) Infiltration								474	116			492	121	
	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)								2437	1254			2464	1270	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
14	Subtotal								2437	1254			2464	1270	
15	Duct loads					31%	50%		758	621	31%	50%	767	629	
	Total room load								3195	1876			3231	1899	
	Air required (cfm)								119	76			121	77	

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



Right-J® Worksheet Entire House

DL Williams Heating & Cooling LLC
License CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

1	Room name						br3				hall			
2	Exposed wall						14 0 ft				0 ft			
3	Room height						8 0 ft				8 0 ft			
4	Room dimensions						14 0 x 13 0 ft				6 0 x 9 0 ft			
5	Room area						182.0 ft²				54 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	n	3 15	2 22	0	0	0	0	0	0	0	0
	G	4A5-2ov	0 470	n	16 26	11 33	0	0	0	0	0	0	0	0
	W	12C-0sw	0 091	e	3 15	2 22	112	100	315	222	0	0	0	0
	G	4A5-2ov	0 470	e	16 26	31 08	12	0	195	373	0	0	0	0
11	D	11J0	0 600	e	20 76	17 61	0	0	0	0	0	0	0	0
	W	12C-0sw	0 091	s	3 15	2 22	0	0	0	0	0	0	0	0
	W	12C-0sw	0 091	w	3 15	2 22	0	0	0	0	0	0	0	0
	G	10D-v	0 490	w	16 95	27 33	0	0	0	0	0	0	0	0
	G	4A5-2ov	0 470	w	16 26	31 08	0	0	0	0	0	0	0	0
	C	16B-30ad	0 032	-	1 11	1 69	182	182	202	308	54	54	60	91
	F	22A-wpl	0 989	-	34 22	0 00	182	14	479	0	54	0	0	0
6	c) AED excursion									26				-7
	Envelope loss/gain								1191	928			60	85
12	a) Infiltration								246	60			0	0
	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)								1436	989			60	85
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1436	989			60	85
15	Duct loads						31%	50%	447	490	31%	50%	19	42
	Total room load								1883	1479			78	126
	Air required (cfm)								70	60			3	5

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



Right-J® Worksheet Entire House

DL Williams Heating & Cooling LLC
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Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dwilliamsheatingandcooling.com

1	Room name					bath2					utility				
2	Exposed wall					0 ft					15 0 ft				
3	Room height					8 0 ft					8 0 ft				
4	Room dimensions					10 0 x 9 0 ft					8 0 x 15 0 ft				
5	Room area					90 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-0sw	0 091	n	3.15	2 22	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.470	n	16.26	11 33	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	e	3.15	2 22	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	e	16 26	31 08	0	0	0	0	0	0	0	0	
11	D	11J0	0 600	e	20 76	17 61	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	s	3.15	2.22	0	0	0	0	120	120	378	266	
	W	12C-0sw	0 091	w	3 15	2.22	0	0	0	0	0	0	0	0	
	G	10D-v	0 490	w	16 95	27 33	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	w	16 26	31 08	0	0	0	0	0	0	0	0	
	C	16B-30ad	0 032	-	1 11	1 69	90	90	100	152	120	120	133	203	
	F	22A-wpl	0 989	-	34 22	0 00	90	0	0	0	120	15	513	0	
6	c) AED excursion									-11				-76	
	Envelope loss/gain								100	141			1024	392	
12	a) Infiltration								0	0			263	65	
	b) Room ventilation								0	0			0	0	
13	Internal gains		Occupants @ Appliances/other		230		0			0	0			0	
	Subtotal (lines 6 to 13)								100	141			1287	957	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
14	Subtotal								100	141			1287	957	
15	Duct loads						31%	50%	31	70	31%	50%	401	474	
	Total room load								131	211			1688	1431	
	Air required (cfm)								5	9			63	58	

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



Wrightsoft

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Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces. N

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Right-J® Worksheet Entire House

DL Williams Heating & Cooling LLC
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Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

