



## **MASONRY GUIDELINES**

### **General Principals**

Every effort should be made to save and maintain unique, important architectural features of a building to help preserve its original character and history. Repairing and protecting original architectural features and materials is preferable to their replacement.

Removal or alteration of any historic material or distinctive architectural features should be avoided. This applies primarily to the exterior of houses, but can also apply to important interior features and spaces.

In some cases, replacement of significant historical materials may be allowed as determined on a case-by-case basis. Any replacement materials may be used *only* with the approval of the Home Preservation Program. These materials shall enhance the building's historic architecture and be compatible with any adjacent historic buildings and streetscapes.

All buildings and sites are to be recognized as products of their time. Any changes that have no historical references or which attempt to seek an earlier appearance are to be discouraged.

Changes which have taken place through the course of time but may represent another style or character are still evidence of historical development and may have historical significance in their own right. These changes are to be recognized and respected.

Limited replacement in kind of extensively damaged or missing masonry details and features is preferable to replacing the entire feature.

New work should match the old in material, design, color, and texture.

### **MASONRY – Brick, Stone, Terra Cotta, Concrete, Stucco**

The most widely used masonry materials in historic houses are brick and stone. Even though they are extremely durable materials, they are not completely maintenance-free.

#### **RECOMMENDED:**

- Inspect masonry on a regular basis for any signs of water damage, staining, gaps and holes in the mortar joints and “efflorescence” – the white-colored deposit on the exterior surface of brickwork.
- Deteriorated or damaged masonry must be stabilized from further damage before any preservation work is performed.
- Original brick, stone, terra cotta, concrete, stucco should be maintained whenever possible.
- Original stucco should be repaired with a stucco mixture that duplicates the original as closely as possible in texture and appearance.
- Provide proper drainage so that moisture does not stand on flat, horizontal surfaces or on intricate decorative features and indentations. Make sure that water does not accumulate within brick assemblies.
- Clean masonry only when necessary to remove very heavy soiling, graffiti and stains, or to prevent further deterioration.
- If cleaning of masonry is determined to be appropriate, perform surface cleaning tests on small areas. Observe tests over a sufficient period of time so that both the immediate and the long range effects are known so that the gentlest cleaning methods possible may be selected.



- Gentle cleaning methods may include use of low pressure water and detergents, using natural bristle brushes, or appropriate chemical cleaners
- Low pressure water cleaning (80-300 pounds per square inch) is an effective safe method of cleaning brickwork.
- Repoint mortar joints only where there is evidence of deterioration that would compromise the structure and integrity of the masonry or would allow moisture to accumulate or penetrate the wall. Such evidence includes missing mortar, cracks in mortar joints, loose or missing bricks, damp walls, damaged plasterwork on the interior.
- Remove deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry.
- Duplicate old mortar in strength, composition, color and texture.
- Duplicate old mortar joints in width and in joint profile.
- Retain original or early colors and textures of any painted masonry surfaces, including early signage, as much as is practical.
- Inspect painted masonry surfaces to determine if repainting is necessary.
- Remove deteriorated or damaged paint only to the next sound layer using the gentlest method possible, such as hand-scraping, prior to repainting.
- Apply compatible paint coating systems following proper surface preparation, according to paint manufacturer's recommendations.
- Any new paint colors selected should be sympathetic to the building's age, style and surrounding neighborhood. Staff can assist in selection of a paint scheme that expresses the homeowner's personal preference as well as the style and time period.
- Repoint mortar joints and cracks before cleaning. Allow at least 2 months for newly repointed mortar to cure before cleaning masonry.

