

## Project Information

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

## Cooling Equipment

### Design Conditions

Outdoor design DB:	94.5°F	Sensible gain:	0 Btuh	Entering coil DB:	0°F
Outdoor design WB:	62.1°F	Latent gain:	0 Btuh	Entering coil WB:	0°F
Indoor design DB:	73.0°F	Total gain:	0 Btuh		
Indoor RH:	35%	Estimated airflow:	0 cfm		

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type:		Model:	
Manufacturer:			
Actual airflow:	0 cfm		
Sensible capacity:	0 Btuh	0% of load	
Latent capacity:	0 Btuh	0% of load	
Total capacity:	0 Btuh	0% of load	SHR: 0%

## Heating Equipment

### Design Conditions

Outdoor design DB:	-5.9°F	Heat loss:	0 Btuh	Entering coil DB:	0°F
Indoor design DB:	72.0°F				

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type:		Model:	
Manufacturer:			
Actual airflow:	0 cfm		
Output capacity:	0 Btuh	0% of load	Temp. rise: 0 °F
Supplemental heat required:	0 Btuh		Economic balance: 0 °F

Backup equipment type:		Model:	
Manufacturer:			
Actual airflow:	0 cfm		
Output capacity:	0 Btuh	0% of load	Temp. rise: 0 °F

Meets all requirements of ACCA Manual S.

## Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

## Cooling Equipment

### Design Conditions

Outdoor design DB:	94.5°F	Sensible gain:	26499	Btuh	Entering coil DB:	76.7°F
Outdoor design WB:	62.1°F	Latent gain:	743	Btuh	Entering coil WB:	56.9°F
Indoor design DB:	73.0°F	Total gain:	27243	Btuh		
Indoor RH:	35%	Estimated airflow:	1500	cfm		

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split AC			
Manufacturer:	Day & Night	Model:	NXA648GKA10+END4X48L21A1++TDR	
Actual airflow:	1500	cfm		
Sensible capacity:	31500	Btuh	119%	of load
Latent capacity:	13500	Btuh	1816%	of load
Total capacity:	45000	Btuh	165%	of load
			SHR:	70%

## Heating Equipment

### Design Conditions

Outdoor design DB:	-5.9°F	Heat loss:	59518	Btuh	Entering coil DB:	72.0°F
Indoor design DB:	72.0°F					

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Gas furnace			
Manufacturer:	Day & Night	Model:	N9MSE0802120A	
Actual airflow:	1500	cfm		
Output capacity:	78000	Btuh	131%	of load
			Temp. rise:	50 °F

Meets all requirements of ACCA Manual S.

## Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

## Cooling Equipment

### Design Conditions

Outdoor design DB:	94.5°F	Sensible gain:	42253	Btuh	Entering coil DB:	73.0°F
Outdoor design WB:	62.1°F	Latent gain:	728	Btuh	Entering coil WB:	55.6°F
Indoor design DB:	73.0°F	Total gain:	42980	Btuh		
Indoor RH:	35%	Estimated airflow:	1700	cfm		

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split AC			
Manufacturer:	Day & Night	Model:	NXA660GKA10+END4X60L24A1++TDR	
Actual airflow:	1700	cfm		
Sensible capacity:	43350	Btuh	103%	of load
Latent capacity:	7650	Btuh	1051%	of load
Total capacity:	51000	Btuh	119%	of load
			SHR:	85%

## Heating Equipment

### Design Conditions

Outdoor design DB:	-5.9°F	Heat loss:	41586	Btuh	Entering coil DB:	72.0°F
Indoor design DB:	72.0°F					

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Gas furnace			
Manufacturer:		Model:		
Actual airflow:	1700	cfm		
Output capacity:	0	Btuh	0%	of load
			Temp. rise:	0 °F

Meets all requirements of ACCA Manual S.

## Project Information

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

## Design Criteria

Occupants		Not occupied during the day	
Age	Number		
0-5	0	Dishwasher	
6-13	2	Clothes washer	
14-59	2	Additional use (gpd)	0
60+	0	Setpoint (°F)	120
		Daily use (gpd)	61

## Gas conventional (40 gal, 0.60 EF)

Manufacturer	Tank size (gal)	40
Trade name	Energy factor	0.60
Model	Input (MBtuh)	0.0
AHRI ref. number	1st hour (gal)	60
	Recovery eff. (%)	77

**Project Information**

For: Byrne  
8483 E Spring Park, Eden, UT 84310

**Design Criteria**

Occupants		Not occupied during the day	
Age	Number		
0-5	0	Dishwasher	
6-13	2	Clothes washer	
14-59	2	Additional use (gpd)	0
60+	0	Setpoint (°F)	120
		Daily use (gpd)	61

**Gas conventional (40 gal, 0.60 EF)**

Manufacturer	Tank size (gal)	40
Trade name	Energy factor	0.60
Model	Input (MBtuh)	0.0
AHRI ref. number	1st hour (gal)	60
	Recovery eff. (%)	77



# Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form  
RPER 1  
15 Mar 09

## Header Information

Contractor:	Outfitters HVAC	REQUIRED ATTACHMENTS	ATTACHED
Mechanical license:		Manual J1 Form (and supporting worksheets):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Building plan #:		or MJ1AE Form* (and supporting worksheets):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Home address (Street or Lot#, Block, Subdivision):	8483 E Spring Park, (Unconditioned)	OEM performance data (heating, cooling, blower):	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Manual D Friction Rate Worksheet:	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Duct distribution sketch:	Yes <input type="checkbox"/> No <input type="checkbox"/>

## HVAC LOAD CALCULATION (IRC M1401.3)

### Design Conditions

#### Winter Design Conditions

Outdoor temperature: -6 °F  
 Indoor temperature: 72 °F  
 Total heat loss: 0 Btuh

#### Summer Design Conditions

Outdoor temperature: 95 °F  
 Indoor temperature: 73 °F  
 Grains difference: -3 gr/lb @ 35% RH  
 Sensible heat gain: 0 Btuh  
 Latent heat gain: 0 Btuh  
 Total heat gain: 0 Btuh

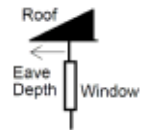
### Building Construction Information

#### Building

Orientation: Front Door faces South  
North, East, West, South, Northeast, Northwest, Southeast, Southwest  
 Number of bedrooms: 0  
 Conditioned floor area: 0 ft<sup>2</sup>  
 Number of occupants: 0

#### Windows

Eave overhang depth: 0 ft  
 Internal shade: none  
Blinds, drapes, etc.  
 Number of skylights: 0



## HVAC EQUIPMENT SELECTION (IRC M1401.3)

### Heating Equipment Data

Equipment type: Furnace, Heat pump, Boiler, etc.  
 Model:  
 Heating output capacity: 0 Btuh  
Heat pumps - capacity at winter design outdoor conditions  
 Aux. heating output capacity: 0 Btuh

### Cooling Equipment Data

Equipment type: Air Conditioner, Heat pump, etc.  
 Model:  
 Total cooling capacity: 0 Btuh  
 Sensible cooling capacity: 0 Btuh  
 Latent cooling capacity: 0 Btuh

### Blower Data

Heating cfm: 0  
 Cooling cfm: 0  
 Static pressure: 0 in H<sub>2</sub>O  
Fan's rated external static pressure for design airflow

## HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow:	0 cfm	Longest supply duct:	0 ft	Duct Materials Used
Equipment design ESP:	0 in H <sub>2</sub> O	Longest return duct:	0 ft	Trunk duct:
Total device pressure losses:	0 in H <sub>2</sub> O	<b>Total effective length (TEL):</b>	0 ft	
<b>Available static pressure (ASP):</b>	0 in H <sub>2</sub> O	<b>Friction rate:</b>	0 in/100ft	Branch duct:
		<small>Friction Rate = ASP ÷ (TEL x 100)</small>		

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: \_\_\_\_\_

Contractor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Reserved for County, Town Municipality or Authority having jurisdiction use.

\*Home qualifies for MJ1AE Form based on Abridged Edition Checklist



# Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form  
RPER 1  
15 Mar 09

### Header Information

Contractor: <b>Outfitters HVAC</b>	REQUIRED ATTACHMENTS	ATTACHED
Mechanical license:	Manual J1 Form (and supporting worksheets):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Building plan #:	or MJ1AE Form* (and supporting worksheets):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Home address (Street or Lot#, Block, Subdivision): <b>8483 E Spring Park, LOWER</b>	OEM performance data (heating, cooling, blower):	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Manual D Friction Rate Worksheet:	Yes <input type="checkbox"/> No <input type="checkbox"/>
	Duct distribution sketch:	Yes <input type="checkbox"/> No <input type="checkbox"/>

## HVAC LOAD CALCULATION (IRC M1401.3)

### Design Conditions

#### Winter Design Conditions

Outdoor temperature: -6 °F  
 Indoor temperature: 72 °F  
 Total heat loss: 59518 Btuh

#### Summer Design Conditions

Outdoor temperature: 95 °F  
 Indoor temperature: 73 °F  
 Grains difference: -3 gr/lb @35% RH  
 Sensible heat gain: 26632 Btuh  
 Latent heat gain: 747 Btuh  
 Total heat gain: 27380 Btuh

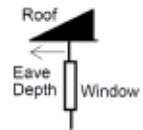
### Building Construction Information

#### Building

Orientation: **Front Door faces South**  
North, East, West, South, Northeast, Northwest, Southeast, Southwest  
 Number of bedrooms: 0  
 Conditioned floor area: 2441 ft<sup>2</sup>  
 Number of occupants: 4

#### Windows

Eave overhang depth: 0 ft  
 Internal shade: none  
Blinds, drapes, etc.  
 Number of skylights: 0



## HVAC EQUIPMENT SELECTION (IRC M1401.3)

### Heating Equipment Data

Equipment type: Gas furnace  
Furnace, Heat pump, Boiler, etc.  
 Model: Day & Night  
 N9MSE0802120A  
 Heating output capacity: 78000 Btuh  
Heat pumps - capacity at winter design outdoor conditions  
 Aux. heating output capacity: 0 Btuh

### Cooling Equipment Data

Equipment type: Split AC  
Air Conditioner, Heat pump, etc.  
 Model: Day & Night  
 NXA648GKA10+END4X48L21A1++TDR  
 Total cooling capacity: 0 Btuh  
 Sensible cooling capacity: 0 Btuh  
 Latent cooling capacity: 0 Btuh

### Blower Data

Heating cfm: 1500  
 Cooling cfm: 1500  
 Static pressure: 0.60 in H<sub>2</sub>O  
Fan's rated external static pressure for design airflow

## HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow: 1500 cfm	Longest supply duct: 362 ft	Duct Materials Used
Equipment design ESP: 0.60 in H <sub>2</sub> O	Longest return duct: 213 ft	Trunk duct: Fiberglass board
Total device pressure losses: -0.4 in H <sub>2</sub> O	<b>Total effective length (TEL): 575 ft</b>	Branch duct: Sheet metal, Fiberglass board, Stud/joist space
<b>Available static pressure (ASP): 0.22 in H<sub>2</sub>O</b>	<b>Friction rate: 0.038 in/100ft</b> <small>Friction Rate = ASP ÷ (TEL × 100)</small>	

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: \_\_\_\_\_  
 Contractor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

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# Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form  
RPER 1  
15 Mar 09

### Header Information

Contractor:	Outfitters HVAC	REQUIRED ATTACHMENTS	ATTACHED
Mechanical license:		Manual J1 Form (and supporting worksheets):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Building plan #:		or MJ1AE Form* (and supporting worksheets):	Yes <input type="checkbox"/> No <input type="checkbox"/>
Home address (Street or Lot#, Block, Subdivision):	8483 E Spring Park, MAIN	OEM performance data (heating, cooling, blower):	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Manual D Friction Rate Worksheet:	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Duct distribution sketch:	Yes <input type="checkbox"/> No <input type="checkbox"/>

## HVAC LOAD CALCULATION (IRC M1401.3)

### Design Conditions

#### Winter Design Conditions

Outdoor temperature: -6 °F  
 Indoor temperature: 72 °F  
 Total heat loss: 41586 Btuh

#### Summer Design Conditions

Outdoor temperature: 95 °F  
 Indoor temperature: 73 °F  
 Grains difference: -3 gr/lb @35% RH  
 Sensible heat gain: 42465 Btuh  
 Latent heat gain: 731 Btuh  
 Total heat gain: 43196 Btuh

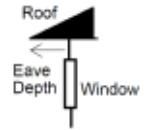
### Building Construction Information

#### Building

Orientation: Front Door faces South  
North, East, West, South, Northeast, Northwest, Southeast, Southwest  
 Number of bedrooms: 0  
 Conditioned floor area: 2567 ft<sup>2</sup>  
 Number of occupants: 4

#### Windows

Eave overhang depth: 0 ft  
 Internal shade: none  
Blinds, drapes, etc.  
 Number of skylights: 0



## HVAC EQUIPMENT SELECTION (IRC M1401.3)

### Heating Equipment Data

Equipment type: Gas furnace  
Furnace, Heat pump, Boiler, etc.  
 Model:  
 Heating output capacity: 0 Btuh  
Heat pumps - capacity at winter design outdoor conditions  
 Aux. heating output capacity: 0 Btuh

### Cooling Equipment Data

Equipment type: Split AC  
Air Conditioner, Heat pump, etc.  
 Model: Day & Night  
 NXA660GKA10+END4X60L24A1++TDR  
 Total cooling capacity: 0 Btuh  
 Sensible cooling capacity: 0 Btuh  
 Latent cooling capacity: 0 Btuh