1	Room name					clos					hall2				
2	Exposed wall					14 0 ft					0 ft				
3	Room height					8 0 ft					8 0 ft				
4	Room dimensions					8 0 x 6 0 ft					10 0 x 4 0 ft				
5	Room area					48.0 ft²					40 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	n	3.15	2 22	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	n	16.26	11 33	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	e	3 15	2 22	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	e	16 26	31 08	0	0	0	0	0	0	0	0	
11	D	11J0	0 600	e	20 76	17 61	0	0	0	0	0	0	0	0	
	W	12C-0sw	0 091	s	3 15	2.22	48	48	151	106	0	0	0	0	
	W	12C-0sw	0 091	w	3 15	2.22	64	64	202	142	0	0	0	0	
	G	10D-v	0 490	w	16 95	27 33	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0 470	w	16 26	31 08	0	0	0	0	0	0	0	0	
	C	16B-30ad	0 032	-	1 11	1 69	48	48	53	81	40	40	44	68	
	F	22A-wpl	0 989	-	34 22	0 00	48	14	479	0	40	0	0	0	
6	c) AED excursion									-29				-5	
	Envelope loss/gain									885	301			44	63
12	a) Infiltration									246	60			0	0
	b) Room ventilation									0	0			0	0
13	Internal gains		Occupants @ Appliances/other		230		0			0	0	0		0	0
	Subtotal (lines 6 to 13)									1131	361			44	63
	Less external load									0	0			0	0
	Less transfer									0	0			0	0
	Redistribution									0	0			0	0
14	Subtotal									1131	361			44	63
15	Duct loads							31%	50%	352	179	31%	50%	14	31
	Total room load									1482	540			58	94
	Air required (cfm)									55	22			2	4

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



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Wrightsoft HVAC/Trane/Wike Todd Hudson Res.rup Calc = MJ8 Front Door faces: N

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Component Constructions

Entire House

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.0	47.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	76	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Walls

12C-0sw Frm wall, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm

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
n	308	0.091	13.0	3.15	970	2.22	682
e	479	0.091	13.0	3.15	1508	2.22	1061
s	344	0.091	13.0	3.15	1083	2.22	762
w	450	0.091	13.0	3.15	1417	2.22	997
all	1581	0.091	13.0	3.15	4978	2.22	3503

Partitions

(none)

Windows

4A5-2ov 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk, 50% blinds 45°, light, 50% outdoor insect screen, foreground = green grass (0.23), 1 ft overhang (4 ft window ht, 1 ft sep)

10D-v 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 1 ft overhang (7 ft window ht, 1 ft sep)

n	36	0.470	0	16.3	585	11.3	408
e	52	0.470	0	16.3	846	31.1	1616
w	60	0.470	0	16.3	976	31.1	1865
all	148	0.470	0	16.3	2407	26.3	3889
w	42	0.490	0	17.0	712	27.3	1148

Doors

11J0 Door, mtl forgl type

e	21	0.600	6.3	20.8	436	17.6	370
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Ceilings

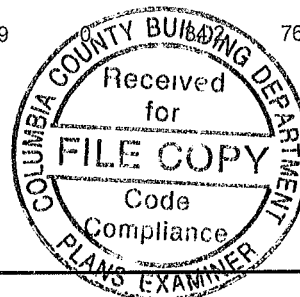
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 cell ins, 5/8" gypsum board int fnsh

	2436	0.032	30.0	1.11	2697	1.69	4120
--	------	-------	------	------	------	------	------

Floors

22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh

	224	0.989			7665	0	0
--	-----	-------	--	--	------	---	---



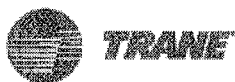
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Right-Suite® Universal 2013 13.0 09 RSU02245

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Page 1



Component Constructions

lr

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation	164 ft	Design TD (°F)		35	17
Latitude	30°N	Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8 0	47 4
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

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, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	e	43	0 091	13 0	3 15	135	2 22	95
	w	242	0 091	13 0	3 15	762	2 22	536
	all	285	0 091	13 0	3 15	897	2 22	632
Partitions								
(none)								
Windows								
4A5-2ov 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat clr innr, 1/4" gap, 1/8" thk, 50% blinds 45°, light, 50% outdoor insect screen, foreground = green grass (0 23), 1 ft overhang (4 ft window ht, 1 ft sep)	w	36	0 470	0	16 3	585	31 1	1119
10D-v 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat clr innr, 1/4" gap, 1/8" thk; 1 ft overhang (7 ft window ht, 1 ft sep)	w	42	0 490	0	17 0	712	27 3	1148
Doors								
11J0 Door, mtl fbrgl type	e	21	0 600	6 3	20 8	436	17 6	370
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins, 5/8" gypsum board int fnsh		944	0 032	30 0	1 11	1045	1 69	1596
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		48	0 989	0	34 2	1643	0	0



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Component Constructions

bath

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email Dwilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:			Indoor:	Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)	68	75
Elevation	164 ft		Design TD (°F)	35	17
Latitude	30°N		Relative humidity (%)	30	50
			Moisture difference (gr/lb)	8.0	47.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method	Simplified	
Daily range (°F)	-	18 (M)	Construction quality	Average	
Wet bulb (°F)	-	76	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

