# Maintenance

Whether or not you already own and live in an older home or are considering buying one, you have no doubt heard both cautions and accolades associated with older structures. “They sure don’t build them like they used to?.” This is usually meant as a compliment, but if you have ever worked on old buildings there were probably times when your first reply would surely have been, “no…they don’t, thank goodness”. Well-meaning friends and relatives undoubtedly warned you about the “money pit” aspects of the project on which you are about to embark and how you will never get back what you put into the place. How about when friends first walked into that cavernous front foyer and gasped, “Gosh, I wouldn’t want to pay the heating bill in this house!” We could go on, but we don’t want to create too much fear or regret at this point.

Now you may be left with all sorts of the questions: Are older homes really built better than new ones? Does it really cost more to maintain an older home? Who do I call when the roof leaks? How will we ever afford to heat this place? If you have lived in an older home for a period of time, you may already know the answers to some of these questions. If you are planning on purchasing an older home, these might be the sorts of questions that are beginning to make that brand new house on the edge of town look mighty attractive. In the next couple of pages, the hope is to address some of the concerns associated with owning and maintaining an older home, dispel misinformation about older homes, and provide guidance to help make your experience positive and perhaps even fun.

## Why should I keep or buy an old house?

Any house will usually keep you warm and dry and provide a place for you to eat and sleep. If these needs were your only concern, however, you wouldn’t be reading this. Owning and maintaining an older house provides you with an opportunity to gain an understanding of past times. How many people had to walk across your front door threshold over the years to create that dip in the wood? Could you ever find enough sandpaper and steel wool to replicate the smoothness of your stair railing that thousands of handholds created? Could their kids really have slid down without hitting that newel post? The people that lived there before left traces that help to create the character of your home. These are the kinds of things that help make your house historic and indeed elevate it to the status of an artifact of sorts.

Buying and owning an older house can actually make financial sense. In most communities, your money goes farther when buying an older house. The rooms are typically bigger, the ceilings higher, and the materials are usually better and more beautiful. In most new home construction, hardwood floors are a premium option, the walls are of gypsum board (sheet rock or drywall),

the windows and siding are vinyl, the fireplace is surrounded with faux brick or stone, and even the most expensive cabinets usually contain particle board and plastic. They are usually marketed as low maintenance but, until a hundred years or so have passed, no one really knows for sure how well vinyl siding and composite floor trusses will hold up.

Another advantage of an old house is that whatever can go wrong has probably already gone wrong. As timbers age, they harden. Old wood, therefore, is typically very stable. Since most old houses were built with first or second growth lumber, the grain is usually straighter and tighter than modern lumber. The sags in the floors and cracks in the plaster probably happened decades ago and the original cause has likely been addressed.

Living in an old house usually means living in a neighborhood filled with similar old houses. As a resident you become part of a living organism, a group of stewards who, by residing in these houses, preserve and maintain a part of mankind's past. Your house may not be Mount Vernon but in the larger sense it is just as important to the story of your neighborhood, the City of Roanoke, and ultimately the Commonwealth of Virginia.

## Are older houses more expensive to maintain?

Most people who live in older houses develop a respect for them that drives their level of effort. You buy light fixtures that are in keeping with the character of the house. You search for period wallpaper and you use the best paint. When there are repairs or maintenance issues, (high-***pitched*** roofs, plaster walls, hardwood floors, wood siding and windows, brick walls and stone foundations) you hire qualified craftspeople to do those things you can't do yourself.

The exterior of your house has been exposed to weather and its ravages for perhaps 100 years or more, rather than several decades. The complexity of architectural elements, the challenges of gaining access to a chimney top, and the scarcity of contractors who know what they are doing can all impact maintenance. Old houses are bigger, draftier and usually don't have as much insulation, so you don't expect the heating and cooling efficiency of a new house.

The very things that attract people to older, historic homes can make them more expensive to maintain. But with a little bit of knowledge and planning, there are things that you can do to help keep maintenance within a realistic effort.

## What can I do to maintain my house and make it more efficient?

If you are a building contractor or are skilled in the building trades, chances are you can do most things yourself. However, the truth is that most people are not. Homeowners must depend on the knowledge and skill of others they hire to do the work and do it properly. By observing specific conditions and knowing a little bit about the cause and effect relationship of damage, you can help ensure the work suggested by a contractor is

appropriate to your situation.