### Blower Data

Heating cfm: 1700  
 Cooling cfm: 1700  
 Static pressure: 0.60 in H<sub>2</sub>O  
Fan's rated external static pressure for design airflow

## HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow:	1700 cfm	Longest supply duct:	341 ft	Duct Materials Used
Equipment design ESP:	0.60 in H <sub>2</sub> O	Longest return duct:	146 ft	Trunk duct: Fiberglass board
Total device pressure losses:	-0.4 in H <sub>2</sub> O	<b>Total effective length (TEL):</b>	<b>487 ft</b>	Branch duct: Sheet metal, Stud/joist space
<b>Available static pressure (ASP):</b>	<b>0.24 in H<sub>2</sub>O</b>	<b>Friction rate:</b>	<b>0.049 in/100ft</b>	

Friction Rate = ASP ÷ (TEL × 100)

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: \_\_\_\_\_  
 Contractor's signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Information**

	Htg	Clg	Method	Infiltration
Outside db (°F)	-6	95	Method	Simplified
Inside db (°F)	72	73	Construction quality	Semi-tight
Design TD (°F)	78	22	Fireplaces	0
Daily range	-	H		
Inside humidity (%)	30	35		
Moisture difference (gr/lb)	37	-3		

**HEATING EQUIPMENT**

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

**COOLING EQUIPMENT**

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

ROOM NAME		Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
MAIN	d	2567	41586	42253	1700	1700
LOWER (Unconditioned)	p	64	0	0	0	0
Entire House	d	5073	101103	63632	3200	3200
Other equip loads			0	0		
Equip. @ 1.00 RSM				63314		
Latent cooling				1471		
<b>TOTALS</b>		<b>5073</b>	<b>101103</b>	<b>64785</b>	<b>3200</b>	<b>3200</b>

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



**Project Information**

For: Byrne  
8483 E Spring Park, Eden, UT 84310

**Design Information**

	Htg	Clg	Method	Infiltration
Outside db (°F)	-6	95	Method	Simplified
Inside db (°F)	72	73	Construction quality	Semi-tight
Design TD (°F)	78	22	Fireplaces	0
Daily range	-	H		
Inside humidity (%)	30	35		
Moisture difference (gr/lb)	37	-3		

**HEATING EQUIPMENT**

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

**COOLING EQUIPMENT**

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

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
SAUNA	64	0	0	0	0
(Unconditioned)	p 64	0	0	0	0
Other equip loads		0	0		
Equip. @ 1.00 RSM			0		
Latent cooling			0		
<b>TOTALS</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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**Project Information**

For: Byrne  
8483 E Spring Park, Eden, UT 84310

**Design Information**

	Htg	Clg	Method	Infiltration
Outside db (°F)	-6	95	Method	Simplified
Inside db (°F)	72	73	Construction quality	Semi-tight
Design TD (°F)	78	22	Fireplaces	
Daily range	-	H		
Inside humidity (%)	30	35		
Moisture difference (gr/lb)	37	-3		

**HEATING EQUIPMENT**

Make Day & Night  
Trade DAY & NIGHT  
Model N9MSE0802120A  
AHRI ref  
  
Efficiency 95.5 AFUE  
Heating input 80000 Btuh  
Heating output 78000 Btuh  
Temperature rise 56 °F  
Actual air flow 1500 cfm  
Air flow factor 0.025 cfm/Btuh  
Static pressure 0.60 in H2O  
Space thermostat

**COOLING EQUIPMENT**

Make Day & Night  
Trade CONSTANT COMFORT SX 2600 R410A...  
Model NXA648GKA10  
Coil END4X48L21A1++TDR  
AHRI ref 9279669  
  
Efficiency 12.0 EER, 14 SEER  
Sensible cooling 31500 Btuh  
Latent cooling 13500 Btuh  
Total cooling 45000 Btuh  
Actual air flow 1500 cfm  
Air flow factor 0.070 cfm/Btuh  
Static pressure 0.60 in H2O  
Load sensible heat ratio 0.97

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
FAMILY	370	10317	7657	260	537
BATH	85	2190	479	55	34
BED3	252	5167	2782	130	195
LAUND	55	0	0	0	0
HALL	488	12824	4002	323	281
SKI IN	187	5383	1170	136	82
DRESS	42	2181	285	55	20
MECH	60	0	0	0	0
THEATRE	306	7350	1231	185	86
BUNK	267	6208	887	156	62
BATH2	122	2603	246	66	17
BED2	208	5293	2640	133	185

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



LOWER	d	2441	59518	21380	1500	1500
Other equip loads			0	5120		
Equip. @ 1.00 RSM				26367		
Latent cooling				743		
TOTALS		2441	59518	27110	1500	1500

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Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

Design Information

	Htg	Clg	Method	Infiltration
Outside db (°F)	-6	95	Method	Simplified
Inside db (°F)	72	73	Construction quality	Semi-tight
Design TD (°F)	78	22	Fireplaces	
Daily range	-	H		
Inside humidity (%)	30	35		
Moisture difference (gr/lb)	37	-3		

HEATING EQUIPMENT

Make  
Trade  
Model  
AHRI ref

Efficiency 80 AFUE  
Heating input 0 Btuh  
Heating output 0 Btuh  
Temperature rise 0 °F  
Actual air flow 1700 cfm  
Air flow factor 0.041 cfm/Btuh  
Static pressure 0.60 in H2O  
Space thermostat

COOLING EQUIPMENT

Make Day & Night  
Trade CONSTANT COMFORT SX 2600 R410A...  
Model NXA660GKA10  
Coil END4X60L24A1++TDR  
AHRI ref 9283881

Efficiency 12.0 EER, 14.5 SEER  
Sensible cooling 43350 Btuh  
Latent cooling 7650 Btuh  
Total cooling 51000 Btuh  
Actual air flow 1700 cfm  
Air flow factor 0.040 cfm/Btuh  
Static pressure 0.60 in H2O  
Load sensible heat ratio 0.98

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
M-FOYER	275	3983	853	163	34
M-LIV/KIT/DIN	1051	16785	22798	686	917
M-PWD	44	744	102	30	4
M-BED4	326	6046	2469	247	99
M-MASBATH	216	1194	446	49	18
M-MASBED	277	6496	7720	266	311
U-BED	286	4678	5872	191	236
U-BTH	93	1660	1993	68	80

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



MAIN	d	2567	41586	42253	1700	1700
Other equip loads			0	0		
Equip. @ 1.00 RSM				42041		
Latent cooling				728		
TOTALS		2567	41586	42769	1700	1700

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



**Project Information**

For: Byrne  
8483 E Spring Park, Eden, UT 84310

**Design Conditions**

**Location:**

Logan Cache, UT, US  
Elevation: 4455 ft  
Latitude: 42°N

**Outdoor:**

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

**Heating**

-6  
-  
-  
15.0

**Cooling**

95  
36 ( H )  
62  
7.5

**Indoor:**

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

**Heating**

72  
78  
30  
37.4

**Cooling**

73  
22  
35  
-2.9

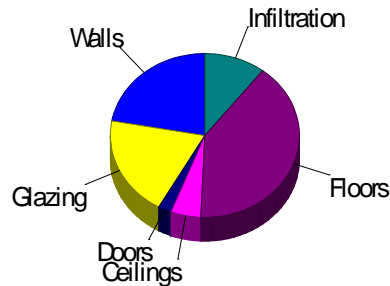
**Infiltration:**

Method  
Construction quality  
Fireplaces

Simplified  
Semi-tight  
0

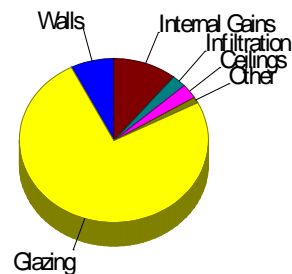
**Heating**

Component	Btuh/ft²	Btuh	% of load
Walls	5.0	22399	22.2
Glazing	12.0	19968	19.8
Doors	26.5	2289	2.3
Ceilings	1.9	5205	5.1
Floors	14.2	40645	40.2
Infiltration	1.9	10597	10.5
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
<b>Total</b>		<b>101103</b>	<b>100.0</b>



**Cooling**

Component	Btuh/ft²	Btuh	% of load
Walls	1.1	4714	7.4
Glazing	28.9	47870	75.2
Doors	8.4	730	1.1
Ceilings	0.6	1815	2.9
Floors	0.0	24	0.0
Infiltration	0.3	1539	2.4
Ducts		0	0
Ventilation		0	0
Internal gains		6940	10.9
Blower		0	0
Adjustments		0	0
<b>Total</b>		<b>63632</b>	<b>100.0</b>



Latent Cooling Load = 1471 Btuh  
Overall U-value = 0.145 Btuh/ft²-°F

WARNING: window to floor area ratio = 32.7% - more than 25%.

**Project Information**

For: Byrne  
8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US		Indoor temperature (°F)		72	73
Elevation: 4455 ft		Design TD (°F)		78	22
Latitude: 42°N		Relative humidity (%)		30	35
<b>Outdoor:</b>		Moisture difference (gr/lb)		37.4	-2.9
	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Drybulb (°F)	-6	95	Method	Simplified	
Daily range (°F)	-	36 ( H )	Construction quality	Semi-tight	
Wet bulb (°F)	-	62	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

**Heating**

Component	Btuh/ft²	Btuh	% of load
Walls	0	0	0
Glazing	0	0	0
Doors	0	0	0
Ceilings	0	0	0
Floors	0	0	0
Infiltration	0	0	0
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
<b>Total</b>		<b>0</b>	<b>0</b>

**Cooling**

Component	Btuh/ft²	Btuh	% of load
Walls	0	0	0
Glazing	0	0	0
Doors	0	0	0
Ceilings	0	0	0
Floors	0	0	0
Infiltration	0	0	0
Ducts		0	0
Ventilation		0	0
Internal gains		0	0
Blower		0	0
Adjustments		0	0
<b>Total</b>		<b>0</b>	<b>0</b>

Latent Cooling Load = 0 Btuh  
Overall U-value = 0.235 Btuh/ft²-°F

WARNING: window to floor area ratio = 87.3% - more than 25%.



**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

**Location:**

Logan Cache, UT, US  
 Elevation: 4455 ft  
 Latitude: 42°N

**Outdoor:**

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

**Heating**

-6  
 -  
 -  
 15.0

**Cooling**

95  
 36 ( H )  
 62  
 7.5

**Indoor:**

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

**Heating**

72  
 78  
 30  
 37.4

**Cooling**

73  
 22  
 35  
 -2.9

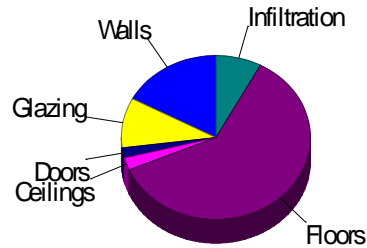
**Infiltration:**

Method  
 Construction quality  
 Fireplaces

Simplified  
 Semi-tight  
 0

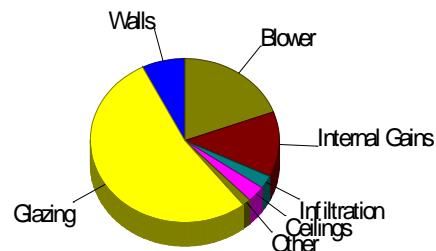
**Heating**

Component	Btuh/ft²	Btuh	% of load
Walls	4.9	10236	17.2
Glazing	12.5	5859	9.8
Doors	26.5	1192	2.0
Ceilings	2.4	1450	2.4
Floors	14.8	36135	60.7
Infiltration	1.9	4646	7.8
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
<b>Total</b>		<b>59518</b>	<b>100.0</b>



**Cooling**

Component	Btuh/ft²	Btuh	% of load
Walls	0.9	1960	7.4
Glazing	30.0	14111	53.2
Doors	8.4	380	1.4
Ceilings	1.4	834	3.1
Floors	0	0	0
Infiltration	0.3	675	2.5
Ducts		0	0
Ventilation		0	0
Internal gains		3420	12.9
Blower		5120	19.3
Adjustments		0	0
<b>Total</b>		<b>26499</b>	<b>100.0</b>



Latent Cooling Load = 743 Btuh  
 Overall U-value = 0.207 Btuh/ft²-°F

Data entries checked.

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

**Location:**

Logan Cache, UT, US  
 Elevation: 4455 ft  
 Latitude: 42°N

**Outdoor:**

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

**Heating**

-6  
 -  
 -  
 15.0

**Cooling**

95  
 36 ( H )  
 62  
 7.5

**Indoor:**

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

**Heating**

72  
 78  
 30  
 37.4

**Cooling**

73  
 22  
 35  
 -2.9

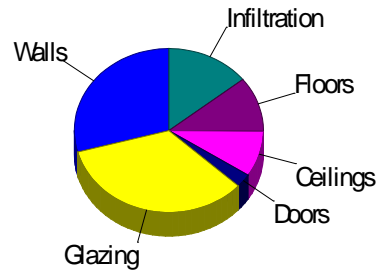
**Infiltration:**

Method  
 Construction quality  
 Fireplaces

Simplified  
 Semi-tight  
 0

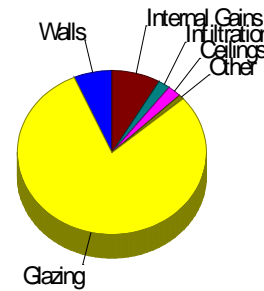
**Heating**

Component	Btuh/ft²	Btuh	% of load
Walls	5.2	12164	29.2
Glazing	12.5	14109	33.9
Doors	26.5	1097	2.6
Ceilings	1.7	3756	9.0
Floors	12.4	4509	10.8
Infiltration	1.9	5951	14.3
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
<b>Total</b>		<b>41586</b>	<b>100.0</b>



**Cooling**

Component	Btuh/ft²	Btuh	% of load
Walls	1.2	2754	6.5
Glazing	29.8	33759	79.9
Doors	8.4	350	0.8
Ceilings	0.4	981	2.3
Floors	0.1	24	0.1
Infiltration	0.3	864	2.0
Ducts		0	0
Ventilation		0	0
Internal gains		3520	8.3
Blower		0	0
Adjustments		0	0
<b>Total</b>		<b>42253</b>	<b>100.0</b>



Latent Cooling Load = 728 Btuh  
 Overall U-value = 0.085 Btuh/ft²-°F

WARNING: window to floor area ratio = 44.1% - more than 25%.

