



**NOTICE TO BUYER: SELLER-PROCURED INSPECTION REPORT**

The following notice is given with respect to the Purchase and Sale Agreement dated \_\_\_\_\_ between \_\_\_\_\_ (“Buyer”) and **Justin Stobb** **Deedee Stobb** (“Seller”) concerning **20026 105th Ave SE** **Snohomish** **WA 98296** (“the Property”).

Seller has given or is giving Buyer the following Inspection Report(s) concerning the Property (check all that apply):

- Whole House Inspection
- Sewer Inspection
- Pest Inspection
- Other: \_\_\_\_\_

The Inspection Report(s) are intended to be a part of any Seller Disclosure Statement (NWMLS Form 17) that is provided in this transaction, whether or not the two documents are attached to each other. The Inspection Report(s) were procured by Seller and are provided for informational and disclosure purposes only. The Inspection Report(s) are not intended to constitute a warranty, either express or implied, about the condition of the Property. Buyer is advised to procure their own inspections from professional inspectors chosen by Buyer or hire the inspectors that prepared the Inspection Report(s). Buyer has the opportunity to inspect the Property to Buyer’s satisfaction.

AuthentiSIGN  
*Justin H Stobb* 03/19/2021  
3/19/2021 6:35:09 PM PDT  
\_\_\_\_\_  
Seller DATE

AuthentiSIGN  
*Deedee Stobb* 03/19/2021  
3/19/2021 8:54:19 PM PDT  
\_\_\_\_\_  
Seller DATE

**Buyer’s Acknowledgment of Receipt**

The undersigned Buyer acknowledges receipt of the foregoing Notice and the above-referenced Inspection Report(s).

\_\_\_\_\_  
Buyer DATE

\_\_\_\_\_  
Buyer DATE

Justin and Deedee Stobb  
20026 105th AVE SE  
Snohomish, WA 98296

Per the seller the following items listed on the pre-sale inspection summary dated March 12th 2021, are being corrected by the seller as part of preparation for sale in good faith.

**The following action items have been completed by the seller as of April 3rd 2021:**

- 5.3 Valentine Roofing came out and corrected bathroom fan venting
- 6.4 Screw holes in sheetrock from garage to living area have been filled
- 6.17 A GFI Outlet was installed for the Hot Water Heater in the shop
- 7.10 Snap in replacement blanks have been installed, the circuit to the shop comes off of the main house panel and is protected by a smaller breaker there, The wire ran to the shop was sized for the amount of service being provided to the shop, the panel in the shop while not permitted was professionally installed.
- 7.10 Relabeled the shop subpanel circuits
- 7.13 Corrected all outlets discovered labeled as loose
- 10.17 A CPVC drain was installed on the pressure relief valve in the shop hot water heater
- 4.5 Valentine roofing came out and corrected the missing kick-out flashing
- 6.22 Shop sink was attached to the South wall
- 12.29 Drain Stops function as they should after tightening
- 14.2 Main water shut off is present on garage North wall
- 7.14 A GFI Outlet was installed in the Shop for the heater
- 6.14 Garage door photo eyes will be lowered

March 12, 2021

**Mr. & Mrs. Justin & Deedee Stobb**  
**20026 105th Ave. SE**  
**Snohomish, WA.**

**Re: 20026 105th Ave. SE**  
**Snohomish, WA.**

Dear Justin & Deedee;

At your request, a visual inspection of the above referenced property was conducted on 03/11/2021. We have inspected the major structural components, plumbing, heating and electrical systems for signs of significant non-performance, excessive or unusual wear and general state of repair.

Clark Inspections inspectors, inspect all homes and buildings according to the stringent professional standards and code of ethics set forth by the American Society of Home Inspectors (ASHI). The ASHI standards are designed to identify and disclose to the client certain conditions of the major systems as these conditions exist at the time of the inspection. These standards are designed for a visual inspection of the readily accessible areas of the included system. A copy of these standards will be provided upon request or can be obtained by calling the ASHI automatic "Information-On-Demand" phone number at 1-800-743-2744

Home or building inspections performed under these standards should not be construed as a compliance inspection of any governmental or non-governmental codes or regulations. Inspections performed under these standards are essentially visual; are based on the experience and opinion of the inspector; and are not intended to be technically exhaustive. Inspections performed under these standards are not meant to be warranties nor guarantees of adequacy of performance of the structures, systems, or their component parts.

This inspection does not include an inspection for construction or other materials which might be hazardous to your health. It is possible that such materials may be present and not noted in this report.

This inspection does not include the testing or inspection of security systems, intercoms, communication systems, video, or sprinkler systems. These items are highly specialized and individualistic. Clark Inspections recommends that you have the seller and/or real estate agent/broker demonstrate the operation and serviceability of these systems to you prior to the closing of the sale.

Mechanical equipment is inspected for operability only and may contain undisclosed defects which may significantly impair it's usefulness.

Defects are examined and a determination is made on how a particular defect will affect interrelated building parts and whether immediate repairs are required.

Since all buildings have defects, it is important to know and understand what they are and how they affect the house and property. Some of the defects mentioned in this report may be quite typical, and found in other homes of comparable age and price. Some however, may not. We make our best attempt to distinguish this for you in both verbal and written reports.

## REPORT SUMMARY

The comments in this report are categorized. General information is given on the type of materials and construction methods. Specific information is given pertaining to the condition of a component and applicable repair and maintenance work that may be required.

Statements, representations, or conclusions offered by the inspector are the considered opinion of the inspector, but these statements, representations, or conclusions do not constitute an expressed or implied warranty of any kind. Neither the inspector nor Clark Inspections Inc. shall be liable for any direct, special, incidental, or consequential damages under an circumstances whatsoever, whether arising in tort, negligence, or contract, nor for any loss, claim, expense, or damage caused by or arising out of his or its inspection of a structure, nor will the inspector or Clark Inspections Inc. indemnify or hold others harmless for any loss, claim, expense, or damage arising out of his or its inspection of a structure.

### ACTION ITEMS, SIGNIFICANT DEFECTS AND/OR HEALTH AND SAFETY ISSUES

Non-operational (Action) items, safety or health issues, areas with limited viewing for proper inspection and components that do not serve their intended function (Significant Defects) are listed here. These items will likely require further evaluation and repair by licensed tradespeople.

**Please Read entire report**

#### ATTIC

##### 5.3 MECHANICAL VENTILATION SYSTEMS

The bathroom vent fan discharges in the attic rather than outside. This is an undesirable condition that causes excessive moisture in the attic and can result in mold or fungus growth. A 4" smooth-wall sheet metal duct should be installed to direct the moisture laden air discharged from the fan out of the attic.



#### GARAGE

##### ATTACHED GARAGE

##### 6.4 FIRE SEPARATION

There are voids (nail holes) in the fire resistive barrier between the living space and garage that will allow flames to penetrate. The gypsum barrier slows the spread of a fire from the garage to the structure and/or living space. Patching the voids with a fire retardant caulk is recommended.



##### DETACHED GARAGE

#### 6.14 GARAGE DOOR OPENER

The Photo-eye beam was installed to high above the floor of the garage to adequately offer protection for small children and/or pets. We recommend that the photo-eye be lowered to within 4-6" of the floor.



#### 6.17 RECEPTACLES

There are unprotected receptacles in the detached garage. The installation of GFCI protection for all of the garage receptacles is recommended.

### ELECTRICAL SYSTEM

#### 7.10 SUBPANEL

The service entrance conductors are too small and do not match the ampacity of the main disconnect. This is a hazard.

The main disconnect should be replaced with one that matches the ampacity of the service entrance conductors.

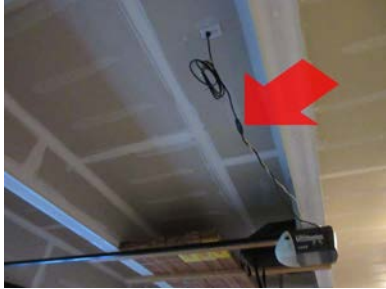
Twist-outs are missing from the subpanel cover. This exposes live conductors and is a shock hazard. The installation of snap-in replacement blanks is recommended.

The circuits are not properly labeled. Each circuit breaker should be labeled to allow servicing and repair of electrical circuits and equipment without having to shut off power to all electrical circuits. The services of a qualified electrician should be retained to perform this service.



#### 7.12 WIRING

An extension cord is used as a temporary power source for the garage door opener. An extension cord is not suitable as a permanent wiring method. The installation of a receptacle within cords length of the motor is recommended.



#### 7.13 RECEPTACLES

There are numerous loose receptacles throughout the home. This is a potential shock and a fire hazard. All loose receptacles should be repaired as necessary.

#### 7.14 GFCI RECEPTACLES

The installation of additional GFCI protection in the detached garage and in all of the exterior receptacles is recommended.

#### 7.18 CEILING FAN

The ceiling fan control(s) were not available and the fan was not tested.

### WATER HEATER

#### MAIN HOUSE

##### 10.6 EXPANSION TANK

The expansion tank is not adequately secured to the wall. This could result in damage to the water pipe and leakage during an earth quake. A seismic restraint should be installed to secure the expansion tank.



##### 10.14 GENERAL COMMENTS

The water heaters are nearing the end of their service lives. The need for water heater(s) replacement should be anticipated.

#### DETACHED GARAGE

##### 10.17 PRESSURE RELIEF VALVE

The pressure relief valve lacks a drain pipe. This is a scald hazard. The installation of a 3/4" copper, CPVC plastic or galvanized steel drain pipe is recommended. Ideally, the drain should be routed to the exterior. However, running the pipe straight down to the floor eliminates the scald hazard.

### KITCHEN

##### 11.8 AIR GAP

The dishwasher drain lacks an air gap. The dishwasher will function without one, but there is a risk of contamination of the inside of the dishwasher by waste water. The installation of an air gap is recommended.



## INTERIOR

### 15.7 SMOKE DETECTORS

Smoke detectors are examined for location only. They are not tested. Smoke detector batteries should be replaced when you move in and every year thereafter. Once batteries have been replaced, the smoke detectors should be tested for proper operation.

