



HOME ENERGY AUDIT WORKSHEET

Client/Customer

Date

0730 - 8/13/09

Address

Client/Customer Participation

Yes - On Site w/AWS

Client/Customer Representative

AWS Energy/Weatherization Auditor(s)

Pat Young
Mike Greco
Jim Allen

Contact Info

In order for Affordable Weatherization Solutions to most effectively and efficiently conduct the Home Energy Audit the following basic questions should be asked of the client/customer and information gathered prior to beginning the work-on-site.

- (1) Estimated square footage of finished living space, not including basement, attic or garage.
- (2) Number of individuals and ages of those residing in the home.
- (3) Approximate times during a typical day the home is occupied and by whom.
- (4) Estimated temperature the home is kept during the day/evening.
- (5) Approximate year the home was built, remodeled, or added on to.
- (6) Approximate age of your furnace/boiler/water heater and how it is heated - type of fuel.
- (7) Does the home have any other sources/types of heating systems, i.e. Electric/Gas/Wood/Pellet Monitor units - or Other -- Solar/GeoThermal..
- (8) Copies of energy bills (Electric, Oil, Gas, Propane) for the last 12 months.

* If not readily available - can be requested/provided by utility/oil company.*

2980 Sq Ft
4
Family - 24/7
70
1989/200X
5/22 Yrs - Oil
WoodStove
Provided

House Perimeter/Footprint:

Original Home - Main Floor	28 X 40	1,120
Original Home - 2nd Floor	24 X 40	960
Main Floor Great Room Addition	26 X 30	780
Main Floor Mud Room	10 X 12	120
	TOTAL Sq Ft:	2,980

Type of Home:

Single - Residential

Two Story - Gambrel w/Great Room Addition/Mud Room & Attached Garage

Framed - Shingle Roof

Blower Door Testing:

Initial CFM Reading @ 50 +/- pa:	7,200
CFM Reading w/Basement/Attic @ 50 +/- pa:	8,000
Other Observations:	
Unable to baseline 50 pa. - Testing done at 40 pa. - readings adjusted by a factor of 1.2	
Family/Great Room Addition => 1,200 CFM @ 50 pa.	
Typical "Tight" 3,000 Sq Ft Home should baseline 2,500 to 3,500 CFM at 50 pa.	
NOTE: CFM is Cubic Feet per Minute - Air Flow within Structure.	

Main Living Area:

Kitchen/Pantry:

Skylights

Y or N

Fireplace/Woodstove

Y or N

Outside Entry

Y or N

Infra-Red/Thermo Scan Results:

Kitchen windows well installed & "tight" ...
Some residual leakage at cranks & corners ...

Other Observations:

Stove/oven ... only gas unit in home ...
No major problems issues ...

Dining Room/Breakfast Nook:

Skylights
Y or N

Fireplace/Woodstove
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Some residual leakage along ceiling joints, corners, and window sills ...
Significant air flow/leakage in/around sliding glass door to outside ...

Other Observations:

Sitting/Parlor/Living Room:

Skylights
Y or N

Fireplace/Woodstove
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Some residual leakage along ceiling joints, corners, and window sills ...

Other Observations:

No major issues with picture window installation/sill/platform shelving ..

Great Room/Family Room Addition:

Skylights
Y or N

Fireplace/Woodstove
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Great Room addition adds 1,200 CFM to home air flow situation ...
Significant leakage in/around ceiling pod light fixtures ...
Tongue & Groove ceiling has no "Sheet Rock" barrier to outside ...
Plastic protective cover "ONLY" ...

Other Observations:

Could reduce air leakage through eaves with "Dense Pack" insulation ...
Would require insertion of installation hose under existing fiberglass ...
As little as 3" could/would stop "GROSS" air infiltration ...
Could reduce air leakage by installing sealed can - pod light units ...

Master Bedroom:

Skylights
Y or N

Fireplace/Woodstove
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Some residual leakage along ceiling joints, corners, and window sills ...

