Energy Audit

Sponsored by





George's Mill Fire Station Sunapee

June 2021

Audit Prepared by





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### Introduction

This Energy Audit has been paid for by Eversource as part of their municipal energy efficiency program. Funding may also be available to help reduce energy usage through weatherization efforts.

The purpose of an energy audit is to identify energy saving measures (ESM) in a building. Computer simulated and other energy models were developed for this project using multiple strategies and software. The models predict energy consumption based on the local climate conditions, physical dimensions and characteristics of a building, mechanical systems, lighting, equipment, and occupancy patterns, in addition to a number of other variables.

With the building modeled in existing conditions, called here Existing Conditions, energy savings can be estimated for improvements to the thermal envelope or mechanical systems. The cost of those measures can then be analyzed in terms of predicted energy saved. The primary objective is to evaluate the level of investment warranted by energy and dollars saved from those specific measures. There are often benefits to recommended measures beyond potential energy and dollars saved. Improved comfort, air quality, and reduced maintenance, are all potential non energy saving benefits.

This audit has been prepared with the best of intentions to assist the Eversource and the Town of Sunapee make informed decisions regarding energy saving improvements. We do not make any warranty, expressed or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product or process disclosed.

### **Executive Summary**

Georges Mills is an unincorporated community with its own zip code (03571) in the town of Sunapee. It is located in the northeast corner of the town between the north end of Lake Sunapee and the south shore of Otter Pond. The Fire Station—also known as Rescue Station 2 Georges Mills Station—is a block building constructed in the 1950's or 60's with a floor area of 1152 square feet.

The building is not occupied except for when rescue or fire equipment is needed. It is heated by an un-ducted condensing propane fired furnace. The one dial thermostat is kept at 62 throughout the winter.

Historic energy use is described on page five. The Site EUI is 89.3 KBTU/Ft2 which suggests there are opportunities for reducing energy consumption, though only four have been found to be cost effective at this time.

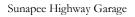
The four ESM are summarized on the next page, with additional descriptions on pages 8-10. The estimated cost for all four ESM is \$2,480 with predicted energy savings of 12.6 million Btus a year and annual dollar savings of \$284.00.





The lighting is provided by 12 eight foot fixtures with T12 lamps, but they are not turned on enough to offer compelling savings.

Your Eversource representative will be able to determine if the energy cost/savings analysis of the four recommended ESM meets their threshold for warranting the Town receiving rebates, for implementing the measures.





### Summary of Cost Savings Analysis of Recommendations

Four ESM are recommended. All four are estimated to cost \$2,480 and yield an annual savings of \$284, or 15% of current annual energy costs (\$1.75 per gallon propane and \$0.16 per kWh). At these prices, a simple 'payback' is expected in less than nine years, but the measures will continue to save energy for an additional 10 years which would yield an investment gain of \$2,999 and annualized return on investment (ROI) of 4.0% each year. If energy prices rise, as one can expect, the annual ROI will be greater than 4%.

ESM #	ESM	Cost of Measure	Annual Savings	Simple Payback Years	Life of Measure	Investment Gain	ROI	Annual ROI
1	Relocate Fridge	\$0.00	\$18	0	20	\$360	35900%	34.2%
2	Replace Thermostat	\$140	\$34	4.1	20	\$544	388.6%	8.25%
3	Replace Fridge	\$500	\$48	10.4	15	\$245	51.6%	2.81%
4	Air Sealing	\$1,840	\$184	10.0	20	\$1,850	100.54%	3.54%
1,2,3,4	TOTALS	\$2,480	\$284	8.7	20	\$2,999	119.5%	4.0%

The chart below summarizes the energy saved from the four ESM which is about 12% of current usage. The measures would also reduce CO2 emissions by approximately 1 ton per year.

ESM #	ESM	Cost of Measure	LP Gallons Saved / Year	kWh Saved / Year	Yearly Site Energy Reduction MMBTU	Yearly Source Energy Reduction MMBTU	Tons CO2 Reductions Annually
1	Relocate Fridge	\$0.00	6	45	0.7	1.1	0.1
2	Replace Thermostat	\$140	20	0	1.8	2.0	0.1
3	Replace Fridge	\$500	0	300	1.0	3.4	0.1
4	Air Sealing	\$1,840	105	62	9.8	11.3	0.7
1,2,3,4	TOTALS	\$2,480	107	1094	12.6	17.7	1.0

### ESM Description

- 1. The refrigerator is old and due for replacement but it also located less than eight inches from the furnace return, blocking or restricting return air flow, and jacket losses and hot air supply result in the refrigerator having to work harder. The intent of this measure is simply to find another location in the fire station for the refrigerator.
- 2. Replace the dial thermostat with a wifi based, remote control, thermostat to allow for greater set backs during mild winter temperatures and being able to increase settings remotely; for example when called to respond to a fire.
- 3. Consider how often the refrigerator is used and, if deemed necessary, replace with an 12-15 cubic foot Energy Star rated model.
- 4. Air sealing involves several targeted areas and is described on the following pages with photos.



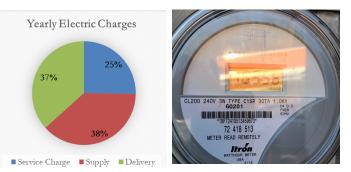
# Existing Energy Use Analysis

The energy analysis below is based on the average energy usage provided for the full two years propane and electric (2018 & 2019).

Energy	Units	Site Btus	Source Btus	\$Cost
Electric kWh	3721	12,696,052	42,274,281	\$769.45
Propane	651	90,163,500	103,688,025	\$1,139.25
Totals		102,859,552	145,962,306	\$1,909
EUI KBtu/FT2	1152	89.3	126.7	\$1.66

The Energy Utilization Index (EUI) offers a simple snapshot analysis of a building's energy use by looking at total amount of energy input (converted to Btu's) divided by the floor area of conditioned space. "Site Energy" refers to units of energy delivered to a site. Source energy includes transmission and some allowance for off site generation and other considerations. Source energy attempts to reflect the amount of energy is required to generate and deliver energy to the site, for a more accurate calculation of costs and carbon emissions.

Based on the information provided the fire station's Site EUI is 89.3 thousand BTU per square feet (89.3KBtu/ft2) and Source EUI is 127.7 KBtu/ft2) at a cost \$1.66 per ft2 at 2021 energy prices.