FOR MAXIMUM PROTECTION: Use both Ionization and Photoelectric smoke alarms in every bedroom/hallway on every level of your home.

At least one carbon monoxide monitor should be installed for each floor. The best place to install the monitor is in an open area near the gas appliance.

## MAINTENANCE ITEMS AND/OR COMPONENTS NEARING THE END OF THEIR SERVICE LIFE

Any item that in the opinion of the inspector is nearing the end of its normal service life and/or conditions that need repair, maintenance and/or upgrades, but have not affected basic functions are listed herein.

## BUILDING SITE

### 2.3 VEGETATION

Trees are nearly touching the building on the east side. Low hanging tree branches can damage the roof, siding, doors and windows. Tree branches should be trimmed back where necessary.



## BUILDING EXTERIOR

### 3.4 GUTTERS AND DOWNSPOUTS

Downspouts draining directly onto the asphalt shingle surface causes excessive wear of the roofing material. Downspout extensions to the lower gutters should be installed to prevent excessive wear and tear of the roofing.



### 3.6 DECK

The soil under the enclosed deck is not covered with a polyethylene plastic vapor retarder. This component is typically referred to as a "vapor barrier". While not a true vapor barrier, it does reduce the transmission of water vapor from the soil to the air. The installation of a 6 mil black polyethylene plastic vapor retarder should be installed so that it covers at least 85% of the entire surface of the soil.

The northern portion of the deck is installed close to the ground making it more vulnerable to deterioration. Areas of rot damage and rot fungi was observed in the deck framing. Rot weakens the wood and can result in failure of the structure. Rotted portions of the deck should be repaired as necessary.

## ROOF

### 4.5 FLASHINGS

There is no kick out flashing at the roof edge to wall intersection above the gutter. This will allow water to enter the wall behind the siding. The installation of a kick-out flashing is recommended.



Inadaquate kick-out flashing

## GARAGE

### DETACHED GARAGE

#### 6.22 GENERAL COMMENTS

The laundry tub was free standing and was not secured to the floor or wall. Attachment is recommended to prevent damage or leakage to the attached plumbing.

## WATER HEATER

### 10.20 GENERAL COMMENTS

The water heater is nearing the end of its service life. The need for water heater replacement should be anticipated.

## BATHROOMS

### UPPER FLOOR HALLWAY BATHROOM

#### 12.29 SINK

The drain stops are not operational. They should be repaired or replaced.

## LAUNDRY ROOM



### 13.8 APPLIANCES

Upgrading the washer connections to high pressure (steel braided) lines is recommended.



## PLUMBING SYSTEM

### 14.2 MAIN WATER SHUTOFF VALVE

The location of the main water shutoff valve was not determined. You should query the seller as to the location of the valve.

## INTERIOR

### 15.4 DOORS

Several of the doors are equipped with hinge mounted door stops. This type of door stop can damage the door skin, tear out hinge screws, and damage the door trim and frame. The removal and replacement with wall or floor mounted door stops is recommended.

## STRUCTURE

### 19.6 SHEAR PANELS

Shear panels are plywood or OSB panels that are mechanically fastened to both vertical and horizontal framing members in critical structural areas of the building. They prevent lateral movement of the structure during an earthquake. Shear panels are often visible in the crawlspace on cripple walls between the first floor and foundation. They may also be installed on interior walls that are covered with drywall. An examination of the crawlspace revealed the absence of shear panels on the cripple walls. The installation of shear panels on the cripple walls is recommended as an upgrade.

## CRAWLSPACE

### 20.4 VAPOR RETARDER

The support post concrete piers are covered with the plastic vapor retarder. This allows the transmission of water vapor from the soil up and into the floor framing. The plastic vapor retarder should be removed from the pier so that it covers at least 85% of the entire surface of the soil only.



### 20.5 PEST CONTROL

Cellulose forms were left in place on the pier footings. This cellulose is conducive to the infestation of various wood destroying organisms. The removal of the cellulose is recommended.

Several of these items will likely require further evaluation and repair by licensed tradespeople. Other minor items are also noted in the report and could be mentioned but none of them affect the habitability of the house.

Thank you for selecting our firm to do your home inspection. If you have any questions regarding the inspection report or the home, please feel free to call us.

Sincerely,

Terry Clark  
206-660-9200  
Clark Inspections Inc.

# **Confidential Inspection Report**

**20026 105th Ave. SE  
Snohomish, WA**

**March 11, 2021**

**Prepared for: Justin & Deedee Stobb**

**This report is the exclusive property of the inspection company and the client whose name appears herewith and its use by any unauthorized persons is prohibited.**

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3/12/2021

**Mr. & Mrs. Justin & Deedee Stobb**  
**20026 105th Ave. SE**  
**Snohomish,WA**

Dear Justin & Deedee,

Thank you for inviting Clark Inspections to inspect for you. We appreciate having the opportunity to perform this home inspection and are happy to help with all of your inspection needs. Enclosed is our report for the property located at;

**20026 105th Ave. SE**

We have inspected the major structural components, plumbing, heating, and electrical systems for signs of significant non-performance, excessive or unusual wear and general state of repair.

This inspection report is designed to be easy to understand. Please take time to review it carefully. If you have any questions regarding this inspection, or receive information from another building inspection professional, contractor, or tradesperson, that is in conflict with this report, or any major defect in your home or building that was not described in your verbal or written reports, please call our office immediately. We are happy to answer any questions you may have.

Thank you for the opportunity to be of service.

Sincerely,

Terry Clark

Clark Inspections

## GENERAL INFORMATION

### CLIENT & SITE INFORMATION:

**1.1 DATE OF INSPECTION:**

3/11/2021.

**1.2 INSPECTOR'S NAME:**

Terry Clark.

**1.3 CLIENT NAME:**

Mr. & Mrs. Justin & Deedee Stobb.

**1.4 MAILING ADDRESS:**

20026 105th Ave. SE  
Snohomish WA.

**1.5 ADDRESS OF PROPERTY INSPECTED**

20026 105th Ave. SE  
Snohomish WA.



East elevation



West elevation

### CLIMATIC CONDITIONS:

**1.6 WEATHER:**

Partly Cloudy.

**1.7 APPROXIMATE OUTSIDE TEMPERATURE:**

49 degrees.

**BUILDING CHARACTERISTICS:****1.8 MAIN ENTRY FACES:**

East.

**1.9 ESTIMATED AGE OF BUILDING:**

The building is approximately 17 years old.

**1.10 BUILDING TYPE:**

Two story single family residence.

**1.11 SPACE BELOW GRADE:**

Crawlspace.

**SCOPE, PURPOSE AND LIMITATIONS****1.12 RESIDENTIAL**

The purpose of this inspection was to discover and evaluate major defects, deficiencies and deferred maintenance found in the main components of the house and in the building site immediately around the building inspected. A major defect or deficiency is a system or component that in the judgment of the inspector, would cost in excess of \$500.00 to repair or replace, is not performing it's intended function, or adversely affects the habitability of the dwelling or building. Defects are examined and a determination is made on how a particular defect will affect interrelated building parts and whether immediate repairs are required.

The major components in this report are categorized. General information is given on the type of materials and construction methods. Specific information is given pertaining to the condition of a component and applicable repair and maintenance work that may be required.

Since all buildings have defects, it is important to know and understand what they are and how they affect the house and property. Some of the defects mentioned in this report may be quite typical, and found in other homes of comparable age and price. Some, however, may not. We make our best attempt to distinguish this for you in both the verbal and written reports.

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Mechanical equipment is inspected for operability only and may contain undisclosed defects which may significantly impair it's usefulness.

Statements, representations, or conclusions offered by the inspector and/or by Clark Inspections are based solely upon a

visual examination of the exposed areas of the structure inspected. Areas of the structure which are not exposed to the naked eye cannot be inspected, and no conclusions, representations, or statements offered by the inspector are intended to relate to areas not exposed to view. Hidden defects could have a significant impact on the visually based conclusions, statements, and representations made by the inspector.

Statements, representations, or conclusions offered by the inspector are the considered opinion of the inspector, but these statements, representations, or conclusions do not constitute an expressed or implied warranty of any kind. Neither the inspector nor Clark Inspections shall be liable for any direct, special, incidental, or consequential damages under any circumstances whatsoever, whether arising in tort, negligence, or contract, nor for any loss, claim, expense, or damage caused by or arising out of his or its inspection of a structure, nor will the inspector or Clark Inspections indemnify or hold others harmless for any loss, claim, expense, or damage arising out of his or its inspection of a structure.

If you receive information from another building inspection professional, contractor or trades person that is in conflict with ours, or if you discover a major defect in your home or building that was not described in your verbal or written reports, please call us immediately.

#### *GENERAL COMMENTS*

### **1.13 RECOMMENDATIONS**

Certain building designs and/or building site topography may not qualify for earthquake insurance. Each company has its own underwriting policies. You should check with your insurance agent to determine whether or not your insurance company will write an earthquake policy on this property.

There may be information pertinent to this property which is a matter of public record. A search of public records is not within the scope of this inspection. We recommend you review all applicable public records that pertain to this property.

We make no representations as to the extent of presence of code violations, nor do we warrant the legal use of this building. This information can be obtained from the local building and/or zoning department.

### **1.14 BUILDING CODES**

A code is a system of rules and procedures, the purpose of which is to provide minimum standards to safeguard life, health, and property by regulating certain aspects of building design, construction, use and maintenance. Local codes are usually based on model codes. A community may amend or adopt only parts of a model code. These local codes may not always be the latest version of the model code. Code enforcement is nearly always a local government responsibility and is handled in several ways depending on the type of code and community involved. All model codes and most local codes, grant the code compliance inspector or building official the right to interpret the code to suit special situations. This makes the building official the final authority, not the code book.

Answering the question "Does this meet code?" depends on the building's age, when remodels and upgrades were performed and which codes if any are enforced. This information may not be readily available to the home inspector. Private inspectors usually can determine if an item complies with applicable national model codes, if they know when the work was done and what code was applicable at that time. Local municipalities adopt and enforce national model codes at their discretion. Private building inspectors are typically not permitted to perform code compliance inspections. Code compliance inspections are typically performed by the local code enforcement official. Private building inspectors check to determine whether or not an item performs its intended function or is in need of repair.

