

Project:  
 Engineer:

Project Address:

Wall U-Value: 0.047619  
 Window U-Value: 0.3  
 Basement Floor U-Value: 0.066667 (4" Concrete, 3" Rigid Insulation)  
 Roof R-Value: 0.020408 (Per county Standards)

Manual J Calculation Summary	
Total Heating Load:	57,564
Total Cooling (Sensible) Load:	54,838
Total Cooling (Latent) Load:	17,108
Total Cooling Load:	71,945

Room Name	Area (SF)	Roof (SF)	Wall Length (10' High)				Window (SF)				Door (SF)				Partition (SF)
			N	S	E	W	N	S	E	W	N	S	E	W	
Basement															
Bedroom #5 Closet	53	0	5.5		10.5										
Bedroom #5	162	0			14			13							
Unfinished	640	0													60
Family Room	886	0	3	9	15			40				21			
Bedroom #4	200	0		14.5	15			14							
Bedroom #4 Closet	22	0		2											2
Downstairs Restroom	46	0													
Downstair Corridor	32	0													
Theater	249	0		5.75											29.25
Theater Closet	22	0		2											2
<b>Total</b>	<b>2312</b>	<b>0</b>	<b>8.5</b>	<b>33.25</b>	<b>54.5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>93.25</b>

Room Name	Area (SF)	Roof (SF)	Wall Length (10' High)				Window (SF)				Door (SF)				Partition (SF)
			N	S	E	W	N	S	E	W	N	S	E	W	
1st Floor															
Master Bedroom	349	349	18		18		18	40							
Kitchen Pantry	35	35			4.5										
Dining	148	148	3	9	16.5			51			40				
Great Room	674	674			10	16		62	48						53
Bedroom #2	199	199		12.5	15			9	18						
Upstairs Full Bath	109	109		9.5				6							
Bedroom #3 Closet	48	48		4											
Bedroom #3	220	220	9	11.5		16				30					
PDR	45	45				5.5									
Upstair Corridor	126	126				5.5									
Laundry	59	59				5.5									
Master Bathroom	232	232	9			3.5	18								
Master Closet	90	90	10			11	4								
<b>Total</b>	<b>2332</b>	<b>2332</b>	<b>49</b>	<b>47</b>	<b>64</b>	<b>63</b>	<b>40</b>	<b>15</b>	<b>171</b>	<b>78</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>53</b>	<b>0</b>

Winter Design Conditions		
Elevation:		1100
Outside DB:		4
Inside DB:		75

(Table 2 values obtained with 70 degree delta)

Summer Design Conditions		
Elevation:		1100
Outside DB:		96
Outside WB:		75
Outside RH:		55
Inside DB:		72

Heating Summary	
Total Wall Area:	3188
Wall HTM (From Table 2)	3.8
Total Wall Loss:	12112.5
Total Roof Area:	2332
Roof HTM (From Table 2)	1.4
Total Roof Loss:	3264.261
Total Window Area:	371
Window HTM (From Table 2)	20.8
Total Window Loss:	7716.8
Total Door Area:	114
Door HTM (From Table 2)	27.9
Total Door Loss:	142
Total Floor Area:	2312
Floor HTM (From Table 2)	1.55
Total Floor Loss:	3583.6
Total Partition Area:	93.25
Partition HTM (From Table 2)	10.1
Total Partition Loss:	941.825
Infiltration	
Total Volume	46640
ACH (Table 5, Best/Average)	0.5
CFM	389
Total Infiltration Loss:	29803
Total Heating Loss:	57564

Cooling Summary									
Sensible					Latent				
Total Wall Area:					3188	Infiltration			
Wall HTM (From Table 4)					0.8	CFM:			233
Total Wall Heat Gain:					2550	Total Heat Gain:			11893.2
Total Roof Area:					2332	Total People			5
Wall HTM (From Table 4)					0.7	Heat Gain/Person			250
Total Wall Heat Gain:					1632.131	Total People Heat Gain:			1250
Total Window Area					Ventilation				
Direction	N	S	E	W	CFM				116.6
Area (SF)	40	15	238	78	Total Ventilation Heat Gain:				3964.4
HTM*	25	32	47	47					
Total	1000	480	11186	3666					
Total Window Heat Gain:					16332	Total Latent:			17107.6
*Based on clear glass, double paned, SC = 0.45									
Total Door Area:					114				
Door HTM (From Table 4)					10.9				
Total Door Hat Gain:					1242.6				
Total Partition Area:					93.25				
Partition HTM (From Table 4)					2.3				
Total Partition Heat Gain:					214.475				
Infiltration:									
Total Volume					46640				
ACH (Table 5, Best/Average)					0.3				
CFM					233				
Total Infiltration Heat Gain:					10326.1				
Total People					5				
Heat Gain/Person					300				
Total People Heat Gain:					1500				

Kitchen Heat Gain:		1200			
Misc. Equipment:					
Computers (2)		500			
TVs (3)		400			
Lights:					
Total Floor Area		4664			
W/SF		1			
Total Lights Heat Gain:		15918			
Ventilation					
CFM (Per Table 9 Method)		116.6			
Total Ventilation Heat Gain:		3022.272			
Total Sensible:		54838			
Total Latent:		17107.6			
Total Heat Gain:		71945			