



City of Newton Historic Preservation

GUIDELINES FOR EXTERIOR MAINTENANCE



The wood base is in contact with the concrete foundation. Regular wood dampness can eventually lead to rot and deterioration, necessitating future replacement.

PURPOSE

These *Guidelines* were prepared to provide property owners with information when considering exterior maintenance. They are not intended to replace consultation with qualified architects, contractors, the Newton Historical Commission (NHC), Local Historic District Commissions (HDC) and their Staff. The City's Preservation Planner and the NHC/HDC will be happy to provide a preliminary consultation addressing design or materials issues to potential applicants free of charge.

These *Guidelines* were developed in conjunction with the City of Newton's Historical Commission (NHC), Local Historic District Commissions (HDC), and the Planning and Development Department (PDD). Familiarity with this material can assist owners of designated historic properties to move a project quickly through the City of Newton review and approval process. Information pertaining to all properties with a City of Newton historic preservation review designation is marked with the abbreviation **(ALL)**. Information pertaining specifically to properties in Local Historic Districts **(LHD)**, to Local Landmarks **(LL)**, or to properties with Preservation Restrictions **(PR)** is marked accordingly. Information in the Guidelines that is advisory only is marked with the abbreviation **(AO)**. Please refer to the Introduction section for background information on historic preservation designations and the project review process in the City of Newton.

Additional Guidelines addressing other historic preservation topics are available at City Hall and on the City's website at www.newtonma.gov. The NHC, HDC, and PDD are available to provide informational meetings or preliminary consultation with applicants prior to filing. For more information, questions regarding the application process, or to clarify whether a project requires review please contact the PDD at (617) 796-1120.

BUILDING MAINTENANCE

The historic architecture of Newton features a well-constructed housing stock of 17th through mid-20th century buildings. Ongoing maintenance allows these homes 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, rain, snow, ice, humidity 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, protects real estate values and investments, and keeps the City of Newton 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 can 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 AND REPLACEMENT (ALL)

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, the NHC/HDC encourage replacement in-kind. Although it may be 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 costly future repairs or an ongoing replacement schedule.

The NHC/HDC encourage:

- 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

The NHC/HDC discourage:

- Introducing modern materials that can accelerate and hide deterioration, or encapsulate historic features
- Replacement of original materials with modern non-traditional materials



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 (AO)

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 property reviews at least each spring and fall. The spring review will help identify work that should be completed during the warm weather months while the fall review will assist in the weatherization of a property before winter and the identification 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.newtonma.gov.

The NHC/HDC encourage:

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

ROOFING AND ROOFING-RELATED ELEMENTS CHECKLIST (AO)

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*.



Slates are cracked, dislodged and missing. Some of the surfaces are delaminating. Approximately 25 to 30 percent of the slates on this roof are either missing or damaged. Given the pervasiveness of the problems, considering roof replacement would be appropriate.

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

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

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



This chimney is leaning and has several visible open joints. Rebuilding to match existing detailing is recommended.



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

EXTERIOR WOODWORK CHECKLIST (AO)

Generally, exterior woodwork should be reviewed every spring and fall. The spring review will alert a property owner to damage that occurred over the winter months and allow for immediate repair. Fall review allows a property to be prepared for winter and planning for spring repair and painting.

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* and *Guidelines for Windows & Doors*.

The staining on the siding is an indication of mold or algae growth. The shrubs should be removed or thinned to increase ventilation and allow sunlight to strike the wall. The siding is located only 2-3 inches above grade, making it susceptible to water damage.