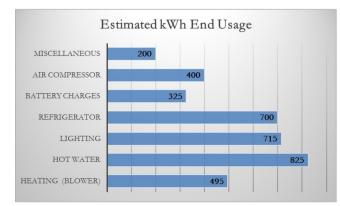
	2017	2018	2019	2020
January		402	547	226
February		422	484	274
March		381	459	212
April		308	388	175
May		245	313	154
June		300	267	109
July	233	242	206	126
August	241	266	99	126
September	256	259	94	135
October	266	275	115	186
November	316	416	225	266
December	625	499	231	340
Totals	1937	4015	3428	2329

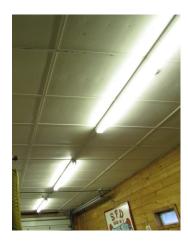
The types of charges for electricity is mostly relevant if considering installing PV for on site generation, which will offset costs for kWh supply and a portion of delivery.



Yearly totals vary but seasonal patterns are consistent as usage peaks in winter with lowest usage in summer.

Heating water, lighting, and the refrigerator are believed to be the three highest consumers of electricity, followed by furnace blower.













### **Building Description**

The concrete block structure is believed to be over 50 years old with a fairly new metal roof and high efficiency condensing, propane furnace. A layer of XPS rigid foam has been installed on the interior walls and covered in horizontal wood boards. Cellulose has been blown in over six inch fiberglass batt insulation, all of which rests on one inch (1") insulated ceiling panels. Exterior openings include six small awning style double pane windows, a 20x11 insulated overhead door and one entry door.

Targeted air sealing is the most cost effective energy saving measures at this time.

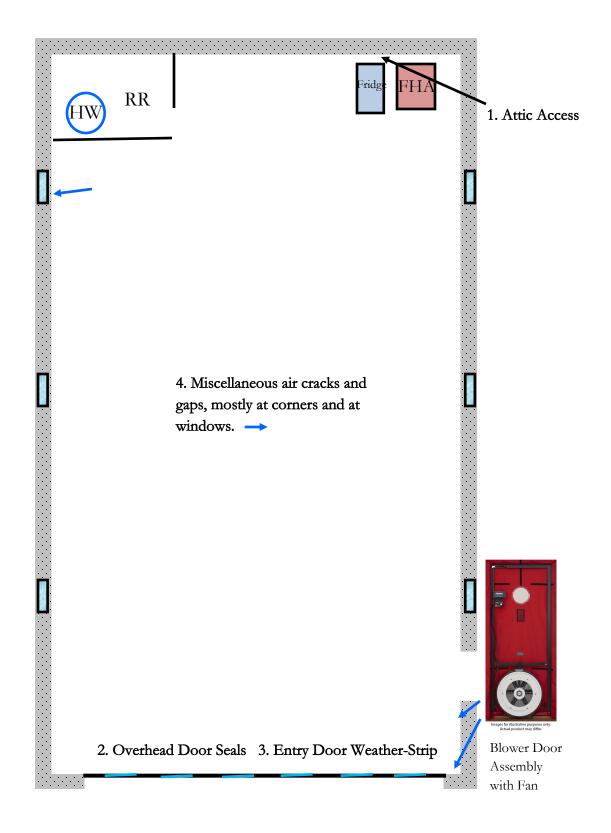
Replacing the six eight foot fixtures and twelve T12 fluorescent tubes with new eight, four foot LED fixtures, is recommended, though at current occupancy rates (when lights are on) the energy savings would likely have a lower ROI than usual.







# Air Leakage Sites





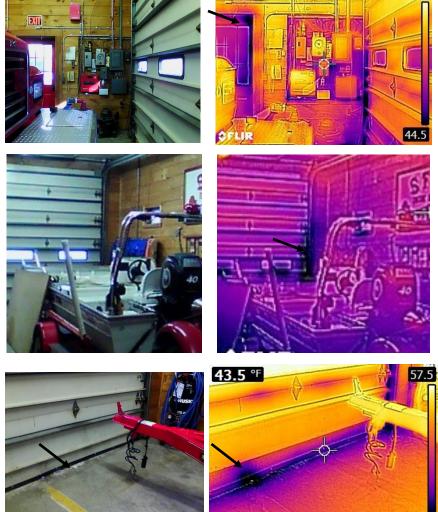
### ESM 4: Air Sealing Package

- 1. Access panel to above the ceiling: Construct an insulated panel, with minimum 4" rigid foam board, that will fit snuggly on the lip of the hatch opening, with weatherstripping. Adhere plywood to both sides for added weight.
- 2. Purchase high quality overhead door seals (from <u>Garage</u> <u>Door Weather Stripping, Bottom & Threshold Seal</u> <u>(northshorecommercialdoor.com)</u> or similar) and install on all four sides.
- 3. Install professional grade insulation around the entry door.
- 4. Depressurize the building with a blower door fan assembly to locate primary leakage sites and use appropriate foam sealant (fire stop or other) to seal gaps and cracks between materials.





Note dirt on fiberglass as it functions as an air filter more than as insulation.



**ÔFLIR** 

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Thermographic or infra red (IR) images depict differences in surface temperatures. Darker colors indicates cooler surfaces and, in the winter, more rapid heat loss to the outside. Streaks or dark "blobs" typically indicate cold air leakage.

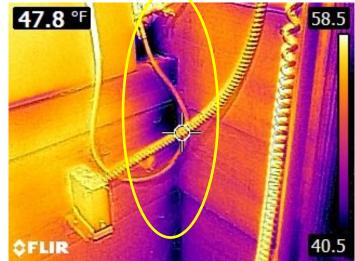


# Air Leakage Sites









# Existing Air Infiltration

Outside Air Data	Winter	
Infiltration Specified:		AC/hr
		CFM
Infiltration Actual:	0.590	AC/hr
Building Volume:	X 13.728*	Cu.ft.
	8,100	Cu.ft./hr
	X 0.0167	
Total Building Infiltration:	135	CFM
Total Building Ventilation:	0	CFM
*Indicated volume is based or	custom building	volume.

# Air Infiltration After Air Sealing

	Winter	
Infiltration Specified:	0.240	AC/hr
	55	CFM
Infiltration Actual:	0.240	AC/hr
Building Volume:	X 13.728*	Cu.ft.
	3,300	Cu.ft./hr
	X 0.0167	
Total Building Infiltration:	55	CFM
Total Building Ventilation:	0	CFM
"Indicated volume is based on	custom building	volume.

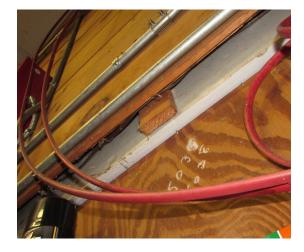


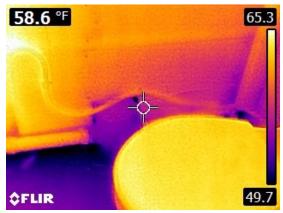


The rigid foam board on the interior of the concrete block provides a nearly continuous layer of insulation and air barrier and is a large factor in slowing the rate of heat transfer.