**Project Information**

For: Byrne  
8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

**Construction descriptions**

**Walls**

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
Frm wall, spl't log ext, 3/8" wood shth, r-7 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	350	0.061	7.0	4.75	1663	1.37	479
	e	333	0.061	7.0	4.75	1580	1.37	455
	se	42	0.061	7.0	4.75	199	1.37	57
	s	287	0.061	7.0	4.75	1366	1.37	394
	w	298	0.061	7.0	4.75	1415	1.37	408
all	1310	0.061	7.0	4.75	6223	1.37	1794	
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	820	0.060	19.0	4.67	3835	0.94	775
	e	510	0.060	19.0	4.67	2384	0.94	482
	se	119	0.060	19.0	4.67	557	0.94	113
	s	425	0.060	19.0	4.35	1850	0.88	374
	w	610	0.060	19.0	4.67	2850	0.94	576
all	2485	0.060	19.0	4.62	11476	0.93	2320	

**Partitions**

12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		663	0.091	13.0	7.09	4700	0.91	600
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**Windows**

2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	n	63	0.160	0	12.5	789	10.1	642
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	n	10	0.160	0	12.5	125	10.1	101
6.67 ft head ht	e	171	0.160	0	12.5	2131	36.3	6211
	e	100	0.160	0	12.5	1246	36.3	3632
	e	129	0.160	0	12.5	1605	36.3	4677
	e	75	0.160	0	12.5	938	36.3	2733
	se	187	0.160	0	12.5	2335	31.4	5885
	se	67	0.160	0	12.5	836	31.4	2107
	s	190	0.160	0	12.5	2372	18.5	3525
	s	177	0.160	0	8.51	1502	12.6	2231
	s	91	0.160	0	12.5	1134	18.5	1685
	w	44	0.160	0	12.5	548	36.3	1598
	w	164	0.160	0	12.5	2044	36.3	5957
	w	190	0.160	0	12.5	2362	36.3	6883
	all	1658	0.160	0	12.0	19968	28.9	47870

**Doors**

Door, wd sc type	s	45	0.340	0	26.5	1192	8.45	380
	w	41	0.340	0	26.5	1097	8.45	350
	all	86	0.340	0	26.5	2289	8.45	730

**Ceilings**

16B-30ad: Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins		508	0.032	30.0	2.49	1266	1.55	786
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 6" thkns, r-49 ceil ins		2299	0.022	49.0	1.71	3939	0.45	1029

**Floors**

19C-19cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-2 ext ins, r-19 cav ins, tight crwl ovr, r-11 wall insul		64	0.049	30.0	1.32	85	0.37	23
		2	0.049	30.0	1.32	2	0.37	1
	all	66	0.049	30.0	1.32	87	0.37	24
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		2506	0.380	9.0	14.4	36135	0	0
		299	0.380	9.0	14.8	4418	0	0
		0	0.380	9.0	14.8	4	0	0
	all	2804	0.380	9.0	14.5	40557	0	0



## Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

## Design Conditions

<b>Location:</b>			<b>Indoor:</b>	<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US			Indoor temperature (°F)	72	73
Elevation: 4455 ft			Design TD (°F)	78	22
Latitude: 42°N			Relative humidity (%)	30	35
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	Moisture difference (gr/lb)	37.4	-2.9
Dry bulb (°F)	-6	95	<b>Infiltration:</b>		
Daily range (°F)	-	36 ( H )	Method	Simplified	
Wet bulb (°F)	-	62	Construction quality	Semi-tight	
Wind speed (mph)	15.0	7.5	Fireplaces	0	

## Construction descriptions

	Or	Area ft <sup>2</sup>	U-value Btuh/ft <sup>2</sup> -°F	Insul R ft <sup>2</sup> -°F/Btuh	Htg HTM Btuh/ft <sup>2</sup>	Loss Btuh	Clg HTM Btuh/ft <sup>2</sup>	Gain Btuh
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	638	0.060	19.0	4.67	2984	0.94	603
	e	362	0.060	19.0	4.67	1691	0.95	342
	se	119	0.060	19.0	4.67	557	0.94	113
	s	270	0.060	19.0	4.67	1261	0.95	255
	w	487	0.060	19.0	4.67	2275	0.94	460
	all	1876	0.060	19.0	4.67	8768	0.94	1773
<b>Partitions</b>								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		207	0.091	13.0	7.09	1467	0.91	187
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	e	71	0.160	0	12.5	888	36.3	2588
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	e	75	0.160	0	12.5	938	36.3	2733
6.67 ft head ht	se	67	0.160	0	12.5	836	31.4	2107
	s	57	0.160	0	12.5	710	18.5	1055
	s	91	0.160	0	12.5	1134	18.5	1685
	w	109	0.160	0	12.5	1352	36.3	3941
	all	470	0.160	0	12.5	5859	30.0	14111
<b>Doors</b>								
Door, wd sc type	s	45	0.340	0	26.5	1192	8.45	380
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins		508	0.032	30.0	2.49	1266	1.55	786
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 6" thkns, r-49 ceil ins		107	0.022	49.0	1.71	184	0.45	48
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		2441	0.380	9.0	14.8	36135	0	0

Project Information

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

Design Conditions

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

Construction descriptions

Walls

Frm wall, spl't log ext, 3/8" wood shth, r-7 cav ins, 1/2" gypsum board  
 int fnsh, 2"x6" wood frm, 16" o.c. stud

Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
n	350	0.061	7.0	4.75	1663	1.37	479
e	333	0.061	7.0	4.75	1580	1.37	455
se	42	0.061	7.0	4.75	199	1.37	57
s	287	0.061	7.0	4.75	1366	1.37	394
w	298	0.061	7.0	4.75	1415	1.37	408
all	1310	0.061	7.0	4.75	6223	1.37	1794
n	182	0.060	19.0	4.67	851	0.94	172
e	148	0.060	19.0	4.67	693	0.94	140
s	126	0.060	19.0	4.67	588	0.94	119
w	123	0.060	19.0	4.67	575	0.94	116
all	579	0.060	19.0	4.67	2708	0.94	548

Partitions

12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c.  
 stud

n	456	0.091	13.0	7.09	3232	0.91	413
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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	63	0.160	0	12.5	789	10.1	642
n	10	0.160	0	12.5	125	10.1	101
e	171	0.160	0	12.5	2131	36.3	6211
e	100	0.160	0	12.5	1246	36.3	3632
e	58	0.160	0	12.5	717	36.3	2089
se	187	0.160	0	12.5	2335	31.4	5885
s	190	0.160	0	12.5	2372	18.5	3525
s	64	0.160	0	12.5	791	18.5	1176
w	44	0.160	0	12.5	548	36.3	1598
w	164	0.160	0	12.5	2044	36.3	5957
w	81	0.160	0	12.5	1010	36.3	2942
all	1132	0.160	0	12.5	14109	29.8	33759

Doors

Door, wd sc type

w	41	0.340	0	26.5	1097	8.45	350
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## Ceilings

Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 6" thkns, r-49 ceil ins	2191	0.022	49.0	1.71	3756	0.45	981
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## Floors

19C-19cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-2 ext ins, r-19 cav ins, tight crwl ovr, r-11 wall insul	64	0.049	30.0	1.32	85	0.37	23
	2	0.049	30.0	1.32	2	0.37	1
	all 66	0.049	30.0	1.32	87	0.37	24
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh	299	0.380	9.0	14.8	4418	0	0
	0	0.380	9.0	14.8	4	0	0
	all 299	0.380	9.0	14.8	4422	0	0



**Project Information**

For: Byrne  
8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>			<b>Indoor:</b>	<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US			Indoor temperature (°F)	72	73
Elevation: 4455 ft			Design TD (°F)	78	22
Latitude: 42°N			Relative humidity (%)	30	35
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	Moisture difference (gr/lb)	37.4	-2.9
Dry bulb (°F)	-6	95	<b>Infiltration:</b>		
Daily range (°F)	-	36 ( H )	Method	Simplified	
Wet bulb (°F)	-	62	Construction quality	Semi-tight	
Wind speed (mph)	15.0	7.5	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
<b>Walls</b> Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	30	0.060	19.0	0	0	0	0
<b>Partitions</b> (none)								
<b>Windows</b> 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	s	56	0.160	0	0	0	0	0
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b> Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		64	0.380	9.0	0	0	0	0



**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int	e	79	0.060	19.0	4.67	370	0.94	75
fnsh, 2"x6" wood frm, 16" o.c. stud	s	121	0.060	19.0	4.67	563	0.94	114
	w	61	0.060	19.0	4.67	286	0.94	58
	all	261	0.060	19.0	4.67	1220	0.94	247
<b>Partitions</b> (none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	e	63	0.160	0	12.5	779	36.3	2270
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	s	91	0.160	0	12.5	1134	18.5	1685
6.67 ft head ht	w	63	0.160	0	12.5	779	36.3	2270
	all	216	0.160	0	12.5	2692	28.8	6226
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		370	0.380	9.0	14.8	5478	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Drybulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int	s	22	0.060	19.0	4.67	103	0.94	21
fnsH, 2"x6" wood frm, 16" o.c. stud	w	74	0.060	19.0	4.67	347	0.95	70
	all	96	0.060	19.0	4.67	450	0.95	91
<b>Partitions</b> (none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	s	16	0.160	0	12.5	203	18.5	301
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 6.67 ft head ht								
<b>Doors</b> (none)								
<b>Ceilings</b>								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsH, 6" thkns, r-49 ceil ins		35	0.022	49.0	1.71	60	0.45	16
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsH		85	0.380	9.0	14.8	1259	0	0

Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

Design Conditions

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b> Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	w	64	0.060	19.0	4.67	300	0.94	61
<b>Partitions</b> (none)								
<b>Windows</b> 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	w	46	0.160	0	12.5	573	36.3	1671
<b>Doors</b> (none)								
<b>Ceilings</b> Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 6" thkns, r-49 ceil ins		52	0.022	49.0	1.71	89	0.45	23
<b>Floors</b> Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		252	0.380	9.0	14.8	3727	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>			<b>Indoor:</b>	<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US			Indoor temperature (°F)	72	73
Elevation: 4455 ft			Design TD (°F)	78	22
Latitude: 42°N			Relative humidity (%)	30	35
			Moisture difference (gr/lb)	37.4	-2.9
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Drybulb (°F)	-6	95	Method	Simplified	
Daily range (°F)	-	36 ( H )	Construction quality	Semi-tight	
Wet bulb (°F)	-	62	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

**Construction descriptions**

	Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
		ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b> (none)								
<b>Partitions</b> (none)								
<b>Windows</b> (none)								
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b> Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		55	0.380	9.0	14.8	814	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US		Indoor temperature (°F)		72	73
Elevation: 4455 ft		Design TD (°F)		78	22
Latitude: 42°N		Relative humidity (%)		30	35
		Moisture difference (gr/lb)		37.4	-2.9
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	-6	95	Method		
Daily range (°F)	-	36 ( H )	Construction quality		
Wet bulb (°F)	-	62	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Semi-tight		
			0		

**Construction descriptions**

	Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
		ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int	n	227	0.060	19.0	4.67	1062	0.94	215
fnsh, 2"x6" wood frm, 16" o.c. stud	e	49	0.060	19.0	4.67	227	0.94	46
	se	43	0.060	19.0	4.67	201	0.94	41
	s	11	0.060	19.0	4.67	53	0.95	11
	w	133	0.060	19.0	4.67	620	0.94	125
	all	463	0.060	19.0	4.67	2163	0.94	437
<b>Partitions</b>								
(none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	e	75	0.160	0	12.5	938	36.3	2733
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;								
6.67 ft head ht								
<b>Doors</b>								
(none)								
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil		116	0.032	30.0	2.49	289	1.55	179
ins								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board		20	0.022	49.0	1.71	34	0.45	9
int fnsh, 6" thkns, r-49 ceil ins								
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		488	0.380	9.0	14.8	7218	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b> Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	21	0.060	19.0	4.67	99	0.94	20
<b>Partitions</b> 12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		122	0.091	13.0	7.09	861	0.91	110
<b>Windows</b> 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	s	35	0.160	0	12.5	436	18.5	648
<b>Doors</b> Door, wd sc type	s	23	0.340	0	26.5	596	8.45	190
<b>Ceilings</b> 16B-30ad: Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins		57	0.032	30.0	2.49	143	1.55	89
<b>Floors</b> Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		187	0.380	9.0	14.8	2767	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) 72 Design TD (°F) 78 Relative humidity (%) 30 Moisture difference (gr/lb) 37.4	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b> Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	30	0.060	19.0	0	0	0	0
<b>Partitions</b> (none)								
<b>Windows</b> 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	s	56	0.160	0	0	0	0	0
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b> Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		64	0.380	9.0	0	0	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US		Indoor temperature (°F)		72	73
Elevation: 4455 ft		Design TD (°F)		78	22
Latitude: 42°N		Relative humidity (%)		30	35
<b>Outdoor:</b>		Moisture difference (gr/lb)		37.4	-2.9
<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>			
Dry bulb (°F)	-6	Method		Simplified	
Daily range (°F)	-	Construction quality		Semi-tight	
Wet bulb (°F)	-	Fireplaces		0	
Wind speed (mph)	15.0				
		95	36 ( H )		
		62	7.5		