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

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Water & Termite Damage	<ul style="list-style-type: none"> • Vegetation, such as shrubs, are located immediately adjacent to foundation • Vines climbing on building 	<ul style="list-style-type: none"> <input type="checkbox"/> 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 <input type="checkbox"/> Climbing vines can trap moisture and dislodge plaster and mortar - remove climbing vines
	<ul style="list-style-type: none"> • 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 4</i> for wood rot) 	<ul style="list-style-type: none"> <input type="checkbox"/> 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
	<ul style="list-style-type: none"> • Wood is located on masonry foundation or pier or within 6 inches of ground 	<ul style="list-style-type: none"> <input type="checkbox"/> 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 <input type="checkbox"/> Retain a pest management company to provide regular inspections
	<ul style="list-style-type: none"> • Signs of dirt veins on exterior walls, particularly near foundation, steps, under porches, etc. 	<ul style="list-style-type: none"> <input type="checkbox"/> Possible indication of termite damage, contact extermination company to determine if active infestation and extent of damage
Windows & Doors (Refer to <i>Guidelines for Windows & Doors</i> for more information)	<ul style="list-style-type: none"> • Windows and doors do not fit or operate properly 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify whether frame is wacked or out-of-square - possibly an indication of differential or uneven foundation settlement or deteriorated wall framing <input type="checkbox"/> Verify whether windows are painted shut <input type="checkbox"/> Verify that hardware (including sash cord or chains) is operational
	<ul style="list-style-type: none"> • Wood rot, particularly at sills and lower rails 	<ul style="list-style-type: none"> <input type="checkbox"/> Repair or selectively replace deteriorated components in-kind <input type="checkbox"/> Following repairs, verify deteriorated areas are well painted and joints caulked
	<ul style="list-style-type: none"> • Glass is cracked • Glazing putty is missing, cracked or deteriorated 	<ul style="list-style-type: none"> <input type="checkbox"/> Replace glazing to match existing <input type="checkbox"/> Replace glazing putty - verify compatibility with adjacent materials - older putty can contain asbestos (refer to <i>Page 12</i>)
	<ul style="list-style-type: none"> • Screen or storm windows or doors are missing, deteriorated or non-operational 	<ul style="list-style-type: none"> <input type="checkbox"/> Repair or replace deteriorated units as appropriate <input type="checkbox"/> Consider installing interior storm windows and doors - interior installation can minimize potential condensation between the storm and window, reduce drafts, are virtually invisible thus maintaining the exterior appearance of the building
Painting (Refer to <i>Page 12</i> for lead paint and <i>Guidelines for Exterior Woodwork</i> for painting information)	<ul style="list-style-type: none"> • Chalky or dull finish 	<ul style="list-style-type: none"> <input type="checkbox"/> Surface cleaning might be all that is needed <input type="checkbox"/> If repainting, additional preparation might be required
<ul style="list-style-type: none"> • Paint surface worn 	<ul style="list-style-type: none"> <input type="checkbox"/> Wood generally needs repainting every 5 to 8 years 	
<ul style="list-style-type: none"> • Peeling, curling, crazing and blistering 	<ul style="list-style-type: none"> <input type="checkbox"/> Possible indication of a moisture problem - review drainage, potential leaks and vapor barrier in the wall <input type="checkbox"/> Paint failures near roofs, downspouts and porch ceilings are often the result of drainage problems 	

EXTERIOR MASONRY & STUCCO CHECKLIST (AO)

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 and stucco 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*.



A previous vertical crack has been improperly repaired with hard grout smeared onto the wall surface. The second diagonal crack suggests a settlement or movement problem, that warrants consultation with an architect or engineer.

