

# Fairfax Branch

## Marin County Free Library

# Inspection Report

Inspection Address:  
**2097 Sir Francis Drake Blvd.**  
**Fairfax, CA**

Inspection Date:  
**September 14, 2015**

Prepared For:  
**County of Marin California**

Prepared By:  
**Raker Architects**  
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Report Number:  
**150909.1**

Inspector:  
**Timothy Ballard**  
**ASHI and CREIA associate**  
**Mobile 415 250 1942**



# 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. In listing these items, your Inspector is not offering any opinion as to who should take responsibility for addressing any of these concerns

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

- 1. The hardware used to seismically-tie floor joist to the pressure treated mud sill were made of galvanized steel and has progressive corrosion, see pic 1.2. We recommend replacement of all clips with the correct stainless steel hardware type recommended by a competent, licensed structural engineer and general contractor. Review attached white paper: “Corrosion of Steel Hardware Caused by Pressure-Treated Lumber” prepared by Thor Matteson**
- 2. Watermarks and stains on vertical surfaces in the basement see pic 1.1 and in the return air duct, see pic 21.6 indicate water entry has occurred in this area during periods of heavy rain. However, no significant damage was observed. This area should be monitored during the rainy season to determine if excess moisture accumulates. If water entry occurs, then installation of a ground water mitigation system may be required. Re-inspection of the return air duct after heavy rains would be highly recommended. If moisture is allowed in return air duct serious health issues such as legionnaires or other diseases can occur.**
- 3. Grading left side 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.**
- 4. During moderate rains, the roof drainage collectors were overflowing and spilling on the ground adjacent to the foundation. In addition, several of the downspout extensions appeared to be clogged, allowing water to collect on the walkway near the foundation. We recommend further evaluation of the entire roof drainage system followed by repair or modification as necessary to restore full function to this important exterior system.**
- 5. Shingles on the exterior of the structure were deteriorated. This condition can result in water penetration and damage to underlying framing and other building elements. Missing or deteriorated shingles should be replaced to restore the integrity of the siding and protect underlying building elements from water damage, particularly where the water-resistant membrane under the shingles is exposed.**
- 6. Earth to wood contact was observed in several areas on the exterior of the Structure. This was a condition conducive to infestation by wood destroying organisms and damage to wooden building elements. Damage to elements in these areas was observed. We recommend elimination of all earth/wood contact to reduce the potential for wood destroying organism infestation and damage. A clearance of six inches or more is suggested between wooden building elements and the soil. Any damaged material discovered in the course of this work should be removed and replaced.**

7. **Consideration should be given to trimming or even removing the large trees that have limbs over structure, rubbing roofing, touching, or located close to the structure. We suggest consultation with a tree specialist.**
8. **The shingles covering the roof were weather-damaged and generally deteriorated.**
9. **Several skylights showed evidence of prior leakage. All should be monitored for active leakage and repaired or replaced, if necessary.**
10. **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.**
11. **Branches from trees near the building were overhanging the roof, and debris from the trees had accumulated on the roof and was obstructing the free flow of roof runoff. Nearby trees should be trimmed to avoid damage to the roof surface and obstruction of roof runoff.**
12. **The age of this roof placed it beyond its expected service life. Although it may be reliable at present, the need for replacement should be expected in the near future.**
13. **The distribution panels in this structure had been manufactured by the Federal Pacific Company. Federal Pacific panels have not been manufactured for some time. Of greater concern is the fact that, in exhaustive laboratory testing, an unacceptably high proportion of Federal Pacific circuit breakers have failed to trip at their rated amperage. Because such malfunctions could result in serious personal injury or property loss, we recommend further examination of all Federal Pacific equipment in this building by a competent, licensed electrician who should either certify the equipment as safe and adequate or replace it, as appropriate. Because repair parts are not readily available for these panels, and because of their inherently unreliable performance, you should be prepared for the possibility that an electrician will recommend complete replacement of all the panels.**
14. **An open, or “un-occupied” hole was observed in an electrical junction or receptacle box where a “knockout” had been removed. To reduce this safety hazard, the hole should be closed with a special filler plug made for this purpose. These are available at Structure Improvement centers or Electrical Supply houses.**
15. **Federal-Pacific Brand Electrical Panels Panel “A” was overheated at the time of the inspection by 30 degrees above ambient and needs replacement as soon as possible**
16. **SUBSTANDARD new electrical workmanship in crawl space located under staff area, see items 18-27 below:**
17. **Remove all debris in crawl space, see pic 18.1**
18. **Cable connectors for connection to junction box are showing incorrect strain and are pulling the knockout out of the box, see pic 18.3. Cables should be corrected to take any strain off and correct the knockouts.**
19. **Open, or “un-occupied” holes was observed in an electrical junction or receptacle box Junction box in crawl space, see pic 18.4 where a “knockout” had been removed. To reduce this safety hazard, and opportunity for rodent entry, the hole should be closed with a special filler plug made for this purpose.**
20. **Cables are under excessive strain and run are missing required support clips, see pic 18.5 Excessive strain on cables will lead to their premature failure. Remove the excess strain on the cables or replace them and add clips as required.**