### Ceiling Insulation

As was discussed with Craig on site, it has been common practice to improve ceiling insulation by blowing cellulose over fiberglass batts. This does increase the R-value, though without effective air sealing, it also misses opportunities for creating a truly effective R60 ceiling plane. The cost to retrofit this ceiling to a high performing plane would not be considered cost effective and today's energy prices.

It is mentioned here because the cost of propane may rise in the coming years and this would be a worthwhile next step to conserving heating energy and reducing loads. As heating loads are reduced—ie the amount of energy input to maintain desired indoor temperatures—the cost to install extremely efficient electric heat pumps, and their ability to provide heating to very low temperature without a back up system, are also reduced. Converting to heat pumps also allows installing solar PV panels to offset electric use over a year, thereby also reducing carbon emission.

At this time, the furnace is performing adequately and no change is advised.













for

**Town Of Sunapee** 

Sunapee, NH, 03782





Prepared By:

Margaret Dillon S.E.E.D.S.

603-532-8979 Monday, June 28, 2021

Rhvac is an ACCA approved Manual J, D and S computer program. Calculations are performed per ACCA Manual J 8th Edition, Version 2, and ACCA Manual D.



Project Report

Project Report								
General Project Informat Project Title: Project Date: Client Name: Client City: Company Name:	Georg Wedn Town	ges Mill EXIS esday, June Of Sunapee pee, NH, 037	23, 2021					
Company Representative Company Phone: Company E-Mail Addres	e: Marga 603-5	aret Dillon 32-8979 n@myfairpoi	nt.net					
Design Data Reference City: Building Orientation: Daily Temperature Rang Latitude:	e:		Front do High 3 Degrees	AP, New Ha or faces Nort				
Elevation: Altitude Factor:		0.98						
		Outdoor <u>Net Bulb</u> -2.6 70	Outdoor <u>Rel.Hum</u> n/a 43%	Indoor <u>Rel.Hum</u> n/a 50%	Indoor <u>Dry Bulb</u> 62 75	Grains <u>Difference</u> n/a 19		
Check Figures Total Building Supply CF Square ft. of Room Area Volume (ft <sup>3</sup> ): * Based on area of room ** Based on area of room ***Indicated volume is ba	: ns being hea ns being coc	13,72 ated or cooled bled.	d (whicheve	Square	er Square ft. ft. Per Ton: stem) rather		0.388 0 or area.	
Building Loads         Total Heating Required I         Notes         Rhvac is an ACCA appro         Calculations are perform         All computed results are	ncluding Ver oved Manual ed per ACC estimates a	ntilation Air: I J, D and S o A Manual J & s building us	34,0 computer pr 8th Edition, e and weatl	Version 2, an ner may vary.		nual D.		
Be sure to select a unit t your design conditions.	nat meets do	oth sensidle a	and latent id	ads accordin	ig to the mar	furacturer's pe	enormance data at	



### Miscellaneous Report

	σροπ								
System 1 Existing FHA		Outdoo	r Outd	oor (	Outdoo	or	Indoor	Indoor	Grains
Input Data		Dry Bulk		ulb F	Rel.Hur		el.Hum	Dry Bulb	Difference
Winter:		-2		2.6	80%	%	n/a	62	n/a
Summer:		87	7	70	439	%	50%	75	18.65
Duct Sizing Inputs									
	<u>Main Trunk</u>			<u>Runouts</u>					
Calculate:	No			No					
Use Schedule:	No			No					
Roughness Factor:	0.00300			0.01000					
Pressure Drop:		in.wg./100	ft.			g./100 ft.			
Minimum Velocity:		ft./min			ft./mi				
Maximum Velocity:	900	ft./min			ft./mi	in			
Minimum Height:	0	in.		0					
Maximum Height:	0	in.		0	in.				
Outside Air Data									
		<u>Winter</u>			<u>mmer</u>				
Infiltration Specified:		0.590 A				AC/hr			
		135 C	FM		135	CFM			
Infiltration Actual:		0.590 A	C/hr		0.590	AC/hr			
Building Volume:	Χ_	<u>13,728*</u> C	Cu.ft.	<u>X 13</u>	3, <u>728*</u>	Cu.ft.			
		8,100 C	Cu.ft./hr		8,100	Cu.ft./hr			
	Σ	<u>( 0.0167</u>		<u>X 0</u>	.0167				
Total Building Infiltration:		135 C	FM		135	CFM			
Total Building Ventilation			FM		0	CFM			
*Indicated volume is base	ed on custom	n building vo	lume.						
System 1							~		,
Infiltration & Ventilation S			13.04					r Temp. Differe	ence)
Infiltration & Ventilation L			12.52					Difference)	<b>`</b>
Infiltration & Ventilation S		•	69.53	= (1.10)	x 0.988	8 X 64.00	Winter T	emp. Differend	ce)
Winter Infiltration Specifie	ed: 0.590	) AC/hr (135	o CFM)						

Winter Infiltration Specified:0.590 AC/hr (135 CFM)Summer Infiltration Specified:0.590 AC/hr (135 CFM)



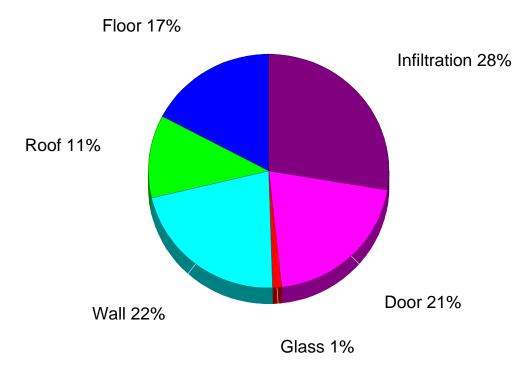
## Load Preview Report

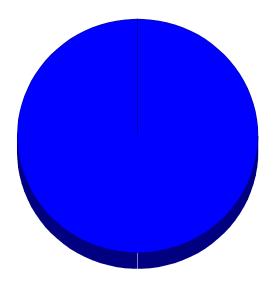
Scope	Net Ton	ft.² /Ton	Area	Sen Gain	Lat Gain	Net Gain	Sen Loss	Sys Htg CFM	Sys Clg CFM	Sys Act CFM	Duct Size
Building	0.00	0	1,153	0	0	0	34,015	447	0	447	
System 1	0.00	0	1,153	0	0	0	34,015	447	0	447	0*
Zone 1			1,153	0	0	0	34,015	447	0	447	
1-Georges Mill Fire Station			1,153	0	0	0	34,015	447	0	447	50*



# Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Tota Gai
rosco: Glazing-Brosco windows, U-value 0.35, SHGC	<u>Quan</u> 18	402	<u> </u>	<u> </u>	Gal
0.4	10	102	Ũ	Ũ	
xisting: Door-Overhead Door, U-value 0.5	220	7,040	0	0	
nterior XPS: Wall-Block, Custom, Concrete block with	1449.2	7,419	0	0	
interior XPS and wood planks, U-value 0.08					
6BR-19-ml: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), unvented attic with radiant barrier, R-19 insulation, light metal, U-value 0.049	1100	3,450	0	0	
oor Areas: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Custom, six inch fg ineffective, U-value 0.16	44	451	0	0	
2A-pl: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, light dry soil, U-value 0.65	141	5,866	0	0	
Subtotals for structure:		24,628	0	0	
People:	0	,	Õ	0 0	
Equipment:			0	0	
Lighting:	0			0	
Ductwork:		0	0	0	
nfiltration: Winter CFM: 135, Summer CFM: 135		9,387	0	0	
/entilation: Winter CFM: 0, Summer CFM: 0		0	0	0	
otal Building Load Totals:		34,015	0	0	
Check Figures	0514.5	<u> </u>			
Fotal Building Supply CFM:447Square ft. of Room Area:1,153/olume (ft³):13,728***		er Square ft.: ft. Per Ton:			0.388 * 0 *
		tom) rathar the	an entire floor	area.	
Based on area of rooms being heated or cooled (whicheve * Based on area of rooms being cooled.	er governs sys				
Based on area of rooms being heated or cooled (whicheve * Based on area of rooms being cooled. **Indicated volume is based on custom building volume.	er governs sys				
Based on area of rooms being heated or cooled (whicheve * Based on area of rooms being cooled. **Indicated volume is based on custom building volume. Building Loads					
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Based on area of rooms being heated or cooled (whicheve Based on area of rooms being cooled. **Indicated volume is based on custom building volume. ••••••••••••••••••••••••••••••••••••	015 Btuh rogram. Version 2, an her may vary.	34.015 ME	3H al D.		ta at
Based on area of rooms being heated or cooled (whicheve Based on area of rooms being cooled. **Indicated volume is based on custom building volume. uilding Loads otal Heating Required Including Ventilation Air: 34,0 otes hvac is an ACCA approved Manual J, D and S computer p calculations are performed per ACCA Manual J 8th Edition, Il computed results are estimates as building use and weat e sure to select a unit that meets both sensible and latent le	015 Btuh rogram. Version 2, an her may vary.	34.015 ME	3H al D.		ta at
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Based on area of rooms being heated or cooled (whicheve * Based on area of rooms being cooled. **Indicated volume is based on custom building volume. Building Loads Total Heating Required Including Ventilation Air: 34,0 Notes Rhvac is an ACCA approved Manual J, D and S computer p Calculations are performed per ACCA Manual J 8th Edition, All computed results are estimates as building use and weat Be sure to select a unit that meets both sensible and latent late	015 Btuh rogram. Version 2, an her may vary.	34.015 ME	3H al D.		ta at
Based on area of rooms being heated or cooled (whicheve * Based on area of rooms being cooled. **Indicated volume is based on custom building volume. Building Loads Total Heating Required Including Ventilation Air: 34,0	015 Btuh rogram. Version 2, an her may vary.	34.015 ME	3H al D.		ta at
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100.0%

