



**METRO
PROPERTY
INSPECTION**

HOME INSPECTION REPORT REMARKS (REPORT KEY)

Use this handy Report Remarks tool in conjunction with your Inspection Report. Review each section of this Remarks tool with the corresponding section of your Inspection report to gain a clear understanding of what and how we inspect different portions of your home. This tool is especially beneficial if you were unable to be present for your entire inspection.

There are also some helpful hints and maintenance tips included throughout the document. As always, feel free to contact us at anytime with any questions about your report.



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GROUNDS REMARKS

Service Walks/Driveways

Spalling concrete cannot be patched with concrete because the new will not bond with the old. Water will freeze between the two layers, or the concrete will break up from movement or wear. Replacement of the damaged section is recommended. Walks or driveways that are close to the property should be properly pitched away to direct water away from the foundation. Asphalt driveways should be kept sealed and larger cracks filled so as to prevent damage from frost.

Patios that have settled towards the structure should be mud jacked or replaced to assure proper pitch. Improperly pitched patios are one source of wet basements.

Exterior Wood Surfaces

All surfaces of untreated wood need regular applications of paint or special chemicals to resist damage. Porch or deck columns and fence posts which are buried in the ground and made of untreated wood will become damaged within a year or two.

Decks should always be nailed with galvanized or aluminum nails. Decks that are not painted or stained should be treated with a water sealer.

Grading and Drainage

Any system of grading or landscaping that creates positive drainage (moving water away from the foundation walls) will help to keep a basement dry. Where negative grade exists and additional backfill is suggested, it may require digging out around the property to get a proper pitch. Dirt shall be approximately 6" below the bottom sill and should not touch wood surfaces.

Flower beds, loose mulched areas, railroad ties and other such landscaping items close to the foundation trap moisture and contribute to wet basements. To establish a positive grade, a proper slope away from the house is 1" per foot for approximately 5-6 feet. Recommend ground cover planting or grass to foundation.

Roof and Surface Water Control

Roof and surface water must be controlled to maintain a dry basement. This means keeping gutters cleaned out and aligned, extending downspouts, installing splash blocks, and building up the grade so that roof and surface water is diverted away from the building.

Window Wells

The amount of water which enters a window well from falling rain is generally slight, but water will accumulate in window wells if the yard is improperly graded. Plastic window well covers are useful in keeping out leaves and debris.

Retaining Walls

Retaining walls deteriorate because of excessive pressure buildup behind them, generally due to water accumulation. Often, conditions can be improved by excavating a trench behind the retaining wall and filling it with coarse gravel. Drain holes through the wall will then be able to relieve the water pressure.

Retaining walls sometime suffer from tree root pressure or from general movement of topsoil down the slope. Normally, these conditions require rebuilding the retaining wall.

Railings

It is recommended that railings be installed for any stairway over 3 steps and porches over 30" for safety reasons. Balusters for porches, balconies, and stairs should be close enough to assure children cannot squeeze through.

ROOF COVERING REMARKS

Valleys & Flashings

Valleys and flashings that are covered with shingles and/or tar or any other material are considered not visible and are not part of the inspection.

Stone Roofs - Coverings

This type of covering on a pitched roof requires ongoing annual maintenance. We recommend that a roofing contractor evaluate this type of roof. Infra-red photography is best used to determine areas of potential leaks.

Flat Roofs

Flat roofs are very vulnerable to leaking. It is very important to maintain proper drainage to prevent ponding of water. We recommend that a roofing contractor evaluate this type of roof.

ROOF TYPE	LIFE EXPECTANCY	SPECIAL REMARKS
<i>Asphalt Shingles</i>	15-20 years	Used on nearly 80% of all residential roofs; requires little maintenance
<i>Asphalt Multi-Thickness Shingles*</i>	20-30 years	Heavier and more durable than regular asphalt shingles
<i>Asphalt Interlocking Shingles*</i>	15-25 years	Especially good in high-wind areas
<i>Asphalt Rolls</i>	10 years	Used on low slope roofs
<i>Built-up Roofing</i>	10-20 years	Used on low slope roofs; 2 to 3 times as costly as asphalt shingles
<i>Wood Shingles*</i>	10-40 years ¹	Treat with preservative every 5 years to prevent decay
<i>Clay Tiles*</i> <i>Cement Tiles*</i>	20 + years 20 + years	Durable, fireproof, but not watertight, requiring a good subsurface base
<i>Slate Shingles*</i>	30-100 years ²	Extremely durable, but brittle and expensive
<i>Asbestos Cement Shingles*</i>	30-75 years	Durable, but brittle and difficult to repair
<i>Metal Roofing</i>	15-40 + years	Comes in sheets & shingles; should be well grounded for protection from lightning; certain metals must be painted
<i>Single Ply Membrane</i>	15-25 years (mfr's claim)	New material; not yet passed test of time

* Not recommended for use on low slope roof

¹ Depending on local conditions and proper installation

² Depending on quality of slate

Roof covering should be visually checked in spring and fall for any visible missing shingles, damaged coverings or other defects. Before re-roofing, the underside of the roof structure and roof sheathing should be inspected to determine that the roof structure can support the additional weight of the shingles.

