Load Short Form
Entire House
Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

Project Information

For: Brandon Avery Residence
1599 South Kay Drive, Kaysville, UT 84037

Email: btavery66@gmail.com

Design Information

	Htg	Clg
Outside db (°F)	7	97
Inside db (°F)	72	75
Design TD (°F)	65	22
Daily range	-	H
Inside humidity (%)	50	50
Moisture difference (gr/lb)	61	-30

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

HEATING EQUIPMENT

Make	WaterFurnace
Trade	VERSATEC BASE SERIES
Model	UBV/UBH060**5*0
AHRI ref	4675433

Efficiency	4.12 COP	
Heating input	57075	Btuh
Heating output	57075	Btuh
Temperature rise	31	°F
Actual air flow	1958	cfm
Air flow factor	0.035	cfm/Btuh
Static pressure	0.63	in H2O
Space thermostat		
Capacity balance point = 0 °F		

COOLING EQUIPMENT

Make	WaterFurnace
Trade	VERSATEC BASE SERIES
Cond	UBV/UBH060**5*0
Coil	
AHRI ref	4675433

Efficiency	21.19 EER	
Sensible cooling	41027	Btuh
Latent cooling	17583	Btuh
Total cooling	58611	Btuh
Actual air flow	1958	cfm
Air flow factor	0.053	cfm/Btuh
Static pressure	0.63	in H2O
Load sensible heat ratio	1.00	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bed1	149	4473	3378	157	179
Dining	160	5062	3700	178	196
Great	378	6371	5329	223	283
Ktchn	173	1405	2077	49	110
Pntry	50	0	0	0	0
Master	217	3125	2727	110	145
Bth1	63	104	80	4	4
Hall	54	0	0	0	0
Bed2	162	3537	3125	124	166
Foyer	301	4319	4600	152	244
Lndry	60	667	627	23	33
Garage	677	0	0	0	0
M.wic	96	943	234	33	12
Pdr	19	25	19	1	1

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

M.bth	142	2596	1185	91	63
Mech	99	1306	781	46	41
Hall2	194	1934	459	68	24
Fut.bed1	169	3197	1223	112	65
Fut.bed2	138	3198	1221	112	65
Fut.bth	81	133	7	5	0
Fut.Rec	849	7748	3990	272	212
Fut.Gym	238	1848	440	65	23
Storage	257	3822	1690	134	90
Strg	81	0	0	0	0
Entire House	4805	55812	36891	1958	1958
Other equip loads		0	0		
Equip. @ 1.02 RSM			37629		
Latent cooling			0		
TOTALS	4805	55812	37629	1958	1958

Building Analysis
Entire House
Perfect Home Hvac Design

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Project Information

For: Brandon Avery Residence
1599 South Kay Drive, Kaysville, UT 84037

Email: btavery66@gmail.com

Design Conditions

Location:
Kaysville, UT, US
Elevation: 4226 ft
Latitude: 41°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	7	97
Daily range (°F)	-	27 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

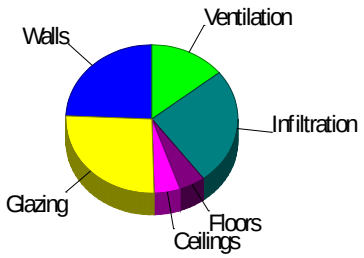
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	72	75
Design TD (°F)	65	22
Relative humidity (%)	50	50
Moisture difference (gr/lb)	61.1	-29.8

Infiltration:

Method	Simplified
Construction quality	Tight
Fireplaces	0

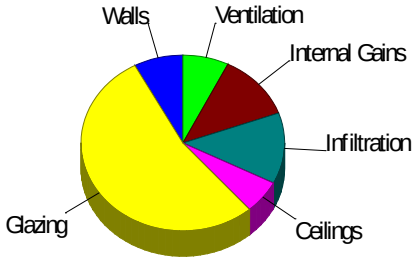
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	2.7	13562	24.3
Glazing	19.6	14583	26.1
Doors	0	0	0
Ceilings	1.0	2735	4.9
Floors	1.0	2735	4.9
Infiltration	2.8	14236	25.5
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		7961	14.3
Adjustments		0	
Total		**55812**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.6	2886	7.8
Glazing	26.6	19753	53.5
Doors	0	0	0
Ceilings	0.8	2259	6.1
Floors	0	0	0
Infiltration	0.9	4818	13.1
Ducts		0	0
Ventilation		2694	7.3
Internal gains		4480	12.1
Blower		0	0
Adjustments		0	
Total		**36891**	**100.0**



Latent Cooling Load = 0 Btuh
Overall U-value = 0.052 Btuh/ft²-°F

Data entries checked.

