



Project Report

General Project Information

Project Title: BSC Juneau Ranch
 Designed By: Philip Kerrigan
 Project Date: 07/22/05
 Company Name: Building Science Corporation
 Company Representative: Philip Kerrigan
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Design Data

Reference City: Juneau, Alaska
 Daily Temperature Range: Medium
 Latitude: 58 Degrees
 Elevation: 12 ft.
 Altitude Factor: 1.000
 Elevation Sensible Adj. Factor: 1.000
 Elevation Total Adj. Factor: 1.000
 Elevation Heating Adj. Factor: 1.000
 Elevation Heating Adj. Factor: 1.000

	Outdoor Dry Bulb	Outdoor Wet Bulb	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	1	0	30	72	30
Summer:	58	70	50	75	65

Check Figures

Total Building Supply CFM:	224	CFM Per Square ft.:	0.096 *
Square ft. of Room Area:	2,342	Square ft. Per Ton:	0 **
Volume (ft ³) of Cond. Space: (htg.)	15,283	Air Turnover Rate (per hour):	0.9

* Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.

** Based on area of rooms being cooled.

Building Loads

Total Heating Required With Outside Air:	18,130 Btuh	18.130 MBH
Total Sensible Gain:	-219 Btuh	-12 %
Total Latent Gain:	2,001 Btuh	112 %
Total Cooling Required With Outside Air:	1,783 Btuh	0.15 Tons (Based On Sensible + Latent)
		0.67 Tons (Based On 75% Sensible Capacity)

Notes

Calculations are based on 8th 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.



Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
Gavin Brook: Glazing-	192	4,632	0	0	0
11P: Door-Polyurethane Core	33.3	687	0	0	0
12E-6sw: Wall-Frame, R-19 insulation in 2 x 6 stud cavity, R-6 board insulation, siding finish, wood studs	1834.5	6,382	0	0	0
Batt+EPS-ad: Roof/Ceiling-Below roof joists, R-30 Batt + R-16 EPS below roof deck, dark asphalt	1194.9	1,866	0	0	0
19B-2sp-c: Floor-Over enclosed unconditioned crawl space, R-4 insulation on exposed walls, sealed crawl space, passive, R-2 or R-3 board, carpet covering	768	1,661	0	0	0
Subtotals for structure:		15,228	0	0	0
People:	4		0	0	0
Equipment:			0	0	0
Lighting:	0		0	0	0
Ductwork:		0	0	0	0
Infiltration: Winter CFM: 25, Summer CFM: 0		1,989	0	0	0
Ventilation: Winter CFM: 45, Summer CFM: 45		913	2,001	-219	1,783
Total Building Load Totals:		18,130	2,001	-219	1,783

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System 1 Room Load Summary

Room No	Room Name	Area SF	Htg Sens Btuh	Htg Nom CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Clg Nom CFM	Air Sys CFM
---Zone 1---										
1	Crawlspace	768	3,403	44	1-5	324	0	0	0	44
2	Living	317	2,554	33	1-4	380	0	0	0	33
3	Dining	119	1,601	21	1-4	238	0	0	0	21
4	Kitchen	79	631	8	1-4	94	0	0	0	8
5	Hall	36	717	9	1-4	107	0	0	0	9
6	Bath 1	57	894	12	1-4	133	0	0	0	12
7	Bedroom 1	192	1,763	23	1-4	262	0	0	0	23
8	Bedroom 2	300	2,106	27	1-4	314	0	0	0	27
9	Bedroom 3	300	2,106	27	1-4	314	0	0	0	27
10	Bath 2	69	923	12	1-4	137	0	0	0	12
11	Stair	105	519	7	1-4	77	0	0	0	7
Ventilation			913				-219	2,001		
System 1 total		2,342	18,130	224			-219	2,001	0	224

System 1 Main Trunk Size: 5x12 in.
 Velocity: 599 ft./min
 Loss per 100 ft.: 0.090 in.wg

Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Net Required:	0.15	-12% / 112%	-219	2,001	1,783
Recommended:	0.67	75% / 25%	6,004	2,001	8,006

Equipment Data

	Heating System	Cooling System
Type:		
Model:		
Brand:		
Efficiency:		
Sound:		
Capacity:		
Sensible Capacity:	n/a	0 Btuh
Latent Capacity:	n/a	0 Btuh