Rhvac - Residential & Light Commercial HVAC Loads S.E.E.D.S. Jaffrey, NH 03452						Elite Software Development, Inc. Georges Mill EXISTING Page 7		
Detailed Room Loads -	Room 1 - Ge	eorges I	Mill Fire	Station				
General								
Calculation Mode:	Htg. only	0	ccurrences:			1		
Room Length:	44.0 ft.		1					
Room Width:	26.2 ft.	1						
Area:	1,152.8 sq.ft.	1,152.8 sq.ft. Supply Air:				447 CFM		
Ceiling Height:	12.0 ft.		upply Air Ch			1.9 AC/hr		
Volume:	13,728** cu.ft.		eq. Vent. Cl			0 CFM		
Number of Registers:	5	A	ctual Winter	Vent.:		0 CFM		
Runout Air:	0 CFM		ercent of Su			0 %		
			ctual Summ		0 CFM			
			ercent of Su			0 %		
Actual Winter Infil.:			Infil.:		135 CFM			
			Actual Summer Infil.:					
			ctual Summ	er Infil.:		0 CFM		
**Indicated volume is based on cu	stom building volur		ctual Summ	er Infil.:		0 CFM		
Item	Area	ne. -U-	Htg	er Infil.: Sen	Clg	Lat		
ltem Description	Area Quantity	ne. -U- Value	Htg HTM	Sen Loss	НТЙ	Lat Gain	Sen Gain	
Item Description IW-Wall-Interior XPS 44 X 12	Area Quantity 519	ne. -U- Value 0.080	Htg HTM 5.1	Sen Loss 2,657	<u>HTM</u> 0.0	Lat	<u>Gain</u> 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12	Area Quantity 519 95.6	ne. -U- Value 0.080 0.080	Htg HTM 5.1 5.1	Sen Loss 2,657 489	HTM 0.0 0.0	Lat Gain 0 0	Gain 0 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 SW-Wall-Interior XPS 44 X 12	Area Quantity 519 95.6 519	ne. -U- Value 0.080 0.080 0.080	Htg HTM 5.1 5.1 5.1	Sen Loss 2,657 489 2,657	HTM 0.0 0.0 0.0	Lat Gain 0 0 0	<u>Gain</u> 0 0 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 SW-Wall-Interior XPS 44 X 12 SE-Wall-Interior XPS 26.3 X 12	Area Quantity 519 95.6 519 315.6	ne. -U- Value 0.080 0.080 0.080 0.080	Htg HTM 5.1 5.1 5.1 5.1 5.1	Sen Loss 2,657 489 2,657 1,616	HTM 0.0 0.0 0.0 0.0 0.0	Lat Gain 0 0 0 0	<u>Gain</u> 0 0 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 SW-Wall-Interior XPS 44 X 12 SE-Wall-Interior XPS 26.3 X 12 IE-Door-Existing 20 X 11	Area Quantity 519 95.6 519 315.6 220	ne. -U- Value 0.080 0.080 0.080 0.080 0.080 0.500	Htg HTM 5.1 5.1 5.1 5.1 5.1 32.0	Sen Loss 2,657 489 2,657 1,616 7,040	HTM 0.0 0.0 0.0 0.0 0.0 0.0	Lat Gain 0 0 0 0 0	<u>Gain</u> 0 0 0 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 IE-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 IE-Door-Existing 20 X 11 IW-GIs-Brosco shgc-0.4 0%S (3)	Area Quantity 519 95.6 519 315.6 220 9	ne. -U- Value 0.080 0.080 0.080 0.080 0.500 0.350	Htg HTM 5.1 5.1 5.1 5.1 32.0 22.4	Sen Loss 2,657 489 2,657 1,616 7,040 201	HTM 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Lat Gain 0 0 0 0	<u>Gain</u> 0 0 0 0 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 IE-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 IE-Door-Existing 20 X 11 IW-GIs-Brosco shgc-0.4 0%S (3) IW-GIs-Brosco shgc-0.4 0%S (3)	Area Quantity 519 95.6 519 315.6 220 9 9	ne. -U- Value 0.080 0.080 0.080 0.080 0.500 0.350 0.350	Htg HTM 5.1 5.1 5.1 5.1 32.0 22.4 22.4	Sen Loss 2,657 489 2,657 1,616 7,040 201 201	HTM 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Lat Gain 0 0 0 0 0 0 0 0 0	Gain 0 0 0 0 0 0 0	
Item Description W-Wall-Interior XPS 44 X 12 VE-Wall-Interior XPS 26.3 X 12 SW-Wall-Interior XPS 44 X 12 SE-Wall-Interior XPS 26.3 X 12 VE-Door-Existing 20 X 11 VW-GIs-Brosco shgc-0.4 0%S (3) SW-GIs-Brosco shgc-0.4 0%S (3) JP-Ceil-16BR-19 44 X 25	Area Quantity 519 95.6 519 315.6 220 9 9 9 1100	ne. -U- Value 0.080 0.080 0.080 0.080 0.500 0.350 0.350 0.049	Htg HTM 5.1 5.1 5.1 5.1 32.0 22.4 22.4 3.1	Sen Loss 2,657 489 2,657 1,616 7,040 201 201 201 3,450	HTM 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Lat Gain 0 0 0 0 0 0 0 0 0 0 0	Gain 0 0 0 0 0 0 0 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 SW-Wall-Interior XPS 44 X 12 SE-Wall-Interior XPS 26.3 X 12 IE-Door-Existing 20 X 11 IW-GIs-Brosco shgc-0.4 0%S (3) SW-GIs-Brosco shgc-0.4 0%S (3) JP-Ceil-16BR-19 44 X 25 JP-Ceil-Poor Areas 44 X 1	Area Quantity 519 95.6 519 315.6 220 9 9 9 1100 44	ne. -U- Value 0.080 0.080 0.080 0.080 0.500 0.350 0.350 0.350 0.049 0.160	Htg HTM 5.1 5.1 5.1 32.0 22.4 22.4 3.1 10.2	Sen Loss 2,657 489 2,657 1,616 7,040 201 201 201 3,450 451	HTM 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Lat Gain 0 0 0 0 0 0 0 0 0 0 0 0 0	Gain 0 0 0 0 0 0 0 0 0 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 SW-Wall-Interior XPS 44 X 12 SE-Wall-Interior XPS 26.3 X 12 IE-Door-Existing 20 X 11 IW-GIs-Brosco shgc-0.4 0%S (3) SW-GIs-Brosco shgc-0.4 0%S (3) JP-Ceil-16BR-19 44 X 25 JP-Ceil-Poor Areas 44 X 1	Area Quantity 519 95.6 519 315.6 220 9 9 9 1100	ne. -U- Value 0.080 0.080 0.080 0.080 0.500 0.350 0.350 0.049	Htg HTM 5.1 5.1 5.1 5.1 32.0 22.4 22.4 3.1	Sen Loss 2,657 489 2,657 1,616 7,040 201 201 201 3,450	HTM 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Lat Gain 0 0 0 0 0 0 0 0 0 0 0	<u>Gain</u> 0 0 0 0 0	
Item Description IW-Wall-Interior XPS 44 X 12 IE-Wall-Interior XPS 26.3 X 12 SW-Wall-Interior XPS 44 X 12 SE-Wall-Interior XPS 26.3 X 12 IE-Door-Existing 20 X 11 IW-GIs-Brosco shgc-0.4 0%S (3) SW-GIs-Brosco shgc-0.4 0%S (3) JP-Ceil-16BR-19 44 X 25 JP-Ceil-Poor Areas 44 X 1 Floor-22A-pl 141 ftPer.	Area Quantity 519 95.6 519 315.6 220 9 9 9 1100 44	ne. -U- Value 0.080 0.080 0.080 0.080 0.500 0.350 0.350 0.350 0.049 0.160	Htg HTM 5.1 5.1 5.1 32.0 22.4 22.4 3.1 10.2	Sen Loss 2,657 489 2,657 1,616 7,040 201 201 201 3,450 451	HTM 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Lat Gain 0 0 0 0 0 0 0 0 0 0 0 0 0	Gain 0 0 0 0 0 0 0 0 0 0	
**Indicated volume is based on cu- Item Description W-Wall-Interior XPS 44 X 12 NE-Wall-Interior XPS 26.3 X 12 SW-Wall-Interior XPS 26.3 X 12 SE-Wall-Interior XPS 26.3 X 12 NE-Door-Existing 20 X 11 NW-GIs-Brosco shgc-0.4 0%S (3) SW-GIs-Brosco shgc-0.4 0%S (3) JP-Ceil-16BR-19 44 X 25 JP-Ceil-Poor Areas 44 X 1 Floor-22A-pl 141 ftPer. Subtotals for Structure: nfil.: Win.: 135.0, Sum.: 0.0	Area Quantity 519 95.6 519 315.6 220 9 9 9 1100 44	ne. -U- Value 0.080 0.080 0.080 0.080 0.500 0.350 0.350 0.350 0.049 0.160	Htg HTM 5.1 5.1 5.1 32.0 22.4 22.4 3.1 10.2	Sen Loss 2,657 489 2,657 1,616 7,040 201 201 3,450 451 5,866	HTM 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Lat Gain 0 0 0 0 0 0 0 0 0 0 0 0 0	Gain 0 0 0 0 0 0 0 0 0 0	