**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
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	s	41	0.060	19.0	4.67	189	0.94	38
<b>Partitions</b>								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		61	0.091	13.0	7.09	431	0.91	55
<b>Windows</b> (none)								
<b>Doors</b>								
Door, wd sc type	s	23	0.340	0	26.5	596	8.45	190
<b>Ceilings</b> (none)								
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		42	0.380	9.0	14.8	624	0	0



**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>			<b>Indoor:</b>	<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US			Indoor temperature (°F)	72	73
Elevation: 4455 ft			Design TD (°F)	78	22
Latitude: 42°N			Relative humidity (%)	30	35
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	Moisture difference (gr/lb)	37.4	-2.9
Drybulb (°F)	-6	95	<b>Infiltration:</b>		
Daily range (°F)	-	36 ( H )	Method	Simplified	
Wet bulb (°F)	-	62	Construction quality	Semi-tight	
Wind speed (mph)	15.0	7.5	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
<b>Walls</b>								
(none)								
<b>Partitions</b>								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		25	0.091	13.0	7.09	175	0.91	22
<b>Windows</b>								
(none)								
<b>Doors</b>								
(none)								
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins		29	0.032	30.0	2.49	71	1.55	44
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		60	0.380	9.0	14.8	885	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US		Indoor temperature (°F)		72	73
Elevation: 4455 ft		Design TD (°F)		78	22
Latitude: 42°N		Relative humidity (%)		30	35
<b>Outdoor:</b>		Moisture difference (gr/lb)		37.4	-2.9
<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>			
Drybulb (°F)	-6	Method		Simplified	
Daily range (°F)	-	Construction quality		Semi-tight	
Wet bulb (°F)	-	Fireplaces		0	
Wind speed (mph)	15.0				

**Construction descriptions**

	Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
		ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int	n	189	0.060	19.0	4.67	883	0.94	179
fnsh, 2"x6" wood frm, 16" o.c. stud	w	122	0.060	19.0	4.67	568	0.94	115
	all	311	0.060	19.0	4.67	1451	0.94	293
<b>Partitions</b>								
(none)								
<b>Windows</b>								
(none)								
<b>Doors</b>								
(none)								
<b>Ceilings</b>								
16B-30ad: Attic ceiling, asphalt shingles roof mat, r-31 roof ins, r-30 ceil ins		306	0.032	30.0	2.49	763	1.55	474
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		306	0.380	9.0	14.8	4532	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int	n	190	0.060	19.0	4.67	888	0.95	179
fنش, 2"x6" wood frm, 16" o.c. stud	e	100	0.060	19.0	4.67	467	0.94	94
	w	33	0.060	19.0	4.67	153	0.94	31
	all	323	0.060	19.0	4.67	1507	0.95	305
<b>Partitions</b> (none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	e	9	0.160	0	12.5	109	36.3	318
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 6.67 ft head ht								
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnش		267	0.380	9.0	14.8	3948	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int	n	32	0.060	19.0	4.67	151	0.94	30
fnnsh, 2"x6" wood frm, 16" o.c. stud	e	53	0.060	19.0	4.67	248	0.95	50
	s	22	0.060	19.0	4.67	103	0.94	21
	all	107	0.060	19.0	4.67	501	0.95	101
<b>Partitions</b> (none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	s	6	0.160	0	12.5	72	18.5	106
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 6.67 ft head ht								
<b>Doors</b> (none)								
<b>Ceilings</b> (none)								
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		122	0.380	9.0	14.8	1810	0	0

## Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

## Design Conditions

<b>Location:</b>			<b>Indoor:</b>	<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US			Indoor temperature (°F)	72	73
Elevation: 4455 ft			Design TD (°F)	78	22
Latitude: 42°N			Relative humidity (%)	30	35
			Moisture difference (gr/lb)	37.4	-2.9
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	-6	95	Method	Simplified	
Daily range (°F)	-	36 ( H )	Construction quality	Semi-tight	
Wet bulb (°F)	-	62	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

## Construction descriptions

	Or	Area ft <sup>2</sup>	U-value Btuh/ft <sup>2</sup> -°F	Insul R ft <sup>2</sup> -°F/Btuh	Htg HTM Btuh/ft <sup>2</sup>	Loss Btuh	Clg HTM Btuh/ft <sup>2</sup>	Gain Btuh
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int	e	81	0.060	19.0	4.67	380	0.94	77
fnsH, 2"x6" wood frm, 16" o.c. stud	se	76	0.060	19.0	4.67	356	0.94	72
	s	32	0.060	19.0	4.67	151	0.94	30
	all	190	0.060	19.0	4.67	887	0.95	179
<b>Partitions</b> (none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	se	67	0.160	0	12.5	836	31.4	2107
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 6.67 ft head ht								
<b>Doors</b> (none)								
<b>Ceilings</b>								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsH, 6" thkns, r-49 ceil ins		0	0.022	49.0	1.71	0	0.45	0
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsH		208	0.380	9.0	14.8	3072	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 0	

**Construction descriptions**

**Walls**

Frm wall, spl't log ext, 3/8" wood shth, r-7 cav ins, 1/2" gypsum board  
 int fnsh, 2"x6" wood frm, 16" o.c. stud

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
n		157	0.061	7.0	4.75	746	1.37	215
e		98	0.061	7.0	4.75	467	1.37	135
s		30	0.061	7.0	4.75	140	1.37	40
w		204	0.061	7.0	4.75	968	1.37	279
all		489	0.061	7.0	4.75	2321	1.37	669

**Partitions**

(none)

**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		32	0.160	0	12.5	399	10.1	325
e		128	0.160	0	12.5	1595	36.3	4649
e		100	0.160	0	12.5	1246	36.3	3632
s		182	0.160	0	12.5	2268	18.5	3370
w		44	0.160	0	12.5	548	36.3	1598
w		164	0.160	0	12.5	2044	36.3	5957
all		650	0.160	0	12.5	8102	30.0	19532

**Doors**

(none)

**Ceilings**

Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board  
 int fnsh, 6" thkns, r-49 ceil ins

		1051	0.022	49.0	1.71	1802	0.45	471
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**Floors**

Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh

		159	0.380	9.0	14.8	2348	0	0
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**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>			<b>Indoor:</b>	<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US			Indoor temperature (°F)	72	73
Elevation: 4455 ft			Design TD (°F)	78	22
Latitude: 42°N			Relative humidity (%)	30	35
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	Moisture difference (gr/lb)	37.4	-2.9
Dry bulb (°F)	-6	95	<b>Infiltration:</b>		
Daily range (°F)	-	36 ( H )	Method	Simplified	
Wet bulb (°F)	-	62	Construction quality	Semi-tight	
Wind speed (mph)	15.0	7.5	Fireplaces	0	

**Construction descriptions**

	Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
		ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b>								
Frm wall, spl't log ext, 3/8" wood shth, r-7 cav ins, 1/2" gypsum board	s	239	0.061	7.0	4.75	1133	1.37	327
int fnsh, 2"x6" wood frm, 16" o.c. stud	w	20	0.061	7.0	4.75	93	1.37	27
	all	258	0.061	7.0	4.75	1226	1.37	353
<b>Partitions</b>								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		158	0.091	13.0	7.09	1117	0.91	143
<b>Windows</b>								
(none)								
<b>Doors</b>								
Door, wd sc type	w	21	0.340	0	26.5	556	8.45	177
<b>Ceilings</b>								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board		275	0.022	49.0	1.71	470	0.45	123
int fnsh, 6" thkns, r-49 ceil ins								
<b>Floors</b>								
19C-19cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-2 ext ins, r-19 cav ins, tight crwl ovr, r-11 wall insul		53	0.049	30.0	1.32	71	0.37	20

Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

Design Conditions

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US		Indoor temperature (°F)		72	73
Elevation: 4455 ft		Design TD (°F)		78	22
Latitude: 42°N		Relative humidity (%)		30	35
		Moisture difference (gr/lb)		37.4	-2.9
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Drybulb (°F)	-6	95	Method		
Daily range (°F)	-	36 ( H )	Construction quality		
Wet bulb (°F)	-	62	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Semi-tight		
			0		

Construction descriptions

	Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
		ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b>								
(none)								
<b>Partitions</b>								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		92	0.091	13.0	7.09	654	0.91	84
<b>Windows</b>								
(none)								
<b>Doors</b>								
(none)								
<b>Ceilings</b>								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 6" thkns, r-49 ceil ins		44	0.022	49.0	1.71	76	0.45	20
<b>Floors</b>								
19C-19cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-2 ext ins, r-19 cav ins, tight crwl ovr, r-11 wall insul		11	0.049	30.0	1.32	14	0.37	4



Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

Design Conditions

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b>								
Frm wall, splt log ext, 3/8" wood shth, r-7 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	161	0.061	7.0	4.75	764	1.37	220
	e	81	0.061	7.0	4.75	385	1.37	111
	w	12	0.061	7.0	4.75	59	1.37	17
	all	254	0.061	7.0	4.75	1208	1.37	348
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	99	0.060	19.0	4.67	464	0.94	94
	e	83	0.060	19.0	4.67	388	0.94	78
	all	182	0.060	19.0	4.67	852	0.94	172
<b>Partitions</b>								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm, 16" o.c. stud		206	0.091	13.0	7.09	1461	0.91	187
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	n	31	0.160	0	12.5	391	10.1	318
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	e	27	0.160	0	12.5	337	36.3	981
6.67 ft head ht	all	58	0.160	0	12.5	727	22.3	1298
<b>Doors</b>								
Door, wd sc type	w	20	0.340	0	26.5	541	8.45	173
<b>Ceilings</b>								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 6" thkns, r-49 ceil ins		129	0.022	49.0	1.71	221	0.45	58
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		2	0.380	9.0	14.8	35	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US		Indoor temperature (°F)		72	73
Elevation: 4455 ft		Design TD (°F)		78	22
Latitude: 42°N		Relative humidity (%)		30	35
<b>Outdoor:</b>		Moisture difference (gr/lb)		37.4	-2.9
	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Drybulb (°F)	-6	95	Method	Simplified	
Daily range (°F)	-	36 ( H )	Construction quality	Semi-tight	
Wet bulb (°F)	-	62	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

**Construction descriptions**

**Walls**

Frm wall, spl't log ext, 3/8" wood shth, r-7 cav ins, 1/2" gypsum board  
 int fnsh, 2"x6" wood frm, 16" o.c. stud

Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
n	32	0.061	7.0	4.75	153	1.37	44
e	99	0.061	7.0	4.75	472	1.37	136
s	19	0.061	7.0	4.75	93	1.37	27
all	151	0.061	7.0	4.75	718	1.37	207

**Partitions**

(none)

**Windows**

2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk: s  
 2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;  
 6.67 ft head ht

s	8	0.160	0	12.5	104	18.5	154
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**Doors**

(none)

**Ceilings**

Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board  
 int fnsh, 6" thkns, r-49 ceil ins

	37	0.022	49.0	1.71	63	0.45	16
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**Floors**

(none)

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US		Indoor temperature (°F)		72	73
Elevation: 4455 ft		Design TD (°F)		78	22
Latitude: 42°N		Relative humidity (%)		30	35
		Moisture difference (gr/lb)		37.4	-2.9
<b>Outdoor:</b>	<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>		
Dry bulb (°F)	-6	95	Method		
Daily range (°F)	-	36 ( H )	Construction quality		
Wet bulb (°F)	-	62	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Semi-tight		
			0		

**Construction descriptions**

	Or	Area	U-value	Insul R	Htg HTM	Loss	Clg HTM	Gain
		ft²	Btuh/ft²-°F	ft²-°F/Btuh	Btuh/ft²	Btuh	Btuh/ft²	Btuh
<b>Walls</b>								
Frm wall, spl't log ext, 3/8" wood shth, r-7 cav ins, 1/2" gypsum board	e	54	0.061	7.0	4.75	256	1.37	74
int fnsh, 2"x6" wood frm, 16" o.c. stud	se	42	0.061	7.0	4.75	199	1.37	57
	w	62	0.061	7.0	4.75	296	1.37	85
	all	158	0.061	7.0	4.75	750	1.37	216
<b>Partitions</b>								
(none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	e	16	0.160	0	12.5	199	36.3	581
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	se	187	0.160	0	12.5	2335	31.4	5885
6.67 ft head ht	all	203	0.160	0	12.5	2534	31.8	6466
<b>Doors</b>								
(none)								
<b>Ceilings</b>								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board		277	0.022	49.0	1.71	474	0.45	124
int fnsh, 6" thkns, r-49 ceil ins								
<b>Floors</b>								
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		138	0.380	9.0	14.8	2036	0	0

Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

Design Conditions

<b>Location:</b> Logan Cache, UT, US Elevation: 4455 ft Latitude: 42°N			<b>Indoor:</b> Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	<b>Heating</b> 72 78 30 37.4	<b>Cooling</b> 73 22 35 -2.9
<b>Outdoor:</b> Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	<b>Heating</b> -6 - - 15.0	<b>Cooling</b> 95 36 ( H ) 62 7.5	<b>Infiltration:</b> Method Construction quality Fireplaces	Simplified Semi-tight 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
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	83	0.060	19.0	4.67	387	0.94	78
	e	18	0.060	19.0	4.67	84	0.94	17
	s	41	0.060	19.0	4.67	190	0.94	38
	w	123	0.060	19.0	4.67	575	0.94	116
	all	265	0.060	19.0	4.67	1237	0.94	250
<b>Partitions</b> (none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	n	10	0.160	0	12.5	125	10.1	101
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;	e	14	0.160	0	12.5	177	36.3	515
6.67 ft head ht	s	64	0.160	0	12.5	791	18.5	1176
	w	81	0.160	0	12.5	1010	36.3	2942
	all	169	0.160	0	12.5	2102	28.1	4734
<b>Doors</b> (none)								
<b>Ceilings</b>								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board int fnsh, 6" thkns, r-49 ceil ins		286	0.022	49.0	1.71	490	0.45	128
<b>Floors</b>								
19C-19cscp: Flr floor, frm flr, 6" thkns, carpet flr fnsh, r-2 ext ins, r-19 cav ins, tight cowl ovr, r-11 wall insul		2	0.049	30.0	1.32	2	0.37	1
Bg floor, light dry soil, on grade depth, r-9 edge ins, carpet flr fnsh		0	0.380	9.0	14.8	4	0	0

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

**Design Conditions**

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Logan Cache, UT, US		Indoor temperature (°F)		72	73
Elevation: 4455 ft		Design TD (°F)		78	22
Latitude: 42°N		Relative humidity (%)		30	35
<b>Outdoor:</b>		Moisture difference (gr/lb)		37.4	-2.9
<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>			
Drybulb (°F)	-6	Method		Simplified	
Daily range (°F)	-	Construction quality		Semi-tight	
Wet bulb (°F)	-	Fireplaces		0	
Wind speed (mph)	15.0				

**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
<b>Walls</b>								
Frm wall, wd ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int	e	47	0.060	19.0	4.67	221	0.94	45
fnsH, 2"x6" wood frm, 16" o.c. stud	s	85	0.060	19.0	4.67	398	0.94	80
	all	132	0.060	19.0	4.67	619	0.94	125
<b>Partitions</b>								
(none)								
<b>Windows</b>								
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk:	e	43	0.160	0	12.5	540	36.3	1574
2 glazing, clr low-e outr, air gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk;								
6.67 ft head ht								
<b>Doors</b>								
(none)								
<b>Ceilings</b>								
Rf/clg ceiling, asphalt shingles roof mat, frm cons, 1/2" gypsum board		93	0.022	49.0	1.71	159	0.45	42
int fnsH, 6" thkns, r-49 ceil ins								
<b>Floors</b>								
(none)								

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

Notes:

**Design Information**

Weather: Logan Cache, UT, US

**Winter Design Conditions**

Outside db -6 °F  
 Inside db 72 °F  
 Design TD 78 °F

**Summer Design Conditions**

Outside db 95 °F  
 Inside db 73 °F  
 Design TD 22 °F  
 Daily range H  
 Relative humidity 35 %  
 Moisture difference -3 gr/lb

**Heating Summary**

Structure 101103 Btuh  
 Ducts 0 Btuh  
 Central vent (0 cfm) 0 Btuh  
 Humidification 0 Btuh  
 Piping 0 Btuh  
 Equipment load 101103 Btuh

**Sensible Cooling Equipment Load Sizing**

Structure 63632 Btuh  
 Ducts 0 Btuh  
 Central vent (0 cfm) 0 Btuh  
 Blower 0 Btuh  
 Use manufacturer's data n  
 Rate/swing multiplier 1.00  
 Equipment sensible load 63314 Btuh

**Infiltration**

Method Simplified  
 Construction quality Semi-tight  
 Fireplaces 0

**Latent Cooling Equipment Load Sizing**

Structure 1471 Btuh  
 Ducts 0 Btuh  
 Central vent (0 cfm) 0 Btuh  
 Equipment latent load 1471 Btuh  
**Equipment Total Load (Sen+Lat)** 64785 Btuh  
 Req. total capacity at 0.70 SHR 7.5 ton

	Heating	Cooling
Area (ft <sup>2</sup> )	5009	5009
Volume (ft <sup>3</sup> )	45988	45988
Air changes/hour	0.19	0.10
Equiv. AVF (cfm)	146	77

**Heating Equipment Summary**

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

**Cooling Equipment Summary**

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

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

**Project Information**

For: Byrne  
8483 E Spring Park, Eden, UT 84310

Notes:

**Design Information**

Weather: Logan Cache, UT, US

**Winter Design Conditions**

Outside db -6 °F  
Inside db 72 °F  
Design TD 78 °F

**Summer Design Conditions**

Outside db 95 °F  
Inside db 73 °F  
Design TD 22 °F  
Daily range H  
Relative humidity 35 %  
Moisture difference -3 gr/lb

**Heating Summary**

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

**Sensible Cooling Equipment Load Sizing**

Structure 0 Btuh  
Ducts 0 Btuh  
Central vent (0 cfm) 0 Btuh  
  
Blower 0 Btuh  
  
Use manufacturer's data n  
Rate/swing multiplier 1.00  
Equipment sensible load 0 Btuh

**Infiltration**

Method Simplified  
Construction quality Semi-tight  
Fireplaces 0

**Latent Cooling Equipment Load Sizing**

Structure 0 Btuh  
Ducts 0 Btuh  
Central vent (0 cfm) 0 Btuh  
  
Equipment latent load 0 Btuh  
  
**Equipment Total Load (Sen+Lat)** 0 Btuh  
Req. total capacity at 0.70 SHR 0 ton

	Heating	Cooling
Area (ft <sup>2</sup> )	0	0
Volume (ft <sup>3</sup> )	0	0
Air changes/hour	0	0
Equiv. AVF (cfm)	0	0

**Heating Equipment Summary**

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

**Cooling Equipment Summary**

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

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

## Project Information

 For: Byrne  
 8483 E Spring Park, Eden, UT 84310

Notes:

## Design Information

Weather: Logan Cache, UT, US

### Winter Design Conditions

Outside db	-6 °F
Inside db	72 °F
Design TD	78 °F

### Summer Design Conditions

Outside db	95 °F
Inside db	73 °F
Design TD	22 °F
Daily range	H
Relative humidity	35 %
Moisture difference	-3 gr/lb

### Heating Summary

Structure	59518 Btuh
Ducts	0 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	59518 Btuh

### Sensible Cooling Equipment Load Sizing

Structure	21380 Btuh
Ducts	0 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	5120 Btuh
Use manufacturer's data	n
Rate/swing multiplier	1.00
Equipment sensible load	26367 Btuh

### Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

### Latent Cooling Equipment Load Sizing

Structure	743 Btuh
Ducts	0 Btuh
Central vent (0 cfm) (none)	0 Btuh
Equipment latent load	743 Btuh

	Heating	Cooling
Area (ft <sup>2</sup> )	2441	2441
Volume (ft <sup>3</sup> )	21973	21973
Air changes/hour	0.17	0.09
Equiv. AVF (cfm)	64	34

<b>Equipment Total Load (Sen+Lat)</b>	27110 Btuh
Req. total capacity at 0.70 SHR	3.1 ton

### Heating Equipment Summary

Make	Day & Night
Trade	DAY & NIGHT
Model	N9MSE0802120A
AHRI ref	
Efficiency	95.5 AFUE
Heating input	80000 Btuh
Heating output	78000 Btuh
Temperature rise	56 °F
Actual air flow	1500 cfm
Air flow factor	0.025 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	

### Cooling Equipment Summary

Make	Day & Night
Trade	CONSTANT COMFORT SX 2600 R410A...
Cond	NXA648GKA10
Coil	END4X48L21A1++TDR
AHRI ref	9279669
Efficiency	12.0 EER, 14 SEER
Sensible cooling	31500 Btuh
Latent cooling	13500 Btuh
Total cooling	45000 Btuh
Actual air flow	1500 cfm
Air flow factor	0.070 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.97

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



**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

Notes:

**Design Information**

Weather: Logan Cache, UT, US

**Winter Design Conditions**

Outside db -6 °F  
 Inside db 72 °F  
 Design TD 78 °F

**Summer Design Conditions**

Outside db 95 °F  
 Inside db 73 °F  
 Design TD 22 °F  
 Daily range H  
 Relative humidity 35 %  
 Moisture difference -3 gr/lb

**Heating Summary**

Structure 41586 Btuh  
 Ducts 0 Btuh  
 Central vent (0 cfm)  
 (none) 0 Btuh  
 Humidification 0 Btuh  
 Piping 0 Btuh  
 Equipment load 41586 Btuh

**Sensible Cooling Equipment Load Sizing**

Structure 42253 Btuh  
 Ducts 0 Btuh  
 Central vent (0 cfm)  
 (none) 0 Btuh  
 Blower 0 Btuh  
 Use manufacturer's data n  
 Rate/swing multiplier 1.00  
 Equipment sensible load 42041 Btuh

**Infiltration**

Method Simplified  
 Construction quality Semi-tight  
 Fireplaces 0

**Latent Cooling Equipment Load Sizing**

Structure 728 Btuh  
 Ducts 0 Btuh  
 Central vent (0 cfm)  
 (none) 0 Btuh  
 Equipment latent load 728 Btuh

	Heating	Cooling
Area (ft <sup>2</sup> )	2567	2567
Volume (ft <sup>3</sup> )	24015	24015
Air changes/hour	0.20	0.11
Equiv. AVF (cfm)	82	43

**Equipment Total Load (Sen+Lat)** 42769 Btuh  
 Req. total capacity at 0.85 SHR 4.1 ton

**Heating Equipment Summary**

Make  
 Trade  
 Model  
 AHRI ref

Efficiency 80 AFUE  
 Heating input 0 Btuh  
 Heating output 0 Btuh  
 Temperature rise 0 °F  
 Actual air flow 1700 cfm  
 Air flow factor 0.041 cfm/Btuh  
 Static pressure 0.60 in H2O  
 Space thermostat

**Cooling Equipment Summary**

Make Day & Night  
 Trade CONSTANT COMFORT SX 2600 R410A...  
 Cond NXA660GKA10  
 Coil END4X60L24A1++TDR  
 AHRI ref 9283881  
 Efficiency 12.0 EER, 14.5 SEER  
 Sensible cooling 43350 Btuh  
 Latent cooling 7650 Btuh  
 Total cooling 51000 Btuh  
 Actual air flow 1700 cfm  
 Air flow factor 0.040 cfm/Btuh  
 Static pressure 0.60 in H2O  
 Load sensible heat ratio 0.98

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

Right-J® Worksheet  
Entire House  
Outfitters HVAC

Job:  
Date: Nov 2019  
By:

1		Room name		Entire House					MAIN					
2		Exposed wall		594.8 ft					319.8 ft					
3		Room height		9.2 ft					9.4 ft					
4		Room dimensions		d					d					
5		Room area		5073.0 ft²					2567.4 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	Frm wall, spl't log e	0.061	n	4.75	1.37	413	350	1663	479	413	350	1663	479
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	63	0	789	642	63	0	789	642
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	830	820	3835	775	192	182	851	172
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	10	0	125	101	10	0	125	101
11	W	Frm wall, spl't log e	0.061	e	4.75	1.37	604	333	1580	455	604	333	1580	455
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	171	0	2131	6211	171	0	2131	6211
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	100	0	1246	3632	100	0	1246	3632
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	714	510	2384	482	206	148	693	140
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	129	0	1605	4677	58	0	717	2089
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	75	0	938	2733	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	4.75	1.37	229	42	199	57	229	42	199	57
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	187	0	2335	5885	187	0	2335	5885
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	186	119	557	113	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	67	0	836	2107	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	4.75	1.37	478	287	1366	394	478	287	1366	394
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	190	0	2372	3525	190	0	2372	3525
	W	Frm wall, wd ext, 3/	0.060	s	4.35	0.88	738	425	1850	374	189	126	588	119
	G	2 glazing, clr low-e	0.160	s	8.51	12.64	177	0	1502	2231	64	0	791	1176
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	91	0	1134	1685	0	0	0	0
	D	Door, wd sc type	0.340	s	26.49	8.45	45	45	1192	380	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	4.75	1.37	547	298	1415	408	547	298	1415	408
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	44	0	548	1598	44	0	548	1598
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	164	0	2044	5957	164	0	2044	5957
	D	Door, wd sc type	0.340	w	26.49	8.45	41	41	1097	350	41	41	1097	350
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	799	610	2850	576	204	123	575	116
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	190	0	2362	6883	81	0	1010	2942
	P	12C-0sw	0.091	-	7.09	0.91	663	663	4700	600	456	456	3232	413
	C	16B-30ad	0.032	-	2.49	1.55	508	508	1266	786	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	2299	2299	3939	1029	2191	2191	3756	981
	F	19C-19cscp	0.049	-	1.32	0.37	64	64	85	23	64	64	85	23
	F	19C-19cscp	0.049	-	1.32	0.37	2	2	2	1	2	2	2	1
	F	Bq floor, light dry	0.380	-	14.42	0.00	2506	2506	36135	0	0	0	0	0
	F	Bg floor, light dry	0.380	-	14.80	0.00	299	299	4418	0	299	299	4418	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	0	0	4	0	0	0	4	0
6	c) AED excursion									0				0
	Envelope loss/gain								90507	55153			35635	37868
12	a) Infiltration								10597	1539			5951	864
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			8			1840	4			920
			Appliances/other							5100				2600
	Subtotal (lines 6 to 13)								101103	63632			41586	42253
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								101103	63632			41586	42253
15	Duct loads								0	0			0	0
	Total room load								101103	63632			41586	42253
	Air required (cfm)								3200	3200			1700	1700

