PROPERTY INSPECTION REPORT

Prepared For:

Concerning:

By:	Fred Willcox	TREC License No. 160	August , 2007	
	File No. 20068	713-461-0009		

The inspection of the property listed above must be performed in compliance with the rules of the Texas Real Estate Commission (TREC).

The inspection is of the conditions which are present and visible at the time of the inspection, and all of the equipment is operated in normal modes. The inspection must indicate which items are in need of repair or are not functioning and will report on all applicable items required by TREC rules.

This report is intended to provide you with information concerning the condition of the property at the time of the inspection. Please read the report carefully. If any item is unclear, you should request the inspector to provide clarification.

It is recommended that you obtain as much history as is available concerning this property. This historical information may include copies of seller's disclosures, previous inspection or engineering reports, reports performed for or by relocation companies, municipal inspection departments, lenders, insurers and appraisers. You should attempt to determine whether repairs, renovation, remodeling, additions or other such activities have taken place on this property.

Property conditions change with time and use. Since this report is provided for the specific benefit of the client(s), secondary readers of this information should hire a licensed inspector to perform an inspection to meet their specific needs and to obtain current information concerning this property.

ADDITIONAL INFORMATION PROVIDED BY INSPECTOR

STRUCTURAL INSPECTION

PURPOSE:

The purpose of a structural inspection is to perform a visual inspection, in a limited period of time, of the structural components of the building and to express an opinion as to whether, in the sole opinion of the inspector, they are performing satisfactorily or are in need of immediate repair. The main objective of the inspection and of this report is to better appraise you, our client, of the conditions existing at the time of the inspection. We cannot and do not represent or warrant that the structure, or any of its parts or components, will continue to perform satisfactorily in a manner that will be acceptable to you or that they will continue to perform the function for which they were intended. We do not represent or warrant that the future life of any item will extend beyond the time of this inspection. It is the intention and purpose of the inspector, made on the day and at the time of the inspection, as to the condition and performance of the structure inspected. Use of this report by third parties is unauthorized and unintended. Opinions of the inspector are subjective based on his education and experience and should not be considered conclusive.

Promulgated by the Texas Real Estate Commission(TREC) P.O. Box 12188 Austin, TX 78711-2188, 1-800-250-8732 or (512) 459-6544 (http://www.trec.state.tx.us). REI 7A-0

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Estimates for repair, if included, are provided as a courtesy and should be considered approximate. These estimates should not be viewed as bids for the actual performance of the work or of the repair suggested. It is recommended that you confirm the actual need for repair, the scope of the work, and the approximate cost with a qualified, appropriate service company. A PRUDENT BUYER WILL SECURE FIRM ESTIMATES FROM A QUALIFIED REPAIR COMPANY BEFORE CLOSING.

THIS INSPECTION AND REPORT WERE PREPARED FOR YOUR EXCLUSIVE USE. USE OF THIS REPORT BY, OR LIABILITY TO THIRD PARTIES, PRESENT OR FUTURE OWNERS AND SUBSEQUENT BUYERS IS SPECIFICALLY EXCLUDED. RELIANCE ON THIS REPORT BY THIRD PARTIES, PRESENT OR FUTURE OWNERS AND SUBSEQUENT OWNERS IS AT THEIR PERIL. NO WARRANTIES OR GUARANTIES TO THIRD PARTIES, PRESENT OWNERS OR FUTURE OWNERS ARE IMPLIED OR SHOULD BE ASSUMED.

NOTE: THE TERM "REPAIR" AS USED IN THIS REPORT DOES NOT MEAN "REPAIR" IN THE NORMAL OR CONVENTIONAL SENSE OF THE WORD. ACCORDING TO MARK MOSELEY, FORMER GENERAL COUNSEL OF THE TEXAS REAL ESTATE COMMISSION, "REPAIR" AS USED IN AN INSPECTION REPORT ENTITLES THE BUYER TO ASK THE SELLER TO MAKE REPAIRS OF THE ITEM COMMENTED ON OR IT ALLOWS THE BUYER TO ASK FOR MONETARY OR OTHER CONSIDERATION FROM THE SELLER FOR THE ITEM NOTED. IT IS POSSIBLE THAT THE ITEM INSPECTED WILL CARRY A MARK IN THE "REPAIR" COLUMN BUT THE COMMENTS MADE ON THAT ITEM WILL BE NOTED AS INFORMATION. THIS MEANS THAT THE ITEM MAY NOT REQUIRE IMMEDIATE REPAIR IN THE OPINION OF THE INSPECTOR, BUT YOUR OPINION MAY DIFFER FROM THAT OF THE INSPECTOR. THE MARK IS MADE IN THE "REPAIR" COLUMN SO AS TO NOT WAIVE YOUR RIGHT TO ASK FOR REPAIRS OR OTHER COMPENSATION.

The inspector's liability under this property inspection report shall be strictly limited to the amount of the fee paid by the client to this firm or to this inspector for this inspection.

Notwithstanding any provision in this agreement to the contrary, any dispute, controversy, or lawsuit between any of the parties to this agreement about any matter arising out of this agreement shall be resolved by mandatory and binding arbitration administered by the American Arbitration Association ("AAA") pursuant to the Texas General Arbitration Act and in accordance with this arbitration agreement and the Commercial Arbitration Rules of the AAA. To the extent that any inconsistency exists between this arbitration agreement and such statutes and rules, this arbitration agreement shall control. Judgment upon the award rendered by the arbitrators may be entered in, and enforced by, any court having jurisdiction and in accordance with the practice of such court.

In any dispute, controversy, or lawsuit arising from this agreement, the prevailing party shall be entitled to recover from the unsuccessful party, reasonable and necessary attorney's fees incurred in connection with such dispute, controversy, or lawsuit. This agreement is entered into in Harris County, Texas and shall be construed and interpreted in accordance with the laws of the State of Texas. Venue for any action brought to enforce this agreement shall lie in Harris County, Texas.