21. Cables are run on the ground, see pic 18.6. Cables in contact with ground can fail prematurely from the collected moisture. Re-run or support cables to underside of floor joist.
22. Arching wires melted a wire nut, see pics 19.1 and 19.2. The possibility of fire from such a condition is a very real concern. This wire nut was replaced during the inspection. All others in the area should be examined and corrected as soon as possible to prevent the possibility of fire or a shorted circuit.
23. Install cover plate on 4x4 open box, see pic 19.3.
24. Abandoned wiring and conduit was observed, see pic 19.4. Abandoned wiring should be removed, disconnected at its source or terminated in a covered junction box to reduce the inherent risk to personal safety.
25. Several cables were missing the required retaining clip or staple within 12" of the box, see pics 19.5 and 19.6 and should be correctly installed.
26. All above substandard electrical work above should be reviewed and repaired by a qualified, competent, licensed electrician as soon as possible
27. SUBSTANDARD new plumbing workmanship in crawl space located under handicap restroom
28. An unusual amount of forced air was blowing into the crawl space at the cast iron drain line, see pic 20.1 and YouTube video: [https://youtu.be/apS5c\\_CG5QE](https://youtu.be/apS5c_CG5QE) correct the air leak to stop the flow of air.
29. Required pipe clamps were not tightened as required at the waste-line connector, see pic 20.2. Tighten to pipe clamp to manufactures specification so the possibility of leaks is prevented.
30. Remove tape and correct a connector and pipe support, see pic 20.3 to prevent a possible failure of the waste-line.
31. The heating system vent had been installed in a substandard manner. The vent system should be reinstalled or replaced with new components obtained from the original manufacturer and installed by a competent heating technician in strict accordance with the manufacturer's installation
32. Each section of the vent and vent connector for the heating plant should be properly supported, see pic 21.1 and secured with appropriate mechanical fasteners in accordance with the vent component manufacturer's installation instructions, see pic 21.2. Make all required correction.
33. The vent connector had insufficient upward slope, which caused inadequate flow of exhaust to the vertical flue and spillage of exhaust at the draft hood. The spillage of combustion products is a safety hazard for persons in the vicinity when the furnace fires. This condition should be addressed immediately. The flue should be cleared and/or reconfigured to provide proper venting. The return duct should be cleaned, there was about 1/4" of dust that had accumulated. Cleaner ducts will provide a safer and healthier environment, see pic 22.1. Remove all debris in ducts below all grilles see pic 22.2.
34. Insulation was deteriorated and missing from a portion of the refrigerant lines near the condensing units and coils, see pics 21.3 and 21.4. All missing or damaged insulation should be replaced to restore the energy efficiency of the system. A protective cover should be added to all exterior condenser lines for the pipes and insulation protection.
35. The local AC compressor Federal Pacific disconnect enclosure, 5 of the 6, was corroded and deteriorated. This reduces the reliability of the equipment and connections within the disconnect. Any damaged, improperly installed or deteriorated local disconnect equipment should be repaired or replaced by a qualified, licensed electrician who should certify that the work has been completed in a manner that leaves the system safe and dependable.

- 36. Moisture was observed around several windows. The moisture most likely has resulted from leakage. These windows should be monitored for moisture problems and appropriate corrective action implemented. Improved ventilation practices are suggested along with a check of (and possible lowering of) the setting of the heating system humidifier controls, if a humidifier is present.**
- 37. Water staining was evident on the surfaces below the skylights. However, these surfaces were dry at the time of this inspection and no active leaking was observed. We recommend asking the occupant if the source of the leakage has been located and eliminated. We also recommend further monitoring followed by repair as necessary if the leakage becomes active in the future.**

