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**123 Easy Street**  
Piedmont, CA  
March 8, 2018 - 12:00 pm  
Report Number - 180308-123 Easy Street

This Report Prepared for  
**Joe and Jenny Customer**

Inspected by: Star Inspection Group, Eric Meyer  
Member: American Society of Home Inspectors® (ASHI)  
Member: International Code Council (ICC)



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*The terms “not accessible” and “inaccessible” when used in this report indicate uninspected components that may have hidden defects not observed or noted in this report. These areas are beyond the scope of this inspection and should be inspected after access is provided.*

## Table of Contents

<u>ABOUT THIS REPORT</u> .....	1
<u>PROPERTY GENERAL</u> .....	3
<u>EXTERIOR</u> .....	5
<u>ROOFING</u> .....	8
<u>ATTIC</u> .....	11
<u>STRUCTURE</u> .....	12
<u>ELECTRICAL</u> .....	15
<u>PLUMBING</u> .....	19
<u>WATER HEATING</u> .....	22
<u>CENTRAL HEATING</u> .....	23
<u>AIR CONDITIONING</u> .....	25
<u>FIREPLACE AND CHIMNEY</u> .....	26
<u>INTERIOR</u> .....	27
<u>KITCHEN</u> .....	30
<u>LAUNDRY</u> .....	30
<u>BATHROOMS</u> .....	31
<u>GARAGE - CARPORT</u> .....	32
<u>ENVIRONMENTAL</u> .....	33
<u>PRIMARY RECOMMENDATIONS</u> .....	35
<u>FURTHER INFORMATION</u> .....	40

## PROPERTY GENERAL

### General Property Description

We inspected the multi-level, single-family residence at 123 Easy Street in Piedmont, California on March 8, 2018.

This report describes the building as viewed from the street. The building site appears relatively level. The sky was clear at the time of our inspection.

We were informed the building was constructed in 1941.



Modifications have been made to the building since its original construction. We recommend a permit history be obtained from the local building department to determine if modifications to the building were made with proper permits.

A structural pest inspector was on-site at the time of our inspection; we recommend their report be obtained and reviewed for needed repairs.

### General Comments

*This report lists the apparent conditions of items subject to wear from normal use. We typically use five terms to report these conditions: new or relatively new, minor wear, moderate wear, generally worn, and poor. A new or relatively new item usually shows no signs of wear. An item reported as showing moderate wear appears to be in the mid-range of its anticipated lifespan. The term poor condition indicates a system or component that is at, or near, the end of its useful life span. Between these three basic levels we add two intermediate conditions: minor wear, which is not quite new; and generally worn, indicating a component nearing the end of its useful life.*

*This report is a general overview of the structural components and major systems. It is not intended to be technically exhaustive in any one field. If further information is desired, we recommend specialists in the relevant fields be retained to perform additional inspections.*

*A determination as to the presence of animal pests, rodents, termites, decay, or other wood destroying organisms is beyond the scope of this inspection. We recommend a qualified pest control firm be contacted with any questions concerning the presence or treatment of these organisms. We are not qualified in these fields. We recommend periodic examinations be made by a licensed pest control firm as part of routine property maintenance.*

## PROPERTY GENERAL (continued)

*We may make recommendations or suggestions in this report that differ from requirements by the local building department. For determinations as to what is permitted in this jurisdiction, we recommend the local building department be consulted.*

*This report includes only those areas that are visually accessible and does not include areas that are rendered inaccessible by walls, concrete, earth, or any other obstacle to physical access or visual inspection, such as furniture or stored items. Defects in mechanical equipment not disclosed by our functional operation or visual inspection are not included. Items or conditions not mentioned in this report are not within the scope of this inspection. An examination of every window, door, light switch, outlet, water valve, etc., was not made.*

*At the end of this report we will list the recommendations we believe to be the most important. These recommendations should not be considered the only significant items. You should establish your own priorities after thoroughly reading and reviewing this report, reviewing all the recommendations in the report, and consulting experts or specialists as necessary.*

*We recommend that you obtain cost estimates to repair the conditions listed in this report from qualified, licensed professionals **prior** to the close of escrow. Our inspection is not technically exhaustive and the contractors you retain may find additional defects that we have not reported on. Contractors you need to contact might include: Plumbing, Electrical, Drainage, Tiling or Masonry, Roofing, Foundation and General contractors.*

*It is our opinion that being present at the inspection allows us to provide better context for our recommendations and to show you items discussed in our report. If for any reason you were not able or did not attend the onsite portion of our inspection, we recommend that you retain us to "walk you through" the property and our report. We are happy to provide this service for a small fee, depending on the complexity the property.*

## EXTERIOR

### Stucco Siding

The building has stucco siding. We observed repaired cracks in the stucco; we recommend anticipating the need for periodic repair of stucco cracking as part of routine maintenance.

*Stucco consists of cement and sand plaster, reinforced with wire mesh and installed over a water-resistant membrane. New stucco is typically pigmented rather than painted, and the surface may show absorption of moisture from rains. Stucco cracking is common and may be caused by movement in the wall framing, foundation settling, seismic activity, or stucco shrinkage. Minor cracks usually do not need repair and are normally filled when the stucco is painted. Cracks large enough to allow water entry should be caulked or patched. In relatively new construction, the bottom of the stucco typically has a metal edge called a weep screed. We recommend the soil surface be maintained below this edge to prevent moisture and unseen termite entry behind the stucco.*

We observed indications of previous stucco repairs at the right rear and we recommend a history of these repairs be obtained.

The stucco surfaces below the cantilever at the right are not provided with ventilation and there are stains indicating possible previous water entry. Screened ventilation openings are often required in new construction to prevent moisture accumulation and damage to the wooden framing behind the stucco. We recommend screened vents be installed in the enclosed stucco-sided areas to reduce the potential for moisture accumulation and decay. We recommend a qualified structural pest control firm be consulted and repairs be made as needed by a qualified contractor.

As with all buildings of this type with older stucco siding, there may be hidden moisture-related damage behind the stucco. We recommend the current structural pest report be consulted to determine if test openings are advised.

*We do not perform destructive testing and in most cases cannot observe or determine the condition of wood (framing, sheathing, etc.) covered by stucco. There may be hidden damage behind the stucco, which is beyond the scope of this inspection. For more information, we recommend a qualified structural pest control firm be consulted.*

*In older buildings, the bottom of the stucco typically extends below soil level and may conceal damaged framing or termite entry. These areas should be inspected regularly by a structural pest control firm. There is a potential for damaged wood framing and sheathing behind older stucco surfaces, especially in areas where water from the roof or downspouts flows over the wall surfaces. It may be necessary to make openings in the stucco to determine the condition of the wood framing behind the stucco.*

## **EXTERIOR (continued)**

### **Brick Siding**

There is a small section brick siding at the front, which is relatively new. We recommend the top edge of the brick siding be kept properly sealed to prevent water entry and moisture-related damage.

### **Exterior Conditions**

The trim is damaged above the garage door; we recommend the current structural pest report be consulted and the damaged wood be repaired or replaced.

### **Exterior Finish**

The building exterior appears recently painted. We were unable to determine if new federal guidelines were followed for the renovation of painted surfaces in buildings built before 1978. We recommend the name of the painting contractor be obtained and contacted to determine if proper painting procedures were followed.

*Federal law requires that individuals receive certain information before renovating six square feet or more of painted interior surfaces, or more than twenty square feet of painted exterior surfaces, in residential buildings built before 1978. As of April 2010, contractors who disturb lead-based paint in homes built before 1978 are required to be certified and follow specific work practices to prevent lead contamination. For more information on this subject please visit: <http://www.epa.gov/lead/>.*

### **Eaves**

We did not observe any staining or indications of damage in the eave areas.

### **Deck**

There is a wood-framed deck and stairs at the rear with synthetic wood decking. Much of the area beneath the deck were inaccessible to our inspection due to low clearance and defects may be present that were obscured from view.

The horizontal wooden board, known as a ledger, that supports the building connections does not appear to be bolted as typically required. We recommend the deck-to-building connections be reviewed and properly secured as needed by a qualified contractor.

The attachment at the building does not appear to be provided with proper metal flashings to divert water away from the building. We recommend the deck wall-connections be monitored for leaks and properly flashed or periodically re-caulked to prevent moisture and damage as needed.

*Regular maintenance can substantially extend the life and serviceability of wooden decks and staircases. Debris that accumulates between the deck boards can trap moisture, and should be periodically removed.*

## **EXTERIOR (continued)**

### **Stairs and Landing**

There are stairs and a landing with a brick walking surface at the front. The brick surface shows minor wear. The stairs and landing appears constructed of concrete over soil.

