REPORT NUMBER: 17090901080 : DATE: 01/17/2012

Home Inspection & Energy Efficiency

FULL REPORT FOR: XXX

@ XXXXXXXXX, WASHINGTON

ON: 17th January 2012 **- FEE $499.00**

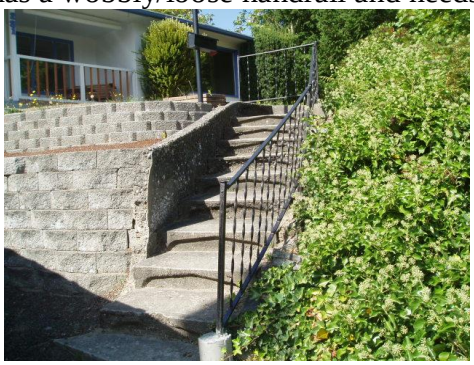
The scope of this report is written in accordance with:- The Washington State Legislature WAC 308-408C Standards Of Practice.

A) STRUCTURE/EXTERIOR

The home was built in the 1930's using a concrete foundation, concrete block and timber framing/sub-structure. Additional extensions are present and seem to include the kitchen and living room. The siding is a "Stucco" style render.

1) The exterior "Stucco" finish looks to have been repaired in recent times and seems in an appropriate condition but during the forthcoming winter months inspections and any repairs are recommended. Old cracking where movement in the house has occurred around windows and the like have been sealed over and should be closely monitored. Shrubbery up against the home needs to be trimmed back and any damage repaired.


2) The retaining walls around the garage have moved and cracked and some repairs may be warranted.
3) The path ways have cracked and heaved and may want some repair.
4) The front yard stair has a wobbly/loose handrail and needs to be fixed more appropriately.



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5) The living room extension has a crawlspace under it, with out any access, though two air vents are present and a photo was taken of the inside. Recommend breaking open one of these vents and creating an access point for appropriate inspection/repairs etc. Debris was noted on the crawlspace floor and heating vents are un-insulated.

6) The kitchen floor and sub structure has been replaced and full access under part of it is not possible. No insulation is present either. This area will need to be monitored for rain water entry in the wet winter months with any necessary remedies if appropriate.

7) The crawlspace under the bathroom area is also extremely tight and earth to wood contact is present in a siding skirt and therefore hidden insect activity and or rot may be present. These timbers seem to have been there from construction many years ago.

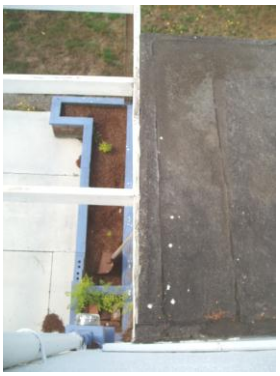


8) In the attic area over the third bedroom/kitchen, old fire damaged timbers are present. Repairs have been carried out with a newer kitchen ceiling. Access into the area was deemed unsafe. Some old structural timbers look still to be in need of repair/replacement. No access into the main bedroom ceiling was found! Recommend further evaluation and repair.



9) Some past water entry into the basement seems to have occurred around the south west end as staining around cracks in the concrete and old plumbing protrusions are present.

10) One or two beetle exit holes were noted in the basement timbers, which confirms high moisture levels and therefore some hidden damage may be present.
11) The rear yard patio may well pool water which could seep down into the basement and its slope may want to be altered especially if drainage is poor. The sloping bathroom roof here is also an issue as no gutter is provided. A trellis structure is present and timbers are attached to the wall and the propensity for rot and water entry behind the wall are great and repairs are recommended. Hidden damage may be present.



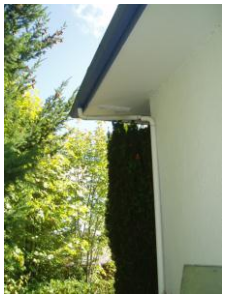

B) ROOF

The roofing material is a 30 year type plus some torch down material on the upper bedroom plateaux and the rear bathroom slope section. Ventilation is minimal with barely any soffit vents. The material would seem about 15 years old but may be older.

