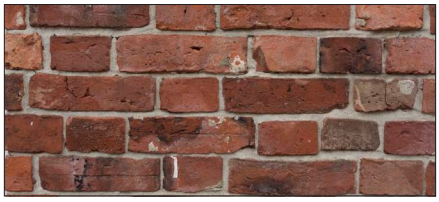
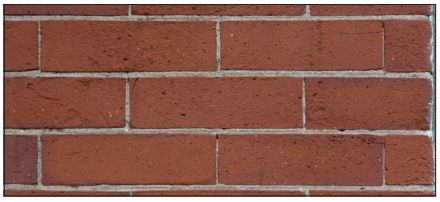
CITY OF PORTSMOUTH
Historic District Commission
Guidelines for Masonry & Stucco



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

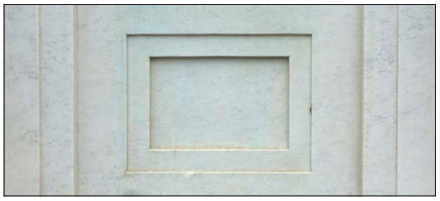


20th Century Brick - A hard, dense, fired-clay, regularly shaped building component; sometimes with a glazed surface.

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

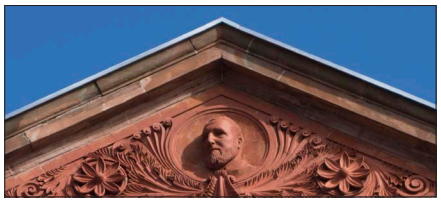
Brownstone - A reddish brown sandstone used as a building material, popular in the late 19th century.

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 walls, window sills and lintels and trim.

These *Guidelines* were developed in conjunction with the City of Portsmouth's Historic District Commission (HDC) and the Planning Department. Please review this information during the early stages of planning a project. Familiarity with this material can assist in moving a project quickly through the approval process, saving applicants both time and money.

In its review, the HDC considers a property's classification, recommending the greatest historic authenticity at focal buildings, with more flexibility at contributing structures, and the most at non-contributing properties. The HDC Staff in the Planning Department is available to provide informal informational meetings with potential applicants who are considering improvements to their properties.

Additional *Guidelines* addressing other historic building topics are available at City Hall and on the Commission's website at **www.planportsmouth.com/historicdistrictcommission**. For more information, to clarify whether a proposed project requires HDC review, or to obtain permit applications, please call the Planning Department at (603) 610-7216.

MASONRY & STUCCO

Masonry includes brick, terra cotta and stone. Almost all buildings include some exterior masonry. At many of Portsmouth's civic and institutional buildings, it is the principal exterior wall material. At wood-framed buildings, masonry can typically be found at foundations and chimneys. Less often, stucco can be found at select building elements such as foundation and additions.

A building's exterior masonry and stucco surfaces serve visual and functional purposes. Visually, they are an important design feature establishing a building's rhythm and scale. Functionally, historic exterior masonry and stucco act as a building's "skin". Masonry walls can also act as a principal element in the structural system.

Historic exterior masonry and stucco:

- Act as an important design feature, helping to define a building's architectural style
- Establish a building's scale, mass and proportion
- Add pattern and casts shadows on wall surfaces
- Establish a weather-tight enclosure, providing protection from rain, wind and sun

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 Portsmouth and can be found in some of the City's earliest commercial and institutional buildings, and continues to be used today. Bricks are made by inserting clay into a mold and then firing or baking the brick at very high heat. The result is a standardized unit, generally 8" by 4" by 2-1/4" in size.

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

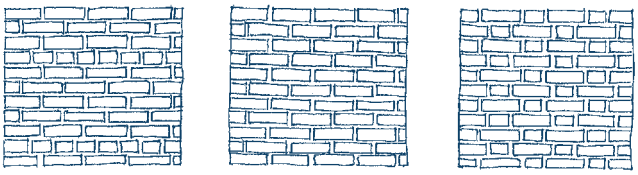
Stone

The most common types of stone in Portsmouth are granite and brownstone. Limestone detailing is often found at brick buildings, and some of Portsmouth'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 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.

