BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ALWAYS ON TARGET

Load Short Form
Entire House
ARMSTRONG CONSTRUCTION

IDAHO FALLS, ID

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

Project Information

For: FRYE HOME

Design Information

	Htg	Clg
Outside db (°F)	-9	92
Inside db (°F)	70	75
Design TD (°F)	79	17
Daily range	-	H
Inside humidity (%)	50	50
Moisture difference (gr/lb)	62	-29

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

HEATING EQUIPMENT

Make	Day & Night
Trade	AIRQUEST, ARCOAIRE, COMFORTMAK...
Model	N9MSE0601714A**D
AHRI ref	9946451

Efficiency	95 AFUE	
Heating input	60000	Btuh
Heating output	58000	Btuh
Temperature rise	55	°F
Actual air flow	1140	cfm
Air flow factor	0.028	cfm/Btuh
Static pressure	0.70	in H2O
Space thermostat		

COOLING EQUIPMENT

Make	Day & Night
Trade	DAY & NIGHT
Cond	HC4A330AKA*
Coil	EHD4X36AAL++TDR
AHRI ref	6652157

Efficiency	11.0 EER, 13 SEER	
Sensible cooling	20580	Btuh
Latent cooling	8820	Btuh
Total cooling	29400	Btuh
Actual air flow	*1140*	cfm
Air flow factor	0.077	cfm/Btuh
Static pressure	0.70	in H2O
Load sensible heat ratio	1.00	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
bed 1	195	2196	1096	61	*84*
bed 2	195	2196	1096	61	*84*
storage	117	1153	29	32	*2*
stairs	108	0	0	0	*0*
steam room	135	1292	32	36	*2*
bed 3	182	1770	273	49	*21*
mech	156	1618	43	45	*3*
base bath	80	139	0	4	*0*
bed 4	270	3134	487	87	*37*
family room	540	2965	465	82	*36*
master bed	225	2863	1420	80	*109*
office	72	1092	317	30	*24*
master bath wic	276	3790	1409	105	*108*
upper stairs	108	0	0	0	*0*

Bold/italic values have been manually overridden

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

pantry	54	937	412	26	*32*
main bath	78	1474	534	41	*41*
laundry	144	1622	353	45	*27*
bed 5	195	2736	837	76	*64*
dining /kit	493	5186	3781	144	*290*
living	382	4863	2275	135	*175*
Entire House d	4005	41026	14860	1140	*1140*
Other equip loads		8762	1859		
Equip. @ 0.97 RSM			16168		
Latent cooling			0		
TOTALS	4005	49788	16168	1140	*1140*

Bold/italic values have been manually overridden

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

BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ALWAYS ON TARGET

Building Analysis
Entire House
ARMSTRONG CONSTRUCTION

IDAHO FALLS, ID

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

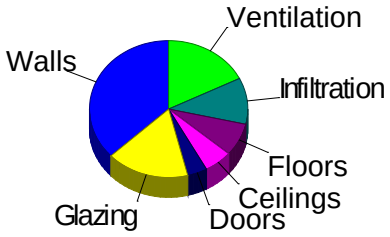
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

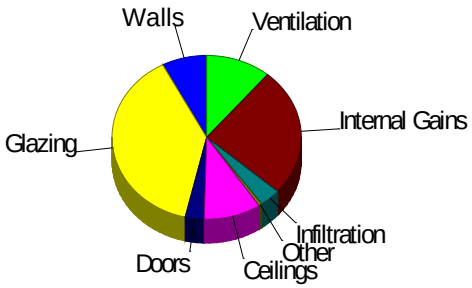
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	5.2	18402	37.0
Glazing	25.0	8424	16.9
Doors	24.0	2016	4.0
Ceilings	1.4	2871	5.8
Floors	1.9	3852	7.7
Infiltration	2.2	5460	11.0
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		8762	17.6
Adjustments		0	
Total		**49788**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.4	1284	7.7
Glazing	19.2	6465	38.7
Doors	6.5	542	3.2
Ceilings	0.8	1629	9.7
Floors	0.0	91	0.5
Infiltration	0.2	610	3.6
Ducts		0	0
Ventilation		1859	11.1
Internal gains		4240	25.4
Blower		0	0
Adjustments		0	
Total		**16720**	**100.0**



Latent Cooling Load = 0 Btuh
Overall U-value = 0.056 Btuh/ft²-°F

Data entries checked.

BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ALWAYS ON TARGET

Component Constructions
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	Heating	Cooling
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	Heating	Cooling
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	453	0.065	21.0	5.12	2317	0.65	293
	e	325	0.065	21.0	5.12	1663	0.65	210
	s	507	0.065	21.0	5.12	2594	0.65	328
	w	372	0.065	21.0	5.12	1903	0.65	241
	all	1657	0.065	21.0	5.12	8476	0.65	1072
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	n	572	0.061	15.0	5.28	3022	0.10	60
	e	320	0.061	15.0	5.20	1664	0.09	28
	s	612	0.061	15.0	5.39	3299	0.13	79
	w	360	0.061	15.0	5.39	1941	0.13	46
	all	1864	0.061	15.0	5.33	9926	0.11	213
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	n	168	0.320	0	25.2	4231	10.3	1727
	n	40	0.310	0	24.4	976	9.96	398
	e	11	0.320	0	25.2	277	41.8	459
	e	40	0.310	0	24.4	976	40.8	1631
	s	72	0.320	0	25.2	1813	27.8	1999
	w	6	0.320	0	25.2	151	41.8	251
	all	337	0.320	0	25.0	8424	19.2	6465
Doors								
glass door: Door, mtl fbrgl type	e	42	0.320	6.3	25.2	1058	6.77	284
11P0: Door, mtl pur core type	s	42	0.290	10.5	22.8	959	6.13	258
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		2027	0.018	56.0	1.42	2871	0.80	1629
Floors								
19A-0bswp: Part floor, hrd wd flr fnsh, frm flr, 12" thkns, 1/2" gypsum board int fnsh		49	0.295	0	8.72	427	1.85	91

21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh	1978	0.022	0	1.73	3425	0	0