Code enforcement usually is a local question and subject to the interpretation by the building code enforcement official. Most communities do not require an existing building to meet "code" prior to sale.

Specific code questions can be referred to the local building official. however, you must realize that if city inspectors check a building, they have the authority to require corrections of any violation. Private building inspectors act solely in an advisory capacity. Their objective reports are a tremendous benefit to anyone purchasing or selling real estate.



## BUILDING SITE

The evaluation of the building site and grounds includes grading, roof water and surface drainage systems, fencing, gates, walkways, curbs, driveways, patios, and retaining walls connected to or directly adjacent the structure. These items are visually examined for proper function, excessive or unusual wear and general state of repair. Components or portions of components may not be visible because of soil, vegetation, storage of personal effects and/or the nature of construction. In such cases these items are considered inaccessible and are not inspected. Lawn irrigation systems, fountains, and low voltage decorative garden lights are not included in this inspection.

*The following components were inspected:*

### 2.1 ROOF WATER DRAIN SYSTEM

A below grade roof water drain system is used to divert rain water discharged from the downspouts away from the foundation wall. Below grade drain system designs vary and it is virtually impossible to evaluate the integrity of the system definitively, due to the fact that it is entirely underground. There is a high incidence of defects in these systems, due to the fact that historically, very few municipalities inspected or enforced design or quality standards.

Defects in these drain systems are one of the most common causes of water or moisture problems in ground floor occupancies, basements and crawlspaces. Overflowing gutters and clogged downspouts and scuppers also frequently cause or exacerbate moisture or water entry problems in and around the building. When water entry or moisture problems are discovered we recommend checking the entire roof water drain system to insure that it is functioning properly.

Occasionally, (once a year) flushing out the drain lines with a garden hose will reduce the build-up of debris and sludge which could impede drainage. This type of maintenance is most effective if the end of the drain line terminates in open air or in a storm sewer. If the drain line terminates in a dry well or leach field, then the washing of debris down the line is not advisable. The debris may eventually clog the perforations in the line which allow the water to escape. This could render the drain system inoperative. It is always best to prevent debris from entering at the inlet.

### 2.2 GRADING

The building site is well drained. The finish grade slopes away from the house. No evidence of recent building site flooding, drainage or soil stability problems was observed.

### 2.3 VEGETATION

Dense shrubbery and trees planted too close to the building can damage siding and the roof overhang and interfere with drainage and air movement, thus promoting fungus growth and accelerated deterioration of exterior finishes and wood. Trees and shrubs in contact with the building also provide carpenter ants with a route into walls or attics. Trees and shrubs should be trimmed back, where required. When landscaping, trees and shrubs should be planted back away from the building so that they have room to grow.

Trees are nearly touching the building on the east side. Low hanging tree branches can damage the roof, siding, doors and windows. Tree branches should be trimmed back where necessary.



### 2.4 DRIVEWAY

The driveway is paved with asphalt paving mix. The driveway is properly installed and is performing its intended function. Seal coating the surface of the asphalt is recommended to maximize the service life of the paving. Asphalt sealers are available at most home improvement stores.

The driveway apron is paved with concrete. The concrete was properly installed and is performing its intended function.

### **2.5 PATIO**

The concrete patio is properly installed and is performing its intended function.

### **2.6 WALKWAY**

The concrete walkway is properly installed and is performing its intended function.

Many legal and public works departments have defined a trip hazard as an irregularity in a walking surface exceeding one inch (1") in height. All walking surfaces should maintain, free of a vertical surface change of 3/4" or more, in the interest of public and personal safety.

### **2.7 FENCES AND GATES**

The fences are properly installed and are performing their intended function. The gates are properly installed and are performing their intended function.

## **BUILDING EXTERIOR**

The evaluation of the building exterior includes the paint, stain, siding, windows, doors, flashing, trim, fascia, eaves, soffits, decks, porches balconies and railings. These items are visually examined for proper function, excessive or unusual wear and general state of repair. Components or portions of components may not be visible because of soil, vegetation, storage of personal effects and/or the nature of construction. In such cases these items are considered inaccessible and are not inspected.

*The following components were inspected:*

### **3.1 PRIMARY EXTERIOR WALL CLADDING**

Cedar lap siding is used as an exterior wall cladding. Cedar is a wood that is durable and moderately resistant to decay. Maintaining the finish on the exposed siding will maximize its service life. The siding has been properly installed and is functioning as intended.

### **3.2 PEST CONTROL**

Good building practice requires that foundation walls or pier footings supporting wood frame construction, extend at least 8" above the finish grade with at least a 6" clearance between the top of the soil and the bottom of the wood finish materials. Soil in direct contact with wood creates a hospitable environment for wood destroying organisms. These minimum standards should be maintained throughout the building exterior.

### **3.3 SOFFITS AND OVERHANGS**

The building has adequate overhangs. Overhangs protect the exterior walls, windows, doors, siding and exterior finish from the ravages of direct rain fall. Buildings with adequately sized overhangs will generally require less frequent exterior maintenance and are less likely to suffer from moisture related problems on the exterior walls.

### **3.4 GUTTERS AND DOWNSPOUTS**

Roof runoff is collected and channeled into the downspouts by aluminum gutters fastened to the rafter tails. The gutters and downspouts are properly installed and are performing their intended function. Gutters should be cleaned regularly to prevent clogging and overflow.

Downspouts draining directly onto the asphalt shingle surface causes excessive wear of the roofing material. Downspout extensions to the lower gutters should be installed to prevent excessive wear and tear of the roofing.



### 3.5 PAINT

The exterior paint and caulking is in good condition and is functioning as intended. Paint protects the wood from cupping, checking, warping and rot.

### 3.6 DECK

The enclosed portion of the deck is constructed from a combination of pressure treated fir and cedar. The deck is well constructed and is performing its intended function. Untreated wood (fir or cedar) will eventually rot. Annual treatments of the deck with a good quality wood preservative/water repellent will prevent cupping, checking and rotting of the wood and will maximize its service life. Do not use paint on exposed deck surfaces as it will peel and become difficult to maintain. Paint also traps moisture in the wood and will accelerate deterioration.

The soil under the enclosed deck is not covered with a polyethylene plastic vapor retarder. This component is typically referred to as a "vapor barrier". While not a true vapor barrier, it does reduce the transmission of water vapor from the soil to the air. The installation of a 6 mil black polyethylene plastic vapor retarder should be installed so that it covers at least 85% of the entire surface of the soil.

The northern portion of the deck is installed close to the ground making it more vulnerable to deterioration. Areas of rot damage and rot fungi was observed in the deck framing. Rot weakens the wood and can result in failure of the structure. Rotted portions of the deck should be repaired as necessary.

### 3.7 STAIRS

The deck stairs are properly constructed and are performing their intended function.

### 3.8 PORCH

The front porch is in good condition.

### 3.9 EXTERIOR DOORS

The exterior doors are properly installed and are functioning as intended.

## ROOF

We evaluate the condition of the roof system by inspecting the roofing material, skylights, flashings, penetrations and roof water drainage system for damage and deterioration. If we observe conditions such as damage, deterioration, defects in materials or workmanship, these items will be noted in your report. We may also offer opinions concerning repair and replacement. Opinions stated herein concerning the condition of the roof and roof service life are based on the condition of the roof system at the time of the inspection. These opinions do not constitute a warranty that the roof is, or will remain, free of leaks. All roof systems require annual maintenance and occasional repair. Failure to perform routine roof maintenance will usually result in leaks and accelerated deterioration of the roofing material. Our estimate of the life expectancy of the roof is based on the assumption that the roof will be properly repaired and maintained during that period.

*The following components were inspected:*

### 4.1 GENERAL INFORMATION

The roofing material is asphalt composition shingles. The slope or pitch of the roof is medium in some areas and steep in others. Metal gutters are used to collect the roof water drainage. The roofing material was just recently installed.

#### 4.2 INSPECTION METHOD

The inspection of this roof was conducted from the lower roof surface and edges. The inspector walked on the roof and made a visual inspection of the components listed below.

#### 4.3 SKYLIGHTS

The skylight is properly installed and there was no evidence of leakage underneath.

#### 4.4 GAS APPLIANCE VENTS

The visible portion of the gas appliance type B vent is properly installed and in good condition.

#### 4.5 FLASHINGS

Metal flashings are used to seal around chimneys, vents and roof to wall intersections. The flashings are properly installed and are performing their intended function with exceptions noted below.

There is no kick out flashing at the roof edge to wall intersection above the gutter. This will allow water to enter the wall behind the siding. The installation of a kick-out flashing is recommended.



#### 4.6 GENERAL COMMENTS

The roofing material was properly installed and is in like new condition. With proper care and maintenance this roof should remain serviceable for up to 20 more years.

## ATTIC

The attic contains the roof framing and serves as a raceway for components of the plumbing, electrical and mechanical systems. There are often heating ducts, bathroom vent ducts, electrical wiring, chimneys and gas appliance vents in the attic. We examine the visible portions of the various systems and components for proper function, excessive or unusual wear, general state of repair, roof leakage, attic venting and misguided improvements. When low clearance and/or deep insulation prohibit walking in an unfinished attic, inspection will be performed from the access opening only.

*The following components were inspected:*

#### 5.1 ACCESS

The attic access is located in the master bedroom closet. The attic was inspected from the access hole only.

#### 5.2 VENTILATION

The attic is adequately vented.

#### 5.3 MECHANICAL VENTILATION SYSTEMS

The bathroom vent fan discharges in the attic rather than outside. This is an undesirable condition that causes excessive moisture in the attic and can result in mold or fungus growth. A 4" smooth-wall sheet metal duct should be installed to direct the moisture laden air discharged from the fan out of the attic.



#### 5.4 PEST CONTROL

The first step in preventing rodents from entering the attic is to seal all possible entry points using wire mesh, caulking, wood, stainless steel wool, or aerosol foam. Careful work sealing cracks, holes and gaps over 1/4" in size will discourage activity.

## GARAGE

The garage often contains major components of the plumbing, heating and electrical systems. These components are discussed under their respective headings. Components that were tested and/or inspected in the garage and reported here include the garage floor, overhead door(s), automatic openers and fire resistive barriers.