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, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	w	48	0.091	13.0	3.15	151	2.22	106
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins, 5/8" gypsum board int fnsh		72	0.032	30.0	1.11	80	1.69	122
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		6	0.989	0	34.2	205	0	0



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**TRANE****Component Constructions****mbed****DL Williams Heating & Cooling LLC License****CAC1816913**

Job: 1

Date: Apr 09, 2014

By: Derrick

Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project InformationFor: Hudson, Mike Todd Construction
Lake City, FL**Design Conditions****Location:**

Gainesville Regional AP, FL, US

Elevation 164 ft

Latitude 30°N

Outdoor:

Dry bulb (°F)

Daily range (°F)

Wet bulb (°F)

Wind speed (mph)

Heating

33

-

-

15.0

Cooling

92

18 (M)

76

7.5

Indoor:

Indoor temperature (°F)

Design TD (°F)

Relative humidity (%)

Moisture difference (gr/lb)

Infiltration:

Method

Construction quality

Fireplaces

Heating

68

35

30

8.0

Cooling

75

17

50

47.4

Simplified

Average

0

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	Ctg HTM Btu/h/ft²	Gain Btu/h
Walls 12C-0sw Frm wall, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	n	112	0.091	13.0	3.15	353	2.22	248
	w	96	0.091	13.0	3.15	302	2.22	213
	all	208	0.091	13.0	3.15	655	2.22	461

Partitions

(none)

Windows

4A5-2ov 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk, 50% blinds 45°, light, 50% outdoor insect screen, foreground = green grass (0.23), 1 ft overhang (4 ft window ht, 1 ft sep)

n	24	0.470	0	16.3	390	11.3	272
w	24	0.470	0	16.3	390	31.1	746
all	48	0.470	0	16.3	781	21.2	1018

Doors

(none)

Ceilings

16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 cell ins, 5/8" gypsum board int fnsh

255	0.032	30.0	1.11	282	1.69	431
-----	-------	------	------	-----	------	-----

Floors

22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh

32	0.989	0	34.2	1095	0	0
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**wrightsoft**

Right-Suite® Universal 2013 13.0.09 RSU02245

Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces: N

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Component Constructions

mbath

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.0	47.4
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 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, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	n	84	0.091	13.0	3.15	264	2.22	186
Partitions								
(none)								
Windows								
4A5-2ov 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% blinds 45°, light, 50% outdoor insect screen, foreground = green grass (0.23), 1 ft overhang (4 ft window ht, 1 ft sep)	n	12	0.470	0	16.3	195	11.3	136
Doors								
(none)								
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 cell ins, 5/8" gypsum board int fnsh		180	0.032	30.0	1.11	199	1.69	304
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		12	0.989	0	34.2	411	0	0



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\\Wrightsoft HVAC\\Trane\\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces: N

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**TRANE****Component Constructions****toilet****DL Williams Heating & Cooling LLC License****CAC1816913**

Job: 1

Date: Apr 09, 2014

By: Derrick

Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project InformationFor Hudson, Mike Todd Construction
Lake City, FL**Design Conditions**

Location:			Indoor:	Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)	68	75
Elevation 164 ft			Design TD (°F)	35	17
Latitude 30°N			Relative humidity (%)	30	50
Outdoor:			Moisture difference (gr/lb)	8 0	47 4
Dry bulb (°F)	33	92	Infiltration:		
Daily range (°F)	-	18 (M)	Method	Simplified	
Wet bulb (°F)	-	76	Construction quality	Average	
Wind speed (mph)	15 0	7 5	Fireplaces	0	

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, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	n	40	0 091	13 0	3 15	126	2 22	89
	e	40	0 091	13 0	3 15	126	2 22	89
	all	80	0 091	13 0	3 15	252	2 22	177

Partitions

(none)

Windows

(none)

Doors

(none)

Ceilings

16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins, 5/8" gypsum board int fnsh	25	0 032	30 0	1 11	28	1 69	42	
---	----	-------	------	------	----	------	----	--

Floors

22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh	10	0 989	0	34 2	342	0	0	
---	----	-------	---	------	-----	---	---	--

**wrightsoft**

Right-Suite® Universal 2013 13.0.09 RSU02245

Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces. N

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Component Constructions

Room6

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.0	47.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (M)	Simplified		
Wet bulb (°F)	-	76	Construction quality		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			0		

Construction descriptions

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, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	e	68	0.091	13.0	3.15	214	2.22	151
Partitions								
(none)								
Windows								
4A5-2ov 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk, 50% blinds 45°, light, 50% outdoor insect screen, foreground = green grass (0.23), 1 ft overhang (4 ft window ht, 1 ft sep)	e	12	0.470	0	16.3	195	31.1	373
Doors								
(none)								
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 cell ins, 5/8" gypsum board int fnsh		50	0.032	30.0	1.11	55	1.69	85
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		10	0.989	0	34.2	342	0	0

