

TOWN OF EXETER

Historic District Commission

Design Guidelines



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Prepared for:

Town of Exeter
Historic District Commission
Exeter, New Hampshire

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TOWN OF EXETER HISTORIC DISTRICTS

Guidelines Introduction



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

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

Guidelines and application information are available at the Town Office and on the Commission's website at **exeternh.gov/bcc/historic-district-commission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

WHY IS HISTORIC PRESERVATION IMPORTANT IN EXETER?

The Town of Exeter recognizes that the character and quality of life enjoyed by its citizens depend in great measure upon the Town'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. The Historic District Commission (HDC) of Exeter is charged with safeguarding this heritage as represented by the Town's historical and architectural value.

EXETER'S HISTORIC PROPERTIES

The Town of Exeter currently regulates three locally designated Historic Districts:

- **Front Street Historic District** - Established 1971
- **Downtown Historic District** - Established 1978
- **High Street Historic District** - Established 2006

The Town of Exeter regulates properties in current and future locally designated Historic Districts, as well as the proposed full or partial demolitions of buildings or structures over 50 years old.

In addition, The Town of Exeter also has several individually designated National Register properties and currently two National Register Historic Districts:

- **Front Street Historic District** - Listed 1973
- **Exeter Waterfront Historic District** - Listed 1980



There are several notable institutional buildings that are located within the locally designated historic districts including Exeter Town Hall.

HISTORIC DESIGNATION & LISTING

Definitions

- **Historic Resource:** 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.
- **Historic District:** A defined area that contains concentrations of historic resources. A district can include as few as one historic resource or hundreds of resources.

Local Designation

Local designation of a historic property or district provides a tool for local communities to determine what is architecturally and historically important to their community and a mechanism for the regulation of proposed changes to those properties.

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 New Hampshire Division of Historical Resources. (Refer to *Preservation Organizations,* page 01-11.)

PRESERVATION ASSISTANCE PROGRAMS

There are federal and state 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.

The Federal Historic Preservation Tax Incentive 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 *Preservation Resources*, page 01-11.)

Preservation Easements are a tool often used to insure the preservation of the character defining features of a property for the public's benefit. The New Hampshire Preservation Alliance and Historic New England maintain easement programs to protect historic resources. The extent of the protection of the property is dependent on the strength of the easement. Some easements protect just the façade of a building. Other easements protect the larger preservation values including but not limited to the exterior and interior architectural features, materials, landscape features, outbuildings, fences and archeological resources of a property.

The Community Revitalization Tax Relief Incentive (RSA 79E) has been adopted by Town of Exter to encourage revitalization of underutilized buildings. Program information is available at www.exeternh.gov.

SUSTAINABLE BENEFITS OF PRESERVATION

Historic buildings are intrinsically "green," as reusing an existing building has substantially lower environmental impact than building a new one. Preservation and rehabilitation minimize the wasteful loss of materials while maintaining a distinctive sense of place. Sustainable benefits of preservation include:

- The historic building or structure already exists, and the energy required to fabricate the lumber, bricks, windows and doors was expended long ago
- New construction often includes demolition of an existing building (construction waste comprises approximately 25% to 30% of landfills), and the fabrication of new construction materials creates additional waste, while preservation of an existing building conserves landfill space
- The most appropriate materials for the majority of preservation projects are often historic materials rather than non-biodegradable manufactured products, such as vinyl and/or plastics

PRESERVATION REGULATORY REVIEW

To maintain the character of properties within the Historic Districts, most proposed exterior changes require review and the issuance of a Certificate of Approval (COA) from the HDC prior to commencing work, or if deemed to be an exempt activity or a minor application by Building Department Staff, the approval process can be addressed administratively. The type of work requiring a COA includes:

- **Exterior Alteration** - Installation, modification and/or removal of materials or features from sites, buildings or structures including sign modification or installation
- **New Construction** - New building, structure or site feature and/or expansion of an existing building, structure or site feature
- **Demolition** - Complete or partial removal of a building, structure or site feature
- **Relocation** - Moving of a building, structure or site feature

Certificate of Approval applications are reviewed by the HDC at their monthly meetings. During their reviews, the HDC references the criteria set forth in the Historic Preservation sections of the Town's Zoning Ordinance. Review by the HDC ensures that any proposed changes will be compatible with the character and design of the individual property and/or Historic District.

The process of applying for a COA requires the project representative to provide sufficient information on the HDC's application form and to include drawings, sketches, photographs, a survey, product brochures or samples for certain building features that will be modified. The applicant is encouraged to consult with Building Department staff to ensure that all the information is included in the application. Once the application has been determined to be complete, it will be placed on the HDC agenda. The applicant or a project representative should attend the HDC meeting for COA reviews to answer any questions the HDC may have regarding the application, or the application could be tabled pending clarification and/or the submission of additional information as requested by the HDC.

DEMOLITION REVIEW COMMITTEE

The Demolition Committee is a subcommittee of the Exeter Heritage Commission charged with the review of the proposed demolition of:

- Any building or structure within the Town limits that is more than 50 years old (with the exception of manufactured homes)
- Any building or structure that is listed or eligible for the National Register of Historic Places
- Any building or structure within a locally established Historic District

If a building or structure is found to be historically significant, the Demolition Review Committee will work with the owner to encourage alternatives to demolition. If alternatives are not agreed upon, the Demolition Review Committee will photographically document the building or structure.

HISTORIC DISTRICT COMMISSION

Established in 1970, the HDC has oversight of the Town's preservation activities and regulatory review within the bounds of the Exeter Historic Districts. The HDC is comprised of seven members and four alternates, including a Selectman and a member of the Planning Board. Although the HDC's primary responsibility is to conduct to review applications for COAs, the HDC also provides recommendations to the Town Council regarding historic preservation activities in the Town including the documentation of historically designated properties.

The HDC can take one of four actions following the review of a COA application:

- **Approval as Submitted** - The Certificate for Approval will be issued
- **Approval with Conditions** - A Certificate for Approval will be issued pending review for compliance of required conditions
- **Continued** - The applicant provides additional information or clarification as requested by the HDC
- **Denial** - It is determined that the project does not meet the requirements for the granting of a COA - The applicant can work with Building Department Staff to bring the project into compliance with the ordinance using the *Guidelines* and resubmit to the HDC for re-review or appeal to the Zoning Board of Adjustment

WORKING WITHOUT A COA

The Building Department will inspect all work for compliance with an approved Certificate of Approval (COA). If any changes are proposed after the issuance of a COA, please contact the Building Department at (603) 773-6112 for additional required reviews. Work completed without an approved COA is subject to possible fines, removal and restoration of the site, building or structure to its appearance prior to the violation.

APPROVALS REQUIRED FOR WORK

HDC review and approval is triggered by the application for a building permit. This includes the replacement of signs, awnings, windows, doors and roofs. HDC approval is necessary but may not be sufficient for the granting of a building permit. Each property is subject to review for compliance with applicable zoning, building and safety ordinances and codes. The property owner is responsible obtaining all necessary approvals prior to commencing with work.

HERITAGE COMMISSION

The Exeter Heritage Commission is advisory to other local boards and commissions; conducts inventories; educates the public on matters relating to historic preservation; provides information on historical resources; and serves as a resource for revitalization efforts

DESIGN OF ALTERATIONS

In balancing the desire for a change to a historic property with regard to the historic integrity, the 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 In-Kind Replacement
3. Alterations and Renovations
4. Adaptive Reuse
5. Additions and New Constructions

If demolition is considered, property owners should refer to the *Demolition Review Committee* process (page 01-3). Demolition of designated historic buildings is rarely appropriate.



The symmetry of this twin residence is one of its character defining features that should be preserved.

GUIDELINES FOR HDC DECISIONS FOR ALTERATIONS TO EXISTING BUILDINGS

When reviewing a proposed project for alteration to a historic building, the HDC'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 HDC encourages 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 HDC encourages 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 differentiated but also compatible with the historic building in terms of size, mass, form, fenestration, material, detailing and style, 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.

TOWN OF EXETER - *DESIGN GUIDELINES*

The following *Guidelines* were prepared in this project:

01 Guidelines Introduction
02 Guidelines for Roofing
03 Guidelines for Exterior Woodwork
04 Guidelines for Masonry & Stucco
05 Guidelines for Windows & Doors
06 Guidelines for Site Elements
07 Guidelines for New Construction & Additions
08 Guidelines for Commercial Buildings

Further information is available at the Building Department and on Exeter's web site at www.exeternh.gov. These *Guidelines* serve to cover the topics most typically addressed by the HDC. Any work under the jurisdiction of the HDC that is not specifically covered in these *Guidelines* is subject to HDC review and approval.



The replacement of deteriorated roofing is potentially dangerous work that often requires the access of workers and materials by ladders. Consideration should be given to hiring a professional for any work that is unfamiliar or potentially unsafe.

SAFETY PRECAUTIONS

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

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

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

Asbestos

US Environmental Protection Agency Hotline

(800) 368-5888 www.epa.gov/asbestos

Lead

National Lead Information Clearinghouse

(800) 424-LEAD www.epa.gov/lead

Radon

The National Safety Council's Radon Hotline

(800) SOS-RADON www.epa.gov/radon

Mold

Indoor Air Quality Information Clearinghouse:

(800) 483-4318 www.epa.gov/iaq/molds/index

BUILDING CODES

All construction projects in the Town of Exeter must comply with the Zoning Ordinances as well as the International Building and Residential Codes as amended. The intent of the Ordinance and 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 and structures, building systems and the surrounding property.

For specific information regarding the applicable ordinances and code sections for a project, please contact the Building Department at (603) 773-6112. Applicants are also welcome to meet with an Inspector who can assist with permit applications and regulatory questions.



All proposed exterior alterations, including the modification or installation of signage and awnings, is subject to HDC review and requires a Certificate of Approval (COA).

HDC REVIEW

It is important to remember that all exterior changes to a building or structure within the boundaries of a locally designated Historic District are required to receive a prior approval from the HDC. (Refer to *Preservation Regulatory Review* on page 01-3 or contact the Building Department at (603) 773-6112 for review requirements for proposed work.)

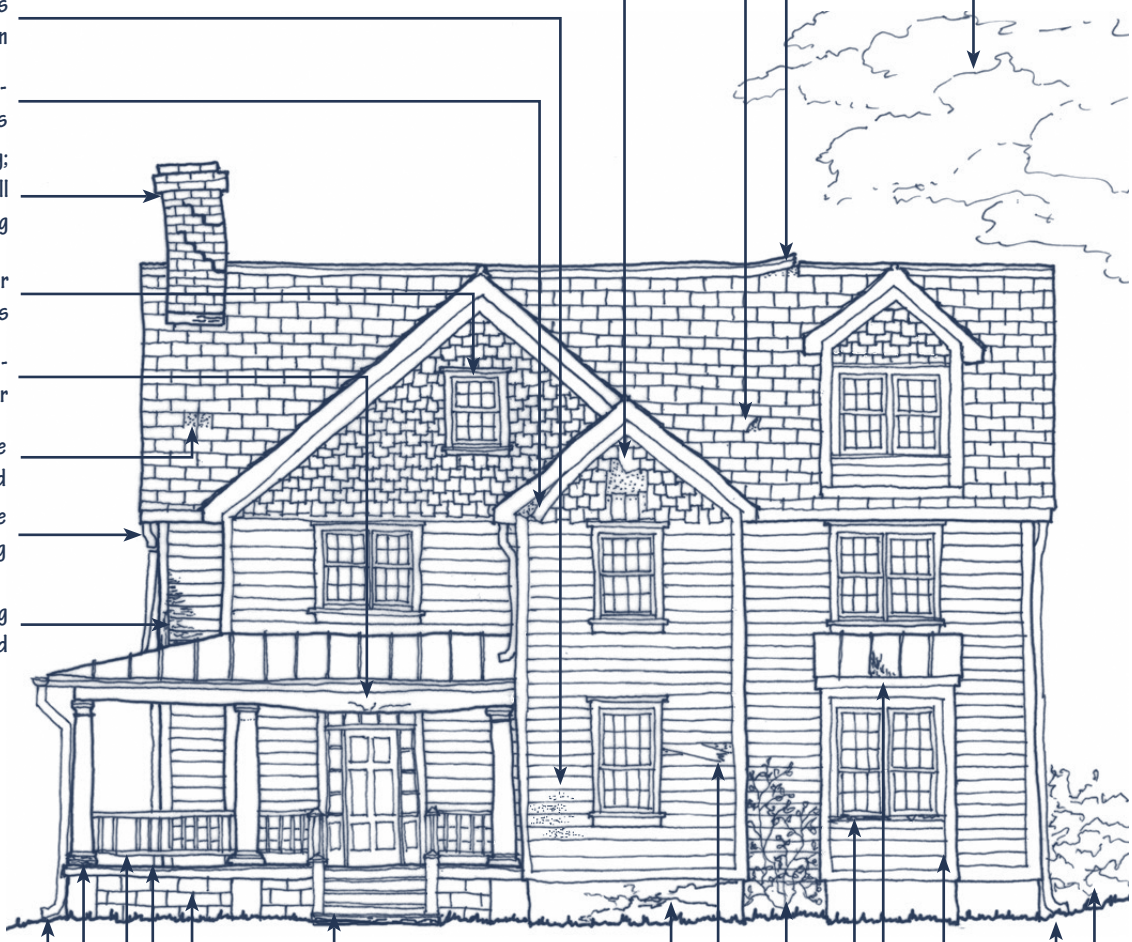
COST VS. VALUE-ADDED

While some of the recommendations in these *Guidelines* do not represent the least expensive options, the HDC strongly believes that selecting a better quality option will be less costly in the long-term.

An immediate benefit is that using traditional materials and construction methods tends to be more historically appropriate and sustainable. (Refer to *Benefits of Historic Preservation*, page 01-2.) Another benefit is that traditional materials generally have a longer life-cycle because they are appropriate for the local climate, requiring less frequent replacement. Additionally, traditional materials tend to reduce associated landfill waste and replacement costs, as well as potentially increasing a property's value associated with authentic, higher quality construction.

TYPICAL BUILDING MAINTENANCE NEEDS

General: Scrape all loose paint; sand to smooth surface; prime bare wood and metal; re-paint with historically appropriate colors



Trim overhanging tree limbs & clean gutters

Re-fasten ridge cap

Replace cracked slate

Re-nail loose shingles, replace missing shingles

Peeling paint indicates possible condensation

Re-fasten loose trim; re-caulk joints

Chimney cracked & leaning; Rebuild from roofline, install new flashing

Caulk around window & door frames

Bowed & cracked beam - Consult architect or engineer

Replace missing slate in-kind

Repair gutter; Replace downspout & rotted siding

Replace rotted wood siding in-kind

Install splash block

Restore rotted column base

Duplicate missing baluster

Restore rotted wood porch decking

Restore with lattice for ventilation

Rebuild rotted steps & check for pests

Foundation bulge - repair cause & patch stucco

Re-nail loose board

Remove ivy

Repair / replace rotted sill

Replace rusted metal roof

Caulk siding & trim seam

Change drainage & install splash block

Remove foundation shrubs

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 executed in various materials within the same building envelope, such as a combination of shingle roofing at sloped surfaces and rolled roofing at flat surfaces, with metal flashing at the intersections.

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 including 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 comprise 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 Town's historic buildings to last for centuries.

MAINTENANCE IS PRESERVATION

Regular maintenance helps to preserve buildings and property, protect real estate values and investments, and keeps Exeter 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 buildings, structures and landscape elements 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. It is important to keep in mind that if completed in a timely fashion, regular maintenance can prolong the life of a historic building or structure, while enhancing its long term value, authenticity and cultural value.

EXTERIOR PAINT AS MAINTENANCE

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 substrate, accelerating deterioration. Exterior paint provides a layer of protection to a building by limiting 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. Many metals are susceptible to rust. Although paint is an important protective layer that improves the longevity of a historic building element, it must be viewed as a temporary barrier that is subject to deterioration through cyclical temperature and humidity changes. It 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, visually tie parts of a building together, and reflect personal taste. A building's style, period of construction, materials and setting can all help identify appropriate paint colors. (A list of historic exterior color selections for buildings styles located in historic districts is available on the Town's web site at www.exeternh.gov.)

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.

Encapsulating paints can be problematic as they 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 R*emoving Paint from Masonry, Guidelines for Masonry & Stucco, page 04-7.*)

PROPERTY MAINTENANCE

Properties should be maintained in a manner that allows them to be safe and contribute to the Town culturally and economically. The Town an d the HDC encourages the regular maintenance of any building or structure to prevent a hazardous or unsafe condition from occurring. Potential examples of hazardous or unsafe conditions include cases in which:

- All or part of the building may fall and injure people or property
- Structural elements are deteriorated such that they can no longer safely carry imposed loads
- A defect or condition makes the building susceptible to water damage, including unmaintained paint on exterior wood surfaces and openings in roofs or walls



An example of an adaptive reuse project is the conversion of a firehouse into a restaurant. If considering a change of use for a building, it is important to have a clear understanding of which uses are permitted under the Zoning Ordinance for a particular parcel, and those that would require a variance. In addition, other modifications, such as the installation of an accessible ramp, may be required.

ALTERATIONS & 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.

When considering changes to historic properties, applicants should strive to:

- Identify, retain and preserve the character defining features of the historic building
- Minimize alteration to the original design, materials and features
- Use design elements, materials and techniques that are compatible to the historic building and setting
- Maintain the appropriate historic contextual setting



HDC review is required for all alterations of exterior building materials including roofing, siding and windows. In addition the HDC reviews any proposed structure, including garages, fences and walls at properties within the locally designated Historic Districts.

ADAPTIVE REUSE

Similar to alterations and renovations, adaptive reuse projects might be necessary to use a building for a different purpose from which it is currently or was originally designed, if permitted under the Exeter 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
- Conversion of mill buildings into office space or residences

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

REPAIR VS. REPLACEMENT

When it is no longer feasible to maintain a historic feature due to its condition, 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 HDC encourages replacement in-kind. Similar to a regular maintenance program, these activities can prevent or postpone extensive and costly future repairs.

In order of preference, the HDC encourages the following approach:

1. Non-intrusive repairs, focused at deteriorated areas, stabilizing and protecting the building's important materials and features
2. 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
3. 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



This 2-story side elevation addition is subordinate and diminutive in scale when compared to the side gable roofed main block. It is stepped back from the front elevation, and utilizes similar but larger windows, trim and siding. It is compatible but clearly identifiable as an addition to the historic building.

ADDITIONS

Additions to a building within a Historic District can dramatically alter the appearance of the individual property, the District and the surrounding landscapes. Exact reproduction of historic buildings is discouraged, while both traditional or 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 an addition to a designated property.

When considering an addition to a historic building or structure, applicants should:

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

NEW CONSTRUCTION

More dramatically than additions, new construction within a Historic District can dramatically alter the appearance of the individual property, the District and the surrounding landscapes. All new construction should be compatible within the property's surrounding context. As a result, those areas that are highly cohesive with strong historical integrity, will likely be more limited that those areas with a variety of building types, scales, materials and designs such as those found in some of Exeter's commercial corridors.

When considering a new construction or development project, exact reproduction of historic buildings is discouraged, while both traditional design or 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 new construction or a new development within a Historic District.

When considering new construction within a locally designated historic district or historic context, applicants should:

- Preserve the cohesive ambiance of historic resources with compatible, sympathetic and contemporary construction
- Use compatible siting, proportion, scale, form, materials, fenestration, roof configuration, details and finishes
- Reference the *Guidelines for New Construction & Additions*



This house is sited in a manner similar to its neighbors. The multiple gable and hipped roof break down the overall mass and scale to be similar to its neighbors. The fenestration pattern includes punched window openings, avoiding a front-facing garage door.

RESEARCHING HISTORIC PROPERTIES

Property owners seeking information regarding the history of their property can consult with the Exeter Historical Society as well as reference historic property designation information, town atlases, Town Directories and potentially historic photographs. (Refer to *Preservation Organizations*, page 01-11.)

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 Town's Building Department at (603) 773-6112 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.

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

A: The Exeter Historical Society is the best resources for local history, (refer to page 01-11), including historic photographs, National Register Nominations and survey forms on historic buildings. Links to information on local history are also available on the Town of Exeter's website. Additional information regarding historic properties is available from the New Hampshire Division of Historical Resources, and on its website. There are also numerous reference organizations and resources, a few of which are listed on page 01-11.

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 HDC. Each section of the *Guidelines* outlines what is and is not likely to be approved by the HDC. If considering a complex application, particularly those that include an addition or new construction, it is often helpful to informally consult with the HDC in a conceptual review prior to submission of a Certificate of Approval (COA) application. The conceptual review process can provide feedback to guide an application towards a design that may be approved by the HDC prior to expending a lot of time and money in the development of detailed plans or Construction Documents.

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

A: The HDC does not charge a fee for a reviews; however, other City departments may assess fees, such as notification fees, based on the nature of the project. Carefully review of 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 building 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 be required and 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 HDC. Before submitting your application, confirm that it is complete with the Building Department.

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

A: If your project is complex or requires review from multiple land use Commissions and Boards, the best time to talk to the 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 Town's Building Department at (603) 773-6112 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 HDC for review. It is recommended that you contact the Town's Building Department directly to understand what submission materials are required for your project; whether Commission review is required or a conceptual review is recommended; and the specific submission requirements, deadlines and meeting dates. Contact the Town's Building Department to determine what other reviews are required; if multiple reviews are necessary they can often be pursued simultaneously.

Q: Does my project require HDC review?

A: Proposed changes to any building, site or structure within the boundaries of a locally designated Exeter Historic District are required to receive an approval. This includes all work that might be considered ordinary maintenance and repair with the exception of repainting. Refer to applicable *Guidelines* sections for clarifications regarding types of work that is subject to review. Most applications for maintenance and in-kind repair are reviewed at the Staff level within 7 to 10 days of a completed application filing.

Q: How do I apply for HDC review?

A: The specific submission requirements for HDC review will vary based upon whether the submission is for a conceptual review or a Certificate of Approval. In most instances, the submission materials are typically 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 Town of Exeter website at www.exeternh.gov or contact the Town's Building Department at (603) 773-6112.

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

A: The 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. 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. However, you cannot receive a building permit without obtaining an approval from the HDC.

PRESERVATION RESOURCES

Reference

Belle, John, John Ray Hoke, Jr., Stephen A. Kliment (eds.). *Traditional Building Details for Building Restoration, Renovation, and Rehabilitation*. New York: John Wiley & Sons, Inc., 1998.

Bucher, Ward (ed.). *Dictionary of Building Preservation*. New York: John Wylie & Sons, 1996.

