Home Inspection Report

Inspection Date:

Inspection Address:
CA

Prepared For:

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Explanation of Terms

Thank you for your trust and confidence. In the Inspection Report that follows, we have made recommendations expressing our opinion about the importance which should be assigned to each condition that we felt should be monitored or receive additional attention.

To help you place your own priorities on our recommendations, we have expanded upon our comments by offering the following explanations:

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Where we said a condition should be **monitored,** we meant this:

The condition was not yet serious, and we did not anticipate that its repair would be either urgent or costly. For the time being, we recommend continued monitoring. If the condition becomes worse, then appropriate corrective action should be undertaken immediately.

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Where we said a condition should be addressed during **routine maintenance,** we meant this:

Addressing this condition was not urgent, and it may not be very expensive. However, ignoring this situation could lead to further damage, deterioration or inconvenience and, almost certainly, increased cost. We recommend attending to it during the next regular periodic maintenance session or budgeting for the services of an appropriate, competent technician.

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Where we said a condition was a **significant concern,** we meant this:

While the condition may not be urgent, its correction could incur significant cost. This category includes some conditions that, when corrected, may lead to discovery of further issues. We strongly recommend that these situations be addressed as soon as possible by competent, licensed specialists familiar and experienced with the particular system or component.

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Where we said a condition was **urgent,** we meant this:

An urgent condition demands immediate attention from an appropriate qualified professional or technician whose recommendations for repair or replacement should be carried out by a competent, licensed specialist familiar and experienced with the particular system or component.

Client Advisory

Please note: This Advisory is **not** a "summary" of the inspection report. That is why we urge you to **read** the *entire* inspection report *before* you review this section. As an additional service to our Clients and their Real Estate Professionals, we have provided this listing of the items which, in the professional opinion of your Inspector, merit further attention, investigation, or improvement at this time. Some of these conditions may be of such a nature as to require repair or modification by a skilled craftsman, technician or other specialist. A homeowner such as you can easily handle others. In listing these items, your Inspector is not offering any opinion as to who, among the parties to your transaction, should take responsibility for addressing any of these concerns. As with most other facets of your transaction, we recommend consultation with your Real Estate Professional, Attorney or Home Builder for further advice with regards to the items listed below.

Finally, we remind you that following the Inspector's advice will often result in enhanced safety for the occupants of the home or improved performance and/or extended life for the component in question.

1. **Most of the basement floor was wood, apparently installed over the concrete slab, and was in acceptable condition, where visible. However, the configuration and condition of the support under this floor was not visible and could not be determined. Symptoms that might indicate negative conditions under the floor were observed at the left side chimney, and this area should be monitored for evidence of excess moisture and deterioration and appropriate actions taken immediately if evidence of either is discovered. A current pest control report should be consulted regarding this condition. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report**
2. **A downspout at the front right (garage) was rusted through and was non-functional. The downspout should be repaired or replaced. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.**
3. **Portions of the siding on the dwelling were split, checked and/or cupped because of exposure. Seriously damaged sections of the siding should be refinished to restore their appearance and extend the dependable life of the surfaces. If scraping and wire brushing is necessary to prepare the surfaces for refinishing leaves deep scratches or if it erodes the siding, replacement may be necessary. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.**
4. **No flashings were installed around the newer windows, where they should have been installed to prevent water penetration. Proper flashings should be installed in conformance with standard trade practices to reduce the potential for water penetration and damage to structural elements and interior finishes. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.**
5. **Peeling paint was observed in several locations around the dwelling. Peeling paint usually suggests improper preparation for painting or moisture-related conditions. We recommend immediate, thorough scraping, sanding, caulking, and priming prior to application of a high quality exterior finish in accordance with the manufacturer's directions. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.**
6. **The design of the replacement windows on this dwelling depended upon a seal between the edge of the window and the surrounding wall cladding to keep moisture from penetrating the wall cavity. We recommend monitoring the condition of the seal between the two different materials and maintaining it through application of an appropriate exterior caulking material to ensure a weather tight seal between the windows and the exterior cladding. This condition should be monitored, as outlined in our recommendations at the beginning of this report.**
7. **The guardrail at the right side was hazardous in that it would allow small children to climb, or fall through. We recommend modification of the guardrail to conform to current standard trade practices to eliminate safety hazards, especially for children. We consider this condition to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.**

8. **A void was evident in the fire resistive barrier between the garage and the interior. We recommend that the void be patched to restore the required fire separation between the garage and the occupied interior. Also, the access hatch to the attic was not fire-rated. This condition could lead to a more rapid spread of smoke and flames in a fire and is not permitted in modern construction. We strongly recommend covering the access into the attic with a fire resistant material in accordance with present standards. We consider these conditions to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.**
9. **In our opinion, this roof was no longer reliable, and one should plan for its replacement. We recommend consultation with one or more competent, licensed roofing contractors for advice and cost estimates. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.**
10. **The wooden gutters were rotting, split, leaking, and were not repairable. This condition indicated that the gutters had reached the end of their service life. We recommend the installation of new gutters. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.**
11. **The flexible gas connector was too short, making it stretched too tight. This condition may lead to rupture and fire during an earthquake. We recommend the present connector be replaced by a longer one, in accordance with accepted trade practice. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.**
12. **The draft hood was not secured to the top of the water tank jacket as is required by all manufactures' installation instructions. We recommend it be properly secured. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.**
13. **The seismic restraint for the water heater tank had been installed in a nonprofessional manner. The lack of proper restraint could result in unnecessary damage in the event of a major earthquake. We recommend immediate installation of proper restraint in accordance with current industry standards, local trade practice and applicable jurisdictional requirements. We consider this condition to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.**
14. **No GFCI (ground fault circuit interrupter) protection was provided for the receptacles. GFCI protection should be installed for this area for an increased margin of safety. It may take the form of a GFCI receptacle installed in the outlet box or a GFCI Circuit Breaker installed in the distribution panel from which this circuit is supplied. A competent, licensed electrician should do the installation. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.**
15. **Several joints in the ductwork at the left side crawlspace had come apart. This was resulting in a significant waste of energy. We recommend re-securing of all loose joints in the ductwork. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.**
16. **The vinyl floor covering in the kitchen was damaged. The floor covering in this area should be replaced. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.**
17. **Many of the floor tiles in the master bedroom bath were cracked and/or damaged. For a better appearance and to minimize additional damage, the affected tiles should be replaced, which will likely require replacement of the entire floor covering. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.**
18. **Water stains and/or peeling paint were symptomatic of water leakage through the windows or walls in several places around the dwelling. The present owner informed us that past leakage had occurred in many places, and exterior caulking had been applied around the windows. The history of any water intrusion in these areas should be documented for future reference. These areas should be monitored for moisture problems and appropriate corrective action implemented if leakage becomes more evident. This condition should be monitored, as outlined in our recommendations at the beginning of this report.**
19. **Smoke alarms ("Smoke Detectors") were not located inside some of the bedrooms or on some of the levels. Current industry standards require the installation of a smoke alarm inside every sleeping**

room and on every level within the dwelling. We recommend installation of smoke alarms *that utilize photoelectric technology,* in all sleeping rooms and on all levels, prior to, or shortly after, your assuming possession of this home. We consider this condition to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.

20. **There was no trap (U-shaped drain) on the washing machine drain pipe. We recommend a proper trap be installed to prevent sewer gas from entering the laundry area. This is especially important if there are gas appliances located within the laundry area. We consider this condition to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.**

Inspection Overview

DESCRIPTIVE INFORMATION

Weather Conditions:	• Clear Sky
Temperature Range:	• 50 - 60 Degrees F
Orientation of the Dwelling:	• The building was viewed looking at the front door
Age of the Dwelling:	• 72 years, as reported by the Owner
Main Water Shutoff Location:	• Near the right wall in the basement laundry room
Sewer Cleanout Location:	• In the basement laundry room
Electrical Panel Location:	• Within the exterior enclosure on the right side
Main Disconnect Location:	• Inside the main distribution panel
Main Gas Shut-Off Location:	• On the exterior on the right side
Persons in Attendance:	• The owner

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE INSPECTION

A Definition of the Terms "Acceptable" and "Satisfactory" as Used in this Report

When any item in this Report is noted as being in "acceptable" or "satisfactory" condition, the meaning is that it was providing generally adequate service within the limits of its age - and any defects, deficiencies or potential problems noted during the inspection.

Not Inspecting for Building Code Violations

The presence or extent of building code violations was not the subject of this inspection, nor was it included in the report. No warranty is offered on the legal use, or uses of the building or property. Information with regard to these issues may be available from the appropriate building and/or zoning agency.

Environmental Issues Are Excluded

Comments on environmental hazards or conditions, including, but not limited to, toxic, reactive, combustible or corrosive contaminants, wildfire, geologic or flood hazards are specifically excluded from this inspection and report.

We Evaluate for Function, Operability and Condition

The purpose of a home inspection is to evaluate the home for function, operability and condition of systems and components. Its purpose is not to list or attempt to address cosmetic flaws. It is assumed that the client will be the final judge of aesthetic issues and not the home inspector, as the inspector's tastes and values will always be different from those of the client.

Important Information May be Found in the Public Records

Important information about this property may be a matter of public record. However, search of public records is not within the scope of a home inspection. We recommend review of all appropriate public records by the buyer, or a representative of the buyer, should this information be desired.

A Home Inspection, Not a Pest Inspection

Any observations, which the inspector might make in this report regarding evidence of pests or wood destroying organisms, are not a substitute for inspection by a licensed pest control operator or exterminator. Your inspector may only report on a *portion* of the currently visible conditions and cannot render an opinion regarding their cause or remediation.

Guidelines for the Proper Disposal of "Universal Wastes"

Beginning February 9, 2006, it is ILLEGAL to dispose of waste batteries, electronic devices, fluorescent light bulbs

and mercury-containing thermostats in the trash. These waste items are known as "universal wastes" and must be recycled or taken to a household hazardous waste disposal facility.

Universal wastes are hazardous wastes that are generated by several sectors of society, rather than a single industry or type of business. Hazardous wastes contain harmful chemicals, which, if put in the trash, are harmful to the environment and public health. These items include:

Electronic Devices: Televisions and computer monitors, computers, printers, VCRs, cell phones, mp3 players, telephones, radios, and microwave ovens. These devices often contain heavy metals like lead, cadmium, copper, and chromium.

Batteries: All batteries of sizes AAA, AA, C, D, button cell, 9 Volt, and all other batteries, both rechargeable and single use. These contain a corrosive chemical that can cause burns as well as toxic heavy metals like cadmium.

Fluorescent Tubes and Bulbs and Other Mercury-Containing Lamps: These lights contain mercury vapor that may be released into the environment when they are broken. Mercury is a toxic metal that can cause harm to people and animals including nerve damage and birth defects. If mercury is released into the environment it can contaminate the air we breathe and enter streams, rivers, and the ocean.

To find out more information on universal waste and how to dispose of it, please contact:

In Alameda County:
Alameda County Household Hazardous Waste Program
http://stopwaste.org 1-800-606-6606

In Contra Costa County:
Contra Costa County Household Hazardous Waste Program
http://www.co.contra-costa.ca.us/depart/cd/recycle/ 1-800-750-4096

In Solano County:
Solano County Department of Environmental Management
http://www.solanocounty.com/SubSection/SubSection.asp?NavID=319 (707) 784-6765

Sources of Energy Conservation Information in California

Consumer-related questions regarding energy conservation in and around the home, and programs available to assist the homeowner in financing energy conservation projects, can be obtained by contacting the gas and electric service provider for your home or, the California Energy Commission.

Their web site is: www.consumerenergycenter.org
Their phone number is: 1-800-555-7794.