SCOPE:

This inspection is limited to observations of only those components of the structure and those portions of the roof framing and surface readily accessible and visible without moving or the removal of any item or object that would obstruct visual observation. The comment of "inspected" noted by any section of this report means that, at a minimum, all parts and components of that section listed in the Minimum Standards of Inspections as published by the Texas Real Estate Commission were inspected. These standards are treated as minimums and they do not limit the ability of the inspector to inspect or comment on the property as the inspector deems appropriate. Any item not capable of being seen at the time of the inspection, that is concealed by objects, vegetation or the finishes of the structure is specifically excluded as being beyond the scope of this inspection. Conditions not readily and visually apparent at the time of the inspection, were not considered in reaching the conclusions or rendering the opinions contained in this report.

Specifically excluded from the inspection and this report are:

1) boring, digging or probing the soil or structure

- 2) location or effects of geological faults or of any underground structure or object
- 3) location of gas lines and/or systems
- 4) presence of asbestos and/or radon gas
- 5) lead based paint and/or products made from or containing lead
- 6) adequacy of site drainage

7) opinions relating to compliance with any specifications, legal and/or code requirements or restrictions of any kind, and

8) determination of the presence or health effects of molds, mildew, etc.

NOTE: No environmental inspections of any kind were performed during this inspection. Even if comments are made regarding certain aspects or issues, inspections and/or any determination of the presence or possible dangers of materials organisms or microbial organisms including, but not limited to asbestos, lead, formaldehyde, mildew, molds, fungi, etc. are specifically excluded from the inspection and from this report. If you have any concerns over the presence or possible future growth of any of these type items, you should, as part of your due diligence, have the environmental inspections of your choice performed on the house prior to closing.

Items not specifically noted as "inspected" in the following report are not cover by the report and should not be assumed to be good, bad, performing the function for which they were intended or in need of repair by the lack of notation. No verbal statements by the inspector are to be considered a part of the inspection or of this report. It is again emphasized that this is a limited visual inspection made in a limited amount of time. Some defects may not be apparent during the time of the inspection. This is not intended to be an exhaustive evaluation of the structure, nor is it intended to be a total list of defects, existing or potential. If the house is occupied at the time of the inspection, it is possible that visible defects may have been concealed or covered by furniture, fixtures, appliances and/or clothing, etc. Once the owner/occupant vacates the property, any visible defect that becomes apparent should be reported to you via an updated seller's disclosure form.

The photographs included in this report are intended to be used to illustrate some, but not all, of the defects and to clarify the text information in the report. All photographs taken at the subject property may not be included in the report. The photographs are not intended to be all inclusive or to describe all conditions noted on the property.

MECHANICAL REPORT

This limited visual inspection was performed, for the exclusive use of the client, with the intent of observing and reporting deficiencies apparent at the time of the inspection without disassembly of any unit or item inspected. This inspection was made of the physical condition of electrical switches, cover plates and convenience outlets that were accessible without moving furniture or fixtures. All functional equipment, in operable condition, was operated in at least one, but not necessarily every, mode to demonstrate its condition. Compliance with codes and/or adequacy of wiring and circuitry is beyond the scope of this inspection and report and is specifically excluded. If more in-depth information is desired or required on the electrical system or systems, it is recommended that a qualified electrician be consulted. It is emphasized that this is a limited visual inspection made in a limited amount of time. Some defects may not be apparent during the time of the inspection. This inspection is not intended to be an exhaustive evaluation of all the systems and appliances in the structure, nor is it intended to be a total list of defects, existing or potential. Items marked as "inspected" mean that, at a minimum, all parts and components of that section or item listed in the Minimum Standards of Inspections as published by the Texas Real Estate Commission were inspected. Items not noted as "inspected" in the following report are not covered by the report and should not be assumed to be good, bad, performing the function for which they were intended or in need of repair by lack of notation. The term "No Comments" indicates that the unit was performing the function for which it was intended without the apparent need of immediate repair at the time of the inspection. No verbal statements by the inspector are to be considered a part of the inspection or of this report.

INSPECTIONS OF GAS LINES AND/OR SYSTEMS OR FOR THE PRESENCE OF ASBESTOS, LEAD PAINT, PRODUCTS CONTAINING LEAD, RADON GAS OR OTHER ENVIRONMENTAL HAZARDS, INCLUDING MOLDS, MILDEWS OR FUNGI, ARE SPECIFICALLY EXCLUDED.

Additional pages may be attached to this report. Read them very carefully. This report may not be complete without the attachments. If an item is present in the property but is not inspected, the "NI" column will be checked and an explanation is necessary. The inspector may provide comments whether or not an item is deemed in need of repair.

I=Inspected NI=Not Inspected NP=Not Present R=Not Functioning or In Need of Repair I NI NP R Inspection Item 1. STRUCTURAL SYSTEMS

The subject structure was a two story, single family dwelling supported on a pier and beam type foundation. The exterior veneer was wood siding. The roof was covered with composition shingles supported on cedar shingles used as a roof deck. The house was occupied at the time of the inspection. For the purposes of this report the house will be considered to be facing south. The weather was partly cloudy at the time of the inspection.



<u>REFERENCES TO THE BUILDING CODES ARE IN BOLD AND UNDERLINED TEXT AND ARE</u> <u>USED SOLELY FOR CLARIFICATION OF THE ITEM NOTED.</u>

□ □ ■ A. Foundations (If all crawl space areas are not inspected, provide an explanation) Comments (An opinion on performance is mandatory.):

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The subject structure was supported by a pier and beam foundation which, at the time of the inspection, had experience minor to moderate differential movements resulting in superficial wall cracking and floor slopes. Differential deflections in the floor surfaces were not of the magnitude that required leveling procedures at the time of the inspection, in my opinion. As you are aware, the floor slopes were reviewed with you and you were comfortable with the varying floor elevations at the time of the inspection.