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## Miscellaneous Report

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System 1 Existing FHA		Outdo		Outdoor	Outdoo		Indoor	Indoor	Grains
Input Data		Dry B	ulb We	et Bulb	Rel.Hu		I.Hum	Dry Bulb	Difference
Winter:			-2	-2.6	809	%	n/a	62	n/a
Summer:			87	70	439	%	50%	75	18.65
Duct Sizing Inputs									
	<u>Main Trunk</u>			<u>Runou</u>					
Calculate:	No				lo				
Use Schedule:	No				lo				
Roughness Factor:	0.00300			0.0100					
Pressure Drop:		in.wg./10	00 ft.	0.100		g./100 ft.			
Minimum Velocity:		ft./min			0 ft./mi				
Maximum Velocity:	900	ft./min		75	50 ft./mi	in			
Minimum Height:	0	in.			0 in.				
Maximum Height:	0	in.			0 in.				
Outside Air Data									
		<u>Winter</u>		S	Summer				
Infiltration Specified:			AC/hr			AC/hr			
		55	CFM		55	CFM			
Infiltration Actual:		0.240	AC/hr		0.240	AC/hr			
Building Volume:	<u>X_</u>	13,728*	Cu.ft.	<u>X</u>	<u>13,728*</u>	Cu.ft.			
-		3,300	Cu.ft./hr		3,300	Cu.ft./hr			
	2	<u> 0.0167</u>		X	0.0167				
Total Building Infiltration:		55	CFM		55	CFM			
Total Building Ventilation:	:	0	CFM		0	CFM			
*Indicated volume is base	ed on custom	n building	volume.						
System 1		NA 141 11	40	o		0 1/ 40 00	~	T D'''	,
Infiltration & Ventilation S								Temp. Differe	nce)
Infiltration & Ventilation L								Difference)	
Infiltration & Ventilation S				.53 = (1.10	J X 0.98	8 X 64.00	vvinter I	emp. Differenc	e)
Winter Infiltration Specifie		0 AC/hr (5							
Summer Infiltration Speci	tied: 0.240	0 AC/hr (5	5 CFM)						