Project Information

For: FRYE HOME

Design Conditions

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Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	n	135	0.061	15.0	5.39	728	0.13	17
	e	97	0.061	15.0	5.07	492	0.06	6
	all	232	0.061	15.0	5.26	1220	0.10	23
Partitions								
(none)								
Windows								
BASEMENT WINDOWS: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	e	20	0.310	0	24.4	488	40.8	815
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		195	0.022	0	1.73	338	0	0

Project Information

For: FRYE HOME

Design Conditions

Location:
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Elevation: 4744 ft
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Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	e	97	0.061	15.0	5.07	492	0.06	6
	s	135	0.061	15.0	5.39	728	0.13	17
	all	232	0.061	15.0	5.26	1220	0.10	23
Partitions								
(none)								
Windows								
BASEMENT WINDOWS: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	e	20	0.310	0	24.4	488	40.8	815
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		195	0.022	0	1.73	338	0	0

Project Information

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Design Conditions

Location:
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Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
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Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	s	117	0.061	15.0	5.39	631	0.13	15
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		117	0.022	0	1.73	203	0	0

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Design Conditions

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Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	s	108	0.061	15.0	5.39	582	0.13	14
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		108	0.022	0	1.73	187	0	0

Project Information

For: FRYE HOME

Design Conditions

Location:
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Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
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Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	s	135	0.061	15.0	5.39	728	0.13	17
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		135	0.022	0	1.73	234	0	0

Project Information

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Design Conditions

Location:
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Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	s	117	0.061	15.0	5.39	631	0.13	15
	w	126	0.061	15.0	5.39	679	0.13	16
	all	243	0.061	15.0	5.39	1310	0.13	31
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		182	0.022	0	1.73	315	0	0

Project Information

For: FRYE HOME

Design Conditions

Location:
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Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	n	117	0.061	15.0	5.39	631	0.13	15
	w	108	0.061	15.0	5.39	582	0.13	14
	all	225	0.061	15.0	5.39	1213	0.13	29
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		156	0.022	0	1.73	270	0	0

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
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Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
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Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:	
Method	Simplified
Construction quality	Semi-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								
(none)								
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		80	0.022	0	1.73	139	0	0

Project Information

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Design Conditions

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Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	n	115	0.061	15.0	5.12	589	0.07	8
	e	126	0.061	15.0	5.39	679	0.13	16
	w	126	0.061	15.0	5.39	679	0.13	16
	all	367	0.061	15.0	5.31	1948	0.11	40
Partitions								
(none)								
Windows								
BASEMENT WINDOWS: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	n	20	0.310	0	24.4	488	9.96	199
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		270	0.022	0	1.73	467	0	0

Project Information

For: FRYE HOME

Design Conditions

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Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
15B15-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-17 cav ins, 8" thk, 1/2" gypsum board int fnsh	n	205	0.061	15.0	5.24	1074	0.10	20
Partitions								
(none)								
Windows								
BASEMENT WINDOWS: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	n	20	0.310	0	24.4	488	9.96	199
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-28t: Bg floor, heavy dry or light damp soil, 6.5' depth, carp 80% flr fnsh		540	0.022	0	1.73	935	0	0

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	115	0.065	21.0	5.12	588	0.65	74
	e	126	0.065	21.0	5.12	645	0.65	81
	all	241	0.065	21.0	5.12	1233	0.65	156
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	n	20	0.320	0	25.2	504	10.3	206
	e	9	0.320	0	25.2	227	41.8	376
	all	29	0.320	0	25.2	730	20.0	581
Doors								
(none)								
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		225	0.018	56.0	1.42	319	0.80	181
Floors								
(none)								

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	61	0.065	21.0	5.12	312	0.65	39
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	n	20	0.320	0	25.2	504	10.3	206
Doors								
(none)								
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		72	0.018	56.0	1.42	102	0.80	58
Floors								
(none)								

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	9	0.065	21.0	5.12	46	0.65	6
	e	115	0.065	21.0	5.12	588	0.65	74
	s	189	0.065	21.0	5.12	967	0.65	122
	w	18	0.065	21.0	5.12	92	0.65	12
	all	331	0.065	21.0	5.12	1693	0.65	214
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	e	2	0.320	0	25.2	50	41.8	84
	s	27	0.320	0	25.2	680	27.8	750
	all	29	0.320	0	25.2	730	28.7	833
Doors								
(none)								
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		276	0.018	56.0	1.42	391	0.80	222
Floors								
19A-0bswp: Part floor, hrd wd flr fnsh, frm flr, 12" thkns, 1/2" gypsum board int fnsh		23	0.295	0	8.72	201	1.85	43

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	77	0.065	21.0	5.12	394	0.65	50
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	s	31	0.320	0	25.2	781	27.8	861
Doors								
(none)								
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		108	0.018	56.0	1.42	153	0.80	87
Floors								
(none)								

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	54	0.065	21.0	5.12	276	0.65	35
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		54	0.018	56.0	1.42	76	0.80	43
Floors								
(none)								

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	54	0.065	21.0	5.12	276	0.65	35
	w	111	0.065	21.0	5.12	568	0.65	72
	all	165	0.065	21.0	5.12	844	0.65	107
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	w	6	0.320	0	25.2	151	41.8	251
Doors								
(none)								
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		78	0.018	56.0	1.42	110	0.80	63
Floors								
(none)								

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	Heating	Cooling
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	Heating	Cooling
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	123	0.065	21.0	5.12	629	0.65	80
Partitions								
(none)								
Windows								
(none)								
Doors								
11P0: Door, mtl pur core type	s	21	0.290	10.5	22.8	479	6.13	129
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		144	0.018	56.0	1.42	204	0.80	116
Floors								
(none)								

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	97	0.065	21.0	5.12	496	0.65	63
	w	135	0.065	21.0	5.12	691	0.65	87
	all	232	0.065	21.0	5.12	1187	0.65	150
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	n	20	0.320	0	25.2	504	10.3	206
Doors								
(none)								
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		195	0.018	56.0	1.42	276	0.80	157
Floors								
19A-0bswp: Part floor, hrd wd flr fnsh, frm flr, 12" thkns, 1/2" gypsum board int fnsh		26	0.295	0	8.72	227	1.85	48