Their mailing address is:

California Energy Commission,
Media and Public Communications Office
1516 Ninth Street, MS-29
Sacramento, CA 95814-5504

IMPORTANT NOTICE

We performed this Home Inspection for the *exclusive* use of the Client(s) named in this Report. If anyone other than our Client for this inspection reads this Report, we wish to emphasize that by contract, **our sole responsibility is to our Client(s)** and **no third party may rely** on this report for any purpose. If anyone else wishes to obtain current information on the condition of this home, we can arrange to perform, for a fee, a follow-up inspection on their behalf.

Location/Direction Conventions Used In This Report

Over the years, our clients have told us time and again how much they appreciate the information which we include in every report on the location of thermostats, furnace/air conditioner filters, electrical panels, ground fault circuit interrupt devices, and the main water, electricity and gas shutoffs - particularly when they are normally hidden or hard to get to.

Specifying these critical locations becomes even more valuable for those of our clients who are not able to

accompany the inspector on the inspection. Not only does this information aid you in operating and maintaining your home, but the abundance of information contained in our Report is further reassurance that your inspector did, in fact, crawl into all those nasty places and examine all those "nitty-gritty" details.

Here is how you will find we have called out locations and directions in your report:

On the exterior, when we talk about the "right side" or "left side" of the house, we are assigning direction as we would if we were standing at the street and were looking towards the front of the building.

For features inside the home, they also will be located by imagining that you were standing at the street and were looking towards the center of the house. Then locations will be described as "left" or "right", and "front" or "rear". (For example, "the left rear corner of the right front bedroom").

The floors or levels are referenced from the level which we enter from the main entrance. The level that you walk in on will be called the "Main Level". If there is a basement, that is usually the level below the Main Level, and the floor above would be called the "Second Floor" or "Upper Level".

Furnishings and Storage Limited Our Access

The presence of furnishings, personal items and decorations necessarily limited our view, and thus, the scope of the inspection. For instance, the placement of furniture prevented access to every electrical receptacle. We recommend that the purchaser conduct a thorough pre-closing walkthrough inspection immediately before the close of escrow at which time the dwelling will, hopefully, be empty. Instructions and a checklist for conducting this pre-closing walkthrough have been supplied with this Report.

The Yard Sprinkler System Was Not Inspected

The landscape irrigation (sprinkler) system was not inspected and is not included in this report. Thus, we cannot make any representations as to its present condition or future performance. We recommend evaluation by a sprinkler system technician, if further information on the system's function and condition is desired.

Hillside Considerations

This dwelling has been constructed on, or adjacent to, a hillside. An opinion on soil stability and potential movement may be available from a competent soil or geotechnical engineer who is familiar with conditions in this area. A competent specialist should be consulted, if specific information on the characteristics and performance of this particular hillside is desired.

Structural System

DESCRIPTIVE INFORMATION

Foundation Type:	• Perimeter wall with basement slab/partial crawl space
Foundation Material:	• Poured in place concrete
Exterior Wall System:	• Conventionally framed wood stud
Interior Bearing Walls:	• Conventionally framed wood partitions
Floor System:	• Diagonally applied wood planking over wood joists
Roof Structure:	• Conventionally framed joist and rafter
Roof Sheathing:	• "Skip sheathing", or "1x" boards spaced apart for improved ventilation of the roof covering
Basement Access:	• By way of an interior stairway and two exterior doors
Crawl Space Access:	• From the basement

OBSERVATIONS & RECOMMENDATIONS

Building Foundation

The visible areas of the foundation and other exposed elements of the underbuilding support structure were in satisfactory condition for the age of the dwelling. No abnormal sags, cracks, or deterioration were observed.

The foundation appeared to be relatively modern in design. Foundations of this type typically have internal steel reinforcing. A determination as to the presence or extent of steel reinforcing is beyond the scope of this inspection.

A condition known as "efflorescence" was evident on portions of the foundation walls. This whitish, fuzzy material is a deposit left when moisture in the foundation evaporates on the inside surface, depositing crystals. This indicates an occasional surplus of moisture on the outside of the foundation. Steps could be taken to improve the exterior drainage where appropriate, but no other action is indicated at this time.

Hairline and/or small cracks, within normal tolerances, were visible. This type of cracking is often a result of shrinkage of the concrete during curing, and/or minor settlement, and usually does not affect the strength of the foundation. No action was indicated.

Cripple Walls

Cripple walls (usually walls shorter than room height, < 8 feet) built of 2x4 studs set on continuous concrete footings provided center bearing support for the interior ends of the floor joists in the multiple span floor system under this dwelling. This support system was functioning as intended and was in acceptable condition.

Sill Plate

The sill plate, where visible, was in acceptable condition.

Floor Joists

In the areas where the floor framing was visible, all components were properly installed and in acceptable condition.

Subflooring

In general, the subfloor was in acceptable condition.

Water stains were observed on the subfloor in areas beneath the lower bathroom and right side stairs**.** The areas were dry at the time of this inspection and no damage was apparent. However, we suggest periodic inspection to check for signs of leakage. This condition should be **monitored**, as outlined in our recommendations at the beginning of this report.

Seismic Considerations

Anchor bolts are fasteners that connect the wood framing to the foundation. They limit the ability of the framing to move independently on the foundation in the event of seismic activity.

The sill plate is the first (lowest) wood member of the framing that rests directly on the foundation. The sill plate was attached to the foundation with a minimal number of bolts.

The attachment between the building and the foundation did not meet the latest seismic specifications required by many engineers and building departments. New specifications typically require nominal 3x6 (2½ x 5½) sill plates to be secured to the top of the foundation walls with 5/8-inch diameter bolts secured with nuts placed over ¼ thick square bearing plates instead of washers. It may be possible to remove many of the existing nuts and install the newer type bearing plates to provide a more secure connection.

The existence of metal reinforcement connections between the floor joists and top plates or foundation sill, and metal devices often called "shear transfer ties" installed between the rim joists or blocking, and the top plates of the cripple walls or foundation sill could not be confirmed. These are often recommended when a full, modern seismic retrofit upgrade is performed on the building.

Holddowns are structural hardware connections that tie the wall framing to the foundation. They strengthen the structure and allow it to resist lateral forces and uplift during an earthquake.

Holddowns were not installed, as would be required in more modern construction of this type. As an upgrade, installation of holddowns might be considered at the time of other improvements and/or remodeling.

Bracing panels are special plywood panels installed on garage and foundation area framing, connected to and running from the mudsill or sill plate, up the studs, and terminating at the top plate. They help the framing resist lateral movement or "racking".

The cripple walls in this dwelling were not reinforced with modern bracing; however, we observed diagonal sheathing installed beneath the exterior stucco cladding. Unbraced cripple walls are considered typical for homes of this age, but the absence of bracing panels is considered a deficiency. Upgrading is not required, but would be prudent in this case.

The anchor bolts were undersized as judged by current industry standards. Additional connections, in conformance with present standards should be properly installed as, and where, necessary to adequately secure the house to the foundation.

Basement Floor

The basement floor was a concrete slab in acceptable condition, although small cracks were observed. This type of cracking is common and normally not structurally significant.

Most of the basement floor was wood, apparently installed over the concrete slab, and was in acceptable condition, where visible. However, the configuration and condition of the support under this floor was not visible and could not be determined. Symptoms that might indicate negative conditions under the floor were observed at the left side chimney, and this area should be monitored for evidence of excess moisture and deterioration and appropriate actions taken immediately if evidence of either is discovered. A current pest control report should be consulted regarding this condition. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report

Basement Moisture

The elevation of sections of the basement floor was below the exterior grade level. The floor was in acceptable condition. No evidence of significant moisture entry was observed at the time of the inspection. However, the owner or occupant should be consulted to determine if moisture has ever entered this area.

A floor drain was observed at the laundry area of the basement. The floor drain is intended to drain any excessive accumulation of water, should a discharge occur, or water enter the basement. This possibility should be considered before storing sensitive items in this area. There was also a manually operated drain "trap primer" associated with this floor drain that should be periodically operated to "recharge" the water trap seal located beneath the floor level. This condition should be **monitored**, as outlined in our recommendations at the beginning of this report.

Crawl Space Moisture

The soil in the crawl space was dry at the time of this inspection, and no adverse conditions or damage related to excessive moisture was observed.

Evidence of occasional slight ground water entry and periodic accumulation was observed in the crawl space. Small amounts of groundwater entering below grade areas would not be unusual and, in most cases, not a cause for major concern if the crawl space is adequately vented.

To keep moisture penetration to a minimum, exterior surface drainage, including water from the downspouts, should be directed as far away from the building as possible. Landscape watering should always be directed away from the building and limited.

Crawl Space Ventilation

Ventilation in the crawl space was inadequate according to current trade practices, but no serious adverse condition was discovered that might have resulted from a lack of ventilation. Installation of additional vents should be considered as an optional upgrade.

General Comments About The Underbuilding Crawl Space

All of the visible structural elements, systems and components in the underbuilding crawl space were in generally acceptable condition and were performing as would be expected for a dwelling of this age and type of construction.

Wall Framing

The wall framing was nowhere visible, however no symptoms of non-performance were evident.

Roof Sheathing

The roof sheathing, where visible, was in acceptable condition.

Rafters

The original framing was in acceptable condition, although the rafters, which are the members that support the roof sheathing, did not conform to present standards. No adverse conditions were noted and no action was indicated.

Collar Ties

The original collar ties, which are structural members connecting opposing rafters in a pair and are significant elements of the roof system, were properly installed and were in acceptable condition.

Purlins

Several purlins, which are the members, perpendicular to the rafters, whose function it is to provide mid-span support, were performing adequately.

Ceiling Joists

The visible ceiling joists, which are the structural members which support the finished ceiling and often serve as an important component of the roof structure, were generally properly installed and in acceptable condition.

Seismic Considerations

The roof/wall joints did not have reinforcing connections. The addition of connective hardware would strengthen the building's resistance to wind or seismic forces, and would be considered a beneficial upgrade.

The wall framing in the garage was not fully visible. Thus, the areas around the garage door opening could not be checked for the presence of seismic braces that would be installed to strengthen the roof structure, above. We recommend consulting an architect or engineer if seismic upgrading is desired.

Summary Comments On The Structure

After careful examination of the visible and readily accessible portions of the structure, we were able to conclude that it was in acceptable condition for its age.

A Registered Structural Engineer should be retained to evaluate the dwelling and determine what seismic retrofit upgrade measures would be necessary and beneficial.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE STRUCTURAL INSPECTION

Usually, Our Evaluation Must Be Based On Symptoms

Most of the time, many, if not all, structural components are inaccessible. Thus, our evaluation is based only on our observations of symptoms of movement, damage, and deterioration. If there are no visible symptoms, conditions requiring repair may go undetected. We make no comment on the internal conditions of soils, foundations and framing, except as reflected in their performance.

Most of the Structure Was Not Visible

Most of the structure of this dwelling was not accessible for a visual inspection. The opinions expressed in this Report on the construction methods and conditions of structural components were, of necessity, based upon limited visual inspection.

A Word About Foundation Cracks

Cracking is common in concrete or masonry foundations. Minor cracks caused by shrinkage and/or settling can be found in even relatively new foundations. Moderate or larger cracks may indicate ongoing settling or movement and the eventual need for underpinning or foundation repair. There is no way to determine if a crack will grow in size or if new cracks will form. Most large cracks were once small. The best way to estimate the likelihood of future movement may be to monitor the number and size of cracks over a period of time.

The Crawl Space Was Entered for Inspection

The crawl space was entered for a closer examination.

Floors Below Grade Can Experience Moisture Intrusion

Floor and wall surfaces below grade are often susceptible to moisture entry and damage, if exterior drainage and grading are not adequate and if the foundation walls are not water resistant and well drained.