Wood shakes and shingles will vary in aging, due to quality of the material, installation, maintenance, and surrounding shade trees. Ventilation and drying of the wood material is critical in extending the life expectancy of the wood. Commercial preservatives are available on the market, which could be applied to wood to impede deterioration.

CHIMNEY / GUTTERS / SIDING / TRIM REMARKS

Chimneys

Chimneys built of masonry will eventually need tuckpointing. A cracked chimney top that allows water and carbonic acid to get behind the surface brick/stone will accelerate the deterioration. Moisture will also deteriorate the clay flue liner. Periodic chimney cleaning will keep you apprised of the chimney's condition. The flashing around the chimney may need resealing and should be inspected every year or two. Fireplace chimneys should be inspected and evaluated by a chimney professional before using. Chimneys must be adequate height for proper drafting. Spark arrestors are recommended for wood burning chimney and chimney caps for fossil fuels

Unlined Chimney - should be re-evaluated by a chimney technician.

Have flue cleaned and re-evaluated. The flue lining is covered with soot or creosote and no representation can be made as to the condition.

NOT EVALUATED- *The flue was not evaluated due to inaccessibility such as roof pitch, cap, cleanout not accessible, etc.*

Cricket Flashing

Small, sloped structure made of metal and designed to drain moisture away from a chimney. Usually placed at the back of a chimney.

Gutters and Downspouts

This is an extremely important element in basement dampness control. Keep gutters clean and downspout extensions in place (4' or more). Paint the inside of galvanized gutters, which will extend the life. Shortly after a rain or thaw in winter, look for leaks at seams in the gutters. These can be recaulked before they cause damage to fascia or soffit boards. If no gutters exist, it is recommended that they be added.

Siding

Wood siding should not come in contact with the ground. The moisture will cause rotting to take place and can attract carpenter ants.

EIFS - This type of siding has experienced serious problems and requires a certified EIFS inspector to determine condition.

Brick and stone veneer must be monitored for loose or missing mortar. Some brick and stone are susceptible to spalling. This can be caused when moisture is trapped and a freeze/thaw situation occurs. There are products on the market that can be used to seal out the moisture. This holds true for brick and stone chimneys also.

Metal sidings will dent and scratch. Oxidation is a normal reaction in aluminum. There are good cleaners on the market and it is recommended that they be used occasionally. Metal siding can be painted.

Doors and Windows

These can waste an enormous amount of energy. Maintain the caulking around the frames on the exterior. Check for drafts in the winter and improve the worst offenders first. Windows that have leaky storm windows will usually have a lot of sweating. Likewise, well-sealed storms that sweat indicate a leaky window. It is the tighter unit that will sweat (unless the home has excess humidity to begin with.)

Wood that exhibits blistering or peeling paint should be examined for possible moisture sources: roof leaks, bad gutters, interior moisture from baths or laundry or from a poorly vented crawl space. Some paint problems have no logical explanation, but many are a symptom of an underlying problem. A freshly painted house may mask these symptoms, but after you have lived in the home for a year or two, look for localized paint blistering (peeling). It may be a clue.

New glazing will last longer if the raw wood is treated with boiled linseed oil prior to glazing. It prevents the wood from drawing the moisture out of the new glazing.

Caulking

Many different types of caulk are available on the market today. Check with a paint or hardware store for the kind of application you need.

EXTERIOR / ELECTRICAL / AC / GARAGE REMARKS

Exterior Doors

The exposed side of exterior doors needs to be painted or properly stained and varnished to prevent discoloring and delamination. Weatherstripping is a must to prevent drafts.

Electrical

Overhead wires from the mast to the main panel that are exposed to the weather may fray and crack. If this occurs, wires should be replaced by a licensed electrician.

Any outdoor overhead service conductor wires should have adequate clearance above the ground (10 feet) and from balcony and windows (3 feet), for safety reasons.

Underground system - Some exterior boxes that are at ground level have a grade line on them. You should insure that the grade remains below this line to prevent moisture from entering the main panel.

