



# Building Inspection Report

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**Inspection Date:**

**Prepared For:**

**Prepared By:**

Sandy Spring Inspection Services, Inc.  
1001 Ashton Road  
Ashton, MD 20861

**Inspector:**

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# Report Overview

## THE HOUSE IN PERSPECTIVE

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This is a well built home (approximate age) that has been well maintained. As with all homes, ongoing maintenance is required and improvements to the systems of the home will be needed over time. *The improvements that are recommended in this report are not considered unusual for a home of this age and location.* Please remember that there is no such thing as a perfect home.

## CONVENTIONS USED IN THIS REPORT

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For your convenience, the following conventions have been used in this report.

**Major Concern:** *a system or component which is considered significantly deficient or is unsafe. Significant deficiencies need to be corrected and, except for some safety items, are likely to involve significant expense.*

**Safety Issue:** *denotes a condition that is unsafe and in need of prompt attention.*

**Repair:** *denotes a system or component which is missing or which needs corrective action to assure proper and reliable function.*

**Improve:** *denotes improvements which are recommended but not required.*

**Monitor:** *denotes a system or component needing further investigation and/or monitoring in order to determine if repairs are necessary. It may also denote items that are reaching their normal life expectancy or show indications that they may require repair or replacement some time in the near future.*

For the purpose of this report, it is assumed that the house faces south.

## IMPROVEMENT RECOMMENDATION HIGHLIGHTS / SUMMARY

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The following is a synopsis of the potentially significant improvements that should be budgeted for over the short term. Other significant improvements, outside the scope of this inspection, may also be necessary. Please refer to the body of this report, including the General Advice page at the end of the report, for further details on these and other recommendations.

### SAFETY ISSUES

- **Safety Issue:** The automatic opener for the garage door closest to the rear of the house did not automatically reverse under resistance to closing. The electric eye did work properly. *There is a serious risk of injury, particularly to children, under this condition.* Improvement may be as simple as adjusting the sensitivity control on the opener. This should be dealt with immediately.
- **Safety Issue:** The B vent serving the basement gas fired heating system appears to be original. The top termination and corresponding section of vent pipe are slightly damaged. Screw tips were observed penetrating the interior vent pipe walls. My biggest concern is that this vent was originally sized for a less-efficient furnace. My concern is that the recently installed higher-efficiency furnace may not vent properly. It should also be verified to be properly sized for the furnace and water heater it serves. Further evaluation (level 2 inspection) should be performed by a CSIA-certified chimney sweep. (See [www.ncsg.org](http://www.ncsg.org) for a list of Chimney Safety Institute of America (CSIA) certified inspectors and technicians.)
- **Safety Issue:** *The water heater temperature was excessively high (the thermostat was set to a "warm" setting. Further evaluation and improvement, prior to occupancy, is recommended. The temperature should be kept at a setting such that accidental scalding is minimized. Families with small children should be especially aware of this.*
- **Safety Issue:** The sewage ejector crock is not well sealed. My concern is the potential for sewage gases to vent into the furnace room. The condensate line from the basement air handler unit drains into this crock. A plumber should be consulted for further evaluation and improvement.

### REPAIR ITEMS

- **Repair:** The roof is in fair condition. Several areas of moisture related staining were observed from inside the attic. A qualified roofing contractor should be consulted for a roof evaluation/certification.
- **Repair:** The rear portion of the center shed is not sufficiently supported. A qualified contractor should be consulted for further evaluation and improvement.
- **Repair:** Circuit breaker #11 within the left main distribution panel is oversized and should be replaced. It will allow 20 amps of current to flow through the wire it protects which is rated for 15 amps. A 15 amp breaker should be installed.

- **Repair:** Loose outlets noted rear basement storage room and at the front of the front right bedroom. They should be secured.
- **Repair:** Several of the outlets in the home have been painted over. This can be dangerous because paint chips in the receptacle can cause a poor electrical connection which in turn can become a fire hazard; in addition, many are not usable because they are clogged with paint. The outlets in the living room have painted to the point that they are inoperative and should be replaced now. It is recommended that all painted outlets be replaced as each room is being painted or remodeled. Clogged outlets should be replaced now.
- **Repair:** All wire connections should be made inside a covered junction box. A junction box is needed in the shed (at the right of the center building).
- **Repair:** Missing outlet cover plate(s) throughout the shed should be replaced to avoid a shock hazard.
- **Repair:** The urinal in the basement bathroom is inoperative.
- **Repair:** The toilet in the basement bathroom is loose. It is possible that the toilet can simply be secured. However, a loose toilet can result in a distorted wax ring. For that reason, I recommend removing the toilet, checking for and repairing any damaged subfloor resulting from any leakage, replacing the wax ring and resealing the toilet. I did not observe any leakage below the toilet during the inspection.
- **Repair:** Moisture penetration was observed at the following locations:
  - Front of the basement recreation room – the bump-out beneath the front door
  - Beneath the rear basement window
  - At the left of the left basement office

Elevated moisture levels were detected when measured with a moisture meter. *It should be understood that it is impossible to predict the severity or frequency of moisture penetration on a one-time visit to a home.* Virtually all basements exhibit signs of moisture penetration and virtually all basements will indeed leak at some point in time. The visible evidence is not unusual for a home of this age but is somewhat surprising for a home of this type of construction and location. Further monitoring of the foundation will be required to determine what improvements, if any, will be required. I *did* expect to see a sump crock/sump pump system. Further evaluation by a qualified contractor is recommended. Basement leakage rarely affects the structural integrity of a home. The vast majority of basement leakage problems are the result of insufficient control of storm water at the surface. The ground around the house should be sloped to encourage water to flow away from the foundations. Gutters and downspouts should act to collect roof water and drain the water at least five (5) feet from the foundation or into a functional storm sewer. Downspouts that are clogged or broken below grade level, or that discharge too close to the foundation are the most common source of basement leakage. Please refer to the Roofing and Exterior sections of the report for more information. In the event that basement leakage problems are experienced, lot and roof drainage improvements should be undertaken as a first step. Please beware of contractors who recommend expensive solutions. Excavation, damp-proofing and/or the installation of drainage tiles should be a last resort. In some cases, however, it is necessary.

- **Repair:** Openings were noted above the lintel (at the fireplace opening). As a result, smoke can get behind the brick and possibly to the wood framing members above the fireplace. I recommend packing this opening with mortar or other appropriate material to prevent heated gases from getting behind the brick.
- **Repair, Safety Issue:** Very small gaps were observed between sections of the (clay tile) flue liners. Flues are to be continuous (free of gaps). Improvement will likely involve installation of a metal liner system.

## IMPROVEMENT ITEMS

- **Improve:** Possible termite activity was noted at the right side of the shed. Wood debris stored near the shed should be removed. Wood boring bee activity was noted at the front right portion of the shed. A licensed pest control specialist should be consulted for further evaluation and improvement.
- **Improve:** Several relatively minor roofing related issues were noted:
  - The flashing collars for the plumbing vents are torn and worn out, thereby allowing water to enter the attic around the pipes. I recommend replacing the pipe collars or sealing them as necessary to prevent leakage.
  - Damaged skylight flashing should be appropriately sealed. Replacement is recommended at time of re-roofing.
  - Damaged shingle at the rear of the main roof should be replaced if practical. At a minimum exposed nails should be sealed.
  - Shingles should overhang the sides of the house by 3/4ths of an inch. Improvement is recommended at the left side of the upper rear roof (observed near the metal chimney). Installation of a drip-edge flashing is recommended, until this can be properly addressed at time of next re-roofing.