12) The roofing material is damaged in many places due to pressure washing and repairs are necessary to ensure against leakage. Recommend that a professional roofer inspect/repair issue a 5 year roof warranty or replace as necessary.

13) Moss is prevalent and will need to be attended to. Gutters also need cleaning/repairs in places.


14) As mentioned gutters are missing in places (rear bathroom sloping roof) and down spouts are un-attached/fallen off and or have rusting holes all need to be attended to asap.


15) The chimneys have no rain caps or a cricket to fend of rain and therefore rain water entry around and inside could occur. The upper section of the roof was not traversed only viewed from the lower roof.


16) Metal flashing along one section has been replaced with some aluminium stick down membrane. At least one plumbing boot has rotted out and needs replacement.

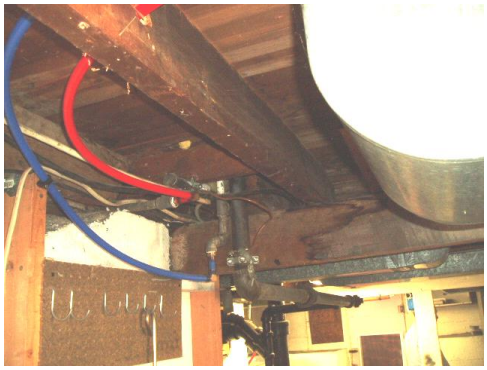

C) PLUMBING

The main sewer pipe is cast iron and descends through the basement floor and may be as old as the house and therefore may be a cause for concern but certainly will be as time moves on. Its actual age may be available from the city and assuming the original house had septic we may find it is post second world war. The main water pipe could be seen to be plastic and we assume it feeds all the way from the meter but could not be varified. The supply pipes are a mixture of plastic and galvanised with waste pipes a mixture of plastic and cast iron. Vents are also mixed. The hot water system was noted to have a TPR valve and the generally accepted safe water temperature for hot water is 120degrees.

17) Leakage was noted from the left hand kitchen sink waste pipe and also the bath tub drain seal which require repair.


18) The toilet flush handle and flapper were noted to stick and require some attention. The toilet anchors are a loose and some exposed sub floor is present which require repair.
19) Recommend checking and testing the floor drains as appropriate. Including the one around the basement back door area.

20) Water flow was noted to be poor in places and the kitchen sink aerator had debris in it that had to be cleaned out. Old galvanised pipes still in use probably want replacement!



21) The hot water heater is 10 years old and may require replacement at any time. The electrical supply cable should be sheathed in a conduit.

D) ELECTRICAL

The main electrical panel is mounted on the outside of the home at the rear where overhead cables drop to it. Its age would seem to be from after 1980 as it has a main breaker installed. The service is a modern two hundred amp 120 volt. The supply cables in the home are a mixture of old original "Knob & Tube", intermediate aged and more modern non metallic sheathed "Romex". One grounding rod was noted in use another at the rear not.

22) Some outlets are grounded three pin but some are not. The home also has two pin and energised "Knob & Tube" wiring. Exposed splices of the former were noted. Recommend that an electrician evaluate and repair/replace and certify safety of circuits as appropriate.


23) An electrical fault was found on the bathroom circuit where the GFCI and light tripped a 20 amp breaker. A loose neutral junction was noted in the basement. Recommend appropriate evaluation and repair as necessary.


E) HEATING

An oil furnace provides the primary source of heat to the home with forced air distribution. The oil tank is located under the front drive. Supply pipes come up in the basement and follow around the wall at low level.

24) This system was not functional in the heating mode at the time of the inspection but the air handling did operate. Recommend that the system be fully commissioned/serviced/repaired as necessary.

25) The kitchen is not provided with any source of heat though past ducts are near by and are left open. Recommend installing vents as appropriate.

26) The fireplace should be inspected/cleaned/repaired and certified prior to any usage.

