



HEDDERMAN ENGINEERING, INC.

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MECHANICAL REPORT

1234 Lehman St
Houston, TX 77018



Inspector

Luis Mireles

TREC#22797

281-355-9911

office@hedderman.com



PROPERTY INSPECTION REPORT FORM

Frank Knott & Bonnie Reay <i>Name of Client</i>	04/26/2024 9:00 am <i>Date of Inspection</i>
1234 Lehman St, Houston, TX 77018 <i>Address of Inspected Property</i>	
Luis Mireles <i>Name of Inspector</i>	TREC#22797 <i>TREC License #</i>
<i>Name of Sponsor (if applicable)</i>	<i>TREC License #</i>

PURPOSE OF INSPECTION

A real estate inspection is a visual survey of a structure and a basic performance evaluation of the systems and components of a building. It provides information regarding the general condition of a residence at the time the inspection was conducted. *It is important* that you carefully read ALL of this information. Ask the inspector to clarify any items or comments that are unclear.

RESPONSIBILITY OF THE INSPECTOR

This inspection is governed by the Texas Real Estate Commission (TREC) Standards of Practice (SOPs), which dictates the minimum requirements for a real estate inspection.

The inspector IS required to:

- use this Property Inspection Report form for the inspection;
- inspect only those components and conditions that are present, visible, and accessible at the time of the inspection;
- indicate whether each item was inspected, not inspected, or not present;
- indicate an item as Deficient (D) if a condition exists that adversely and materially affects the performance of a system or component **OR** constitutes a hazard to life, limb or property as specified by the SOPs; and
- explain the inspector's findings in the corresponding section in the body of the report form.

The inspector IS NOT required to:

- identify all potential hazards;
- turn on decommissioned equipment, systems, utilities, or apply an open flame or light a pilot to operate any appliance;
- climb over obstacles, move furnishings or stored items;
- prioritize or emphasize the importance of one deficiency over another;
- provide follow-up services to verify that proper repairs have been made; or
- inspect system or component listed under the optional section of the SOPs (22 TAC 535.233).

RESPONSIBILITY OF THE CLIENT

While items identified as Deficient (D) in an inspection report DO NOT obligate any party to make repairs or take other actions, in the event that any further evaluations are needed, it is the responsibility of the client to obtain further evaluations and/or cost estimates from qualified service professionals regarding any items reported as Deficient (D). It is recommended that any further evaluations and/or cost estimates take place prior to the expiration of any contractual time limitations, such as option periods.

Please Note: Evaluations performed by service professionals in response to items reported as Deficient (D) on the report may lead to the discovery of additional deficiencies that were not present, visible, or accessible at the time of the inspection. Any repairs made after the date of the inspection may render information contained in this report obsolete or invalid.

REPORT LIMITATIONS

This report is provided for the benefit of the named client and is based on observations made by the named inspector on the date the inspection was performed (indicated above).

ONLY those items specifically noted as being inspected on the report were inspected.

This inspection IS NOT:

- a technically exhaustive inspection of the structure, its systems, or its components and may not reveal all deficiencies;
- an inspection to verify compliance with any building codes;
- an inspection to verify compliance with manufacturer's installation instructions for any system or component and DOES NOT imply insurability or warrantability of the structure or its components.

NOTICE CONCERNING HAZARDOUS CONDITIONS, DEFICIENCIES, AND CONTRACTUAL AGREEMENTS

Conditions may be present in your home that did not violate building codes or common practices in effect when the home was constructed but are considered hazardous by today's standards. Such conditions that were part of the home prior to the adoption of any current codes prohibiting them may not be required to be updated to meet current code requirements. However, if it can be reasonably determined that they are present at the time of the inspection, the potential for injury or property loss from these conditions is significant enough to require inspectors to report them as Deficient (D). Examples of such hazardous conditions include:

- malfunctioning, improperly installed, or missing ground fault circuit protection (GFCI) devices and arc-fault (AFCI) devices;
- ordinary glass in locations where modern construction techniques call for safety glass;
- malfunctioning or lack of fire safety features such as smoke alarms, fire-rated doors in certain locations, and functional emergency escape and rescue openings in bedrooms;
- malfunctioning carbon monoxide alarms;
- excessive spacing between balusters on stairways and porches;
- improperly installed appliances;
- improperly installed or defective safety devices;
- lack of electrical bonding and grounding; and
- lack of bonding on gas piping, including corrugated stainless steel tubing (CSST).

Please Note: items identified as Deficient (D) in an inspection report DO NOT obligate any party to make repairs or take other actions. The decision to correct a hazard or any deficiency identified in an inspection report is left up to the parties to the contract for the sale or purchase of the home.

This property inspection report may include an inspection agreement (contract), addenda, and other information related to property conditions.

INFORMATION INCLUDED UNDER "ADDITIONAL INFORMATION PROVIDED BY INSPECTOR", OR PROVIDED AS AN ATTACHMENT WITH THE STANDARD FORM, IS NOT REQUIRED BY THE COMMISSION AND MAY CONTAIN CONTRACTUAL TERMS BETWEEN THE INSPECTOR AND YOU, AS THE CLIENT. THE COMMISSION DOES NOT REGULATE CONTRACTUAL TERMS BETWEEN PARTIES. IF YOU DO NOT UNDERSTAND THE EFFECT OF ANY CONTRACTUAL TERM CONTAINED IN THIS SECTION OR ANY ATTACHMENTS, CONSULT AN ATTORNEY.

ADDITIONAL INFORMATION PROVIDED BY INSPECTOR

Hedderman Engineering, INC.:

>It is the purpose of this report to give our client my educated and experienced opinion of the condition and function of the stated property as visually inspected by Hedderman Engineering, Inc. The inspection performed on this property is of a general nature and includes the following systems: electrical, mechanical, and plumbing. This does not include any specialized inspections and/or inspections of any hazardous materials (such as done in environmental inspections) or any of the following: structural systems, mold, audio/visual components, lighting control systems, hazardous materials and gases, rated walls, lead paint, destructive insects or pest, security items, water or air treatment systems, etc. This inspection is limited to those components which were visible and readily accessible at the time of the inspection, without disassembling or removal of any portion of the structure, mechanical equipment, plumbing equipment, or electrical wiring and equipment is beyond the scope of this inspection. It is noted that this report contains the opinions of this inspector of the stated property as it appeared on the day of the inspection and is in no way a warranty of any component in the days and future following the inspection. All mechanical components are judged on the basis of age, condition, and the function of those items as they appeared on the day of the inspection and are not guaranteed to continue functioning in that manner in the future. It is recommended that the our client purchase a home warranty policy to protect oneself from both unexpected and anticipated problems that may occur in the future.

>It is noted that Hedderman Engineering Inc. is not responsible for any problems found in the house during or after components are opened up, disassembled, uncovered, made visible, or made accessible by another entity after the inspection is completed.

>If a builder or service contractor examines an area of question and comes to the conclusion that there is no repair needed, have them present to you in writing that the item is in compliance with a prevailing code and is functioning properly, and not in need of repair.

>It is the intent of this inspector to work in compliance with the Standards Of Practice For Real Estate Inspectors. It is not required of this company to exceed these standards. You may obtain a copy of the document referred to above by contacting the Texas Real Estate Commission. It is also noted that this inspection is not a "code inspection", but rather an inspection of the condition and function of the stated property.