Asbestos Information

Asbestos is found on most gas heating systems and components installed before 1978. It may also have been installed in electrical fuse boxes and used as insulation material for pipes (called 'lagging') and heat producing appliances. Exposure to asbestos has been identified as a health hazard and should be avoided. It may be possible to significantly reduce or eliminate the dispersal of asbestos fibers by painting the material with products designed for this purpose. Removal or containment of these materials should only be done by properly trained and equipped professionals. Contractors in various trades such as flooring, roofing, heating, plumbing, or electrical may require asbestos abatement at additional expense prior to performing repairs, replacements, or modifications. For a determination as to the need for, or costs of abatement, a qualified asbestos abatement contractor should be retained. The presence of asbestos can only be determined by laboratory analysis, which is beyond the scope of our inspection. Further information can be obtained from the U.S. Environmental Protection Service at http://www.epa.gov/ttn/atw/hlthef/asbestos.html

Foundation Was Covered By Finished Surfaces

Much of the foundation and wall framing was concealed by finished surfaces. Outward indications of potential concerns with basement level walls were noted, and reportable conditions could be concealed by the surface finishes. Further investigation is optional and would require destructive removal of the finished surfaces.

Access to Some Areas Was Obstructed

Portions of the underbuilding crawl space could not be inspected because access was obstructed by ducting. When access to the obstructed areas is available, the crawl space should be fully and carefully inspected.

Basement Slab Was Concealed by Finished Surfaces

Large portions of the underlying basement floor were concealed by a finished surface and could not be visually inspected.

Floor Drain Outlet Could Not Be Determined

The outlet of the floor drain could not be determined by visual means. The function of the drain could not be evaluated.

Caution About Storing In The Basement

The basement under this dwelling will never be completely dry because of construction methods employed and/or soil conditions. For this reason, we do not recommend storage of valuables or items subject to moisture damage in the basement.

The Rafters Were Not Visible

Some or all of the rafters supporting the roof were not accessible, and thus, were not visible and could not be inspected. No evidence above or below the rafters indicated any adverse conditions.

Ceiling Joists Covered By Insulation

The ceiling joists were concealed by thermal insulation and could not be visually inspected.

Bracing Panel Upgrade Information

The installation of bracing panels (often referred to as "shear paneling") on wall framing provides earthquake and wind resistance. It is typically used on the walls between the foundation and floor framing and around garage door openings. The panels should be nailed at all edges and at the intermediate members. It may be necessary to add blocks between the vertical studs to get bearing on all edges of the panels. Minimum nail spacing is usually 6 inches and engineers often recommend nailing at 3 or 4 inches for greater strength. Ventilation should be provided in each stud space when shear paneling is added to the inside of exterior subarea walls. Ventilation is usually provided by drilling 2-inch diameter holes in the panels at the top and bottom of each stud bay.

Building Exterior & Site

DESCRIPTIVE INFORMATION

Lot Topography:	• Moderately sloped
Site Gradient:	• Slopes moderately from the front to the rear of the house
Driveway Surface:	• Concrete
Walkway Surface:	• Concrete
Walkway Surface:	• Brick
Patio Surface:	• Brick
Primary Exterior Cladding:	• Stucco applied over wood frame
Secondary Exterior Cladding:	• Brick veneer
Secondary Exterior Cladding:	• Wood siding
Exterior Window Material:	• Anodized aluminum frame
Number/Type of Garage Door:	• One roll-up "Overhead" type door

OBSERVATIONS & RECOMMENDATIONS

Grading and Drainage

Grading at the front sloped toward the foundation. This condition promotes water accumulation at the building, which could result in deterioration of the foundation and water penetration into the basement or crawl space. This condition should be **monitored**, as outlined in our recommendations at the beginning of this report.

The existing surface drainage system at the front and along the right side was insufficient. We recommend that the system be evaluated, and improved or upgraded. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

A surface drainage system should be designed to collect and divert roof runoff and other surface water. It is typically installed in solid pipe and flows continuously downhill to a point of discharge.

Clay drain tile was still in use on this property. This material tends to break down over time and its performance becomes less than reliable. We recommend upgrading to a more reliable drain material. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Downspouts

The downspouts were properly installed and in acceptable condition, with exceptions noted.

The majority of the downspouts terminated in subsurface drain lines. Thus, it could not be determined if they were functioning properly.

A downspout at the front right (garage) was rusted through and was non-functional. The downspout should be repaired or replaced. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.

One of the downspouts at the front left overflowed at its rain drain connection, indicating that the rain drain was either clogged, broken or not connected to the rest of the rain drain system. This deficiency should be identified and repaired. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Walkways

Significant cracks were visible at the right side, although no noticeable vertical displacement was apparent at the time of this inspection. Because these conditions can eventually present a significant trip hazard, we recommend repair or replacement of the damaged sections of the sidewalk by a competent flatwork contractor. At a minimum,

the cracks should be sealed and monitored in the near future according to the guidelines set forth at the beginning of this report. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Fences, Gates & Other Structures

The fences were not inspected and are not included in this report.

Wooden fences have a finite service life. Maintaining the bases of the fence posts free and clear of rotting leaves, and occasional treatment of the entire fence with a wood preservative, exterior stain or paint will help slow deterioration and prolong service life.

Wood Siding

Portions of the siding on the dwelling were split, checked and/or cupped because of exposure. Seriously damaged sections of the siding should be refinished to restore their appearance and extend the dependable life of the surfaces. If scraping and wire brushing is necessary to prepare the surfaces for refinishing leaves deep scratches or if it erodes the siding, replacement may be necessary. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.

As a part of routine maintenance, we recommend that all gaps around windows, doors and other penetrations, as well as any open joints in the exterior cladding be caulked to seal against moisture entry. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Vegetation Considerations

A tree was touching, or nearly touching, the dwelling at the front left. Nearby trees, when bent by the wind, can contact the building and often will cause significant and costly damage to exterior surfaces and features, and in extreme cases, to the structure. To reduce this potential for damage, the tree should be trimmed or removed, or the building should be modified to accommodate the extreme range of movement of the tree. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Exterior Trim

The exterior trim was generally in acceptable condition, with exceptions noted.

Visible staining was observed where some of the joints in the exterior window sills were open at the rear. We recommend tightening joints and caulking and sealing to help prevent moisture penetration and damage to the trim or internal building components, followed by repainting as needed for a like new, finished appearance. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Fascia

Portions of the fascia (boards nailed across the ends of the rafters at the eaves) were weathered and blistered, or peeling paint was observed. This condition will require surface preparation and refinishing in the course of property maintenance to restore surface appearance and extend the service life of the fascia materials. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Eaves and Soffits

The eaves or overhangs are comprised of those portions of the roof that extend beyond the exterior walls. The eaves protect the siding, windows and doors from the deteriorating effects of direct rain and sun exposure.

The eaves and overhangs were generally in acceptable condition, with exceptions noted.

Mildew was observed on the underside of the roof eaves in several locations. No problems were noted from this condition as mildew is common in areas with minimal air circulation. If desired, the mildew can be scrubbed off and painted over. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

No flashings were installed around the newer windows, where they should have been installed to prevent water penetration. Proper flashings should be installed in conformance with standard trade practices to reduce the potential for water penetration and damage to structural elements and interior finishes. This

condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.

Paint and Stain

Peeling paint was observed in several locations around the dwelling. Peeling paint usually suggests improper preparation for painting or moisture-related conditions. We recommend immediate, thorough scraping, sanding, caulking, and priming prior to application of a high quality exterior finish in accordance with the manufacturer's directions. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.

Exterior finishes were significantly weathered, particularly on the south and/or west exposures. To improve appearance and maximize the effective life of the surfaces, the most weathered elements of the exterior should be repainted, or re-stained soon, after being carefully prepared in conformance with the paint/stain manufacturer's instructions.

Stucco

Moderate sized cracks of the type that can cause deterioration of the stucco and underlying building elements were observed in the stucco. Cracks should be patched and sealed soon, or in preparation for the next painting, if it will be done soon. We recommend the use of flexible patching materials rather than rigid cementitious patching compounds. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Cracked stucco was evident in several locations around the dwelling, possibly indicating structural movement. The cracked surfaces can be patched, but if the movement in the structure is not addressed, the cracks are likely to return and/or become more noticeable. If the cracks return, then we recommend examination and review by a structural specialist such as a structural engineer competent in the field of light construction.

A pest control firm apparently has made test openings into the stucco, to determine if there is damage to the framing behind the stucco. We recommend a pest control firm be consulted to determine the extent of any damage behind the stucco.

Masonry Walls

The brick was a veneer on the basic wood frame building. Small cracks were observed in the brickwork, but this type of cracking is fairly typical and not a structural concern.

The edges of the masonry veneer should be caulked to prevent moisture infiltration. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Exterior Doors

The exterior doors were generally in acceptable condition, with exceptions noted.

The base of the lower rear right door was becoming damaged, primarily along the bottom, presumably by the weather. Continued deterioration could eventually affect its performance. The damaged door should be repaired in conformance with standard trade practices. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The front walkway gate opened over several steps down. We recommend either the gate be modified to swing in the other direction or that a platform be built that is level with the walking surface. This configuration is potentially dangerous and could lead to a fall if someone passes through the gate and is unaware of the drop-off. A warning sign should be placed on the gate until it can be modified. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Exterior Windows

The design of the replacement windows on this dwelling depended upon a seal between the edge of the window and the surrounding wall cladding to keep moisture from penetrating the wall cavity. We recommend monitoring the condition of the seal between the two different materials and maintaining it through application of an appropriate exterior caulking material to ensure a weather tight seal between the windows and the exterior cladding. This condition should be monitored, as outlined in our recommendations at the beginning of this report.

Glass & Glazing

Because it is harder to break and less likely to cause injury if broken, safety glass is now required in certain specified locations. These include, but are not limited to, all door glass, and fixed and operable glass adjacent to doors and stair landings; enclosures for showers, hot tubs, saunas, steam rooms, and bathtubs; most large windows, and windows near doors and floors.

The window glass at several locations did not display markings indicating that it was safety glass. Due to the locations of the windows, upgrading the current glass with safety glazing should be considered. Safety glazing should be installed by a competent glass technician in all locations where currently required. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Patio

The patio at the front was in acceptable condition. The patio had settled, causing it to become somewhat uneven. However, in this case, the movement had not been significant, and, in our opinion, the patio, overall, remained in acceptable condition.

Porches

The porch and stairs at the right side had settled, causing it to pull away from the face of the structure. The movement had been significant, yet the porch and stairs, overall, remained in acceptable condition.

The gap between the edge of the porch and the dwelling foundation should be sealed with an appropriate sealant or caulking material by a licensed contractor to prevent water intrusion in this area. Water stains were observed on the wood framing below, but no damage to the framing was observed. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Exterior Stairs

The right side exterior stairs were generally in acceptable condition, with exceptions noted.

The joint between the concrete stairs and stucco sidewall of the building was also open, allowing water to enter. We recommend this joint also be kept well sealed against water entry. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Exterior Railings

The exterior railings were generally in acceptable condition, with exceptions noted.

The guardrail at the right side was hazardous in that it would allow small children to climb, or fall through. We recommend modification of the guardrail to conform to current standard trade practices to eliminate safety hazards, especially for children. We consider this condition to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.

General Comments about the Exterior

Numerous areas were observed where significant lapses in maintenance were evident. The condition of the exterior may be an indication of significant underlying structural or systemic concerns.

The exterior was generally in acceptable condition, but isolated areas where evidence commonly associated with wood destroying organism activity were observed. We recommend review of a current pest control operator's report, if available, to determine what action might be appropriate. If no current report is available, a report should be ordered from a competent, licensed pest control operator.

Garage Structure

The garage framing was not visible. The area around the garage door opening is generally the most vulnerable to movement, but no adverse conditions were noted

Garage Vehicle Doors

The garage door was operated and was in generally acceptable condition.

