

# City of Fort Lauderdale Historic Preservation Design Guidelines

## EXTERIOR MAINTENANCE



Portions of the siding are missing or dislodged, exposing the interior wall framing and interior plaster lath to the elements. Openings in the wall can allow moisture penetration and result in rotting of structural framing.

### PURPOSE

These *Guidelines* were prepared to assist property owners with information when considering exterior maintenance. It is not intended that these *Guidelines* should replace consultation with qualified architects, contractors, the Historic Preservation Board (HPB), City Staff and applicable ordinances.

These *Guidelines* were developed in conjunction with the City of Fort Lauderdale's Historic Preservation Board (HPB) and the Department of Sustainable Development (DSD). Please review this information during the early stages of planning your project. Familiarity with this material can assist in moving a project quickly through the approval process, saving applicants both time and money.

The DSD Staff is available to provide informal informational meetings with potential applicants who are considering improvements to their properties.

Additional *Guidelines* addressing other historic building topics are available at City Hall and on the City's website at [www.fortlauderdale.gov](http://www.fortlauderdale.gov). For more information, to clarify whether a proposed project requires HPB review, or to obtain permit applications, please call the DSD at (954) 828-3266.

### BUILDING MAINTENANCE

The historic architecture of Fort Lauderdale features a well-constructed inventory of early through mid-20th century buildings. Ongoing maintenance allows these buildings to continue to serve City residents.

A home is typically a family's largest single investment. One of the best ways to help a property retain its value in the marketplace is to implement a regular and preventive maintenance schedule. Unlike the buyer of an automobile, a new homeowner is not provided with an operator's manual or warranty book outlining a recommended maintenance schedule. As a result, many homeowners do little or no regular maintenance or repair until a serious problem develops. When the problem is finally noticed, the associated repairs can be significantly more involved and costly to address.

### BUILDING ENVELOPE DETERIORATION

The exterior envelope of a building is made up of various components that typically include roofing, walls, windows and doors. Each of these building components can be expressed in various materials within the same building envelope, such as a combination of shingle roofing at sloped surfaces and rolled roofing at flat surfaces. Overall, these components of various materials act together as a system to protect the interior from exterior environmental extremes. Some of the environmental influences affecting the exterior building envelope include:

- Moisture, storm water and groundwater
- Wind
- Sunlight
- Temperature variations
- Atmospheric chemicals and acid rain
- Insects, birds and rodents
- Vegetation, molds, algae and fungi

All building materials, new or old, will deteriorate over time. Each of the environmental influences listed above, individually and in combination, has the potential to react differently with the materials that compromise a building's exterior envelope and cause deterioration. The potential reactions are further complicated by the way the materials are installed and joined together, and their relative locations. However, by implementing a regular maintenance and repair program, the rate of deterioration can be dramatically slowed, allowing the City's historic buildings to last for centuries.

## MAINTENANCE IS PRESERVATION

Regular maintenance helps preserve buildings and property, protect real estate values and investments, and keep the City of Fort Lauderdale an attractive place to live, work and visit. Lack of regular upkeep can result in accelerated deterioration of building elements and features. Small openings or unpainted surfaces can allow moisture penetration and eventually rot. In the case of historic buildings, these features often represent character defining elements that are difficult and costly to replace. Long-term lack of maintenance can affect a building's structure, resulting in expensive repairs.

It is prudent for property owners to inspect their properties regularly to identify potential problems. If problems are detected early, smaller investments of money may not only improve a property's overall appearance and value, but also prevent or postpone extensive and costly future repairs. Regular maintenance items typically include painting and cleaning gutters and downspouts. It is also prudent to inspect the roof and any signs of moisture infiltration, open joints and cracks or bulges.

## REPAIRS & REPLACEMENT

When it is no longer feasible to maintain a historic feature, repairs or replacement in-kind may be necessary. Repairs maintain the condition of buildings while making them weather-resistant and structurally sound, by concentrating specifically on areas of deterioration. Expenses can often be minimized if issues are addressed quickly, preventing or postponing more costly future repairs. When repair is not possible, replacement in-kind is the preferred alternative. Although tempting to install newer materials such as vinyl siding or replacement windows, many of these materials are not compatible with historic building systems and can lead to future costly repairs or an ongoing replacement schedule.

### **Encouraged:**

- Non-intrusive repairs, focused at deteriorated areas, stabilizing and protecting the building's important materials and features
- When repair is not possible, replacement in-kind to the greatest extent possible, reproducing by new construction the original feature exactly - using similar techniques to match the original material, size, scale, finish, detailing and texture
- When replacement in-kind is not possible, the use of compatible materials and techniques that convey an appearance similar to the original feature, and the use of materials similar in design, color, texture, finish, longevity and visual quality to the historic elements
- Utilization of sustainable materials such as wood

### **Discouraged:**

- ✗ Introducing modern materials that can accelerate and hide deterioration, or encapsulate historic features



*The regular cleaning of gutters and downspouts is one of the most effective preventive maintenance tasks. Clean gutters and downspouts provide a means for moisture that accumulates on the roof to be directed away from the building without causing damage. This gutter is filled with leaves, twigs and debris, preventing clear drainage and allowing water to overflow the gutter and damage exterior wall surfaces. Gutters and downspouts should be cleaned at least twice each year to minimize potential problems.*

## PREVENTIVE MAINTENANCE CHECKLIST

The following pages include preventive maintenance checklists to assist property owners in reviewing the current condition of their building, as well as keep track of maintenance tasks as they are performed. The checklists refer to typical problems associated with various materials and recommended actions. Each checklist should be adapted to address the specific materials found at each property. If a building has serious problems, a more detailed inspection should be performed by a qualified architect or engineer who can recommend an appropriate treatment.