### **Balcony**

There is a balcony with a ceramic tile walking surface at the front. The ceramic tile surface shows minor wear.

Where the tile surface meets the building, we did not observe proper metal flashings to divert water away from the building. We recommend the balcony wall-connections be monitored for leaks and properly flashed or periodically re-caulked to prevent moisture and damage as needed.

### **Exterior Railings**

As with many older buildings the railings are outdated by modern safety standards.

The balcony guardrails are too low and their openings are too large according to modern safety standards, creating a potentially unsafe condition.

The rear deck staircase does not have handrails; although they may not be required by the local building authority we recommend they be installed for safe stairway usage.

The front stair handrails do not terminate against the wall or a post as required in new construction and can catch clothing, creating a falling hazard.

We recommend proper railings be installed or repaired at the exterior as needed for safety. We have provided a link at the end of this report for further information describing proper handrail and guardrail design. Please follow the link to our website for more information regarding handrail and guardrail design.

*Modern building standards call for guardrails at least 42 inches high. Most jurisdictions now require 42-inch guardrails in new construction at every deck, stair, or landing more than 30 inches above an adjacent surface, and require railing openings less than four inches in diameter. Large railing openings that may allow a child to fall through should be modified for safety. This standard was recently changed from six inches to four inches, as it has been found that small children can slip through a six-inch opening.*

*For maximum safety, staircases with three or more risers should have handrails that are between one-and-one-half and two inches wide and shaped so that the handrail can be readily grasped. Handrails should be installed 34-38 inches above the leading edge of the stairway treads. Handrails should return to the railing, post, or to the floor. They should not end in a projection that could hook clothing or other items. Large railing openings that could allow a small child to fall through should be modified for safety. Modern standards call for openings to be less than four inches wide.*

## **EXTERIOR (continued)**

### **Walkways**

The walking surfaces appear to be in generally serviceable condition.

### **Driveway**

There is a concrete driveway at the front. The surface shows typical cracking.

### **Grading and Drainage**

Some surfaces at the exterior have little or no slope. Insufficient slope away from the foundation can contribute to a defective drainage condition. For proper drainage, surfaces should slope away from the foundation. We recommend these areas be monitored and the grading be corrected if needed.

There is a sump pump at the left rear. The presence of a sump pump typically indicates past or active water entry. We recommend the area be monitored periodically. We did not test the sump pump; we recommend it be tested periodically by filling the sump or well with water to see if it functions properly.

*We recommend checking sump pumps regularly to ensure that they function properly. A failed sump pump can lead to area flooding. We suggest keeping a spare pump on hand. Moisture-sensing alarms can be installed to warn of pump failure.*

The sump pump was inaccessible to our inspection due to its location behind and apparently partially under the exterior air conditioning unit. We recommend the sump pump installation be made accessible and reviewed and repaired as needed by a qualified drainage contractor d.

The sump pump discharge is connected to the sewer system, which is not permitted by most jurisdictions. We recommend the sump discharge be properly installed to a suitable exterior drainage location.

### **Fencing**

There is wood fencing at the sides and rear. We did not make any determination as to the ownership of the property line area fencing; we recommend the adjacent property owners be consulted.

The right side gate is difficult to operate; we recommend it be repaired or adjusted as needed for convenient operation.

### **Exterior Structures**

There is a detached shed at the right, which we did not inspect.



# ROOFING

## Roof Access

We inspected the roofing systems after obtaining access with a ladder.

## Composition Shingle Roofing

The building has a composition shingle roof, which is generally worn. The shingle material is brittle. There are signs of excessive wear including heavy loss of mineral surface granulation and widespread exposure of fibrous shingle reinforcing material. Overall, the shingled roof surfaces have reached the end of their service life. We recommend new roof surfaces be installed.

*Roof surfaces that are in worn or poor condition may need replacement even if no leakage has occurred. Several factors should be considered when deciding if a roof surface needs replacement. A qualified roofing contractor should be consulted to determine if a roof is repairable and, if so, at what cost. Will the roofer guarantee any proposed repairs? How long will the repairs extend the roof life? Could roof leakage cause significant interior damage? It is usually best to replace roof surfaces that show substantial wear.*

## Metal Roofing

There is a small section of metal roofing at the front, which shows moderate wear.

## Roof Flashings

The existing roof flashings primarily are sheet metal and mastic. Some metal roof flashings are rusty. Flashings should last as long as the roofing surface.

*Sheet metal, membrane roofing materials, and sealing compounds such as mastic, are often used to prevent water entry at roofing connections and penetrations. Flashings need periodic maintenance and should be inspected annually. **Defects in flashings are among the most common sources of leaks.***

Several roof-to-wall connections are not properly flashed by modern standards. They rely heavily on mastic. We recommend proper sheet metal roof to wall flashings be properly installed by a qualified roofing contractor when the roof surfaces are replaced.

*Mastic is a general term for fiber-reinforced roofing cement, which is a thick roofing patching compound. Mastic is considered a temporary method to seal connections. Mastic dries out and cracks, typically requiring a new application every two to four years. Painting the mastic can help protect it from the sun and give a better appearance. The best procedure is to replace old metal flashings when a new roof is installed. It is common practice in some areas to leave old flashings in place and to cover them with mastic when applying new roofing over an existing roof surface.*

## **ROOFING (continued)**

The sheet metal diverters, or “kick-outs,” that direct roof water into the rain gutters and away from the siding are improper, too small or missing, and we recommend proper diverters be installed to prevent water from entering the walls.

A few metal flashings are secured with nails that are exposed and are not caulked or sealed. We recommend exposed nails be sealed. With time, exposed nails will rust and loosen and may cause leakage.

Proper flashings have not been installed behind the rain gutters to prevent water entry; we recommend proper gutter edge flashings be installed as needed.

We recommend new sheet metal flashings be installed when the roof is replaced.

### **Roof Area Components**

The terra cotta appliance flue at the rear has no rain cap; we recommend a proper cap be installed to prevent water entry and damage.

### **Roof Drainage**

The rain gutters are primarily sheet metal. The sheet metal gutters are moderately to generally worn.

There is an accumulation of debris in the roof gutters; we recommend debris be removed periodically as part of routine maintenance. We suggest the installation of rigid leaf guards to greatly reduce the cleaning of the gutters and drainage system.

We observed standing water in the gutters at a few locations; we recommend the gutters be cleaned or modified as needed to drain freely.

A section of roof at the right does not have an eave, causing the rain gutter there to be close to or against the exterior wall surfaces. Gutter integrity is especially important as water could enter the walls if any leaks occur in the gutters. We recommend the gutters be reviewed periodically for leaks so repairs can be made promptly when needed.

We recommend the gutters be reviewed and repaired or replaced as needed when the roof is replaced for improved drainage control and damage prevention.

### **Downspouts**

A few downspouts empty near the foundation walls. We recommend the foundation area be monitored for signs of water entry and the downspouts be modified to direct rainwater away from the foundation if needed.

*Substantial water will flow from a roof and enter the foundation area unless it is directed away from the building perimeter, which is usually done by installing extensions or splash blocks for*

## **ROOFING (continued)**

*the downspouts. Subsurface drain piping may be needed in some areas to provide adequate drainage.*

Multiple roof drainage downspouts are directed into subsurface drain lines.

*Roof drainage downspouts are sometimes connected to underground drainage systems to prevent water from ponding adjacent to the foundation where it could adversely affect the soils supporting the building. Catch basins or surface-mounted drains may also be connected to this piping. Subsurface drain piping can become clogged with debris and should be checked periodically in rainy weather or by using water from a garden hose to ensure that the drains are free flowing. The adequacy and condition of underground drainage systems is beyond the scope of this inspection.*

### **General Recommendations**

We recommend the trees over or near the roof be trimmed well away from the roof surfaces to prevent debris accumulation and roof surface damage.

### **Roofing General**

*We recommend roof surfaces, rain gutters, downspouts, and subsurface drain lines be reviewed regularly. Gutter joints and connections may need periodic caulking or sealing. We also recommend leaves and other debris be removed as needed. Screens can be installed at downspout gutter connections to keep debris from blocking the downspouts. We recommend periodic inspections be performed to be sure the roof drainage systems function properly. Observing roof and foundation areas during or shortly after heavy rains is a good way to find deficiencies in the roof and area drainage systems.*

*This inspection addresses only the apparent visual condition of roofing materials, and does not include invasive testing or guarantee against present or future leakage. We recommend annual examinations be made by a qualified roofer for needed periodic maintenance and repair.*

## **ATTIC**

### **Attic Access**

Access to the upper attic is through the upper level bedroom closets. We entered the attic areas to perform our inspection. Access is not provided to the smaller, lower attic areas, which is typical in buildings of this type with small attic spaces.