>Although this report may include observations of some building code violations, total compliance with mechanical, plumbing, electrical codes, specifications, and/or legal requirements are specifically excluded. We do not perform "code" inspections, and since building codes change every few years, our inspections are not performed with the intention of bringing every item in the

property into compliance with current code requirements. Rather, the standard of our inspections is a **performance standard** to determine if the items inspected are functioning at the time of the inspection, or are in need of repair. This is particularly applicable to Home Warranty policies, where the standards of the Home Warranty service company are often different than our stated performance standard for judging whether a piece of equipment is functional or in need of repair. If you intend to rely on a Home Warranty policy, then it is recommended that you contact the appropriate service companies for a more in-depth analysis of what may be required to meet their standards should a claim be made against the policy.

>If there are any questions or concerns please contact Hedderman Engineering, Inc. at 281-355-9911 or Office@HeddermanEngineering.com.

I. STRUCTURAL SYSTEMS

- A. Foundation**
Comments:
- B. Grading and Drainage**
Comments:
- C. Roof Covering Materials**
Comments:
- D. Roof Structures & Attics**
Comments:
- E. Walls (Interior and Exterior)**
Comments:
- F. Ceilings and Floors**
Comments:
- G. Doors (Interior and Exterior)**
Comments:
- H. Windows**
Comments:
- I. Stairways (Interior and Exterior)**
Comments:
- J. Fireplaces and Chimneys**
Comments:
- K. Porches, Balconies, Decks and Carports**
Comments:

The structural portions of this property were inspected by an engineer from Hedderman Engineering Inc. per the inspection agreement between this firm and our client. All comments regarding the structure and property grade are found in the structure report that is created and provided by the engineers at Hedderman Engineering Inc.

According to HAR, the house was built in 1956.

Orientation - House Facing South:

For the purpose of the inspection, North is considered to be the rear of the house.

I=Inspected

NI=Not Inspected

NP=Not Present

D=Deficient

I NI NP D

II. ELECTRICAL SYSTEMS

A. Service Entrance and Panels

Comments:

Electrical System Description:

The electrical service is provided by a 120/240 volt, single-phase, 200-ampere overhead service to an electric meter located at the north side of the house.

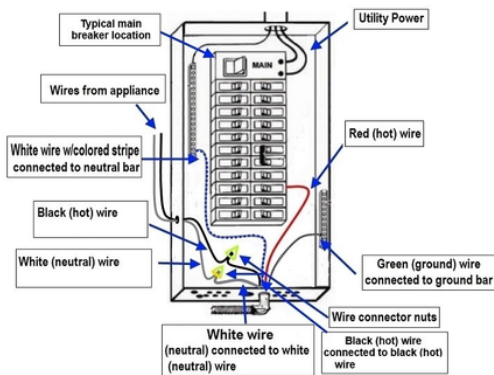
Electrical Wiring Information

<u>Service Wires</u>	<u>Branch Circuit Wires</u>	<u>Grounded or Ungrounded System</u>
Copper	Copper	Ungrounded and grounded

Breaker Panel Information

<u>Location</u>	<u>Manufacturer</u>	<u>Rating - Amps</u>
North	G. E.	200

Circuit Breaker Wiring Diagram



Breakers - Routine Check:

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I	NI	NP	D
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It is a general recommendation that all circuit breakers be tripped off and on at least once a year to ensure that they are still physically able to trip off. Occasionally, the points on a breaker will fuse to the main bus in the panel, preventing the breaker from tripping off, even if there is an overload on the circuit. If this condition occurs, it can be a fire hazard.

AFCI Breakers Not Present - Home built pre-AFCI:

The breaker panel(s) did not contain any Arc Fault Circuit Interrupters (AFCI). This is an “as-built” condition, that does not meet current building code standards. AFCI devices are intended to protect against fires caused by electrical arcing in the wiring, by shutting off the power to the circuit when an electrical arc is detected in the circuit. Homes built prior to 2002 were not required by the National Electrical Code (NEC) to be protected by AFCI devices. Since this home was built prior to 2002, the breaker panel is not required to be retrofitted with new AFCI breakers. If adding AFCI breakers is desired, it is recommended that you contact an electrician for further information.

1: Surge Protector- Not installed

A surge protector device (SPD) was not installed for the electrical system. In the 2020 National Electric Code, a Type 1 or Type 2 surge protective device became required for new construction and for existing houses when the service panel is replaced. An SPD may be integral to or adjacent to the electrical service panel. If further information is desired, it is recommended that an electrician be contacted.

Obtain Cost Estimate

Recommendation: Contact a qualified professional.

2: Power Wire - White insulation

We observed one or more white wires that were used as a power wires, and were connected to a circuit breaker. Typically, the white wires are the grounded/neutral conductors, and if they are used as a power conductor, they must be permanently marked or wrapped with black or red tape to identify them as a “hot” ungrounded conductor.

Obtain Cost Estimate

E3407.3

3: Breakers - Not Labeled

All of the breakers were not labeled to identify the circuits they were protecting. It is recommended that an electrician be contacted to specifically identify each circuit.

Obtain Cost Estimate

B. Branch Circuits, Connected Devices, and Fixtures

Type of Wiring: Copper -

Comments:

GFCI Outlet - Functional : Kitchen counter tops, All bathrooms, Exterior of house -
Outlets that were protected by ground fault circuit interrupt (GFCI) devices were present and functioning properly at the time of the inspection. The GFCI devices were checked and the power to the outlets turned off when the test buttons were pressed. It is pointed out that GFCI devices can stop tripping and/or resetting properly at any point. The devices should be tested periodically and replaced when necessary.

Exterior Light Fixtures - Sensors/Timers:

Several of the exterior lights appeared to be on a daylight sensor or timer, and will not come on until it gets dark. Since it was not dark, the lights were not checked at the time of the inspection. Further investigation is recommended.

Low Voltage Systems - Not inspected:

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I NI NP D

It is pointed out that low voltage systems, low voltage wiring, and low voltage connections were not included in the scope of the inspection and were not checked, including: audio/visual systems, alarm systems, data lines, and phone lines. If further investigation is desired, it is recommended that a service company be contacted.

Smoke and Carbon Monoxide Detectors:

We could not determine if the smoke and/or carbon monoxide detectors are connected to the security alarm system as is common practice, therefore, to avoid triggering the security alarm we did not operationally check each device. Further investigation is recommended with a service company who specializes in this field to determine if the devices are interconnected as currently required and functioning properly. For safety purposes, it is recommended that smoke detectors and carbon monoxide detectors be replaced every ten years. Further investigation is recommended.

1: Dryer 240-volt Outlet - Pre-GFCI Protection Requirement

The 240-volt dryer outlet does not have ground fault protection (GFCI) and does not meet the current National Electrical Code requirements. It is pointed out that this home was constructed prior to this current requirement. GFCI protection is intended to turn off the power to the dryer should a ground fault be detected in the circuit or appliance. If this condition concerns you, it is recommended that an electrician be contacted to make the necessary repairs to update the 240-volt dryer circuit. It is pointed out, depending on the method in which the electrician provides the GFCI protection, the electrician may need to modify the bonding jumper wire inside the dryer to enable the dryer to operate properly with GFCI protection.