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

Right-J® Worksheet  
Entire House  
Outfitters HVAC

Job:  
Date: Nov 2019  
By:

1		Room name		LOWER				(Unconditioned)						
2		Exposed wall		265.5 ft				9.5 ft						
3		Room height		9.0 ft				9.0 ft						
4		Room dimensions		d				p						
5		Room area		2441.4 ft <sup>2</sup>				64.1 ft <sup>2</sup>						
	Ty	Construction number	U-value (Btuh/ft <sup>2</sup> -°F)	Or	HTM (Btuh/ft <sup>2</sup> )		Area (ft <sup>2</sup> ) or perimeter (ft)		Load (Btuh)		Area (ft <sup>2</sup> ) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	Frm wall, spl't log e	0.061	n	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	638	638	2984	603	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	0	0	0	0	0	0	0	0
11	W	Frm wall, spl't log e	0.061	e	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	508	362	1691	342	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	71	0	888	2588	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	75	0	938	2733	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	186	119	557	113	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	67	0	836	2107	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	s	4.35	0.88	463	270	1261	255	86	30	0	0
	G	2 glazing, clr low-e	0.160	s	8.51	12.64	57	0	710	1055	56	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	91	0	1134	1685	0	0	0	0
	D	Door, wd sc type	0.340	s	26.49	8.45	45	45	1192	380	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	w	26.49	8.45	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	595	487	2275	460	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	109	0	1352	3941	0	0	0	0
	P	12C-0sw	0.091	-	7.09	0.91	207	207	1467	187	0	0	0	0
	C	16B-30ad	0.032	-	2.49	1.55	508	508	1266	786	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	107	107	184	48	0	0	0	0
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.42	0.00	2441	2441	36135	0	64	64	0	0
	F	Bg floor, light dry	0.380	-	14.80	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									0				0
	Envelope loss/gain								54872	17285			0	0
12	a) Infiltration								4646	675			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230		4				920	0			0
			Appliances/other							2500				0
	Subtotal (lines 6 to 13)								59518	21380			0	0
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								59518	21380			0	0
15	Duct loads								0%	0%			0	0
	Total room load								59518	21380			0	0
	Air required (cfm)								1500	1500			0	0

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



**Right-J® Worksheet**  
(Unconditioned)  
**Outfitters HVAC**

**Job:**  
**Date:** Nov 2019  
**By:**

1 Room name				(Unconditioned)				SAUNA						
2 Exposed wall				9.5 ft				9.5 ft						
3 Room height				9.0 ft				9.0 ft						
4 Room dimensions				p				9.5 x 6.8 ft						
5 Room area				64.1 ft²				64.1 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	Frm wall, spl't log e	0.061	n	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W	Frm wall, spl't log e	0.061	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	s	0.00	0.00	86	30	0	0	86	30	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	56	0	0	0	56	0	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	w	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	16B-30ad	0.032	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	64	64	0	0	64	64	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									0				0
	Envelope loss/gain									0	0			0
12	a) Infiltration									0	0			0
	b) Room ventilation									0	0			0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)									0	0			0
	Less external load									0	0			0
	Less transfer									0	0			0
	Redistribution									0	0			0
14	Subtotal									0	0			0
15	Duct loads						0%	0%		0	0		0%	0%
	Total room load									0	0			0
	Air required (cfm)									0	0			0

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



1		Room name		LOWER						FAMILY					
2		Exposed wall		265.5 ft						53.0 ft					
3		Room height		9.0 ft						9.0 ft					
4		Room dimensions		d						23.5 x 15.8 ft					
5		Room area		2441.4 ft²						370.1 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	Frm wall, spl't log e	0.061	n	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	638	638	2984	603	0	0	0	0	
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0	
11	W	Frm wall, spl't log e	0.061	e	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	508	362	1691	342	142	79	370	75	
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	71	0	888	2588	63	0	779	2270	
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	75	0	938	2733	0	0	0	0	
	W	Frm wall, spl't log e	0.061	se	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	186	119	557	113	0	0	0	0	
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	67	0	836	2107	0	0	0	0	
	W	Frm wall, spl't log e	0.061	s	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	463	270	1261	255	212	121	563	114	
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	57	0	710	1055	0	0	0	0	
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	91	0	1134	1685	91	0	1134	1685	
	D	Door, wd sc type	0.340	s	26.49	8.45	45	45	1192	380	0	0	0	0	
	W	Frm wall, spl't log e	0.061	w	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0	
	D	Door, wd sc type	0.340	w	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	595	487	2275	460	124	61	286	58	
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	109	0	1352	3941	63	0	779	2270	
	P	12C-0sw	0.091	-	7.09	0.91	207	207	1467	187	0	0	0	0	
	C	16B-30ad	0.032	-	2.49	1.55	508	508	1266	786	0	0	0	0	
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	107	107	184	48	0	0	0	0	
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	Bq floor, light dry	0.380	-	14.80	0.00	2441	2441	36135	0	370	370	5478	0	
	F	Bg floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion													-770	
	Envelope loss/gain								54872	17285			9390	5702	
12	a) Infiltration								4646	675			927	135	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @	230		4				920	4			920	
			Appliances/other							2500				900	
	Subtotal (lines 6 to 13)								59518	21380			10317	7657	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
14	Subtotal								59518	21380			10317	7657	
15	Duct loads								0%	0%			0	0	
	Total room load								59518	21380			10317	7657	
	Air required (cfm)								1500	1500			260	537	

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



1 Room name		BATH 12.5 ft 9.0 ft 1.0 x 85.1 ft heat/cool 85.1 ft²						BED3 12.3 ft 9.0 ft 1.0 x 251.8 ft heat/cool 251.8 ft²						
6	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	Frm wall, spl't log e	0.061	n	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W	Frm wall, spl't log e	0.061	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	38	22	103	21	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	16	0	203	301	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	s	26.49	8.45	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	w	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	74	74	347	70	110	64	300	61
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	46	0	573	1671
	P	12C-0sw	0.091	-	7.09	0.91	0	0	0	0	0	0	0	0
	C	16B-30ad	0.032	-	2.49	1.55	0	0	0	0	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	35	35	60	16	52	52	89	23
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	85	85	1259	0	252	252	3727	0
	F	Bg floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									40				649
	Envelope loss/gain								1972	447			4690	2404
12	a) Infiltration								219	32			214	31
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230		0			0	0			0	0
			Appliances/other						0				200	
	Subtotal (lines 6 to 13)								2190	479			4904	2635
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			263	147
14	Subtotal								2190	479			5167	2782
15	Duct loads								0	0			0	0
	Total room load								2190	479			5167	2782
	Air required (cfm)								55	34			130	195

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



Right-J® Worksheet  
 LOWER  
 Outfitters HVAC

Job:  
 Date: Nov 2019  
 By:

1 Room name		LAUND							HALL						
2 Exposed wall		0 ft							59.8 ft						
3 Room height		9.0 ft							9.0 ft						
4 Room dimensions		5.5 x 10.0 ft							1.0 x 487.7 ft						
5 Room area		55.0 ft²							487.7 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	Frm wall, spl't log e	0.061	n	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	0	0	0	0	227	227	1062	215	
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0	
11	W	Frm wall, spl't log e	0.061	e	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	0	0	0	0	124	49	227	46	
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	75	0	938	2733	
	W	Frm wall, spl't log e	0.061	se	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	0	0	0	0	43	43	201	41	
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0	0	0	0	0	
	W	Frm wall, spl't log e	0.061	s	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	0	0	0	0	11	11	53	11	
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0	
	D	Door, wd sc type	0.340	s	26.49	8.45	0	0	0	0	0	0	0	0	
	W	Frm wall, spl't log e	0.061	w	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0	
	D	Door, wd sc type	0.340	w	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	0	0	0	0	133	133	620	125	
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0	
	P	12C-0sw	0.091	-	7.09	0.91	0	0	0	0	0	0	0	0	
	C	16B-30ad	0.032	-	2.49	1.55	0	0	0	0	116	116	289	179	
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	0	0	0	0	20	20	34	9	
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	Bq floor, light dry	0.380	-	14.80	0.00	55	55	814	0	488	488	7218	0	
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion													153	
	Envelope loss/gain								814	-46			10642	3511	
12	a) Infiltration								0	0			1045	152	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @		230		0				0			0	
			Appliances/other								500			0	
	Subtotal (lines 6 to 13)								814	454			11687	3663	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								-814	-454			1137	339	
14	Subtotal								0	0			12824	4002	
15	Duct loads								-0%	0%			0	0	
	Total room load								0	0			12824	4002	
	Air required (cfm)								0	0			323	281	

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



Right-J® Worksheet  
 LOWER  
 Outfitters HVAC

Job:  
 Date: Nov 2019  
 By:

1 Room name				SKI IN				DRESS						
2 Exposed wall				8.8 ft				7.0 ft						
3 Room height				9.0 ft				9.0 ft						
4 Room dimensions				1.0 x 186.9 ft				1.0 x 42.2 ft						
5 Room area				186.9 ft²				42.2 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	Frm wall, spl't log e	0.061	n	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W	Frm wall, spl't log e	0.061	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	79	21	99	20	63	41	189	38
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	35	0	436	648	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	s	26.49	8.45	23	23	596	190	23	23	596	190
	W	Frm wall, spl't log e	0.061	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	w	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	7.09	0.91	122	122	861	110	61	61	431	55
	C	16B-30ad	0.032	-	2.49	1.55	57	57	143	89	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	187	187	2767	0	42	42	624	0
	F	Bg floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									73				-28
	Envelope loss/gain								4903	1130			1840	256
12	a) Infiltration								153	22			122	18
	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)								5056	1153			1963	274
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								328	18			219	12
14	Subtotal								5383	1170			2181	285
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								5383	1170			2181	285
	Air required (cfm)								136	82			55	20

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





1 Room name				MECH				THEATRE						
2 Exposed wall				0 ft				34.5 ft						
3 Room height				9.0 ft				9.0 ft						
4 Room dimensions				1.0 x 59.8 ft				1.0 x 306.2 ft						
5 Room area				59.8 ft²				306.2 ft²						
6	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	Frm wall, spl't log e	0.061	n	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	0	0	0	0	189	189	883	179
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W	Frm wall, spl't log e	0.061	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	s	26.49	8.45	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	w	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	0	0	0	0	122	122	568	115
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	7.09	0.91	25	25	175	22	0	0	0	0
	C	16B-30ad	0.032	-	2.49	1.55	29	29	71	44	306	306	763	474
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	60	60	885	0	306	306	4532	0
	F	Bg floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													-124
	Envelope loss/gain								1132	61			6746	643
12	a) Infiltration								0	0			603	88
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0		0	0			0	0
			Appliances/other						0				500	
	Subtotal (lines 6 to 13)								1132	61			7350	1231
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-1132	-61			0	0
14	Subtotal								0	0			7350	1231
15	Duct loads								-0%	0%			0	0
	Total room load								0	0			7350	1231
	Air required (cfm)								0	0			185	86

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



**Right-J® Worksheet**  
**LOWER**  
**Outfitters HVAC**

**Job:**  
**Date:** Nov 2019  
**By:**

1		Room name		BUNK						BATH2					
2		Exposed wall		36.8 ft						12.5 ft					
3		Room height		9.0 ft						9.0 ft					
4		Room dimensions		1.0 x 266.8 ft						1.0 x 122.3 ft					
5		Room area		266.8 ft²						122.3 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	Frm wall, spl't log e	0.061	n	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	190	190	888	179	32	32	151	30	
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0	0	0	0	0	
11	W	Frm wall, spl't log e	0.061	e	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	109	100	467	94	53	53	248	50	
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	9	0	109	318	0	0	0	0	
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0	
	W	Frm wall, spl't log e	0.061	se	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0	0	0	0	0	
	W	Frm wall, spl't log e	0.061	s	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	0	0	0	0	28	22	103	21	
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	6	0	72	106	
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0	
	D	Door, wd sc type	0.340	s	26.49	8.45	0	0	0	0	0	0	0	0	
	W	Frm wall, spl't log e	0.061	w	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0	
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0	0	0	0	0	
	D	Door, wd sc type	0.340	w	0.00	0.00	0	0	0	0	0	0	0	0	
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	33	33	153	31	0	0	0	0	
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0	
	P	12C-0sw	0.091	-	7.09	0.91	0	0	0	0	0	0	0	0	
	C	16B-30ad	0.032	-	2.49	1.55	0	0	0	0	0	0	0	0	
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	0	0	0	0	0	0	0	0	
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	Bq floor, light dry	0.380	-	14.80	0.00	267	267	3948	0	122	122	1810	0	
	F	Bg floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion													6	
	Envelope loss/gain								5565	594			2383	214	
12	a) Infiltration								644	94			220	32	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @	230			0			0	0			0	
			Appliances/other							200				0	
	Subtotal (lines 6 to 13)								6208	887			2603	246	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
14	Subtotal								6208	887			2603	246	
15	Duct loads								0	0			0	0	
	Total room load								6208	887			2603	246	
	Air required (cfm)								156	62			66	17	