### **Attic Framing**

The attic is framed with 2x (two-inch nominal dimension) rafters and ceiling joists. The rafters have both “skip,” or spaced, board sheathing, and plywood sheathing. There are stains on the roof framing, which indicate previous or active leakage.

## **ATTIC (continued)**

Aspects of the attic framing are outdated and the framing appears undersized by modern standards. We recommend the attic framing be examined and reinforced as needed by a qualified contractor before additional roofing or other weight is placed on the framing.

### **Attic Ventilation and Insulation**

The attic area is not adequately ventilated by modern standards, as is typical with attics of this type; we recommend adequate ventilation be provided when the roof is next replaced or earlier if desired. Adequate attic ventilation is important to prevent the accumulation of moisture, which can cause decay and damage, and to prevent excessive attic temperatures. Improved ventilation can reduce attic and interior room temperatures.

The attic is insulated. The insulation is fiberglass blankets or batts, which appears to vary in thickness from approximately five to eight inches. The attic is partially covered with decking and we were not able to determine the presence of insulation beneath. We suggest additional insulation be installed to reduce energy costs and to increase comfort. The standard for new construction is eight to twelve inches of insulation sufficient to achieve an insulating value of R-30 or R-35. We recommend the attic wiring be reviewed by an electrician before insulation is added.

A small amount of the insulation is installed with the vapor barrier facing the wrong direction. The exposed facing is considered by many to be a fire hazard possibly causing any flames to spread quickly. We recommend the vapor barriers be removed to prevent moisture accumulation and rapid flame spread in the event of a fire.

## **STRUCTURE**

### **Substructure Access**

We accessed the subfloor area from the left exterior. We inspected the subfloor areas by crawling beneath the accessible portions of the building flooring.

The right rear portion of the substructure area was inaccessible to our inspection due to insufficient clearance and fallen insulation. We were unable to inspect the structure in this area, and hidden defects may exist there. We recommend access be provided to these areas and further inspections be completed by a qualified inspector.

*Access is often restricted by obstructions to a visual examination. Wherever possible, access should be provided to these areas so that an inspection can be made. With access and opportunity for inspection, defects may be found in the inaccessible areas.*

### **Building Type and Foundation**

The building is a wood-framed structure with a raised perimeter concrete foundation, intermediate foundation walls, and intermediate pier supports.

## STRUCTURE (continued)

The foundation appears to be relatively modern in design and may have internal steel reinforcing. A determination as to the presence or extent of steel reinforcing is beyond the scope of this inspection.

We observed efflorescence on the foundation in a few places.

*Efflorescence is a white powdery deposit that occurs on masonry or concrete and indicates the presence of moisture in contact with the masonry or concrete. Minor efflorescence is common even in new construction. Substantial efflorescence indicates a defective moisture entry condition.*

We observed cracks in the foundation walls that appear typical for a building of this age and type.

*Cracking is common in concrete walls. Minor cracks caused by shrinkage 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.*

### Framing

The house has a wood-framed flooring system, which consists of one-inch thick (nominal) decking installed over two-inch thick (nominal) joisting.

The underside of the floor is insulated with fiberglass batts, which can help reduce heating costs. Much of the substructure area framing is obscured by the insulation and was not accessible to our inspection.

*Floor framing insulation is important over unheated basements or crawlspaces in cold winter areas. In areas with moderate winters, flooring insulation is preferred but not always required. Insulation obscures portions of the floor from inspection, and there may be hidden defects in these areas.*

We observed stains on a few portions the subfloor area framing and sheathing, apparently indicating previous water entry or leakage.

*Moisture stains indicate previous water penetration. Stains are commonly found around bathroom and kitchen waste piping and at the building perimeter, and may indicate previous leakage that has since been repaired. Any indications of active leakage*



## STRUCTURE (continued)

*or moisture-related damage should be promptly repaired by a qualified contractor.*

The subfloor area framing below the kitchen sink and dishwasher is damaged from apparent water leakage; we recommend the current structural pest report be consulted and repairs be made by a qualified contractor.

### Seismic

The exterior sheathing behind the siding appears to be the primary means of structural bracing, which is relatively common for buildings of this age and type.

We recommend adequate shear paneling be installed at the subfloor area by a qualified contractor to improve the building's resistance to earthquake forces.

*The installation of plywood bracing (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 plywood. Minimum nail spacing is usually six inches, and engineers often recommend nailing every three or four inches for greater strength. Ventilation should be provided in each stud space when shear paneling is added to the inside of exterior subfloor area walls. Ventilation is usually provided by drilling two-inch diameter holes in the plywood at the top and bottom of each stud bay.*

Expansion, or wedge-type, foundation anchor bolts have been installed. These bolts may be subject to loosening with time and periodic vibration. We recommend they be reviewed annually where accessible and tightened as needed. In the course of future anchor bolt installation, we recommend adhesive-set bolts be used, as these are less susceptible to looseness from vibration.

The round washers typically used beneath the nuts on foundation bolts are not generally used in new construction and have been replaced with thicker, square, steel bearing plates, as the plates are less likely to work loose. We recommend upgrading by replacing the bolt washers with bearing plates be considered.

*Anchor bolts and other devices are used to secure the framing to the foundation to resist displacement during earthquakes or high winds. The modern standard calls for bolting at least every six feet, with bolts within the last twelve inches of each piece of sill plate. Buildings greater than one story or on hillsides may require additional bolts and other seismic devices. For more information on seismic bolting and bracing, we suggest you visit the Simpson Seismic Retrofit Guide at <http://www.safestronghome.com/earthquake/>.*

The large garage door opening increases the building's vulnerability to damage in a large seismic event; we recommend a qualified contractor under the guidance of an engineer be retained to install seismic components at the garage appropriate for the building.

## **STRUCTURE (continued)**

### **Subfloor Area**

Ventilation provided to the areas beneath the building appears adequate.

The subfloor area soils were generally dry at the time of our inspection. We recommend the subfloor area drainage be monitored in wet weather and improved as needed if significant dampness or water flow is observed.

*Minor periodic moisture beneath many structures is common and should be expected. Substantial or continuous water entry, if it is found to occur, should be eliminated by installing an effective drainage system.*

Wood scraps, plants, and cardboard, which are possible food for wood-destroying pests and are conducive to their reproduction, are present in the subfloor area. We recommend all cellulose materials be removed from contact with the soils.

We observed indications of rodent activity in the subfloor area. We recommend an examination for rodents be made by an animal pest control firm, entry points be eliminated and appropriate eradication be performed as needed.

## **ELECTRICAL**

### **Electrical Service**

The main service panel is fed by overhead wiring, which is typically owned and maintained by the local utility provider.

### **Main Electrical Panel**

The main circuit breaker panel is at the left front exterior. The electrical system has been substantially upgraded from original. The wiring in this panel appears properly installed, except as noted below

The panel enclosure is rated by the manufacturer at 125 amps, 120/240 volts. This capacity should be adequate for typical electrical use.

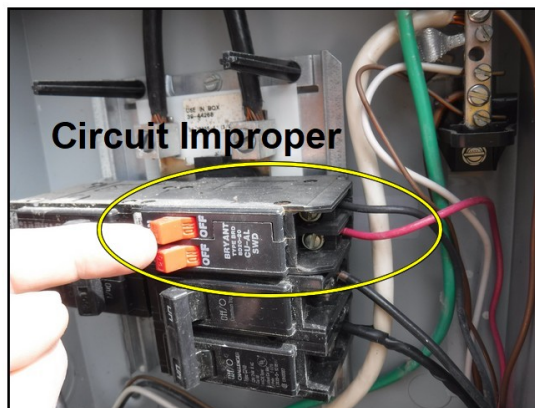
This panel does not have a single main disconnect and it is necessary to operate all the breakers in the panel to shut off the power. We suggest the panel be converted to a single disconnect system for safer and easier use as part of future electrical upgrading.

The panel circuits are not completely or legibly labeled. We recommend the panel be labeled to identify areas served by each individual circuit, for safer and easier system repair.

## ELECTRICAL (continued)

We observed improperly-wired, multi-wire branch circuits. The circuit's hot wires are on the same poles. The circuit lacks proper handle ties. We recommend the improperly installed multi-wire circuitry be corrected by a qualified electrician.