Obtain Cost Estimate

Recommendation: Contact a qualified professional.

2: GFCI - Missing at outlet

Washing machine, Garage -

A GFCI device was not installed at one or more locations that are currently required to have GFCI protection. It is recommended that an electrician install GFCI devices at all of the currently required locations.

Obtain Cost Estimate

Recommendation: Contact a qualified professional.

3: Ungrounded Outlets - Throughout house

Three prong outlets that were not grounded properly were located throughout the house. It is recommended that an electrician be contacted to repair the outlets in an approved manner.

Obtain Cost Estimate

4: Outlet - Reversed polarity

Southeast bedroom,

An outlet in which the hot and neutral (black and white) wires were reversed, causing reversed polarity.

Obtain Cost Estimate

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5: Ceiling Fan - No remote control

Living room,

The remote control for one or more of the ceiling fans were not present and the fans could not be operated.

Further investigation is recommended

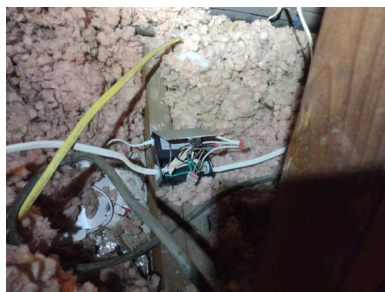
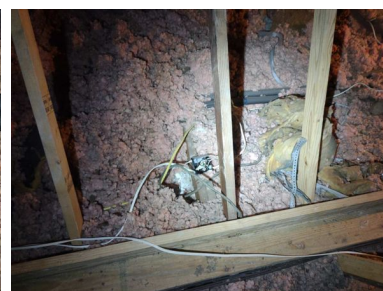
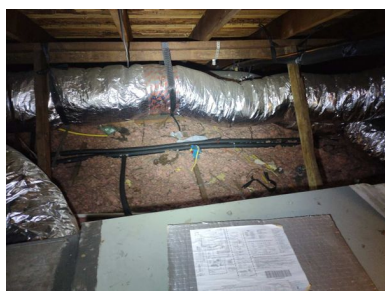
Recommendation: Contact a qualified professional.

6: Open junction box

Attic

An open junction box that was missing a cover was observed.

Obtain Cost Estimate



7: Gas and/or Water Piping - Bonding Not visible

The location(s) where the water supply piping and/or gas supply piping were bonded together and/or back to the electrical ground system were not visible at the time of the inspection. It is recommended that an electrician be contacted to determine if the plumbing in the house is properly bonded and to make any needed repairs.

Obtain Cost Estimate

Recommendation: Contact a qualified professional.

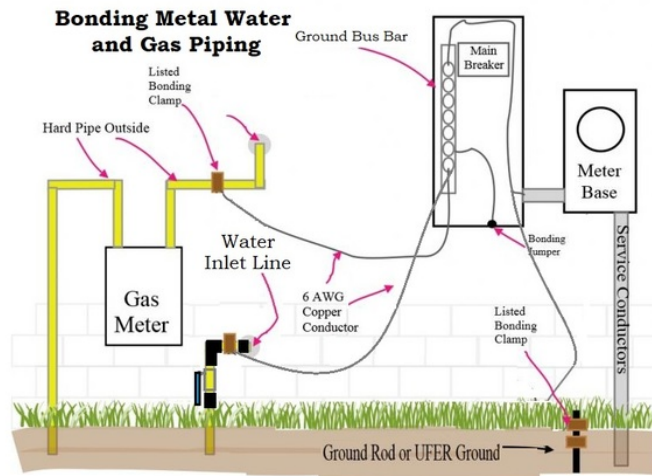
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8: Carbon Monoxide Detectors - Current standards not met

Carbon monoxide detectors were not installed at all of the currently required locations and it is recommended that approved carbon monoxide detectors be installed. Currently, carbon monoxide detectors are required outside each sleeping area.

Obtain Cost Estimate

Recommendation: Contact a qualified professional.

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III. HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS

A. Heating Equipment

Comments:

Type of System: Forced Air

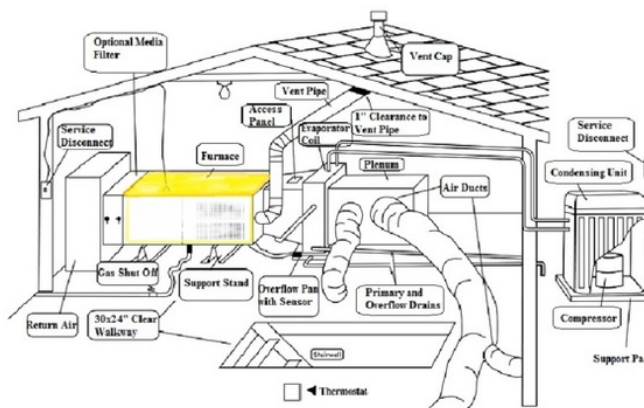
Energy Sources: natural gas

It is pointed out that our inspection of the air conditioning and heating system(s) is a limited, visual inspection in accordance with the TREC SOP, where we check the equipment as it has been installed to determine whether or not the system(s) is cooling and/or heating at the time of the inspection. Our inspection is a cursory inspection of the apparent function, as we do not determine the sizing, adequacy, or design of any component in the system, or the compatibility of the individual components, nor the installation of the system(s) to be in conformity to the latest building code requirements. If you desire an in-depth analysis of the HVAC system(s) by a qualified service technician using specialized diagnostic equipment, then it is recommended that a service company be contacted to analyze the system(s). This is particularly important if the system(s) is an older system and has only a limited amount of remaining life due to its age and/or condition.

Gas Furnace Description:

The heating for the property was provided the following natural gas-fired equipment:

<u>ZONE</u>	<u>BRAND</u>	<u>BTU</u>	<u>DATE</u>	<u>LOCATION</u>
House	Trane	100k	2012	attic



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I NI NP D

Heating Equipment - Functional:

The heating equipment was observed to be operating and functional at the time of the inspection. The heating equipment responded to the thermostat(s) and the equipment appeared to be heating the air adequately.

Limited life:

Due to the age and/or condition of the equipment, it is our opinion that the equipment has only a limited amount of remaining life.

Heat Exchanger - Information:

Gas furnaces are constructed in such a way that the units must be dismantled in order to view the entire heat exchanger inside. The equipment was not dismantled, and the heat exchanger was not able to be viewed for evidences of cracks. If further investigation is desired, it is recommended that a service company be contacted to dismantle the equipment. It is pointed out, for safety purposes, the heat exchanger should be inspected by an HVAC service company once a year.

1: Attic Decking - Inadequate to equipment

The attic did not have adequate service decking to and/or in front of the equipment. The platform decking should be a continuous deck that is a minimum of 30 inches wide, that extends along all sides of the appliance where access is required. In addition, the decking should be free from any obstructions, such as gas lines, electrical wiring, duct work, framing members, etc.

Obtain Cost Estimate

M1305.1.3

2: Thermostat - replace batteries

The thermostat batteries need to be replaced.