Garage Door Openers

The garage door opener was fully functional including the automatic stop and reverse, which functioned both when

meeting resistance and when the floor beam was interrupted.

The light-actuated safety beam for the garage door opener was not installed properly to direct its beam across the door opening not more than six inches (6") above the floor. We recommend re-installation, repair or replacement of the safety beam, as appropriate, by a competent garage door opener mechanic to restore its proper function. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The door opener could only be operated with the remote. We recommend the manual button be repaired or replaced by a licensed garage door contractor for convenience and safety. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Garage Floor

The garage floor was a concrete slab.

Minor cracking was evident in the floor slab, but no noticeable vertical displacement of the slab was observed. No action is indicated.

Garage Ceiling & Walls

The rear wall of the garage was noticeably damaged. We recommend repair as appropriate (see following). We consider this condition to be **urgent**. It calls for an immediate response as directed in our recommendations at the beginning of this report.

Fire Separation between the House and the Garage

A void was evident in the fire resistive barrier between the garage and the interior. We recommend that the void be patched to restore the required fire separation between the garage and the occupied interior. Also, the access hatch to the attic was not fire-rated. This condition could lead to a more rapid spread of smoke and flames in a fire and is not permitted in modern construction. We strongly recommend covering the access into the attic with a fire resistant material in accordance with present standards. We consider these conditions to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE EXTERIOR INSPECTION

Safety Glass Labeling

Generally speaking, all safety glass should be labeled using either an etching or ceramic-blasting method to produce a permanent emblem in the surface of the glass that must remain visible after it has been installed. During our inspection, we will look for the emblem as evidence that the glass is, indeed, safety glass. However, industry standards do allow for installation of safety glass that does not display the specified emblem, under certain circumstances.

Nevertheless, our policy is to hold to the conservative view that, if no emblem can be found that confirms that a light of glass is, in fact, safety glass, then we will NOT assume that it is.

Finally, experts on the subject of safety glazing advise that the only conclusive way to determine once and for all that a specific piece of glass is safety glass is to break it. Clearly, destructive testing is well outside the scope of nationally recognized standards for a home inspection.

Keeping Door Edges Sealed

If an exterior door is cut, planed, or sanded, it is important to seal all raw wood to help prevent swelling and deterioration that might result from moisture penetration. This includes both sides and all four edges. It is particularly important to seal the tops and bottoms of exterior doors, because this is where the end-grain of the wood is exposed. These surfaces are often not sealed because they are difficult for the painter to get to, and they are not visible. It is through the end grain that wood takes on 85-90% of its moisture, resulting in swollen and sticking doors.

"Trip Hazard" Defined

Many public works departments and legal decisions have defined a trip hazard as an irregularity in a walking surface exceeding 3/4-inch in height. All walking surfaces should be maintained free of vertical differentials of one-half of an inch, or more, in the interest of preventing personal injury.

Wildland-Urban Interface Fire Protection

The likely location of this building in a "wildland-urban interface" may make it vulnerable to damage from a fire approaching from the surrounding area. We recommend an area around the building be kept thinned of vegetation or cleared as a fuel break, to provide additional fire protection. The local Fire Marshall should be contacted for their recommendations. Many states and most cities and counties now have designated fire zones that require specific fire resistant building surfaces and combustible materials clearances around all buildings.

Upper Levels of the Exterior Were Too High To Inspect

Because of their height above ground, upper-level exterior surfaces and details of the cladding were physically and visually inaccessible for thorough review. For this reason, reportable conditions may exist which could not be observed.

Inspect Stucco Below Grade Periodically

Stucco extended over the foundations below the finished grade. This configuration was accepted practice when installed, but has proved to promote infestation by wood destroying organisms. We recommend periodic inspections for wood destroying organisms.

No Head Flashings; Maintain Caulking

The tops of the window and door trim pieces lacked "head flashings." Although this may be an accepted practice in some areas of the country, it could be a source of water penetration if joints between the frames and the exterior walls are not properly caulked and sealed and maintained on a regular basis. If leaks develop, installation of head flashings should be considered.

Possible Concealed Damage

Where we have noted conditions related to deterioration, water damage or moisture penetration, experience has shown that concealed damage may exist. The scope of such damage, which was hidden from our view by finished surfaces, will not be fully realized until repairs or further, possibly invasive, inspection is performed. Since our inspection is visual only, we can not be responsible for identification of damage that was concealed during our inspection.

Membrane Under Stucco Was Not Visible

The substrate under stucco surfaces is always vulnerable to water damage if any flaws develop in the underlying waterproof membrane. Because this membrane is never visible, it can not be inspected in the course of a standard home inspection, and thus, its proper installation can not be verified.

Masonry Walls Were A Veneer

The masonry walls were a veneer over conventional wood frame construction. The masonry was not a structural element of the building. Masonry veneer is often used for its architectural and aesthetic appeal as well as its durability and low maintenance requirements.

Roof System

DESCRIPTIVE INFORMATION

Roof Coverage Area:	• The entire dwelling, including the attached garage
Slope, or Pitch, of the Roof:	• Steep
Roof Covering Material:	• Heavy cedar shakes
Number of Layers:	• One
Estimated Age of Covering:	• More than 35 years
Valleys Were Flashed With:	• Sheet metal
Edges/Sides Flashed With:	• Sheet metal or copper
Penetrations Sealed With:	• Sheet metal or copper
Roof Drainage System:	• Gutters and downspouts
Method of Inspection:	• Inspected from the edge of the surfaces

OBSERVATIONS & RECOMMENDATIONS

Wood Shake Surface

Many shakes on this roof had curled because of prolonged exposure to the elements and inherent weakness in those particular shakes. A significant number of loose and missing shakes were evident on the ridge and throughout the field on this roof.

A significant number of cracked and/or deteriorated shakes were evident on the ridge and throughout the field on the roof.

The shakes covering this roof were weather damaged and generally deteriorated.

Many of the ridge cap shakes were missing or worn and/or deteriorated.

The lacing felt, or "tar paper", underlayment (shake liner) was exposed and "burned through" in a number of places on the roof.

Moss was growing on the roof surfaces in most places. Moss should be removed periodically as part of routine roof maintenance. Moss will trap moisture that can damage the roofing material and allow water to flow up or beneath the roof surface. Substantial moss growth can be removed by a company that specializes in cleaning roofs. Attaching bare copper wire on top of the roof, at the upper portion of the roof areas, also may help to retard moss growth.

All debris should be removed periodically from the roof surface so as to aid the performance of the roof covering and/or enhance the appearance of the dwelling.

In our opinion, this roof was no longer reliable, and one should plan for its replacement. We recommend consultation with one or more competent, licensed roofing contractors for advice and cost estimates. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.

Flashings

Some of the flashings were damaged and/or corroded. The damaged flashings should be replaced. For longer-term service life, all exposed roof flashings should be sealed and painted in accordance with industry standards. New flashings should be installed when the roof is replaced. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Valley Flashings

A valley flashing at the front roof was filled with debris and likely corroded. All of the debris should be removed

immediately to ensure proper drainage, and then these critical areas should be kept clear to reduce the potential for back ups and subsequent water penetration into the dwelling. For longer-term service life, all exposed roof flashings should be sealed and painted in accordance with industry standards. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Gutters/Roof Drains

Roof runoff water was collected and channeled to the downspouts by wooden gutters attached to the fascia boards, or directly on the ends of the rafters, along the edge of the roof.

Several sections of the gutters were damaged. All damaged gutters should be repaired, if feasible, or replaced, if not, with new material installed in strict accordance with the manufacturer's installation instructions and accepted trade practice.

The gutters were leaking at several of the joints. All leaking joints should be resealed to restore watertight performance through their entire length. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The wooden gutters were rotting, split, leaking, and were not repairable. This condition indicated that the gutters had reached the end of their service life. We recommend the installation of new gutters. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.

Chimney

The chimney was in acceptable condition. However, the spark arrestor was not removed for an examination of the interior of the chimney.

Minor cracks were visible in the chimney mortar and masonry. In our opinion, these were cosmetic items, but they should be monitored for changes or deterioration.

Appliance Vents

The appliance vents were properly installed and in acceptable condition, with exceptions noted.

The flue cap was missing. The missing flue cap should be replaced with a new cap of exactly the same brand and type, installed by a competent, licensed heating or plumbing contractor. This is necessary to keep out rain and debris.

Plumbing Vents

The plumbing vents were in acceptable condition.

Vegetation Considerations

Debris from overhanging trees has dropped onto the roof. This debris blocks roof drainage, gutters and downspouts. Existing debris should be cleared and the roof kept clear of debris in the future to reduce the potential for damage to the roof, accumulation of water on the roof surface and water damage to exterior and interior elements of the building.

Branches from trees near the building were overhanging the roof. Nearby trees should be trimmed to avoid damage to the roof surface and obstruction of roof runoff. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

General Commentary on the Roof

After careful examination of the roof covering on this dwelling, the conditions which we have noted in this report have lead us to the conclusion that the present roof covering has reached the end of its service life. We recommend making provisions for its immediate replacement.

For attention to the items noted above, we recommend the advice and services of a competent, licensed roofing contractor.

Attic Access Entry Information

The attic was accessible through a door or removable panel located in the wall of the upper right side bedroom closet.

Additional attic accesses were located in the ceiling of the master bedroom closet and the garage.

To prevent damage to ceilings below, our inspection of the attic was limited to a visual examination from the various access openings. Thus, portions of the attic were not visually accessible for inspection.

Evidence of Moisture in the Attic

Evidence of past leakage was observed during this inspection. In our opinion, leaks could still exist in one or more areas. If the roof is not immediately replaced, we recommend water testing of all questionable areas and/or further investigation by a competent, licensed roofing contractor.

Attic Ventilation

The attic was only minimally ventilated. Adequate attic ventilation is particularly important in a well-insulated attic or where additional attic insulation will be installed. We recommend the installation of additional ventilation, if additional insulation is going to be installed.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE ROOF SYSTEM INSPECTION

We Cannot Guaranty a Leak-free Roof

Our comments do not constitute a warranty that the roof is free of leaks, or will remain free of leaks.

The Benefits of Cleaning the Gutters Regularly

All gutter systems should be monitored on a regular basis and be cleaned out whenever debris has accumulated. Regular and conscientious cleaning will prevent clogging of the downspouts and potentially damaging overflow.

All Roofs Should Have a Periodic "Checkup"

All roof systems require annual (or even more frequent) maintenance. Failure to perform routine roof maintenance will usually result in leaks and accelerated deterioration of the roof covering and flashings. Any estimate of remaining life expectancy must be based upon the assumption that the roof will receive conscientious periodic maintenance.

The Roof Was Too Steep to Safely Walk

The steep pitch, or slope, of the roof on this dwelling rendered a physical inspection from the surface hazardous. The comments in this report, therefore, are based upon limited visual observations.

In our opinion, this roof was no longer reliable, and one should plan for its replacement in the very near future. We recommend consultation with one or more competent, licensed roofing contractors for advice and cost estimates.

Felt Lacing; A Critical Part of a Shake Roof

It is extremely important to understand that in a cedar shake roof, it is the felt lacing (shake liner) that does the all-important job of shedding the water. The shakes are only used to protect the lacing from the harmful effects of the sun's rays – and for decoration.

For this reason, proper placement of the lacing during installation and later maintenance of the protective shake "cover" has a tremendous influence upon the longevity of the roof covering.

Tops of Tall Chimney Flues Could Not Be Inspected

The interiors of the tall chimneys could not be inspected from their tops. Climbing tall chimneys is not within the scope of a home inspection. If desired, evaluation by a specialist with proper equipment is possible.