The inspection of the foundation did not include a full examination of the under structure exposed in the crawl space. Access openings in the chain wall or the height of the foundation above the ground were inadequate for this inspector. Examination of the wooden members for decay or damage is part of the Pest Control Inspection. Damaged or decayed areas should be noted in their report. Deteriorated wood was noted in the in the sill along the

north wall of the house. Only a portion of the sill appeared to have been deteriorated. All decayed members should be identified and removed. Sound, new lumber should be installed in place of the decayed members in the foundation framing and flooring systems.

The pier and beam foundation is the oldest foundation system used to provide support for structures. This method of support is used to transfer loads to the soil and usually results in differential deflection between the piers, due to unequal loading on the pier, and in slopes in the floor surface. The magnitude of the movement, and the probability of damage resulting from it, is dependent on the nature of the soil on which the foundation is sited.

At this location, the soil supporting the foundation has been classified by the Soil Conservation Service of the United States Department of Agriculture, in the publication "Soil Survey of Harris County, Texas as Lake Charles Part. These soils are termed "active", indicating they will shrink and crack during prolonged dry seasons and will swell when wet. Classification of soil by the Soil Conservation Service applies to large areas and represents the average characteristics of the soils found within the boundaries of the survey. The soil on which this classification was based was likely obtained at a location remote from this site. Although soils within mapping units shown in the study usually have similar characteristics, the soil supporting this structure can, and may, vary significantly from the average. Determination of the actual characteristics of the soils supporting this structure will require on site sampling and laboratory analysis that is beyond the scope of this inspection.

According to the "Soil Survey", the shrink/swell potential of these surface soils is high. The plasticity index of the soil from the surface to 22 inches of depth ranges from 40 to 55 and at depths of 22 inches to 74 inches the plasticity index varies from 37 to 60. The plasticity index is the difference between the liquid and plastic limits. The plasticity index is an indicator of the movement capabilities of the soil. A soil with a plasticity index higher than 20 is considered to act as a clay.

This foundation report does not mean that the subject residence will have no future problems. Inspections of foundations are made to judge their performance on the day of the inspection. They are not intended, nor can they be considered, a guarantee of future performance.

The slope of the yards and driveway and the elevations and slopes of the yards adjacent to the house indicate that water has been channeled under the foundation. Water apparently stands in the crawlspace for some period of time after a rain. No evidence of an existing drainage system under the house was noted. Nor was there any evidence of a water proof membrane on the surface of the ground in the crawl space. The crawl space is required to be sloped to drain water out from under the house. The surrounding soils should be removed and the ground sloped to prevent water from entering the crawl space, if possible. If it is not possible to grade the crawl space and the yards to provide proper drainage to the crawl space, an under ground drainage system should be installed in the crawl space. A competent landscape architect should be consulted for an evaluation of the drainage and the possibilities of creating a surface drainage system.

□ □ ■ B. Grading and Drainage

Comments:

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The front flower beds and the back yard were sculpted so that the elevations of the flower beds and the back yard appeared to be higher that the elevation of the foundation crawl space and the flower beds and the back yard sloped toward the house. Current and past building codes provide that all ground water within ten feet of the foundation must drain away from the house. The flower beds should be lowered and the flower beds and the back yard should be sloped to provide positive drainage of ground water away from the foundation. Depressions in the back yard adjacent to the foundation area should be filled to prevent water from pooling next to the foundation.

C. Roof Covering (If the roof is inaccessible, report the method used to inspect.) *Comments:*

NOTE: The surface of a roof begins to deteriorate as soon as it is placed into service and exposed to the elements.

The degree of deterioration accelerates with the age of the roof and cannot be determined accurately by a visual inspection. Roof leaks can and may occur at anytime, regardless of the age of the roof, and cannot be accurately predicted. If roof leaks do occur, their presence does not necessarily indicate the need for total replacement of the roof coverings. Responsibility for future performance of the roof is specifically excluded from this report.

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

NOTE: The composition shingles were installed over cedar shingles. Many insurance companies are currently refusing to write insurance for these type overlays. You should verify your ability to insure the property prior to the closing on the house.

There were holes in some of the roof jacks. Holes in the roof jacks can allow water to enter the structure. The damaged roof jacks should be replaced.



Exposed fasteners were noted in several areas of the roof's surface. The heads of the nails will rust and deteriorate, leaving openings through the roof covering material. The exposed fasteners should be covered and sealed.

The dish for the satellite antenna system had been bolted to the roof deck through the shingles. There was no attempted to make the junction of the bracket with the shingles or the penetrations of the bolts through the shingles water proof. The bracket junction and the bolt penetrations should be made water proof or the dish should be removed from the surface of the roof. If the dish is removed, the damaged shingles should be replaced.

J flashing was used to seal the junctions between the roof's surface and the walls. Section R905.2.8.4 of the International Residential Code (IRC) and the manufacturer of the shingles, per the instructions on the shingle bundles and on their websites, require that the junctions between the roof's surface and the side walls be flashed by the step flashing method. Step flashing creates redundancy in the metal sealing the roof/wall junctions. J flashing only provides a single layer of metal. Redundancy in water proofing materials on the surface of the roof is preferable. Many roofers state that J flashing is an "approved alternate method". You should determine who "approves" the material as an alternate method and what their liability to you would be in case of a leak and damage to your property.

<u>905.2.8.4 Sidewall flashing. Flashing against a vertical sidewall shall be by the step-flashing method.</u>

Loose nails and debris should be removed from the surface of the roof for safety.