Obtain Cost Estimate



Inspector used new batteries for inspection only

3: Sediment trap missing

Sediment traps were not installed at the gas supply lines for one or more of the gas fired furnaces. A sediment trap is intended to catch sediment/moisture/debris in a gas supply line before it can enter into the gas equipment.

Obtain Cost Estimate

Recommendation: Contact a qualified professional.

B. Cooling Equipment

Comments:

Type of System: Split system

I=Inspected NI=Not Inspected NP=Not Present D=Deficient

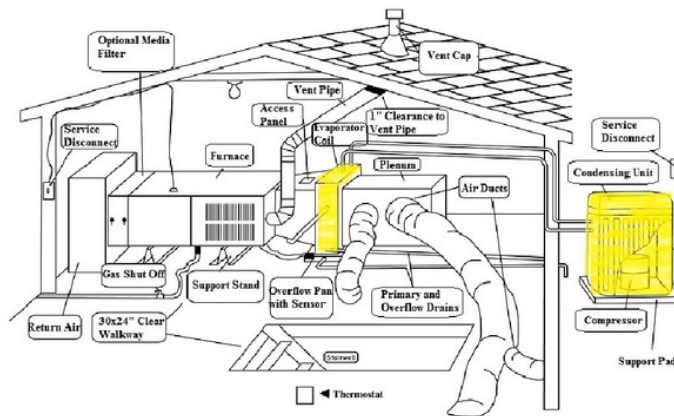
I NI NP D

The inspection of the HVAC system is cursory in nature in accordance with the TREC SOP. We measure the temperature drop (ΔT) across the indoor coil(s) at the time of the inspection and our observations have been recorded in this report. It is pointed out that our measurements of the cooling performance of the equipment is only at a "point in time", and cannot reflect whether the equipment has been recently serviced, or what the future performance of the equipment will be after the day of the inspection. Further investigation with the homeowner is recommended to determine when the equipment was last serviced. It is pointed out that an HVAC license is required to check the refrigerant pressures for the A/C equipment, therefore the refrigerant pressure was not checked during the inspection.

A/C Equipment Description :

The type of air conditioning for the property is a forced air split system. The cooling equipment for the property was as follows:

ZONE	CONDENSING UNIT			EVAPORATOR COIL		TEMP DELTA
	BRAND	TONS	DATE	TONS	DATE	
House	Trane	5	2012	5	2012	17



Condensing Unit Equipment - Functional:

I=Inspected

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NP=Not Present

D=Deficient

I NI NP D

The condensing unit equipment was functional at the time of the inspection. The equipment responded to the corresponding thermostat, and the compressor components and fan motor components appeared to be operating as evidenced by the cooling performance of the system.

Coil Equipment - Functional:

The coil equipment was operating and was providing a degree of cooling at the time of the inspection.

Limited Life:

Due to the age and/or condition of the equipment, it is our opinion that the equipment has only a limited amount of life remaining. It would be a prudent to have the equipment thoroughly checked by a licensed air conditioning service company and further investigation is recommended.

Cooling Performance - Acceptable:

The cooling performance of the equipment was observed to be adequate according to industry standards. The air conditioning equipment was observed to be cooling between 16-20 degrees across the indoor coil at the time of the inspection.

Overflow Pan - Water sensor present:

The overflow pan under the evaporator coil was equipped with a water sensor that is intended to shut off the air conditioning equipment if the pan fills with water.



Cooling Performance:

We measure the temperature drop (ΔT) across the indoor coil(s) at the time of the inspection and our observations have been recorded in this report. It is pointed out that our measurements of the cooling performance of the equipment is only at a "point in time", and cannot reflect whether the equipment has been recently serviced, or what the future performance of the equipment will be after the day of the inspection. Further investigation with the homeowner is recommended to determine when the equipment was last serviced.

1: Coil - Dirty

The coil was dirty and needs to be cleaned and serviced at this time. Have a service company clean the coils to allow for proper operation.

Obtain Cost Estimate



2: Overflow Pan - Standing water

I=Inspected

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NP=Not Present

D=Deficient

I	NI	NP	D
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Standing water was observed in the overflow pan under the coil. This can indicate a clogged primary drain line, or some other problem with the coil. Have a service company find the source of the water in the pan, and make any necessary repairs.

Obtain Cost Estimate



3: Primary Drain Line - Termination unknown

The location where the primary condensate drain line terminates was not determined at the time of the inspection. Further investigation is recommended with a service company. The drain should be terminated into the plumbing drain system in an approved manner.

Obtain Cost Estimate

4: Microbial growth on equipment in attic

Microbial growth was observed on the outside of the air handler and/or evaporator coil casing. This condition can be indicative of a moisture/condensation problem, possibly due to air leaks at the equipment and/or a lack of adequate attic ventilation, or possibly some other problem. Further investigation is recommended with a service company to determine the cause of the microbial growth and to determine if the growth is present inside the equipment and/or air ducts. It is recommended that you obtain a cost estimate for any needed repairs.

Further investigation is recommended

Recommendation: Contact a qualified professional.



C. Duct Systems, Chases, and Vents

Type of ducts: Flex ducts -
Comments:

Duct Work - Acceptable:

The ductwork appeared to be in good condition at the time of the inspection and air was blowing out of each of the registers. The airflow may need to be adjusted in each room to meet your specific needs.

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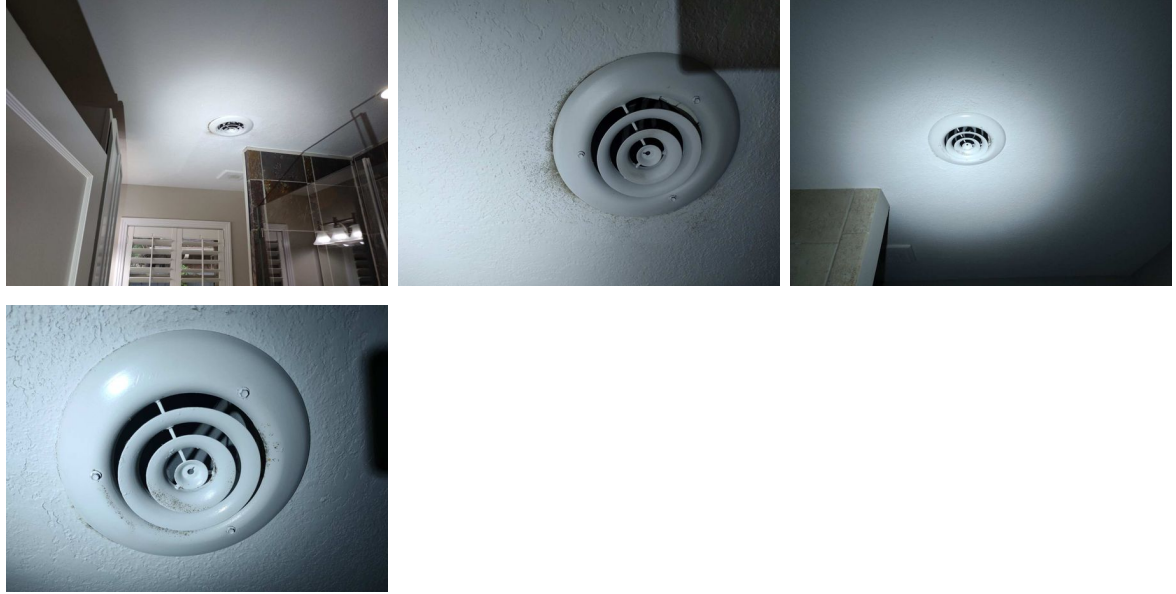
D=Deficient

I	NI	NP	D
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1: Registers - Microbial growth observed

Some of the registers were covered with mildew/debris. It is recommended that a service company be contacted to check the inside a of the duct work to determine if there is a build-up of debris/mold/mildew inside, and make any needed repairs. Further investigation is recommended.

