

Load Short Form
Entire House
Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Information

	Htg	Clg	Method	Infiltration
Outside db (°F)	-6	89	Method	Simplified
Inside db (°F)	70	75	Construction quality	Semi-tight
Design TD (°F)	76	14	Fireplaces	0
Daily range	-	H		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	62	-31		

HEATING EQUIPMENT

Make	Lennox
Trade	MERIT 90
Model	ML193UH090XP48C-*
AHRI ref	4792309
Efficiency	93 AFUE
Heating input	88000 Btuh
Heating output	83000 Btuh
Temperature rise	70 °F
Actual air flow	1285 cfm
Air flow factor	0.039 cfm/Btuh
Static pressure	0.80 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Lennox
Trade	13ACX SERIES
Cond	13ACX-036-230-**
Coil	CH33-50/60C++TDR
AHRI ref	5699580
Efficiency	11.0 EER, 13 SEER
Sensible cooling	24920 Btuh
Latent cooling	10680 Btuh
Total cooling	35600 Btuh
Actual air flow	1285 cfm
Air flow factor	0.055 cfm/Btuh
Static pressure	0.80 in H2O
Load sensible heat ratio	1.00

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Master Bedroom	202	3786	2873	146	157
Master Bath	77	1072	1543	41	85
Kit-Din-Fam-Ent	701	9232	10480	357	574
Master Wic	43	0	0	0	0
Bath	50	475	105	18	6
Bedroom 1	122	2005	1510	78	83
Bedroom 2	141	2004	1522	77	83
Laundry	49	475	1183	18	65
Mud Room	36	683	117	26	6
Stairs	30	0	0	0	0
Bedroom 3	176	1925	756	74	41
Bedroom 4	163	1222	1369	47	75
B-Bath	78	1293	30	50	2
B-Stairs	36	0	0	0	0

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

Family Room		563	5469	1388	212	76
Pantry		53	1066	129	41	7
Bedroom 5		143	2519	460	97	25
Mechanical		405	0	0	0	0
<hr/>						
Entire House	d	3064	33226	23467	1285	1285
Other equip loads			15662	1354		
Equip. @ 0.94 RSM				23332		
Latent cooling				0		
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TOTALS		3064	48887	23332	1285	1285

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

Project Information

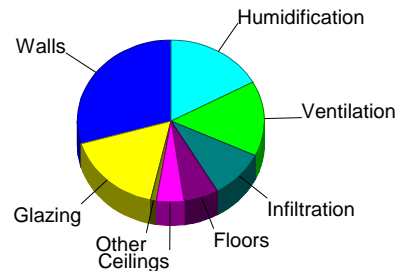
For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:		Indoor:		Heating	Cooling
Idaho Falls, ID, US		Indoor temperature (°F)		70	75
Elevation: 4741 ft		Design TD (°F)		76	14
Latitude: 44°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		61.5	-31.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-6	89	Method	Simplified	
Daily range (°F)	-	34 (H)	Construction quality	Semi-tight	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

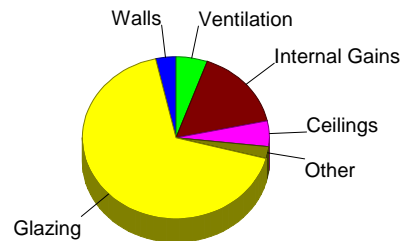
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.5	14431	29.5
Glazing	25.1	8307	17.0
Doors	11.4	479	1.0
Ceilings	1.5	2321	4.7
Floors	1.9	2970	6.1
Infiltration	1.9	4717	9.6
Ducts		0	0
Piping		0	0
Humidification		8311	17.0
Ventilation		7350	15.0
Adjustments		0	0
Total		48887	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.3	864	3.5
Glazing	50.5	16736	67.4
Doors	2.8	117	0.5
Ceilings	0.8	1283	5.2
Floors	0	0	0
Infiltration	0.2	457	1.8
Ducts		0	0
Ventilation		1354	5.5
Internal gains		4010	16.2
Blower		0	0
Adjustments		0	0
Total		24821	100.0



Latent Cooling Load = 0 Btuh
 Overall U-value = 0.054 Btuh/ft²·°F

Data entries checked.

Component Constructions
Entire House
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
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 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud	n	390	0.065	21.0	4.94	1925	0.47	185
	e	395	0.065	21.0	4.94	1951	0.47	187
	s	420	0.065	21.0	4.94	2072	0.47	199
	w	429	0.065	21.0	4.94	2118	0.47	203
	all	1633	0.065	21.0	4.94	8066	0.47	775
15B19-0mc-6: Bg wall, heavy dry or light damp soil, 2"x4" metal intfrm, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board intfnsh	n	101	0.058	19.0	5.22	527	0.06	6
	e	99	0.058	19.0	5.60	554	0.09	9
	all	200	0.058	19.0	5.41	1082	0.08	15
15B19-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood intfrm, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board intfnsh	n	232	0.043	19.0	3.84	888	0.05	12
	e	360	0.043	19.0	3.93	1414	0.06	22
	s	349	0.043	19.0	3.87	1347	0.05	19
	w	427	0.043	19.0	3.83	1635	0.05	22
	all	1367	0.043	19.0	3.86	5283	0.05	74
Partitions (none)								
Windows								
u factor 330-A: 2 glazing, clr low-e out; argon gas, mtl no brk frm mat, clr innr; 1/4" gap, 1/4" thk; 6.67 ft head ht	n	33	0.330	0	25.1	838	13.7	459
	n	16	0.330	0	25.1	401	13.7	220
	n	16	0.330	0	25.1	401	13.7	220
	e	40	0.330	0	25.1	1003	49.5	1981
	s	20	0.330	0	25.1	502	26.2	524
	s	16	0.330	0	25.1	401	26.2	419
	w	158	0.330	0	25.1	3958	49.5	7817
	w	32	0.330	0	25.1	803	49.5	1585
	all	331	0.330	0	25.1	8307	39.9	13226
Doors								
DfdDoor-A: Door, wd sc type	e	42	0.150	8.7	11.4	479	2.78	117
Ceilings								
16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh		1527	0.020	50.0	1.52	2321	0.84	1283

Floors

21A-24t Bg floor, heavy dry or light damp soil, 6' depth

1563

0.025

0

1.90

2970

0

0

Component Constructions
Master Bedroom
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Design Conditions

Location:		Indoor:		Heating	Cooling
Idaho Falls, ID, US		Indoor temperature (°F)		70	75
Elevation: 4741 ft		Design TD (°F)		76	14
Latitude: 44°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		61.5	-31.5
Heating	Cooling	Infiltration:			
Dry bulb (°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
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud								
	n	156	0.065	21.0	4.94	769	0.47	74
	w	131	0.065	21.0	4.94	647	0.47	62
	all	287	0.065	21.0	4.94	1416	0.47	136
Partitions								
(none)								
Windows								
u factor 330-A: 2 glazing, clr low-e out; argon gas, mtl no brk frm mat, clr innr; 1/4" gap, 1/4" thk; 6.67 ft head ht								
	n	30	0.330	0	25.1	763	13.7	418
	w	25	0.330	0	25.1	627	49.5	1238
	all	55	0.330	0	25.1	1390	29.9	1656
Doors								
(none)								
Ceilings								
16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh								
		202	0.020	50.0	1.52	306	0.84	169
Floors								
(none)								

Component Constructions
Master Bath
 Quality Heating Inc.