The installation roofing contractor should be consulted for further evaluation and improvement.

- **Improve:** Several relatively minor gutter/downspout issues were noted:

- Staining and insufficient sloping of the gutters at the front of the sunroom (at the right side of the house) and also at the rear of the house (above the outside a/c units) was noted. Minor adjustment will likely address this issue.
- The downspout at the left rear corner of the house is damaged. Repair will likely involve replacement. Some sort of gate stop should be installed to prevent recurrence.

The installation roofing contractor should be consulted for further evaluation and improvement.

- **Improve:** The storm collar around the B vent (metal chimney servicing gas appliances) is not well sealed. This seam should be appropriately caulked to prevent moisture infiltration.
- **Improve:** Several relatively minor exterior home repair items were identified
  - Minor repointing of the mortar joints in the front walkway will prevent moisture related damage.
  - The ends of the sills for the windows are not very well protected with paint. This is a problem that is unique to Andersen windows. All of the window sill edges should be painted or caulked to protect them from rot.
  - The window sill at the right basement window (behind the outside air conditioning units should be improved to manage water away from the window).
  - The gap between the driveway and the garage slab should be sealed to prevent water infiltration below the slab and driveway.
  - Covers for the basement window wells would be a good improvement to keep storm water out of the wells.
  - A couple of fence repairs are needed (damaged post, missing gate, etc)
- **Improve:** The grading at the left of the front porch and also at the rear of the house near the outside air condition units should be improved to promote the flow of storm water away from the house. This can often be accomplished by the addition of top soil. The ground should slope away from the house at a rate of one inch per foot for at least the first several feet. At least eight (8) inches of clearance should be maintained between soil level and the bottom of exterior wall siding.
- **Improve, Safety Issue:** No safety springs/cables were noted on the garage door springs (in the rear shed). The installation of the springs/cables would improve safety during operation.
- **Improve:** The dirty air filter in the basement unit should be replaced. The missing air filter in the attic unit should be replaced. The coil should be cleaned. Given the age of the furnace duct cleaning (by a NADCA-certified technician) would be a logical course of action.
- **Improve:** One of the vents near the outside air conditioning units is prone to stay in the open position. My concern is the potential for pests to infiltrate the vent(s). The vent(s) should be repaired or replaced so that it functions properly.
- **Improve:** The level of ventilation is marginal. Only 1 gable vent was observed. It is generally recommended that one (1) square foot of free vent area be provided for every one hundred and fifty (150) square feet of ceiling area. Proper ventilation will help to keep the house cooler during warm weather and extend the life of roofing materials. In cold climates, it will help reduce the potential for ice dams on the roof and condensation within the attic. Improved ventilation should be coordinated with re-roofing.
- **Improve:** Replacing the aerator at the faucet in the basement bathroom would improve the operation of the faucet.
- **Improve:** Door related issues were noted at the following locations:
  - The lock for the sliding glass door at the rear of the family room is not functioning properly. Adjustment will likely resolve this issue. Contact Andersen doors and windows (1-888-888-7020) for assistance.
  - The door in the front right bedroom and also the door in the main level study do not shut and/or latch properly. The doors should be trimmed if necessary, or the hinges and striker plate hardware should be adjusted as necessary so that the door shuts and latches.
  - Door hardware is missing in the dining room. Replacement with matching hardware is recommended.
- **Improve:** Window related issues were noted at the following locations:
  - Both semi-circular windows at the rear of the master bathroom are broken and should be replaced.
  - The window frame at the front (left) garage window is broken. Glue and clamp repairs should be attempted as a 1<sup>st</sup> step in addressing this issue.
  - The window cranking hardware at the right of the kitchen eat-in room is damaged and is inoperative. Improvement is recommended.
  - Sash springs for the windows at the right of the living room and at the rear of the dining room (right window)
  - Window screens should be repaired (damaged screens noted at the outside a/c units) and re-installed.

#### ITEMS TO MONITOR

- **Monitor:** Skylight windows on low slope roofs should be closely monitored for evidence of moisture infiltration. None noted at time of inspection, thoroughly verified with moisture meter. If leakage is detected, apply a layer of sheet waterproofing over the flanges/flashing of the skylight. This is generally installed under the finish roofing material as an

aid in protecting against ice dams. Avoid water diversion devices such as roof crickets or diverter strips, as they often create more problems than they solve.

- **Monitor:** The bushes are overgrown and close to the house. I recommend keeping the bushes trimmed away from the exterior walls to reduce damage to the siding and the risk of insect or water damage. Poison ivy was observed in several areas and should be appropriately addressed.
- **Monitor:** The baffles are missing for 2 of the recessed light fixtures in the basement. This is considered cosmetic and as such is outside the scope of this inspection.
- **Monitor, Repair:** Only one heat supply vent was found in the basement. My concern is that the basement recreation room be uncomfortable on the hottest days of summer and the coldest days of winter.
- **Monitor:** A good quality reverse osmosis filter has been installed under the kitchen sink. This is a nice feature of this house. Reverse osmosis filters use a combination of carbon filters and semi-permeable membranes to separate pure water from contaminants. Combination carbon cartridge / reverse osmosis membrane systems are effective in removing 98% of the chlorine and organic chemicals. The reverse osmosis membrane system is effective in removing 95-99% of the dissolved contaminants from water molecules. The results of this system may vary. Reverse osmosis filters are among the very best water filters available for home use. I was unsure why the domestic water at other locations is not similarly filtered. Testing and further evaluation is initially recommended.
- **Monitor:** Well water is normally acidic which can eventually result in pin-hole leaks in the copper piping if left untreated. No leakage was noted at the time of the inspection. However, I am concerned that the installed acid neutralizer system has not been recently serviced. When remodeling, I recommend replacing any original piping.
- **Monitor:** Blue/green stains were noted beneath several plumbing fixtures. Installation of a water softener will typically prevent this staining.
- **Monitor:** The water pressure to the sink at the right 2<sup>nd</sup> floor bathroom and also to the whirlpool tub in the master bathroom was low. The pressure can be adjusted if desired at the pressure switch near the well tank as a 1<sup>st</sup> step in addressing this issue. I recommend a pressure range of 40-60 psi.
- **Monitor:** It was disclosed that this house has a private sewer system, which is beneath the yard. This system was not evaluated during an inspection. A separate inspection (to include septic pumping) is recommended. Septic systems typically last in excess of 30 years, but the proximity of tree roots in the vicinity of the drainage pipes can result in premature failure. It would be wise to consider removal of trees in close proximity to the septic system. The installed garbage disposer should be used sparingly and not with meat products which clog sewer systems. Ideally, facial tissues should be disposed of in the trash and not flushed into the sewer system.
- **Monitor:** Slight staining was noted inside the right doorjamb of the front door. No active moisture was detected. No rot was detected.
- **Monitor:** The second floor hallway railing (above the front foyer) is loose and should be secured for improved safety.

## THE SCOPE OF THE INSPECTION

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All components designated for inspection in the ASHI® Standards of Practice are inspected, except as may be noted in the "Limitations of Inspection" sections within this report.

