

Project Information

For: Hot Water Baseboard Example

Design Information

	Htg	Clg		Infiltration
Outside db (°F)	-11	90	Method	Simplified
Inside db (°F)	70	75	Construction quality	Semi-tight
Design TD (°F)	81	15	Fireplaces	1 (Tight)
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	31	35		

HEATING EQUIPMENT

Make	n/a
Trade	n/a
Model	n/a
GAMA ID	n/a
Efficiency	n/a
Heating input	
Heating output	0 Btuh
Low output baseboard	580 Btuh/ft
Total low baseboard	0 ft
High output baseboard	0 Btuh/ft
Total high baseboard	0 ft
Space thermostat	n/a

COOLING EQUIPMENT

Make	n/a
Trade	n/a
Cond	n/a
Coil	n/a
ARI ref no.	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)	Baseboard (ft)		Clg AVF (cfm)
				Low	High	
TV	232	5862	0	10	0	0
Sleep 3	64	1047	0	2	0	0
Sleep 4	64	1635	0	3	0	0
Hang-out	240	5578	0	10	0	0
Kitchen / Dining	200	2257	0	4	0	0
Sleep 1	64	1635	0	3	0	0
Sleep 2	64	1519	0	3	0	0
Bath	48	1447	0	2	0	0

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Camp	976	20980	0	36	0	0
Other equip loads		0	0			
Equip. @ 0.95 RSM			0			
Latent cooling			0			
TOTALS	976	20980	0	36	0	0

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Design Conditions

Location:

Madison, WI, US
Elevation: 866 ft
Latitude: 43°N

Outdoor:

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

Heating

-11
-
-
15.0

Cooling

90
22 (M)
73
7.5

Indoor:

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

Heating

70
81
30
31.2

Cooling

75
15
50
34.5

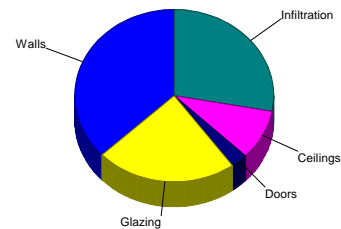
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Semi-tight
1 (Tight)

Heating

Component	Btuh/ft²	Btuh	% of load
Walls	5.1	7780	37.1
Glazing	38.1	4797	22.9
Doors	13.8	578	2.8
Ceilings	2.6	1966	9.4
Floors	0	0	0
Infiltration	3.7	5858	27.9
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		20980	100.0



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
Total		0	0

Overall U-value = 0.076 Btuh/ft²-°F

Data entries checked.

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Design Conditions

Location:		Indoor:		Heating	Cooling
Madison, WI, US		Indoor temperature (°F)		70	75
Elevation: 866 ft		Design TD (°F)		81	15
Latitude: 43°N		Relative humidity (%)		30	50
		Moisture difference (gr/lb)		31.2	34.5
Outdoor:	Heating	Cooling	Infiltration:		
Dry bulb (°F)	-11	90	Method		
Daily range (°F)	-	22 (M)	Construction quality		
Wet bulb (°F)	-	73	Fireplaces		
Wind speed (mph)	15.0	7.5	Simplified		
			Semi-tight		
			1 (Tight)		