Cusato, Marianne, et. al. *Get Your House Right; Architectural Elements to Use & Avoid*. New York: Sterling, 2007.

Harris, Cyril (ed.). *A Dictionary of Architecture and Construction*. New York: McGraw Hill, 2006.

McAlester, Virginia and Lee. *A Field Guide to American Houses*. New York: Knopf, 2014.

Mouzon, Stephen A. *Traditional Construction Patterns*. New York: McGraw-Hill, 2004.

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.

Preservation Briefs. Washington, DC: National Park Service, Technical Preservation Services. 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.

Town of Exeter History

Bell, Charles H. *History of the Town of Exeter New Hampshire*. Massachusetts, Higgins Book Company, 1888.

Merrill, Nancy Carnegie. *Exeter, New Hampshire, 1888-1988.* Exeter Historical Society and the Town of Exeter, NH, 1988.

Rimkunas, Barbera. *Hidden History of Exeter*. Charleston, SC: Arcadia Publishing, 2014.

Rimkunas, Barbara. *Exeter Historically Speaking*. Charleston, SC: Publishing, 2008

PRESERVATION ORGANIZATIONS

Local Organizations

Town of Exeter Building Department
Historic District Commission (HDC); Heritage Commission
Town Hall; 10 Front Street, Exeter, NH 03833;
(603) 773-6112; www.exeternh.gov

Exeter Historical Society
47 Front Street; Exeter, NH 03833;
(603) 778-2335; www.exeterhistory.org

State and Regional Organizations

New Hampshire Division of Historical Resources
19 Pillsbury Street; Concord, NH 03302
(603) 271-3483; preservation@dcr.nh.gov

New Hampshire Preservation Alliance
7 Eagle Square; Concord NH 03302
(603) 224-2281; www.nhpreservation.org

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

ACKNOWLEDGEMENTS

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Town of Exeter

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Julie Gilman, Vice-Chair, Selectboard

Nancy Belanger, Clerk, Selectboard

Don Clement, Member, Selectboard

Anne L. Surman, Member, Selectboard

Russell Dean, Town Manager

Historic District Commission

Patrick Gordon, Chairman

Julie Gilman, Board of Selectman Representative

Pam Gjettum, Clerk

Curtis Boivin, Member

Nicole Martineau, Member

Valerie Ouellette, Member

Pete Cameron, Planning Board Representative, Alternate

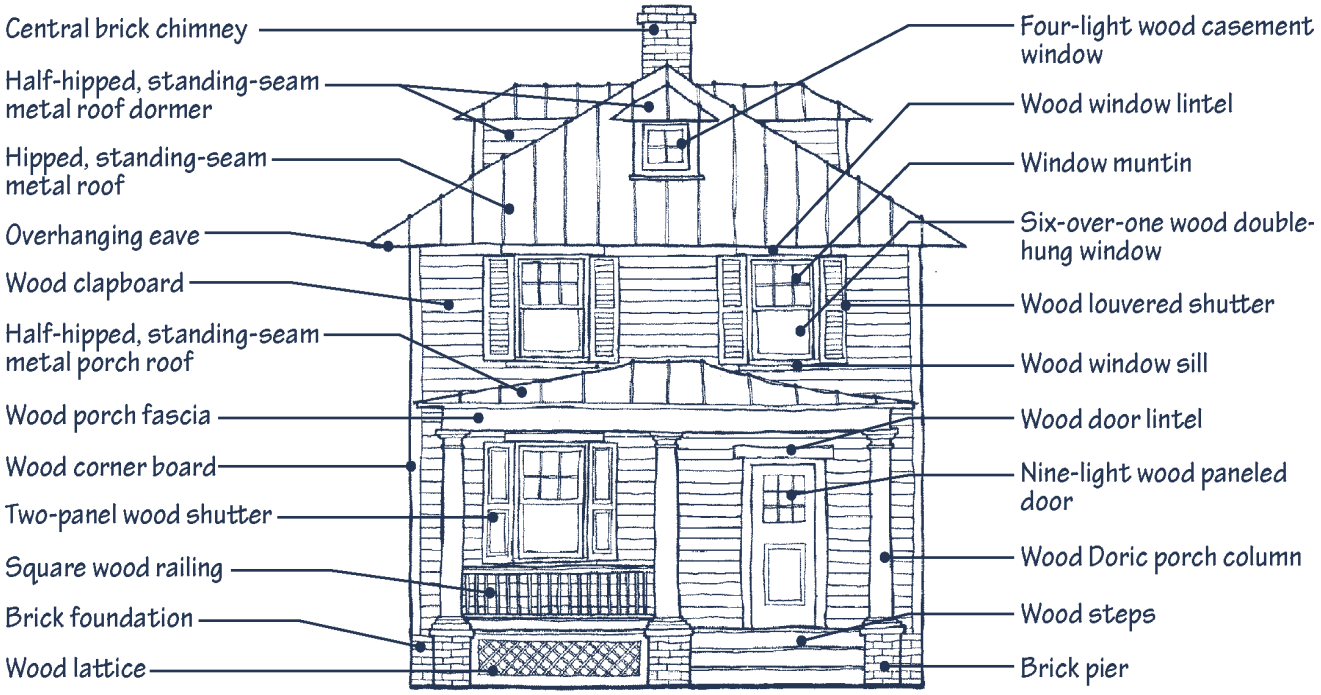
Building Department

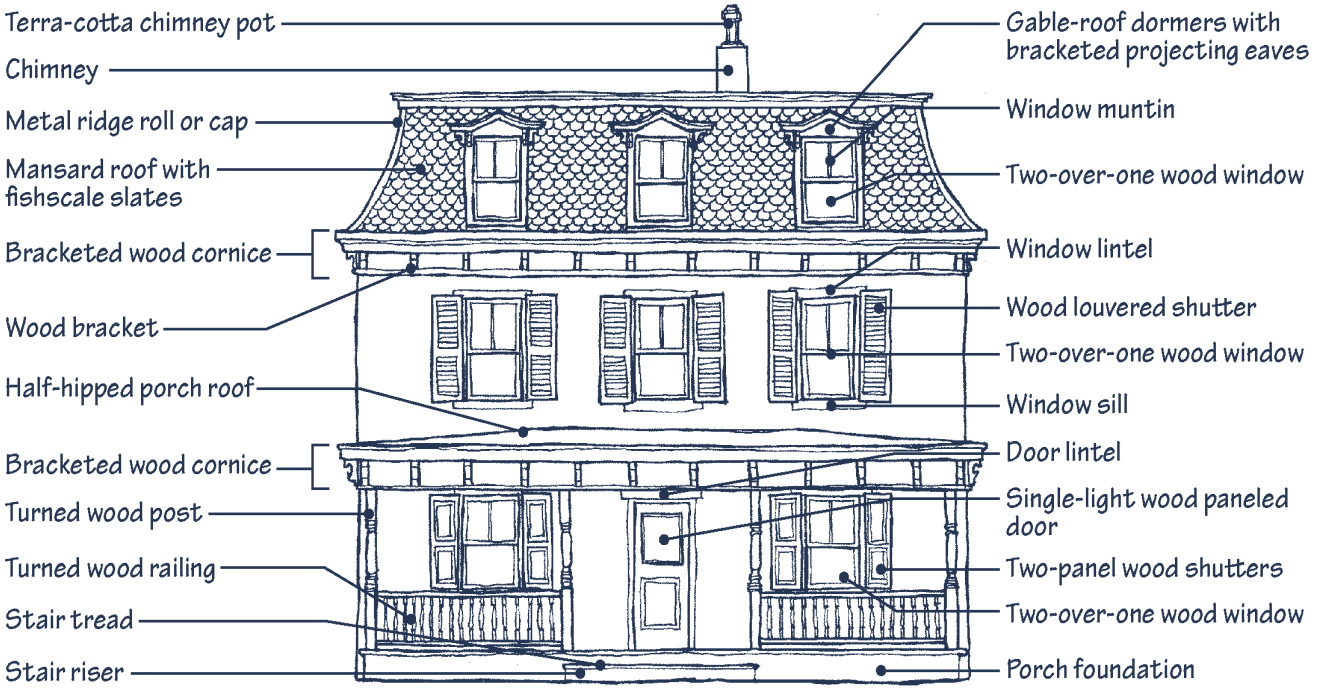
Doug Eastman, Building Inspector/Code Enforcement Officer

Barbara McEvoy, Deputy Code Enforcement Officer

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.





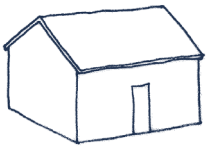
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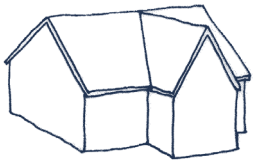
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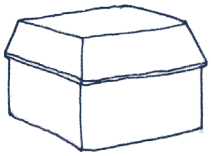
TOWN OF EXETER HISTORIC DISTRICTS

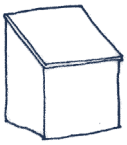
Roofing

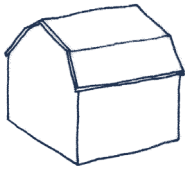

Front Gable

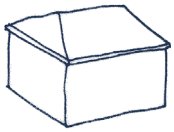

Side Gable

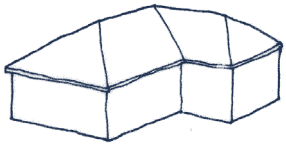

Cross Gable

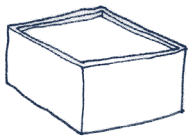

Mansard


Shed


Gambrel


Double Hipped


Cross Hipped


Flat with Parapet

ROOFING

A building's roof provides the first line of defense against the elements while its form and design can greatly affect the building's overall appearance. In addition, Exeter's roofs include a number of features that enhance the overall appearance of their respective building. These features may include chimneys, dormers and cupolas, as well as bell towers and steeples. As a result, a building's roof and associated features are also a typical indicator of its architectural style, a reflection of both its climate and its history.

The following functional and aesthetic concerns should be evaluated when considering a new roof or roof alteration:

- Weather-tight roofing preserves a building and provides shelter from storm water, wind and sun
- The form, color, texture and material of the roof and its associated features affect the scale and massing of the building

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

Guidelines and application information are available at the Town Office and on the Commission's website at **exeternh.gov/bcc/historic-district-commission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

- Roofing and roof features help define a building's character, silhouette and architectural style, with variations adding visual interest along a streetscape and the Town's skyline
- Retaining historic roof features and accessories can enhance a roof's overall character and appearance
- Non-historic elements to a roof, such as roof decks and mechanical equipment can have a negative visual impact and should be minimized and shielded from view

ROOF FORMS

The historic form of a roof is critical to the understanding of a building's type and architectural style. Certain roof forms are linked with specific styles, such as Mansard roofs with Second Empire style. Alterations to a roof's shape can have a negative impact on the building's historic authenticity and appearance, and can lead to drainage problems or water infiltration.

Roof forms can have various pitches and be combined in different manners to provide varied roof types. Some of the most common roof forms found in Exeter are illustrated above. Often, the most successful additions to historic buildings utilize similar or compatible roof forms and slopes. (Refer to *Building Form & Massing, Guidelines for Additions & New Construction*, page 07-6).

In addition to its role in defining a building type or architectural style, a roof's pitch or slope, as well as climatic conditions, such as snow loads and high winds, functionally define the appropriate materials for a roof. Low-pitched to flat roofs depend on a continuous or nearly continuous roof surface to minimize moisture infiltration, while moderately to steeply sloped roofs may be roofed with unit materials such as slate and asphalt shingles.



Mansard roofs are common features of Second Empire buildings. This slate mansard roof features decorative cresting at the uppermost roof level.

INVESTIGATING HISTORIC ROOFING

Some investigation may be needed to determine the historic sloped 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. Between rafters, older roofs can sometimes be seen. Another area of review is the roof framing, strapping and sheathing. Because of its weight, slate requires more substantial roof framing, with larger rafters and narrower spacing than wood or asphalt shingle framing. If the original strapping is visible, there are variations in lath spacing that relate to standard sizes for slate, wood shingles and other materials. Finally, wood sheathing was often needed in metal and asphalt roof installations, while strapping or boards was used in slate, wood and terra cotta installations.

If physical evidence is not available, investigating documentary evidence such as historic photographs, speaking to neighbors or looking at similar buildings in the area might provide clues about original roof materials. Local resources such as the Exeter Historical Society can offer valuable sources.

LIFE-CYCLE COST OF ROOFING MATERIALS

With regular maintenance, traditional historic roofing materials perceived as "more expensive" (such as slate) often have substantially longer lifespans than other forms of roofing. As a result, they do not require replacement as often and may have a lower life-cycle cost than less expensive materials such as asphalt. Full life-cycle costs are also key when considering a building's sustainability goals. **Typically, a material's longevity, sustainability and aesthetic qualities often add to a property's value.**

SUBSTITUTE MATERIALS

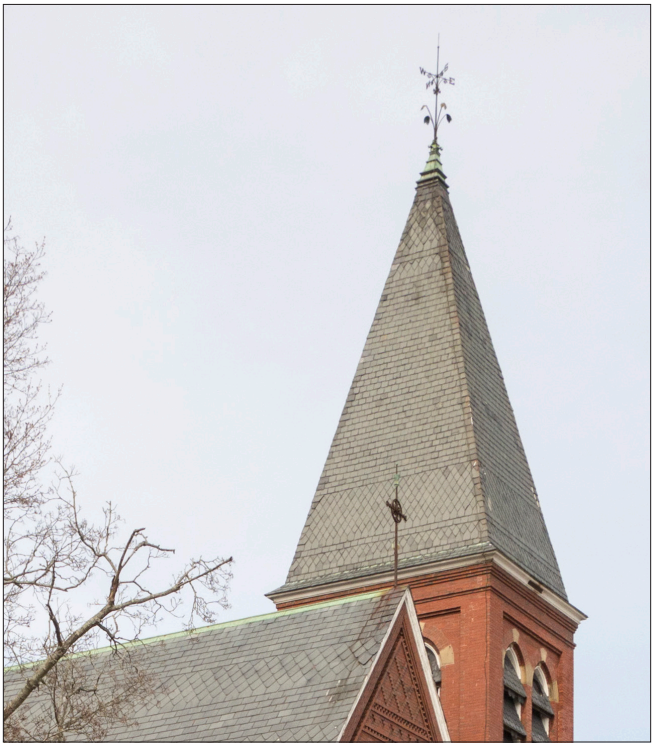
Care is recommended when using substitute materials since they might not have the longevity advertised, can potentially damage historic building fabric, and may not meet the *Secretary of the Interior's Standards*.

ROOFING MATERIALS

Historically, roofing materials were selected based upon practical and aesthetic criteria including pitch, weather conditions and the availability of materials and craftsmen. The popularity of architectural styles, from the use of wood shingles for Early Colonial and Federal style buildings to the use of slate for Victorian styles and masonry buildings, also had a great impact on the selection of roof material. With industrialization at the beginning of the 20th century, new roofing materials were introduced, including asphalt and asbestos-based shingles, as well as varieties of rolled or built-up roofing for flat installations. The variety of metal roofing expanded to include copper, tin and galvanized sheet steel. In addition, although less common in Exeter, terra cotta and concrete tiles were also popular in different periods.

Each material provides a specific color, texture and pattern to a roof surface. Wood shingles and slate provide a modulated surface with variations in color, pattern, texture, veining, graining and thickness while metal roofing can provide a ribbed or smooth surface.

More recently, a larger variety of substitute roofing materials intended to simulate historic materials has been developed, some more successful than others. These include architectural asphalt-composition shingles and fiberglass, metal, tile or recycled rubber shingles intended to evoke the appearance of slate, wood shingle and terra cotta. The most common roofing materials in Exeter include slate, asphalt, metal and flat roofing systems.



Roof forms can provide a dramatic building silhouette against the sky. Both the pyramidal hipped roof of the tower and the front gable roof have bands of patterned slate, typical of the Victorian period.



Slate roofing is often found on Exeter's older buildings. Also note the copper flashing along the roof hip.

SLATE

Slate was a common roofing material on buildings constructed in the colonial and federal period through Colonial Revival buildings of the 20th century. During the Victorian period, slate roofing could include slates of a variety of shapes and colors, installed in decorative patterns on roof slopes.

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 HDC recommends 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.

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 slate or wood shingles.

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*
- Missing or damaged shingles or roof accessories - *Replace to match original*
- Moss or fungi on surface - *Trim back adjacent trees to allow sun to dry out roof surface*

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.



This 3-tab asphalt shingle roof has exceeded its useful life. Given the unevenness of the surface, It would be prudent to have the underlying framing and sheathing reviewed by an architect or engineer prior to re-roofing.

RIDGE VENTS

A ridge vent, installed along the majority of the ridge line, allows the passage of air through the attic or cathedral ceiling. The air movement can reduce heat build-up and potentially moisture in attics and within roof framing.

Ridge vents are commonly included at asphalt roof installations, and can be covered with matching asphalt shingles to minimize their visibility.

METAL

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, terne plate (rust-preventive coated steel) and galvanized iron. Some historic metal roofs require regular painting, with traditional colors including silver, grey or green, to minimize the potential for corrosion. While historic metal roofs were typically formed on-site, newer metal roofs are often made from preformed components or sheet materials that allow for less labor-intensive installation.

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*



Copper is a traditional metal roofing material that does not require painting. The standing seams, as shown in this example, create a regular pattern along the roof surface.



Rubber roofing systems can crack, eventually forming leaks. Significant cracking of this roof suggests replacement might be prudent.

FLAT ROOFING SYSTEMS

Although very few roofs are truly "flat", low-sloped roofs, generally defined as a pitch less 3:12 (3-inch rise for 12-inch 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

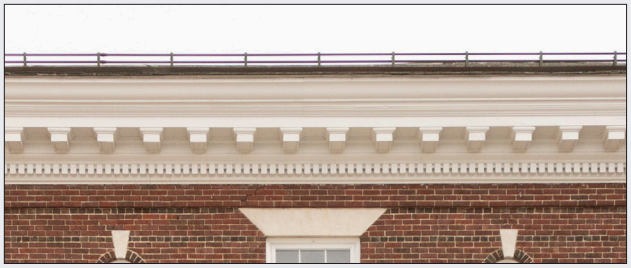
Although flat roofs that are not visible from a public way are not subject to HDC review, it is recommended when selecting roofing materials that the materials and design address the building's drainage and specific details of the existing conditions including attachment, substrate and weight limitations.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

Most low-sloped roofs include a parapet and/or cornice, particularly along street elevations, providing a visual termination to the building wall. These components and parapets were often decorative and reflect the building's style.

Parapet: The portion of a wall that projects above an adjacent roof surface.



Cornice: The projecting horizontal moldings toward the top of the building wall at the roof edge.





Gable roof dormers can typically be found at early Federal and Greek Revival, and Colonial Revival buildings. This example is pedimented and includes a 6/d window.

DORMERS

Dormers, also known as dormer windows, were traditionally used to let light and ventilation into the attic and to create habitable space. At the exterior, they protrude from sloped roof surfaces and visually break up large roof surfaces. Dormers can have various roof shapes, but in the Exeter they typically have a gable, hip or less often, a shed roof form. Historically, the overall height and proportions of dormers is determined by the building style, with upper floors tending to have smaller windows than lower floors.

When considering a new dormer, particularly on historic buildings, property owners are encouraged to review historic dormers at comparable buildings of the same style and period. It is important to keep in mind a poorly scaled or detailed dormer can drastically change the appearance of an otherwise well-proportioned house and have an adverse impact on the roof form and historic character.



Most early wood framed homes include a massive, central brick chimney, which was used to heat the house.

CHIMNEYS

Chimneys were designed to complement the style of a building and period of construction. In Exeter, most are constructed of brick or masonry, some of which have been covered by stucco. The rhythm and placement of chimneys typically reflect the internal organization of a building and represent an important building feature. Most building types and styles have square or rectangular chimney shafts, sometimes with molded tops. Victorian period chimneys can include decorative detailing including corbelling, varied patterns, undulating and molded surfaces, and decorative terra cotta chimney pots. Though routine maintenance and repair of a historic chimney does not require a Certificate of Approval (COA) from the HDC, removal of historic chimneys is only approved by the HDC if they are structurally deficient. The use of veneer brick chimneys is only appropriate in unique circumstances and is strongly discouraged.



The bell and clock tower at the Congregational Church serves both functional and decorative purposes.

ROOF FEATURES & ACCESSORIES

Roof features are functional and sometimes decorative elements that define the profile of a roof against the skyline and should be appropriate to the building's style. Historic rooftop features include cresting, finials, roof hatches, flashing, gutters, downspouts, weather vanes and bell towers. More recent additions include skylights, solar panels as well as mechanical and television equipment. In its review of new roof features and accessories, the HDC considers the appropriateness to the building, existing features and accessories, level of visibility, as well as the visual impact to the roof character and appearance. Property owners considering installation of new roof features or accessories should make every effort to minimize their visibility and the appearance of clutter in order to improve the likelihood of approval.

ROOFTOP ADDITIONS

In cases where a property owner is considering adding habitable space at the roof level, such as a bedroom, office, bathroom or kitchen facilities, it is considered a rooftop addition. Refer to the *Guidelines for Additions & New Construction* for additional information regarding additions.

Flashing

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 installed around chimneys, parapets, dormer windows, roof valleys, vents and intersections of porches, additions and projecting bays. Flashing often fails before roof surfaces, particularly at more durable roofing such as wood shingles or slate. Failures result in interior leaks and deterioration of framing. If the flashing deteriorates, it is possible for a qualified roofer 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 to 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 has the longest life span, followed by stainless 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, including fasteners, to prevent premature deterioration.



The skylights are low profile and parallel to the roof slope, minimizing their visibility. Also note the stepped copper flashing at the brick chimneys with the bishops cap chimney caps.

Skylights & Roof Hatches

Skylights were historically used in commercial and warehouse buildings. Advancements in technology allowed them to be installed at residences. Similar in form to a skylight, a roof hatch can provide access to a roof for snow removal and maintenance, as well as provide a means of ventilating attic spaces. The installation of new skylights and roof hatches should minimize alteration of the roof structure with the long dimension oriented down the roof slope. Skylights and roof hatches should be hidden or minimally visible from public view, and should not disturb historic roof materials such as slate, nor require the significant modification of existing roof framing.

Snow Guards

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 slope. Another form of a snow guard is spaced brackets supporting metal rods above the roof surface. Both types of snow retention can protect eaves, cornices and gutters, and take advantage of the insulating effect of snow.



This slate roof has two types of snow guards along the roof eave, spaced brackets supporting metal rods above, the left and individual guards to the right.