Component Constructions
Entire House
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Design Conditions

Location:
Kaysville, UT, US
Elevation: 4226 ft
Latitude: 41°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	7	97
Daily range (°F)	-	27 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	72	75
Design TD (°F)	65	22
Relative humidity (%)	50	50
Moisture difference (gr/lb)	61.1	-29.8

Infiltration:

Method	Simplified
Construction quality	Tight
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								
Bg wall, light dry soil, icf wall, 8" thk: Bg wall, light dry soil, icf wall, 8" thk	n	472	0.045	21.0	2.93	1381	0.64	304
	e	536	0.045	21.0	2.93	1566	0.64	345
	s	549	0.045	21.0	2.93	1606	0.64	353
	w	621	0.045	21.0	2.93	1816	0.64	400
	all	2178	0.045	21.0	2.93	6369	0.64	1401
ICF wall, wd ext, 3/8" wood shth, 8" thk, 1/2" gypsum board int fnsh: ICF wall, wd ext, 3/8" wood shth, 8" thk, 1/2" gypsum board int fnsh	n	507	0.054	21.0	3.07	1557	0.68	342
	e	566	0.054	21.0	2.87	1623	0.63	357
	s	539	0.054	21.0	1.19	642	0.26	141
	w	615	0.054	21.0	1.66	1020	0.37	224
	all	2226	0.054	21.0	2.18	4842	0.48	1065
Partitions								
12F-0sw: Frm wall, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud		557	0.065	21.0	4.22	2351	0.75	420
Windows								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 6.67 ft head ht	n	77	0.300	0	19.5	1502	12.8	982
	n	50	0.280	0	18.2	910	12.5	625
	n	96	0.300	0	19.5	1872	12.6	1206
	e	86	0.300	0	19.5	1667	36.7	3141
	e	15	0.280	0	18.2	273	36.3	544
	e	12	0.280	0	18.2	218	37.2	447
	e	16	0.290	0	18.9	302	26.2	419
	e	120	0.300	0	19.5	2340	35.8	4295
	e	45	0.300	0	19.5	878	36.7	1653
	s	12	0.290	0	18.9	226	15.2	182
	s	48	0.290	0	18.9	905	19.8	951
	w	44	0.290	0	18.9	829	23.3	1027
	w	45	0.310	0	20.1	907	33.2	1494
	w	30	0.340	0	22.1	663	33.8	1015
	w	48	0.350	0	22.8	1092	36.9	1771
	all	744	0.350	0	19.6	14583	26.6	19753

Doors

(none)

Ceilings

16B-50md: Attic ceiling, mtl roof mat, r-50 ceil ins, 1/2" gypsum board int fnsh	2781	0.020	50.0	0.98	2735	0.81	2259

Floors

21A-32c: Bg floor, light dry soil, 8' depth, carpet flr fnsh	2104	0.020	0	1.30	2735	0	0
	677	0.020	0	0	0	0	0
all	2781	0.020	0	0.98	2735	0	0

Project Summary
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Project Information

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1599 South Kay Drive, Kaysville, UT 84037

Email: btavery66@gmail.com

Notes:

Design Information

Weather: Kaysville, UT, US

Winter Design Conditions

Outside db	7	°F
Inside db	72	°F
Design TD	65	°F

Summer Design Conditions

Outside db	97	°F
Inside db	75	°F
Design TD	22	°F
Daily range	H	
Relative humidity	50	%
Moisture difference	-30	gr/lb

Heating Summary

Structure	55812	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	55812	Btuh

Sensible Cooling Equipment Load Sizing

Structure	36891	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	1.02	
Equipment sensible load	37629	Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	4128	4128
Volume (ft³)	39854	39854
Air changes/hour	0.35	0.35
Equiv. AVF (cfm)	232	232

Latent Cooling Equipment Load Sizing

Structure	-5096	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Equipment latent load	0	Btuh
Equipment Total Load (Sen+Lat)	37629	Btuh
Req. total capacity at 0.97 SHR	3.2	ton