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	87	0.065	21.0	5.12	445	0.65	56
	e	84	0.065	21.0	5.12	430	0.65	54
	w	108	0.065	21.0	5.12	552	0.65	70
	all	279	0.065	21.0	5.12	1427	0.65	180
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	n	48	0.320	0	25.2	1209	10.3	493
Doors								
glass door: Door, mtl fbrgl type	e	42	0.320	6.3	25.2	1058	6.77	284
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		493	0.018	56.0	1.42	698	0.80	396
Floors								
(none)								

Project Information

For: FRYE HOME

Design Conditions

Location:
Idaho Falls Fanning Field, ID, US
Elevation: 4744 ft
Latitude: 44 °N

Outdoor:	Heating	Cooling
Dry bulb (°F)	-9	92
Daily range (°F)	-	34 (H)
Wet bulb (°F)	-	61
Wind speed (mph)	15.0	7.5

Indoor:	Heating	Cooling
Indoor temperature (°F)	70	75
Design TD (°F)	79	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	62.1	-28.6

Infiltration:

Method	Simplified
Construction quality	Semi-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								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	84	0.065	21.0	5.12	430	0.65	54
	s	10	0.065	21.0	5.12	51	0.65	6
	all	94	0.065	21.0	5.12	481	0.65	61
Partitions								
(none)								
Windows								
new window: 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 50% outdoor insect screen; foreground = new concrete (0.32); 6.67 ft head ht	n	60	0.320	0	25.2	1511	10.3	617
	s	14	0.320	0	25.2	353	27.8	389
	all	74	0.320	0	25.2	1864	13.6	1005
Doors								
11P0: Door, mtl pur core type	s	21	0.290	10.5	22.8	479	6.13	129
Ceilings								
16B-56ad: Attic ceiling, asphalt shingles roof mat, r-56 ceil ins, 1/2" gypsum board int fnsh		382	0.018	56.0	1.42	541	0.80	307
Floors								
(none)								

BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ALWAYS ON TARGET

Project Summary
Entire House
ARMSTRONG CONSTRUCTION

IDAHO FALLS, ID

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

Project Information

For: FRYE HOME

Notes:

Design Information

Weather: Idaho Falls Fanning Field, ID, US

Winter Design Conditions

Outside db	-9	°F
Inside db	70	°F
Design TD	79	°F

Summer Design Conditions

Outside db	92	°F
Inside db	75	°F
Design TD	17	°F
Daily range	H	
Relative humidity	50	%
Moisture difference	-29	gr/lb

Heating Summary

Structure	41026	Btuh
Ducts	0	Btuh
Central vent (120 cfm)	8762	Btuh
Outside air		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	49788	Btuh

Sensible Cooling Equipment Load Sizing

Structure	14860	Btuh
Ducts	0	Btuh
Central vent (120 cfm)	1859	Btuh
Outside air		
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	0.97	
Equipment sensible load	16168	Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	4005	4005
Volume (ft³)	23708	23708
Air changes/hour	0.19	0.10
Equiv. AVF (cfm)	75	40

Latent Cooling Equipment Load Sizing

Structure	954	Btuh
Ducts	0	Btuh
Central vent (120 cfm)	-1969	Btuh
Outside air		
Equipment latent load	0	Btuh
Equipment total load	16168	Btuh
Req. total capacity at 0.70 SHR	1.9	ton

Heating Equipment Summary

Make	Day & Night
Trade	AIRQUEST, ARCOAIRE, COMFORTMAK...
Model	N9MSE0601714A**D
AHRI ref	9946451

Efficiency	95 AFUE	
Heating input	60000	Btuh
Heating output	58000	Btuh
Temperature rise	55	°F
Actual air flow	1140	cfm
Air flow factor	0.028	cfm/Btuh
Static pressure	0.70	in H2O
Space thermostat		

Cooling Equipment Summary

Make	Day & Night
Trade	DAY & NIGHT
Cond	HC4A330AKA*
Coil	EHD4X36AAL++TDR
AHRI ref	6652157

Efficiency	11.0 EER, 13 SEER	
Sensible cooling	20580	Btuh
Latent cooling	8820	Btuh
Total cooling	29400	Btuh
Actual air flow	*1140*	cfm
Air flow factor	0.077	cfm/Btuh
Static pressure	0.70	in H2O
Load sensible heat ratio	1.00	

Bold/italic values have been manually overridden

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

BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ACTUATED THROUGH

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

		Entire House	bed 1
1	Room name		
2	Exposed wall	438.0 ft	28.0 ft
3	Room height	9.0 ft d	9.0 ft heat/cool
4	Room dimensions		15.0 x 13.0 ft
5	Room area	4005.0 ft²	195.0 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	12F-0sw	0.065	n	5.12	0.65	621	453	2317	293	0	0	0	0
.	G	new window	0.320	n	25.18	10.28	168	0	4231	1727	0	0	0	0
.	W	15B15-0wc-6	0.088	n	5.28	0.10	612	572	3022	60	135	135	728	17
.	G	BASEMENT WINDOWS	0.310	n	24.40	9.96	40	0	976	398	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	378	325	1663	210	0	0	0	0
	G	new window	0.320	e	25.18	41.76	11	0	277	459	0	0	0	0
	D	glass door	0.320	e	25.18	6.77	42	42	1058	284	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	360	320	1664	28	117	97	492	6
	G	BASEMENT WINDOWS	0.310	e	24.40	40.77	40	0	976	1631	20	0	488	815
	W	12F-0sw	0.065	s	5.12	0.65	621	507	2594	328	0	0	0	0
	G	new window	0.320	s	25.18	27.77	72	0	1813	1999	0	0	0	0
	D	11P0	0.290	s	22.82	6.13	42	42	959	258	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	612	612	3299	79	0	0	0	0
	W	12F-0sw	0.065	w	5.12	0.65	378	372	1903	241	0	0	0	0
	G	new window	0.320	w	25.18	41.76	6	0	151	251	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	360	360	1941	46	0	0	0	0
	C	16B-56ad	0.018	-	1.42	0.80	2027	2027	2871	1629	0	0	0	0
	F	19A-0bswp	0.295	-	8.72	1.85	49	49	427	91	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	1978	1978	3425	0	195	195	338	0