Insulation Covered Portions of the Roof Framing

Insulation concealed portions of the framing, limiting access and preventing a complete inspection. However, our examination of the visible and readily accessible components did not reveal any conditions requiring immediate attention.

Plumbing System

DESCRIPTIVE INFORMATION

Domestic Water Source: • Municipal/Community supply
Landscape Water Source: • Public, same as domestic water source
Main Supply Line Material: • Copper, where visible
Supply Piping Material: • Copper, where visible
Water Pressure: • At the low range of normal
Waste Disposal: • Municipal/Community collection system
D,W,V Pipe Material: • Cast iron • Galvanized steel pipe with Durham fittings

OBSERVATIONS & RECOMMENDATIONS

Water Shut Off Valve Condition

The main water supply shut-off valve was located, but testing the operation of this valve is not within the scope of a home inspection. Operation of the valve from time to time will keep it functional and maximize its useful life.

Interior Water Supply Piping

The visible portions of the exposed and accessible supply piping generally were in acceptable condition.

Water Pressure

Functional flow of water at the fixtures on the highest level was judged to be minimal, yet adequate. Several fixtures were operated simultaneously. Minor changes in flow, when other fixtures are turned on or turned off, are considered normal.

System pressure, as judged by the flow from the fixtures at the highest level in the dwelling, was low. The pressure reducing valve may be obstructed or out of adjustment. The valve should be cleaned and/or adjusted to deliver water at 60-70 psi, if possible. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Pressure Regulator

A pressure regulating valve (PRV) located near the main water supply shutoff, not only controlled the water pressure for this dwelling, but it also acted as a check valve, making the supply system effectively a closed circuit. Since thermal expansion occurs when water is heated, it increases pressure in the closed system. The repeated expansion and contraction from this pressure fluctuation may adversely affect the water heater vessel by causing unnecessary metal fatigue. As an upgrade, we recommend the installation of an expansion tank to alleviate this wear and tear. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Sewer Cleanout Locations

A cleanout for the dwelling sewer system was located in the basement laundry area.

Drain & Waste Lines

The visible drain & waste piping was in acceptable condition.

Vent Lines

The visible portions of the vent piping for the dwelling were in acceptable condition.

Gas Meter Installation

The condition and placement of the gas meter were acceptable at the time of this inspection.

A meter wrench could not be located in the vicinity of the gas meter as recommended in areas subject to seismic

activity. A proper wrench should be chained to the meter to provide a convenient means for shutoff in an emergency. The valve can be turned 90 degrees in either direction to shut the gas supply off. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The gas meter was beneath the building. We recommend it be relocated outside from beneath the building for seismic safety. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Gas Piping

The gas piping was in acceptable condition. No evidence of leakage was detected at any of the exposed gas piping. Pressure testing may reveal leaks, but this procedure would be considered beyond the scope of a home inspection.

Fixtures: Overall

The plumbing fixtures were operating and were in satisfactory condition. Routine maintenance should keep them functional and maximize their useful life.

Many of the plumbing fixtures were old, probably dating from the initial construction of the dwelling. Current deficiencies have been noted in this report. The need for repair or replacement of these or other fixtures should be anticipated in the near future.

General Comments About The Plumbing System

The plumbing system was in satisfactory condition and was functioning as designed and intended.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE PLUMBING INSPECTION

For Water Quality Questions, Ask The Supplier

For information concerning water quality, we suggest contacting the municipality or utility company that provides water to this property.

Challenges Presented by Older Sewage Systems

Many buildings, especially those 50 years and older, often experience partially blocked, damaged, or worn out main sewer (sewer lateral) piping. (The sewer lateral is the underground piping that connects the waste lines from the building to the sanitary district's sewer lines, often located in the street.) Older sewer pipes often require annual cleaning and clearing of roots or other obstructions, as part of routine maintenance. Clay tile piping was used in many older waste systems between the building and the main sewer. Clay pipes are easily damaged and can be blocked by tree roots, or may crack from soil movement, causing sewage to back up into interior plumbing fixtures. If possible, we recommend inquiring as to any history of clogged drains. No matter what, eventual replacement of old sewer piping should be anticipated. Many local jurisdictions are now requiring the sewer lateral be examined or tested to determine if there are any breaks or openings in the piping. This examination is well advised for buildings constructed before 1950, or when blockage has been disclosed or is known, and when recent repairs or replacement cannot be documented.

No Automatic Gas Shut-off for Seismic Events

The meter was not equipped with an automatic seismic shutoff valve. If desired, a contractor could be retained to install such a shutoff to help prevent gas leakage in the event of an earthquake.

Copper Water Lines

Copper is generally considered a very desirable type of piping because it is less susceptible to corrosion and could be expected to last the lifetime of the building.

The Main Water Supply Piping Was Not Accessible

The main supply piping was inaccessible and was not inspected.

We Recommend A Video Exam of The Main Drain

It was impossible to determine the condition of the main (building) drain pipe between the house and street during

this inspection, because it was buried in the yard and not visible. The only practical way to determine the condition of the building drain pipe (often called the "sewer lateral") is to have a drain cleaning company send a 'video cam' unit through the entire length of the pipe and create a video picture of the interior of the pipe. The cost for this service is generally under $300.

We believe you would agree with us that such a service could well be worth the relatively small cost of this "insurance" against the possibility of having to pay for total replacement of the sewer lateral. Thus, we recommend that you engage a reputable company to provide this service.

Water Heater

DESCRIPTIVE INFORMATION

Water Heater Location: • In the laundry area
Energy Source: • Natural Gas
Storage Capacity: • 50 Gallons
Water Heater Age: • One year, from Serial Number
Water Heater Configuration: • Free standing tank
Vessel Insulation: • Manufactured with insulation

OBSERVATIONS & RECOMMENDATIONS

Water Connections

The cold water inlet and hot water outlet connections were properly installed and in acceptable condition.

Temperature and Pressure Relief Valve

The water heater installation included a temperature and pressure relief valve. This device is an important safety feature and should not be altered or tampered with. No adverse conditions were observed.

Water Heater Gas Supply

The gas supply piping included a 90-degree shutoff valve in the vicinity of the heater for service personnel and emergency use. The valve was not operated, but this age and style of valve is normally found to be operable by hand and generally trouble free.

The flexible gas connector was too short, making it stretched too tight. This condition may lead to rupture and fire during an earthquake. We recommend the present connector be replaced by a longer one, in accordance with accepted trade practice. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.

Water Heater Combustion Air Supply

Combustion air provides the oxygen needed for the safe and efficient operation of fuel burning appliances. An adequate supply of fresh air around all fuel burning appliances with open combustion compartments is vital for their safe operation. Years ago, the air could come from inside or outside the building, however, more recent standards prefer for combustion air to come from the outside, only.

Lint from the nearby clothes dryer was already accumulating at the combustion air screen at the base of the water heater. This can prevent proper combustion of gas, which may result in improper operation, or the generation of carbon monoxide in extreme cases. The water heater will require more than routine maintenance to ensure safe operation and a longer service life. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Water Heater Ignition System

The pilot light was controlled by a thermocouple, which ensures that the pilot gas valve will close, if the pilot light is extinguished. This system was in acceptable condition.

The Water Heater Venting System

The water heater vent was properly installed and was in acceptable condition, with exceptions noted.

The draft hood was not secured to the top of the water tank jacket as is required by all manufactures' installation instructions. We recommend it be properly secured. This condition can be addressed during

routine property maintenance. See our recommendations at the beginning of this report.

Seismic Restraint For The Water Heater

The seismic restraint for the water heater tank had been installed in a nonprofessional manner. The lack of proper restraint could result in unnecessary damage in the event of a major earthquake. We recommend immediate installation of proper restraint in accordance with current industry standards, local trade practice and applicable jurisdictional requirements. We consider this condition to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.

The California Office of the Division of the State Architect has published standards with which all gas fired water heater installations in the state must comply when dwellings are sold or transferred. These standards require at least two restraints on every tank provided by either approved metal strap or electrical conduit. According to these standards, the upper strap shall be located 9" down from the top and the lower strap approximately 4" above the gas control valve. If the heater is larger than 52 gallons, then additional straps are required. We recommend immediate installation of proper restraint in accordance with current industry standards, local trade practice and the requirements stated above.

General Comments About The Water Heater

This was a newer water heater, which was operating satisfactorily. With routine maintenance, it should be reliable for a number of years.

The water heater in this home was gas fired. We recommend the installation of one or more Underwriters Laboratory Listed Carbon Monoxide detectors in appropriate locations to monitor the indoor air.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE WATER HEATER INSPECTION

Valves Were Not Operated

Valves may leak when operated after a period of inactivity. For this reason, they were not tested during the home inspection.

The Benefits of Periodic Purging of The Tank

Draining a few gallons of water from the tank periodically to flush the sludge from the bottom is recommended by all water heater manufactures. However, water heater drain valves often become encrusted with deposits and may not completely close as the unit gets older. Therefore, unless the water heater is flushed regularly from the time it is new, operation of the drain valve is not recommended except in an emergency or when the unit is replaced.

FVIR Water Heater

The water heater is a newer design water heater that is known as a Flammable Vapor Ignition Resistant (FVIR) type. This represents newer technology that is intended to reduce the potential problem of flammable vapor ignition, especially when water heaters are located in garages or rooms with a direct connection to garages. They are designed to prevent the ignition of flammable vapors outside the water heater caused by spillage of flammable liquids onto the floor. Generally, this allows the water heater to be installed on the floor of the garage (or room), instead of being elevated on a platform. Some water heaters with this device may still require elevation, and the local building department or manufacturer should be consulted if there is any question.

Newer Water Heaters Don't Need Blankets

No insulation blanket was installed, however, newer water heaters have built-in insulation to meet rigorous conservation standards. Installation of a blanket can be done but offers very little improvement on the existing efficiency of the unit.

An Expansion Tank Would Be A Beneficial Upgrade

A pressure regulating valve (PRV) located near the main water supply shutoff, not only controlled the water pressure for this dwelling, but it also acted as a check valve, making the supply system effectively a closed circuit. Since thermal expansion occurs when water is heated, it increases pressure in the closed system. The repeated expansion and contraction from this pressure fluctuation may adversely affect the water heater vessel by causing

unnecessary metal fatigue. As an upgrade, we recommend the installation of an expansion tank to alleviate this wear and tear.

Electrical System

DESCRIPTIVE INFORMATION

Service Entry Type:	• Overhead drop
Electric Meter Location:	• On the right side of the dwelling, when facing it from the street
Service Voltage Supplied:	• 120-240
System Amperage Capacity:	• 100
Based Upon:	• The rated capacity of the main circuit breaker
System Grounding Source:	• Water supply piping
Circuit Protection:	• A combination of circuit breakers and fuses
Conductor Material:	• A combination of copper and aluminum
Wiring Type:	• Non-metallic sheathed cable ("Romex") • Flexible metallic sheathed ("Armored") cable • Knob and tube • Individual insulated conductors in rigid conduit

OBSERVATIONS & RECOMMENDATIONS

Electrical Service Drop – The Overhead Electrical Supply

The service drop was in acceptable condition.

Electric Meter Condition

The electric meter installation was in satisfactory condition. No need for immediate attention was evident.

Electrical Service Capacity – How Much Power Can We Draw?

The service capacity was adequate for the existing demand, but may require upgrading if remodeling and/or changes in patterns of use increase demand.

The Main Disconnect

The function of the main disconnect was provided by a two-pole circuit breaker mounted in the main distribution panel. The breaker appeared to be in good condition, although it was not tested during this inspection.

