



Maintenance and Efficiency Plan

7635 Lucky Lane
Seattle, WA

Client Name:

Sample Client

Date:

2/8/2009

Company Information:

Orca Inspection Services
5761 NE Tolo Rd
Bainbridge Island, WA 98110
206-842-3739, orcainspect@yahoo.com

Inspector:

Dylan Chalk

Report #:

A0208091958

WA State Pest License #:

65540

Weather Conditions:

Overcast, cold



How to Read This Report

Observation Labels: All narrative observations are color coded to help you understand the severity of the observation. Observation colors and labels used in this report are:

- 1. Major Concern:** Repair items that may cost significant money to correct now or in the near future, or items that require immediate attention to prevent additional damage or eliminate safety hazards.
- 2. Repair:** Repair and maintenance items noted during inspection.
- 3. Improve:** Observations that are not necessarily defects, but which could be improved for safety or reliability reasons.
- 4. Efficiency Observations:** Denotes repairs and improvements that can make the home more energy and resource efficiency and have excellent paybacks. While it is impossible to predict any payback period, these are generally the “low hanging fruit” of efficiency repairs that should be implemented as soon as possible to save resources and money.
- 5. Green Repairs:** Denotes observations / improvements that can be made to make the home more energy and resource efficient but which may have long payback times or in some cases no payback at all for the homeowner.

Scope of Consultation

This report and consultation are not designed for or adequate for buying or selling real estate. If you wish to have a home inspection done on this property, please call Orca Inspection Services @ (206) 842-3739 to schedule a complete structural and pest inspection as complies with Washington State Law.

Purpose of Consultation

This consultation and report are designed specifically for use by current home owners to assist in planning home maintenance and to come up with a logical sequence of repairs and upgrades to make the home more energy and resource efficient with the goal of lowering deferred maintenance costs and on-going utility costs. The consultation is informal and not technically exhaustive. Orca Inspection Services is not responsible for undiscovered or undisclosed maintenance or safety issues.

Overview

Dear Sample Client

The summary below is designed as a blueprint for maintaining your home as well as improving the performance and efficiency of your home. The recommendations listed below have been made after conducting the inspections requested and listening to your feedback; they have tried to take into account:

1. Your stated remodel goals for both house performance and efficiency
2. The current condition of the building

Owners Stated Objective:

- From conversations with you I got the sense that you felt you had a very solid home, but you were interested in what you needed to do regarding maintenance and how you could make your home more energy efficient.

Current Overall Condition of Subject Building:

- Overall, this is a beautiful and well built mid-century. It is in above average condition for age and type thanks to your care and modest updates such as new plumbing. While you have a very solid core of a home, some updates are needed in the near term to prevent damage to the home: notably the roof and electrical load center update. [You also have amazing opportunities to update the home from an energy efficiency standpoint. The weatherization issues pointed out below and in the Northwest Infrared report could easily cut utility bills by 20-30%, perhaps as much as 50% if investments are made over the years in high efficiency appliances and heating equipment.](#)
- The major concerns from a maintenance standpoint are essentially:
 1. Localized failure was noted at the eaves and built-in gutter system and lots of amateur and vulnerable details were noted in the flashings and field of the sloped roof.
 2. The electric load center is an old and unsafe piece of equipment that risks loose breakers, unprotected circuits and is generally a fire hazard.
- From an energy efficiency standpoint, there are huge opportunities to improve comfort and efficiency: See Northwest Infrared's report on air sealing and insulation.
- Structurally, the home appears quite solid and drainage appears to have been improved by you since ownership.

Maintenance and Efficiency Plan

Years 0-2:

- Hire a licensed roofing contractor to replace this roof. As you have a low slope roof with built in gutters, you have several options. I strongly recommend a complete tear off and re-roof. Consider using a PVC membrane for the whole roof or at least the built-in gutter system. I would increase the size of the scupper drains as well for improved reliability of the drainage system. When the main roof is removed, be sure to evaluate the roof deck and water damage at the eaves as several soft spots were noted and there is lost of water staining around the eaves. If you choose to do shingles again, make sure proper precautions are made for a low slope shingle installation.
- Replace the Zinsco load center in the garage. This is a latent fire hazard and should be updated to a modern circuit breaker panel. For more info on these load centers go to my web site: www.orcainspect.com and see Home Resources link. Then go to electric and you will find links to Zinsco panels.
- Repair the window at the SW corner with the failing glazing. Updating to double paned glass is recommended here as the glazing is already in need of repair.
- Repair the clogged drains in the family bath shower and sink. Both drains are slow.
- Re-grout and seal the master shower tile to prevent water damage to the tile.
- Re-set the master bath toilet that is leaking below the floor and replace this toilet with a low flow or even dual flush toilet.
- Improve attic access by installing an access in the hallway or a closet in the back of the home.
- Prune all vegetation at least 6 feet away from the house.
- Install a Watts Moisture alarm in the upstairs laundry. This is a shut off feature connected to a moisture alarm that will shut off the hose bibs to your washing machine automatically should they burst. This is a great idea when washers are located on the 2nd floor.
- Improve attic and crawl space ventilation. This is important when improving insulation. Use ¼" wire mesh on crawl space vents and remove the old louvers. Add soffit and ridge venting when re-roofing. Improved ventilation can help make roofing systems last longer as it tends to reduce heat build-up.
- Air seal all ductwork with duct mastic and insulate to R-8 or better.

- Air seal the floor between the house and the crawl space.
- Air seal at all plumbing penetrations.
- Air seal all electric outlets and switches.
- Replace the man-door to the garage. Use a self-closing fire rated exterior door for improved safety and energy efficiency.
- Build an insulated wall to separate the furnace from the laundry room to keep the combustion air inside this enclosure.
- Insulate all hot water lines to the water heater and any un-insulated lines in the crawl space.
- Do annual servicing on the furnace to keep efficiency up and change furnace filters every 2-3 months.
- Program your thermostat to set back at night and during the day when you are gone.
- Replace as many light bulbs with CFL's as possible.
- Complete all air sealing as recommended in Northwest Infrared report. (Low cost short payback)
- Use of low flow shower heads and aerators with flows of less than 1.1 gal / minute will reduce water use and save on hot water heating costs.
- If you are serious about energy conservation, and you have taken care of the rest of this list, I recommend having a consultation from Campbell Energy. Aaron @ (206)-898-8337. They offer consultations on occupancy behavior with many tips and techniques for lowering utility costs by changing how you live in the home. Studies suggest that on average, 20% of home utility bills can be cut without changing any systems, simply by occupant behavior. This requires a special kind of discipline however and may not be suitable for everyone.
- Sign up for Seattle City Light's Green Up program. This program subsidizes building of wind turbines for low-carbon power supply. www.greenupseattle.org or call 206-684-8822.

Years 3-5:

- Repair the hidden structural damage at the SE corner wall where prior carpenter ant damage exists.
- Replace the family bath toilet with a low flow fixture.

- Replace the water heater. The average life of these tanks is 8-12 years.
- Replace your refrigerator with an Energy Star model. Your current one is old and very inefficient compared with a newer model.
- Insulate the sub-floor in the crawl space to R-20 or as best you can.
- Air seal can lights and penetrations in the ceiling then....
- Repair damaged and incomplete attic insulation. Insulate attic to R-38.
- Replace kitchen and bath fans or install baffels to prevent air infiltration.

Years 6-10:

- Your furnace will likely need replacing at this time. The design life of these units is 15-20 years, though I have seen them fail in as little as 6 years. I would upgrade to a 90% efficient, direct vent furnace. This would also allow you to remove the insulated wall in the laundry as combustion air can be vented directly into a high efficiency furnace.
- You could consider adding wall insulation at this point, depending on cost, rebate programs and energy costs.

Photo Addendum



The left side shows high moisture meter readings at the master bath toilet. The right side shows the clogged drain on the family bath shower that requires repair.



The left side shows an obsolete light fixture that uses much more energy than necessary. Updating to Energy Star fixtures would be logical. The right side shows a more urgent repair: to replace the failing roof. This shows high moisture meter readings at the soffit.



These both show vulnerable details to the roof: corroded and damaged flashing boots and loose shingles. The loose shingles is especially concerning on a low-slope roof.



These show more vulnerable flashing details as well as amateur workmanship.



These two photos show leaking heat ductwork in the crawl space. Paybacks for air sealing this ductwork are fantastic. This repair should be done ASAP to save energy and money.



Receipt

REPORT NO:	A0208091958
INSPECTION DATE:	2/8/2009

PROPERTIES INSPECTED FOR: Sample Client
7635 Lucky Lane Seattle, WA

Qty	Description	Amount
1	Maintenance and Efficiency Plan with IR and blower door heat loss analysis.	\$ 695.00

Total Paid

\$ 695.00

Thank you for your business

Orca Inspection Services
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Bainbridge Island, WA 98110