Obtain Cost Estimate



2: Return Air - Not sealed

The chase was not sealed properly and was drawing unconditioned air from the floor and/or wall cavities into the system. Have the chase sealed against air leaks.

Obtain Cost Estimate



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I NI NP D

IV. PLUMBING SYSTEMS

A. Plumbing Supply, Distribution Systems, and Fixtures

Comments:

Location of water meter: The street curb

Location of main water supply valve: inside garage

Static water pressure reading: 52 PSI

Water Supply Material: PEX, copper, galvanized steel,

A plumbing system typically consists of three major components, including the potable water supply piping; the waste or drain piping; and the plumbing fixtures. The distribution piping brings the water from the public water main or a private well to the individual fixtures throughout the property. The water distribution system is under pressure, usually from 40 psi to 70 psi. The waste or drain piping carries the waste water and products underground to the sewer system or septic tank, and the waste piping is not under pressure, but operates by gravity flow. We typically run water down the drains from the sinks, tubs, showers, and toilets, but this cannot simulate the waste flow characteristics of full occupancy. There may be partial blockage of the underground waste lines from debris, broken pipes, or tree roots that cannot be detected by a visual inspection. If you desire a more in-depth inspection, it is recommended that you contact a qualified plumber.

Main Water Shut Off Valve Location: Inside garage -

The main shut-off valve for the water line service piping is intended to provide a means to disconnect the water service to the structure/property.



Static Water Pressure: 50-55 PSI -

The static water pressure at the property was measured with a water pressure gauge at the hose bibb nearest to the shut off valve at the time of the inspection.



Water Supply Piping - Galvanized Steel:

All or portions of the water piping for the property was observed to be the original galvanized piping. It is pointed out that the galvanized piping will deteriorate with time, and will corrode on the inside of the piping, thereby reducing the inside diameter of the pipe, and restricting the flow of the water through the pipe. In addition, the piping will corrode through to the outside of the pipe and will eventually deteriorate to where the pipe will start leaking. It can be anticipated that the galvanized water piping throughout the house will need to be replaced when it is causing reduced water pressure or is corroded enough to start leaking.

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NP=Not Present

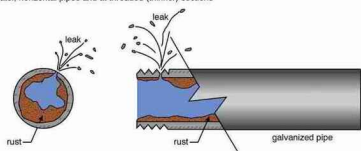
D=Deficient

I NI NP D

Galvanized steel pipe

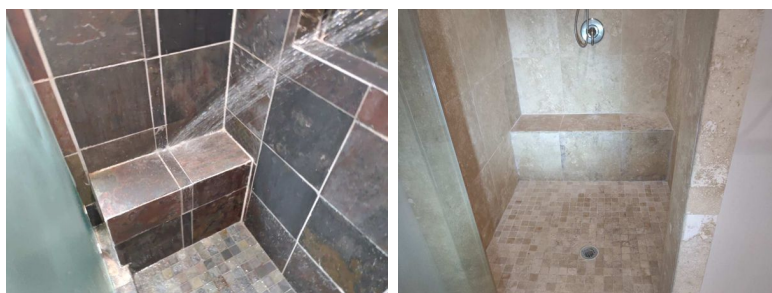
rusting of galvanized pipe can greatly reduce water pressure and will eventually cause leaks as rust creates holes in the pipe walls

problems are likely to occur soonest on pipes carrying hot water, horizontal pipes and at threaded (flared) sections



Shower - Built-in Seat:

It has been our experience that plumbers do not always extend the shower pan material from the bottom of the shower, up over the shower seat area. This condition can allow water to migrate through the shower seat tiles into the wall cavity. It could not be determined if the shower seat(s) was properly wrapped with shower pan material at the time of the inspection. It is recommended that you keep the shower(s) well caulked and a sealer be applied to the seat to help prevent water penetration through the seat. If further investigation is desired, it is recommended that a service contractor be contacted.



1: Vacuum Breaker - Missing

The atmospheric vacuum breaker devices were missing at one or more of the hose bibbs, and it is recommended that they be installed to prevent cross connections, which can allow contaminated water to enter the potable water supply.

Obtain Cost Estimate



2: Water Stains/Damage Observed

East Bedroom, northeast bedroom closet, East Bathroom,

Water damage/stains were observed indicating a current or previous leak. The source of the condition was not determined, with certainty, at the time of the inspection. Further investigation is recommended with a contractor to determine the source of the condition and to make any necessary repairs to correct the moisture condition and, if present, any secondary damage.