Heating Equipment Summary

Make	WaterFurnace
Trade	VERSATEC BASE SERIES
Model	UBV/UBH060**5*0
AHRI ref	4675433

Efficiency	4.12	COP
Heating input	57075	Btuh
Heating output	57075	Btuh
Temperature rise	31	°F
Actual air flow	1958	cfm
Air flow factor	0.035	cfm/Btuh
Static pressure	0.63	in H2O

Space thermostat
Capacity balance point = 0 °F

Cooling Equipment Summary

Make	WaterFurnace
Trade	VERSATEC BASE SERIES
Cond	UBV/UBH060**5*0
Coil	
AHRI ref	4675433

Efficiency	21.19	EER
Sensible cooling	41027	Btuh
Latent cooling	17583	Btuh
Total cooling	58611	Btuh
Actual air flow	1958	cfm
Air flow factor	0.053	cfm/Btuh
Static pressure	0.63	in H2O
Load sensible heat ratio	1.00	

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

AED Assessment
Entire House
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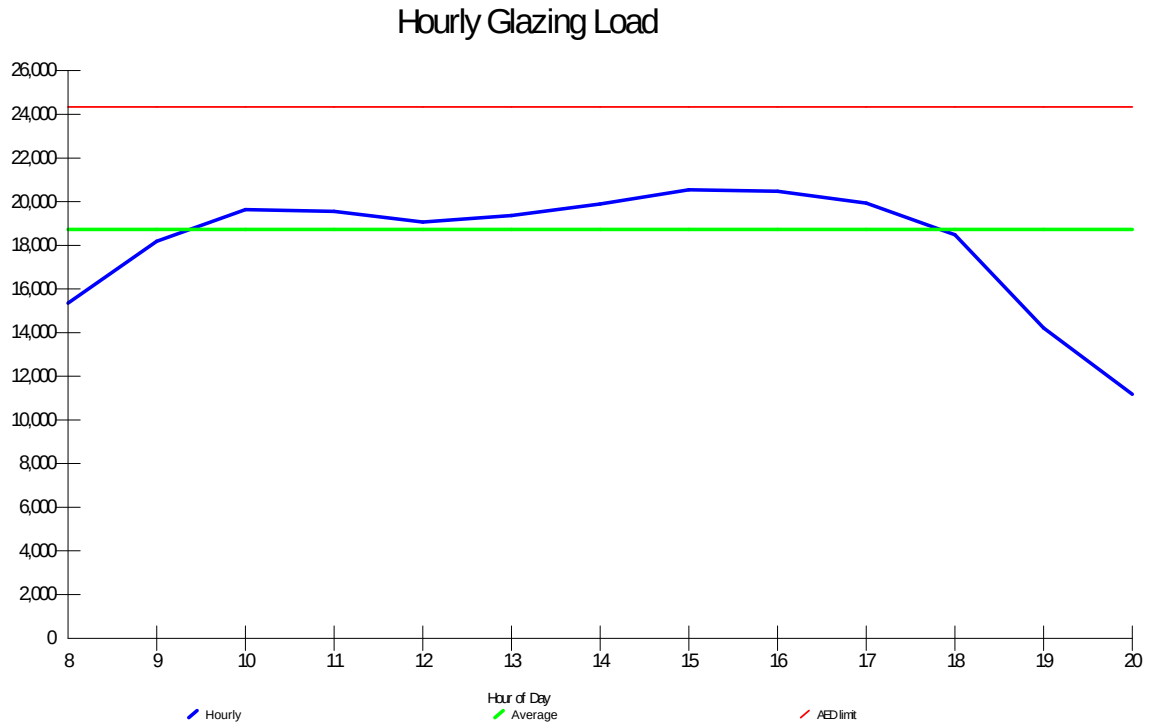
Dry bulb (°F)	7	97
Daily range (°F)	-	27 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	72	75
Design TD (°F)	65	22
Relative humidity (%)	50	50
Moisture difference (gr/lb)	61.1	-29.8

Infiltration:

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 9.7%.