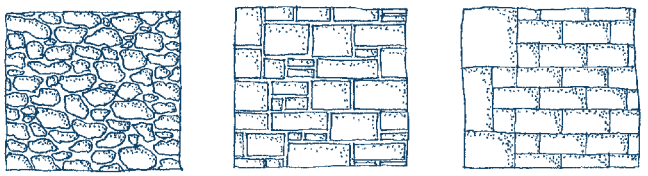
BRICK BONDING PATTERNS



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 Portsmouth. 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, the amount of Portland cement in mortar was increased, resulting in harder mortar corresponding with the manufacture of harder bricks.

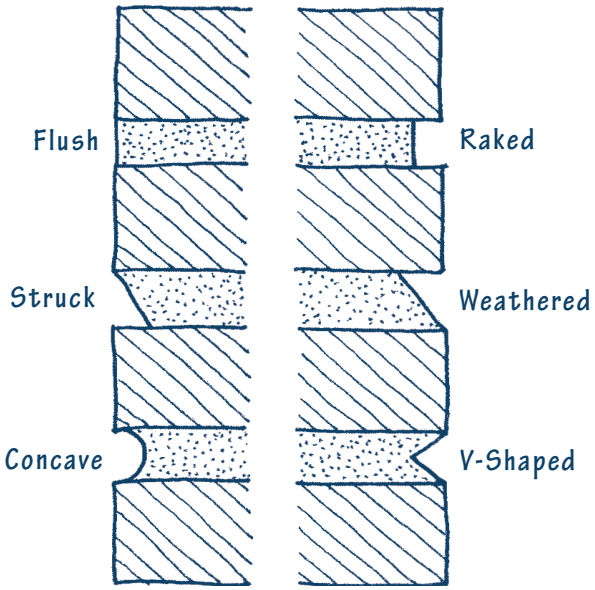
Sand is by far the largest component of mortar and defines its color, character and texture. Since masons would use products that were readily available, sand from historic mortars tended to have weathered, rounded edges, and was available in a great variety of grain sizes and shades of white, grey and yellow. Most sand available today has sharper edges 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.

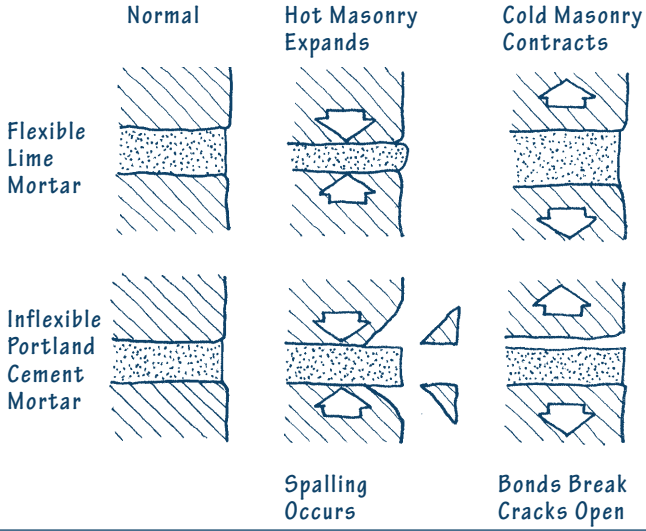
Historic Additives included oyster shells, animal hair, and clay particles. To duplicate the character of historic mortar, it might be necessary to include additives to match the original in hardness, texture, appearance and color. It should be noted that there are several types of chemical additives 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.