# Inspection Photos



1.1 Correct crawl space flooding, high water mark



1.2 Replace all clips to Pressure Treated mud sill



1.3 Correct grade wrong pitch, h2o should drain away



1.4 correct open drainage pipe hazard add grate



1.5 Remove abandon wires



1.6 Correct drainage pipe challenge(s)



2.1 Replace all damaged retaining wall parts



2.2 Replace all damaged retaining wall parts



2.3 Replace siding as required, notice missing shingles



2.4 Replace siding as required, notice missing shingles



2.5 Replace siding as required



2.6 Replace siding as required



3.1 Replace siding as required



3.2 Replace siding as required



3.3 Replace/repair siding and cap as required



3.4 Replace/repair siding as required



3.5 Replace siding as required, correct grade, 6" clear



3.6 Replace/repair siding as required



4.1 Replace damaged exit glass door



4.2 Replace damaged exit glass door



4.3 Replace damaged exit glass doors



4.4 Repair/replace damaged door jambs



4.5 Replace/repair damaged basement doors



Replace/repair damaged basement doors



5.1 Correct weather strip at Deck door astragal



5.2 Correct weather strip at Entry door astragal



5.3 Correct Entry door closure adjustment



5.4 Correct Entry Threshold



5.5 Noted recent repair to siding at deck rail?



5.6 Noted recent repair to siding at deck rail?



6.1 Close all opening in siding and cover insulation



6.2 Fill and seal all gapes in structural post



6.3 Chimney Cap in good order



6.4 Remove all vegetation above or touching



6.5 Remove all vegetation above or touching



6.6 Remove all vegetation above or touching



7.1 Remove all vegetation above or touching



7.2 Replace all damaged roof shingles



7.3 Replace all damaged roof shingles



7.4 Replace all damaged roof shingles



7.5 Replace all damaged roof shingles



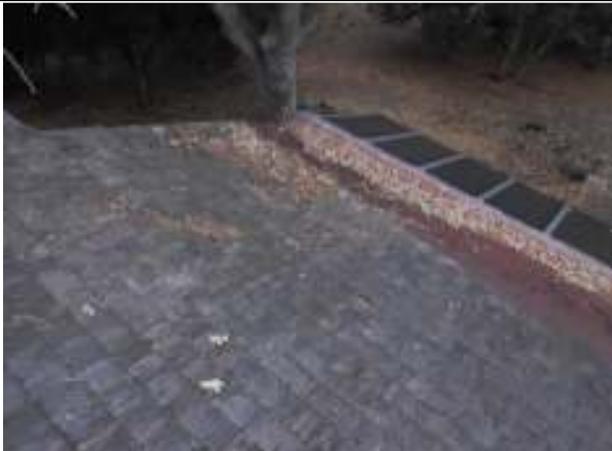
7.6 Replace all damaged roof shingles



8.1 Replace all damaged roof shingles



8.2 Remove a debris from roof, gutters, downspouts



8.3 Remove a debris from roof, gutters, downspouts



8.4 Remove a debris from roof, gutters, downspouts



8.5 Correct all flashing details



8.6 Replace or prep, repaint all damaged flashing



9.1 Correct all leaks in Skylight



9.2 Replace or prep, repaint all damaged flashing



9.3 Replace damaged roll roofing



9.4 Clean all gutters above and below screen



9.5 Replace all corrugated drain pipe with rigid/smooth



9.6 Correct Splash block installed backwards



10.1 Gas Valve and Meter, add wrench on chain



10.2 Relocate gas valve wrench to meter



10.3 Water main valve and regulator box, see below



10.4 Correct water check valve pipe leak



10.5 Water main valve and regulator



10.6 Correct hose bib valve leak



11.1 Correct Condensate line leak at fitting



11.2 Relocate condensate discharge to exterior



11.3 Add blocking to stabilize h2o heater



11.4 Correct leaks in Janitor closet faucet



11.5 Drip valves for restrooms floor drain traps



11.6 Sewer clean outs in rear



12.1 Provide additional conditioned power outlets



12.2 Provide additional conditioned power outlets



12.3 Provide signage to "Keep area clear 36"



12.4 Provide signage to "Keep area clear 36"



12.5 Signage to "Keep area clear >36"



12.6 Provide signage to "Keep area clear >36"



13.1 Remove transformer, replace plate, Janitor closet.



13.2 Replace all damaged floor receptacle plate covers



13.3 Replace all broken receptacles



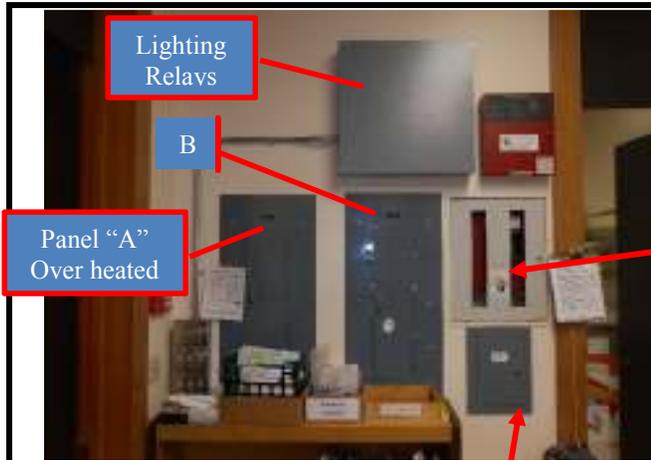
13.4 Add plate covers were missing



13.5 Correct non-working outlet with GFCI and cover



13.6 Correct non-working outlet with GFCI and cover



14.1 Panels in Staff area



14.2 Provide additional protection from exposed 120v



14.3 Replace all pointed screws with blunt tip



14.4 Add protection to 120v supply



14.5 Main panel FP label



14.6 Main Panel, main breaker and meter



15.1 Panel "A" 30 degrees hotter than ambient



15.2 Panel "A"



15.3 Panel "A"



15.4 Panel "A"



15.5 Panel "B"



15.6 Panel "B"



16.1 Panel "B"



16.2 Panel "B"



16.3 Panel "M"



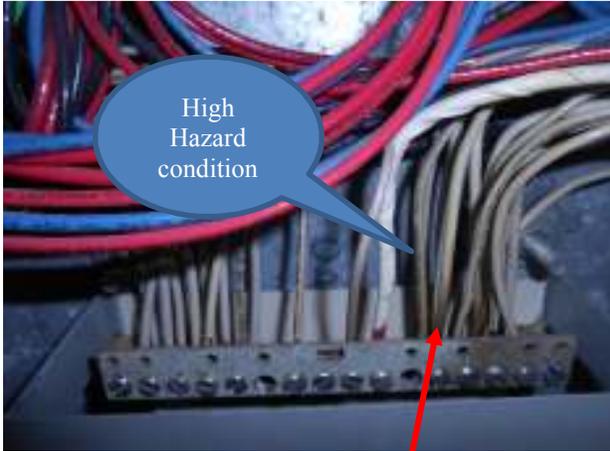
16.4 Panel "M"



16.5 Panel "M"



16.6 Panel "M"



17.1 Panel "A" overheated Naturals and breakers



17.2 Panel "A", 30 degrees over ambient temp.



17.3 Add seismic retainers to all plastic lens



17.4 Replace 5 each, FP panels at AC compressors



17.5 Replace 5 each, FP panels at AC compressors



17.6 Replace 5 each, FP panels at AC compressors



18.1 Remove all debris in crawl space

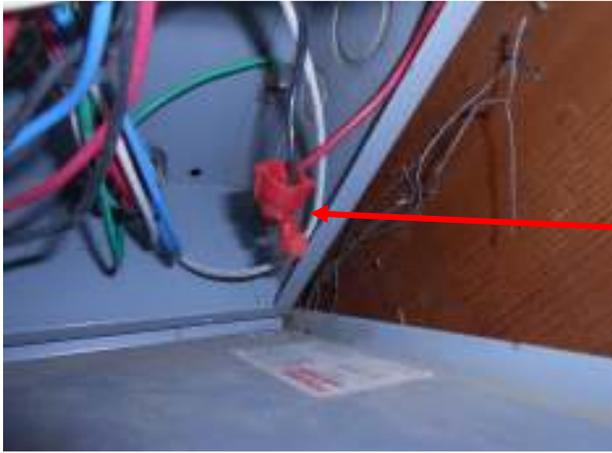


18.2 Substandard installation



18.3 Correct substandard connector installation





19.1 Over heated wire nut was corrected and replaced



19.2 Substandard install: Overheated wire nut



19.3 Substandard: Correct unsupported, open box



19.4 Substandard: Remove or terminate cut wires



19.5 Substandard: Add cable restraints <12" to box



19.5 Substandard: Add cable restraints <12" to box



20.1 Air flow? See: [https://youtu.be/apS5c\\_CG5QE](https://youtu.be/apS5c_CG5QE)



20.2 Substandard Install: tighten clamps



20.3 Substandard: Remove tape correct clamp as req.



20.4 6 AC compressors



20.5 8 Furnaces and 6 AC units



20.6 Substandard: Replace vent pipe with "B" vent



21.1 Substandard vents, add support for correct pitch



21.1 Correct duct installation



21.3 Replace all damaged AC tubing insulation



21.4 Replace all damaged AC tubing insulation



21.5 Replace dirty air filters



21.6 Correct drainage so water is not in return air duct



22.1 Clean all return air ducts



22.2 Clean all return air ducts



22.3 Clean all return air ducts



22.4 Replace crushed duct and get all ducts off dirt



22.5: 1 of 8 Furnaces, manufactured dates 1998 to 2001



22.6 Typical of all 8 furnaces



23.1 Remove carpet from restroom column



23.2 Tighten Water Closet to wall and reseat



23.3 Patch all openings in fire rated ceiling & walls



23.4 Patch all openings in fire rated ceiling & walls



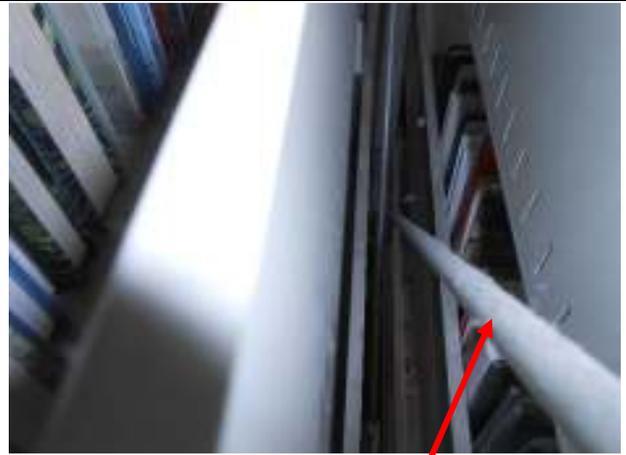
23.5 Seismic brace all cabinets and shelving