It is recommended that owners conduct regular property reviews at least twice each year. The spring review will help identify work that should be completed prior to the heat and humidity of the summer months and improvements prior to hurricane season, while the fall review will assist in the planning of projects to be scheduled for the following year. Areas of deterioration or problems should be photographed during each inspection. Dating the photographs can help document an ongoing problem's progression and assist in planning future repairs.

For more specific information regarding the various materials identified, please refer to the individual topic-specific *Guideline* brochures available at City Hall and on the City's web site at [www.fortlauderdale.gov](http://www.fortlauderdale.gov).

### **Encouraged:**

- Reviews of buildings and structures at least twice each year to identify maintenance and repair needs
- Prolonging the life of original materials on historic structures through regular maintenance

### **Discouraged:**

- ✗ Replacement of original materials with modern non-traditional materials

## ROOFING & ROOFING RELATED ELEMENTS CHECKLIST

As a general rule, roofing and the associated components should be reviewed every spring and fall, corresponding with the regular cleaning of leaves and debris from gutters and downspouts. In addition, it is best to review the gutters, downspouts and attic areas during a rainstorm to determine whether they are functioning properly. Flat roofs are best reviewed immediately following a rainfall to determine whether standing water or ponding is present. Care should be taken when reviewing or maintaining roofs since they are potentially dangerous, particularly when wet.

If there are questions regarding whether the severity of deterioration warrants replacement of an element, consultation with a professional is recommended. It is usually less costly to fix a small problem than to delay action resulting in more extensive deterioration and repair needs. For further information, please refer to the *Guidelines for Roofing*.



*The bow at the top of the roof suggests a structural problem that should be reviewed by a professional. The mineral granules of the asphalt shingles have worn away and shingles are broken and patching evident. The roof should be replaced after structural repairs are completed.*

MATERIAL / LIFE SPAN	INSPECTION REVIEW	RECOMMENDED ACTION
<b>Roofing - General</b>	<ul style="list-style-type: none"> <li>• Sagging or bowing of roof ridge, surface or rafters</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Can indicate significant structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens</li> </ul>
	<ul style="list-style-type: none"> <li>• Loose or missing fastener at metal, tile and shingle roofing</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Replace with compatible and appropriate fastener</li> </ul>
<b>Flat Roofs</b> 10+ years	<ul style="list-style-type: none"> <li>• Bubbles, separation or cracking of the asphalt or roofing felt</li> <li>• Feels loose, spongy or bouncy underfoot</li> <li>• Water ponding on roof</li> <li>• Mineral granules or gravel worn away</li> <li>• Roofing felt looks dry or cracked</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider patching of seams with compatible materials if area is isolated</li> <li><input type="checkbox"/> Consider roof replacement if deterioration is substantial or leaking is observed - verify condition of roof substrate</li> </ul>
<b>Metal Roofs</b> 60+ years	<ul style="list-style-type: none"> <li>• Substantial number of rust or corrosion spots</li> <li>• Signs of previous tar patch jobs</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Tin, terne-coated steel and terne-coated stainless all need regular repair and painting every 5-10 years and can last for decades if properly maintained</li> <li><input type="checkbox"/> Consider patching with compatible materials if area of deterioration is isolated - verify condition of substrate</li> <li><input type="checkbox"/> Consider roof replacement if deterioration is substantial or prevalent - verify condition of substrate</li> </ul>
	<ul style="list-style-type: none"> <li>• Punctures in the metal</li> <li>• Broken joints or seams</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider patching or re-soldering with compatible materials if area is isolated</li> <li><input type="checkbox"/> Consider roof replacement if deterioration is substantial or prevalent - verify condition of roof substrate</li> </ul>
	<ul style="list-style-type: none"> <li>• Bounce in surface of flat metal roof</li> <li>• Ponding or standing water on surface</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider roof replacement if deterioration is substantial or prevalent</li> </ul>
<b>Terra Cotta Tile, Concrete Tile</b> 50+ years	<ul style="list-style-type: none"> <li>• Laid on open sheathing or batten strips - verify from attic</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If not, confirm proper ventilation in attic</li> </ul>
	<ul style="list-style-type: none"> <li>• Broken or missing tiles</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Re-attach, re-secure or replace loose or missing units in kind</li> </ul>
	<ul style="list-style-type: none"> <li>• Units delaminating or flaking apart</li> <li>• Tile particles in valleys, gutters and downspouts or missing</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Replace deteriorated or missing individual units in-kind</li> <li><input type="checkbox"/> Consider roof replacement when over 20% of units are split, cracked, missing or deteriorated</li> </ul>