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

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Mortar	<ul style="list-style-type: none"> • Soft and crumbling • Open joints or broken joint bonds 	<ul style="list-style-type: none"> ☐ Consider patching with compatible mortar if area of deterioration is isolated - mortar should match original in appearance, profile, hardness and composition ☐ Consider replacement if deterioration is substantial
Stones & Bricks	<ul style="list-style-type: none"> • Spalling, chipping, flaking, cracking or crumbling of surface • Loose or missing stones or bricks 	<ul style="list-style-type: none"> ☐ Consider patching with compatible materials if area of deterioration is isolated ☐ Consider replacement if deterioration is substantial
	<ul style="list-style-type: none"> • Pitted surface from sandblasting or pressure washing 	<ul style="list-style-type: none"> ☐ Masonry with a damaged surface is more likely to absorb moisture leading to accelerated deterioration - consult a professional ☐ Monitor and photograph condition to see if it continues to deteriorate ☐ Review adjacent materials and interior finishes for signs of moisture infiltration and rot
Stucco	<ul style="list-style-type: none"> • Cracks in surface 	<ul style="list-style-type: none"> ☐ Consider patching with compatible stucco if area of deterioration is isolated ☐ Consider replacement if deterioration is substantial ☐ 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
	<ul style="list-style-type: none"> • Bulges in wall 	<ul style="list-style-type: none"> ☐ Verify keying of stucco / plaster to lath or underlying substrate - if wall area moves when pushed, stucco/ plaster is not bonded and should be replaced with compatible material to avoid potential surface collapse
Painted Masonry	<ul style="list-style-type: none"> • Chalky or dull finish 	<ul style="list-style-type: none"> ☐ Additional preparation might be required prior to repainting - preparation dependent on surface
	<ul style="list-style-type: none"> • Peeling, flaking, curling and blistering 	<ul style="list-style-type: none"> ☐ Possible indication of a moisture problem - review drainage, potential leaks and whether there is a vapor barrier in the wall ☐ Paint failures near the roof edge, downspouts and porch ceilings and foundations are often the result of drainage problems
	<ul style="list-style-type: none"> • Paint surface worn 	<ul style="list-style-type: none"> ☐ Similar to woodwork, painted masonry needs repainting every 5 to 8 years with compatible paint



The stucco has not been maintained and the bricks under the porch post are falling out of position. The dislodged bricks can lead to structural problems in the porch if not repaired.

PROPERTY CHECKLIST (AO)

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*.



Without proper upkeep, tripping hazards can develop at steps and walkways. There are significant cracks and openings at these steps, exposing the reinforcing bars to stormwater and de-icing salts. This can accelerate the rusting of the reinforcing and deterioration of the concrete.

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Water Management	<ul style="list-style-type: none"> • Surface water and/or groundwater directed towards building foundation 	<ul style="list-style-type: none"> <input type="checkbox"/> Re-grade area at foundation to direct ground water away from building
	<ul style="list-style-type: none"> • Water ponding adjacent to foundation 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify water from exiting downspouts is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts
	<ul style="list-style-type: none"> • Vegetation, such as shrubs, are located immediately adjacent to foundation or vines are climbing on buildings 	<ul style="list-style-type: none"> <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
	<ul style="list-style-type: none"> • Tree limbs extend over roof 	<ul style="list-style-type: none"> <input type="checkbox"/> Trim limbs 5 feet away from house - 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
Metal and Wood Fences	<ul style="list-style-type: none"> • Metal fences 	<ul style="list-style-type: none"> <input type="checkbox"/> Check for rust spots or bare metal - remove rust and prepare for re-painting
	<ul style="list-style-type: none"> • Wood fences 	<ul style="list-style-type: none"> <input type="checkbox"/> Check for deterioration, follow recommendations in the <i>Exterior Woodwork Checklist</i> on Page 6 <input type="checkbox"/> Anticipate repainting or staining every 5 to 8 years
Walkways, Patios & Pavers	<ul style="list-style-type: none"> • Brick, flagstone or concrete pavers cracked or missing 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify the condition of the sub-base and replace deteriorated or missing units in-kind
	<ul style="list-style-type: none"> • Water ponding on paved surface • Subsidence of paved surface 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify the condition of the sub-base and reset individual units to allow appropriate drainage
	<ul style="list-style-type: none"> • Vegetation growing between individual units 	<ul style="list-style-type: none"> <input type="checkbox"/> Some vegetation has a substantial root structure that can dislodge individual paving units - remove vegetation if appropriate
Asphalt Paving & Driveways	<ul style="list-style-type: none"> • Cracked asphalt 	<ul style="list-style-type: none"> <input type="checkbox"/> Seal cracks to minimize potential water infiltration <input type="checkbox"/> Consider sealing or repaving entire surface if cracks are substantial or prevalent
	<ul style="list-style-type: none"> • Water ponding on paved surface • Subsidence of paved surface 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify the condition of the sub-base and patch to allow appropriate drainage