23.5 Seismic brace all cabinets and shelving



24.1 Seismic shelving braces



24.2 Seismic shelving braces



24.3 Seismic shelving braces



24.4 Seismic shelving braces



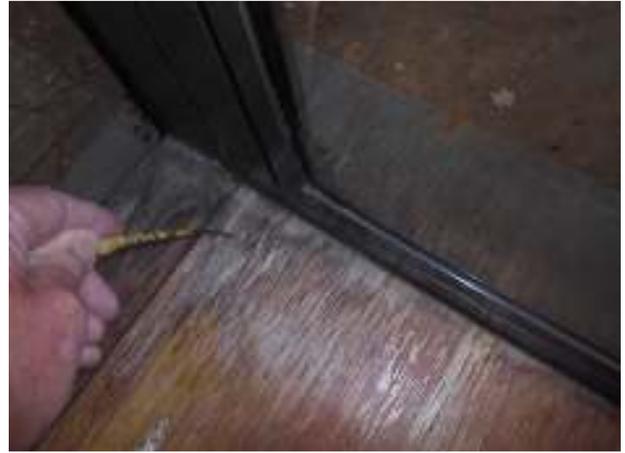
24.5 Correct trip hazard



24.6 Add upper seismic braces as required



25.1 Correct all water leaks



25.2 Correct all water leaks damage



25.3 Correct all water leaks



25.4 Correct all water leaks



25.5 Correct all water leaks



25.6 Correct all water leaks

# Inspection Overview

## DESCRIPTIVE INFORMATION

<b>Weather Conditions:</b>	• Clear Sky
<b>Temperature Range:</b>	• 60 - 80 Degrees F
<b>Orientation of the Structure:</b>	• The building was viewed looking at the front door
<b>Age of the Structure:</b>	• Estimated at 35 years, based upon the Inspector's observation
<b>Main Water Shutoff Location:</b>	• On the exterior in the front see pic 10.5
<b>Sewer Cleanout Location:</b>	• On the exterior Rear of structure see pic 11.6
<b>Electrical Panel Location:</b>	• In the basement see pics 14.1-16.6
<b>Main Disconnect Location:</b>	• In enclosure, near the electric meter see pic 14.6
<b>Main Gas Shut-Off Location:</b>	• On the exterior in the rear see pic 10.1
<b>Persons in Attendance:</b>	• Librarian, Margaret Miles; her staff; Brenden O'Hagan, Bldg. Supervisor Maintenance; David Goodwin, Senior Maintenance Electrician Supervisor; Patrons

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

### 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 Structure, 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 door.

For features inside the Structure, they will be located by imagining that you are standing in the doorway of the main entrance (front door) 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").

### Important Information Concerning Mold and Mildew

We hope that the following facts and considerations regarding mold and mildew, the scope of this Structure inspection and your family's health, will aid in your understanding of this important and timely topic:

- ◆ Mold spores are present in the outside air everywhere, even in the driest of the so-called desert climates. Thus, every Structure contains mold both inside and on all surfaces. But the mold will remain dormant until the right conditions of moisture and food become present. Accurately identifying those conditions often takes specialized skill and experience.
- ◆ Mold generates a number of mold byproducts. Particles include the mold organism, spores and fragments. Chemical byproducts include enzymes, mycotoxins and gasses. Many of these byproducts can affect susceptible people in a variety of ways, and from a health point of view it often makes no difference if the mold is dead or alive.

- ◆ Mold spores are present on the surfaces and in the cracks and pores of building materials as they are incorporated into new construction, no matter where in the world a new Structure is being built. While it is true that molds usually do not propagate if removed from a source of moisture, nevertheless they can remain in a dormant state for years waiting for the right conditions to spring into life and fill the atmosphere both inside and outside of a building with their progeny.
- ◆ Some molds give off toxic gases as an offensive “weapon”. These toxic gases aid them in killing competing molds and expanding their “territory”. These same gases can be dangerous to humans as well.
- ◆ Human reaction to, and the possible effects of, exposure to specific molds and other fungi can vary widely, *even between members of the same family exposed to the same conditions*.
- ◆ Many experts consider all molds to be potential allergens and irritants, including some toxins. Health concerns from exposure to mold in humans varies with each individual and can range from simple allergy symptoms to asthma, watery eyes, sneezing, wheezing, difficulty breathing, sinus congestion, blurry vision, sore throat, dry cough, aches and pains, fever, skin irritation, bleeding of the lungs, headaches, and memory loss.
- ◆ Searching for environmental hazards of *any* kind, including molds and/or mildew is not a part of this Structure inspection, or *any* standard Structure inspection and report. (See your Property Inspection Contract)
- ◆ Many times, mold infestations occur inside wall cavities or in an underbuilding space or attic where they cannot be seen without the destructive disassembly of the building, an activity specifically prohibited by all nationally recognized Standards of Practice governing the Structure Inspection profession. Remember, also, that *you* as the Client would be financially responsible for the repair of any damage resulting from any invasive methods used to find hidden mold growth in a building that you do not yet own!
- ◆ Unfortunately, there have been many documented cases of significant and harmful mold growths that were totally concealed and which left absolutely *no* outwardly visible symptoms of their presence.
- ◆ During your inspection, if we did come across conditions that, in our opinion, could cause or suggest the presence of these organisms, we have made every effort to note them in the report.
- ◆ **No matter whether or not we have mentioned any visible evidence or even suspicious symptoms in your report, and whether or not you or any member of your family have been known to have ever had an adverse reaction to possible mold exposure, or if you are concerned at all about these organisms being present in this Structure, we strongly recommend that you engage the services of a qualified expert that specializes in the identification of these organisms and follow their recommendations.**

# Structure

## DESCRIPTIVE INFORMATION

<b>Foundation Type:</b>	• Perimeter wall with basement slab and crawl space
<b>Exterior Wall System:</b>	• Conventionally framed wood stud
<b>Interior Bearing Walls:</b>	• Conventionally framed wood partitions
<b>Floor System:</b>	• Plywood over wood joists
<b>Roof Structure:</b>	• A combination of open beam framing and roof trusses
<b>Roof Sheathing:</b>	• Not visible – not determined
<b>Basement Access:</b>	• By way of an exterior door
<b>Crawl Space Access:</b>	• 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 Structure. No abnormal sags, cracks, or deterioration were observed.

### Beams and Girders

Where visible, the support beams or girders were performing as intended and were in satisfactory 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.

### Basement

The basement floor was a concrete slab in acceptable condition.

Silt marks on the foundation and/or other vertical features, were indications that standing water had collected in the basement. No visible associated damaged was observed. Since previous moisture entry, in the form of water stains, was evident at the time of the inspection, we recommend consulting with a Soils Engineer or geologist to determine what effective corrective measures should be considered.

### Basement Ventilation

Ventilation in the basement was adequate.