*Multi-wire branch circuits are pairs of 120-volt circuits that share a common neutral wire. To prevent overloading the neutral, the pairs of hot wires must originate from opposite poles in the panel (so there is 240-volt potential between them). This condition can typically be corrected by relocating the wires to different breakers within the panel.*



*When two breakers are used to protect a single 240-volt circuit, the breaker switch handles should be mechanically connected to operate in unison. A simple connector can be installed by an electrician to ensure that both breakers trip at the same time. This requirement includes multi-wire branch circuits such as the combined circuits for a dishwasher and a disposer.*

There are breakers in this panel that do not match each other. We recommend this panel be reviewed by a qualified electrician and properly matched breakers be installed.

*Many brands of circuit breakers can be made to fit within some electrical panels, but only the types for which the panel has been tested and approved should be used. Modern panels often have a rating sheet inside the panel listing the types and compatible brands of breakers that are acceptable. Using other breakers increases the likelihood of arcing and other electrical hazards.*

The grounding system appears outdated. We recommend the installation of a driven grounding rod and an inter-system grounding termination be considered to upgrade the main panel grounding.

*Modern electrical services are typically grounded to the water piping, an inter-system grounding termination, a driven rod in the earth, and/or steel rods embedded in the foundation. Older electrical services are typically grounded only to the water piping. A grounding conductor is often visible at the main panel, but it is not possible to locate the grounding connection. The gas piping and other metallic interior piping should be bonded to the grounding system.*

The meter is not sealed; we recommend the utility company be contacted to determine what steps need to be taken to have a proper seal installed.

### Subpanel

A circuit breaker protected subpanel is located in the garage. The wiring in this panel appears properly installed, except as noted below.



## **ELECTRICAL (continued)**

We observed multi-wire branch circuitry that lacks proper handle ties. We recommend handle ties be installed.

Wiring is installed in this panel without proper bushings to protect the wiring from damage where it is in contact with the conduit. We recommend proper bushings or other protection be installed where the wiring enters the panel.

We recommend the defective wiring conditions in the electrical subpanel that are noted in this report be reviewed and corrected as necessary by a qualified electrician.

### **Wiring**

The building is wired with Romex (nonmetallic-sheathed cable or NMC), flexible metal cable (BX or AC/MC), wiring in conduit and knob-and-tube wiring. The wiring we observed appears properly installed, except as noted elsewhere.

*Most buildings constructed prior to the 1950s were wired with knob and tube systems. In some building jurisdictions, knob and tube wiring with plastic insulation was used until the 1960s. Over time, the brittle insulation on older wire breaks down, especially at ceiling-mounted light fixtures as these lights expose the wiring to heat over a long period of time. The splices in knob and tube systems are soldered, and overloads can melt the solder, causing loose connections and a possible fire hazard. Using only 15-amp fuses or breakers can reduce the potential for overloading.*

Wiring is exposed to damage in the rear closet, and improperly connected to the fixture there. We recommend this wiring be properly installed by an electrician.

*Wiring in living areas, storage areas, or accessible exterior locations should be protected from damage. Protection is typically achieved by enclosure within wall cavities surfaced with gypsum board (sheet rock) or paneling, or by placing the wiring in rigid or flexible metal conduit. Metal-sheathed flexible cable or metal conduit can be used in dry areas.*

Portions of the wiring in the rear attic storage area are not properly secured and protected. We recommend the loose wiring be properly installed by an electrician.

### **Fixtures**

The representative light fixtures we tested were functional.

There are closets that have exposed bulb light fixtures. Incandescent light fixtures can safely be used in closets only when located over the door or on the ceiling and at least twelve inches from storage areas. Exposed bulbs and pendant lights are generally not considered safe. We recommend fluorescent or LED-type light fixtures with protective globes be used in closets for fire safety, as they are cooler and require less clearance from storage areas.

## ELECTRICAL (continued)

### Receptacles and Switches

The receptacles are the three-hole type. We observed ungrounded three-hole receptacles; we recommend each three-hole receptacle be examined by a qualified electrician and properly grounded as needed.

We also observed ungrounded three-hole GFCI-protected receptacles. While it is a generally accepted practice in most jurisdictions to install a GFCI-protected receptacle in an ungrounded box to provide a level of safety, most surge suppressors will not work without a ground, leaving electronics vulnerable to damage.

*Ungrounded three-hole outlets, also known as “open grounds,” are common in older buildings and typically occur when two-hole outlets are replaced with three-hole types without adding a grounding wire. Properly installed three-hole outlets have a third grounding wire and are necessary for appliances with three-prong plugs. Using a three-prong plug in an ungrounded three-hole outlet is potentially hazardous. The accepted means of correcting this condition include replacement with a two-hole receptacle, installation of a proper grounding wire to the outlet, or replacement with a GFCI receptacle.*

*Most surge protectors require a properly-grounded receptacle to protect electronic equipment and we recommend each receptacle be checked for proper grounding before using a surge suppresser device. While it will provide safety, a GFCI-type receptacle will not substitute for proper grounding.*

We observed only a few GFCI-protected receptacles, as is common in older buildings. GFCIs are relatively inexpensive and provide an important margin of safety. We recommend additional GFCI protection be installed in the bathrooms, kitchen, laundry area, and exterior areas, as an important safety upgrade. It may be easy to think of it in these terms, all potentially wet locations should have GFCI protection.

We recommend the GFCI-protected receptacles be tested periodically by pressing the test and reset buttons on the receptacle faces to ensure proper functioning.

*Ground fault circuit interrupters are breakers or receptacles designed to protect against electrical shocks. In recent years, most jurisdictions have required ground fault protection for receptacles in bathrooms, exteriors, basements, and garages (except those in a designated appliance location such as for laundry equipment). Recent regulations require GFCI protection at all kitchen countertop and wet bar receptacles. A single GFCI receptacle may be used to protect other receptacles downstream from it on the same circuit. GFCI receptacles and breakers have test buttons that should be operated periodically to ensure that the devices are functioning properly.*

We tested a representative number of the receptacles and they appeared to function properly. Several switches did not respond when we tested them. We could not determine if the switches are functional or what they control.

## **ELECTRICAL (continued)**

*There are several possible causes for a switch that does not respond. The switch may operate an receptacle obscured by furniture; the fixture controlled by the switch may have a burned out bulb, or the switch may be defective. To determine the cause of a switch that appears nonfunctional it may be necessary to move furniture, replace bulbs, or retain an electrician to examine the switch and wiring.*

### **Exterior Electrical**

The exterior receptacles are not GFCI-protected as required in new construction; we recommend GFCI-protected receptacles with new weather-proof covers be installed.

The weatherproof covers are missing from receptacles at the rear; One of these recptacles is loose at the deck. We recommend repair as needed by a qualified electrician.

### **Electrical General**

The circuits are not protected by arc fault circuit interrupter (AFCI) breakers. We suggest AFCI breakers be installed by a qualified electrician to meet modern safety standards.

*Arc fault circuit interrupter (AFCI) breakers are relatively new safety devices, required in circuits in new construction. AFCI breakers are designed to prevent fires by detecting an electrical arc and disconnecting the power before the arc starts a fire. An AFCI breaker should not trip during normal arcing conditions, which can occur when a switch is opened or a plug is pulled from a receptacle. AFCIs have a test button that should be operated periodically to ensure the device is working properly. To reset an AFCI breaker, push the switch to the "off" position and then push the switch to the "on" position.*

## **PLUMBING**

### **Water Supply System**

The main shutoff valve for the water supply is at the front exterior. The supply piping leading to the main valve appears to be 3/4 inch diameter copper. Most of the main supply piping is underground and not accessible to our inspection.

We measured the water pressure at 60 pounds (PSI). Pressures between 40 and 80 pounds are considered to be in the normal range.

It appears that most or all of the original galvanized steel supply piping has been replaced. The visible interior water supply piping is mostly copper with a small amount of PEX added.

## PLUMBING (continued)

*PEX tubing is made from crosslinked HDPE (high density polyethylene) polymer. The HDPE is melted and continuously extruded into tube. The use of PEX has been increasing, replacing copper pipe in many applications, especially radiant heating systems installed in the slab under floors or walkways. Interest in PEX for hot and cold water plumbing has increased recently in the United States.*

The flow at the fixtures appears adequate. We did not observe any leaks in the accessible portions of the water supply piping system.

Not all hose faucets are not equipped with anti-siphon valves as is required in new construction. We suggest anti-siphon devices be installed as needed to prevent the accidental flow of wastewater into the water supply piping.

### Waste Removal System

The visible drain, waste, and vent system has primarily cast iron, galvanized steel and ABS plastic piping.

*Cast iron and steel waste piping deteriorates with age, and will develop small pinhole leaks, which will rust and temporarily repair themselves. Eventually all old piping will fail, requiring replacement. We recommend periodic monitoring and replacement by a qualified contractor as needed.*

Portions of the waste piping are rusted and show substantial wear; we recommend the need for repairs or partial replacement be anticipated.