It is the goal of the inspection to put a home buyer in a better position to make a buying decision. Not all improvements will be identified during this inspection. Unexpected repairs should still be anticipated. The inspection should not be considered a guarantee or warranty of any kind. Maryland law requires the following additional disclosure:

**“AN INSPECTION IS INTENDED TO ASSIST IN EVALUATION OF THE OVERALL CONDITION OF A BUILDING. THE INSPECTION IS BASED ON OBSERVATION OF THE VISIBLE AND APPARENT CONDITION OF THE BUILDING AND ITS COMPONENTS ON THE DATE OF INSPECTION. THE RESULTS OF THIS HOME INSPECTION ARE NOT INTENDED TO MAKE ANY REPRESENTATION REGARDING LATENT OR CONCEALED DEFECTS THAT MAY EXIST, AND NO WARRANTY OR GUARANTY IS EXPRESSED OR IMPLIED. IF YOUR HOME INSPECTOR IS NOT A LICENSED STRUCTURAL ENGINEER OR OTHER PROFESSIONAL WHOSE LICENSE AUTHORIZES THE RENDERING OF AN OPINION AS TO THE STRUCTURAL INTEGRITY OF A BUILDING OR ITS OTHER COMPONENT PARTS, YOU MAY BE ADVISED TO SEEK A PROFESSIONAL OPINION AS TO ANY DEFECTS OR CONCERNS MENTIONED IN THIS REPORT.”**

Please refer to the pre-inspection contract for a full explanation of the scope of the inspection.

## WEATHER CONDITIONS

Dry weather conditions prevailed at the time of the inspection. Dry weather conditions have been experienced in the days leading up to the inspection. The estimated outside temperature was 80 degrees F.

# Structure

## DESCRIPTION OF STRUCTURE

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<b>Foundation:</b>	•Poured Concrete •Basement Configuration
<b>Columns:</b>	•Steel
<b>Floor Structure:</b>	•Wood I-Joists
<b>Wall Structure:</b>	•Wood Frame
<b>Ceiling Structure:</b>	•Wood I-Joists
<b>Roof Structure:</b>	•Trusses •Plywood Sheathing

## STRUCTURE OBSERVATIONS

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The construction of the home is considered to be good quality. The materials and workmanship, where visible, are above average. The span of all visible joists appear to be within acceptable limits. The building exhibits no evidence of substantial structural movement. Typical minor flaws were detected. No improvement to structural components is considered necessary at this time. As with most homes of this age and location, some liberties are taken with good building practice and with the quality of materials employed. This does not represent a major structural concern.

### RECOMMENDATIONS / OBSERVATIONS

- **Improve:** Possible termite activity was noted at the right side of the shed. Wood debris stored near the shed should be removed. Wood boring bee activity was noted at the front right portion of the shed. A licensed pest control specialist should be consulted for further evaluation and improvement.

## LIMITATIONS OF STRUCTURE INSPECTION

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Structural components concealed behind finished surfaces could not be inspected.
- Only a representative sampling of visible structural components were inspected.
- Furniture and/or storage restricted access to some structural components.
- Engineering or architectural services such as calculation of structural capacities, adequacy, or integrity are not part of a home inspection.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Roofing

## DESCRIPTION OF ROOFING

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<b>Roof Covering:</b>	•Asphalt Shingle
<b>Roof Flashings:</b>	•Metal
<b>Chimneys:</b>	•Masonry
<b>Chimneys:</b>	•Metal
<b>Roof Drainage System:</b>	•Aluminum •Downspouts discharge above grade
<b>Skylights:</b>	•Curb Style
<b>Method of Inspection:</b>	•Walked Roof

## ROOFING OBSERVATIONS

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The shingles are original and are approaching the end of their useful life. The roofing is in marginal condition and should be replaced in the next 2-4 years. Roof flashings details appear to be in poor condition as evidenced by moisture stains in the attic. The gutters and downspouts appear to be in generally good condition. The chimney does not show signs of significant deterioration.

### RECOMMENDATIONS / OBSERVATIONS

- **Repair:** The roof is in fair condition. Several areas of moisture related staining were observed from inside the attic. A qualified roofing contractor should be consulted for a roof evaluation/certification.
- **Improve:** Several relatively minor roofing related issues were noted:
  - The flashing collars for the plumbing vents are torn and worn out, thereby allowing water to enter the attic around the pipes. I recommend replacing the pipe collars or sealing them as necessary to prevent leakage.
  - Damaged skylight flashing should be appropriately sealed. Replacement is recommended at time of re-roofing.
  - Damaged shingle at the rear of the main roof should be replaced if practical. At a minimum exposed nails should be sealed.
  - Shingles should overhang the sides of the house by 3/4ths of an inch. Improvement is recommended at the left side of the upper rear roof (observed near the metal chimney). Installation of a drip-edge flashing is recommended, until this can be properly addressed at time of next re-roofing.

The installation roofing contractor should be consulted for further evaluation and improvement.
- **Improve:** Several relatively minor gutter/downspout issues were noted:
  - Staining and insufficient sloping of the gutters at the front of the sunroom (at the right side of the house) and also at the rear of the house (above the outside a/c units) was noted. Minor adjustment will likely address this issue.
  - The downspout at the left rear corner of the house is damaged. Repair will likely involve replacement. Some sort of gate stop should be installed to prevent recurrence.

The installation roofing contractor should be consulted for further evaluation and improvement.
- **Improve:** The storm collar around the B vent (metal chimney servicing gas appliances) is not well sealed. This seam should be appropriately caulked to prevent moisture infiltration.
- **Monitor:** Skylight windows on low slope roofs should be closely monitored for evidence of moisture infiltration. None noted at time of inspection, thoroughly verified with moisture meter. If leakage is detected, apply a layer of sheet waterproofing over the flanges/flashing of the skylight. This is generally installed under the finish roofing material as an aid in protecting against ice dams. Avoid water diversion devices such as roof crickets or diverter strips, as they often create more problems than they solve.

## LIMITATIONS OF ROOFING INSPECTION

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Not all of the underside of the roof sheathing is inspected for evidence of leaks.
- Evidence of prior leaks may be disguised by interior finishes.
- Estimates of remaining roof life are approximations only and do not preclude the possibility of leakage. Leakage can develop at any time and may depend on rain intensity, wind direction, ice build up, and other factors.

- Antennae, chimney/flue interiors which are not readily accessible are not inspected and could require repair.
- Roof inspection may be limited by access, condition, weather, or other safety concerns.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Exterior

## DESCRIPTION OF EXTERIOR

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<b>Wall Covering:</b>	•Brick •Vinyl Siding
<b>Eaves, Soffits, And Fascias:</b>	•Aluminum/Vinyl Facias and Soffits
<b>Exterior Doors:</b>	•Wood •Vinyl Sliding Door
<b>Window/Door Frames and Trim:</b>	•Andersen Clad Wood
<b>Exterior Doors:</b>	•Metal
<b>Entry Driveways:</b>	•Asphalt
<b>Porches, Decks, Steps, Railings:</b>	•Pressure Treated Wood
<b>Overhead Garage Door(s):</b>	•Steel •Automatic Opener Installed
<b>Surface Drainage:</b>	•Level Grade
<b>Fencing:</b>	•Wood

## EXTERIOR OBSERVATIONS

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The house has all brick veneer exterior walls. The house has all brick veneer exterior walls. The exterior siding that has been installed on the house has relatively low maintenance requirements. The wood window frames are clad with aluminum or vinyl. The aluminum and/or vinyl soffits and fascia are a low-maintenance feature of the exterior of the home. There is no significant wood/soil contact around the perimeter of the house, thereby reducing the risk of insect infestation or rot. The auto reverse mechanism on the overhead garage door(s) did not respond properly to testing. This safety feature should be corrected and tested regularly as a door that doesn't reverse can injure someone or fall from the ceiling. Refer to the owner's manual or contact the manufacturer for more information. The garage is fully finished and is a nice feature of this house. The lot drainage was good, conducting surface water away from the building, but see below. The decking is constructed from pressure treated wood. The driveway and walkways are in good condition. The exterior of the home is generally in good condition.