Overhead Door Openers

We recommend that a separate electrical outlet be provided. Openers that do not have a safety reverse are considered a safety hazard. Small children and pets are especially vulnerable. We recommend the operating switches be set high enough so children cannot reach them. If a electric sensor is present, it should be tested occasionally to ensure it is working.

Garage Sill Plates

Sill plates within the garage should be elevated or treated lumber should be used. If this is not the case, try to direct water away to prevent rotting.

A/C Compressors

They should not become overgrown with foliage. Clearance requirements vary, but 2' on all sides should be considered minimal with up to 6' of air discharge desirable. If a clothes dryer vent is within five to ten feet, either relocate the vent or do not run when the A/C is running. The lint will quickly reduce the efficiency of the A/C unit.

Burners

Any appliance such as a water heater, furnace, etc. should have the flame a minimum of 18" above the floor. Any open flame less than 18" from the floor is a potential safety hazard. The appliance should also be protected from vehicle damage.

KITCHEN / LAUNDRY / UTILITY ROOM REMARKS

Plaster on Wood Lath

Plaster on wood lath is an old technique and is no longer in general use. Wood lath shrinks with time and the nails rust and loosen. As a result, the plaster may become fragile and caution is needed in working with this type of plastering system. Sagging ceilings are best repaired by laminating drywall over the existing plaster and screwing it to the ceiling joists.

Plaster on Gypsum Lath (Rock Lath)

Plaster on gypsum lath will sometimes show the seams of the 16" wide gypsum lath, but this does not indicate a structural fault. The scalloping appearance can be leveled with drywall joint compound and fiberglass mesh joint tape or drywall can be laminated over the existing plaster on the ceiling.

Wood Flooring

Always attempt to clean wood floors first before making the decision to refinish the floor. Wax removers and other mild stripping agents plus a good waxing and buffing will usually produce satisfactory results. Mild bleaching agents help remove deep stains. Sanding removes some of the wood in the floor and can usually be done safely only once or twice in the life of the floor.

Nail Pops

Drywall nail pops are due to normal expansion and contraction of the wood members to which the drywall is nailed, and are usually of no structural significance.

Carpeting

Where carpeting has been installed, the materials and condition of the floor underneath cannot be determined.

Appliances

Dishwashers are tested to see if the motor operates and water sprays properly (full cycles are not run). Stoves are tested to see that burners are working and oven and broiler get hot. Timer and controls are not tested. Refrigerators are not tested.

No representation is made to continued life expectancy of any appliance.

Asbestos and Other Hazards

Asbestos fibers in some form are present in many homes, but are often not visible and cannot be identified without testing.

If there is reason to suspect that asbestos may be present and if it is of particular concern, a sample of the material in question may be removed and analyzed in a laboratory. ***However, detecting or inspecting for the presence or absence of asbestos is not a part of our inspection.***

Also excluded from this inspection and report are the possible presence of, or danger from, radon gas, lead-based paint, urea formaldehyde, toxic or flammable chemicals and all other similar or potentially harmful substances and environmental hazards.

Windows

A representative number of windows are inspected.

BATHROOM REMARKS

Stall Shower

The metal shower pan in a stall shower has a potential or probable life of 10-20 years depending on quality of the pan installed. Although a visible inspection is made to determine whether a shower pan is currently leaking, it cannot be stated with certainty that no defect is present or that one may not soon develop. Shower pan leaks often do not show except when the shower is in actual use.

Ceramic Tile

Bathroom tile installed in a mortar bed is excellent. It is still necessary to keep the joint between the tile and the tub/shower caulked or sealed to prevent water spillage from leaking through and damaging the ceilings below.

Ceramic tile is often installed in mastic. It is important to keep the tile caulked or water will seep behind the tile and cause deterioration in the wallboard. Special attention should be paid to the area around faucets and other tile penetrations.

Exhaust Fans

Bathrooms with a shower should have exhaust fans where possible. This helps to remove excess moisture from the room, preventing damage to the ceiling and walls and wood finishes. The exhaust fan should not be vented into the attic. The proper way to vent the fans is to the outside. Running the vent pipe horizontally and venting into a gable end or soffit is preferred. Running the vent pipe vertically through the roof may cause condensation to run down the vent pipe, rusting the fan and damaging the wallboard. Insulating the vent pipe in the attic will help to reduce this problem.

SLOW DRAINS on sinks, tubs, and showers are usually due to build up of hair and soap scum. Most sink pop-ups can be easily removed for cleaning. Some tubs have a spring attached to the closing lever that acts as a catch for hair. It may require removing a couple of screws to disassemble. If you cannot mechanically remove the obstruction, be kind to your pipes. Don't use a caustic cleaner. There are several bacteria drain cleaners available. They are available at hardware stores in areas where septic tanks are used. These drain cleaners take a little longer to work, but are safe for you and your pipes.