*ATTACHED GARAGE - The following components were inspected:*

#### 6.1 GARAGE FLOOR

There are small shrinkage cracks visible in the concrete, however, there is no vertical displacement of any portion of the slab. Shrinkage cracks are common in garage floors and are not considered a structural defect. The garage floor is properly installed and is functioning as intended.

#### 6.2 OVERHEAD GARAGE DOORS

The garage is fitted with a pair of roll-up doors. The garage doors are properly installed and are performing their intended function.

#### 6.3 GARAGE DOOR OPENER

The garage door openers were tested and were functional. The auto stop reverse safety switches were functioning as intended.

#### 6.4 FIRE SEPARATION

There are voids (nail holes) in the fire resistive barrier between the living space and garage that will allow flames to penetrate. The gypsum barrier slows the spread of a fire from the garage to the structure and/or living space. Patching the voids with a fire retardant caulk is recommended.



#### 6.5 PASSAGE DOOR

The door between the garage and living space is a fire rated door with a self closing hinge. The door is properly installed and is in good condition.

#### 6.6 EXTERIOR DOOR(S)

The exterior door to the garage has been properly installed and is in good condition.

*DETACHED GARAGE - The following components were inspected:*

#### **6.7 AREA**

North.

#### **6.8 GENERAL INFORMATION ROOF**

The roofing material is asphalt composition shingles.

#### **6.9 INSPECTION METHOD**

The roof was inspected from the ground.

#### **6.10 GENERAL COMMENTS ROOF**

The roofing material was properly installed and is in like new condition. With proper care and maintenance this roof should remain serviceable for up to 20 more years.

#### **6.11 GARAGE STRUCTURE GENERAL**

The garage is generally well constructed and is performing its intended function.

#### **6.12 GARAGE FLOOR**

There are small shrinkage cracks visible in the concrete, however, there is no vertical displacement of any portion of the slab. Shrinkage cracks are common in garage floors and are not considered a structural defect. The garage floor is properly installed and is functioning as intended.

#### **6.13 OVERHEAD GARAGE DOORS**

The garage is fitted with three roll-up doors. The garage doors are properly installed and are performing their intended function.

#### **6.14 GARAGE DOOR OPENER**

The garage door openers were tested and were functional. The auto stop reverse safety switches were functioning as intended.

The Photo-eye beam was installed to high above the floor of the garage to adequately offer protection for small children and/or pets. We recommend that the photo-eye be lowered to within 4-6" of the floor.



#### **6.15 EXTERIOR DOOR(S)**

The entry door is properly installed and is functioning as intended.

#### **6.16 GARAGE WALLS**

The visible portions of the garage walls are properly constructed and are performing their intended function.

#### **6.17 RECEPTACLES**

There are unprotected receptacles in the detached garage. The installation of GFCI protection for all of the garage receptacles is recommended.

#### **6.18 SOFFITS AND OVERHANGS**

The building has adequate overhangs. Overhangs protect the exterior walls, windows, doors, siding and exterior finish from the ravages of direct rain fall. Buildings with adequately sized overhangs will generally require less frequent exterior

maintenance and are less likely to suffer from moisture related problems on the exterior walls.

#### **6.19 GARAGE GUTTERS AND DOWNSPOUTS**

Roof runoff is collected and channeled into the downspouts by aluminum gutters fastened to the rafter tails. The gutters and downspouts are properly installed and are performing their intended function. Gutters should be cleaned regularly to prevent clogging and overflow.

#### **6.20 PRIMARY EXTERIOR WALL CLADDING**

Cedar lap siding is used as an exterior wall cladding. Cedar is a wood that is durable and moderately resistant to decay. Maintaining the finish on the exposed siding will maximize its service life. The siding has been properly installed and is functioning as intended.

#### **6.21 PAINT**

The exterior paint and caulking is in good condition and is functioning as intended. Paint protects the wood from cupping, checking, warping and rot.

#### **6.22 GENERAL COMMENTS**

The laundry tub was free standing and was not secured to the floor or wall. Attachment is recommended to prevent damage or leakage to the attached plumbing.

## **ELECTRICAL SYSTEM**

An electrical system consists of the service, distribution, wiring and convenience outlets (switches, lights and receptacles). Our examination of the electrical system includes the exposed and accessible wiring, service panels, subpanels, overcurrent protection devices, light fixtures and all accessible wall receptacles. We look for adverse conditions such as improper installation of aluminum wiring, lack of grounding, overfusing, exposed wiring, open-air wire splices, reversed polarity and defective GFCIs. The hidden nature of the electrical wiring prevents inspection of every length of wire. Telephone, video, audio, security system and other low voltage wiring is not included in this inspection. We recommend you have the seller demonstrate the serviceability of these systems to you.

*The following components were inspected:*

#### **7.1 ELECTRICAL SYSTEM SPECIFICATIONS**

The voltage is 120/240 single phase three wire service. The power is delivered to this building via an underground service lateral. The amperage rating of this service is 200. Copper wire is used throughout the building. Non-metallic sheathed cable (Romex) is the type of wiring used throughout the house. The grounding of the service is provided by two driven rods.

#### **7.2 UNDERGROUND SERVICE LATERAL**

The underground service lateral was not visible for inspection. However, there was 120/240 volt power to the building which suggests that it is functioning as intended.

#### **7.3 SERVICE PANEL LOCATION**

The service panel is located in the garage.

#### **7.4 SUBPANEL LOCATION**

The subpanel is located in the detached garage.

#### **7.5 MAIN DISCONNECT LOCATION**

The main disconnect is an integral part of the service panel. The ampacity of the main disconnect is 200 amps.

#### **7.6 SERVICE ENTRANCE CONDUCTORS/CABLES/RACEWAYS**

The service entrance conductors are 4/0 aluminum and have an ampacity of 200 amps.

#### **7.7 SERVICE AMPACITY**

The capacity of the electrical service is 200 amps. A 200 amp service is adequate for this house with the existing electrical equipment. There is also room to add additional circuits if necessary.

#### **7.8 SERVICE GROUNDING AND BONDING**

The service grounding electrode conductor attachment point was not visible for inspection. The adequacy of the service ground was not determined. The evaluation of this connection may require removal of finish materials and is beyond the scope of this inspection.

#### **7.9 SERVICE PANEL**

The electrical service panel is properly installed and in serviceable condition. The circuits are labeled. The accuracy of the labeling was not verified. Do not assume the labeled circuit is off unless it has been checked with a voltage tester.

#### **7.10 SUBPANEL**

The service entrance conductors are #2 aluminum and have an ampacity of 100 amps. The sub panel is properly installed and in serviceable condition except where noted below.

The service entrance conductors are too small and do not match the ampacity of the main disconnect. This is a hazard.

The main disconnect should be replaced with one that matches the ampacity of the service entrance conductors.

Twist-outs are missing from the subpanel cover. This exposes live conductors and is a shock hazard. The installation of snap-in replacement blanks is recommended.

The circuits are not properly labeled. Each circuit breaker should be labeled to allow servicing and repair of electrical circuits and equipment without having to shut off power to all electrical circuits. The services of a qualified electrician should be retained to perform this service.



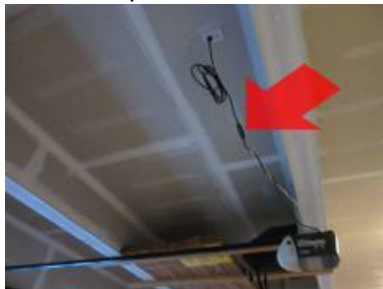
#### **7.11 OVER CURRENT PROTECTION**

Circuit breakers are used for over current protection. The circuit breakers are properly installed and the ampacity of the connected wires is compatible with that of the circuit breakers. The circuit breakers were not tested.

#### **7.12 WIRING**

The visible portions of the wiring are properly installed except where noted below.

An extension cord is used as a temporary power source for the garage door opener. An extension cord is not suitable as a permanent wiring method. The installation of a receptacle within cords length of the motor is recommended.



#### **7.13 RECEPTACLES**

All of the readily accessible receptacles were tested. Testing revealed defects requiring repair. These defects are outlined below.



There are numerous loose receptacles throughout the home. This is a potential shock and a fire hazard. All loose receptacles should be repaired as necessary.

#### **7.14 GFCI RECEPTACLES**

A ground fault circuit interrupter (GFCI) is a device that detects ground faults (current leakage to ground). It protects you from electrocution. GFCI protection is required for receptacles in bathrooms, kitchens, garages, unfinished basements, crawlspaces and at exterior receptacles. GFCI protected receptacles were found in the bathrooms, kitchen, garage and exterior.

The installation of additional GFCI protection in the detached garage and exterior receptacles is recommended.

#### **7.15 AFCI RECEPTACLES**

AFCI protection is required for all 15 and 20 amp branch circuits to have protection from the entire branch circuit when that circuit has outlets in dwelling family homes, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas.

Replacement receptacles are now required to be arc-fault circuit interrupter (AFCI) protected. This means that if you are replacing an old outlet in an old home in a location that needs AFCI protection in a new home, the replacement outlet needs to be AFCI protected. AFCI protection was installed in the panel for several of the circuits.

#### **7.16 LUMINARIES**

All of the accessible luminaries were tested and were found to be functional.

#### **7.17 SWITCHES**

All of the accessible switches were tested and were found to be properly wired and functional.

#### **7.18 CEILING FAN**

Ceiling fans can fall from the ceiling if not properly installed. Verifying proper installation requires removal of the ceiling fan which is beyond the scope of this inspection. The fan should be installed on a special electrical box that is approved for use with a ceiling fan. The box should be securely fastened to the framing.

The ceiling fan control(s) were not available and the fan was not tested.

## **HEATING SYSTEM**

A natural gas, propane or oil fired furnace or boiler consists of the self contained furnace or boiler, ducts or pipes for heated air or water distribution, thermostats for regulating the amount of heat and a vent system for removing the combustion gases from the building. The readily accessible portions of these items are examined for defects and are tested using normal operator controls. Most heating systems should be serviced annually by a qualified service technician. Failure to perform regular maintenance will affect the reliability of the heating system and will reduce service life.