### General Comments About the Basement

All the structural elements were performing as would be expected for a structure this age and type. However, we direct your attention to the items noted. There may be other basement conditions discussed in other sections of this report.

**The hardware used to seismically-tie floor joist to the pressure treated mud sill were made of galvanized steel and has progressive corrosion, see pic 1.2. We recommend replacement of all clips, hardware, fasteners with the correct stainless steel or coated hardware type recommended by a competent, licensed structural engineer and general contractor. Review attached white paper: "Corrosion of Steel Hardware Caused by Pressure-Treated Lumber" prepared by Thor Matteson, S. E.**

## **ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE STRUCTURE 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.

### **Floor System Was Concealed By Insulation**

The floor system was concealed by thermal insulation and could not be visually inspected.

### **Anchor Bolts Could Not Be Verified**

Because of the design and/or configuration of the construction, we could not verify the presence or condition of anchor bolts.

### **Moisture Seepage Unknown During Heavy Rain**

Because of changing weather conditions and seasonal variations in rainfall, no determination of foundation wall seepage, soil moisture content and/or surface puddling and pooling in sustained and heavy rain could be made during this Structure inspection.

### **Evidence of Past Water Indicates Caution**

**Watermarks and stains on vertical surfaces in the basement see pic 1.1 and in the return air duct, see pic 21.6 indicate water entry has occurred in this area during periods of heavy rain. However, no significant damage was observed. This area should be monitored during the rainy season to determine if excess moisture accumulates. If water entry occurs, then installation of a ground water mitigation system may be required. Re-Inspection of the return air duct after heavy rains is highly recommended. If moisture is allowed in return air duct serious health issues such as legionnaires or other diseases can occur.**

### **The Buried Foundation Drainage System Was Not Visible**

No determination of the condition, extent or even presence of any perimeter foundation drainage system could be made. Their underground placement, if they are installed, renders them inaccessible for a visual inspection. It was reported to the inspector that the drainage under the front entry sidewalk has been compromised and problematic. Consider a video of the drain system to assist in determining the best corrective measures.

### **Manage Water on the Exterior to Keep it Out of the Interior**

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.

### **The Crawl Space Was Entered for Inspection**

The crawl space was entered for a closer examination.

### **Consider Installing a Vapor Barrier in the Crawl Space**

No vapor barrier had been installed in this crawl space. A vapor barrier is considered a beneficial feature. An adequate vapor barrier would help create a dry air space between the damp soil and the framing and limit the amount of moisture that is able to rise into the framing, thus reducing the possibility of future moisture damage. The vapor barrier would also help keep the moisture content of the soil at equilibrium and minimize changes in soil moisture that can cause movement in the support structure. Lastly, a vapor barrier would provide a more hospitable surface to crawl on when access to the crawl space is required during the rainy season.

### **Suggestions for Vapor Barrier Material**

The preferred material for use as a vapor barrier over soil in a crawl space is 6 mil, or thicker, polyethylene, often referred to by the brand name, "Visqueen".

# Building Exterior & Site

## DESCRIPTIVE INFORMATION

Lot Topography:	• Moderately sloped
Site Gradient:	• Slopes moderately from the front to the rear of the house
Driveway Surface:	• Asphalt
Walkway Surface:	• Concrete
Retaining Wall Material:	• Landscape timbers
Primary Exterior Cladding:	• Wood siding
Exterior Window Material:	• Anodized aluminum frame

## OBSERVATIONS & RECOMMENDATIONS

### Grading and Drainage

Surface grading was generally effective, but some adjustment of the grading at the foundation, would be beneficial.

**Grading left side 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.**

Grading and drainage related conditions under the rear deck, where the original grading or drainage plan has deteriorated over time, from lack of roof gutters and downspouts. Action should be taken soon to return the grade to its intended levels so the water drains away from structure and the earth is high enough to support the slab at the basement entry.

The location of the discharge from the drainage system could not be determined by visual inspection. We suggest observation during a heavy rain to discover the discharge location and effectiveness of the system.

**During moderate rains, the roof drainage collectors appeared to have been overflowing and spilling on the ground adjacent to the foundation. In addition, several of the drains appeared to be clogged, allowing water to collect on the walkway near the foundation. We recommend further evaluation of the entire roof drainage system followed by repair or modification as necessary to restore full function to this important exterior system.**

### Downspouts

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

### Walkways

The walkways were in acceptable condition.

### Retaining Walls

The retaining walls were deteriorated. If and when further deterioration or movement develops, repair will be necessary immediately to reduce the potential for collapse of the walls

### Shingle Siding

**Shingles on the exterior of the structure were deteriorated. This condition can result in water penetration and damage to underlying framing and other building elements. Missing or deteriorated shingles should be replaced to restore the integrity of the siding and protect underlying building elements from water damage, particularly where the water-resistant membrane under the shingles is exposed.**

**Earth to wood contact was observed in several areas on the exterior of the Structure. This was a condition conducive to infestation by wood destroying organisms and damage to wooden building elements. Damage**

to elements in these areas was observed. We recommend elimination of all earth/wood contact to reduce the potential for wood destroying organism infestation and damage. A clearance of six inches or more is suggested between wooden building elements and the soil. Any damaged material discovered in the course of this work should be removed and replaced.

### **Vegetation Considerations**

Consideration should be given to trimming or even removing the large trees that have limbs over structure, rubbing roofing, touching, or located close to the structure. We suggest consultation with a tree specialist.

### **Flashings**

The visible flashings on the Structure exterior were in acceptable condition some minor lifted sections that should be resecured, see pic 8.5.

### **Exterior Doors**

Several of the exterior doors were deteriorated and did not have safety glass as is required. These doors should be repaired and refinished to protect them from further deterioration, or they should be replaced.

The frame and/or jamb for the Left side exit door was deteriorated. All damaged components should be repaired, if possible, or replaced in a manner that complies with current industry standards.

The threshold under the entry door had not been properly secured to the structure or had come loose. We recommend that this threshold be properly secured in conformance with the manufacturer's installation instructions.

Weatherstripping around several of the doors was missing or damaged. We recommend replacement with new material specifically provided for this brand and style of door installed in strict conformance with the door manufacturer's instructions.

### **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; most large windows, and windows near doors and floors.

Safety glass was not observed in currently recommended locations. This building was constructed or remodeled after this feature was required. Safety glazing should be installed in accordance with present standards.

### **Exterior Decks**

The deck was properly constructed and generally in acceptable condition, with no need for significant maintenance or repair at this time.

### **General Comments about the Exterior**

The exterior was generally in acceptable condition, but some exterior features were in need of maintenance and repair. These conditions suggest lapses in maintenance rather than negligence or significant structural or systemic deficiencies.