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

AED excursion: 0 Btuh

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

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1	Room name	Entire House	Bed1
2	Exposed wall	554.0 ft	35.5 ft
3	Room height	9.6 ft	9.0 ft heat/cool
4	Room dimensions		1.0 x 149.0 ft
5	Room area	4805.2 ft²	149.0 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	Bg wall, light dry s	0.045	n	2.93	0.64	549	472	1381	304	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	77	0	1502	982	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	653	507	1557	342	104	74	258	57
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	50	0	910	625	30	0	546	375
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	96	0	1872	1206	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	621	536	1566	345	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	86	0	1667	3141	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	774	566	1623	357	108	78	274	60
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	15	0	273	544	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	12	0	218	447	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	16	0	302	419	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	120	0	2340	4295	30	0	585	1074
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	45	0	878	1653	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	549	549	1606	353	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	599	539	642	141	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	12	0	226	182	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	48	0	905	951	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	621	621	1816	400	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	782	615	1020	224	108	78	274	60
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	44	0	829	1027	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	45	0	907	1494	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	30	0	663	1015	30	0	663	1015
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	48	0	1092	1771	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	557	557	2351	420	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	2781	2781	2735	2259	149	149	194	160
	F	21A-32c	0.020	-	1.30	0.00	2104	2104	2735	0	0	0	0	0
	F	21A-32c	0.020	-	0.00	0.00	677	677	0	0	0	0	0	0

6	c) AED excursion									0				-227
	Envelope loss/gain								33616	24898			2793	2575
12	a) Infiltration								14236	4818			1058	358
	b) Room ventilation								7961	2694			612	207
13	Internal gains:	Occupants @	230				6			1380	1			230
		Appliances/other								3100				0
	Subtotal (lines 6 to 13)								55812	36891			4463	3370
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			10	8
14	Subtotal								55812	36891			4473	3378
15	Duct loads						0%	0%	0	0	-0%	0%	0	0
	Total room load								55812	36891			4473	3378
	Air required (cfm)								1958	1958			157	179

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

Right-J® Worksheet
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1	Room name						Dining				Great			
2	Exposed wall						36.0 ft				30.0 ft			
3	Room height						9.0 ft		heat/cool		12.0 ft		heat/cool	
4	Room dimensions						16.0 x 10.0 ft				21.0 x 18.0 ft			
5	Room area						160.0 ft²				378.0 ft²			
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	90	54	190	42	216	136	477	105
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	20	0	364	250
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	36	0	702	452	60	0	1170	754
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	144	99	347	76	144	84	295	65
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	15	0	273	544
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	45	0	878	1611
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	45	0	878	1653	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	90	42	147	32	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	48	0	905	951	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	160	160	208	172	378	378	491	406
	F	21A-32c	0.020	-	1.30	0.00	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-249				-359
	Envelope loss/gain								3377	3129			3948	3376
12	a) Infiltration								1073	363			1192	403
	b) Room ventilation								612	207			1225	415
13	Internal gains:	Occupants @	230				0			0	1			230
		Appliances/other								0				900
	Subtotal (lines 6 to 13)								5062	3700			6365	5324
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			6	5
14	Subtotal								5062	3700			6371	5329
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								5062	3700			6371	5329
	Air required (cfm)								178	196			223	283

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

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

1	Room name						Ktchn				Pntry			
2	Exposed wall						4.5 ft				0 ft			
3	Room height						12.0 ft		heat/cool		12.0 ft		heat/cool	
4	Room dimensions						11.5 x 15.0 ft				1.0 x 49.8 ft			
5	Room area						172.5 ft²				49.8 ft²			
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	54	42	147	32	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	12	0	218	447	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	173	173	224	185	50	50	65	53
	F	21A-32c	0.020	-	1.30	0.00	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-74				-3
	Envelope loss/gain								590	590			65	50
12	a) Infiltration								179	61			0	0
	b) Room ventilation								612	207			0	0
13	Internal gains:	Occupants @	230				0			0	0			0
		Appliances/other								1200				0
	Subtotal (lines 6 to 13)								1381	2058			65	50
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								24	19			-65	-50
14	Subtotal								1405	2077			0	0
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								1405	2077			0	0
	Air required (cfm)								49	110			0	0