Obtain Cost Estimate

I=Inspected

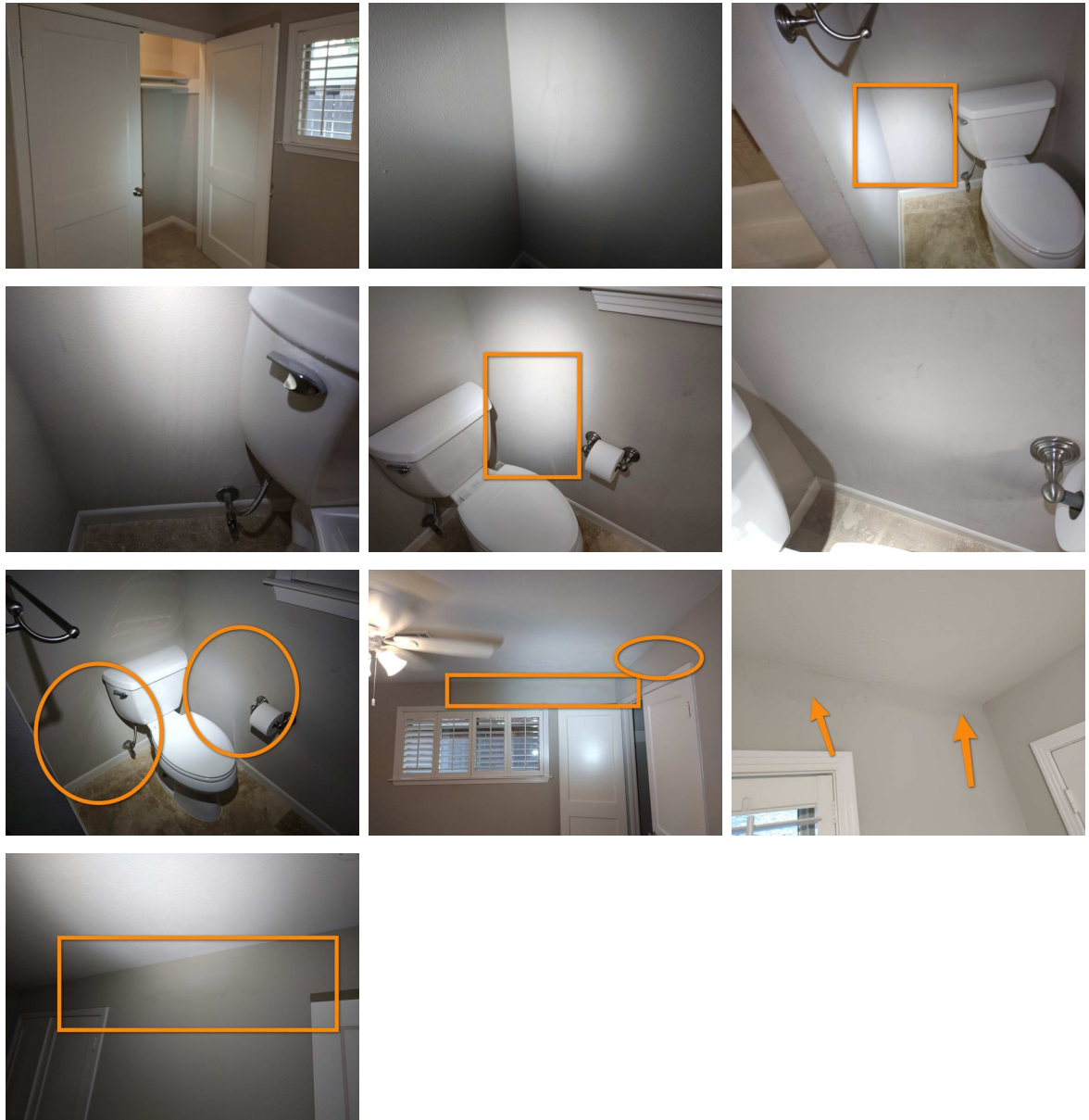
NI=Not Inspected

NP=Not Present

D=Deficient

I NI NP D

Recommendation: Contact a qualified professional.



3: Hose Bibb - Handle missing/damaged

North

The handle for a hose bibb was missing/damaged.

Obtain Cost Estimate

I=Inspected

NI=Not Inspected

NP=Not Present

D=Deficient

I	NI	NP	D
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4: Shower/tub assembly loose

East Bathroom, southeast bathroom,

A shower/tub assembly was loose and needs to be repaired/secured.

Obtain Cost Estimate

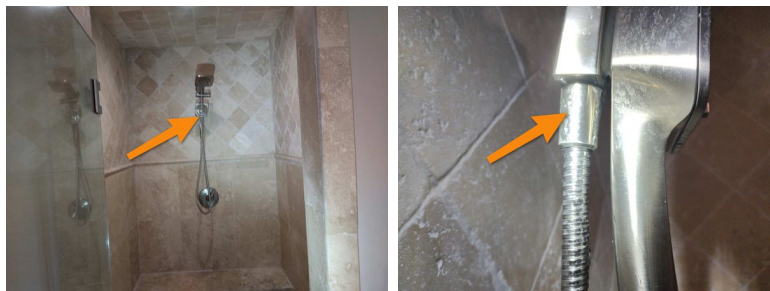


5: Sprayer - Leak

Southeast bathroom,

The sprayer was leaking and needs to be repaired and/or replaced.

Obtain Cost Estimate



6: Water Stains/Damage Under Sink

Kitchen

Evidence of a previous leak was visible under a sink, where water stains/damage were visible at the bottom of the cabinet. No leaks were visible at the time of the inspection.

Further investigation is recommended.

I=Inspected

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D=Deficient

I NI NP D



7: Toilet - Loose on floor

East Bathroom

The toilet was loose on the floor and needs to be reset and secured to the floor.

Obtain Cost Estimate

8: Evidence of shower pan leak

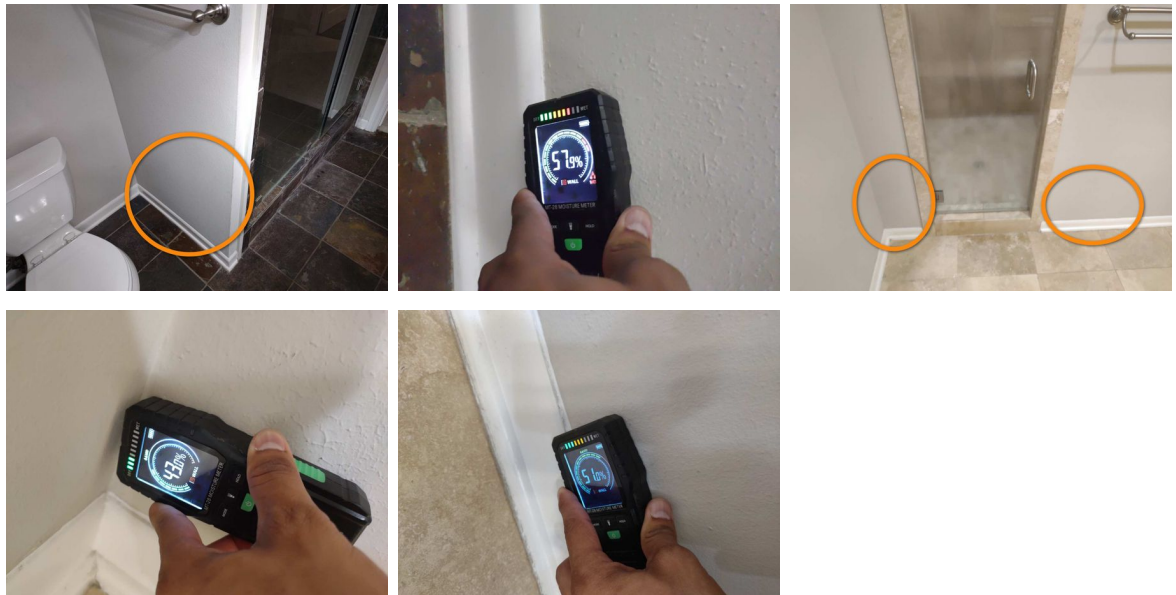
Northeast bathroom, southeast bathroom,

Elevated moisture readings around shower stall -

Evidence of a shower pan leak was observed. It is recommended that a plumber be contacted to perform a shower pan leak test and to provide a cost estimate for any needed repairs.

Obtain cost estimate

Recommendation: Contact a qualified professional.



9: Tub - Caulk needed

East Bathroom

The tub needs to be caulked.

Obtain Cost Estimate

10: Tub/Shower - Water leaks past diverter

I=Inspected

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I NI NP D

East Bathroom

The diverter valve was leaking water past the valve when the valve was turned to the shower.

Obtain Cost Estimate



11: Shower/Tub - Caulk valves

All bathrooms

The tub and/or shower valves and/or faucet needs to be caulked to prevent water from entering the wall cavity behind the valves/faucet.