D. Roof Structure and Attic (if the attic is inaccessible, report the method used

to inspect.) *Comments:*

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The purlins were improperly installed. Purlins are structural supports used to break the span of the rafters in order to keep the rafter from sagging. All structural members deflect under their own load. As loads on the member and the horizontal length (span) of the member are increased, the deflection increases. The purlins were installed with the wide part of the board against the bottom of the rafters. The equation that defines the stiffness of a board or beam is 1/12 the base multiplied by the height cubed. Merely turning a 2 X 4 up on its edge increase its stiffness by a factor of approximately eight. The purlins should be reinforced to provide proper support to the rafters.

The junctions of the purlin sections were not reinforced making the ends of each of the sections limber. The junctions of the different sections of purling material should have been made over a strut or the ends should have been reinforced so that the different sections acted as one board.



There were an inadequate number of collar ties attached to the rafters. Collar ties are horizontal pieces of lumber used to attach rafters to each other under the ridge board, forming an "A", if you will. Collar ties are high wind load members. When wind passes over the ridge of a roof, it becomes turbulent and can form a vacuum. This vacuum will attempt to pull the roof framing apart at the ridge. Collar ties are used to prevent this separation. Collar ties should be installed on approximately four foot centers.

NOTE: Some of the ceiling joists had been replaced. The reason(s) for the replacement of the joists could not be determined. Information on the replacement of the joists should be obtained from the owner. Information.

There was no insulation installed in the attic. Insulating materials should be installed on the floor of the attic in the areas fronting the conditioned air ceilings of the structure.

The attic was inadequately ventilated in my opinion. Additional ventilation should be installed.

E. Walls (Interior and Exterior) *Comments:*

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

Open and repaired cracks in the drywall material were noted in the walls and/or ceilings throughout the house, etc. The open cracks and the poorly performed patches should be repaired to match the existing structure.

The stair tread depths were not adequate for current safety requirements. While the depth of the treads may have met the safety requirements at the time the house was constructed, these tread depths are now considered to be a trip hazard. There is no practical way to remedy this condition short of removing and rebuilding the staircase which may not be practical. Visitors to your house should be warned of the condition so that extra care can be taken to prevent the user from falling.

311.5.3.2 Tread depth.

The minimum tread depth shall be 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point 12 inches (305) mm from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12 inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).

The second story guard railings had inadequate clearance above the floor for current standards. The measured height of the top of the guardrail above the floor was approximately 31.5 inches. Minimum current standards are that the guardrails shall have a minimum clearance of 36 inches above the floor. This installation may have met safety requirements at the time of the construction of the house but the height of the guardrail above the floor is no longer considered adequate.

312.1 Guards required.

Porches, balconies or raised floor surfaces located more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 36 inches (914 mm) in height. Open sides of stairs with a total rise of more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 34 inches (864 mm) in height measured vertically from the nosing of the treads.

High moisture contents were found in the drywall at the middle bedroom east window, in the tile on the north side and under the glass block windows in the master bathroom, at the wood trim and sills at all windows and on the wood trim of the door frames, etc. High moisture contents may indicate moisture penetration through the wall envelop. All sources of possible moisture penetration should be determined and corrected. Failure to seal the building envelop can cause increased humidity inside the house which can affect the comfortable habitation of the house which can lead to higher utility bills, decay of the framing members and the development of microbial organic growths, etc.

The exterior frame windows installed through the wood fiber products siding were not properly flashed. Metal flashing, called "Z" flashing should have been installed during construction of the structure. Z flashing is cut into the frame siding and covers the top piece of trim to prevent water from entering the trim or window frame. Proper Z flashing materials should be installed to prevent water penetration.

703.8 Flashing.

Approved corrosion-resistive flashing shall be provided in the exterior wall envelope in such a manner as to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. The flashing shall extend to the surface of the exterior wall finish and shall be installed to prevent water from reentering the exterior wall envelope. Approved corrosion-resistant flashings shall be installed at all of the following locations:

1. At top of all exterior window and door openings in such a manner as to be leakproof, except that self-flashing windows having a continuous lap of not less than 1 1/8 inches (28)

2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.

3. Under and at the ends of masonry, wood or metal copings and sills.

4. Continuously above all projecting wood trim.

5. Where exterior porches, decks or stairs attach to a wall or floor assembly of wood-frame construction.

6. At wall and roof intersections.

7. At built-in gutters.

The code requires that all points subject to the entry of moisture be appropriately flashed. Roof and wall intersections and parapets create significant challenges, as do exterior wall openings exposed to the weather. Where wind-driven rain is expected, the concerns are even greater. While the code identifies a number of locations where flashing is specifically required, the entire exterior envelope must be weather-tight to protect the interior from weather. Therefore, any location on the exterior envelope that provides a route for the admission of water or moisture into the building must be properly protected.



Courtesy of the American Wood Council, Inc.



The junctions of the siding with the wind and door frames were not sealed. These openings allow moisture into the wall framing behind the siding. These junctions should be sealed with a quality, water proofing adhesive to prevent further water penetration.



While there was no active decay noted in the siding and trim pieces, the wood siding was soft at the trim junctions indicating that the wood is, or has been, wet and the process of decay may be beginning. The wall envelop should be sealed as soon as possible to prevent further water penetration and to reduce the chances of the siding decaying in the near future.

The junctions of the exterior front porch and balcony railings were not flashed and sealed. There were openings between the guardrails and the exterior wood veneer. These junctions should be properly flashed and sealed to prevent water penetration into the framing and decay of the siding, trim, railings and/or framing members.

A section of trim was missing from the west side of the front porch junction with the south wall of the house. The missing trim section should be replaced. The new trim section should be finished to match the existing structure.



Deteriorated wood was found on the exterior front porch column and on the foundation framing sill along the north wall of the house, etc. indicating the need for an examination by a qualified licensed pest control inspector. Presence or damage from termites, rot or other wood infesting organisms is not part of this report. Detection of wood infesting organisms is reserved by Texas Law to the structural termite inspection. All deteriorated material, regardless of the cause, should be removed and replaced with sound new lumber finished to match the existing structure.