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

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

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		Master	Bth1
1	Room name	Master	Bth1
2	Exposed wall	14.0 ft	0 ft
3	Room height	9.0 ft heat/cool	9.0 ft heat/cool
4	Room dimensions	14.0 x 15.5 ft	11.5 x 5.5 ft
5	Room area	217.0 ft²	63.3 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Master Area (ft²) or perimeter (ft) Gross	Master N/P/S	Master Load (Btuh) Heat	Master Load (Btuh) Cool	Bth1 Area (ft²) or perimeter (ft) Gross	Bth1 N/P/S	Bth1 Load (Btuh) Heat	Bth1 Load (Btuh) Cool
6	W	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	126	81	284	63	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	45	0	878	1611	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	9	9	38	7	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	217	217	282	233	63	63	82	68
	F	21A-32c	0.020	-	1.30	0.00	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0

6	c) AED excursion									28				-4
	Envelope loss/gain								1482	1941			82	64
12	a) Infiltration								417	141			0	0
	b) Room ventilation								1225	415			0	0
13	Internal gains:	Occupants @	230				1			230	0			0
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								3124	2726			82	64
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								1	1			21	17
14	Subtotal								3125	2727			104	80
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								3125	2727			104	80
	Air required (cfm)								110	145			4	4

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

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

Job: 3302
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By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

1	Room name						Hall				Bed2			
2	Exposed wall						0 ft				31.5 ft			
3	Room height						9.0 ft		heat/cool		9.0 ft		heat/cool	
4	Room dimensions						1.0	x	54.3 ft		1.0	x	161.8 ft	
5	Room area						54.3 ft²				161.8 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	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	90	90	316	69
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	72	72	253	56
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	122	77	269	59
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	45	0	907	1494
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	54	54	71	58	162	162	210	174
	F	21A-32c	0.020	-	1.30	0.00	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-4				493
	Envelope loss/gain								71	55			1954	2345
12	a) Infiltration								0	0			938	318
	b) Room ventilation								0	0			612	207
13	Internal gains:	Occupants @	230				0			0	1			230
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								71	55			3505	3099
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-71	-55			32	25
14	Subtotal								0	0			3537	3125
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								0	0			3537	3125
	Air required (cfm)								0	0			124	166

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Entire House
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890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

1	Room name						Foyer				Lndry			
2	Exposed wall						19.0 ft				0 ft			
3	Room height						12.0 ft		heat/cool		9.0 ft		heat/cool	
4	Room dimensions						1.0 x 300.8 ft				7.0 x 8.5 ft			
5	Room area						300.8 ft²				59.5 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	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	228	136	477	105	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	44	0	829	1027	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	48	0	1092	1771	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	174	174	735	131	140	140	589	105
	C	16B-50md	0.020	-	0.98	0.81	301	301	391	323	60	60	77	64
	F	21A-32c	0.020	-	1.30	0.00	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0

6	c) AED excursion									957				-42
	Envelope loss/gain								3525	4314			667	127
12	a) Infiltration								755	255			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				0			0	0			0
		Appliances/other								0				500
	Subtotal (lines 6 to 13)								4280	4569			667	627
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								40	31			0	0
14	Subtotal								4319	4600			667	627
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								4319	4600			667	627
	Air required (cfm)								152	244			23	33

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Entire House
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Job: 3302
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		Garage	M.wic
1	Room name	Garage	M.wic
2	Exposed wall	94.0 ft	0 ft
3	Room height	9.0 ft uncondit.	9.0 ft heat/cool
4	Room dimensions	1.0 x 677.3 ft	1.0 x 96.3 ft
5	Room area	677.3 ft²	96.3 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Garage Area (ft²) or perimeter (ft) Gross	Garage N/P/S	Garage Load (Btuh) Heat	Garage Load (Btuh) Cool	M.wic Area (ft²) or perimeter (ft) Gross	M.wic N/P/S	M.wic Load (Btuh) Heat	M.wic Load (Btuh) Cool
6	W	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	63	63	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	104	104	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	356	356	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	324	324	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	194	194	818	146
	C	16B-50md	0.020	-	0.98	0.81	677	677	0	0	96	96	125	103
	F	21A-32c	0.020	-	1.30	0.00	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	0.00	0.00	677	677	0	0	0	0	0	0

6	c) AED excursion									0				-16
	Envelope loss/gain								0	0			943	234
12	a) Infiltration								0	0			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)								0	0			943	234
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								0	0			943	234
15	Duct loads						0%	0%	0	0	-0%	0%	0	0
	Total room load								0	0			943	234
	Air required (cfm)								0	0			33	12