A temporary test plug has been installed at the garage waste piping; we recommend a permanent-type plug or cap be installed.

We did not locate an easily accessible full-size sewer lateral cleanout for the waste piping system. We recommend an exterior sewer lateral cleanout be located or installed.



The underground waste piping that runs from the building to the main sewer may be older or original. Waste piping of this age is often worn or damaged in the underground portions. Old sewer piping is often blocked or damaged by roots and other obstructions. We recommend the sewer laterals be examined for defects by a qualified plumber using special video equipment designed for this purpose.

Many property owners are now required to obtain a certificate indicating that their private sewer laterals (PSL) are without defects and have proper connections prior to the sale of the property.

## **PLUMBING (continued)**

We recommend it be determined if a sewer lateral compliance certificate is required by the local jurisdiction at the time of sale and if required, the sewer lateral be tested for compliance with local regulations and the certificate of compliance be obtained.

*The United States Environmental Protection Agency (EPA) in collaboration with the California Regional Water Quality Control Board is spearheading an effort to keep San Francisco Bay clean. These agencies are requiring EBMUD, several East Bay cities, and one sewer district to fix, old, cracked sewer pipes to ensure they do not allow the infiltration of rain or ground water, which can overwhelm water treatment facilities, resulting in the release of partially treated sewage into the Bay. For more information, see <http://www.ebmud.com/customers/pipeline/2015/11/fix-your-sewer-pipe/>*

### **Gas Supply System**

The gas meter is at the left front exterior. The gas shutoff valve is on the vertical pipe to the left of the meter. The gas piping is not provided with an automatic seismic gas shutoff valve, which is now required by many local jurisdictions and some insurance companies. Some shutoffs are triggered by movement, which is preferred by most professionals, other shutoffs are triggered by variations in gas flow. We recommend an automatic seismic shutoff valve be installed at the gas meter as a safety upgrade.

Gas systems rarely require expensive repairs, but the need for relatively minor repair is common. Unless noted otherwise in this section, we found the system to be in functional condition.

### **Plumbing General**

*Angle stops are shutoff valves normally found beneath sinks and toilets in modern construction. They provide a convenient disconnect in case of leakage and facilitate repairs. These shutoff valves are rarely used, and may “freeze” in place or leak when operated. We recommend angle stops be operated periodically to keep the valves functional. We do not normally turn these valves during an inspection as this may cause them to leak.*

*We recommend waste piping be cleaned out periodically to remove any accumulation of grease, hair, or dirt, and to help prevent future debris blockage and subsequent drainage failure. We do not inspect buried, or otherwise inaccessible, supply or waste piping.*

*The gas and water piping is never fully accessible, and an examination of each connection was not made. The standard test for gas leakage is to have the piping pressure tested. This is sometimes required before the gas can be turned on after it has been disconnected. With testing and a close examination of all the piping, leaking or other defects may be found.*

*We recommend storing a large wrench near the main gas valve so the gas can be shut off quickly in an emergency. To shut off the gas, turn the valve 90 degrees so the handle is at a right angle to the pipe. Gas valves are often difficult to turn and the small earthquake wrenches sold at hardware stores may be too small to operate these valves easily. We recommend testing the valve*

## PLUMBING (continued)

*periodically by turning it slightly to see if it moves. A plumber or the local utility company could adjust or lubricate this valve if needed to allow for easy operation.*

## WATER HEATING

### Water Heater

There is a 40 gallon, gas-fired, storage-type water heater in the utility closet adjacent to the garage. The water heater was manufactured in 2005 and shows moderate wear. Water heater storage tanks are typically warranted for 10 years. The water heater is equipped with seismic restraints to prevent movement during an earthquake.

The water heater is installed on the floor of a room that is directly connected to the garage. We recommend the water heater be elevated or a solid core, self-closing, fire-rated, and tightly fitting door be installed to separate the water heater from the garage.

*The first 18 inches above the floor of a garage is considered a “hazardous zone.” Any source of combustion, such as an open flame or electrical switch, is prohibited in this area, as gasoline, paints, and other flammable materials are often stored in garages. The 18-inch rule allows fumes from a spilled fluid to dilute with air. Water heaters, furnaces, clothes dryers, or other such appliances should be installed on platforms of sufficient height to provide adequate clearance.*

The water heater has a temperature and pressure relief (TPR) valve. A portion of the relief valve discharge piping runs upwards. Improper slope could allow water to stand in the pipe and cause valve failure or cause the pipe to burst if the valve releases completely under excessive temperature. We recommend the TPR piping be modified to slope downward or a Watts 210 valve be installed, as this valve does not require drain piping at the water heater.

*A temperature and pressure relief (TPR) valve is a safety valve that releases excess pressure from the water heater in the event the regulator fails. It is an important safety device that can prevent a dangerous explosion. Hot water may occasionally drip or spray from the valve discharge pipe when it is triggered by changes in water pressure. Leaky valves may fail from encrusted mineral residue, and should be replaced. Most TPR valve manufacturers recommend the valve be tested once a year.*

The water heater has a single-wall vent connector. (Most of the vent piping is enclosed in a wall and inaccessible.) Most jurisdictions now require double-wall, Type-B vent connectors on all gas-fired water heaters when located in unoccupied spaces. We recommend upgrading to modern double-wall, Type-B vent piping be considered.

*The purpose of a gas appliance vent is to provide a means for exhausted flue gases, which are hot, moist, and poisonous, to be safely discharged to the building exterior. The vertical portion of the vent is often called a “flue,” or “chimney,” and the horizontal portion that attaches to the furnace or water heater is called the “vent connector.” Single-wall piping was commonly used on older gas-fired water heaters and furnaces. Single-wall piping can get very hot and requires*

## **WATER HEATING (continued)**

*six inches clearance to wood and other combustible materials. Most jurisdictions now require the use of double-wall, Type-B vent piping, which is cooler, more efficient, and requires only one-inch clearance to combustibles. Upgrading all single-wall piping to Type-B should be considered for greater safety.*

### **Water Heater Maintenance**

*It is important to avoid storing combustible items near water heaters and other gas-fired appliances. The life of a water heater may be extended by periodically removing the sediment that builds up in the tank. Attach a garden hose to the drain valve at the bottom and open the valve until the water runs clear. Drain valves commonly drip, and can be repaired by installing a plastic cap. We recommend the temperature adjustment control be kept in the middle range and the water temperature never be set hot enough to scald someone accidentally. The life of a water heater may also be extended by replacement of the sacrificial anode. These are generally designed to last only five years. Replacement anodes can be obtained at plumbing supply stores.*

## **CENTRAL HEATING**

### **Furnace**

There is a gas-fired furnace in the lower level utility closet. This is a forced-air unit with a blower to distribute conditioned air through a ducting system. The input capacity is rated at 92,000 BTUs. The furnace was manufactured in 2007 and shows minor wear.

The furnace is installed on the floor of a room adjacent to the garage. We recommend the furnace be elevated above the garage floor to provide a minimum of 18 inches clearance, or the furnace area be separated from the garage by a tight-fitting, self-closing door.

The heat exchanger in the furnace was not accessible to visual inspection.

*The heat exchanger is a metal chamber that encloses the flame and transmits heat to the circulating air. With age and use, cracks or rust holes can develop in heat exchangers. Fumes from the burners may flow through the exchanger wall and enter the living area. We advise installing carbon monoxide detectors in several interior rooms to warn occupants if the exchanger produces hazardous gases. Heat exchangers should be carefully examined as part of routine servicing. Only a small portion of a typical heat exchanger is accessible to visual inspection and unobserved holes or cracks may be present.*

### **Furnace Venting**

The furnace is an induced-draft, high efficiency, condensing type. The increased efficiency creates lower flue temperatures and allows plastic piping to be used in the venting system.

*Induced-draft furnaces of this kind are typically rated in the plus 90% efficiency range, and are often referred to as "Plus-90" systems. The heat from burning fuel and the exhaust gases are*

## **CENTRAL HEATING (continued)**

*drawn through tube-like or serpentine heat exchangers that have a large surface area. Furnaces that are more efficient tend to operate at higher internal temperatures and the heat exchangers are exposed to moisture and acidic conditions contained in the exhaust gases. These conditions have led to premature heat exchanger failure in some appliances after only five or ten years of use. These heat exchangers are almost completely inaccessible to inspection without furnace disassembly. We recommend annual inspections of these furnaces be made by a qualified heating contractor. Some manufacturers are covering the cost of heat exchanger replacement and we suggest copies of any warranties be obtained for future reference.*

It is important the utility closet is provided with adequate combustion air. When fire separation modifications are made to the garage access door, we recommend this installation be modified by a qualified heating contractor to ensure an adequate fresh air supply is provided to the gas appliances for safe operation.