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Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls 12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud	w	57	0.065	21.0	4.94	279	0.47	27
Partitions (none)								
Windows u factor 330-A: 2 glazing, clr low-e outr, argon gas, mtl no brk frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	w	20	0.330	0	25.1	502	49.5	991
Doors (none)								
Ceilings 16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh		77	0.020	50.0	1.52	116	0.84	64
Floors (none)								

Component Constructions
Kit-Din-Fam-Ent
Quality Heating Inc.

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Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud	n	48	0.065	21.0	4.94	237	0.47	23
	e	51	0.065	21.0	4.94	252	0.47	24
	s	280	0.065	21.0	4.94	1383	0.47	133
	w	241	0.065	21.0	4.94	1192	0.47	114
	all	620	0.065	21.0	4.94	3064	0.47	294
Partitions (none)								
Windows								
u factor 330-A: 2 glazing, clr low-e out, argon gas, mtl no brk frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	s	20	0.330	0	25.1	502	26.2	524
	w	113	0.330	0	25.1	2829	49.5	5588
	all	133	0.330	0	25.1	3331	46.0	6112
Doors								
DftDoor-A: Door, wd sc type	e	21	0.150	8.7	11.4	239	2.78	58
Ceilings								
16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh		701	0.020	50.0	1.52	1065	0.84	588
Floors (none)								

Component Constructions
Master Wic
 Quality Heating Inc.

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Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:		Indoor:		Heating	Cooling
Idaho Falls, ID, US		Indoor temperature (°F)		70	75
Elevation: 4741 ft		Design TD (°F)		76	14
Latitude: 44°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		61.5	-31.5
	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-6	89	Method	Simplified	
Daily range (°F)	-	34 (H)	Construction quality	Semi-tight	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	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
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings 16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board int fnsh		43	0.020	50.0	1.52	65	0.84	36
Floors (none)								

Component Constructions
Bath
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:		Indoor:	Heating	Cooling
Idaho Falls, ID, US		Indoor temperature (°F)	70	75
Elevation: 4741 ft		Design TD (°F)	76	14
Latitude: 44°N		Relative humidity (%)	50	50
		Moisture difference (gr/lb)	61.5	-31.5
Outdoor:	Heating	Cooling		
Dry bulb (°F)	-6	89		
Daily range (°F)	-	34 (H)		
Wet bulb (°F)	-	60		
Wind speed (mph)	15.0	7.5		
		Infiltration:		
		Method	Simplified	
		Construction quality	Semi-tight	
		Fireplaces	0	

Construction descriptions	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud	n	47	0.065	21.0	4.94	230	0.47	22
Partitions (none)								
Windows u factor 330-A: 2 glazing, clr low-e outr, argon gas, mtl no brk frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	3	0.330	0	25.1	75	13.7	41
Doors (none)								
Ceilings 16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh		50	0.020	50.0	1.52	75	0.84	42
Floors (none)								

Component Constructions
Bedroom 1
 Quality Heating Inc.

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Project Information

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 7213 Hamden Ave.

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	108	0.065	21.0	4.94	534	0.47	51
	e	79	0.065	21.0	4.94	390	0.47	37
	all	187	0.065	21.0	4.94	924	0.47	89
Partitions (none)								
Windows								
u factor 330-A: 2 glazing, clr low-e out; argon gas, mtl no brk frm mat, clr innr; 1/4" gap, 1/4" thk; 6.67 ft head ht	e	20	0.330	0	25.1	502	49.5	991
Doors (none)								
Ceilings								
16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board int fnsh		122	0.020	50.0	1.52	185	0.84	102
Floors (none)								

Component Constructions
Bedroom 2
 Quality Heating Inc.

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Project Information

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 7213 Hamden Ave.

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud	n	32	0.065	21.0	4.94	156	0.47	15
	e	70	0.065	21.0	4.94	346	0.47	33
	s	81	0.065	21.0	4.94	400	0.47	38
	all	183	0.065	21.0	4.94	902	0.47	87
Partitions (none)								
Windows								
u factor 330-A: 2 glazing, clr low-e outr, argon gas, mtl no brk frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	e	20	0.330	0	25.1	502	49.5	991
Doors (none)								
Ceilings								
16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh		141	0.020	50.0	1.52	215	0.84	119
Floors (none)								

Component Constructions
Laundry
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:			Indoor:	Heating	Cooling
Idaho Falls, ID, US			Indoor temperature (°F)	70	75
Elevation: 4741 ft			Design TD (°F)	76	14
Latitude: 44°N			Relative humidity (%)	50	50
			Moisture difference (gr/lb)	61.5	-31.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-6	89	Method	Simplified	
Daily range (°F)	-	34 (H)	Construction quality	Semi-tight	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	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
Walls 12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud	e	59	0.065	21.0	4.94	289	0.47	28
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings 16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh		49	0.020	50.0	1.52	74	0.84	41
Floors (none)								

Component Constructions
Mud Room
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:			Indoor:	Heating	Cooling
Idaho Falls, ID, US			Indoor temperature (°F)	70	75
Elevation: 4741 ft			Design TD (°F)	76	14
Latitude: 44°N			Relative humidity (%)	50	50
			Moisture difference (gr/lb)	61.5	-31.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-6	89	Method	Simplified	
Daily range (°F)	-	34 (H)	Construction quality	Semi-tight	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions

Construction descriptions	Or	Area ft²	U-value Btuh/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls 12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud	e	51	0.065	21.0	4.94	252	0.47	24
Partitions (none)								
Windows (none)								
Doors DftDoor-A: Door, wd sc type	e	21	0.150	8.7	11.4	239	2.78	58
Ceilings 16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh		36	0.020	50.0	1.52	55	0.84	30
Floors (none)								

Component Constructions
Stairs
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:			Indoor:	Heating	Cooling
Idaho Falls, ID, US			Indoor temperature (°F)	70	75
Elevation: 4741 ft			Design TD (°F)	76	14
Latitude: 44°N			Relative humidity (%)	50	50
			Moisture difference (gr/lb)	61.5	-31.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-6	89	Method	Simplified	
Daily range (°F)	-	34 (H)	Construction quality	Semi-tight	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	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
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings 16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board int fnsh		30	0.020	50.0	1.52	45	0.84	25
Floors (none)								

Component Constructions
Bedroom 3
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls								
15B19-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood intfrm, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board intfnsh	n	36	0.043	19.0	3.93	141	0.06	2
	s	128	0.043	19.0	3.76	482	0.04	6
	w	99	0.043	19.0	3.93	389	0.06	6
	all	263	0.043	19.0	3.85	1012	0.05	14
Partitions (none)								
Windows								
u factor 330-A: 2 glazing, clr low-e outr, argon gas, mtl no brk frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	s	16	0.330	0	25.1	401	26.2	419
Doors (none)								
Ceilings (none)								
Floors								
21A-24t: Bg floor, heavy dry or light damp soil, 6' depth		176	0.025	0	1.90	334	0	0