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

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

		Pdr	M.bth
1	Room name		
2	Exposed wall	0 ft	29.5 ft
3	Room height	9.0 ft heat/cool	9.0 ft heat/cool
4	Room dimensions	5.5 x 3.5 ft	10.5 x 13.5 ft
5	Room area	19.3 ft²	141.8 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	90	90	316	69
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	0	0	0	0	95	79	276	61
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	16	0	302	419
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	81	69	242	53
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	12	0	226	182
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	41	41	171	31
	C	16B-50md	0.020	-	0.98	0.81	19	19	25	21	142	142	184	152
	F	21A-32c	0.020	-	1.30	0.00	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0

6	c) AED excursion									-1				-80
	Envelope loss/gain								25	19			1717	887
12	a) Infiltration								0	0			879	297
	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)								25	19			2596	1185
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								25	19			2596	1185
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								25	19			2596	1185
	Air required (cfm)								1	1			91	63

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

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

1	Room name						Mech				Hall2			
2	Exposed wall						21.0 ft				18.0 ft			
3	Room height						9.0 ft		heat/cool		9.0 ft		heat/cool	
4	Room dimensions						14.0 x 7.1 ft				1.0 x 193.5 ft			
5	Room area						99.2 ft²				193.5 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	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	63	63	184	41	68	68	197	43
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	126	126	369	81	95	95	276	61
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	1.30	0.00	98	98	127	0	194	194	252	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-53				-18
	Envelope loss/gain								680	69			725	86
12	a) Infiltration								626	212			536	182
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				0			0	0			0
		Appliances/other								500				0
	Subtotal (lines 6 to 13)								1306	781			1262	268
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			672	191
14	Subtotal								1306	781			1934	459
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								1306	781			1934	459
	Air required (cfm)								46	41			68	24

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

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

1	Room name						Fut.bed1				Fut.bed2			
2	Exposed wall						23.5 ft				35.5 ft			
3	Room height						9.0 ft		heat/cool		9.0 ft		heat/cool	
4	Room dimensions						13.5 x 12.5 ft				12.0 x 11.5 ft			
5	Room area						168.8 ft²				138.0 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	Bg wall, light dry s	0.045	n	2.93	0.64	90	65	190	42	104	79	230	51
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	25	0	488	319	25	0	488	319
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	108	108	316	69
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	122	122	355	78	108	108	316	69
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	1.30	0.00	169	169	219	0	138	138	179	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0

6	c) AED excursion									-70				-82
	Envelope loss/gain								1252	369			1528	426
12	a) Infiltration								700	237			1058	358
	b) Room ventilation								612	207			612	207
13	Internal gains:	Occupants @	230				1			230	1			230
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								2565	1043			3198	1221
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								632	180			0	0
14	Subtotal								3197	1223			3198	1221
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								3197	1223			3198	1221
	Air required (cfm)								112	65			112	65

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

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

		Fut.bth	Fut.Rec
1	Room name		
2	Exposed wall	0.5 ft	70.0 ft
3	Room height	9.0 ft heat/cool	9.0 ft heat/cool
4	Room dimensions	13.5 x 6.0 ft	1.0 x 848.5 ft
5	Room area	81.0 ft²	848.5 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool
6	W	Bg wall, light dry s	0.045	n	2.93	0.64	5	5	13	3	248	221	645	142
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	27	0	527	344
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0	293	230	671	148
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	63	0	1229	2314
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	0	0	0	0	90	90	263	58
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	0	0	0	0
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	1.30	0.00	81	81	105	0	849	849	1103	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0

6	c) AED excursion									-1				-137
	Envelope loss/gain								118	2			4438	2869
12	a) Infiltration								15	5			2086	706
	b) Room ventilation								0	0			1225	415
13	Internal gains:	Occupants @	230				0			0	0			0
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								133	7			7748	3990
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								133	7			7748	3990
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								133	7			7748	3990
	Air required (cfm)								5	0			272	212

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

Right-J® Worksheet
Entire House
Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