MATERIAL / LIFE SPAN	INSPECTION REVIEW	RECOMMENDED ACTION
<b>Asbestos Shingles</b> 30+ years	<ul style="list-style-type: none"> <li>• Nails popping up or deteriorated</li> <li>• Moss, mold, algae growing on roof surface</li> <li>• Individual shingles are cracked or uniformly thin from erosion</li> <li>• Missing shingles</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Re-fasten or replace affected nails</li> <li><input type="checkbox"/> Clean and treat surface to inhibit future growth</li> <li><input type="checkbox"/> Trim back overhanging tree limbs to allow direct sunlight onto roof surface</li> <li><input type="checkbox"/> Replace deteriorated shingles with visually similar, non-asbestos roof shingle</li> <li><input type="checkbox"/> Consider roof replacement if deterioration is substantial or prevalent</li> </ul>
<b>Asphalt Shingles</b> 10+ years	<ul style="list-style-type: none"> <li>• Mineral granules in gutters and at the base of downspouts</li> <li>• Mineral granules almost totally worn off shingle surface</li> <li>• Edges of shingles look worn</li> <li>• Missing shingles</li> <li>• Lifting shingles / curling edges</li> <li>• Nails popping up</li> <li>• Moss or mold forming on roof surface</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Replace deteriorated or missing individual shingles in-kind</li> <li><input type="checkbox"/> Consider roof replacement when over 20% of units are split, cracked, missing or deteriorated</li> <li><input type="checkbox"/> Re-fasten or replace affected nails</li> <li><input type="checkbox"/> Clean and treat surface to inhibit future growth</li> <li><input type="checkbox"/> Trim back overhanging tree limbs to allow sunlight to hit roof surface</li> </ul>
<b>Wood Shingles</b> 30+ years	<ul style="list-style-type: none"> <li>• Laid on open sheathing or batten strips - verify from attic</li> <li>• Moss or mold forming on roof surface</li> <li>• Cupping or warping of wood</li> <li>• Individual shingles are split</li> <li>• Individual shingles are uniformly thin from erosion</li> <li>• Missing shingles</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> If not, provide proper ventilation in attic</li> <li><input type="checkbox"/> Clean and treat surface to inhibit future growth</li> <li><input type="checkbox"/> Trim back overhanging tree limbs to allow direct sunlight onto roof surface</li> <li><input type="checkbox"/> Replace deteriorated shingles in-kind</li> <li><input type="checkbox"/> Consider roof replacement if deterioration is substantial or prevalent - understanding hurricane requirements for the installation of new wood shingle roofs</li> </ul>
<b>Flashing</b> (Formed sheet metal at joint intersections to prevent moisture penetration)	<ul style="list-style-type: none"> <li>• Loose, corroded, broken or missing flashing</li> <li>• Roofing cement or tar on flashing</li> <li>• Un-caulked openings or gaps at the tops of flashing</li> <li>• Vertical joint does not have both base and counter flashing</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider patching or replacement with compatible materials if area of deterioration is isolated, such as around a chimney</li> <li><input type="checkbox"/> Consider roof replacement if deterioration is substantial</li> </ul>
<b>Roof Projections</b> (Dormer, TV dish, antenna, vent, pipe, skylight, solar or mechanical equipment, lightning rod, cupola, etc.)	<ul style="list-style-type: none"> <li>• Connections around roof projections are not properly flashed and watertight</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider patching with compatible materials if area of deterioration is isolated</li> <li><input type="checkbox"/> Consider flashing replacement if deterioration is substantial</li> </ul>

MATERIAL / LIFE SPAN	INSPECTION REVIEW	RECOMMENDED ACTION
Chimneys	<ul style="list-style-type: none"> <li>Flashing around chimney is not watertight</li> <li>Mortar joints in chimney are open or badly weathered</li> <li>Masonry or stucco coating is cracked or crumbling</li> <li>Chimney is leaning</li> </ul>	<ul style="list-style-type: none"> <li>Consider patching with compatible materials if area of deterioration is isolated</li> <li>Re-point deteriorated or open mortar joints</li> <li>Consider replacement if deterioration is substantial - replacement might necessitate chimney rebuilding from the roof surface up, attempt to replicate all chimney detailing in reconstruction</li> </ul>
Gutters & Downspouts	<ul style="list-style-type: none"> <li>Clogged gutters or downspouts</li> <li>Rusty, loose, askew or tilting gutters or downspouts</li> <li>Open or missing seams in hanging gutters</li> <li>Missing sections</li> <li>Broken seams in metal lining of built-in box gutter</li> <li>Water ponding adjacent to foundation</li> </ul>	<ul style="list-style-type: none"> <li>Review roof drainage during a rainstorm - water should collect in gutters and flow through downspouts without "spilling over" roof edge</li> <li>Clean out debris at least twice each year, in the spring and fall, or more frequently based on debris accumulation</li> <li>Install screens over length of gutters and/or strainers over downspout locations</li> <li>Consider repair or patching with compatible materials if area of deterioration is isolated</li> <li>Consider gutter or downspout replacement if deterioration is substantial or sections are missing</li> <li>Re-solder open joints</li> <li>Consider replacement if deterioration is substantial</li> <li>Re-grade area at foundation to direct water away from building</li> <li>Verify water exiting from downspouts is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts</li> </ul>



*The downspout is discharging immediately adjacent to the building onto a concrete surface. The bottom of the downspout is crushed, likely resulting in clogging. The storm water splashing onto the concrete surface can saturate the wood wall and masonry foundation. The wood adjacent to the downspout exhibits visible deterioration.*

*The alligatored roof surface indicates deterioration and possible need for replacement.*



## EXTERIOR WOODWORK & CLADDING CHECKLIST

Generally, exterior woodwork should be reviewed every spring and fall. The fall review will alert a property owner to damage that occurred over the summer months and allow for immediate repair. Spring review allows a property to be prepared for summer heat, humidity and wind.