F) GENERAL

27) The dishwasher cover plates are still to be installed. The door mechanism is stiff and requires repair. The microwave/exhaust is missing some covers/filters and its mounting bolts are also deficient. The oven is used and is missing a racking shelf.
28) The tile work/grouting and caulking for the bath/shower surround needs some attention to ensure against water penetration.
29) "Pop Corn" ceilings and Vermiculite insulation in the attic may contain asbestos.
30) The dryer cable is poorly installed and should be repaired appropriately. Some cover plates are also required for outlets etc.
31) Exterior lights were not operable. The back door/framing has gaps around it. Some rain water entry into the back door stoop is present.
32) The basement stair ledger connection is poor.
33) The garage overhang concrete has had rain water penetration. The guardrail balusters are wider than 4 inches and may be a safety hazard.

It is recommended that any deficiencies and the components/systems related to these deficiencies noted in this report be evaluated/inspected and repaired as needed by licensed contractors/professionals prior to the close of escrow. Further evaluation prior to the close of escrow is recommended so properly licensed professionals can evaluate our concerns further and inspect the remainder of the system or component for additional concerns that may be outside our area of expertise or the scope of our inspection.

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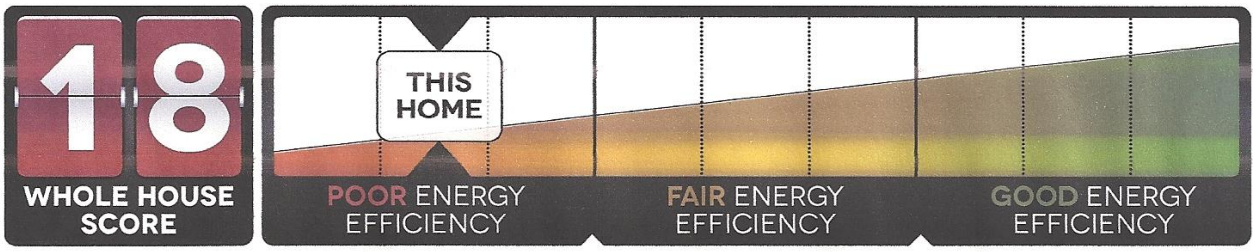
InterNACHI
ENERGY INSPECTION REPORT

ENERGY INSPECTION REPORT FOR

XXX SEATTLE



Dear Client,

This house has received a score of **18** on a scale of 0 to 100. 100 represents a home with perfect energy performance and 0 represents a home that needs many major energy upgrades. You can use this score to compare homes. A higher score generally means a lower energy bill and a more efficient home (with less of an environmental impact).

In order to generate your Home Energy Inspection Report, I conducted a brief walk-through of the home and collected about fifty data points related to energy. I then used an advanced energy calculator developed by the International Association of Certified Home Inspectors to:

- estimate the home's yearly energy usage,
- pinpoint potential energy inefficiencies,
- calculate a score based on these estimations, and
- develop recommendations for energy improvements.

On the following pages you will find information about the efficiency of major systems in the home, and recommendations for upgrades.

