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Affordable Housing:

Evaluating the Structure of an Older House

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Many families are attracted to older homes because they can often buy more space with their money and the landscape and neighborhood are established. If you are considering the purchase of an older home, it is critical that an assessment of the physical condition of the house itself be done. Costly repairs to structural or mechanical systems can be avoided or at least anticipated by a preliminary inspection of the property before a purchase offer is signed. If you know how to identify the major problem areas in homes and understand the difference between major and minor repairs, you will be in better position to negotiate a fair price with the seller.

This fact sheet will help you know what to look for while making a home inspection. While you can become familiar enough with common problems that will enable to you eliminate certain houses from the purchase consideration, ***a professional home inspection should occur after a purchase offer is accepted***. Your purchase offer can and should contain a clause that the purchase contract is contingent on acceptable inspection results.

Foundation

The most common types of house foundations are 1) concrete slab, 2) pier and beam over a crawl space, and 3) a basement. A careful inspection of a foundation should be made from the outside of the house, to the extent possible, as well as from the inside. It is important that the ground slope away from the house. This provides proper drainage and helps prevent flooding.

1) Slab on grade — Check the concrete foundation for cracks. Although it is not always possible to diagnose foundation problems from cracks alone, they could indicate the potential for serious conditions. Cracks at corners and vertical cracks that are wider at the top than at the bottom may indicate that settling has occurred. In concrete slabs, hairline cracks are not likely to indicate serious problems, but large cracks may indicate a more serious problem.

2) The crawl space in pier and beam construction should be checked for dryness and ventilation. Foundation wall vents are required to keep the crawl space dry. Vents should be screened to keep animals out.

3) Ideally, the exterior of a foundation wall for a full basement should be treated with a water proofing layer and protected with drainage tile set beside the footing. You likely will not be able to see these items. Ask the seller about them and check the conditions inside the basement to see if a water problem exists. When you examine the foundation wall from inside a full basement, look for any signs of water damage, such as stains on the walls or floor. Specific problems to look for are water entry through cracks and water entry through porous masonry materials. While basement water problems can lead to serious structural defects, their remedies are not always difficult and expensive. You need to consult a professional house inspector to help you evaluate any basement water problems.

Termite Damage

Hire a professional to check for termite infestation after you make your offer to purchase. However, you should write into your contract offer who will pay for damage repair or treatment if required. Most lenders will require this inspection. Prior to your offer to purchase, you can look for conditions that are conducive to termite infestation. It is important that none of the wood in the structure of a house touch the ground. A minimum of four inches between the ground and brick line is recommended. Check the exterior and interior sides (crawl space or basement) of the foundation walls for shelter tubes. Termites build these tubes out of mud and often attach them to the foundation walls to provide a path from the soil to wooden house components, such as floor joists.

Roof

A good roof will be even and uniform, while a worn roof has an overall ragged appearance. Look for damaged or missing pieces of roofing material, popping nails, and any irregularities such as lumps or curling shingles. Also examine the condition of metal flashing at joints and in roof valleys. The condition of gutters and down spouts should be evaluated during the roof inspection if they are present. From inside the attic, check the condition of rafters and roof decking. (Be careful not to step or crawl on the area between the floor joists, as this is typically the upper side of the ceiling surface of the room below and will not support an adult's weight.) Signs of moisture damage will be noticeable as water stains on the rafters or on the underside of the decking.

Moisture damage can result from either interior or exterior sources. Insufficient attic ventilation will cause moisture damage from the inside; leaks can cause it from the outside.

Adequate attic ventilation allows for the removal of moisture-laden air. Attic or under-the roof ventilation is a must for efficient summer cooling and prevention of winter condensation problems.

Windows and Doors

Windows should fit snugly, feel solid and open and close smoothly. Water stains or dust streaks around the trim may indicate leakage or condensation. If the house has casement windows, the cranking mechanisms should be checked to insure that they work.

Exterior doors should not allow air infiltration. When a door is closed it should fit in its frame so that no outside light is visible through cracks from the inside. For energy efficiency, exterior doors should, at a minimum, consist of solid wood. Better exterior doors are built of metal or fiberglass with insulated cores. All the doors of a house should swing without scraping the floor. Check exterior door hardware; cylinder locks, deadbolt locks, and hinges.

Plumbing Systems

The plumbing system consists of two sub-systems: the water supply system and the drain-waste-vent (DWV) system.