While there are hundreds of separate elements that go into the actual construction of a house, this outline will address the primary parts and pieces of the exterior and how to go about trouble-shooting and fixing the problems.

## Roofs and Gutters

*Metal Roof in Poor Condition*

*Metal Roof in Good Condition*

*Roof Valley*

Any building's first defense against the elements is the roof and drainage system. A leaky roof can damage interior framing, plaster and paint, and can, in extreme cases, lead to structural failures. Poor drainage (gutters and downspouts) can contribute to damaged siding and windows, and can increase moisture levels in the soil surrounding the foundation. Evidence of this is usually seen as loose mortar, water on the basement floor or mold and mildew stains. In order to ensure the continued good health of your roof and gutters, here are some things to do or watch for every six months:

- Look for loose, missing or misaligned shingles (wood, fiberglass or slate). Have them repaired or replaced as needed.
- On metal roofs, look for rust, open seams, failing paint or loose edges. Metal roofs can last for many decades but they need regular cleaning, spot repairs, and painting.
- On all roofs, inspect the valleys (where roof sections intersect) and flashings (usually found at the base of chimney or other roof penetrations) for signs of rust, loose or open seams, holes, missing caulk or areas where debris has gathered. Most roof leaks occur in valleys or at areas that are flashed.
- Have your gutters cleaned in the spring and again in the fall. Make sure hangers are secure and that the gutters are ***pitched*** so that they carry water toward the downspouts. Check the downspouts and fittings to make sure they are tight. Flush the downspouts with a garden hose to ensure that they are clear. Missing mortar or peeling paint behind the downspout is a sign that the backside of the downspout is split or damaged and needs replacing. Finally, make sure that splash blocks are placed properly and that the downspouts extend at least five feet away from the foundation. It may be necessary to add sections to the bottoms of downspouts.

## Wall Cladding

Whether the exterior walls are brick, stone, wood shakes, or wood siding, none are impervious to time and weather. Most of the damage that is visible on the exterior surfaces of a house is usually an indicator of another problem. For example: Paint does not fail just because it gets old. If it did the interior paintings in the Pyramids would have vanished centuries ago. Paint typically fails when water gets behind it and lifts it from the surface on which it was

*Efflorescence*

*Peeling Paint*

*Poorly Patched Cracks on a Stucco Home*

originally placed. Peeling paint is usually an indication of water infiltration. (See the previous section on gutters.)

Here are a few things you can do to help you keep ahead on exterior maintenance. A visual inspection of the exterior should be done at least once a year.

- On **masonry walls** (brick or stone) check for loose or missing mortar, broken bricks or stones and efflorescence. Efflorescence is a white, chalky substance that appears when the naturaly occurring soluble salts in brick, stone, block, and mortar react to increased levels of moisture inside the wall. First find and address the source(s) of the damage, then make the repairs with a mortar that matches in color, texture, and relative "hardness". Tool it so it mimics the original mortar joints. Use brick or stone of a similar size and color.

- On walls with **wood siding or shakes** (shingles) check for peeling paint, rusted nail heads, loose or broken areas and mildew. Again, these can all be signs of moisture infiltration. Once the cause or source of the damage has been identified and addressed, repairs and/or repainting can be undertaken. Make sure that wood is replaced in-kind with materials that are similar in profile and species (use pine to repair pine, etc.). Remove loose paint and clean areas that are to be painted. Caulk or use putty to fill holes and open joints as needed. Use an appropriate primer and the best exterior paint you can afford. Don't wait until the whole house needs painting. Deferred maintenance is one of your home's biggest enemies.

- **Stucco** walls are usually a combination of wood framing and masonry. Stucco can be applied directly onto masonry or is applied to wood or wire lathe over a wood framework. However it was applied, several things should be looked for. Check for cracks, missing material or areas that appear loose or detached. Per the previous sections, these are many times indications of water infiltration. Cracks can be filled with good-quality acrylic caulk. The caulk provides a flexible patching material that should last for many years. Larger areas should be repaired using stucco of a similar type. Most masonry contractors can determine whether stucco is Portland cement-based or lime based. Never install repair material that is "harder" than the original material. Make sure the substrate (surface that the stucco is installed onto) is in good and stable condition.