6	c) AED excursion									0				11
	Envelope loss/gain								35566	10011			2046	849
12	a) Infiltration								5460	610			151	17
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				8			1840	1			230
		Appliances/other								2400				0
	Subtotal (lines 6 to 13)								41026	14860			2196	1096
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								41026	14860			2196	1096
15	Duct loads						0%	0%	0	0	-0%	0%	0	0
	Total room load								41026	14860			2196	1096
	Air required (cfm)								1140	1140			61	84

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

BULLSEYE HEATING AND COOLING

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name					bed 2						storage			
2	Exposed wall					28.0 ft						13.0 ft			
3	Room height					9.0 ft			heat/cool			9.0 ft			heat/cool
4	Room dimensions					15.0	x	13.0 ft				13.0	x	9.0 ft	
5	Room area					195.0 ft²						117.0 ft²			
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area or perimeter (ft²) (ft)		Load (Btuh)		Area or perimeter (ft²) (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	5.12	0.65	0	0	0	0	0	0	0	0
.	└G	new window	0.320	n	25.18	10.28	0	0	0	0	0	0	0	0
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0	0	0	0	0
.	└G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	0	0	0	0
	├G	new window	0.320	e	25.18	41.76	0	0	0	0	0	0	0	0
	└D	glass door	0.320	e	25.18	6.77	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	117	97	492	6	0	0	0	0
	└G	BASEMENT WINDOWS	0.310	e	24.40	40.77	20	0	488	815	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	0	0	0	0	0	0	0	0
	├G	new window	0.320	s	25.18	27.77	0	0	0	0	0	0	0	0
	└D	11P0	0.290	s	22.82	6.13	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	135	135	728	17	117	117	631	15
	W	12F-0sw	0.065	w	5.12	0.65	0	0	0	0	0	0	0	0
	└G	new window	0.320	w	25.18	41.76	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.42	0.80	0	0	0	0	0	0	0	0
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	195	195	338	0	117	117	203	0
6	c) AED excursion									11				0
	Envelope loss/gain								2046	849			833	15
12	a) Infiltration								151	17			70	8
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				1			230	0			0
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								2196	1096			903	22
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			250	6
14	Subtotal								2196	1096			1153	29
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								2196	1096			1153	29
	Air required (cfm)								61	84			32	2

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

BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ACROSS THE TRIGGER

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name					stairs				steam room				
2	Exposed wall					12.0 ft				15.0 ft				
3	Room height					9.0 ft			heat/cool	9.0 ft			heat/cool	
4	Room dimensions					12.0 x 9.0 ft				15.0 x 9.0 ft				
5	Room area					108.0 ft²				135.0 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	12F-0sw	0.065	n	5.12	0.65	0	0	0	0	0	0	0	0
.	G	new window	0.320	n	25.18	10.28	0	0	0	0	0	0	0	0
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0	0	0	0	0
.	G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	0	0	0	0
	G	new window	0.320	e	25.18	41.76	0	0	0	0	0	0	0	0
	D	glass door	0.320	e	25.18	6.77	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0	0	0	0	0
	G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	0	0	0	0	0	0	0	0
	G	new window	0.320	s	25.18	27.77	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	22.82	6.13	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	108	108	582	14	135	135	728	17
	W	12F-0sw	0.065	w	5.12	0.65	0	0	0	0	0	0	0	0
	G	new window	0.320	w	25.18	41.76	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.42	0.80	0	0	0	0	0	0	0	0
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	108	108	187	0	135	135	234	0
6	c) AED excursion									0				0
	Envelope loss/gain								769	14			962	17
12	a) Infiltration								65	7			81	9
	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)								834	21			1042	26
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-834	-21			250	6
14	Subtotal								0	0			1292	32
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								0	0			1292	32
	Air required (cfm)								0	0			36	2

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

BULLSEYE HEATING AND COOLING

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name					bed 3				mech				
2	Exposed wall					27.0 ft				25.0 ft				
3	Room height					9.0 ft		heat/cool		9.0 ft		heat/cool		
4	Room dimensions					13.0 x 14.0 ft				13.0 x 12.0 ft				
5	Room area					182.0 ft²				156.0 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	12F-0sw	0.065	n	5.12	0.65	0	0	0	0	0	0	0	0
.	└G	new window	0.320	n	25.18	10.28	0	0	0	0	0	0	0	0
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0	117	117	631	15
.	└G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	0	0	0	0
	├G	new window	0.320	e	25.18	41.76	0	0	0	0	0	0	0	0
	└D	glass door	0.320	e	25.18	6.77	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0	0	0	0	0
	└G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	0	0	0	0	0	0	0	0
	├G	new window	0.320	s	25.18	27.77	0	0	0	0	0	0	0	0
	└D	11P0	0.290	s	22.82	6.13	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	117	117	631	15	0	0	0	0
	W	12F-0sw	0.065	w	5.12	0.65	0	0	0	0	0	0	0	0
	└G	new window	0.320	w	25.18	41.76	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	126	126	679	16	108	108	582	14
	C	16B-56ad	0.018	-	1.42	0.80	0	0	0	0	0	0	0	0
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	182	182	315	0	156	156	270	0
6	c) AED excursion									-4				-1
	Envelope loss/gain								1625	27			1483	28
12	a) Infiltration								145	16			134	15
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				1			230	0			0
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								1770	273			1618	43
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1770	273			1618	43
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								1770	273			1618	43
	Air required (cfm)								49	21			45	3

