for

CASTAGNA CONSTRUCTION

1459 GRANDVIEW ST SUITE 107 LAKE CITY FL 32025



Prepared By:

DAVID HALL DAVID HALL'S INC. PO BOX 244 LAKE CITY, FL 32056 386-755-9792 5/16/2022 RHVAC - Residential & Light Commercial HVAC Loads Program David Hall's, Inc. Lake City, FL 32056

5/16/2022

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Project:

BAUGHN

Client: Address: 1459 GRANDVIEW ST SUITE 107

City: Phone: LAKE CITY FL 32025 386-755-6867

Fax:

CASTAGNA CONSTRUCTION

Company: Representative: Address:

DAVID HALL'S INC. DAVID HALL

PO BOX 244

City: Phone: Fax:

LAKE CITY, FL 32056

386-755-9792 386-755-9100

Comment:

Project Name:

Reference City:

BAUGHN

Medium

Jacksonville, Florida

Daily Temperature Range:

Latitude: Elevation: 30 Degrees 26 Feet

Elevation Sensible Adj. Factor:

1.000 1.000

Elevation Total Adj. Factor:

Grains Indoor Indoor Outdoor Outdoor Dry Bulb Difference Dry Bulb

Winter: Summer:

27 97 Wet Bulb Rel.Hum. N/A N/A 78 50%

72 75 N/A 50

Total Building Supply CFM:

1000

CFM per square foot:

0.526

Square feet of room area:

1,900

Square feet per ton:

588,476

Total heating required with outside air:

38,720 Btuh

38.720 MBH

Total sensible gain:

29,833 Btuh 81 % 19 %

Total latent gain: Total cooling required with outside air:

7,013 Btuh 36,846 Btuh

3.07 Tons (based on sensible + latent)

3.229 Tons (based on 77% sensible capacity)

Calculations are based on 7th edition of ACCA Manual J.

All computed results are estimates as building use and weather may vary.

Be sure to select a unit that meets both sensible and latent loads.

Elite Software Development, Inc. RHVAC - Residential & Light Commercial HVAC Loads Program BAUGHN David Hall's, Inc. Page 3 5/16/2022 Lake City, FL 32056 Project File Name: CASTAGNA, BAUGHN Grains Indoor Outdoor Outdoor Indoor Dry Bulb Difference Wet Bulb Rel.Hum. --System 1-Dry Bulb 72 N/A N/A Winter: 27 N/A 75 50 78 50% 97 Summer: Offset No. Projection Offset No. Projection 0 6 0 1 3 0 0 7 0 2 5 0 0 8 0.5 3 4 0 0 9 0 0 4 0 0 10 0 0 5 Main Trunk Runouts Galvanized Steel Flexible Duct **Duct Material:** 0.000300 0.010000 Roughness Factor: 0.1000 In.wg/100 Ft. 0.1000 In.wg/100 Ft. Pressure Drop: 450.0 Ft./Minute 650.0 Ft./Minute Minimum Velocity: 900.0 Ft./Minute 750.0 Ft./Minute Maximum Velocity: 0 Inches 0 Inches Minimum Height: 0 Inches Maximum Height: 0 Inches Winter Summer 0.400 AC/Hr 0.900 AC/Hr Infiltration: 19519 Cu.Ft. 19519 Cu.Ft. Volume of Conditioned Space: 7,808 Cu.Ft./Hr 17,567 Cu.Ft./Hr X 0.0167 X 0.0167 130.1267 CFM 292.785 CFM Total Building Infiltration: 0 CFM 0 CFM Total Building Ventilation:

-System 1-

24.20 = (1.10 X 22.00 Summer Temp. Difference) Infiltration & Ventilation Sensible Gain Multiplier:

33.75 = (0.68 X 49.64 Grains Difference) Infiltration & Ventilation Latent Gain Multiplier:

49.50 = (1.10 X 45.00 Winter Temp. Difference) Infiltration & Ventilation Sensible Loss Multiplier:

RHVAC - Residential & Light Commercial HVAC Loads Program David Hall's, Inc. Lake City, FL 32056	5/16/2022		Elite Software Development, Inc BAUGHI Page			
Component Description	Area	Sen.	Lat.	Sen.	Tota	
3B Window Double Pane Clear Glass TIM Frame	Quan	Loss	Gain	Gain	Gair	
80 Glass Door Double Clear Glass Metal Frame 10D Door Wood Solid Core	239 42	6,550 1,370	0	8,626 1,000	8,626	
12G Wall R-13 + 3/4" ExtPoly Board(R-3.8)	21	435	0	247	247	
16G Ceiling R-30 Insulation	1,514	4,428	Q	2,519	2,519	
22A Slab on Grade No Edge Insulation	1,899	2,820	0	2,883	2,883	
Subtotals for structure:	186	6,780	0	0	0	
Active People:	3,901	22,383	0	15,275	15,275	
Inactive People:	4	0	920	1,200	2,120	
Appliances:	0	0	0	0	0	
Lighting:	0	0	1,700	1,700	3,400	
Ductwork:	0	0		5,797		
Infiltration: Winter CFM: 292.8, Summer CFM: 130.1	0 302	1,844 14,493	0	2,714	2,714	
ventilation: vvinter CFM: 0.0, Summer CFM: 0.0	0	14,493	4,393	3,147	7,540	
Sensible Gain Total:		0	0	0	0	
Temperature Swing Multiplier:				29,833		
Building Load Totals:				X1.00		
		38,720	7,013	29,833	36,846	
Total Building Supply CFM: 1000 Square feet of room area: 1,900	CFM per square foot: 0.526 Square feet per ton: 588.476					
Fotal heating required with outside air: 38,720 Btuh Fotal sensible gain: 29,833 Btuh Fotal latent gain: 7,013 Btuh	38.720 MBH 81 %					
Total cooling required with outside air: 7,013 Btuh 19 % 3.07 Tons (based on sensible + latent) 3.229 Tons (based on 77% sensible capacity)						

Calculations are based on 7th edition of ACCA Manual J.
All computed results are estimates as building use and weather may vary.
Be sure to select a unit that meets both sensible and latent loads.

RHVAC - Residential & Light Commercial HVAC Loads Program David Hall's, Inc. Lake City, FL 32056	5/16/2022	ware Develo	Development, Inc. BAUGHA Page 5		
Component Description	Area Quan	Sen.	Lat.	Sen.	Tota
3B Window Double Pane Clear Glass TIM Frame 8O Glass Door Double Clear Glass Metal Frame 10D Door Wood Solid Core 12G Wall R-13 + 3/4" ExtPoly Board(R-3.8) 16G Ceiling R-30 Insulation	239 42 21 1,514 1,899	6,550 1,370 435 4,428 2,820	Gain 0 0 0 0	Gain 8,626 1,000 247 2,519 2,883	Gair 8,626 1,000 247 2,519 2,883
22A Slab on Grade No Edge Insulation Subtotals for structure: Active People:	186 3,901	6,780 22,383	0	0 15,275	15,275
Inactive People: Appliances: Lighting: Ductwork:	4 0 0 0	0 0 0	920 0 1,700	1,200 0 1,700 5,797	2,120 0 3,400
Infiltration: Winter CFM: 292.8, Summer CFM: 130.1 Ventilation: Winter CFM: 0.0, Summer CFM: 0.0	0 302 0	1,844 1 4,49 3 0	4,393 0	2,714 3,147 0	2,714 7,540
Sensible Gain Total: Temperature Swing Multiplier:				29,833 X1.00	
System Load Totals:		38,720	7,013	29,833	36,846
Supply CFM: 1,000 Square feet of room area: 1,900	CFM per square foot: Square feet per ton:	0.526 588.476		Q.	
Total heating required with outside air: 38,720 Btuh Total sensible gain: 29,833 Btuh	38.720 MBH 81 %				

19 % 3.07 Tons (based on sensible + latent)

3.229 Tons (based on 77% sensible capacity)

Calculations are based on 7th edition of ACCA Manual J.

Total latent gain:

Total cooling required with outside air:

All computed results are estimates as building use and weather may vary. Be sure to select a unit that meets both sensible and latent loads.

7,013 Btuh

36,846 Btuh



	Room	Area	Htg Sens	Htg Nom	Run Duct	Run Duct	Clg Sens	Clg Lat	Clg Nom	Zone Adj	Clg Adj	Air Sys
No	Name	SF	Btuh	CFM	Size	Vel	Btuh	Btuh	CFM	Fact	CFM	CFN
	Zone 1											
1	Master Closet	141	1,807	47	1-3	689	1,009	0	34	1.00	46	34
2	Master Bath	137	3,615	93	2-4	553	2,878	349	96	1.00	131	96
3	Master Bedroom	294	4,120	106	2-4	657	3,420	984	115	1.00	155	115
4	Laundry Room	117	2,622	68	1-5	545	2,218	805	74	1.00	101	74
5	Great Room	437	7,127	184	2-6	474	5,558	1,132	186	1.17	297	186
6	Kitchen	367	7,857	203	2-6	545	6,386	2,434	214	1.00	290	214
7	Bedroom #2	140	5,899	152	1-8	468	4,872	785	163	1.35	299	163
8	Bath	99	957	25	1-3	508	744	0	25	1.00	34	25
9	Bedroom #3	168	4,716	122	1-6	469	2,748	524	92	1.00	125	92
Syste	m 1 Totals	1900	38,720	1,000			29,833	7,013	1,000 Ma	ain Trunk	1,478 Size: 10	1,000 6x12 in

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Net Required:	3.070	81%/19%	29,833	7,013	36,846
Recommended:	3,229	77%/23%	29,833	8,911	38,744