## Porches

Porches and steps are typically subject to more damage from weather than other areas of your house. This is especially true of open porches with wood flooring and steps. Many of the things previously discussed apply to porches: roof repairs and maintenance, proper function of gutters and downspouts, etc. However, here are some things to be aware of that are specific to porches,

steps, and walkways.

*Sagging Porch Floor*

*Porch Floor in Good Repair*

*Brick Piers with Missing Mortar*

- NEVER use **salt or products containing chloride or sodium** to melt ice on concrete, stone or brick walkways or steps. Salts are corrosive and contribute to the accelerated deterioration of masonry by helping to create conditions where it is easier for water to enter. Salts also get tracked onto wood porches and interior floors where they speed the deterioration of painted or varnished surfaces. Gutters and downspouts that are in good repair can help reduce dripping and the resultant ice. Sometimes just by using another door for a day or two makes it possible for the sun to do its work. Other alternatives include spreading sand or kitty litter (non-clay based). Neither help to melt ice, but they provide good traction. A good doormat helps to ensure that the sand or litter stays outside.
- Make sure that ***balustrades*** are tight and in good repair. Many companies reproduce the elements for repairing historic railings.
- Inspect **wood porch flooring** for signs of deterioration, especially around the perimeter of the porch where water sets after rain or snow. Damaged areas should be replaced with lumber of the same size and species. Make sure that all sides of new lumber are primed prior to installation. Remove loose and peeling paint, prime bare wood areas and apply a good-quality porch and floor paint. Yearly touch-ups can extend the life of wood porch flooring almost indefinitely.
- Once your wooden porch floor is repaired and painted, and has had a chance to cure for several weeks, apply a coat of **paste wax or a liquid acrylic wax**. While not made specifically for exterior applications, it can help preserve the paint finish. The “slippery” surface of the wax will last only a couple of weeks, so care is needed until it wears a little.
- Inspect **brick or stone piers or foundation walls** for damage and repair them when needed. Visible sagging of floors is often a result of failures in piers and foundations.
- Repair and replace **wood lattice** as needed. The primary benefit of keeping lattice in good repair is that it makes the area under your porch less accessible to cats, dogs, groundhogs, and the like. Historic wood lattice that consists of vertical and horizontal strips, as opposed to contemporary diamond-shaped lattice, is hard to find at most lumberyards. However, all of the elements to recreate it are usually available. Panels can be constructed by using 2 inch x 4 inch lumber for a frame, then placing shoe-molding around the interior perimeter as a stop. The lattice strips are laid in place and tacked together with brads (small nails). All that is left to do is install a second layer of shoe-mold to hold it in place, paint, and install. You can pre-paint all of the elements prior to construction to make things a little easier.  Please refer to Porch

Construction in the Appendix for more information about assembling lattice.

## Windows and Doors

Windows and doors on historic homes are usually considered some of the most important "character defining" features. They are also one of the elements of an old house that owners struggle with the most. Over the years many have been painted shut, caulked shut, nailed shut or just plain don't work very well. The ads on TV show how those new vinyl-clad units just tip in so nicely for easy cleaning, and their spokesman urges you to replace your old, drafty wooden windows. First let's dispel some myths about replacement windows and then examine things you can do to make historic windows work more efficiently.

*Myth:* Old windows let in lots of cold air.

*Fact:* Old windows that are not properly maintained let in cold air. Old windows that function as they were designed do a pretty good job of protection against the elements.

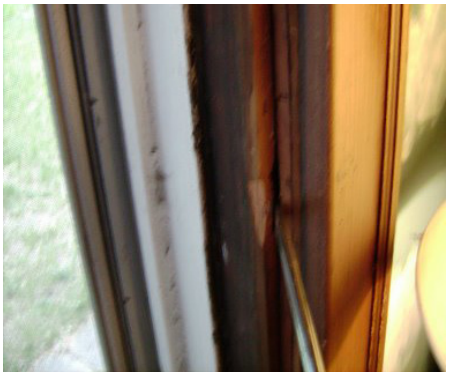
*Myth:* Old windows let out all of the warm air in the winter.