Check all water distribution lines for exposure to freezing conditions. Pipes can freeze if they are located in or too close to exterior walls. Pipes in attics may also be susceptible to freezing.

Check the water heater for type and capacity. An oil- or gas-fired water heater for a single family home should hold at least 40 gallons. Because an electric water heater has a longer recovery time, its size should be between 50 and 60 gallons. Necessary features on a water heater are a shut-off valve and a temperature and pressure relief valve.

Check water flow from all fixtures in a house for pressure and leaks. You can often see evidence of leaks by looking for stains on sinks, around handles, and in cabinets under sinks.

The DWV system drains waste from sinks, baths, and toilets and provides a means of venting the system to the atmosphere. Test drains by filling up sinks and releasing the stoppers and by flushing toilets. If some fixtures drain slowly or not at all or if waste material returns, there may be blockage somewhere along the drain lines.

If the home is served by a septic system, ask the present owner for records that indicate tank and field location and size, as well as information regarding the most recent tank pumping. Septic systems require maintenance and special treatment. The purchase contract should include a stipulation that the septic system must work properly for 30–60 days with you living in the home. If the system fails, the contract should outline the limit of the seller's liability.

Electrical System

The inspection of the electrical system should be done by a professional inspector. However, there are some basic checks that one can do to determine type of service, etc. If there are three wires attached to the house somewhere near or just above the roof, 220 volt service is indicated. If there are only two wires, the home has 110 volt service and will likely need to be rewired. The main circuit breaker or building fuse in the service panel will list the electrical service capacity in amperes (amps). The minimum recommended wiring for most houses today is a three-wire, 240-volt, 100-ampere service. In houses where electric heat, central air conditioning or a large number of appliances are used, 150- to 400-ampere service is needed.

Heating, Ventilating, and Air Conditioning System

HVAC service technicians using specialized equipment should test the overall condition and operational efficiency of the systems. You can, however, conduct a preliminary examination. Look at location and condition of registers throughout the house and observe the system in operation. Turn on both the heating and cooling system for a period of 20 to 30 minutes each. The system should run quietly, ducts should not rattle and air flow should be even. The typical house requires one ton of cooling capacity for every 500 to 600 square feet of air conditioned area.

Ask homeowner for records of fuel or utility bills. These may give you some idea of the cost to heat and cool the house.

Radon, Asbestos, and Lead

Radon can be tested by leaving test canisters at the site for a period of time to determine the levels of radon present. Home inspectors can check the radon level for you. You may want your offer to be contingent on test findings.

Asbestos is found in older homes. Asbestos was frequently used to wrap heating ducts and radiator lines. It was also used in some spray-on ceiling and tile flooring. Material that is not flaking may be encapsulated rather than removed. You must decide how serious the problem is.

Lead water supply pipes still found in some inner city homes need to be replaced with copper pipes. Lead sewer pipe is not a problem because the pipe does not come in contact with drinking water. Lead paint is often found in houses built before 1978. Old paint that is intact may not be a hazard. However, paint that is flaking or deteriorating is a source of lead dust in the home. Remodeling projects that involve paint removal can also be a source of lead dust in the house. Lead poisoning is a serious health problem for young children. If you are planning on restoring an older home, consider how you are going to protect yourself from lead poisoning, and how to dispose of the lead dust and paint after you remove it.

Summary

When your inspection is complete, look through your notes or through the inspector's report and develop a summary sheet, dividing the items noted into major and minor problems. Major repair items might include replacement of windows, a new roof, a new furnace or air conditioner, a new electrical service, a very leaky, wet basement or crawl space, structural problem, high radon levels. Determine how much it would cost to make the major repairs. Depending on your hands-on skill, your time and your resources, it may be reasonable to purchase the house, even though it needs considerable work.

Before making a final decision about buying a particular house, carefully evaluate the asking price and prices of comparable homes—especially homes with fewer problems—as well as your financial resources. The opportunity to buy a "fixer-upper" in a good neighborhood may warrant the expense of anticipated repairs. The mortgage lender may require that certain repairs be completed prior to closing. This needs to be addressed in your purchase contract. Your decision whether to buy or not should be based on knowing all the facts about the house's condition, how much the necessary repairs will cost, and a realistic assessment of your patience and skill in repairing or remodeling a house.

References:

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"Evaluating the Structure of an Older House," Texas AgriLife Extension Service, College Station, TX.

"Inspecting the Home," College of Fine and Applied Arts, University of Illinois, Urbana-Champaign, Il.

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