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



1 Room name				BED2										
2 Exposed wall				28.5 ft				heat/cool						
3 Room height				9.0 ft				1.0		x		207.5 ft		
4 Room dimensions				207.5 ft <sup>2</sup>										
5 Room area														
	Ty	Construction number	U-value (Btuh/ft <sup>2</sup> -°F)	Or	HTM (Btuh/ft <sup>2</sup> )		Area (ft <sup>2</sup> ) 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	Frm wall, spl't log e	0.061	n	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	0	0	0	0				
	G	2 glazing, clr low-e	0.160	n	0.00	0.00	0	0	0	0				
11	W	Frm wall, spl't log e	0.061	e	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	81	81	380	77				
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0				
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0				
	W	Frm wall, spl't log e	0.061	se	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	se	4.67	0.94	143	76	356	72				
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	67	0	836	2107				
	W	Frm wall, spl't log e	0.061	s	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	32	32	151	30				
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0				
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0				
	D	Door, wd sc type	0.340	s	26.49	8.45	0	0	0	0				
	W	Frm wall, spl't log e	0.061	w	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.160	w	0.00	0.00	0	0	0	0				
	D	Door, wd sc type	0.340	w	0.00	0.00	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	0	0	0	0				
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0				
	P	12C-0sw	0.091	-	7.09	0.91	0	0	0	0				
	C	16B-30ad	0.032	-	2.49	1.55	0	0	0	0				
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	0	0	0	0				
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0				
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0				
	F	Bq floor, light dry	0.380	-	14.80	0.00	208	208	3072	0				
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0				
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0				
6	c) AED excursion									80				
	Envelope loss/gain								4795	2367				
12	a) Infiltration								499	72				
	b) Room ventilation								0	0				
13	Internal gains:		Occupants @	230			0			0				
			Appliances/other							200				
	Subtotal (lines 6 to 13)								5293	2640				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								0	0				
14	Subtotal								5293	2640				
15	Duct loads								0	0				
	Total room load								5293	2640				
	Air required (cfm)								133	185				

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



1 Room name		MAIN 319.8 ft						M-FOYER 31.0 ft						
2 Exposed wall		9.4 ft						9.0 ft						
3 Room height		d						heat/cool						
4 Room dimensions		2567.4 ft²						1.0 x 274.5 ft						
5 Room area		2567.4 ft²						274.5 ft²						
6	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	Frm wall, spl't log e	0.061	n	4.75	1.37	413	350	1663	479	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	63	0	789	642	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	192	182	851	172	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	10	0	125	101	0	0	0	0
11	W	Frm wall, spl't log e	0.061	e	4.75	1.37	604	333	1580	455	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	171	0	2131	6211	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	100	0	1246	3632	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	206	148	693	140	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	58	0	717	2089	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	4.75	1.37	229	42	199	57	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	187	0	2335	5885	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	4.75	1.37	478	287	1366	394	239	239	1133	327
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	190	0	2372	3525	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	189	126	588	119	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	64	0	791	1176	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	4.75	1.37	547	298	1415	408	41	20	93	27
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	44	0	548	1598	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	164	0	2044	5957	0	0	0	0
	D	Door, wd sc type	0.340	w	26.49	8.45	41	41	1097	350	21	21	556	177
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	204	123	575	116	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	81	0	1010	2942	0	0	0	0
	P	12C-0sw	0.091	-	7.09	0.91	456	456	3232	413	158	158	1117	143
	C	16B-30ad	0.032	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	2191	2191	3756	981	275	275	470	123
	F	19C-19cscp	0.049	-	1.32	0.37	64	64	85	23	53	53	71	20
	F	19C-19cscp	0.049	-	1.32	0.37	2	2	2	1	0	0	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bg floor, light dry	0.380	-	14.80	0.00	299	299	4418	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	0	0	4	0	0	0	0	0
6	c) AED excursion									0				-42
	Envelope loss/gain								35635	37868			3441	774
12	a) Infiltration								5951	864			542	79
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230	4					920	0			0
			Appliances/other							2600				0
	Subtotal (lines 6 to 13)								41586	42253			3983	853
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								41586	42253			3983	853
15	Duct loads								0%	0%			0	0
	Total room load								41586	42253			3983	853
	Air required (cfm)								1700	1700			163	34

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



1 Room name		M-LIV/KIT/DIN							M-PWD					
2 Exposed wall		126.5 ft							0 ft					
3 Room height		9.0 ft							9.0 ft					
4 Room dimensions		1.0 x 1051.4 ft							1.0 x 44.3 ft					
5 Room area		1051.4 ft²							44.3 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	Frm wall, spl't log e	0.061	n	4.75	1.37	189	157	746	215	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	32	0	399	325	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	0	0	0	0	0	0	0	0
11	W	Frm wall, spl't log e	0.061	e	4.75	1.37	326	98	467	135	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	128	0	1595	4649	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	100	0	1246	3632	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	4.75	1.37	212	30	140	40	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	182	0	2268	3370	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	4.75	1.37	412	204	968	279	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	44	0	548	1598	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	164	0	2044	5957	0	0	0	0
	D	Door, wd sc type	0.340	w	26.49	8.45	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	7.09	0.91	0	0	0	0	92	92	654	84
	C	16B-30ad	0.032	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	1051	1051	1802	471	44	44	76	20
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0	11	11	14	4
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bg floor, light dry	0.380	-	14.80	0.00	159	159	2348	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													-5
	Envelope loss/gain								14573	19557			744	102
12	a) Infiltration								2212	321			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230		4			920	0			0	0
			Appliances/other						2000				0	0
	Subtotal (lines 6 to 13)								16785	22798			744	102
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								16785	22798			744	102
15	Duct loads								0	0			0	0
	Total room load								16785	22798			744	102
	Air required (cfm)								686	917			30	4

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



1 Room name		M-BED4						M-MASBATH						
2 Exposed wall		36.9 ft						17.7 ft						
3 Room height		11.8 ft						9.0 ft						
4 Room dimensions		1.0 x 325.6 ft						1.0 x 216.0 ft						
5 Room area		325.6 ft²						216.0 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	Frm wall, spl't log e	0.061	n	4.75	1.37	192	161	764	220	32	32	153	44
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	31	0	391	318	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	99	99	464	94	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	0	0	0	0	0	0	0	0
11	W	Frm wall, spl't log e	0.061	e	4.75	1.37	108	81	385	111	99	99	472	136
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	27	0	337	981	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	83	83	388	78	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	4.75	1.37	0	0	0	0	28	19	93	27
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	8	0	104	154
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	4.75	1.37	33	12	59	17	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	w	26.49	8.45	20	20	541	173	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	7.09	0.91	206	206	1461	187	0	0	0	0
	C	16B-30ad	0.032	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	129	129	221	58	37	37	63	16
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bg floor, light dry	0.380	-	14.80	0.00	2	2	35	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													23
	Envelope loss/gain								5045	2123			885	401
12	a) Infiltration								1001	145			310	45
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @		230		0			0	0			0
			Appliances/other							200				0
	Subtotal (lines 6 to 13)								6046	2469			1194	446
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								6046	2469			1194	446
15	Duct loads								0	0			0	0
	Total room load								6046	2469			1194	446
	Air required (cfm)								247	99			49	18

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



1 Room name				M-MASBED 40.1 ft				U-BED 48.1 ft						
2 Exposed wall				9.0 ft heat/cool				9.0 ft heat/cool						
3 Room height				1.0 x 276.7 ft				1.0 x 286.1 ft						
4 Room dimensions				276.7 ft²				286.1 ft²						
5 Room area														
	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	Frm wall, spl't log e	0.061	n	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	0	0	0	0	93	83	387	78
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	0	0	0	0	10	0	125	101
11	W	Frm wall, spl't log e	0.061	e	4.75	1.37	70	54	256	74	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	16	0	199	581	0	0	0	0
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	0	0	0	0	32	18	84	17
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0	14	0	177	515
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	se	4.75	1.37	229	42	199	57	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	187	0	2335	5885	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	se	0.00	0.00	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	s	4.75	1.37	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	0	0	0	0	104	41	190	38
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0	64	0	791	1176
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	Frm wall, spl't log e	0.061	w	4.75	1.37	62	62	296	85	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	0	0	0	0
	D	Door, wd sc type	0.340	w	26.49	8.45	0	0	0	0	0	0	0	0
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	0	0	0	0	204	123	575	116
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0	81	0	1010	2942
	P	12C-0sw	0.091	-	7.09	0.91	0	0	0	0	0	0	0	0
	C	16B-30ad	0.032	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	277	277	474	124	286	286	490	128
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0	2	2	2	1
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	Bg floor, light dry	0.380	-	14.80	0.00	138	138	2036	0	0	0	0	0
	F	Bq floor, light dry	0.380	-	14.80	0.00	0	0	0	0	0	0	4	0
6	c) AED excursion									611				437
	Envelope loss/gain								5794	7418			3836	5550
12	a) Infiltration								702	102			842	122
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							200				200
	Subtotal (lines 6 to 13)								6496	7720			4678	5872
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								6496	7720			4678	5872
15	Duct loads								0	0			0	0
	Total room load								6496	7720			4678	5872
	Air required (cfm)								266	311			191	236

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



1 Room name				U-BTH										
2 Exposed wall				19.5 ft										
3 Room height				9.0 ft				heat/cool						
4 Room dimensions				1.0		x		92.9 ft						
5 Room area				92.9 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	Frm wall, spl't log e	0.061	n	4.75	1.37	0	0	0	0				
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	n	4.67	0.94	0	0	0	0				
	G	2 glazing, clr low-e	0.160	n	12.46	10.14	0	0	0	0				
11	W	Frm wall, spl't log e	0.061	e	4.75	1.37	0	0	0	0				
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0				
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	e	4.67	0.94	91	47	221	45				
	G	2 glazing, clr low-e	0.160	e	12.46	36.32	43	0	540	1574				
	G	2 glazing, clr low-e	0.160	e	0.00	0.00	0	0	0	0				
	W	Frm wall, spl't log e	0.061	se	4.75	1.37	0	0	0	0				
	G	2 glazing, clr low-e	0.160	se	12.46	31.42	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	se	0.00	0.00	0	0	0	0				
	G	2 glazing, clr low-e	0.160	se	0.00	0.00	0	0	0	0				
	W	Frm wall, spl't log e	0.061	s	4.75	1.37	0	0	0	0				
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	s	4.67	0.94	85	85	398	80				
	G	2 glazing, clr low-e	0.160	s	12.46	18.52	0	0	0	0				
	G	2 glazing, clr low-e	0.160	s	0.00	0.00	0	0	0	0				
	D	Door, wd sc type	0.340	s	0.00	0.00	0	0	0	0				
	W	Frm wall, spl't log e	0.061	w	4.75	1.37	0	0	0	0				
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0				
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0				
	D	Door, wd sc type	0.340	w	26.49	8.45	0	0	0	0				
	W	Frm wall, wd ext, 3/	0.060	w	4.67	0.94	0	0	0	0				
	G	2 glazing, clr low-e	0.160	w	12.46	36.32	0	0	0	0				
	P	12C-0sw	0.091	-	7.09	0.91	0	0	0	0				
	C	16B-30ad	0.032	-	0.00	0.00	0	0	0	0				
	C	Rf/clg ceiling, asph	0.022	-	1.71	0.45	93	93	159	42				
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0				
	F	19C-19cscp	0.049	-	1.32	0.37	0	0	0	0				
	F	Bq floor, light dry	0.380	-	0.00	0.00	0	0	0	0				
	F	Bg floor, light dry	0.380	-	14.80	0.00	0	0	0	0				
	F	Bq floor, light dry	0.380	-	14.80	0.00	0	0	0	0				
6	c) AED excursion									203				
	Envelope loss/gain								1318	1943				
12	a) Infiltration								342	50				
	b) Room ventilation								0	0				
13	Internal gains:		Occupants @	230			0			0				
			Appliances/other							0				
	Subtotal (lines 6 to 13)								1660	1993				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								0	0				
14	Subtotal								1660	1993				
15	Duct loads						-0%	0%	0	0				
	Total room load								1660	1993				
	Air required (cfm)								68	80				

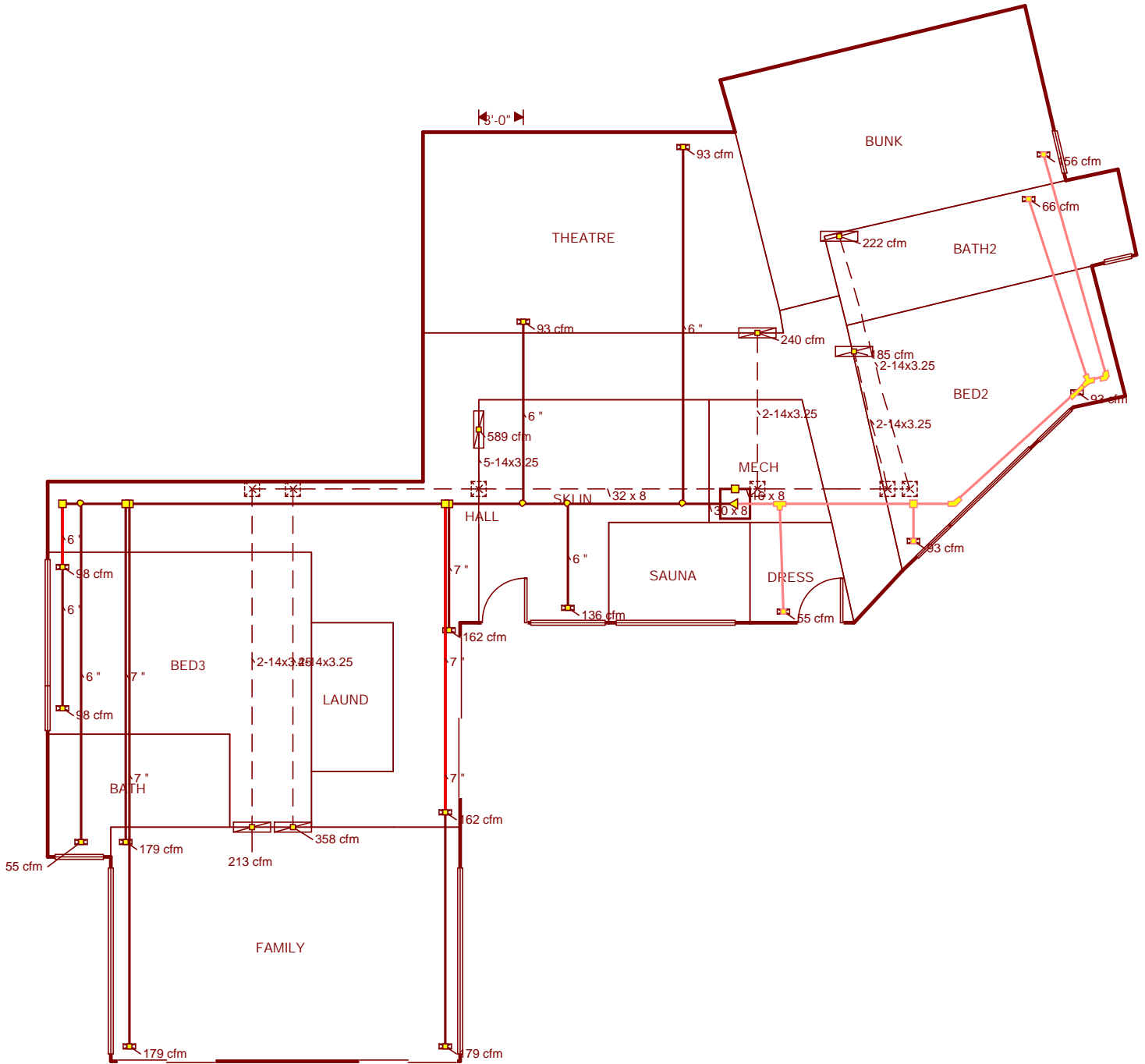
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Lower