If there are questions regarding whether the severity of deterioration warrants replacement of a component or an element, consultation with a professional is recommended. For further information, refer to the *Guidelines for Exterior Woodwork & Cladding* and *Guidelines for Windows & Doors*.



*Wood located on or next to a masonry foundation is more likely to absorb moisture and rot, as well as attract termites and pests.*

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
<b>Exterior Walls - General</b>	<ul style="list-style-type: none"> <li>• Exterior walls not plumb or vertically straight</li> <li>• Bulges visible at exterior walls</li> <li>• Door and window frames out-of-square</li> <li>• Siding has wavy surface</li> </ul>	<ul style="list-style-type: none"> <li>□ Can indicate differential or uneven foundation settlement or significant structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens</li> </ul>
<b>Wood Siding, Wall Shingles &amp; Decorative Woodwork</b> <b>Asbestos Siding</b> (Care should be taken in the handling, removal and disposal of asbestos. Refer to <i>Page 12</i> for more information)	<ul style="list-style-type: none"> <li>• Loose, cracked, missing or open joints at wood siding, shingles or decorative woodwork</li> </ul>	<ul style="list-style-type: none"> <li>□ Could lead to water infiltration and rot - repair or replace in-kind as appropriate</li> <li>□ Apply caulk to open joints - verify compatibility with adjacent materials</li> </ul>
	<ul style="list-style-type: none"> <li>• Loose, cracked, missing or open joints at asbestos siding</li> </ul>	<ul style="list-style-type: none"> <li>□ Fill hole or split with grout of Portland cement and water</li> <li>□ Replace damaged shingles with non-asbestos shingles to match original</li> </ul>
	<ul style="list-style-type: none"> <li>• Thin or worn shingles</li> </ul>	<ul style="list-style-type: none"> <li>□ Attempt patching with compatible materials if area of deterioration is isolated</li> <li>□ Consider replacement in-kind if deterioration is substantial or prevalent</li> </ul>
	<ul style="list-style-type: none"> <li>• Open joints around window and door frames</li> <li>• Open joints between dissimilar materials (such as wood siding and porch roof)</li> </ul>	<ul style="list-style-type: none"> <li>□ Re-caulk, repair or replace deteriorated flashing as appropriate - verify compatibility of caulk with adjacent materials</li> </ul>
	<ul style="list-style-type: none"> <li>• Mold, algae or mildew on siding or trim, especially on north side or shady areas</li> </ul>	<ul style="list-style-type: none"> <li>□ Indication of potential moisture problem - verify whether a vapor barrier is present in wall</li> <li>□ Clean and treat surface to inhibit future growth - do not use high pressure water since this could result in more significant problems</li> <li>□ Trim back shrubs and overhanging tree limbs to allow air circulation and sunlight to hit surface</li> </ul>
	<ul style="list-style-type: none"> <li>• Original siding or trim has been covered with vinyl or aluminum siding</li> </ul>	<ul style="list-style-type: none"> <li>□ Vinyl and aluminum siding and capping can trap moisture and hide rot and damage - if possible, vinyl or aluminum siding and capping should be removed and woodwork inspected for damage and repaired</li> </ul>
<b>Alternate Cladding Materials</b>	<ul style="list-style-type: none"> <li>• Original cladding material is damaged, deteriorated, or shows signs of wear</li> </ul>	<ul style="list-style-type: none"> <li>□ Maintain, repair or selectively replaced damaged or deteriorated historic cladding material using appropriate preservation techniques</li> </ul>