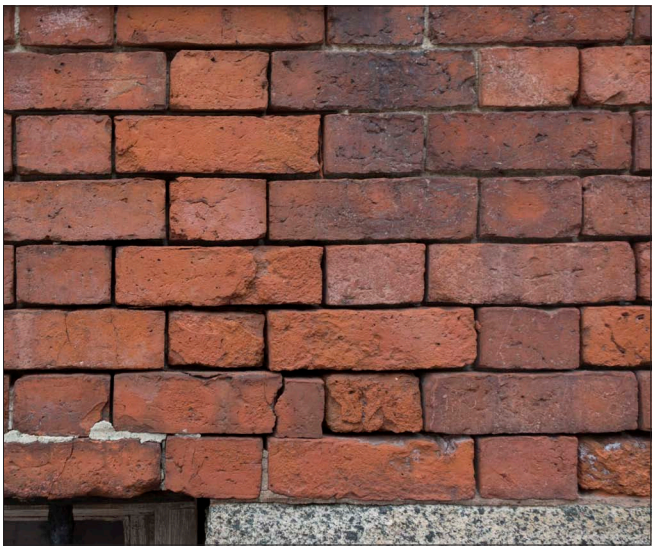
Portland cement-based mortars are significantly harder than lime-based mortars and far less elastic. In addition, cement mortars tend to be substantially harder than historic masonry. When masonry units expand in warm temperatures, they press against the harder cement mortar and tend to spall at the 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 Portsmouth 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 07-3.)



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 leached out of masonry or concrete by capillary action and deposited 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

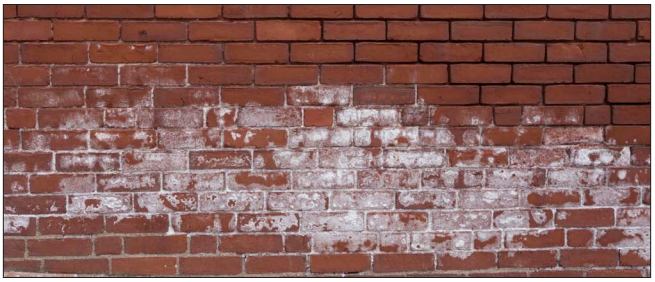
Spalling: Chipping of masonry

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.

Because of their exposure to the weather, chimneys may require more frequent repointing than building walls.

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 07-3.)

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.

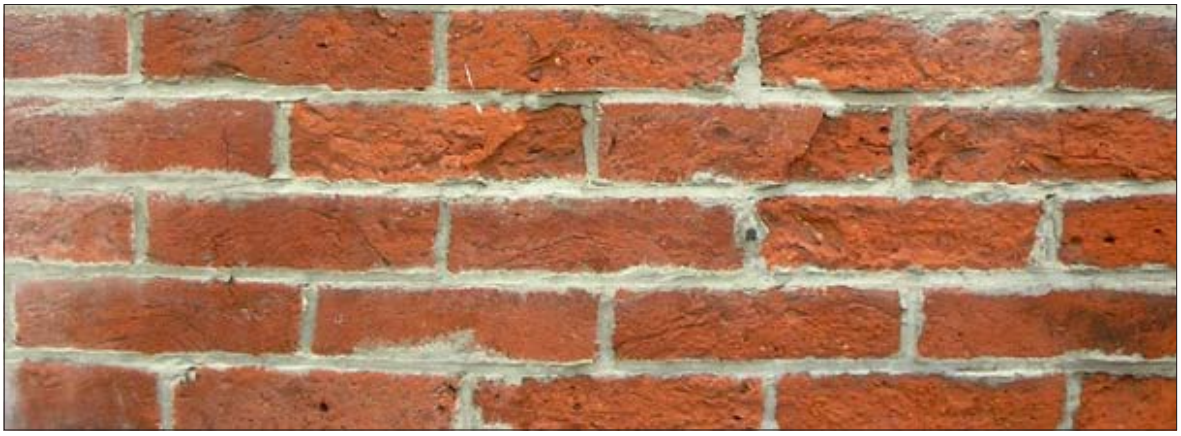
Stucco patches are an inappropriate replacement for missing or damaged bricks. Missing or deteriorated brick should be replaced with units of the same dimension, appearance, texture and hardness as adjacent brick.

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. 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 also present 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.

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.



The rough texture and uneven surface suggest an aggressive cleaning method was used.

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.

MASONRY COATING

Water repellent and waterproof coatings generally are applied to prevent water from entering a masonry wall. They tend to 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 poor or deferred maintenance. **In instances where the surface of the masonry has been compromised severely, such as by sandblasting, the use of water repellent coatings might 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 or clear 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.

It appears that an aggressive treatment was used to clean the limestone surface, resulting in a "bleached" effect when compared to adjacent stones. Although it is preferable to clean and entire wall surface, if spot cleaning is being considered, it is preferable to clean entire stone units ending at mortar joints as shown.

STUCCO

Stucco is a relatively inexpensive material that can provide a more finished appearance to brick, stone or, in rare examples in Portsmouth, 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 Portsmouth. 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 were added to the mix 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.

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.

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.

The application of stucco and paint can provide a more unified appearance in areas where multiple materials are exposed to view.

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 Maintenance*, page 03-14.)

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.

PAINT REMOVAL & CHEMICAL SAFETY

Caution should be used when removing paint since some paints include lead, requiring proper collection and disposal techniques. Many chemical cleaners and paint strippers are hazardous and require special handling, collecting, and appropriate disposal of the chemicals and rinse water. Follow manufacturer's instructions and refer to *Safety Precautions, Guidelines Introduction*, page 01-16.

HDC CRITERIA FOR MASONRY & STUCCO REVIEW

When evaluating a proposed repair, replacement or installation of masonry and stucco, the HDC's goal is to preserve the integrity of the remaining historic fabric in Portsmouth's Historic District to ensure continued access to this shared heritage. One of the major factors in the review process is the property's historical and/or architectural value as determined by the historic designation. The more significant the property, the more critical is its authenticity.

- **Focal Properties** — Maintain the highest historic integrity with a focus on preserving historic masonry elements and replacement in-kind if conditions warrant
- **Contributing Properties** — Maintenance of historic masonry encouraged, particularly at street-facing façades, more flexibility is possible at secondary side or rear elevations with limited visibility from the street
- **Non-Contributing Properties** — Restoration of historic masonry is encouraged, with greater possibility for flexibility concerning alternate materials

When is HDC Review Not Required?

A Certificate of Approval is not required for:

- Regular routine maintenance of masonry and stucco including cleaning, repointing, limewashing and painting of previously limewashed or painted surfaces

The HDC recommends:

- Replacement masonry and stucco that matches the historic in type, color, texture, size, shape, bonding pattern and compressive strength of existing material
- Appropriately sized replacement masonry toothed into existing masonry and continuing the historic pattern
- Repointing mortar or applying stucco of the same hardness or softer than the original mortar or stucco and always softer than the original masonry — Provide high lime content with limited Portland cement at older buildings
- Applying mortar or stucco that matches the appearance, color, texture, pattern, joint size and tooling of the historic mortar and stucco
- Carefully removing algae, moss, vines and other vegetation from masonry and stucco and removing shrubs from the building perimeter
- Completing masonry and stucco work in fair weather, for improved bonding and curing

The HDC discourages:

- Installing exterior brick veneer at building walls or chimneys
- Widening or extending the existing mortar joints or overlapping new mortar over a masonry surface
- Removal/covering of historic masonry surfaces or details
- Using pre-mixed mortar that does not match the appearance or consistency of the historic mortar
- 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 to patch historic masonry, even if they are "antiqued", since they are generally much harder and do not match the historic masonry
- Using of modern chemical additives in mortar or stucco
- Installing pointing mortar or stucco in a single layer greater than 3/8-inch deep

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