*Inadequate air supply can cause incomplete fuel combustion and may produce hazardous byproducts of combustion, such as carbon monoxide. A furnace or water heater compartment should have two air openings leading to the outside, one near the floor and the other near the compartment ceiling. These openings should provide at least one square-inch of ventilation for each 1000 BTUs input listed on the appliance rating plate. Combustion air openings should be screened, except for those terminating in an attic. Screening may require periodic cleaning to prevent blockage from dust buildup. Openings should not be blocked by personal property.*

### **Central Heating Air Filtration**

The furnace has a high efficiency, air, media-type filter system. We recommend the operating manual or manufacturer be consulted for proper maintenance procedures.

*Air filters prevent the accumulation of dust and dirt on the blower fan blades, which can significantly reduce efficiency. Air filters should be checked monthly and changed or cleaned, depending on type, as necessary. A clogged air filter can lead to reduced airflow over a furnace heat exchanger, resulting in premature heat exchanger cracking or failure.*

### **Furnace Ducting**

Conditioned air from the furnace is distributed to the living spaces through the heater ducting system. The conditioned-air supply ducting was mostly inaccessible to our inspection due to finished surfaces. Portions of modern, flexible ducting have been installed in the subfloor area. Some rigid ducting wrapped with an apparent asbestos material is visible in the attic.

### **Ducting Insulation**

Some upper portions of the ducting are not insulated, which reduces system efficiency; we recommend insulation be added at the next servicing.



## CENTRAL HEATING (continued)

### Central Heating General Recommendations

We recommend a qualified firm be retained to examine and service this equipment annually and make any needed repairs as part of routine maintenance. Significant defects may be found in this equipment during proper servicing.

We recommend special care be taken to avoid storing combustible materials (clothing or other items that could burn) near or on gas-fired heating equipment in order to prevent a potential fire hazard.

## AIR CONDITIONING

### Air Conditioning

The central heating system is also provided with an air conditioning system. This is a “split system,” with the compressor-condenser at the left exterior and the evaporative coil at the furnace.

The capacity is rated at 4 Tons (12,000 Cooling-BTUs per Ton). The compressor was manufactured in 2008 and shows minor to moderate wear.

The air-conditioning air handler, located at the furnace, has condensate drain piping. The air handler's secondary drain outlet is capped; we recommend a secondary condensate drain line be installed to prevent damage should the primary drain become clogged.

*A substantial amount of water or condensate will flow from the coils when an A.C. or Heat Pump system is operating. The discharge piping for this condensate should be sloped and supported in the same manner as any other drain piping, and should discharge into a plumbing fixture or other approved location. The drain should be checked periodically to ensure that water flows from it when the air conditioning system is in*



*operation. The absence of water at the condensate drain, commonly caused by clogged or improper piping, may allow water to spill inside the evaporator and damage the equipment. Interior air handlers with condensing coils are often located in above-ceiling spaces, and should have a second condensate drain to prevent damage if the primary drain becomes clogged. Water sensing alarms can be placed in the overflow pans to signal that the primary drain is not functioning properly and condensate is flowing into the secondary pan.*

## AIR CONDITIONING (continued)

### Heating and Cooling General

A determination as to whether adequate cooling and heating is provided to all interior areas is beyond the scope of this inspection.

We recommend a qualified firm be retained to examine and service this equipment annually and make any needed repairs as part of routine maintenance. Significant defects may be found in this equipment during proper servicing.

## FIREPLACE AND CHIMNEY

### Fireplaces

The living fireplace has a gas insert with a standing gas pilot light; we recommend the operating manual for the fireplace be obtained and reviewed for proper unit operation. Due to the gas-fired fireplace appliance that has been installed in the living room firebox, we were unable to observe the original firebox, throat, or flue.

There is a similar appliance at the rear family room which is a gas-only, direct-vent fireplace appliance. We recommend the manual for this unit also be obtained and reviewed for proper operation.

*Direct vent fireplaces are considered safer than other types because they draw the air used for combustion directly from the building exterior instead of from the living space.*

The pilots were off, so we were not able to operate the devices. These appliances appear to be controlled by nearby thermostats. The gas supply shut off for both appliances is operated by a removable key mounted in the floor; we recommend the keys be stored safe locations out of the reach of children.

During operation, the fireplaces' glass doors may become hot enough to cause injury on contact. We recommend the installation of childproof metal screens for safety.

### Chimney

The fireplace has a brick chimney. A separate sheet metal flue and cap have been added inside the masonry for the new gas appliance installed at the living room. The flue interior was not accessible to our inspection.

*Modern brick or concrete block chimneys or flues are typically lined with clay tile or concrete sections mortared together. The purpose of the liner is to contain a potential chimney fire. Liners and the mortar that join them together may deteriorate with age and use, reducing their effectiveness. Flue liners are not typically accessible to visual examination. Tall chimneys that extend above the roofline may need to be braced to prevent movement, which can break the mortar, bricks, or liner. All older chimneys should be carefully checked by a qualified chimney*

## **FIREPLACE AND CHIMNEY (continued)**

*contractor before building a fire (or before the close of escrow). Any flue that is inaccessible may contain a defective flue liner or the liner may have been omitted.*

*Most older masonry fireplaces, chimneys, and flues, installed before 1970 do not have steel reinforcing and do not have the same strength or resistance to earthquakes, as do modern masonry or prefabricated chimneys. Older chimneys may have been subject to multiple seismic events and often have hidden cracks, breaks, damaged flue tiles, and other weaknesses not apparent during a general home inspection. The only way to determine if a fireplace and chimney are safe to use is to have a detailed inspection of the chimney and flue interior by a qualified specialist.*

### **Fireplace General**

*The National Fire Protection Agency recommends a “level 2” inspection by a certified chimney sweep whenever a building is sold. The “level 2” inspection should include examination of the flue interior and other aspects of solid fuel appliances that we are not qualified to evaluate and comment upon. For more information, please see the Chimney Safety Institute of America's website: [www.csia.org](http://www.csia.org).*

## **INTERIOR**

### **Walls**

The interior walls and ceilings have primarily plaster surfaces. There are repaired cracks in the interior surfaces. Surface cracking is common; we recommend anticipating the need for periodic repair as part of routine maintenance.

### **Flooring**

The floors appear to have been recently refinished and show minor wear.

### **Interior Stains**

There are stains in the garage cabinets that appeared dry at the time of our inspection. We recommend these areas be monitored periodically for future leakage and repaired if new leakage occurs.

### **Windows**

The building has mostly wood-framed, double-hung, casement, fixed-glass windows. A few wood window sashes have been replaced. The building also has some aluminum-framed, fixed-glass, and sliding-glass windows at the rear, as well as some vinyl plastic-framed windows at the front. There is a large fixed-glass window in the living room.

## INTERIOR (continued)

The building is provided with some dual-glazed or double-pane, energy-efficient type panes. Many panes are not dual-glazed. Modern windows provide a thermal break and seal tighter than older window types, which contributes to their energy efficiency. Where the panes are still single-glazed, we suggest the installation of modern dual-glazed panes be considered for increase energy efficiency and decreased noise intrusion.

A dual-glazed glass pane in the rear bedroom is fogged. Condensation or fogging is typically a manufacturing defect where failure in the seal at the perimeter of dual-glazed glass assemblies allows moisture to enter and condense between the panes of glass. We recommend each dual-glazed pane be reviewed for condensation and replaced as needed.

*Dual-glazed windows reduce energy loss and noise transmission. A common problem with dual-glazed windows is a failure in the seals, which allows moisture to enter and form condensation or fog between the panes of glass. This condition is often not visible during our inspection and can occur at different times due to changes in temperature.*

The windows we operated mostly functioned properly. A few windows have been painted shut; we recommend they be freed to operate properly. Windows not used for ventilation are sometimes left painted shut to reduce maintenance.

There are window operating mechanisms that are worn and may soon need replacement.

The kitchen sink window's latch is defective; we recommend repair or replacement as needed.

A window sash (frame that holds the glass) in the living room is damaged; we recommend a qualified structural pest control firm be consulted and repairs be made as needed by a qualified contractor.

There are operable windows in the living room that are close to the floor; we recommend they be kept locked with child proof latches when children are present or child-proof limiters be installed so the windows will not open more than four inches.