# Total Building Summary Loads

Description         Quan         Loss         Gain         Gain           Brosco: Glazing-Brosco windows, U-value 0.35, SHGC         18         402         0         0           Existing: Door-Overhead Door, U-value 0.5         220         7,040         0         0           Interior XPS: Wall-Block, Custom, Concrete block with         1449.2         7,419         0         0           Interior XPS: Wall-Block, Custom, Concrete block with         1449.2         7,419         0         0           Attic Floor (Also use for Knee Walls and Partition         1100         3,450         0         0           Ceilings), unvented attic with radiant barrier, R-19         insulation, light metal, U-value 0.049         Poor Areas: Roof/Ceiling-Under Attic with Insulation on         44         451         0         0           Poor Areas: Roof/Ceiling-Under Attic with Insulation on         44         451         0         0         0           Calings), Custom, six inch fig ineffective, U-value 0.16         22A-pl: Floor-Slab on grade, No edge insulation, no         141         5,866         0         0         0         0           Guipment:         0         0         0         0         0         0         0         0         0         0         0         0         0 <t< th=""><th>Component Description Brosco: Glazing-Brosco windows, U-value 0.35, SHGC 0.4 Existing: Door-Overhead Door, U-value 0.5</th><th></th><th>Son</th><th></th><th></th><th></th></t<>	Component Description Brosco: Glazing-Brosco windows, U-value 0.35, SHGC 0.4 Existing: Door-Overhead Door, U-value 0.5		Son			
Brosco: Glazing-Brosco windows, U-value 0.35, SHGC       18       402       0       0         0.4       220       7,040       0       0         Interior XPS: Wall-Block, Custom, Concrete block with       1449.2       7,419       0       0         Interior XPS: and wood planks, U-value 0.08       1100       3,450       0       0         BBR-19-mi: Roof/Ceiling-Under Attic with Insulation on       1100       3,450       0       0         Attic Floor (also use for Knee Walls and Partition Ceilings), unvented attic with radiant barrier, R-19 insulation, light metal, U-value 0.049       0       0         Poor Areas: Roof/Ceiling-Under Attic with Insulation on       44       451       0       0         Attic Floor (also use for Knee Walls and Partition Ceilings), Custom, six inch of gineffective, U-value 0.16       22A-p1: Floor-Slab on grade, No edge insulation, no       141       5,866       0       0         Insulation below floor, any floor cover, passive, light dry soil, U-value 0.65       24,628       0       0       0         Subtotals for structure:       24,628       0       0       0       0       0         Infiltration: Winter CFM: 55, Summer CFM: 55       3,824       0       0       0       0       0         Uettiding Load Totals:       28,452       0	Brosco: Glazing-Brosco windows, U-value 0.35, SHGC 0.4 Existing: Door-Overhead Door, U-value 0.5	()uan				Tota
0.4         Existing: Door-Overhead Door, U-value 0.5       220       7,040       0         Existing: Door-Overhead Door, U-value 0.08       1449.2       7,419       0       0         interior XPS and wood planks , U-value 0.08       1100       3,450       0       0         6BR-19-ml: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), unvented attic with radiant barrier, R-19 insulation, light metal, U-value 0.049       0       0         Poor Areas: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), custom, six inch 1g ineffective, U-value 0.16       0       0         22-Apt: Floor-Slab on grade, No edge insulation, no 141       5,866       0       0         or y soil, U-value 0.65       24,628       0       0       0         Subtotals for structure:       24,628       0       0       0         People:       0       0       0       0       0         Ustotals for structure:       24,628       0       0       0       0       0         Ustotals for structure:       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	0.4 Existing: Door-Overhead Door, U-value 0.5					Gair
Interior         XPS: Wall-Block, Custom, Concrete block with         1449.2         7,419         0         0           interior         XPS and wood planks , U-value 0.08         0         0         0           IBR-19-mit. Roof/Ceiling-Under Attic with Insulation on         1100         3,450         0         0           Attic Floor (also use for Knee Walls and Partition         1100         3,450         0         0           Ceilings), unvented attic with radiant barrier, R-19         insulation. light metal. U-value 0.049         0         0           Poor Areas: Roof/Ceiling-Under Attic with Insulation on         44         451         0         0           Ceilings), unvented attic with radiant barrier, R-19         insulation         44         451         0         0           insulation light metal, U-value 0.49         -         -         2         -         0         0           Ceilings), Custom, six inch fg ineffective, U-value 0.16         -         -         -         -         -         -         -         -         -         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0				0	0	(
interior XPS and wood planks , U-value 0.08 I6BR-19-mi: Roof/Ceiling-Under Attic with Insulation on 1100 3,450 0 0 Attic Floor (also use for Knee Walls and Partition Ceilings), unvented attic with radiant barrier, R-19 insulation, light metal, U-value 0.049 Poor Areas: Roof/Ceiling-Under Attic with Insulation on 44 451 0 0 Attic Floor (also use for Knee Walls and Partition Ceilings), Custom, six inch fg ineffective, U-value 0.16 22A-pl: Floor-Slab on grade, No edge insulation, no 141 5,866 0 0 insulation below floor, any floor cover, passive, light dry soil, U-value 0.65 Subtotals for structure: 24,628 0 0 Equipment: 0 0 0 Lighting: 0 0 Ductwork: 0 0 0 Infiltration: Winter CFM: 55, Summer CFM: 55 3,824 0 Ventialtion: Winter CFM: 0, Summer CFM: 0 0 Total Building Load Totals: 28,452 0 Check Figures Total Building Supply CFM: 374 CFM Per Square ft.: 0.32 Square ft. of Room Area: 1,153 Square ft. Per Ton: Volume (ft <sup>9</sup> ): 13,728*** * Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area. ** Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area. ** Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area. ** Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area. ** Based on area of rooms being based on custom building volume. Building Loads Total Heating Required Including Ventilation Air: 28,452 Btuh 28.452 MBH Notes		220	7,040	0	0	(
I6BR-19-ml: Roof/Ceiling-Under Attic with Insulation on       1100       3,450       0       0         Attic Floor (also use for Knee Walls and Partition       0       0       0         Ceilings), unvented attic with radiant barrier, R-19       0       0       0         insulation, light metal, U-value 0.049       0       0       0         Poor Areas: Roof/Ceiling-Under Attic with Insulation on       44       451       0       0         Attic Floor (also use for Knee Walls and Partition       141       5,866       0       0         Ceilings), Custom, six inch fg ineffective, U-value 0.16       22A-pl: Floor-Slab on grade, No edge insulation, no       141       5,866       0       0         Subtotals for structure:       24,628       0       0       0       0         People:       0       0       0       0       0       0         Ductwork:       0 <td></td> <td>1449.2</td> <td>7,419</td> <td>0</td> <td>0</td> <td>(</td>		1449.2	7,419	0	0	(
Poor Areas: Roof/Ceiling-Under Attic with Insulation on       44       451       0       0         Attic Floor (also use for Knee Walls and Partition Ceilings), Custom, six inch fg ineffective, U-value 0.16       22A-pl: Floor-Slab on grade, No edge insulation, no       141       5,866       0       0         22A-pl: Floor-Slab on grade, No edge insulation, no       141       5,866       0       0         Subtotals for structure:       24,628       0       0       0         People:       0       0       0       0         Equipment:       0       0       0       0         Lighting:       0       0       0       0         Ductwork:       0       0       0       0         Ventilation: Winter CFM: 55, Summer CFM: 55       3,824       0       0       0         Total Building Load Totals:       28,452       0       0       0         Total Building Supply CFM:       374       CFM Per Square ft.:       0.32       0.32         Square ft. of Room Area:       1,153       Square ft. Per Ton:       0.32       32       0.32       32       32       0.32       32       33       32       33       33       33       33       33       33       33       34	16BR-19-ml: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), unvented attic with radiant barrier, R-19	1100	3,450	0	0	(
22A-pl: Floor-Slab on grade, No edge insulation, no       141       5,866       0       0         insulation below floor, any floor cover, passive, light       24,628       0       0         Gry soil, U-value 0.65       0       0       0         Subtotals for structure:       24,628       0       0         People:       0       0       0       0         Equipment:       0       0       0       0         Lighting:       0       0       0       0         Ductwork:       0       0       0       0         Infiltration: Winter CFM: 55, Summer CFM: 55       3,824       0       0       0         Ventilation: Winter CFM: 0, Summer CFM: 0       0       0       0       0         Total Building Load Totals:       28,452       0       0       0         Check Figures       28,452       0       0       0       0.32         Square ft. of Room Area:       1,153       Square ft. Per Ton:       0.32       0.32         Square ft. of Room Area:       1,3,728***       **       8ased on area of rooms being cooled.       ****         **** Based on area of rooms being cooled.       *****       *****       ***       ***       *	Poor Areas: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition	44	451	0	0	(
People:000Equipment:000Lighting:000Ductwork:000Infiltration: Winter CFM: 55, Summer CFM: 553,82400Ventilation: Winter CFM: 0, Summer CFM: 0000Total Building Load Totals:28,45200Check FiguresTotal Building Supply CFM:374CFM Per Square ft.:0.32Square ft. of Room Area:1,153Square ft. Per Ton:0.32Volume (ft³):13,728****0.32* Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.*** Based on area of rooms being cooled.***** Based on area of rooms being cooled.***** Based on area of rooms being cooled.***** Total Heating Required Including Ventilation Air:28,452Btuh28,452 Btuh28.452 MBH	22A-pl: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, light	141	5,866	0	0	(
People:000Equipment:000Lighting:000Ductwork:000Infiltration: Winter CFM: 55, Summer CFM: 553,82400Ventilation: Winter CFM: 0, Summer CFM: 0000Total Building Load Totals:28,45200Check FiguresTotal Building Supply CFM:374CFM Per Square ft.:0.32Square ft. of Room Area:1,153Square ft. Per Ton:0.32Volume (ft³):13,728****0.32* Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.*** Based on area of rooms being cooled.***** Based on area of rooms being cooled.***** Based on area of rooms being cooled.***** Total Heating Required Including Ventilation Air:28,452Btuh28,452 Btuh28.452 MBH	Subtotals for structure:		24.628	0	0	(
Equipment:00Lighting:00Ductwork:00O00Infiltration: Winter CFM: 55, Summer CFM: 553,82400Ventilation: Winter CFM: 0, Summer CFM: 0000Total Building Load Totals:28,45200Check FiguresTotal Building Supply CFM:374CFM Per Square ft.:0.32Square ft. of Room Area:1,153Square ft. Per Ton:0.32Volume (ft³):13,728****8ased on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.******* Based on area of rooms being cooled.**************Building Loads************Total Heating Required Including Ventilation Air:28,452Btuh28.452MeterVolume Supply CFM:1,153Square ft. Per Ton:Volume (ft³):13,728*******Total Heating Required Including volume.Building LoadsTotal Heating Required Including Ventilation Air:28,452BtuhNotes		0	2.,020			(
Lighting:00Ductwork:00Infiltration: Winter CFM: 55, Summer CFM: 553,8240Ventilation: Winter CFM: 0, Summer CFM: 000Total Building Load Totals:28,4520Check Figures28,4520Total Building Supply CFM:374CFM Per Square ft.:Square ft. of Room Area:1,153Square ft. Per Ton:Volume (ft³):13,728***** Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.*** Indicated volume is based on custom building volume.Building LoadsTotal Heating Required Including Ventilation Air:28,452Notes		0		-		(
Ductwork:       0       0       0         Infiltration: Winter CFM: 55, Summer CFM: 55       3,824       0       0         Ventilation: Winter CFM: 0, Summer CFM: 0       0       0       0         Total Building Load Totals:       28,452       0       0         Check Figures         Total Building Supply CFM:       374       CFM Per Square ft.:       0.32         Square ft. of Room Area:       1,153       Square ft. Per Ton:       0.32         Volume (ft³):       13,728***       *       8       8ased on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.         *** Based on area of rooms being cooled.       ****Indicated volume is based on custom building volume.       ****         Building Loads		0		0		(
Infiltration: Winter CFM: 55, Summer CFM: 55       3,824       0       0         Ventilation: Winter CFM: 0, Summer CFM: 0       0       0       0         Total Building Load Totals:       28,452       0       0         Check Figures         Total Building Supply CFM:       374       CFM Per Square ft.:       0.32         Square ft. of Room Area:       1,153       Square ft. Per Ton:       0.32         Volume (ft³):       13,728***       *       8ased on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.       ***         *** Based on area of rooms being cooled.       ****Indicated volume is based on custom building volume.          Building Loads		0	0	0		
Ventilation: Winter CFM: 0, Summer CFM: 0       0       0       0       0         Total Building Load Totals:       28,452       0       0       0         Check Figures         Total Building Supply CFM:       374       CFM Per Square ft.:       0.32         Square ft. of Room Area:       1,153       Square ft. Per Ton:       0.32         Volume (ft³):       13,728***       *       8ased on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.         ** Based on area of rooms being cooled.       ***Indicated volume is based on custom building volume.       8uilding Loads         Building Loads         Total Heating Required Including Ventilation Air:       28,452       Btuh       28.452       MBH			-			(
Total Building Load Totals:       28,452       0       0         Check Figures       Total Building Supply CFM:       374       CFM Per Square ft.:       0.32         Square ft. of Room Area:       1,153       Square ft. Per Ton:       0.32         Volume (ft <sup>3</sup> ):       13,728***       *       8ased on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.       ***         ** Based on area of rooms being cooled.       ****Indicated volume is based on custom building volume.       Building Loads         Building Loads       Total Heating Required Including Ventilation Air:       28,452       Btuh       28.452       MBH						(
Check Figures Total Building Supply CFM: 374 CFM Per Square ft.: 0.32 Square ft. of Room Area: 1,153 Square ft. Per Ton: Volume (ft <sup>3</sup> ): 13,728*** * Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area. ** Based on area of rooms being cooled. ***Indicated volume is based on custom building volume. Building Loads Total Heating Required Including Ventilation Air: 28,452 Btuh 28.452 MBH Notes						(
Total Building Supply CFM:       374       CFM Per Square ft.:       0.32         Square ft. of Room Area:       1,153       Square ft. Per Ton:       0.32         Volume (ft <sup>3</sup> ):       13,728***       8       8         * Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.       ***       ***         *** Based on area of rooms being cooled.       ****       ****       ***         **** Indicated volume is based on custom building volume.       ***       ***         Building Loads       ***       28,452       MBH         Notes       ***       ***       ***       ***	Total Building Load Totals:		28,452	0	0	(
Square ft. of Room Årea:       1,153       Square ft. Per Ton:         Volume (ft <sup>3</sup> ):       13,728***       Square ft. Per Ton:         * Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.       ***         ** Based on area of rooms being cooled.       ****Indicated volume is based on custom building volume.         Building Loads						
Volume (ft3):       13,728***         * Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.         ** Based on area of rooms being cooled.         ***Indicated volume is based on custom building volume.         Building Loads         Total Heating Required Including Ventilation Air:       28,452       Btuh       28.452       MBH         Notes						0.325 *
<ul> <li>* Based on area of rooms being heated or cooled (whichever governs system) rather than entire floor area.</li> <li>** Based on area of rooms being cooled.</li> <li>***Indicated volume is based on custom building volume.</li> <li>Building Loads</li> <li>Total Heating Required Including Ventilation Air: 28,452 Btuh 28.452 MBH</li> <li>Notes</li> </ul>		Square	e ft. Per Ton:			0 **
Total Heating Required Including Ventilation Air: 28,452 Btuh 28.452 MBH Notes	* Based on area of rooms being heated or cooled (whichever e ** Based on area of rooms being cooled.	governs sy	stem) rather than	entire floor	area.	
Total Heating Required Including Ventilation Air: 28,452 Btuh 28.452 MBH Notes	Building Loads					
		2 Btuh	28.452 MBH	4		
Calculations are performed per ACCA Manual J 8th Edition, Version 2, and ACCA Manual D. All computed results are estimates as building use and weather may vary. Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.	All computed results are estimates as building use and weathe Be sure to select a unit that meets both sensible and latent loa	ersion 2, ar r may vary	<i>'</i> .		ormance da	ta at