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

### **The Importance of Extending Downspouts**

Extensions, splash blocks or subsurface drain lines should be installed at the bottoms of all downspouts leading from the roof surface to direct collected water away from the foundation. The gutters and downspouts are a very important part of any drainage system, as a substantial amount of water can flow from the roof surface when it is raining heavily. For example, a roof that is 15 feet by 40 feet in size can collect more than 280 gallons of water for each one inch of rainfall (enough water to fill a two-person hot tub)! The downspout system should direct this water away from the house foundation, helping to reduce the possibility of undesirable structural movement. Controlling roof drainage can also reduce the need for exterior maintenance. The gutters and downspout system should be checked regularly to ensure that it functions properly during wet weather.

### **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.

# Roof Surface

## DESCRIPTIVE INFORMATION

<b>Roof Coverage Area:</b>	<ul style="list-style-type: none"><li>• The entire Structure</li></ul>
<b>Slope, or Pitch, of the Roof:</b>	<ul style="list-style-type: none"><li>• Medium</li></ul>
<b>Roof Covering Material:</b>	<ul style="list-style-type: none"><li>• Cedar shingles</li></ul>
<b>Number of Layers:</b>	<ul style="list-style-type: none"><li>• One</li></ul>
<b>Estimated Age of Covering:</b>	<ul style="list-style-type: none"><li>• At least ten years</li></ul>
<b>Valleys Were Flashing With:</b>	<ul style="list-style-type: none"><li>• Sheet Copper</li></ul>
<b>Edges/Sides Flashing With:</b>	<ul style="list-style-type: none"><li>• Sheet Copper</li></ul>
<b>Penetrations Sealed With:</b>	<ul style="list-style-type: none"><li>• Sheet metal</li></ul>
<b>Roof Drainage System:</b>	<ul style="list-style-type: none"><li>• Gutters and downspouts</li></ul>
<b>Method of Inspection:</b>	<ul style="list-style-type: none"><li>• Inspected from the roof surface – the inspector walked upon the roof and examined it from above</li></ul>

## OBSERVATIONS & RECOMMENDATIONS

### Wood Shingle Surface

**The shingles covering the roof were weather-damaged and generally deteriorated.**

Many of the shingles were observed to be eroded warped and otherwise deteriorated.

Many of the ridge shingles were worn, deteriorated, out of place or missing.

Evidence of leakage was observed on the underside of the roof.

### Flashings

The accessible flashings were in acceptable condition. However, some will require to re-fastened, see pic 8.5 flashings should be periodically examined for signs of leakage, and repairs should be performed if necessary.

### Valley Flashings

The visible and accessible valley flashings were in acceptable condition.

### Skylight Flashings

Several of the skylight flashings were corroded. For longer service life, all exposed roof flashings should be sealed and painted in accordance with industry standards.

Roof runoff water was collected and channeled to the downspouts by a copper gutter system that was attached to the fascia boards along the edge of the roof. Consider adding gutters and downspouts to the rear roof over rear deck.

The gutters were in acceptable condition, but should be checked for debris and cleaned on a regular basis to prolong their useful life.

### Skylights

The frames of several skylights were corroded. All corroded skylight frames should be primed and painted to help prevent further deterioration.

**Several skylights showed evidence of prior leakage. All should be monitored for active leakage and repaired or replaced, if necessary.**

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, and debris from the trees had accumulated on the roof and was obstructing the free flow of roof runoff. Nearby trees should be trimmed to avoid damage to the roof surface and obstruction of roof runoff.

#### **General Commentary on the Roof**

The age of this roof placed it beyond its expected service life. Although it may be reliable at present, the need for replacement should be expected in the near future.

### **ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE ROOF SURFACE 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.

# Plumbing System

## DESCRIPTIVE INFORMATION

<b>Domestic Water Source:</b>	• Municipal/Community supply
<b>Main Supply Line Material:</b>	• Copper, where visible
<b>Supply Piping Material:</b>	• Copper, where visible
<b>Water Pressure:</b>	• At the mid-range of normal
<b>Waste Disposal:</b>	• Municipal/Community collection system
<b>D,W,V Pipe Material:</b>	• Cast iron

## OBSERVATIONS & RECOMMENDATIONS

SUBSTANDARD new plumbing workmanship in crawl space located under handicap restroom

An unusual amount of forced air was blowing into the crawl space at the cast iron drain line, see pic 20.1 and YouTube video: [https://youtu.be/apS5c\\_CG5QE](https://youtu.be/apS5c_CG5QE) correct the air leak to stop the flow of air.

Required pipe clamps were not tightened as required at the waste-line connector, see pic 20.2. Tighten to pipe clamp to manufactures specification so the possibility of leaks is prevented.

Remove tape and correct a connector and pipe support, see pic 20.3 to prevent a possible failure of the waste-line.

### 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 structural inspection, see pic 10.5. Operation of the valve from time to time will keep it functional and maximize its useful life.

### Main Water Supply

Correct water leaks at check valve location see pic 10.4.

### Interior Water Supply

Correct leaking AC condensation drain pipe between furnace 3 and 4 was leaking in the basement see pic 11.1.

Relocate discharge and clean debris inside of AC condensation pipe to allow discharge to exterior and not to crawl space, see pic 11.2

Correct leaks or replace valves in Janitor's closet, see pic 11.4

We recommend that a competent, licensed plumbing contractor repair all leaks in piping and valves as soon as possible.

### Water Pressure

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

### Pressure Regulator

A pressure regulator was installed downstream of the main water supply shut off valve to maintain water pressure at an acceptable level where pressure in the water main is high. Testing of the pressure regulator is outside the scope of a Structure inspection, however, no adverse conditions were observed.

**Fixtures: Overall**

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

**General Comments About The Plumbing System**

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

**Fixtures: Overall**

Handicap water closet needs to be tighten to wall and re sealed to wall

# Water Heater

## DESCRIPTIVE INFORMATION

<b>Water Heater Location:</b>	• Janitor Closet
<b>Energy Source:</b>	• Electricity
<b>Storage Capacity:</b>	• 19.9 Gallons
<b>Water Heater Age:</b>	• 3 years, from Serial Number
<b>Water Heater Configuration:</b>	• Free standing tank
<b>Vessel Insulation:</b>	• 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 discharge pipe from the temperature and pressure relief valve for the water heater was pitched “uphill”, a configuration which can cause corrosion and malfunction of the valve, a potentially serious hazard. A discharge pipe, conforming to the temperature and pressure relief valve manufacturer’s specifications and local requirements, should be installed so as to exit at an approved location.