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

BULLSEYE HEATING AND COOLING

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

		base bath	bed 4
1	Room name		
2	Exposed wall	0 ft	43.0 ft
3	Room height	9.0 ft heat/cool	9.0 ft heat/cool
4	Room dimensions	10.0 x 8.0 ft	15.0 x 18.0 ft
5	Room area	80.0 ft²	270.0 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area or perimeter (ft²) (ft)		Load (Btuh)		Area or perimeter (ft²) (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	5.12	0.65	0	0	0	0	0	0	0	0
.	└G	new window	0.320	n	25.18	10.28	0	0	0	0	0	0	0	0
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0	135	115	589	8
.	└G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0	20	0	488	199
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	0	0	0	0
	├G	new window	0.320	e	25.18	41.76	0	0	0	0	0	0	0	0
	└D	glass door	0.320	e	25.18	6.77	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0	126	126	679	16
	└G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	0	0	0	0	0	0	0	0
	├G	new window	0.320	s	25.18	27.77	0	0	0	0	0	0	0	0
	└D	11P0	0.290	s	22.82	6.13	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	5.12	0.65	0	0	0	0	0	0	0	0
	└G	new window	0.320	w	25.18	41.76	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0	126	126	679	16
	C	16B-56ad	0.018	-	1.42	0.80	0	0	0	0	0	0	0	0
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	80	80	139	0	270	270	467	0
6	c) AED excursion									0				-8
	Envelope loss/gain								139	0			2903	232
12	a) Infiltration								0	0			231	26
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				0			0	1			230
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								139	0			3134	487
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								139	0			3134	487
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								139	0			3134	487
	Air required (cfm)								4	0			87	37

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

BULLSEYE HEATING AND COOLING

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name					family room				master bed				
2	Exposed wall					25.0 ft				30.0 ft				
3	Room height					9.0 ft			heat/cool	9.0 ft			heat/cool	
4	Room dimensions					1.0 x 540.0 ft				15.0 x 15.0 ft				
5	Room area					540.0 ft²				225.0 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	12F-0sw	0.065	n	5.12	0.65	0	0	0	0	135	115	588	74
.	G	new window	0.320	n	25.18	10.28	0	0	0	0	20	0	504	206
.	W	15B15-0wc-6	0.088	n	5.28	0.10	225	205	1074	20	0	0	0	0
.	G	BASEMENT WINDOWS	0.310	n	24.40	9.96	20	0	488	199	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	135	126	645	81
	G	new window	0.320	e	25.18	41.76	0	0	0	0	9	0	227	376
	D	glass door	0.320	e	25.18	6.77	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0	0	0	0	0
	G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	0	0	0	0	0	0	0	0
	G	new window	0.320	s	25.18	27.77	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	22.82	6.13	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	5.12	0.65	0	0	0	0	0	0	0	0
	G	new window	0.320	w	25.18	41.76	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.42	0.80	0	0	0	0	225	225	319	181
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	540	540	935	0	0	0	0	0
6	c) AED excursion									-7				-23
	Envelope loss/gain								2497	211			2282	895
12	a) Infiltration								134	15			581	65
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				1			230	2			460
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								2632	456			2863	1420
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								333	8			0	0
14	Subtotal								2965	465			2863	1420
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								2965	465			2863	1420
	Air required (cfm)								82	36			80	109

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

BULLSEYE HEATING AND COOLING

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name					office				master bath wic					
2	Exposed wall					9.0 ft				40.0 ft					
3	Room height					9.0 ft			heat/cool	9.0 ft			heat/cool		
4	Room dimensions					9.0 x 8.0 ft				1.0 x 276.0 ft					
5	Room area					72.0 ft²				276.0 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	12F-0sw	0.065	n	5.12	0.65	81	61	312	39	9	9	46	6
.	G	new window	0.320	n	25.18	10.28	20	0	504	206	0	0	0	0
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0	0	0	0	0
.	G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	117	115	588	74
	G	new window	0.320	e	25.18	41.76	0	0	0	0	2	0	50	84
	D	glass door	0.320	e	25.18	6.77	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0	0	0	0	0
	G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	0	0	0	0	216	189	967	122
	G	new window	0.320	s	25.18	27.77	0	0	0	0	27	0	680	750
	D	11P0	0.290	s	22.82	6.13	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	5.12	0.65	0	0	0	0	18	18	92	12
	G	new window	0.320	w	25.18	41.76	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.42	0.80	72	72	102	58	276	276	391	222
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0	23	23	201	43
	F	21A-28t	0.022	-	1.73	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-5				11
	Envelope loss/gain								918	298			3015	1322
12	a) Infiltration								174	19			774	86
	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)								1092	317			3790	1409
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1092	317			3790	1409
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								1092	317			3790	1409
	Air required (cfm)								30	24			105	108

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

BULLSEYE HEATING AND COOLING

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name					upper stairs						pantry			
2	Exposed wall					12.0 ft						6.0 ft			
3	Room height					9.0 ft			heat/cool			9.0 ft			heat/cool
4	Room dimensions					12.0 x 9.0 ft						6.0 x 9.0 ft			
5	Room area					108.0 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	12F-0sw	0.065	n	5.12	0.65	0	0	0	0	0	0	0	0
.	└G	new window	0.320	n	25.18	10.28	0	0	0	0	0	0	0	0
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0	0	0	0	0
.	└G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	0	0	0	0
	├G	new window	0.320	e	25.18	41.76	0	0	0	0	0	0	0	0
	└D	glass door	0.320	e	25.18	6.77	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0	0	0	0	0
	└G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	108	77	394	50	54	54	276	35
	├G	new window	0.320	s	25.18	27.77	31	0	781	861	0	0	0	0
	└D	11P0	0.290	s	22.82	6.13	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	5.12	0.65	0	0	0	0	0	0	0	0
	└G	new window	0.320	w	25.18	41.76	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.42	0.80	108	108	153	87	54	54	76	43
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									51				-1
	Envelope loss/gain								1328	1049			353	77
12	a) Infiltration								232	26			116	13
	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)								1560	1075			469	90
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-1560	-1075			468	322
14	Subtotal								0	0			937	412
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								0	0			937	412
	Air required (cfm)								0	0			26	32