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
<b>Water &amp; Termite Damage</b>	<ul style="list-style-type: none"> <li>• Vegetation, such as shrubs, are located immediately adjacent to foundation</li> <li>• Vines are climbing on building</li> </ul>	<ul style="list-style-type: none"> <li>☐ Vegetation can trap moisture in woodwork by blocking sunlight and air circulation - remove vegetation close to building or conduct regular inspections for rot behind vegetation</li> <li>☐ Climbing vines can trap moisture and their roots can find their way into wood framed walls - remove climbing vines</li> </ul>
	<ul style="list-style-type: none"> <li>• Wood is soft when stuck with a small blade or ice pick, particularly window sills, porches, steps, sills and siding (Refer to <i>Guidelines for Exterior Woodwork, Page 5</i> for Wood Rot)</li> </ul>	<ul style="list-style-type: none"> <li>☐ Possible indication of wood rot or insect infestation - eliminate source of moisture to control rot and replace defective elements in-kind, contact an extermination company for potential infestation</li> </ul>
	<ul style="list-style-type: none"> <li>• Wood is located on masonry foundation or pier or within 6 inches of ground (Refer to <i>Guidelines for Exterior Woodwork, Page 6</i> for Termites)</li> </ul>	<ul style="list-style-type: none"> <li>☐ Wood on masonry foundation or piers or close to the ground can be a target for rot and termites - review appropriate alternatives and conduct regular inspections</li> <li>☐ Retain a pest management company to provide regular inspections</li> </ul>
	<ul style="list-style-type: none"> <li>• Signs of dirt veins on exterior walls, particularly near foundation, steps, under porches, etc.</li> </ul>	<ul style="list-style-type: none"> <li>☐ Possible indication of termite damage, contact extermination company to determine if active infestation and extent of damage</li> </ul>
<b>Windows &amp; Doors</b>  (Refer to <i>Guidelines for Windows and Doors</i> for more information)	<ul style="list-style-type: none"> <li>• Windows and doors do not fit or operate properly</li> </ul>	<ul style="list-style-type: none"> <li>☐ Verify whether frame is wracked or out-of-square - possibly an indication of differential or uneven foundation settlement or deteriorated wall framing</li> <li>☐ Verify whether windows are painted shut</li> <li>☐ Verify that hardware (including sash cord or chains) is operational</li> </ul>
	<ul style="list-style-type: none"> <li>• Wood rot, particularly at sills and lower rails (Refer to <i>Guidelines for Exterior Woodwork, Page 5</i> for Wood Rot)</li> </ul>	<ul style="list-style-type: none"> <li>☐ Repair or selectively replace deteriorated components in-kind</li> <li>☐ Following repairs, verify deteriorated areas are well painted and joints caulked</li> </ul>
	<ul style="list-style-type: none"> <li>• Glass is cracked</li> </ul>	<ul style="list-style-type: none"> <li>☐ Replace glazing to match existing</li> </ul>
	<ul style="list-style-type: none"> <li>• Glazing putty is missing, cracked or deteriorated</li> </ul>	<ul style="list-style-type: none"> <li>☐ Replace glazing putty - verify compatibility with adjacent materials - older putty can contain asbestos (<i>Page 12</i>)</li> </ul>
	<ul style="list-style-type: none"> <li>• Screen windows or doors are missing, deteriorated or non-operational</li> </ul>	<ul style="list-style-type: none"> <li>☐ Repair or replace deteriorated or missing screen or storm windows with historically appropriate alternatives</li> </ul>
<b>Painting</b>  (Refer to <i>Page 12</i> for lead paint information and <i>Guidelines for Exterior Woodwork &amp; Cladding, Page 10</i> , for Painting information)	<ul style="list-style-type: none"> <li>• Chalky or dull finish</li> </ul>	<ul style="list-style-type: none"> <li>☐ Surface cleaning might be all that is needed</li> <li>☐ If repainting, additional preparation might be required</li> </ul>
	<ul style="list-style-type: none"> <li>• Paint surface worn</li> </ul>	<ul style="list-style-type: none"> <li>☐ Wood generally needs repainting every 5 to 8 years</li> </ul>
	<ul style="list-style-type: none"> <li>• Peeling, curling, crazing and blistering</li> </ul>	<ul style="list-style-type: none"> <li>☐ Possible indication of a moisture problem - review drainage, potential leaks and vapor barrier in the wall</li> <li>☐ Paint failures near roofs, downspouts and porch ceilings are often the result of drainage problems</li> </ul>



## EXTERIOR MASONRY, STUCCO & CONCRETE CHECKLIST

Almost all buildings include some masonry, in some cases as a wall material, but typically as a foundation, pier or chimney. Since masonry is often used as part of the structural system for older buildings, it is critical that it is maintained to prevent serious problems. For the best results, it is recommended that all masonry, stucco and concrete repair and cleaning be conducted when the temperature is consistently between 40 and 90 degrees Fahrenheit, to minimize potential spalling and problems associated with colder temperatures and shrinkage with warmer temperatures.

If there are questions regarding whether the severity of deterioration warrants replacement of an element, consultation with a professional is recommended. It is usually less costly to fix a small problem than to delay action resulting in more extensive deterioration and repair needs. For further information, please refer to the *Guidelines for Masonry, Stucco & Concrete*.



*The cracks in the stucco are supporting plant growth, suggesting high moisture in the wall. Also note the rusting lintel above the door.*