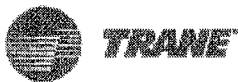


Right-Suite® Universal 2013 13.0.09 RSU02245

Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces: N

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Component Constructions

clos3

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email Dwilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For: Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:			Indoor:	Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)	68	75
Elevation 164 ft			Design TD (°F)	35	17
Latitude 30°N			Relative humidity (%)	30	50
Outdoor:			Moisture difference (gr/lb)	8.0	47.4
Dry bulb (°F)	33	92	Infiltration:		
Daily range (°F)	-	18 (M)	Method	Simplified	
Wet bulb (°F)	-	76	Construction quality	Average	
Wind speed (mph)	15.0	7.5	Fireplaces	0	

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, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	e	64	0.091	13.0	3.15	202	2.22	142
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 cell ins, 5/8" gypsum board int fnsh		104	0.032	30.0	1.11	115	1.69	176
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		8	0.989	0	34.2	274	0	0



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Component Constructions

br2

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For: Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.0	47.4
Outdoor:		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		
		Infiltration:			
		Method		Simplified	
		Construction quality		Average	
		Fireplaces		0	

Construction descriptions

	Or	Area ft²	U-value Btu/h·ft²·°F	Insul R ft²·°F/Btu	Htg HTM Btu/h·ft²	Loss Btu/h	Clg HTM Btu/h·ft²	Gain Btu/h
Walls								
12C-0sw Frm wall, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	e	100	0.091	13.0	3.15	315	2.22	222
	s	104	0.091	13.0	3.15	327	2.22	230
	all	204	0.091	13.0	3.15	642	2.22	452
Partitions (none)								
Windows								
4A5-2ov: 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk, 50% blinds 45°, light, 50% outdoor insect screen, foreground = green grass (0.23), 1 ft overhang (4 ft window ht, 1 ft sep)	e	12	0.470	0	16.3	195	31.1	373
Doors (none)								
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 cell ins, 5/8" gypsum board int fnsh		182	0.032	30.0	1.11	202	1.69	308
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		27	0.989	0	34.2	924	0	0



Component Constructions

bath3

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		8 0	47 4
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

12C-0sw Frm wall, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm

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
n	72	0 091	13 0	3 15	227	2 22	160
e	64	0 091	13 0	3 15	202	2 22	142
s	72	0 091	13 0	3 15	227	2 22	160
all	208	0 091	13 0	3 15	655	2 22	461

Partitions

(none)

Windows

4A5-2ov 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk, 50% blinds 45°, light, 50% outdoor insect screen, foreground = green grass (0 23), 1 ft overhang (4 ft window ht, 1 ft sep)

e	16	0 470	0	16 3	260	31 1	497
---	----	-------	---	------	-----	------	-----

Doors

(none)

Ceilings

16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins, 5/8" gypsum board int fnsh

	90	0 032	30 0	1 11	100	1 69	152
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Floors

22A-wpl Bg floor, light dry soil, on grade depth, hrd wd fir fnsh

	28	0 989	0	34 2	958	0	0
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Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc=MJ8 Front Door faces. N

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Component Constructions

br3

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email Dwilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.0	47.4
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	33	92	Method		
Daily range (°F)	-	18 (M)	Simplified		
Wet bulb (°F)	-	76	Construction quality		
Wind speed (mph)	15.0	7.5	Average		
			Fireplaces		
			0		

Construction descriptions

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, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	e	100	0.091	13.0	3.15	315	2.22	222
Partitions								
(none)								
Windows								
4A5-2ov 2 glazing, clr low-e outr, argon gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% blinds 45°, light, 50% outdoor insect screen, foreground = green grass (0.23), 1 ft overhang (4 ft window ht, 1 ft sep)	e	12	0.470	0	16.3	195	31.1	373
Doors								
(none)								
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 cell ins, 5/8" gypsum board int fnsh		182	0.032	30.0	1.11	202	1.69	308
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		14	0.989	0	34.2	479	0	0



wrightsoft

Right-Suite® Universal 2013 13.0.09 RSU02245

Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces: N

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Component Constructions hall

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email Dwilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For: Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		8 0	47 4
		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15 0	7 5		
		Infiltration:			
		Method		Simplified	
		Construction quality		Average	
		Fireplaces		0	

Construction descriptions

Or	Area ft²	U-value 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
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Walls
(none)

Partitions
(none)

Windows
(none)