*FORCED AIR HEATING SYSTEM - The following components were inspected:*

#### **8.1 GENERAL INFORMATION**

Heat is provided by a natural gas fired forced air furnace. The furnace is located in the garage. The furnace is approximately 11 years old. The input rating of the furnace is 80,000 BTU. This BTU rating is typical of a home of this size and age.

#### **8.2 GAS PIPING**

The flex connector is properly installed and is performing its intended function.

#### **8.3 AUTOMATIC GAS VALVE**

The automatic gas valve or safety valve is designed to prevent the emission of fuel into the furnace if it does not detect heat for ignition. These valves are generally very reliable. The automatic gas valve was not tested.

#### **8.4 COMBUSTION AIR**

The combustion air provides the oxygen for the fuel burning appliances. Combustion air also aids in the movement of combustion gases up the flue. Adequate ventilation around all fuel burning appliances is vital for their safe operation. The air

can come from inside the house or from outside providing that the amount of air reaching the appliance is sufficient to maintain efficient combustion and draft. The combustion air supply is adequate.

#### **8.5 ELEVATION ABOVE GARAGE FLOOR**

The burners in the furnace are elevated at least 18" above the garage floor in accordance with industry standards. This elevation prevents ignition of gasoline fumes that might leak from cars, lawn mowers, gas cans, etc.

#### **8.6 HEAT EXCHANGER**

The heat exchanger is not visible without disassembling and removing it from the furnace. Cracks typically develop in heat exchangers after 10-20 years. Have your gas furnace technician check the heat exchanger during the next major service.

#### **8.7 VENT**

The furnace uses a type B vent from the top of the furnace to the exterior. The visible portion of the B vent is properly installed and is functioning as intended.

#### **8.8 BLOWER**

The blower draws air from the return air ducts and pushes it over the heat exchanger where it is heated. The air is then pushed through the distribution ducts into the rooms. The blower was tested and was functioning as intended.

#### **8.9 AIR FILTER**

The air filter is located in the return air plenum adjacent to the furnace. The air filter should be cleaned or replaced at least 2-3 times during the heating season.

#### **8.10 DUCTS**

The ducts are constructed out of sheet metal and flex duct. The ducts are properly installed and are performing their intended function.

#### **8.11 FRESH AIR SYSTEM**

The upper floor hallway bathroom fan draws fresh air from outside. The flow of air is controlled by vents on the window frames. By setting the vent openings, you can control the amount of air entering the home. Testing of the timer revealed that it turned on the fan and brought fresh air into the home as was intended.

#### **8.12 THERMOSTAT**

The thermostat is properly installed and the unit responded to the basic controls. This is a programmable device with options for automatic temperature settings (up and down). Testing the automatic operations of this thermostat is beyond the scope of this inspection.

#### **8.13 GENERAL COMMENTS**

The furnace responded to the thermostats call for heat and all major components were functional. This type of furnace and air conditioner system should be serviced annually.

#### **SUPPLEMENTAL HEATING**

#### **8.14 GAS HEATER**

The gas heater in the detached garage was tested and was functioning as intended.

## **AIR CONDITIONER/ HEAT PUMP**

Heat pump and air conditioning systems consist of the condenser located outside, the air handler or furnace on the inside, refrigerant lines, ducts, air filters, thermostat, condensate drains and condensate pump. These items are visually examined for proper function, excessive or unusual wear, and general state of repair. The heat pump or air conditioner is tested whenever possible. Air conditioning systems are not tested if the outside temperature is too cool for proper operation. Detailed testing of the many components of the heat pump or air conditioning equipment or predicting their life expectancy requires special equipment and training and is beyond the scope of this inspection.

Heat pumps are air conditioners designed to operate "in either direction". When heating, air is cooled and exhausted to the outside, while the "waste" heat is distributed through the living space by a blower and ducts. Heat pumps operate most efficiently in moderate to hot climates where winter temperatures are not extreme and where there is a need for air

conditioning. Additional electric strip heaters are generally installed when winter capability is marginal. The cost of operating the supplemental strip heaters is significantly higher than operating the heat pump in its regular mode. Limiting changes of the temperature setting on the thermostat to two degrees will usually prevent the strip heater from coming on. Insulation, weather stripping and other energy saving steps can help minimize the need for the back-up capability.

Heat pumps and air conditioners are technically complex pieces of equipment. Detailed analysis of all components of the system is beyond the scope of this inspection. For greatest efficiency and service life, we recommend regular annual maintenance by an HVAC contractor.

*The following components were inspected.:*

### **9.1 GENERAL INFORMATION**

Unit Type - Heat Pump, Age - The heat pump is approximately 11 years old, Location of condenser - The condenser is located on the south side of the house.

### **9.2 CONDENSER**

The condenser contains all the equipment necessary to reclaim the refrigerant gas and convert it back to a liquid. It consists of a compressor, condenser, hot gas discharge line, condenser fan, electrical panel box, and some accessory components. The condenser was tested and was functioning as intended.

The air conditioner condenser contains many different parts and pieces. Many of these pieces are quite heavy and a condenser can weigh several hundred pounds. The weight of the unit is mostly caused by the copper coil that runs along one or several sides of the AC unit. Copper is quite dense and weighs about 559 pounds per square foot. While only a fraction of this amount of copper is held inside the condenser, a little bit of the metal can add up to a lot of weight. This weight causes the side of the unit where the condenser coil is located to be heavy. If the unit is not level, then this uneven weight can cause the unit to sink into the ground. The unit can then tip or rip free from the coolant line that feeds into your home.

Also, if the condenser is not level, then the air conditioner will not work correctly. Specifically, the pump may not work the way it is supposed to. The condenser pump contains some oil that travels with the cooling fluid and then redeposits itself back into the pump. This helps to keep the device well lubricated. Sometimes the oil can separate from the coolant and pool in one area of the condenser. For example, a good deal of the oil can end up in the condenser coil. This is the case if the unit were tipped towards the coil. When this happens, the pump no longer has the lubrication it needs. The result is a pump that can wear out more quickly and also overheat.

One of the only ways to make sure that the condenser oil stays moves smoothly and mostly deposits in the compressor is to keep the unit upright and level.

### **9.3 REFRIGERANT LINES**

The accessible refrigerant lines appear to be in good condition.

### **9.4 CONDENSATE PUMP-DRAIN**

Air conditioners produce condensate water inside the furnace that must be collected and disposed of. A small vessel with an automatic pump is installed to receive the condensate water and pump it out to the exterior of the house. This pump is properly installed and is functioning as intended.

### **9.5 AIR HANDLER**

The furnace contains the blower and backup heat. The furnace blower was tested and was functioning as intended.

### **9.6 BLOWER**

The blower draws air from the return air ducts and pushes it over the AC coils where it is cooled. The air is then pushed through the distribution ducts into the rooms. The blower was tested and was functioning as intended.

### **9.7 AIR FILTER**

The air filter(s) is located in the blower compartment. The air filter(s) should be cleaned or replaced at least 2-3 times during the heating season.

### **9.8 DUCTS**

The ducts are constructed from sheet metal and flex duct. The ducts are properly installed and are performing their intended function.

### 9.9 THERMOSTAT

The thermostat is properly installed and the unit responded to the basic controls. This is a programmable device with options for automatic temperature settings (up and down). Testing the automatic operations of this thermostat is beyond the scope of this inspection.

### 9.10 ELECTRICAL DISCONNECT

An electrical disconnect is installed in back of the condenser.

### 9.11 GENERAL COMMENTS

The heat pump responded to the thermostats call for cooling and all major components were functional. This type of heat pump system should be serviced annually.

## WATER HEATER

Our review of water heaters includes the tank, gas and/or water connections, electrical connections, venting and safety valves. These items are examined for proper function, excessive or unusual wear, leakage and general state of repair. The hidden nature of piping and venting prevents inspection of every pipe, joint, vent and connection.

*The following components were inspected:*

### 10.1 LOCATION OF UNIT

The water heater is located in the garage.

### 10.2 GENERAL INFORMATION

The water heater fuel is natural gas. The capacity of the water heater is 50 gallons. The input rating of the burner is approximately 36,000 BTU. The water heater is approximately 8 years old. Water heaters of this type typically last about 10-15 years.

### 10.3 PRESSURE RELIEF VALVE

The pressure relief valve is properly installed. The valve was not tested, as this could cause the valve to leak.

### 10.4 SHUTOFF VALVE

The shutoff valve for the water supply to the water heater is properly installed and is functioning as intended.

### 10.5 WATER CONNECTIONS AT TANK

The water connections at the tank are properly installed and are performing their intended function.

### 10.6 EXPANSION TANK

The expansion tank has an air pocket inside that compresses as the water is heated. It prevents the pressure relief valve from leaking as the water is heated.

The expansion tank is not adequately secured to the wall. This could result in damage to the water pipe and leakage during an earth quake. A seismic restraint should be installed to secure the expansion tank.



### 10.7 AUTOMATIC GAS VALVE

The automatic gas valve or safety valve is designed to prevent the emission of fuel into the appliance if it does not detect heat for ignition. These valves are generally very reliable. The automatic gas valve was functioning as intended.

#### **10.8 BURNER**

The gas burner is properly installed and is functioning as intended.

#### **10.9 GAS PIPING**

The flex connector is properly installed and is performing its intended function.

#### **10.10 VENT**

The vent connector from the water heater to the B vent is properly installed and is functioning as intended.

#### **10.11 COMBUSTION AIR**

The combustion air provides the oxygen for the fuel burning appliances. Combustion air also aids in the movement of combustion gases up the flue. Adequate ventilation around all fuel burning appliances is vital for their safe operation. The air can come from inside the house or from outside providing that the amount of air reaching the appliance is sufficient to maintain efficient combustion and draft. The combustion air supply is adequate.

#### **10.12 SEISMIC RESTRAINT**

The water heater is secured to the wall. This prevents it from falling over during an earthquake and rupturing gas and water lines.

#### **10.13 ELEVATION ABOVE GARAGE FLOOR**

The burner of the water heater is elevated at least 18" above the garage floor in accordance with industry standards. This elevation prevents ignition of gasoline fumes that might leak from cars, lawn mowers, gas cans, etc.