F. Ceilings and Floors *Comments:*

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

There was damage noted in the hardwood flooring that appeared to have been caused by wood destroying insects. While the damages noted appeared to be old, you should verify that there are no active wood destroying insects prior to the closing on the house. Information.

A number of the hardwood flooring slats were loose and some of the slats were offset. I tripped several times on a loose slat in the master bedroom door opening. The loose slats should be placed into their proper position and should be properly fastened to the floor framing system for safety.

A number of the slats had been surface nailed which indicates past repairs to the slats or replacement of the slats. Information on the history of the hardwood flooring should be obtained from the current owner.

High moisture contents were found in the hardwood flooring slats throughout the house. High moisture contents may indicate moisture penetration through the flooring system. All sources of possible moisture penetration should be determined and corrected. It is virtually impossible to seal hardwood flooring used with a pier and beam foundation as there is "open" air flow in the crawl space. Insulating materials can seldom be used to effectively seal the underside of the hardwood flooring as any separation between the insulating materials and the hardwood flooring creates an air space where condensation can form. It is common to find decay in foundation framing members and flooring systems where insulating materials have been installed under the flooring system. The dryer, within reason, that you keep the interior of the house, the lower the moisture content in the surface of the hardwood flooring. Most hardwood flooring millers recommend that the interior ambient temperature of the house be 70 degrees Fahrenheit with humidity levels between 35 and 50 percent at the time of the installation of the laminated flooring and that those temperature and humidity levels be maintained. You should consult a competent hardwood flooring contractor for information on drying the hardwood flooring and keeping it dry in the future.

Because materials used to provide energy efficient structures trap moisture in a residence, it may be necessary to delay delivery and installation of flooring to allow the excessive moisture trapped during construction to evaporate. The average moisture content of framing members and subflooring should be below 12%-14% before delivery of the flooring. Moisture contents above 12%-14% can cause moisture related problems.

From the time flooring is delivered and until occupancy, temperature and humidity should be maintained at or near occupancy levels. After occupancy, continue to control the environment. Extended times (more than 1 month) without HVAC controls can promote elevated moisture conditions which can adversely affect flooring. From the Wood Flooring Manufacturer's Association, Inc.

G. Doors (Interior and Exterior)

Comments:

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The double cylinder dead bolts on the exterior doors should be replaced with keyless deadbolt on the interior side of the doors. Keyless dead bolts are required on exterior doors for safety to allow egress without searching for a key in an emergency.

311.4.4 Type of lock or latch.

<u>All egress doors shall be readily openable from the side from which egress is to be made</u> without the use of a key or special knowledge or effort.

High moisture contents were measured in the east bedroom/balcony door and the door was beginning to deteriorate. The door should be replaced at this time, in my opinion.

The weather stripping on the exterior door frames was inadequate. Daylight could be seen between the doors and the door frames. The weather stripping should be replaced.

$\blacksquare \ \Box \ \Box \ \blacksquare \ H. Windows$

Comments:

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

A random number of windows were tested for operation. Some of these windows were found to be inoperable. The inoperable windows, particularly the bedroom windows, should be made operable. Bedroom windows are emergency escape and rescue openings. Emergency escape and rescue openings should be easily openable so that a child can escape from the bedroom.

Cracked and broken window panes should be replaced.

Missing window screens should be replaced.



There were no defects noted in the gas fired log system that appeared to require immediate repair at the time of the inspection in my opinion.



Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The stair risers on the front porch steps were not uniform in size. This condition creates a hazard to the user of the steps. The brain adjusts your stride to the height and depth of steps and one step that is a different size can cause you or another user of the steps to trip and fall. The risers should be made uniform in height for safety.

311.5.3.1 Riser height.

The maximum riser height shall be 7 3/4 inches (196 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

The code establishes that the maximum riser height is 73/4 inches (197 mm). The International Residential Code does not provide a minimum riser height as does the International Building Code, where a 4-inch (102 mm) limit is specified. The provisions specify how the riser height is to be measured. See Commentary Figure R311.5.3.1(1). A significant safety factor relative to stairways is the uniformity of risers and treads in any flight of stairs. The section of a stairway leading from one landing to the next is defined as a flight of stairs. It is very important that any variation that would interfere with the rhythm of the stair user be avoided. While it is true that adequate attention to the use of the stair can compensate for substantial variations in risers and treads, too frequently the stair user does not give the necessary attention. To obtain the best uniformity possible in a flight of stairs, the maximum variation between the highest and lowest risers is limited to 3/8 inch (9.5 mm). This tolerance is not to be used as a design variation, but its inclusion is in recognition that construction practices make it difficult to get exactly identical riser heights and tread dimensions in constructing a stairway in the field. Therefore, the code allows the variation indicated in Commentary Figure 311.5.3.1(2).



The surface of the wood deck was in contact with the wood siding and was at the elevation of the back door threshold. Current and past building codes provide that the elevation of ground surfaces, sidewalks, porches, decks, patios or driveways, etc. cannot be closer than six inches to the elevation of the surface of the foundation or the bottom of the claddings of a house when the cladding is not masonry. Having the elevation of the deck raised so that the deck is in contact with the veneer can allow water to be trapped in or against the veneer and can allow water to splash and/or flow into the house. The elevation of the deck should be lowered and should be sloped to drain water away from the house as required by current and past building codes.

Comments:

 I=Inspected
 NI=Not Inspected
 NP=Not Present
 R=Not Functioning or In Need of Repair

 I
 NI
 NP
 R
 Inspection Item

 II.
 ELECTRICAL SYSTEMS

 III.
 A. Service Entrance and Panels
Comments:

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

Electricity was provided to the house by overhead conductors. The conductors had adequate clearance above the ground surface, the insulation appeared to be in good condition and the drip loops were properly formed. The mast was securely attached to the framing. Information.