Construction descriptions

	Or	Area ft ²	U-value Btuh/ft ² -°F	Insul R ft ² -°F/Btuh	Htg HTM Btuh/ft ²	Loss Btuh	Clg HTM Btuh/ft ²	Gain Btuh
Walls								
12E-0sw: Frm wall, spl't log ext, 1/2" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm	n	419	0.068	19.0	5.51	2308	0	0
	e	158	0.068	19.0	5.51	870	0	0
	s	206	0.068	19.0	5.51	1135	0	0
	w	110	0.068	19.0	5.51	606	0	0
	all	893	0.068	19.0	5.51	4919	0	0
12E-6sw: Frm wall, mtl ext, 1/2" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, r-10 ext bd ins, 2"x6" wood frm	n	180	0.049	25.0	3.97	714	0	0
	e	108	0.049	25.0	3.97	429	0	0
	s	156	0.049	25.0	3.97	619	0	0
	w	108	0.049	25.0	3.97	429	0	0
	all	552	0.049	25.0	3.97	2191	0	0
Partitions								
12C-0sw: Frm wall, stucco ext, r-13 cav ins, 2"x4" wood frm		91	0.091	13.0	7.37	671	0	0
Windows								
4A5-2ov: 2 glazing, clr low-e outr, air gas, insulated vinyl frm mat, clr innr, 1/4" gap, 1/8" thk	n	48	0.470	0	38.1	1827	0	0
	e	18	0.470	0	38.1	685	0	0
	s	18	0.470	0	38.1	685	0	0
	s	24	0.470	0	38.1	914	0	0
	w	18	0.470	0	38.1	685	0	0
	all	126	0.470	0	38.1	4797	0	0
Doors								
11Q0: Door, mtl pur core type, mtl strm strm	n	21	0.170	10.5	13.8	289	0	0
	n	21	0.170	10.5	13.8	289	0	0
	all	42	0.170	10.5	13.8	578	0	0
Ceilings								
16A-30md: Attic ceiling, mtl roof mat, r-10 roof ins, r-30 ceil ins, 1/2" gypsum board int fnsh		512	0.032	30.0	2.59	1328	0	0
18A-30md: Rf/clg ceiling, mtl roof mat, frm cons, r-28 deck ins, 1/2" gypsum board int fnsh, 10" thkns, r-30 ceil ins		232	0.034	30.0	2.75	638	0	0

Floors
(none)



Project Summary Camp

Job:
Date: Aug 16, 2008
By: CAD

Project Information

For: Hot Water Baseboard Example

Notes:

Design Information

Weather: Madison, WI, US

Winter Design Conditions

Outside db	-11 °F
Inside db	70 °F
Design TD	81 °F

Summer Design Conditions

Outside db	90 °F
Inside db	75 °F
Design TD	15 °F
Daily range	M
Relative humidity	50 %
Moisture difference	35 gr/lb

Heating Summary

Structure	20980 Btuh
Ducts	0 Btuh
Central vent (27 cfm)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	20980 Btuh

Sensible Cooling Equipment Load Sizing

Structure	0 Btuh
Ducts	0 Btuh
Central vent (13 cfm)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.95
Equipment sensible load	0 Btuh

Infiltration

Method	Simplified	
Construction quality	Semi-tight	
Fireplaces	1 (Tight)	
	Heating	Cooling
Area (ft²)	976	0
Volume (ft³)	10438	0
Air changes/hour	0.39	0
Equiv. AVF (cfm)	68	0

Latent Cooling Equipment Load Sizing

Structure	0 Btuh
Ducts	0 Btuh
Central vent (13 cfm)	0 Btuh
Equipment latent load	0 Btuh
Equipment total load	0 Btuh
Req. total capacity at 0.70 SHR	0 ton

Heating Equipment Summary

Make	n/a
Trade	n/a
Model	n/a
GAMA ID	n/a
Efficiency	n/a
Heating input	
Heating output	0 Btuh
Low output baseboard	0 ft
Total low baseboard	0 Btuh/ft
High output baseboard	0 ft
Total high baseboard	n/a
Space thermostat	