Component Constructions
Bedroom 4
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:		Indoor:		Heating	Cooling
Idaho Falls, ID, US		Indoor temperature (°F)		70	75
Elevation: 4741 ft		Design TD (°F)		76	14
Latitude: 44°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		61.5	-31.5
Dry bulb (°F)	Heating	Cooling	Infiltration:		
Daily range (°F)	-6	89	Method	Simplified	
Wet bulb (°F)	-	34 (H)	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
Walls								
15B19-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board int fsh								
	w	115	0.043	19.0	3.74	429	0.04	5
Partitions								
(none)								
Windows								
u factor 330-A: 2 glazing, clr low-e out; argon gas, mtl no brk frm mat, clr innr; 1/4" gap, 1/4" thk; 6.67 ft head ht								
	w	16	0.330	0	25.1	401	49.5	793
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-24t: Bg floor, heavy dry or light damp soil, 6' depth								
		163	0.025	0	1.90	310	0	0

Component Constructions
B-Bath
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls								
15B19-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood int f/m, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board int f/nsh								
	e	59	0.043	19.0	3.93	230	0.06	3
	s	108	0.043	19.0	3.93	424	0.06	6
	all	167	0.043	19.0	3.93	654	0.06	10
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board int f/nsh								
		3	0.020	50.0	1.52	5	0.84	3
Floors								
21A-24t: Bg floor, heavy dry or light damp soil, 6' depth								
		78	0.025	0	1.90	148	0	0

Component Constructions
B-Stairs
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:			Indoor:	Heating	Cooling
Idaho Falls, ID, US			Indoor temperature (°F)	70	75
Elevation: 4741 ft			Design TD (°F)	76	14
Latitude: 44°N			Relative humidity (%)	50	50
			Moisture difference (gr/lb)	61.5	-31.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-6	89	Method	Simplified	
Daily range (°F)	-	34 (H)	Construction quality	Semi-tight	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	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
Walls (none)								
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings (none)								
Floors 21A-24t Bg floor, heavy dry or light damp soil, 6' depth		36	0.025	0	1.90	68	0	0

Component Constructions
Family Room
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:		Indoor:		Heating	Cooling
Idaho Falls, ID, US		Indoor temperature (°F)		70	75
Elevation: 4741 ft		Design TD (°F)		76	14
Latitude: 44°N		Relative humidity (%)		50	50
Outdoor:		Moisture difference (gr/lb)		61.5	-31.5
Dry bulb (°F)	Heating	Cooling	Infiltration:		
Daily range (°F)	-6	89	Method	Simplified	
Wet bulb (°F)	-	34 (H)	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
Walls								
15B19-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood intfrm, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board intfnsh								
	n	169	0.043	19.0	3.80	641	0.05	8
	w	214	0.043	19.0	3.83	817	0.05	11
	all	382	0.043	19.0	3.82	1458	0.05	19
Partitions								
(none)								
Windows								
u factor 330-A: 2 glazing, clr low-e out; argon gas, mtl no brk frm mat, clr innr; 1/4" gap, 1/4" thk; 6.67 ft head ht								
	n	16	0.330	0	25.1	401	13.7	220
	w	16	0.330	0	25.1	401	49.5	793
	all	32	0.330	0	25.1	803	31.6	1012
Doors								
(none)								
Ceilings								
(none)								
Floors								
21A-24t: Bg floor, heavy dry or light damp soil, 6' depth								
		563	0.025	0	1.90	1069	0	0

Component Constructions
Pantry
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:			Indoor:	Heating	Cooling
Idaho Falls, ID, US			Indoor temperature (°F)	70	75
Elevation: 4741 ft			Design TD (°F)	76	14
Latitude: 44°N			Relative humidity (%)	50	50
			Moisture difference (gr/lb)	61.5	-31.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-6	89	Method	Simplified	
Daily range (°F)	-	34 (H)	Construction quality	Semi-tight	
Wet bulb (°F)	-	60	Fireplaces	0	
Wind speed (mph)	15.0	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
Walls								
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board intfnsh, 2"x6" wood frm, 16" o.c. stud								
	e	86	0.065	21.0	4.94	422	0.47	41
	s	59	0.065	21.0	4.94	289	0.47	28
	all	144	0.065	21.0	4.94	711	0.47	68
Partitions								
(none)								
Windows								
(none)								
Doors								
(none)								
Ceilings								
16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh								
		53	0.020	50.0	1.52	80	0.84	44
Floors								
(none)								

Component Constructions
Bedroom 5
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls 15B19-0mc-6: Bg wall, heavy dry or light damp soil, 2"x4" metal int frm, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board int fsh	n e all	101 99 200	0.058 0.058 0.058	19.0 19.0 19.0	5.22 5.60 5.41	527 554 1082	0.06 0.09 0.08	6 9 15
Partitions (none)								
Windows u factor 330-A: 2 glazing, clr low-e out; argon gas, mtl no brk frm mat, clr innr; 1/4" gap, 1/4" thk; 6.67 ft head ht	n	16	0.330	0	25.1	401	13.7	220
Doors (none)								
Ceilings 16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board int fsh		6	0.020	50.0	1.52	8	0.84	5
Floors 21A-24t: Bg floor, heavy dry or light damp soil, 6' depth		143	0.025	0	1.90	272	0	0

Component Constructions
Mechanical
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: 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
Walls								
15B19-0wc-6: Bg wall, heavy dry or light damp soil, 2"x4" wood intfrm, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board intfnsh	n	27	0.043	19.0	3.93	106	0.06	2
	e	302	0.043	19.0	3.93	1184	0.06	18
	s	113	0.043	19.0	3.93	442	0.06	7
	all	441	0.043	19.0	3.93	1732	0.06	26
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
16B-50ad: Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board intfnsh		18	0.020	50.0	1.52	27	0.84	15
Floors								
21A-24t: Bg floor, heavy dry or light damp soil, 6' depth		405	0.025	0	1.90	769	0	0

Project Summary
Entire House
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

Notes:

Design Information

Weather: Idaho Falls, ID, US

Winter Design Conditions

Outside db -6 °F
 Inside db 70 °F
 Design TD 76 °F

Summer Design Conditions

Outside db 89 °F
 Inside db 75 °F
 Design TD 14 °F
 Daily range H
 Relative humidity 50 %
 Moisture difference -31 gr/lb

Heating Summary

Structure 33226 Btuh
 Ducts 0 Btuh
 Central vent (105 cfm) 7350 Btuh
 Outside air
 Humidification 8311 Btuh
 Piping 0 Btuh
 Equipment load 48887 Btuh

Sensible Cooling Equipment Load Sizing

Structure 23467 Btuh
 Ducts 0 Btuh
 Central vent (105 cfm) 1354 Btuh
 Outside air
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.94
 Equipment sensible load 23332 Btuh

Infiltration

Method Simplified
 Construction quality Semi-tight
 Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 764 Btuh
 Ducts 0 Btuh
 Central vent (105 cfm) -1882 Btuh
 Outside air
 Equipment latent load 0 Btuh

	Heating	Cooling
Area (ft²)	3064	3064
Volume (ft³)	21210	21210
Air changes/hour	0.19	0.10
Equiv. AVF (cfm)	67	35

Equipment Total Load (Sen+Lat) 23332 Btuh
 Req. total capacity at 0.70 SHR 2.8 ton

Heating Equipment Summary

Make Lennox
 Trade MERIT 90
 Model ML193UH090XP48C-
 AHRI ref 4792309

Efficiency 93 AFUE
 Heating input 88000 Btuh
 Heating output 83000 Btuh
 Temperature rise 70 °F
 Actual air flow 1285 cfm
 Air flow factor 0.039 cfm/Btuh
 Static pressure 0.80 in H2O
 Space thermostat