Doors
(none)

Ceilings
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30
ceil ins, 5/8" gypsum board int fnsh

54	0 032	30 0	1 11	60	1 69	91
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Floors
(none)



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Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces. N

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**TRANE****Component Constructions****bath2****DL Williams Heating & Cooling LLC License****CAC1816913**

Job: 1

Date: Apr 09, 2014

By: Derrick

Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email: DWilliams@williamscooling.com Web: dlwilliamsheatingandcooling.com

Project InformationFor Hudson, Mike Todd Construction
Lake City, FL**Design Conditions**

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.0	47.4
Outdoor:		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		
		Infiltration:			
		Method		Simplified	
		Construction quality		Average	
		Fireplaces		0	

Construction descriptions**Walls**
(none)**Partitions**
(none)**Windows**
(none)**Doors**
(none)**Ceilings**
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30
ceil ins, 5/8" gypsum board int fnsh

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
	90	0.032	30.0	1.11	100	1.69	152

Floors
(none)**wrightsoft**

Right-Suite® Universal 2013 13.0.09 RSU02245

Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces: N

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**TRANE****Component Constructions**
utility**DL Williams Heating & Cooling LLC License**
CAC1816913Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email Dwilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project InformationFor: Hudson, Mike Todd Construction
Lake City, FL**Design Conditions**

Location:			Indoor:	Heating	Cooling
Gainesville Regional AP, FL, US			Indoor temperature (°F)	68	75
Elevation	164 ft		Design TD (°F)	35	17
Latitude	30°N		Relative humidity (%)	30	50
			Moisture difference (gr/lb)	8.0	47.4
Outdoor:	Heating	Cooling			
Dry bulb (°F)	33	92			
Daily range (°F)	-	18 (M)			
Wet bulb (°F)	-	76			
Wind speed (mph)	15.0	7.5			
			Infiltration:		
			Method	Simplified	
			Construction quality	Average	
			Fireplaces	0	

Construction descriptions

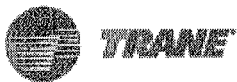
	Or	Area ft²	U-value Btu/h/ft²·°F	Insul R ft²·°F/Btu/h	Htg HTM Btu/h/ft²	Loss Btu/h	Clg HTM Btu/h/ft²	Gain Btu/h
Walls								
12C-0sw Frm wall, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	s	120	0.091	13.0	3.15	378	2.22	266
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins, 5/8" gypsum board int fnsh		120	0.032	30.0	1.11	133	1.69	203
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		15	0.989	0	34.2	513	0	0

**wrightsoft**

Right-Suite® Universal 2013 13 0.09 RSU02245

Wrightsoft HVAC\Trane\Mike Todd Hudson Res.rup Calc = MJ8 Front Door faces: N

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Component Constructions

clos

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email DWilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

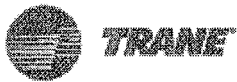
For Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		8.0	47.4
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

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, wd ext, 3/8" wood shth, r-13 cav ins, 5/8" gypsum board int fnsh, 2"x4" wood frm	s	48	0.091	13.0	3.15	151	2.22	106
	w	64	0.091	13.0	3.15	202	2.22	142
	all	112	0.091	13.0	3.15	353	2.22	248
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins, 5/8" gypsum board int fnsh		48	0.032	30.0	1.11	53	1.69	81
Floors								
22A-wpl Bg floor, light dry soil, on grade depth, hrd wd flr fnsh		14	0.989	0	34.2	479	0	0



Component Constructions hall2

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CAC1816913

Job: 1
Date: Apr 09, 2014
By: Derrick
Plan: 1

456 SE Ermine St, Lake City, FL 32025 Phone 386-754-1987 Fax: 386-243-8480 Email Dwilliams@williamscooling.com Web dlwilliamsheatingandcooling.com

Project Information

For: Hudson, Mike Todd Construction
Lake City, FL

Design Conditions

Location:		Indoor:		Heating	Cooling
Gainesville Regional AP, FL, US		Indoor temperature (°F)		68	75
Elevation 164 ft		Design TD (°F)		35	17
Latitude 30°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		8.0	47.4
		Heating	Cooling		
Dry bulb (°F)		33	92		
Daily range (°F)		-	18 (M)		
Wet bulb (°F)		-	76		
Wind speed (mph)		15.0	7.5		
		Infiltration:			
		Method		Simplified	
		Construction quality		Average	
		Fireplaces		0	

Construction descriptions

	Or	Area ft²	U-value 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 (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings 16B-30ad Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins, 5/8" gypsum board int fnsh		40	0.032	30.0	1.11	44	1.69	68
Floors (none)								