### RECOMMENDATIONS / OBSERVATIONS

- **Safety Issue:** The automatic opener for the garage door closest to the rear of the house did not automatically reverse under resistance to closing. The electric eye did work properly. ***There is a serious risk of injury, particularly to children, under this condition.*** Improvement may be as simple as adjusting the sensitivity control on the opener. This should be dealt with immediately.
- **Improve:** Several relatively minor exterior home repair items were identified
  - Minor repointing of the mortar joints in the front walkway will prevent moisture related damage.
  - The ends of the sills for the windows are not very well protected with paint. This is a problem that is unique to Andersen windows. All of the window sill edges should be painted or caulked to protect them from rot.
  - The window sill at the right basement window (behind the outside air conditioning units should be improved to manage water away from the window).
  - The gap between the driveway and the garage slab should be sealed to prevent water infiltration below the slab and driveway.
  - Covers for the basement window wells would be a good improvement to keep storm water out of the wells.
  - A couple of fence repairs are needed (damaged post, missing gate, etc)
- **Improve:** The grading at the left of the front porch and also at the rear of the house near the outside air condition units should be improved to promote the flow of storm water away from the house. This can often be accomplished by the addition of top soil. The ground should slope away from the house at a rate of one inch per foot for at least the first several feet. At least eight (8) inches of clearance should be maintained between soil level and the bottom of exterior wall siding.
- **Monitor:** The bushes are overgrown and close to the house. I recommend keeping the bushes trimmed away from the exterior walls to reduce damage to the siding and the risk of insect or water damage. Poison ivy was observed in several areas and should be appropriately addressed.

### RECOMMENDATIONS / OBSERVATIONS - SHED

- **Repair:** The rear portion of the center shed is not sufficiently supported. A qualified contractor should be consulted for further evaluation and improvement.

- **Improve, Safety Issue:** No safety springs/cables were noted on the garage door springs (in the rear shed). The installation of the springs/cables would improve safety during operation.

## **LIMITATIONS OF EXTERIOR INSPECTION**

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- A representative sample of exterior components was inspected rather than every occurrence of components.
- The inspection does not include an assessment of geological, geotechnical, or hydrological conditions, or environmental hazards.
- Screening, shutters, awnings, or similar seasonal accessories, fences, recreational facilities, outbuildings, seawalls, break-walls, docks, erosion control and earth stabilization measures are not inspected unless specifically agreed-upon and documented in this report.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Electrical

## DESCRIPTION OF ELECTRICAL

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<b>Size of Electrical Service:</b>	•120/240 Volt Main Service - Service Size: 400 Amp
<b>Service Drop:</b>	•Underground
<b>Service Entrance Conductors:</b>	•Aluminum
<b>Main Disconnects:</b>	•Breakers •Location: Basement
<b>Grounding:</b>	•Copper Ground (Termination Not Visible) and Aluminum Water Pipe Ground
<b>Panel Rating:</b>	•200 Amps Each Panel
<b>Sub-Panel(s):</b>	•None
<b>Distribution Wiring:</b>	•Copper
<b>Wiring Method:</b>	•Non-Metallic Cable "Romex"
<b>Switches &amp; Receptacles:</b>	•Grounded
<b>Ground Fault Circuit Interrupters:</b>	•Bathroom(s), Kitchen, Electric Panel
<b>Arc Fault Circuit Interrupters:</b>	•None
<b>Smoke Detectors:</b>	•Present

## ELECTRICAL OBSERVATIONS

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The size of the electrical service is sufficient for typical single family needs except as may be noted below. The electrical panels are well arranged and all fuses/breakers are properly sized. Generally speaking, the electrical system is in good order. All outlets and light fixtures that were tested operated satisfactorily. The distribution of electricity within the home is good. All 3-prong outlets that were tested were appropriately grounded. Ground fault circuit interrupter (GFCI) devices have been provided in some areas of the home. These devices are extremely valuable, as they offer an extra level of shock protection. All GFCI's that were tested responded properly. Dedicated 220 volt circuits have been provided for all 220 volt appliances within the home. All visible wiring within the home is copper. This is a good quality electrical conductor. I recommend that any electrical repairs or improvements be conducted by a qualified electrician.

### RECOMMENDATIONS / OBSERVATIONS

- **Repair:** Circuit breaker #11 within the left main distribution panel is oversized and should be replaced. It will allow 20 amps of current to flow through the wire it protects which is rated for 15 amps. A 15 amp breaker should be installed.
- **Repair:** Loose outlets noted rear basement storage room and at the front of the front right bedroom. They should be secured.
- **Repair:** Several of the outlets in the home have been painted over. This can be dangerous because paint chips in the receptacle can cause a poor electrical connection which in turn can become a fire hazard; in addition, many are not usable because they are clogged with paint. The outlets in the living room have painted to the point that they are inoperative and should be replaced now. It is recommended that all painted outlets be replaced as each room is being painted or remodeled. Clogged outlets should be replaced now.
- **Repair:** All wire connections should be made inside a covered junction box. A junction box is needed in the shed (at the right of the center building).
- **Repair:** Missing outlet cover plate(s) throughout the shed should be replaced to avoid a shock hazard.
- **Monitor:** The baffles are missing for 2 of the recessed light fixtures in the basement. This is considered cosmetic and as such is outside the scope of this inspection.

## LIMITATIONS OF ELECTRICAL INSPECTION

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Electrical components concealed behind finished surfaces are not inspected.
- Only a representative sampling of outlets and light fixtures were tested.
- Furniture and/or storage restricted access to some electrical components which may not be inspected.

- The inspection does not include remote control devices, alarm systems and components, low voltage wiring, systems, and components, ancillary wiring, systems, and other components which are not part of the primary electrical power distribution system.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Heating

## DESCRIPTION OF HEATING

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<b>Energy Source:</b>	•Gas
<b>First Floor System Type:</b>	•Forced Air Furnace •Size: 80K BTU/Hr. •Age: ???
<b>Second Floor System Type:</b>	•Forced Air Furnace •Age: Unknown
<b>Vents, Flues, Chimneys:</b>	•Metal-Multi Wall
<b>Heat Distribution Methods:</b>	•Ductwork
<b>Other Components:</b>	•None

## HEATING OBSERVATIONS

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The heating system is in generally good condition. Adequate heating capacity is provided by the system. Heat distribution within the home is adequate. The heating system shows no visible evidence of major defects.