Gutters

Gutters typically are located near or along the bottom edge of a roof slope to collect rainwater. Although many of Exeter's early buildings were not designed with gutters, installing them can significantly reduce water damage to building walls and foundations. Built-in gutters are often not visible from the ground, and are typically 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. Both built-in gutters and pole gutters are formed of flashing materials typically wrapped around or within wood enclosures.

Hanging gutters are located just under the roof slope edge and are usually metal with half-round or profiled cross sections. Similar to flashing, gutter materials have different life spans. Generally, copper has the longest potential life span, followed by steel, with aluminum being highly susceptible to punctures, tears, dents and galvanic reaction to other metals. When installing or reinstalling gutters, property owners should reproduce any special or historic molding, strap or bracket used to support or attach a gutter to a building and repair or replace wood eave detailing and trim.



The water from this half-round gutters is collected in a scupper box and directed to a round downspout. All are painted white to match the wood trim.



This rectangular copper downspout discharges stormwater away from the building foundation.

Downspouts

Downspouts, also known as rainwater conductors, conduct a gutter's water down the face of the building to the ground or a drainage system via a cast iron boot and are generally surface mounted to a building's exterior. Similar to gutters, downspouts can be fabricated of copper, galvanized metal or aluminum, in a round or rectangular profile. An advantage of a lead-coated copper or galvanized metal downspouts is that they can be painted to match the building colors.

When adding downspouts to a structure for the first time, they should be arranged in an orderly fashion and mounted to the building rather than a porch post or column.

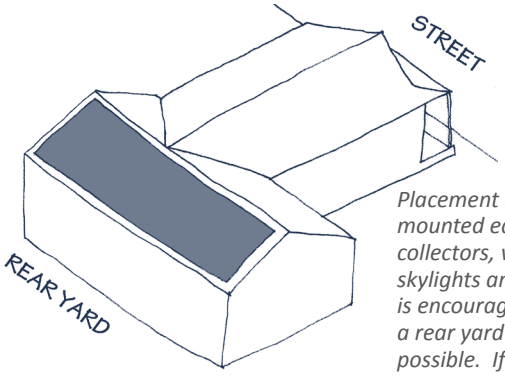
Rain barrels can collect storm water for future use in the garden, reducing run-off into the river. Property owners are encouraged to select neutral colors and shield rain barrels from public view with plantings to the extent possible.



Green Roofs & Rain Barrels

Much of the rain that falls on a roof surface is typically diverted to a gutter, then a downspout, and from there, discharged at the perimeter of a building or into a storm sewer. Reducing the amount of water that reaches the gutter or collecting the water as it is discharged from the downspout, prevents the soil around a building from becoming saturated, potentially impacting the foundation. In addition, the sewer system is less likely to become overwhelmed in a significant storm.

One of the means of controlling the quantity of water diverted to a gutter system is installing a green roof so that the planted material is not visible from the public way. An option for flat and sloped roofs is installing rain barrels at the bottoms of downspouts. Rain barrels collect storm water discharged from downspouts. They typically include a spigot near the bottom for a hose hook-up, allowing the collected storm water to be used for watering gardens and lawns.



Placement of roof-mounted equipment, solar collectors, wind turbines, skylights and roof hatches is encouraged facing a rear yard wherever possible. If it is not possible, placement as far back on a side roof slope as possible is preferred.

ROOF MOUNTED EQUIPMENT

Roof mounted equipment including mechanical equipment, vents, television dishes and antennae and mobile telecommunication equipment are all examples of modern roof-mounted mechanical equipment and 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*.

RENEWABLE ENERGY

Solar collectors provide a renewable energy source. The Town of Exeter 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. To minimize their visibility, the frame and panels should be the same color as the roof structure, and located parallel to and as close to the roof structure as possible. The proximity and seasonal shading characteristics of adjacent and neighboring trees and structures should also be considered to ensure sufficient year-round solar exposure to justify the expense of installation. (Refer to *Roof-Mounted Equipment* diagram above for placement.)

Similarly, wind turbines are a renewable energy source. However, because turbines need to be located to benefit from consistent breezes, they are often taller than adjacent buildings and highly visible. Similar to solar collectors, the visibility of wind turbines should be minimized from public view.

An "invisible" form of renewable energy is geothermal heating and cooling. Geothermal systems use the thermal energy generated and stored in the earth to heat/cool a building through a series of pipes bored into the ground. Typically, the only component of the system that is visible at the exterior of a building is a valve access cap, generally located flush with the ground.

ROOF REPAIR OR REPLACEMENT

The HDC recommends:

- Maintaining a building's roof slope appropriate to the architectural style at primary and ancillary structures
- Designing an addition or new buildings with a roof slope similar to existing buildings and neighboring construction
- Selectively replacing damaged or missing elements in-kind, so as to match the material, size, shape, texture and other visual characteristics of the original
- 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
- If replacement in original material is not possible, replacing damaged or missing materials with new modern material of similar size, shape, texture, pattern and other visual characteristics of the original
- Installing roofing rather than typical wall materials on the steep slopes of mansard roofs
- Maintaining, cleaning and/or repairing of roofing, roof accessories and rooftop features
- Securely installing fasteners and flashings with a similar expected life span to the roofing material
- Regular repainting of metal components susceptible to rust and wood elements susceptible to rot and deterioration
- Regular cleaning of gutters and downspouts
- Retaining original drainage system and appearance
- Installing half-round gutters rather than a profiled K-gutter, which often competes with building features
- Installing plain round or rectangular downspouts in lieu of corrugated downspouts
- Installing solar collectors, mechanical and other roof-mounted equipment in a manner that is preferably not visible or minimally visible from the public right-of-way
- Minimizing the visibility of a skylight or roof hatch by using components that are relatively flat, sympathetic to and compatible with the existing roofing materials
- Inspection of attics after a storm or freeze to catch small leaks early - minimizing potential interior damage

The HDC discourages:

- Modification of the roof plane for the installation of insulation or any other purpose
- Installing multiple or oversized dormers that essentially alter the roof form
- Removing roof features such as chimneys, dormers, cupolas, weathervanes, finials, etc.
- Removing or altering historic drainage systems
- 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 false historical rooftop features such as weathervanes, cupolas or wood shingles on an originally slate roof, without supporting physical or documentary evidence
- Installing new roof mounted equipment in a manner that is visible from the public right-of-way or visually prominent or highly reflective equipment
- Replacing a historic masonry, chimney with a framed chimney covered with brick or stone veneer

ADDITIONAL AREAS OF CONSIDERATION

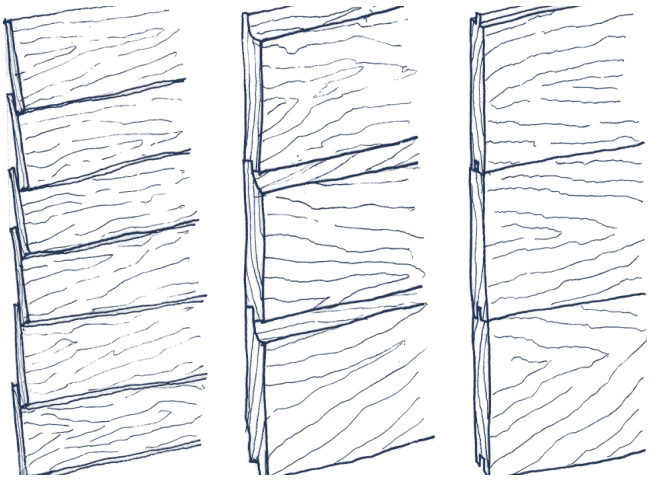
- Roofing work is potentially dangerous and should be left to professionals
- All roofers are not experienced in all materials; obtain references and verify that roofers have appropriately completed compatible work
- Verify the extent of both the material and installation warranties and company histories
- 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
- Ensure all portions of the roof are sloped to drain
- 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

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TOWN OF EXETER HISTORIC DISTRICTS

Exterior Woodwork



Clapboard Siding | Drop-Lap Siding | Flush Siding

WOOD SIDING TYPES

Use of wood siding is widespread on the Colonial and Victorian era buildings of Exeter. The most common type of wood siding is clapboard with drop-lap siding and flush siding being less prevalent. Clapboard siding (also known as weatherboard 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-groove boards of uniform width. Other types of wood siding that may be found in Exeter include ship-lap siding, which is similar to flush siding with an "L" shaped overlap, and board-and-batten siding, which is wide, vertical boards, with narrow strips of wood covering the vertical joints.

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

Guidelines and application information are available at the Town Office and on the Commission's website at **exeternh.gov/bcc/historic-district-commission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

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 a 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 as larger elements such as porches.

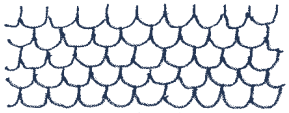
Exterior woodwork and cladding:

- Establishes 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 while adding pattern and casting shadows on wall surfaces

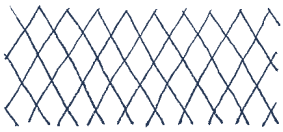
With proper maintenance, exterior wood elements can last for centuries; however, improper maintenance can result in problems and deterioration from water, fungus, mold and insects. Other forms of cladding can also be susceptible to deterioration, depending on their properties and the installation conditions.



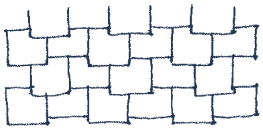
Chisel or Bevel



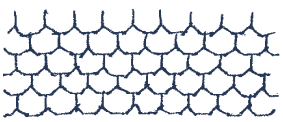
Fishscale



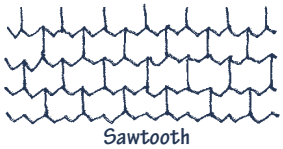
Diamond



Staggered



Octagonal



Sawtooth

SHINGLE TYPES

Decorative wood shingles provide a highly textured wall finish, and were used as a cladding material most often in historic Exeter homes of the Victorian era. Similar to clapboard siding, wood shingles are tapered and installed in an overlapping pattern with staggered joints to minimize potential moisture infiltration.



Leaking plumbing, including exterior hose bibs, can regularly expose woodwork to moisture, eventually resulting in rot. Wet wood can also be a desirable home for pests such as termites.

EXTERIOR WOOD REVIEW

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 will result 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 is rarely necessary and should be avoided whenever possible. Encapsulation with artificial siding or another material is never appropriate.

The following approach should be considered to maintain exterior woodwork:

- **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 03-3.) 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.**
- **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. (Refer to *Exterior Paint*, page 03-9.)
- **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. (Refer to *Wood Repair Options*, page 03-4.)
- **Selectively replacing deteriorated wood elements when they are beyond repair**. 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. (Refer to *Wood Repair Options*, page 03-4.)
- **Replacement wood elements should have the same visual characteristics as the historic woodwork including its dimensions, profile and materials.** Large scale or significant replacement of exterior wood might be necessary if deterioration of exterior woodwork is severe and extensive. Replacement wood elements should have the same visual characteristics as the historic woodwork including its 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.

ASBESTOS SIDING

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 compliance with all applicable regulations and procedures.



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 admit 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 (May be required by the Building Code if renovating a bathroom or kitchen)
- Cold water pipes in humid weather and frozen pipes in winter – **Consider:** Pipe insulation
- Basements and 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 in a basement or crawl space
- 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



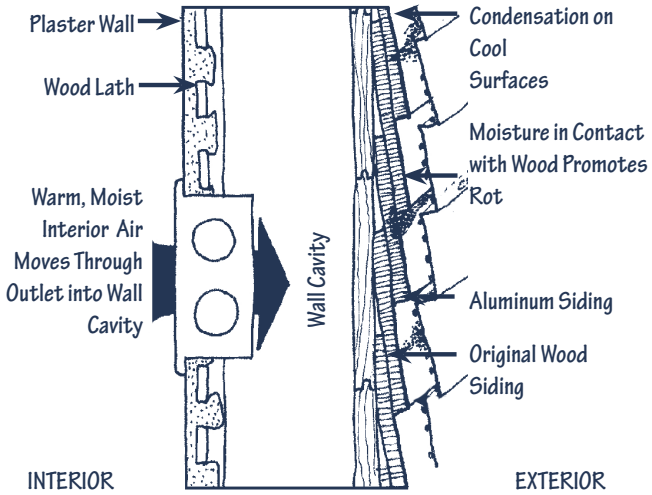
Porches, steps and other areas where the woodwork is laid horizontally or located close to the ground are often the first to deteriorate. Ongoing exposure to moisture can lead to rot of the column bases, porch deck and apron.

DECAY RESISTANT WOOD

Readily available new growth timber tends to be much softer and susceptible to deterioration than hardwoods of the past. Some types of wood, generally hardwood, are naturally decay resistant, while others have a higher propensity to rot. Naturally decay-resistant woods tend to be denser than woods less-resistant 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

Note that pressure-treated wood should be thoroughly dried before applying paint, generally two to three months after installation. Specially formulated paint is required for best results.



CONDENSATION

As a result of changes in our living standards, condensation has become a significant problem in historic buildings. Today's buildings include air conditioning and central heating to stabilize indoor 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 more extreme the differences between interior and exterior conditions, the higher the likelihood of condensation. The differences in temperature and relative humidity between the interior and exterior of buildings is "bridged" through the thickness of the exterior building walls. If the temperature is below the dew point at any location within the wall, condensation will occur, causing evaporated moisture to change into water droplets. Wall insulation can adjust the dew point location. When combined with a vapor barrier, integral on most batt insulation, it can reduce moisture migration through a building's envelope. It is recommended that property owners consult www.energystar.gov for insulation types, levels and installation recommendations applicable to specific locations and construction conditions.

Although the installation of window-mounted portable air conditioning units does not require a Certificate of Appropriateness from the HDC, it is advisable to consider its potential to generate condensation when locating, installing, or maintaining a unit, how the condensate is to be directed away from building elements, and the structural effect on the window sash and frame.

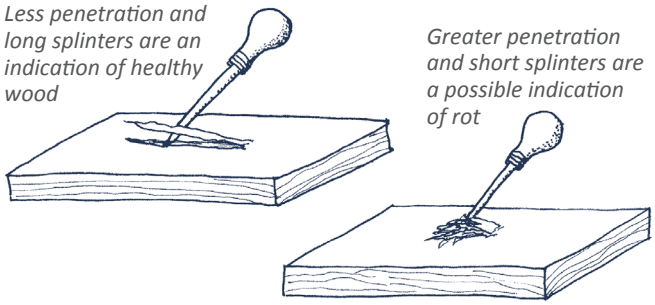
In addition, installing artificial siding or impervious coatings over wood can make a condensation problem worse and conceal deterioration until it is severe. Unlike wood, vinyl and aluminum do not "breathe" and can trap moisture within a building's wall cavity, leading to rot, mold and insect damage 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.

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 measure the penetration depth. Evaluate the depth 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.



WOOD REPAIR OPTIONS

If a portion of a decorative exterior element is deteriorated beyond repair, it is often possible to replace only the deteriorated sections. Replacement of the entire component or unit might not be necessary. (Refer to *Detecting Wood Rot*, above.) The two most appropriate methods of repair are epoxy consolidation and Dutchman repair.

Epoxy consolidation can be performed in place in the early stages of wood deterioration, where the deteriorated area is small, or at decorative or ornate elements that can be costly to replace. The process involves inserting penetrating liquid epoxy into porous wood, generally by injection through small, drilled holes. As the epoxy dries it hardens and strengthens the deteriorated wood, allowing the maximum amount of historic fabric to be retained.

A Dutchman should be used for larger areas of deterioration and involves removing the deteriorated portions of wood, not necessarily the entire element, and replacing the removed section in-kind. The replacement piece should match the original in design, shape, profile, size, material and texture. The deteriorated section is removed with a sharp-edged recessed cut and the Dutchman is installed with a tight joint. Replacement siding sections should be a minimum of 5-feet in length to minimize the opening of joints over time. When painted, the Dutchman and the existing building fabric should appear continuous.

TYPES OF ARTIFICIAL SIDING

Artificial siding has been applied by Exeter'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 & 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 and trim generally does not have the same dimensions as traditional wood elements including the width of corner boards and the depth of individual clapboards. This results in visual differences when compared to wood siding.

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, and should be installed following manufacturer's recommendations. 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.



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

ARTIFICIAL SIDING INSTALLATION

In Exeter, 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.

REMOVING ARTIFICIAL SIDING & VENEER

Exeter'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

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. (Refer to the 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 do not typically 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 accelerates and can 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. • Painting vinyl or aluminum siding to change or to freshen its 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.)

Cornerboards are typically found at all wood siding applications. In this case it separate the clapboards to the left from the wood "block" siding to the right, intended to appear like stone.



WOOD TRIM AT SIDING & SHINGLE WALLS

Wood trim elements provide an end termination to most wood siding and/or shingle installations. Types of vertical trim can include window and door casings as well as corner boards (vertical wood boards at outside corners) or trim at inside building corners. In these installations, the side edges of the siding or trim are butted against the sides of vertical boards. Caulking is often installed between the siding and vertical trim elements to provide a weather tight joint. However, caulk and sealant can affect paint adhesion, and care should be taken to minimize application to finished surfaces. (Refer to *Weather Stripping & Caulk, Guidelines for Windows & Doors*, page 05-7.)

Some building styles do not include corner boards. Instead, the side edges of wood clapboards or shingles are butted together as they wrap corners, often in an alternating pattern. Whether or not a building included corner boards, historically, the wood siding and shingles at most buildings was installed to allow a full-height exposure above window and door heads, even if it required altering the spacing or exposure of rows. Because of the standardized size of aluminum and other artificial siding, this is often not possible with newer forms of siding.

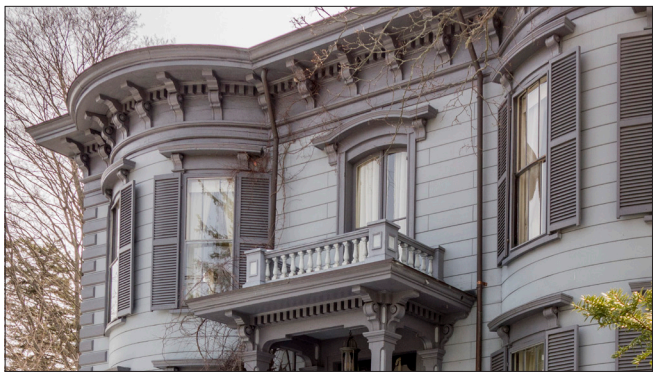
Traditional wood shingled wall cladding can include corner boards as shown on the first floor, or without, as seen on the second floor.



WOOD TRIM & ORNAMENT

Wood trim includes window and door surrounds, corner boards, rake boards and wood sills. Similar to exterior woodwork and cladding, wood trim typically serves multiple purposes. 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.

In addition to wood trim, there are numerous types of wood ornament, some of which are also functional, 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.



Trim and ornament can help to define a building's architectural style.

WOOD SHINGLES VS. WOOD SHAKES

A wood shingle is sawn while a wood shake is split, historically by hand, resulting in more variable thickness and more surface texture. In these *Guidelines*, the term wood shingle is used to refer to either wood shingles or shakes.

ARTIFICIAL TRIM & ORNAMENT

One of the newest types of synthetic trim and ornament is made from PVC. Similar to wood, PVC trim can be cut and shaped, however it tends to lack the visual qualities and irregularities of wood. In addition to trim, PVC ornament is also available. Although PVC products are meant to replace wood elements, the dimensions and profiles of PVC trim and ornament often vary from their historic counterparts.

Although PVC products are rot-resistant, the expansion and contraction of PVC tends to be greater than wood, resulting in larger gaps required in running trim. This can be minimized if paint colors are limited to light and medium tones, reducing expansion. For the best visual likeness to wood, artificial trim and ornament should be painted in-place, following installation. The paint tends fill-in minor gaps between components and provide a more traditional, and unified appearance.

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 are 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 welcome for visitors. Unfortunately, porches today can be one of the most altered components of a building, either because they are not properly maintained or they are viewed as potential enclosed indoor space.

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.

STOOPS

With most of Exeter's buildings located adjacent to the sidewalk or street, many of the Town's historic buildings do not have front porches at their façade, but instead have steps, also known as stoops, leading directly to a small landing or the entrance door. In many cases, these homes will often include a porch at a rear or side elevation.



DECKS

In the late-20th century, decks became a more prevalent constructed form of outdoor space, beginning with decks located above the ground, and later, roof decks on top of buildings. Decks are typically wood-fame construction, using stock lumber and components that are generally stained or sealed rather than painted. One of the critical differences between a deck and a porch is that a porch is integrated into the overall design of a building, while a deck, although attached, is stylistically different. As a result, they must be carefully considered relative to the their visibility from the public right-of-way.



Porches, particularly those facing the street, can play a significant role in defining the architectural character of a building while providing a welcoming for visitors.

ENCLOSING PORCHES

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.

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, such as:

- Visible building 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
- Historic photos, drawings or maps and original components that may be visible from attics or garages
- Comparable porches on neighboring buildings of similar type, design, style and date of construction

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.



The paint is blistering and peeling exposing the underlying siding to the elements and moisture infiltration. Complete removal of the paint down to bare wood and repair of areas of deterioration is recommended prior to the application of a high-quality wood primer followed by two coats of compatible paint.

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 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, visually tie the parts of a building together, and 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 at 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 *Masonry & Stucco Painting, Guidelines for Masonry & Stucco,* page 04-7 for more information on masonry paint removal and application.)

OIL & LATEX PAINTS

Essentially, there are two types of wood paint for buildings, oil and latex. Both types consist of three principal components: a pigment, a binder to adhere the pigment to a surface as the paint dries and a solvent that makes the mixture loose enough to apply with a brush. Even though latex was developed in the mid 1940s, oil was the dominant paint type until about 1970 and is found on many historic homes today.

Oil and latex paints act differently when applied to a surface. Oil paint forms a tough plastic film as the binder reacts with oxygen in the air. The binder can be natural oil, such as linseed, or oil modified with alkyds. Early latex paint used synthetic rubber as the binder, while latex paint today uses acrylic, vinyl-acrylic or vinyl acetate binders. As the water in latex paint evaporates, it forms a flexible film, and the binder and pigment move closer together until a protective surface is formed. Critical differences between oil and latex paints are that they do not cure in the same way and they adhere differently to substrates. As oil paint ages, it continues to cure and oxidize. It becomes increasingly more brittle to the point that it can no longer expand and contract with the underlying substrate through temperature and humidity cycles. By contrast, latex cures in about two weeks and remains more pliable.

Generally, oil paint adheres better to problem surfaces because the oils are small enough to seep into the wood or microscopic openings in old, even chalky, paint. The resins in latex paint are generally too large to seep into the substrate, allowing water vapor to pass through. This makes latex less likely to peel from a building with excessive interior moisture, although multiple layers of paint can create an impermeable moisture barrier. Another characteristic of latex paint is that its flexibility can impose surface tension to underlying layers of paint, particularly oil, and pull the paint away from the substrate.