#### **10.14 GENERAL COMMENTS**

The water heater is nearing the end of its service life. The need for water heater replacement should be anticipated.

*The following components were inspected:*

#### **10.15 LOCATION OF UNIT**

The water heater is located in the detached garage.

#### **10.16 GENERAL INFORMATION**

The water heater is electric. The capacity of the water heater is 3.85 gallons. The water heater is approximately 14 years old. Water heaters of this type typically last about 10-15 years.

#### **10.17 PRESSURE RELIEF VALVE**

The pressure relief valve lacks a drain pipe. This is a scald hazard. The installation of a 3/4" copper, CPVC plastic or galvanized steel drain pipe is recommended. Ideally, the drain should be routed to the exterior. However, running the pipe straight down to the floor eliminates the scald hazard.



#### **10.18 WATER CONNECTIONS AT TANK**

The water connections at the tank are properly installed and are performing their intended function.

#### **10.19 SEISMIC RESTRAINT**

The water heater is not secured to the wall. A seismic restraint should be installed to secure the water heater and prevent it

from falling over during an earthquake. This prevents the gas and water lines from rupturing.

#### 10.20 GENERAL COMMENTS

The water heater is nearing the end of its service life. The need for water heater replacement should be anticipated.

## KITCHEN

The kitchen was inspected for proper function of components, active leakage, excessive or unusual wear and general state of repair. We inspect built-in appliances using normal operating controls. This includes running the dishwasher, operating the garbage disposal and microwave and checking the burners or heating elements in the stove and oven. Accuracy and/or function of clocks, timers, temperature controls and self cleaning functions on ovens is beyond the scope of our testing procedure. Refrigerators are not tested or inspected unless specifically noted.

*The following components were inspected:*

#### 11.1 COUNTERTOPS

The countertops are covered with slab granite. The counter tops are properly installed and are in good condition.

#### 11.2 CABINETS

The finish on the kitchen cabinets is slightly worn. The cabinets are otherwise in good condition.

#### 11.3 FLOORING MATERIAL

The floor is covered with hardwood. The floor is properly installed and is in good condition.

#### 11.4 VENTILATION

Ventilation in the kitchen is provided by a range hood over the stove. The vent is ducted to the exterior. The vent fan is properly installed and is performing its intended function.

#### 11.5 SINK FAUCET

The sink faucet is properly installed and is in good condition.

#### 11.6 SINK

The kitchen sink is properly installed and is in good condition.

#### 11.7 DRAINS, TRAPS AND TRAP ARMS

The sink drain is properly installed and is performing its intended function.

#### 11.8 AIR GAP

The dishwasher drain lacks an air gap. The dishwasher will function without one, but there is a risk of contamination of the inside of the dishwasher by waste water. The installation of an air gap is recommended.



#### 11.9 OVEN

The oven was tested and was functioning as intended.

#### 11.10 COOKTOP

The cooktop was tested and was functioning as intended.

#### 11.11 DISHWASHER

The dishwasher was tested and was functioning as intended.

#### **11.12 GARBAGE DISPOSAL**

The garbage disposal was tested and was functioning as intended.

#### **11.13 REFRIGERATOR**

The refrigerator is functioning as intended.

## **BATHROOMS**

Our inspection of the bathrooms consists of testing of the plumbing fixtures for condition and function. Defects such as leaks, cracked or damaged sinks, tubs and toilets will be listed under the heading of the bathroom in which they were found. The bathroom floor, tub and shower walls are examined for water damage. Ventilation fans are tested for proper operation. Cabinets and countertops are examined for excessive wear and deterioration. Hydromassage tubs are tested and the pump and related equipment are examined when accessible.

### *BATHROOM*

#### **12.1 LOCATION**

Main Floor.

#### **12.2 SHOWER**

The one piece fiberglass shower unit is properly installed and in good condition.

#### **12.3 GLASS ENCLOSURE**

The glass shower enclosure is labeled as tempered safety glass, is properly installed and in good condition.

#### **12.4 FLOORING MATERIAL**

The floor is covered with ceramic tile. The tile is properly installed and is in good condition.

#### **12.5 TOILET**

The toilet was flushed and was functioning as intended.

#### **12.6 SINK**

The bathroom sink is properly installed and is in good condition.

#### **12.7 DRAINS, TRAPS AND TRAP ARMS**

The sink drain is properly installed and is performing its intended function.

#### **12.8 FAUCET FIXTURES**

The faucet fixtures were tested and were functioning as intended.

#### **12.9 CABINETS**

The bathroom cabinet is properly installed and is in good condition.

#### **12.10 COUNTERTOP**

The countertop is covered with ceramic tile. The countertop is properly installed and in good condition.

#### **12.11 VENTILATION**

Ventilation in this bathroom is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.

#### **12.12 GFCI RECEPTACLES**

GFCI protected receptacles were found in this bathroom.

### *BATHROOM*

#### **12.13 LOCATION**

Master Bedroom.

**12.14 SHOWER**

The shower walls are properly installed and are in good condition. Most ceramic tile is applied directly over gypsum board rather than on a concrete board such as "Durock" or "Wonder Board". Where the tile is applied directly over the gypsum board, it is critical that the tile grout be maintained to prevent water intrusion behind the tile. Missing or cracked grout should be repaired. Inside corners, and penetrations in the tile should be kept sealed with a high quality caulk.

**12.15 FLOORING MATERIAL**

The floor is covered with ceramic tile. The tile is properly installed and is in good condition.

**12.16 TOILET**

The toilet was flushed and was functioning as intended.

**12.17 SINK**

The bathroom sinks are properly installed and are in good condition.

**12.18 DRAINS, TRAPS AND TRAP ARMS**

The sink drains are properly installed and are performing their intended function.

**12.19 FAUCET FIXTURES**

The faucet fixtures were tested and were functioning as intended.

**12.20 CABINETS**

The finish on the bathroom cabinet is slightly worn. The cabinet is otherwise in good condition.

**12.21 COUNTERTOP**

The countertops are covered with slab quartz. The counter tops are properly installed and are in good condition.

**12.22 VENTILATION**

Ventilation in this bathroom is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.

**12.23 SUPPLEMENTAL HEAT**

An electric resistance radiant heating system is installed in the floor. The heating system was tested and was functioning as intended.

**12.24 GFCI RECEPTACLES**

GFCI protected receptacles were found in this bathroom.

**BATHROOM****12.25 LOCATION**

Upper Floor Hallway.

**12.26 BATHTUB**

The one piece fiberglass bathtub and shower unit is properly installed and in good condition.

**12.27 FLOORING MATERIAL**

The floor is covered with sheet vinyl. The floor is properly installed and is in good condition.

It is important to maintain the caulking around bathtubs and showers, especially at the intersection between the tub or shower and the floor. Failure to maintain this seal will often result in damage to flooring materials, subflooring and framing.

**12.28 TOILET**

The toilet was flushed and was functioning as intended.

**12.29 SINK**

The bathroom sinks are properly installed an



The drain stops are not operational. They should be repaired or replaced.

### **12.30 DRAINS, TRAPS AND TRAP ARMS**

The sink drains are properly installed and are performing their intended function.

### **12.31 FAUCET FIXTURES**

The faucet fixtures were tested and were functioning as intended.

### **12.32 CABINETS**

The finish on the bathroom cabinet is slightly worn. The cabinet is otherwise in good condition.

### **12.33 COUNTERTOP**

The countertop is covered with ceramic tile. The countertop is properly installed and in good condition.

### **12.34 VENTILATION**

Ventilation in this bathroom is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.

### **12.35 GFCI RECEPTACLES**

A ground fault circuit interrupter (GFCI) is a device that detects ground faults (current leakage to ground). It protects you from electrocution. GFCI protection is required for receptacles in bathrooms, kitchens, garages, unfinished basements, crawlspaces and at exterior receptacles. GFCI protected receptacles were found in this bathroom.

## **LAUNDRY ROOM**

Appliances are tested when present and when circumstances allow.

*The following components were inspected:*

### **13.1 CABINETS**

The finish on the laundry room cabinets is slightly worn. The cabinets are otherwise in good condition.

### **13.2 COUNTERTOP**

The countertop is covered with granite tile. The counter top is properly installed and in good condition.

### **13.3 FLOORING MATERIAL**

The floor is covered with sheet vinyl. The floor is properly installed and is in good condition.

### **13.4 VENTILATION**

Ventilation in this laundry room is provided by a ceiling fan. This fan was operated and was found to be working satisfactorily.

### **13.5 SINK**

The laundry sink is properly installed and is in good condition.

### **13.6 SINK FAUCET**

The sink faucet is properly installed and is in good condition.

### **13.7 DRAINS, TRAPS AND TRAP ARMS**

The sink drain is properly installed and is performing its intended function.

### **13.8 APPLIANCES**

The hookups for the washer are properly installed and in serviceable condition. The washer itself was operated through a partial cycle, however we did not conform the complete operation of the cycle timer.

Upgrading the washer connections to high pressure (steel braided) lines is recommended.

The hookups for the dryer are properly installed and in serviceable condition. The dryer itself was operated through a partial cycle, however we did not confirm the complete operation of the cycle timer.



### 13.9 DRYER VENT

The visible portions of the dryer vent are properly installed and in serviceable condition. Dryer ducts should be cleaned annually as part of routine home maintenance. A dryer duct that is clogged with lint is a fire hazard.

## PLUMBING SYSTEM

A plumbing system consists of the water heater, domestic water supply lines, drain, waste and vent lines and gas lines. Inspection of the plumbing system is limited to the water heater, visible faucets, fixtures, valves, drains, traps, exposed pipes and fittings. These items are examined for proper function, excessive or unusual wear, leakage, and general state of repair. Valves are not tested except where specifically noted. The hidden nature of piping prevents inspection of every pipe and joint. A sewer lateral test, necessary to determine the condition of the underground sewer lines, is beyond the scope of this inspection. If desired, a qualified individual could be retained for such a test. Our review of the plumbing system does not include landscape irrigation systems, off site community water supply systems or private (septic) waste disposal systems. Review of these systems should be performed by qualified and licensed specialists prior to the close of escrow.