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
<b>Exterior Walls &amp; Piers - General</b>	<ul style="list-style-type: none"> <li>• Cracks in masonry, stucco or concrete walls</li> </ul>	<ul style="list-style-type: none"> <li>□ Can indicate differential or uneven foundation settlement or significant structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens</li> <li>□ Vertical or diagonal cracks or cracks that split individual bricks, stones or blocks tend to represent a more significant problem, such as differential settlement</li> <li>□ Horizontal cracks or hairline cracks limited to mortar joints or individual stones, bricks or blocks tend to be less severe</li> <li>□ Cracks in concrete can allow moisture to come in contact with metal reinforcing bars and can lead to severe structural problems</li> <li>□ Monitor and photograph condition after repair during each inspection to see if cracks return</li> </ul>
	<ul style="list-style-type: none"> <li>• Bows or bulges in wall plane</li> <li>• Leaning walls or piers</li> </ul>	<ul style="list-style-type: none"> <li>□ Can indicate differential or uneven foundation settlement or significant structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens</li> </ul>
	<ul style="list-style-type: none"> <li>• Water ponding adjacent to foundation</li> <li>• Vegetation, such as shrubs, are located immediately adjacent to foundation</li> <li>• Vines growing on walls</li> <li>• Damp walls</li> <li>• Moss or algae on masonry, stucco or concrete surface</li> </ul>	<ul style="list-style-type: none"> <li>□ Verify water exiting from downspout is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts</li> <li>□ Vegetation can trap moisture in masonry by blocking sunlight and air circulation - remove or thin vegetation close to a building or conduct regular inspections for algae and mold behind vegetation, remove vines</li> <li>□ Re-grade area adjacent to foundation to direct ground water away from building</li> <li>□ Clean moss or algae from wall surface with low pressure water, with the possible use of detergent and brushing</li> </ul>
	<ul style="list-style-type: none"> <li>• Efflorescence, i.e. water-soluble salts leached out of masonry and deposited on a surface by evaporation, usually as a white, powdery surface</li> </ul>	<ul style="list-style-type: none"> <li>□ Clean efflorescence from wall surface with low pressure water, with the possible use of gentle detergent and a natural bristle brush (not metal)</li> <li>□ Review area for possible additional sources of moisture</li> </ul>



MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
<b>Mortar</b>	<ul style="list-style-type: none"> <li>• Soft and crumbling</li> <li>• Open joints or broken joint bonds</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider patching with compatible mortar if area of deterioration is isolated - mortar should match original in appearance, profile, hardness and composition</li> <li><input type="checkbox"/> Consider replacement if deterioration is substantial</li> </ul>
<b>Stones, Bricks &amp; Blocks</b>	<ul style="list-style-type: none"> <li>• Spalling, chipping, flaking, cracking or crumbling of surface</li> <li>• Loose or missing stones, bricks or blocks</li> <li>• Pitted surface from sandblasting or pressure washing</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider patching with compatible materials if area of deterioration is isolated</li> <li><input type="checkbox"/> Consider replacement if deterioration is substantial</li> <li><input type="checkbox"/> Masonry with a damaged surface is more likely to absorb moisture leading to accelerated deterioration - consult a professional</li> <li><input type="checkbox"/> Monitor and photograph condition to see if it continues to deteriorate</li> <li><input type="checkbox"/> Review adjacent materials and interior finishes for signs of moisture infiltration and rot</li> </ul>
<b>Stucco</b>	<ul style="list-style-type: none"> <li>• Cracks in stucco surface</li> <li>• Bulges in wall</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider patching with compatible stucco if area of deterioration is isolated</li> <li><input type="checkbox"/> Consider replacement if deterioration is substantial</li> <li><input type="checkbox"/> Substantial cracks might indicate differential or uneven foundation settlement or severe structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens</li> <li><input type="checkbox"/> Verify keying of stucco to lath or underlying substrate - if wall area moves when pushed, stucco is not bonded and should be replaced with compatible material to avoid potential surface collapse</li> </ul>
<b>Concrete</b>	<ul style="list-style-type: none"> <li>• Open cracks in concrete surface</li> <li>• Pitted surface from sandblasting or pressure wash</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Surface cracks can increase exposure of reinforcing bars to moisture and corrosion - consultation with an architect or structural engineer is recommended, particularly if condition worsens</li> <li><input type="checkbox"/> Substantial cracks might indicate differential or uneven foundation settlement or severe structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens</li> <li><input type="checkbox"/> Concrete with a damaged surface is more likely to absorb moisture leading to accelerated deterioration - consult a professional</li> <li><input type="checkbox"/> Monitor and photograph condition to see if it continues to deteriorate</li> </ul>
<b>Painted Masonry, Stucco &amp; Concrete</b>	<ul style="list-style-type: none"> <li>• Chalky or dull finish</li> <li>• Peeling, flaking, curling and blistering</li> <li>• Paint surface worn</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Additional preparation might be required prior to repainting - preparation dependent on surface</li> <li><input type="checkbox"/> Possible indication of a moisture problem - review drainage, potential leaks and whether there is a vapor barrier in the wall</li> <li><input type="checkbox"/> Paint failures near roof edges, downspouts, porch ceilings and foundations are often the result of drainage problems</li> <li><input type="checkbox"/> Painted masonry, stucco and concrete needs repainting every 5 to 8 years with compatible paint</li> </ul>

## PROPERTY CHECKLIST

Exterior maintenance extends beyond a building's perimeter to include the surrounding property. Seasonal property maintenance includes cutting grass and raking leaves. Larger maintenance issues include water management on the site, trimming trees and regular repairs to wood and metal fences, walls, walkways and paved surfaces. For further information, please refer to the *Guidelines for Site Elements*.