*When the exterior drop from a window is greater than six feet, fall protection is required at any window that is less than 24-inches from the floor. Openings lower than 24 inches must prevent the passage of a 4-inch sphere or must be equipped with child-safe locking devices. If these openings happen to also be the required escape and rescue openings, then they must be operable to an adult without a key or special knowledge.*

There are windows that are less than twenty-four inches from the floor in the living room and do not appear to have tempered safety glass. The low privacy glass windows in the front bedroom do not appear to have tempered safety glass. The glass pane in the upper bathroom door is apparently not tempered safety glass.

We recommend the glass in areas of potential impact be replaced with safety glass or protective safety films be applied.

## **INTERIOR (continued)**

*The general rule for new construction is that glass that is less than 24 inches from the floor (and larger than nine square feet); glass that is within 24 inches of the edge of a swinging door; or glass in a door (unless smaller than three inches in diameter) must be the tempered safety type. While there is no requirement to change existing glass, safety glass is usually required when new glass is installed. Special care should be taken in these areas until safety glass is installed. Furniture can often be arranged to direct traffic away from non-safety glass windows. Applying decals to glass doors and large windows can help prevent accidents caused by persons who may think they are walking through an open door. Special plastic films are available that can be applied to the glass to reduce the likelihood of injury should the glass break.*

### **Doors**

There are double or French-style exterior doors. Doors of this type have a greater potential for leakage; we recommend they be monitored for water entry in wet weather.

### **Stairways**

The rear steps are uneven, creating potential trip hazards; we recommend these steps be modified as needed to provide a consistent height at each step. Individual steps in staircases should have a consistent height and depth for safe use.

*Individual steps in staircases should have a consistent height and depth for safe use. The difference between one step and any other step in the same staircase should not be more than three-eighths of an inch. Uneven steps are a potential trip hazard and should be corrected.*

### **Interior Railings**

As with many older houses the railings are outdated by modern safety standards. The main stairway does not have a continuous grip. The handrail openings are too large according to modern safety standards, creating a potentially unsafe condition for children.

We recommend proper railings be installed or repaired in the interior as needed for safety. We have provided a link at the end of this report for further information describing proper handrail and guardrail design. Please follow the link to our website for more information regarding handrail and guardrail design.

*For maximum safety, staircases with three or more risers should have handrails that are between one-and-one-half and two inches wide and shaped so that the handrail can be readily grasped. Handrails should be installed 34-38 inches above the leading edge of the stairway treads. Handrails should return to the railing, post, or to the floor. They should not end in a projection that could hook clothing or other items. Large railing openings that could allow a small child to fall through should be modified for safety. Modern standards call for openings to be less than four inches wide.*

## **INTERIOR (continued)**

### **Carbon Monoxide and Fire Safety**

Combination carbon monoxide/ionization-type smoke detectors were present at the time of our inspection. Most experts recommend photoelectric smoke alarms for the greatest safety and we strongly recommend each alarm device be reviewed and replaced as needed. We have included a link to more information about smoke detectors at the end of this report.

*The Carbon Monoxide Poisoning Prevention Act requires all single-family homes and apartment buildings with an attached garage or a fossil fuel source to install carbon monoxide alarms. This law applies to dwellings having at least one of the following: a fossil-fuel burning appliance or heater (wood, gas, oil, or coal), an attached garage, and/or a fireplace. Carbon monoxide detectors are required to be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms, and on every level of the home (including basements). For further information about these detectors, please see the California State Fire Marshal enclosure at the end of this report.*

Please review the smoke detector information on our website.

### **Interior Components**

The building has a security system. We recommend the system installer or a security company be consulted as to proper operation of this system. An examination of this system is beyond the scope of this inspection.

## **KITCHEN**

### **Kitchen**

The kitchen has wood flooring, quartz solid surface countertops, a stainless steel sink equipped with a disposer, a microwave oven, a gas range and a dishwasher. The fixtures and surfaces appear to be new

Not all the kitchen countertop receptacles are GFCI-protected; we recommend ground fault circuit interrupter protection be provided at all countertop receptacles.

The microwave appears to be mounted too low over the range and we recommend modifications be made to improve clearance for fire safety. We recommend the installation instructions for the microwave be consulted for correct spacing.

The flexible gas connector to the range passes through a cabinet wall, which is improper. We recommend repair by a qualified contractor.

## LAUNDRY

### Laundry

There is a laundry area near the garage. Laundry equipment was not installed at the time of our inspection. A 240-volt receptacle is provided for the clothes dryer.

When a clothes washer is installed, we suggest metal-sheathed, “no-burst”-type clothes washer hose connectors be used to reduce the potential for hose failure.

The washing machine does not have a catch pan. We recommend a catch pan equipped with auto-shutoff valves be installed to prevent damage to building flooring and furnishings if the washer leaks.

*An automatic washing machine shutoff valve uses an electronic control device that opens both the hot and cold water inlet valves when the washing machine is turned on. When the washing machine completes the full cycle the device closes the water inlet valves. These valves remain closed until the machine is used again. Several manufacturers offer a floor-mounted leak sensor to protect against catastrophic water damage should a washing machine inlet hose burst or a drain pipe become clogged while the machine is in use. For more information, please visit: <http://www.watts.com/pages/learnAbout/intelliflow.asp>*

We recommend the airflow at the exterior clothes dryer hood be reviewed periodically. Any significant reduction in airflow may indicate clogged vent piping, which is a potential fire hazard.

The laundry area has a three-hole receptacles. We recommend GFCI protection be added to the laundry area receptacles for greater electrical safety.

## BATHROOMS

### Upper Bathroom

This bathroom has ceramic tile flooring, windows for ventilation, a china sink, a shower with ceramic tile walls over a ceramic tile pan, and a cast iron bath tub.

The showering area has a glass door. The shower door does not have a clearly visible safety glass label and we assume it is not tempered glass; we recommend documentation stating the glass is tempered be obtained, or tempered safety glass be installed. There is also a mirror above the tub which is likely not tempered and therefore an injury risk. We recommend this mirror be relocated to a safer location.

*Tempered glass became commonly required in shower stalls and enclosures during the late 1960s. Older tempered glass was not always labeled. Sometimes tempered glass labels are very faint or are obscured by soap film. Many untempered shower doors have been installed even*

## **BATHROOMS (continued)**

*after the requirements for tempered glass went into effect. Untempered shower doors, enclosures, and windows should be replaced with modern tempered glass for safety.*

There are a few cracked tiles at the countertop. We recommend repair as desired.

### **Lower Bathroom**

This bathroom has ceramic tile flooring, a fan and window for ventilation, a pedestal sink, and a shower with ceramic tile walls over a ceramic tile pan. The fixtures and surfaces show minor wear.

The shower doors have a safety glass label.

### **Bathrooms General**

The toilets are slightly loose from the floor; we recommend they be firmly secured to prevent leaks and floor damage.

*A loose toilet can cause water leakage and damage to the flooring. The seal at the base of the toilet also prevents entry of sewer gas (methane) into the living area.*

We recommend additional GFCI protection be installed in the bathroom receptacles for greater electrical safety.

*Caulked joints should be reviewed frequently and re-caulked as necessary. Proper caulking prevents water penetration and damage to walls and floors. Before caulk is applied, the surfaces should be cleaned carefully and any loose caulk should be removed. A good quality restroom caulk, such as acrylic latex with silicone, should be used. Bathrooms are areas of high humidity and we recommend care be exercised to keep them well ventilated. Windows should be left open when showering or bathing, and fan-powered vents should be used when available.*

## **GARAGE - CARPORT**

### **Garage**

The garage is beneath the building at the right front. The garage has a roll-up style vehicle door equipped with an automatic opener that reversed automatically when we tested it.

*Automatic garage doors should be provided with an automatic return mechanism that reverses the door automatically when its downward path is obstructed. Modern openers have photoelectric sensors for this purpose. We recommend the opener be tested periodically as part of routine safety maintenance. We recommend the manufacturer be consulted as to the proper test procedure to ensure the door stops and returns automatically.*

The left doorjamb is damaged where it is in contact with the concrete and we recommend the



## **GARAGE - CARPORT (continued)**

damaged wood be replaced. We recommend the vehicle doorjambs be trimmed to provide a one-inch gap above the floor and any damaged wood be replaced.

The garage framing/structure was inaccessible due to finished surfaces. The garage supports portions of the building above, which makes the house vulnerable to damage in a large seismic event. We recommend a qualified engineer be retained to design seismic strengthening components appropriate for the building.

The concrete floor shows typical cracking. The flooring was dry at the time of our inspection; we did not observe any indications of significant previous water entry.

There are holes, gaps or missing portions in the fire separation surfaces at the rear in the cabinets; we recommend all firewall openings be properly sealed.