Safety Hazards

Typical safety hazards found in bathrooms are open grounds or reverse polarity by water. Replacing these outlets with G.F.C.I.'s are recommended. **(See Electrical section)**

Whirlpool Tubs

This relates to interior tubs hooked up to interior plumbing. Where possible, the motor will be operated to see that the jets are working. Hot tubs and spas are not inspected.

ROOMS (INTERIOR) REMARKS

Door Stops

All swinging doors should be checked for door stops. Broken or missing door stops can result in door knobs breaking through drywall or plaster.

Closet Guides

Sliding closet doors should be checked to see that closet guides are in place. Missing or broken closet guides can cause scratches and damage to doors.

Cold Air Returns

Bedrooms that do not have cold air returns in them should have a 3/4" gap under the doors to allow cold air to be drawn into the hall return.

AN INSPECTION VERSUS A WARRANTY

A home inspection is just what the name indicates, an inspection of a home...usually a home that is being purchased. The purpose of the inspection is to determine the condition of the various systems and structures of the home. While an inspection performed by a competent inspection firm will determine the condition of the major components of the home, no inspection will pick up every minute latent defect. The inspector's ability to find all defects is limited by access to various parts of the property, lack of information about the property and many other factors. A good inspector will do his or her level best to determine the condition of the home and to report it accurately. The report that is issued is an opinion as to the condition of the home. This opinion is arrived at by the best technical methods available to the home inspection industry. It is still only an opinion.

A warranty is a policy sold to the buyer that warrants that specific items in the home are in sound condition and will remain in sound condition for a specified period of time. Typically, the warranty company never inspects the home. The warranty company uses actuarial tables to determine the expected life of the warranted items and charges the customer a fee for the warranty that will hopefully cover any projected loss and make a profit for the warranty seller. It is essentially an insurance policy.

The service that we have provided you is an inspection. We make no warranty of this property. If you desire warranty coverage, please see your real estate agent for details about any warranty plan to which their firm may have access.

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WINDOWS / FIREPLACES / ATTIC REMARKS

Window Frames and Sills

Window frames and sills often are found to have surface deterioration due to condensation that has run off the window and damaged the varnish. Usually this can be repaired with a solvent style refinisher and fine steel wool. This is sometimes a sign of excess humidity in the house.

See comments regarding caulking doors and windows above (Chimneys/Gutters/Siding).

Fireplaces

It is important that a fireplace be cleaned on a routine basis to prevent the buildup of creosote in the flue, which can cause a chimney fire.

Masonry fireplace chimneys are normally required to have a terra cotta flue liner or 8 inches of masonry surrounding each flue in order to be considered safe and to conform with most building codes.

During visual inspections, it is not uncommon to be unable to detect the absence of a flue liner either because of stoppage at the firebox, a defective damper or lack of access from the roof.

Woodburners

Once installed, it can be difficult to determine proper clearances for woodburning stoves. Manufacturer specifications, which are not usually available to the inspector, determine the proper installation. We recommend you ask the owner for paperwork verifying that it was installed by a professional contractor.

Ventilation

Ventilation is recommended at the rate of one square foot of vent area to 300 square feet of attic floor space, this being divided between soffit and rooftop. Power vents should ideally have both a humidistat and a thermostat, since ventilation is needed to remove winter moisture as well as summer heat. Evidence of condensation, such as blackened roof sheathing, frost on nail heads, etc. is an indication that ventilation may have been or is blocked or inadequate.

Insulation

The recommended insulation in the attic area is R-38, approximately 12". If insulation is added, it is important that the ventilation is proper.

Smoke Detectors

Smoke detectors should be tested monthly. At least one detector should be on each level.

Vapor Barriers

The vapor barrier should be on the warm side of the surface. Most older homes were built without vapor barriers. If the vapor barrier is towards the cold side of the surface, it should be sliced or removed. Most vapor barriers in the attic are covered by insulation and therefore, not visible.

Safety Glazing

Safety glazing requirements vary depending on the age of the home. Every attempt is made to identify areas where the lack of safety glazing presents an immediate safety hazard, such as a shower door. In some older homes it is difficult to determine if safety glazing is present, since the glass is not marked. Therefore, no representation is made that safety glazing exists in all appropriate areas.

Insulated Glass

The broken seals are not always detectable due to dirty windows, covered windows, etc. In most cases, leaking glass seals take some time before they are evident.