Cooling Equipment Summary

Make Lennox
 Trade 13ACX SERIES
 Cond 13ACX-036-230-**
 Coil CH33-50/60C++TDR
 AHRI ref 5699580

Efficiency 11.0 EER, 13 SEER
 Sensible cooling 24920 Btuh
 Latent cooling 10680 Btuh
 Total cooling 35600 Btuh
 Actual air flow 1285 cfm
 Air flow factor 0.055 cfm/Btuh
 Static pressure 0.80 in H2O
 Load sensible heat ratio 1.00

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

AED Assessment
Entire House
 Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

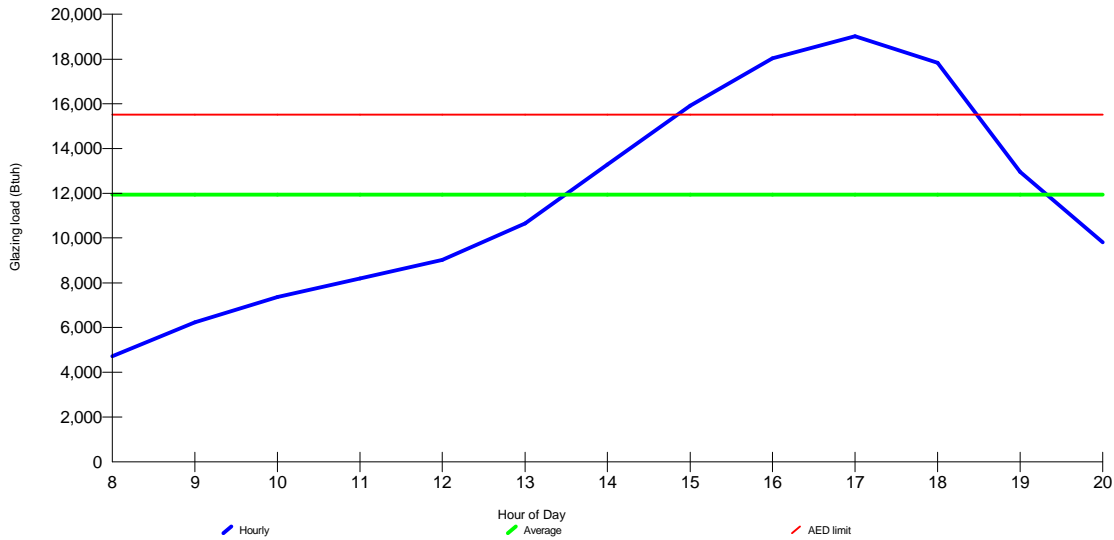
For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:		Indoor:		Heating	Cooling
Idaho Falls, ID, US		Indoor temperature (°F)		70	75
Elevation: 4741 ft		Design TD (°F)		76	14
Latitude: 44°N		Relative humidity (%)		50	50
		Moisture difference (gr/lb)		61.5	-31.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-6	89			
Daily range (°F)	-	34 (H)			
Wet bulb (°F)	-	60			
Wind speed (mph)	15.0	7.5			

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 59.4%.

House does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 3510 Btuh (PFG - 1.3*AFG)

Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M - 022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

1 Room name				Entire House				Master Bedroom						
2 Exposed wall				9.9 ft				28.5 ft						
3 Room height				365.9 ft				12.0 ft						
4 Room dimensions				d				13.0 x 15.5 ft						
5 Room area				3064.3 ft²				201.5 ft²						
	Ty	Construction number	U-value (Btuh/ft²-F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	NP/S	Heat	Cool	Gross	NP/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.94	0.47	423	390	1925	185	186	156	769	74
	W	u factor 330-A	0.330	n	25.08	13.73	33	0	838	459	30	0	763	418
	W	15B19-0mc-6	0.105	n	5.22	0.06	117	101	527	6	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	16	0	401	220	0	0	0	0
11	W	15B19-0wc-6	0.069	n	3.84	0.05	248	232	888	12	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	16	0	401	220	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	477	395	1951	187	0	0	0	0
	W	u factor 330-A	0.330	e	25.08	49.54	40	0	1003	1981	0	0	0	0
	D	DfrDoor-A	0.150	e	11.40	2.78	42	42	479	117	0	0	0	0
	W	15B19-0mc-6	0.105	e	5.60	0.09	99	99	554	9	0	0	0	0
	W	15B19-0wc-6	0.069	e	3.93	0.06	360	360	1414	22	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	440	420	2072	199	0	0	0	0
	W	u factor 330-A	0.330	s	25.08	26.21	20	0	502	524	0	0	0	0
	W	15B19-0mc-6	0.069	s	3.87	0.05	365	349	1347	19	0	0	0	0
	W	u factor 330-A	0.330	s	25.08	26.21	16	0	401	419	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	587	429	2118	203	156	131	647	62
	W	u factor 330-A	0.330	w	25.08	49.54	158	0	3958	7817	25	0	627	1238
	W	15B19-0wc-6	0.069	w	3.83	0.05	459	427	1635	22	0	0	0	0
	W	u factor 330-A	0.330	w	25.08	49.54	32	0	803	1585	0	0	0	0
	C	16B-5Uad	0.020	-	1.52	0.84	1527	1527	2321	1283	202	202	306	169
	F	21A-24t	0.025	-	1.90	0.00	1563	1563	2970	0	0	0	0	0
6	c) AED excursion									3510				378
	Envelope loss/gain								28508	19000			3112	2339
12	a) Infiltration								4717	457			652	63
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230		7				1610	2			460
			Appliances/other							2400				0
	Subtotal (lines 6 to 13)								33226	23467			3764	2862
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			22	11
14	Subtotal								33226	23467			3786	2873
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								33226	23467			3786	2873
	Air required (cfm)								1285	1285			146	157

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

Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M - 022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

1 Room name				Master Bath				Kit-Din-Fam-Ent						
2 Exposed wall				8.5 ft heat/cool				64.5 ft heat/cool						
3 Room height				9.0 ft				12.0 ft						
4 Room dimensions				8.5 x 9.0 ft				1.0 x 700.5 ft						
5 Room area				76.5 ft²				700.5 ft²						
	Ty	Construction number	U-value (Btuh/ft²-F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	NP/S	Heat	Cool	Gross	NP/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	48	48	237	23
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
11	W	15B19-0wc-6	0.069	n	3.84	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	72	51	252	24
	W	u factor 330-A	0.330	e	25.08	49.54	0	0	0	0	0	0	0	0
	W	DfrDoor-A	0.150	e	11.40	2.78	0	0	0	0	21	21	239	58
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	e	3.93	0.06	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	300	280	1383	133
	W	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	20	0	502	524
	W	15B19-0mc-6	0.069	s	3.87	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	77	57	279	27	354	241	1192	114
	W	u factor 330-A	0.330	w	25.08	49.54	20	0	502	991	113	0	2829	5588
	W	15B19-0wc-6	0.069	w	3.83	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.52	0.84	77	77	116	64	701	701	1065	588
	F	21A-24t	0.025	-	1.90	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									432				2054
	Envelope loss/gain								897	1514			7699	9107
12	a) Infiltration								146	14			1475	143
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230	0				0	0	0		0	1200
			Appliances/other						0	0			0	0
	Subtotal (lines 6 to 13)								1043	1528			9174	10451
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								30	15			58	30
14	Subtotal								1072	1543			9232	10480
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								1072	1543			9232	10480
	Air required (cfm)								41	85			357	574