*Fact:* It is an indisputable fact that hot air rises. Most of the thermal loss in any building is through the roof, not the windows or walls. This can be easily verified by checking your local building codes. On new construction, building codes require an insulation with an "R" factor that is approximately 50% higher in overhead (horizontal) areas than is required in walls (vertical) areas. While not specific to this section, one of the best things you can do to increase your homes heating efficiency is to properly insulate the attic.

*Myth:* You will save a ton of money on heating bills by installing new "energy efficient" windows. It is cheaper to replace old windows than to repair them.

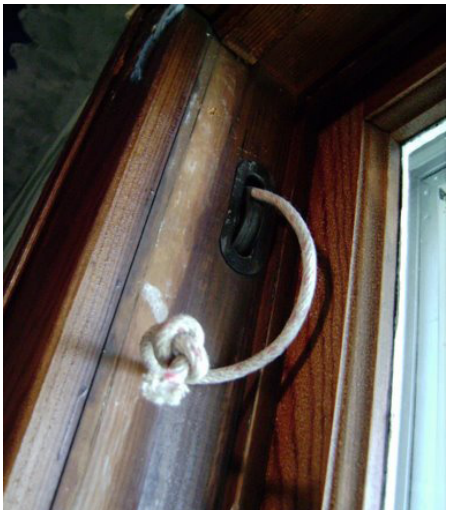
*Fact:* According to information provided by various government and private agencies, the average American family spent almost $1,000.00 to heat their home in 2006. The average cost for complete window replacement in a moderate home in America is about $8,500.00. Most replacement window manufacturers claim a 20% savings in heating costs.

If you allow for a 5% yearly increase in heating costs, it will take nearly 30 years to recoup the costs of the replacement windows. The same justification is often used to market replacement doors. Furthermore, if replacement doors and windows are not maintained, they too will wear out.



*Access Panel*

*Broken Sash Cord and Weight*



*Pulley and New Sash Cord*
*Photograph Series Courtesy of Slaves of the Vintage House*

Here are a few things you can inspect for or repair to help your old windows and doors work better:

- Make sure that the upper ***sash*** and lower sash close tightly, and that the meeting rail (the area where the window lock is installed) pulls together snugly when the window is locked. This may require removal of old layers of paint and caulk along with some repairs to the sash.
- Repair broken or missing sash cords so that the window weights function. Depending on the design of the window, this process may take minutes or hours. Many times there is a small access panel on the sides of the jamb. Once removed the weight can be cleaned and restrung. Sometimes it is also necessary to remove and clean the pulley located at the top of the jamb. In rare instances, the casing (the trim boards on either side of the interior) must be removed to access the weights. It can appear to be a daunting task, but if you can use a utility knife, a screwdriver, and a hammer it can be accomplished. People are usually surprised how well old windows work when they are cleaned and the sash weights are restored.
- Check the exterior sills, sash, and casings for peeling paint. Make the necessary repairs and keep them painted. Also check for loose and missing window putty. Tight window ***glazing*** reduces the instances of broken panes and helps reduce drafts.
- Check doors to see that locks and strike plates align properly. Look at them from the inside to see if there are areas where daylight is visible. Over the years the constant pounding that a door is exposed to takes a toll on hinges. Screws can loosen and the pins in the hinges can wear out, ultimately changing the original placement of the door within the doorjamb. This is usually why old doors are so hard to close sometimes. Slamming them or lifting them so that the locks align only increases the damage. It is possible that previous owners have tried to remedy gaps by installing various types of insulation, foam strips or other materials. These are usually less-than-successful. Clean the edges of the door and doorjamb of all old repair materials. Adjust and repair hinges so that the door swings and closes easily. The best remedy to seal gaps is to install traditional spring-metal weather strips made of brass or copper along the sides and top of the doorjamb. This type of weather stripping is available at most any hardware store; it is inexpensive, easy to install and it works.