*The surfaces between the garage and the dwelling, and on any structural walls that support rooms above, should be covered with five-eighths-inch-thick, fire-rated gypsum drywall or an equivalent. The joints between sections of drywall should be taped unless the joints are over framing. Any holes or openings in firewalls should be repaired. Plastic piping should not be installed through a firewall as it can melt from high heat and allow fire entry. Fire-rated surfaces might not be present between the dwelling and garage in older construction. Garages and carports that are attached to residences and do not have adequate firewall protection should not be used for storing flammable liquids or vehicles. Fires often start in garages due to the storage of flammable liquids such as paint, solvents, or gasoline.*

The door between the interior and the garage is not fire-rated. The door between the utility closet and the garage is also not fire-rated. We recommend proper, fire-rated, self-closing doors be installed.

*There should be a fire-rated, solid-core, self-closing door installed on any passageway between the garage/carport and the house, attic, or subfloor area crawlspaces. Such doors should not have windows or pet doors.*

We recommend the improper fire separation conditions at the garage that are identified in this report be reviewed and corrected as necessary by a qualified contractor.

## **ENVIRONMENTAL**

### **Asbestos**

We observed apparent asbestos materials on the furnace ducting in the front attic. We recommend the apparent asbestos materials be examined and properly abated (sealed, painted, wrapped, or removed) as needed by a qualified contractor.

*Asbestos is found on most gas heating systems installed before 1978; in older vinyl tile flooring; in some acoustic ceiling tiles; in sprayed acoustic ceilings; and in various other locations.*

## **ENVIRONMENTAL (continued)**

*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 painting 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 cost 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.*

# PRIMARY RECOMMENDATIONS

## Primary Recommendations

In compiling this list of recommendations, we give priority to safety issues, major defects and preventative maintenance issues.

## Health and Safety Issues:

### EXTERIOR RAILINGS

1. We recommend proper railings be installed or repaired at the exterior as needed for safety.

### RECEPTACLES AND SWITCHES

2. We recommend additional GFCI protection be installed in the bathrooms, kitchen, laundry area, and exterior areas, as an important safety upgrade.

### GAS SUPPLY SYSTEM

3. We recommend an automatic seismic shutoff valve be installed at the gas meter as a safety upgrade.

### FIREPLACE

4. During operation, the fireplaces' glass doors may become hot enough to cause injury on contact. We recommend the installation of childproof metal screens for safety.

### CARBON MONOXIDE AND FIRE SAFETY

5. Most experts recommend photoelectric smoke alarms for the greatest safety and we strongly recommend each alarm device be reviewed and replaced as needed.

### BATHROOMS

6. The shower door does not have a clearly visible safety glass label and we assume it is not tempered glass; we recommend documentation stating the glass is tempered be obtained, or tempered safety glass be installed.

### GARAGE

7. We recommend the improper fire separation conditions at the garage that are identified in this report be reviewed and corrected as necessary by a qualified contractor.

## **PRIMARY RECOMMENDATIONS (continued)**

### **Important Issues:**

#### **GENERAL PROPERTY DESCRIPTION**

8. A structural pest inspector was on-site at the time of our inspection; we recommend their report be obtained and reviewed for needed repairs.

#### **STUCCO SIDING**

9. We recommend screened vents be installed in the enclosed stucco-sided areas to reduce the potential for moisture accumulation and decay. We recommend a qualified structural pest control firm be consulted and repairs be made as needed by a qualified contractor.

10. We recommend the current structural pest report be consulted to determine if test openings are advised.

#### **GRADING AND DRAINAGE**

11. We recommend the sump pump installation be made accessible and reviewed and repaired as needed by a qualified drainage contractor d.

12. We recommend the sump discharge be properly installed to a suitable exterior drainage location.

#### **SHINGLE-TYPE ROOFING**

13. Overall, the shingled roof surfaces have reached the end of their service life. We recommend new roof surfaces be installed.

#### **ROOF FLASHINGS**

14. We recommend new sheet metal flashings be installed when the roof is replaced.

#### **ROOF DRAINAGE**

15. We recommend the gutters be reviewed and repaired or replaced as needed when the roof is replaced for improved drainage control and damage prevention.

#### **SUBSTRUCTURE ACCESS**

16. The right rear portion of the substructure area was inaccessible to our inspection due to insufficient clearance and fallen insulation. We were unable to inspect the structure in this area, and hidden defects may exist there. We recommend access be provided to these areas and further inspections be completed by a qualified inspector.

#### **FRAMING**

## **PRIMARY RECOMMENDATIONS (continued)**

17. The subfloor area framing below the kitchen sink and dishwasher is damaged from apparent water leakage; we recommend the current structural pest report be consulted and repairs be made by a qualified contractor.

### **SEISMIC**

18. We recommend adequate shear paneling be installed at the subfloor area by a qualified contractor to improve the building's resistance to earthquake forces.

19. The large garage door opening increases the building's vulnerability to damage in a large seismic event; we recommend a qualified contractor under the guidance of an engineer be retained to install seismic components at the garage appropriate for the building.

### **SUBFLOOR AREA**

20. We recommend an examination for rodents be made by an animal pest control firm, entry points be eliminated and appropriate eradication be performed as needed.

### **MAIN ELECTRICAL PANEL**

21. We recommend the improperly installed multi-wire circuitry be corrected by a qualified electrician.

22. There are breakers in this panel that do not match each other. We recommend this panel be reviewed by a qualified electrician and properly matched breakers be installed

### **BREAKER SUBPANELS**

23. We recommend the defective wiring conditions in the electrical subpanel that are noted in this report be reviewed and corrected as necessary by a qualified electrician.

### **WIRING**

24. Wiring is exposed to damage in the rear closet, and improperly connected to the fixture there. We recommend this wiring be properly installed by an electrician.

25. Portions of the wiring in the rear attic storage area are not properly secured and protected. We recommend the loose wiring be properly installed by an electrician.

### **FIXTURES**

26. We recommend fluorescent or LED-type light fixtures with protective globes be used in closets for fire safety, as they are cooler and require less clearance from storage areas.

### **RECEPTACLES AND SWITCHES**

## **PRIMARY RECOMMENDATIONS (continued)**

27. We observed ungrounded three-hole receptacles; we recommend each three-hole receptacle be examined by a qualified electrician and properly grounded as needed.

### **EXTERIOR ELECTRICAL**

28. The exterior receptacles are not GFCI-protected as required in new construction; we recommend GFCI-protected receptacles with new weather-proof covers be installed.

### **ELECTRICAL GENERAL**

29. We suggest AFCI breakers be installed by a qualified electrician to meet modern safety standards.

### **WASTE REMOVAL SYSTEM**

30. We recommend an exterior sewer lateral cleanout be located or installed.

### **AIR CONDITIONING**

31. The air-conditioning air handler, located at the furnace, has condensate drain piping. The air handler's secondary drain outlet is capped; we recommend a secondary condensate drain line be installed to prevent damage should the primary drain become clogged

### **KITCHEN**

32. Not all the kitchen countertop receptacles are GFCI-protected; we recommend ground fault circuit interrupter protection be provided at all countertop receptacles.

### **LAUNDRY**

33. When a clothes washer is installed, we suggest metal-sheathed, “no-burst”-type clothes washer hose connectors be used to reduce the potential for hose failure.

34. We recommend a catch pan equipped with auto-shutoff valves be installed to prevent damage to building flooring and furnishings if the washer leaks.

35. We recommend GFCI protection be added to the laundry area receptacles for greater electrical safety.

### **BATHROOMS GENERAL**

36. The toilets are slightly loose from the floor; we recommend they be firmly secured to prevent leaks and floor damage.

37. We recommend additional GFCI protection be installed in the bathroom receptacles for greater electrical safety.

## **PRIMARY RECOMMENDATIONS (continued)**

### **ASBESTOS**

38. We recommend the apparent asbestos materials be examined and properly abated (sealed, painted, wrapped, or removed) as needed by a qualified contractor.

## FURTHER INFORMATION

### Find more information at:

The below topics are referenced in this report. Please follow the link at the bottom of this page to get more information regarding your topics.

### EXTERIOR RAILINGS

39. Please follow the link to our website for more information regarding handrail and guardrail design.

### INTERIOR RAILINGS

40. Please follow the link to our website for more information regarding handrail and guardrail design.

### CARBON MONOXIDE AND FIRE SAFETY

41. Please review the smoke detector information on our website.

The internet link below takes you to our website where we have more information regarding topics specifically applicable to items discussed in this report. Additional information can be found on our website.

<http://www.stargroup.com/enclosures.html>

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