

JOEGREEN ROADMAP TO ENERGY EFFICIENCY™



JOEGREEN Audit Team: Chris Henson

Audit Date: June 22nd, 2010

Town of Topsfield Fire Department

GOODNEWS:

We were able to diagnose the problem areas in the facility during the Audit. We have listed the specific problems responsible for your energy efficiency issues.

YOURPROBLEMS:

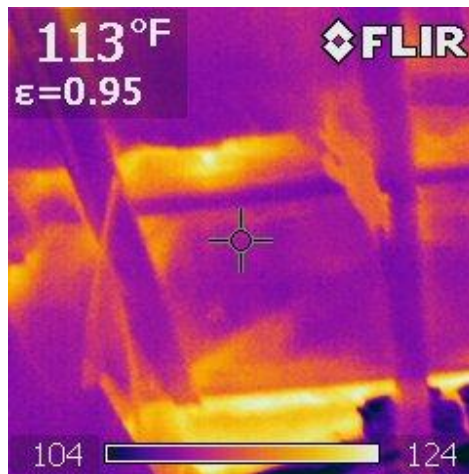
Based on the Joe Green Energy Audit conducted on June 22nd, 2010:

- **Ventilation , Heat Loss, And Infiltration**
 - Insulation In Attic Is Old And Ineffective
 - Significant Air Leakage From Around Attic Edges And Window In Attic
 - Side Door Has Air Leakage
 - Small Amount Of Thermal And Air Leakage From Pipe Penetrations Into 2nd Floor
- **Furnace And Distribution**
 - Heating Unit Could Be Geothermal System
 - Inefficient Steam Boiler Furnace
 - Inefficient Air Conditioning Units For 2nd Floor
- **Water Usage**
 - Dhw Turned To Max Setting

INFRAREDPICTURES

*Note that darker colors = cooler areas

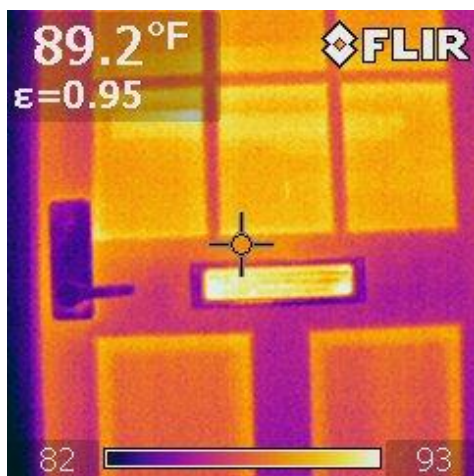
Attic



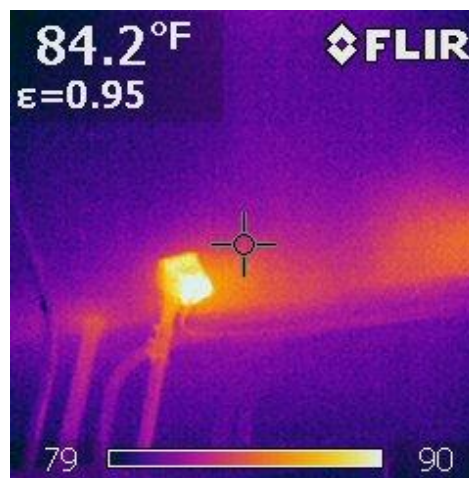
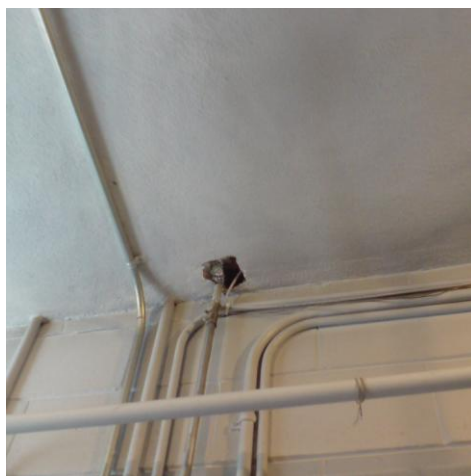
Attic Edge & Window in Attic