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

BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ACTUATED TRUST

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name					main bath				laundry				
2	Exposed wall					19.0 ft				16.0 ft				
3	Room height					9.0 ft			heat/cool	9.0 ft			heat/cool	
4	Room dimensions					6.0 x 13.0 ft				16.0 x 9.0 ft				
5	Room area					78.0 ft²				144.0 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	12F-0sw	0.065	n	5.12	0.65	0	0	0	0	0	0	0	0
.	G	new window	0.320	n	25.18	10.28	0	0	0	0	0	0	0	0
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0	0	0	0	0
.	G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	0	0	0	0
	G	new window	0.320	e	25.18	41.76	0	0	0	0	0	0	0	0
	D	glass door	0.320	e	25.18	6.77	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0	0	0	0	0
	G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	54	54	276	35	144	123	629	80
	G	new window	0.320	s	25.18	27.77	0	0	0	0	0	0	0	0
	D	11P0	0.290	s	22.82	6.13	0	0	0	0	21	21	479	129
	W	15B15-0wc-6	0.088	s	5.39	0.13	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	5.12	0.65	117	111	568	72	0	0	0	0
	G	new window	0.320	w	25.18	41.76	6	0	151	251	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.42	0.80	78	78	110	63	144	144	204	116
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									73				-6
	Envelope loss/gain								1106	493			1312	318
12	a) Infiltration								368	41			310	35
	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)								1474	534			1622	353
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1474	534			1622	353
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								1474	534			1622	353
	Air required (cfm)								41	41			45	27

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

BULLSEYE HEATING AND COOLING

Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name					bed 5				dining /kit				
2	Exposed wall					28.0 ft				41.0 ft				
3	Room height					9.0 ft		heat/cool		9.0 ft		heat/cool		
4	Room dimensions					13.0 x 15.0 ft				1.0 x 493.0 ft				
5	Room area					195.0 ft²				493.0 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	12F-0sw	0.065	n	5.12	0.65	117	97	496	63	135	87	445	56
.	└G	new window	0.320	n	25.18	10.28	20	0	504	206	48	0	1209	493
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0	0	0	0	0
.	└G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0	0	0	0	0
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0	126	84	430	54
	├G	new window	0.320	e	25.18	41.76	0	0	0	0	0	0	0	0
	└D	glass door	0.320	e	25.18	6.77	0	0	0	0	42	42	1058	284
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0	0	0	0	0
	└G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	5.12	0.65	0	0	0	0	0	0	0	0
	├G	new window	0.320	s	25.18	27.77	0	0	0	0	0	0	0	0
	└D	11P0	0.290	s	22.82	6.13	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	s	5.39	0.13	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	5.12	0.65	135	135	691	87	108	108	552	70
	└G	new window	0.320	w	25.18	41.76	0	0	0	0	0	0	0	0
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0	0	0	0	0
	C	16B-56ad	0.018	-	1.42	0.80	195	195	276	157	493	493	698	396
	F	19A-0bswp	0.295	-	8.72	1.85	26	26	227	48	0	0	0	0
	F	21A-28t	0.022	-	1.73	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-14				-62
	Envelope loss/gain								2193	547			4392	1293
12	a) Infiltration								542	61			794	89
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				1			230	0			0
		Appliances/other								0				2400
	Subtotal (lines 6 to 13)								2736	837			5186	3781
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								2736	837			5186	3781
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								2736	837			5186	3781
	Air required (cfm)								76	64			144	290

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

BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ALWAYS ON TARGET

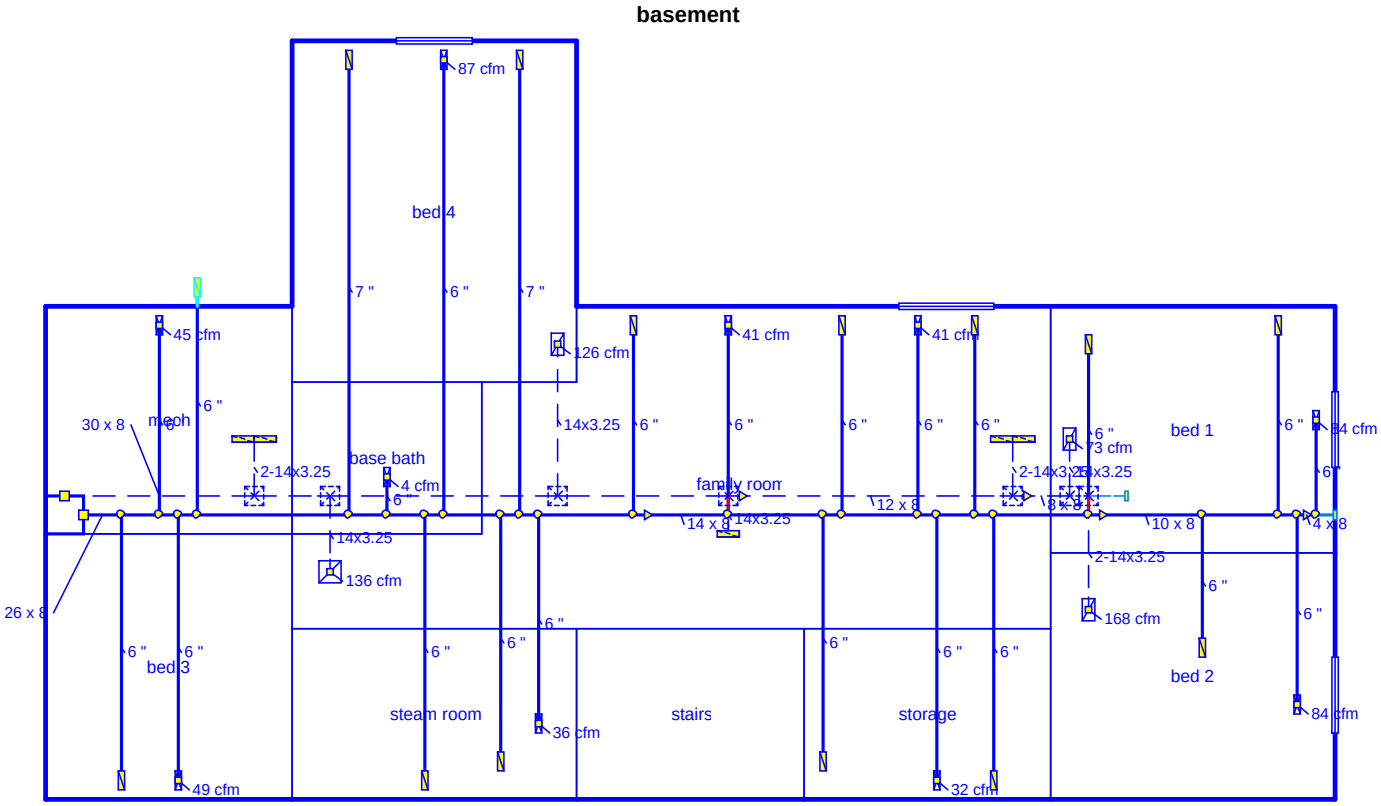
Right-J® Worksheet
Entire House
ARMSTRONG CONSTRUCTION