In Exeter's climate, it is generally recommended to apply an oil or latex bonding primer to provide a smooth finish, followed by two coats of acrylic latex paint. Property owners should consult with a paint professional to obtain the best recommendation for each specific paint project.

REPAINTING

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

SPECIALTY PAINTS

Elastomeric or Encapsulating Paint

Encapsulating paints can trap moisture in woodwork, promote rot and/or provide a desirable environment for pests such as termites. These paints are often referred to as "liquid siding," "liquid stucco" or "liquid ceramic coatings." **Use of encapsulating paint is strongly discouraged by the HDC**.

Masonry Paint

Refer to *Removing Paint from Masonry* and *Masonry & Stucco Painting, Guidelines for Masonry & Stucco*, page 04-7. **Painting previously unpainted brick or stone is strongly discouraged by the HDC.**

Metal Painting

The paint selected must be compatible with the type of metal and any existing coatings. In the case of iron-based metals, typically found at railings and grates, paint preparation should include the removal of rust to bare metal, cleaning the surface and promptly applying a rust-inhibiting primer to prevent corrosion.



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.

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 or storm water; leaking plumbing; and condensation. (Refer to *Wood Rot*, page 03-3 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

COMPLETE PAINT REMOVAL

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

If the existing paint has failed, it might be necessary to strip all or portions of the paint from the surface. There are a variety of tools and chemicals available to strip paint, many of which are potentially hazardous and can cause significant damage to exterior surfaces and the surrounding environment.

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 of lead-based paint, must comply with all safety requirements - owners are strongly encouraged to contact the lead safety organizations found in the *Guidelines Introduction* for information prior to completing 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

PAINT COLORS

The HDC recommends referencing appropriate historic exterior paint colors for specific building types and architectural styles available on the Town of Exeter web site at www.exeternh.gov or reference books. Property owners seeking historically accurate paint colors for a project can complete a paint analysis.

EXTERIOR WOODWORK REVIEW

Exterior Woodwork Maintenance

The HDC encourages:

- Following the recommendations in *Exterior Wood Review*, page 03-2

The HDC discourages:

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

Artificial Siding and Elements

The HDC encourages:

- 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 profiles and detailing similar 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 HDC discourages:

- Installing aluminum or vinyl siding or coatings

Wood Trim and Ornament

The HDC encourages:

- Retaining historic wood trim and ornament
- Following guidelines for maintenance and repair of historic wood trim and ornament as outlined in the *Exterior Wood Review*, page 03-2

When replacement of wood ornament and trim is warranted, the HDC encourages:

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

When replacement of wood ornament and trim is warranted, the HDC discourages:

- 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

The HDC encourages:

- Painting porches regularly to preserve wood
- Applying a painted finish complementing the architectural characteristics of the house - refer to *Exterior Paint*, page 03-9
- Identifying deteriorated elements

- Finding and correcting sources of deteriorated elements, such as deteriorated, cracked, blocked, inappropriately hung, broken or missing gutters or downspouts
- 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
- Replacing missing or deteriorated materials with similar, new materials - avoid replacement of a wood railing with a metal or vinyl railing system
- Repairing damaged elements using standard repair techniques for that material (Refer to the *Guideline* section appropriate for each material, particularly *Guidelines for Roofing* and *Guidelines for Masonry & Stucco*) and restoring the porch to its original historic appearance
- Replacing only irrepairable original elements using elements of the same material, size, profile and other visual characteristics
- Rebuilding a porch based on appropriate documentation
- 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

The HDC discourages:

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

If constructing new porches, the HDC encourages:

- 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

If constructing new porches, the HDC discourages:

- New decks visible from the streetscape

If enclosing a porch, the HDC encourages:

- 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

If enclosing a porch, the HDC discourages:

- Enclosing porches, particularly at the front elevation

Paint Removal

The HDC encourages:

- Hand cleaning with mild detergent and bristle brush
- Hand scraping and hand sanding
- Following all manufacturer's safety recommendations

The HDC discourages:

- Rotary tools - 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

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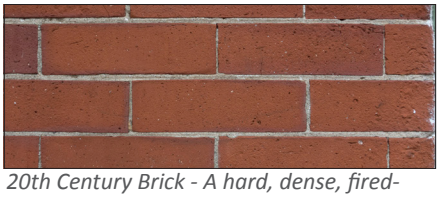
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TOWN OF EXETER
HISTORIC DISTRICTS

Masonry & Stucco



18th-19th Century Brick - A soft, fired-clay, fairly regularly shaped building component; often with color and surface variations



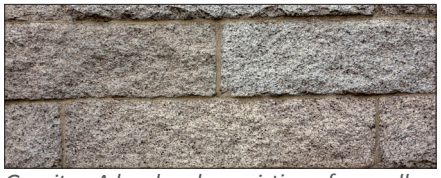
20th Century Brick - A hard, dense, fired-clay, regularly shaped building component; sometimes with a glazed surface.



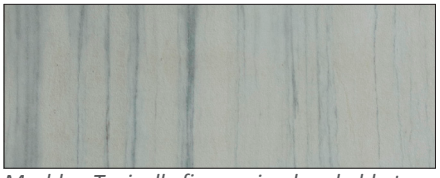
Yellow Brick - A hard, dense, fired-clay, regularly shaped building component made from high lime content clay.



Sandstone - A sedimentary stone used as a building material, popular in the late 19th century.



Granite - A hard rock consisting of a small, yet visible, grains of minerals; can be highly polished or textured.



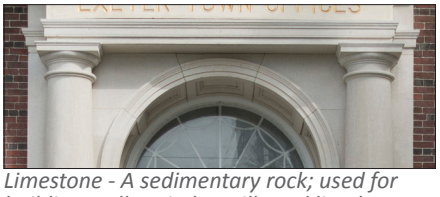
Marble - Typically fine grained and able to be highly polished; it has a wide range of colors and patterns.



Fieldstone - Locally quarried stone, typically uncoursed of varied sizes, shapes and colors.



Terra Cotta - A fired-clay, non-structural building component; used for ornate details.



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

USE OF MASONRY & STUCCO

In the Town of Exeter, many prominent civic and institutional buildings are constructed of masonry, as are most of the commercial buildings along Water Street.

At residences, masonry and stucco can be a primary wall material or limited to foundations and chimneys at wood framed homes. Masonry landscape and retaining walls are also common at residential properties.

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

Guidelines and application information are available at the Town Office and on the Commission's website at **exeternh.gov/bcc/historic-district-commission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

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 typically acts as the principal load bearing system for the building, and also serves 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 texture casting 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

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, the installation of very hard mortar, inappropriate paintings or coatings, as well as harsh or abrasive cleaning.

MASONRY COMPONENTS

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 or joints between them.

Historically, the masonry was bearing, meaning it carried its own weight to the ground, as well as the load of other building elements atop it, such as walls, floors and a roof. Beginning in the 20th century, thin masonry veneers, often of brick, marble or granite, were "hung" on an underlying support structure at storefronts, and later at entire façades.

Brick

Brick is a common masonry material in Exeter and can be found in some of the Town's earliest commercial and institutional buildings, and it continues to be used today. Bricks are made by pressing clay into a mold and then firing or baking the brick at very high heat. While historic brick sizes vary, modern brick is generally a standardized unit, 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 determined by the way the brick is manufactured.

- **Hand-pressed bricks** tend to be very soft and can be found on buildings and structures built during the 18th and 19th centuries. 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 this 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.
- **Dry-pressed bricks** are similar to hand-pressed bricks except the clay used is drier and it 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 hand pressed bricks and dry pressed bricks, which were often 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 that then is cut into individual bricks. With large-scale production it is easier to achieve higher quality control and uniformity in color and hardness.
- **Veneer bricks** are thin extruded bricks, often about 1/4" thick, adhered to an underlying surface. Brick veneers have no structural capacity and are more susceptible to damage from freeze-thaw cycles and impact, which can result in cracking or popping off a surface.

Terra Cotta

Similar to brick, terra cotta is made of fired clay and is often used for decorative details and wall finishes. It can have the color of red or yellow brick or be fired with a clear or colored glaze. Terra cotta became popular in the 20th century, and was often highly decorative and ornate.

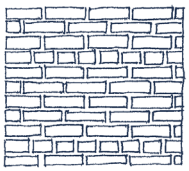
Stone

The most common types of stone in Exeter are granite and brownstone. Limestone detailing is often found at brick buildings, and some of Exeter's buildings include fieldstone. The stone hardness varies by type with brownstone and limestone being soft, while granite and marble are very hard. The finish can be rubble stone of varied size and arrangement, or range from a rusticated base to a highly polished, reflective surface such as stone veneer at a storefront. In addition, stone can be carved for decorative elements and sculpture.

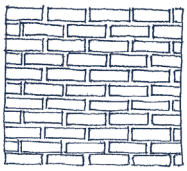
Concrete Masonry Units

Concrete masonry units (CMUs), also known as concrete blocks, are similar to bricks in that they are formed, structural elements made from a mixture of water, cement, sand and aggregate, which is placed in forms to harden. CMUs are typically 8- by 8- by 16-inches in size with internal voids. Similar to brick, they are stacked and bonded with mortar and laid in a running-bond pattern. Today, CMUs are available in various colors with different textures and finishes, including rusticated masonry, also known as split-faced block.

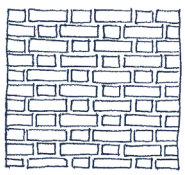
BRICK BONDING PATTERNS



Common Bond



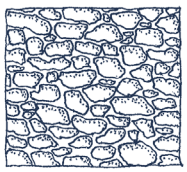
Running Bond



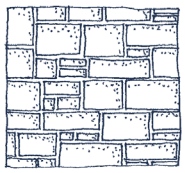
Flemish Bond

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.

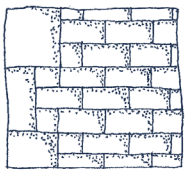
STONE BONDING PATTERNS



Uncoursed Fieldstone



Coursed Fieldstone



Coursed Cut Stone with Quoins

Uncoursed and coursed field stone are common foundation materials in Exeter. 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 composed of only three ingredients: sand, lime and water, and sometimes 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 workability and hasten setting time. In the early-20th century, corresponding with the manufacture of harder bricks, the amount of Portland cement in mortar was increased, resulting in harder mortar.

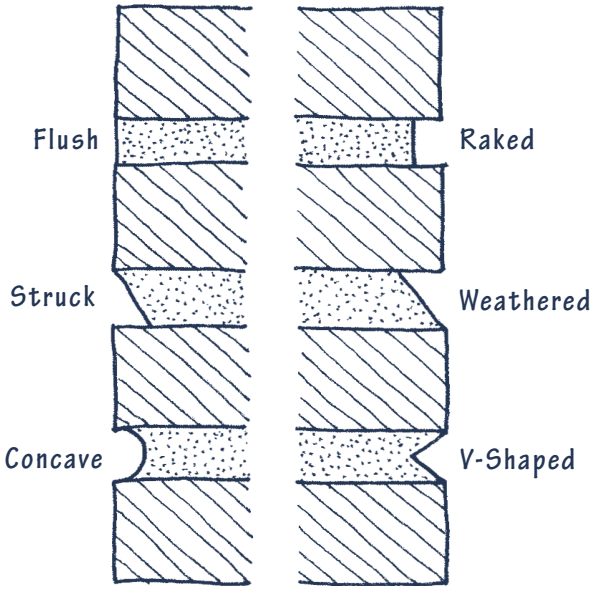
Sand is by far the largest component of mortar and defines its color, character and texture. Since masons utilized readily available products, sand from historic mortars tended to have weathered, rounded edges, and was available in a great variety of grain sizes and shades of white, grey and yellow. Most sand available today has sharper edges and comes in standard sizes from being mechanically broken and sieved. 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. Lime-based mortars can also deteriorate with continual wet-dry cycles, similar to hand pressed brick. By contrast, Portland cement shrinks significantly upon setting, undergoes relatively large thermal movements, can be extremely hard and resistant to water movement, and is available in white or grey, which can be mixed to achieve a desired color. **In general, high lime mortars are recommended for nearly all repointing projects at 18th and 19th century brick and soft masonry construction to ensure a good bond with original mortar and masonry.** It is possible to add a very small percentage of Portland cement to a high lime mixture to improve workability and plasticity. In most cases, Portland cement generally can be increased when repointing 20th century brick or harder stone such as marble and granite.

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

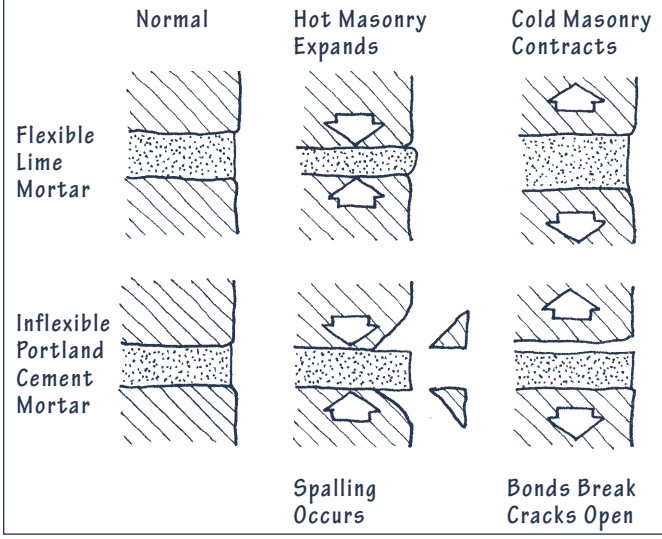
Historic Additives included oyster shells, animal hair, and clay particles. To duplicate the character of historic mortar, it might be necessary to include additives to match the original in hardness, texture, appearance and color. It should be noted that there are several types of chemical additives available today including those that increase or reduce setting time or expand the recommended temperature installation range. **The use of newer chemical additives is strongly discouraged at historic masonry unless they have been specifically tested over an extended period of time with historic materials similar to the proposed installation conditions.**

JOINT PROFILES



There are numerous mortar joint profile types, or shapes, with each producing different shadow lines and highlights. When repointing an area of masonry, it is important to tool the 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. This expansion and contraction results in compression and flexing of the adjacent mortar joints.

Lime-based mortar is pliable and more likely to compress and flex through temperature cycles. Properly installed mortar should 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, 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 admit moisture.

TYPICAL MASONRY PROBLEMS

It is important to identify masonry problems early to minimize damage. This is particularly true of masonry that is exposed to moisture. Once water is permitted to penetrate a masonry wall, the rate of deterioration accelerates very quickly, becoming more severe and costly. The following images include some typical masonry problems in Exeter and possible repairs. Some conditions, such as movement or settlement issues, might require professional evaluation by an architect or engineer.

Many problems associated with historic masonry result from failure to keep mortar joints or coatings in good repair. Deteriorated mortar joints allow moisture to penetrate the masonry and cause severe interior and exterior damage. There are five principal causes of mortar joint failure as described below.

Weathering of mortar or stucco occurs when rain, wind and pollution erode softer historic mortar over time. Historic mortar and stucco were purposely soft to allow the masonry wall to expand and contract with seasonal temperature changes. (Refer to *Mortar Hardness & Masonry,* page 04-3.)



The mortar has weathered from most of the brick joints, reducing the structural capacity of the wall. The surface of some bricks has spalled, and a settlement crack has developed near the corner of the window.

Uneven Settling of masonry walls and piers may result in cracks in stucco surfaces, along masonry joints or within masonry units.

DEFINITIONS

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

Mortar Joints: The exposed joints of mortar in masonry

Repointing: Repairing existing masonry joints by removing defective mortar and installing new mortar

Spalling: Chipping of masonry



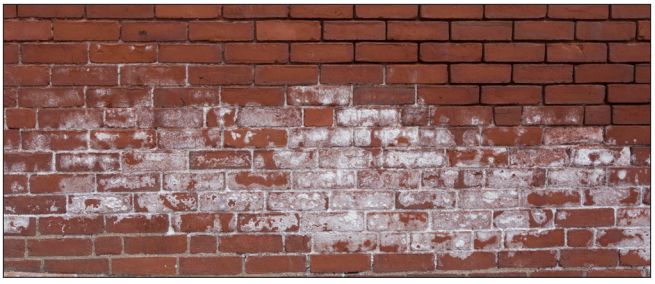
The surface of the center brick has spalled. The repointing mortar is harder than the brick and likely includes too much Portland cement. The mortar should be completely replaced with softer mortar.

Temperature Cycles can cause masonry, stucco and mortar to expand and contract at different rates, breaking the masonry's bond with the stucco and mortar. This situation can be worsened if moisture enters an open joint, then freezes and expands, potentially spalling, that is, popping off the surface of the stucco, mortar and the masonry.



Brownstone is very soft and susceptible to moisture damage. The surface of the brownstone has delaminated, the corner has spalled and a cementicious patch on the lower right corner is failing.

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.



Efflorescence, or white bloom, is an indication of moisture in the wall. There is a lack of mortar at the upper right.

Insufficient Exterior Maintenance may result in water entering a masonry wall and accelerating deterioration. Potential areas of concern are: open joints in masonry or stucco; poorly functioning gutters, downspouts and flashing; rising damp from saturated soil; standing water at foundations; water splashing off hard surfaces onto walls; condensation discharge from air conditioners; or water-entrapping vegetation such as vines or shrubs on or near a masonry wall, foundation, pier or chimney.



A saw was used to cut-out the joints during repointing, extending the vertical joints and damaging the bricks. In addition, both the vertical and horizontal joints have been widened.

REPOINTING HISTORIC MASONRY

Repointing work can last at least 50 years when completed properly. For the best results, skilled craftsmen are needed to remove the existing mortar with hand tools to minimize damage to adjacent masonry, achieve the appropriate mortar mix, color and hardness, apply the mortar, and tool it to match the historic joint style and appearance. As a result, it is generally recommended that repointing projects be limited to areas of deterioration rather than an entire building unless deterioration is prevalent.

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 placed in joints in layers no more than 3/8-inch thick and allowed to harden. The final outer layer should be tooled to match the historic joint profile. (Refer to *Joint Profiles*, page 04-3.)



The central bricks have been repointed with what appears to be a Portland cement mortar that is harder than the hand made brick. In addition, the mortar color and tooling is a poor match for the original mortar.



Long cracks at masonry, particularly cracks that split individual cracks or stones, can be an indication of a significant structural problem. In cases of more significant or re-occurrent cracking, consultation with an architect or structural engineer may be prudent prior to repointing.

REPAIRING HISTORIC MASONRY

When repairing masonry walls, infill pieces of masonry and mortar should match the existing in visual characteristics and hardness. For example, deteriorated hand-pressed brick must be replaced with hand-pressed brick; a granite sill should be replaced with a granite sill. (Salvaged materials should be reused with care since historic materials can have different properties based upon their installation locations, for example, brick can be exterior or interior grade). Mortar must match the original tooling, appearance and hardness.

Although mortar can easily be matched by analyzing the composition of the remaining mortar, matching brick, terra cotta and stone is more difficult. Fabricating new brick by hand to achieve similar irregularity and coloration can be costly. Terra cotta and glazed brick replacement also presents a challenge since molds often need to be recreated and the glazes tend to develop surface hairline cracks and change color over time. Matching stone with new stone is more likely if the original quarry remains active. An alternative to obtaining new masonry is to utilize salvaged units. Although the labor to clean off excess mortar and prepare salvaged material for reuse could be more expensive than purchasing new brick, the visual characteristics, irregularity and hardness would be comparable with the existing material.

USING THE CORRECT MORTAR & STUCCO

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 for older brick and many types of stone. The best method of matching historic mortar and stucco is having an existing sample analyzed by a professional lab. The HDC is also available to provide guidance based upon the type, location and condition of the masonry.

MASONRY CLEANING

Appropriate masonry cleaning can enhance the character and overall appearance of a building. However, improper cleaning of historic masonry can damage historic surfaces and cause more harm than good, both physically and visually. Masonry cleaning methods fall within three general categories:

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

Because of the softness of historic brick and some types of stone, as well as the potential damage to historic masonry surfaces, cleaning should be completed only when absolutely necessary, using the gentlest means possible. In many cases, soaking the masonry 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, such as dish washing detergent, and brush the wall surface with a natural bristle brush.

Chemical cleaners can etch, stain, bleach or erode masonry surfaces. 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, resulting in an eroded surface and permanent damage. Abrasively cleaned masonry usually has a rough surface that can hold dirt and be more difficult to clean in the future. Both mechanical and chemical cleaning methods can destroy the outer protective layer, making masonry surfaces more porous and deteriorating mortar joints, thus allowing water entry and accelerated deterioration. **The use of mechanical methods for cleaning masonry is strongly discouraged by the HDC. The use of chemical cleaners should only be used when all other methods are unsuccessful. Cleaners must be diluted and tested at a discrete area prior to general application.**

Before beginning any cleaning process, it is important to ensure that all mortar joints are sealed to prevent water or any detergent or cleaning solution from entering the wall structure and causing additional damage. In addition, cleaning should be scheduled to allow the wall to thoroughly dry out prior to potential frost to minimize spalling.



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

MASONRY COATING

Water repellent and waterproof coatings generally are applied to prevent water from entering a masonry wall. They can be unnecessary on weather-tight historic buildings and are problematic long-term. Water infiltration through masonry buildings is often caused by other moisture related problems including open mortar joints and deferred maintenance. **In instances where the surface of the masonry has been compromised severely, such as by sandblasting, the use of water repellent coatings may be appropriate.**

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

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

STUCCO

Stucco is a relatively inexpensive material that can provide a more finished appearance to brick, stone or, in rare examples in Exeter, wood-framed buildings. In some cases, stucco was scored or rusticated to look like stone. Stucco acts as a weather repellent coating, protecting the building from the elements including rain, snow, sunlight and wind. Stucco can also provide an insulating layer to a wall, reducing the passage of air, as well as improving a building's fire resistance. A stucco wall surface is generally about 1-inch thick and applied in 3 coats.

Stucco was rarely used as a primary wall material in Exeter. Instead, it was applied on some buildings and structures as a remodeling material when constructing an addition to vary the original appearance or to conceal a modification or deterioration. The components of stucco are similar to pointing mortar and include sand, lime, Portland cement, water and possible binders like animal hair or straw. In some cases, pigments are added to alter the finished color.

Stucco Application

Stucco is essentially a skin of mortar held in position by the bond formed with the underlying material. Historically, on masonry walls, one of the best ways to achieve a bond was to "rake-out" the mortar joints approximately 1/2-inch to form a groove that holds the stucco in place. When installed on masonry, stucco becomes an integral part of the wall when set. When stucco was installed on wood framed walls, the stucco was generally "hung" on strips of wood called lath that were nailed to wall studs in the same way interior plaster was applied. By the mid-20th century, metal lath replaced wood lath for stucco application on wood-framed buildings.

PATCHING STUCCO

Similar to repointing mortar, stucco should be applied in moderate weather conditions, avoiding extreme heat, sun, humidity and freezing temperatures. The final appearance should duplicate the existing as closely as possible in composition, color and texture. Successful patching of stucco surfaces requires the services of a skilled craftsman.

Hairline cracks in stucco can generally be filled with a thin slurry coat of the finish coat ingredients. By contrast, larger cracks and bulging wall areas need to be cut out and prepared for a more extensive repair. 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. Larger stucco repairs are applied in three coats similar to initial stucco application. (Refer to *Stucco*, at left.) Similar to pointing mortar, if stucco patches are too hard, they can 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 painting stucco, it is recommended that loose or flanking paint be removed prior to applying a breathable masonry paint .

MASONRY & STUCCO PAINTING

If the exterior of the masonry surface has been compromised through previous sandblasting, moisture infiltration or the use of harsh chemicals, painting with mineral silicate paint can provide a degree of protection. Repaired masonry or stucco walls often will need to be repainted for a uniform appearance. When selecting paint, it is important that the new paint be compatible with earlier coats of paint and the stucco material and be applied following the manufacturer's recommendations.

When repainting masonry, proper preparation is critical to a successful masonry painting project. This includes removal of vegetation and loose or flaking paint; maintenance of adjoining materials, such as leaking downspouts or gutters; and repointing of open joints.

The HDC generally recommends mineral silicate paint for the best long-term adhesion, which includes lime and silicate that binds to masonry, providing long-lasting durability and weather resistance. Lime-based paint is also appropriate for historic masonry, although it is not as weather resistant. If the building has been painted previously, it is important to select a type of undercoat and paint appropriate for the surface coating on the building and apply them following manufacturer's recommendations. (Refer to the *Exterior Paint*, *Guidelines for Exterior Woodwork*, page 03-9.)



Badly peeling paint can be an indication of poor preparation or moisture issues.

REMOVING PAINT FROM MASONRY

When considering whether to remove paint from a masonry surface, it is important to determine whether removal is appropriate. In some instances, the building might have been meant to be limewashed or painted, or limewash or paint was used to hide deterioration, later changes or additions. It might be appropriate to consider stripping paint if the existing paint has failed, the paint was applied to cover other problems such as a dirty building, or to reduce the long-term maintenance requirements associated with repainting.

Signs of failed paint include paint that is badly chalking, flaking or peeling, possibly due to moisture penetration. Prior to repainting, it is recommended that the cause of the moisture infiltration be identified and repaired to minimize the potential for future failure. It is also prudent to review whether the masonry 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 cause the paint to peel and masonry to spall.

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

SYNTHETIC STUCCO

The Exterior Insulation and Finish System, or EIFS, is a synthetic stucco system popularized in the United States in the late-20th century. One significant problem with EIFS is that it does not "breathe" and can trap moisture within the wall thickness. This can lead to powdering or melting of soft, hand pressed bricks, rotting of wood sills and framing, and potential mold and mildew development in the building. In addition, EFIS can provide a desirable home for termites and carpenter ants where they can easily migrate to other parts of a building. In addition to problems with its physical properties, EIFS is typically installed with control joints or grooves to allow the surface to expand and contract with temperature patterns, often resulting in unusual wall patterns that distract from the architectural design.

Because of the differences in the visual characteristics of EIFS from stucco and the potential to harm historic building fabric, the HDC does not recommend the application of synthetic stucco or EIFS to any existing building or structure.

MASONRY & STUCCO GUIDE

The HDC encourages

- Replacement masonry that matches the historic in appearance, type, color, texture, size, shape, bonding pattern and compressive strength
- Replacement masonry that is toothed into existing masonry, continuing the historic pattern
- 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
- Using mortar and stucco that matches the appearance, color, texture, pattern, joint size and tooling of the historic installation
- Carefully removing algae, moss, vines and other vegetation from masonry and stucco walls and removing shrubs from the building perimeter
- Completing masonry and stucco work in fair weather, for improved bonding and curing

The HDC discourages:

- Widening or extending the existing mortar joints or overlapping the new mortar over the masonry surface
- Removal or covering of historic masonry surfaces or details
- Removal of historic stucco from masonry surfaces exposing the soft, underlying brick to the elements
- Installing stucco over brick, stone or wood framed buildings that were not intended to be stuccoed unless covering previously damaged masonry
- 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
- Using pre-mixed mortar that does not match the appearance of the historic mortar
- Using pre-mixed mortar or stucco that contains a high percentage of Portland cement at softer or historic masonry or stucco installations
- 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
- Using modern chemical additives in mortar or stucco
- Installing pointing mortar or stucco in a single layer greater than 3/8" deep
- Installing an Exterior Insulation and Finish System, or EIFS

Masonry Cleaning

The HDC encourages:

- 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 non-ionic detergent and natural bristle brushes when water soaking is not successful

The HDC discourages:

- Using mechanical methods including sand blasting, grinding, sanding and wire brushing - these methods can damage the exterior and inappropriately change the visual appearance
- Using water with excessive salts, acids or minerals that can deposit on masonry surfaces
- Using chemical cleaning

Masonry Coating

The HDC discourages:

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

Removing Paint from Masonry

The HDC encourages:

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

The HDC discourages:

- 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 or stone

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TOWN OF EXETER HISTORIC DISTRICTS

Windows & Doors

WINDOWS & DOORS

Windows and doors typically comprise at least one quarter of the surface area of the exterior walls of most historic buildings. In terms of operation, windows and doors provide access to natural light and ventilation for a building. In terms of appearance, they are an important design feature that helps to define the style and period of a building.

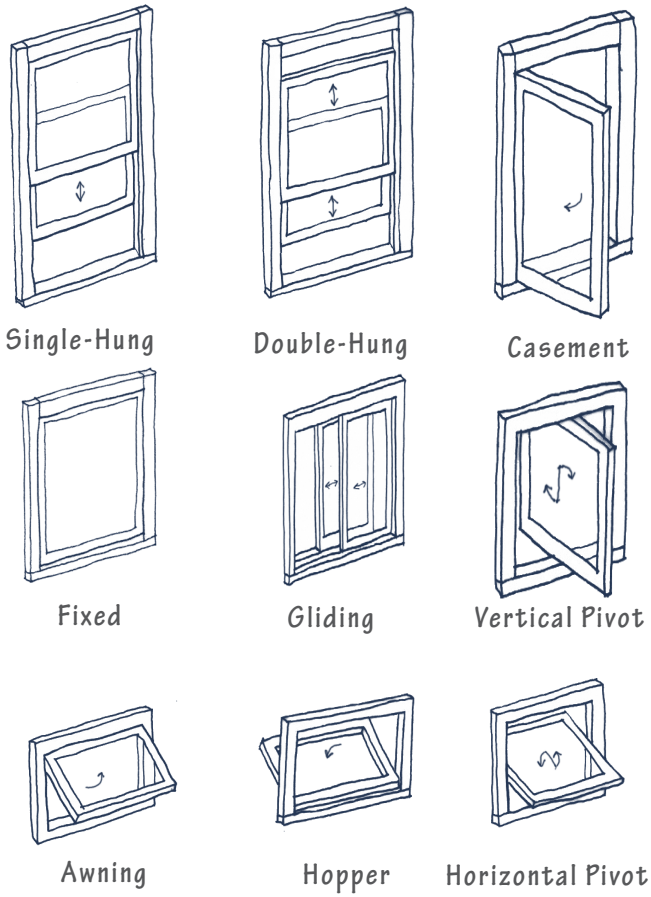
Whether elaborate or simple, windows and doors demonstrate both the history of the building and the history of the methods of manufacturing when they were created. These histories help to tell the story of Exeter's rich manufacturing tradition at multiple scales.

Windows and doors, including their shutters, trim and associated features, are important elements of historic buildings because they can:

- Act as a welcoming transition from the building's exterior to the interior
- Act as the "eyes" of a building
- Establish a pattern on a wall plane and cast shadows in openings
- Provide natural light and ventilation
- Help define architectural style and building type
- Help date the age of construction
- Define the character of each individual building and provide a visual connection to the streetscape
- Contribute to the visual cohesiveness and architectural vocabulary of the surrounding area

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

Guidelines and application information are available at the Town Office and on the Commission's website at **exeternh.gov/bcc/historic-district-commission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

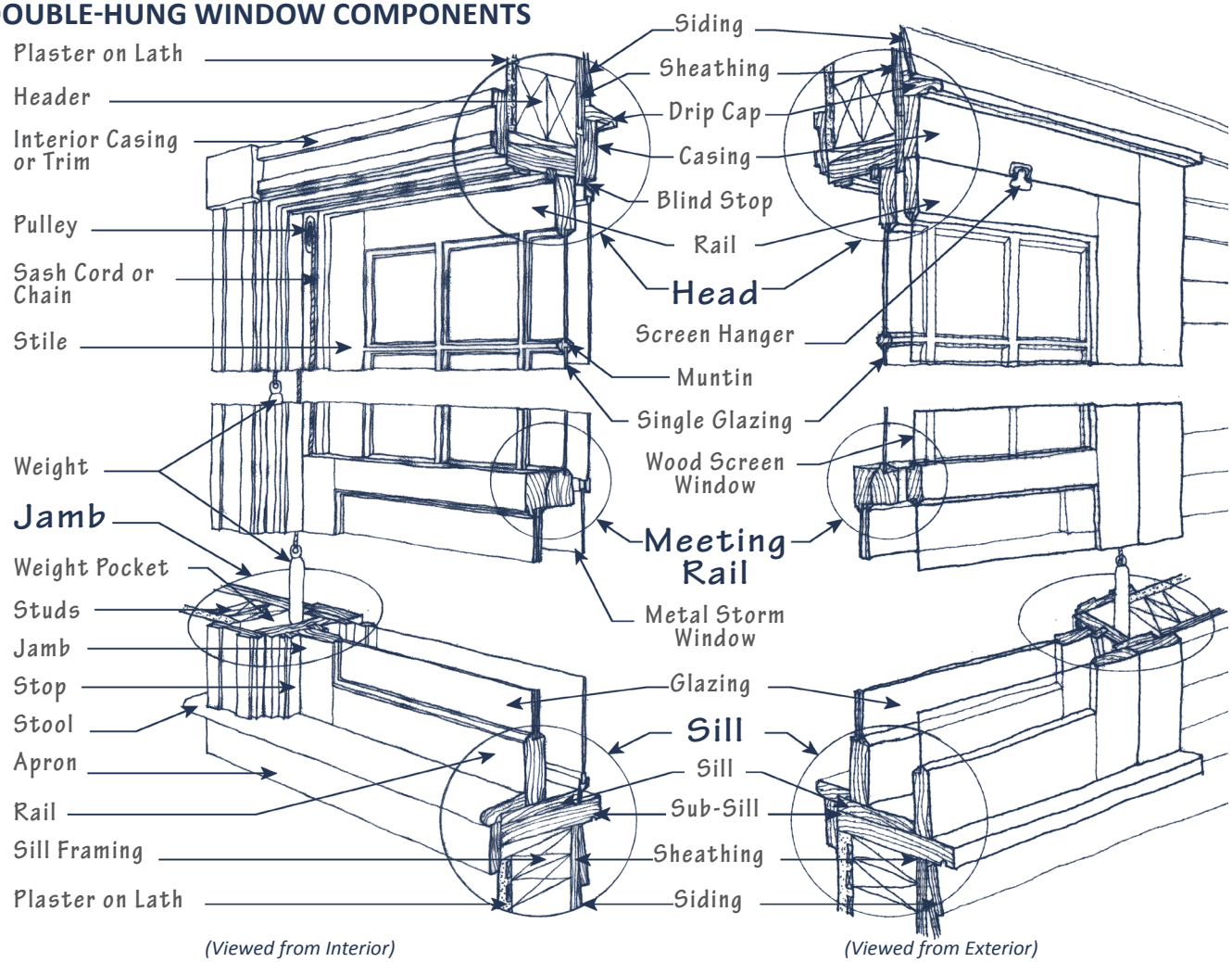


COMMON WINDOW TYPES

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 05-3 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
- **Gliding:** 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

DOUBLE-HUNG WINDOW COMPONENTS



(Viewed from Interior) *(Viewed from Exterior)*

HISTORIC WINDOW PROBLEM SOLVING

Property owners may not pay attention to their windows until a problem occurs. Typical concerns include operability, air infiltration, maintenance and 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.

Maintenance

- Regularly review condition, repair and repaint windows

To improve operation

- Verify that sash cords, chains and weights are functional — Install metal sliders or sash tape, balances or operators at jambs if repair is not practical
- Repair or replace deteriorated components such as parting beads that separate window sash
- Remove built-up paint, particularly at jambs

To reduce air infiltration

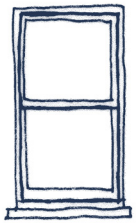
- Replace broken glass (glazing)
- Install weather-stripping snugly between moving parts — Quality metal weather-stripping can last 20 years (Refer to *Weather Stripping & Caulk*, page 05-7)
- Re-caulk perimeter joints
- Remove and replace missing or cracked glazing putty
- Add sash locks to tighten windows
- Add interior or exterior 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

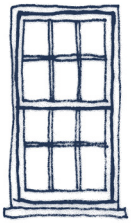
- Install and utilize operable exterior shutters where historically appropriate
- Install interior blinds, curtains or UV window shades
- Plant deciduous trees at south and west elevations to block summer sun and allow in winter sun, and plant conifer trees at north to reduce effect of winter winds
- Install clear, transparent low-e film or glass

The HDC encourages:

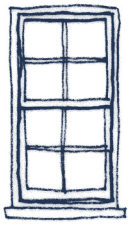
- Retaining and maintaining serviceable historic windows
- Using storm windows rather than replacement windows as the best means to achieve energy efficiency



1/1 Window



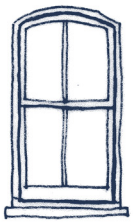
6/6 Window



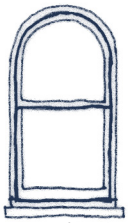
4/4 Window



6/1 Window



2/2 Arch-Top Window



1/1 Arch-Top Window

WINDOW CONFIGURATIONS

Window patterns and configurations are intrinsically linked to a building's period of construction and architectural style. Older buildings, such as those built in the Colonial and Federal periods, typically have double-hung or casement windows with smaller panes of glass and more simplified detailing reflective of the materials and hand manufacturing processes readily available at that time. Late-19th century buildings, such as those from the Victorian period, often had windows of varying shapes with elaborate frames, casings, applied ornament and trim, and larger glass lights. Finally, Colonial Revival buildings of the early-20th century often reproduce aspects of the Colonial and Federal styles, but might include larger lights.

Because all of the components and details of a window are essential to defining the construction period and style, the pattern and configuration of a proposed replacement window should be historically appropriate for each building. If considering a replacement window, it is important to keep in mind that altering the window type, style, shape, material, size, component dimension, muntin pattern or location can dramatically alter the appearance of the building.

The paired 4/4 arch-top windows have louvered shutters that are appropriately sized and shaped to fit the opening.





The majority of historic windows in Exeter are double-hung, made of wood, and are in a 6/6 configuration. This example also includes wood louvered shutters that are operable and sized to fit the window opening when closed.

WINDOW MATERIALS: PAST & PRESENT

Wood windows were historically manufactured from durable, close-, straight-grained 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 early 20th 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 different 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 the 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. Fiberglass and composite windows, typically made from a combination of wood material and plastic resins, have only been available since the 1990's, so their longevity has not been fully evaluated. 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, include the type 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 and sealed around the perimeter. 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. When selecting replacement windows, it is important to consider life span and life-cycle costs.

WOOD WINDOW REPAIR

Given the significance windows play in defining the architectural character of a building, **the HDC strongly encourages the maintenance and repair of existing windows**. If portions of a window are deteriorated, it is often possible to replace only the deteriorated portion or component of the window. Replacement of the entire component or unit might not be necessary. (Refer to *Detecting Wood Rot* and *Wood Repair Options*, *Guidelines for Exterior Woodwork*, page 03-4)

A property owner wishing to pursue historic window replacement is required to demonstrate that the existing windows are beyond repair and replacements are warranted.

When evaluating window repair versus replacement, the following guidelines can be helpful:

1. **Perform routine maintenance**: Replace broken or missing components such as trim, glazing or sash cords. Verify that caulking, glazing putty, parting beads and weather-stripping are applied securely and repaint the window.
2. **Treat or repair deteriorated components**: At the earlier stages of wood deterioration, it is possible to complete in-place treatments that do not necessitate component replacement. These include treating wood for insects or fungus, consolidating with epoxy and applying putty at holes and cracks and painting. Refer to *Wood Repair Options*, *Guidelines for Exterior Woodwo*rk, page 03-4.
3. **Replace Deteriorated Components:** Replace either the deteriorated portion of wood with a "Dutchman" or the entire component if the majority is deteriorated. (A Dutchman is a repair with a piece of the same material in a sharp-edged recessed cut. Refer to photograph below.) The replacement piece should match the original in design, shape, profile, size, material and texture. New wood 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, damaged or missing and in need of replacement, installation of a new window that matches the original window might be warranted with appropriate documentation.



One of the advantages of historic wood windows over a modern prefabricated unit is repairability. This photograph demonstrates a Dutchman repair at the corner of the historic wood window sash. Also note the application of new glazing putty as part of the repair.



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.

WINDOW REPAIR VERSUS REPLACEMENT

When considering repair and retention of existing windows versus installation of replacement windows, applicants are encouraged to retain existing historic windows except in the case of extensive deterioration. In such a case, documentary evidence must be provided with an application. It can often be less costly to repair an existing historic wood window than to install a replacement window. (Refer to *Historic Window Problem Solvi*ng, page 05-2)

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 perpendicular to the grain and at an angle where the wood appears darker in color, measure the penetration depth and damp wood and assess the type of splintering. (Refer to *Detecting Wood Rot, Guidelines for Exterior Woodwork*, page 03-4.)

REPLACEMENT WINDOW QUALITY

Reputable mill shops, lumber yards and window specialists typically provide a better selection and higher quality replacement window options than companies that advertise with bulk mailings or flyers. Local companies are often familiar with the unique attributes of window detailing for building types and periods in Exeter and are a better option for matching historic detailing.

REPLACEMENT WINDOW COSTS

The costs that should be anticipated when considering the installation of replacement windows include:

- Labor to remove old windows and a disposal fee
- Purchase price and delivery of new windows
- Labor and materials to modify existing framing for new windows
- Labor to install new windows
- Life-cycle cost of more frequent replacement of deteriorated components, sash and waindow units

FIBERGLASS & COMPOSITE WINDOWS

Fiberglass and composite windows are made from a binder and particulate material. When compared to vinyl windows, fiberglass and composite windows:

- Are stronger, harder and more rigid than vinyl - Thus requiring smaller frame and sash dimensions and allowing greater glass sizes and admission of sunlight
- Have similar expansion and contraction rates as wood and glass, minimizing seasonal opening of seams and joints
- Can be fabricated with profiled exterior frames and exterior muntins to approximate the appearance of wood windows
- Can have a paintable, exterior finish

Both fiberglass and composite windows tend to be more affordable than wood windows. However, there is great variety in the type of detailing, with some manufacturers doing a better job of approximating the appearance of wood windows. Care should be taken in reviewing the appearance with regard to all dimensions, such as frames, sash, and muntin thicknesses, as well as overall configuration.

ALUMINUM WINDOWS

When the majority of windows in commercial and large-scale residential buildings are deteriorated, property owners often seek a quality replacement window that will not require a high level of maintenance. One option that is often considered is aluminum replacement windows. Because aluminum replacement windows are typically custom made to fit within existing masonry openings, they are frequently used in larger commercial applications rather than as replacement windows for single- or two-family homes.

Some of the advantages of aluminum replacement windows is that they can usually be made to replicate historic wood windows while including insulated glass for better thermal performance. This replication can include the sash operation and exterior profiled muntins matching the historic configuration. In addition, because they have a factory-applied, baked on paint finish, which can be selected to match historic paint colors, they do not require the regular repainting associated with wood windows.

Due to the strength of aluminum and its ability to fasten the window parts with strong connections, aluminum replacement windows can easily outlast the lifespan of vinyl alternatives by two to three times depending on the quality of each product. Although the initial costs of aluminum replacement windows is typically greater than vinyl, the life-cycle costs associated with more frequent replacement of lower-quality windows might provide overall, long term costs savings.



Vinyl windows with applied muntins lack the profiles and details of traditional wood windows and are not appropriate at historic buildings. They are also mounted flush to the outside wall without trim or casings.

VINYL WINDOWS

One of the claims of sales people is that vinyl replacement windows do not require maintenance. However, considering the relatively short life-span of many of the materials and components, they will need more frequent replacement. In addition, the profiles and details of vinyl windows tend to be very different in appearance to historic wood windows.

MAINTAINING REPLACEMENT WINDOWS

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 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 due to 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.

DEFINITIONS

Light: A pane of glass

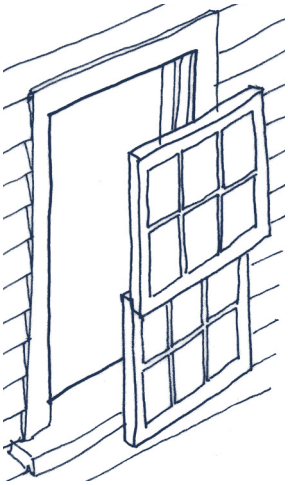
Mullion: The vertical framing element separating two window or door frames

Muntin: The narrow molding separating individual panes of glass in a multi-paned window sash

Sash: The part of the window frame that holds the glazing, especially when movable

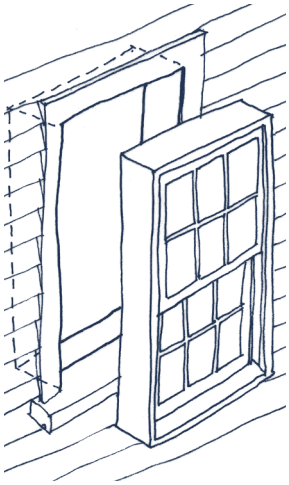
Simulated Divided Light (SDL): A window or door in which muntins are applied to a larger piece of glass at the exterior, interior and/or between layers of insulated glass

True Divided Light: A window or door in which a glass area is divided into several small panes



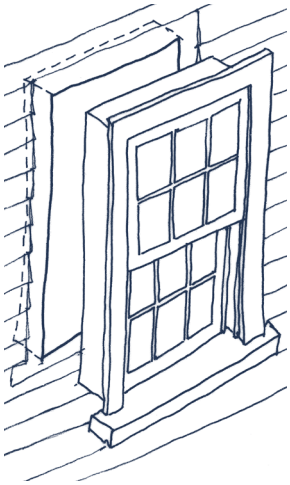
Sash-Only Replacement

Installation of new sash in existing frame. Can include new jamb liners.



Window Replacement Insert

Installation of new sash and frame unit within existing opening. This typically reduces the overall size of the sash and glass, reducing interior daylight.



Full Window Replacement

Installation of new sash, frame and casing. The casing should be compatible with the building style. This approach may require modification of opening or siding.

WINDOW OPTIONS

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 *Wood Repair Options*, *Guidelines for Exterior Woodwork*, page 03-4.) In-kind replacement sash components and sills can be custom-made to replace deteriorated elements if necessary. Property owners are strongly urged to explore repair and selective replacement parts options prior to considering whole sash or frame replacement, particularly at historically significant buildings.

Repair and selective component replacement benefits:

- Original building fabric and historic character remain
- Historic profiles, dimensions and proportions can be retained and matched
- Repairs can be completed by skilled local carpenters
- Timber used in historic windows can last substantially longer than replacement units

Sash replacement package: If the sash is beyond repair, some manufacturers offer replacement jamb liners and new sash for installation within existing window casings. (Jamb liners are the vertical internal facing between the window sash and structural frame.) Because of the loss of the historic sash, this option is discouraged by the HDC.

Sash replacement package disadvantages:

- Stock replacement sash are often inappropriate to the size, profiles and proportions of existing openings and detailing
- Replacement sash have a limited warranty, likely needing another partial or full replacement in 10 to 25 years as seals and joints open
- Modification of the jambs is necessary
- Liner often made from vinyl or other inappropriate material
- The jamb liners do not always work well in existing window openings and might need more frequent replacement
- Out-of-square (wracked) openings can be hard to fit, making window sash hard to operate, and seals might not be tight
- Historic sash are removed and become landfill debris

Frame and sash replacement unit: If the frame is beyond repair, a frame and sash replacement unit is a complete frame with a pre-installed sash of various muntin patterns for installation within an existing window frame opening. Due to the total loss of the sash and modification of the frame, this is not recommended by the HDC for historic buildings. It might be an option in new construction, based upon the specific circumstances of a project.

Frame and sash replacement unit disadvantages:

- Stock replacement sash are often inappropriate to the size, profiles and proportions of existing openings and detailing
- As the surrounding frame typically must be 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
- Modification of existing casing and sills may be required
- Historic sash are removed and become landfill debris

INSTALLING REPLACEMENT WINDOWS

When installing windows, it is important to keep in mind that the overall appropriateness of any installation is largely based upon its details. It is generally best to review buildings of similar style, materials and construction period for the appropriate details for a project.

- **Wall Plane** — An easy way to identify new windows is by how far back a window is set into a wall plane from the outside wall face. A historic window tends to have greater depth than a new window, with the window casing, frame and sash receding back from the wall plane, providing shadow lines between components
- **Casing & Sill** — Many replacement windows do not come with a factory-installed casing or sill, requiring them to be field-applied by a contractor during installation. To ensure that the replacement windows look like they "fit" a building, the stylistically appropriate casing and sill should be installed related to the building's style and construction type, either masonry or wood-framed.

SHUTTERS

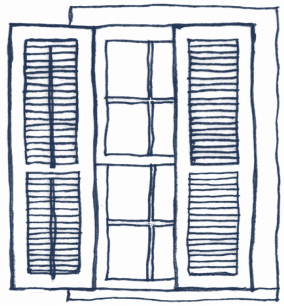
Historically, exterior shutters were used as shielding devices to modulate light and protect against inclement weather. Paneled shutters were installed to provide a solid barrier when closed and louvered shutters were used to regulate light and air. Shutters were not used on all historic buildings or in all locations.

Some building styles such as as Arts and Crafts and ranch style homes did not typically 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.



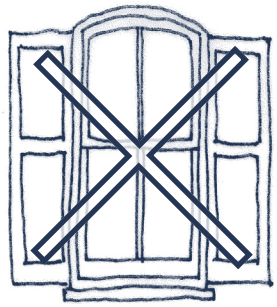
Paneled Shutter

Six-over-six double-hung window with paneled shutters



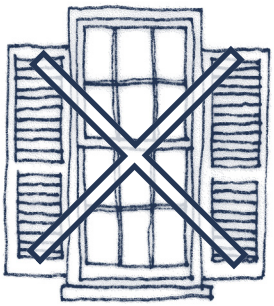
Louvered Shutter

Six-over-six double-hung window with louvered shutters



Not Recommended

The shutters do not fit the arched opening of the window



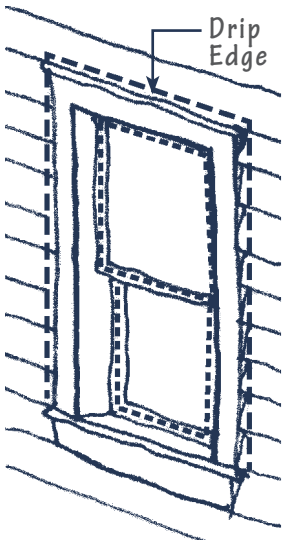
Not Recommended

The shutters are too short and narrow for the window

SCREEN / STORM WINDOWS & DOORS

Screen and storm windows and doors 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 half-screen for double hung windows and a wood storm window that has rails that coincide with the frames, rails, stiles and glazing pattern and overall configuration of the associated window.

The most recommended option for a screen or storm door is a simple wood framed opening with a large screen and minimal ornament. As an alternative, metal storm windows and doors are appropriate if they do not conceal important details and their color matches the door or window. 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 or Federal style house.



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

WEATHER STRIPPING & CAULK

Proper application of weather stripping and caulk around windows and doors can greatly reduce air infiltration and drafts. When selecting weather stripping or caulk, choose materials appropriate for each location and follow the manufacturer's installation recommendations for best results. Because weather stripping is used between the moving parts of windows and doors, it can easily become damaged, loose, bent or torn. Inspect weather stripping regularly, preferably every fall, and replace it as needed. For heavy-use installations such as entrance doors, it may be beneficial to install more durable weather stripping, such as spring metal or nailed felt.

The installation of caulk or other sealants should occur throughout the exterior of the building to minimize interior drafts and to protect the building's wall system from wind-driven rain. Locations where caulk is recommended include where two dissimilar materials meet; where expansion and contraction occur; or where materials are joined together. Select caulks and sealants that can be sanded and/or painted to minimize their visual appearance. In addition, care should be taken to prevent caulk or sealant from being smeared onto the face of adjacent materials since the residue might affect paint adherence. It is also important to select the appropriate type for each location and exercise care when removing old caulk that might contain lead. (Refer to *Safety Precautions, Guidelines Introduction*, page 01-5.)

DEFINITIONS:

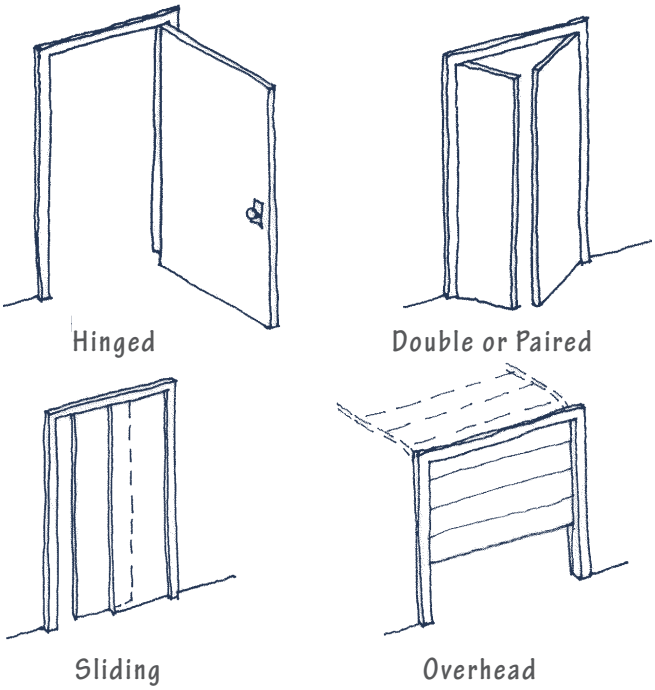
Weather Stripping: A narrow compressible band used between the edge of a window or door and the jambs, sill, head and meeting rail to seal against air and water infiltration; made of various materials including spring metal, felt, plastic foam and wood with rubber edging.

Caulk: Flexible sealant used to close joints between materials; made of various substances including tar, oakum, lead, putty and modern elastomerics such as silicone and polyurethane.

DOORS

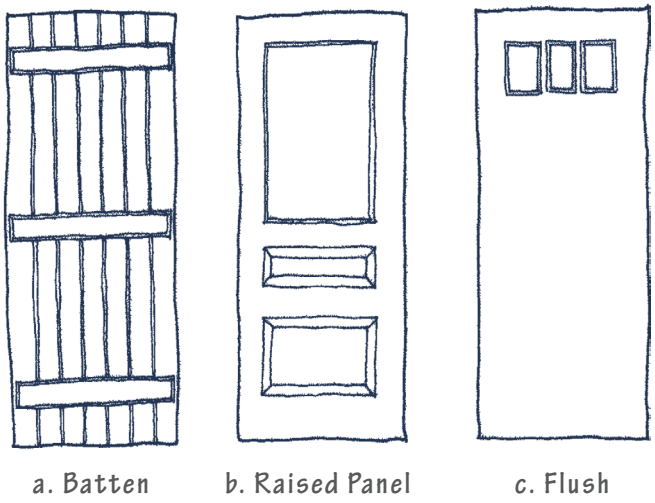
Entrance doors serve an important role in regulating the passage of people, light and air into a building, as well as providing a threshold separating the exterior and interior. Historically, most doors were wood and varied stylistically based upon the architectural style of the building, with some more "high-style" and others simpler interpretations. Similarly, a building can have a grand front door, and a simpler side or rear door. As a result, doors are considered an important feature and the retention, maintenance and repair of historic doors is recommended. 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

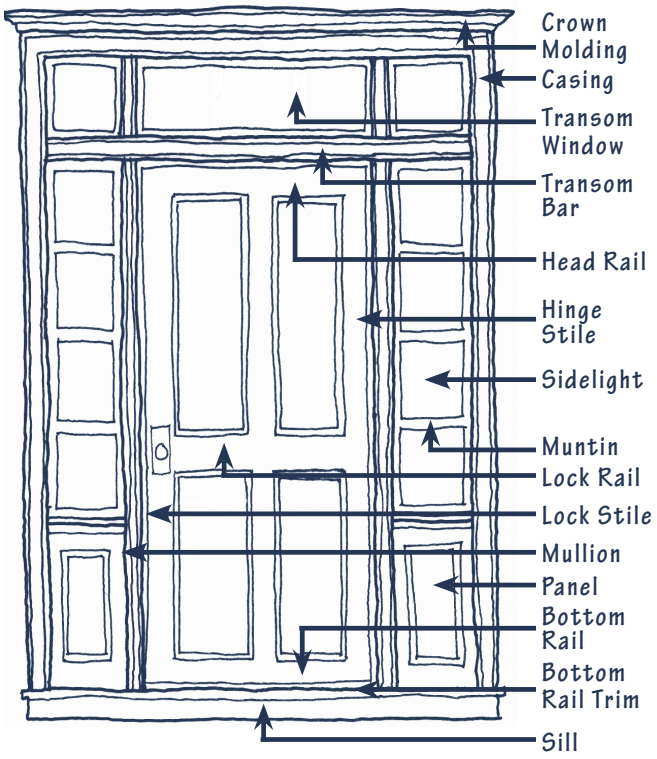
- **Hinged:** Swings to close at opposite jamb – almost always mounted at interior thickness of wall swinging inward
- **Double or Paired:** A pair of swinging doors that close an opening by meeting in the middle – includes French doors
- **Sliding:** Either a fixed panel with a horizontally sliding door or overlapping horizontally sliding doors – includes patio doors
- **Overhead:** Horizontal sections that open upward by sliding on tracks – most often found at garages



COMMON WOOD DOOR STYLES

All door styles 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 Exeter, paneled wood doors are the most common at historic residences. The diagram above identifies typical wood paneled door components. Door configurations vary with a building's architectural style.



Wood checking and peeling paint is visible. Minor repair and maintenance can prolong the serviceable life of this door.

HISTORIC DOOR PROBLEM SOLVING

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 require 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 joints are tight
- Verify that hardware is operational, particularly that hinges are tight and hinge pins not worn
- Remove built-up paint at door and jambs
- Repair or replace deteriorated components such as trim and stops (molding inside a door frame that stops a door from swinging)

To reduce air infiltration:

- Install weather-stripping snugly between door and frame (quality metal weather-stripping can last 20 years)
- Replace broken glass (glazing) and missing or cracked glazing putty
- Caulk perimeter joints around casing and frame
- Install a storm door

To reduce solar heat gain or heat loss:

- Install and utilize operable exterior shutters
- Install clear, transparent low-e film or glass

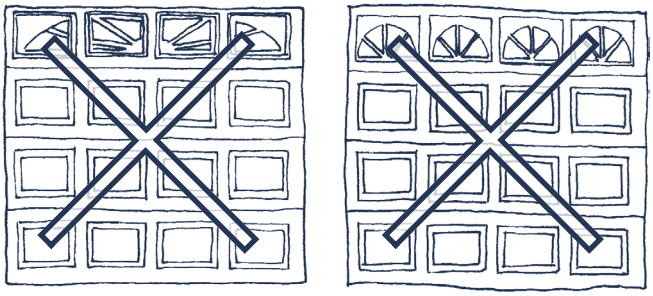
Door maintenance:

- Regularly inspect, repair and repaint doors

If door replacement is warranted, the door should be appropriate to the architectural style and character of the building. Similar to windows, replacement doors should match the original materials, type, size, shape, configuration, panel pattern, glazed window type and pattern, proportions, profiles and details as historic doors. Salvaged doors may be more appropriate than new doors. However, salvaged doors must match the size, shape, type, configuration, proportions and profiles of the original doors to be appropriate. (Contact HDC for additional style information.)



This wood paneled door has simple three-light sidelights topped by a semi-elliptical transom window. Also note the decorative iron railing.



Garage doors with arched or round window openings are generally not appropriate at historic buildings.

GARAGE & NON-TRADITIONAL DOOR TYPES

Occasionally, modern functions require openings not found in historic architecture such as garage doors. The goal of the 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.

MODIFYING OR ADDING OPENINGS

The arrangement, size and proportions of window and door openings are key components of a building's style and character. As a result, the modification or addition of window or door openings, particularly on more prominent building façades, is strongly discouraged. This includes the infill of all or part of an opening to make it smaller or to visually remove it. It also includes increasing the size of a door opening to provide a larger opening for a display window, garage, loading dock or other use.

WINDOW & DOOR REVIEW

The HDC encourages:

- Retaining and maintaining serviceable historic windows and doors and associated trim
- Maintaining historic wood shutters
- Improving energy efficiency by installing storm windows and doors; installing weather stripping, caulk and appropriate hardware; and such activities as utilizing shutters, blinds or curtains, strategically locating trees and installing UV protection
- Installing clear glass at all openings unless replacing cracked historic colored, beveled or frosted glass in-kind
- Shutters of the appropriate style for the building and location, with a painted finish
- Operable shutters made of wood or other materials with a paintable finish
- Appropriately sized and shaped shutters for the window opening, fitted to cover the window when closed
- Period-appropriate hardware for each building style and location
- 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 (half 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
- Retaining historic garage and non-traditional doors and their original opening
- Stylistically appropriate replacement garage and non-traditional doors
- Minimizing the public view of new non-traditional doors
- New paneled garage doors with a paintable exterior finish

If replacement windows are warranted, the HDC encourages:

- 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
- Installing quality true divided-light or simulated divided-light replacement windows to match the original material, size, shape, configuration, operation, dimensions, profiles and detailing of historically appropriate windows to the greatest extent possible, including the use of egress windows
- Selecting wood- or aluminum-clad wood replacement windows for street elevations
- Installing replacement windows in less visible areas
- Installing historically and stylistically appropriate wood replacement doors when level of deterioration requires replacement
- Matching replacement doors as closely as possible to the original doors or using salvaged doors appropriate to the period and style of the building
- Maintaining serviceable trim, hardware and components or utilizing hardware appropriate for the historic period

The HDC discourages:

- Interior or internal muntin grids for multi-paned appearance
- Removing or encapsulating surrounding trim
- Replacing original doors, unless seriously deteriorated
- Shutters where they did not exist historically
- Shutters screwed or nailed into the building wall, unless historically appropriate
- Vinyl or aluminum shutters
- Vinyl, aluminum, metal or other synthetic materials 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 or shutters
- Storm/screen windows that are too small or a different shape than the opening and require in-fill trim or panels
- Full window screens covering the entire window opening — Half screens are appropriate for single- and double-hung windows

The Guidelines project has been financed in part with Federal funds from the National Park Service, U.S. Department of the Interior, through the New Hampshire Division of Historical Resources. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the New Hampshire Division of Historical Resources, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the New Hampshire Division of Historical Resources. 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.

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TOWN OF EXETER HISTORIC DISTRICTS

Guidelines for Site Elements



Granite, which is readily available in Exeter, is a very durable material that is ideal for the construction of landscape walls. This dry-laid granite wall includes larger stones held in place by smaller ones, all topped by a relatively flat capstone.

EXETER'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.

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

Guidelines and application information are available at the Town Office and on the Commission's website at **exeternh.gov/bcc/historic-district-commission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

PAVING

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 Town'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 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.



This brick walkway has a cobblestone boarder providing a formal entrance using traditional materials.

ZONING REQUIREMENTS

Lighting, fencing, walls and paving are all subject to the requirements of the Town of Exeter's Zoning Ordinance. The 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 Building Department at (603) 773-6112 to review requirements prior to filing.

REQUIRED REVIEWS

In the Town of Exeter, vegetation and plantings do not come under the HDC's review.



The wood picket fence is supported by granite piers.

FENCES, WALLS, GATES & HITCHING POSTS

Fences, walls 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

Hitching posts are a symbol of arrival and are a reference to pre-automotive transportation.



Picket and horizontal board fences are located along the sidewalk, while a solid wood fence between the properties provides privacy, tapering down towards the street.

FENCES

Wood is a traditional fence material in the Town of Exeter. 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. There is greater flexibility for side and rear yards including solid wood and metal chain link fencing.

WALLS

Landscape walls are typically constructed of stacked granite, 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 stone retaining wall includes integral steps and the driveway has a cobblestones along the sidewalk enhancing the historic character.

GATES

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, metal or granite.



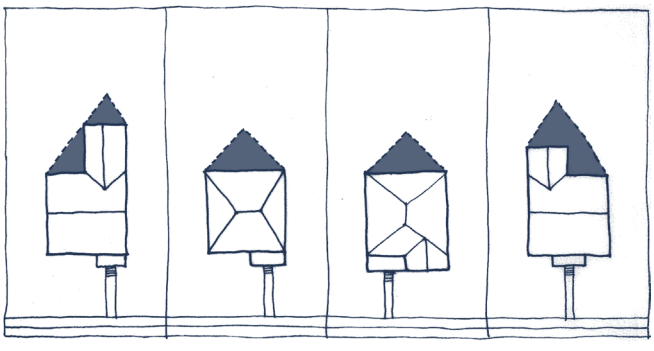
Gates at wood fences tend to reflect the pattern of the fencing. Paired gates are typically used at larger openings.

MODERN LANDSCAPE FEATURES, EQUIPMENT & SMALL STRUCTURES

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 (appropriate at a few properties), 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 strongly discouraged.
- **Refuse & Recycling:** Refuse and recycling bins can be enclosed in small structures and bins, as well as behind fences and shrubs to minimize their public visibility.

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 HDC's jurisdiction extends to all portions of a designated parcel, whether visible from a public right-of-way or not. This diagram illustrates the areas of a property that are out-of-view from a public right of way (concealed by buildings). Although still subject to HDC review, it is generally more appropriate to conceal modern landscape features, equipment and small structures from the public way, and to minimize their visibility.



Ground mounted equipment can often be screened with fencing or shrubs to minimize its visibility.

OUTDOOR LIGHTING

Outdoor lighting is an amenity of modern life that can essentially be thought of as two components, the luminaire (light fixture) and the illumination (light). For a historic house, outdoor lights 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.

Prior to installation of lighting please consult the Town of Exeter's Zoning 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.



Lighting should be compatible with the architectural style of a building. It should be installed in a manner that illuminates the needed areas, such as next to an entrance door, while minimizing spillover onto adjacent properties or into the night sky.

SITE ELEMENT REVIEW

The HDC encourages:

- Keeping views of historic buildings open to street
- Front yard development with traditional, simple arrangements, appropriate to the historic context
- Planting regionally native plants well-adapted to the site environment to minimize the use of water and chemicals in their upkeep
- Retaining, repairing and maintaining historic paving, wall and fence materials
- Minimizing the amount of paving on a site
- Installing permeable small-scale paving, such as gravel or oyster shells, instead of poured concrete or asphalt
- Installing patios instead of raised decks
- Using traditional materials for walls, fences, gates and other boundary markers in an appropriate manner
- Installing fence posts towards the interior of a property
- 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
- Lighting fixtures that complement the building's architectural style and material
- Unobtrusive lighting of historic properties that limits light spillage onto neighboring properties and into the night sky

The HDC discourages:

- Removing historic paving materials, walls or fences
- Placing parking areas in the front yards of residences
- Installing asphalt at walkways
- Blocking views to historic buildings and settings with solid walls, or dense fencing materials or planting
- 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 and chain-link fencing at front yards
- Visually prominent landscape features, play equipment, small structures and ground-mounted equipment
- Obtrusive lighting of historic properties that illuminates neighboring properties
- Highly visible security lighting
- Security lighting that is constantly "on"

SITE MAINTENANCE

Exterior maintenance extends beyond a building's perimeter to include the surrounding property. Seasonal property maintenance also includes cutting grass, raking leaves and snow removal. Larger maintenance issues include: water management on the site, trimming trees, and regular repairs to fences, walls, walkways and paved surfaces. Specific maintenance might be required for specialized site elements including water features such as pools and ponds.

Keeping a site clear of debris will aid in drainage during a storm and reduce the potential for debris becoming airborne in high winds. In addition, if not promptly removed some types of debris, such as garden waste and wood items, can become a home for termites and other pests.

SITE DRAINAGE

Substantial damage to a building can occur through ground water. One of the best ways to mitigate damage from storm water is to establish positive site drainage away from a building to prevent standing water along or near foundation walls. In addition, the drainage pattern of a property should not be modified in a manner that increases storm water runoff to a neighboring property.

SNOW & ICE REMOVAL

The use of salt and chemical snow and ice removal techniques can damage stone and brick foundations and to be harmful to the environment. In addition, melting snow against wood elements such as building siding and fences can saturate woodwork. Removal of snow away from a building by shovelling or a snow blower is recommended.

SIDEWALKS

Property owners may, with Town 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 Building Department at (603) 773-6112 for additional information regarding sidewalk and curbing requirements including compliance with the Americans With Disabilities Act.

SECONDARY STRUCTURES

For more information regarding secondary structures such as garages, larger sheds and carports please refer to the *Guidelines for New Construction & Additions, Page 07-1.*

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TOWN OF EXETER HISTORIC DISTRICTS

Guidelines for New Construction & Additions



The boathouse is a good example of compatible new construction that is clearly of its time. Traditional components include the overall form with the intersecting gable roofs and overhanging bracketed eaves. The exterior materials and details, as well as window and door patterns and styles, are contemporary but sympathetic to historic building styles.

NEW CONSTRUCTION & ADDITIONS

New building construction is a sign of economic health and vitality in a town. It can take many forms, including a new primary building, an addition to an existing building or a new secondary building such as a garage. All forms of new construction within a historic district can be vibrant, but at the same time should be sensitive to their 100- and 200-year-old neighbors. Vacant lots and structures that are non-contributing to the Historic District provide the greatest opportunity for creative and sensitive new ground-up construction, while an addition or new secondary building can allow the continued use of a historic building or property.

Prior to undertaking a new construction or addition project, the Town encourages property owners to understand the unique architectural character of Exeter and its streetscapes. Property owners are welcome to contact the Building Department early in the design process if considering an addition, new construction, relocation or demolition project to identify potential issues, offer guidance, clarify specific submission requirements and identify other required reviews, potentially streamlining the process.

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

Guidelines and application information are available at the Town Office and on the Commission's website at **exeternh.gov/bcc/historic-district-commission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.

NEW DESIGN WITHIN A HISTORIC CONTEXT

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

In many but not all cases, successful new buildings are those that are clearly contemporary in design but compatible with the character of neighboring properties. Additions should be constructed in a manner that is stylistically sensitive and subservient to the existing building. The information presented in this *Guidelines* section is intended to provide the principles of appropriate design for structures when constructing a new building or addition in historic Exeter's context, regardless of architectural style.

REVIEWS BY OTHER TOWN ENTITIES

Concurrent Reviews: The Commission works with other branches of Town government to coordinate approvals involving use, zoning, site design, appearance and other regulated items. The HDC often provides comments to the reviewing bodies including the Zoning Board of Adjustment (ZBA), Planning Board and Town Council when appropriate. Inter-departmental meetings can be arranged on an as needed basis. Approval by the HDC is required for the issuance of a Building Permit.

Zoning Requirements: Designs for new buildings, structures or additions must conform to or obtain relief from zoning requirements.

Demolition Review Committee: All proposed demolition applications are subject to the review of the Demolition Review Committee who determines the if the structure is a contributing resource to the town's built history.

COMPATIBLE DESIGN PRINCIPLES

The development of Exeter followed its own pattern and rhythm. As the heart of Exeter, the heritage and culture of Exeter's early inhabitants are expressed through the architectural and built environment. To continue the District's evolution and respect the high degree of architectural and historic diversity and integrity, the HDC encourages design excellence and creative design solutions for new construction and additions that are sensitive to the character of their surrounding context. Generally, there are three appropriate design approaches in Exeter:

- **Present Day:** A contemporary design compatible within the context of the property and neighboring sites
- **Traditional:** A design that is consistent with the surrounding context or, a design that could have been constructed on a property for which there is insufficient evidence
- **Reconstruction:** A design that faithfully duplicates details and materials based upon clear documentary evidence

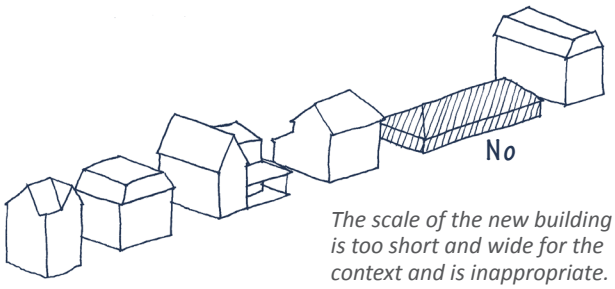
The appropriate approach, style and type of new construction or an addition will vary at each site depending on the context, authenticity and historic integrity as well as the architectural and historic importance as guided by its significance.



The new addition, located towards the rear, is both compatible with the historic house and contemporary in design. The smaller massing clearly identifies the addition as a secondary building volume, and both the materials and windows are compatible with the historic house.

Recognizing that what might be appropriate at one property is not appropriate at another, the HDC does not mandate specific design "solutions" for new construction or additions. However, when determining the appropriateness of new construction or additions, the HDC is guided by *The Secretary of the Interior's Standards* and the design principles below:

DESIGN PRINCIPLES	NEW CONSTRUCTION & ADDITIONS
Scale: Height & Width	Proportions and size of the new building/addition compared with neighboring buildings/existing building
Building Form & Massing	The three-dimensional relationship and configuration of the new building/addition footprint, its walls and roof compared with neighboring buildings/existing building
Setback	Distance of the new building/addition from the street or property line relative to the setback of other buildings on the block/existing building
Site Coverage	Percentage of the site that is covered by building/addition, when compared to nearby sites of comparable size
Orientation	Location of the front of the new building/addition and principal entrance relative to other buildings on the block
Alignment, Rhythm & Spacing	Effect the new building/addition will have on the existing patterns on its block
Architectural Elements & Projections	Size, shape, proportions and location of each entrance, balcony, gallery, porch, roof overhang, chimney, dormer, parapet and other elements that contribute to the building's overall shape and silhouette relative to neighboring buildings
Façade Proportions: Window & Door Patterns	Relationship of the size, shape and location of the new building/addition façade and building elements to each other, especially when compared to other buildings on the property, block/existing building
Trim & Detail	Moldings, decorative elements and other three-dimensional features of a building that are secondary to major surfaces such as walls and roofs and how they relate to the neighboring buildings/existing building
Materials	Products with which an addition or new building is composed or constructed and how these relate to neighboring buildings/existing building



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

PRINCIPLES FOR NEW CONSTRUCTION

Scale: Height & Width

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

Where 2- to 4-story buildings are the norm, buildings that digress from these standards by any great degree can negatively impact 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.

It is Generally Appropriate to…

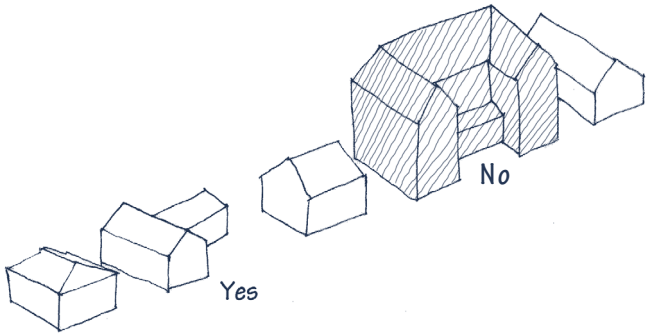
- Construct a new building that is similar in height and width to buildings on adjacent sites
- Construct a new building that is larger than adjacent buildings by breaking up the building mass, by dividing its height or width to conform with adjacent buildings
- Construct portions of the buildings taller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



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.

Building Form & Massing

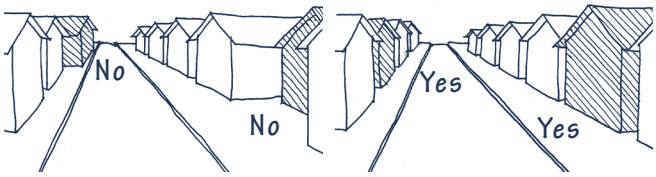
Building form refers to the shape of major volumes while massing refers to the overall composition of the major volumes, its overall "bulk" and how it sits on the site. Elements that are typically used to define building form and massing include the roof form, as well as wings, ells and other projecting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



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.

It is Generally Appropriate to…

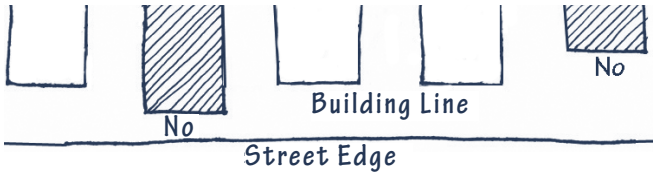
- Construct a new building with similar form and massing to buildings on adjacent sites
- Construct roof forms, wings, ells and bays and other projecting elements that are similar to those found on the block of the proposed building
- Match adjacent cornice heights



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

Setbacks: Yards (Front, Side and Rear)

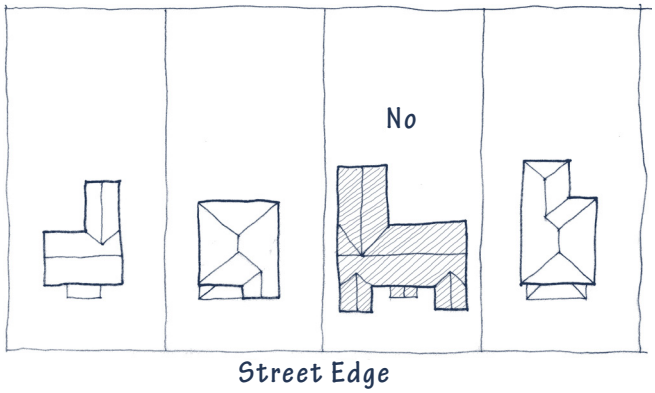
New construction should reflect prevailing setbacks and yard dimensions (distances between the building and the property line, adjacent buildings, street and/or sidewalk) are determined by zoning requirements. Physical elements that define historic properties and buildings create visual continuity and 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 consistent or compatible in its setting.



New construction should not step forward or recede back from buildings within the streetscape context.

It is Generally Appropriate to…

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



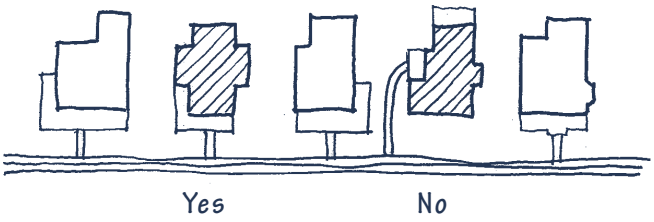
Although the new building might meet setback requirements, its footprint greatly exceeds its neighbors and is inappropriate.

Site Coverage

The percentage of a lot that is covered by buildings should be similar to those of adjacent lots. Although Town of Exeter Zoning Ordinance 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.

It is Generally Appropriate to…

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



The primary entrance for residential buildings should face the street unless the building historically had a different orientation.

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. (Refer to the Town of Exeter Zoning Ordinance for specific site orientation requirements.)

It is Generally Appropriate to…

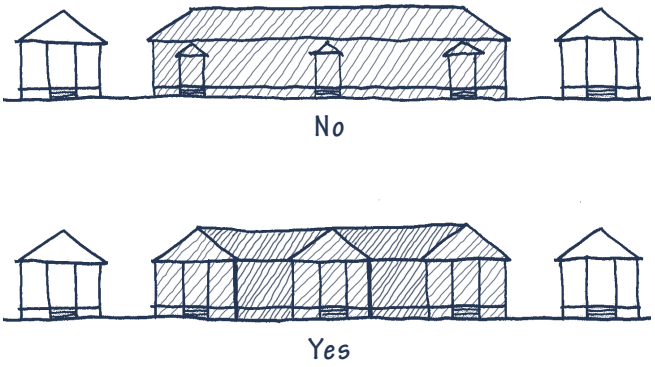
- Orient a building's roof form in a manner that is comparable to neighboring buildings
- Orient the primary façade and principal door parallel with the street

Alignment, Rhythm & Spacing

Although the architecture of Exeter 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.

It is Generally Appropriate to…

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



When constructing larger-scale buildings, they 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, and is more compatible than the upper example.

Architectural Elements & Projections

Throughout Exeter, the rhythm of the streetscapes is highlighted by the projection of bays and porches a to relieve otherwise flat façades. At the roof line, extended eaves, projecting chimneys, dormers and parapets contribute to a building's overall shape and silhouette. The choice, size, location and arrangement of elements of 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 raised a few steps above ground level.

It is Generally Appropriate to…

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



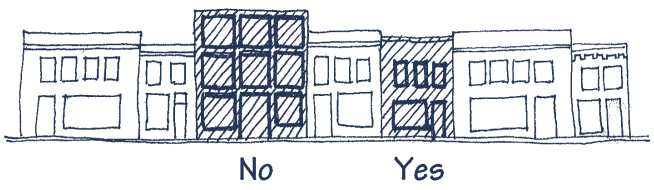
New commercial buildings should include a defined storefront with larger windows with punched double-hung and casement windows on upper floors.

Façade Proportions; Window & 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 and shutters. There are also vertical components of rhythm and pattern. These include the distance from the ground level to 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 the rhythm with elements such as pilasters that give the impression of bays or multiple buildings.

It is Generally Appropriate to…

- Construct a new building whose façade height and width proportions are similar to existing adjacent buildings
- Use similar proportions, sizes, locations and numbers of windows and doors as adjacent sites
- Install windows and doors at new construction stylistically compatible with those found on existing neighboring buildings



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

Trim & 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 consistent or compatible but not necessarily be a true copy of historic buildings, new details should be compatible and 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, and incorporate three-dimensional elements that project and recede from the principal wall plane. When installed, they should unify a building and should be consistent or compatible with the context of the neighborhood.



A traditional design approach utilizes materials, trim and details consistent with the building style.

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. 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.

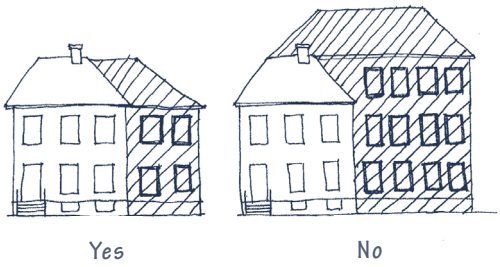
ADDITIONS TO EXISTING BUILDINGS

Historically, the need for increased space was often 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.

Consistent 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 as an addition. The subordinate appearance of an addition can be achieved through its placement, form, size, massing, materials and details. Traditional or 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, if removed in the future, the essential form and integrity of the historic building would be unimpaired.

It is Generally Appropriate to:

- Locate additions at rear or side elevations that are subordinate to the historic building and consistent or compatible with the design of the property and surrounding neighborhood wherever possible
- Construct additions so that the historic building fabric is not radically changed, obscured, damaged, or destroyed
- Review *Guidelines* to better understand the historic context and appropriate design and materials
- Consult zoning requirements at the beginning of the design process



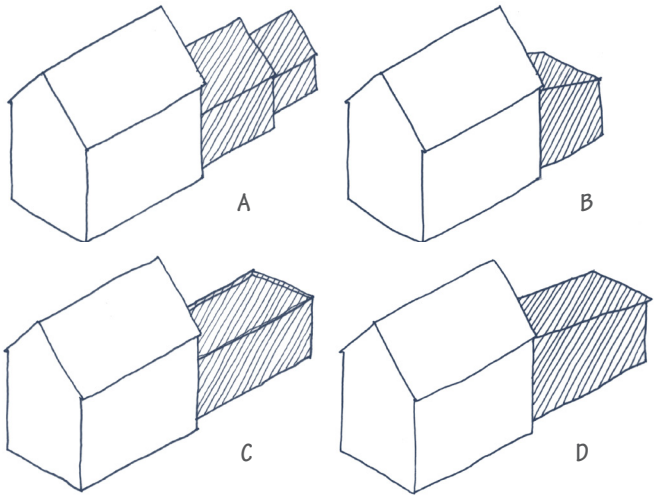
The addition to the left has a scale, proportion, overall form and window pattern similar to the existing building. The addition to the right is significantly larger than the existing building and is visually overwhelming and inappropriate.

Building Form & 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 an addition should complement, but not necessarily match, the original building. For example, it is often appropriate to construct a smaller gable roof form at the rear of an existing gable roof building.

It is Generally Appropriate to…

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



Example A: The two gable roof additions with decreasing roof heights and widths represent an appropriate composition with regard to form, mass and proportions to the original gable roof building. Additions with decreasing geometry similar to these are typical of historic construction.

Example B: The small shed roof addition is appropriate in some locations.

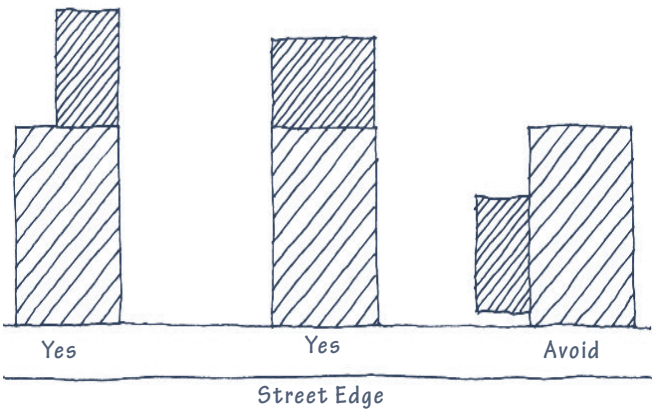
Examples C and D: The flat roofed addition and long shed roof addition are inappropriate for the original gable roof building. The length of the single mass competes visually with the original building.

Setback

An addition should be positioned to have the least visible impact to the streetscape. An addition at a front façade generally is prohibited and a rear addition generally is appropriate. An addition at a side elevation is rarely appropriate and, if proposed, should be located as far as possible from the street.

It is Generally Appropriate to…

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



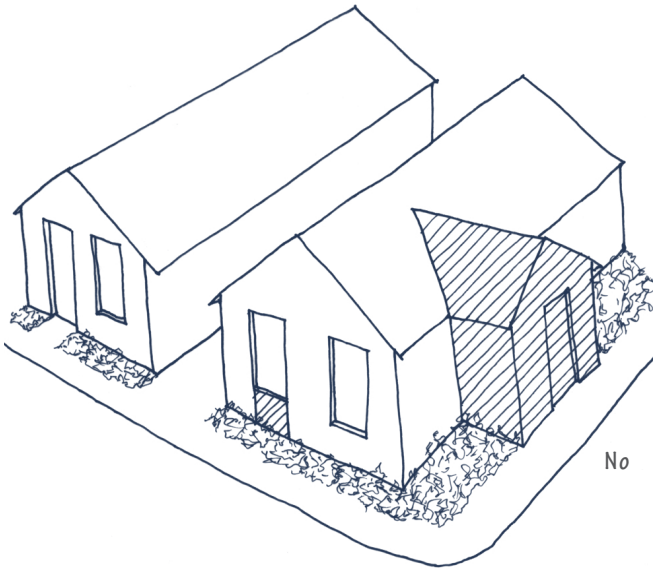
In this site plan, the visibility of the left and middle examples would be limited from the sidewalk and the street. The addition to the right is visible from the sidewalk and street and should be avoided, particularly at corner properties.

Orientation

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

It is Generally Appropriate to…

- Maintain the visual prominence of the historic front door even if it is not longer used as the primary entrance
- Orient the primary façade or principal elevation of a building towards the street elevation



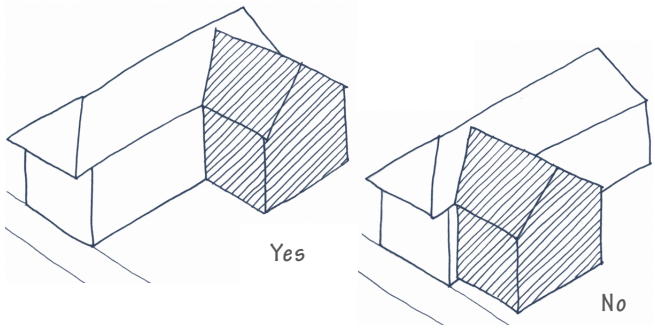
The addition to the right building is inappropriate as it relocates the entrance door to the side elevation and eliminates the original entrance door.

Alignment, Rhythm & Spacing

The consistent spacing of buildings establishes a historically prevalent rhythm along a streetscape and should be applied to an addition at an existing building. The construction of an addition should not make an existing building appear substantially wider or closer to its neighbors than the existing visual arrangement. Vertical considerations for alignment, rhythm and spacing include floor-to-floor heights; first floor, porch and balcony heights above the ground; and cornice heights.

It is Generally Appropriate to…

- Construct an addition in a manner that does not significantly alter the visual alignment, rhythm or spacing of buildings along a streetscape
- Construct an addition in a manner that does not significantly increase the apparent visual size of a building on a property when viewed from the public right-of-way



An addition at a side elevation should be as far back from the street as possible.

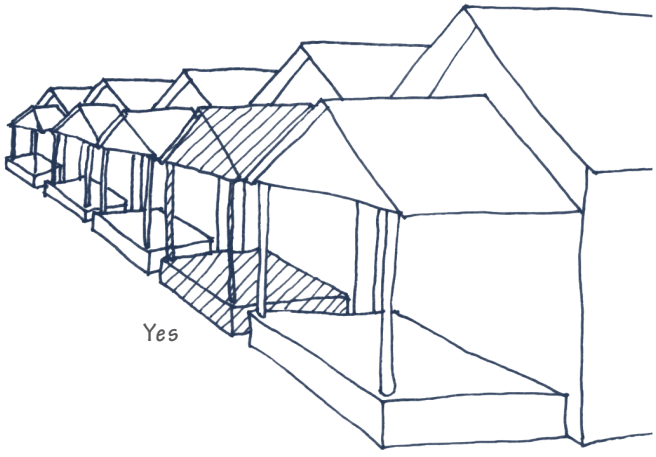
Architectural Elements & Projections

Throughout Exeter, the rhythm of the streetscapes is highlighted by the projection of porches and bays which relieve otherwise flat façades. Projecting chimneys, dormers and parapets also contribute to the overall shape and silhouette of the buildings and the skyline.

Adding a new architectural element or projection to a building's street elevation is generally not appropriate unless there is evidence that it existed previously or is common for the particular type or style. A new architectural element or projection is more appropriate at a rear elevation or towards the rear of a non-street elevation. (Refer to *Dormers and Chimneys, Guidelines for Roofing,* page 02-5 and *Porches, Guidelines for Exterior Woodwork,* page 03-8.)

It is Generally Appropriate to…

- Replace a missing architectural element or projection designed and detailed similar to those found at neighboring buildings or according to documentation at a building whose type and style would have included one
- Install consistent or compatible, simplified detailing on new architectural elements or projections, particularly if they will be located at a side or rear elevation rather than a new architectural element designed for a building from a different period of design.



The HDC encourages the reconstruction of a removed porch in a manner that is compatible in size and scale to the building and streetscape on which it is being proposed with appropriate documentation.

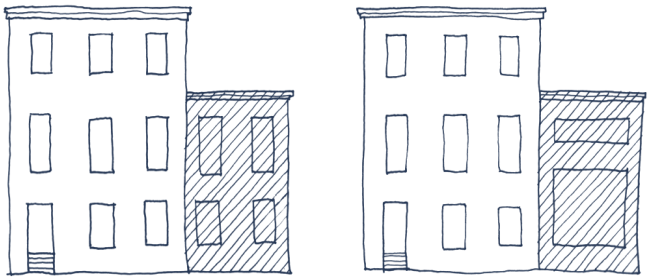
Façade Proportions; Window & Door Patterns

The rhythm and patterns of a principal façade of an addition should reflect that of the existing building. Similar to new construction, the dominant patterns at a façade are determined by the number of bays and spacing between windows and doors and major building features, such as cornices. On a smaller scale, these patterns can be reflected in the selection of wall materials and details like brackets or repetitive trim or moldings.

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 windows. Doors should reflect the original type and the proportions of windows and panels should be similar. It is important to keep in mind that shutters act as an extended "frame" for windows and doors and should be considered in the overall composition. In some instances, where the proposed use and scale of an addition prevents maintaining the existing pattern, the design should incorporate detailing to suggest them, such as false windows and pilasters that give the impression of bays or multiple buildings. This is particularly important at a street-facing façade.

It is Generally Appropriate to…

- Construct an addition with a façade height and width comparable to the existing building and adjacent sites
- Use similar proportions, sizes, locations and types of windows, doors and shutters as found on the existing building and adjacent sites



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

Trim & Details

In the same way that the form and mass of an addition should be compatible with, but not necessarily a copy a historic building, new details should be compatible with, but not necessarily copy, historic trim and details. Existing details and trim may be used as the basis for those on an addition and be simplified to provide compatibility without requiring duplication of historic features. Using similar forms such as those found at parapets, roof lines, windows, doors, trim, porches, decks 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 be consistent or compatible with the context of the neighborhood.

It is Generally Appropriate to…

- Construct an addition with details and trim that complement historic neighboring trim and details
- Install detail that is functional with a high level of craftsmanship rather than simply applied decoration
- Apply detail and trim that is stylistically consistent or compatible to the existing building at the addition
- Apply simplified trim at a lesser addition



Additions should include forms, proportions, trim, details and materials similar to the historic portion of the building.

Materials

The materials used in the construction of an addition for walls, sloped roofs, windows, doors, trim, porches, decks 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 alter materials on additions, as long as the material is a "lesser" material than the original construction. This would include adding a wood clapboard or stucco addition to a stone or brick building; it is not appropriate to construct a brick addition onto a wood clapboard building.

Inappropriate materials include those which unsuccessfully pretend to be something they are not, such as plastic "bricks," aluminum or vinyl "clapboards," or synthetic stucco and EIFS. All are imitations which fail to produce the texture, proportions, finish and color 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 their composition.

SECONDARY BUILDINGS & STRUCTURES

Many residential properties in Exeter include more than a principal building. In most instances, secondary buildings, structures or landscape features contribute significantly to the overall property, setting and historic context. A secondary building or structure in Exeter can be a service or accessory outbuilding, a carriage house, garage, pool house or shed.

Secondary buildings or structures contribute significantly to the understanding of Exeter's history and development. Although most secondary buildings were designed to be utilitarian, those associated with a residence, such as a service or accessory outbuilding, were constructed to be complementary to the property's principal building. This complementarity can include the building's form, materials and simplified detailing.

In general, a secondary building or structure is historically or architecturally significant if it was:

- Constructed at or about the same time as the principal building on the site
- Constructed after the principal building on the site but was used for a significant function
- Representative of an important architectural design or in an important 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 HDC reviews the alteration, construction or demolition of any secondary building or structure within Historic Districts. Property owners are encouraged to contact the HDC to obtain the significance of a secondary building or structure prior to application submission for an alteration or demolition.

NEW SECONDARY BUILDINGS & STRUCTURES

Similar to an addition, a secondary building or structure should be subordinate to and visually compatible with the primary building without compromising its historic character. Although the type and location of these features can be limited by zoning and other requirements, ideally, the secondary building or structure should be located so it is minimally visible and does not detract from historic buildings. Contact the Building Department to determine the allowable location, footprint, height and applicable regulations for a proposed secondary building or structure prior to submitting a design to the HDC.

Allowable Secondary Buildings & Structures

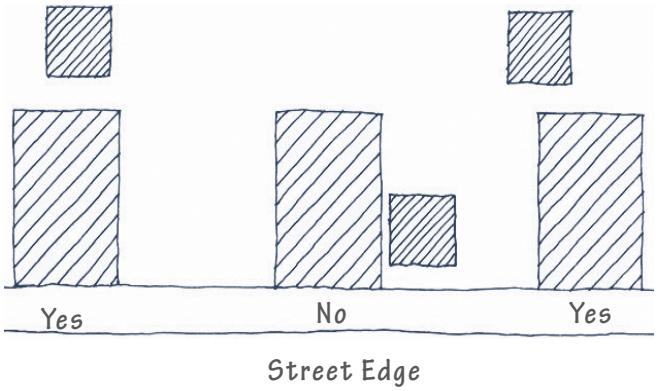
Prior to application submission to the HDC, contact the Building Department to discuss the allowable location, site coverage, height and applicable regulations for a proposed secondary building or structure.



New secondary buildings, such as garages, should compatible to and located towards the rear of a historic building.

It is Generally Appropriate to…

- Maintain a historically and/or architecturally significant secondary building or structure as carefully as the principal building
- Design a new secondary building or structure 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
- Locate a secondary building or structure, including a garage, storage building, shed, animal shelter or pool house, away from the principal entrance or street elevation
- Construct a new secondary building in a manner that does not damage other resources on the site, respecting the footprints and foundations of previous secondary structures, as well as potential archaeological resources
- Adapt functionally obsolete buildings for new uses such as converting a service building into additional living space, a play house or storage
- Use exterior materials for an addition that are present in the existing building
- Install materials that are compatible with each other and will not react chemically with existing materials – Refer to specific *Guidelines* sections or contact the HDC for more information



The visibility of the secondary buildings or structures at the right and left is limited from the street. The secondary building or structure in the middle example does not conform with the street pattern, is very prominent, and should be avoided.

DEMOLITION OF HISTORIC RESOURCES

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 the Town's history. As a result, demolition of historically or architecturally significant buildings or structures is rarely considered to be an appropriate option, and is strongly discouraged by the HDC. (Refer to *Demolition Review Committee, Guidelines Introduction*, page 01-3.)

As an alternative to demolition, property owners are encouraged to re-purpose the building for an alternative use or evaluate whether a compatible addition would provide needed functionality to allow the continued preservation of the historic building or structure.

NEW CONSTRUCTION, ADDITION & DEMOLITION REVIEW

In addition to HDC review in the Historic District, all proposed demolition applications are subject to the review of the Demolition Review Committee who determines the historical and architectural merit of the subject building or structure under consideration.

The HDC encourages:

- Limiting demolition to those buildings, structures or portions of buildings that are non-contributing
- Constructing new primary and secondary buildings and structures that follow the *Compatible Design Principles* outlined in this *Guidelines* section
- Constructing additions that follow the *Compatible Design Principles* outlined in this *Guidelines* section
- Minimizing disruption of archaeological resources when considering new construction or additions — If it is not possible to prevent disruption, conducting archaeological investigations prior to construction is recommended

The HDC discourages:

- Demolishing a historically or architecturally significant building or structure that does not pose an immediate health or safety hazard
- Installing a pre-manufactured metal shed, carport, enclosure or outbuilding at a property



Not all archaeological remains are as clearly marked as this cemetery. Care should be taken to minimize disruption of archaeological remains and features during construction projects.

ARCHAEOLOGY & EXCAVATION

It is recommended that property owners treat below-grade areas with potential resources carefully. Many of the Town's properties 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.

Once a site has been disturbed without proper care, the ability to understand the site through professional interpretation might be lost forever. If the construction of a new building or addition will require substantial excavation at 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 resources until it can be professionally excavated and recorded. The HDC encourages property owners to contact Exeter's Heritage Commission for historical information and consultation prior to beginning 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 New Hampshire Division of Historical Resources. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, or the New Hampshire Division of Historical Resources, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior, or the New Hampshire Division of Historical Resources. 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.

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TOWN OF EXETER
HISTORIC DISTRICTS

Guidelines for Commercial Properties

COMMERCIAL PROPERTIES

The economic development of Exeter's retail areas and the commercial properties within it is encouraged. It is recognized that Exeter's vibrance is linked to the viability of its businesses and institutions. Every effort will be made to assist commercial building owners and tenants with revitalizing older retail areas and buildings, helping to attract new customers while promoting an appreciation of historic architecture. The goals for commercial properties are to:

- Encourage compatibility and provide a visual connection with the historic building and context
- Provide variety and vitality along commercial corridors
- Encourage the greatest amount of design flexibility
- Identify those elements that are indisputably detrimental to the historic streetscape
- Encourage the consideration of how a proposed storefront and sign or awning relates to each property, the streetscape and the historic context

INFORMATION FOR NEW BUSINESSES

If considering opening a new business in Exeter, Building Department representatives are available to discuss zoning, construction and other requirements applicable to a specific project. Please contact them at (603) 773-6112 for more information.

INSTITUTIONAL BUILDINGS

Institutional buildings share many of the same concerns as commercial buildings including signage and accessibility. Applicable references throughout this section should also be applied to institutional buildings.

These *Guidelines* were developed in conjunction with the Town of Exeter's Historic District Commission (HDC) and the Building Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project forward, saving both time and money. The Building Department is available for informal meetings with potential applicants who are considering improvements to their properties.

Guidelines and application information are available at the Town Office and on the Commission's website at **exeternh.gov/bcc/historic-district-commission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Building Department at (603) 773-6112.



COMMERCIAL BUILDING COMPOSITION

This represents a typical multi-story, commercial building in Exeter. It has three distinct vertically stacked zones:

A. The bracketed ornamental building cornice provides a visual cap or termination at the top of the building

B. Upper floor operable windows appear to be "punched" through the flat, relatively solid, typically masonry, wall surface in a regular pattern that does not align with the storefront openings below

C. A storefront capped by a storefront cornice runs along the ground floor with large display windows topped by transom windows

In reviewing potential locations for signage on the building above, the following should be considered:

1. Wall Mounted Sign
2. Projecting Sign
3. Window Sign
4. Awning Sign

It is important to note that the location, number, and size of signs is limited by the Zoning Ordinance.

Historic commercial buildings typically include storefronts extending along the sidewalk edge with punched windows in the wall plane above.



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 a commercial building, the business within it and the overall streetscape. 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 a separate entrance that includes a stair for access to the upper levels.

STOREFRONT MODIFICATION

Because of the unique nature of every storefront, property owners are encouraged to consult with the HDC early in the process when contemplating storefront modifications.

STOREFRONT COMPONENTS

A storefront is made up of a number of different components. One of the key aspects of a successful storefront is that it is designed holistically, with all of the various pieces and parts forming a unified expression. It should be noted, however, that all storefronts do not necessarily include all components.



Storefront cornices can be highly decorative and serve to separate the storefront from the building above.

Storefront Cornices are projecting moldings at the top of storefronts, providing a visual cap or termination to the storefronts and a separation with the upper floors. Cornice materials can vary widely and include wood, pressed metal, limestone, terra cotta or decorative brick patterns. Cornice details can include brackets, dentils and panels.

Transom Windows may be located above display windows and doorways to provide additional daylight, and can be either fixed or operable for ventilation. They can be either single or multi-paned and historically were often leaded, stained or textured glass. Transom windows can also include signage, lettering or other ornamental details.



The transom window allow natural light to illuminate the interior of the shop.

Display Windows are typically large expanses of glazing to present the available merchandise within a shop. Display windows typically flank the entrance doorway or alcove to a store and can include additional advertising to further entice potential customers.



A well organized display window can highlight items offered for sale, attracting potential customers.

Aprons or bulkheads act as the base for the display windows and at the interior can provide a raised platform for merchandise display. Aprons can be constructed of a variety of materials with different finishes including wood, masonry and tile.



Marble was a common apron material in the early 20th century. This example includes a decorative ventilation grille.



Storefront entrance doors typically include a lot of glass, allowing potential patrons a clear view inside. This entrance door is located within an alcove, increasing the display possibilities and providing shelter to those entering the building.

Entrances at storefronts can be located flush with the outside of the building or recessed within an alcove providing additional display areas and shelter from the elements. In addition to commercial entrances, there can be secondary entrance doors that provide access to upper building floors.



Structural supports carry the load of the building above the storefront. They can be an integral part of the display window support system, as in this example, or imperceptible, as in the entrance photograph above.

Structural Supports at storefronts are necessary to carry the weight of the building and roof above and can be decorative, reinforcing the storefront's architectural style. Typically, structural supports flank entrance doors and display windows and can be constructed of wood, cast iron or masonry.

STOREFRONT TREATMENT APPROACH

Changes to storefronts can be a costly endeavor that if not properly planned might negatively impact 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:

1. **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.
2. **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.
3. **Replacement:** Replacement of a historic storefront is only encouraged when the existing storefront materials are too deteriorated to be repairable, or 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.
4. **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.
5. **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 characters 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. Another potential source of information is old records, photographs or drawings. These can be advertisements or articles, newspapers, previous business promotional materials or postcards.



The accessible ramp allows all visitors to enter through the same door while maintaining the stair configuration.

ACCESSIBILITY

The Americans with Disabilities Act (ADA) strives to improve the quality of life of people with disabilities. The ADA recognizes that, for people with disabilities to participate in the everyday activities in their communities such as going to work, eating in a restaurant or shopping in a store, they need to have access to the goods and services provided by businesses. Many business and institutional facilities in Exeter were constructed prior to the enactment of the ADA in 1992 and lack features to accommodate people with disabilities, including those who use wheelchairs.

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 is the installation of a wheelchair ramp or lift to provide building access. In many locations, 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 potentially be hazardous.

ALLOWABLE SIGNAGE

The Zoning Ordinance governs allowable signage at each property in Exeter. It is recommended that potential applicants for signage and awnings contact the HDC early in the design process to understand the allowable signage at their property.

HISTORIC SIGNAGE

Historic signage is often an architectural feature that reflects the original owner and use of the building. Although abandoned signs from recent tenants should be removed, it is encouraged that historic signage be retained.



TYPES OF SIGNS IN EXETER

Historically, there are two types of signs; those that are attached to the building and those that are freestanding and placed near buildings. New signs can use similar features of 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 Zoning Ordinance. The following illustrations are intended to provide general examples of sign types that can be found at historic properties and within a historic context.



Wall signs should be proportional and fit their location. This example extends across the entire facade and width of the storefront below.

Wall Signs are the most common type of signage in Exeter. They are single sided signs mounted parallel to and generally flat against a wall of the building.

This freestanding sign is also a directory sign. Directory signs for professional offices employ small, changeable nameplates, matching in size, color, letter size, case and type style mounted to a larger building sign.



Freestanding Signs are not attached to the building. They are most appropriate when a building is set back from the street, and often reflect the building's style. They can include information on one or two sides, mounted on the ground or suspended from a rail or bracket that is supported by one or two posts that are set in paving or landscape areas.



Multiple projecting signs can create visual interest along a streetscape.

Perpendicular Projecting Signs are generally two sided signs, suspended from an iron or metal bracket, or projecting building feature, mounted perpendicular to the face of the building or element such as a wall.



Window signs can provide an alternative to wall mounted signs for stores.

Window Signs are applied to the interior of the window or door glazing. Signs that are attached to the glazing are generally painted, vinyl appliqué or etched glass. A related option is stained glass. All window signs that are attached to the exterior of the glazing are subject to HDC review. Window signs mounted at the interior of the glazing are not subject to HDC review but must comply with the Zoning Ordinance.



Awnings provide shelter for pedestrians and protect merchandise from the sun's rays.

AWNINGS

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.

Awnings that include text, logos, graphics or designs are considered to be signs that are subject to the applicable Zoning Ordinance requirements. By contrast, plain cloth awnings are not signs, but are still subject to HDC review.

SIGN MATERIAL

Early signs were typically made of wood, either attached directly to the building or suspended from metal brackets or galleries. As technology advanced and building styles changed, a wider range of materials were used. These included bronze, cast iron, stainless steel, etched or painted glass, leaded glass, gold leaf, tile, terrazzo, concrete, stone and enamel 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 HDC welcomes innovative designs and alternate signage materials that are appropriate to the building style and location.



One of the most appropriate sign materials is wood, which has the added benefit of allowing creativity in shape and the addition of three-dimensional components.

SIGN LOCATION

Although it is helpful to understand a building's type, style and design when locating a sign, in general:

- Signs should not be installed in locations that damage or obstruct important architectural features
- Signage for 1st floor businesses should be located below 2nd floor window sills
- No sign or sign support should be located on the roof or extend above a roof cornice

In addition, the sign location should comply with all Zoning Ordinance requirements. (Refer to *Commercial Building Composition* on page 08-02 for additional sign location information.)



The curved shape of the top of the sign complements the business logo.

SIGN SIZE & SHAPE

Exeter's Zoning Ordinance establishes the maximum size and type of signage; however, the HDC determines the appropriateness of the placement relative to the building's design. In general, the HDC utilizes the following guidelines when reviewing the appropriateness of proposed sign's size:

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

SIGN ILLUMINATION

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 the approval of the HDC. Gooseneck lighting or other unobtrusive light fixture is often the most appropriate choice to illuminate wall signage. Backlit signs are typically inappropriate.



The clear lettering and strong contrast between the letter color and background make this sign very legible. A discreet light is located in the grass, providing illumination of the sign in the evening.

SIGN & AWNING COLOR & LEGIBILITY

The contrast between the logo or lettering and background color can greatly increase the overall legibility of the sign. In many instances, limiting the number of colors to those necessary to convey the information also increases the legibility. Similar to selecting a color, when considering letter style for signs and awnings, business owners must balance the need to make them legible, convey the business identity or logo, and complement the historic character of the building and environment. Excessive amounts of text or highly stylized type styles can overwhelm a viewer and render the message ineffective or illegible.

In general, there are three styles of lettering available; serif, non-serif and script. Within each general style are numerous typefaces available, many of which can be varied by making them bold or italicized. Similar to materials, different styles of lettering were typically utilized for specific architectural periods. Applicants are encouraged to utilize lettering and materials that complement their particular building.



Numerous holes have been drilled into the face of this granite pier and several abandoned fasteners still remain. Fasteners should be removed, existing holes reused for future signs, abandoned holes filled and the stone surface cleaned. (Refer to Guidelines for Masonry & Stucco.)

MOUNTING SIGNS & AWNINGS

Care should be taken in mounting walls signs and awnings to minimize the damage to historic materials. This includes reusing hardware or brackets from previous signs or awnings. If reusing existing hardware or attachment locations is not an option, remove abandoned hardware and patch holes. When installing new signage or awnings, select mounting locations that can be easily patched if the sign or awning is relocated or removed. An example would be to locate anchors in mortar joints rather than mounting directly into brick or stone faces.

When installing signage, such as wall mounted signs, business owners are encouraged to recess fasteners and patch the fastener opening to match the sign background for a more finished appearance, unless the fasteners are part of the overall design.



Projecting signs are generally most effective if placed near the entrance door.

STOREFRONT GUIDE

The HDC encourages:

- Following the *Storefront Treatment Approach* on page 08-4
- Maintaining historic storefront components
- Opening previously closed windows
- Maintaining the planes of the historic storefront relative to the building façade including recessed areas such as alcoves
- Selecting paint colors that complement the style and features of a storefront and building

The HDC discourages:

- Altering, enclosing or removing elements, such as building cornices, storefronts and angled storefront glazing
- Installing stylistic elements from periods that are different from the storefront or building and do not complement the overall stylistic expression
- Installing inappropriate materials at storefronts including vinyl siding, some types of wood siding or artificial brick
- Installing textured or colored glass in a display window
- Installing window air conditioners or thru-wall air conditioners that are visible from a public way
- Incompatible designs or false historic appearance based upon insufficient documentation

ACCESSIBILITY GUIDE

The HDC encourages:

- Retaining historic entrance stairs and doors
- If front door access is not possible, providing a respectful accessible entrance that is located close to the principal entrance 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 – The design of interior features are not subject to HDC review
- Install a lift in lieu of a ramp if it would be less obtrusive
- Installing compatible ramp or lift styles and railings that are as simple and visually unobtrusive

SIGN & AWNING GUIDE

The HDC encourages:

- Maintaining and repairing historic signage with materials to match the original whenever possible
- Installing innovative signs reflecting the architectural characteristics with materials that are consistent with the historic character of the building and scaled for the location
- Utilizing existing ambient street light or storefront lighting in lieu of lighting whenever possible
- Installing lights that are compatible with the building character including location, orientation and brightness
- Installing compatible canvas fixed or retractable awnings, whose shape, color, style and location are compatible with the building and the associated openings
- Awnings whose slope projects down approximately 3-feet from the face of the building in a continuous angle of approximately 45-degrees, possibly with an 8- to 12-inch straight or scalloped valance
- Limiting lettering and logos to awning valances

The HDC discourages:

- Installing signs or awnings that obscure architectural features, or fasteners and hangers that destroy important building fabric for the installation of signs or awnings
- Paper signs or graphic films adhered to the exterior of glazing or any signage that obstructs views into the store through storefront windows and glazing
- Installing contemporary awning shapes, such as balloon or barrel awnings
- Installing awning materials that act as wall signs

The HDC strongly discourages:

- Removing, damaging, altering or encasing historic architectural features with signage or awnings
- Installing exposed conduit, junction boxes and raceways for signage or lighting
- Installing new billboards, internally illuminated box signs, LED reader boards, flashing or changable message signage
- Installing neon signs at the interior or exterior of a building that are highly visible from the street
- Installing awnings in locations where they are non-functional, such as under a balcony or overhang
- Installing contemporary or glossy awning materials such as vinyl, plastics or leatherette, internally illuminated awnings or awnings with a solid or closed underside

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