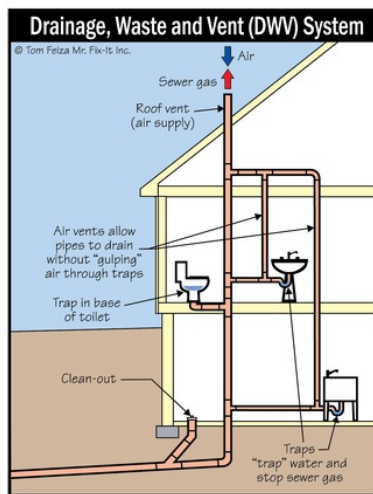
Obtain Cost Estimate

B. Drains, Wastes, and Vents

Sewer Piping Material: PVC visible around exterior of house -
Comments:

Sewer System - Functional:

No evidences of a system wide problem were observed when the system was operationally checked by running water through each of the plumbing fixtures during the duration of the inspection. It is noted that most of the drain waste system in the walls, under the floors, and in the ceilings is not visible. If further investigation is desired, it is recommended that a plumber be contacted to perform an in depth survey with a camera or hydrostatic test.



Sewer Piping - Evidence of repairs observed: PVC clean out present -

Evidences of sewer line repairs and/or replacement were observed. It is noted that we could not determine the extent of the repairs to the sewer system or if any of the original cast iron piping is still active. Further

I=Inspected

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NP=Not Present

D=Deficient

I NI NP D

investigation is recommended with the owner and/or a service company to determine the extent of the repairs and to determine if any further repairs are needed. A sewer inspection with a plumber to verify the extent of the repairs and the condition of the sewer piping and the repairs is recommended. The plumber should also determine if the washing machine drain riser is adequately sized to accommodate a modern washing machine.

Further investigation is recommended

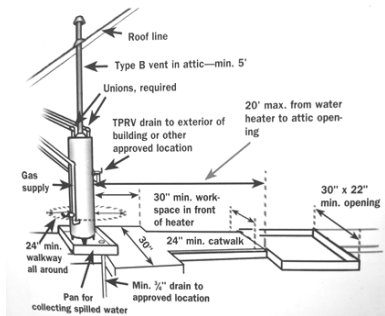


C. Water Heating Equipment

Gas Water Heater Description:

The hot water for the property was provided by the following natural gas fired gas water heater(s):

<u>Location</u>	<u>Brand</u>	<u>Capacity</u>	<u>Age</u>	<u>Energy Type</u>
Attic	Rheem	50-gallons	2011	Gas



Water Heater Equipment - Functional:

The water heater equipment was functional at the time of the inspection and providing hot water to the applicable plumbing fixtures.

Hot water - Temperature:

I=Inspected

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D=Deficient

I NI NP D

The generally recommended maximum temperature setting for a hot water heater, to prevent accidental scalding, is 120-125 degrees. It is recommended that the water heater thermostat be adjusted to and maintained in this temperature range.

TIME AND TEMPERATURE RELATIONSHIP TO SERIOUS BURNS		
WATER TEMPERATURE	Adults	Children
	(skin thickness of 2.5 mm)	(skin thickness of .65 mm)
150°F 65°C	1 second	0.5 second
145°F 63°C	2 seconds	1 second
140°F 60°C	5 seconds	1 second
135°F 58°C	10 seconds	4 seconds
130°F 55°C	1 minute	10 seconds
125°F 51°C	3 minutes	1.5 minute
120°F 49°C	5 minutes	2.5 minutes
100°F 37°C	Safe temperature for bathing	Safe temperature for bathing

For 95 °C = (1.8F) - 32 / 1.8 or (°F - 32) / 1.8 = °C
 Figure P218.3
 TEMPERATURE BURN CHART



Temp/Pressure Relief Valve - Information:

Temperature/pressure relief valves are not operationally checked by this firm during the inspection. Valves typically do not reseat properly when they are operated, which causes the valves to leak. It is best to replace the temperature/pressure relief valves for water heaters every 2-3 years to prevent them from getting clogged with mineral deposits.

1: Vent pipe needs repair

Disconnected at draft hood, Support straps missing -

The vent pipe was not installed properly and is in need of repair. It is pointed out that an improperly installed vent pipe is a safety hazard.

Obtain cost estimate

Recommendation: Contact a qualified professional.



2: Fittings - Corroded

The piping at the top of the water heater was severely corroded at the fittings and is in need of repair.

Obtain Cost Estimate



I=Inspected NI=Not Inspected NP=Not Present D=Deficient

I	NI	NP	D
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3: End of Life

Due to the age and/or condition of the equipment, it is the opinion of the inspector that it is essentially at the end of its normal, useful life and should be replaced at this time. Normal life expectancy of a water heater in the Houston area is approximately 7 to 10 years.

Obtain Cost Estimate

4: Burner access cover damaged/missing

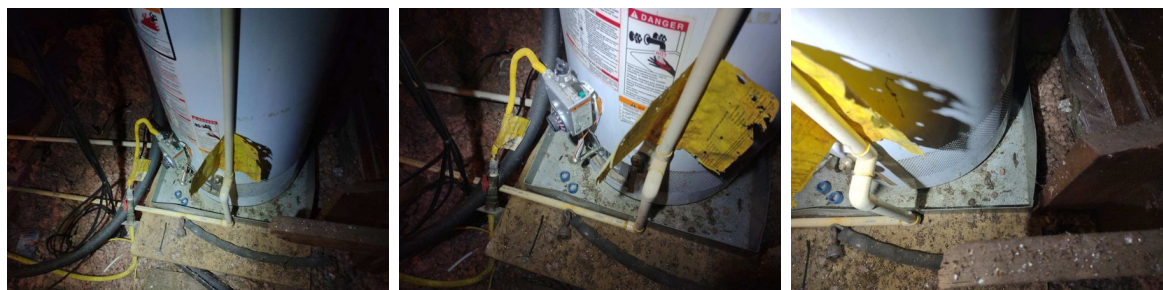
The access cover to the burner compartment was damaged/missing.

Obtain Cost Estimate

5: Overflow Pan - Remove Insulation/debris

Insulation and/or debris was observed in the overflow pan and needs to be removed.

Obtain Cost Estimate



D. Hydro-Massage Therapy Equipment

Comments:

Hydro-Therapy Equipment Not present:

Hydro-therapy equipment was not present at the time of the inspection.

E. Gas Distribution Systems and Gas Appliances

Location of Gas Meter: Rear of house -

Type of gas distribution piping material: Steel piping with flexible appliance connectors

Comments:

A cursory visual inspection was performed on the gas supply piping. The inspection was limited to the gas pipes that were visible and accessible at the time of the inspection, without digging to uncover gas lines. The underground gas line is typically galvanized steel, which can and does rust. However, viewing the underground gas line(s) would require digging, and HEI does not do any digging around the gas lines to determine their condition or the degree of rusting at the underground piping. Also, the use of specialized equipment to detect leaks is not included in the scope of this inspection, nor is determining the gas supply pressure or adequacy. If further investigation is desired to know the condition of the underground gas line(s), it is recommended that a plumber be contacted.

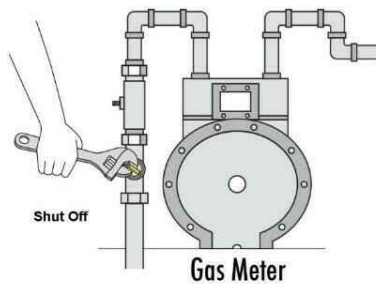
I=Inspected

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I NI NP D

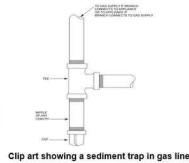


1: Sediment Trap - Missing

Sediment traps were not installed at the gas supply lines for one or more of the gas fired equipment. A sediment trap is intended to catch sediment/moisture/debris in a gas supply line before it can enter into the gas equipment.