INTERIOR CHECKLIST (AO)

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 basement. It is important to remember that attics and basements tend to be unique spaces with distinct conditions. Attics usually sit directly under roofs which can be highly susceptible to moisture infiltration. Similarly, basements 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.



The dark areas at the top and side of the diagonal wood brace indicate moisture. The end of the diagonal wood frame is rotting. The cause of the moisture infiltration should be addressed and the wood framing repaired.

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Attic Spaces	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> <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"> • Mildew on underside of roof structure • Dampness in attic space • Overheated attic 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify whether the attic is sufficiently ventilated
	<ul style="list-style-type: none"> • Broken or missing collar beams • Cracked or sagging rafters 	<ul style="list-style-type: none"> <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"> • Inadequate insulation at attic floor or between rafters 	<ul style="list-style-type: none"> <input type="checkbox"/> Install appropriate insulation
Basements and Crawlspace	<ul style="list-style-type: none"> • Mortar of walls or piers is soft and crumbling • Damp or moldy smell • Evidence of dampness under first floor framing or around pipes • Evidence of wood rot or insect infestation at wood sills on top of foundation walls or first floor joists • Periodic flooding 	<ul style="list-style-type: none"> <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 plaster to brick 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"> • Inadequate insulation around pipes, heating and air conditioning ducts 	<ul style="list-style-type: none"> <input type="checkbox"/> Install appropriate insulation - condensation can form on unheated equipment and pipes
	<ul style="list-style-type: none"> • Cracked foundation wall 	<ul style="list-style-type: none"> <input type="checkbox"/> Refer to <i>Exterior Masonry & Stucco Checklist (Page 8)</i>

SAFETY PRECAUTIONS (AO)

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 and state organizations web sites:

Asbestos

US Environmental Protection Agency Hotline
(800) 368-5888 www.epa.gov/asbestos

Massachusetts Department of Environmental Protection
(617) 292-5500 www.mass.gov/dep

Lead

National Lead Information Clearinghouse
(800) 424-LEAD www.epa.gov/lead

Massachusetts Childhood Lead Poisoning Prevention Hotline
(800) 532-9571

Radon

The National Safety Council's Radon Hotline:
(800) SOS-RADON www.epa.gov/radon

Massachusetts Department of Public Health:
(800) 723-6695

Mold

Indoor Air Quality Information Clearinghouse:
(800) 483-4318 www.epa.gov/iaq/molds/index



These asbestos shingles are cracked and worn. If replacement is considered, removal should be completed by a trained contractor.



This carriage house at 43 Fairmount Avenue is being adapted for reuse as an office. The work is being funded in part through state and federal tax credits.

BUILDING CODES (AO)

All construction projects in the City of Newton must comply with the Massachusetts State Building Code. Further information is available at www.state.ma.us/bbrs (780 CMR with amendments).

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.

For specific information regarding the applicable codes for your project, please contact the Inspectional Services Department at (617) 796-1060. Applicants are also welcome to meet with an Inspector who can assist with permit applications and building code questions.

NHC/HDC REVIEW

It is important to remember that all exterior changes to a building within the boundaries of a Local Historic District, properties with a Preservation Restriction, or any Landmark property are required to receive a prior approval from the NHC/HDC. Refer to the *Design Guidelines Introduction* and contact the Preservation Planner at (617) 796-1120 for review requirements for proposed work.

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