BASEMENT REMARKS

Basement

Any basement that has cracks or leaks is technically considered to have failed. Most block basements have step cracks in various areas. If little or no movement has occurred, and the step cracks are uniform, this is considered acceptable. Horizontal cracks in the third or fourth block down indicate the block has moved due to outside pressure. They can be attributed to many factors, such as improper grading, improperly functioning gutter and downspout system, etc. Normally, if little or no movement has taken place and proper grading and downspouts exist, this is considered acceptable. If the wall containing the stress crack(s) has moved considerably, this will require some method of reinforcement. Basements that have been freshly painted or tuckpointed should be monitored for movement. This will be indicated by cracks reopening. If cracks reappear, reinforcement may be necessary. Reinforcing a basement wall can become expensive.

Foundation (Covered Walls)

Although an effort has been made to note any major inflections or weaknesses, it is difficult at best to detect these areas when walls are finished off, or basement storage makes areas inaccessible. ***No representation is made as to the condition of these walls.***

Monitor indicates that the walls have stress cracks, but little movement has occurred. In our opinion, the cracks should be filled with mortar and the walls monitored for further movement and cracking. If additional movement or cracking occurs, re-inforcement may be necessary.

Have Evaluated — We recommend that the walls be re-evaluated by a structural engineer or basement repair company and estimates be obtained if work is required.

Vapor Barrier

Floors that are dirt or gravel should be covered with a vapor barrier.

Moisture Present

Basement dampness is frequently noted in houses and in most cases the stains, moisture or efflorescence present is a symptom denoting that a problem exists outside the home. Usual causes are improper downspout extensions or leaking gutters and/or low or improper grade (including concrete surfaces) at the perimeter of the house. A proper slope away from the house is one inch per foot for four to six feet.

Expensive solutions to basement dampness are frequently offered, and it is possible to spend thousands of dollars on solutions such as pumping out water that has already entered or pumping of chemical preparations into the ground around the house, when all that may be necessary are a few common sense solutions at the exterior perimeter. However, this is not intended to be an exhaustive list of causes and solutions to the presence of moisture. ***No representation is made to future moisture that may appear.***

Palmer Valve

Many older homes have a valve in the floor drain. This drain needs to remain operational.

Drain Tile

We offer no opinion about the existence or condition of the drain tile, as it cannot be visibly inspected.

Basement Electrical Outlets

We recommend that you have an outlet within 6' of each appliance. The appliance you plan to install may be different than what exists, therefore the inspection includes testing a representative number of receptacles that exist. It is also recommended to have ground fault circuit interrupts for any outlet in the unfinished part of the basement and crawl spaces.

CRAWL SPACE / SLAB ON GRADE REMARKS

Crawl Spaces

Crawl spaces are shallow spaces between the first level floor joist and the ground. Access to this area may be from the inside, outside, or not accessible at all. Ductwork, plumbing and electrical may be installed in the space in which access may be necessary. The floor of the crawl space may be covered with concrete, gravel, or may be the original soil. A vapor barrier may be a sheet of plastic or tar paper and installed over or under this material. The vapor barrier will deter the moisture from the earth from escaping into the crawl space and causing a musty smell. Ventilation is also important to control excess moisture buildup. Vents may be located on the outside of the house and are normally kept open in the summer and closed for the winter (where freezing may occur).

The basement/crawl space diagram indicates areas that are covered and not part of a visual inspection. Every attempt is made to determine if paneling is warped, moisture stains are bleeding through, etc. Storage that blocks the visibility of a wall is not removed to examine that area. Therefore, it is important that on your walk-through before closing, you closely examine these areas.

Closed crawl spaces that have vents to the outside should have insulation under the floor above the crawl space.

Have Evaluated

We recommend that the walls be re-evaluated by a structural engineer or basement repair company and estimates be obtained if work is required.

Monitor

Monitor indicates that the walls have stress cracks, but little movement has occurred. In our opinion, the cracks should be filled with mortar and the walls monitored for further movement and cracking. If additional movement or cracking occurs, reinforcement may be necessary.

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PLUMBING REMARKS

Wells

Examination of wells is not included in this visual inspection. It is recommended that you have well water checked for purity by the local health authorities and, if possible, a check on the flow of the well in periods of drought. A well pit should have a locked cover on it to prevent anyone from falling into the pit.

Septic Systems

The check of septic systems is not included in our visual inspection. You should have the local health authorities or other qualified experts check the condition of a septic system.

In order for the septic system to be checked, the house must have been occupied within the last 30 days.

Water Pipes

Galvanized water pipes rust from the inside out and may have to be replaced within 20 to 30 years. This is usually done in two stages: horizontal piping in the basement first, and vertical pipes throughout the house later as needed.

Copper pipes usually have more life expectancy and may last as long as 60 years before needing to be replaced.

Polybutylene pipes are grey pipes that have a history of failure and should be examined by a licensed plumber.

Hose Bibs

During the winter months it is necessary to make sure the outside faucets are winterized. This can be done by means of a valve located in the basement. Leave the outside faucets open to allow any water standing in the pipes to drain, preventing them from freezing. Hose bibs cannot be tested when winterized.

Water Heater

The life expectancy of a water heater is 5-10 years. Water heaters generally need not be replaced unless they leak. It is a good maintenance practice to drain 5-10 gallons from the heater several times a year. *Missing relief valves or improper extension present a safety hazard.*

Water Softeners

During a visual inspection, it is not possible to determine if water is being properly softened.

Plumbing

The temperature/pressure valve should be tested several times a year by lifting the valve's handle. Caution: very hot water will be discharged. If no water comes out, the valve is defective and must be replaced.

Shut-Off Valves

Most shut-off valves have not been operated for long periods of time. We recommend operating each shut-off valve to: toilet bowl, water heater, under sinks, main shut-off, hose faucets, and all others. We recommend you have a plumber do this, as some of the valves may need to be repacked or replaced. Once the valves are in proper operating order, we recommend opening and closing these valves several times a year.

Polybutylene Piping

This type of piping has a history of problems and should be examined by a licensed plumber and repaired or replaced as necessary.

MECHANICAL DEVICES MAY OPERATE AT ONE MOMENT AND LATER MALFUNCTION; THEREFORE, LIABILITY IS SPECIFICALLY LIMITED TO THOSE SITUATIONS WHERE IT CAN BE CONCLUSIVELY SHOWN THAT THE MECHANICAL DEVICE INSPECTED WAS INOPERABLE OR IN THE IMMEDIATE NEED OF REPAIR OR NOT PERFORMING THE FUNCTION FOR WHICH IS IT WAS INTENDED AT THE TIME OF INSPECTION.

HEATING SYSTEM REMARKS

HEATING AND AIR CONDITIONING units have limited lives. Normal lives are:

GAS-FIRED HOT AIR.....	15-25 years
OIL-FIRED HOT AIR.....	20-30 years
CAST IRON BOILER.....	30-50 years
(Hot water or steam)	or more
STEEL BOILER.....	30-40 years
(Hot water or steam)	or more
COPPER BOILER.....	10-20 years
(Hot water or steam)	
CIRCULATING PUMP (Hot water).....	10-15 years
AIR CONDITIONING COMPRESSOR...	8-12 years
HEAT PUMP.....	8-12 years

Gas-fired hot air units that are close to or beyond their normal lives have the potential of becoming a source of carbon monoxide in the home. You may want to have such a unit checked every year or so to assure yourself that it is still intact. Of course, a unit of such an age is a good candidate for replacement with one of the new, high efficiency furnaces. The fuel savings alone can be very attractive.

Boilers and their systems may require annual attention. If you are not familiar with your system, have a heating contractor come out in the fall to show you how to do the necessary things. **Caution: do not add water to a hot boiler!**

Forced air systems should have filters changed every 30 to 60 days of the heating and cooling season. This is especially true if you have central air conditioning. A dirty air system can lead to premature failure of your compressor - a \$1,500 machine.

Oil-fired furnaces and boilers should be serviced by a professional each year. Most experts agree you will pay for the service cost in fuel saved by having a properly tuned burner.

Read the instructions for maintaining the humidifier on your furnace. A malfunctioning humidifier can rust out a furnace rather quickly. It is recommended that the humidifier be serviced at the same time as the furnace, and be cleaned regularly. **During a visual inspection it is not possible to determine if the humidifier is working.**

Have HVAC Technician Examine - A condition was found that suggests a heating contractor should do a further analysis. We suggest doing this before closing.

Heat exchangers cannot be examined nor their condition determined without being disassembled. Since this is not possible during a visual, non-technically exhaustive inspection, you may want to obtain a service contract on the unit or contact a furnace technician regarding a more thorough examination.

Testing pilot safety switch requires blowing out the pilot light. Checking safety limit controls requires disconnecting blower motor or using other means beyond the scope of this inspection. If furnace has not been serviced in last 12 months, you may want to have a furnace technician examine.

CO Test - This is not part of a non-technical inspection. If a test was performed, the type of tester is indicated on page 27.

Combustible Gas Test (Potential Safety Hazard) - If a combustible gas detector was used during the inspection of the furnace and evidence of possible combustible gases was noted, we caution you that our test instrument is sensitive to many gases and not a foolproof test. None-the-less, this presents the possibility that a hazard exists and could indicate that the heat exchanger is, or will soon be, defective.

COOLING SYSTEM / ELECTRICAL REMARKS

Electrical

Every effort has been made to evaluate the size of the service. Three wires going into the home indicate 240 volts. The total amps is sometimes difficult to determine. We highly recommend that ground fault circuit interrupters (G.F.C.I.) be connected to all outlets around water. This device automatically opens the circuit when it senses a current leak to ground. This device can be purchased in most hardware stores. G.F.C.I.'s are recommended by all outlets located near water, outside outlets, or garage outlets. Pool outlets should also be protected with a G.F.C.I.

The G.F.C.I. senses the flow of electricity through a circuit. If more current is flowing through the black ("hot") wire than the white ("neutral") wire, there is a current leakage. The G.F.C.I., which can sense a ground leak of as little as .005 amps, will shut off the current in 1/40 of a second, which is fast enough to prevent injury.

If you do have G.F.C.I.'s, it is recommended that you test (and reset) them monthly. When you push the test button, the reset button should pop out, shutting off the circuit. If it doesn't, the breaker is not working properly. If you don't test them once a month, the breakers have a tendency to stick, and may not protect you when needed.

Knob and tube wiring found in older homes should be checked by an electrician to insure that the wire cover is in good condition. Under no circumstances should this wire be covered with insulation. Recess light fixtures should have a baffle around them so that they are not covered with insulation. The newer recessed fixtures will shut off if they overheat.

Federal Pacific electrical panels may be unsafe. See www.google.com and search for "Federal Pacific" for additional and up-to-date information.

Aluminum wiring in general lighting circuits has a history of overheating, with the potential of a fire. If this type of wiring exists, a licensed electrical contractor should examine the whole system.

Arc Faults

In some areas, arc faults are required in new homes, starting in 2002. These control outlets in the bedrooms.

Reverse Polarity

A common problem that surfaces in many homes is reverse polarity. This is a potentially hazardous situation in which the hot and neutral wires of a circuit are reversed at the outlet, thereby allowing the appliance to incorrectly be connected. This is an inexpensive item to correct.

Each receptacle has a brass and silver screw. The black wire should be wired to the brass screw and the white wire should go to the silver screw. When these wires are switched, this is called "reverse polarity". Turning off the power and switching these wires will correct the problem.

Main service wiring for housing is typically 240 volts. The minimum capacity for newer homes is 100 amps, though many older homes still have 60 amp service. Larger homes or all electric homes will likely have a 200 amp service.

Main service wiring may be protected by one or more circuit breakers or fuses. While most areas allow up to six main turnoffs, expanding from these panels is generally not allowed.

Cooling

Testing A/C System and Heat Pump - The circuit breakers to A/C should be on for a minimum of 24 hours and the outside temperature at least 60 degrees for the past 24 hours or an A/C system cannot be operated without possible damage to the compressor. Check the instructions in your A/C manual or on the outside compressor before starting up in the summer. Heat pump can only be tested in the mode it's running in. Outside temperature should be at least 65° for the past 24 hours to run in cooling mode.

Temperature differential, between 14°-22°, is usually acceptable. If out of this range, have an HVAC contractor examine it. It is not always feasible to do a differential test due to high humidity, low outside temperature, etc.

COSTS OF REMODELING OR REPAIR

The prices quoted below include a range of prices based on a typical metropolitan area. Individual prices from contractors can vary substantially from these ranges. We advise that several bids be obtained on any work exceeding several hundred dollars. **DO NOT RELY ON THESE PRICES... GET FURTHER ESTIMATES.**