Obtain Cost Estimate

Recommendation: Contact a qualified professional.



I=Inspected

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NP=Not Present

D=Deficient

I NI NP D

V. APPLIANCES

A. Dishwashers

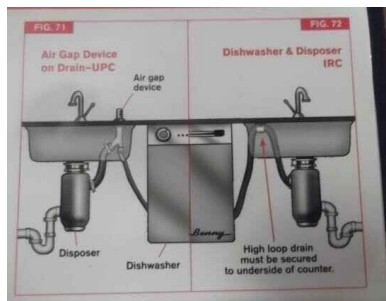
Comments:

Functional:

The dishwasher was functioning and responded to the controls. The unit was run through a cycle at the time of the inspection and appeared to be operating properly.

Drain Line Loop Present:

The drain line under the sink was looped up so that the top of the loop was higher than the point where the drain line connected to the disposal. This will help to prevent garbage from running down the drain line into the dishwasher.



B. Food Waste Disposers

Comments:

Functional:

The disposal was operating and responded to the controls at the time of the inspection.

C. Range Hood and Exhaust Systems

Comments:

Downdraft Vent - Functional:

The downdraft vent was turned on and was functioning at the time of the inspection. The equipment responded to the controls and vented to the outside.

D. Ranges, Cooktops, and Ovens

Comments:

Gas Cooktop - Functional:

The gas cooktop was functioning and responded to the controls when they were operated. All of the burners and controls were operating properly at the time of the inspection.

Oven - Calibrated properly:

No repair was needed to the calibration of the oven thermostat. The thermostat was set at 350 degrees, and the oven heated to within the allowable ± 25 degrees. The oven was checked with an oven thermometer and found to heat to 360 degrees.

E. Microwave Ovens

I=Inspected

NI=Not Inspected

NP=Not Present

D=Deficient

I NI NP D

Comments:

Functional:

No items requiring repair were visible at the time of the inspection for the heating operation of the microwave. A cup of water was placed in the unit, and the microwave heated the water adequately. It is pointed out that the unit was not checked for microwave leakage.

F. Mechanical Exhaust Vents and Bathroom Heaters

Comments:

Mechanical Vents - Functional:

The mechanical vent fans were functional at the time of the inspection. The bath vent fans responded to the switches and were functional at all the bathrooms.

1: Exhaust Vent Pipes - Not terminated outside

We observed one or more bath vent fans that were not terminated outside. The most current building code requires the vent fan to be vented to the outside of the house, and it is recommended that the vent be rerouted to the outside of the house.

Obtain Cost Estimate

2: Exhaust fan not present

Utility room

An exhaust vent fan was not present. Exhaust vent fans are intended to remove humidity and moisture from the air. Consideration should be given to installing an exhaust vent fan.

Obtain Cost Estimate

G. Garage Door Operators

Comments:

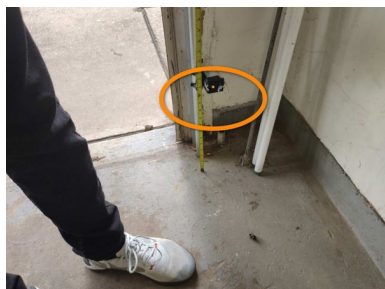
Functional - Autoreverse and sensors:

The garage door opener equipment was functional at the time of the inspection and opened/closed when the controls were operated. The auto-reverse mechanism was operational, and the sensitivity setting on the mechanism was adequate. Also, the infrared auto reverse mechanism was functional.

1: Sensors too high

The infrared device was located too high on the garage door, and should be located no more than six inches above the floor. It is recommended that the device be lowered.

Obtain Cost Estimate



I=Inspected

NI=Not Inspected

NP=Not Present

D=Deficient

I NI NP D

2: Door Lock

The door lock was still connected to the garage door. Manufacturers of garage door openers recommend that the locks be disengaged or removed when an automatic opener is installed. Damage to the door and/or door opener may occur if the door is operated with the garage door lock is engaged.

Obtain Cost Estimate

Recommendation: Contact a qualified professional.



H. Dryer Exhaust Systems

Comments:

Dryer Vent:

The dryer vent appeared to be properly installed at the time of the inspection. It is pointed out that a portion of the dryer pipe was not visible where it entered the wall/ceiling. Also, dryer vents need to be cleaned periodically for safety reasons and to allow the dryer to operate properly.

Dryer vent - Dryer present:

The vent was connected to the dryer but was not tested. It is recommended that the vent be checked for an excess of lint and that it be cleaned if necessary. (Information)

Vent - Check for lint:

It is recommended that the vent be checked periodically for an excess of lint and that it be cleaned if necessary. (Information)

I. Other

Comments:

Non Built-in Equipment - Not inspected:

It is pointed out that non built-in refrigerators, wine coolers, small refrigerators, clothes washers, and clothes dryers are not included in the scope of this inspection and were not checked. If further investigation is desired, it is recommended that a service company be contacted.

Further investigation is recommended

I=Inspected

NI=Not Inspected

NP=Not Present

D=Deficient

I NI NP D

INFORMATION FROM HEDDERMAN ENGINEERING INC.

Closing Comments :

Opinions and comments stated in this report are based on the apparent performance of the items included within the scope of the inspection, at the time of the inspection. Performance standards are based on the knowledge gained through the experience and professional studies of the inspector. There is no warranty or guarantee, either expressed or implied, regarding the habitability, future performance, life, merchantability, and/or need for repair of any item inspected. It is recommended that a Home Warranty Policy be provided to protect the appliances and mechanical equipment against unforeseen breakdowns during the first year. Check with your agent for details.

Items identified in the report as Deficient and our Recommendations are provided in the above report. Many, but not all, recommendations are highlighted in bold red text. It is our intention, and your responsibility, that you follow up on these deficiencies and recommendations as part of your due diligence by contacting the appropriate service contractor(s) for Further Investigation, Obtain cost estimate, and/or Contact the builder. It is pointed out that other related and/or underlying conditions may be present, and which may not be apparent in our limited, visual inspection without further investigation by qualified service companies. It is emphasized how important it is for you if you intend to rely on our report(s), to continue to gather the in-depth information that will be obtained by further investigation with appropriate service technicians who will use their specialized knowledge of the component(s) and the related building codes along with their specialized diagnostic equipment to give you the TOTAL PICTURE of the condition of the property. Failure on your part to do your due diligence will constitute negligence on your part and will result in an incomplete body of knowledge upon which you base your decisions regarding this property. We recommend that your further investigations be done before the expiration of your option period and before closing on the property.

As an additional service, we recommend using a new tool we have on our website that can quickly turn your inspection report into an easy-to-read estimate of repairs for a nominal fee. These pricing reports from a third party company called Repair Pricer not only make the inspection report easy to understand in terms of dollars and cents, but they are also useful negotiation tools. Just visit the page below on our website and upload your report into Repair Pricer. If you have any questions when you receive your report, you can contact them at info@repairpricer.com
<http://www.heddermanengineering.com/repair-cost-estimates>