Tree limbs were in contact with the service entrance conductors. The tree limbs should be trimmed to prevent them from damaging the conductors.

The grounding electrode conductors to the two grounding system made electrodes were not protected against physical damage. The conductors must be protected so that they are not cut or damaged. Damage to the grounding conductor(s) could result in the loss of the earth grounding of the electrical system.



The breaker panel was an exterior 200 Amp General Electric box with 200 Amp main disconnects. The service entrance conductors were 2/0 copper conductors. The interior wiring to the house was copper. The branch circuits were rated as follows:

2 ____30-240 A/C, A/C 12 ____20-120 8 ____15-120



The circuits were not properly labeled or identified in both units. As the circuits were not identified, it could not

be determined if the circuits were properly sized for the listed appliances. The National Electric Code, Section 408.4, states that identifying circuits as 'bedrooms or wall outlets or light switches' is not adequate. Labeling must be specific as to which appliances are to be protected by the over current device. The circuits should be rated and certified by a competent electrician according to the listings of the appliances.

Neutral conductors were used as hot conductors and were not identified. All hot conductors are required to be identified by the use of black or red colors.

There was a fence in front of the breaker panel. The cover of the panel could not be fully opened and the interior of the breaker panel could not be fully accessed. The work space in front of an electrical panel board is required to be free of obstruction for worker safety.

E3305.2 Working clearances for energized equipment and panelboards.

Except as otherwise specified in Chapters 33 through 42, the dimension of the working space in the direction of access to panelboards and live parts likely to require examination, adjustment, servicing or maintenance while energized shall be not less than 36 inches (914 mm) in depth. Distances shall be measured from the energized parts where such parts are exposed or from the enclosure front or opening where such parts are enclosed. In addition to the 36-inch dimension (914 mm), the work space shall not be less than 30 inches (762 mm) wide in front of the electrical equipment and not less than the width of such equipment. The work space shall be clear and shall extend from the floor or platform to a height of 6.5 feet (1981 mm). In all cases, the work space shall allow at least a 90-degree opening of equipment doors or hinged panels. Equipment associated with the electrical installation located above or below the electrical equipment shall be permitted to extend not more than 6 inches (152 mm) beyond the front of the electrical equipment.

There were 2 arc fault interrupter (AFI) circuit breakers installed in the breaker panels. As all bedroom receptacles are required to be AFI protected, this indicates that there are only 2 circuits for all the receptacles, which includes wall outlets, ceiling fans, lighting fixtures, smoke alarms, etc., to service all the bedrooms. It is possible that there will not be adequate electrical service for all the outlets in all the bedrooms. Additional circuits may need to be added to provide adequate electrical service.

There were openings through the walls of the breaker panel box. All openings are required to be filled so that the panel is sealed. The openings are required to be sealed with material the substantial equivalent of the panel box itself. This is to prevent animals, insects and/or humans from entering or making contact with the live components of the panel box.



Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The plumbing supply system and the kitchen appliances were tested for bonding and/or grounding. Continuity to ground was obtained on all the kitchen appliances and on the plumbing supply system, indicating that the systems were bonded and/or grounded. Information.

Some of the lighting fixtures such as those in the laundry room and middle bedroom closet and on the exterior of the house, etc. did not operate. This may be caused by burned out light bulbs; however, the inspector could not make this determination. The fixtures should be made operable.

ATTIC POWER VENT FAN: The thermostat was turned down to the lowest possible setting and the unit did not operate. The unit should be repaired or replaced.



BOTH UNITS MAKE: Ruud

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The types of furnaces installed do not lend themselves to a visual inspection of the heat exchangers. The access to the furnace is to the side of the heat exchanger and most of the heat exchanger is hidden from view. In order to inspect the heat exchangers, the units must be disassembled, which is beyond the scope of this inspection. A competent HVAC contractor should be contacted to make an inspection of the heat exchangers prior to closing.



Type and Energy Source: Central Split, Electricity

Comments:

EAST CONDENSING UNIT MAKE: Ruud MODEL NO. UAMC036JAZ SERIAL NO. 7256F250505330 MINIMUM CIRCUIT AMPACITY: 22 MAXIMUM OVERCURRENT PROTECTION: 35 R.L.A.: 16.0 MEASURED OPERATING AMPERAGE: 12.6

WEST CONDENSING UNIT MAKE: Ruud MODEL NO. UAMC036JAZ SERIAL NO. 7256F250505331 MINIMUM CIRCUIT AMPACITY: 22 MAXIMUM OVERCURRENT PROTECTION: 35 R.L.A.: 16.0 MEASURED OPERATING AMPERAGE: 12.0

BOTH CONDENSING UNITS: MAKES: Rheem CAPACITIES: Both 36,000 BTU's.

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

BOTH UNITS: The temperature drops measured across the evaporator coils were 17.8 degrees for the upstairs unit and 18.9 degrees for the downstairs unit which are normally considered to be an indication that the systems are operating in the acceptable range however, the evaporator coils were dirty. As dirt collects on the coil, it takes longer for the air to pass through the coil. While this may make the air colder, it greatly reduces the amount of air that passes through the coil in a given time period. Due to the reduced volume, it takes much longer to cool the house. The compressor is also affected since the amount of heat transfer is reduced. The evaporator coils should be cleaned and inspected for concealed damaged. The systems should then be tested for proper operation and refrigerant levels.



The condensing coil units were dirty. The coils should be cleaned. The fins should be straightened. The dirt should be removed from the coil. Restrictions in the flow of air through the coil and fins prevent the compressor from discharging the heat from the house into the atmosphere properly and reduce the efficiency of the unit. It also raises the amperage use of the unit and increases the cost of operating the system.