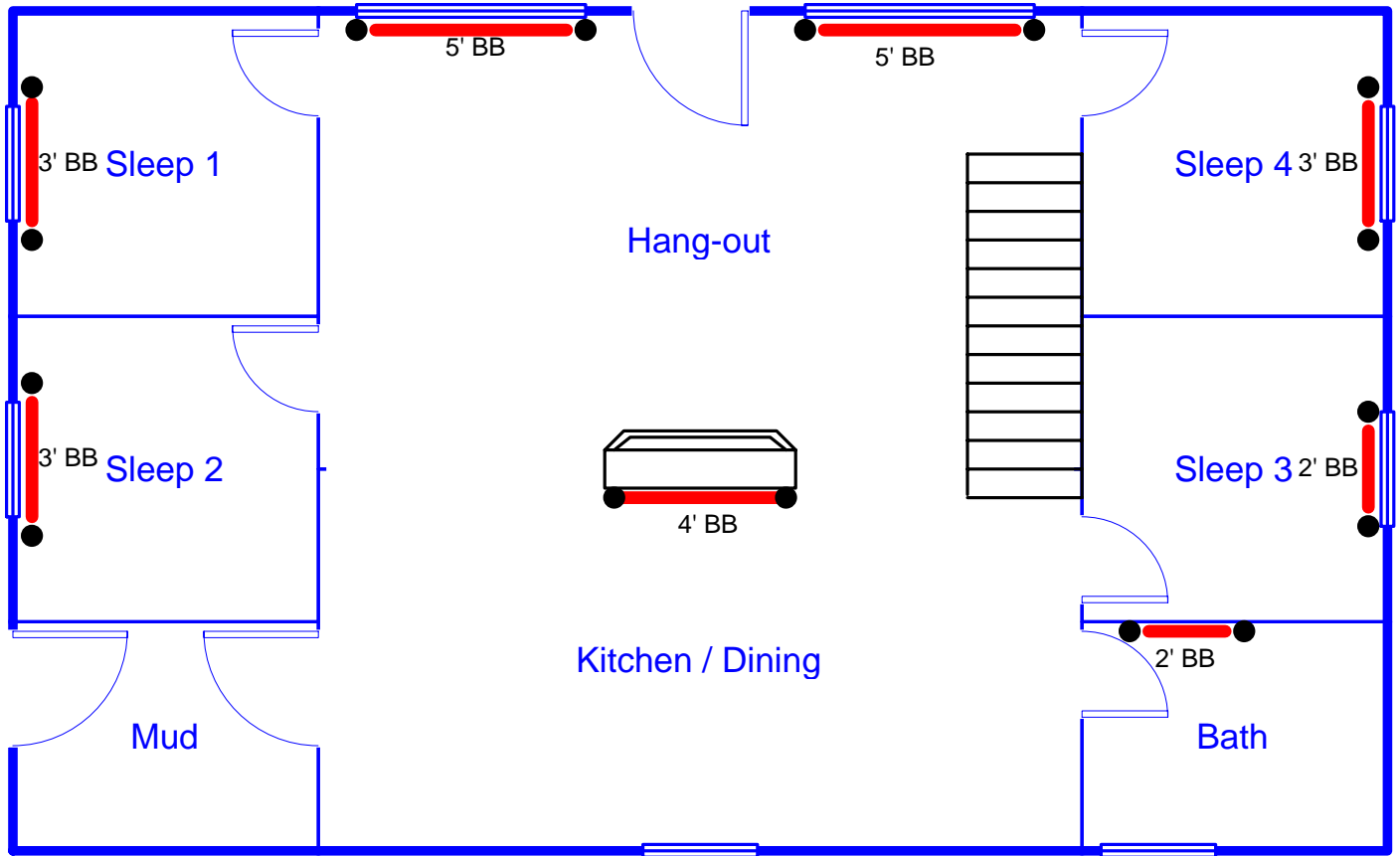
Cooling Equipment Summary

Make	n/a
Trade	n/a
Cond	n/a
Coil	n/a
ARI ref no.	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	

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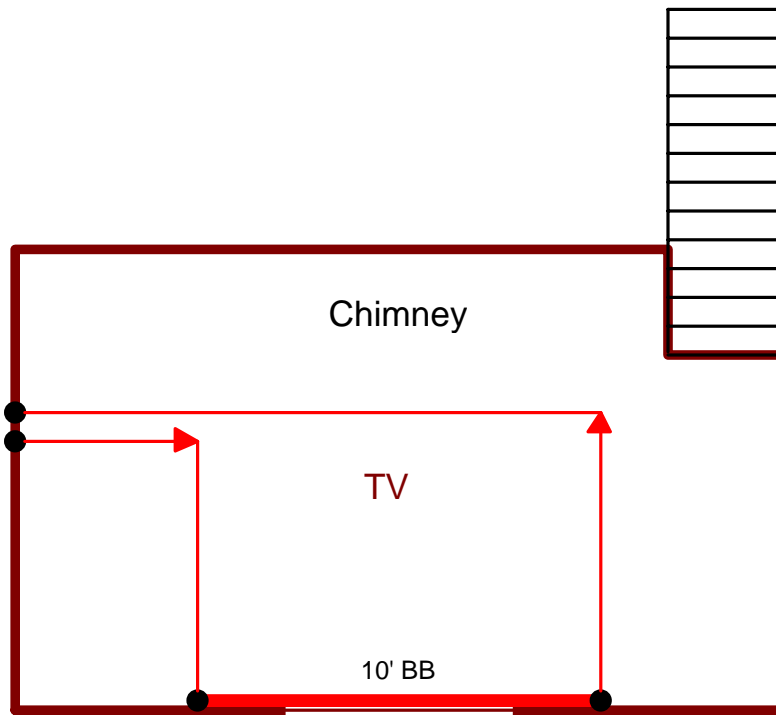
Lower Level