ITEM	UNIT	ESTIMATED PRICE
Masonry fireplace	Each	\$3,000 - \$6,000
Install prefab fireplace	Each	2,000 - 4,000
Insulate attic	Square foot	.75 - 1.25
Install attic ventilating fan	Each	200 - 300
Install new drywall over plaster	Square foot	1.75 - 2.75
Install new warm air furnace	Each	2,000 - 3,000
Replace central air conditioning electric 3T, on existing ductwork	Each	1,400 - 2,000
Install humidifier	Each	300 - 500
Install electrostatic air cleaner	Each	800 - 1,500
Increase elec. svc. to 60-100 amps	Each	600 - 1,200
Run separate elec. line for dryer	Each	125 - 200
Run separate elec. line for A/C	Each	135 - 200
Install hardwired smoke detector	Each	100 - 180
Install new disposal	Each	250 - 400
Install new dishwasher	Each	500 - 750
Install new hot water boiler	Each	2,000 - 4,000
Install new 30-40 gal water heater	Each	350 - 650
Install new 30 gal. water heater	Each	300 - 500
Dig and install new well	Each	get estimate
Install new septic system	Each	get estimate
Regrade around exterior	Each	500 - 900
Install new sump pump and pit	Each	400 - 600
Build new redwood or pressure-treated deck	Square foot	20 - 30
Install storm windows	Each	60 - 150
Install wood replacement windows	Each	400 - 800
Install aluminum or vinyl replacement windows	Each	300 - 800
Install new gutters and downspouts	Linear foot	3.50 - 5.00
Install asphalt shingle over existing roofing	Square foot	1.20 - 1.70
Tear off existing roof and install new asphalt shingle roof	Square foot	2.50 - 4.00
Instl 1-ply membrane rubberized roof	Square foot	get estimate
Instl new 4-ply built-up tar & gravel	Square foot	get estimate
Remove asbestos from pipes in bsmt (with probable minimum)	Linear foot	get estimate
Concrete drive or patio	Square foot	3.00 - 4.00
with removal of old	Square foot	2.25 - 3.00
Clean chimney flue	Each	100 - 200
Add flue liner for gas fuel		900 - 1,200
Add flue liner for oil or wood		2,800 - 3,500

Deferred Costs - It is impossible to determine how long these items will last before needing replacement. The report addresses most of these items from a "condition" standpoint.

PREVENTIVE MAINTENANCE TIPS

- I. **FOUNDATION & MASONRY:** *Basements, Exterior Walls:* To prevent seepage and condensation problems.
 - a. Check basement for dampness & leakage after wet weather.
 - b. Check chimneys, deteriorated chimney caps, loose and missing mortar.
 - c. Maintain grading sloped away from foundation walls.
- II. **ROOFS & GUTTERS:** To prevent roof leaks, condensation, seepage and decay problems.
 - a. Check for damaged, loose or missing shingles, blisters.
 - b. Clean gutters, leaders, strainers, window wells, drains. Be sure downspouts direct water away from foundation. Cut back tree limbs.
 - c. Check flashings around roof stacks, vents, skylights, chimneys, as sources of leakage. Check vents, louvers and chimneys for birds nests, squirrels, insects.
 - d. Check fascias and soffits for paint flaking, leakage & decay.
- III. **EXTERIOR WALLS:** To prevent paint failure, decay and moisture penetration problems.
 - a. Check painted surface for paint flaking or paint failure. Cut back shrubs.
 - b. Check exterior masonry walls for cracks, looseness, missing or broken mortar.
- IV. **DOORS AND WINDOWS:** To prevent air and weather penetration problems.
 - a. Check caulking for decay around doors, windows, corner boards, joints. Recaulk and weather-strip as needed. Check glazing, putty around windows.
- V. **ELECTRICAL:** For safe electrical performance, mark & label each circuit.
 - a. Trip circuit breakers every six months and ground fault circuit interrupters (G.F.C.I.) monthly.
 - b. Check condition of lamp cords, extension cords & plugs. Replace at first sign of wear & damage.
 - c. Check exposed wiring & cable for wear or damage.
 - d. If you experience slight tingling shock from handling or touching any appliance, disconnect the appliance & have it repaired. If lights flicker or dim, or if appliances go on and off unnecessarily, call a licensed electrician.
- VI. **PLUMBING:** For preventive maintenance.
 - a. Drain exterior water lines, hose bibs, sprinklers, pool equipment in the fall.
 - b. Draw off sediment in water heaters monthly or per manufacturer's instructions.
 - c. Have septic tank cleaned every 2 years.
- VII. **HEATING & COOLING:** For comfort, efficiency, energy conservation and safety.
 - a. Change or clean furnace filters, air condition filters, electronic filters as needed.
 - b. Clean and service humidifier. Check periodically and annually.
 - c. Have oil burning equipment serviced annually.
- VIII. **INTERIOR:** General house maintenance.
 - a. Check bathroom tile joints, tub grouting & caulking. Be sure all tile joints in bathrooms are kept well sealed with tile grout to prevent damage to walls, floors & ceilings below.
 - b. Close crawl vents in winter and open in summer.
 - c. Check underside of roof for water stains, leaks, dampness & condensation, particularly in attics and around chimneys.
- IX. **Know the location of:**
 - Main water shutoff valve.
 - Main electrical disconnect or breaker.
 - Main emergency shutoff switch for the heating system.