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

IDAHO FALLS, ID

1	Room name						living								
2	Exposed wall						21.0 ft								
3	Room height						9.0 ft				heat/cool				
4	Room dimensions							1.0	x	382.0 ft					
5	Room area						382.0 ft²								
	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	5.12	0.65	144	84	430	54				
.	G	new window	0.320	n	25.18	10.28	60	0	1511	617				
.	W	15B15-0wc-6	0.088	n	5.28	0.10	0	0	0	0				
.	G	BASEMENT WINDOWS	0.310	n	24.40	9.96	0	0	0	0				
11	W	12F-0sw	0.065	e	5.12	0.65	0	0	0	0				
	G	new window	0.320	e	25.18	41.76	0	0	0	0				
	D	glass door	0.320	e	25.18	6.77	0	0	0	0				
	W	15B15-0wc-6	0.088	e	5.20	0.09	0	0	0	0				
	G	BASEMENT WINDOWS	0.310	e	24.40	40.77	0	0	0	0				
	W	12F-0sw	0.065	s	5.12	0.65	45	10	51	6				
	G	new window	0.320	s	25.18	27.77	14	0	353	389				
	D	11P0	0.290	s	22.82	6.13	21	21	479	129				
	W	15B15-0wc-6	0.088	s	5.39	0.13	0	0	0	0				
	W	12F-0sw	0.065	w	5.12	0.65	0	0	0	0				
	G	new window	0.320	w	25.18	41.76	0	0	0	0				
	W	15B15-0wc-6	0.088	w	5.39	0.13	0	0	0	0				
	C	16B-56ad	0.018	-	1.42	0.80	382	382	541	307				
	F	19A-0bswp	0.295	-	8.72	1.85	0	0	0	0				
	F	21A-28t	0.022	-	1.73	0.00	0	0	0	0				
6	c) AED excursion									-25				
	Envelope loss/gain								3365	1477				
12	a) Infiltration								407	45				
	b) Room ventilation								0	0				
13	Internal gains:	Occupants @	230				0			0				
		Appliances/other								0				
	Subtotal (lines 6 to 13)								3771	1523				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								1092	752				
14	Subtotal								4863	2275				
15	Duct loads						-0%	0%	0	0				
	Total room load								4863	2275				
	Air required (cfm)								135	175				

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



Job #: FRYE HOME
Performed by ROBERT HALL for:
FRYE HOME

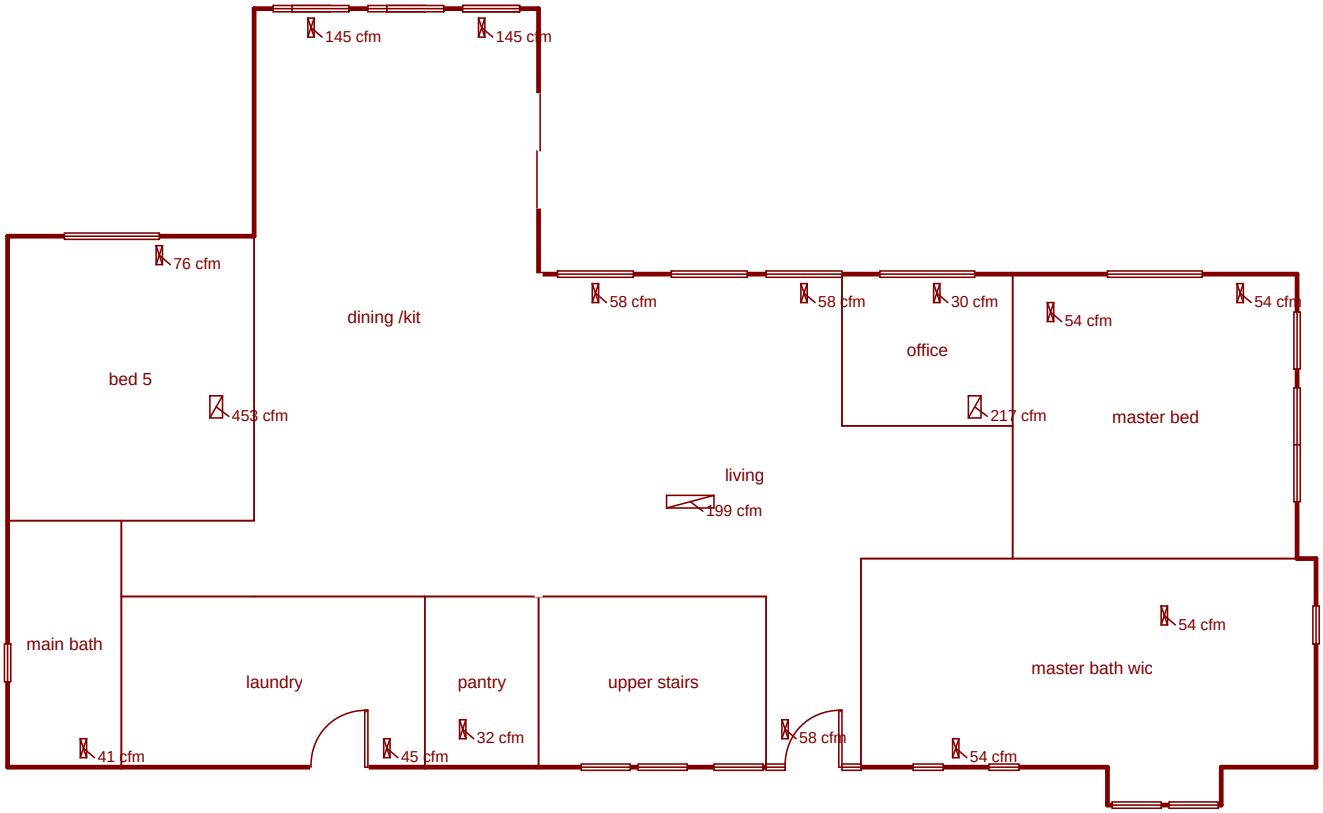
ARMSTRONG CONSTRUCTION

IDAHO FALLS, ID

Scale: 1 : 122

Right-Suite® Universal 2017
17.0.21 RSU06972
2019-Feb-25 20:20:51
...ightsoft HVAC\ARMSTRONG FRY...