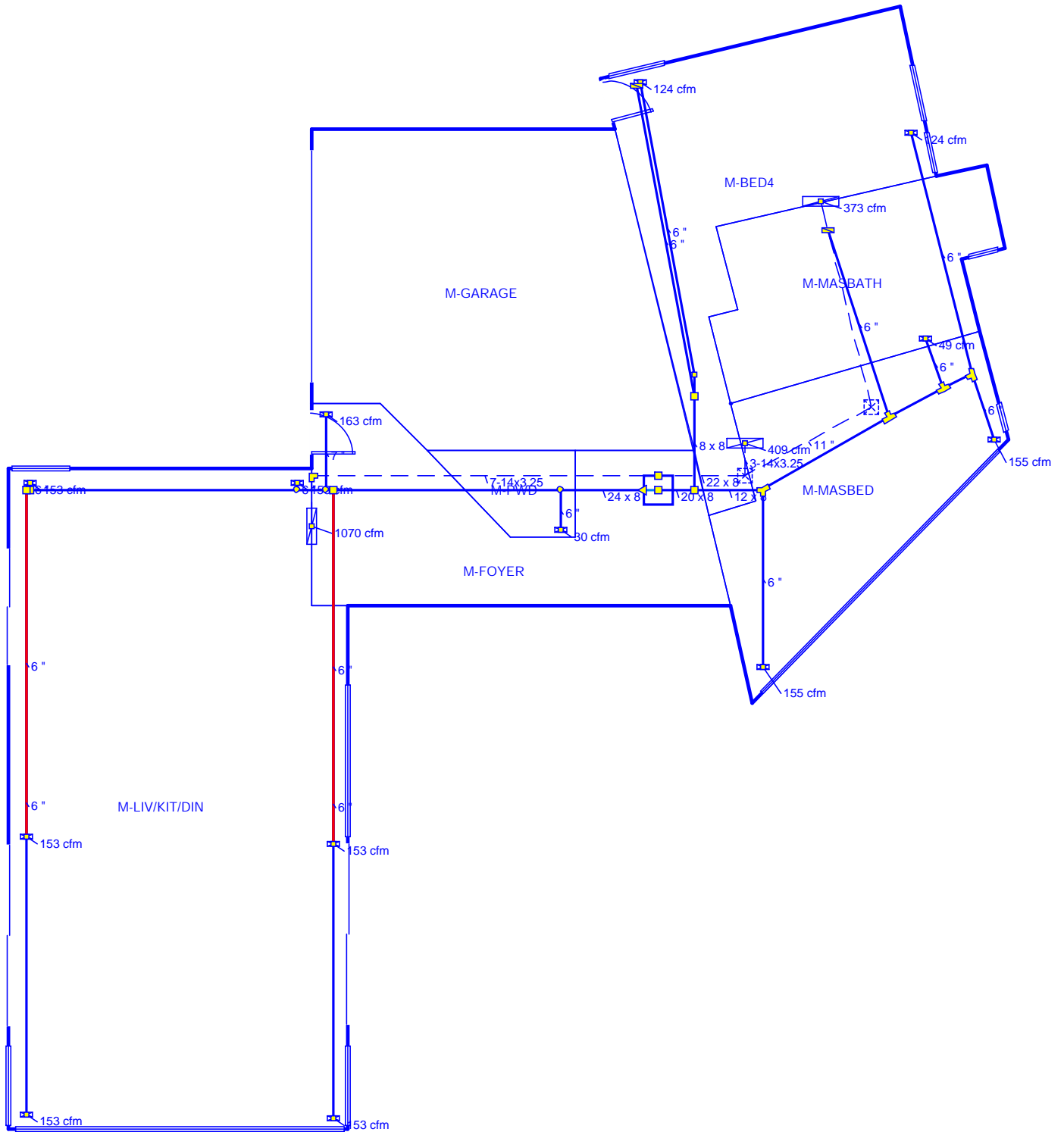
**Job #:**  
**Performed for:**  
Byrne  
8483 E Spring Park  
Eden, UT 84310

**Outfitters HVAC**

Scale: 1 : 121  
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Main



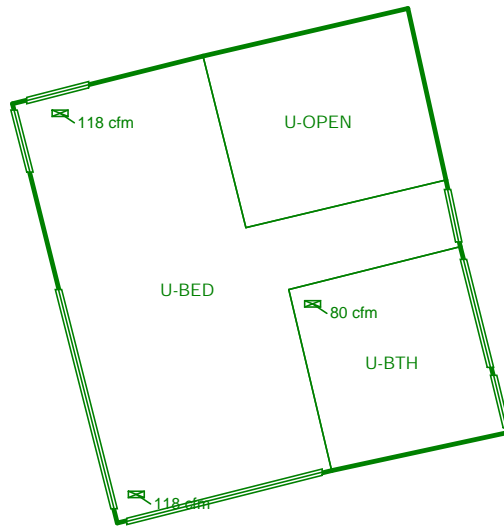
**Job #:**  
**Performed for:**  
Byrne  
8483 E Spring Park  
Eden, UT 84310

**Outfitters HVAC**

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Upper



**Job #:**  
**Performed for:**  
Byrne  
8483 E Spring Park  
Eden, UT 84310

**Outfitters HVAC**

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**Duct System Summary**  
*(Unconditioned)*  
**Outfitters HVAC**

Job:  
 Date: Nov 2019  
 By:

**Project Information**

For: Byrne  
 8483 E Spring Park, Eden, UT 84310

	<b>Heating</b>	<b>Cooling</b>
External static pressure	0 in H2O	0 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0 in H2O	0 in H2O
Supply / return available pressure	0.000 / 0.000 in H2O	0.000 / 0.000 in H2O
Lowest friction rate	0 in/100ft	0 in/100ft
Actual air flow	0 cfm	0 cfm
Total effective length (TEL)		0 ft

Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.38 in H2O	0.38 in H2O
Available static pressure	0.22 in H2O	0.22 in H2O
Supply / return available pressure	0.139 / 0.081 in H2O	0.139 / 0.081 in H2O
Lowest friction rate	0.038 in/100ft	0.038 in/100ft
Actual air flow	1500 cfm	1500 cfm
Total effective length (TEL)		575 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
BATH	h 2190	55	34	0.042	6.0	0x0	ShMt	66.8	265.0	st8
BATH2	h 246	66	17	0	0	0x0	ShMt	0	0	
BED2	c 1320	67	93	0	0	8x0	RtFg	0	0	
BED2-A	c 1320	67	93	0	0	0x0	ShMt	0	0	
BED3	c 1391	65	98	0.044	6.0	0x0	ShMt	59.0	255.0	st8
BED3-A	c 1391	65	98	0.046	6.0	0x0	ShMt	49.5	255.0	st8
BUNK	h 887	156	62	0	0	0x0	ShMt	0	0	
DRESS	h 285	55	20	0	0	0x0	ShMt	0	0	
FAMILY	c 2552	87	179	0.056	7.0	0x0	ShMt	56.0	190.0	st8
FAMILY-A	c 2552	87	179	0.038	7.0	0x0	ShMt	77.3	285.0	st8
FAMILY-B	c 2552	87	179	0.041	7.0	0x0	ShMt	63.8	275.0	st8
HALL	h 6412	162	140	0.061	7.0	0x0	ShMt	27.8	200.0	st8
HALL-A	h 6412	162	140	0.060	7.0	0x0	ShMt	40.3	190.0	st8
SKI IN	h 5383	136	82	0.064	6.0	0x0	ShMt	18.3	200.0	st8
THEATRE	h 3675	93	43	0.061	6.0	0x0	ShMt	27.5	200.0	st8
THEATRE-A	h 3675	93	43	0.061	6.0	0x0	ShMt	26.5	200.0	st8

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st8	Peak AVF	1090	1215	0.038	729	18.9	8 x 30	RectFbg	

## 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
rb1	0x0	142	213	185.3	0.044	337	9.1	2-3.25x14	2-10x18	SJSp	rt4
rb3	0x0	173	358	212.5	0.038	283	11.4	4-3.25x14	4-10x36	SJSp	rt4
rb4	0x0	240	106	102.0	0.080	380	8.5	2-3.25x14	2-10x18	SJSp	rt3
rb5	0x0	222	80	144.4	0.056	351	8.8	2-3.25x14	2-10x18	SJSp	rt3
rb6	0x0	133	185	199.8	0.041	293	8.8	2-3.25x14	2-10x18	SJSp	rt3
rb7	0x0	589	558	156.3	0.052	373	12.9	5-3.25x14	5-10x46	SJSp	rt4

## Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt3	Peak AVF	596	371	0.041	670	14.3	8 x 16	RectFbg	
rt4	Peak AVF	904	1129	0.038	635	18.4	8 x 32	RectFbg	

Project Information

For: Byrne  
8483 E Spring Park, Eden, UT 84310

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.36 in H2O	0.36 in H2O
Available static pressure	0.24 in H2O	0.24 in H2O
Supply / return available pressure	0.168 / 0.072 in H2O	0.168 / 0.072 in H2O
Lowest friction rate	0.049 in/100ft	0.049 in/100ft
Actual air flow	1700 cfm	1700 cfm
Total effective length (TEL)		487 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
M-BED4	h 3023	124	50	0.139	6.0	0x0	ShMt	31.1	90.0	st9
M-BED4-A	h 3023	124	50	0.086	6.0	0x0	ShMt	41.1	155.0	st10
M-FOYER	h 3983	163	34	0.054	7.0	0x0	ShMt	27.3	285.0	st2
M-LIV/KIT/DIN	c 3802	114	153	0.056	6.0	0x0	ShMt	24.5	275.0	st2
M-LIV/KIT/DIN-A	c 3800	114	153	0.071	6.0	0x0	ShMt	46.0	190.0	st2
M-LIV/KIT/DIN-B	c 3800	114	153	0.052	6.0	0x0	ShMt	66.8	255.0	st2
M-LIV/KIT/DIN-C	c 3800	114	153	0.055	6.0	0x0	ShMt	43.0	265.0	st2
M-LIV/KIT/DIN-D	c 3800	114	153	0.066	6.0	0x0	ShMt	65.0	190.0	st2
M-LIV/KIT/DIN-E	c 3800	114	153	0.049	6.0	0x0	ShMt	86.0	255.0	st2
M-MASBATH	h 1194	49	18	0.093	6.0	0x0	ShMt	25.3	155.0	st10
M-MASBED	c 3860	133	155	0.092	6.0	0x0	ShMt	28.6	155.0	st10
M-MASBED-A	c 3860	133	155	0.096	6.0	0x0	ShMt	19.5	155.0	st10
M-PWD	h 744	30	4	0.081	6.0	0x0	ShMt	8.5	200.0	st2
U-BED	c 2936	96	118	0.102	6.0	0x0	ShMt	10.5	155.0	st9
U-BED-A	c 2936	96	118	0.086	6.0	0x0	ShMt	30.9	165.0	st9
U-BTH	c 1993	68	80	0.090	6.0	0x0	ShMt	31.0	155.0	st10

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st9	Peak AVF	315	286	0.086	708	9.7	8 x 8	RectFbg	st3
st10	Peak AVF	506	458	0.086	759	11.6	8 x 12	RectFbg	st3
st3	Peak AVF	821	744	0.086	739	13.9	8 x 20	RectFbg	
st2	Peak AVF	879	956	0.049	717	16.5	8 x 24	RectFbg	

## 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
rb2	0x0	945	1070	107.5	0.067	484	15.3	7-3.25x14	7-10x64	SJSp	
rb8	0x0	382	409	113.3	0.063	431	10.8	3-3.25x14	3-10x27	SJSp	rt1
rb9	0x0	373	222	145.6	0.049	394	11.0	3-3.25x14	3-10x27	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	755	630	0.049	618	15.1	8 x 22	RectFbg	