# Georges Mill Fire Station Energy Cost Analysis

for

Town Of Sunapee

Sunapee, NH, 03782



Prepared By:

Margaret Dillon S.E.E.D.S.

603-532-8979 Friday, June 25, 2021

Energy Audit - Energy Au S.E.E.D.S. Jaffrey, NH 03452	nalysis and Cost Comparison		Elite Software Development, Inc Georges Mill Fire Station Page 2			
Project Information						
Project Title: Designed By: Project Date:	Georges Mill Fire Station Thursday, June 24, 2021	Company Name: Company Rep.: Company Address:	S.E.E.D.S. Margaret Dillon			
Project Comment: Client Name: Client Address: Client City: Client Phone:	Town Of Sunapee Sunapee, NH, 03782	Company City: Company Phone: Company Fax: Company Comment:	603-532-8979			
Client Fax: Client Comment:						
Cooling Equipment	System 1					
Model Type: Model Number: Capacity:	Standard Air Conditioner 0 Btuh					
Efficiency:	0					
Heating Equipment	System 1					
Model Type: Model Number:	Propane Furnace					
Capacity: Efficiency:	95,000 Btuh 95 AFUE					
System Description:	Existing FHA					
Cooling Equipment	System 2					
Model Type: Model Number:	Standard Air Conditioner					
Capacity: Efficiency:	0 Btuh 0					
Heating Equipment	System 2					
Model Type: Model Number:	Propane Furnace					
Capacity: Efficiency:	95,000 Btuh 95 AFUE					
System Description:	After Air Sealing					



Project Summary

General Project Informa

General Project Inform	ation		
Project Title: Project Date: Client Name: Client City:	Georges Mill Fire Station Thursday, June 24, 2021 Town Of Sunapee Sunapee, NH, 03782	Company Name: Company Rep: Company Phone: Company E-Mail Address:	S.E.E.D.S. Margaret Dillon 603-532-8979 mdillon@myfairpoint.net
Design Data			
Building Area: People: Occupancy:	1,153 sq.ft. 0 0	Heating Load: Loads Adj. Factor: AC On Temp.:	38,111 Btuh 0.47 0 °F
Actual City: Weather Ref. City:	Concord AP, New Hampshire Concord AP, New Hampshire		
Summer Outdoor: Summer Indoor: Cooling Hours:	87 °F 75 °F 0	Winter Outdoor: Winter Indoor: Degree Days:	-2 °F 62 °F 7,000

### Annual Operating Cost Estimate

	Fuel	Total	Total	Annual	Total	Average
System	Rates	Heating	Cooling	Service	Oper.	Monthly
Description	Set	Cost	Cost	Charges	Cost	Cost
Existing FHA	1	\$1,141	\$0	\$0	\$1,141	\$95
After Air Sealing	1	\$957	\$0	\$0	\$957	\$80