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

Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M-022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

		Master Wic						Bath						
		0 ft						5.5 ft						
		9.0 ft			8.5 x 5.0 ft			9.0 ft			9.0 x 5.5 ft			
		heat/cool						heat/cool						
		42.5 ft²						49.5 ft²						
	Ty	Construction number	U-value (Btuh/ft²-F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	NP/S	Heat	Cool	Gross	NP/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	50	47	230	22
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	3	0	75	41
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
11	W	15B19-0wc-6	0.069	n	3.84	0.05	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	e	25.08	49.54	0	0	0	0	0	0	0	0
	W-D	DfrDoor-A	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	e	3.93	0.06	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.069	s	3.87	0.05	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	w	3.83	0.05	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.52	0.84	43	43	65	36	50	50	75	42
	F	21A-24t	0.025	-	1.90	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-3				-9
	Envelope loss/gain								65	33			380	96
12	a) Infiltration								0	0			94	9
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								65	33			475	105
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-65	-33			0	0
14	Subtotal								0	0			475	105
15	Duct loads								-0%	0%			0	0
	Total room load								0	0			475	105
	Air required (cfm)								0	0			18	6

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

Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M -022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

1		Room name		Bedroom 1		Bedroom 2								
2		Exposed wall		23.0 ft		22.4 ft								
3		Room height		9.0 ft		9.0 ft								
4		Room dimensions		1.0 x 122.0 ft		1.0 x 141.3 ft								
5		Room area		122.0 ft²		141.3 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	12F-0sw	0.065	n	4.94	0.47	108	108	534	51	32	32	156	15
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
11	W	15B19-0wc-6	0.069	n	3.84	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	99	79	390	37	90	70	346	33
	W	u factor 330-A	0.330	e	25.08	49.54	20	0	502	991	20	0	502	991
	D	DfrDoor-A	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	e	3.93	0.06	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	81	81	400	38
	W	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.069	s	3.87	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	w	3.83	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.52	0.84	122	122	185	102	141	141	215	119
	F	21A-24t	0.025	-	1.90	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion								60				59	
	Envelope loss/gain							1611	1242			1618	1255	
12	a) Infiltration							395	38			386	37	
	b) Room ventilation							0	0			0	0	
13	Internal gains:		Occupants @	230	1				230	1			230	0
			Appliances/other					0	0			0	0	
	Subtotal (lines 6 to 13)							2005	1510			2004	1522	
	Less external load							0	0			0	0	
	Less transfer							0	0			0	0	
	Redistribution							0	0			0	0	
14	Subtotal							2005	1510			2004	1522	
15	Duct loads							0	0			0	0	
	Total room load							2005	1510			2004	1522	
	Air required (cfm)							78	83			77	83	

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Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M -022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

1 Room name				Laundry				Mud Room						
2 Exposed wall				6.5 ft heat/cool				8.0 ft heat/cool						
3 Room height				9.0 ft				9.0 ft						
4 Room dimensions				6.5 x 7.5 ft				8.0 x 4.5 ft						
5 Room area				48.8 ft²				36.0 ft²						
	Ty	Construction number	U-value (Btuh/ft²-F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
11	W	15B19-0wc-6	0.069	n	3.84	0.05	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	59	59	289	28	72	51	252	24
	W-G	u factor 330-A	0.330	e	25.08	49.54	0	0	0	0	0	0	0	0
	W-D	DfrDoor-A	0.150	e	11.40	2.78	0	0	0	0	21	21	239	58
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	e	3.93	0.06	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.069	s	3.87	0.05	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	w	3.83	0.05	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.52	0.84	49	49	74	41	36	36	55	30
	F	21A-24t	0.025	-	1.90	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-96				-9
	Envelope loss/gain								363	-28			546	103
12	a) Infiltration								112	11			137	13
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							1200				0
	Subtotal (lines 6 to 13)								475	1183			683	117
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								475	1183			683	117
15	Duct loads								0	0			0	0
	Total room load								475	1183			683	117
	Air required (cfm)								18	65			26	6

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Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M -022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

1 2 3 4 5	Room name				Stairs				Bedroom 3					
	Exposed wall				0 ft				31.0 ft					
	Room height				12.0 ft				9.0 ft					
Room dimensions				8.5 x 3.5 ft				11.0 x 16.0 ft						
Room area				29.8 ft²				176.0 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	NP/S	Heat	Cool	Gross	NP/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
11	W	15B19-0wc-6	0.069	n	3.84	0.05	0	0	0	0	36	36	141	2
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	e	25.08	49.54	0	0	0	0	0	0	0	0
	W-D	DfrDoor-A	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	e	3.93	0.06	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.069	s	3.87	0.05	0	0	0	0	144	128	482	6
	W-G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	16	0	401	419
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	w	3.83	0.05	0	0	0	0	99	99	389	6
	W-G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.52	0.84	30	30	45	25	0	0	0	0
	F	21A-24t	0.025	-	1.90	0.00	0	0	0	0	176	176	334	0
6	c) AED excursion										-2			76
	Envelope loss/gain								45	23			1747	509
12	a) Infiltration								0	0			177	17
	b) Room ventilation								0	0			0	0
13	Internal gains: Occupants @ 230						0				1			230
	Appliances/other													0
	Subtotal (lines 6 to 13)								45	23			1925	756
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-45	-23			0	0
14	Subtotal								0	0			1925	756
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								0	0			1925	756
	Air required (cfm)								0	0			74	41

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Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M -022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

1 2 3 4 5	Room name				Bedroom 4				B-Bath					
	Exposed wall				14.5 ft				18.5 ft					
	Room height				9.0 ft				9.0 ft					
Room dimensions				1.0 x 163.0 ft				6.5 x 12.0 ft						
Room area				163.0 ft²				78.0 ft²						
	Ty	Construction number	U-value (Btuh/ft²-F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
11	W	15B19-0wc-6	0.069	n	3.84	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	e	25.08	49.54	0	0	0	0	0	0	0	0
	D	DfrDoor-A	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	e	3.93	0.06	0	0	0	0	59	59	230	3
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.069	s	3.87	0.05	0	0	0	0	108	108	424	6
	W	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	w	3.83	0.05	131	115	429	5	0	0	0	0
	W	u factor 330-A	0.330	w	25.08	49.54	16	0	401	793	0	0	0	0
	C	16B-50ad	0.020	-	1.52	0.84	0	0	0	0	3	3	5	3
	F	21A-24t	0.025	-	1.90	0.00	163	163	310	0	78	78	148	0
6	c) AED excursion									334				-2
	Envelope loss/gain								1140	1131			807	11
12	a) Infiltration								83	8			106	10
	b) Room ventilation								0	0			0	0
13	Internal gains:				Occupants @ 230		1			230	0			0
					Appliances/other					0				0
	Subtotal (lines 6 to 13)								1222	1369			913	21
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			381	9
14	Subtotal								1222	1369			1293	30
15	Duct loads								0	0			0	0
	Total room load								1222	1369			1293	30
	Air required (cfm)								47	75			50	2

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

Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M-022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