### RECOMMENDATIONS / OBSERVATIONS

- **Safety Issue:** The B vent serving the basement gas fired heating system appears to be original. The top termination and corresponding section of vent pipe are slightly damaged. Screw tips were observed penetrating the interior vent pipe walls. My biggest concern is that this vent was originally sized for a less-efficient furnace. My concern is that the recently installed higher-efficiency furnace may not vent properly. It should also be verified to be properly sized for the furnace and water heater it serves. Further evaluation (level 2 inspection) should be performed by a CSIA-certified chimney sweep. (See [www.ncsg.org](http://www.ncsg.org) for a list of Chimney Safety Institute of America (CSIA) certified inspectors and technicians.)
- **Monitor, Repair:** Only one heat supply vent was found in the basement. My concern is that the basement recreation room be uncomfortable on the hottest days of summer and the coldest days of winter.

## LIMITATIONS OF HEATING INSPECTION

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- The adequacy of heat supply or distribution balance is not inspected.
- The interior of flues or chimneys which are not readily accessible are not inspected.
- The furnace heat exchanger, humidifier, or dehumidifier, and electronic air filters are not inspected.
- Solar space heating equipment/systems are not inspected.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Cooling / Heat Pumps

## DESCRIPTION OF COOLING / HEAT PUMPS

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<b>Energy Source:</b>	•Electricity
<b>First Floor System:</b>	•Air Cooled Central Air Conditioning •Size: 4 Tons •Filter Size: •16x25x1 •Age: 2 Years
<b>Second Floor System:</b>	•Air Cooled Central Air Conditioning •Size: 3 Tons •Filter Size: •16x25x1 •Age: 2 Years
<b>Other Components:</b>	•None

## COOLING / HEAT PUMPS OBSERVATIONS

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The capacity and configuration of the systems should be sufficient for the home. Upon testing, a normal temperature drop across each of the evaporator coils of 17.8 (basement) and 16.2 (attic) was observed. This suggests that the systems are operating properly. The systems shows no visible evidence of major defects.

### RECOMMENDATIONS / OBSERVATIONS

- **Improve:** The dirty air filter in the basement unit should be replaced. The missing air filter in the attic unit should be replaced. The coil should be cleaned. Given the age of the furnace duct cleaning (by a NADCA-certified technician) would be a logical course of action.

## LIMITATIONS OF COOLING / HEAT PUMPS INSPECTION

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Window mounted air conditioning units are not inspected.
- The cooling supply adequacy or distribution balance are not inspected.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Insulation / Ventilation

## DESCRIPTION OF INSULATION / VENTILATION

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<b>Attic Insulation:</b>	•R30 Fiberglass in Main Attic
<b>Exterior Wall Insulation:</b>	•Not Visible
<b>Basement Wall Insulation:</b>	•R-11 Fiberglass •Not Visible for the Majority of the Basement
<b>Exterior Wall Insulation:</b>	•Not Visible
<b>Crawl Space Insulation:</b>	•R-19 Fiberglass in Floor Joists
<b>Roof Ventilation:</b>	•Gable Vents
<b>Other Components:</b>	•None

## INSULATION / VENTILATION OBSERVATIONS

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Insulation levels are typical for a home of this age and construction. Caulking and weather-stripping around doors, windows and other exterior wall openings will help to maintain weather tightness and reduce energy costs.

### RECOMMENDATIONS / ENERGY SAVING SUGGESTIONS

- **Improve:** One of the vents near the outside air conditioning units is prone to stay in the open position. My concern is the potential for pests to infiltrate the vent(s). The vent(s) should be repaired or replaced so that it functions properly.
- **Improve:** The level of ventilation is marginal. Only 1 gable vent was observed. It is generally recommended that one (1) square foot of free vent area be provided for every one hundred and fifty (150) square feet of ceiling area. Proper ventilation will help to keep the house cooler during warm weather and extend the life of roofing materials. In cold climates, it will help reduce the potential for ice dams on the roof and condensation within the attic. Improved ventilation should be coordinated with re-roofing.

## LIMITATIONS OF INSULATION / VENTILATION INSPECTION

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Insulation/ventilation type and levels in concealed areas are not inspected. Insulation and vapor barriers are not disturbed and no destructive tests (such as cutting openings in walls to look for insulation) are performed.
- Potentially hazardous materials such as Asbestos and Urea Formaldehyde Foam Insulation (UFFI) cannot be positively identified without a detailed inspection and laboratory analysis. This is beyond the scope of the inspection.
- An analysis of indoor air quality is not part of our inspection unless explicitly contracted-for and discussed in this or a separate report.
- Any estimates of insulation R values or depths are rough average values.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Plumbing

## DESCRIPTION OF PLUMBING

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<b>Water Supply Source:</b>	•Private Water Supply
<b>Service Pipe to House:</b>	•Polyethylene
<b>Main Water Valve Location:</b>	•Furnace Room
<b>Interior Supply Piping:</b>	•Copper
<b>Waste and Vent System:</b>	•PVC
<b>Water Heater:</b>	•Gas •Size: 75 Gallons •Age: 2 Years, est.
<b>Fuel Shut-Off Valves:</b>	•Exterior at Meter
<b>Other Components:</b>	•Whirlpool

## PLUMBING OBSERVATIONS

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The plumbing system is in generally good condition except as indicated below. The piping system within the home, for both supply and waste, is a good quality system. The water pressure supplied to the fixtures is above average. Only a slight drop in flow was experienced when two fixtures were operated simultaneously. I recommend that all plumbing repairs be conducted by a qualified plumber.

### RECOMMENDATIONS / OBSERVATIONS

- **Safety Issue:** *The water heater temperature was excessively high (the thermostat was set to a “warm” setting. Further evaluation and improvement, prior to occupancy, is recommended. The temperature should be kept at a setting such that accidental scalding is minimized. Families with small children should be especially aware of this.*
- **Safety Issue:** The sewage ejector crock is not well sealed. My concern is the potential for sewage gases to vent into the furnace room. The condensate line from the basement air handler unit drains into this crock. A plumber should be consulted for further evaluation and improvement.
- **Repair:** The urinal in the basement bathroom is inoperative.
- **Repair:** The toilet in the basement bathroom is loose. It is possible that the toilet can simply be secured. However, a loose toilet can result in a distorted wax ring. For that reason, I recommend removing the toilet, checking for and repairing any damaged subfloor resulting from any leakage, replacing the wax ring and resealing the toilet. I did not observe any leakage below the toilet during the inspection.
- **Improve:** Replacing the aerator at the faucet in the basement bathroom would improve the operation of the faucet.
- **Monitor:** A good quality reverse osmosis filter has been installed under the kitchen sink. This is a nice feature of this house. Reverse osmosis filters use a combination of carbon filters and semi-permeable membranes to separate pure water from contaminants. Combination carbon cartridge / reverse osmosis membrane systems are effective in removing 98% of the chlorine and organic chemicals. The reverse osmosis membrane system is effective in removing 95-99% of the dissolved contaminants from water molecules. The results of this system may vary. Reverse osmosis filters are among the very best water filters available for home use. I was unsure why the domestic water at other locations is not similarly filtered. Testing and further evaluation is initially recommended.
- **Monitor:** Well water is normally acidic which can eventually result in pin-hole leaks in the copper piping if left untreated. No leakage was noted at the time of the inspection. However, I am concerned that the installed acid neutralizer system has not been recently serviced. When remodeling, I recommend replacing any original piping.
- **Monitor:** Blue/green stains were noted beneath several plumbing fixtures. Installation of a water softener will typically prevent this staining.
- **Monitor:** The water pressure to the sink at the right 2<sup>nd</sup> floor bathroom and also to the whirlpool tub in the master bathroom was low. The pressure can be adjusted if desired at the pressure switch near the well tank as a 1<sup>st</sup> step in addressing this issue. I recommend a pressure range of 40-60 psi.
- **Monitor:** It was disclosed that this house has a private sewer system, which is beneath the yard. This system was not evaluated during an inspection. A separate inspection (to include septic pumping) is recommended. Septic systems typically last in excess of 30 years, but the proximity of tree roots in the vicinity of the drainage pipes can result in premature failure. It would be wise to consider removal of trees in close proximity to the septic system. The installed garbage disposer should be used sparingly and not with meat products which clog sewer systems. Ideally, facial tissues should be disposed of in the trash and not flushed into the sewer system.