*The downspout is directed away from the building to the opposite side of the landscape wall and dark staining is visible along its base. Small plants are growing along the gutter and leaves and twigs are visible on the roof surface. A review of the water management around the building and site is recommended.*



MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
<b>Water Management</b>	<ul style="list-style-type: none"> <li>• Surface water and/or groundwater directed towards building foundation</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Re-grade area at foundation to direct ground water away from building</li> </ul>
	<ul style="list-style-type: none"> <li>• Water ponding adjacent to foundation</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Verify water from exiting downspouts is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts</li> </ul>
	<ul style="list-style-type: none"> <li>• Vegetation, such as shrubs, are located immediately adjacent to foundation or vines are climbing on buildings</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Vegetation can trap moisture in wall surfaces by blocking sunlight and reducing air circulation - remove or thin vegetation close to a building or conduct regular inspections for rot, algae, fungus and mold behind vegetation, remove climbing vines</li> </ul>
	<ul style="list-style-type: none"> <li>• Tree limbs extend over roof</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Trim limbs 5 feet away from building - they provide shade from the sun that can lead to the formation of moss, fungus, mold or algae; leaves and debris collect and clog gutters and downspouts; tree limbs have the potential to cause severe damage if they fall during a storm</li> </ul>
<b>Metal and Wood Fences</b>	<ul style="list-style-type: none"> <li>• Metal fences</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Check for rust spots or bare metal - remove rust and prepare for re-painting</li> </ul>
	<ul style="list-style-type: none"> <li>• Wood fences</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Check for deterioration, follow recommendations in the <i>Exterior Woodwork &amp; Cladding Checklist</i> on Page 6</li> <li><input type="checkbox"/> Anticipate repainting or staining every 5 to 8 years</li> </ul>
<b>Walkways, Patios &amp; Pavers</b>	<ul style="list-style-type: none"> <li>• Brick, flagstone or concrete pavers cracked or missing</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Verify the condition of the sub-base and replace deteriorated or missing units in-kind</li> </ul>
	<ul style="list-style-type: none"> <li>• Water ponding on paved surface</li> <li>• Subsidence of paved surface</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Verify the condition of the sub-base and reset individual units to allow appropriate drainage</li> </ul>
	<ul style="list-style-type: none"> <li>• Vegetation growing between individual units</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Some vegetation has a substantial root structure that can dislodge individual paving units - remove vegetation if appropriate</li> </ul>
<b>Asphalt &amp; Concrete Paving &amp; Driveways</b>	<ul style="list-style-type: none"> <li>• Cracked asphalt or concrete</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Seal cracks to minimize potential water infiltration</li> </ul>
	<ul style="list-style-type: none"> <li>• Water ponding on paved surface</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Consider sealing or repaving entire surface if cracks are substantial or prevalent</li> </ul>
	<ul style="list-style-type: none"> <li>• Subsidence of paved surface</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Verify the condition of the sub-base and patch to allow appropriate drainage</li> </ul>

## INTERIOR CHECKLIST

Exterior maintenance problems can be most evident at the interior of a building. The areas most likely to demonstrate exterior problems tend to be the least-visited parts of a house, such as the attic and crawlspace. It is important to remember that attics and crawlspaces tend to be unique spaces with distinct conditions. Attics usually sit directly under roofs which can be highly susceptible to moisture infiltration. Similarly, crawlspaces are also susceptible to moisture and pest infestation and damage. These spaces tend to be unconditioned, without heat, air conditioning and moisture control to the same level as the rest of the building. As a result, problems can fester and become more severe before being noticed. Property owners should also take note of potential water damage and cracking at interior finished spaces, which could be an indication of a larger problem.

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
<b>Attic Spaces</b>	<ul style="list-style-type: none"> <li>• Water stains on rafters or roof boards - probably indicated by either a dark patch on the wood or plaster or possibly a white bloom representing salt crystallization</li> </ul>	<input type="checkbox"/> Review during or immediately following a rainstorm to understand whether staining is active or a past problem - pay particular attention to flashing locations around roof penetrations such as vent pipes, chimneys and dormer windows, as well as at valleys and eaves
	<ul style="list-style-type: none"> <li>• Mildew on underside of roof structure</li> <li>• Dampness in attic space</li> <li>• Overheated attic</li> </ul>	<input type="checkbox"/> Verify whether the attic is sufficiently ventilated
	<ul style="list-style-type: none"> <li>• Broken or missing collar beams</li> <li>• Cracked or sagging rafters</li> </ul>	<input type="checkbox"/> Potential structural problem - consultation with an architect or structural engineer is recommended, particularly if condition worsens
	<ul style="list-style-type: none"> <li>• Inadequate insulation at attic floor or between rafters</li> </ul>	<input type="checkbox"/> Install appropriate insulation
<b>Interior Rooms</b>	<ul style="list-style-type: none"> <li>• Stains on walls</li> <li>• Flaking plaster</li> </ul>	<input type="checkbox"/> Review attic and roof to determine whether there is a roof leak - pay particular attention to flashing locations around roof penetrations such as vent pipes, chimneys and dormer windows, as well as at valleys and eaves
	<ul style="list-style-type: none"> <li>• Cracked plaster walls or ceilings</li> <li>• Displaced moldings at cornices and baseboards</li> </ul>	<input type="checkbox"/> Potential structural problem - consultation with an architect or structural engineer is recommended, particularly if condition worsens
<b>Crawlspaces</b>	<ul style="list-style-type: none"> <li>• Mortar of walls or piers is soft and crumbling</li> <li>• Damp or moldy smell</li> <li>• Evidence of dampness under first floor framing or around pipes</li> <li>• Evidence of wood rot or insect infestation at wood sills on top of foundation walls or first floor joists</li> <li>• Periodic flooding</li> </ul>	<input type="checkbox"/> Review for potential moisture infiltration <input type="checkbox"/> Verify water exiting from downspouts is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts <input type="checkbox"/> Re-grade area at foundation to direct ground water away from building <input type="checkbox"/> Verify that foundation vents are clear of debris <input type="checkbox"/> Check underground water supply and drainage systems for cracked or clogged pipes <input type="checkbox"/> Re-point areas of deteriorated mortar <input type="checkbox"/> Apply stucco to masonry piers <input type="checkbox"/> Retain a pest management company to provide regular inspections and contact immediately for potential infestation
	<ul style="list-style-type: none"> <li>• Inadequate insulation around pipes, heating and air conditioning ducts</li> </ul>	<input type="checkbox"/> Install appropriate insulation - condensation can form on unheated equipment and pipes
	<ul style="list-style-type: none"> <li>• Cracked foundation wall</li> </ul>	<input type="checkbox"/> Refer to <i>Exterior Masonry, Stucco &amp; Concrete Checklist, Page 8</i>