Other Observations:

Master Bathroom:

Skylights
Y or N

Connected to Master Bedroom
Y or N

Full or Partial

Infra-Red/Thermo Scan Results:

Some residual leakage along ceiling joints, corners, and window sills ...

Air flow/leakage in and around shower plumbing/faucet fixtures ...

Air flow/leakage from and around ceiling fan ...

Other Observations:

Suggest installing timer or motion sensor fan units to more effectively deal with residual moisture issues ...

Suggest insulating around ceiling fan units ...

Bedroom #2

Skylights
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Did not conduct "Infra-Red/Thermo Scan ...

Other Observations:

Bedroom #3

Skylights
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Did not conduct "Infra-Red/Thermo Scan ...

Other Observations:

Bathroom #2 - Upstairs

Skylights
Y or N

Full or Partial

Infra-Red/Thermo Scan Results:

Some residual leakage along ceiling joints, corners, and window sills ...
Air flow/leakage in and around shower plumbing/faucet fixtures ...
Air flow/leakage from and around ceiling fan ...

Other Observations:

Suggest installing timer or motion sensor fan units to more effectively deal with residual moisture issues ...
Suggest insulating around ceiling fan units ...

Bathroom #3 - Laundry Room:

Skylights
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Some residual leakage along ceiling joints, corners, and window sills ...
Air flow/leakage from and around ceiling fan ...
Air flow/leakage from dryer ducting access ...

Other Observations:

Suggest installing timer or motion sensor fan units to more effectively deal with residual moisture issues ...
Suggest insulating around ceiling fan units ...

Porch/Breezeway/Mud Room:

Skylights
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Did not conduct "Infra-Red/Thermo Scan ...

Other Observations:

Attic/Eaves/Crawl Space:

Skylights
Y or N

Infra-Red/Thermo Scan Results:

Entry to attic needs to be finished off - significant air flow/leakage ...
Install scuttle cover with R40 foam seals and positive locks ...

Other Observations:

Add R19/R38 to area over main home bed, bath, and closet spaces ...
Approximately 480 Sq Ft of insulation materials ...

Basement:

Finished/Unfinished
Y or N

Outside Entry
Y or N

Infra-Red/Thermo Scan Results:

Air flow/leakage along ceiling joints, corners, and sill plates ...

Other Observations:

Repair window w/Sump Pump discharge hose ...
Relocate discharge hose to a "thru Sill" w/run off trough ...
Install exterior bulkhead door complete with insulation ...
Install minimum R14 - 2" Styrofoam Board to sill plate and seal w/foam .
(Approximately 200 linear feet required ...)

NOTE: Great "stuff" - very effective - minimal expense ...

Insulation:

Attic/Eaves/Crawl Space:

Type:	FiberGlass
Approximate "R-Value":	Combination R19 & R38
Other Observations:	
	R19 over the original main home ... R38 over the Great Room addition ...

Heating/Cooling System Testing:

Secondary Heating Systems

Electric/Gas

Wood/Pellet

Monitor/Kerosene

Other - Solar/GeoThermal

System Type/Brand:	Hydronic - well maintained ...
Date Last Serviced:	Installed and routinely serviced by home owner ...
Efficiency Measurement:	Testing offered, but turned down by owner ...
General Condition:	
Ducting/Vents:	
Other Observations:	
	Wood Stove unit in basement as back-up during winter months ...

Hot Water System:

System Type/Brand:	External Tank System off Boiler ... (80 gallon capacity)
Date Last Serviced:	
General Condition:	Approximately 20+ year old system ...
Other Observations:	

General Comments:

Overall Observations:

Well built, well maintained single family home with no "major" structural problems or issues ...

Based on results of our Blower Door Testing and Infra-Red Thermal Scanning we believe you could reduce your annual fuel oil usage by as 40-50% and maintain comparable levels of comfort and safety...