The Main Distribution Panel

The circuitry in the main service panel was partially labeled. Each circuit should be identified, allowing individuals unfamiliar with the equipment to properly operate it, if necessary. When the opportunity arises, we recommend accurately labeling the circuits by actually operating the breakers. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

There was insufficient clearance, or an uneven surface, in front of the panel for convenient and safe access. To insure safety, most jurisdictions require at least 36 inches of clear, level space in front of the panel for an area that is 30 inches in width, extending from the floor or ground upward. We recommend that adequate clearance be provided.

The main distribution panel was in acceptable condition with circuitry installed and protected correctly for the period when it was installed. The service panel would not meet current requirements, but upgrading is not required and would usually only be considered along with other improvements.

Service Grounding

The grounding system appears outdated and may not function effectively in some situations. While this is consistent with building practices at the time the home was built, we recommend a driven grounding rod be installed to upgrade the main panel grounding for increased safety. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The electrical system in this dwelling was bonded to the water supply piping in the plumbing system on the discharge side of the Pressure Regulator Valve (PRV); however, there was no grounding "bridge" or "jumper" wire installed across the PRV for electrical safety. We recommend that such a bridge be installed. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Branch Circuitry

Accessible branch circuitry was examined and was in acceptable condition.

Electrical Conductor Material – The "Wire"

The conductor material in accessible branch circuit wiring was all copper.

Subpanel

An additional Distribution Panel, or subpanel, was located in the kitchen hall.

Only some of the circuits in the subpanel were labeled. The accuracy of the labeling was not verified. When the opportunity arises, we recommend labeling of the balance of the breakers and verifying the accuracy of the existing labeling by actually operating the breakers. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The "feeder" wire to the subpanel was the older three-conductor type. Modern feeder wires also include a fourth, or equipment ground wire, and this may need to be upgraded when modifications are made to the electrical system.

We did not remove the cover to the subpanel. There was overfusing in this panel, as at least one fuse was rated for 30-amps of current. The older circuits within this panel are most likely convenience circuits for receptacles and lighting, with wiring that can support only 20-amps or, most likely, no more than 15-amps of current. We recommend proper fuses be installed by a qualified electrician, or the panel be replaced with a newer circuit breaker panel.

Knob & Tube Wiring

The knob and tube circuits were in acceptable condition, considering the age of the system components, but were ungrounded. We recommend replacement of the knob and tube wiring, as upgrades and maintenance projects are undertaken.

Knob and tube wiring in the attic was covered with insulation. Knob and tube wiring is designed to be installed in the open and may be subject to overheating when covered with insulation. We recommend removal of the insulation over the wiring or replacement of the knob and tube wiring with modern wiring.

Electrical Receptacles

Based upon the inspection of a representative number, the receptacles were generally properly grounded and in acceptable condition, with exceptions noted.

Receptacles checked were in acceptable condition, but were not grounded, as is typical in older homes. For maximum personal safety, kitchen, bathroom, garage, and exterior receptacles should be upgraded by providing each with Ground Fault Circuit Interrupt protection. The remaining receptacles need not be grounded unless grounding is required to meet a specific need.

Only a minimal number of receptacles were present in this dwelling. Although there is no requirement for upgrading, we recommend installation of additional circuits and receptacles as an upgrade to adequately meet the needs of modern appliances.

One receptacle in the garage was three-prong configuration and was not grounded. All ungrounded receptacles should have a grounding wire added or replaced with a 2-prong receptacle type. It is important to note that surge protection required by sensitive electronic equipment such as TVs and computers require a grounded 3-prong receptacle in order to work properly. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Receptacle adapters – devices that allow a three-prong plug to be inserted into a two-hole receptacle – were in use in this building. Because these devices can lead to damage to appliances or electrical shock, we recommend their removal. This condition can be addressed during **routine** property maintenance. See our recommendations at the

beginning of this report.

Electrical Switches

A representative number of switches were operated and were in acceptable condition.

Electrical Lighting

The light fixtures in this dwelling were generally operational and in acceptable condition, with exceptions noted.

The internal wiring in all older light fixtures should be examined by a competent, licensed electrician and repaired or replaced as necessary to insure safety. Employing light bulbs whose wattage exceeds the rating of the fixture is certain to create higher operating temperatures, which may deteriorate older wiring, thus increasing the possibility of electrical shorts and resulting fires.

The closet lights in several closets were too close to the closet shelves. Light fixtures with bare, incandescent bulbs located close to storage shelves in closets can be fire hazards, and they are no longer allowed in new construction. Uncovered bulbs should be at least 12 inches away from combustible materials. To minimize the threat of fire, one should install a protective cover, or replace the existing fixture with a fluorescent or recessed incandescent fixture, or at the minimum, keep all combustible materials at least 12 inches away from light bulbs. Closets intended to contain light fixtures in new construction should be at least 3 feet deep. Heat sensitive circuit breakers may also be required for recessed fixtures.

One light was not working in the right side bedroom. The bulb in this fixture may have burned out. The bulb should be tested and replaced, if necessary. If the bulb is not burned out, the condition of the fixture and wiring should be verified. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Ground Fault Circuit Protection

No GFCI (ground fault circuit interrupter) protection was provided for the receptacles. GFCI protection should be installed for this area for an increased margin of safety. It may take the form of a GFCI receptacle installed in the outlet box or a GFCI Circuit Breaker installed in the distribution panel from which this circuit is supplied. A competent, licensed electrician should do the installation This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.

Electrical Wiring on the Exterior

Light fixtures were missing at the lower rear exterior doors. Fixtures should be installed for proper lighting in the area. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

General Comments On The Electrical System

The electrical system was generally in acceptable condition, with only a few instances of needed repair or correction observed. See notes above for specific comments. A competent, licensed electrician should examine those portions of the system specified as deficient in this Report, and repair, augment or modify them to insure that the entire system is safe and dependable.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE ELECTRICAL INSPECTION

All Circuits Should Be Labeled

All of the Circuits in electrical panels should be accurately and clearly labeled to allow individuals unfamiliar with the equipment to operate them properly, if necessary. When the opportunity arises, we recommend ensuring that all the circuits are properly labeled.

A Word About Voltage Terms

We use the terms, “120 volts” and “240 volts” throughout the inspection report, as this is the nominal value of the designated voltage class in all nationally recognized standards for both residential and commercial construction. The actual voltage at which circuits operate can vary from the nominal within a range that permits satisfactory

operation of the equipment, again, as defined in nationally recognized standards. This range includes 110 volts and 220 volts, the term you may be most familiar with. In fact, we are both speaking of the same voltage levels and not of a different type of class.

GFCI Protection Explained

GFCI (ground fault circuit interrupter) protection is a modern safety feature designed to help prevent shock hazards. GFCI breakers and receptacles function to de-energize a circuit or a portion of a circuit when a hazardous condition exists. GFCI protection is inexpensive and can provide a substantially increased margin of safety.

A History of GFCI Protection

GFCI (ground fault circuit interrupter) protection was first required by national industry standards for receptacles in the vicinity of Swimming Pools and in exterior locations in 1971. Coverage was extended to bathrooms in 1975, then garages in 1978 and to Spas and Hot Tubs in 1981. Then in 1987 GFCI protection was extended to kitchen receptacles within six feet of the sink, hydro-massage tubs, and unfinished basements. Underbuilding crawl spaces were added in 1990. Wet bars were then added in 1993. Finally, *all* receptacles above *all* kitchen counters were added in 1996. Local jurisdictions may, however, delay in their adoption of national standards by several years.

Cautions Regarding Closet Lights

Light fixtures with bare, incandescent bulbs located close to storage shelves in closets can be fire hazards, and they are no longer allowed in new construction. Uncovered bulbs should be at least 12 inches away from combustible materials. To minimize the threat of fire, one should install a protective cover, or replace the existing fixture with a fluorescent or recessed incandescent fixture, or at the minimum, keep all combustible materials at least 12 inches away from light bulbs. Closets intended to contain light fixtures in new construction should be at least 3 feet deep. Heat sensitive circuit breakers may also be required for recessed fixtures.

Representative Sampling of Outlets

A representative sample of the outlets was tested in each room. Nationally recognized home inspection standards require testing a minimum of one outlet in every room, where accessible.

Replacing Fuses With Circuit Breakers – A Desirable Upgrade

Fuses provided overcurrent protection. If properly sized for each circuit, fuses can provide the necessary protection. However, they are inconvenient and easy to misuse. Upgrading to circuit breaker protective devices should be considered.

Edison Type Fuses Compared to Type-S Fuses

Some or all of the screw-in fuses were the older "Edison" type. Until this panel is replaced, and for maximum safety and reduction of a possible hazard, we recommend replacement of all of the Edison fuses with "Type-S" adapters and fuses to minimize the potential for future mismatching of fuses with their loads.

Overfusing In Older Homes

When overfusing is found in an older home, it is often the result of attempts to achieve performance beyond the system's design limits. With correct fusing, it may be discovered that the existing circuitry is not adequate for a modern household.

"Overfusing" Hazards

Fuses and circuit breakers are rated to allow a specific amount of current in the circuit before tripping or burning out. When the wrong size breaker or fuse is used, there is a potential for the wiring to overheat, creating a fire hazard. For example, a 14-gauge wire is rated to safely draw 15 amps and a 15-amp fuse or circuit breaker on this circuit will blow when overloaded. Using a larger breaker or fuse, such as rated 20 or 30 amps, will not provide adequate protection and is unsafe.

Upgrading to Grounded Receptacles

The electrical system in this dwelling was installed before grounding was incorporated into residential wiring systems. As an upgrade, the replacement of the current two-prong ungrounded receptacles with three-prong properly grounded receptacles, by a competent, licensed electrician would provide an increased margin of safety and increased convenience for the occupants and equipment.

Heating System

DESCRIPTIVE INFORMATION

Heat Plant Location: • In the laundry area
Heating Fuel: • Natural Gas
BTU Input Rating: • 100,000
Heating Plant Age: • Age from Data Plate 10 years
The Air Filter Type: • Electrostatic air cleaner
Number of Zones: • Single Zone system
Attic Insulation Type/R-Value: • 6" Fiberglass, R-19
Wall Insulation Type/R-Value: • None present
Floor Insulation Type/R-Value: • None present

OBSERVATIONS & RECOMMENDATIONS

Forced Hot Air Heating System

Forced air furnaces operate by heating a stream of air moved by a blower through a system of ducts. Important elements of the system include the heat exchanger, exhaust venting, blower, controls, and ducting.

The environment around the furnace was unusually moist, due to the laundry equipment. Because of this high humidity, early replacement is forecast. This condition should be **monitored**, as outlined in our recommendations at the beginning of this report.

The heat exchanger in this furnace was inaccessible and could not be visually examined.

HVAC Electrical

The equipment local disconnect acts as a shut off switch for use in an emergency or while servicing.

The local disconnect was properly installed and in acceptable condition.

Fuel Supply

The gas supply piping installation included a 90-degree shutoff valve in the vicinity of the heating plant for service personnel and emergency use. The valve was not operated, but this age and style of valve is normally found to be operable by hand and generally trouble free.

The gas connector was an approved flexible type in acceptable condition.

Combustion Air

Combustion air provides the oxygen needed for the safe and efficient operation of fuel burning appliances. An adequate supply of fresh air around all fuel burning appliances with open combustion compartments is vital for their safe operation. Years ago, the air could come from inside or outside the building, however, more recent standards prefer for combustion air to come from the outside, only.

The combustion air supply was adequate.

Ignition and Controls

The burner was equipped with an electronic ignition system, which is an energy saving feature that allows operation without the need for a continuously burning pilot light. The ignition system was activated during the inspection and was in acceptable condition.

Exhaust Venting System

The visible sections of the heating plant's venting system were functional and were in acceptable condition.

A PVC plastic pipe extending to the exterior of the building provided the flue for the venting of exhaust gases from the heating plant. This type of venting is common on high-efficiency heating systems.