Best,

Gary S. Fetterplace
an InterNACHI-certified Home Inspector

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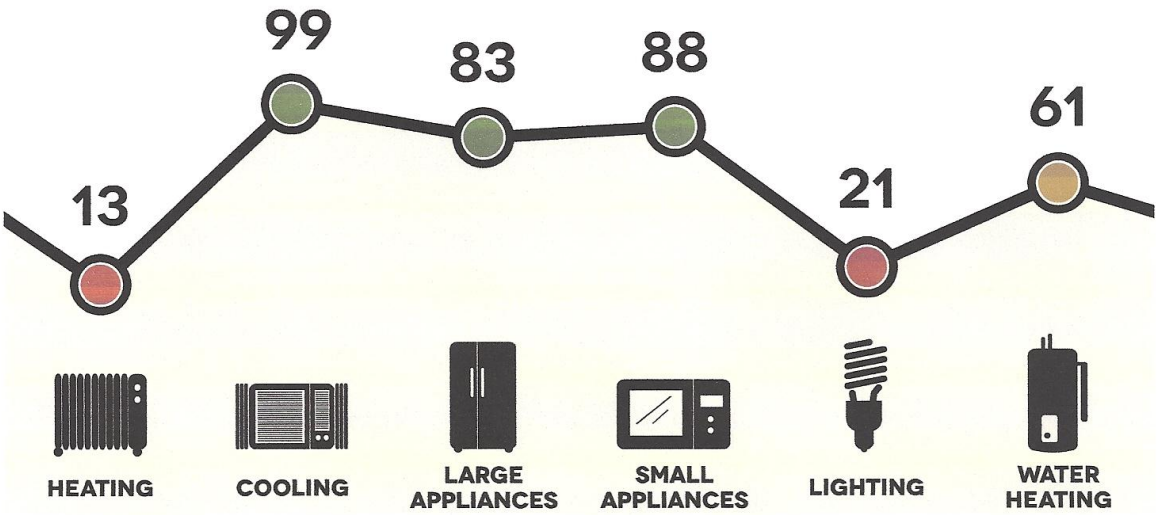
OVERVIEW OF MAJOR COMPONENTS

Along with scoring your home as a whole, I have calculated a score for each major component of the home. This information is helpful for determining the source of energy inefficiencies, and can help prioritize upgrades in the future.



ESTIMATIONS

I have also estimated the operating cost of each component and calculated the potential yearly savings from upgrading that component (recommendations included later in this report).

COMPONENT	ESTIMATED COST	AFTER UPGRADES	POTENTIAL SAVINGS
Heating	$3,545	$777	**$2768**
Cooling	$0	$0	**$0**
Large Appliances	$279	$231	**$48**
Small Appliances	$98	$98	**$0**
Lighting	$110	$39	**$71**
Water Heating	$192	$118	**$74**
Total	$4,224	$1,263	**$2,961**

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UPGRADE RECOMMENDATIONS

These upgrades are recommended based on a 10-year pay back period (upgrades that will pay for themselves within no more than 10 years).

UPGRADE	YEARLY SAVINGS	ESTIMATED COST	ESTIMATED ROI	PAY BACK PERIOD
Thermostat	$588	$320	185%	1 yr(s)

To achieve these savings, you must perform the following upgrade: **ENERGY STAR-labeled programmable**. This upgrade will save approximately 4,160 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Programmable thermostat cost:
ENERGY STAR-labeled: $120 to $600
total cost for upgrade.

Oil furnace	$502	$422	119%	1 yr(s)

To achieve these savings, you must perform the following upgrade: **AFUE=90 ENERGY STAR**. This upgrade will save approximately 3,570 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Oil furnace costs:
AFUE=90: $0 to $980
AFUE=95: $390 to $1960
additional cost compared to minimum-efficiency oil furnace.

First Freezer	$4	$5	87%	1 yr(s)

To achieve these savings, you must perform the following upgrade: **10% better than standard ENERGY STAR**. This upgrade will save approximately 51 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Freezer cost:
10% better: $0 to $20
additional cost compared to minimum-efficiency freezer.

Duct Insulation	$648	$910	71%	1 yr(s)

To achieve these savings, you must perform the following upgrade: **R-6**. This upgrade will save approximately 4,607 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Duct insulation cost:
R-6: $410 to $1400

total cost for upgrade, assuming you hire a contractor.

Windows	$294	$648	45%	2 yr(s)

To achieve these savings, you must perform the following upgrade: **2-pane/solar-control low-E/argon gas/wood ENERGY STAR**. This upgrade will save approximately 2,078 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Window costs:
2-pane/solar-control low-E/aluminum: $280 to $840
2-pane/solar-control low-E/wood or vinyl: $359 to $1076
2-pane/solar-control low-E/argon gas/wood ENERGY STAR: $377 to $1132
2-pane/insulating low-E/argon gas/wood or vinyl: $377 to $1132
3-pane/insulating low-E/argon gas/wood or vinyl Northern High-Efficiency: $434 to $1302
2-pane/very low-gain low-E/argon gas/wood or vinyl Southern High-Efficiency: $412 to $1237
3-pane/insulating low-E/argon gas/insulated vinyl or fiberglass: $478 to $1433
total cost for upgrade, including labor