1 Room name		B-Stairs		Family Room										
2 Exposed wall		0 ft		46.0 ft										
3 Room height		9.0 ft		9.0 ft										
4 Room dimensions		12.0 x 3.0		1.0 x 562.5										
5 Room area		36.0 ft²		562.5 ft²										
Ty	Construction number	U-value (Btuh/ft²-F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)		
				Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
11	W	15B19-0wc-6	0.069	n	3.84	0.05	0	0	0	0	185	169	641	8
	W-G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	16	0	401	220
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	e	25.08	49.54	0	0	0	0	0	0	0	0
	W-D	DfrDoor-A	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	e	3.93	0.06	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.069	s	3.87	0.05	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	W-G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	w	3.83	0.05	0	0	0	0	230	214	817	11
	W-G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	16	0	401	793
	C	16B-50ad	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	F	21A-24t	0.025	-	1.90	0.00	36	36	68	0	563	563	1069	0
6	c) AED excursion								0					291
	Envelope loss/gain								68	0			3329	1322
12	a) Infiltration								0	0			263	26
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0		0	0	0			0
			Appliances/other						0	0				0
	Subtotal (lines 6 to 13)								68	0			3592	1348
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								-68	0			1877	41
14	Subtotal								0	0			5469	1388
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								0	0			5469	1388
	Air required (cfm)								0	0			212	76

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

Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M -022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

1 2 3 4 5	Room name				Pantry				Bedroom 5					
	Exposed wall				16.0 ft				24.0 ft					
	Room height				9.0 ft				9.0 ft					
Room dimensions				1.0 x 52.8 ft				11.0 x 13.0 ft						
Room area				52.8 ft²				143.0 ft²						
	Ty	Construction number	U-value (Btuh/ft²-F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0	117	101	527	6
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	16	0	401	220
11	W	15B19-0wc-6	0.069	n	3.84	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	86	86	422	41	0	0	0	0
	W	u factor 330-A	0.330	e	25.08	49.54	0	0	0	0	0	0	0	0
	W	DfrDoor-A	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0	99	99	554	9
	W	15B19-0wc-6	0.069	e	3.93	0.06	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	59	59	289	28	0	0	0	0
	W	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	15B19-0mc-6	0.069	s	3.87	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	W	15B19-0wc-6	0.069	w	3.83	0.05	0	0	0	0	0	0	0	0
	W	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.52	0.84	53	53	80	44	6	6	8	5
	F	21A-24t	0.025	-	1.90	0.00	0	0	0	0	143	143	272	0
6	c) AED excursion										-10			-36
	Envelope loss/gain								792	102			1763	203
12	a) Infiltration								274	27			137	13
	b) Room ventilation								0	0			0	0
13	Internal gains: Occupants @ 230						0			0	1			230
	Appliances/other									0				0
	Subtotal (lines 6 to 13)								1066	129			1900	447
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			619	14
14	Subtotal								1066	129			2519	460
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								1066	129			2519	460
	Air required (cfm)								41	7			97	25

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

Right-J® Worksheet
Entire House
Quality Heating Inc.

Job: M - 022621
Date: February 26 2021
By: Max Mora
Plan: Skyline Plan-1530

		Room name		Exposed wall		Room height		Room dimensions		Room area		Mechanical			
				9.0 ft		49.0 ft		1.0 x 404.8 ft		404.8 ft²		heat/cool			
	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	NP/S	Heat	Cool	Gross	NP/S	Heat	Cool	
6	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0					
	G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0					
	W	15B19-0mc-6	0.105	n	5.22	0.06	0	0	0	0					
	G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0					
11	W	15B19-0wc-6	0.069	n	3.84	0.05	27	27	106	2					
	G	u factor 330-A	0.330	n	25.08	13.73	0	0	0	0					
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0					
	G	u factor 330-A	0.330	e	25.08	49.54	0	0	0	0					
	D	DfDoor-A	0.150	e	11.40	2.78	0	0	0	0					
	W	15B19-0mc-6	0.105	e	5.60	0.09	0	0	0	0					
	W	15B19-0wc-6	0.069	e	3.93	0.06	302	302	1184	18					
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0					
	G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0					
	W	15B19-0wc-6	0.069	s	3.87	0.05	113	113	442	7					
	G	u factor 330-A	0.330	s	25.08	26.21	0	0	0	0					
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0					
	G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0					
	W	15B19-0wc-6	0.069	w	3.83	0.05	0	0	0	0					
	G	u factor 330-A	0.330	w	25.08	49.54	0	0	0	0					
	C	16B-50ad	0.020	-	1.52	0.84	18	18	27	15					
	F	21A-24t	0.025	-	1.90	0.00	405	405	769	0					
6	c) AED excursion									-5					
	Envelope loss/gain								2527	36					
12	a) Infiltration								280	27					
	b) Room ventilation								0	0					
13	Internal gains:		Occupants @	230			0			0					
			Appliances/other							0					
	Subtotal (lines 6 to 13)								2807	63					
	Less external load								0	0					
	Less transfer								0	0					
	Redistribution								-2807	-63					
14	Subtotal								0	0					
15	Duct loads								0	0					
	Total room load								0	0					
	Air required (cfm)								0	0					

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

Loads for Multiple Orientations

Entire House

Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

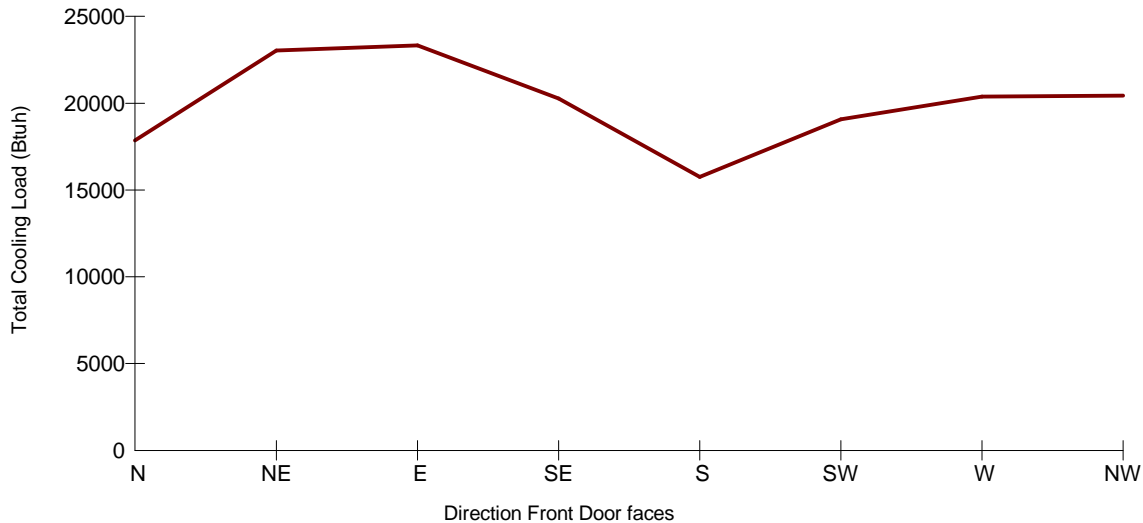
For: Rockwell Homes
 7213 Hamden Ave.