The furnace was an induced draft, high efficiency, condensing type and is considered to have efficiencies greater than 90%. The increased efficiency creates lower flue temperatures and allows plastic piping to be used in the venting system. There was a condensate pump, with a drainline to the exterior or an approved location, which removes excessive moisture from the furnace vent pipe, due to condensation of combustion products in the vent pipe system. A qualified contractor, as part of routine maintenance, and to insure its proper operation, must periodically examine any installed pump and all drainlines. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The system was equipped with an electrostatic air filter. It can capture dust that may pass through other filters. The filter operated during the inspection. We suggest cleaning the filter elements 2-3 times during each heating season.

The ducts were uninsulated. This will result in a reduction in energy efficiency and unnecessarily higher energy costs. As an upgrade, we recommend insulating the ducts in accordance with present standards.

Several of the ducts, which were visible, were covered with a material whose appearance made it suspect for asbestos. However, the presence of asbestos can never be confirmed visually. A qualified laboratory can only make confirmation through analysis of samples.

Several joints in the ductwork at the left side crawlspace had come apart. This was resulting in a significant waste of energy. We recommend re-securing of all loose joints in the ductwork. This condition can be addressed during routine property maintenance. See our recommendations at the beginning of this report.

System Controls

Activation of the user controls on the thermostat caused the unit to respond.

Keep in mind that this was a programmable device with many options for setback settings, timed events, etc. No attempt was made to test all of the functions of this thermostat.

General Comments About The Heating System

The heating system was in the middle of its expected service life. It responded to normal operating controls and with routine maintenance should be reliable for a number of years.

The furnace was activated, and warm air flowed out of the heat registers. The adequacy of the amount of heat delivered to any given room is quite subjective, and depends upon the occupant's comfort level and how much they want to spend on fuel bills. Therefore, only the people living in the house can make this kind of determination. The registers that control the air flowing into each room do so through adjustable louvers, which can be set to vary the amount of heat that is delivered to each room. However, in some instances, the size of the ductwork may not be sufficient to allow adequate heat to be delivered to a specific room regardless of how the louver in the register is adjusted. This type of determination is obviously beyond the scope of a home inspection.

The heating plant in this home was gas fired. We recommend the installation of one or more Underwriters Laboratory Listed Carbon Monoxide detectors in appropriate locations to monitor the indoor air.

The furnace was located near the laundry equipment. Special care will be necessary to avoid lint accumulation near the furnace. It is especially important to keep fabric and other combustibles well away from the furnace to avoid a potential fire hazard. Detergents and other cleaning agents often found in laundry rooms can shorten the service life of gas-fired appliances. This condition should be **monitored**, as outlined in our recommendations at the beginning of this report.

Energy Conservation Features

None of the glass in the doors in this dwelling was double-pane or insulated glass.

All of the windows in this dwelling were glazed with double-pane or insulated glass units.

The thermostat in this dwelling was a programmable set-back type device.

All of the fireplaces in this dwelling were equipped with chimney dampers or glass doors.

All of the windows that were examined during this inspection were adequately weather-stripped, in our judgment.

All of the toilets in this dwelling were low volume flush units.

Attic Insulation Conditions

Insulation placed above the living spaces in this dwelling generally had been installed properly and was functioning as intended.

Insulation was present in the attic but it did not meet current insulation requirements. As an upgrade, additional insulation could be installed meet current industry standards.

Wall Insulation Conditions

The wall insulation, if present, was not visible, thus it could not be inspected.

Floor Insulation Conditions

Insulation had not been installed beneath the floors, which is a common finding in older homes. While optional, upgrading by installing insulation under the floors would reduce cold air infiltration and make the home more comfortable as well as reducing energy bills.

General Comments on Energy Conservation Features

We found this dwelling to be only partially insulated and only moderately energy efficient. Carefully planned upgrading could further reduce heat loss, cold air infiltration and increase overall energy efficiency.

If enhancing the energy efficiency of the dwelling is of interest, then retaining a qualified energy conservation professional to evaluate the structure and identify the most cost effective manner to increase energy efficiency will be well worth the effort.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE HEATING SYSTEM INSPECTION

Furnace Construction Limits Our Inspection

The nature and configuration of most furnaces, and particularly their heat exchangers, prevents visual access to many critical interior surfaces. In addition, our inspection standards do not allow a home inspector to disassemble a furnace beyond those panels that can be removed by a homeowner. Thus, any observations available to a home inspector will necessarily be limited.

Carbon Monoxide Warning

Carbon monoxide is a colorless, odorless gas. You can't see it. You can't smell it. But it can poison or kill. Early symptoms of carbon monoxide poisoning resemble those of the flu – headache, dizziness and nausea. The after effects can be headache, tiredness, memory impairment, difficulty in concentrating, difficulty in sleeping, and impairment of vision. Continued exposure to high levels of the gas can cause unconsciousness or death. The U.S. Consumer Product Safety Commission (CPSC) estimates that hundreds of people die each year from carbon monoxide poisoning. It is also estimated that thousands of others unknowingly suffer the ill effects of this health hazard in their homes.

One source of carbon monoxide is the incomplete combustion of fuel gasses. Incomplete combustion can be caused by the lack of an adequate supply of combustion air, improper installation of venting systems, clogged vents, improperly sized burner orifices in some cases, unvented gas appliances. Rusted, cracked or damaged furnace heat exchangers can also lead to carbon monoxide production. To prevent unnecessary exposure to carbon monoxide, all fuel burning appliances must be properly adjusted and vented, must have an adequate supply of combustion air, and must be maintained in good working order.

Consider Installing Carbon Monoxide Detectors

The heating plant in this home was gas fired. We recommend the installation of one or more Underwriters Laboratory Listed Carbon Monoxide detectors in appropriate locations to monitor the indoor air.

Air Filters Need Regular Service

All types of heating and air conditioning system filters need regular servicing for efficient operation of the equipment. Typical intervals would be every thirty to sixty days during each heating and/or air conditioning season. In all cases, we advise following the manufacturer's specifications.

Asbestos Containing Material

Asbestos is found on most gas-fired heating systems, and generally in several other common construction materials that were installed before 1978. Exposure to asbestos may be a health hazard and should be avoided. It may be possible to significantly reduce or eliminate the dispersal of asbestos fibers by isolating the material. Removal or containment of these materials should only be done by properly trained and equipped professionals. Contractors in various trades such as flooring, roofing, heating, plumbing, or electrical may require asbestos abatement at additional expense prior to performing repairs, replacements, or modifications. For a determination as to the need for, or costs of, abatement a qualified asbestos abatement contractor should be retained. The presence of asbestos can only be determined by laboratory analysis, which is beyond the scope of our inspection.

Energy Saving Features

Insulation, weather-stripping, double-glazed windows and doors, and set-back thermostats are features that help reduce heat loss and/or gain and increase comfort while reducing energy costs. Today's standards would suggest that attic insulation levels reach at least R-30, while wall insulation be at least R-11 for 2 x 4 framing or R-19 for 2 x 6 framing, and floor insulation, where appropriate, should be R-19.

Interior Components

DESCRIPTIVE INFORMATION

Number of Bedrooms: • Four
Number of Bathrooms: • Three
Wall Finish: • Plaster • Wood paneling
Ceiling Finish: • Plaster • Acoustic tile
Floor Covering: • Hardwood flooring • Ceramic tile • Resilient sheet flooring

OBSERVATIONS & RECOMMENDATIONS

Interior Surfaces

The interior wall, floor, and ceiling surfaces gave the appearance of having been professionally installed and were generally in acceptable condition, taking into consideration the effects of normal wear and tear.

Minor cracks were evident in the walls and/or ceilings. This is a common condition with this type of construction and, in this case, did not indicate any structural concerns. The cracks can be repaired or painted over during routine maintenance.

The walls in the basement bath at the toilet were damaged. The damaged walls should be repaired by a competent professional who is experienced in working with this type of wall material. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The ceiling in the dining room had noticeable surface blemishes, evidence of past water leaks. These blemishes appear to have been left by water leaks from the bathroom above. While no active water leaks were noted during this inspection, nevertheless, we recommend monitoring this area for future activity, and if any leakage occurs, we recommend further investigation and repair, as appropriate, by a competent, licensed plumber. This condition should be **monitored**, as outlined in our recommendations at the beginning of this report.

Floors

The floors had a good appearance and were in acceptable condition, with exceptions noted below.

The vinyl floor covering in the kitchen was damaged. The floor covering in this area should be replaced. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.

Many of the floor tiles in the master bedroom bath were cracked and/or damaged. For a better appearance and to minimize additional damage, the affected tiles should be replaced, which will likely require replacement of the entire floor covering. This condition was a significant concern. It should be addressed in accordance with the recommendations offered at the beginning of this report.

Interior Doors

The interior doors were properly installed and in acceptable condition.

A door from the garage opened over a step down. We recommend either the door be modified to swing in the other direction or that a platform be built that is level with the floor. This configuration is potentially dangerous and could lead to a fall if someone passes through the door and is unaware of the drop-off. A warning sign should be placed on the door until it can be modified.

The door in the basement bedroom did not latch properly. Often, all that is required to restore proper latch function is to adjust the location of the strike plate on the doorframe. If adjusting the strike plate is not sufficient to restore proper function, then the recess behind it may have to be enlarged to restore full operation. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

The glass in several of the interior doors was not tempered safety glass. The etched emblem in one corner of each

pane can usually identify tempered glass. No such emblem could be found on this glass. No action is required, but a higher margin of safety could be achieved if the glass was approved safety glass. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Windows

The windows tested were functional and generally in acceptable condition, with exceptions noted.

The window glass at the sides of the front entry door did not display markings indicating that it was safety glass. Due to the location of the window, upgrading the current glass with safety glazing should be considered. Safety glazing should be installed by a competent glass technician in all locations where currently required.

Windows in the master bedroom bathroom showed symptoms of a breached seal or failure of the seal between the two pieces of glass. The symptoms often take the form of condensation between the panes of an insulated glass unit. These failures are more a cosmetic consideration than a functional one, as the breach does not appreciably affect the thermal insulation value of the window unit. However, the "fog" cannot be removed by cleaning the exposed surfaces of the unit. There is no simple "fix" for this condition, short of replacing the entire glazing unit. Because the symptoms of some failed thermal seals may be visible under certain weather conditions but will not be visible under others, we cannot warrant that our inspection identified *all* failed double pane window seals in the home. Therefore, we recommend a complete survey of every double-pane window by a competent glazier (glass installer) followed by replacement as necessary. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Water stains and/or peeling paint were symptomatic of water leakage through the windows or walls in several places around the dwelling. The present owner informed us that past leakage had occurred in many places, and exterior caulking had been applied around the windows. The history of any water intrusion in these areas should be documented for future reference. These areas should be monitored for moisture problems and appropriate corrective action implemented if leakage becomes more evident. This condition should be monitored, as outlined in our recommendations at the beginning of this report.

Interior Stairs

The stairs were used several times during the inspection. The various components were properly installed and no deficiencies were noted during use.

The Fireplace(s)

Components shared by most types of fireplaces include the interior, exterior and a fire burning area. Individual fireplaces may have a foundation, flue, firebox, mantel, hearth, and damper, smoke shelf, lintel, cap, wash, gas log and/or gas log lighter. Accessible fireplace components are visually inspected for signs of significant malfunction, excessive or unusual wear and general state of repair. However, portions of a standard fireplace configuration are always, by their nature and location, inaccessible for a home inspection.

The fireboxes in the fireplaces exhibited minor cracking. These cracks were, in our opinion, normal signs of aging. However, we recommend further monitoring of its condition in the future. If further deterioration takes place, appropriate repairs should be made.

The wood-burning fireplaces were not operated during the inspection (the lighting of fires is not a recognized part of a standard home inspection). However, they appeared to be capable of functioning as designed and intended. Thus, they were judged to be in acceptable condition.