1	Room name						Fut.Gym				Storage			
2	Exposed wall						16.5 ft				55.5 ft			
3	Room height						9.0 ft		heat/cool		9.0 ft		heat/cool	
4	Room dimensions						14.0 x 17.0 ft				10.5 x 24.5 ft			
5	Room area						238.0 ft²				257.3 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	Bg wall, light dry s	0.045	n	2.93	0.64	0	0	0	0	90	90	263	58
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0	0	0	0	0
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0	0	0	0	0
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0	0	0	0	0
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	e	2.93	0.64	126	126	369	81	95	72	211	46
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	23	0	439	827
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	s	2.93	0.64	23	23	66	14	221	221	645	142
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0	0	0	0	0
	W	Bg wall, light dry s	0.045	w	2.93	0.64	0	0	0	0	95	95	276	61
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0	0	0	0	0
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0	0	0	0	0
	C	16B-50md	0.020	-	0.98	0.81	0	0	0	0	0	0	0	0
	F	21A-32c	0.020	-	1.30	0.00	238	238	309	0	257	257	334	0
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-30				-3
	Envelope loss/gain								744	66			2168	1131
12	a) Infiltration								492	166			1654	560
	b) Room ventilation								612	207			0	0
13	Internal gains:	Occupants @	230				0			0	0			0
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								1848	440			3822	1690
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1848	440			3822	1690
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								1848	440			3822	1690
	Air required (cfm)								65	23			134	90

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Right-J® Worksheet
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1	Room name	Strg
2	Exposed wall	19.5 ft
3	Room height	9.0 ft heat/cool
4	Room dimensions	8.5 x 9.5 ft
5	Room area	80.8 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	Area (ft²) or perimeter (ft) N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area or perimeter Gross	Area or perimeter N/P/S	Load Heat	Load Cool
6	W	Bg wall, light dry s	0.045	n	2.93	0.64	14	14	39	9				
.	G	2 glazing, clr low-e	0.300	n	19.50	12.76	0	0	0	0				
.	W	ICF wall, wd ext, 3/	0.054	n	3.07	0.68	0	0	0	0				
.	G	2 glazing, clr low-e	0.280	n	18.20	12.51	0	0	0	0				
11	G	2 glazing, clr low-e	0.300	n	19.50	12.56	0	0	0	0				
	W	Bg wall, light dry s	0.045	e	2.93	0.64	0	0	0	0				
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0				
	W	ICF wall, wd ext, 3/	0.054	e	2.87	0.63	0	0	0	0				
	G	2 glazing, clr low-e	0.280	e	18.20	36.30	0	0	0	0				
	G	2 glazing, clr low-e	0.280	e	18.20	37.24	0	0	0	0				
	G	2 glazing, clr low-e	0.290	e	18.85	26.16	0	0	0	0				
	G	2 glazing, clr low-e	0.300	e	19.50	35.79	0	0	0	0				
	G	2 glazing, clr low-e	0.300	e	19.50	36.74	0	0	0	0				
	W	Bg wall, light dry s	0.045	s	2.93	0.64	86	86	250	55				
	W	ICF wall, wd ext, 3/	0.054	s	1.19	0.26	0	0	0	0				
	G	2 glazing, clr low-e	0.290	s	18.85	15.19	0	0	0	0				
	G	2 glazing, clr low-e	0.290	s	18.85	19.80	0	0	0	0				
	W	Bg wall, light dry s	0.045	w	2.93	0.64	77	77	224	49				
	W	ICF wall, wd ext, 3/	0.054	w	1.66	0.37	0	0	0	0				
	G	2 glazing, clr low-e	0.290	w	18.85	23.33	0	0	0	0				
	G	2 glazing, clr low-e	0.310	w	20.15	33.19	0	0	0	0				
	G	2 glazing, clr low-e	0.340	w	22.10	33.85	0	0	0	0				
	G	2 glazing, clr low-e	0.350	w	22.75	36.89	0	0	0	0				
	P	12F-0sw	0.065	-	4.22	0.75	0	0	0	0				
	C	16B-50md	0.020	-	0.98	0.81	81	81	105	87				
	F	21A-32c	0.020	-	1.30	0.00	81	81	105	0				
	F	21A-32c	0.020	-	0.00	0.00	0	0	0	0				

6	c) AED excursion					-25			
	Envelope loss/gain				723	175			
12	a) Infiltration				581	197			
	b) Room ventilation				0	0			
13	Internal gains:	Occupants @ 230	0			0			
		Appliances/other				0			
	Subtotal (lines 6 to 13)				1304	371			
	Less external load				0	0			
	Less transfer				0	0			
	Redistribution				-1304	-371			
14	Subtotal				0	0			
15	Duct loads		-0%	0%	0	0			
	Total room load				0	0			
	Air required (cfm)				0	0			