*The following components were inspected:*

### 14.1 PLUMBING SYSTEM SPECIFICATIONS

The building is on a public water supply system. The building is on a private (septic) sewage disposal system. Cross link polyethylene (PEX) plastic tubing is used for water supply piping. ABS plastic is used for the drain, waste and vent pipes.

### 14.2 MAIN WATER SHUTOFF VALVE

The location of the main water shutoff valve was not determined. You should query the seller as to the location of the valve.

### 14.3 MAIN WATER LINE

The main water line is buried underground and was not visible for inspection.

### 14.4 INTERIOR WATER SUPPLY PIPES

Cross link polyethylene (PEX) plastic tubing is used for water supply piping. PEX is a tough, flexible plastic tube that can be used for both hot and cold water. It has been a relatively uncommon material in this area but, has been in use extensively in Europe and in other parts of this country. The service life of this material is not known, as it has a limited track record.

### 14.5 WATER PRESSURE

The water pressure is 80 PSI This is in the normal range of 30-80 PSI.

### 14.6 DRAIN AND WASTE PIPES

ABS plastic is used for drain, waste and vent pipes. All of the visible drain pipes were properly installed and functional. ABS is a durable, reliable material and should last the lifetime of the building. All drain, waste and vent pipes were stress tested by filling bathtubs and fixtures to the overflow and then draining them while simultaneously flushing the toilet and running the sinks and showers. No leaks were observed and all fixtures emptied in a reasonable amount of time with no fluctuation in the rate of flow down the drain. This is commonly referred to as "functional drainage".

### 14.7 VENT PIPES

The visible portions of the vent pipes are properly installed and are performing their intended function.

### 14.8 FAUCET FIXTURES

All faucet fixtures were tested and were functioning as intended.

#### **14.9 HOSE BIBBS AND EXTERIOR SUPPLY PIPES**

The hose bibbs on this building are the frost free type. These hose bibbs typically will not freeze as long as the hoses are removed. Failure to remove hoses during freezing weather could result in a cracked pipe and leakage. The bibbs were tested and were functioning as intended.

#### **14.10 GAS PIPING**

The visible portions of the gas piping were properly installed and are performing their intended function. There was no odor of gas leakage at the time of the inspection.

#### **14.11 GAS METER**

The propane storage tank is located on the south side of the building. The main gas shut off valve is installed on the high pressure line emanating out of the tank. This valve requires a wrench to open and close. Keeping a gas valve wrench accessible near the shut off is recommended.

#### **14.12 SEPTIC SYSTEM**

The house uses a private (septic) sewage disposal system. The septic system was not inspected. Our general house inspection will sometimes reveal major defects in the septic system (e.g., complete blockage, complete drain field failure), providing that it is not raining and the ground is dry. However, we still recommend that you have the septic tank pumped out and the septic system inspected by a qualified septic system service company, prior to the closing of the sale. Ask for a "Septic Tank Operational Report". It is also recommended that you have the tank pumped out every four years and avoid introducing grease and non-biodegradable foreign matter into the septic system.

## **INTERIOR**

Our review of the interior includes inspection of walls, ceilings, floors, doors, windows, cabinetry, countertops, steps, stairways, balconies and railings. These features are examined for proper function, excessive wear and general state of repair. In some cases, all or portions of these components may not be visible because of furnishings and personal effects. In such cases these items are not inspected.

*The following items were inspected:*

#### **15.1 GENERAL COMMENTS**

The interior wall, floor, and ceiling surfaces were properly installed and generally in serviceable condition, taking into consideration normal wear and tear.

#### **15.2 STAIRS**

The stairs were used several times during the inspection. The stair components are properly installed and no deficiencies were noted during use. A handrail is installed and is securely attached.

#### **15.3 WALLS AND CEILINGS**

There are minor cracks in the walls and/or ceilings. This is a common condition with this type of construction and does not indicate a structural deficiency. The cracks can be repaired or painted over during routine maintenance. Cracks in drywall that have been repaired will often reoccur several months after the repairs have been completed. This is due to seasonal movement of the structure caused by changes in humidity.

#### **15.4 DOORS**

All of the doors were tested and were found to be functioning as intended.

Several of the doors are equipped with hinge mounted door stops. This type of door stop can damage the door skin, tear out hinge screws, and damage the door trim and frame. The removal and replacement with wall or floor mounted door stops is recommended.

#### **15.5 CLOSET DOORS**

All of the closet doors were tested and were found to be functioning as intended.

#### **15.6 WINDOWS**

The window frames are constructed from PVC and have insulated glass in them. All of the windows were tested and/or inspected. All of the windows tested and/or inspected were found to be functioning as intended.

### **15.7 SMOKE DETECTORS**

There is a smoke detector inside each of the bedrooms and in the hallway outside of the bedrooms on the upper and lower floors.

Smoke detectors are examined for location only. They are not tested. Smoke detector batteries should be replaced when you move in and every year thereafter. Once batteries have been replaced, the smoke detectors should be tested for proper operation.

Ionization technology is generally more sensitive than photoelectric technology at detecting small particles, which tend to be produced in greater amounts by flaming fires, which consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a wastebasket or a grease fire in the kitchen.

Photoelectric technology is generally more sensitive than ionization technology at detecting large particles, which tend to be produced in greater amounts by smoldering fires, which may smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning on couches or bedding.

**FOR MAXIMUM PROTECTION:** Use both Ionization and Photoelectric smoke alarms in every bedroom/hallway on every level of your home.

At least one carbon monoxide monitor should be installed for each floor. The best place to install the monitor is in an open area near the gas appliance.

### **15.8 DOOR BELL**

The doorbell was functioning as intended.

## **FIREPLACES, WOOD STOVES AND SPACE HEATERS**

*The following components were inspected:*

### **16.1 METAL FIREPLACES**

The fireplaces are factory built, direct vent, gas appliances. The firebox is sealed from the house interior which makes it more efficient and prevents combustion gases from spilling into the house. The vent for this type of fireplace is mounted on the exterior wall in back of the appliance. The gas valve and piezo ignition are located underneath, behind a removable panel. Instructions for lighting the pilot are located in this area. Testing revealed that the direct vent fireplaces were functioning properly.

## **ENVIRONMENTAL ISSUES**

Environmental issues include but are not limited to carbon monoxide, radon, asbestos, lead paint, lead contamination, toxic waste, formaldehyde, electromagnetic radiation, buried fuel oil tanks, ground water contamination and soil contamination. The absence of a statement on any of the environmental issues listed above does not necessarily mean that they are not present. We make reference to these substances only when we recognize them during the normal inspection process. Most of the toxic substances listed above cannot be identified without laboratory testing. If further study or analysis seems prudent, the advice and services of the appropriate specialists are advised.

*The following items may exist in this building:*

### **17.1 CARBON MONOXIDE**

Many of us encounter CO regularly and never know it because it's invisible and odorless. That's why victims of CO poisoning often have no warning that they are in danger... until it's too late. Symptoms include headache, nausea, chronic fatigue, confusion and dizziness. Extreme exposure can even cause a coma or death.

Carbon monoxide is a product of incomplete (poor) combustion. It's a direct and cumulative poison. When combined with blood hemoglobin, CO replaces oxygen in the blood until it completely overcomes the body. Death from CO occurs suddenly. The victim inhaling the toxic concentration of the gas becomes helpless before realizing that danger exists.

According to the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) (Ventilation Standard 62- 89), a concentration of no more than 9 parts per million (ppm) (0.0009%), of CO is permissible in residential living spaces. In addition, the Occupational Safety and Health Administration (OSHA) has set an eight-hour work place maximum of 35 ppm. And in flue gas, the Environmental Protection Agency (EPA) and the American Gas Association (AGA) have established the maximum allowable concentration of CO at 400 ppm (See charts).

To ensure safe and efficient combustion, it is imperative that all gas burning appliances be inspected and serviced regularly (once a year) if used in normal service conditions).

## **17.2 FORMALDEHYDE**

Formaldehyde, a colorless gas with a pungent odor, is so commonly used today that virtually everyone is likely to be exposed to at least small amounts of it, and a significant number of people are developing symptoms due to exposure to large amounts of formaldehyde in their homes or workplaces. It was an integral component of the urea formaldehyde foam insulation (UFFI) that was installed in more than five hundred thousand homes in the 1970's. (The use of formaldehyde in insulation was banned by the Consumer Product Safety Commission in 1982, but this ruling was overturned by a federal court in 1983.) In addition, it is present in a large variety of consumer products. It is a major part of the resins used as glue in particle board, plywood, and other pressed wood products used extensively in the construction of homes and furniture. Some cosmetics, paper towels, upholstery, permanent press fabrics, carpets, milk, toilet seats, pesticides, and explosives contain it too. Formaldehyde is also present in the exhaust from combustion appliances and in tobacco smoke.

The most common symptoms of excessive formaldehyde exposure are burning eyes, itching, shortness of breath, tightness in the chest, coughing, headaches, nausea, and asthma attacks. Large amounts of the gas have produced cancer in laboratory animals, and government policy assumes that any substance that can cause cancer in animals may also cause it in humans.

People who live in homes that have been "tightened" for maximum energy conservation are most likely to suffer from the effects of formaldehyde gas. The formaldehyde gas seeps from the walls, furniture, carpet, etc. into the air, building up to high levels in the "tightened" home, which can be irritating, particularly to sensitive people.

To minimize your exposure to formaldehyde, ventilate your home - in good weather, open the windows to provide a constant supply of fresh air. Some methods of heat recovery, such as heat recovery ventilators (also known as air-to-air heat exchangers), are available that can ventilate the home while also conserving energy.

You can seal exposed, raw surfaces of particle board and plywood with oil enamel, varnish, wallpaper, or vinyl floor coverings. If you have UFFI insulation, make certain it is completely sealed in the walls or, as a last resort, have it removed.

## **17.3 ASBESTOS**

Asbestos is a naturally occurring mineral fiber that has been used in more than 3,000 different construction materials and manufactured products. It is commonly found in heating system insulation, decorative spray-on ceiling treatments, vinyl flooring, cement shake siding and a variety of additional materials. Some asbestos-containing materials were still being installed into the late 1980s.