Design Conditions

Location:			Indoor:	Heating	Cooling
Idaho Falls, ID, US			Indoor temperature (°F)	70	75
Elevation: 4741 ft			Design TD (°F)	76	14
Latitude: 44°N			Relative humidity (%)	50	50
Outdoor:	Heating	Cooling	Moisture difference (gr/lb)	61.5	-31.5
Dry bulb (°F)	-6	89	Infiltration:		
Daily range (°F)	-	34 (H)			
Wet bulb (°F)	-	60			
Wind speed (mph)	15.0	7.5			

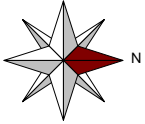
Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	17856	23046	23332	20283	15758	19076	20377	20445
Latent Load (Btuh)	0	0	0	0	0	0	0	0
Total Load (Btuh)	17856	23046	23332	20283	15758	19076	20377	20445
Heating AVF (cfm)	1285	1285	1285	1285	1285	1285	1285	1285
Cooling AVF (cfm)	1285	1285	1285	1285	1285	1285	1285	1285

Building Orientation Cooling Load

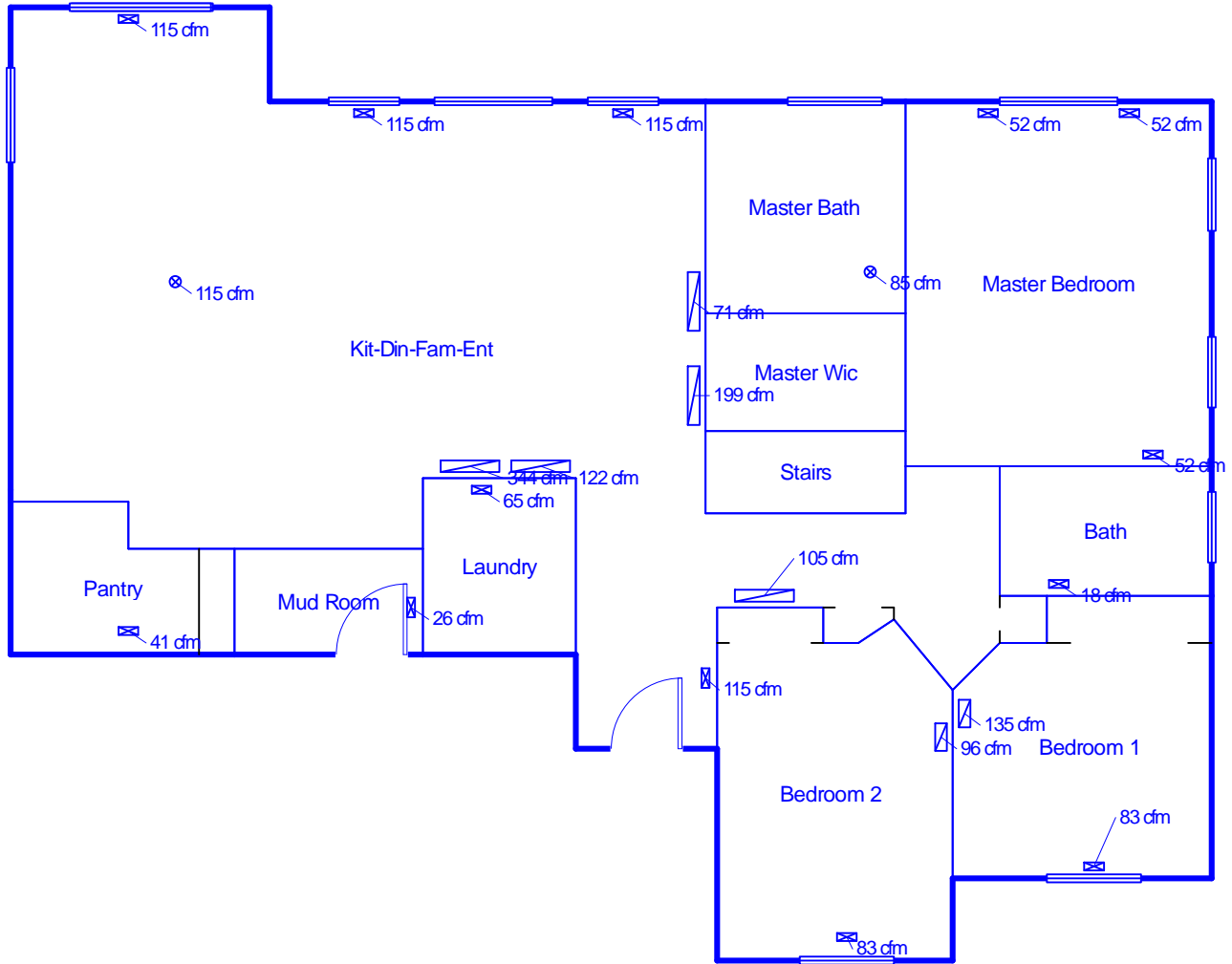


Current Orientation: Front Door faces East
 Highest Cooling Load: Front Door faces East

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



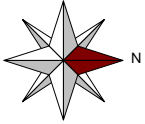
Main Floor Level 2



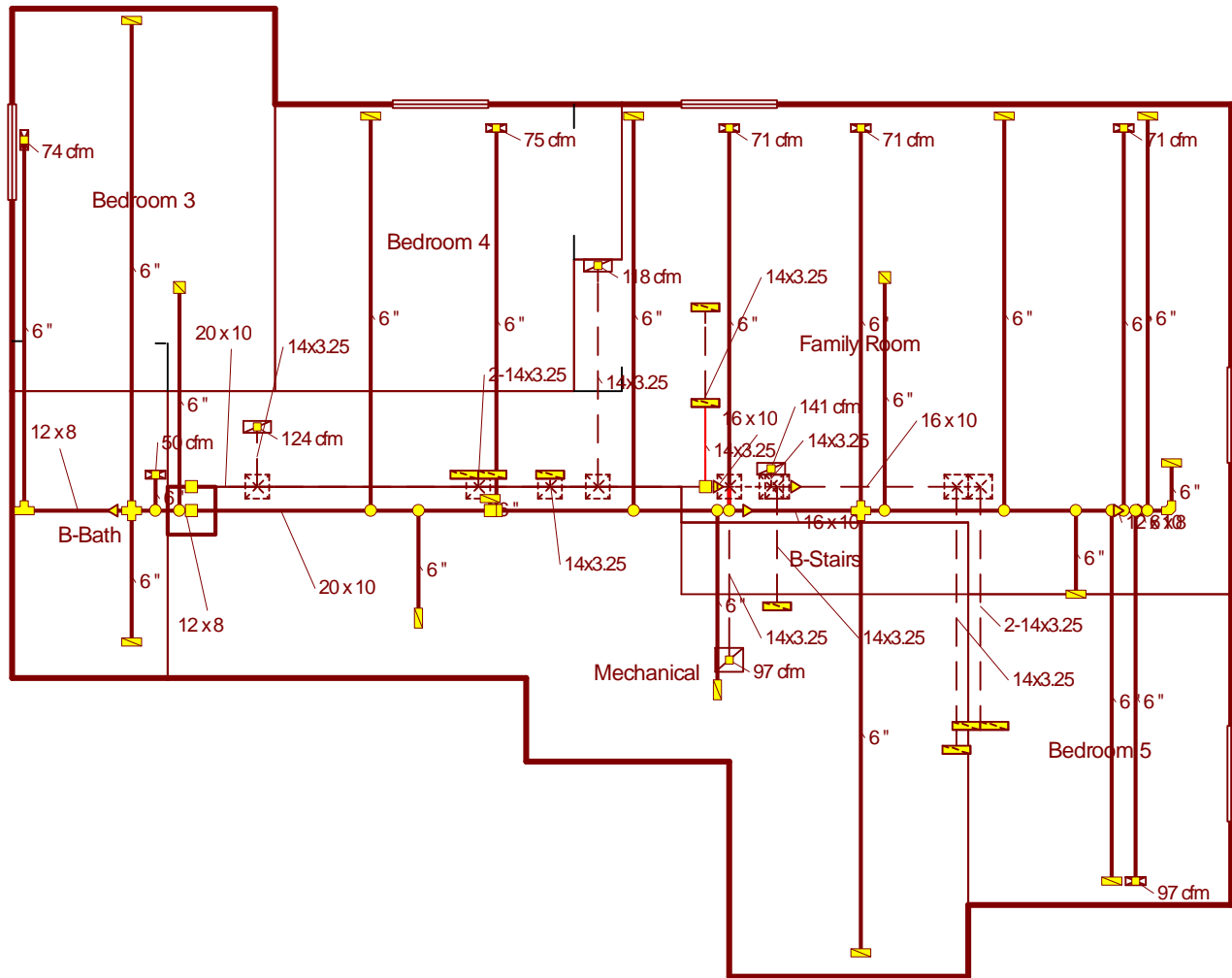
Job #: M - 022621
Performed by Max Mora for:
Rockwell Homes
7213 Hamden Ave.