The amperage draws on both units were too high. The amperage draw on the east condensing unit was 12.6 Amps or 4.2 Amps per ton. The amperage draw on the west condensing unit was 12.0 Amps or 4 Amps per ton. These amperage draws indicate that the units, the ducting systems and/or the electrical systems were not operating properly. The cause(s) of the high amperage draws should be determined and repaired.

Cable clamps were missing from the interior electrical areas of each of the condensing units. Cable clamps protect the insulation on the conductors as they pass through the metal box. Cable clamps should be installed for safety.



COMFORT COOLING: The following temperature and humidity readings were noted. The first reading was taken at 9:15 am. The second reading was taken at 12:30 pm. The thermostats were set at 78 degrees when the inspector arrived at the property. The demands on the thermostats were lowered to 74 degrees. The system did not cycle. Given the condition of the cooling equipment, it would be difficult to judge the performance of the systems. The operating performance of the systems should be verified after the equipment is cleaned and serviced.

	TEMPERATURE	HUMIDITY
Kitchen	81.9/79.6	53.9/49.2
Breakfast Room	81.9/80.0	52.2/47.4
Dining Room	81.4/79.2	58.6/46.6
Entry Hall	81.2/77.1	54.0/49.5
Living Room	80.2/78.2	56.8/48.1
East Bed	81.4/77.1	56.3/50.0

Middle Bed	81.6/77.4	55.0/49.8
West Bed	80.5/76.9	51.5/48.3
Hall Bathroom	80.1/77.0	55.8/51.7



There were no visible defects noted in the visible ducts or ducting system that appeared to require immediate repair at the time of the inspection, in my opinion. Information.

I=I	nspect	ted	NI=Not	Inspected	NP=Not Present	R=Not Functioning or In Need of Repair
Ι	NI	NP	R	Inspection Item		
			IV. PLU	MBING S	YSTEM	
			■ A.	Water Su conditions s Comment	specifically listed as rec	Sixtures (Report as in need of repair those ognized hazards by TREC rules.)

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

Low water pressure was noted on the hot water supply system throughout the house but, the low water pressure was particularly noticeable at the bathtubs. Low water pressure is defined as the visible reduction in water flow when two or more fixtures are operated simultaneously. The source of the low water pressure should be determined and corrected. There was a ½ inch section of copper supply pipe installed in the hot water system below the tankless water heater. The pipe coming off the tankless water heater appeared to be a 5/8 inch pipe and the remainder of the copper supply pipe appeared to be ³/₄ inch pipe. The water flow is defined by the smallest diameter pipe. A review of the installation instructions of the tankless water heater (Bosch) indicates that the water supply pipes for both the hot and cold water pipes should be ¹/₂ pipes. Using ³/₄ inch pipe more than doubles the interior cross sectional area of the pipe system (¹/₂ inch pipe equals approximately 0.2 square inches as compared to ³/₄ inch pipe which yields approximately 0.44 square inches) and would greatly reduce the pressure on the water delivery system. One half inch pipe should be used throughout the hot water delivery system to maintain pressure in the pipe. Should increasing the diameter of the water supply pipe fail to adequately increase the hot water pressure to a satisfactory level, further inquiry should be made into the cause(s) of the low water pressure.

HALL BATHROOM: The toilet float ran continuously. The float should be adjusted to stop the flow of water through the toilet after the tank is refilled or the float should be replaced.

The free standing bathtub was not anchored to the floor. A person's leaning or sitting on the side of the tub could cause the tub to flip over. The tub should be anchored to the floor to prevent an injury to the user of the tub.

MASTER BATHROOM: The bathtub supply valves were reversed. The hot water supply valve is supposed to be on the left side of the faucet. The faucets should be correctly connected to prevent scalding.

NATURAL GAS PIPES: There were no sediment traps or "dirty legs" installed on the natural gas distribution pipes prior to the connections to the appliances. Sediment traps are required by Section G2419.4 of the IRC. Proper sediment traps should be installed where required.

<u>G2419.4 (408.4) Sediment trap.</u>

Where a sediment trap is not incorporated as part of the gas utilization equipment, a sediment trap shall be installed downstream of the equipment shut-off valve as close to the inlet of the equipment as practical. The sediment trap shall be either a tee fitting with

a capped nipple in the bottom opening of the run of the tee or other device approved as an effective sediment trap. Illuminating appliances, ranges, clothes dryers and outdoor grills need not be so equipped.

The natural gas distribution pipes were made of galvanized and black iron pipes. Galvanized and black iron pipes cannot be directly connected as electrolysis will result. Di-anode connectors should be installed at the junctions of the galvanized and black iron pipes or the galvanized pipe sections should be replaced with black iron pipe.

B. Drains, Wastes, Vents

Comments:

NOTE: When a house is newly built or remodeled, or when a house has been vacated from even for a short period of time, it is not unusual for the plumbing system to back up when the new owner occupies the structure. This is due to the fact that the contractors building or remodeling the house use the plumbing system as a method of cleaning everything from paint to putty to anything else you can think of. Solids in the pipes tend to congeal as water drains from the pipes through lack of use and the solids can form barriers in the pipes. Before occupying the structure, you should repeatedly fill all plumbing fixture in an attempt to insure that the drains will operate once you and your family have moved into the property. Information.

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

Sewer vent pipes in the attic contained horizontal runs. The purpose of the vent is to allow air into the drain system so that a vacuum does not form. A vacuum would greatly reduce the speed at which the fixtures drain. It can also prevent the fixtures from draining. A horizontal run means that the flow of air has been effectively stopped due to atmospheric pressure. The pipes must maintain a slight upward slope, at a minimum.