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

### General Comments About The Water Heater

This water heater was in the middle of its anticipated service life and was operating satisfactorily. With routine maintenance, it should be reliable for several more years.

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

### Why is a Discharge Pipe Required on Every T & P Relief Valve?

The function of the T & P Relief valve, which is required on every water heater, is to allow excessive pressure to safely escape the tank without causing damage to the vessel or the surroundings. Excessive pressure can be caused by a variety of conditions, including too high an internal temperature, which could even cause the water to flash to steam. In any case, when the valve discharges (as is its intended function), it will spray very hot water or even steam from its exit opening. If no discharge pipe has been installed to safely conduct this scalding water (or steam) to the floor, or to the exterior of the building, nearby persons could be seriously burned.

# Electrical System

## DESCRIPTIVE INFORMATION

<b>Service Entry Type:</b>	• Underground lateral
<b>Electric Meter Location:</b>	• Basement
<b>Service Voltage Supplied:</b>	• 120/208 3 Phase
<b>System Amperage Capacity:</b>	• 400
<b>Based Upon:</b>	• The rated capacity of the main circuit breaker
<b>System Grounding Source:</b>	• Not visible, not inspected
<b>Circuit Protection:</b>	• Circuit breakers
<b>Conductor Material:</b>	• Copper, exclusively
<b>Wiring Type:</b>	• Rigid and flexible conduit

## OBSERVATIONS & RECOMMENDATIONS

### 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 normal for a Structure of this size and age, and was adequate for the existing demand and small additional loads.

### The Main Distribution Panel

**The distribution panels in this structure and at the exterior AC compressors had been manufactured by the Federal Pacific Company. Federal Pacific panels have not been manufactured for some time. Of greater concern is the fact that, in exhaustive laboratory testing, an unacceptably high proportion of Federal Pacific circuit breakers have failed to trip at their rated amperage. Because such malfunctions could result in serious personal injury or property loss, we recommend further examination of all Federal Pacific equipment in this building by a competent, licensed electrician who should either certify the equipment as safe and adequate or replace it, as appropriate. Because repair parts are not readily available for these panels, and because of their inherently unreliable performance, you should be prepared for the possibility Federal-Pacific Brand Electrical Panel “A” was overheated at the time of the inspection by 30 degrees above ambient and needs replacement as soon as possible**

### SUBSTANDARD new electrical workmanship in crawl space located under staff area

**Remove all debris in crawl space, see pic 18.1.**

**Cable connectors for connection to junction box are showing incorrect strain and are pulling the knockout out of the box, see pic 18.3. Cables should be corrected to take any strain off and correct the knockouts.**

**Open, or “un-occupied” holes was observed in an electrical junction or receptacle box Junction box in crawl space, see pic 18.4 where a “knockout” had been removed. To reduce this safety hazard, and opportunity for rodent entry, the hole should be closed with a special filler plug made for this purpose.**

**Cables are under excessive strain and run are missing required support clips, see pic 18.5 Excessive strain on cables will lead to their premature failure. Remove the excess strain on the cables or replace them and add clips as required.**

**Cables are run on the ground, see pic 18.6. Cables in contact with ground can fail prematurely from the collected moisture. Re-run cables to underside of floor joist.**

**Arching wires melted a wire nut, see pics 19.1 and 19.2. The possibility of fire from such a condition is a very real concern. This wire nut was replaced during the inspection. All others in the area should be examined and corrected as soon as possible to prevent the possibility of fire or a shorted circuit.**

**Install cover plate on 4x4 open box, see pic 19.3.**

**Abandoned wiring was observed, see pic 19.4. Abandoned wiring should be removed, disconnected at its source or terminated in a covered junction box to reduce the inherent risk to personal safety.**

**Several cables were missing the required retaining clip or staple within 12" of the box, see pics 19.5 and 19.6 and should be correctly installed.**

**All above substandard work should be reviewed and repaired by a qualified, competent, licensed electrician as soon as possible**

#### **Electrical Conductor Material – The “Wire”**

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

#### **Receptacles; Overall**

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

A number of floor receptacles were missing their cover doors, see pic 13.2. Replace all damaged floor plates.

Install all missing cover plates, see pic 13.4

#### **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 SYSTEM INSPECTION**

### **Federal-Pacific Brand Electrical Panels**

Distribution panels in this structure had been manufactured by the Federal Pacific Company. Federal Pacific panels and circuit breakers have not been manufactured for some time. Of greater concern is the fact that some Federal Pacific circuit breakers have failed to trip at their rated amperage. As an upgrade, we recommend serious consideration be given to replacing any Federal Pacific panels in the electrical system.

# Heating System

## DESCRIPTIVE INFORMATION

<b>8 Heat Plant Location:</b>	<ul style="list-style-type: none"><li>• In the basement</li></ul>
<b>Heating Fuel:</b>	<ul style="list-style-type: none"><li>• Natural Gas</li></ul>
<b>BTU Input Rating:</b>	<ul style="list-style-type: none"><li>• 110,000</li></ul>
<b>Heating Plant Age:</b>	<ul style="list-style-type: none"><li>• Age from Data Plate 14 and 17 years</li></ul>
<b>The Air Filter Type:</b>	<ul style="list-style-type: none"><li>• Disposable media</li></ul>
<b>Number of Zones:</b>	<ul style="list-style-type: none"><li>• 8 Zone system</li></ul>
<b>Wall Insulation Type:</b>	<ul style="list-style-type: none"><li>• Fiberglass</li></ul>
<b>Floor Insulation Type:</b>	<ul style="list-style-type: none"><li>• Fiberglass</li></ul>

## 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.

### Exhaust Venting System

**The heating system vent had been installed in a substandard manner. The vent system should be reinstalled or replaced with new components obtained from the original manufacturer and installed by a competent heating technician in strict accordance with the manufacturer's installation**

**Each section of the vent and vent connector for the heating plant should be properly supported, see pic 21.1 and secured with appropriate mechanical fasteners in accordance with the vent component manufacturer's installation instructions, see pic 21.2. Make all required correction.**

**The vent connector had insufficient upward slope, which caused inadequate flow of exhaust to the vertical flue and spillage of exhaust at the draft hood. The spillage of combustion products is a safety hazard for persons in the vicinity when the furnace fires. This condition should be addressed immediately. The flue should be cleared and/or reconfigured to provide proper venting.**

### General Comments About The Heating System

The 8 heating systems were near the end of its expected service life. Although it responded to normal operating controls, the need for replacement should be expected within the next few 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 Structure inspection.

**The return duct should be cleaned, there was about ¼" of dust that had accumulated on fins and bottom of duct. Cleaner ducts will provide a safer and healthier environment, see pic 22.1. Remove all debris in ducts below grilles see pic 22.2.**

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

The heating plant in this structure 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.