main



Job #: FRYE HOME
Performed by ROBERT HALL for:
FRYE HOME

ARMSTRONG CONSTRUCTION

IDAHO FALLS, ID

Scale: 1 : 122

Right-Suite® Universal 2017
17.0.21 RSU06972
2019-Feb-25 20:20:51
...ightsoft HVAC\ARMSTRONG FRY...

BULLSEYE HEATING AND COOLING
QUALITY AND PRICE ALWAYS ON TARGET

Duct System Summary

Entire House

ARMSTRONG CONSTRUCTION

IDAHO FALLS, ID

Job: FRYE HOME
Date: Feb 25, 2019
By: ROBERT HALL

Project Information

For: FRYE HOME

	Heating		Cooling	
External static pressure	0.70	in H2O	0.70	in H2O
Pressure losses	0.36	in H2O	0.36	in H2O
Available static pressure	0.34	in H2O	0.34	in H2O
Supply / return available pressure	0.167 / 0.173	in H2O	0.167 / 0.173	in H2O
Lowest friction rate	0.087	in/100ft	0.087	in/100ft
Actual air flow	1140	cfm	*1140*	cfm
Total effective length (TEL)	393	ft		

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
base bath	h	139	4	0	0.121	6.0	0x0	ShMt	18.0	120.0	st1
bed 1	c	1096	61	84	0.088	6.0	0x0	ShMt	70.0	120.0	st1C
bed 2	c	1096	61	84	0.091	6.0	0x0	ShMt	74.0	110.0	st1B
bed 3	h	1770	49	21	0.120	6.0	0x0	ShMt	19.0	120.0	st1
bed 4	h	3134	87	37	0.106	6.0	0x0	ShMt	43.0	115.0	st1
bed 5	h	2736	76	64	0.121	6.0	0x0	ShMt	18.0	120.0	st1
dining /kit	c	1891	72	145	0.106	7.0	0x0	ShMt	38.0	120.0	st1
dining /kit-A	c	1891	72	145	0.110	7.0	0x0	ShMt	47.0	105.0	st1
family room	h	1483	41	18	0.093	6.0	0x0	ShMt	54.0	125.0	st1A
family room-A	h	1483	41	18	0.096	6.0	0x0	ShMt	44.0	130.0	st1A
laundry	h	1622	45	27	0.110	6.0	0x0	ShMt	32.0	120.0	st1
living	c	758	45	58	0.129	6.0	0x0	ShMt	39.0	90.0	st1
living-A	c	758	45	58	0.093	6.0	0x0	ShMt	50.0	130.0	st1A
living-B	c	758	45	58	0.092	6.0	0x0	ShMt	52.0	130.0	st1A
main bath	c	534	41	41	0.123	6.0	0x0	ShMt	16.0	120.0	st1
master bath wic	c	704	53	54	0.097	6.0	0x0	ShMt	62.0	110.0	st1A
master bath wic-A	c	704	53	54	0.087	6.0	0x0	ShMt	66.0	125.0	st1B
master bed	c	710	40	54	0.103	6.0	0x0	ShMt	62.0	100.0	st1A
master bed-A	c	710	40	54	0.087	6.0	0x0	ShMt	73.0	120.0	st1B
mech	h	1618	45	3	0.125	6.0	0x0	ShMt	14.0	120.0	st1
office	h	1092	30	24	0.097	6.0	0x0	ShMt	57.0	115.0	st1A
pantry	c	412	26	32	0.115	6.0	0x0	ShMt	35.0	110.0	st1
steam room	h	1292	36	2	0.124	6.0	0x0	ShMt	35.0	100.0	st1
storage	h	1153	32	2	0.093	6.0	0x0	ShMt	59.0	120.0	st1A

Bold/italic values have been manually overridden

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	1140	1140	0.087	789	14.9	8 x 26	ShtMetl	
st1A	Peak AVF	542	564	0.087	725	11.4	8 x 14	ShtMetl	st1
st1B	Peak AVF	214	277	0.087	498	8.8	8 x 10	ShtMetl	st1A
st1C	Peak AVF	61	84	0.088	378	5.6	8 x 4	ShtMetl	st1B

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb6	0x0	306	453	63.0	0.275	718	8.4	2-3.25x14	2-10x18	SJSp	rt1
rb7	0x0	192	199	117.0	0.148	631	7.0	3.25x14	10x9	SJSp	rt1
rb5	0x0	185	217	163.0	0.106	343	7.7	2-3.25x14	2-10x18	SJSp	rt1A
rb2	0x0	122	168	200.0	0.087	266	7.3	2-3.25x14	2-10x18	SJSp	rt1B
rb1	0x0	73	20	196.0	0.088	232	5.3	3.25x14	10x9	SJSp	rt1B
rb3	0x0	126	41	104.0	0.166	400	5.7	3.25x14	10x9	SJSp	rt1
rb4	0x0	136	41	78.0	0.222	430	5.6	3.25x14	10x9	SJSp	rt1

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	1140	1140	0.087	684	14.9	8 x 30	ShtMetl	
rt1A	Peak AVF	380	405	0.087	608	10.1	8 x 12	ShtMetl	rt1
rt1B	Peak AVF	195	188	0.087	439	7.7	8 x 8	ShtMetl	rt1A