C. Water Heating Equipment (Report as in need of repair those conditions specifically listed as recognized hazards by TREC rules.) *Energy Source:* Natural Gas *Comments:* Tankless unit

MAKE: Bosch

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The drain pipe on the temperature and pressure relief valve was made of inadequate material. The pipe was listed as CPVC. CPVC pipe deforms or melts at 180 pounds per square inch pressure at 100 degrees Fahrenheit. The valve is manufactured to trip at 150 psi at 210 degrees. If the valve were to trip, it is likely that the drain pipe would fail. The drain pipe required by the manufacturer is either galvanized or thick walled copper. These pipes will withstand the temperature and pressure requirements of the valve. While some local municipal codes will allow the use of CPVC pipe on the valve, the model buildings codes, the manufacturer of the tank and the manufacturer of the valve do not. The drain pipe should be replaced in my opinion.

	D. Hydro-Ther <i>Comments:</i>	apy Equipme	nt
I=Inspected I NI NP	NI=Not Inspected NI R	P=Not Present Inspectio	R=Not Functioning or In Need of Repair on Item
	V. APPLIANCES	•	
	A. Dishwasher		
MAKE: Frigidaire	<i>Comments:</i> 9 MODEL NO. FDB750RC	CC1 SERIAL NO	D. TH51513638

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

There was no anti siphon loop or mechanical air gap in the drain pipe. An air gap or anti siphon loop is used to prevent backflow of contaminated water and bacteria from the disposer or plumbing drain back into the dishwasher. Many models come with backflow valves, but the anti siphon loop or mechanical air gap is still required. An anti siphon loop is created by forming an upside down "U" in the drain hose. The "top" of the "U" must be in contact with the bottom of the counter. The hose is the tied in place, usually to the underside of the sink or to the faucets.



The toggle switch controlling the dishwasher was not identified. All electrical control devices are required to be identified unless the purpose of the control device is clear. The toggle switch should be labeled to prevent a repairman from being called when the dishwasher is not operating and the switch is simply turned off.

B B Food Waste Disposer

Comments:

MAKE: Insinkerator MODEL NO. 5-81 SERIAL NO. 05061507775

There were no visible defects noted in the operation of the disposer that appeared to require immediate repair at the time of the inspection, in my opinion. Information.



Comments: Component of the Microwave Oven Unit

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

The vent fan unit was a circulating type vent that leaves food odors and combustion gases in the house. The incomplete combustion of natural gas produces carbon monoxide. It is possible that prolonged use of the range could cause a reaction to the presence of carbon monoxide. If the range and/or oven are to be used for a prolonged period of time, the kitchen window should be opened at a minimum. Information.

M1502.1 General.

Range hoods shall discharge to the outdoors through a single-wall duct. The duct serving the hood shall have a smooth interior surface, shall be air tight and shall be equipped with a backdraft damper. Ducts serving range hoods shall not terminate in an attic or crawl space or areas inside the building.

Exception: Where installed in accordance with the manufacturer's installation instructions, and where mechanical or natural ventilation is otherwise provided, listed and labeled ductless range hoods shall not be required to discharge to the outdoors.

A domestic kitchen exhaust system is one that serves appliances typically found in residential occupancies such as within dwelling units. When compared to commercial cooking operations, residential cooking operations are far less frequent, of shorter duration, have lower heat output, and produce fewer grease-laden vapors. However, airborne contaminant control may be even more important in residential cooking operations because of the lower or nonexistent ventilation rates typical of dwelling units. The ducts must be sealed air tight to prevent leakage of air and grease into wall and ceiling cavities. Ducts should be sealed with a material that is suitable for long-term exposure to elevated temperatures. Backdraft dampers prevent the filtration of outdoor air when the exhaust system is not operating. The hood manufacturer's instructions may require that the ducts be installed with a minimum clearance to combustibles. See the commentary for Section M1307.1.

The exception to this section allows the use of ductless (re-circulating) range hoods that have no means for discharge to the outdoors. Exhaust to the outdoors would be required if natural or mechanical ventilation was not provided. From the Commentary to the IRC.



COMBINATION RANGE/OVEN UNIT MAKE: Frigidaire MODEL NO: FGF337BCG SERIAL NO. VF52134448 ENERGY SOURCE: Natural Gas

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

RANGE: There were no visible defects noted in the operation of the range that appeared to require immediate repair at the time of the inspection, in my opinion. Information.

OVEN: The oven thermostat was out of adjustment. The thermostat should be calibrated to set the oven temperature to within 25 degrees of the dial setting. The temperature was set at 350 degrees for ten minutes. The internal temperature of the oven was then measured to be 320 degrees. The thermostat should be properly calibrated.

No anti tip device was noted on the free standing combination unit. Anti tip guards are required by code and by the manufacturer to prevent the unit from turning over. The anti tip device should be installed for safety.

E D E. Microwave Cooking Equipment

Comments:

MAKE: Whirlpool MODEL NO. MH1150XMS-1 SERIAL NO. TRR4963032

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

There were no visible defects noted in the operation of the microwave oven that appeared to require immediate repair at the time of the inspection, in my opinion. Information.

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G. Bathroom Exhaust Fans and/or Heaters

Comments:

Items noted during the visual inspection that require comment, are in need of repair, adjustment, restoration, continuation of the due diligence process and/or servicing or items noted for information include but are not limited to:

UPSTAIRS HALL BATHROOM UNIT: The unit was out of balance and noisy. The unit should be cleaned and serviced.

LAUNDRY ROOM UNIT: The unit did not operate. The exhaust fan should be repaired or replaced.

		H. Whole House Vacuum Systems Comments:
		I. Garage Door Operators Comments:
		J. Door Bell and Chimes Comments:

There were no visible defects noted in the doorbell that appeared to require immediate repair at the time of the inspection, in my opinion. Information.

		K. Dryer Vents
		Comments:

There were no visible defects noted in the visible dryer vent system that appeared to require immediate repair at the time of the inspection, in my opinion. Information.

NOTE: There was only a connection for a gas fired dryer. Information.

□ ■ □ L. Other Built-in Appliances Comments: