City of Newton Historic Preservation

Design Guidelines Introduction

WHY IS HISTORIC PRESERVATION IMPORTANT IN NEWTON?

The City of Newton recognizes that the character and quality of life enjoyed by its citizens depend in great measure upon the City's rich architectural heritage and the importance of the natural and designed landscapes in our community. This historical, cultural, archaeological, social and economic heritage is entrusted to each generation, enriched and passed on to future generations.

These *Guidelines* were developed in conjunction with the City of Newton's Historical Commission (NHC), Local Historic Districts 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 though the City of Newton review and approval process.

Subsequent sections of the *Guidelines* are organized by building system and project type, and are coded to address the applicable regulatory processes. 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.

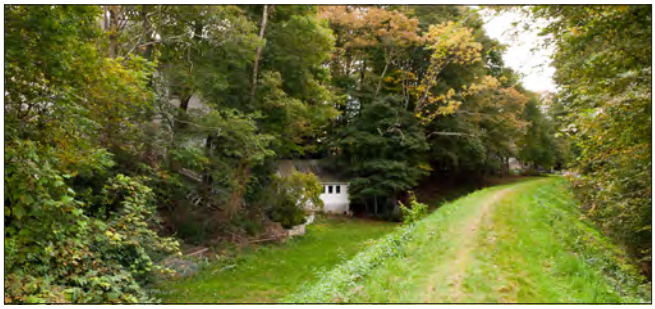
Additional Guidelines addressing other historic preservation topics are available at City Hall and on the City's website at www.newtonma.gov. The NHC, HDC, and PDD are available to provide informational meetings or preliminary consultation with applicants prior to filing. For more information, questions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

HOW IS PRESERVATION RECOGNIZED IN NEWTON?

To promote continued enrichment of our local heritage, in 1975 the City of Newton established the Historical Provisions (Article III) of the Planning and Development ordinance (Chapter 22) of the City of Newton Ordinances. As defined in Section 22-40 of the Newton Ordinances, the purpose of the Historical Provisions is:

- *To promote the preservation and protection of the distinctive characteristics of buildings and places significant in the history of the City of Newton, the maintenance and improvement of such buildings and settings, and the encouragement of design compatible with the existing architecture.*

Since 1975, the Newton Historical Commission and City Planning Department have worked to preserve historical sites, buildings, landscapes and structures. The City of Newton promotes preservation through the documentation of historic properties; grants to protect properties; education programs on preservation; and preservation regulations.



Newton's buildings are often nestled in the landscape.

LANDSCAPE PRESERVATION

When contemplating changes to the landscape such as installing a fence or a project near a wetland, please consider that your project may need review by multiple bodies. Recognizing the importance of the natural and cultural landscape as part of the defining characteristics of Newton, the City established two bodies, the Conservation Commission and the Urban Design Commission. The purpose of the Conservation Commission is to protect, promote and develop the natural resources of the City, while the Urban Design Commission was established to review changes to the streetscape and to maintain the integrity of the urban fabric and built environment of the City. In conjunction with the NHC and HDC, the Conservation and Urban Design Commissions protect the scenic and cultural heritage of our community.

HISTORICALLY SIGNIFICANT RESOURCES

A **historic resource** is an individual building, structure, site, object or district that has been determined to have historical significance or associations and whose distinctive character conveys a unique architectural and cultural heritage. Maps and lists of Newton's historic resources are maintained by the NHC and are available at www.newtonma.gov, City Hall, and at the Jackson Homestead (527 Washington Street).

A **historic district** is a defined area that contains concentrations of historic resources. A district can include as few as one historic resource or hundreds of resources.

Historic resources in the City of Newton are recorded in Newton's Historic Resources Survey. Most properties recorded in the survey have only been preliminarily investigated for their historical significance. These properties are considered of historical interest for their architectural and historical association with the City's heritage, but have no formal listing. Designated historic properties in the City of Newton are either listed in the National Register of Historic Places, are located within Local Historic Districts, have Preservation Restrictions, or are Local Landmarks. In some cases properties may have multiple designations.

HISTORIC DESIGNATION IN NEWTON

Currently there are over thirty National Register Historic Districts and four Local Historic Districts in the City of Newton. The four Local Historic Districts are Newton Upper Falls, Chestnut Hill, Newtonville and Auburndale. In addition, there are individual properties that are listed in or determined to be eligible for listing in the National Register of Historic Places, Local Landmarks in the City of Newton, and properties with Preservation Restrictions.[1]

The National Register of Historic Places

The National Register of Historic Places is the United States government's official list of districts, sites, buildings, structures and objects identified as worthy of preservation. The National Register is administered by the National Park Service, a division of the Department of the Interior.

Listing in the National Register does not eliminate or restrict property rights of individual owners. Projects involving federal or state permits, licenses or funding are reviewed for their potential effects on significant historic properties, including those listed in the National Register. Having a property listed on the National Register could make its owners eligible for federal and state tax credits for expenses incurred rehabilitating an income-producing property. National Register information is available from the Massachusetts Historical Commission (refer to *Page 23* for more information).

[1] For historic district descriptions and histories, refer to *Pages 10 - 17*, which were prepared using the Historic Neighborhood Walking Tour brochures. These brochures were published by the DPD in conjunction with the NHC and are available at www.newtonma.gov or at City Hall.

Local Designation

There are three types of local designation in the City of Newton: Local Historic Districts, Local Landmarks and Preservation Restrictions. In Newton, Local Historic Districts can consist of either a single property or a group of historic properties and are created through resident support, study committee review, and designation by a 2/3 vote of the Board of Aldermen.

Individual historic properties in Newton are otherwise protected either through a Preservation Restriction or as designated Local Landmarks. Preservation Restrictions are legally binding protective covenants conveyed by the owner to the CIty (or another qualified entity). Landmarks are designated by 3/4 vote of the Historical Commission following a public hearing and must be listed on or eligible for listing in the National Register in order to be considered for designation.

All exterior work or repairs to Landmark properties, properties with Preservation Restrictions or properties within Local Historic Districts requires the review and approval of the NHC/HDC or Preservation Staff as appropriate.

BENEFITS OF LOCAL DESIGNATION

The designation of Local Historic Districts and Landmarks has been found to:

- Increase neighborhood stability and property values
- Preserve the physical history of the area
- Promote an appreciation of the physical environment
- Foster community pride and self-image by creating a unique sense of place and local identity
- Increase the awareness and appreciation of local history
- Increase tourism
- Attract potential customers to businesses
- Create local construction jobs employing skilled tradesmen

SUSTAINABLE BENEFITS OF PRESERVATION

An added benefit to historic buildings is that they are intrinsically "green" with substantially lower environmental impact than new construction.

- Since historic buildings and structures already exist, the energy required to fabricate the lumber, bricks and details was expended in the past.
- New construction often includes demolition of existing buildings, with construction waste filling approximately 25% to 30% of landfills, in addition to waste associated with the fabrication of new construction materials.
- The most appropriate materials for the majority of preservation projects are often historic materials that are more sustainable than non-biodegradable manufactured products such as vinyl and plastics.

Preservation and rehabilitation minimizes the wasteful loss of materials while maintaining a distinctive sense place. (Refer to the *Guidelines for Sustainability*.)

PRESERVATION ASSISTANCE PROGRAMS

There are federal and state tax incentive programs available for historic properties. The submission and review requirements are rigorous and it is highly recommended that applicants contact the applicable agency at the early planning stages of a potential project.

Federal Historic Preservation Tax Incentives

The Historic Preservation Tax Incentives Program rewards private investment in rehabilitating historic income-producing properties such as offices, rental housing and retail stores. The Program, established by the Tax Reform Act of 1986, is jointly administered by the U.S. Department of the Treasury and the U.S. Department of the Interior's National Park Service. Owner-occupied single-family residences are not eligible for the program. If eligible, up to 20 cents on every dollar spent on qualified rehabilitation work (including most architectural and engineering fees) would be available as a credit against federal income taxes. The 20% tax credit is available to buildings that are listed in the National Register of Historic Places, either individually or as a contributing building in a National Register historic district, or as a contributing building within a local historic district that has been certified by the Department of the Interior. To be eligible for the 20% tax credit, project work must be certified as meeting *The Secretary of the Interior's Standards for Rehabilitation*. (*Refer to Page 19.*)

Massachusetts Preservation Projects Fund

The Massachusetts Preservation Projects Fund (MPPF) is a state-funded 50% reimbursable matching grant program established in 1984 to support the preservation of properties, landscapes and sites (cultural resources) listed in the State Register of Historic Places. These important resources represent a significant portion of the Commonwealth's heritage. Applicants must be a municipality or nonprofit organization. Eligible activities for grant funding include pre-development, development and acquisition projects. The program is administered by the Massachusetts Historical Commission.

This property at 328 Brookline Street has a preservation restriction donated to Historic New England.

Massachusetts Historic Rehabilitation Tax Credit Program

The Massachusetts Historic Rehabilitation Tax Credit allows the certified rehabilitation of an income-producing property to receive up to 20% of the certified rehabilitation cost in state tax credits. This credit program illustrates the economic and community benefits of preservation. It can be coupled with the Federal Rehabilitation Tax Credit to make a preservation project financially feasible. The credits can be sold to third-party investors for funds which are often put back into the project. To be eligible, projects must be listed in or certified as eligible for listing in the National Register. The program is administered through the Massachusetts Historical Commission and the work must be certified as meeting *The Secretary of the Interior's Standards for Rehabilitation.*

The work at this carriage house, at 43 Fairmount Avenue, is being funded in part through state and federal tax credits.

Preservation Restriction Program

Many owners of historic buildings and structures throughout Massachusetts have protected their properties in perpetuity by donating preservation restrictions to qualified non-profit preservation organizations. Qualified properties must be listed or eligible for listing in the National Register of Historic Places (individually or as a contributing resource within a district). Preservation restrictions must follow Massachusetts guidelines and have required approvals. All Internal Revenue Service requirements must be met to qualify for tax benefits.

The Jackson Homestead has received a Massachusetts Preservation Projects Fund grant.

PRESERVATION REGULATORY REVIEW

In the City of Newton, there are three general types of historic preservation regulatory review and procedures:

- Demolition Delay
- Local Historic District Review
- City of Newton Landmark / Preservation Restrictions

Each type of review has its procedures including submission requirements and process, with alterations to historic buildings being the most common. Applications can be found on the City website www.newtonma.gov or at the Inspectional Services counter in City Hall.

HISTORICAL / DISTRICT COMMISSIONS

There are five separate Commissions that review applications for alterations to designated properties in the City of Newton.

The Newton Historical Commission has oversight of the City's preservation activities and individual properties outside of Local Historic Districts. There are also Historic District Commissions for each of the four Local Historic Districts:

- Auburndale Historic District Commission
- Chestnut Hill Historic District Commission
- Newtonville Historic District Commission
- Newton Upper Falls Historic District Commission

Newton Historical Commission

The Newton Historical Commission includes seven volunteer members, four at-large members as well as one member nominated by each of the following organizations: Jackson Homestead; the Boston Society of Architects; and the Newton Board of Realtors. In addition, as many as seven at-large alternate members can be appointed.

The Newton Historical Commission has oversight of the City's preservation activities; administers the Demolition Delay Ordinance and the Landmark Ordinance; administers Preservation Restrictions; and updates survey and National Register information.

Historic District Commissions

Each Historic District Commission includes seven volunteer members, including one member nominated by the local chapter of the American Institute of Architects; one attorney; one realtor nominated by the Newton Board of Realtors; one member or alternate member of the Newton Historical Commission; one additional member or alternate member of the Newton Historical Commission, or one member nominated by the Newton Historical Society; and two residents or property owners from the Local Historic District administered by the Commission.

The primary responsibility of each of the Historic District Commissions is to regulate the alteration or construction of any building or structure within the district over which it has jurisdiction.

TIMING FOR REVIEW

The City of Newton makes every effort to quickly conduct required reviews. If an application is incomplete, if the NHC requests a change, or if all City deadlines are not met, the issuance of permits and approvals could take several months.

All applications are first reviewed by Preservation Staff for completeness and potential eligibility for an administrative approval. If an application requires Commission review, Staff will place the application on the next available meeting's agenda. For most applications, the Commissions have 45 days to act on a completed application or the project will be allowed to continue without approval.

Staff Review

Staff reviews are typically conducted for applications for Demolition Delay review and those that are considered minor in the context of the designated property, and if applicable, the surrounding Local Historic District. Applications that may be limited to Staff review include:

- Minor maintenance and in-kind repair, which are exempted from Commission purview after Staff review
- Exterior alterations at properties within the bounds of Local Historic Districts that are not visible from a public way (public roadways, sidewalks, parks and waterways) or meet an exclusion
- Insubstantial changes with limited visibility
- Demolition Delay review for partial demolition or buildings that are Not Historically Significant

Staff reviews of complete applications are generally completed within 14-15 business days of filing.

Commission Review

Applications that propose alterations that are too substantial for Staff review are forwarded to the appropriate Commission for review. Each of the Commissions holds regular monthly meetings. Assuming that the application materials are complete and the Commission does not require any additional information, applicants should assume a minimum of 4 weeks between the submission deadline of the Commission application and the issuance of an approval.

If a project requires other reviews, applicants should coordinate with the proper authorities to ensure that the project presented to the Commission is permissible under zoning, building permit, conservation, and other regulations. If a Commission-reviewed and approved plan requires changes in order to obtain a building permit, further review by the Commission and/or Staff is required.

RESEARCHING HISTORIC PROPERTIES

Property owners seeking information regarding the history of their property can consult with Historic Newton and the Jackson Homestead Archives. In the Archives, property owners can reference Historic Property Survey Forms, City Atlases, City Directories and potentially historic photographs.

PLANNING FOR ALTERATIONS TO HISTORIC PROPERTIES

One of the key first steps in planning an alteration to a historic property is developing an understanding of what makes a property important. Historic properties typically derive their significance from their architectural character and/or their historical significance as related to an association with an important individual or event.

Once it is understood why a property is defined as significant, a determination can be made whether it has historic integrity, or the ability of a property to convey its significance. Some of the aspects considered when making a determination of integrity relate to its:

- Location
- Design
- Setting
- Materials
- Workmanship
- Feeling
- Association with the historic individual or event

Properties that retain integrity always possess several of these aspects.

Both the overall form and the detailing of this Local Landmark home at 450 Winchester Street are significant features of its design.

DESIGN OF ALTERATIONS

In balancing the desire for a change to a historic property with regard to the historic integrity, the NHC/HDC encourages property owners to retain as much historic building fabric as possible. As such, the following guide can be used, listed in preferential order:

1. Maintenance
2. Repair and Replacement
3. Alterations and Renovations
4. Adaptive Reuse
5. Additions and New Constructions

If demolition is considered, property owners should refer to the Demolition Delay review process (*Page 6)*. Demolition of designated historic buildings is rarely appropriate.

NEWTON HISTORIC PRESERVATION DESIGN GUIDELINES

The *Newton Historic Preservation Design Guidelines* (*Guidelines*) are intended as a tool to help manage change and protect the City's architectural and historical resources.

The *Guidelines* provide background information, guidance and regulations to be followed by property owners, design professionals, contractors, the Newton Historical Commission Staff, Historic District Commissions and the City of Newton with regard to historic resources. They are intended as a supplement to, rather than as a substitute for, consultation with qualified architects, contractors, the Historical Commission Staff and the Commissions.

The *Guidelines* are based upon *The Secretary of the Interior's Standards for the Treatment of Historic Properties* and are intended to provide a framework for review of appropriateness at the historic property and within the surrounding historic context rather than judgment on good or bad taste.

Because the NHC/HDC utilizes the *Guidelines* in their decision-making process, it is recommended that applicants review the information in the *Guidelines* sections during the early stages of planning a project. Familiarity with this material can assist in moving a project forward quickly, saving both time and money.

AVAILABLE *GUIDELINES*

The following *Guidelines* were completed as part of this project:

- *Guidelines Introduction*
- *Guidelines for Architectural Styles*
- *Guidelines for Exterior Maintenance*
- *Guidelines for Roofing*
- *Guidelines for Exterior Woodwork*
- *Guidelines for Masonry & Stucco*
- *Guidelines for Windows & Doors*
- *Guidelines for Site Elements*
- *Guidelines for Additions & New Construction*
- *Guidelines for Commercial Buildings*
- *Guidelines for Sustainability*

Each section addresses historic materials and building topics and all sections comprise the *Newton Historic Preservation Design Guidelines*. Further information is available at the Planning Department and on the City's web site at www.newtonma.gov.

These *Guidelines* serve to cover the topics most typically addressed by the NHC/HDC. Any work under the jurisdiction of the NHC/HDC that is not specifically covered in these Guidelines is subject to Commission review and approval.

DEMOLITION DELAY

The demolition of historic properties is considered a drastic action. The loss of a historic building constitutes not only a loss of historic fabric and context; it can alter the character of the streetscape and surrounding buildings. Once resources or buildings that contribute to the heritage of the community are destroyed, they cannot be replaced.

Demolition could represent a lost educational resource for the community whether the building was an example of past construction techniques, or has associations with a significant individual or event in our history. As a result, demolition of historically or architecturally significant buildings and structures is rarely considered to be an appropriate option.

The City of Newton recognizes that properties with distinctive architectural features and historic associations are located throughout the City. These distinctive properties contribute to and enhance the overall historic character of the City. To protect those properties, the City has established a review process for all properties in Newton 50 years of age or older. Local Historic Districts, Landmarks and Preservation Restrictions have a separate process for demolition, which is rarely approved by the NHC.

Demolition Delay Review Criteria

Properties that are subject to the Demolition Review requirements are at least 50 years old, and their demolition requires the review and approval of the Preservation Planner or the Newton Historical Commission. The review determines whether the building or structure is determined to be "historically significant" and "preferably preserved," and if so, a demolition delay can be imposed.

HISTORICALLY SIGNIFICANT

A property is considered to be "historically significant" if it is 50 or more years old and:

- Listed on or determined eligible for listing in the National and/or State Register of Historic Places;
- Historically or architecturally important for its period, style, method of construction or association with a particular architect or builder, either by itself or in the context of a group of buildings or structures;
- Is within 150 feet of a historic district and shares contextual similarity with that district; or
- Is importantly associated with historic person(s) or event(s) or with the architectural, cultural, political, economic or social history of the City.

Properties less than 50 years of age do not meet the criteria for designation as "historically significant," and are not subject to the Demolition Delay Review Process.

PREFERABLY PRESERVED

A historically significant building or structure is considered to be "preferably preserved" if its proposed demolition is determined to be a detriment to the City.

DEMOLITION DELAY PURPOSE

The purpose of delaying demolition is to provide time to seek alternative preservation solutions for historically significant properties. As such, the following delays are imposed:

- An 18-month delay applies to properties listed on or determined to be eligible for listing in the National Register of Historic Places (NR).
- A 12-month delay applies to all other properties.

Based upon the specific nature of the application, a waiver of delay may be granted if:

- A proposal to relocate the building is approved by the NHC;
- The applicant has demonstrated a reasonable and unsuccessful effort to locate a purchaser who would preserve the building;
- The applicant has accepted specific conditions from the Commission; or
- The applicant has presented plans for redevelopment, which the Commission has approved.

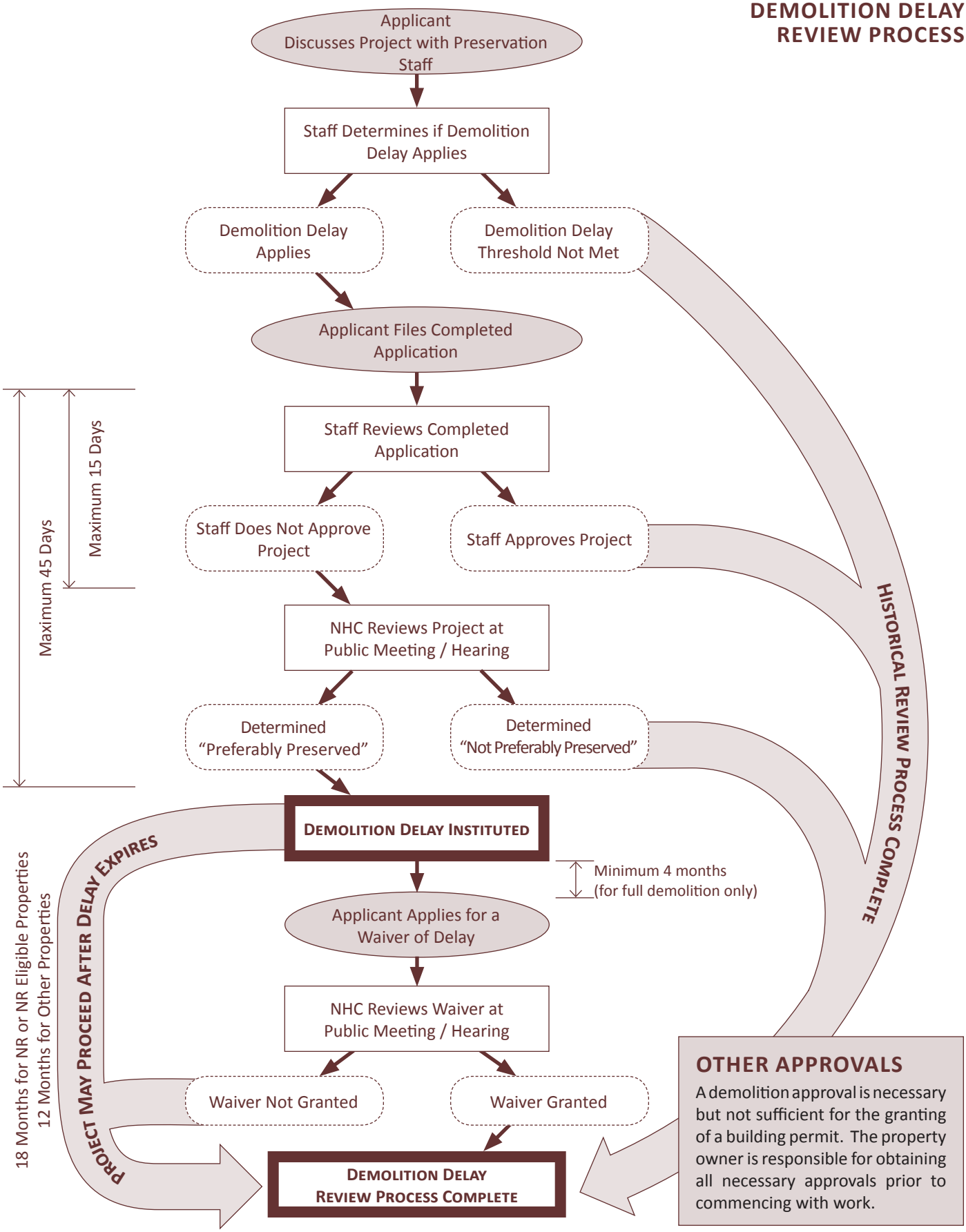
Demolition is an irreversible action that alters the character of the property, the streetscape, and the area. (The NHC/HDC strongly recommends against the demolition of buildings or features that are architecturally or historically significant to the history of Newton.)

DEMOLITION DELAY REVIEW PROCESS

Property owners seeking a demolition approval must complete an application and submit it to the City's Preservation Planner for review. The Preservation Staff will review the application, and if necessary, will include it on the agenda of the next scheduled Newton Historical Commission monthly meeting. The Historical Commission determines the status of the property at a public hearing based on the historical and/or architectural significance of the property.

The process typically takes between 15 and 45 days to complete, and applications are available on the City web site at www.newtonma.gov and at the Inspectional Services Department counter.

DEMOLITION DELAY REVIEW PROCESS



OTHER APPROVALS

A demolition approval is necessary but not sufficient for the granting of a building permit. The property owner is responsible for obtaining all necessary approvals prior to commencing with work.

DISTRICT/LANDMARK REVIEW PROCESS

All work proposed at a locally designated Landmark property or within the bounds of a Local Historic District in the City of Newton requires Commission review and the issuance of a Certificate. As a result, all exterior alterations, no matter how minor, are subject to Commission review. The types of projects reviewed by the Commission include:

- Maintenance and in-kind repair (exempted from Commission purview after Staff review)
- Change to the appearance of building, site, monument or structure, including change resulting from maintenance and repair
- Change or addition of fences, walls, walkways, driveways and garden structures (not including public sidewalks)
- Modification, addition or removal of signs and awnings
- Construction of any new building or addition
- Relocation or demolition of all or part of any building, site, monument or structure (demolition rarely approved)
- Demolition by neglect (Landmarks only)

Following the filing of an application and the required supporting information, the Commission and its Staff reviews proposed changes to determine whether they are appropriate to the individual property and within the surrounding historic context in terms of the architectural style, general design, arrangement, location and materials. Applicants or their representatives are encouraged to attend Commission meetings to explain the overall scope of the proposed project, clarify issues and answer any questions.

There are three types of Certificates that can be issued by the Commissions and their Staff following review:

- **Certificate of Non-Applicability:** Issued if it is determined that the construction or alteration for which a Certificate of Appropriateness or a Certificate of Non-Applicability has been filed does not involve any exterior architectural feature or involves an exterior architectural feature which is not subject to review by the Commission.
- **Certificate of Appropriateness:** Issued if it is determined that the construction or alteration for which an application for a Certificate of Appropriateness has been filed will be appropriate for or compatible with the preservation or protection of the Local Historic District or Landmark property.
- **Certificate of Hardship:** Issued if it is determined that owing to conditions especially affecting the building or structure involved, but not affecting the Local Historic District or Landmark property generally, failure to approve an application will involve a substantial hardship, financial or otherwise, to the applicant and such application may be approved without substantial detriment to the public welfare and without substantial derogation of the intent and purposes of Newton's preservation regulations. It shall also be issued by the Commission or its Staff in the event that it fails to make a determination on an application within 45 days of filing.

Commission Actions

The Commission can take one of four actions following the review of an application:

- **Approval as Submitted** - The appropriate Certificate will be issued.
- **Approval with Conditions** - A Certificate will be issued pending review for compliance of required conditions.
- **Conceptual Approval** - The overall concept and direction of the project is approved; however, a more complete application must be submitted for review.
- **Denial** - It is determined that the project does not meet the requirements for the granting of a Certificate. The applicant can work with Staff to bring the project into compliance with *Guidelines* or appeal to the Metropolitan Area Planning Council within 20 days of the Commission decision.

OTHER THINGS TO CONSIDER

Commission approval is required for some work that does not otherwise require a building permit. This includes maintenance and minor repairs. In addition to obtaining approvals from the NHC/HDC, there are typically other required approvals needed prior to the granting of necessary permits to begin construction work. Reviews and issues that should be considered include:

- Zoning: Use, setbacks, lot coverage, floor-area-ratio (FAR), open space (Applies to new construction and additions)
- Engineering: drainage, curb cuts
- Building Code
- Scenic Roads, Signs and Fence Ordinances
- Conservation Regulations

It is recommended that all zoning reviews occur prior to NHC/HDC review whenever possible. The remainder of the requirements and reviews should be considered in the process, and coordinated with the overall approval of the project.

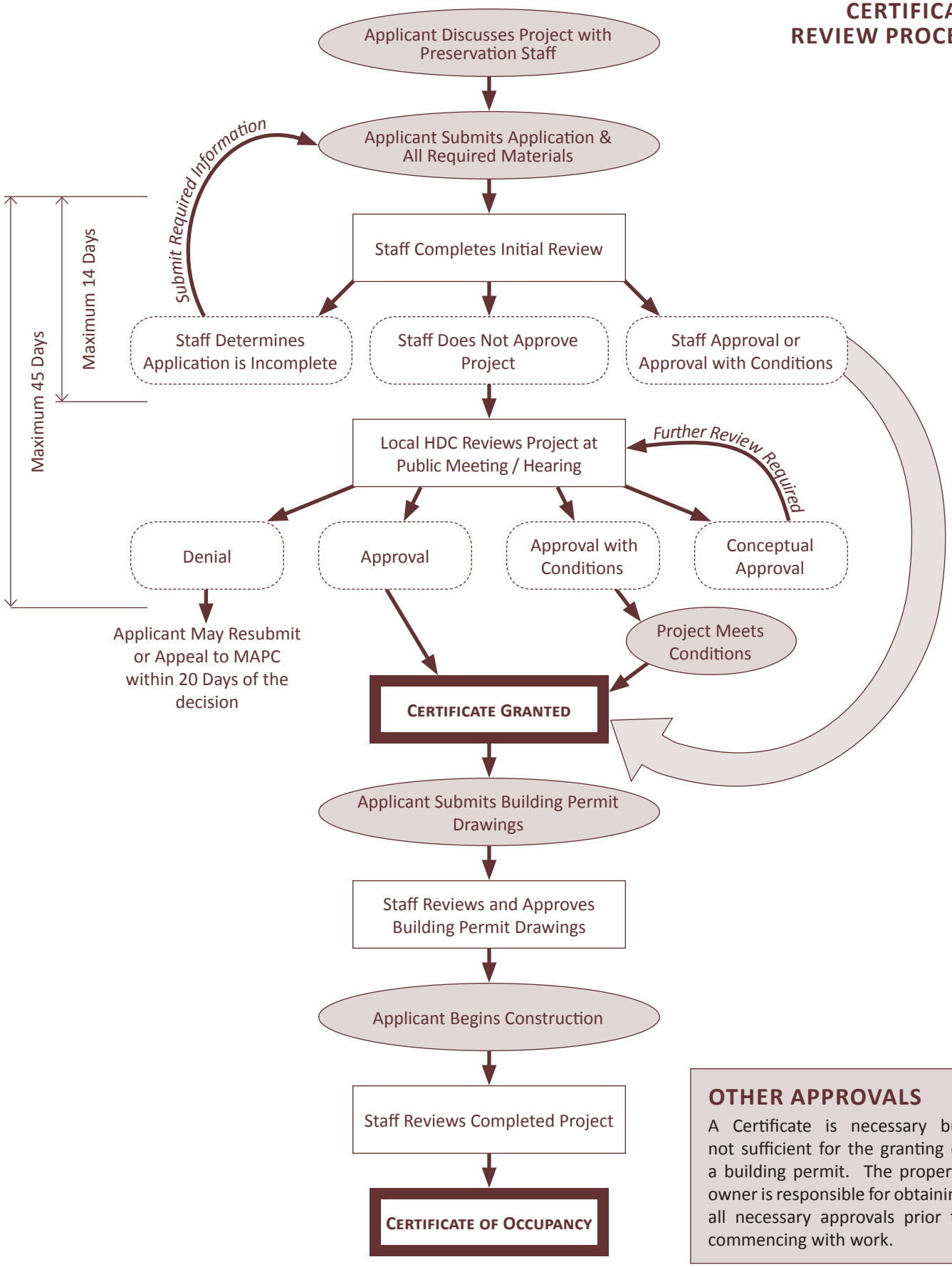
WORKING WITHOUT A CERTIFICATE

The Commission will inspect all work for compliance with an approved Certificate. If any changes are proposed after approval of a Certificate, please contact the Preservation Planner at (617) 796-1120 for additional required reviews. Work completed without an approved Certificate is subject to possible fines, removal, and restoration of the building, site or structure to its appearance prior to the violation.

CERTIFICATE NOT REQUIRED FOR:

- Applications for paint colors or painting when the proposed work is limited to re-painting
- The color of roof materials

CERTIFICATE REVIEW PROCESS



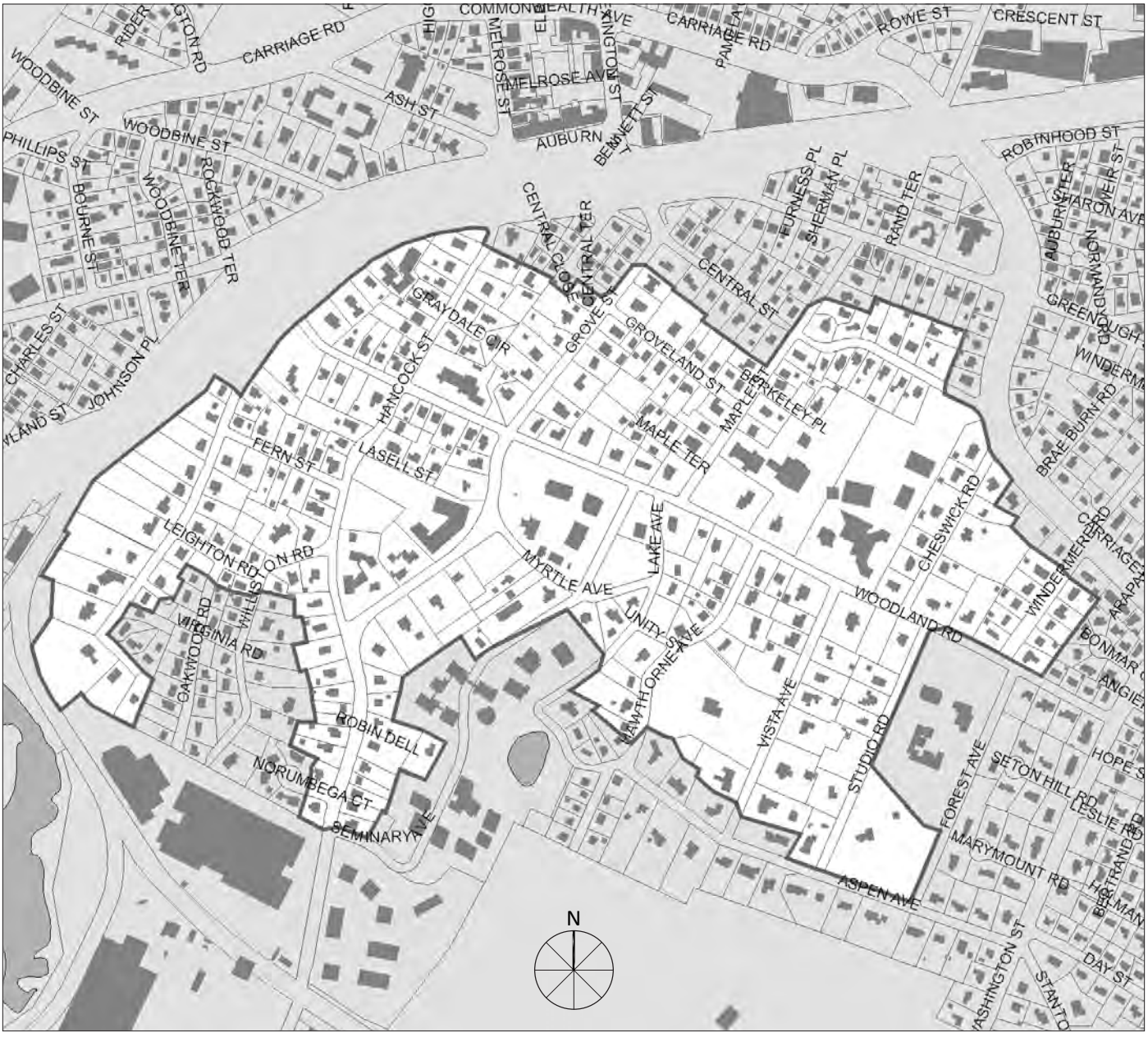
OTHER APPROVALS

A Certificate is necessary but not sufficient for the granting of a building permit. The property owner is responsible for obtaining all necessary approvals prior to commencing with work.

AUBURNDALE HISTORIC DISTRICT

The core of the Auburndale Local Historic District consists of two National Register Districts and four individually listed National Register properties. All were listed in 1986 as part of Newton's Multiple Resource Area Nomination to the National Register of Historic Places. The educational institution, known today as Lasell College, and the wood frame Auburndale Congregational Church built in 1856-57 have been at the center of the development patterns of the neighborhood since the mid-nineteenth century. They are the core of this district that fans out from these National Register properties to include other National Register listings. This larger neighborhood that includes the National Register properties evolved in response to transportation patterns, real estate speculation and the establishment of these very institutions.

Today, examples of each decade of development from the late 1840s through the early-21st century are evident in this large neighborhood. Although the neighborhood evolved over a century representing changing tastes in styles and plans of domestic architecture, there is a strong cohesiveness to this wide-spread suburban neighborhood in size, scale and overall massing as well as richness of craftsmanship. Most properties were built in appreciation for the bucolic and spacious settings on large suburban lots away from the mechanics of urban living. All properties inform us of the evolving lifestyle of a community rich with the legacy of entrepreneurs, intellectuals, clergy, and artists and those who have supported the educational and institutional entities that shaped the community.



Auburndale includes numerous 19th-century homes such as this vernacular Second Empire house.

This Craftsman/Bungalow house is an early-20th century example of Auburndale's historic architecture.

AUBURNDALE HISTORY

Today's village of Auburndale began as a remote district of farmland, rolling wooded hills, and marsh. As late as 1831, only seven families held title to all of Auburndale's land area. This all began to change, though, when the Boston and Worcester Railroad introduced passenger service to Newton, ushering in a dramatic new era of development. By 1837, the railroad had been extended through Auburndale.

As suburban development occurred in Newton Corner and West Newton, sharp-eyed real estate speculators looked elsewhere for more opportunities. In 1847, William Jackson and his North Auburndale Land Company opened up Auburndale for a new type of Newton resident - the suburban commuter. Jackson's company laid out many of the streets north of Auburn Street (a colonial highway established in 1729), and similar development to the south began almost simultaneously.

Auburndale's main asset, besides its favorable location for transportation, was the languid reach of the Charles River which bordered it to the west. The village was firmly established by the 1860s, and Auburndale residents and visitors looked to the river for recreation. Canoeing and skating were popular pastimes, and several formal boat clubs built boathouses at the river's edge.

River activity was greatly increased in the 1890s when the Newton Street Railway opened Norumbega Park, a 21-acre recreation facility boasting a restaurant, deer park, concert hall and canoeing areas. In the 1930s and 1940s, the Totem Pole Lounge featured the sound of the Big Bands. Access from Boston by streetcar made the Park an immensely popular family playground.

Although adversely affected by the construction of Route 128 and the Massachusetts Turnpike Extension, Auburndale has retained an important collection of 19th century architecture. One of Auburndale's neighborhoods, the Lasell Neighborhood, includes several phases of community development represented by houses ranging from 18th century farmhouses to 20th century Colonial Revival style suburban residences.

Houses in Auburndale are generally located on regularly spaced lots, set back an equal distance from the curb on most streets. A mature tree canopy frames the individual homes.

CHESTNUT HILL HISTORIC DISTRICT

Chestnut Hill has been recognized as an architecturally important and intact historic neighborhood displaying the results of early subdivision plans and development spanning more than a century. In 1986, the Old Chestnut Hill Historic District was listed on the National Register of Historic Places (it was later expanded in 1990), clearly acknowledging the historical significance and architectural integrity of the District. The National Register Nomination describes the District as having commodious architect-designed houses with attention to landscape detail.

The Chestnut Hill Historic District consists almost entirely of residential structures, most dating from the late 19th and early 20th centuries. The dwellings are characteristically large, with lushly landscaped lots, affording privacy and a sense of seclusion. Typically, lot contours reflect the natural terrain and the winding streets respond to the topography.

Stately Colonial Revival homes, this example with a central Palladian window, are well represented in the area.

Mid-Century Modern homes can be found in the Chestnut Hill Historic District.

CHESTNUT HILL HISTORY

Located in the easternmost section of Newton, the village of Chestnut Hill was originally settled by the Hammond family circa 1650. The initial Hammond property encompassed all of what is now the Newton portion of Chestnut Hill. The family remained in the area for generations, giving its name to Hammond Street, Hammond Woods and Hammond Pond.

Originally isolated and relatively inaccessible, the area remained sparsely settled well into the 1800s and long after development had begun in the rest of Newton. With the advent of railway access to Brookline and Boston via the Beacon Street extension in 1850 and the Charles River Railroad in 1852, the character of the area began to change. When Captain Joseph Lee of Beverly purchased his farm from the Hammond family in 1822, he was one of only a handful of residents in the area. However, upon his death in 1845, the property passed to his six nieces and nephews, several of whom moved to the old farm, built houses and laid out an ambitious development plan for a community of country estates called Chestnut Hill. As rail service improved, more of the Lee family, along with their associates from Essex County, moved to Chestnut Hill. These included members of such prominent North Shore families as the Lowells, the Cabots, the Lawrences and the Saltonstalls. Thus the "Essex Colony" was established.

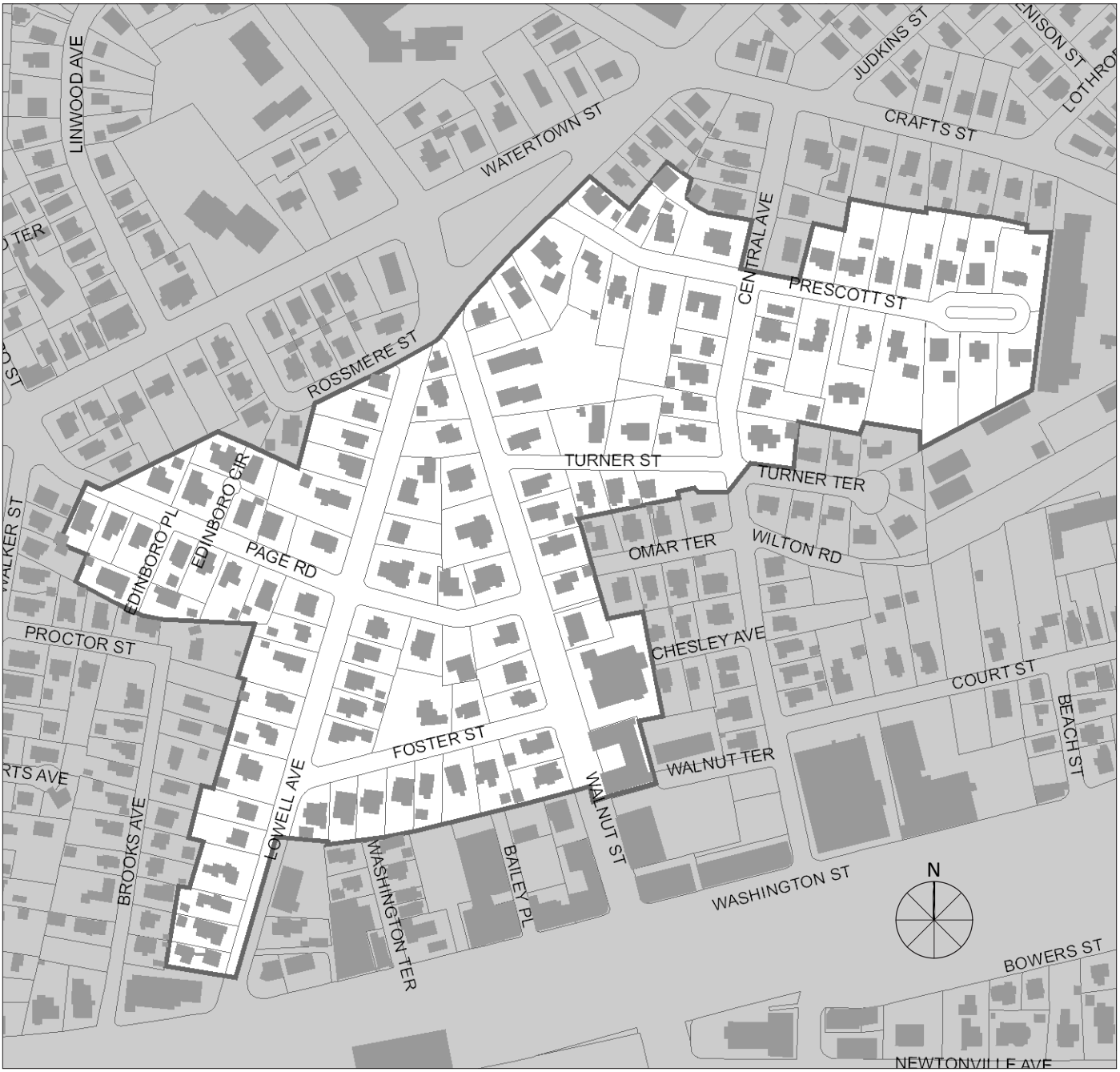
Despite this early influx, the majority of Chestnut Hill was not developed until after 1880 when transportation to the area had improved. Between 1880 and 1910, the remaining land was carved into a combination of large building lots, private estates and even a "working" farm. The prominent architectural styles of the period (Georgian, Colonial Revival and Shingle) are all well represented and the area is distinguished by a number of significant architect-designed homes. While the neighborhood continued to develop well into the 20th century, it still retains the rural neighborhood character established in the mid- and late-19th century. In 1991, the Chestnut Hill Local Historic District was established to preserve the architectural elements and character-defining aspects of this neighborhood.

Chestnut Hill features many of Newton's grandest homes. The front yard in this example is terraced down to the roadway and includes both natural and designed landscape elements.

NEWTONVILLE HISTORIC DISTRICT

Newtonville has been recognized as an architecturally important and intact historic neighborhood displaying examples of many 19th and early-20th century residential architectural styles. In 2002 the Newton Board of Aldermen approved the formation of the Newtonville Historic District in accordance with the General Laws of Massachusetts and Newton City Ordinances. By formally recognizing the area, the City clearly acknowledged the historical significance and architectural integrity of the area contained within the boundaries of the Newtonville Historic District. The Newtonville Historic District has an intact historic fabric with a variety of styles representative of its primary period of growth and development as a streetcar suburb of Boston. The study which formed the basis of the historic designation describes the cohesive nature of the neighborhood resulting from the overall massing, scale, lot size, setbacks and craftsmanship of its buildings.

The Newtonville Historic District consists almost entirely of residential buildings, most dating from the late-19th and early-20th centuries. The dwellings are characteristically large, detached houses, originally built as single-family homes on moderate-sized lots.



The Village of Newtonville includes numerous Victorian-era homes from the second half of the 19th century. This vernacular home with Stick detailing features a complex roof form and a full-width front porch.

NEWTONVILLE HISTORY

Newtonville developed as a suburban village during the second half of the 19th century. Like the neighboring villages along the "rushing and thundering Boston and Albany railroad," Newtonville owed the impetus for much of its growth to its favorable location relative to transportation. Daily commuter trains linking the village to downtown Boston brought a steady influx of businessmen, professionals and tradesmen, who built houses ranging from simple wood frame structures on small lots to large, elaborate residences set among formal gardens.

Prior to the advent of suburban development, several farms occupied the broad, well-watered plain that underlies most of Newtonville's Victorian neighborhoods. Judge Abraham Fuller, a grandson of one of the territory's first settlers, operated one of the larger farms here in the 18th century. Judge Fuller was an important Revolutionary era citizen of Newton, serving as a town selectman and treasurer, a member of the State Legislature and a representative to the Constitutional Convention. His son-in-law, General William Hull, retired to the Fuller Farm after the War of 1812, and enlarged the farmhouse that once stood on today's Newton North High School athletic fields.

During most of the first half of the 19th century, Newtonville remained a quiet agricultural neighborhood known primarily as the site of the Hull farm. In the late 1840s, however, real estate operators, observing widespread interest in suburban developments in Newton Corner and West Newton, purchased small tracts of land near the railroad line and laid out house lots along several new streets.

Newtonville offered no compelling attractions to lure potential suburban residents, so its first decade of growth was slow. This changed, however, in 1859 with the decision to build Newton's first high school in the centrally located village. By the time of the Civil War, the village was firmly established, with several distinct neighborhoods and a small commercial center serving the needs of its families.

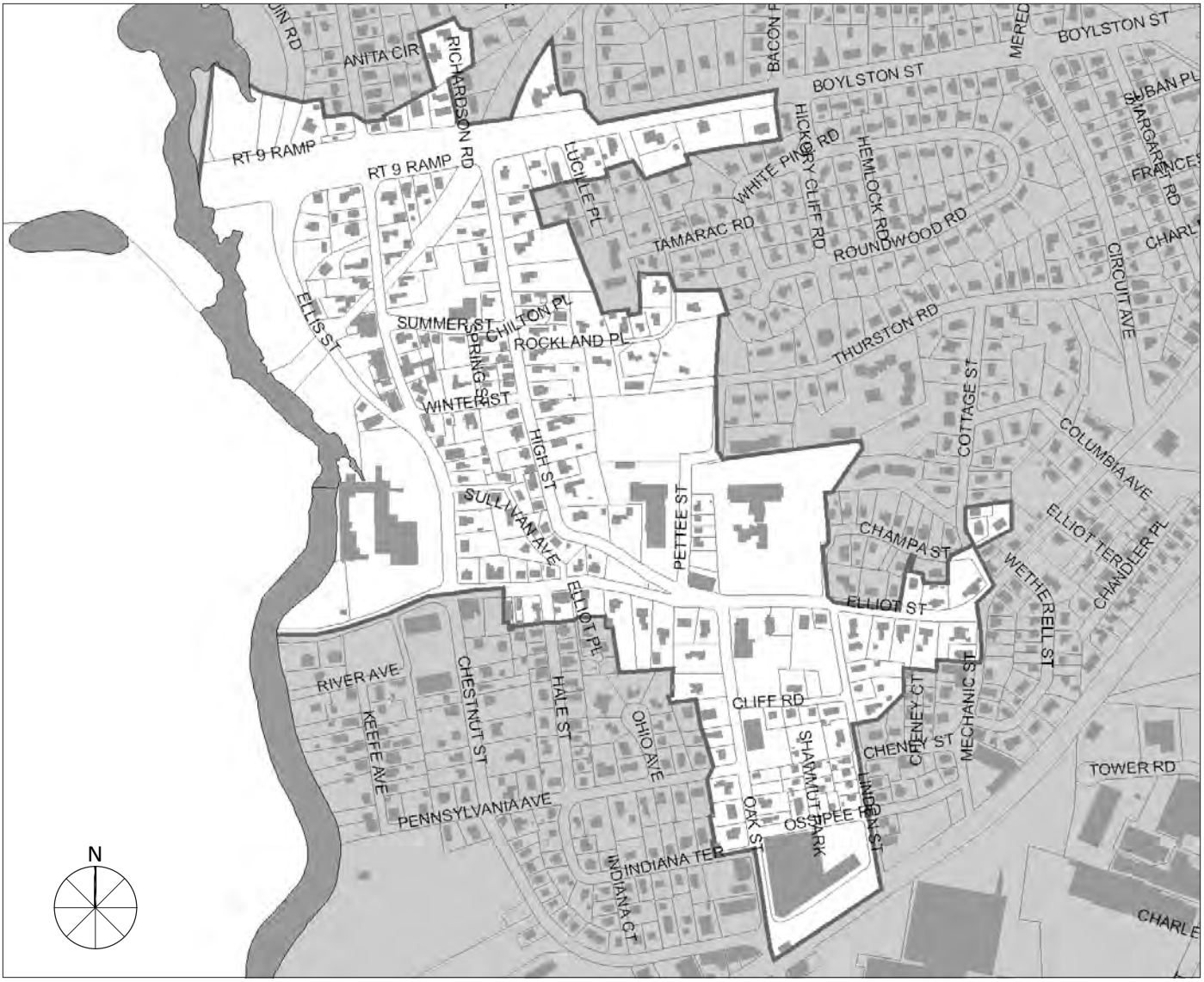
Residences, churches and public buildings from several phases of Newtonville's 19th century development exist today. The village contains a fine collection of well-preserved Victorian architecture, ranging from the austere Greek Revival of the 1840s through the richly ornamented Colonial Revival of the 1890s. The buildings, situated among gracious, tree-lined parks and streets planned by foresighted Victorians, tell a story of changing culture, technology and taste which is essential to the identity of 21st century Newtonville.

This vernacular Second-Empire home has a mansard roof with arch-headed dormers. The projecting roof cornice features paired brackets similar to those found at the porch posts.

NEWTON UPPER FALLS HISTORIC DISTRICT

First established in 1975, the Newton Upper Falls Historic District was created to protect the unique and historic character of one of Newton's first villages, and its early industrial center. The village of Newton Upper Falls has long been recognized as a historically important and architecturally intact neighborhood displaying the early development of the 19th century mill village built along the Charles River. The original District was established around the earliest area of 19th century development in the village, but was enlarged in 1985 to include the village's next stage of development stretching into the late 19th and early 20th century. In 1986, the Newton Upper Falls Historic District was listed on the National Register of Historic Places, acknowledging the historical significance and architectural integrity of the District. The National Register Nomination describes the District as having retained the 19th century flavor of its rich industrial past and as the most distinctive village in Newton.

The architecture of the Newton Upper Falls Historic District consists of a mix of residential, commercial, industrial, and institutional structures, most of which date from the 19th century. Residential structures built near the village's commercial and industrial center were typically designed as housing for early mill workers in the Federal and Greek Revival styles which were popular through the mid 19th century. Residential construction in the second half of the century is commonly found up the hill from the Charles River around the edges of the earlier village and is typically Italianate, Colonial Revival and Queen Anne in style and detailing. Regardless of the date of construction, Newton Upper Falls dwellings are characteristically modest with simple detailing appropriate to the original style of its construction. The District's commercial, industrial and institutional structures are larger in scale and grander in design than the village's residential structures. Their architectural styles vary dramatically depending on their date of construction, use and location. In considering the important characteristics of these structures, it is important to recognize the intent of the original design, its scale, massing, original materials and siting.



In addition to residential structures, commercial and industrial buildings were important in the development and character of Upper Falls. This former barn has been adaptively reused as office space, with modifications to the large barn-door openings.

UPPER FALLS HISTORY

The history of Upper Falls is intrinsically tied to its location at the bend of the Charles River. Water power, and its resulting dams, contributed to the built environment in evidence today. Historic stores, churches, workers' cottages and dams from the mid-18th to early 19th centuries were built in accordance with the river-front topography: workers' cottages were located near the river, and homes of plant managers and owners were sited at the top of the bluff overlooking the river, on the aptly named High Street. Later industrial development in Upper Falls included thriving iron and cotton machinery businesses. Upper Falls remained a self-sustaining industrial village for many years and adapted itself to industrial trends well into the mid-20th century.

Colonial-Revival buildings, such as this Dutch Colonial, are also part of the architectural development of Upper Falls.

Early mill worker's housing in Upper Falls often features Greek Revival detailing such as the central paired door surround.

The Greek Revival style, which typically includes large porticos and classical columns as in this Local Landmark at 35 Webster Street, was popular in the first half of the 19th century.

Newton's homes, such as this one in Upper Falls, often have exterior details such as cornices, porches and window surrounds. Regular maintenance and repainting can prolong the life of historic materials.

GUIDELINES FOR NHC/HDC DECISIONS

When reviewing a proposed project, the Commission's review is guided by principles contained in *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, and more specifically, *The Standards for Rehabilitation*. *The Standards for Rehabilitation* provide property owners and tenants common-sense guidelines to allow sensitive contemporary uses for their sites while retaining their architectural and cultural heritage. In reviewing projects, the Commissions encourage sensitive rehabilitation involving the least amount of intervention or change as identified in the following guidelines:

- **Identify, retain, and preserve** the overall form, materials, and details that are important in defining the architectural and historical character of the building and site.
- **Protect and maintain** historic materials and features. This involves protection from other work that may occur in proximity to the historic materials, and also protection through regular maintenance. A regular program of protection and maintenance usually involves the least degree of intervention, and can prevent or postpone extensive and costly work.
- **Repair** rather than replace deteriorated historic materials and features. Repairs maintain the building in its current condition while making it weather-resistant and structurally sound. Repairs should involve the least intervention possible, concentrating specifically on areas of deterioration. When repair is not possible, the Commissions encourage replacement in-kind, reproducing by new construction the original feature exactly, including the original material, finish, detailing and texture.
- **Replace** missing or deteriorated historic materials and features in-kind when the extent of deterioration precludes repair. Similar to repair, the preferred approach is to replace the entire feature in-kind to match the original material, finish, detailing and texture. Since this in not always technically or financially feasible, substitute materials are sometimes acceptable when they convey the appearance and finish of the original feature.
- **Reconstruct** missing historical features if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced. The addition of features from other historic buildings or addition of historical elements for which there is no documentation is not appropriate.
- **Alterations and additions** are sometimes needed to ensure the continued use of a building. An alteration involves returning a building to a useful condition while saving those parts that represent its historical, architectural or cultural significance. It is important that alterations do not radically alter, obscure or destroy character-defining spaces, materials, features, or finishes. An addition is new construction at the exterior of an existing building and should be carefully considered. New additions should be clearly differentiated but compatible in size, mass, form, fenestration, detailing and style with the historic building, and should be constructed at a less visible side or rear elevation, so that the character-defining features are not radically obscured, damaged or destroyed.

COST VS. VALUE-ADDED

It is understood that some of the recommendations of the *Guidelines* do not represent the least expensive options; however the NHC/HDC strongly believes that selecting high-quality options can have both short- and long-term benefits.

A short-term benefit is that the alteration tends to be more historically appropriate and is often made of more sustainable materials. Long-term benefits generally include longer life-cycle materials that do not need to be replaced as often, reducing associated landfill waste and replacement costs, as well as potentially increased property value associated with the higher quality traditional materials.

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

The following *Standards for Rehabilitation* were developed in 1995 by the National Park Service of the U.S. Department of the Interior. They are the national standard to guide rehabilitation work on historic resources and are used by the Newton Historical Commission (NHC) and Local Historic District Commissons (HDC) when rendering their recommendations.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural or architectural values.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the historic property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Rehabilitation as a Treatment: *When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular period of time is not appropriate, Rehabilitation may be considered as a treatment. Prior to undertaking work, a documentation plan for Rehabilitation should be developed.*

CHARACTER-DEFINING FEATURES

As defined by *Preservation Brief 17: Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character*:

The Secretary of the Interior's Standards for the Treatment of Historic Properties embody two important goals:

1) the preservation of historic materials; and,

2) the preservation of a building's distinguishing character.

Every old building is unique, with its own identity and its own distinctive character. Character refers to all those visual aspects and physical features that comprise the appearance of every historic building. Character-defining elements include the overall shape of the building, its materials, craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment.

The NHC/HDC jurisdiction is generally limited to the exterior appearance of buildings, and it should be understood that the definition of character-defining features or elements varies with each building.

General maintenance, including repainting of woodwork, is essential for preserving original building fabric and unique architectural elements and details.

MAINTENANCE IS PRESERVATION

Regular maintenance helps to preserve buildings and property, protect real estate values and investments, and keeps Newton an attractive place to live, work and visit. Lack of regular upkeep can result in accelerated deterioration of building elements and features. 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 impact a building's structure, resulting in expensive repairs.

It is prudent to regularly inspect properties to identify potential problems. If problems are detected early, minor maintenance may not only improve a property's overall appearance and value, but also can prevent or postpone extensive and costly future repairs. Regular maintenance can include a variety of tasks such as cleaning gutters and downspouts, and painting of exterior woodwork.

The NHC/HDC encourage:

- Prolonging the life of original materials on historic structures through regular maintenance as long as possible
- Avoiding replacement of original materials with newer materials
- Referencing the *Guidelines for Exterior Maintenance* and topic-specific sections for additional maintenance information

REPAIRS AND REPLACEMENT

When it is no longer feasible to maintain a historic feature, repairs or replacement in-kind may be necessary. Repairs maintain the building in its current condition while making it weather-resistant and structurally sound, concentrating specifically on areas of deterioration. When repair is not possible, the Commission encourages replacement in-kind. Similar to a regular maintenance program, these activities can prevent or postpone extensive and costly future repairs.

The NHC/HDC encourage (Listed in order of preference):

- 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, matching the original material, size, scale, finish, profile, 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 historic features, and the use of materials similar in design, color, texture, finish and visual quality to the historic elements

When repair is not possible, the NHC/HDC encourages in-kind replacement.

ALTERATIONS AND RENOVATIONS

Alterations and renovations are sometimes needed to ensure the continued use of a building, but have the potential to alter the character of historic properties. When considering alterations or renovations, careful attention should be given to the original building and its relationship to the alteration or renovation.

The NHC/HDC encourage:

- Identification, retention and preservation of the character defining features of the historic building
- Minimal alteration to the original design, materials and features
- New design elements and scale that are compatible with the historic building and setting
- Use of materials and techniques that are compatible to the historic building and setting
- Maintaining the appropriate historic contextual setting

This former mill building at 2276 Washington Street has been adaptively reused as office space.

ADAPTIVE REUSE

In adaptive reuse projects, alterations or renovations might be necessary to use a building for a different purpose from which it is currently or was originally designed, if permitted under the Newton Zoning Ordinance. Similar to alterations or renovations, great care should be given to the original building and its relationship to the alteration or renovation. In addition, careful attention should be taken with required alterations such as the modification or addition of window and door openings to accommodate the new use.

Examples of Adaptive Reuse:

- Conversion of a house to multi-family residential or offices
- Conversion of industrial/commercial buildings into housing
- Conversion of institutional buildings into commercial space

Benefits of Adaptive Reuse:

- Retention of historic character and high quality historic materials and craftsmanship
- Promotes stability of ownership and occupancy of historic resources
- Potential cost savings versus new construction
- Maintains and utilizes the established neighborhood and existing infrastructure

This Local Landmark at 320 Nevada Street - a former industrial building - has been converted into office space.

ADDITIONS AND NEW CONSTRUCTION

Additions and new construction within a Historic District or to a designated Landmark can dramatically alter the appearance of the individual property, the District and the surrounding landscapes. Exact reproduction of historic buildings is discouraged, while contemporary design compatible to the context of the historic resources and their surroundings is encouraged. Because of the sensitivity of the area, the property owner should take great care when proposing either an addition or new construction within a Historic District or to a designated Landmark.

The NHC/HDC encourage:

- Preservation of the cohesive ambiance of historic resources with compatible, sympathetic and contemporary construction
- Compatible siting, proportion, scale, form, materials, fenestration, roof configuration, details and finishes
- Construction of additions at secondary elevations wherever possible, subordinate to the historic building, and compatible with the design of the property and neighborhood
- Construction of additions so that the historic building fabric is not radically changed, obscured, damaged or destroyed
- Referencing the *Guidelines for Additions & New Construction*

New construction in historic districts - such as this building at Lasell College in Auburndale - must be carefully designed, with compatible siting, form and materials.

FREQUENTLY ASKED QUESTIONS

Q: Where should I begin the process?

A: It is often helpful to begin by understanding what makes your property historically or architecturally significant (see below.) Contact the City's Planning Department at (617) 796-1120 for a review of your property's significance. Obtain the *Guidelines* section applicable to your proposed project and consider whether the proposed changes are appropriate for the property. (Refer to *Page 5*.)

Q: How can I find out about the history of my neighborhood or property?

A: The Jackson Homestead (527 Washington Street) is the best resource for local history (refer to *Page 4*), including historic photographs, National Register Nominations and survey forms on historic buildings. Links to information on local history are also available on the City of Newton's website, and information about Landmark properties is available at City Hall and on the City website. Additional information regarding historic properties is available at the MHC, and on its website through an online database known as MACRIS. There are also numerous reference organizations and resources, a few of which are listed on *Page 23*.

Q: How do I make it more likely that my project is approved?

A: It is helpful to have an understanding of what makes your property architecturally or culturally significant when considering a project. This will allow you to make informed decisions about the proposed project with an understanding of some of the issues considered by the NHC/HDC. Each section of the *Guidelines* outlines what is and is not likely to be approved by the Commission.

Q: Is the review process expensive? Do I need to hire an outside professional?

A: The NHC/HDC does not charge a fee for a reviews; however, other City departments may assess fees based on the nature of the project. Carefully reviewing the applicable *Guidelines* and the application requirements for an approval prior to hiring a design professional or contractor can assist in the early planning stages of your project. If not required by Code to receive a construction permit, you are welcome to submit applications for work without the assistance of a design professional. However, for complex proposals or those that requires the submission of scaled drawings, consultation with a professional may expedite the review process. If you are retaining the services of a professional, it is helpful to work with architects, contractors and others familiar with the requirements of working with the NHC/HDC. Before submitting your application, confirm that it is complete.

Q: Can a demolition delay be shortened?

A: A wavier of delay can be granted by the NHC if specific conditions identified on *Page 6* are met. Contact the City's Preservation Planner at (617) 796-1120 for details regarding specific project conditions.

Q: I am planning a complex project. When is the best time to talk to the NHC/HDC?

A: If your project is complex or requires multiple review Commissions and Boards, the best time to talk to the NHC/HDC is as early in the project as possible, before you invest significant time and money into the design process. This initial informal informational review can help move a project more quickly through the review process. Please contact the City's Preservation Planner at (617) 796-1120 for an appointment.

Q: Is there a way to expedite the review process?

A: It is important to thoroughly complete the application and submit all required materials to the NHC/HDC for review. It is recommended that you contact the City's Preservation Staff directly to understand what submission materials are required for your project; whether Commission review is required; and the specific submission deadlines and meeting dates. Contact the City's Planning Department to determine what other reviews are required; if multiple reviews are necessary they can often be pursued simultaneously.

Q: Does my project require NHC/HDC review?

A: Proposed changes to any building, site or structure or to any property within the boundaries of a Local Historic District; or alterations to the exterior or landscape of any property with a Preservation Restriction or any Landmark property are required to receive an approval from NHC/HDC. This includes all work that might be considered ordinary maintenance and repair with the exception of repainting. For properties with Preservation Restrictions, applicants should contact the Preservation Planner to discuss the project and the terms of the restriction as they vary. Most applications for maintenance and repair are reviewed at the Staff level within 15 days of a completed application filing.

Q: How do I apply for NHC/HDC review?

A: The specific submission requirements for NHC/HDC review will vary based upon the complexity of the proposed project, but the submission materials are similar to those required for a building permit review. For specific information regarding the submission requirements for your proposed project please refer to the applications available on the City of Newton website at www.newtonma.gov or contact the City's Preservation Planner at (617) 796-1120.

Q: Can I begin construction immediately after I get the NHC/HDC approval?

A: The NHC/HDC review is not necessarily sufficient for the granting of a building permit. Each project is also subject to review by all departments having jurisdiction over compliance with zoning, building and safety codes. NHC/HDC review is just one step in obtaining a building permit. You must complete all necessary reviews and obtain all necessary permits applicable to your project prior to proceeding with any work. You cannot receive a building permit without obtaining an approval from the NHC/HDC.

PRESERVATION ORGANIZATIONS

Local Organizations

City of Newton Preservation Planner
City Hall; 1000 Commonwealth Ave.; Newton, MA 02459
(617) 796-1120; www.newtonma.gov

Historic Newton - The Jackson Homestead and Museum
527 Washington Street; Newton, MA 02458
(617) 796-1450; www.newtonma.gov/jackson

State Organizations

Massachusetts Historical Commission
220 Morrissey Boulevard; Boston, MA 02125
(617) 727-8474; www.sec.state.ma.us/mhc

Preservation Massachusetts
Old City Hall; 45 School Street; Boston, MA 02108
(617) 723-3383; www.preservationmass.org

*Historic New Eng*land
Otis House; 141 Cambridge Street; Boston, MA 02114
(617) 227-3956; www.historicnewengland.org

National Organizations

Historic Preservation Learning Portal
www.historicpreservation.gov

National Park Service; Heritage Preservation Services
www.cr.nps.gov/hps

National Park Service; Historic Landscape Initiative
www.cr.nps.gov/hps/hli

National Park Service; Historic Preservation Tax Incentives
www.cr.nps.gov/hps/tps/tax

National Center for Preservation Technology & Training
(318) 356-7444; www.ncptt.nps.gov

National Trust for Historic Preservation
Preservation and Preservation Forum
(800) 944-6847; www.preservationnation.org

U.S. Green Building Council
(800) 795-1747; www.usgbc.org

The Association for Preservation Technology International
APT Bulletin
www.apti.org

The Alliance for Historic Landscape Preservation
www.ahlp.org

Restore Media, LLC
Old House Journal and Traditional Building
www.oldhousejournal.com
www.traditionalbuilding.com

ADDITIONAL PRESERVATION RESOURCES

CITY OF NEWTON HISTORY

Newton Tricentennial Commission. *Newton Massachusetts 1688-1988: A Celebration of Three Hundred Years*. 1988.

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Smith, S.F. *History of Newton, Massachusetts: From the Earliest Settlement to the Present Time 1630-1880.* Boston: The American Logotype Company. 1880.

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McAlester, Virginia and Lee. *Field Guide to American Houses.* New York: Knopf, 1984.

Poppeliers, John C. and S. Allen Chambers, Jr. *What Style is it? A Guide to American Architecture*, Revised Edition. New York: John Wylie & Sons, 2003.

BUILDING & LANDSCAPE PRESERVATION

Bernhard, Sandy and Tom Ela. *The House Journal: A Resource to Evaluate and Document the History, Alterations, and Records of Your House and Property*. Washington, DC: The Preservation Press, 1993.

Favretti, Rudy and Joy Favretti. *For Every House A Garden: A Guide for Reproducing Period Gardens*. Chester, CT: The Pequot Press, 1977.

Moss, Roger W. ed. *Paint in America: The Colors of Historic Buildings*. New York: John Wylie & Sons, 1995.

Poore, Patricia (ed.). *The Old-House Journal: Guide to Restoration*. New York: Dutton, 1992.

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www2.cr.nps.gov/tps/briefs/presbhom.htm

Technical Preservation Services, National Park Service. *Respectful Rehabilitation: Answers to your Questions About Old Buildings*. Washington, DC: The Preservation Press, 1982.

Weaver, Martin E. *Conserving Buildings: A Manual of Techniques and Materials*, Revised Edition. New York: John Wylie & Sons, 1997.

The Sudbury River Conduit Gatehouse is a key feature in the Chestnut Hill Historic District.

ACKNOWLEDGEMENTS

We would like to express our appreciation to the representatives of the following groups and individuals who helped make the *Guidelines* possible:

City of Newton

Mayor Setti D. Warren
Board of Aldermen

Newton Historical Commission

Newtonville Historic District Commission

Newton Upper Falls Historic District Commission

Chestnut Hill Historic District Commission

Auburndale Historic District Commission

Special thanks go to the Department of Planning and Development Staff, who were instrumental in providing information for the preparation of the *Guidelines* throughout the process.

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The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

City of Newton
Historic Preservation

Guidelines for Additions & New Construction

Additions should be deferential to historic buildings, as seen in this example from Newton Upper Falls.

PURPOSE

These *Guidelines* were prepared to assist property owners with information when considering the construction of a new building or an addition within a historic context. 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 Districts 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 though 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.

ADDITIONS & NEW CONSTRUCTION WITHIN A HISTORIC CONTEXT

New construction, either in the form of a new building or an addition to an existing building, is a sign of the economic health and vitality of the City. New construction within a historic context can take many forms including:

- New primary buildings along a street
- Additions to existing buildings
- New secondary structures (garages, sheds or outbuildings)

Prior to undertaking a new construction or addition project, the City encourages property owners to understand the unique architectural character of Newton and its neighborhoods and allow that understanding to inform their design. Property owners are strongly encouraged to consult the other *Guidelines* sections to better understand the historic context and appropriate design and materials for new construction and additions early in the design process.

It is not required that historic properties or styles be "copied" in new construction, but the NHC/HDC encourage new construction to be well-designed and sympathetic to its distinctive surroundings.

REVIEWS BY OTHER CITY AGENCIES

Property Use: The Newton Historical Commission (NHC) and Local Historic District Commissions (HDC) do not have the authority to control the use of a property. All proposals for work on a property under the jurisdiction of the Commissions must conform to the City of Newton Ordinances and all other applicable codes. Applications for variances or special permits may be made to the Zoning Board of Appeals or Board of Aldermen concurrently with an NHC/HDC application to reduce review and processing time. Please contact the PDD regarding concurrent reviews.

Concurrent Reviews: the PDD works with various branches of City government to coordinate approvals involving use, zoning, design, and other regulated items. The NHC, HDC and PDD provide recommendations to other reviewing bodies including the Board of Aldermen, Urban Design Commission and Planning and Development Board. Inter-departmental meetings can be arranged on an as-needed basis through the PDD. Any NHC/HDC approved project must be presented to the Inspectional Services Department for building permit exactly as it was approved, or additional review by NHC/HDC is required.

COMPATIBLE DESIGN PRINCIPLES (ALL)

The historic development of each of Newton's neighborhoods followed its own pattern and rhythm. The culture of the City's past inhabitants is expressed through its architectural and built environment. To continue the evolution of the built environment, the implementation of creative solutions that reflect current design and are sensitive to the character of their historic surroundings is encouraged.

This 3rd floor addition overwhelms the historic building and is inappropriate. Its scale is substantially larger, the side gable roof form has been altered to a flat roof, the footprint has been greatly expanded, the window size and proportions is dramatically different, and trim, details and materials vary greatly from the historic building.

Each Local Historic District, Landmark and neighborhood has its own unique characteristics and architectural vocabulary. The specific styles and types of compatible new construction or additions will vary at each site depending on its specific context. Recognizing that what might be appropriate at one property is not appropriate at another, no specific design "solutions" for new construction or additions are mandated. However, in making determinations regarding the appropriateness of new construction or additions, the NHC/HDC are guided by *The Secretary of the Interior's Standards for Rehabilitation* (refer to *Guidelines Introduction, Page 19*) when reviewing the compatibility of a proposal within the property's specific context. The design principles below are used when reviewing new construction and additions.

PDD STAFF ASSISTANCE

The PDD encourages anyone considering an addition, new construction, relocation or demolition to meet with the appropriate PDD Staff member early in the design process. The PDD Staff can identify potential issues, offer guidance and clarify specific submission requirements and other required reviews, potentially streamlining the process.

NOTE: Designs must conform to or obtain relief from zoning requirements.

DESIGN PRINCIPLES	ADDITIONS AND NEW CONSTRUCTION
Scale: Height and Width	Proportions and size of the addition/new building compared with existing building/ neighboring buildings
Building Form and Massing	Three-dimensional relationship and configuration of the addition/new building footprint, its walls and roof compared with existing building/neighboring buildings
Setback: Yards (Front, Side and Rear)	Distance of the addition/new building to the street and property lines when compared with the existing building or other buildings on block
Site Coverage	Percentage of the site that is covered by addition/new building, compared to similar nearby sites
Orientation	The location of the front of the addition/new building and its principal entrance relative to other buildings on the block
Architectural Elements and Projections	The size, shape, proportions and location of doors, porches, balconies, chimneys, dormers, parapets and elements that contribute to an overall building's shape and silhouette relative to neighboring buildings
Alignment, Rhythm and Spacing	The effect the addition/new building will have on the existing street patterns
Façade Proportions: Window and Door Patterns	The relationship of the size, shape and location of the addition/new building façade and building elements to each other, as well as to other buildings on the existing building/block
Trim and Detail	The moldings, decorative elements and features of a building that are secondary to major surfaces such as walls and roofs and how they related to the existing and neighboring buildings
Materials	The products with which an addition or new building is composed or constructed and how these relate to existing and neighboring buildings

ADDITIONS TO EXISTING BUILDINGS (ALL)

Historically, the need for increased space has often been addressed by constructing additions to existing buildings. Additions to existing historic buildings can provide increased space while maintaining the historic character of the original building and streetscape.

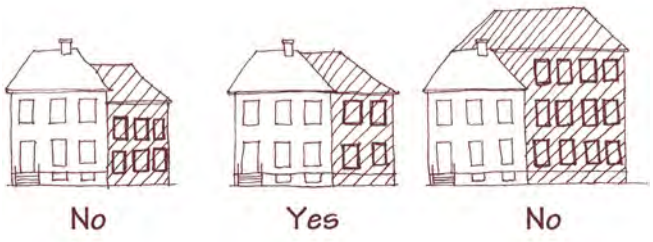
In conformance with *The Secretary of the Interior's Standards for Rehabilitation*, an addition to a historic building should be subordinate to the historic building and read clearly as an addition. The subordinate appearance of an addition can be achieved through its placement, form, size, massing, materials and details.

Contemporary design and additions to existing properties should not obscure, damage or destroy significant architectural material, and should be compatible with the design of the property and the neighborhood. Whenever possible, additions should be constructed in a manner that would allow the addition to be removed without damaging the essential form and integrity of the historic building.

The NHC/HDC encourage:

- Location of additions at rear or side elevations whenever possible in a manner that is subordinate to the historic building and compatible with the design of the property and surrounding neighborhood
- Construction of additions so that the historic building fabric is not radically changed, obscured, damaged or destroyed
- Review of related *Guidelines* to better understand the historic context and appropriate design and materials within a historic context
- Consulting Newton's zoning requirements prior to designing an addition

An inappropriate addition can have a detrimental impact on the historic buildings and streetscape.



The addition to the left has lower floor-to-floor heights and smaller and more closely spaced windows than the historic house. The addition at the center has a similar and appropriate scale, proportion, overall form and window pattern to the existing building. The addition to the right is significantly larger than the existing building and is visually overwhelming and inappropriate.

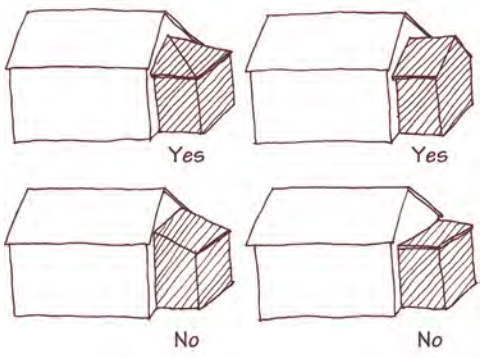
PRINCIPLES FOR ADDITIONS (ALL)

Scale: Height and Width

Additions to existing buildings should generally be smaller than the original building with similar floor-to-floor and first floor heights.

The NHC / HDC encourage:

- Constructing an addition that is smaller or similar in scale to the existing building or those on adjacent sites
- Constructing an addition larger than adjacent buildings by breaking the building mass, dividing its height or width to conform with adjacent buildings
- Constructing taller masses of the buildings at the rear of properties, away from the street and adjacent buildings



The size and placement of all four additions is similar, however the roof forms vary. It is generally more appropriate to add a sloped roof addition to a historic building unless the historic building originally had a flat roof.

Building Form and Massing

Building form refers to the shape of major volumes while massing refers to the overall composition of the major volumes. The form and massing of additions should complement, but not necessarily match the original building. For example, it is often appropriate to construct an addition that is smaller with gable roof form at the rear of an existing gable roof building.

The NHC / HDC encourage:

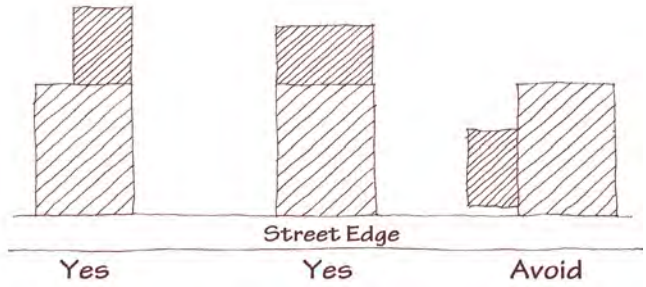
- Constructing an addition with similar form and massing to the existing building and buildings on adjacent sites
- Constructing roof forms, wings, bays and other projecting elements that are similar to those found on the existing building

Setbacks: Yards (Front, Side and Rear)

Additions should be positioned to have the least visible impact from the street, with additions at front façades generally not appropriate and rear additions generally most appropriate. Additions at side elevations are rarely appropriate, and if proposed they should be held back as far as possible from the street.

The NHC / HDC encourage:

- Constructing the addition at the rear of the building or at the side elevation as far back on the site as possible
- Using landscape elements, such as walls and fences, to visually screen the addition



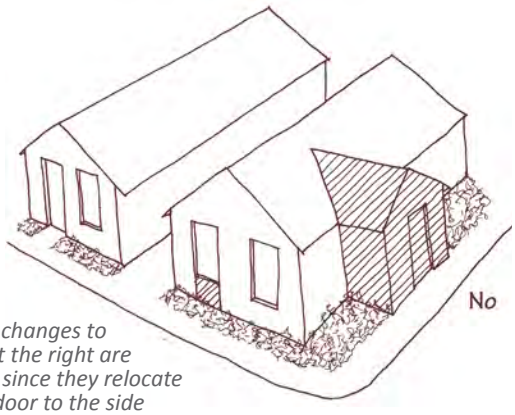
The visibility of the left and middle additions would be limited from the sidewalk and the street. The addition to the right is very visible from the sidewalk and street and should be avoided.

Orientation

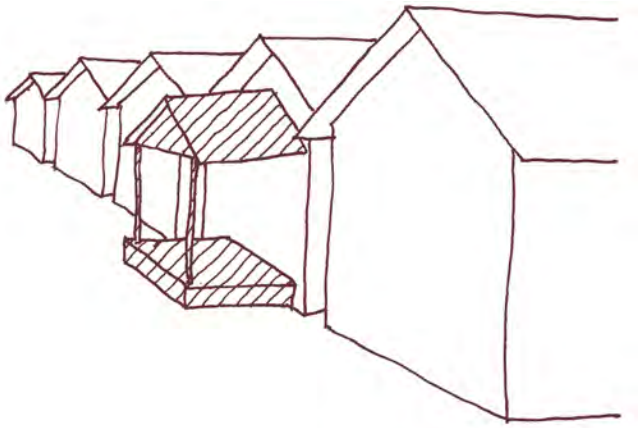
The principal façade of a building should be oriented in the same direction as the majority of the buildings on the streetscape. When adding to an existing building, the addition should be located, planned and detailed so as to not confuse the dominant historic orientation of the original building. The addition should not have the effect of creating a new primary façade. It should not be visually dominant, and it should be screened from the public right-of-way as much as possible.

The NHC / HDC encourage:

- Maintaining the visual prominence of historic front doors
- Maintaining the historic primary façade or principal elevation of a building along a streetscape



The proposed changes to the building at the right are inappropriate since they relocate the entrance door to the side elevation and eliminate the front door from the original building.



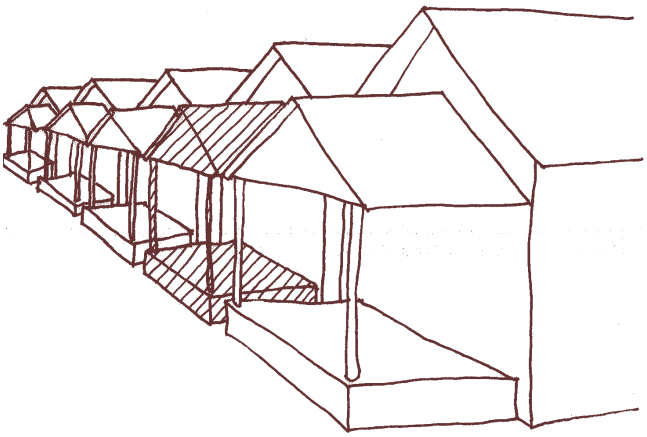
The construction of new front elevation porches that did not historically exist is discouraged.

Architectural Elements and Projections

Throughout Newton's neighborhoods, the rhythm of the streetscapes is highlighted by the projection of porches, and balconies to relieve otherwise flat façades, as well as chimneys, dormers and parapets projecting from the roof that contribute to its overall shape and silhouette. However, it is generally not appropriate to add a new architectural element or projection to a building's street elevation or highly visible side elevation; unless there is evidence that it previously existed or is common for the particular type or style. New architectural elements and projections are generally more appropriate at rear elevations or towards the rear of non-street elevations.

The NHC / HDC encourage:

- Replacing a missing architectural element or projection with similar design and detailing to those found at neighboring buildings such as a porch, balcony, parapet or dormer
- Installing compatible simplified detailing at new architectural elements or projections, particularly if located towards the rear of a side facade or at the rear facade



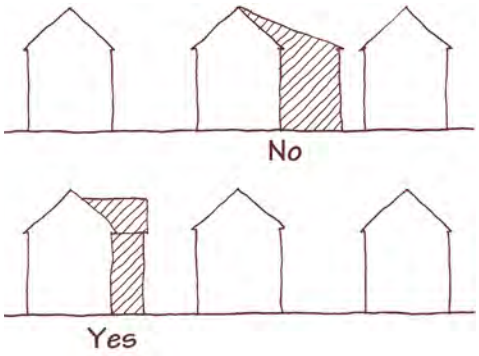
The reconstruction of removed porches in a manner that is compatible in size and scale to the building and streetscape on which it is being proposed is encouraged.

Alignment, Rhythm and Spacing

Although the architecture of Newton is characterized by great variety in its neighborhoods, within each block there tends to be consistency in the proportions of the façades and spacing of buildings. The consistent spacing establishes a rhythm that is historically prevalent and that should be applied to additions to existing buildings. The construction of an addition should not make an existing building appear substantially wider or closer to its neighbors than the patterns of existing buildings on the streetscape.

The NHC / HDC encourage:

- Constructing additions in a manner that does not significantly alter the visual alignment, rhythm and spacing of buildings along a streetscape



The top addition almost doubles the width of the house and is inappropriate. The lower addition is more modest and in keeping with the existing building spacing and building form.

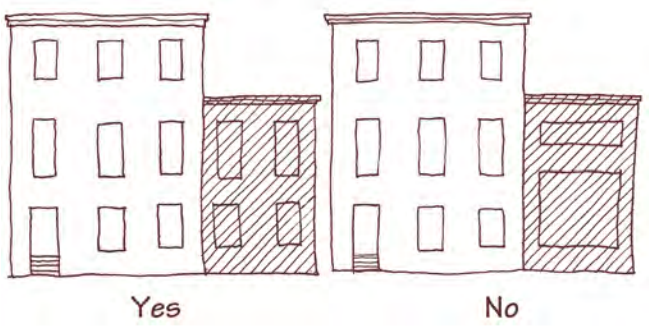
Façade Proportions; Window and Door Patterns

The rhythm and patterns of principal façades of an addition should reflect that of the original building. Rhythm and patterns across the width of a façade typically include the number of bays and the location and spacing between doors and windows. Vertical considerations for rhythm and patterns include floor-to-floor heights, first floor and porch heights above the ground, cornice heights, and the vertical distance between rows of windows and windows and cornices. In some instances, where the proposed use and scale of an addition prevents maintaining rhythms and patterns, the property owner is encouraged to incorporate detailing such as pilasters that give the impression of bays or multiple buildings.

Windows and doors on additions should be of similar size, shape, design, proportion, spacing and placement to those in the existing building. Windows should be proportionally and functionally similar, and have comparable muntin or grid patterns as the existing building. Doors should reflect the original type and the proportions of windows and panels should be similar.

The NHC / HDC encourage:

- Constructing an addition whose façade height and width are compatible to the existing building and adjacent sites
- Using similar proportions, sizes and locations of windows and doors as found on the existing building and adjacent sites
- Maintaining existing window and door opening sizes and configurations



The proportions of the windows of the left addition are consistent with those at the original building. The windows of the right addition are much wider with the first floor window being significantly taller and the second floor much shorter.

Trim and Details

In the same way that form and mass of an addition should be compatible but not necessarily copy historic buildings, new details should be compatible but not necessarily copy historic trim and details. Existing details and trim may be used as the basis for those on additions and be simplified to provide compatibility without requiring duplication of historic features. Using similar forms such as those found at parapets, rooflines, windows, doors, trim, porches, balconies and other façade elements can help establish continuity and compatibility within a building, block and the historic setting as a whole.

Detail and trim should be used to accomplish purposes similar to those used historically. Examples of functional and decorative elements include cornices, lintels, arches, balustrades, chimneys, shutters, columns, posts and other common details. When used, details and trim should create a unifying effect on a building and should be compatible with the context of the neighborhood.

This addition in Auburndale has complementary massing and materials to the historic home. The details have been simplified, omitting the corner quoins, which would be too highly styled at this relatively modest addition.

Although constructed with different materials, the wood-framed addition located in Auburndale complements and "defers" to the original brick house. The addition has a similar roof form and multi-light windows to the main house and the wood siding complements the projecting central entrance.

Materials

The materials used in the construction of an addition including walls, roofs, windows, doors, trim, porches and other exterior visible elements contribute to a building's character and appearance. Typically, materials for an addition should match or complement the materials found on the existing building. However, there are times when this is not economically feasible or practical. In these cases, it is appropriate to use alternate materials on additions, as long as the material is a "lesser" material than the original construction. This would include adding a wood weatherboard or stucco addition to a stone or brick building; however, it is not appropriate to construct a brick addition onto a wood weatherboard building.

Inappropriate materials include those that unsuccessfully pretend to be something they are not, such as plastic "bricks," aluminum or vinyl "weatherboards," or synthetic stucco and EIFS. All are imitations which fail to produce the texture, proportions and colors of the real materials. It is important to note that the size, texture, color and other characteristics of exterior materials can be as important as its composition.

The series of additions at this home in Newton Upper Falls shows the expansion of the original house over time. The additions share similar forms and materials to the historic house, simplified detailing, and are largely concealed behind its main block.

NEW CONSTRUCTION (ALL)

New construction on a historic property or within a historic context can dramatically alter the appearance of the property and the streetscape. Because of the historical sensitivity of the area, property owners should take great care when proposing new construction, understanding how contemporary design will appear within the streetscape and surrounding neighborhood context. Depending on the specific location, this context could include Colonial, Tudor Revival or Modern style homes, or potentially institutional or former industrial buildings.

Newton's villages benefited from expansion, with houses, commercial, institutional and industrial buildings being added to the community as need arose. As a result, many of the blocks and streetscapes have a cohesive architectural style with buildings of similar form, mass, scale, setbacks and materials.

Recognizing this cohesion in each neighborhood, new buildings should seek to maintain the consistent and historic ambiance with compatible and sympathetic contemporary construction.

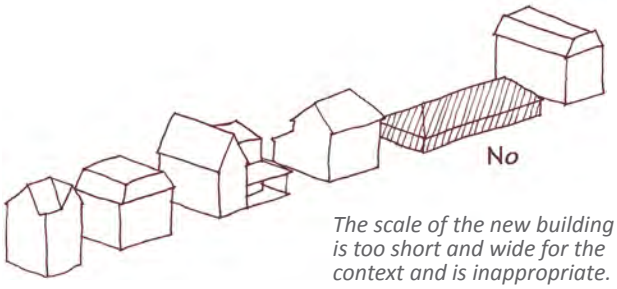
The NHC/HDC encourage:

- Preservation of the cohesive ambiance of historic properties and neighborhoods with compatible and sympathetic contemporary construction that is not visually overwhelming
- Matching setbacks (distances to property lines) of adjacent buildings on a streetscape
- Compatible siting, proportion, scale, form, materials, fenestration, roof configuration, details and finishes to adjacent and nearby properties
- Reference to the related *Guidelines* to better understand the historic context and appropriate design and materials within a historic context

BUILDING TYPE & ARCHITECTURAL STYLE IN A HISTORIC CONTEXT (ALL)

A single building type or style is not required for new construction, except as required by Zoning regulations. However, a review of the area surrounding the project site is strongly recommended as a means of influencing and directing the proposed design. When constructing new buildings, property owners are strongly encouraged to seek high quality design and materials that relate to a site's historic context to allow for the creation of the City's future landmarks.

In cases in which a property owner prefers to construct a reproduction of a historic building type or style, it is strongly recommended that all dimensions, profiles, details and materials be consistent with the historic building type or architectural style being referenced.



The scale of the new building is too short and wide for the context and is inappropriate.

PRINCIPLES FOR NEW CONSTRUCTION (ALL)

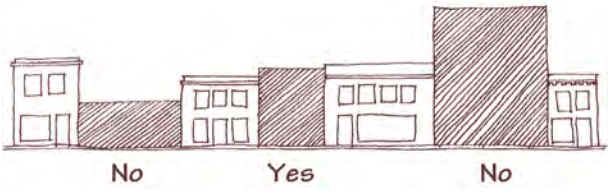
Scale: Height and Width

The proportions of a new building and its relationship to neighboring buildings establish its compatibility within a neighborhood or block. The height-width ratio is the relationship between the height and width of a street façade and should be similar in proportion to those of neighboring buildings. New construction should neither be visually over- or under-whelming when compared to its neighbors.

Where two- and three-story buildings are the norm in the City, buildings that digress from these standards by any great degree can negatively affect a neighborhood. If large-scale construction is considered, particular attention will be given to the location, siting, setbacks of the building and its upper stories, façade treatments (materials, window and door openings, etc.) and the effect of the proposed building on the streetscape and neighborhood as a whole.

The NHC / HDC encourage:

- Constructing a new building that is similar in height and width to buildings on adjacent sites
- Constructing a new building larger than adjacent buildings by breaking the building mass, and dividing its height or width to conform with adjacent buildings
- Constructing taller portions of buildings away from street



The two-story building in a row of two-story buildings is an appropriate scale along the streetscape, while the one- and four-story buildings are inappropriate in a historic context.

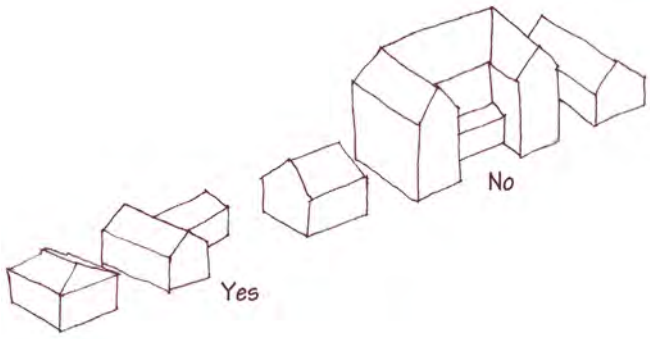
Building Form and Massing

Building form refers to the shape of major volumes while massing refers to the overall composition of the major volumes, its overall "bulk", and how it sits on the site. Elements that are typically used to define building form and massing include the roof form, as well as wings, ells and other projecting elements, such as bays. New buildings with form and massing similar to adjacent construction will be more compatible with the surrounding neighborhood.

The one-story residence is not appropriately scaled nor does it have appropriate form and massing for the streetscape. The form has a horizontal rather than vertical emphasis. The building to the right has a similar scale and form to the existing buildings.

The NHC / HDC encourage:

- Constructing a new building with similar form and massing to buildings on adjacent sites
- Constructing roof forms, wings, ells and bays and other projecting elements that are similar to those found on the block of the proposed building
- Matching adjacent cornice heights

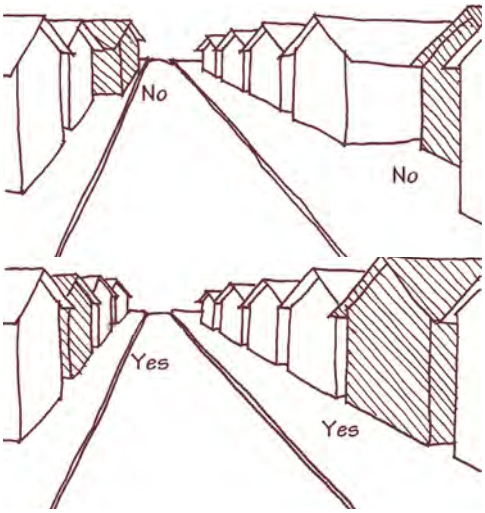


The one-story, "L"-shaped building to the left is of a similar form and mass to other buildings along the streetscape. The 2 1/2-story building to the right has a much more complex form and is substantially more massive than those along the street.

Setbacks: Yards (Front, Side and Rear)

New construction should reflect prevailing setbacks and yard dimensions (distances between the building and the property line, adjacent buildings, street and/or sidewalk) that are determined by zoning requirements. Physical elements that define historic properties and buildings create visual continuity and cohesiveness along a streetscape. These elements typically include walls, fences, building façades, porches and balconies. A consistent setback maintains the visual rhythm of the buildings and site elements in the neighborhood and makes new construction more compatible in its setting.

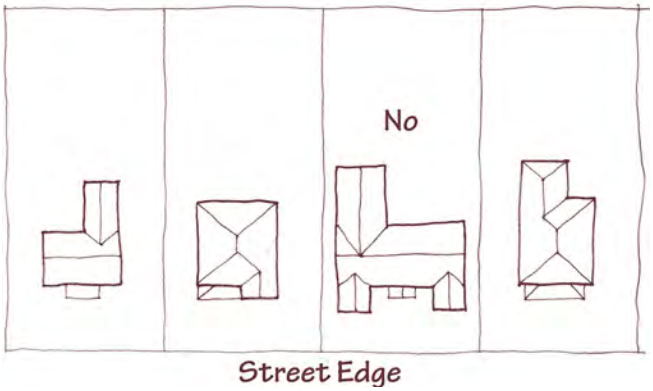
New construction should not step forward or recede back from adjacent buildings on the streetscape.



New construction should match prevailing setbacks along a streetscape and should not step forward or back from adjoining buildings.

The NHC / HDC encourage:

- Keeping the visual mass of the building at or near the same setback as buildings on adjacent sites
- Keeping landscape elements, such as walls and fences, and projecting elements, such as porches and balconies, at setbacks similar to those of adjacent buildings



Although the new building might meet setback requirements, its footprint greatly exceeds its neighbors and is inappropriate.

Site Coverage

The percentage of a lot that is covered by buildings should be similar to those of adjacent lots. Although City of Newton Ordinances regulate the maximum allowable coverage area and minimum setbacks, the overall building-to-lot area should be consistent along a streetscape. If parcels are combined for a larger development, the site coverage proportions should be minimized by breaking large building masses into smaller elements to be more compatible with adjacent buildings.

The NHC / HDC encourage:

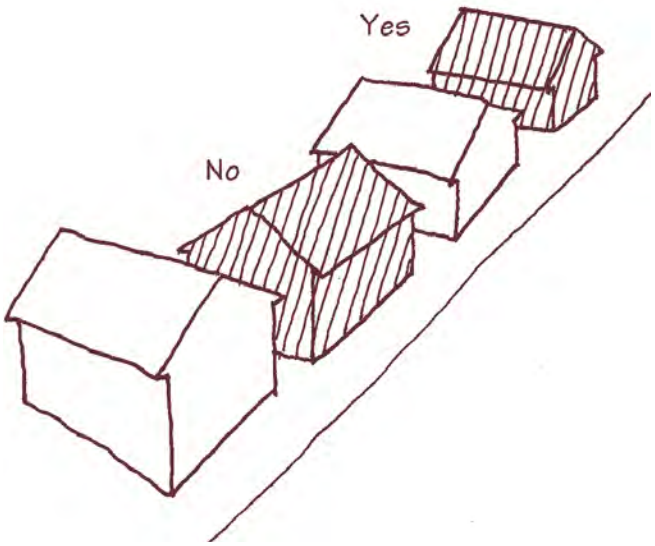
- Maintaining the building-to-lot proportions found on adjacent lots
- Adjusting the massing to suggest building-to-lot proportions found on adjacent sites
- Screening parking, mechanical equipment and garbage collection from public view with walls or fencing

Orientation

The principal façade of new construction should be oriented in the same direction as the majority of the buildings on the streetscape, with main entrances located on the principal façade. In the case of new construction on a corner site, the front façade should generally face the same direction as the existing buildings on the street and follow the rhythm of the streetscape.

The NHC / HDC encourage:

- Orienting the primary façade and principal door parallel with the street



The orientation of the existing building has the gable end facing the street. In cases where there is an overwhelming existing orientation, it is recommended that new buildings be similarly oriented.

Architectural Elements and Projections

Throughout Newton's neighborhoods, the rhythm of the streetscapes is highlighted by the projection of porches and balconies to relieve otherwise flat façades. At the roofline, extended eaves, projecting chimneys, dormers and parapets contribute to a building's overall shape and silhouette. The choice, size, location and arrangement of elements in a proposed building should reflect those of surrounding buildings. In most cases, these projections are parallel to the street and provide shelter for the primary building entrance. In the case of porches, the entrances are generally raised a few steps above ground level.

The NHC / HDC encourage:

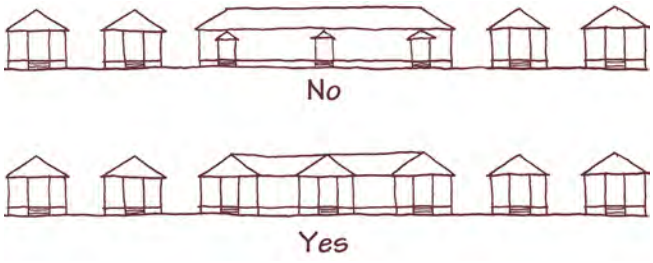
- Constructing a building with an architectural element or projection designed and detailed similarly to or more simply than those found at neighboring buildings
- Constructing porch floor and ceiling heights at similar heights to those found on neighboring buildings where permitted by code

Alignment, Rhythm and Spacing

Although the architecture of Newton is characterized by great variety of building types and styles, within each block there tends to be consistency in façade proportions and the space between buildings. The consistent spacing establishes a rhythm which should be applied to new construction. This rhythm and spacing not only refers to the building, but also the porch projections along the streetscape.

The NHC / HDC encourage:

- Aligning the façade of a new building with the façades of existing adjacent buildings
- Aligning roof ridges, porches, cornices, eaves and parapets with those found on existing adjacent buildings
- Constructing new buildings that have similar widths and side yard setbacks relative to neighboring buildings
- Constructing new buildings larger than those on adjacent sites, if the larger building is visually divided to suggest smaller building masses



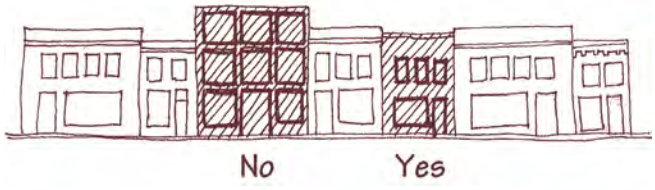
New, larger-scale buildings should be visually divided to suggest the rhythm and spacing of buildings on the streetscape. The projecting porches on the lower example suggest multiple residences of spacing similar to adjacent buildings.

Façade Proportions; Window and Door Patterns

The rhythm and pattern of principal façades of new construction should reflect and maintain neighborhood patterns. Across the width of a façade, rhythm and patterns typically include the number of bays and the location and spacing between doors, windows, shutters and blinds. There are also vertical components of rhythm and pattern. These include the distance of the first floor or porch above ground level, building floor-to-floor heights, cornice heights and the distance between rows of windows. In some instances, where the proposed use and scale of a new building prevents maintaining rhythms and patterns, the property owner is encouraged to incorporate detailing to suggest them, such as pilasters that give the impression of bays or multiple buildings.

The NHC / HDC encourage:

- Constructing a new building whose façade height and proportions are similar to existing adjacent buildings
- Using similar proportions, sizes, locations and numbers of windows and doors as adjacent sites
- Installing stylistically compatible windows and doors with those found on existing neighboring buildings



This streetscape generally has first floor storefront windows and doors, with smaller punched windows at the upper floor, which is similar to the example at the right. The building at the left has a grid pattern of large windows at each of the floors and is inconsistent with the streetscape.

Trim and Details

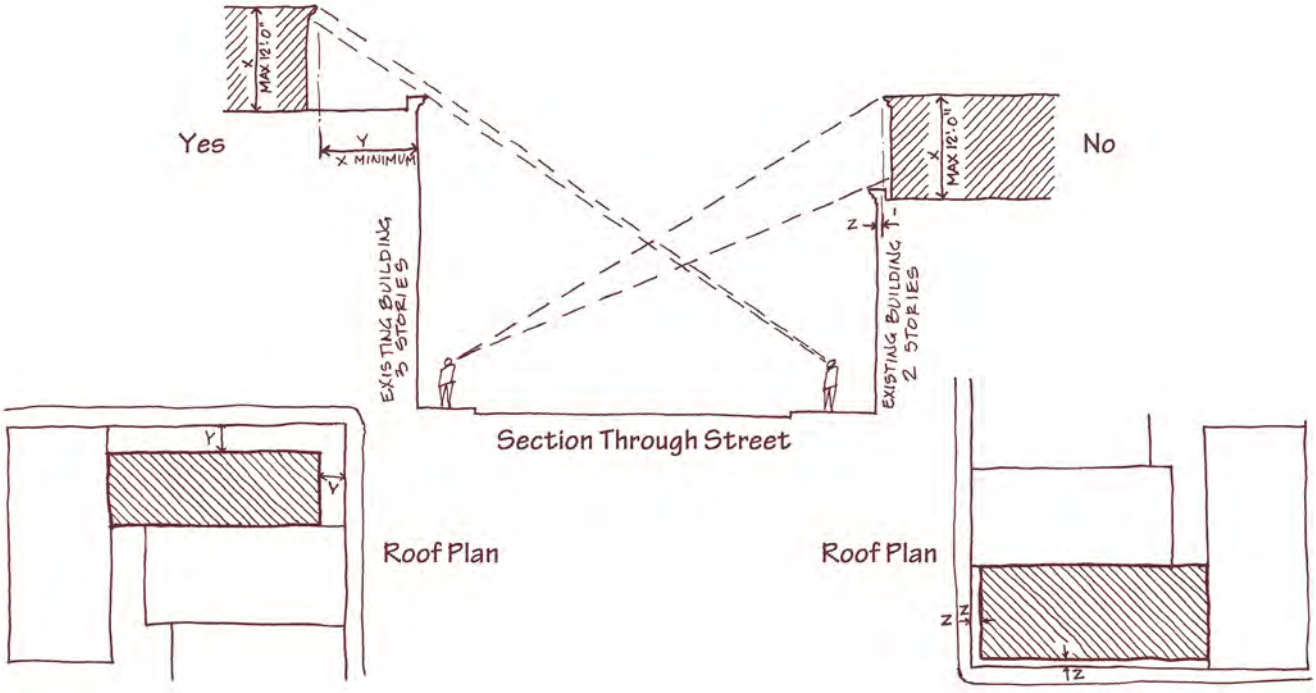
Trim and details include the moldings, decorative elements and features of a building that are secondary to major surfaces such as walls and roofs. Historically, they were often installed to serve functional needs. Over time, trim and details were modified to enhance the building type and style. Trim is decorative and often serves to infill or provide a transition between different materials or building elements such as walls and windows. Functional and decorative detail elements include cornices, lintels, balustrades, chimneys, shutters, columns, posts and other common architectural features. For example, louvered shutters visually frame a window opening, provide security, and can regulate light and air when closed. By contrast, shutters screwed into a building wall do not serve a functional purpose.

In most cases, the exterior details and forms of new construction should provide a visual link to neighboring historic buildings. In the same way that new buildings should be compatible but not necessarily copy historic buildings, new details should be compatible but not necessarily copy historic trim and details. However, existing details and trim on other buildings may be used as the basis for those on new buildings. The trim and details of new construction should be used to accomplish purposes similar to those used historically, both functionally and decoratively. When installed, they should unify a building and should be compatible with the context of the neighborhood.

Materials

The materials used in the construction of a new building, including walls, roofs, windows, doors, trim, porches and other exterior visible elements, contribute to a building's character and appearance. Typically, materials for new construction should match those predominantly found on surrounding buildings. However, materials need not be identical to those found locally if they are complementary, particularly along streets where existing buildings are of diverse materials.

Inappropriate materials include those which unsuccessfully pretend to be something they are not, such as plastic "bricks," aluminum or vinyl "weatherboards," or synthetic stucco and EIFS. These imitations fail to produce the texture, proportions and colors of the real materials. It is important to note that the size, texture, color and other characteristics of exterior materials can be as important as its composition.



Rooftop additions must be set back from the street walls of the existing building by a minimum of the proposed height of the addition, (i.e. 12'-0" high rooftop addition must be set back from the street wall a minimum of 12'-0".) Rooftop additions on buildings less than 3 full stories in height are discouraged, since their visibility from the street tends to be much greater.

ROOFTOP ADDITIONS (ALL)

Rooftop additions are often proposed as a way to increase the square footage and floor area ratio of existing buildings. This method of adding space to buildings has predominantly occurred on commercial and institutional buildings or on conversions from commercial and warehouse buildings to other uses.

When considering rooftop additions, it is important that the historic integrity of these structures and areas be maintained. It is equally important that additions, when appropriate and permitted, contribute to the character of the area and respect the design and context of the building and its streetscape.

When reviewing rooftop additions, applications are considered on a case by case basis. An approved rooftop addition at one location should not be considered as a precedent or be construed to mean that new proposals will automatically be approved. Factors considered in the review of rooftop additions include:

- The significance of the building or site;
- The location of the building and site;
- The height of the existing building, the proposed addition and surrounding buildings;
- The visibility of the proposed addition; and
- The architectural treatment of the proposed addition and its compatibility with the existing building. It should not be obtrusive or detract from the architecture of the existing building or the surrounding Local Historic District, streetscape or adjacent buildings.

ROOFTOP ADDITION GUIDE (ALL)

In limited circumstances, proposals for rooftop additions will be considered that do not conform to these *Guidelines*. However, excellence in design and the architectural character of the existing building will be strong factors in the review.

It should be noted that all rooftop additions must comply with the City of Newton Zoning Ordinances or will require a special permit and/or variance for height limits and/or floor area ratio.

The NHC/HDC discourage:

- Rooftop additions on historically significant buildings
- Rooftop additions on buildings of less than 3 full stories in height
- Rooftop additions on buildings originally constructed as residential buildings
- Rooftop additions on buildings that are individually listed on the National Register of Historic Places or have Landmark status
- Rooftop additions on a roof with a pitch greater than 3" vertically in 12" horizontally and an existing parapet less than 18" in height
- Roof additions greater than 1-story and 12'-0" in height, with roof forms other than flat roofs
- Elevator penthouses and service additions or equipment that exceeds 12'-0" in height

This historic secondary building in Newton Upper Falls is setback from the street, and is compatible with the main house in its form, massing, materials and details.

SECONDARY BUILDINGS & STRUCTURES (ALL)

Many properties in Newton include more than a single building. In many instances, secondary buildings, structures and landscape features are also present and contribute significantly to the overall property, setting and historic context. Secondary buildings or structures in Newton most typically include, but are not limited to garages and sheds.

Secondary buildings and structures can contribute significantly to our understanding of Newton's history and character. Although most of Newton's secondary buildings were designed to be utilitarian, in many cases buildings associated with residences such as garages were constructed to reflect or be complementary to the property's principal building. These similarities can include form, materials and detailing. A secondary building or structure may be significant if it was:

- Constructed at the same time as the principal existing building on the site
- Constructed after the principal building on the site but was used for a significant function
- Built to represent an important architectural design or construction method
- Associated with an important event or person related to the property
- Built incorporating distinctive characteristics of form, style, materials or detailing or shares those characteristics with other buildings on the site

The NHC/HDC encourage:

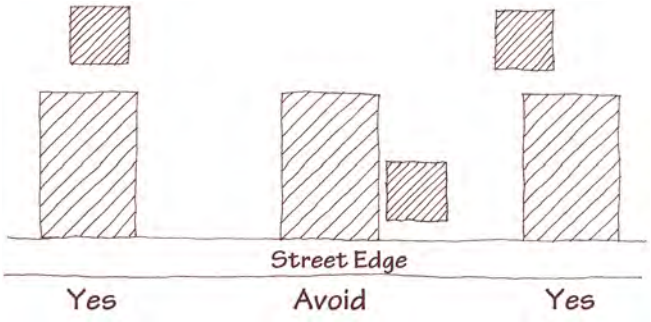
- Maintaining significant secondary buildings and structures as carefully as principal buildings
- Carefully maintaining significant and unique details at secondary buildings and structures including cupolas, barn doors, overhead doors, etc.
- Adapting functionally obsolete buildings for new uses (AO)

The NHC/HDC discourage:

- Demolition of significant secondary buildings and structures

NEW SECONDARY BUILDINGS & STRUCTURES (ALL)

Like additions, new secondary buildings and structures should be subordinate to and visually compatible with the primary building without compromising its historic character. Although the types and locations of these features are limited by the Newton Zoning Ordinances, ideally the secondary building or structure should be located so it is not visible from the street or if that is not possible, so that the visibility is limited. Please contact the Department of Planning and Development at (617) 796-1120 to discuss applicable regulations for proposed secondary buildings and structures.



The visibility of the secondary buildings or structures at the right and left is limited from the roadway. The secondary building or structure in the middle is very visible from the roadway and should be avoided.

The NHC/HDC encourage:

- Locating secondary buildings and structures, including garages, storage buildings, sheds, animal shelters, play houses and pool houses at the rear of the main building and away from the principal entrance or street elevation
- Designing new secondary buildings and structures to complement the period and style of the principal building and other buildings on the site; this includes using similar form, materials, colors and simplified detailing
- Construction of new secondary buildings in a manner that does not damage other resources on the site, including archaeological resources

The NHC/HDC discourage:

- Construction of new secondary buildings or structures in a location that is highly visible from public thoroughfares when less prominent locations are available
- Pre-manufactured metal sheds and outbuildings

The visibility of garages and other secondary buildings from the street should be minimized whenever possible.

ARCHAEOLOGY & EXCAVATION (PR, LL)

It is recommended that property owners treat below-grade areas with potential resources carefully. Once a site has been disturbed without proper care, the ability to understand the site through professional interpretation might be lost forever.

Many of the City's properties, particularly those near water, may have archaeological deposits. These deposits can include Native American shards and objects as well as remnants of earlier buildings and related construction, such as wells and privies, that might yield additional materials such as discarded household items and animal remains.

If the construction of a new building or addition will require substantial excavation on a previously undisturbed site, there is potential to destroy important archaeological resources.

It is recommended that property owners with known archaeological resources locate new construction or ground disturbing activities in a manner that avoids affecting the archaeological resource. If preservation in place is not feasible, then the archaeological site should be left undisturbed until it can be professionally excavated and recorded. The NHC/HDC encourage property owners to contact the PDD at (617) 796-1120 or the Massachusetts Historical Commission at (617) 727-8470 for additional information.

BUILDING RELOCATION (ALL)

It is always preferable to retain a building in its original historic setting; however, there may be rare circumstances when that is not feasible. This includes buildings located within a flood plain or buildings in a location that would be disturbed by an infrastructure project such as road widening.

When retaining a historic building at its original site is not feasible and all other alternatives have been explored, relocation may be considered. It is important to remember that buildings are best appreciated within the appropriate setting and duplicating the major elements of that historic setting should be considered.

The NHC/HDC encourage:

- Preservation/rehabilitation of historic buildings on their original sites
- If relocation is necessary, selecting a nearby site with characteristics similar to the original site including elevation changes and landscape
- Locating the building in a setting similar to the original site including orientation and distance from the roadway, and proximity to trees and other landscape features
- Relocating related resources and site elements such as secondary buildings and structures, walls, fences and walkways to the new site to re-establish similar relationships

The NHC/HDC strongly discourage the demolition of significant buildings or features. Demolition is an irreversible action that destroys and alters the character of the property, streetscape and surrounding area.

The NHC/HDC discourage:

- Relocation of historic buildings if preservation/rehabilitation in-place is feasible
- Altering the historic spatial relationship between the relocated building and its surrounding historic features

DEMOLITION OF HISTORIC RESOURCES (ALL)

Once resources or buildings that contribute to the heritage of the community are destroyed, they cannot be replaced. The demolition of all or portions of resources on properties or within a historic area is considered a drastic action since it alters the character of the streetscape, surrounding buildings and the demolition site. This could represent a lost educational resource for the community whether the building was an example of past construction techniques, or has associations with a significant individual or event in our history. As a result, demolition of significant buildings within a historic area is rarely considered to be an appropriate option.

The NHC/HDC encourage:

- Evaluating the significance of the historic resources
- Exhausting all options for reusing a historic resource including relocation prior to considering demolition
- If a building will be lost to demolition, salvaging significant historic building materials / features

Demolition is not recommended unless:

- The proposed demolition involves a non-significant portion of the building, and the demolition will not adversely affect those portions that are significant
- The proposed demolition involves a non-significant resource and the demolition will not adversely affect significant parts of the site

Demolition of a designated historic building or structure is rarely approved. Applicants for demolition should consult the *Guidelines Introduction, Page 6* for more information on the Demolition Review process in Newton.

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

City of Newton
Historic Preservation

Guidelines for Architectural Styles

This house in Newtonville is an example of the Colonial Revival architecture prevalent in Newton.

PURPOSE

These *Guidelines* were prepared to assist property owners in understanding the historic character of their property when considering alterations, repairs or changes to their property. 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 Districts 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 though 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.

UNDERSTANDING THE CITY OF NEWTON'S ARCHITECTURAL STYLES

The development and architectural heritage of the City of Newton includes both high-style and vernacular buildings. The term "vernacular" suggests that they were based upon traditional or regional forms without being designed by an architect or similarly trained individual. As a result, many vernacular buildings share common floor plans and are relatively simple in form with embellishments that are reflective of the period or popular styles of the day.

Styles can be difficult to define because of changes over time. As the prosperity of Newton's residents flourished and a family's needs grew, buildings were commonly enlarged and houses updated to meet the tastes of residents. Some original buildings were integrated into new construction or expanded and updated for current styles - such as the adding of Italianate brackets or turned posts to porches of an earlier period to make a house appear more "Victorian." As a result, many houses reflect multiple time periods and might not be easily categorized as reflecting a single or "pure" style.

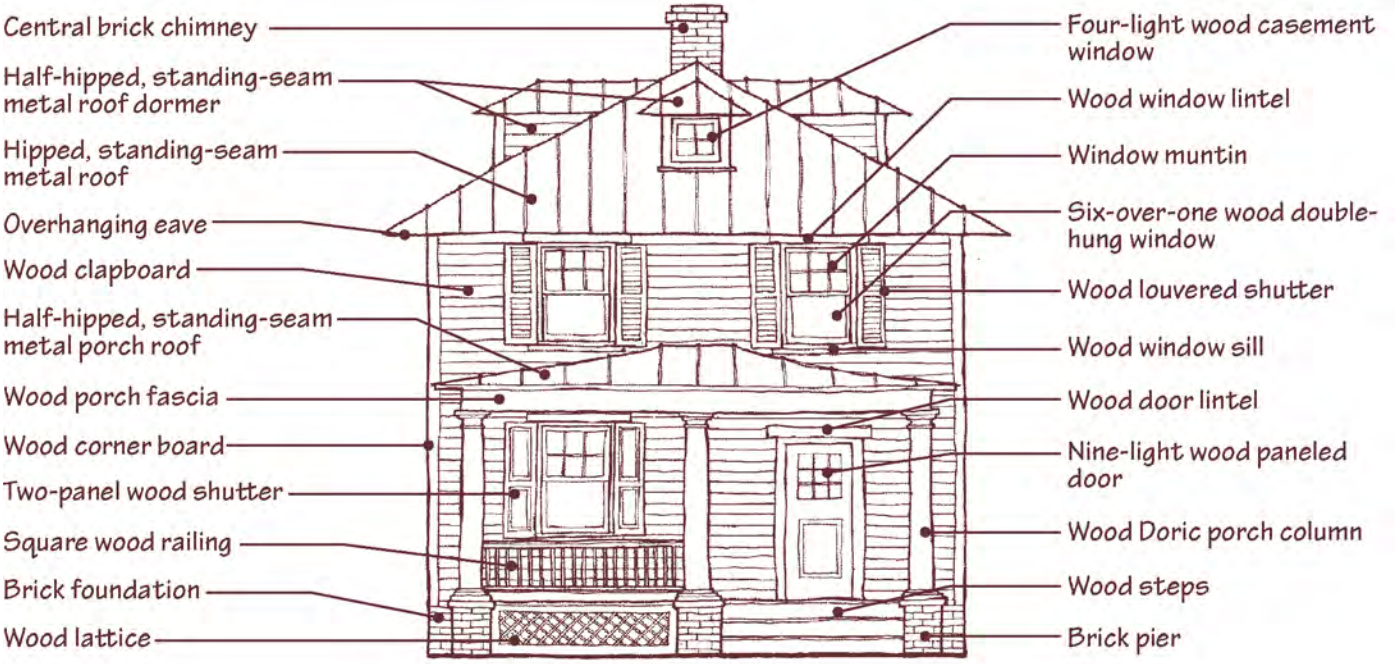
It is hoped that the images depicting the variety of the City of Newton's architectural styles and the lists of locally found features will help residents identify many of the character defining elements of City buildings.

This section is not meant as an exhaustive list of all of the architectural styles present in Newton; rather, it represents a sample of several of the most common styles.

Vernacular buildings like this Queen Anne house in Auburndale, are also an important part of Newton's architectural heritage.

GLOSSARY OF ARCHITECTURAL TERMS

The following diagrams represent composite buildings, and provide a basic vocabulary of architectural elements and terms. Please refer to the individual *Guidelines* for additional information.



EARLY AMERICAN HOUSES: GEORGIAN / FEDERAL

Early American houses in Newton are typically simple one- or two-story boxes, with symmetrical doors and windows. They are typically two rooms deep in their original plan, with side-gable roofs, although hipped roofs and gambrel roofs are also common. They tend to feature massive, prominent chimneys, usually of brick. Windows are generally double-hung with many small panes, and doors are typically paneled.

This house in West Newton is a good example of the Georgian Style, with a pedimented central entrance, a paneled wood door, and double-hung windows.

GEORGIAN/FEDERAL

- Constructed in the late-18th to early-19th century
- 1 or 2 stories in height
- 1 or 2 rooms deep in plan
- Side-gable, hip or gambrel roof
- Little or no overhang at the gable ends
- Minimal cornice detailing
- Massive multiple brick chimneys
- Multi-paneled double-hung windows
- Paneled doors

This Federal-Style house in Chestnut Hill demonstrates the symmetrical plan, minimal cornice detailing, and brick chimney common to the style.

ROMANTIC HOUSES: GREEK REVIVAL

Romantic houses in Newton, constructed before the Civil War (c1820 - 1860), include a range of styles.

Greek-Revival buildings typically include low-pitched gable or hipped roofs, pedimented gable ends, simple bands at the eaves, entry porches with Classically-styled columns and horizontally spanning entablatures, and multi-paned, double- or triple-hung windows. Earlier examples might include semi-circular or elliptical fanlights.

Saint Elizabeth's Center, in Newton Upper Falls, is a good example of Greek-Revival Architecture, with its front-gable roof, Classical columns and large multi-pane windows.

GREEK-REVIVAL

- Constructed 1830-1860
- Symmetrical façade
- Gable roof
- Classical columns and/or pilasters
- Pedimented gables
- 2-story entrance porch or full-width porch
- Paneled entrance doors with narrow sidelights and transoms
- Multi-paned double or triple hung windows
- Tripartite windows
- Classical detailing

This City Landmark house at 1734 Beacon Street demonstrates Greek-Revival detailing on both of its primary facades, with two-story columns at the side-gable end and a smaller version of the same detail at the covered entry porch.

ROMANTIC HOUSES: GOTHIC REVIVAL / EARLY MILL HOUSING

Gothic-Revival buildings typically have steeply pitched roofs, usually with steep cross gables, decorated vergeboards, entry or full-width porches and Gothic (flat pointed) arches at windows, doors and porches.

The early mill-housing type, while constructed during the same time period, is much simpler and less "styled", generally including side-gable roofs, symmetrical arrangement of doors and windows, and paired entrances with classically styled surrounds.

The majority of Gothic-Revival structures in Newton - such as this house in Auburndale - are in the style known as Carpenter Gothic, in which Gothic details such as decorated vergeboards and finials are constructed in wood (note that the porch enclosure in this example is a later alteration).

GOTHIC-REVIVAL

- Constructed 1840-1880
- Steeply pitched roof, usually with steep cross-gables
- Decorated verge boards
- Gothic detailing, such as pointed-arch motifs
- 1-story porch
- Bay windows

This multi-family residence in Newton Upper Falls demonstrates the simple side-gable roof and symmetrical plan (including paired central entrances) typical of Newton's early-19th century mill-housing type. It also includes simplified Romantic (Greek Revival) details, such as the gable-end returns.

EARLY MILL HOUSING

- Constructed 1830-1860
- Side-gable roof
- Plain utilitarian buildings
- Simple, symmetrical plan, often with two chimneys
- Twin entrances for multiple-family occupancy
- Wood siding and trim
- Simplified detailing

VICTORIAN ERA

There are several stylistic types that fall under the general heading of "Victorian", each with its own character-defining features. These include: Second Empire, Stick, Carpenter Gothic, Queen Anne, Shingle Style, Italianate, Eastlake, Gothic Revival, Victorian Gothic, Richardsonian Romanesque and Vernacular (or Folk) Victorian. These pages highlight the Victorian-era styles most common in Newton.

This Victorian-Era house in Auburndale features common Italianate characteristics, including the low-pitched roof with heavy bracketed eaves, tall narrow double-hung windows and elaborate wood window surrounds.

ITALIANATE

- Constructed 1840-1890
- Flat or low-pitched roofs
- 2 to 3 stories in height
- Overhanging eaves with brackets or highly molded cornices
- Tall narrow windows, generally 1/1 or 2/2 double-hung, commonly with arched or rounded tops
- Elaborate window hood moldings
- Restrained porch with square posts
- Heavily molded doorways with single or paired doors

This Second-Empire house in Auburndale features a mansard roof, with heavy bracketed eaves, prominent dormers, elaborate window hood moldings and tall narrow windows.

SECOND EMPIRE

- Constructed 1860-1890
- Mansard roofs with dormers, often with patterned slate
- Bracketed cornices and overhanging eaves
- Tall, narrow windows, generally 2/2 double-hung, often paired
- Elaborate window hood moldings
- Restrained porch with square or turned posts
- Heavily molded doorways with single or paired doors, often glazed

Although each of the Victorian-era stylistic types has its own characteristics, there are similarities that tend to be present in most Victorian-era architecture. These similarities include asymmetrical façades, multi-colored and/or multi-textured wall surfaces, complex roof forms, ornamental brackets and trim, projecting porches and bays, and tall 2/2 or 1/1 windows, in both single and grouped configurations.

This house, located in Newtonville, demonstrates the steeply pitched, irregular roof, full-width porch that wraps around the side elevation, and prominent turret that are common features of Queen-Anne homes.

QUEEN ANNE

- Constructed 1880-1910
- Steeply pitched roof of irregular shape, often with patterned shingles
- Prominent front-facing gables/dormers
- Cut-away and projecting bay windows, breaking up flat wall surfaces
- Asymmetrical facades
- Partial or full-width one-story porch
- Round/octagonal turrets

This vernacular Victorian house with Queen Anne detailing in Newton Upper Falls demonstrates the traditional front-gable roof house form, with applied Victorian-period detailing. Note the decorative patterned shingles at the frong gable end and over the side elevation bay.

VERNACULAR VICTORIAN

- Constructed 1870-1910
- Traditional house form with applied Victorian detailing at porches, cornices and gable ends
- Gable or cross-gable roof, possibly with dormers
- 1-3 stories in height
- Overhanging eaves, possibly with brackets or highly molded cornices
- Spindlework porch detailing or possibly jigsaw-cut trim

COLONIAL REVIVAL

During the last decades of the 19th century and continuing through the first half of the 20th century, American residential architecture began to trend towards historical interpretations of European architecture and colonial era buildings. Homes constructed in this style include stylistic elements from a range of precedents, combined and re-imagined, often at an exaggerated scale. As a whole, Colonial Revival architecture is the most ubiquitous architectural style in the United States.

This Dutch-Colonial Revival house in Auburndale features a side-gambrel roof (with full-width dormer) and a prominent central front entry door.

COLONIAL REVIVAL

- Constructed 1880 - 1950
- 1 to 2-1/2 stories in height
- Colonial Revival roof forms including gable, hipped and gambrel
- Accentuated front entry door with decorated hood, porch, transom window, sidelights
- Single or paired multi-paned double-hung windows
- Materials including stone, brick, stucco and wood clapboard for the wall surfaces, slate or wood shingles for the roof (or synthetic alternatives)

This Colonial-Revival house in Chestnut Hill borrows from the Greek classical style, with engaged pilasters and pedimented entry.

TUDOR REVIVAL

While Colonial Revival homes dominated American domestic architecture in the first half of the 20th century, there was also a movement of period houses in alternate styles including the Tudor-Revival style house, which is common in Newton.

Tudor homes are identified by their steeply pitched roofs, prominent cross gables, half-timbering, tall narrow multi-light windows and massive chimneys, often crowned with decorative chimney pots.

TUDOR REVIVAL

- Constructed 1890-1940
- Steeply pitched roofs with prominent cross gables
- Brick or stone lower level
- Half-timbering at upper floors and gable ends
- Massive chimneys
- Slate roofing
- Tall, narrow multi-light windows, often in pairs or sets of three

This Tudor-Revival home in Auburndale includes a prominent front entry with tudor detailing and triple windows

This Tudor-Revival home in Chestnut Hill features steeply pitched roofs, prominent cross-gables, decorative half-timbering, multi-paned windows, and brick lower floor distinctive of the style

BUNGALOW/CRAFTSMAN

Another common house type in the first half of the 19th century, while less common in Newton than Tudor-Revival houses, is the Craftsman and Bungalow style.

Bungalows are characterized by a low, broad form; materials expressive of their natural state to harmonize with the landscape; free-flowing floor plans with a central dominant fireplace; and little applied ornament. Typical features include low-pitch gable, or less often hipped, roofs with full or partial-width porches, often recessed under the principal roof, and single and grouped multi-paned window sash. Craftsman houses incorporate Arts-and-Crafts inspired ornament and trim.

BUNGALOW/ CRAFTSMAN

- Constructed 1900-1940
- 1 to 1-1/2 stories
- Gable roof with exposed rafters at overhanging eaves and prominent chimney
- Porches supported by posts extending to the ground or to a knee wall
- Single or grouped multi-paned windows
- Simple detailing
- Natural materials

This bungalow in Auburndale features a gable roof, wide and shallow shed-roof dormer, and a full-width, recessed porch supported by columns extending to grade

This large Craftsman house in Auburndale illustrates the use of natural materials - in the stone chimney - and the multi-paned windows typical of the style.

MID-20TH CENTURY & MODERN STYLES

Since World War II, a variety of contemporary styles have become common in American architecture, including Ranch homes (one story houses with low-pitched roofs and long asymmetrical facades), Split-Level homes (similar to Ranch, but with sunken garages and half-story wings), Contemporary (modern in appearance, with flat roofs, large overhangs and significant glazing), Shed (the combination of several geometric forms with shed roofs), and Capes (one-and-a-half story houses with gable roofs).

International-Style buildings - such as this City Landmark at 12 Drumlin Road - are relatively rare in Newton and throughout the United States. The flat roof and irregular massing and windows are similar to Contemporary homes, but are combined with a stark white exterior and minimal details.

MODERN STYLES

- Constructed 1945 to present
- Stock building styles
- Generally one or two stories
- Simple trim and detailing
- Metal- or wood-frame windows
- Wide variety of styles reflecting changing and eclectic tastes
- Variety of roof forms, window types and materials
- Asphalt shingles at sloped roofs

This Contemporary home in Chestnut Hill features irregular geometric shapes, varied window openings and a combination of exterior cladding materials.

This house in Newtonville is an example of the Split-Level home that became common after World War II, with a low-pitched roof, half-story wing and sunken garage.

DETERMINING A BUILDING'S STYLE

When trying to determine a building's style, it is helpful to know the original dates of construction and any major additions. If this information is not available, consider the major forms of the building, such as the roof shape and composition of major volumes, and then consider the individual features such as the porches, windows, and doors to try to identify the style. When trying to determine a building's style, it can be helpful to keep in mind:

- Style is not a function of building use - churches, schools, courthouses and residences can be of various styles
- Style is not a definitive function of period - multiple styles tend to overlap in any given period, and although certain styles were most popular during a specific period, property owners often continued to build in that style
- Styles blend into each other, where specific features from an earlier or different style will be incorporated into a building of an altogether different style to achieve a certain effect or design
- Several of Newton's historic buildings were stylistically simplified because they were constructed by homeowners or builders with limited budgets and limited knowledge of high styles and detailing

Some buildings can be difficult to classify, such as this Renaissance Revival church in Upper Falls which has Greek-Revival features (Corinthian columns and gable pediment) and Italianate features (the hip-roofed tower with paired brackets).

Often, additions or alterations to historic buildings can make it difficult to assign a single style. This Italianate house at 410 Newtonville Avenue - which has a preservation restriction held by the City - has a turret with Queen-Anne detailing that was added as a later alteration.

- Many of Newton's buildings evolved over a period of time and earlier houses could have been subsumed into larger buildings or decorated to appear more up to date and "stylish"
- Original elements may have been removed, replaced or modified so that they are no longer in keeping with the characteristics of the original style - such as the replacement of multi-paned windows with 1/1 windows at a Greek-Revival style building or the removal of porch brackets at an Italianate building

Some buildings defy any one style "label" and are difficult or impossible to classify. It is often the case that previous owners made choices or alterations based upon personal tastes, needs, economy or whimsy. It is more important to identify what the most significant remaining features of a building are, and consider and protect those features when planning changes, than it is to categorize a building by a style label.

The types and styles in this section are those that occur most frequently and whose description will be most useful to the typical property owner in Newton's Historic Districts. If a specific property does not seem to fit any of the styles described in this section, please consult the books and other resources referenced in the *Guidelines Introduction*.

The PDD staff is available to provide assistance with identifying building styles. Residents are encouraged to reference individual *Guidelines* for architectural vocabulary related to each materials or feature and the *Guidelines Introduction* for a list of architectural style books and architectural dictionaries.

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

City of Newton
Historic Preservation

Guidelines for Commercial Buildings

While Newton's Historic Districts are mainly comprised of residential properties, commercial structures such as this converted mill building in Newton Upper Falls are also an important part of the City's historic fabric.

PURPOSE

These *Guidelines* were prepared to assist commercial and institutional property owners and tenants with information when considering the repair, alteration or installation of storefronts, installation of signs and awnings, and the design of accessible entrances. 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 to potential applicants free of charge.

These *Guidelines* were developed in conjunction with the City of Newton's Historical Commission (NHC), Local Historic Districts 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 though 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.

COMMERCIAL & INSTITUTIONAL PROPERTIES

The economic development of Newton's retail areas and the commercial properties is encouraged by the City. It is recognized that Newton's vibrancy is linked to the viability of its businesses and institutions. Every effort will be made to assist commercial building owners/tenants with revitalizing older retail areas and buildings, helping to attract new customers while promoting an appreciation of historic architecture.

The main goals for commercial and institutional buildings are to:

- Encourage compatibility and provide a visual connection with the historic building and context
- Provide variety and vitality along commercial corridors
- Encourage design flexibility while considering historical appropriateness
- Identify those elements that are integral to the historic streetscape
- Encourage the consideration of how proposed storefronts, signs and awnings relate to each property, the streetscape and the historic context
- Provide respectful, equal access to all commercial and institutional buildings for all citizens and visitors

INFORMATION FOR NEW BUSINESSES

If you are considering opening a new business in Newton, City representatives are available to discuss zoning and other requirements applicable to a specific project. Please contact the Department of Planning and Development at (617) 796-1120 for more information.

All signage and awnings are subject to the provisions of the Sign Ordinance and review by the Urban Design Commission.

This historic storefront in Newton Upper Falls is an important element of the streetscape. Note the location of the commercial signage, applied to both the storefront glass and the storefront cornice above the entry door.

STOREFRONTS

The attractiveness and overall maintenance of a storefront can greatly influence a casual observer's perception of a building and the business within. Because a positive impression can help draw potential customers, regular maintenance and careful design can be positive on the bottom line. The storefront is one of the most significant features of the business it represents, the building it characterizes, and the streetscape it helps define. Storefronts often included large sheets of glass at display windows with minimally sized mullions and often recessed entries. This configuration allowed merchants to maximize the visibility of their wares to attract potential customers.

Historic storefronts were typically constructed of wood, metal (cast iron, bronze, copper, tin, galvanized sheet metal, cast zinc or stainless steel), masonry (brick or stone) and clear, translucent or pigmented glass at transoms. Although the specific configurations of storefronts can vary greatly based upon architectural styles, at different buildings and locations, a common feature is large expanses of glass to display merchandise. In addition, it is typical to have a principal entrance to the commercial space and possibly a separate entrance that includes a stair for access to the upper levels.

In mixed-use structures, such as this store and residence in Newton Upper Falls, often combined a commercial storefront with a separate residential entrance.

STOREFRONT TREATMENT APPROACH (ALL)

Changes to storefronts can be a costly endeavor that if not properly planned might negatively affect a building's architecture or the business located in it. Prior to considering alterations, property owners should identify the key storefront elements and consider options. By carefully studying alternatives, property owners tend to be much happier with the finished results. When contemplating storefront work, the following approach is recommended:

a. **Identify Key Historic Elements:** Develop an understanding of the architectural character of the storefront including the overall size, major divisions or bays, placement of components such as doors, windows and distinctive elements. This can be based on selective removals or documentation such as old photographs or drawings.

b. **Retain, Preserve and Repair:** Once important historic elements have been identified, they should be incorporated into the storefront design. Deterioration of some historic elements might require stabilization, replacement in-kind, or replacement with a similar substitute material utilizing the historic material as the guide.

c. **Replacement:** Replacement of a historic storefront is only encouraged when the existing storefront materials are too deteriorated to be repairable, or when a historic storefront has been encased in a newer storefront and the historic form and detailing are still present allowing for an accurate representation. Replacement of historic storefronts with modern storefront systems is strongly discouraged. However appropriate suitable alternate materials that convey the same historic visual appearance can be used where the use of original materials is not technically or economically feasible.

d. **Reconstructing a New Storefront With Historic Documentation:** If there is no physical evidence of a historic storefront, there might be sufficient historical or pictorial evidence to allow for appropriate reconstruction. Appropriate research is recommended to ensure the greatest degree of accuracy feasible in the reconstruction.

e. **Installing a New Storefront Without Historic Information:** If there is not sufficient information and documentation to accurately reconstruct a storefront, the new design should be compatible in size, pattern, scale, material and color as the overall building and similar storefronts from the period, but have distinctly contemporary characteristics that reflect rather than copy historic storefronts.

HISTORIC STOREFRONT APPEARANCE

Often remnants of earlier storefronts or "ghosts" of earlier materials are concealed under newer storefront materials and careful selective removals can reveal elements or clues. Potential sources of information are old records, photographs or drawings. These can be advertisements or articles, newspapers, previous business promotional materials or postcards.

Simple signs, such as these individual letters on a historic building in Auburndale, can accomplish the goal of signage without compromising the historic building.

TYPES OF SIGNS (ALL)

There are generally two types of signs, those that are attached to the building and those that are freestanding and placed near buildings. New signs can use features similar to traditional signs to both enhance the character of the building and convey the necessary information to the public. The choice between attached or freestanding signs may be based upon the property's specific location, needs of the occupant, and limitations in the City of Newton Ordinances. In particular, free-standing signs require a special permit.

Projecting signs can include information on two faces, attracting potential patrons from both directions.

SIGN MATERIAL (ALL)

Early signs were typically made of wood, either attached directly to the building or suspended from metal brackets. As technology advanced and building styles changed, a wider varieties of materials were used. These included bronze, cast iron, stainless steel, etched or painted glass, leaded glass, gold leaf, tile, terrazzo, concrete, stone, and enameled and metal panels. Each material was popular during particular time periods, and might not be appropriate at all building locations.

Some materials might no longer be practical for signage installations due to limited availability or expense. When using modern materials, care should be taken to select those that offer improved performance, while replicating the appearance of traditional materials. Some modern materials such as plywood may replicate the appearance of a traditional wood sign but will warp or split over time. In addition to materials that appear historic, the NHC/HDC welcome innovative designs and alternate signage materials that are appropriate to the building style and location.

SIGN ILLUMINATION (ALL)

In many instances, available ambient street or storefront lighting can illuminate signs, which is preferred to the installation of additional lighting. The use and placement of sign illumination is subject to approval. Gooseneck lighting or other unobtrusive light fixtures are often the most appropriate choice to illuminate wall signage. Backlit signs are typically inappropriate.

Institutional buildings often include signage. This irregularly shaped sign is located on a historic church in Chestnut Hill.

SIGN SIZE & SHAPE (ALL)

The City of Newton Ordinances regulate the maximum number, size and type of signage. However, the NHC/HDC determines the appropriateness of the placement relative to the building's design.

The NHC/HDC encourage:

- Signage that is compatible to scale of the building, adjacent buildings, the streetscape and adjacent signage
- Small-scale signs for smaller scale buildings and pedestrian traffic, and larger scaled signs that are appropriate to vehicular traffic
- Small-scale signs for primarily residential areas and uses such as professional offices
- Small-scale signs for buildings that require several signs, which can be grouped in a single directory sign for a unified appearance
- Using well-designed smaller signs that can have more impact than a larger sign, particularly in historic commercial corridors, where the means of travel is by foot or slow moving vehicles
- Using a sign's shape to reflect the type of business or institution at the location, increasing its impact

AWNINGS (ALL)

Awnings are a historically popular means of sheltering pedestrians, advertising a business and protecting window merchandise from sun damage, particularly for storefronts oriented to the south or west. Historically, awnings project at a continuous angle away from the face of the building on a metal frame, terminating at a skirt or valance. Awnings can be fixed or retractable in configuration. Retractable awnings tend to be open sided, while fixed awnings can be either open- or close-sided.

STOREFRONT GUIDE (ALL)

The NHC/HDC encourage:

- Following the *Storefront Treatment Approach* on *Page 2*
- Maintaining historic storefront components
- Opening previously closed windows
- Maintaining transparency of street-level windows, rather than covering them with displays/advertisements
- Maintaining the planes of the historic storefront relative to the building façade including flush, projecting or recessed areas such as alcoves

The NHC/HDC discourage:

- Enclosing or removal of elements, such as building cornices, storefronts and angled storefront glazing
- Altering the size or shape of major building forms such as window, door and transom openings
- Installing stylistic elements from periods that are different from the storefront or building and do not complement the overall stylistic expression
- Altering the appearance of a residential building as part of a conversion to commercial use

SIGN & AWNING GUIDE (ALL)

The NHC/HDC encourage:

- Signage that does not obscure or damage architectural features, identifies the business, complements the style of the building and is appropriately scaled for its location
- Sign design that reflects the architectural characteristics with materials that are consistent with the historic character of the building
- Etched-glass or vinyl-appliqué signage or modern, durable sign materials such as Urethane board or MDO board that are similar in appearance to historic materials but offer increased performance
- Existing ambient street light or storefront lighting in lieu of new lighting whenever possible
- Signage lighting styles that are consistent with the character of the historic building including location, orientation and brightness
- Canvas awnings in shapes that correspond with the openings they protect with lettering and logos limited to awning valances

The NHC/HDC discourage:

- Signage that obstructs architectural features or views into the store through storefront windows and glazing
- Exposed conduit, boxes or raceways for signage or lighting
- Neon signs
- New billboards, internally illuminated box signs, LED reader boards, flashing or changeable message signs
- Contemporary or glossy awning materials such as vinyl, plastics or leatherette; internally illuminated awnings; and waterfall awnings

ACCESSIBILITY (ALL)

In addition to the Americans with Disabilities Act (ADA), in Massachusetts there are accessibility requirements governed by the Architectural Access Board (AAB) under the code of Massachusetts Regulations, referenced as 521 CMR 1.00. These requirements seek to improve quality of life for people with disabilities. These accessibility requirements exist so that people with disabilities can participate in everyday activities in their communities, such as working, dining out or shopping. Many businesses and institutional facilities in Newton were constructed prior to the enactment of accessibility regulations and lack features to accommodate people with disabilities, including those who use wheelchairs. Property owners contemplating an accessibility project should consult the ABA and its requirements early in the planning process.

As existing buildings are renovated, they are often required to make accommodations for people with disabilities. One of the most visible exterior alterations required by ADA/AAB is the installation of a wheelchair ramp or lift to provide building access. In many cases, these ramps or lifts have been successfully incorporated at the interior of the building envelope with modification of existing door sills. When installing ramps, it is important to remember that if the ramp is too steep or railings are not secure, it can be hazardous.

The NHC/HDC encourage:

- Retaining the historic entrance stairs and doors
- If access to the front door is not possible, providing a respectful accessible entrance that is located close to the principal entrance, preferably at a secondary elevation, and designed in a manner that is visually unobtrusive and complements the building's style
- Complying with all aspects of the accessibility requirements, while minimizing alterations of the primary building façade and architectural features
- Modifying sidewalk or walkway elevation a few inches, where possible to provide an accessible entry and meet all code requirements
- Installing ramps and/or lifts within the building envelope where it is possible to modify an existing door sill to allow entry at grade
- Installing lift in lieu of a ramp if it would be less obtrusive
- Ramp or lift styles that are compatible with the building
- Railings that are as simple and visually unobtrusive

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

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.

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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	• Sagging or bowing of roof ridge, surface or rafters	□ Can indicate significant structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens
Flat Roofs	• 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	□ Consider patching of seams with compatible materials if area is isolated □ Consider roof replacement if deterioration is substantial or leaking is observed - verify condition of roof substrate
Metal Roofs 60+ years	• Substantial number of rust or corrosion spots • Signs of previous tar patch jobs	□ 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 □ Consider patching with compatible materials if area of deterioration is isolated - verify condition of roof substrate □ Consider roof replacement if deterioration is substantial or prevalent - verify condition of roof substrate
	• Punctures in the metal • Broken joints or seams	□ Consider patching or re-soldering with compatible materials if area is isolated □ Consider roof replacement if deterioration is substantial or prevalent - verify condition of roof substrate
	• Bounce in surface of flat metal roof • Ponding or standing water on surface	□ Consider roof replacement if deterioration is substantial or prevalent - verify condition of roof substrate
Slate, Terra Cotta Tile, Concrete Tile 50+ years	• Laid on open sheathing or batten strips - verify from attic	□ If not, confirm proper ventilation in attic
	• Broken or missing slates or tiles	□ Re-attach, re-secure or replace loose or missing units in kind
	• Units delaminating or flaking apart • Slate or tile particles in valleys, gutters and downspouts or missing	□ Replace deteriorated or missing individual units in-kind □ 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	• Nails popping up or deteriorated	□ Re-fasten or replace affected nails
	• Moss, mold, algae growing on roof surface	□ Clean and treat surface to inhibit future growth □ Trim back overhanging tree limbs to allow direct sunlight onto roof surface
	• Individual shingles are cracked or uniformly thin from erosion • Missing shingles	□ Replace deteriorated shingles with visually similar, non-asbestos roof shingle □ Consider roof replacement if deterioration is substantial or prevalent - verify condition of roof substrate
Asphalt Shingles 20+ years	• 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	□ Replace deteriorated or missing individual shingles in-kind □ Consider roof replacement when over 20% of units are split, cracked, missing or deteriorated
	• Nails popping up	□ Re-fasten or replace affected nails
	• Moss or mold forming on roof surface	□ Clean and treat surface to inhibit future growth □ Trim back overhanging tree limbs to allow sunlight to strike roof surface
Wood Shingles or Shakes 30+ years	• Laid on open sheathing or batten strips - verify from attic	□ If not, provide proper ventilation in attic
	• Moss or mold forming on roof surface	□ Clean and treat surface to inhibit future growth □ Trim back overhanging tree limbs to allow direct sunlight onto 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	□ Replace deteriorated shingles or shakes in-kind □ Consider roof replacement if deterioration is substantial or prevalent
Flashing (Formed sheet metal at joint intersections to prevent moisture penetration)	• 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	□ Consider patching or replacement with compatible materials if area of deterioration is isolated, such as around a chimney □ Consider roof replacement if deterioration is substantial
Roof Projections (Dormer, TV dish, antenna, vent, pipe, skylight, solar or mechanical equipment, lightning rod, cupola, etc.)	• Connections around roof projections are not properly flashed and watertight	□ Consider patching with compatible materials if area of deterioration is isolated □ Consider flashing replacement if deterioration is substantial

MATERIAL / LIFE SPAN	INSPECTION REVIEW	RECOMMENDED ACTION
Chimneys	• 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	□ 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
	• Chimney is not properly capped • Chimney is not properly lined	□ 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	• Clogged gutters or downspouts	□ 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
	• Rusty, loose, askew or tilting gutters or downspouts • Open or missing seams in hanging gutters • Missing sections	□ 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
	• Broken seams in metal lining of built-in box gutter	□ Re-solder open joints □ Consider replacement if deterioration is substantial
	• Water ponding adjacent to foundation	□ 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.

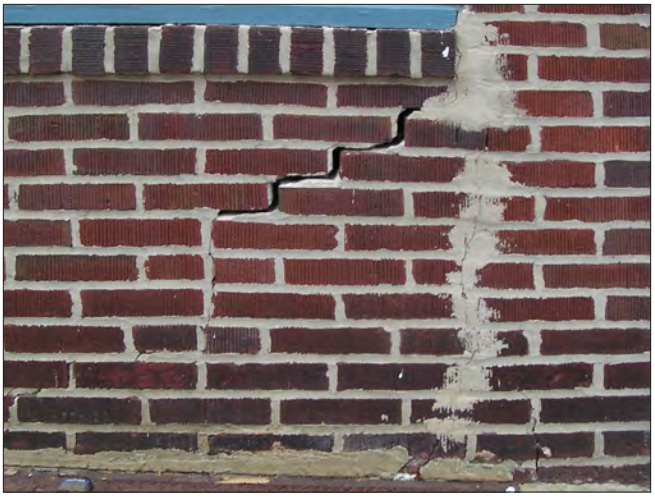
MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Exterior Walls - General	• Exterior walls not plumb or vertically straight • Bulges visible at exterior walls • Door and window frames out-of-square • Siding has wavy surface	□ Can indicate differential or uneven foundation settlement or significant structural 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 *Page 12* for additional information).	• Loose, cracked, missing or open joints at wood siding, shingles or decorative woodwork	□ Could lead to water infiltration and rot - repair or replace in-kind as appropriate □ Apply caulk to open joints - verify compatibility with adjacent materials
	• Loose, cracked, missing or open joints at asbestos siding	□ Fill hole or split with grout of Portland cement and water □ Replace damaged shingles with non-asbestos shingles to match original
	• Thin or worn shingles	□ Attempt patching with compatible materials if area of deterioration is isolated □ Consider replacement in-kind if deterioration is substantial or prevalent
	• Open joints around window and door frames • Open joints between dissimilar materials (such as wood siding and porch roof)	□ Re-caulk, repair or replace deteriorated flashing as appropriate - verify compatibility of caulk with adjacent materials
	• Mold, algae or mildew on siding or trim, especially on north side or shady areas	□ 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
	• Original siding or trim has been covered with vinyl or aluminum siding	□ 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	• Vegetation, such as shrubs, are located immediately adjacent to foundation • Vines climbing on building	□ 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 □ Climbing vines can trap moisture and dislodge plaster and mortar - remove climbing vines
	• Wood is soft when stuck with a small blade or ice pick, particularly window sills, porches, steps, sills and siding (Refer to *Guidelines for Exterior Woodwork*, *Page 4* for wood rot)	□ 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
	• Wood is located on masonry foundation or pier or within 6 inches of ground	□ 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 □ Retain a pest management company to provide regular inspections
	• Signs of dirt veins on exterior walls, particularly near foundation, steps, under porches, etc.	□ Possible indication of termite damage, contact extermination company to determine if active infestation and extent of damage
Windows & Doors (Refer to *Guidelines for Windows & Doors* for more information)	• Windows and doors do not fit or operate properly	□ Verify whether frame is wracked or out-of-square - possibly an indication of differential or uneven foundation settlement or deteriorated wall framing □ Verify whether windows are painted shut □ Verify that hardware (including sash cord or chains) is operational
	• Wood rot, particularly at sills and lower rails	□ Repair or selectively replace deteriorated components in-kind □ Following repairs, verify deteriorated areas are well painted and joints caulked
	• Glass is cracked	□ Replace glazing to match existing
	• Glazing putty is missing, cracked or deteriorated	□ Replace glazing putty - verify compatibility with adjacent materials - older putty can contain asbestos (refer to *Page 12*)
	• Screen or storm windows or doors are missing, deteriorated or non-operational	□ Repair or replace deteriorated units as appropriate □ 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 *Page 12* for lead paint and *Guidelines for Exterior Woodwork* for painting information)	• Chalky or dull finish	□ Surface cleaning might be all that is needed □ If repainting, additional preparation might be required
	• Paint surface worn	□ Wood generally needs repainting every 5 to 8 years
	• Peeling, curling, crazing and blistering	□ Possible indication of a moisture problem - review drainage, potential leaks and vapor barrier in the wall □ 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	• Cracks in masonry wall	□ Can indicate differential or uneven foundation settlement or significant structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens □ Vertical or diagonal cracks or cracks that split individual bricks or stones tend to represent a more significant problem, such as differential settlement □ Horizontal cracks or hairline cracks limited to mortar joints or individual stones or bricks tend to be less severe □ Monitor and photograph condition after repair during each inspection to see if cracks return
	• Bows or bulges in wall plane • Leaning walls	□ Can indicate differential or uneven foundation settlement or significant structural problems - consultation with an architect or structural engineer is recommended, particularly if condition worsens
	• 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	□ Verify water exiting from downspout is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts □ 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 □ Re-grade area adjacent to foundation to direct ground water away from building □ Clean moss or algae from wall surface with low pressure water, with the possible use of detergent and brushing
	• Efflorescence, i.e. water-soluble salts leached out of masonry and deposited on a surface by evaporation, usually as a white, powdery surface	□ Clean efflorescence from wall surface with low pressure water, with the possible use of gentle detergent and a natural bristle brush (not metal) □ Review area for possible additional sources of moisture

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Mortar	• Soft and crumbling • Open joints or broken joint bonds	□ 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	• Spalling, chipping, flaking, cracking or crumbling of surface • Loose or missing stones or bricks	□ Consider patching with compatible materials if area of deterioration is isolated □ Consider replacement if deterioration is substantial
	• Pitted surface from sandblasting or pressure washing	□ 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	• Cracks in surface	□ 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
	• Bulges in wall	□ 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	• Chalky or dull finish	□ Additional preparation might be required prior to repainting - preparation dependent on surface
	• Peeling, flaking, curling and blistering	□ 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
	• Paint surface worn	□ 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	• Surface water and/or groundwater directed towards building foundation	□ Re-grade area at foundation to direct ground water away from building
	• Water ponding adjacent to foundation	□ Verify water from exiting downspouts is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts
	• Vegetation, such as shrubs, are located immediately adjacent to foundation or vines are climbing on buildings	□ 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
	• Tree limbs extend over roof	□ 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	• Metal fences	□ Check for rust spots or bare metal - remove rust and prepare for re-painting
	• Wood fences	□ Check for deterioration, follow recommendations in the *Exterior Woodwork Checklist* on *Page 6* □ Anticipate repainting or staining every 5 to 8 years
Walkways, Patios & Pavers	• Brick, flagstone or concrete pavers cracked or missing	□ Verify the condition of the sub-base and replace deteriorated or missing units in-kind
	• Water ponding on paved surface • Subsidence of paved surface	□ Verify the condition of the sub-base and reset individual units to allow appropriate drainage
	• Vegetation growing between individual units	□ Some vegetation has a substantial root structure that can dislodge individual paving units - remove vegetation if appropriate
Asphalt Paving & Driveways	• Cracked asphalt	□ Seal cracks to minimize potential water infiltration □ Consider sealing or repaving entire surface if cracks are substantial or prevalent
	• Water ponding on paved surface • Subsidence of paved surface	□ 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 basement 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	• 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	□ 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
	• Mildew on underside of roof structure • Dampness in attic space • Overheated attic	□ Verify whether the attic is sufficiently ventilated
	• Broken or missing collar beams • Cracked or sagging rafters	□ Potential structural problem - consultation with an architect or structural engineer is recommended, particularly if condition worsens
	• Inadequate insulation at attic floor or between rafters	□ Install appropriate insulation
Basements and Crawlspaces	• 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	□ Review for potential moisture infiltration □ Verify water exiting from downspouts is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts □ Re-grade area at foundation to direct ground water away from building □ Verify that foundation vents are clear of debris □ Check underground water supply and drainage systems for cracked or clogged pipes □ Re-point areas of deteriorated mortar □ Apply stucco plaster to brick piers □ Retain a pest management company to provide regular inspections and contact immediately for potential infestation
	• Inadequate insulation around pipes, heating and air conditioning ducts	□ Install appropriate insulation - condensation can form on unheated equipment and pipes
	• Cracked foundation wall	□ Refer to *Exterior Masonry & Stucco Checklist (Page 8)*

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.

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

City of Newton
Historic Preservation

Guidelines for Exterior Woodwork

Many of Newton's significant homes - such as this in Chestnut Hill - include significant exterior woodwork.

PURPOSE

These *Guidelines* were prepared to provide property owners with information when considering the repair, alteration or installation of exterior woodwork and trim. 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 Districts 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 though 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.

EXTERIOR WOODWORK

Wood siding, shingles, cladding and trim on a building's wall surface serve both functional and aesthetic purposes. Functionally, exterior woodwork acts as the skin of the building, shedding water and deflecting sunlight and wind. Aesthetically, woodwork is an important design feature that can be applied as siding, shingles, ornamental trim and larger elements such as porches.

Exterior woodwork and cladding:

- Establish a weather-tight enclosure, providing protection from rain, wind and sun
- Are affected by temperature variation and building movement
- Establish a building's scale, mass and proportion, adding visual interest to the streetscape
- Act as important design features, helping to define a building's architectural style and adding pattern and casting shadows on wall surfaces

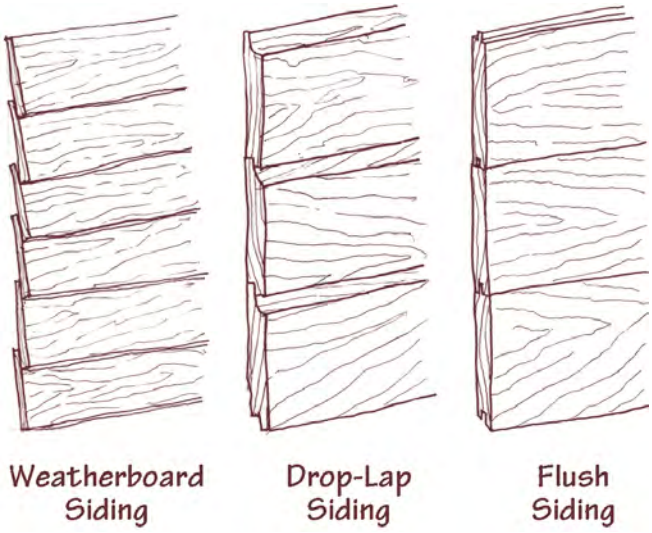
With proper maintenance, exterior wood elements can last for centuries; however, improper maintenance can result in problems and deterioration from water, fungus, mold and insects. Other forms of cladding can also be susceptible to deterioration, dependent on their properties and the installation conditions.

In many Victorian-era homes, such as this example in Auburndale, decorative exterior woodwork is a significant component of the building's architectural style and integrity.

WOOD SIDING TYPES

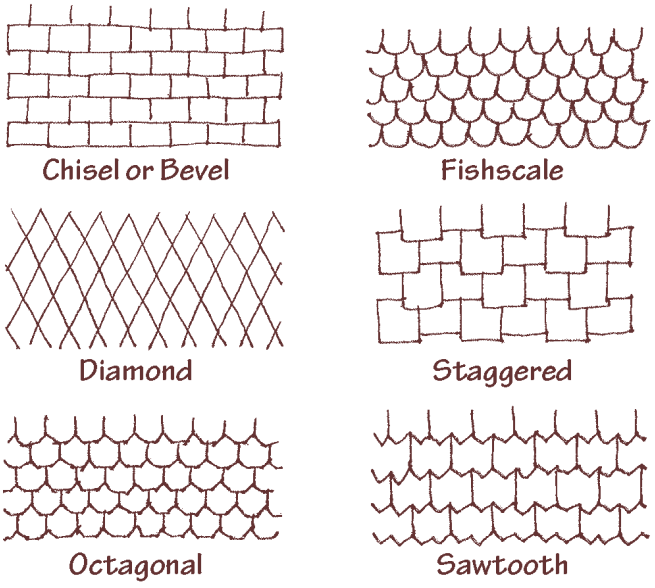
The most common type of wood siding in Newton is clapboard with drop-lap siding and flush siding being more unusual. Weatherboard siding (also known as clapboard or beveled siding), is made from long boards, tapered across the width. Drop-lap siding (also known as German siding), is a flat-faced board with a concave top and notched bottom. Flush siding has tongue-and-grove boards of uniform width.

Other types of wood siding that may be found in Newton include board-and-batten siding and ship-lap siding.



SHINGLE TYPES

Wood shingles provide a highly textured wall finish, and were used as a cladding material most often in Victorian era, Colonial Revival style and Arts and Crafts homes. Similar to clapboard siding, wood shingles are tapered and installed in an overlapping pattern with staggered joints to minimize potential moisture infiltration.



This Tudor Revival house in Chestnut Hill includes a variety of exterior wood elements, including half-timbering, decorative wood brackets, wood lintels and painted wood siding at the gable end.

WOOD ORNAMENT & TRIM (ALL)

Visually, exterior wood trim frames areas of wood siding or shingles and serves as the transition to building elements such as doors, windows, cornices and porches. Functionally, it seals siding and shingles at joints, corners and openings, providing a weather-tight building enclosure. Wood trim includes window and door frames, corner boards, rake boards and wood sills. In addition to wood trim, there are numerous types of wood ornament applied to buildings, including porch posts and columns, brackets, balustrades, newel posts, spindles and other decorative details. Historically, wood trim and ornament profiles, details and sizes varied with building styles and whether a building was "high-style" or vernacular. As a result, wood trim and ornament are considered architecturally significant features.

The NHC/HDC encourage:

- Retaining historic wood trim and ornament
- Following guidelines for maintenance and repair of historic wood trim and ornament as outlined in the *Exterior Wood Checklist* Section, *Page 3*

When replacement of wood ornament and trim is warranted, the NHC/HDC encourage:

- Reusing original window frames and trim when replacing windows, or exactly replicating the dimensions and profiles of original frames
- Using modern composite materials as an alternative to wood only in locations where rot is a severe problem, or in areas that are minimally visible

The NHC/HDC discourage:

- Removing, altering or concealing original trim and detailing including window and door trim, corner boards, soffits, porch posts, railings, etc.
- Applying historically inappropriate ornament or trim or applying it where it did not historically exist

Porches, steps and other areas where the woodwork is laid horizontally or located close to the ground are often first to deteriorate. Ongoing exposure to moisture can lead to rot of the column bases, porch deck and apron.

EXTERIOR WOOD CHECKLIST

Property owners may not notice their exterior woodwork unless a problem occurs, or there is desire to improve the appearance or reduce maintenance. Typical exterior woodwork concerns include lack of regular maintenance, peeling paint, rot or deterioration, infestation, or loose, cracked or missing elements. Hiding these problems with materials such as vinyl without addressing the root cause of the problem results in further deterioration.

Even when poorly maintained exterior wood appears severely deteriorated, it is often not beyond repair. In addition, a deteriorated component or area typically does not necessitate the replacement or covering of all exterior woodwork. In most instances, selective repair or replacement of damaged parts and implementation of a regular maintenance program is all that is required. Full exterior woodwork replacement or encapsulation with artificial siding or another material is rarely necessary and should be avoided whenever possible.

The NHC/HDC encourage:

- Conducting semi-annual inspections of all exterior wood elements to verify their condition and determine maintenance needs. Look for signs of deterioration including excessive paint peeling that might indicate moisture problems. Look for veins of dirt on the exterior walls that might be termite mud tunnels. (Refer to *Wood Rot*, *Page 4*.) Clean exterior surfaces annually in warm weather with a garden hose, household detergent and a bristle scrub brush. Avoid using power washers that can force water into wall cavities through crevices and damage decorative details (AO).
- Maintaining and repainting exterior woodwork on a regular basis. A high-quality paint job can last 5 to 8 years. For best results, address any moisture or deterioration problems prior to painting. Hand scrape and sand where possible to avoid removing or damaging decorative details with power tools or burning. Apply high quality and compatible primer and paint to clean and dry surfaces. Paint colors and luster should be appropriate to the building style (AO).
- Repairing smaller areas of deterioration by reinforcing or patching as required. Small cracks and checks can be repaired with an exterior wood filler, glue or epoxy. Loose elements can be refastened with careful nailing or drilling and screwing (AO).
- Selectively replacing deteriorated wood elements when they are beyond repair. The replacement wood pieces should be the same size, profile and character as the historic wood element. It might be helpful to take a sample of the historic wood to the lumber yard or millwork shop for the best match. Wood filler in the joints between the new and old wood will help provide a smooth finish (ALL).
- Large scale or significant replacement of exterior wood might be necessary if deterioration of exterior woodwork is severe and extensive. Decorative woodwork should be retained whenever possible since it is a character defining element that can be difficult and costly to replace. Replacement wood elements should have the same visual characteristics as the historic woodwork including the size, profile and visual characteristics. Replacement wood siding materials should be installed in the original pattern being as careful as possible to match the original exposures and alignments relative to historic building elements such as door and window frames. Select replacement wood species appropriate for exterior use and location (ALL).

The NHC/HDC discourage:

- Removing or encapsulating siding, trim, decorative features and trim elements such as brackets, spindles, cornices, columns, posts, etc. (ALL)

HIRING A CONTRACTOR

- Repair, maintenance, installation and painting of exterior woodwork can be potentially dangerous work and should be left to professionals
- All contractors are not necessarily experienced in all materials, choose a contractor with demonstrated experience on similar projects
- Verify extent of warranty for materials and labor
- Check references, especially from 5 years prior, to understand how well work has held up
- Hold final payment until work is properly completed

WOOD ROT

Almost all wood rot is caused by fungi that break down dead wood to return it back to the earth. Spores of decaying fungi are continuously produced and airborne at the interior and exterior of buildings. Rot-causing fungi need four basic elements to thrive: oxygen, moisture, a food source and moderate temperatures. If one of these elements is missing, rot can be controlled.

Since oxygen and moderate temperatures are prevalent in the environment and most historic buildings are full of wood, an excellent food source, the best hope to minimize rot is to control moisture. Moisture that leads to wood rot generally comes from one of four sources: ground/surface water, precipitation, plumbing leaks and condensation.

Ground water can migrate from the soil into a building by: direct contact between wood and soil; improper drainage away from the foundation; vegetation that is too close to the foundation or growing on the building; and capillary action or rising damp in masonry foundation walls or piers carrying water several feet up to wood sills.

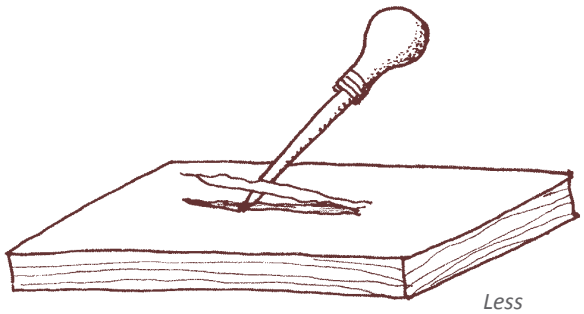
Precipitation in all of its forms, such as rain, snow, hail and mist, can find its way into a building through small openings and crevices, trapping moisture within a wall cavity. Painted surfaces and caulked joints can reduce the potential for moisture infiltration. Blocked or undersized gutters and downspouts can overflow and direct water towards building surfaces. Rainwater splashing on hard ground surfaces can rebound, saturating exterior woodwork. In cold weather, ice build-up along roof eaves without appropriate flashing could back-up under shingles and melt.

Leaky plumbing can be both sudden, such as a cracked pipe; or slow, where a gradual, unnoticed leak can soak a wood structure until significant damage occurs. Cracks in grout and tiles on floors and around bathtubs, sinks and washing machines can discharge enough water to rot wood framing. Periodic inspections for signs of leaking behind bathtub access panels, within sink vanities and around washing machines and dishwashers can help catch a problem before it becomes serious.

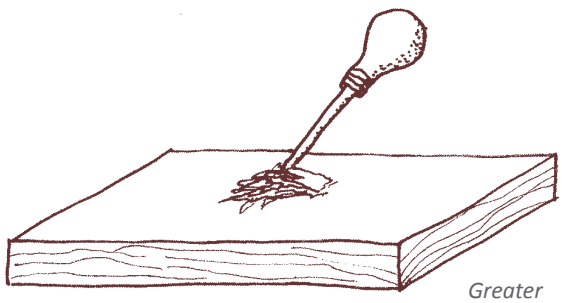
Condensation is an insidious source of moisture since the water comes from air vapor rather than an obvious source such as rain or a cracked pipe. Condensation occurs when warm moist air contacts a cold surface. Warm air can hold more moisture than cold air. If warm moist air comes in contact with a cold surface that is below the dew point temperature, the excess moisture changes to water droplets on the cold surface. Some common areas for condensation and possible solutions include:

- High humidity in kitchens, bathrooms and laundries - ***Consider:*** *Exhaust fans directing humid air to the outside and exterior clothes dryer vents (if renovating a bathroom or kitchen, an exhaust vent may be required by the Building Code).*
- Crawl spaces beneath a building where water can condense on framing members such as sills and joists, especially in corners with poor air circulation or if occupied spaces above are air conditioned - ***Consider:*** *Plastic sheathing on the ground*
- Cold water pipes in humid weather - ***Consider:*** *Pipe insulation*
- Exterior wood framed wall on top of foundation wall or piers - ***Consider:*** *Exterior wall insulation with no vapor barrier or an exterior-facing vapor barrier, painting of interior wall surface with latex paint and installation of interior humidity control*

The vertical wood corner boards were removed adjacent to the downspout exposing the structural wood post. Additional exploration revealed that there was significant rot of the post that extended deep into the thickness of the wood, compromising the structural capacity. It is likely that a persistent leak at the juncture of the roof gutter and downspout made the situation much worse.



Less penetration and long splinters are an indication of healthy wood



Greater penetration and short splinters are a possible indication of rot

DETECTING WOOD ROT

A simple means of testing for rot is to stab the wood member perpendicular to the grain with an awl or ice pick, particularly in areas where the wood appears darker in color. Then measuring the penetration depth and evaluating the type of splintering using the following criteria:

- If the penetration is less than 1/4", the component does not need replacement
- If the penetration is more than 1/4", the component might need replacement
- If long, dry splinters are produced, the wood is healthy and the component does not need replacement
- If short sections broken across the grain are produced, the component might need replacement

If replacement is required, it is recommended that the replacement wood be decay resistant and match the size, profiles and detailing of the historic woodwork.

DECAY RESISTANT WOOD

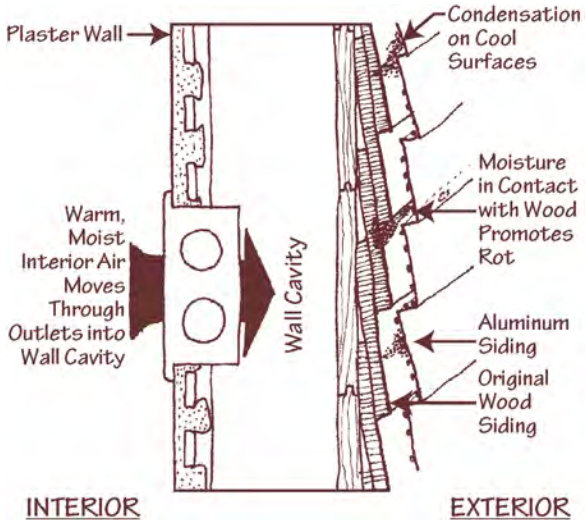
There are some woods that are naturally decay resistant, while others have a higher propensity to rot. These naturally decay-resistant woods tend to be denser than woods such as pine. In some cases, these naturally decay-resistant woods are more expensive than common woods but are not necessarily suited for all uses, such as detailed trim work. Therefore, it is prudent to understand the proposed location and final finish of exterior woodwork when considering wood for a project, to ensure the greatest longevity. Available decay-resistant woods include:

- Cedar
- Mahogany
- Redwood
- Air-dried, pressure-treated, southern yellow pine
- Pressure-treated wood for framing members

CONDENSATION

As a result of changes in our living standards, condensation has become a significant problem in historic buildings. Today's buildings include central heating and air conditioning to stabilize temperatures and relative humidity, as well as insulation that can trap moisture. Buildings also include moisture-intensive conveniences such as plumbing, bathrooms, laundry and cooking facilities. While interior conditions have stabilized and moisture laden activities have increased, exterior temperatures and relative humidity are continuously changing. The differences in temperature and relative humidity between the interior and exterior of our buildings are "bridged" through the thicknesses of exterior building walls. If the temperature is below the dew point at any location within the wall, condensation will occur causing the moisture to change into water droplets. Installing artificial siding or impervious coatings over wood can make this problem worse and hide deterioration until it is severe.

Unlike wood, vinyl and aluminum do not "breathe" and can trap moisture within a building's wall cavity, leading to rot, mold and insect damage of the wood structure. As a result, it is important to inspect and repair potential water sources to minimize the moisture within the wall cavity.



TYPES OF ARTIFICIAL SIDING

Artificial siding has been applied by Newton's property owners for years to provide an updated appearance and minimize periodic exterior maintenance and repair needs. Artificial siding materials include asphalt and asbestos and more commonly, vinyl and aluminum siding and "capping" applied over trim. These materials can significantly change a building's character and appearance and are not maintenance free. Most forms of artificial siding can trap moisture within a wall thickness, accelerating potential rot and decay.

Replacement of this aluminum siding is the best way to repair this puncture. A wood-grained texture is inappropriate.

VINYL AND ALUMINUM SIDING

Vinyl and aluminum siding often attempt to simulate a clapboard pattern. Because vinyl and aluminum are extruded pieces of plastic and metal, they are thinner and visually lighter than wood. It should also be noted that in the event of a fire, the fumes from vinyl can be very hazardous.

Fiber-cement siding material is an economical alternative for an addition to a historic building. It can be painted to match the existing paint scheme.

FIBER-CEMENT SIDING

Fiber-cement siding is a lightweight, solid material that is a durable and visually more compatible material to wood than vinyl or aluminum siding. It is manufactured in similar sizes and shapes to wood products including siding, shingles and trim, making it easier to duplicate historic characteristics. The installation method is similar to wood allowing historic alignments around window and door frames, and it can be cut to shape on-site using hand tools, and painted to match any color scheme. Manufacturers indicate that fiber-cement products are resistant to rot, termites, fire and delamination, and are dimensionally stable, allowing paint to last longer. Fiber-cement products cost more than vinyl or aluminum siding but much less than wood siding and can have a manufacturer's warranty as long as 50 years. Although not appropriate for replacement of historic wood siding, fiber-cement siding can often be used at minimally visible areas with a high potential for wood rot, and at new construction.

ARTIFICIAL SIDING (ALL)

In Newton, many of the historic framed buildings were originally clad with wood clapboard, which allowed some flexibility in installation by carpenters. Most artificial siding materials, particularly vinyl and aluminum siding, must be installed at a consistent vertical spacing as defined by the manufacturer. They do not allow flexibility to accommodate historic alignments at existing building fabric such as at window and door frames. (In historic buildings, siding was typically installed with a horizontal band aligning with the top and bottom of window and door frames.)

Most historic buildings have wood door and window frames, moldings and trim that can be damaged or concealed in inappropriate artificial siding installations. The loss of these features can significantly alter the character of a building. Artificial siding installation over existing materials can also increase the wall thickness, causing the wood trim to appear set back from the wall rather than projecting from it. This can further diminish the visual characteristics of the building.

The NHC/HDC encourage:

- Retaining and maintaining existing exterior woodwork including siding and trim
- Repairing or replacing wood siding and trim in kind
- Using painted fiber-cement clapboards with similar profiles and detailing to historic clapboards as an alternative to wood clapboards at minimally visible areas with a high potential for wood rot, and at new construction.

The NHC/HDC discourage:

- Installing aluminum or vinyl siding or coatings

Aluminum and vinyl siding were sometimes installed to conceal an underlying problem. In some cases, removal might be necessary to repair a deteriorated condition.

REMOVING ARTIFICIAL SIDING AND VENEER

Newton's property owners should consider removing artificial siding and restoring underlying woodwork. Artificial siding removal allows buildings to function as originally designed and exposes problems that might have developed since its installation. If removing artificial siding from woodwork:

- Expect to replace about 20% of woodwork
- Anticipate surprises such as removed ornament and trim
- Sell aluminum siding for recycling

EXTERIOR WOODWORK OR ARTIFICIAL SIDING (AO)

Property owners generally install artificial siding to avoid maintenance issues associated with repainting and because of aggressive claims made by the artificial siding industry. They believe that artificial siding provides a maintenance free solution that will solve their exterior building problems for a lifetime. The table below contrasts common statements by the artificial siding industry with the viewpoint of preservation professionals.

ARTIFICIAL SIDING VIEW	PRESERVATION VIEW
"Vinyl and aluminum siding is a cost effective alternative to wood"	• Vinyl siding and aluminum is usually guaranteed for 20 years and costs approximately the same as two quality paint jobs. (Guarantees over 20 years are usually prorated.) Properly maintained wood siding has been found to last hundreds of years. • Vinyl or aluminum siding installed over existing woodwork can trap moisture and lead to costly hidden structural repairs. (See weatherproof section below.) • Artificial siding can reduce home values by covering distinctive qualities and details.
"Vinyl or aluminum siding improves the appearance of a building"	• Exposures, shadow lines, joint layout, texture and the sheen of vinyl or aluminum siding typically do not match wood. • Historic or decorative trim is often covered or removed in the installation process. Installation typically requires damage to historic wall materials. • Stock vinyl and aluminum trim is generally narrower than historic wood trim. • Historic details and decorative elements are generally not available in vinyl or aluminum. • Available colors are limited and might not be appropriate for the building style. • Colors are difficult to change. (If change is desired, the type of paint should be compatible in material and color to minimize peeling, warping and curling.)
"Vinyl or aluminum siding is weatherproof"	• They can be weatherproof if properly installed, but on many historic buildings there are crevices and uneven surfaces that allow moisture behind the artificial siding or capping. (Generally, new buildings with vinyl or aluminum siding are constructed with an internal vapor barrier to exhaust moisture-laden air.) • Unlike wood, vinyl or aluminum siding does not breathe and can trap moisture within a building's wall cavity. Trapped moisture condenses when it reaches the dew point, changing to water droplets that can drip and run through the wall's structure. This can lead to rotting of sills and structural components and potential mold and insect damage. (To reduce trapped moisture, install continuous wall vents under eaves and add weep holes to artificial siding.) • Installing vinyl or aluminum over deteriorated wood will not make the problem disappear. (Generally, by trapping additional moisture, the deterioration could accelerate and lead to costly hidden structural repairs.)
"Vinyl or aluminum siding conserves energy"	• Insulation value of vinyl or aluminum siding is minimal, even when it is backed by a thin layer of insulating foam or rigid board insulation. Furthermore, the insulation could trap additional moisture within the wall cavity. • Studies have shown that as much as 75% of a building's heat loss can be through its roof. Installing attic insulation is a much more cost effective method of reducing a heating bill.
"Vinyl or aluminum siding is maintenance free"	• Like wood, vinyl and aluminum siding needs regular cleaning. • Vinyl and aluminum siding is subject to denting, warping, cupping and fading from sunlight exposure. Vinyl siding is prone to cracking in cold weather. Replacement patches usually do not match the earlier installation. • The painting of vinyl or aluminum siding to change or to freshen the appearance typically voids the manufacturer's warranty. (Type and color of paint used over vinyl siding should be compatible to minimize potential peeling, warping and curling. Once painted, artificial siding will need to be repainted as or more often as wood.)

This porch in Upper Falls, with its decorative wood trim and distinctive detailing, is an important architectural element and contributes to the character of both the house and the street.

PORCHES

Historically, porches were an outside room where residents could find a sheltered transition into their homes, exterior living space, and a place to meet and converse with neighbors. When they were constructed, their form, details and decorative elements were often intended to complement the style of the house.

Porches remain one of the most visible house elements and play a significant role in the appearance of the house and the streetscape. They can act as an extension of a home providing a welcoming feeling for visitors. Unfortunately, porches today are often one of the most altered components of a building frequently because they are not properly maintained or they are viewed as potentially enclosed indoor space.

PORCH REPAIR INFORMATION

Since many of the components of porches are discussed in depth in other *Guideline* brochures, including roofing, foundations and support piers, it might be helpful to consult the following information to address specific repair needs:

- *Guidelines for Roofing*
- *Guidelines for Masonry & Stucco*

MAINTAINING HISTORIC PORCHES

Because of the importance porches play in the perception of historic buildings and streetscapes, original materials and details should be preserved. Typically, areas covered by a porch roof tend to require less maintenance; however, steps, railings and roofs are usually exposed to the weather and might require additional maintenance. One of the best ways to preserve wood porch features is regular painting. If a component is deteriorating, repair or replacement in kind is recommended as part of the porch's regular maintenance.

The NHC/HDC encourage:

- Painting porches regularly to preserve wood (AO)
- Applying a painted finish complementing the architectural characteristics of the house - refer to *Page 10* for additional information regarding painting (AO)
- Identifying deteriorated elements (AO)
- Finding and correcting sources of deteriorated elements, such as deteriorated, cracked, blocked, inappropriately hung, broken or missing gutters or downspouts (AO)
- Replacing only those parts which cannot be repaired - in some instances, such as columns and posts, the base can be replaced at a fraction of the cost without replacing the entire column or post (ALL)
- Replacing missing or deteriorated materials with similar new materials - avoid replacement of a wood railing with a metal or vinyl railing system (ALL)
- Repairing damaged elements using standard repair techniques for that material (Refer to the *Guideline* brochures appropriate for each material, particularly *Guidelines for Roofing* and *Guidelines for Masonry and Stucco*) and restoring the porch to its original historic appearance (ALL)
- Replacing only the original elements that cannot be repaired using elements of the same material, size, profile and other visual characteristics (ALL)
- Rebuilding a porch with appropriate documentation (ALL)
- If a substantial portion of the porch is deteriorated and cannot be repaired or replicated, or if a porch is missing, creating a simplified design using stock lumber and moldings that convey similar visual characteristics as the original porch, duplicating the dimensions and materials but not necessarily all of the detailing (ALL)

The NHC/HDC discourage:

- Replacing wood porch posts and railings with metal (ALL)
- Replacing wood steps with concrete or brick - wood steps are typically appropriate for wood porches (ALL)
- Using"natural" or stained wood at a porch; this is generally not appropriate for a porch on a painted historic building (AO)

GUIDELINES FOR NEW PORCHES (ALL)

There are times when property owners might consider the construction of a new porch. This can occur when a previous porch is reconstructed; a new porch is added onto an existing house or is part of an addition; or when a new residence is erected. In considering the construction of a new porch, the following general guidelines are recommended:

- New front elevation porches are encouraged where there is evidence of a historic porch
- At existing buildings, new construction should not damage, destroy, conceal or negatively affect existing historic material and features
- On additions, porches should be simple in design and relate to the existing building
- Side and rear elevation porches should typically be simpler in design than front elevation porches
- On new buildings, porches should visually relate to the proposed building in a manner similar to historic porches on neighboring buildings
- The size, shape, scale, massing, form, materials and color of the design and its appropriateness to the house and streetscape should be considered
- Most porches at framed buildings were historically made of wood; stone or brick porches might only be appropriate on masonry and stucco buildings

The NHC/HDC discourage:

- New decks visible from the streetscape

The scale, detailing, and roof forms of historic porches - such as this Queen Anne example in Newtonville - helped define the architectural style of the house and the overall feel of the streetscape. These attributes should be carefully considered when designing new porches in a historic setting.

Porch enclosures that are attached to existing decorative porch elements such as this column can cause damage that is both difficult and costly to repair.

ENCLOSING PORCHES (ALL)

Porches were intended to be open exterior spaces. Enclosing a front porch is a radical change to the building and its visual perception from the streetscape. If considering porch enclosure, it is recommended that this occur only at a side or rear elevation porch. If enclosing a porch, it is recommended that the finished space look more like a porch than an enclosed room.

If enclosing a porch, the NHC/HDC encourage:

- Retaining porch elements in place and constructing enclosure framing inside of porch columns and railings
- Temporary enclosure systems, such as screens or glazing that can be removed seasonally
- Reversible enclosure systems that do not damage decorative or unique historic building fabric
- Translucent enclosure systems, with large screened or glazed openings
- Vertical and horizontal framing members that align with porch elements like columns and railings

The NHC/HDC discourage:

- Enclosing porches, particularly at the front elevation

EVIDENCE OF PRIOR PORCHES

It is important that documentation be found when replacing a missing porch. This can be physical evidence that a porch was present or documentation that shows or describes a porch.

- Look for evidence (such as an outline) on the wall or trim from roofs, posts or railings, evidence of nailing patterns on siding, repairs to masonry walls and evidence of former porch foundations in the landscape
- Look for historic photos, drawings or maps, and look in attics and garages for original components
- Compare porches on neighboring buildings of similar type, design, style and date of construction

EXTERIOR PAINT

Paint is one of the most common ways to protect exterior materials from the elements, particularly wood without natural or chemical preservatives, and metals that would otherwise rust. When the painted surface has been compromised, moisture and the elements can infiltrate the underlying material and potentially accelerate deterioration.

Exterior paint provides a layer of protection to a building by adding a barrier that limits moisture infiltration and damage from the sun, pests and other forms of deterioration. Exterior woodwork without natural or chemical preservatives is susceptible to moisture-related wood deterioration of the exterior envelope and underlying framing, and many metals are susceptible to rust. Although paint is an important protective layer that improves the longevity of a historic resource, it must be viewed as a temporary barrier that is subject to deterioration through cyclical temperature and humidity changes, and that requires re-application to maintain its shielding properties.

In addition to providing a protective layer, paint colors can highlight a building's architectural features and style, can visually tie the parts of a building together, and can reflect personal taste. A building's style, period of construction, materials and setting can all help identify appropriate paint colors.

In general, exterior surfaces should be repainted every 5 to 8 years, with intermediate touch-ups of high traffic, worn or deteriorated areas. If a building requires frequent repainting, it might be an indication of another problem including moisture, inadequate surface preparation and non-compatible paint.

It can be problematic to use encapsulating paints that can trap moisture in woodwork and promote rot. These are often referred to as "liquid siding," "liquid stucco" or "liquid ceramic coatings." Painting of previously unpainted masonry is strongly discouraged. Refer to *Guidelines for Masonry & Stucco, Page 11* for more information on masonry paint removal and application (ALL).

REPAINTING (AO)

When considering repainting, the following five steps are recommended:

1. **Determine whether repainting is necessary:** Prior to beginning a painting project, it is appropriate to determine whether complete repainting is required or if cleaning or spot repainting is more appropriate. By painting more often than is necessary, paint layers can build up, increasing the potential for future paint failure. A dingy finish might only require washing with a mild detergent solution and natural bristle brushes to freshen the appearance.
2. **Inspect existing paint for causes of failure:** To assure the new paint will last as long as possible, property owners should inspect the existing paint for causes of failure. Some common paint problems are:
   - **Peeling** - possible causes are painting under adverse conditions, inadequate surface preparation or moisture infiltration
   - **Cracking or crazing** - typically the sign of a hard surface that does not expand and contract with underlying material; sand and repaint if cracking and crazing is limited to the surface; remove paint if it extends down to the wood
   - **Wrinkling** - typically the result of the top coat drying before the underlying coat; sand smooth, repaint
   - **Blistering** - air bubbles under the paint; cut into blister, and if wood is visible the problem is probably moisture related; if paint is visible, the problem area was probably painted in direct hot sun
   - **Alligatoring** - severe cracking and crazing; remove all paint down to bare wood
3. **Repair causes of failure:** Before repainting, the causes of paint failure should be addressed. The most common cause of paint failure is moisture. The most typical causes of moisture problems are ground water; rain

In many historic architectural styles, paint colors were used to accentuate individual architectural elements or details. This porch on a historic house in Newtonville includes decorative painted woodwork at the porch and at the windows and doors.

Paint problems at exterior woodwork are sometimes the first indication of an underlying moisture problem. The paint below the end of the gutter is peeling off the siding. Repairing the gutter and verifying that storm water is draining through the downspout is recommended prior to repainting.

or storm water; leaking plumbing; and condensation. (Refer to *Page 4* of this section and the *Guidelines for Exterior Maintenance* for additional information on how to identify moisture-related problems and some suggestions that might alleviate the situation.)

Portions of the building that are most susceptible to moisture and its related problems include: areas near rooflines, gutters and downspouts; areas near the ground; horizontal surfaces such as window and door sills, porches and wood steps; and areas or walls adjacent to high humidity including kitchens, bathrooms and laundry rooms.

4. **Prepare surface:** To ensure a long-lasting painted surface, appropriate surface preparation should be undertaken before repainting.
   - Begin by washing the painted surfaces with a mild detergent solution and a natural-bristle brush
   - Carefully scrape and sand for a smooth finish, removing any paint that is not tightly bonded to the surface
   - Putty or caulk countersunk nails, window glazing, gaps, joints and openings
   - Allow substrate to dry thoroughly before applying primer or paint
   - Spot prime bare wood, areas of repair and wood replacement
5. **Repaint:** High-quality paint appropriate for the substrate applied in accordance with manufacturer's recommendations should improve the longevity of a paint job. In general, it is best to use compatible primer and paint from the same manufacturer, and apply at least two coats of paint to previously bare wood or metal.
   - For best results, apply paint during appropriate weather conditions, generally 50˚F to 90˚F, less than 60% relative humidity, with no direct sunlight

The paint on this door has alligatored, and severe cracking is visible. Removal of paint down to bare wood and proper door repair are recommended prior to repainting.

COMPLETE PAINT REMOVAL (AO)

It is important to remember that any method of paint removal can result in harm to historic building fabric. Therefore, complete paint removal from a surface should only occur under limited circumstances.

Complete paint removal might be necessary in circumstances in which the existing paint on a surface has completely failed. Examples where complete paint removal would be appropriate include:

- Wholesale blistering or peeling that reveals the underlying substrate
- Continuous patterns of deep cracks in the surface of painted wood
- Windows, doors or shutters that have been painted shut
- To achieve a smooth transition when a new wood element is being installed as a repair
- To prevent deterioration of historic building features
- To prevent deterioration of masonry for historically unpainted masonry surfaces

PAINT COLORS (PR, LL)

Although paint colors are not usually subject to review of the NHC or HDC, property owners seeking historically accurate paint colors for a project can complete a paint analysis or consult reference books. The books can provide information on appropriate colors related to building types and architectural styles.

The multiple paint colors on this Queen Anne house in Aurburndale are typical of the Victorian era. Well-researched and properly maintained historic paint schemes represent an important component of Newton's historic neighborhoods.

STRIPPING PAINT (AO)

If the existing paint has failed, it might be necessary to strip all or portions of the paint from the surface. Although there are a variety of tools and chemicals available to strip paint, many of them are potentially hazardous and can cause significant damage to exterior surfaces and the surrounding environment. All manufacturers' recommendations should be followed during the paint removal process.

The NHC/HDC encourage:

- Hand washing with mild detergent and bristle brush
- Hand scraping
- Hand sanding

The NHC/HDC discourage:

- Rotary tools - disks can leave circular marks and wires can tear into surface
- Heat guns and heat plate - can ignite paint or underlying surface if left in one location too long
- Chemical paint removers - can raise grains, be expensive and potentially volatile; runoff can be hazardous and should be collected to reduce harm to children, pets, vegetation and ground water
- Flame tools such as blowtorches to soften paint - smoldering sparks can start a potentially devastating fire; lead components in paint can vaporize and create toxic fumes
- Sandblasting - can be abrasive to surface, wear away protective exterior coating and raise the wood grain
- High-pressure water wash - forces water into open joints affecting interior finishes and structural framing; can be abrasive to exterior surface and raise the grain

PAINT REMOVAL SAFETY

Paint removal is potentially hazardous work. Keep children and pets clear of work areas. Property owners should consult a professional for work that is unfamiliar or potentially unsafe.

- Paint removal, particularly lead based paint removal, must comply with City Health Department and EPA requirements - owners are strongly encouraged to contact the lead safety organizations found in the *Guidelines for Exterior Maintenance* for additional information prior to completing any work potentially involving lead paint
- Always wear safety goggles and a mask or respirator
- Avoid using heat tools. Users should always wear appropriate clothing, keep a fire extinguisher nearby and monitor areas of work for at least one hour after stopping work
- Paint dust from older buildings can contain lead - wear a dust mask or respirator, avoid open food or beverage containers in area of paint removal, thoroughly clean work area and exposed skin, launder work clothes

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

City of Newton
Historic Preservation

Guidelines for Site Elements

The gate structure provides a welcoming entrance to the property. It has a similar architectural style and materials as the main residence.

PURPOSE

These *Guidelines* were prepared to provide property owners with information on the rehabilitation or modification of site elements within a historic context. They are not intended to replace consultation with qualified architects, landscape architects, contractors, or the Newton Historical Commission (NHC), or Local Historic District Commissions (HDC) and their Staff.

These *Guidelines* were developed in conjunction with the City of Newton's Historical Commission (NHC), Local Historic Districts 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 though 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.

NEWTON'S SITE ELEMENTS

Site elements frame the architecture of a streetscape. In some areas, established features such as sidewalks, street trees, walls, fences, walkways and driveways provide a consistent setting that strongly defines the unique character of a neighborhood.

When considering alterations to a site, property owners are encouraged to develop an understanding of the environmental characteristics of the immediate surroundings of the site, and to allow that understanding to direct the design of the alterations. This will allow a more compatible relationship between a property and its neighborhood. When planning alterations to a historic site or a site within a historic context, owners should consider the following:

The NHC / HDC encourage:

- Keeping views of historic buildings open to street, rather than obscuring views with new structures
- Front yard development with traditional, simple arrangements, appropriate to the historic context

The NHC / HDC discourage:

- Placement of modern amenities in front and side yards visible from public ways
- Addition of walls, fences or other screening structures that block views of historic buildings from the public way

In the City of Newton, with the exception of some properties with preservation restrictions (PR), vegetation and plantings do not come under historic preservation purview.

- The PDD recommends the use of plantings for screening modern site elements such as air conditioning units and trash collection receptacles. Property owners are encouraged to select regionally native plants well-adapted to the site environment to minimize the use of water and chemicals in their upkeep. (AO)

FENCES, WALLS & GATES (ALL)

Walls, fences and gates are important elements of the overall character of a neighborhood. They:

- Identify boundaries
- Provide privacy and security
- Often represent a major element of a streetscape, separating public from private property
- Often relate to a building's design

Wood fencing can have a variety of styles. In many instances, the fencing is painted with similar colors as the principal house.

FENCES (ALL)

Wood is a traditional fence material in the City of Newton. Some traditional metal fencing is also present. Traditional fencing types not only mark the boundaries of a specific space, but also allow visual access between the historic structures on a property and the street. To retain visibilities of historic properties, fences in front yards should be limited to 48" in height, and should use a picket style that is at least 30% open.

Similar to building walls, landscape walls and fences require regular maintenance, particularly at retaining walls. There is significant cracking at both of the piers that might indicate a structural problem.

WALLS (ALL)

Landscape walls are typically constructed of fieldstone or brick, and can include a stucco finish. Historically, the materials and style of walls were often related to a building's design.

The construction of walls that visually block primary building façades from the public way, particularly at historically important buildings, is discouraged. The recommended height limit of new walls in front yards is 36". While new walls that are stylistically compatible with the property may be appropriate, the construction of walls made of incompatible materials, such as concrete block, is discouraged.

The wood gate is mounted on stone piers. The arched form complements the bays of the front porch.

GATES (ALL)

Pedestrian gates, traditionally along a walkway, are generally 3 to 3½ feet wide. Gates for residential vehicular access are generally 10 to 12 feet wide. When installed with a fence, gates tend to be of the same material and similar design as the fence, although often more elaborate. When installed with a wall, they are generally flanked by piers, or gate posts that can be either wood or metal.

The NHC / HDC encourage:

- Using traditional materials for walls, fences, gates and other boundary markers in an appropriate manner
- Maintaining building views open to the surrounding public streets and sidewalks
- Installing fence posts towards the interior of a property
- Regularly maintaining fences, walls and gates (AO)

The NHC / HDC discourage:

- Blocking views to historic buildings and settings with solid walls, or dense fencing materials (ALL) or planting (PR)
- Front yard fences that are greater than 48" in height, or walls that are greater than 36" in height
- Use of non-traditional fencing materials such as vinyl
- Use of stockade fencing
- Use of chain-link fencing

This stone wall is topped by a decorative iron fence with an S-shaped profile.

MODERN LANDSCAPE FEATURES, EQUIPMENT & SMALL STRUCTURES (ALL)

Modern site amenities can greatly increase the enjoyment of a property as well as serve functional needs. However, many of these amenities can be visually obtrusive and are not appropriate within a historic context or setting.

- **Landscape Features:** Landscape features such as pergolas, fountains and sculpture, and play equipment such as jungle gyms, swimming pools, hot tubs and tennis courts can add to the outdoor enjoyment of our properties, but can be visually obtrusive in a historic setting.
- **Ground-Mounted Equipment:** Air-conditioner condensers, solar collectors, trash dumpsters and satellite dishes are all examples of modern, ground-mounted mechanical equipment that can affect the historic integrity of a site and its surroundings.
- **Small Structures:** Small structures can be functional and provide enjoyment for property owners. Generally less than 100 square feet in size, they include tool or garden sheds, play houses, dog houses, permanent sun shading canopies, building or wall-mounted awnings, and gazebos. These modern alterations can affect the historic integrity of a site and its surroundings. Small structures that are visible from the public way are generally more appropriate if their walls and roof are constructed of the same historic materials as those of the existing main building. The installation of pre-manufactured sheds visible from the public way, particularly those with metal or vinyl wall cladding, is typically discouraged.

To minimize their visual impact, modern landscape features, equipment and small structures should be located in the rear yard and should not block the view of historic buildings or features from the public way.

The NHC / HDC encourage:

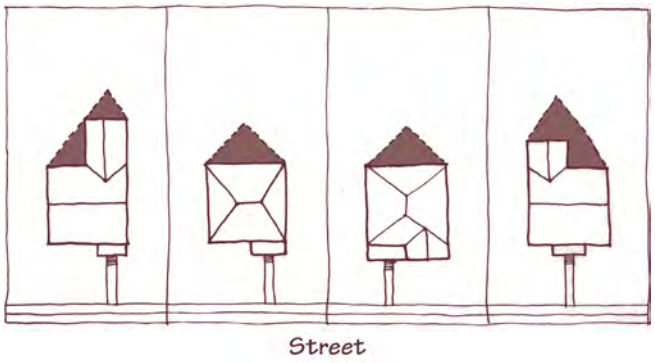
- Unobtrusively locating landscape features, small structures and ground mounted equipment where they are not visible from the public way
- Screening landscape features, play equipment, small structures and ground-mounted equipment that might be visible from the public way with either dense planting, a wall or wood fencing

T*he NHC / HDC discourage:*

- Visually prominent landscape features, play equipment, small structures and ground-mounted equipment

SECONDARY STRUCTURES

For more information regarding secondary structures such as garages, larger sheds and carports please refer to the *Guidelines for Additions and New Construction, Page 11*.



This diagram illustrates the areas of a property that are out-of-view from a public right of way (concealed by buildings). Although it is not always possible to conceal modern landscape features, equipment and small structures from the public way, every effort should be made to minimize their visibility.

LIGHTING FIXTURES (LL, PR)
FREE STANDING LIGHTING FIXTURES (LHD)

Outdoor lighting is an amenity of modern life. For a historic house, outdoor lighting should highlight the architecture and be of a style appropriate for the historic building. A wide variety of wall-mounted or free-standing reproduction replica historic lighting is available to meet the lighting needs of historic properties.

The NHC / HDC encourage:

- Lighting fixtures that complement the building's architectural style and material

The NHC / HDC discourage:

- Lighting fixtures that are not stylistically appropriate on historic buildings

ILLUMINATION (AO)

Prior to installation of lighting please consult the City of Newton's Light Trespass Ordinance which regulates light pollution and illumination. Residential lighting should be installed to illuminate only pathways and access routes, limiting the spillage onto adjacent properties and the public way. Generally, lighting on one property should not extend onto the neighboring lots or into the night sky. To minimize light spillage, many lights are available that cast light downward where it is needed to illuminate walking surfaces. In addition, existing lights can often be fitted with hoods or shields to direct light downwards.

If security lighting is desired, it is recommended that it be located as discretely as possible, generally limited to side and rear elevations. The number of security lights should be limited, and they should be activated by motion sensors whenever possible.

The NHC / HDC encourage:

- Unobtrusive lighting of historic properties that limits light spillage onto neighboring properties and into the night sky

The NHC / HDC discourage:

- Obtrusive lighting of historic properties that illuminates neighboring properties
- Highly visible security lighting
- Security lighting that is constantly "on"

The stone walkway with brick edging complements the Tudor style of the house as does the curved configuration.

PAVING (ALL)

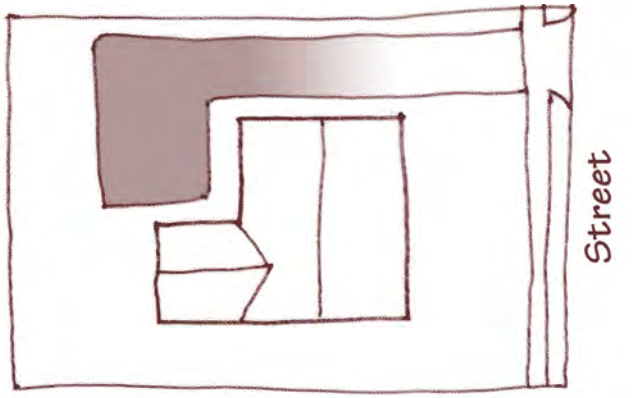
Paving, which includes sidewalks, walkways, patios and driveways, has changed significantly with the development of new materials. Historic paving could be as simple as gravel or crushed shells, or hard materials such as brick or stone, laid in simple or ornamental patterns. Materials popularized in the 20th century include concrete and asphalt, and more recently cast concrete pavers, often colored and shaped to resemble brick or stone.

In an effort to retain the quality of the City's historic properties and districts, the retention and maintenance of existing historic paving materials is encouraged. Property owners are also encouraged to minimize new paving, and (AO) to use porous paving whenever possible to minimize runoff onto neighboring properties and into storm drains.

Since the character and context of every property is unique, each application for changes in paving location and material is reviewed on a case-by-case basis. When submitting an application for proposed paving, applicants should provide detailed, dimensioned site plans indicating the size and location of all existing buildings, paving and proposed paving changes.

The NHC / HDC encourage:

- Retaining, repairing and maintaining historic paving materials
- Minimizing the amount of paving on a site
- Installing permeable small-scale paving materials, such as gravel or exposed aggregate paving, instead of poured concrete or asphalt
- Installing simple, troweled concrete finish or stamped concrete
- Installing narrow parking strips instead of driveways
- Installing patios instead of raised decks



The preferred location for parking, as indicated by the darker shaded area, is towards the rear of the property, preferably concealed by a building, and away from the public roadway.

The NHC / HDC discourage:

- Removing historic paving materials
- Placing parking areas in the front yards of residences
- Installing asphalt at walkways

ZONING REQUIREMENTS

Lighting, fencing, walls, and paving are all subject to the City of Newton ordinances including those for Zoning, Lighting, and Scenic Roads. These ordinances dictate the height and location of fences and walls, the amount of paving permitted, the level of illumination allowable, and other requirements. These are separate and independent from historic preservation review, and it is highly recommended that applicants contact the Inspectional Services Department at (617) 796-1060 to review requirements prior to filing.

MAINTENANCE

Fences, landscape walls, gates and paving are all property features that require regular maintenance. Refer to the *Guidelines for Exterior Woodwork* and *Guidelines for Masonry & Stucco* for additional information.

SIDEWALKS

Property owners may, with City approval, replace sidewalks and curbing at their own expense. If historic sidewalks and curbing require replacement, use of a compatible replacement material is recommended. Please contact the Engineering Department at (617) 796-1020 for additional information regarding sidewalk and curbing requirements including compliance with the Americans With Disabilities Act.

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

City of Newton
Historic Preservation

Guidelines for Masonry & Stucco

Many of Newton's significant historic homes - such as this brick house in Chestnut Hill - are constructed of masonry.

PURPOSE

These *Guidelines* were prepared to provide property owners with information when considering the repair, alteration or installation of masonry and stucco. 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 Districts 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 though 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.

EXTERIOR MASONRY & STUCCO

Historically, a building's exterior masonry surface serves both visual and functional purposes. Visually, it is an important design feature that establishes the rhythm and scale of a building. Functionally, historic exterior masonry and concrete typically act as the principal load bearing system for the building, as well as its "skin", shedding water and deflecting sunlight and wind.

Historic exterior masonry:

- Acts as an important design feature, helping to define a building's architectural style
- Establishes a building's scale, mass and proportion
- Adds pattern and casts shadows on wall surfaces
- Acts as a principal element in the structural system
- Establishes a weather-tight enclosure, providing protection from rain, wind and sun

In the City of Newton, many prominent civic or institutional buildings are constructed of masonry. At residences, masonry and stucco can be a primary wall material or be used for foundations and chimneys at wood framed homes. Masonry landscape and retaining walls are also common in the City.

With proper maintenance, exterior masonry and stucco can last for centuries. However, if maintenance and repairs are not completed properly and in a timely manner, masonry and stucco can be severely damaged. Typical issues that cause deterioration are moisture penetration, freeze-thaw cycling, inappropriate painting and harsh or abrasive cleaning.

TYPES OF MASONRY AND STUCCO IN NEWTON

19th Century Brick - A soft, fired-clay, fairly regularly shaped building component; often with color and surface variations; used primarily in walls, piers, foundations, chimneys and exterior pavers.

20th Century Brick - A hard, dense, fired-clay, regularly shaped building component; sometimes with a glazed surface; used primarily in walls, piers, foundations, chimneys and exterior pavers.

Wire Cut Brick - A dense, fired-clay, regularly shaped building component; with a ridged surface; used primarily in 20th century building walls and chimneys.

Limestone - A sedimentary rock; used for building walls, window sills and lintels, ornamental stone trim, and sculpture.

Granite - A hard rock, consisting of small, yet visible, grains of minerals, which can be highly polished or textured; used for walls, piers, columns and street curbs; commonly in gray, black and pink.

Marble - Typically fine grained and able to be highly polished; it has a wide range of colors and patterns; used for steps and stoops, statuary and fine masonry.

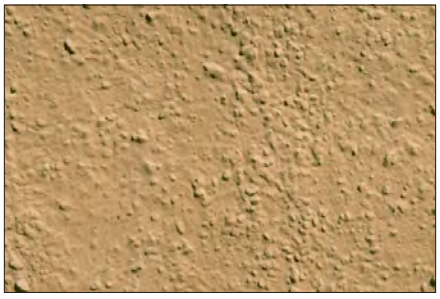
Brownstone - A reddish brown sandstone used as a building material, popular in the late 19th century.

Concrete Block - A structural building material made by mixing water, cement, sand and aggregate, placing the mix in forms and hardening; commonly used for foundations, walls and piers.

Textured Concrete Block - A structural building material made by mixing water, cement, sand and aggregate, placing it in forms and hardening it; used for foundations, walls and piers, popular in the early to mid 20th century.

Terra Cotta - Fired-clay, non-structural building components, often with colored glaze, used for decorative, ornate details and wall finishes.

Scored Stucco - Smooth finish with scoring to simulate stone joints.



Dash Finish Stucco - Textured finish with pronounced aggregate at the surface.

COMPONENTS OF MASONRY WALLS, FOUNDATIONS & PIERS

Masonry walls, foundations and piers were historically constructed of either bricks or stones, stacked on top of each other. The individual units were bonded by mortar, which served to hold the masonry units together and fill the gaps between them. Historically the masonry was load bearing, meaning it carried its own weight to the ground as well as the load of other building elements such as walls, floors and roofs.

BRICK

Brick is a common masonry material in Newton and can be found in some of the City's earliest buildings, as well as those constructed recently. Bricks are made by inserting clay into a mold and then firing or baking the brick at very high heat. The result is a standardized unit, generally 8" by 4" by 2-1/4" in size.

The color of brick can vary, but red is by far the most common. Other colors include yellow, orange and brown. The color is determined by the chemical and mineral content of the clay, and the temperature and conditions of the kiln or oven. Similar to the color, the strength or hardness of brick is determined by the clay ingredients and the firing method, but it is also affected by the way the brick is manufactured.

- Mud bricks, tend to be very soft and can be found on buildings and structures built during the 19th century. They were made by pressing wet clay into a wood or metal mold, historically by hand; the shaped clay was then dried and fired. In the process, small air pockets and impurities were trapped in the clay, and the bricks were often slightly irregularly shaped with holes or voids and rounded edges and corners. Because mud bricks are very soft, they were occasionally covered with stucco to protect them from the weather.
- Dry pressed bricks are similar to mud bricks except the clay used is drier, is pressed into the molds with greater force and fired longer. The result is a brick of medium hardness with sharp corners and edges. Dry pressed bricks gained in popularity in the second half of the 19th century.
- Extruded bricks were popularized in the early 20th century and are the hardest bricks. Unlike mud bricks and dry pressed bricks which tended to be made near the construction site, extruded bricks are typically made in large factories and shipped to the site. To make extruded bricks, very dry clay is forced through a form to create a long ribbon before being cut into individual bricks. With large-scale production it is easier to achieve higher quality control of the color and hardness.
- Veneer bricks are thin layers of extruded bricks, often about 1/4" thick, adhered to an underlying surface. Brick veneers have no structural capacity.

CONCRETE MASONRY UNITS

Concrete masonry units (CMUs), also known as concrete blocks, are similar to bricks in that they are formed structural elements. They are made by mixing water, cement, sand and aggregate, which is placed in forms to harden. The blocks are typically 8" by 8" by 16" in size and typically include voids. Similar to brick, they are typically stacked and bonded with mortar. They are most often laid in a running-bond pattern.

Concrete blocks can also be formed in decorative molds that create a rusticated appearance, sometimes known as Formstone. Decorative concrete block was popularized in the early-20th century and was most often used for secondary buildings such as garages, but can also be found as wood-framed building foundations.

STONE

The most common type of stone in Newton is random fieldstone. In addition, limestone detailing is often found at brick buildings, and some of Newton's buildings include granite and brownstone. Historically, stone walls and piers were weight bearing and constructed of individual stone units bonded with mortar. In the mid 20th century, stone veneers became popular. Stone veneers are thin slabs of masonry (typically marble or granite), "hung" on an underlying structural support system or applied to a wall surface with mortar in various patterns.

BRICK BONDING PATTERNS

The most frequently constructed brick pattern is common bond, which features stretcher courses with a header course every 6th row. Other familiar brick bonding patterns include running bond, comprised of only stretcher course, and Flemish bond, alternating stretchers and headers.

STONE BONDING PATTERNS

Uncoursed and coursed field stone are common foundation materials in Newton. There are fewer cases of cut stone walls. Quoins are large rectangular stones located at a building's outside corners. Historically, quoins were used in a variety of bonding patterns including fieldstone.

MORTAR

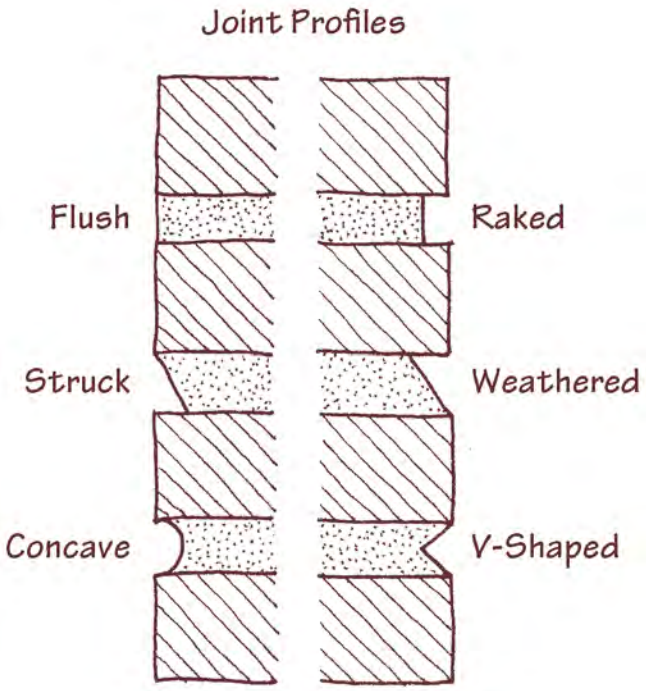
Historically, mortar was generally composed of a few ingredients: sand, lime and water, and possibly additives such as animal hair or oyster shells. Starting in the mid 19th century, a small amount of Portland cement was added into the mix to improve the workability and hasten the setting time. In the early 20th century, the amount of Portland cement in mortar was increased, resulting in harder mortar corresponding with the manufacturing of harder bricks and concrete block.

Sand is by far the largest component of mortar and defines its color, character and texture. Since masons would use products that were readily available, sand from historic mortars tended to have weathered, rounded edges and was available in a great variety of grain sizes and shades of white, grey and yellow. Most sand available today has sharper edges from being mechanically broken and is sieved into standard sizes. As a result, mixing sand colors and sizes might be needed to match historic mortar.

Lime and Portland Cement act as binders for the mortar. High lime mortar is soft, porous and varies little in volume with seasonal temperature fluctuations. Because lime is slightly water-soluble, high-lime mortars can be self-healing and reseal hairline cracks. By contrast, Portland cement can be extremely hard, is resistant to water movement, shrinks significantly upon setting and undergoes relatively large thermal movements. Portland cement is available in white or grey, and the two colors can be mixed to achieve a desired color. It is possible to add a small percentage of Portland cement to a high lime mixture to improve workability and plasticity. The proportion of Portland cement can generally be increased when repointing 20th century buildings or structures such as most of those found in Newton.

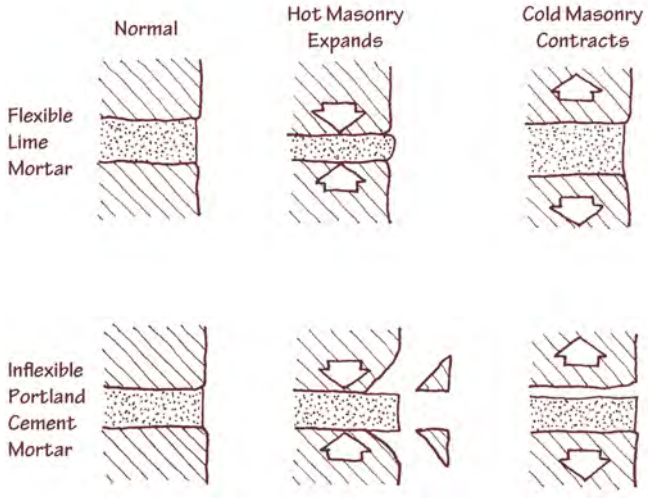
Water used in mortar needs to be clean and free of salts, harmful minerals and acid. If not, it can break down the mortar and adjacent masonry and discolor finished surfaces.

Historic Additives included shells, animal hair and clay particles. To duplicate the character of historic mortar, it might be necessary to include additives to match the original. (Refer to *Page 9* for mortar analysis information.) It should be noted that there are several types of chemical additives available today including those that increase or reduce the setting time or expand the recommended temperature installation ranges. The use of newer chemical additives is strongly discouraged unless they have been specifically tested over an extended period of time with similar historic materials to the proposed installation conditions (AO).



There are numerous joint profile types, with each producing different shadow lines and highlights. When repointing an area of masonry, it is important to tool mortar to match the existing joint profile for a consistent appearance.

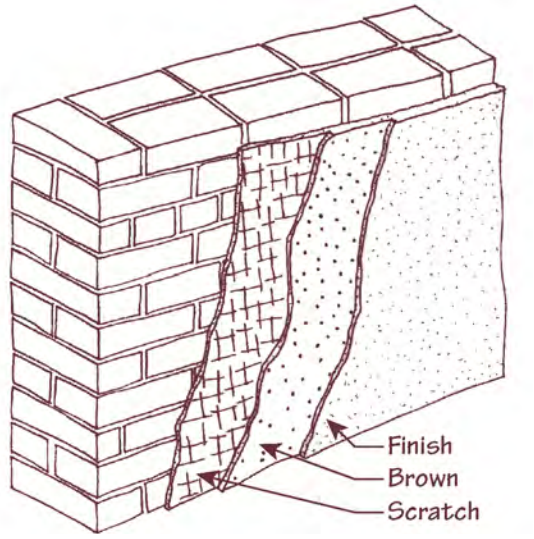
MORTAR HARDNESS & MASONRY



Temperature changes cause masonry units to expand when heated and contract when cold. The expansion and contraction of the masonry units results in compression and flexing of the adjacent mortar joints.

Lime based mortar is pliable and is more likely to compress and flex through temperature cycles. If properly installed, it should also be softer than the adjacent masonry.

Portland cement based mortars are significantly harder than lime based mortars and far less elastic. In addition, cement mortars tend to be substantially harder than historic masonry. When masonry units expand in warm temperatures and when heated by the sun, they press against the harder cement mortar and tend to spall at the edges. During colder temperatures, masonry units tend to pull away from mortar, resulting in open cracks that can allow moisture penetration.



Stucco was traditionally applied in three layers: the scratch coat; the brown coat; and the finish coat.

STUCCO

Stucco is a relatively inexpensive material that can provide a more finished appearance to brick, stone or wood framed buildings. In some cases, the surface was scored to look like stone. It acts as a weather repellent coating, protecting the building from the elements including rain, sunlight and wind, and can moderately increase its fire resistance. Stucco can also provide an insulating layer to a wall, reducing the passage of air.

In some cases, stucco was applied at the time of construction over softer hand-made brick as a protective coating. Scored stucco was also installed to give the appearance of cut stone and a fraction of the cost, particularly at Greek Revival buildings.

Beginning in the 20th century, stucco was applied on wood-framed buildings in revival styles of architecture. Depending on the style and period of construction of a building, the texture of the stucco varies widely, from a smooth finish to textured, troweled, and could be combined with wood half-timbering in Tudor Revival buildings.

Stucco was also applied on some buildings and structures, years after the original construction, as a remodeling material to vary the original appearance or to conceal deterioration.

The components of stucco are similar to pointing mortar and include sand, lime, Portland cement, water, and possible binders. In some cases, pigments were added to the mix, to alter the finished color.

STUCCO APPLICATION

Stucco is essentially a layer of mortar held in position by the bond formed with the underlying material. Historically at masonry walls, one of the best ways to achieve a bond was to "rake-out" the mortar joints about 1/2" to form a groove that holds the stucco in place. (Refer to Raked Joint at *Joint Profiles* Diagram, *Page 4*.)

When installed on masonry, stucco becomes an integral part of the wall when it sets. When stucco was installed historically on wood framed walls, the stucco was generally "hung" on strips of wood called lath that were nailed to wall studs. By the mid 20th century, metal lath replaced wood lath for stucco application on wood framed buildings. (Refer to illustration on *Page 9*.)

A stucco wall surface is generally about 1" thick and applied in the following 3 coats:

1. The **Scratch Coat** is approximately 3/8" thick and applied directly to the wall surface. It is forced into the raked joints or pushed into the lath to provide a strong bond. The surface of the scratch coat is deeply scored to allow bonding of the brown coat.
2. The **Brown Coat** is also approximately 3/8" thick and finished with a wood float for a smoother surface.
3. The **Finish Coat** is generally about 1/4" thick with the overall thickness being determined by the finish style

SYNTHETIC STUCCO (ALL)

The Exterior Insulation and Finish System, or EIFS, is a synthetic stucco system that was popularized in the United States in the late 20th century. It generally consists of 3 layers:

- An inner foam insulation board secured to the exterior wall surface, often with adhesive
- A middle polymer and cement base coat that is reinforced with glass fiber mesh
- An exterior textured finish coat

One of the significant problems with EIFS is that it does not "breathe" and can trap moisture within the wall thickness. This can lead to powdering or melting of softer masonry and rotting of wood sills and framing. If the problem persists, mold and mildew can develop in the building, providing a desirable home for termites.

Although the surface of EIFS can be finished to match many types of stucco, there are some differences. In larger areas of wall surface, EIFS is typically installed with control joints or grooves to allow the surface to expand and contract with temperature changes. These joints are typically not needed with lime based stucco and can result in odd wall patterns. Also, if properly installed, EIFS should not come in contact with roofing, wood trim or porch floors to reduce the possibility of moisture infiltration. Instead, these joints are often filled with sealant that can crack and eventually allow moisture to penetrate.

Because of the differences in the visual characteristics of EIFS from stucco and the potential to harm historic building fabric, the application of synthetic stucco or EIFS at any designated building or structure is not recommended.

TYPICAL CAUSES OF MASONRY PROBLEMS

The principal components of most unit masonry walls are stone, brick, terra cotta and concrete block. Mortar, which is located between the bricks, stones or blocks, bonds the individual units together, transfers the load through the masonry and provides a weather-tight seal at the exterior surface.

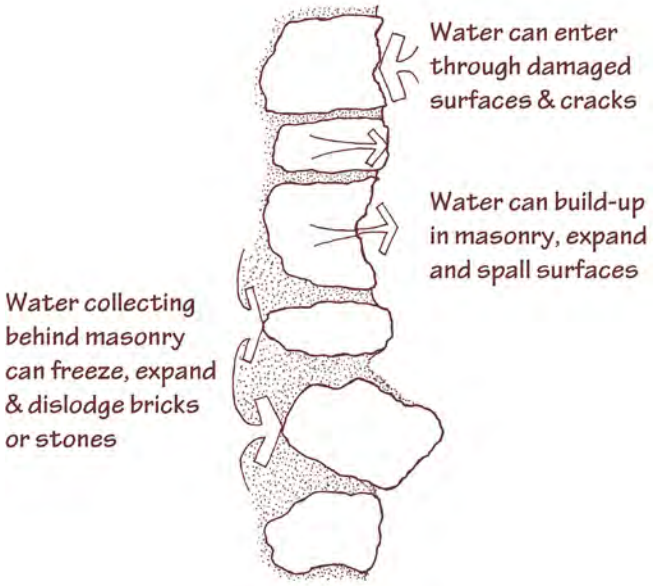
Many problems associated with historic masonry result from the failure to keep masonry mortar joints in good repair. Deteriorated mortar joints can allow water to penetrate the masonry and cause severe interior and exterior damage. There are five principal causes of mortar joint failures:

- **Weathering** of mortar occurs when rain, wind and pollution eat away at softer historic mortar over time. (Historic mortar was purposely softer to allow the masonry wall to expand and contract with seasonal temperature changes - *Refer to Mortar Hardness & Masonry, Page 4*.)
- **Uneven Settling** of masonry walls, hurricanes and seismic events may result in cracks along masonry joints or within masonry units.
- **Poor Original Design and Materials** can cause ongoing problems if the masonry and mortar are incompatible or inappropriate for their installation location, or if the masonry does not properly shed water.
- **Temperature Cycles** can cause deterioration in this climate, which is subject to extreme heat in the summer and cold temperatures in the winter. Temperature cycles can cause masonry and mortar to expand and contract at different rates, breaking the masonry's bond with the mortar. This situation can be much worse if moisture enters an open joint, potentially popping out the surface of the mortar and the masonry, resulting in spalling.
- **Insufficient Exterior Maintenance** refers to potential areas that might cause water to enter a masonry wall and contribute to its accelerated deterioration. Potential areas of concern are: poorly functioning gutters, downspouts and flashing; rising damp; standing water at foundations; water splashing back off hard surfaces, such as paving, onto walls; or water-entrapping vegetation such as ivy or shrubs on or near masonry walls.

DEFINITIONS

Efflorescence: Water-soluble salts leached out of masonry or concrete by capillary action and deposited on a surface by evaporation, usually as a white, powdery surface

Spalling: Chipping or flaking of masonry



Moisture can enter walls through various ways including mortar cracks, spalled surfaces, groundwater and interior conditions. Moisture and impurities in masonry walls can cause outward pressure and result in spalling, dislodging of masonry units and deteriorated mortar joints.

DETERIORATED MASONRY

Although historic mortar will generally deteriorate before stones or bricks, individual stones or bricks can suffer damage from a variety of causes including moisture infiltration, harsh chemicals, abrasive treatments, hard pointing mortar, differential settlement, biological growth and heavy pollution.

After a stone or brick has been installed and exposed to the elements for a length of time, it develops a protective layer or crust on its outer surface. This layer provides additional protection for the interior of the masonry unit from outside elements such as moisture and pollution. If the protective layer is compromised, damaged, or spalled, the unprotected and softer inner core is then exposed and the deterioration can accelerate, causing the surface to become powdery and scale off. Spalling generally results from the build-up of internal pressure in a wall and can be caused by:

- Freeze-thaw action of moisture that penetrates a masonry surface, freezes and expands
- Expansion of metal components within a wall such as window lintels and tie backs that become wet, rust and expand
- Efflorescence of salts or minerals on the wall surface or build-up of salts within the wall that crystallize and expand
- Differential settlement

The principal cause of most instances of spalling is the infiltration of water or moisture inside the masonry construction.

The storm water from the downspout has deteriorated the foundation's mortar and the bottom stone has been dislodged. It is recommended that water from the downspout be directed at least 3 feet away from the foundation and that the shrubs be trimmed or relocated away from the building.

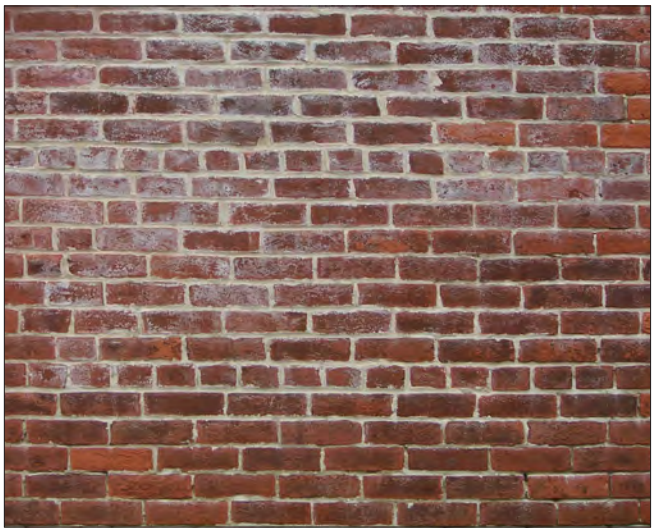
WHAT TO LOOK FOR (AO)

It is important to identify masonry problems as early as possible to minimize potential ongoing damage. This is particularly true for masonry that is exposed to a water source. Once water is permitted to penetrate a masonry wall, the deterioration will accelerate very quickly, becoming more severe and costly. Some of the signs of problems in masonry walls include:

- Disintegration of mortar more than 1/4" deep from masonry surface
- Cracks in mortar, or mortar bonds broken or pulled away from masonry
- Open mortar joints
- Loose bricks or stones
- Delaminating or surface erosion of bricks or stones
- Pitted surfaces from sandblasting and abrasive cleaning
- Damp walls, sometimes evident through the growth of moss or algae, and more commonly evident through efflorescence, which is typically visible as a white powdery substance on the wall surface
- Damaged interior plaster or finishes
- Rot of wood framing along masonry walls

Before attempting to repair masonry problems, it is strongly recommended that the cause of the problem be addressed. This would include repairing any outstanding exterior maintenance and drainage issues.

The brick infill area is clearly visible. The infill area uses bricks of a different size and color than the historic bricks and is outlined by a thicker mortar joint rather than being "keyed" into the adjacent brickwork. The bricks and mortar used in the infill areas should be the same size, color, texture, appearance, profile and hardness as the adjacent historic bricks. The repair should also be "toothed" into the adjacent brick to appear continuous with the wall surface.



The white, powdery surface on the brick is an example of efflorescence, where water-soluble salts leached out of the brick and mortar. Since the efflorescence is concentrated in the area of repointing, the likely cause is the replacement mortar.

Landscape walls are particularly susceptible to deterioration because of their high exposure to the elements. The green bloom on the surface of the bricks suggests a great deal of moisture in the wall.

The repointing mortar in this wall is likely harder that the bricks, containing too much Portland cement. The surface of the upper brick has spalled, exposing the softer interior of the core. The mortar is also beginning to crack and pop out of the lower joints.

DETERIORATED MORTAR

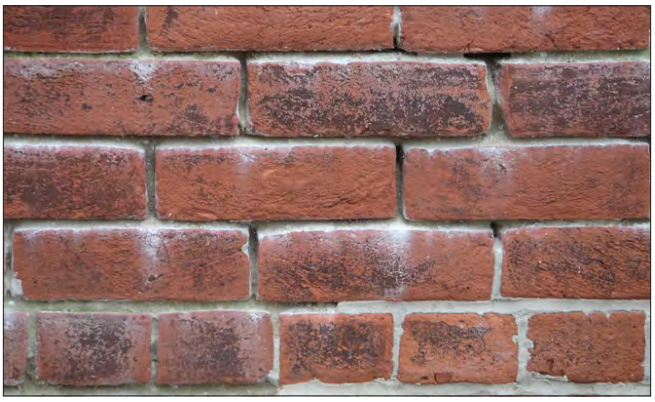
Historic mortar was mixed to be softer, or have less compressive strength, than the adjacent brick or stone. Because it is softer, the mortar acts as a cushion or sacrificial portion of the masonry surface as it expands and contracts through changes in temperature, moisture and differential settlement. If mortar is harder than the adjacent masonry, the stresses could be relieved through the individual stones and bricks. Cracking and spalling of the individual masonry units could occur, creating areas for potential moisture infiltration and potentially unstable or structurally compromised walls.

By design, mortar will typically deteriorate faster than brick or stone and require more frequent replacement, while the masonry remains relatively intact. Repointing is the process of removing deteriorated mortar from joints in a masonry wall and replacing it with new mortar. With the installation of the new joints, the visual and physical integrity of the masonry can be restored.

Repointing can be time consuming and expensive. It requires a great deal of hand labor by knowledgeable craftsmen to remove the existing mortar without damaging adjacent masonry, achieve the appropriate mortar mix and hardness, apply the mortar and tool it to match the historic joint style and appearance. Because of the associated costs, it is generally recommended that repointing projects be limited to areas of deterioration rather than an entire building. However, if properly completed, repointing work can last 50 to 100 years.

REPOINTING HISTORIC MASONRY (ALL)

To achieve the best results, repointing work is best completed when the temperature ranges between 40˚F and 90˚F for at least two days after the installation of the mortar to help the mortar bond to the masonry. Mortar should be of a similar composition to the historic mortar, including hardness, color, and texture. It should be placed in joints in layers of no more than 3/8" thick and allowed to harden before additional layers are added. The final layer should be tooled to match the historic joint profile. (Refer to *Page 4.*)



The mortar joints between the bricks has deteriorated, particularly at the vertical joints, increasing the potential for moisture infiltration. The area at the lower right corner of the photograph has been recently repointed and mortar has been smeared over the surface of the brick rather than tooled. To maintain the historic appearance, it is recommended that the replacement mortar match the historic in appearance, color, texture, hardness and joint profile.

This photograph illustrates an inappropriate repointing of historic brick. A saw was used to cut-out the joints during repointing, extending the vertical joints. In addition, both the vertical and horizontal joints have been widened.

HIRING A CONTRACTOR

- The repair, maintenance, installation and cleaning of masonry, stucco and concrete can be potentially dangerous work and should be left to professionals
- All masons are not necessarily experienced in all materials; choose a contractor with demonstrated experience in working with historic masonry, stucco or concrete
- Verify warranty for materials and labor
- Check references to understand how well a mason's work has held up
- Hold final payment, such as 25%-30% of the project cost, until all work has been properly completed

PATCHING STUCCO (ALL)

Similar to repointing mortar, stucco should be applied in moderate weather conditions, avoiding extreme heat, sun and freezing temperatures. The final appearance should duplicate the existing as closely as possible in strength, composition, color and texture. Successful patching of stucco surfaces generally requires the services of a skilled craftsman. Similar to stucco application, stucco repairs are applied in three coats. (Refer to *Stucco Application, Page 5*.) Similar to pointing mortar, if stucco patches are too hard, they could cause additional damage to the adjacent historic stucco surfaces or lead to the formation of cracks that can allow water migration into the wall.

When repairing stucco, hairline cracks can generally be filled with a thin slurry coat of the finish coat ingredients, while larger cracks need to be cut-out and prepared for a more extensive repair. Similarly, bulging wall surfaces need to be cut-out to a sound substrate. For the best appearance, the area to be patched should be squared off and terminated at a building joint or change in materials such as a window or door frame.

When applying stucco directly to a masonry wall, it is important to rake out the masonry joints to a sufficient depth to allow the stucco mortar to be bonded to the masonry and keyed into the joints. When applied to a wood framed building, the lath should be securely attached to the substrate. The use of metal lath at masonry buildings is strongly discouraged since it can be prone to rust and eventually lead to the spalling of the stucco surface.

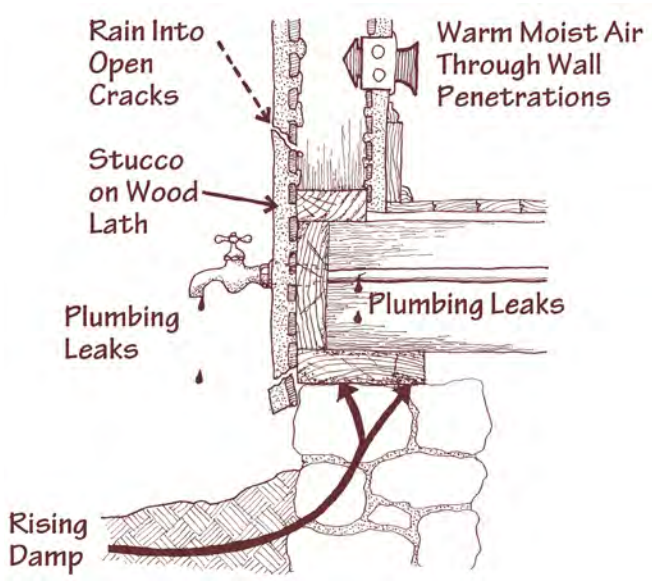
The peeling paint is likely incompatible with the stucco or caused by moisture. Loose and flaking paint should be removed and peeling cause determined before repainting.

PAINTING STUCCO (AO)

The NHC / HDC encourage the painting of stucco with lime based masonry paint. Similar to lime based mortar and stucco, lime based paint is “flexible” and “breathes.” By contrast, multiple coats of latex paint can act as a barrier, trapping moisture and eventually peeling.

Repaired stucco will often need to be repainted for a uniform appearance. When selecting paint, it is important that the new paint is compatible with earlier coats of paint and the stucco material, and applied following the manufacturer’s recommendations.

The crack from the window sill might be a sign of building settlement. Review wall for other signs of movement or settlement. Repair crack and apply a lime-based paint for a uniform appearance.



Rain and Precipitation *can enter the exterior envelope through damaged or cracked surfaces and crevices with adjacent materials including window and door frames.*

Rising Damp *is the migration of moisture from the soil into the building structure through capillary action. The soil adjacent to the foundation can become saturated through improper drainage from gutters and downspouts and vegetation planted adjacent to the foundation.*

Plumbing Leaks *include leaking bathroom fixtures, kitchen and laundry appliances, and both interior and underground piping.*

Condensation *occurs when warm moist air from kitchens, bathrooms and laundry facilities comes in contact with cold surfaces and changes to water droplets.*

MATCHING HISTORIC MORTAR & STUCCO (AO)

Most pre-mixed mortar available from hardware stores is generally inappropriate for historic masonry as it contains too much Portland cement and is too hard. The most exact method of matching historic mortar and stucco is to have it analyzed by a professional lab. The PDD Staff is also available to provide guidance based upon the type, location and condition of the masonry.

The rough texture and uneven surface suggest that an overly aggressive cleaning method was used. Stucco patches replace bricks and efflorescence, a powdery white substance, can be seen on the surface.

MASONRY CLEANING (AO)

Appropriate masonry, stucco and concrete cleaning can enhance the character and overall appearance of a building. However, improper cleaning of historic masonry can cause damage to the historic surfaces and cause more harm than good both physically and aesthetically. There are three principal reasons for cleaning historic masonry:

- Improve the appearance by removing dirt, pollen, stains, graffiti or paint
- Slow deterioration by removing deposits, salts, efflorescence, acids, ivy, algae, moss, mildew and pollutants that can damage masonry surfaces
- Clean select areas to match historic masonry or mortar or to assess surface condition

Masonry cleaning methods fall within three general categories:

- Low pressure water, with the possible use of gentle detergent and brushing
- Mechanical cleaning including sand blasting, power washing, grinding, sanding and wire brushing
- Chemical cleaning

Because of the potential damage to historic surfaces, cleaning should be completed using the gentlest means possible. In many cases, soaking the masonry, stucco and concrete with low pressure water can remove much of the surface dirt and deposits. If the soaking method is not successful, it might be necessary to add a non-ionic detergent or brush the wall surface with a natural bristle brush.

The use of mechanical methods, including abrasive blasting, power washing, sanding or grinding, can potentially remove decorative details and the protective surface of the masonry, stucco or concrete, resulting in an eroded surface and permanent damage. Abrasively cleaned masonry, stucco and concrete usually has a rougher surface that can hold additional dirt and be more difficult to clean in the future. Chemical based cleaners can etch, stain, bleach or erode masonry, stucco and concrete surfaces. Both mechanical and chemical cleaning methods can also make the masonry, stucco and concrete surfaces more porous and deteriorate mortar joints, allowing for increased moisture penetration.

The NHC / HDC encourage:

- Cleaning using the gentlest means possible
- Making sure mortar joints are sound and building is water-tight before water cleaning
- Using water without traces of iron or copper that can discolor masonry
- Conducting water cleaning a minimum of one month before freezing temperatures to minimize the potential for spalling
- Minimizing water pressure, generally no more than 100 psi, to reduce potential etching of masonry surfaces
- Using clean water without excessive salts, acids or minerals that can deposit on masonry surfaces
- Using non-ionic detergent and natural bristle brushes when water soaking is not successful

The NHC / HDC discourage:

- Using mechanical methods including sand blasting, grinding, sanding and wire brushing - these methods can damage the exterior and inappropriately change the visual appearance (ALL)
- Using chemical cleaning

In instances where a severe stain or graffiti is present, it might be necessary to use a chemical based cleaner in specific areas. Caution should be taken to test the effects of the proposed cleaner on a discrete area of the building before using it on a principal elevation. It is recommended that the most diluted possible concentration be used to minimize potential damage of the masonry surface. It should be noted that many chemical cleaners are hazardous and require special handling, collecting and appropriate disposal of the chemicals and rinse water.

The NHC / HDC encourage:

- Hiring a contractor with specialized knowledge of masonry cleaning when gentler cleaning methods are unsuccessful

MASONRY COATING (ALL)

Water repellent and waterproof coatings are generally applied to prevent water from entering a masonry wall, but tend to be unnecessary on weather-tight historic buildings. Water infiltration through masonry and concrete buildings is generally caused by other moisture related problems including open mortar joints, surface cracks or spalls and poor or deferred maintenance. In instances where the surface of the masonry has been severely compromised, (such as at sandblasted brick), the use of water repellent coatings might be appropriate.

Water Repellent Coatings, also referred to as "breathable" coatings, keep liquid from penetrating a surface but allow water vapor to escape. Many water repellent coatings are transparent or clear when applied, but might darken or discolor over time.

Waterproof Coatings seal surfaces and prevent liquid water and water vapor from permeating the surface. Generally, waterproof coatings are opaque or pigmented and include bituminous coatings and some elastomeric coatings and paint. Waterproof coatings can trap moisture inside of a wall and can intensify damage. Trapped moisture can freeze, expand and spall masonry and concrete surfaces.

The NHC / HDC discourage:

- Applying water repellent or waterproof coatings to weather-tight historic masonry or concrete unless it is below the surface of the surrounding grade

MASONRY PAINTING (AO)

If the exterior of the masonry surface has been compromised through previous sandblasting, moisture infiltration or the use of harsh chemicals, appropriate painting can provide a degree of protection. Proper application of a water repellent paint can prevent water from penetrating while allowing water vapor to escape.

Waterproof or inappropriate paint can trap moisture within a wall. Proper preparation is critical to a successful masonry or stucco painting project.

- Remove loose or flaking paint, mortar, masonry, stucco or concrete as well as ivy, algae, moss and mildew
- Complete items of deferred maintenance including repair of deteriorated gutters and downspouts
- Complete repointing, re-caulking and patching as needed
- Apply undercoat and paint appropriate for masonry application type, following manufacturer's recommendations for application

PAINT REMOVAL SAFETY

Caution should be used when removing paint since some paints include lead, requiring proper collection and disposal techniques. Please review the G*uidelines for Exterior Maintenance* for additional information.

REMOVING PAINT FROM MASONRY

When considering whether to remove paint from a masonry or stucco surface, it is important to assess whether stripping is appropriate. In some instances:

- The building might have been meant to be painted; less attractive, softer or more porous bricks, stones or concrete might have been painted to provide a water repellent protective layer
- Paint can mask later changes or additions

Reason to consider stripping paint:

- To reduce the long term maintenance requirements associated with repainting
- Paint might have been originally applied to mask other problems such as a dirty building
- If existing paint has failed, it might be necessary to strip it before repainting

Signs of failed paint include:

- Paint is badly chalking, flaking or peeling, possibly due to moisture penetration. It is important to find the cause of moisture and repair before repainting.
- If masonry, stucco or concrete has been "sealed" by excessive layers of paint or by waterproof coatings, the underlying masonry might not be able to "breathe" and dispel the internal moisture and salts. Eventually, pressure from moisture and salts can build up under paint layers and possibly cause the paint to peel and masonry, stucco or concrete to spall. (Refer to illustration on *Page 6*.)

If paint is stable, complete paint stripping might not be necessary. However, new paint should be compatible with previous paint layers for best adhesion.

The NHC / HDC encourage (ALL):

- Considering paint-removal appropriateness
- Removing paint using the gentlest means possible

The NHC / HDC discourage (ALL):

- Applying water repellent or waterproof coatings to intact masonry, including paint that can trap moisture and prevent the wall from "breathing"
- Applying waterproof coatings on masonry above the surface grade level
- Painting previously unpainted historic brick, stone, stucco, block and poured concrete because the paint can:
  - Damage the historic masonry
  - Alter the visual characteristic of the building and obscure the craftsmanship of the masonry including colors, texture, masonry and joint patterns
  - Be very difficult to remove from the masonry surface in the future

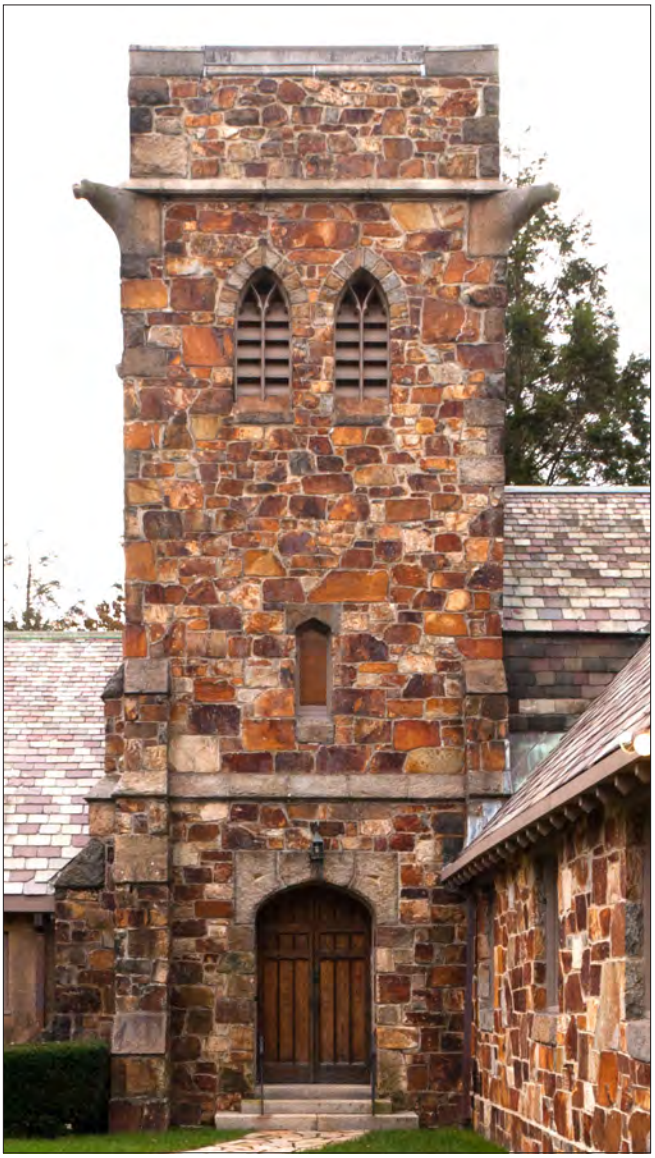
MASONRY, STUCCO & CONCRETE GUIDE

The NHC / HDC encourage:

- Replacement masonry, stucco and concrete that matches the historic in type, color, texture, size, shape, bonding pattern and compressive strength (ALL)
- Repointing mortar or stucco of the same hardness or softer than the original mortar or stucco and always softer than the original masonry - older buildings typically of high lime content with limited Portland cement (ALL)
- Using mortar, stucco and concrete that matches the appearance, color, texture, pattern, joint size and tooling of the historic mortar, stucco and concrete (ALL)
- Appropriately sized replacement masonry toothed into existing masonry and continuing the historic pattern (ALL)
- Maintaining historic wood half-timbering in Tudor Revival buildings and if replacement is required, installing matching wood timbering of similar dimension, profile and pattern as the historic material. Please refer to *Guidelines for Exterior Woodwork* for additional information regarding wood maintenance and painting (ALL).
- Carefully removing algae, moss, vines and other vegetation from masonry, stucco and concrete walls and removing shrubs from the building perimeter (AO)
- Completing masonry, stucco and concrete work in fair weather, for improved bonding and curing (AO)

The NHC / HDC discourage:

- Widening or extending the existing mortar joints or overlapping the new mortar over the masonry surface (ALL)
- Removal/covering of historic masonry surfaces or details (ALL)
- Removal of historic stucco from masonry surfaces exposing the soft, underlying brick to the elements (ALL)
- Installing stucco over brick, stone or wood framed buildings that were not intended to be stuccoed unless covering previously damaged masonry (ALL)
- Installing modern bricks for patching historic masonry, even if they are “antiqued”, since they are generally much harder and do not match the historic masonry (ALL)
- Using pre-mixed mortar that does not match the appearance of the historic mortar (ALL)
- Using pre-mixed mortar or stucco that contains a high percentage of Portland cement at softer or historic masonry or stucco installations, to maintain the historic appearance (ALL)
- Using power tools to remove existing mortar from joints since they can damage historic masonry - these methods can damage the exterior and inappropriately change the visual appearance (ALL)
- The use of modern chemical additives in mortar, stucco or concrete (ALL)
- Installing pointing mortar or stucco in a single layer greater than 3/8” deep (AO)



Masonry is a common building material for large-scale civic buildings in Newton. The First Church in Chestnut Hill, originally built in 1910, is constructed from uncoursed fieldstone in a decorative colored pattern.

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

City of Newton
Historic Preservation

Guidelines for Roofing

The front gable roof on this relatively modestly scaled house in Auburndale includes distinctive alternating bands of standard and diamond-shaped slates. The vergeboard along the gable-end includes a decorative paneled motif with circular cut-outs.

PURPOSE

These *Guidelines* were prepared to provide property owners with information when considering the repair, alteration or installation of roofing. 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 Districts 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 though 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.

ROOFS

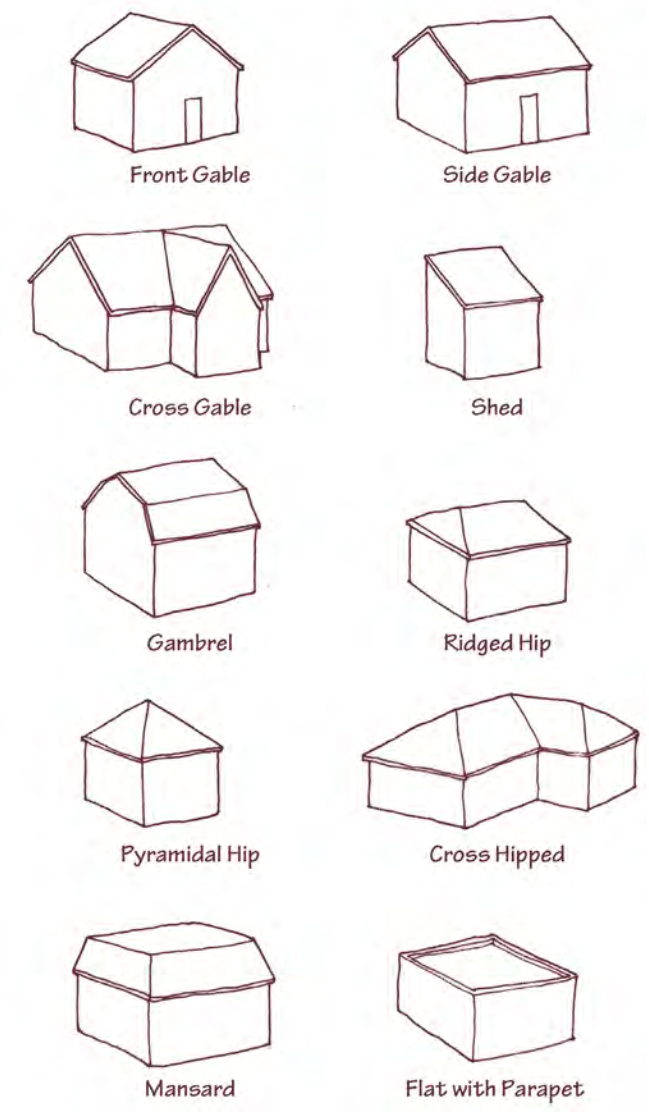
A building's roof provides the first line of defense against the elements, and its design greatly affects the overall appearance of a building. Therefore, the following functional and aesthetic concerns should be considered when considering roof alterations:

- Weather-tight roofing preserves a building and provides shelter from rain, wind, sun and snow
- Roofing helps define the building's character, silhouette and architectural style
- The form, color and texture of roofs and roof penetrations affect the scale and massing of the building
- Roof variations add visual interest to the streetscape

The complex roof form of this Queen-Anne home in the Newtonville Historic District is an important element of the streetscape and adds to the character of the neighborhood.

HISTORIC CHARACTER OF ROOF FORMS

The historic form of a roof is critical to the understanding of a building's type and architectural style. Alterations to a roof's shape can have a negative impact on the building's appearance. Roof forms can have various pitches and be combined in different manners to provide numerous roof types. This is particularly true of Victorian-era buildings which often have complex roof forms with intersecting gables, hips and towers. Some of the most common basic roof forms found in Newton are illustrated below.



ROOF PITCH AND MATERIALS

The pitch or slope of a roof helps define the appropriate materials for the roof. Low-pitched to flat roofs depend on a continuous roof surface to minimize moisture infiltration. Material options for low-pitched roofs include built-up hot tar roofing; roll roofing such as EDPM; and soldered flat-seam metal. Possibilities for moderately to steeply sloped roofs include unit materials such as slate, terra cotta, concrete, wood shingles, metal shingles and asphalt shingles.

ROOFING MATERIALS

Historically, roofing materials were selected based upon practical and aesthetic criteria including pitch, weather conditions and availability of materials and craftsmen.

In Newton, existing historic roof materials are generally slate, terra cotta and, less frequently, wood shingles. Later roofs are often covered with asphalt shingles. Each material provides a specific color, texture and pattern to a roof surface. Slate and wood shingles provide a modulated surface with variations in color, texture veining or graining and thickness. Decorative slate shingles were also used, particularly in the Victorian-era during the second half of the 19th century, to add additional colors or shapes to roof surfaces.

With industrialization at the beginning of the 20th century, new roofing materials were introduced, including asbestos and asphalt based shingles, as well as varieties of rolled or built-up roofing for flat installations. The variety of metal roofing was also expanded, including copper, galvanized sheet steel and aluminum. In addition, the early 20th century included an expanded use of terra cotta tile and later concrete tile, particularly in revival styles of architecture.

More recently, a larger variety of substitute roofing materials intended to simulate historic materials have been developed, with some being more successful than others. These include "dimensional" or "architectural" asphalt-composition shingles and fiberglass, metal or recycled rubber shingles intended to evoke the appearance of slate, terra cotta and wood shingles.

INVESTIGATING HISTORIC ROOFING

Some investigation may be needed to determine the historic roof material for a building. A good place to start is in the attic. New roofs are often installed on top of older roof surfaces. By looking between rafters, older roofs can sometimes be seen. Another area of review is the roof framing, lath and sheathing. Because of their weight, slate and terra cotta require more substantial roof framing, with larger rafters and narrower spacing than wood shingle framing. If the original lath is visible, there are variations in lath spacing that relate to standard sizes for slate, terra cotta, concrete and wood shingles. Finally, wood sheathing was often needed in metal roof installations, while lath was used in shingle installations. If physical evidence is not available, documentary evidence such as historic photographs, speaking to neighbors or looking at similar buildings in the area might provide clues about original roof materials.

SUBSTITUTE MATERIALS

Care is recommended when using substitute materials since they might not have the longevity advertised, can potentially damage historic building fabric, and may not meet the Secretary of the Interior's standards.

Roofs can be a prominent feature of a building, with slate providing a distinctive and modulated color, veining and texture.

SLATE (ALL)

A slate roof can last 60 to 125 years depending on the roof slope, stone properties, formation, installation quality and regularity of maintenance. Failing slate often slowly delaminates, chips and absorbs moisture, causing the deterioration process to accelerate over time. Problems with slate roofs are typically the result of localized failure, since many of the roof accessories and fasteners do not have the same 100-year life span as the slate itself. To extend the serviceable life of a roof, property owners are encouraged to address localized problems as they become apparent, using a qualified slate roofer.

Typical localized problems and possible repairs for slate:

- Loosening or corrosion of fasteners for slate or accessories - *Reattach or replace fastener*
- Split or cracked slate - *Install sheet metal under shingle, fill split or hole with roofing cement*
- Missing or damaged slates or roof accessories - *Replace to match original*

If over 20% of the roof slates are damaged or missing, replacement of the roofing might be warranted; in this case, property owners are strongly encouraged to make every attempt to match decorative patterns with replacement materials. When replacing sections of a slate roof, it may be possible to salvage and reuse some of the existing slate. Imitation slate products have unknown reliability and lifespan and the NHC/HDC recommend retaining slate roofs or, if necessary, replacing them in-kind. It is critical to select a flashing material with a life span similar to or longer than the new roofing.

LIFE-CYCLE COST OF ROOFING MATERIALS

With regular maintenance, roofing materials perceived as "more expensive" (ie, slate, terra cotta and concrete roofing) often have a substantially longer lifespan than other forms of roofing. As a result, they do not require replacement as often and may have a lower life-cycle cost than cheaper materials such as asphalt. This longevity and the material's aesthetic qualities often add to a property's value.

TILE (ALL)

A tile roof, including terra cotta and concrete tiles, can last over 100 years depending on the material's properties, the manufacturing process, installation quality and regularity of maintenance. Similar to slate, problems with tile roofs are typically the result of localized failure since many of the roof accessories and fasteners do not have the same 100-year life span as the tile itself. In addition, the tiles are relatively fragile and susceptible to damage from falling tree limbs and other impacts. To extend the serviceable life of a roof, property owners are encouraged to address localized problems as they become apparent, using a qualified roofer.

Typical localized problems and possible repairs for tile roofing:

- Loosening or corrosion of fasteners for tiles or accessories - *Reattach or replace fastener*
- Cracked tile - *Install sheet metal under tile, fill split or reattach dislodged piece with tinted roofing cement*
- Missing or damaged tile or roof accessories - *Replace to match original, preferably with salvaged units with the same dimensions and similar visual characteristics*

If over 20% of the tiles on a roof slope are damaged or missing, replacement of the roofing might be warranted; in this case, property owners are strongly encouraged to make every attempt to match decorative shapes and patterns with replacement materials. Other materials are used to simulate terra cotta, concrete or other tiles, but many do not have the same dimensional characteristics of the historic material or have not been available commercially for very long. It is often possible to reuse salvaged tiles taking care to verify availability of appropriate quantities of needed sizes and shapes. When replacing a roof, select a flashing material that has a life span similar to or longer than the roofing.

Tile roofs can often last as long as slate roofs, and contribute greatly to the character of buildings such as this historic home.

METAL (ALL)

Metal became a popular material for roofing after sheet metal production was expanded following the mid 19th century, and can be found on commercial and industrial buildings, as well as residences and outbuildings. Traditional sheet roofing metals include lead, copper, zinc, tin plate, tern plate and galvanized iron. Some metal roofs require regular painting, with traditional colors including silver, grey or green, to minimize the potential for corrosion.

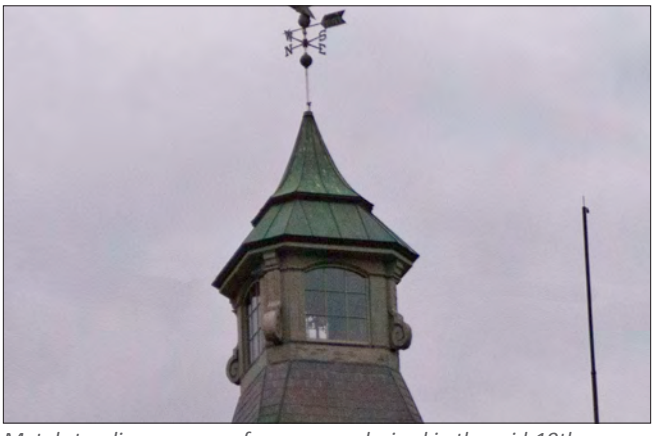
On shallow pitch roofs such as those of porches, cupolas or dormers, small rectangular pieces of flat seam metal roofing were installed with edges crimped together and soldered to form a weather-tight surface. On steeper pitched roofs, long continuous seams were used, typically in a standing seam configuration, providing regular ridges down roof slopes. Corrugated or other paneled metal roofing was also common on commercial and industrial buildings as well as outbuildings, such as sheds and garages.

Deterioration of the metal surface tends to occur from wearing of the protective painted or galvanized surface, chemical action, rusting, pitting or streaking, airborne pollutants, rain or material acids, or galvanic action. Galvanic action occurs when dissimilar metals chemically react against each other and corrode, and can come from adjacent metals, such as fasteners or non-adjacent metals (such as roof cresting), via rainwater.

If the roof is generally rusting, splitting, pitted, severely buckled or warped, or many of the seams or edges are open or disfigured, replacement of the roofing might be warranted. If considering replacement, applicants are encouraged to make every attempt to match the material and seam patterns with the replacement material.

Typical localized problems and possible repairs for metal:

- Worn paint, galvanizing or coating - *Repaint*
- Slipping sheet, panel, open seam or open solder joint - *Refasten and/or re-solder*
- Isolated rusting or holes - *Replace to match original*



Metal standing-seam roofs were popularized in the mid-19th century. Decorative or unusually shaped roof elements, such as this cupola, were often covered with metal roofing.

Wood shingle roofs can be applied in a variety of decorative patterns and configurations. This example includes alternating rows of scalloped and square-butt shingles.

WOOD

Wood shingles are typically made from cedar, cypress, redwood, oak, elm or white pine. While uncommon in Newton, historically they represented a common sloped roofing material.

A wood shingle roof can last 30 to 60 years depending on the roof pitch, quality of materials and installation. However, like all exterior wood installations, a shingle roof is subject to deterioration, rot, splitting, warping and eroding. In many cases, wood shingle roofs are replaced at the first indication of a localized problem, even when regular maintenance or a less intensive repair would be sufficient. Common locations of failure are the roof accessories including the fasteners, flashing and gutters, which might have a shorter life span than the roofing surface. To extend the serviceable life of a roof, property owners are encouraged to address localized problems as they become apparent.

Typical localized problems and possible repairs for wood shingles:

- Loosening or corrosion of fasteners for shingles or accessories - *Reattach or replace fastener* (ALL)
- Split or punctured shingle - *Install sheet metal under shingle, fill split or hole with roofing cement* (ALL)
- Missing or damaged shingles or roof accessories - *Replace to match original* (ALL)
- Moss or fungi on surface - *Trim back adjacent trees allowing sun to dry out roof surface; investigate fungicide application; check attic for adequate ventilation* (AO)

METAL ROOFING COLOR (LL, PR)

Metal roof colors in Newton tend to be natural metal or natural copper, or if a painted finish is desired, colors such as red, silver to grey or muted green. Red metal roofs are most commonly found at secondary buildings and at porch roofs.

Asphalt shingles are a common 20th century building material, for both roof replacement and new construction.

ASPHALT

Asphalt became a popular roofing material at the beginning of the 20th century providing a relatively inexpensive and easily installed roofing material. Early asphalt roofing was generally made of asphalt-saturated felts in a variety of shapes, styles, textures and colors. Today, asphalt shingles are made with fiberglass, generally as 3-tab, "architectural" or "dimensional" shingles, which include multiple layers of material with simulated shadows suggesting wood or slate.

An asphalt shingle roof can be expected to last from 15 to 25 years with "architectural" or "dimensional" shingles lasting longer due to their multiple layers. Over time, asphalt shingles can curl, lose their mineral coating, be dislodged by wind or become brittle.

Typical localized problems and possible repairs for asphalt:

- Split or puncture - *Install sheet metal under shingle, fill split or hole with roofing cement* (ALL)
- Missing or damaged shingles or roof accessories - *Replace to match original* (ALL)
- Moss or fungi on surface - *Trim back adjacent trees to allow sun to dry out roof surface* (AO)

If over 20% of the asphalt shingles on a roof slope are damaged or missing, replacement of the roofing might be warranted. Property owners are encouraged to replace historic asphalt shingles in-kind (ALL).

Asbestos roofing shingles came in various shapes, with diamond-shaped being the most common. This asbestos roof has some non-asbestos replacement shingles of similar size and shape as the existing roofing.

FLAT ROOFING SYSTEMS (AO)

Although very few roofs are truly "flat", low-sloped roofs, generally defined as a pitch less 3:12 (3" rise for 12" run), require a watertight roofing system. There are a variety of flat or low-slope roof systems including: metal roofing; built-up roofing, single-ply roofing, and modified bitumen roofing. By contrast steeper pitched roof systems generally employ shingles that shed storm water.

Typical localized problems for flat roofs include:

- Splits, punctures, or cracking of surface
- Standing water or poor drainage

Although flat roofs that are not visible from a public way are often not subject to NHC and HDC review, it is recommended when selecting roofing materials that the materials and design address the building's drainage and specific details of the existing conditions including attachment, substrate and weight limitations. The installation of light-colored roofing to minimize solar heat gain is also recommended.

Flat roofs with parapets are frequently found on commercial or institutional buildings

ASBESTOS (ALL)

Asbestos became a popular roofing material at the beginning of the 20th century. Asbestos roofing is made from asbestos mineral fibers and either Portland or hydraulic cement and it provides a durable, lightweight, economical, fireproof, rot and termite resistant alternative to slate, terra cotta and concrete tile roofing.

With appropriate maintenance, an asbestos shingle roof can be expected to last well over 30 years, with cracking and rusting nails being the most typical cause of failure. However the manufacturing of asbestos roofing essentially ceased when asbestos was banned by the EPA in 1973. If the roofing is damaged, consultation with a professional to determine whether repair is feasible is recommended. If considering replacement, visually similar shingles, without the presence of asbestos, or asphalt shingles are recommended.

ASBESTOS SHINGLE REPAIR / REMOVAL

Great care should be taken when working with broken asbestos products and during their removal. It is recommended that all asbestos related work be undertaken by a licensed contractor.

Property owners are responsible for ensuring that all asbestos removal and disposal is handled in accordance with all applicable regulations and procedures, including Inspectional Services and Health Department regulations.

ROOF ACCESSORIES (ALL)

Added to the roofing surface, roof accessories are both functional and influence a roof's appearance. Roof accessories include flashing, snow guards, gutters and downspouts.

Flashing is commonly found at chimneys, dormers and intersections of roof forms.

Flashing is typically made of thin sheet metal formed to prevent water from entering a building at joints, intersections and changes of pitch. It is typically installed around chimneys, parapets, dormer windows, roof valleys, vents and intersections of porches, additions or bay windows. Flashing often fails before roof surfaces, particularly with more durable roofing such as slate, resulting in interior leaking. If the flashing deteriorates, it is possible to replace it without replacing the entire roof.

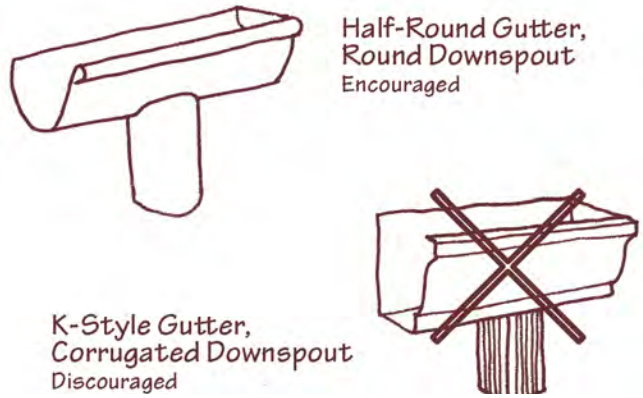
When replacing flashing or installing a new roof, it is important to select a flashing material that has an anticipated life span similar or longer than the roofing. Copper, terne, steel, lead and aluminum are all used for flashing. The longevity of each material is based upon its thickness, its propensity for deterioration from environmental conditions, and whether it is galvanized, treated or coated. Generally, copper or lead-coated copper have the longest life span, followed by steel, with aluminum being highly susceptible to punctures, tears and galvanic reaction with other metals and some roofing materials. It is important to verify that flashing materials are sympathetic and compatible with existing roofing materials.

Snow guards are typically cast metal or bent wire devices arranged in a staggered pattern near an eave to prevent large masses of snow from sliding off a roof. Another form of a snow guard is spaced brackets supporting metal rods above the roof surface. Both types of snow retention can protect eaves, cornice and gutters, and take advantage of the insulating effect of snow.

Gutters are typically located near or along the bottom edge of a roof slope to collect rainwater. Built-in gutters are hidden from view from the ground within or behind architectural features such as cornices or parapets. Pole gutters are located near the bottom edge of a roof slope and project perpendicularly to the roof surface. Built-in gutters and pole gutters generally include flashing materials typically wrapped around or within wood forms.

Hanging gutters are attached to the building just under the roof slope edge and are half-round or profiled in cross section. Hanging gutters are typically made of wood, copper, galvanized metals, aluminum and recently vinyl. Wood gutters often include flashing lining the form, offering the longevity and maintenance advantages of metal gutters.

Similar to flashings, gutter materials have different life spans. Generally, copper has the greatest potential longevity, followed by steel, with aluminum being highly susceptible to punctures, tears, dents and galvanic reaction to other metals. Vinyl gutters can become brittle, fracturing in low temperatures. The longevity of wood gutters is determined by the material and quality of the flashing; with proper maintenance wood gutters can last for many years. Wood gutters often contribute to the exterior appearance of a building, and should be retained or replaced in-kind.



Downspouts, also known as rainwater conductors, are generally surface mounted to a building's exterior to conduct water from a gutter to the ground or an underground drainage system. Similar to gutters, downspouts can be fabricated of copper, galvanized metal, aluminum and vinyl with similar characteristics, in a round or rectangular profile.

Snow guards come in a variety of types and styles, as seen on this roof. Also note the standing-seam metal roof with copper gutters, downspouts and decorative copper scuppers.

HISTORIC ROOF FEATURES

Roof features are decorative and sometimes functional elements that help to define the profile of a roof against the skyline and should complement the building's style. Historic rooftop features include chimneys, dormers, cupolas, bell towers, turrets, finials, cresting and weathervanes.

Chimneys were typically designed to complement the style of a building and period of construction. In Newton, many are constructed of brick, and less commonly stone, some of which have been covered with stucco. Most styles of building, including Colonial Revival and Classical Revival buildings, tend towards square or rectangular chimney shafts, sometimes with molded caps. Victorian-era and Tudor-revival chimneys can include decorative detailing including corbelling, varied patterns, molded surfaces and decorative chimney pots.

Chimneys can range from simple forms to the complex as seen in this paired-shaft, corbelled brick chimney.

Dormers, also known as dormer windows, protrude from the roof surface with a window at the downward slope, providing light and additional headroom under the roof. Dormers can have various roof shapes, including gables, shed, hipped, eyebrow and segmented pediment. For more information on dormers, refer to the *Guidelines for Additions & New Construction*.

Dormers can be a significant character-defining element of a historic house. Gambrel roofs typically have dormers to increase habitable space at upper floors.

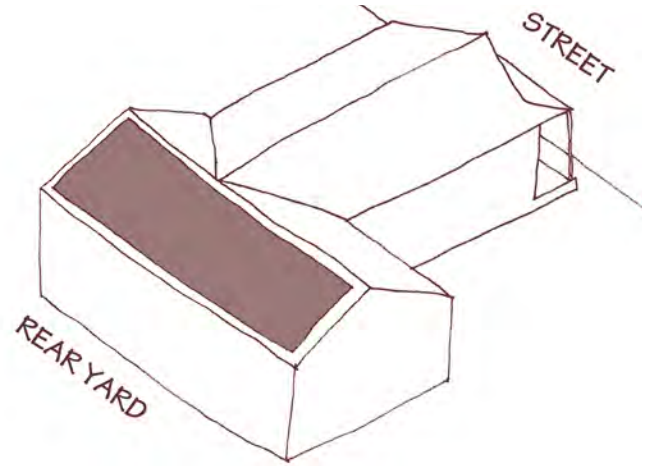
Cupolas, also known as monitors or belvederes, are structures that project up from the roof, used for ventilation with louvers, or as lookouts with windows. They are often found on agricultural outbuildings to provide ventilation for the animals housed below, but can also be found in urban areas as a decorative feature on important residential, institutional or civic buildings.

ROOF MOUNTED EQUIPMENT / ADDITIONS (ALL)

Roof mounted equipment including mechanical equipment, vents, television dishes and antennae and mobile telecommunication equipment are all examples of modern mechanical equipment and roof penetrations that can affect the historic integrity of a building. Although it is understood that some roof penetrations are required for items such as plumbing vents, property owners are encouraged to limit the amount of rooftop equipment and penetrations, and minimize the overall appearance of clutter. For more information on additions that change the appearance of an existing roof, refer to the *Guidelines for Additions & New Construction*.

Solar collectors provide a renewable energy source. Newton encourages solar collectors for space heating, hot water and electricity. However, property owners are encouraged to locate solar collectors where they are hidden or minimally visible from public view. Refer to the *Guidelines for Sustainability* for additional information.

Skylights are sometimes historically found in commercial buildings. The installation of new skylights should minimize alteration of the roof structure with the long dimension oriented down the roof slope. Skylights should be hidden or minimally visible from the public view, and should not disturb historic roof materials such as slate or terra cotta.



PREFERRED LOCATION FOR ROOF MOUNTED EQUIPMENT / ADDITIONS (ALL)

- The NHC/HDC encourage the placement of all dormers, additions and roof mounted equipment (including mechanical equipment, vents, television dishes, solar collectors and skylights) in a manner that is as visually unobtrusive as possible.
- Placement facing a rear yard, wherever possible, is encouraged. If it is not possible, placement as far back on a side slope as possible is preferred.
- Applicants are encouraged to install skylights and solar collectors so that they are parallel to the roof surface and do not extend more than 8 inches above it.

ROOF REPAIR OR REPLACEMENT

The NHC/HDC encourage:

- Retaining original drainage system and appearance (ALL)
- Installing half-round gutters rather than a profiled K-gutter, which often competes with building features (ALL)
- Installing plain round or rectangular downspouts in lieu of corrugated downspouts (ALL)
- Selectively replacing damaged or missing elements in-kind, so as to match the material, size, shape, texture, and other visual characteristics of the original (ALL)
- If the level of damage or deterioration is beyond repair, completely replacing damaged or missing materials in-kind to match the material, size, shape, texture, pattern, and other visual characteristics of the original (ALL)
- If replacement in original material is not possible, replacing the damaged or missing materials with new modern material of similar size, shape, texture, pattern and other visual characteristics of the original (ALL)
- Installing roofing rather than typical wall materials on the steep slopes of mansard roofs (ALL)
- Maintaining, cleaning or repairing of roofing, roof accessories and rooftop features (AO)
- Securely installing fasteners and flashings with a similar expected life span to the roofing material (AO)
- Regular repainting of metal components susceptible to rusting and wood elements susceptible to rot and deterioration (AO)
- Cleaning of gutters and downspouts regularly, typically every spring and fall (AO)
- Inspecting of attics periodically after a storm or freeze to catch small leaks early to minimize the potential for interior damage (AO)

The NHC/HDC discourage (ALL):

- Removing or altering historic drainage systems
- Removing roof features such as chimneys, dormers, cupolas, weathervanes, finials, etc.
- Adding or altering rooftop features or equipment at areas visible from a public way that change roof configuration including skylights, television antennas or dishes, solar collectors, mechanical equipment, roof decks, chimney stacks and dormer windows
- Adding rooftop features that create a false historical sense without supporting documentary evidence such as weathervanes, cupolas or wood shingles on an originally slate roof

Overall roof form, detailing and historic roof features are an important element of many of Newton's historic homes, such as this example in Auburndale.

- Adding new features that are out of character, scale, materials or detailing to the historic building
- Encapsulating decorative wood elements such as cornices and brackets with vinyl or aluminum capping or siding

ADDITIONAL AREAS OF CONSIDERATION (AO)

- Roofing work is potentially dangerous and should be left to professionals
- All roofers are not experienced in all materials; obtain references and verify that roofers have appropriately completed compatible work
- Verify the extent of both the material and installation warranties and company histories
- Verify whether removal of existing roofing is required before installation of new roofing; too much weight can damage structural elements
- Verify the condition of substrate for rot or decay and make necessary repairs, including the sheathing or lath, and structural elements
- Use substrate appropriate for roof material and provide adequate ventilation under roof surface
- Use appropriate underlayment including building paper, rosin paper and/or ice shield
- Use a single type of metal compatible with roofing at fasteners, flashing, gutters and downspouts to avoid galvanic action
- Select a flashing material with a longer or comparable life span to the roofing material
- Reference industry standards such as SMACNA, *Copper and Common Sense*, and *Slate* for roofing information

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.

City of Newton
Historic Preservation

Guidelines for Sustainability

The renovation of this house in a National Register district recently received a LEED-Gold certification from the US Green Building Council.

PURPOSE

These *Guidelines* were prepared to inform property owners on how sustainability relates to the repair, alteration, or rehabilitation of an existing building. 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 to potential applicants free of charge.

These *Guidelines* were developed in conjunction with the City of Newton's Historical Commission (NHC), Local Historic Districts 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 though 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.

SUSTAINABILITY

In the most general sense, "sustainability" is the concept of meeting current needs in a way that can be continued in the long-term, without jeopardizing the ability of future generations to also meet their needs. The goals and ideals of sustainable planning and design can be thought of in three major categories:

- **Environmental**: Protecting the natural environment and using resources and energy in a sustainable way
- **Social**: Promoting social equality while enriching and protecting important elements of our culture
- **Economic**: Providing equal economic opportunity and considering the full life-cycle impacts of current decisions

SUSTAINABILITY & PRESERVATION (AO)

Historic buildings have significant inherent advantages when considered in the context of sustainability:

- By reusing an existing structure, the investment of natural resources in the original construction can be reclaimed, a concept known as "embodied energy"
- Buildings constructed prior to WWII were often designed to take advantage of natural sources of heating, cooling, ventilation and lighting
- Historic buildings commonly used more regional materials, with lower transportation and life-cycle costs
- Historic building materials are generally easier to repair when compared with modern materials, which are intended to be replaced frequently rather than repaired
- The preservation of historic buildings and sites plays a key role in the protection of cultural resources and community character, promoting social sustainability

When property owners are contemplating how sustainability principles can be incorporated in their historic property, the following approach should be considered:

- Rather than a "piecemeal" approach, interventions should be planned on a whole-building/site basis, even if they will be implemented in phases
- Sustainability upgrades to historic buildings and sites should always be considered in relation to their impact on the historic fabric and character
- Upgrades and sustainable features should always be planned with first priority given to least-impact options
- Small improvements, such as weatherization, insulation, and maintenance and operations improvements, can have a big impact at a relatively low cost

WEATHERIZATION (AO)

One of the most effective ways of increasing the energy efficiency of a historic building is to limit air infiltration and movement ("drafts") through the exterior envelope, specifically at windows, doors and changes in materials. If proper measures are taken, traditional assemblies such as historic wood windows and doors can meet or exceed the energy efficiency of modern replacements.

The NHC / HDC encourage:

- Planning the weatherization of historic assemblies for the overall building before beginning any work
- Addressing air infiltration through a building's historic envelope as one of the first steps in improving a building's energy efficiency

(For more details on weatherization, refer to the *Guidelines for Windows and Doors, Page 12*.)

Well-designed wood exterior storm windows can provide protection and improve thermal efficiency for historic windows without compromising their appearance or historic character. This wood storm window is the same size and shape as the original window opening and the horizontal divider aligns with the central meeting rail.

INSULATION (AO)

Given Newton's climate, insufficient missing insulation in the exterior envelope can be an issue in some historic buildings, particularly in wood-frame construction. In some homes, previous owners may have installed insulation improperly, leading to moisture issues. Properly installed insulation materials can enhance the energy efficiency of a historic home, without causing long-term, moisture-related problems.

The NHC / HDC encourage:

- Understanding a building's materials and actual insulation needs before adding or replacing insulation
- Insulating unfinished spaces, such as basements or attics, before finished spaces
- Using the appropriate type of insulation for each specific area of the building (roof, walls, eaves) and using reversible insulation materials wherever possible
- Installing insulation on/from the interior of a historic building, to avoid altering the exterior appearance

The NHC / HDC discourage:

- Installing insulation in a manner that results in unnecessary damage or loss of historic fabric

WINDOWS & DOORS

Historic wood windows and doors are often the first building elements targeted when homeowners are planning to increase the energy efficiency of their property. Despite the literature published by new window manufacturers, historic wood windows and doors - if properly weatherized - can meet or exceed the energy efficiency of modern replacements.

The NHC / HDC encourage:

- Maintaining existing windows to ensure that they remain operable as a source of natural ventilation (ALL)
- Weather stripping and caulking historic windows to improve energy efficiency (AO)
- Using reversible methods/products such as transparent UV films, where appropriate, before resorting to severe interventions such as replacement glazing (ALL)
- Installing interior or exterior storm windows that are compatible with the appearance of the historic windows (PR/LL)
- When window replacement is required, installing windows that match the appearance and design of the historic windows while meeting energy-efficiency goals (ALL)
- Maintaining and utilizing historic operable shutters and awnings, or installing new historically-appropriate shutters or awnings to improve energy-efficiency (ALL)

The NHC / HDC discourage:

- Replacing repairable historic windows in the name of improved energy efficiency (ALL)

(For more information regarding historic windows and doors, refer to the *Guidelines for Windows and Doors.)*

PLANNING YOUR PROJECT

When undertaking measures to increase the energy efficiency of a historic building, or when considering the energy efficiency of planned repairs, careful planning and forethought can prevent unforeseen issues and unintended negative consequences. DPD Staff are available to discuss a planned project, and can provide guidance regarding sustainability issues. Hiring an architect or preservation professional is highly recommended for complex or substantial projects involving multiple building systems or elements.

ENERGY AUDIT

Property owners should consider an overall approach to energy efficiency before undertaking any work. An energy audit can identify the efficiency of existing assemblies and potential upgrades as a first key step in this process. With an overall plan in place, specific smaller projects can be undertaken in an efficient way, without jeopardizing the desired final outcome or historic integrity of the building or site. Property owners should consult their local utility company regarding energy audits and energy efficiency incentives; many have services and tips for homeowners.

Installing window air-conditioning units in historic buildings is not encouraged, due to their appearance, likelihood of damaging windows and frames, and low efficiency.

HEATING, VENTILATION & AIR CONDITIONING (HVAC)

Installation or improvement of a building's HVAC systems can provide significant upgrades in energy efficiency, but they must be carefully designed and planned. An improperly designed HVAC system installed in a historic building can damage significant historic fabric, cause moisture-infiltration issues and be uneconomical.

The NHC / HDC encourage (AO):

- Maintaining existing HVAC systems to ensure proper and efficient operation
- Incorporating incremental measures such as programmable thermostats, ceiling fans and properly located vents into existing HVAC systems
- Using a "zoned" HVAC system to reduce energy costs
- Taking into account whole-building performance when designing a replacement or upgrade to an HVAC system
- Upgrading obsolete HVAC equipment with more efficient systems in a way that is sensitive to the historic building
- Considering HVAC systems specifically designed for existing buildings, such as high-velocity systems with small ducts, to minimize the impact on historic fabric
- Locating HVAC equipment to the rear of a property to minimize impacts on the historic character of the building and/or streetscape

T*he NHC / HDC discourage:*

- Installing through-wall air-conditioning units (ALL)
- Installing window air-conditioning units (AO)

DEFINITIONS:

Energy Audit: An assessment that uses a variety of techniques and equipment to determine the energy efficiency of a structure and HVAC systems, and makes recommendations for increasing energy efficiency

Geothermal Heating/Cooling: General term for HVAC systems that use the thermal energy generated and stored in the Earth to heat/cool a building

VOC: Volatile Organic Compounds, which are generally harmful to human health when introduced into the air

Bioswale: A landscape element designed to remove particles from stormwater and slow stormwater runoff

ALTERNATIVE ENERGY SOURCES (ALL)

In exploring the use of alternative energy technologies in historic buildings, including solar power and geothermal heating/cooling, it is important to consider how proper installation and selection of systems can improve energy-efficiency without adversely affecting a building's historic character.

The NHC / HDC encourage:

- Minimizing impacts on the historic fabric and appearance of a building when installing modern equipment such as solar panels *(Refer to Guidelines for Roofing, Page 7)*
- Investigating whether a geothermal system can improve the energy-efficiency of a building's HVAC system (AO)

T*he NHC / HDC discourage:*

- Installing modern equipment in a manner that is not reversible or adversely affects the historic building

Green roofs are becoming increasingly common in new construction, providing both an insulating layer of soil and reduced stormwater runoff. They may be an energy-upgrade option for historic structures with flat roofs and sufficient structural capacity.

ROOFING (ALL)

Installation of cool (i.e., reflective) roofing and green roofs are becoming increasingly common as an energy-efficiency measure. However, for historic buildings, the selection of a new roof system must take into account the historic character of the building.

The NHC / HDC encourage:

- Using cool-roof and green-roof technologies, when appropriate, in areas that are not visible from the public right-of-way, and in ways that do not adversely impact the appearance, structure, or moisture-performance of a historic structure

(For more information, refer to the *Guidelines for Roofing*.)

INDOOR AIR QUALITY (AO)

An important component of sustainable design is the human environment, including provisions for indoor air quality and natural lighting.

The NHC / HDC encourage:

- The use of low-VOC materials, household cleaners, carpeting and paint
- Maintaining or restoring historic design features - such as glazed transoms and operable windows - that provide natural light and air circulation

Sustainable site features - such as this permeable parking surface in Auburndale - can contribute to the overall sustainability of a property.

SITE FEATURES (AO)

In addition to upgrades to the historic building itself, proper design of the site can contribute to a property owner's energy-efficiency and water conservation goals.

The NHC / HDC encourage:

- Considering the historic character and landscape of a site before installing any new site features
- Utilizing existing site features - such as shade trees, cisterns and topography - to maximize energy efficiency and conserve water
- When compatible with a historic property, installing sustainable features such as bioswales, rain barrels and cisterns
- Minimizing new site features with adverse impacts, such as impervious paving

The NHC / HDC discourage:

- Introducing non-native plant species to a site, resulting in increased water-use or requiring pesticides
- Installing new trees or plantings where they may damage the historic building

ADDITIONAL INFORMATION

These *Guidelines* summarize the important considerations for the sustainable preservation of historic buildings in Newton. For more detailed information, refer to the *Preservation Resources* in the *Guidelines Introduction, Page 23*.

Many historic structures, such as this former industrial building in Newton Upper Falls, include numerous large windows that allow natural light and ventilation for the interior.

MAINTENANCE & OPERATIONS (AO)

The principles and approach described in this section can assist in the sustainable design of alterations and repairs. However, the long-term maintenance and operation of a historic building or property can have a significant impact on the environment.

The NHC / HDC encourage:

- Recycling unused and demolished building materials, as well as everyday products such as paper, plastic and glass
- Using the gentlest effective cleaning methods available for both household use and for exterior building maintenance, rather than harsh chemical cleaners
- Using natural, low-impact materials such as sand for de-icing walkways, paths and driveways, rather than salt or harsh chemical de-icing agents
- Using energy efficient appliances, equipment and lighting

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City of Newton
Historic Preservation

Guidelines for Windows & Doors

Two-over-two windows are typical of the Victorian Era. The ornate, bracketed window "hoods" above the windows are typical of the Italianate mode of construction.

PURPOSE

These *Guidelines* were prepared to provide property owners with information when considering the repair, alteration or installation of windows and doors. 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.

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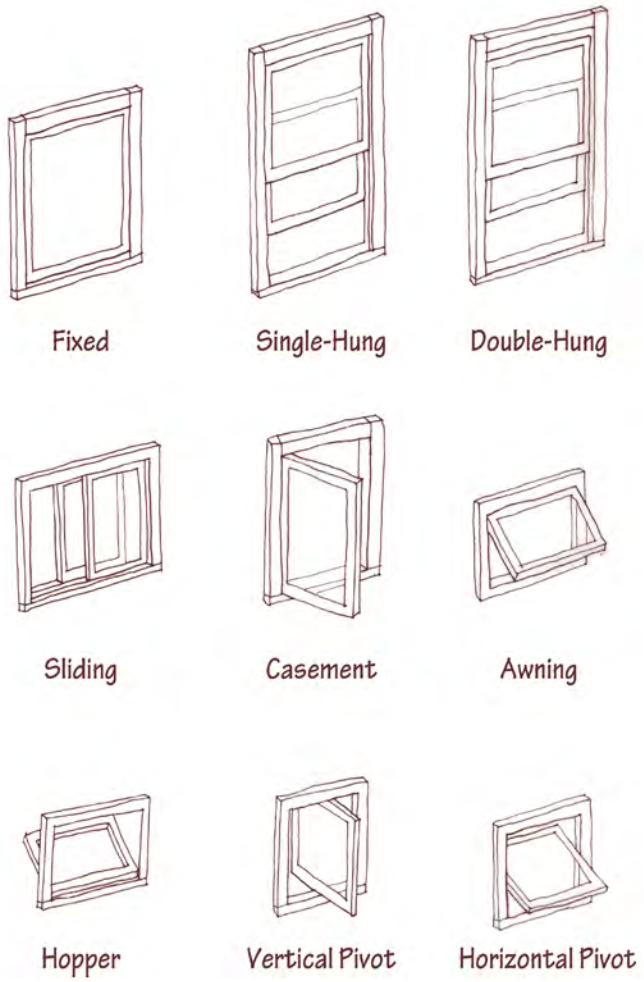
WINDOWS AND DOORS

Windows and doors typically comprise at least one quarter of the surface area of exterior walls of most historic buildings. Windows and doors, in addition to their trim, shutters, and associated features, are important elements of historic buildings.

Windows and doors can:

- Define the character of each individual building and provide a visual feature on the streetscape
- Help define the building type, use and architectural style
- Help identify the age of construction

Semicircular windows are often found on Neoclassical and Colonial Revival buildings, particularly at front gable ends. They often feature decorative muntin patterns, which should be maintained and repaired as necessary to preserve the window's historic character.



COMMON WINDOW TYPES

All of the identified window types can have different muntin patterns or configurations. Muntin patterns are defined in terms of the number of panes or lights. (Refer to *Window Configurations, Page 3*, for additional information.)

- **Fixed:** Non-operable framed glazing
- **Single-hung:** Fixed upper sash above a vertically rising lower sash
- **Double-hung:** Two sashes that can be raised and lowered vertically
- **Sliding:** Either a fixed panel with a horizontally sliding sash or overlapping horizontally sliding sash
- **Casement:** Hinged on one side, swinging in or out
- **Awning:** Hinged at the top and projecting out at an angle
- **Hopper:** Hinged at the bottom and projecting in at an angle
- **Vertical Pivot:** Pivots vertically along its central axis
- **Horizontal Pivot:** Pivots horizontally along its central axis

WINDOW STYLES (ALL)

Window patterns and configurations are intrinsically linked to a building's period of construction and style. Late 19th century buildings, such as those from the Victorian period, often had varied shaped windows and elaborate frames, casings and applied ornament and trim. When the Mission Revival and Colonial Revival styles were popularized beginning in the 20th century, the use of multi-paned windows with simpler frames and casings became more prevalent. Mid-Century Modern buildings typically include larger sheets of glass.

Since all of the components and details of a window are essential to defining a building's style, property owners are encouraged to investigate the essential elements of their windows prior to undertaking any modifications. For guidance on window and building styles, please consult with the PDD Staff or the *Guidelines for Architectural Styles.*

Tudor Revival buildings often have casement windows. It is not uncommon for featured windows to have lead caming (muntins), as in this example, which also includes decorative stained glass motifs.

The NHC/HDC encourage:

- Retaining and maintaining historic windows

DEFINITIONS:

Mullion: The vertical element separating two window or door frames.

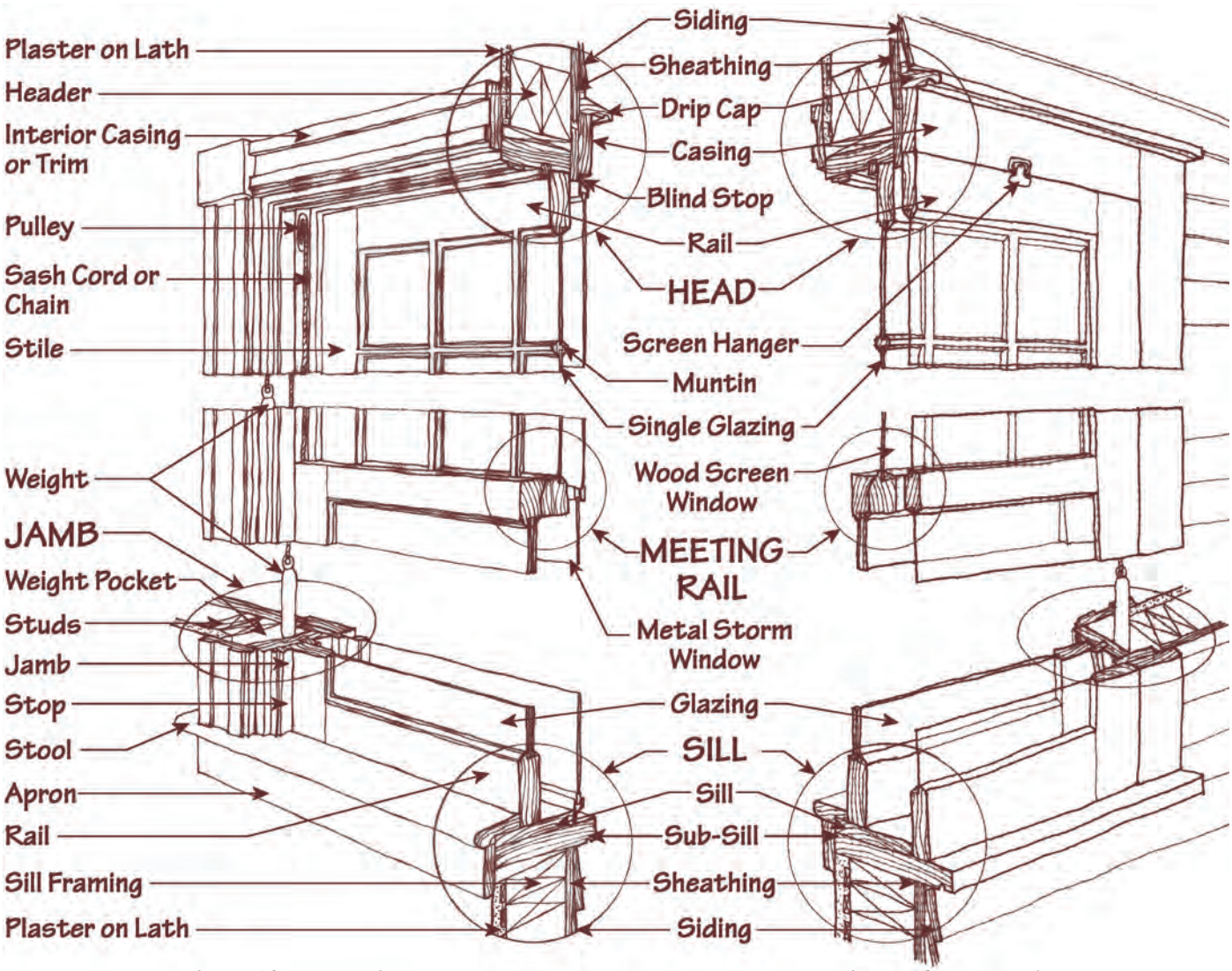
Muntin: The narrow molding separating individual panes of glass in a multi-paned true divided light sash, or applied in a simulated divided light sash.

Sash: The part of the window frame that holds the glazing, especially when movable.

Simulated Divided Light (SDL): A window or door in which muntins are applied to the glass at the exterior, interior and between layers of insulated glass.

True Divided Light: A window or door in which the glass is divided into several small panes.

DOUBLE-HUNG WINDOW COMPONENTS



(Viewed from Interior) *(Viewed from Exterior)*

WINDOW CONFIGURATIONS (ALL)

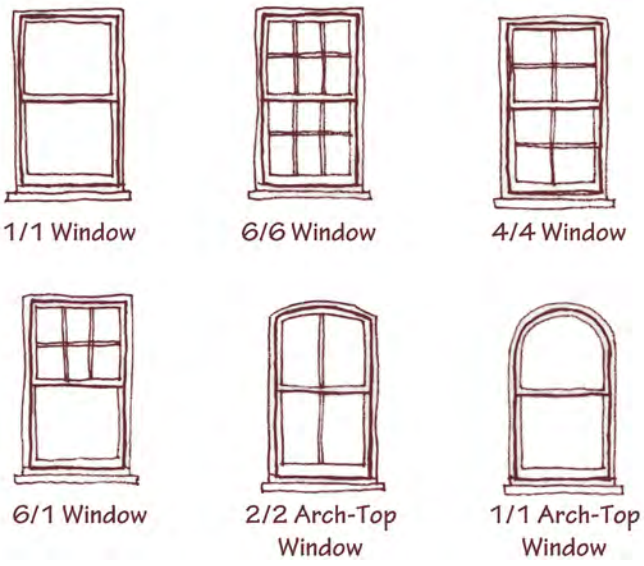
Different window configurations are appropriate for each architectural period or style. Altering the window type, style, shape, material, size, component dimension, muntin pattern or location can dramatically alter the appearance of the building.

If replacement windows are warranted, the NHC/HDC encourage:

- Utilizing historically appropriate muntin pattern, window configuration exterior profile and size
- Utilizing hardware appropriate for the historic period
- Installing simulated or true divided-light windows rather than snap-in muntin grids for multi-paned appearance

The NHC/HDC discourage:

- Using only internal muntins between glazing layers
- Using only interior muntins



Typically, the deterioration of wood windows first occurs at the sill. Peeling paint can allow moisture to enter wood and cause rot. Regular repainting is recommended to provide a protective layer against moisture.

One of the advantages of historic wood windows over modern prefabricated units is repairability. This photo demonstrates a dutchman repair at the corner of a historic wood window. Also note the new glazing putty.

HISTORIC WINDOW PROBLEM SOLVING (AO)

Property owners may not pay attention to their windows until a problem occurs. Typical concerns include operation, reducing air infiltration, maintenance and improving appearance. Generally, the appearance of a window that has not been properly maintained can seem significantly worse than its actual condition. Replacement of an entire wood window because of a deteriorated component, typically the sill or bottom rail, is rarely necessary. In many instances, selective repair or replacement of damaged parts and the implementation of a regular maintenance program is all that is required. It is generally possible to repair windows in fair or good condition relatively economically.

To improve operation

- Verify that sash cords, chains and weights are functional
- Remove built-up paint, particularly at jambs
- Repair or replace deteriorated components such as parting beads that separate window sash

To reduce air infiltration

- Install weather-stripping snugly between moving parts (quality metal weather-stripping can last 20 years)
- Replace broken glass (glazing)
- Re-caulk perimeter joints
- Remove and replace missing or cracked glazing putty
- Add sash locks to tighten windows
- Add an interior storm window (a storm window can achieve similar R-values to a new thermal window)
- Insulate weight pockets if no longer in use

To reduce solar heat gain or heat loss

- Utilize operable exterior shutters where historically appropriate
- Install interior blinds or curtains
- Plant deciduous trees at south and west elevations to block summer sun and allow in winter sun, and plant conifer trees at north elevation to reduce effect of winter winds
- Install UV window shades or film

Maintenance

- Regularly review condition and repair and repaint windows

The NHC/HDC encourage:

- Retaining and maintaining serviceable historic windows
- Using storm windows rather than replacement windows as the best means to achieve energy efficiency
- Installing weather stripping, caulk, glazing putty and sash locks to reduce air infiltration (Refer to *Page 12*)
- Reducing solar heat gain or loss through related activities such as utilizing shutters, blinds or curtains, strategically locating trees and installing UV protection

CRITERIA FOR REVIEW (ALL)

The following guidelines apply when evaluating window repair or approving replacement:

1. **Perform routine maintenance:** Replace broken or missing components such as trim, glazing or sash cords. Verify that caulking, glazing putty and weather-stripping is securely applied and repaint.
2. **Treat or repair deteriorated components:** At the early stages of wood deterioration, it is possible to complete in-place treatments that do not necessitate component replacement. This includes treating wood for insects or fungus, epoxy consolidation, applying putty at holes and cracks and painting. Metal window components, often found on Tudor Revival buildings, require regular maintenance to prevent deterioration such as bowing or rusting. Regular scraping of surface rust and application of a rust-inhibitive paint will allow windows to remain serviceable for a significantly longer period of time.
3. **Replace deteriorated components:** Replace either the deteriorated portion of the component with a "Dutchman" (refer to photograph, *Page 4*) or the entire component if very deteriorated. A "Dutchman" is a repair with a piece of the same material in a sharp-edged recessed cut and can be used for wood or metal components, although metal typically requires a skilled metal worker. The replacement pieces should match the original in design, shape, profile, size, material and texture. New sills are usually easily installed while complete sash replacement might solve problems of broken muntins and deteriorated rails.
4. **Replace window:** If the majority of the window components are deteriorated or missing, replacement of the entire window unit might be warranted.

WINDOW REPAIR VERSUS REPLACEMENT (ALL)

When considering repair and retention of existing windows versus installation of replacement windows, applicants are encouraged to retain existing historic windows. However, replacement of window components or units may be necessary due to extensive deterioration; in such a case, documentary evidence should be provided with an application.

The NHC/HDC discourage:

- Replacing a window component or unit, if repair and maintenance will improve its performance and preserve historic elements

It is important to remember that just because a portion of the window or door is deteriorated, replacement of the entire component or unit might not be necessary, particularly for wood windows. A simple means of testing wood window deterioration is to probe the element with an awl or ice pick. Pierce the element perpendicularly and measure the penetration depth and damp wood at an angle for the type of splintering. (Refer to the *Guidelines for Exterior Woodwork* for wood rot information and repair techniques, *Pages 3-5*.)

IF REPLACEMENT WINDOWS ARE NECESSARY (ALL)

Because of the importance of windows in the appreciation of architectural character, the NHC/HDC and PDD strongly encourage window repair or replacement of only those components of windows that are deteriorated beyond repair. If a property owner wishes to pursue window replacement, they might need to demonstrate that the existing windows are beyond repair and replacements are warranted by providing detailed photographs for review.

If replacement windows are warranted, the NHC/HDC encourage:

- Relocating repaired historic windows to publicly visible elevations and installing replacement windows only at less visible areas
- Matching the original size, shape, material, configuration, operation, dimensions, profiles and detailing to the greatest extent possible
- Matching muntin patterns, profiles and dimensions
- Selecting wood- or aluminum-clad wood replacement windows (aluminum windows for Tudor-Style buildings) for street elevations
- Reusing serviceable trim, hardware or components

The NHC/HDC discourage:

- Decreasing window size or shape with in-fill to allow for installation of stock unit size
- Increasing window sizes or altering the shape to allow for picture or bay windows
- Replacement window types or configurations that are architecturally or historically inappropriate
- New openings at publicly visible elevations

The 9-over-6 vinyl replacement windows have applied muntins, are mounted flush against the outside wall and lack the depth of traditional windows. They do not have trim or casings. They are not appropriate for historic buildings.

WINDOW MATERIALS: PAST & PRESENT (AO)

Wood windows were historically manufactured from durable, close, straight-grain hardwood of a quality uncommon in today's market. The quality of the historic materials and relative ease of repairs allows many well-maintained old windows to survive from the 19th century or earlier.

Replacement windows and their components tend to have significantly shorter life spans than historic wood windows. Selecting replacement windows is further complicated by manufacturers who tend to offer various grades of windows, with varying types and qualities of materials and warranties. Today, lower cost wood windows are typically made from new growth timber, which is much softer and more susceptible to deterioration than hardwoods of the past. Vinyl and PVC materials, now common for replacement windows, break down in ultraviolet light, and generally have a life expectancy of less than 20 years. Because of the great variety of finishes for aluminum windows, they continue to be tested to determine projected life spans.

Other areas of concern with replacement windows, beyond the construction materials used in the frame and sash, are the types and quality of the glazing, seals, fabrication and installation. Double glazing or insulated glass, used in most new window systems, is made up of an inner and outer pane of glass sandwiching a sealed air space. The air space is typically filled with argon gas with a perimeter seal. This perimeter seal can fail in as few as 10 years, resulting in condensation between the glass layers, necessitating replacement to allow for clear visibility. Many of the gaskets and seals that hold the glass in place also have a limited life span and deteriorate in ultraviolet light.

Significant problems with replacement windows also result from poor manufacturing or installation. Twisted or crooked frames can make windows difficult to operate. Open joints allow air and water infiltration into the wall cavity or building interior.

If replacement windows are warranted, the NHC/HDC encourage:

- Reviewing grades of windows offered by manufacturers
- Utilizing quality materials in the installation process
- Understanding the limits of the warranties for all components and associated labor for replacement
- Selecting reputable manufacturers and installers who are likely to remain in business and honor warranties

REPLACEMENT WINDOW QUALITY

Reputable vendors typically provide a better selection and higher quality replacement window options than companies that advertise with bulk mailings or flyers. Each manufacturer also provides various grades of replacement window options. Manufacturer's information can generally be found on their web sites or in catalogues.

WINDOW OPTIONS (AO)

Repair or replacement of existing components: Deteriorated sills, sash and muntins are repairable by craftsmen with wood consolidant or replacement parts, retaining original fabric and function. (Refer to *Guidelines for Exterior Woodwork, Pages 3-5.*) In-kind replacement sash and sills can be custom-made to replace deteriorated sections if necessary. Property owners are strongly encouraged to explore repair and selective replacement parts options prior to considering sash or frame replacement.

Benefits of repair and selective component replacement:

- Original building fabric and historic character remain
- Repairs can be completed by local carpenters
- Timber, used in historic windows, can remain serviceable substantially longer than replacement units

Sash replacement package: Some manufacturers offer replacement jamb liners and sash for installation within existing window frames. The system allows installation of new sash of various muntin patterns within existing frames. Because of the loss of the historic sash, this option is discouraged.

Benefits of the sash replacement package:

- Original muntin pattern can be duplicated
- Maintains the historic opening, surround and trim

Negatives of the sash replacement package:

- Historic sash are removed and become landfill debris
- Replacement sash have a limited warranty, likely needing replacement again in 10 to 25 years as seals and joints open
- Modification of the jambs is necessary
- The jamb liners do not always work well in existing window openings and might need more frequent replacement
- Out-of-plumb openings can be difficult to fit making window sash hard to operate
- Perimeter seals might not be tight

Frame and sash replacement unit: Manufacturers also offer a complete frame with pre-installed sash of various muntin patterns for installation within an existing window frame opening. Because of the total loss of both the frame and the sash, this is strongly discouraged.

Benefits of the frame and sash replacement unit:

- Manufactured as a unit to be weather tight
- Original muntin pattern can be duplicated

Negatives of the frame and sash replacement unit:

- Historic sash are removed and become landfill debris, the historic character of the building is diminished
- The surrounding frame is modified, alteration of built-in surrounds might be required and two frames and sills are typically visible at the exterior
- The size of the window sash and glass openings are reduced due to the new frame within the old frame
- In-fill might be required for non-standard sizes

The highly ornate trim surrounding this paired, round-headed, Italianate window is a significant feature that should be maintained. The installation of replacement windows often requires the installation of a new frame that can damage or visually alter the relationship between a window and its historic surround. Care should be taken if window replacement is considered.

MAINTAINING REPLACEMENT WINDOWS (AO)

One of the selling points of replacement windows is that they do not require maintenance. With the relatively short life expectancy of many of the materials and components, this is usually a very optimistic viewpoint.

As joints or seals in replacement windows deteriorate, openings can be formed that allow air and water to enter into the window frame, wall cavity and/or building interior, causing additional damage. Repair of these openings typically requires replacement of the deteriorated parts. This can present a problem if the manufacturer has modified their designs or is no longer in business, necessitating custom fabrication of deteriorated elements or replacement of the window.

As previously described, the double-glazing has similar problems over time with the deterioration of the perimeter seal. In addition, if the glazing unit is cracked or broken, it will require full replacement. This is further complicated when the double-glazing includes an internal muntin grid.

By contrast, a good carpenter can generally repair a historic wood window with single pane glazing and install an interior or exterior storm window to improve thermal performance.

REPLACEMENT WINDOW COSTS (AO)

The costs that should be anticipated if considering the installation of replacement windows include:

- Labor to remove old windows
- Environmental costs of disposal including transportation and landfill fees
- Purchase price and delivery of new windows
- Environmental costs of manufacturing and transporting new windows from the factory
- Labor and materials to modify existing frames for new windows
- Labor to install new windows
- Life-cycle costs associated with more frequent replacement of new windows as they deteriorate

WINDOW REPLACEMENT GUIDE (ALL)

The NHC/HDC encourage:

- Maintaining historic windows and trim
- Matching the original material, size, shape, configuration, type, operation, materials, muntin pattern, dimensions, exterior profiles and detailing to the greatest extent possible with a salvaged or new replacement window
- Installing clear glass at all openings unless replacing historic colored, beveled or frosted glass in-kind

If replacement windows are warranted, the NHC/HDC encourage:

- Installing replacement windows in less visible areas
- Installing quality replacement windows to match the historic materials; wood windows with an exterior painted wood finish are generally an acceptable option for historic wood windows
- Simulated divided light windows with profiled exterior muntins, interior muntins and black internal muntins between insulated glass layers
- Maintaining serviceable trim, hardware and components or use salvaged materials

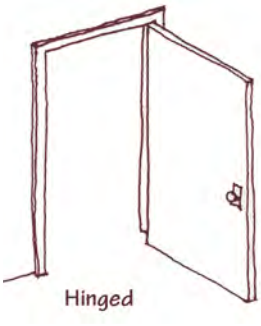
The NHC/HDC discourage:

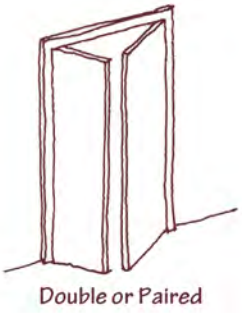
- Replacing a window component or unit if repair and maintenance will improve its performance and preserve historic elements
- Decreasing window size or shape with in-fill to allow for installation of stock unit size
- Installing vinyl or vinyl-clad windows
- Installing an inappropriate window type, such as a casement in a former double-hung window location
- Increasing window sizes or altering the shape to allow for picture or bay windows
- Installing glass block or jalousie windows where they were not found historically

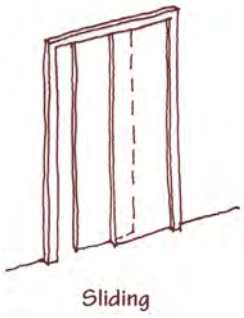
DOORS

Entrance doors serve an important role in regulating the passage of people, light and air into a building, as well as providing a threshold separating the exterior and interior. Historically, most doors were wood and varied stylistically based upon the building design, providing either a grand formal appearance or one that is more informal and welcoming. Traditionally, a door's hardware and trim complemented the overall building style. When selecting hardware for a door it is important to complement its historic style.

Doors are typically constructed of numerous parts. By the middle of the 18th century, elaborate paneled doors became more common, and now represent the most common door type in American residences. Paneled doors can be constructed in a variety of configurations that can reflect the style of the building. Later 19th century doors often included glazed panels. In the 20th century new door types, including flush doors and metal doors, had periods of popularity.







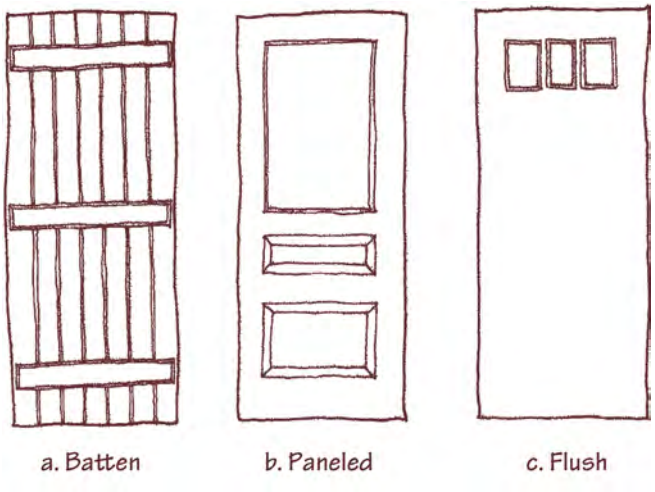
COMMON DOOR TYPES

- **Hinged:** Swings to close at opposite jamb – almost always mounted at interior thickness of wall swinging inward
- **Double or Paired:** A pair of swinging doors that close an opening by meeting in the middle – includes French doors
- **Sliding:** Either a fixed panel with a horizontally sliding door or overlapping horizontally sliding doors – includes patio doors
- **Overhead:** Horizontal sections that slide on tracks opening upward – most often found at garages

WOOD DOOR TYPES

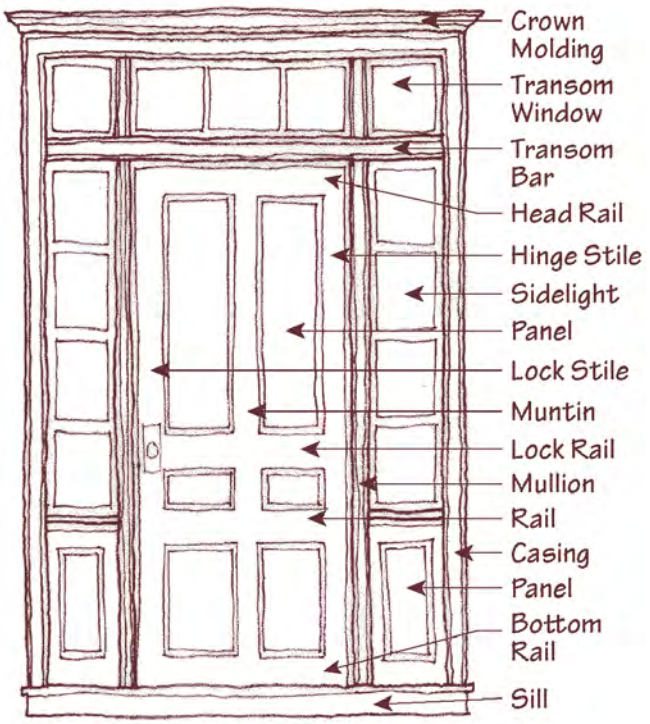
All door types can have glazing installed in different configurations.

- **Batten:** Full height boards attached edge to edge with horizontal boards nailed to the verticals
- **Paneled:** A frame of solid wood parts with either glass or wood panels
- **Flush:** A single plain surface on its face, typically wood veneer



PANELED WOOD DOOR COMPONENTS

In Newton, paneled wood doors are the most common for historic residences. The diagram below identifies common wood paneled door components. Door configurations vary with a building's architectural style.



This single-light wood-paneled door has a highly detailed and decorative transom and sidelight.

DOOR STYLES

Door styles tend to correspond to the architectural style of the building, with some examples being more "high-style" while others are simpler interpretations. As a result, doors are considered an important feature and the retention, maintenance and repair of historic doors is recommended.

If door replacement is warranted, the door should be appropriate for the architectural style and character of the building. Refer to the *Guidelines for Architectural Styles* or contact the PDD Staff for additional information.

Paired wood doors, which often include glass lights, are typical of Victorian period buildings.

Wood checking and peeling paint is visible. Minor repair and maintenance can prolong the serviceable life of this door.

HISTORIC DOOR PROBLEM SOLVING (AO)

Since doors tend to be one of the most operated elements on the exterior of a building, they are more likely to deteriorate from wear or damage and generally require more regular maintenance, such as painting. If deterioration occurs, selective repair or replacement of damaged parts and the implementation of a regular maintenance program is often all that is required to retain a historic door.

To improve operation

- Verify that doors fit properly in their frames and that joints are tight
- Verify that hardware is operational, particularly that hinges are tight and that hinge pins are not worn
- Remove built-up paint at door and jambs
- Repair or replace deteriorated components such as trim and stops

To reduce air infiltration

- Install weather stripping between door and frame
- Replace broken glass (glazing) and remove and replace missing glazing putty
- Re-caulk perimeter joints around frame
- Install a storm door

Maintenance

- Regularly review condition and repair doors
- Re-paint wood doors

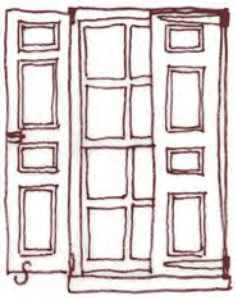
HISTORIC DOOR REVIEW (ALL)

The NHC/HDC encourage:

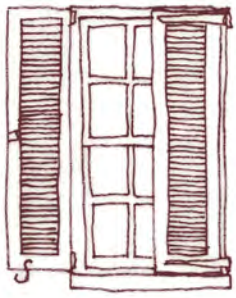
- Retaining historic doors and surrounding trim
- If the originals do not survive, matching replacement doors as closely as possible to original doors or use doors appropriate to the period and style of the building
- Using wood replacement doors for historic wood doors

The NHC/HDC discourage:

- Removing or encapsulating historic wood trim
- Replacing original doors unless seriously deteriorated



Six-over-six double-hung window with paneled shutters



Six-over-six double-hung window with louvered shutters

The 2-panel shutters do not fit the arched opening of the window

Not Recommended

The louvered shutters are too short and narrow for the window

Not Recommended

SHUTTERS (ALL)

Historically, exterior shutters were used as shielding devices. Paneled shutters were installed to provide a solid barrier when closed and louvered shutters to regulate light and air. Shutters were not used on all historic buildings or in all locations. Some building styles, such as Tudor Revival and Mid-Century Modern, typically did not include shutters. It is often possible to determine if shutters previously existed by looking for hardware such as hinges or tie-backs or evidence of their attachment such as former screw holes in the window casing.

The NHC/HDC encourage:

- Maintaining historic shutters
- Installing new shutters where they existed historically
- Operable shutters made of wood or other materials with a paintable finish
- Period-appropriate hardware
- Shutters of the appropriate style for the building and location
- Appropriately sized and shaped shutters for the window opening, fitted to cover the window when closed
- Refurbished historic shutter hardware appropriate to the building style

The NHC/HDC discourage:

- Shutters where they did not exist historically
- Shutters screwed or nailed to the face of the building
- Vinyl or aluminum shutters

The louvered wood shutters on the projecting bay are appropriately sized for the window openings with the narrower shutters on the side of the bay and wider on the front. Also note the wood exterior storm windows with the vertical and horizontal muntins aligning with each window configuration.

Bare metal finished doors, such as this aluminum example, are generally not appropriate for most historic buildings. This example includes a thick horizontal division that spans across the center of the lower windows and decorative grillework that makes the door visually more prominent.

SCREEN / STORM WINDOWS & DOORS (LL, PR)

Screens and storms should conceal as little of the historic window or door as possible and should be selected to complement each window or door type. This generally means selecting a screen or storm window or door that has rails that coincide with the rails and glazing pattern and overall configuration of the associated window or door.

The most recommended option for a screen or storm door is a simple wood framed opening with a large screen and minimal ornament. If more elaborate detailing is desired, the style and level of detailing should complement the building style; for example, a screen or storm door with Victorian gingerbread would not be appropriate for a Colonial Revival house.

The painted wood screen door matches the color of the door beyond, decreasing its visual prominence. The large screen does not obstruct the details of the paneled wood door.

The horizontal rail of the storm windows aligns with the raised meeting rail of the window in this Arts and Crafts house. The clear glass allows the diamond panes in the upper sash to remain visible.

STORM / SCREEN WINDOW & DOOR GUIDE (LL, PR)

The NHC/HDC encourage:

- Simple storm / screen windows and doors with large screened openings that reveal as much of the historic window or door as possible and fit historic openings
- Removable storm / screen windows to facilitate maintenance of historic windows
- Storms / screens that minimize the change to the exterior appearance
- Painting the wood storm / screen window or door frame to match the adjacent window or door trim

The NHC/HDC discourage:

- Vinyl, aluminum, metal or other synthetic material for storm / screen frames – Wood frames can be custom made to fit any size or shape opening
- Visually opaque screen material
- Plexiglas, or similar material, fastened to window or door frames, screens or shutters
- Storms / screens adhered or fastened directly to window or door trim, shutters or blinds
- Half or stock storm / screen windows that are too small or a different shape than the window opening and require in-fill trim or panels

DEFINITIONS:

Weather Stripping: A narrow compressible band used between the edge of a window or door and the jambs, sill, head and meeting rail to seal against air and water infiltration; of various materials including spring metal, felt, plastic foam and wood with rubber edging.

Caulk: Flexible sealant material used to close joints between materials; of various materials including tar, oakum, lead, putty, and modern elastomerics such as silicone and polyurethane.

WEATHER STRIPPING & CAULK FOR WINDOWS & DOORS (AO)

Proper application of weather stripping and caulk around windows and doors can greatly reduce air infiltration and drafts. When selecting weather stripping or caulk it is important to choose the material appropriate for each location and follow manufacturer's installation recommendations for the best results.

Because weather stripping is used between the moving parts of windows and doors, it is highly susceptible to damage and can become loose, bent or torn. It is important to inspect weather stripping on a regular basis, preferably every fall, and replace it as needed. For high use installations such as entrance doors, it may be beneficial to install more durable weather stripping such as spring metal or felt.

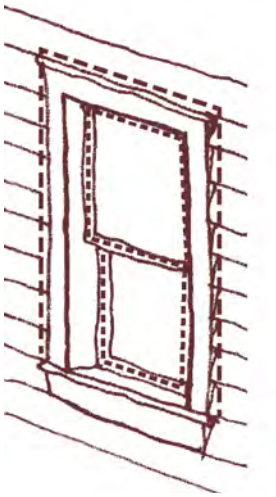
Recommended locations for weather stripping:

- Behind window sash track
- Between window meeting rails
- At perimeter of doors and windows

The installation of caulk or other sealants should occur throughout the exterior of the building. Locations include where two dissimilar materials meet; where expansion and contraction occur; or where materials are joined together. In some instances caulks and sealants can be sanded and/or painted to minimize their visual appearance. It is important to select the appropriate type for each location and exercise care when removing old caulk that might contain lead.

Recommended locations for caulk:

- Between window or door frame and adjacent wall
- Between abutting materials such as corner boards and siding, porch and wall surface
- Between dissimilar materials such as masonry and wood, flashing and wall surface



Recommended weather-stripping locations:

- *Behind window sash track*
- *Between window meeting rails*
- *At perimeter of doors/windows*

Recommended caulk locations:

- *Between door/window frame and adjacent wall*
- *Between abutting materials such as corner boards and siding, porch and wall surface*
- *Between dissimilar materials such as masonry and wood, flashing and wall surface*

GARAGE DOORS (ALL)

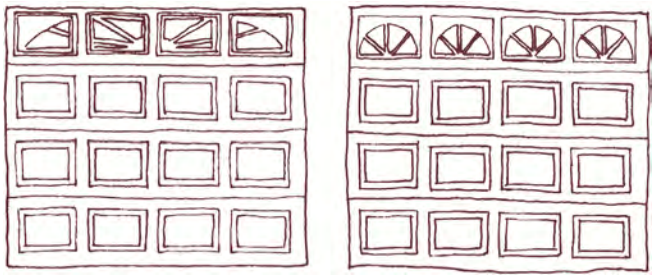
Occasionally, modern functions require openings not found in historic architecture such as garage doors. The goal of the *NHC/HDC* is to integrate these types of openings into buildings in such a way as to maintain the historic character of the building and the neighborhood, which generally means minimizing their visibility from the public way. It should also be understood that in some cases, it may be impossible to make certain desired changes simply because the style or type of building does not lend itself to such modification.

The NHC/HDC encourage:

- Retaining historic garage doors
- Stylistically appropriate replacement garage doors
- Replacement paneled doors with a paintable exterior finish
- Single bay openings that do not require removal of decorative features or modification of opening

The NHC/HDC discourage:

- Garage doors that are visually prominent



Garage doors with arched or round window openings are generally not appropriate at historic buildings.

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the Massachusetts Historical Commission, Secretary of the Commonwealth William Francis Galvin, Chairman. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the Massachusetts Historical Commission, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the Massachusetts Historical Commission. 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 its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to: Office for Equal Opportunity, National Park Service, 1849 C Street NW, Washington, DC 20240.