Attic Walls

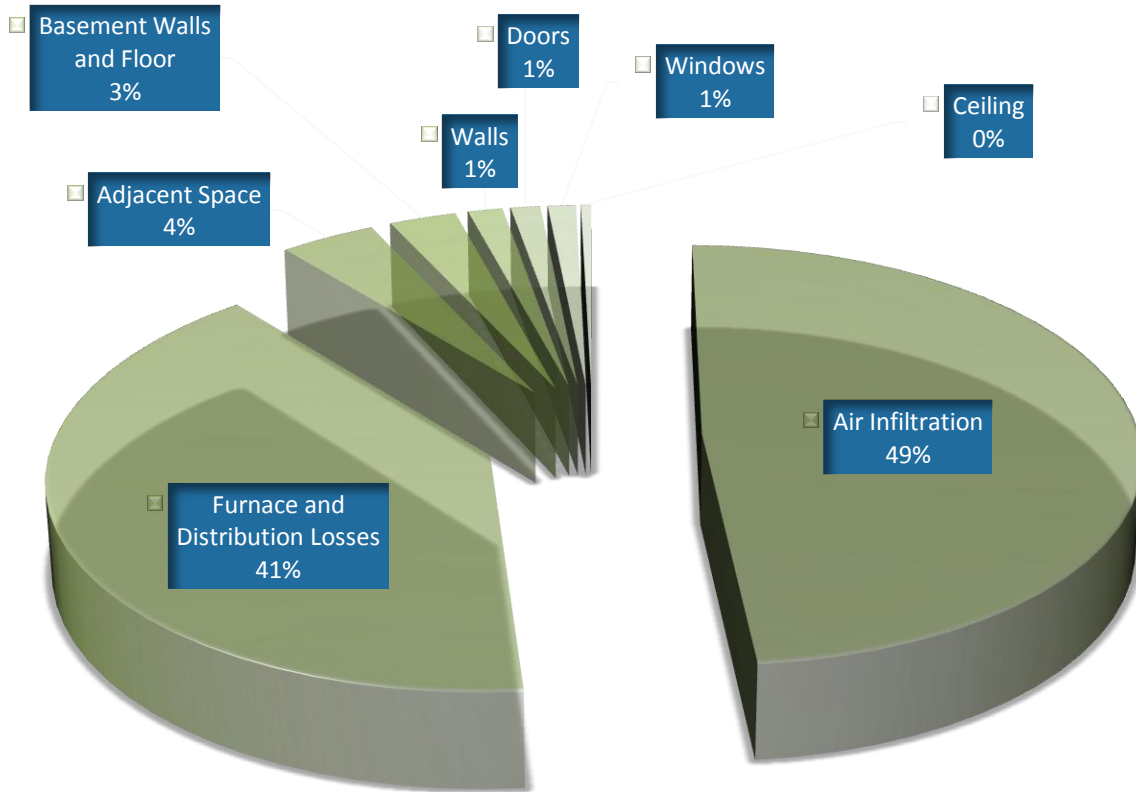


Pipe Penetrations



Additional Pictures can be found at <http://photobucket.com/joegreenhome-TopsfieldFD> Password: JOEGREEN

CONDITIONED AIR LOSS



SOURCE	% of USAGE
Air Infiltration	49%
Furnace and Distribution Losses	40%
Adjacent Space	4%
Basement Walls and Floors	3%
Walls	1%
Doors	1%
Windows	1%
Ceiling	0%

YOURSOLUTIONS:

	<i>Initial Investment</i>	<i>Per Year Savings</i>	<i>% of Energy Savings</i>
Furnace Changeout To Heating And AC Unit	\$26562.50	\$1960.00-\$2940.00	20%-30%
Replace Attic Insulation, Seal, And Increase Amount	\$1750.00	\$980.00-\$1470.00	10%-15%
Seal Around Window Edges And Fill In Block Holes	\$175.00	\$490.00-\$686.00	5%-7%
Weatherize Side Door In Ladder Truck Bay	\$330.68	\$196.00-\$392.00	2%-4%
Turned Down To 120F Setting	-	\$196.00-\$294.00	2%-3%
Seal Pipe Penetrations	\$155.68	\$196.00-\$294.00	2%-3%

*These calculations are derived using proprietary software that models the energy usage of the building based on the conditions found at the time of the audit. Although behavioral variance has been accounted for, it cannot be fully predicted and may affect the actual savings achieved. **Please be aware that the percentage reductions achieved by each action are based upon that specific action alone. When multiple actions are taken the total percentage reductions achieved will be different from an arithmetic sum of the individual actions. Please be especially sensitive when adding projected dollar savings together as they are produced by multiplying the percentage savings by the historical dollar outlay resulting in a total that is only related to that one specific action and cannot be added to other projected dollar savings in a meaningful fashion...***