Job #:
Performed by CAD for:
Hot Water Baseboard Example

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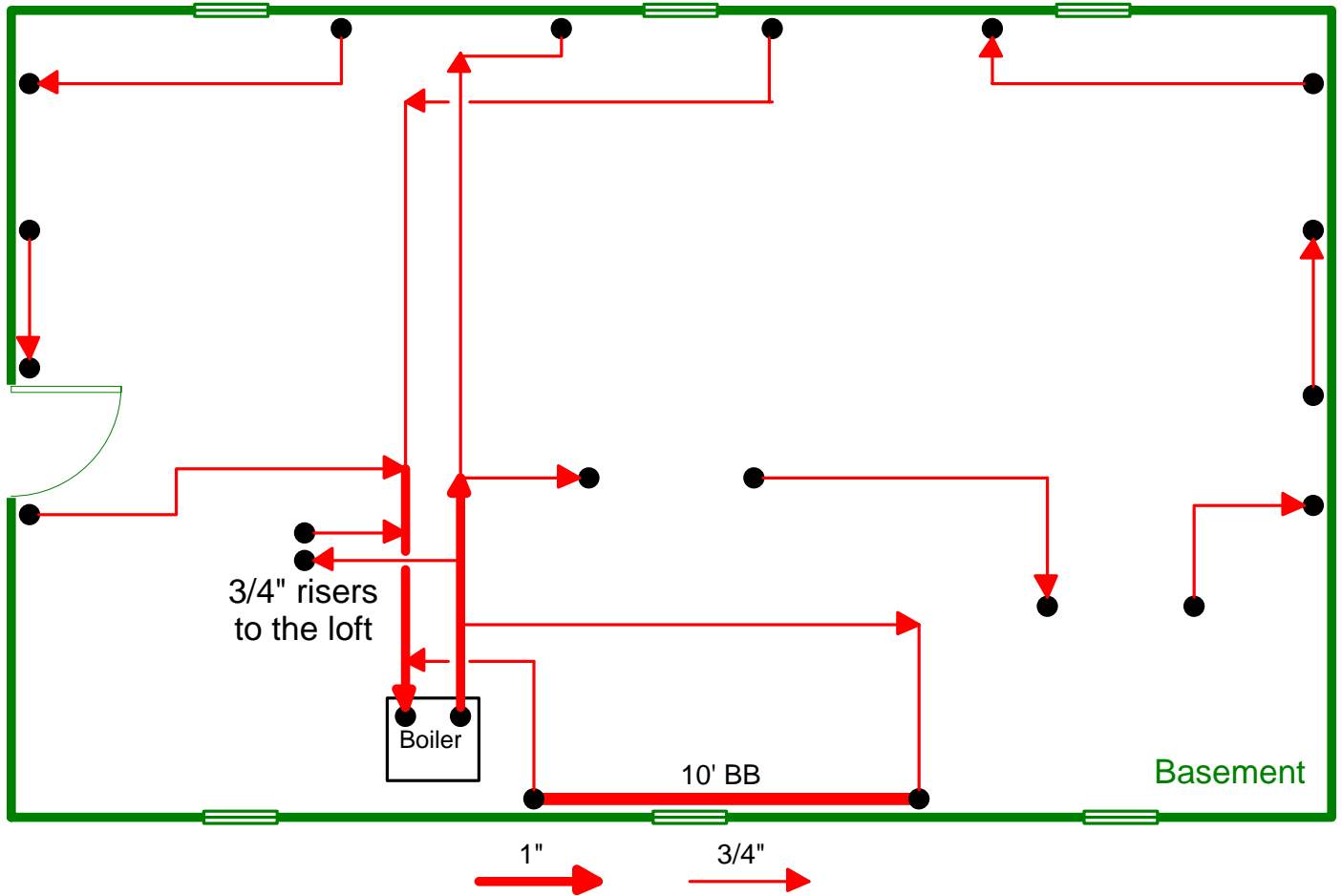
Loft



Job #:
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Hot Water Baseboard Example

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Basement



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Hot Water Baseboard Example

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