#### NOT RECOMMENDED:

- The use of harsh cleaning methods should be avoided
- Using destructive paint removal techniques – propane torches, sandblasting, high pressure water cleaning over 300 pounds per square inch, rotary sanders, or rotary wire strippers – can cause irreparable damage to masonry materials and details.
- Using replacement material that does not match existing historic masonry features is not acceptable
- Repointing joints that do not need repointing is not recommended.
- Using electric saws and hammers to remove old mortar can damage adjacent brick.
- Painting of brick is not recommended unless it is very mismatched or so deteriorated that it cannot withstand weather.
- Painting of stone is not recommended. It may accelerate deterioration of the masonry.
- Repointing with a mortar with straight or high Portland cement content can cause damage to the integrity of masonry walls. Portland cement is not the same strength or porosity of the original mortar or of the adjacent brick material. Deterioration of the brick can result due to unequal rates of expansion/contraction.
- Avoid repointing when the wall temperature is less than 40 degrees or higher than 95 degrees.

*For more information on mortar joints click on this link:*

<https://www.nps.gov/tps/how-to-preserve/briefs/2-repoint-mortar-joints.htm>



For more information on identifying, retaining and preserving masonry click on this link:

[https://www.nps.gov/TPS/standards/four-treatments/standguide/restore/restore\\_masonry.htm](https://www.nps.gov/TPS/standards/four-treatments/standguide/restore/restore_masonry.htm)

For more information on repointing mortar joints, click on this link:

<https://www.nps.gov/tps/how-to-preserve/preservedocs/preservation-briefs/02Preserve-Brief-MortarJoints.pdf>

For more information on cleaning of limestone click on this link:

<https://www.nps.gov/tps/how-to-preserve/tech-notes/Tech-Notes-Masonry03.pdf>

For more information on historic mortars click on this link:

<http://www.oldhousejournal.com/mortar/magazine/1484>

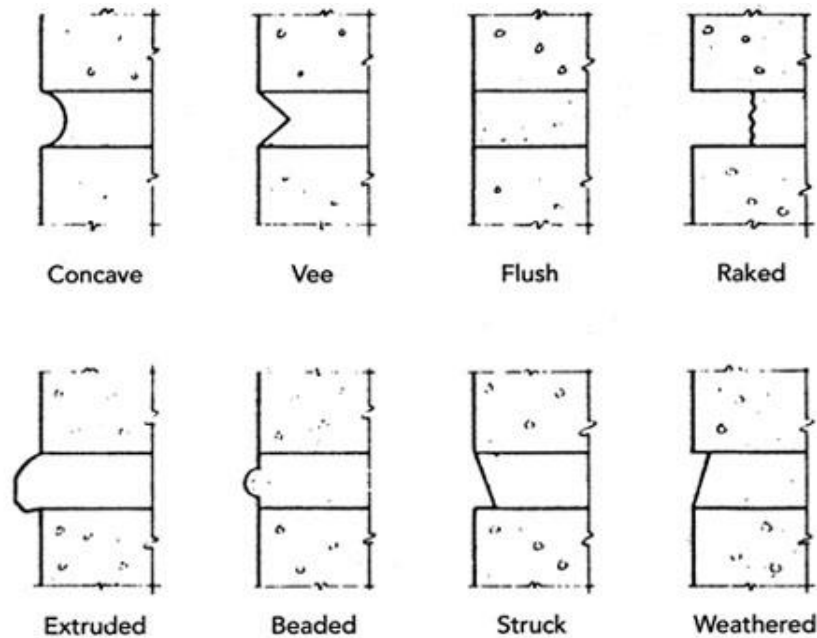
For more information on general maintenance on historic houses click on this link:

<https://www.nps.gov/tps/how-to-preserve/briefs/47-maintaining-exteriors.htm#projections>

Columbus Register of Historic Properties Architectural Guidelines:

[https://www.columbus.gov/uploadedFiles/Columbus/Departments/Development/Planning\\_Division/Document\\_Library/Library\\_Documents/PDFs/hrc%20\(2010\).pdf](https://www.columbus.gov/uploadedFiles/Columbus/Departments/Development/Planning_Division/Document_Library/Library_Documents/PDFs/hrc%20(2010).pdf)

## MORTAR JOINT PROFILES



## MASONRY PATTERNS