## SAFETY PRECAUTIONS

Repair and maintenance of a building can potentially be dangerous work. It is recommended that all manufacturers' recommendations be followed and appropriate safety precautions with ladders, tools, materials and processes be taken. Property owners should consult a professional for work that is unfamiliar or potentially unsafe.

Work on older buildings can uncover hazardous materials such as asbestos, lead, radon and mold. Property owners should familiarize themselves with these materials and their building's conditions prior to beginning work. Property owners who are unfamiliar with how to properly handle or work around potentially hazardous materials are strongly encouraged to consult with a trained or certified contractor.

Information about common hazardous materials can be found on national, state and county organizations web sites:

### ASBESTOS

#### US Environmental Protection Agency Hotline

(800) 368-5888 [www.epa.gov/asbestos](http://www.epa.gov/asbestos)

#### Florida Department of Environmental Protection

(850) 717-9000

[www.dep.state.fl.us/air/about\\_air/pollutants/asbestos](http://www.dep.state.fl.us/air/about_air/pollutants/asbestos)

#### Broward County Environmental Protection Growth Management Department

(954) 519-1260

[www.broward.org/PollutionPrevention/AirQuality/  
AsbestosCompliance](http://www.broward.org/PollutionPrevention/AirQuality/AsbestosCompliance)

### LEAD

#### National Lead Information Clearinghouse

(800) 424-LEAD [www.epa.gov/lead](http://www.epa.gov/lead)

#### Florida Department of Environmental Protection

(850) 717-9000

[www.dep.state.fl.us/water/drinkingwater/lead\\_cu.htm](http://www.dep.state.fl.us/water/drinkingwater/lead_cu.htm)

### RADON

#### The National Safety Council's Radon Hotline

(800) SOS-RADON [www.epa.gov/radon](http://www.epa.gov/radon)

### MOLD

#### Indoor Air Quality Information Clearinghouse

(800) 483-4318 [www.epa.gov/iaq/molds/index](http://www.epa.gov/iaq/molds/index)

#### Florida Department of Environmental Protection

(850) 717-9000

[www.dep.state.fl.us/greenlodging/bmp\\_indoor.htm](http://www.dep.state.fl.us/greenlodging/bmp_indoor.htm)

### HURRICANE MITIGATION

National Hurricane Center [www.nhc.noaa.gov](http://www.nhc.noaa.gov)

#### Florida Division of Emergency Management

(850) 413-9969 [www.floridadisaster.org](http://www.floridadisaster.org)

## BUILDING CODES

All construction projects in the City of Fort Lauderdale must comply with Broward County's South Florida Building Code. Further information is available from the Broward County Board of Rules and Appeals located in Plantation Florida at (954) 765-4500 or [www.broward.org/CodeAppeals](http://www.broward.org/CodeAppeals). The intent of the Code is to protect the public health, safety and welfare of citizens against the hazards of inadequate, defective or unsafe conditions. The Code addresses the interior and exterior conditions of buildings, building systems, and the surrounding property, as well as hurricane protection requirements.

Permit forms and applications are available at the Building Services Center and [www.fortlauderdale.gov/building\\_services](http://www.fortlauderdale.gov/building_services). For specific information regarding the applicable codes for your project, please contact the Building Services Center at (954) 828-6520. Applicants are also welcome to meet with an Inspector who can assist with specific questions.

## HPB REVIEW

It is important to remember that exterior changes to a building within the boundaries of a Local Historic District, at a designated historic resource property or resource are required to receive an approval from the HPB. For more information, refer to the *Design Guidelines Introduction*.

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This program receives Federal financial assistance for identification and protection of historic properties. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, as amended, the U.S. Department of the Interior prohibits discrimination on the basis of race, color, national origin, disability or age in federally assisted programs. If you believe that you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office of Equal Opportunity; National Park Service; 1849 C Street, N.W.; (NC200) Washington, DC 20240.

## PREPARATION

All components of the *Fort Lauderdale Historic Preservation Design Guidelines* including all text, graphic design, photography and illustrations unless noted otherwise were prepared by:

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