## Foundation

Foundations of historic houses are usually constructed of brick or stone. They can also be of poured concrete or cinderblock. Whatever their construction, foundations need to be inspected yearly and repaired as needed to ensure the continued good-health of your house. Damage manifests itself in many forms: loose or missing mortar, efflorescence, cracks, missing material, staining or wet basements. Underground water is seldom the cause of water infiltration. Most water infiltration and the resultant damage are due to poor drainage of surface water. The materials and techniques for repairs will vary with the type of foundation and sometimes there may be structural repairs that require a professional. However, there are several things to look for around foundations that are universal.

*Gutters in poor repair can overflow and increase moisture levels in the soil around foundations.*

*Consider using potted plants next the house instead of putting them in the ground.*

*Powder Post Beetle*
*Photograph Courtesy of Green Frog Pest Prevention*

- Make sure that gutters and downspouts are in good condition. Overflowing gutters and downspouts that dump water too close to a house help to increase moisture levels in the soil around foundations. Almost all masonry materials "wick" moisture in and upwards due to capillary action (masonry acts like a sponge). Water is any building's biggest enemy.
- Re-grade the yard around the house so that it slopes away (positive drainage) and does not direct surface water toward the foundation. For further guidance please see 'Residential Lot Drainage' in the City's Stormwater Management Design Manual. This document can be found at www.roanokeva.gov/planning.
- Most people like to place flowers, shrubs or other plants around their house to increase its appeal. However mulch, loose and disturbed soil, plant or tree roots and overhanging trees all help to increase levels of moisture near and around foundations. Cut trees and shrubs back to a distance of at least five (5) feet from the house. Use this same distance for plants and flowerbeds. Consider using potted plants next to the house. Reducing the amount of water that enters the soil adjacent to your house will significantly reduce the possibility of damage to its foundation. For more information on drainage and landscaping, please see the Single-Family Construction and Landscaping sections.
- Another benefit to reducing moisture levels in soils is that drier soils, and the subsequently drier foundation and framing elements, are less attractive to wood-boring insects. Termites, powder-post beetles, and other insects require water to live. Dry, stable foundations usually mean dry, stable wood framing above. Dry, stable wood means there is no fungal growth. If there is no fungal growth to soften the wood, insects seldom attack it. Of course this does not apply to carpenter bees, which seem to be able to eat through anything.

## When do I need a professional?

Homeowners themselves can undertake many home repairs, even complex ones, if they have the proper tools and knowledge. However, if you "think" you might need help, you probably do. Jobs that require extensive knowledge of plumbing or electrical systems or those that could be dangerous (roofing or chimney repairs) are probably best left to specialists. Here are several things to look for when choosing someone to make repairs or modifications to your house:

- First and foremost are they **properly licensed** to do your work? The State of Virginia places restrictions on the three primary classifications for contractors. Class A contractors can undertake most any type of work no matter the scope or cost. However, a Class B or C contractor has a dollar limit on the amount of work that is undertaken. While they may be skilled enough to do the work, if the cost of the contract exceeds their classification, they cannot lawfully undertake your contract. Also, there are "specialty" classifications within Virginia's system. For instance, just because a firm holds a Class A license does not immediately mean they are licensed to do electrical work. Make sure your contractor is licensed in the trade they are hired to undertake, or that they hire sub-contractors that are.

- Is the contractor **insured** through an insurance company licensed to do business in Virginia? If not, then you have little recourse if your home is damaged or if someone is injured during the performance of work. In the worst case, if damage or injury occurs, you the homeowner will bear the liability. If in doubt, ask your contractor for a Certificate of Insurance. All liability insurance companies will furnish these upon request as proof of insurance.

- What is their **level of experience**? Unless this is your contractor's very first job, they should be able to furnish you with a list of prior clients. If you have an opportunity, go look at some of their previous work.

- What is a **fair price** for the work? This is perhaps the most subjective question there is in identifying a contractor. Price will depend on materials, level of effort, and can many times be impacted by what a contractor thinks you want. If you meet with three contractors and they all have a different concept of what the work is, you will receive three very different prices; none of which may be reflective of what you actually expect. The best way to ensure accurate pricing is to be certain of your expectations before you pick up the phone. Make a list of the work items and the level to which you want them finished and provide a copy to each firm that interviews. Ask them to include a comprehensive listing of the work in their proposal. This way you can compare apples-to-apples. Once you have a relationship with a contractor, keep using them.