Floor insulation	$342	$792	43%	2 yr(s)

To achieve these savings, you must perform the following upgrade: **R-25**. This upgrade will save approximately 2,413 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Floor insulation costs:
R-11: $66 to $248
R-19: $116 to $410
R-25: $154 to $547
R-38: $233 to $821
total cost for upgrade, including labor

Indoor lights	$39	$88	34%	2 yr(s)

To achieve these savings, you must perform the following upgrade: **CFLs in high-use fixtures**. This upgrade will save approximately 846 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Compact fluorescent lamp CFL cost:
CFL: $4.65 to $10.1
total cost per CFL. Our cost assumes a total of 39 CFL lamps being replaced for your house.

Duct Sealing	$356	$890	40%	3 yr(s)

To achieve these savings, you must perform the following upgrade: **Reduce leakage to 6% of total airflow**. This upgrade will save approximately 2,526 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Duct sealing cost:
6% air leakage: $320 to $1500
total cost for upgrade, assuming you hire a contractor.

Air sealing	$285	$850	34%	3 yr(s)

To achieve these savings, you must perform the following upgrade: **25% air leakage reduction**. This upgrade will save approximately 2,011 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Air sealing cost:
25% air leakage reduction: $520 to $1100
40% air leakage reduction: $1100 to $4600
50% air leakage reduction: $2900 to $5800
total cost for upgrade, assuming you hire a contractor.

Wall insulation	$607	$1822	33%	3 yr(s)

To achieve these savings, you must perform the following upgrade: **R-11 wall + R-5 exterior foam sheathing**. This upgrade will save approximately 4,294 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Wall insulation costs:
R-11 wall cavity: $728 to $5439
R-5 exterior sheathing added to existing R-11 cavity: $510 to $789
total upgrade cost, including installation.

Attic insulation	$332	$1080	31%	3 yr(s)

To achieve these savings, you must perform the following upgrade: **R-38**. This upgrade will save approximately 2,346 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Ceiling insulation costs:
R-19: $186 to $325
R-30: $295 to $515
R-38: $382 to $631
R-49: $481 to $813
R-60: $581 to $996
total cost for upgrade, including labor. Note: a cost of $0 indicates that your house is already insulated to this level.

Electric water heater	$39	$195	18%	5 yr(s)

To achieve these savings, you must perform the following upgrade: **EF=0.95**. This upgrade will save approximately 467 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Electric water heater cost:
EF=0.95: $117 to $282
Switch to energy-efficient natural gas water heater: $230 to $1000
additional cost compared to minimum-efficiency electric water heater.
Natural gas cost assumes that a gas outlet is available at the water heater.
If this is not the case, cost should be increased to account for installation of a gas line..

Clothes washer	$30	$180	13%	6 yr(s)

To achieve these savings, you must perform the following upgrade: **MEF=1.42 WF=9.5 ENERGY STAR**. This upgrade will save approximately 182 pounds of carbon dioxide per year (not including other greenhouse-gases which may also be reduced).

Clothes washer costs:
MEF=1.42: $80 to $180
MEF=2.2: $220 to $5000
additional cost compared to minimum-efficiency clothes washer.

ENERGY EFFICIENCY SUMMARY

- Control and lower heating temperatures.
- Seal air gaps around home and heating ducts.
- Insulate as far and as much as possible.
- Upgrade large/small appliances and lighting to energy efficient products.

As noted in the home inspection report insulation in the attic is minimal, none is installed under the floors and heating ducts are bare metal.

Currently R38 (or greater) is recommended for attic spaces or around 13inches, currently 3-4 inches is provided. The under floor areas in the crawlspace are recommended to be R30 and something close to this may be achievable. Heating ducts should be R6 or better.

All these areas are fairly accessible and therefore could easily be attended to after air sealing has been completed and are therefore recommended.

Other upgrades or modifications could be quite costly and or require major modifications and would be best attended to as part of replacement or remodelling projects.

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