The damper in the living room firebox was damaged and was not operational. The damper should be examined by a competent fireplace specialist, such as a chimney sweep, who should then make any necessary repairs to restore full function once again. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Despite our attempt to operate the damper inside the firebox in the basement room fireplace, using normal force, it would not move and was stuck in the closed position. This damper also should be examined by a competent fireplace specialist, such as a chimney sweep, who should then make any necessary repairs to restore full function once again. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

There was a crack or separation between the hearth and wood flooring at both fireplaces. The cracks should be

repaired for a better appearance and to prevent hot embers from falling beneath the wood flooring. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Although the flues appeared to be operational at the time of the inspection, they had not been used in some time. Having the flues professionally cleaned prior to using them would be considered prudent. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Smoke Alarms ("Smoke Detectors")

Smoke alarms ("Smoke Detectors") were not located inside some of the bedrooms or on some of the levels. Current industry standards require the installation of a smoke alarm inside every sleeping room and on every level within the dwelling. We recommend installation of smoke alarms *that utilize photoelectric technology,* in all sleeping rooms and on all levels, prior to, or shortly after, your assuming possession of this home. We consider this condition to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.

Master Bedroom Bath

Washbasin

The washbasin was properly installed. When operated, it was fully functional and in acceptable condition.

The drain stop hardware for the washbasin was loose and difficult to use. This should be repaired to restore full function to the washbasin. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Bathtub

The bathtub was in acceptable condition.

Shower and Shower Surround

The shower was operated for the inspection. The shower valve(s) and showerhead were in acceptable condition.

The shower walls were functioning as intended and were in acceptable condition.

Glass Shower Enclosure

The shower door was in acceptable condition, but the glass in the door did not have any marking to indicate that it was tempered or laminated safety glass. The "look" of the installation suggested it might be tempered, however. A thorough cleaning of the glass may reveal the label indicating its composition. If the glass cannot be confirmed to be tempered or laminated safety glass, a competent, glazing specialist should be consulted to examine it and identify its composition. Replacement of the door is optional, but would protect users of the shower from potentially serious injury and should be considered, if the glass cannot be confirmed to be appropriate for this installation.

Toilet

The toilet was made of vitreous china, with a porcelain finish. The toilet was flushed and functioned properly.

Water Supplies, Faucets and Drains

There was surface corrosion, but no leakage, at the visible drain piping. This piping should be monitored for leakage and repaired if necessary.

The visible portions of the angle stops and supply lines were in acceptable condition.

Bathroom Ventilation

This bathroom depended solely upon window(s) for ventilation and removal of excess moisture. Although not conducive to conscientious use in colder climates, this may have met minimum standards at the time the bathroom was constructed or remodeled. As an upgrade, we recommend the installation of a bathroom fan to reduce the possibility of moisture related damage.

General Comments On This Area

Features associated with this area were found to be generally in acceptable condition at the time of the inspection. However, some were in need of routine maintenance as noted above.

Main Floor Hall Bath

Washbasin

When operated, the washbasin was fully functional and in acceptable condition, with exceptions noted.

The washbasin was loose at its attachment to the wall. The washbasin should be securely fastened to the wall. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Bathtub

The bathtub was in acceptable condition.

Shower and Shower Surround

The shower/tub water supply valve(s) and shower diverter were operated for the inspection. The valve(s) and diverter were in acceptable condition.

The shower walls were functioning as intended and were in acceptable condition.

Toilet

The toilet was made of vitreous china, with a porcelain finish. The toilet was flushed and functioned properly.

Water Supplies, Faucets and Drains

The hot water faucet on the wash basin was leaking. Each leaking faucet should be repaired or replaced. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

There was surface corrosion, but no leakage, at the visible drain piping. This piping should be monitored for leakage and repaired if necessary.

The visible portions of the angle stops and supply lines were in acceptable condition.

Bathroom Ventilation

This bathroom depended solely upon window(s) for ventilation and removal of excess moisture. Although not conducive to conscientious use in colder climates, this may have met minimum standards at the time the bathroom was constructed or remodeled. As an upgrade, we recommend the installation of a bathroom fan to reduce the possibility of moisture related damage.

General Comments On This Area

Features associated with this area were found to be generally in acceptable condition at the time of the inspection. However, some were in need of routine maintenance as noted above.

Basement Bath

Washbasin

The washbasin was properly installed. When operated, it was fully functional and in acceptable condition.

Shower and Shower Surround

The shower was operated for the inspection. The shower valve(s) and showerhead were in acceptable condition.

The shower walls were functioning as intended and were in acceptable condition.

Toilet

The toilet was made of vitreous china, with a porcelain finish. The toilet was flushed and functioned properly.

The toilet seat was loose. The toilet seat should be adequately resecured.

Water Supplies, Faucets and Drains

The faucet was operated and allowed to run for a short period of time. It produced functional flow and was in acceptable condition.

The visible portions of the angle stops and supply lines were in acceptable condition.

Bathroom Ventilation

This bathroom depended solely upon window(s) for ventilation and removal of excess moisture. Although not conducive to conscientious use in colder climates, this may have met minimum standards at the time the bathroom was constructed or remodeled. As an upgrade, we recommend the installation of a bathroom fan to reduce the possibility of moisture related damage.

General Comments On This Area

The finished surfaces, hardware, windows, and doors associated with this area were found to be generally in acceptable condition at the time of the inspection.

Laundry Area

Clothes Washer and Dryer

The utility connections for both the clothes washer and clothes dryer were properly installed and in acceptable condition. However, these appliances were not tested, as testing these appliances was not within the scope of the inspection.

We suggest the rubber or plastic type clothes washer hose connectors be upgraded with metal-sheathed "no-burst" types to reduce the potential for hose failure. This condition can be addressed during **routine** property maintenance. See our recommendations at the beginning of this report.

Fuel gas was the only heat source provided for a dryer installed in this location.

There was no trap (U-shaped drain) on the washing machine drain pipe. We recommend a proper trap be installed to prevent sewer gas from entering the laundry area. This is especially important if there are gas appliances located within the laundry area. We consider this condition to be urgent. It calls for an immediate response as directed in our recommendations at the beginning of this report.

Dryer Vent

Those portions of the vent for the clothes dryer which were visible were properly installed and in acceptable condition.

The dryer vent termination on the exterior was damaged or was missing altogether. We recommend it be repaired or replaced as necessary.

Laundry Room Ventilation

There was no ventilation fan to serve the laundry area, however industry standards at the time this dwelling was built probably did not require that one be installed. Installation of a vent fan would be optional.

Kitchen

The Sink

When the sink was operated, it was fully functional and in acceptable condition.

The faucet was operated and allowed to run for a short period of time. It produced functional flow and was in acceptable condition.

The visible portions of the angle stops and supply lines were in acceptable condition.

Dishwasher

The dishwasher was not tested or operated, due to the numerous cycles, yet appeared functional. We suggest confirmation with the owner that the dishwasher is fully functional.

The Dishwasher Drain Separation

The dishwasher drain lacked an adequate separation, as required by present standards. This condition raised suspicion of an installation by non-professionals and/or a possible lack of building permits and inspection. An approved air-gap, high loop or standpipe should be installed.

Cabinets & Countertops

The cabinets were in acceptable condition, displaying normal wear and tear for their age.

Range

The range was turned on with the normal operating controls and was in satisfactory working condition.

The heat source used for cooking was natural gas.

Garbage Disposer

The disposer was turned on with normal user controls and was in satisfactory working condition.

The garbage disposer responded to normal user controls. However, it was unusually noisy. This suggested that it was nearing the end of its useful service life.

The disposer switch was located so that it could be easily reached and accidentally turned on, and was a potential safety concern. We recommend it be relocated, or modified, for safety.

General Comments On This Area

Features associated with this area were found to be generally in acceptable condition at the time of the inspection. However, some were in need of routine maintenance as noted above.

The refrigerator was not inspected, as this task was outside the scope of a home inspection.

General Comments About the Interior

Wear and tear of the surfaces was evident throughout the house, of the type generally resulting from deferred maintenance. We made no attempt to list all cosmetic flaws, but do suggest attention to items relating to function and safety.

In addition to any specific rooms noted, we inspected all rooms generally considered to be habitable space. These usually include the living room, dining room, family room, den, bedrooms, utility room, etc., in addition to the kitchen, bathroom, laundry area and garage, as applicable.

ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE INTERIOR INSPECTION

Representative Sampling of Windows

A representative sample of the windows was operated in each room, but not every window was opened, closed and latched. Nationally recognized home inspection standards require testing a minimum of one window in every room, where accessible.

All Homes Require Regular Care and Maintenance

A home inspection is designed to be a systematic review of the home, the surrounding site, and specific components and other features. While our findings will always be accurate as of the time of the inspection, because conditions can change literally hour by hour, let alone day to day and year to year, other items will undoubtedly need attention in the future. Regular and frequent maintenance will be needed to maintain the home in good working order.

Smoke Detectors Checked For Location Only

The smoke detectors were inspected for location only. For future reference, testing with only the built-in test button verifies proper battery and horn function, but does not test the smoke sensor. We strongly recommend you immediately replace all batteries in the existing **photoelectric type detectors**, if installed, or replace all of the unsafe older ionization type alarms with **photoelectric type detectors** for increased safety. Regular testing of these alarms with real or simulated smoke is recommended.

Caution Regarding Operating Dormant Angle Stops

Because of the possibility that operating angle stops that have not been exercised for some time may cause them to leak, experienced home inspectors do not operate them during a standard home inspection. We recommend that before anyone operates angle stops that have not been operated within the past six months, adequate preparations be

made to deal with water leaks of any magnitude.

Possible Concealed Damage

Where we have noted conditions related to deterioration, water damage or moisture penetration, experience has shown that concealed damage may exist. The scope of such damage, which was hidden from our view by finished surfaces, will not be fully realized until repairs or further, possibly invasive, inspection is performed. Since our inspection is visual only, we can not be responsible for identification of damage that was concealed during our inspection.

Water Testing of Shower Pans

A water test of the shower pan was beyond the scope of a home inspection. However, this test may be performed as a part of a standard inspection for the presence of wood destroying organisms.

We May Not Have Spotted All Breached Seals

While we thoroughly inspect all accessible double pane window and door glass for evidence of failed double pane window seals (fogged lenses) we can not warrant that our inspection identified *all* failed double pane window seals in the home. The symptoms of some failed thermal seals may be visible under certain weather conditions but probably will not be visible under others. Since, during this inspection we could not possibly have experienced all possible weather conditions, we may not have been able to detect *all* failed thermal seals.

Install More Smoke Detectors

The installation of additional **photoelectric type** smoke detectors would be a very beneficial life safety improvement for people living in this dwelling to ensure adequate safety for the occupants in the event of an emergency.

Recommend Installing Carbon Monoxide Detector

As a safety upgrade, one or more CO (Carbon Monoxide) detectors could be installed in locations and in the manner suggested by the manufacturer of the detector.

No Exhaust Fan For The Kitchen

No exhaust fan had been installed in this kitchen. While there may not be a requirement that a fan be installed, nevertheless, depending on the style of cooking preferred, the lack of a fan could be an inconvenience.

Vent Fan More Convenient Source of Ventilation

The bathroom depended solely upon a window for ventilation and removal of excess moisture. In colder climates, a window is often not practical for wintertime use, and thus, would only be rarely used. The installation of a ceiling vent fan vented directly to the outdoors should be considered as a primary method of venting.

Cautions Regarding Modern Washing Machines

The standpipe installed for the washing machine drain was smaller than the two-inch diameter now required. Most washing machines will have no problems. However, newer machines may exceed the carrying capacity of this smaller pipe. Upgrading to a larger diameter pipe may become necessary.