Quality Heating Inc.

Scale: 1 : 94
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Basement



Job #: M - 022621
Performed by Max Mora for:
Rockwell Homes
7213 Hamden Ave.

Quality Heating Inc.

Scale: 1 : 94
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Duct System Summary

Entire House

Quality Heating Inc.

Job: M-022621
 Date: February 26 2021
 By: Max Mora
 Plan: Skyline Plan-1530

Project Information

For: Rockwell Homes
 7213 Hamden Ave.

	Heating	Cooling
External static pressure	0.80 in H2O	0.80 in H2O
Pressure losses	0.37 in H2O	0.37 in H2O
Available static pressure	0.43 in H2O	0.43 in H2O
Supply / return available pressure	0.219 / 0.211 in H2O	0.219 / 0.211 in H2O
Lowest friction rate	0.061 in/100ft	0.061 in/100ft
Actual air flow	1285 cfm	1285 cfm
Total effective length (TEL)	700 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
B-Bath-A	h 1293	50	2	0.127	6.0	0x0	ShMt	3.0	170.0	st2
Bath	h 475	18	6	0.068	6.0	0x0	ShMt	40.5	280.0	st1A
Bedroom 1	c 1510	78	83	0.068	6.0	0x0	ShMt	54.0	270.0	st1A
Bedroom 2	c 1522	77	83	0.087	6.0	0x0	ShMt	46.5	205.0	st1A
Bedroom 3-A	h 1925	74	41	0.108	6.0	0x0	ShMt	22.5	180.0	st2A
Bedroom 4	c 1369	47	75	0.100	6.0	0x0	ShMt	28.8	190.0	st1
Bedroom 5	h 2519	97	25	0.065	6.0	0x0	ShMt	55.0	280.0	st1B
Family Room	h 1823	71	25	0.064	6.0	0x0	ShMt	55.0	290.0	st1B
Family Room-A	h 1823	71	25	0.110	6.0	0x0	ShMt	38.5	160.0	st1
Family Room-B	h 1823	71	25	0.088	6.0	0x0	ShMt	44.0	205.0	st1A
Kit-Din-Fam-Ent	c 2096	71	115	0.102	6.0	0x0	ShMt	35.0	180.0	st1
Kit-Din-Fam-Ent-A	c 2096	71	115	0.115	6.0	0x0	ShMt	9.8	180.0	st2
Kit-Din-Fam-Ent-B	c 2096	71	115	0.096	6.0	0x0	ShMt	24.0	205.0	st1
Kit-Din-Fam-Ent-C	c 2096	71	115	0.120	6.0	0x0	ShMt	23.0	160.0	st2
Kit-Din-Fam-Ent-D	c 2096	71	115	0.110	6.0	0x0	ShMt	29.5	170.0	st1
Laundry	c 1183	18	65	0.105	6.0	0x0	ShMt	13.0	195.0	st1
Master Bath	c 1543	41	85	0.065	6.0	0x0	ShMt	38.8	300.0	st1A
Master Bedroom	c 958	49	52	0.061	6.0	0x0	ShMt	56.5	300.0	st1C
Master Bedroom-A	c 958	49	52	0.064	6.0	0x0	ShMt	50.5	290.0	st1A
Master Bedroom-B	c 958	49	52	0.079	6.0	0x0	ShMt	43.0	235.0	st1C
Mud Room	h 683	26	6	0.100	6.0	0x0	ShMt	14.0	205.0	st1
Pantry	h 1066	41	7	0.130	6.0	0x0	ShMt	8.0	160.0	st2

Bold/italic values have been manually overridden

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1C	Peak AVF	98	105	0.061	315	6.5	8 x 6	ShtMetl	st1B
st1B	Peak AVF	266	155	0.061	319	8.7	10 x 12	ShtMetl	st1A
st1A	Peak AVF	600	490	0.061	540	11.5	10 x 16	ShtMetl	st1
st1	Peak AVF	976	1005	0.061	724	14.3	10 x 20	ShtMetl	
st2	Peak AVF	309	280	0.108	463	9.0	8 x 12	ShtMetl	
st2A	Peak AVF	74	41	0.108	112	5.4	8 x 12	ShtMetl	st2

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	0x 0	98	105	199.5	0.106	332	5.9	3.25x14	10x9	SJSp	rt1A
rb2	0x 0	113	122	115.5	0.183	386	5.6	3.25x14	10x9	SJSp	rt1
rb3	0x 0	214	344	102.5	0.206	545	8.0	2-3.25x14	2-10x18	SJSp	rt1
rb4	0x 0	113	199	135.0	0.156	631	6.9	3.25x14	10x9	SJSp	rt1
rb5	0x 0	45	71	139.0	0.152	225	4.7	3.25x14	10x9	SJSp	rt1
rb6	0x 0	126	135	343.0	0.061	214	7.2	2-3.25x14	2-10x18	SJSp	rt1B
rb7	0x 0	96	89	243.0	0.087	303	5.9	3.25x14	10x9	SJSp	rt1B
rb8	0x 0	124	43	85.3	0.247	394	5.3	3.25x14	10x9	SJSp	rt1
rb9	0x 0	118	100	136.3	0.155	373	5.7	3.25x14	10x9	SJSp	rt1
rb10	0x 0	141	51	185.0	0.114	446	6.5	3.25x14	10x9	SJSp	rt1A
rb12	0x 0	97	25	179.8	0.117	308	5.6	3.25x14	10x9	SJSp	rt1A

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1B	Peak AVF	222	224	0.061	202	8.4	10 x 16	ShtMetl	rt1A
rt1A	Peak AVF	558	405	0.061	502	11.8	10 x 16	ShtMetl	rt1
rt1	Peak AVF	1285	1285	0.061	925	16.1	10 x 20	ShtMetl	

Bold/italic values have been manually overridden