### **Monitor Low-hanging Ducts Under The House**

Some of the ducts were close to, or in contact with, the soil, creating a condition of mold. The condition of the ducts should be monitored for evidence of mold and repositioned to increase the space between them and the soil, as necessary.

# Cooling System

## DESCRIPTIVE INFORMATION

- Type of Cooling System:** • 6 Central air conditioning systems sharing distribution with a gas fired furnace  
**Energy Source for Cooling:** • Electricity  
**Cooling System Age:** • 14 and 17 Years, from Serial Number

## OBSERVATIONS & RECOMMENDATIONS

Cooling was accomplished by electrically powered refrigerant compression, with the cooling (evaporator) coil mounted adjacent to the gas fired furnace.

### Cooling Equipment Compressor/Condenser

The condensing unit was in acceptable condition.

### Notes On The Evaporator Coils

An evaporator coil is the component of an air conditioning or heat pump system that transfers or absorbs heat from the air passing through it to a liquid refrigerant. In doing so, the liquid refrigerant remains within the system as it is evaporated or boiled off to a gas while making its way through the evaporator.

The evaporator coils were visible, and no evidence of any negative condition was discovered. The evaporator coils operated properly, overall.

### Refrigerant Lines

Refrigerant lines connect the evaporator coil and the condenser in an air conditioning or heat pump system. The “hot” side of the lines is the conduit through which collected heat from the living area is conveyed to be released through the condenser outdoors. Normally, the “cold”, or the suction, or return side of the refrigerant lines is the larger of the two and should be insulated.

**Insulation was deteriorated and missing from a portion of the refrigerant lines near the condensing units and coils, see pics21.3 and 21.4. All missing or damaged insulation should be replaced to restore the energy efficiency of the system. A protective cover should be added to all condenser lines for the pipes and insulation protection.**

The air filter for the cooling unit were conventional disposable media filters.

The filters had accumulated debris, which decreased their effectiveness and blocked airflow. This can dramatically decrease the efficiency of the system. Properly sized air filters should be installed and secured in the correct orientation in this unit to filter out dust, preventing reentry in the occupied interior, and helping to keep the blower and ductwork clean.

**The local disconnect enclosure was corroded and deteriorated. This reduces the reliability of the equipment and connections within the disconnect. Any damaged, improperly installed or deteriorated local disconnect equipment should be repaired or replaced by a qualified, licensed electrician who should certify that the work has been completed in a manner that leaves the system safe and dependable.**

### **General Comments About The Cooling System**

The cooling equipment was old according to manufacturer expectations, but responded to user operating controls and was generally in acceptable condition. Although still operational, the need for replacement should be expected very soon.

## **ADVICE, PRECAUTIONS & CONDITIONS AFFECTING THE SCOPE OF THE COOLING SYSTEM INSPECTION**

### **Scope of the Air Conditioning System Inspection**

Inspection and evaluation of the condition of the cooling system was limited to visible components and their basic functions. A full evaluation of the condition of the central air conditioning equipment requires extensive testing and is beyond the scope this inspection.

### **Do Not Operate A/C System When It Is Below 65 Degrees Outside**

Some authorities recommend running the compressor intermittently (perhaps once a month for a few minutes) during the season to keep the seals lubricated and pliable so that they will not begin to leak as soon. Extreme care must be taken to insure that the compressor is NOT operated when the outside temperature is below 65 degrees Fahrenheit, or serious damage may occur to the compressor itself!

The lubricant placed inside the factory sealed compressor unit of an air conditioning system during manufacturing will become very viscous (thick, like syrup) when subjected to cool temperatures. When it becomes thick, it will not circulate properly and doesn't adequately coat all of the internal moving parts.

For this reason, manufacturers of air conditioning compressors strongly recommend against running these units for any length of time when the outside temperature is below 65 degrees Fahrenheit. To do so invites the risk of mechanically seizing the compressor. Once a compressor has seized, the only course of action that can restore proper operation is to completely replace the compressor itself

### **Replace, Rather Than Repair**

Because of the age, efficiency and general condition of the air conditioning equipment, any funds being considered to repair might better be invested in replacement with a new, far more efficient system.

# Interior Components

## DESCRIPTIVE INFORMATION

<b>Window Material:</b>	• Anodized aluminum frame
<b>Window Glazing:</b>	• Single pane
<b>Wall Finish:</b>	• Gypsum wallboard, commonly called “Drywall”
<b>Ceiling Finish:</b>	• Gypsum wallboard, commonly called “Drywall”
<b>Floor Covering:</b>	• Carpet • Floor Tile

## 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.

### Floors

The floors had a good appearance and were in acceptable condition.

### Interior Doors

The interior doors were properly installed and in acceptable condition.

### Windows

**Moisture was observed around several windows. The moisture most likely has resulted from leakage. These windows should be monitored for moisture problems and appropriate corrective action implemented.**

All windows were locked and screwed closed and rendered inoperable.

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 glass at several required locations did not display markings indicating that it was safety glass. These areas were constructed or remodeled after this feature was required, thus safety glazing should be installed in accordance with present standards.

### Skylights

**Water staining was evident on the surfaces below the skylights. However, these surfaces were dry at the time of this inspection and no active leaking was observed. We recommend further monitoring followed by repair as necessary**

### The Fireplace

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. The Fireplace was found to be functional as designed and intended and was judged to be in acceptable condition.

### **General Comments About the Interior**

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.

The interior surfaces, hardware, fixtures, doors and windows were properly installed and generally in acceptable condition with exceptions noted.

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

### **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 cannot be responsible for identification of damage that was concealed during our inspection.

### **Resilient Flooring is Better in Bathrooms**

One or more of the bathrooms in this structure were carpeted. While carpet may be a comfortable surface, it can hold moisture, develop mold and mildew, and hide potential leaks and damage to the subflooring. We suggest replacement of the carpet with a solid surface such as tile or a resilient surface such as vinyl flooring.

### **Consider Upgrading the Single Pane Windows**

The windows in this Structure were single glazed only. In spite of the fact that they have undoubtedly given years of good service, we recommend consideration be given to upgrading to modern, double-pane windows for improved operation and increased energy efficiency.

The glass at several required locations did not display markings indicating that it was safety glass. These areas were constructed or remodeled after this feature was required, thus safety glazing should be installed in accordance with present standards.

### **This Structure Was On a Central Alarm System**

The smoke detector in this area was connected to a central alarm system and, therefore, could not be tested. A schedule of maintenance and testing of the alarm system should be arranged with an alarm service company.

### **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.

## **End of Inspection Report**