## **LIMITATIONS OF PLUMBING INSPECTION**

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions:

- Portions of the plumbing system concealed by finishes and/or storage (below sinks, etc.), below the structure, or beneath the ground surface are not inspected.
- Water quantity and water quality are not tested unless explicitly contracted-for and discussed in this or a separate report.
- Clothes washing machine connections are not inspected.
- Interiors of flues or chimneys which are not readily accessible are not inspected.
- Water conditioning systems, solar water heaters, fire and lawn sprinkler systems, and private waste disposal systems are not inspected unless explicitly contracted-for and discussed in this or a separate report.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Interior

## DESCRIPTION OF INTERIOR

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<b>Wall And Ceiling Materials:</b>	•Drywall
<b>Floor Surfaces:</b>	•Carpet •Tile •Vinyl/Resilient •Wood
<b>Window Type(s) &amp; Glazing:</b>	•Double Hung/Double Glazed •Casement
<b>Doors:</b>	•Wood-Hollow Core

## INTERIOR OBSERVATIONS

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On the whole, the interior finishes of the home are in above average condition. The kitchen (natural stone countertops and upgraded cabinetry) is an excellent feature of this house. Typical minor flaws were observed in some areas. The doors and windows are good quality. The floors of the home are relatively level and walls are relatively plumb.

### RECOMMENDATIONS / OBSERVATIONS

- **Repair:** Moisture penetration was observed at the following locations:
  - Front of the basement recreation room – the bump-out beneath the front door
  - Beneath the rear basement window
  - At the left of the left basement office

Elevated moisture levels were detected when measured with a moisture meter. *It should be understood that it is impossible to predict the severity or frequency of moisture penetration on a one-time visit to a home.* Virtually all basements exhibit signs of moisture penetration and virtually all basements will indeed leak at some point in time. The visible evidence is not unusual for a home of this age but is somewhat surprising for a home of this type of construction and location. Further monitoring of the foundation will be required to determine what improvements, if any, will be required. I *did* expect to see a sump crock/sump pump system. Further evaluation by a qualified contractor is recommended. Basement leakage rarely affects the structural integrity of a home. The vast majority of basement leakage problems are the result of insufficient control of storm water at the surface. The ground around the house should be sloped to encourage water to flow away from the foundations. Gutters and downspouts should act to collect roof water and drain the water at least five (5) feet from the foundation or into a functional storm sewer. Downspouts that are clogged or broken below grade level, or that discharge too close to the foundation are the most common source of basement leakage. Please refer to the Roofing and Exterior sections of the report for more information. In the event that basement leakage problems are experienced, lot and roof drainage improvements should be undertaken as a first step. Please beware of contractors who recommend expensive solutions. Excavation, damp-proofing and/or the installation of drainage tiles should be a last resort. In some cases, however, it is necessary.
- **Improve:** Door related issues were noted at the following locations:
  - The lock for the sliding glass door at the rear of the family room is not functioning properly. Adjustment will likely resolve this issue. Contact Andersen doors and windows (1-888-888-7020) for assistance.
  - The door in the front right bedroom and also the door in the main level study do not shut and/or latch properly. The doors should be trimmed if necessary, or the hinges and striker plate hardware should be adjusted as necessary so that the door shuts and latches.
  - Door hardware is missing in the dining room. Replacement with matching hardware is recommended.
- **Improve:** Window related issues were noted at the following locations:
  - Both semi-circular windows at the rear of the master bathroom are broken and should be replaced.
  - The window frame at the front (left) garage window is broken. Glue and clamp repairs should be attempted as a 1<sup>st</sup> step in addressing this issue.
  - The window cranking hardware at the right of the kitchen eat-in room is damaged and is inoperative. Improvement is recommended.
  - Sash springs for the windows at the right of the living room and at the rear of the dining room (right window)
  - Window screens should be repaired (damaged screens noted at the outside a/c units) and re-installed.
- **Monitor:** Slight staining was noted inside the right doorjamb of the front door. No active moisture was detected. No rot was detected.
- **Monitor:** The second floor hallway railing (above the front foyer) is loose and should be secured for improved safety.

## **LIMITATIONS OF INTERIOR INSPECTION**

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions

- Furniture, storage, appliances and/or wall hangings are not moved to permit inspection and may block defects.
- Carpeting, window treatments, central vacuum systems, household appliances, recreational facilities, paint, wallpaper, and other finish treatments are not inspected.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Fireplaces / Wood Stoves

## DESCRIPTION OF FIREPLACES / WOOD STOVES

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<b>Fireplaces:</b>	•Masonry Firebox
<b>Vents, Flues, Chimneys:</b>	•Masonry Chimney-Lined

## FIREPLACES / WOOD STOVES OBSERVATIONS

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On the whole, the fireplace and it's components are in above average condition. Typical minor flaws were observed in some areas.

### RECOMMENDATIONS / OBSERVATIONS

- **Repair:** Openings were noted above the lintel (at the fireplace opening). As a result, smoke can get behind the brick and possibly to the wood framing members above the fireplace. I recommend packing this opening with mortar or other appropriate material to prevent heated gases from getting behind the brick.
- **Repair, Safety Issue:** Very small gaps were observed between sections of the (clay tile) flue liners. Flues are to be continuous (free of gaps). Improvement will likely involve installation of a metal liner system.

## LIMITATIONS OF FIREPLACES / WOOD STOVES INSPECTION

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions

- The interiors of flues or chimneys are not inspected.
- Firescreens, fireplace doors, appliance gaskets and seals, automatic fuel feed devices, mantles and fireplace surrounds, combustion make-up air devices, and heat distribution assists (gravity or fan-assisted) are not inspected.
- The inspection does not involve igniting or extinguishing fires nor the determination of draft.
- Fireplace inserts, stoves, or firebox contents are not moved.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# Appliances

## DESCRIPTION OF APPLIANCES

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**Appliances Tested:**

•Electric Wall Oven(s) •Electric Cooktop •Refrigerator •Dishwasher •Waste Disposer •Trash Compactor •Microwave •Clothes Washer •Clothes Dryer

## APPLIANCES OBSERVATIONS

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Most of the major appliances in the home are newer. The appliances are considered to be in generally good condition. All appliances that were tested responded satisfactorily.