The asbestos content of different materials varies according to the product and how it is used. Among those materials with higher concentrations of asbestos are insulating products on heating systems and the backing on sheet vinyl flooring. However, an uncontrolled disturbance of any asbestos-containing material in any concentration may be dangerous to your health!

Why is it a problem? Breathing asbestos fibers could kill you. When disturbed, asbestos breaks down into fibers up to 1,200 times thinner than a human hair. When inhaled, they become trapped in lung tissues. Medical research tells us that up to 30 years after inhalation, asbestos fibers can cause lung cancer or mesothelioma, a related terminal cancer of the tissue lining the chest cavity.

Because asbestos is a naturally occurring mineral and has been so widely used in manufactured products, including automobile brake linings, it can be found almost everywhere. Trace amounts are in the air we breathe every day. Most of us have asbestos fibers in our lungs.

On the other hand, there's no known safe level of asbestos exposure. That's why medical, environmental health and regulatory organizations stress the need to protect health by minimizing exposure to airborne asbestos fibers. This is particularly true when asbestos fibers accumulate at elevated levels. Elevated levels result from uncontrolled disturbances and removal of asbestos-containing materials.

How do I know if it's asbestos? Don't guess! Look for asbestos markings on the product or track the product back to its manufacturer or supplier. If these approaches don't work, submit a small sample for laboratory analysis. Cost is minimal. Laboratories are listed in the yellow pages under "Asbestos - Consulting and Testing." Ask a laboratory technician to instruct you how to safely take a sample. If you decide not to check for asbestos in a suspected material, you should assume it contains asbestos and treat it accordingly.

## INSULATION

Insulation, weatherstripping, dampers, storm windows, insulated glass and set-back thermostats are features that help reduce heat loss and increase the comfort and thermal efficiency of your home. We examine these items and identify approximate R values for insulation. When appropriate, we offer suggestions for upgrading. Our review of insulation is based upon a random sampling of accessible areas and does not constitute a warranty that all such areas are uniformly insulated or are insulated to current standards.

*The following items were inspected:*

### 18.1 ATTIC INSULATION

The attic is insulated with blown in fiberglass insulation. The approximate R value of this insulation is 38. This provides good resistance to heat transfer.

### 18.2 WALL INSULATION

The walls are insulated with fiberglass batt insulation. The 2x6 walls suggest that it is 6" R-19 fiberglass.

### 18.3 FLOOR INSULATION

The floors are insulated with 6" R-19 fiberglass batt insulation. The floor insulation has been properly installed and is in good condition.

The floor of the enclosed deck is insulated with rigid foam R-5 insulation. The floor insulation has been properly installed and is in good condition.

## STRUCTURE

The structural elements of most residential buildings include a foundation, footings, floor, wall, ceiling and roof framing. The visible portions of these items are examined for proper function, wear, deterioration or signs of non-performance. Some structural components or portions of them are inaccessible because they are buried below grade or hidden behind finished surfaces. Therefore, much of the structural inspection is performed by identifying resultant symptoms of movement, damage and deterioration. Where there are no visible symptoms, components or conditions requiring repair may go undetected and identification will not be possible. We make no representations as to the internal conditions or stabilities of soils, concrete footings and foundations, except as exhibited by their performance.

*The following components were inspected:*

### 19.1 GENERAL INFORMATION

The foundation is constructed from poured in place concrete. A perimeter foundation wall supports the exterior walls of the building. Interior load bearing components are supported by pier footings and/or continuous spread footings. The floor structure is constructed out of wood joists. The subfloor is oriented strand board (OSB). The stud walls are constructed from 2 X 6 dimensional lumber. The exterior wall sheathing is oriented strand board (OSB). The roof structure is constructed out of a combination of manufactured trusses and conventional stick framing. The roof sheathing is oriented strand board (OSB).

### 19.2 FOUNDATION

The foundation is constructed in a manner typical of buildings of this type and age. There are minor shrinkage cracks in the foundation. Shrinkage cracks are common in poured concrete foundation walls. They do not affect the performance of the foundation. No action is indicated.

**19.3 MUDSILL**

The mudsill is typically a 2x4 or 2x6 member that is laid flat directly on the top of or cast into the top of the foundation wall. The mudsill is usually bolted to the foundation wall and serves as a base for the rest of the floor framing. Most of the mudsill is inaccessible and cannot be evaluated. The visible portions of the mudsill are properly installed and are performing their intended function.

**19.4 ANCHOR BOLTS**

Anchor bolts are bolts that are cast into the top of the concrete foundation and retain the mudsill. The anchor bolts primary function, is to prevent the building from being displaced from its foundation during an earthquake. Anchor bolts have grown in diameter over the years as have the nuts and washers that retain the mudsill. Generally speaking, the newer the building, the better resistance it will have to seismic activity. Anchor bolts are installed and are performing their intended function.

**19.5 BEAMS AND POSTS**

The beams and posts are properly installed and are performing their intended function.

**19.6 SHEAR PANELS**

Shear panels are plywood or OSB panels that are mechanically fastened to both vertical and horizontal framing members in critical structural areas of the building. They prevent lateral movement of the structure during an earthquake. Shear panels are often visible in the crawlspace on cripple walls between the first floor and foundation. They may also be installed on interior walls that are covered with drywall. An examination of the crawlspace revealed the absence of shear panels on the cripple walls. The installation of shear panels on the cripple walls is recommended as an upgrade.

**19.7 FLOOR JOISTS**

The visible portions of the floor joists are properly installed and are performing their intended function.

**19.8 SUBFLOORING**

The subfloor was covered with insulation and finished surfaces and was not visible for inspection. There was no evidence present suggesting that defects or deficiencies are present.

**19.9 WALLS**

The walls are covered with finished surfaces and therefore were not visible for inspection. No evidence of defects or deficiencies was observed.

**19.10 ROOF STRUCTURE**

The roof structure is constructed from a combination of factory-built, engineered trusses and site cut and assembled dimensional lumber. The roof structure is constructed in a manner consistent with buildings of this type and is performing its intended function. No defects or deficiencies were observed.

**19.11 ROOF SHEATHING**

The roof sheathing is installed in a manner consistent with buildings of this type and is performing its intended function. No defects or deficiencies were observed.

**19.12 DETACHED GARAGE**

The detached garage is a wood frame structure built on a concrete foundation. The garage foundation, walls and roof structure are constructed in a manner typical of garages of this type and age. No major defects or deficiencies were observed and the garage is performing its intended function.

## CRAWLSPACE

The crawl space is where some of the building's structural elements and portions of its mechanical systems are located. These include foundation, structural framing, electrical, plumbing and heating. The visible portions of accessible systems and components are examined for proper function, excessive or unusual wear and general state of repair. Some items observed in the crawlspace will be discussed under the individual systems to which they belong. It is not unusual to find occasional moisture and dampness in crawl spaces. However, significant and/or frequent water accumulation can adversely affect the building foundation and support system and creates conditions conducive to various types of wood destroying organisms. We check for signs of excessive moisture and water entry. Unfortunately, water entry is often

seasonal and therefore evidence may not be present at the time of the inspection.

*The following components were inspected:*

### 20.1 CRAWLSPACE ACCESS

The crawlspace access is located outside at the south side of the building. The crawlspace was entered and all accessible areas were inspected.

### 20.2 MOISTURE

The soil was damp under the vapor barrier, however, no evidence of water intrusion or standing water problems was observed.

### 20.3 VENTILATION

The crawlspace is adequately ventilated. Vents should be kept unobstructed and clear of leaves and other organic debris. Screens should be maintained to prevent rodent entry.

### 20.4 VAPOR RETARDER

The soil under the house is covered with a polyethylene plastic vapor retarder. This component is typically referred to as a "vapor barrier". While not a true vapor barrier, it does reduce the transmission of water vapor from the soil to the air. The vapor retarder is properly installed and is performing its intended function. The vapor retarder should be maintained so that it covers at least 85% of the entire surface of the soil.

The support post concrete piers are covered with the plastic vapor retarder. This allows the transmission of water vapor from the soil up and into the floor framing. The plastic vapor retarder should be removed from the pier so that it covers at least 85% of the entire surface of the soil only.



### 20.5 PEST CONTROL

Cellulose forms were left in place on the pier footings. This cellulose is conducive to the infestation of various wood destroying organisms. The removal of the cellulose is recommended.

Wood boring insect activity in the Puget Sound area usually does not occur unless there is a ventilation problem inside or underneath the structure, a water leakage/rotting condition in the house or significant quantities of soil to untreated wood contact in a crawlspace or outside around the building exterior. Carpenter ant, termite and wood boring beetle activity is most often a direct result of rot damaged wood and/or excessively moist, humid or damp conditions inside, around or underneath the building. Structural damage from termites and ants in most cases does not extend much past the moisture source and/or rot damaged wood. Eliminating high moisture conditions, improving ventilation, correcting the conditions that are conducive to rotting wood and replacing rot damaged wood will usually eliminate the wood boring insect activity, providing that the building is properly maintained thereafter.

The best way to avoid wood boring insect problems is by preventative maintenance. This includes:

- x Good construction practices which exclude water and prevent high moisture conditions.
- x Removal of wood debris and form wood from the crawlspace and around the building exterior.
- x Maintaining the roof water drain system.
- x Maintaining good yard drainage away from the foundation wall.
- x Avoiding wood-soil contact in the crawlspace or around the house exterior.
- x Storing fire wood 6" above grade and in a dry area.



There should be no soil to wood contact in any part of the building exterior or crawlspace, unless that wood is pressure treated. For the greatest safety to permanent structures there should be no soil to wood contact of any kind. Untreated wood in direct contact with exterior flatwork should also be avoided.

Good building practice requires that foundation walls or pier footings supporting wood frame construction, should extend at least 8" above the finish grade with at least a 6" clearance between the top of the soil and the bottom of the wood finish materials. Untreated wood should be raised 1-2" above surrounding flatwork and should have a moisture barrier such as 30 lb. asphalt impregnated felt installed between the concrete and wood. For additional information and treatment options, you should retain the services of a qualified pest control operator.