When you are viewed as a regular client, their level of effort and prices are consistently better.

## Maintenance Checklist

| *Porches and Steps Maintenance Checklist* | | | |
|---|---|---|---|
| | Inspect in Spring | Inspect in Fall | Comments |
| Inspect balustrades to ensure they are tight and in good repair. | | | |
| Inspect wood porch flooring for signs of deterioration, especially around the perimeter of the porch. | | | |
| Inspect brick or stone piers or foundation walls for damage. | | | |
| Inspect wood lattice for damage or holes that may allow rodents under the porch. | | | |
| Inspect for signs of leaks where decks attach to the house | | | |

| *Yard and Landscaping Maintenance Checklist* | | | |
|---|---|---|---|
| | Inspect in Spring | Inspect in Fall | Comments |
| Inspect downspouts and yard to ensure that water drains away from house (Positive Drainage) | | | |
| Inspect sidewalks and walkways to ensure there are no tripping hazards | | | |
| Inspect for signs of rodents, bats, roaches, termites, around house or in landscaping, etc. | | | |
| Inspect outdoor faucets and hoses and drain if needed | | | |
| Inspect window wells and check for appropriate drainage | | | |
| Inspect gutters and downspouts and clean as needed | | | |
| Inspect landscaping (trees and shrubs) to ensure appropriate distances away from house for roots and branches | | | |

| ***Roof and Gutter Maintenance Checklist*** | | | |
|---|---|---|---|
| | Inspect in Spring | Inspect in Fall | Comments |
| Inspect roof for loose, missing or misaligned shingles, slate tiles.* | | | |
| For metal roofs, inspect for rust, open seams, failing paint, or loose edges.* | | | |
| For all roofs, inspect valleys and flashing for rust, loose or open seams, holes, missing caulk or gathered debris.* | | | |
| Inspect chimney for deteriorating bricks or mortar, bird nests, squirrels, etc.* | | | |
| Inspect and clean gutters each spring and fall.* | | | |
| Inspect gutters and downspouts for leaks, misalignments, or damage.* | | | |
| Inspect bath and kitchen roof vents for signs of bird nests, squirrels, insects, etc. | | | |
| Inspect interior of attic for signs of leaks, rodent infestations, etc. | | | |
| Inspect foundation for cracks or signs of damage or settling | | | |
| Inspect exterior walls for peeling or flaking paint, deteriorating bricks or mortar | | | |
| Inspect for signs of leaks where decks attach to the house | | | |
| Inspect flashing at windows and doors | | | |
| Inspect windows and doors for cracked or broken glass | | | |
| Inspect for signs of leaks at window and door sills | | | |
| Inspect dryer vent to ensure it is clean and clear of debris or rodents | | | |
| Inspect bath and kitchen exhaust ducts to ensure they are clean and clear of debris or rodents | | | |
| * Inspect only if you are comfortable working with ladders, etc. | | | |

| Windows and Doors Maintenance Checklist | | | |
|---|---|---|---|
| | Inspect in Spring | Inspect in Fall | Comments |
| Ensure upper and lower sash close tightly and that the meeting rail pulls together snugly when the window is locked. | | | |
| Inspect for broken or missing sash cords and repair as needed. | | | |
| Inspect exterior sills, sash and casings for peeling paint. | | | |
| Inspect flashing at windows and doors | | | |
| Inspect windows and doors for cracked or broken glass | | | |
| Inspect for signs of leaks at window and door sills | | | |
| Inspect doors to see that locks and strike plates align properly. | | | |

| Exterior Walls Maintenance Checklist | | | |
|---|---|---|---|
| | Inspect in Spring | Inspect in Fall | Comments |
| Inspect masonry walls for loose or missing mortar, broken bricks or stones and efflorescence. | | | |
| Inspect wood siding or shakes for peeling or flaking paint, rusted nail heads, loose or broken areas and mildew. | | | |
| Inspect stucco walls for cracks, missing material or areas that appear loose or detached. | | | |
| Inspect foundation for cracks or signs of damage or settling | | | |
| Inspect dryer vent to ensure it is clean and clear of debris or rodents | | | |
| Inspect bath and kitchen exhaust ducts to ensure they are clean and clear of debris or rodents | | | |