### RECOMMENDATIONS / OBSERVATIONS

- **Safety Issue:** The dryer vent above the garage doors at the left side of the house is congested and should be cleared of all debris.
- **Improve:** The clothes dryer is noisy. I recommend having it serviced by a qualified appliance repairman.

## LIMITATIONS OF APPLIANCES INSPECTION

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As we have discussed and as described in your inspection contract, this is a visual inspection limited in scope by (but not restricted to) the following conditions

- Thermostats, timers and other specialized features and controls are not tested.
- The temperature calibration, functionality of timers, effectiveness, efficiency and overall performance of appliances is outside the scope of this inspection.

Please also refer to the pre-inspection contract for a detailed explanation of the scope of this inspection.

# General Advice

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## KEEPING THE BASEMENT DRY

- **Grading and Downspouts:** During the inspection every effort was made to locate evidence of moisture problems in the basement, including a visible inspection and the use of a moisture meter. A mildew or moldy smell is also symptomatic of a moisture problem. *It should be understood that it is impossible to predict whether moisture penetration will pose a problem in the future.* The vast majority of basement leakage problems are the result of insufficient control of storm water at the surface. The ground around the house should be sloped to encourage water to flow away from the foundations. Gutters and downspouts should act to collect roof water and drain the water at least five (5) feet from the foundation, or into a functional storm sewer. Downspouts that are clogged or broken below grade level, or that discharge too close to the foundation, are the most common source of basement leakage. The grading should also promote the flow of storm water away from the house. This can often be accomplished by the addition of top soil. The ground should slope away from the house at a rate of one inch per foot for at least the first several feet. At least several inches of clearance should be maintained between soil level and the bottom of exterior wall siding. In the event that basement leakage problems are experienced, lot and roof drainage improvements should be undertaken as a first step. Please beware of contractors who recommend expensive solutions. Excavation, damp-proofing and/or the installation of drainage tiles should be considered a last resort. In some cases, however, it is necessary.

## ROOFING AND EXTERIOR

- **Gutter Guards:** If not already done, covering the gutters with a high quality gutter cover would help to avoid congestion with leaves and debris.
- **Painting and Caulking:** Be advised that it is essential to keep any wood trim well painted to prevent rot. In addition, the caulking at the windows and doors should be kept in good condition to keep water out of the house. To reduce long term maintenance and improve appearance, it may be advantageous to install aluminum soffit and fascia (if not already done). Any penetrations of the exterior walls should also be kept well sealed. Penetrations typically occur at the main electric line leading into the house, the gas line, the hose bibs, the telephone and cable connections, etc.
- **Bushes:** Bushes should be kept pruned back to keep them away from the house.
- **Deck:** I strongly recommend periodically checking the lag screws or carriage bolts that secure the deck to the house to ensure that they are tight; this is an easy but important thing to verify. If there is ever any concern about the strength of the attachment of the deck to the house, a girder can be installed to support the joists near the house which will make the deck free standing. See the following website for deck attachment details: <http://www.fairfaxcounty.gov/dpwes/publications/decks/details.pdf>
- **Firewood:** Firewood should not be stored against the house. Firewood against the house will attract termites.
- **Garage Door Springs:** If not already done, the installation of safety cables (a cable that goes through the spring to contain the pieces if the spring breaks) would improve safety during operation.

## ELECTRICAL

- **GFCI's:** The use of ground fault circuit interrupter (GFCI) outlets has expanded over the years to the point where they are currently recommended in the bathrooms in the kitchen and laundry rooms (within 6 feet of the sinks), at whirlpools, hot tubs and or swimming pool equipment, and all garage outlets (unless they serve a dedicated purpose such as for a freezer). A GFCI offers increased protection from shock or electrocution. I recommend adding GFCI's where they are currently not installed.
- **AFCI's:** Arc fault circuit interrupter (AFCI) circuit breakers have been in use since 2005 in new construction. They are used for bedroom circuits and have the capability of detecting an arc fault, which can lead to a fire, in a circuit. When detected, the AFCI will trip and cut off power to that circuit.

## HEATING AND COOLING

- **Humidifier Maintenance:** An improperly maintained humidifier can represent a health risk. The humidifier should be properly secured and cleaned after each heating season. The water should be turned off at the source, the damper shut (to eliminate air flow through the unit), and the water panel or drum removed and cleaned or replaced.
- **AC's and Heat Pumps:** An air conditioner or heat pump relies upon good air flow through both the indoor and outdoor units. The filter in the indoor unit should be replaced at least quarterly or as recommended by the installation instructions (some filters can stay in place longer). The coil in the outdoor unit should be checked periodically and cleaned as necessary. This is particularly important if the dryer exhaust is nearby. Bushes and grass should be kept clear of the outdoor unit to provide unobstructed air flow. Systems can experience a leak-down of the refrigerant charge over time. This can result in less than optimum performance of the system. It is advisable to have the systems routinely serviced to maximize efficiency.

## PLUMBING

- **Water Heater Temperature:** *The water heater temperature should be kept at a setting such that accidental scalding is minimized. Families with small children should be especially aware of this.*
- **Backflow Prevention Devices:** These devices, also known as vacuum breakers and anti-siphon devices are designed to reduce the potential of a backflow of tainted water into a potable water supply. They are usually installed at laundry tubs with garden hose connections, and at exterior hose bibs. These devices are now required on all new homes and are regarded as an important upgrade on older homes. I recommend the addition of backflow prevention devices at the exterior hose bibs, and at the laundry tub unless the devices are already present at these fixtures. The devices are available at home centers or plumbing supply stores and can easily be installed by the homeowner since they screw-on and are secured with a set screw.
- **Bathtub Overflow Devices:** The seals for the bathtub overflow piping will typically deteriorate and become prone to leakage within about 7 years from the time of installation. The seals are not tested as part of this inspection because of the high potential for leakage and potential damage to interior surfaces. Damaged or deteriorated seals should be replaced. Be aware that the overflow is purely a safety drain in case a tub is left on, and is not part of the everyday drains of the plumbing system.

## WELLS AND SEPTICS (IF APPLICABLE)

- **Acidic Well Water:** Well water is normally acidic which can eventually result in pin-hole leaks in copper piping or premature wear of the metal components in the fixtures if left untreated. It is strongly recommended that the water be tested and that consideration be given to the installation of a water neutralizer if there is not one installed. If there is a water neutralizer it should be properly maintained on a regular basis.
- **Well Yield:** Please be aware that while the well was vigorously exercised during the inspection this is not the same as a yield test. A yield test is the only way to determine the capacity of a well. There are three main factors that determine a well's yield. One is the amount of reserve water that is in the well under quiescent conditions when there are no demands on it. The second is the recovery rate of the well once the reserve water has been pumped out. The third is the flow rate from the pump with two or more fixture running simultaneously. The minimum acceptable yield of a well is normally 1 gallon per minute. If any of the factors mentioned above are not considered acceptable, a larger submersible pump and/or a larger cold water storage tank may be necessary. If there are any concerns about the well, it is recommended that a yield test be conducted.
- **Septic Tank:** The private sewer system which is beneath the yard cannot be thoroughly evaluated during an inspection. Although no clogs were evident at the time of the inspection, it must be assumed that the drain line and system are original. They typically last in excess of 30 years, but the proximity of tree roots in the vicinity of the drainage pipes can result in premature failure. It would be wise to consider removal of trees in close proximity to the septic system.