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

Loads for Multiple Orientations

Entire House

Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

Project Information

For: Brandon Avery Residence
1599 South Kay Drive, Kaysville, UT 84037

Email: btavery66@gmail.com

Design Conditions

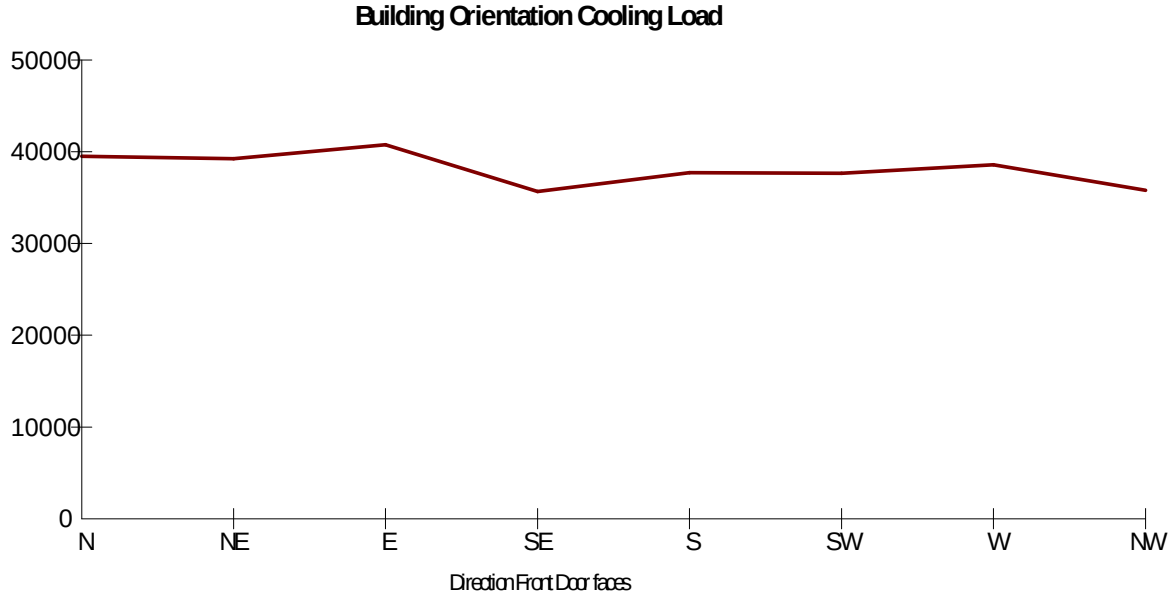
Location:
Kaysville, UT, US
Elevation: 4226 ft
Latitude: 41°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	7	97
Daily range (°F)	-	27 (H)
Wet bulb (°F)	-	63
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	72	75
Design TD (°F)	65	22
Relative humidity (%)	50	50
Moisture difference (gr/lb)	61.1	-29.8

Infiltration:

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	39507	39220	40768	35672	37712	37629	38558	35801
Latent Load (Btuh)	0	0	0	0	0	0	0	0
Total Load (Btuh)	39507	39220	40768	35672	37712	37629	38558	35801
Heating AVF (cfm)	2056	2041	2121	1856	1962	1958	2006	1863
Cooling AVF (cfm)	2056	2041	2121	1856	1962	1958	2006	1863



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

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

J1 Form - Worksheet A

Entire House

Perfect Home Hvac Design

Job: 3302
Date: 04/05/2018
By: Dana Morley

890 North Main Street, Bountiful, UT 84010 Phone: 801-300-5118 Web: www.perfect-home-hvac-design.com

Supporting Detail			
Project Name:	Avery Design	Date:	04/05/2018
Address:	1599 South Kay Drive, Kaysville, UT 84037		
Phone:		Job ID:	3302

Worksheet A Location and Design Conditions						
Weather Location:	Kaysville, UT, US			Elevation =	4226	Latitude = 41
Indoor Conditions, Heating:	DB = 72 °F	RH = 50 %	Indoor Conditions, Cooling:	DB = 75 °F	RH = 50 %	
Table 1 Conditions	99% DB = 7 °F	1% DB = 97 °F	Grains Difference =	-30 gr/lb	Daily Range = H	
Design Temperature Differences				HTD = 65 °F	CTD = 22 °F	

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