The Great Room/Family Room addition, in its' current configuration, is the single largest contributor to your air flow and air leakage issues.

Prioritized Recommendation(s):

- (1) The Great Room/Family Room contributes approximately 1,200 CFM of heating/cooling air flow to your home environment. This area itself is basically equivalent to an average "small" home. The combination of your insulation, as it is currently installed/configured, and the issues created by your recessed pod lights need to be addressed and upgraded in order to minimize the effect of this living space on the rest of your home. We suggest installing "Dense Pack" insulation through the eaves and removing and replacing current pod lights with insulated - sealed can units.
- (2) Finishing off the access to your Attic Space would significantly mitigate the single largest contributor to your air flow and air leakage issues on the upstairs second floor of the main/original living space. A properly installed foam insulated scuttle cover with positive locks, coupled with the addition of approximately 480 Sq Ft of R19 and R38 combined to the attic space above the main house bed, bath, and closet space(s), and finally installing decorative positive locks to the hallway access door would go a long way towards minimizing the effects of this issue on the rest of your upstairs living space.
- (3) Basements generally have direct and noticeable effects on the rest of a home's occupied living space and yours is no exception. First, you should repair/replace the window containing the sump pump discharge hose. We would suggested you relocate the sump discharge hose to a properly installed "Thru Sill" to include a run off trough on the outside. Next, to provide a more effective air flow/leakage barrier, we suggest you install a properly insulated/weather stripped interior bulkhead door unit. Finally, to most effectively maximize the "R" value in the basement, we suggest you install a minimum of R14 - 2" Styrofoam Board to the sill plates and seal with foam.
- (4) Bathroom ceiling fans, while useful are often overlooked as sources of air flow/leakage issues. We suggest removing and replacing existing ceiling fans with timer units, which come on and operate for a pre-determined setting when the switch is activated, or motion sensor units with operate when the bathroom(s) are occupied or in use. Properly insulating the units and venting ducts will not only minimize and mitigate air flow/leakage, but also more effectively control any residual moisture related issues.

Other General Recommendation(s):

- (1) Any external doors/accesses, or doors leading to outside areas should be properly weather stripped and properly fitted door sweep units installed.
- (2) Depending on individual family lifestyles and comfort levels, consider removing and replacing current thermostats with programmable - set back units. These reasonably inexpensive units are most effective when the range between "high" and "low" settings is carefully monitored and managed. Too wide a temperature range may negate any fuel savings when warming the home back up to the "high" setting.

General Comments - Continued:

- (3) Based on informal discussions regarding your current Hot Water system, we are providing for your information a document compiled by the Department of Energy which may/could help you select and install the right Hot Water replacement system, should you decide to pursue that particular option.

Customer Option(s):

- (1) As part of our service we are prepared to offer the XXXXXXXXX family and estimate/quote for any contracted weatherization work to complete any or all, as a package, the recommendations discussed and outlined above. All work shall be completed in a professional manner by licensed, certified, and insured contractors in compliance with all Federal, State, and Local Building codes and other applicable laws. AWS approved contractors will warrant all work/materials for a period of 1 year following date of completion/acceptance by customer/client.
- (2) Through a Preferred Business Partnership with a regional financial institution, AWS can arrange very "competitive" financing for repairs, renovations, and contracted weatherization services.
- (3) Whether you choose to do the repairs/upgrades yourself or have AWS manage the contracted weatherization services for you, for a \$150 fee we will return to your home and repeat the testing to confirm any work done actually corrected the air flow/leakage issues identified by AWS during our initial visit.

Thank you very much for the opportunity for us to conduct your home energy audit and to offer contracted weatherization service solutions. Your business and customer satisfaction is very important to us, we would appreciate any "feedback" you may have that helps us better meet the needs of future customers. If you have any questions or concerns, please do not hesitate to contact us by e-mail, phone, or at our Dover NH office.