## APPLIANCES

- **Dryer Ducting:** White flexible plastic dryer ducting does not hold up well under higher temperatures and should not be used. They also usually develop sags which can collect lint thereby becoming a fire hazard. Any plastic ducting should be replaced with rigid or flexible metal ducting.
- **Washing Machine Hoses:** Rubber washing machine hoses should be monitored for deterioration. At the first sign of cracking or deterioration, they should be replaced. Stainless steel hoses are a good upgrade since they are stronger.

## HEALTH AND SAFETY ISSUES

- **Water Heater Temperature:** *The water heater temperature should be kept at a setting such that accidental scalding is minimized. Families with small children should be especially aware of this.*
- **Smoke and Carbon Monoxide (CO) Detectors:** Smoke and CO detectors save lives. At least one working smoke detector should be installed on each level of the home. Ideally, a smoke detector should be installed in each bedroom. Studies have shown that smoke detectors do not typically last longer than about 10 years. Replacement is recommended at that age. Electrically powered detectors with a battery backup are the safest. These units should be tested, maintained, and replaced according to the manufacturer's recommendations. CO gases distribute evenly and fairly quickly throughout the house; therefore, a CO detector should be installed on the wall or ceiling in sleeping area/s but outside individual bedrooms to alert occupants who are sleeping.
- **Carbon Monoxide:** Concern about carbon monoxide (CO) has increased in recent years. Carbon monoxide is the by-product of incomplete combustion from furnaces, stoves, ovens and water heaters that burn natural gas, and from blocked fireplace chimney flues. The best way to avoid carbon monoxide poisoning is to have fuel burning appliances (such as the furnace and water heater) inspected annually by a qualified technician. Installation of UL listed carbon monoxide detectors outside sleeping areas and near fuel burning appliances are also strongly recommended. Danger signs to watch for include:
  - streaks of carbon or soot around the access door for the furnace or water heater;
  - the lack of a draft in the chimney;
  - excessive rusting on flue pipes;
  - moisture collecting on the windows and walls of the utility room;
  - small amounts of water leaking from the base of the chimney or flue pipe;
  - rust on the exterior parts of the vent pipe.
- **Asbestos:** Asbestos is a mineral fiber that has been used commonly in a variety of building construction materials for insulation and as a fire-retardant. Asbestos is most commonly found in older homes, in pipe and furnace insulation materials, asbestos shingles, millboard, textured paints and other coating materials, and floor tiles. *The Environmental Protection Agency (E.P.A.) reports that asbestos represents a health hazard if "friable" (damaged, crumbling, or in any state that allows the release of fibers).* If replacement of equipment or remodeling necessitates the removal of the asbestos containing insulation, an asbestos removal specialist should be engaged. If any sections of this insulation are indeed friable, or become friable over time, a specialist should also be engaged. There may be materials within the home that contain asbestos but are not identified by this inspection report. Identification of asbestos requires laboratory testing that is not part of a home inspection. For more information see the EPA website: <http://www.epa.gov/asbestos/>, and the CPSC website: <http://www.cpsc.gov/CPSC/PUBS/453.html>.
- **Lead Paint:** Lead based paint was in use until approximately 1978. According to the Federal Department of Housing and Urban Development, a lead hazard can be present in a house of this age. This can only be confirmed by laboratory analysis. An evaluation of lead in paint is beyond the scope of this inspection. For more information, consult the Environmental Protection Agency (E.P.A.) for further guidance and a list of testing labs in your area. See the EPA website: <http://www.epa.gov/lead/>, and the CPSC website: <http://www.cpsc.gov/CPSC/PUBS/5054.html>.
- **Folding Stairs:** Folding stairs used for access to an attic are rarely installed properly and as such can represent a significant safety hazard. Generally, sixteen 16D sized nails should be used in the perimeter of the frame to secure it to the rafters/trusses. Four of the nails are supposed to go through the empty holes in the spring plates and the hinge plates. Drywall screws, while often used, are not rated for this application because they are brittle and have little shear strength. See the manufacturer's installation guidelines for confirmation of the specific installation instructions. *Any folding stair should be checked periodically to ensure that all of the screws are secure and that the hinges are working properly. An improperly maintained folding stair represents a significant safety hazard.*

# Maintenance Advice

## PREVENTION IS THE BEST APPROACH

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Although we've heard it many times, nothing could be more true than the old cliché "an ounce of prevention is worth a pound of cure." Preventative maintenance is the best way to keep your house in great shape. It also reduces the risk of unexpected repairs and improves the odds of selling your house at fair market value, when the time comes.

Please feel free to contact our office should you have any questions regarding the operation or maintenance of your home. Enjoy your home!

## UPON TAKING OWNERSHIP

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After taking possession of a new home, there are some maintenance and safety issues that should be addressed immediately. The following checklist should help you undertake these improvements:

- Change the locks on all exterior entrances, for improved security.
- Check that all windows and doors are secure. Improve window hardware as necessary. Security rods can be added to sliding windows and doors. Consideration could also be given to a security system.
- Install smoke detectors on each level of the home. Ensure that there is a smoke detector outside all sleeping areas. Replace batteries on any existing smoke detectors and test them. Make a note to replace batteries again in one year.
- Create a plan of action in the event of a fire in your home. Ensure that there is an operable window or door in every room of the house. Consult with your local fire department regarding fire safety issues and what to do in the event of fire.
- Locate the main shut-offs for the plumbing, heating and electrical systems. If you attended the home inspection, these items would have been pointed out to you. If you cannot find them, call us.

## REGULAR MAINTENANCE

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### EVERY MONTH

- Check that fire extinguisher(s) are fully charged. Re-charge if necessary.
- Examine heating/cooling air filters and replace or clean as necessary.
- Ensure that gutters and downspouts are working properly.

### SPRING AND FALL

- Examine the roof from the exterior for evidence of damage to roof coverings, flashings and chimneys.
- Look in the attic (if accessible) to check for evidence of leakage, condensation or vermin activity.
- Trim back tree branches and shrubs to ensure that they are not in contact with the house or roof.
- Inspect the exterior walls and foundation for evidence of damage, cracking or movement.
- Survey the basement and/or crawl space walls for evidence of moisture seepage.
- Look at any overhead wires coming to the house. They should be secure and clear of trees or other obstructions.
- Ensure that the grade of the land around the house encourages water to flow away from the foundation.
- Test all ground fault circuit interrupter (GFCI) devices, as identified in the inspection report.
- Shut off isolating valves for exterior hose bibs in the fall, if below freezing temperatures are anticipated.
- Inspect for evidence of wood boring insect activity. Eliminate any wood/soil contact around the perimeter of the home.
- Test the overhead garage door opener, to ensure that the auto-reverse mechanism is responding properly. Clean and lubricate hinges, rollers and tracks on overhead doors.

**ANNUALLY**

- Replace smoke detector batteries.
- Have the heating, cooling and water heater systems cleaned and serviced.
- Have chimneys inspected and cleaned if they are used. Ensure that rain caps and vermin screens are secure.
- If the property has a septic system, have the tank inspected (and pumped as needed – typically every 3-4 years).
- If your home is in an area prone to wood destroying insects (termites, carpenter ants, etc.), have the home inspected by a licensed specialist. Preventative treatments may be recommended in some cases.