

Masonry Design Guidelines Analysis

Current Standard Guidelines	Nore' Winter's Draft	Staff Suggestions
M1 Do not construct new masonry features that are either falsely historical (characteristic of periods prior to the building's actual construction) or are incompatible with the building or historic district in terms of size, scale, material, or color.	M.5 Do not construct a new masonry feature that is falsely historical or that is incompatible with the building or district in terms of size, scale, material, or color.	
M2 Do not cut new openings into exterior walls on elevations that can be seen from a public way. Creating an opening for the installation of an air conditioning unit, for example, is not appropriate for a façade that is visible from a public way.	**Not Incorporated**	Staff believes this to be implied, but may be added more specifically
M3 Photographically document architectural features that are slated for reconstruction prior to the removal of any historic fabric.	**Not Incorporated**	Staff recommends including
M4 Match the existing bonding pattern, coursing, color, size, strength, and pointing mortar of masonry when replacing a section of brick wall. Bricks should always be toothed-in to historic brickwork, to disguise the joint between new and old.	M.3 When replacing a section of a brick wall, match the existing bonding pattern, coursing, color, size, strength, and pointing mortar of the original masonry. <ul style="list-style-type: none"> • Tooth-in new bricks to historic brickwork to disguise the joint between new and old. 	
M5 Do not remove or rebuild substantial portions of exterior walls if such an action would adversely impact a structure's historic integrity.	**Not Incorporated**	Staff recommends incorporating into M.3 M.3 When replacing a section of a brick wall, match the existing bonding pattern, coursing, color, size, strength, and pointing mortar of the original masonry. <ul style="list-style-type: none"> • Tooth-in new bricks to historic brickwork to disguise the joint between new and old. • <u>Do not remove or rebuild substantial portions of exterior walls if such an</u>

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		<u>action would adversely impact a structure's historic integrity</u>
M6 Make sure that any exterior replacement bricks are suited for exterior use.	M.4 Use a replacement material that is suited for exterior use and that is of similar strength to the historic masonry.	
M7 Do not replace sections of historic brick with brick that is substantially stronger.	**Incorporated in M.3**	
M8 Repoint only those joints that are no longer sound. Do not remove all joints, sound and unsound, in an effort to achieve a uniform appearance when repointing. Large-scale removal of mortar joints often results in damage to historic masonry.	M.6 Repoint a deteriorated masonry mortar joint. <ul style="list-style-type: none"> • Repoint only a joint that is no longer sound. • Remove an unsound mortar joint by hand, not using power tools, to a depth of two and a half times the width of the joint, or to sound mortar. • Match a historic joint in color, texture, joint size, and tooling when repointing. • Utilize a mortar mix that is compatible with historic masonry and that will allow moisture to escape. • Prior to re-pointing, analyze the historic mortar to determine an appropriate mortar mix for the specific property. • Do not use a synthetic caulking compound to repoint historic masonry. 	
M9 Remove unsound mortar joints carefully with hand tools that are narrower than the mortar joint. Power tools should not be used, because they have the potential to scar adjacent masonry.	**Incorporated in M.6**	
M10 Remove unsound mortar to a depth of two-and-one-half the times the width of the joint or to sound mortar, whichever is greater.	**Incorporated in M.6**	
M11 Match historic mortar joints in color, texture, joint size, and tooling when repointing.	**Incorporated in M.6**	

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<p>M12 Use a mortar mix that is compatible with historic masonry. Repointing mortar should be equivalent to or softer than the original mortar. When repointing mortar is harder than the surrounding masonry, as is the case with many modern mixtures, moisture cannot escape through the joints. Trapped moisture will crystallize within the walls and fragment surrounding brick and stone.</p>	<p>**Incorporated in M.6**</p>	
<p>M13 If possible, have your mortar analyzed. In order to determine an appropriate mortar mix for individual historic structures, it is recommended that property owners have a sample of the original mortar sent to a lab for analysis. If this is not feasible, a high lime and low Portland cement content mortar mix (1 part cement, 1 part lime, and 6 parts sand) is frequently acceptable.</p>	<p>**Incorporated in M.6**</p>	
<p>M14 Do not attempt to remove joints that have been repointed using a very hard mortar or in an unworkmanlike manner until natural weathering has begun to weaken and crack them. Removal prior to that time would likely damage the masonry units</p>	<p>**Not Incorporated**</p>	<p>Staff recommends including</p>
<p>M15 Do not use synthetic caulking to repoint historic masonry.</p>	<p>**Incorporated in M.6**</p>	<p>Staff recommends including though it is implied</p>
<p>M16 Have realistic expectations of how the cleaned masonry surface will appear. Remember, it is better to underclean than overclean. A "like new" appearance is rarely desirable.</p>	<p>**Not Incorporated**</p>	<p>Staff recommends incorporating, as setting expectations is always of the utmost importance.</p>
<p>M17 Make sure that your contractor has a clear understanding of the physical and chemical properties of your masonry before proposing or testing any chemical cleaning treatments. Such treatments, if improperly applied, can result in</p>	<p>**Not Incorporated**</p>	<p>Staff believes that this is implied but not explicitly stated</p>

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permanent damage that significantly outweighs any benefits of cleaning.		
M18 Test proposed cleaning treatments in an inconspicuous area of the building to evaluate potential adverse effects to the masonry. Observation over a complete seasonal cycle is preferable, so that long-term effects may be ascertained. If chemical treatments are found to be acceptable, be sure that those applying the treatment follow all manufacturers' instructions.	M.9 Test proposed cleaning treatments in an inconspicuous area to evaluate potential adverse effects prior to applying the method to an entire masonry structure. <ul style="list-style-type: none"> • Do not use sandblasting or high-pressure water to clean historic masonry. • Do not use water- or chemical-based cleaning systems when the possibility for freezing temperatures exist. 	
M19 Do not use sandblasting or high-pressure water to clean historic masonry. The process of sandblasting or cleaning buildings using water pressure greater than 300 psi removes the tough, outer-protective surface of the brick and loosens mortar joints, accelerating deterioration.	M.8 Use the gentlest means possible to clean masonry.	
M20 Do not clean masonry on buildings with deteriorated mortar joints. Such masonry should be properly repointed prior to cleaning to ensure that water does not penetrate the wall during the cleaning process.	M.7 Prior to cleaning, ensure that a mortar joint is not deteriorated, as deteriorated joints will allow for water to penetrate the wall during cleaning.	
M21 Do not use any type of water- or chemical-based cleaning systems when a possibility for freezing temperatures exists. Masonry cleaning should not be undertaken until the temperature will remain above 50 degrees for 72 hours after cleaning.	**Incorporated in M.9**	
M22 Remove graffiti as soon as possible, beginning with the gentlest means possible and taking care not to inadvertently etch an outline of the graffiti onto the wall.	M.14 Remove inappropriate paint, such as graffiti, as soon and as gently as possible. <ul style="list-style-type: none"> • The use of a solvent-based chemical stripper is acceptable for removing paint only after testing its effectiveness on an inconspicuous area of the building. • Do not sand-blast or use an acid-based cleaner to remove paint. 	

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M23 Use solvent-based chemical strippers to remove paint from previously-painted masonry only after testing its effectiveness and evaluating its potential to damage brickwork. Testing should be carried out in an inconspicuous location.	**Incorporated in M.14**	
M24 Do not paint masonry or stucco that has never been painted. While one layer of paint may not affect the appearance of the masonry or stucco, accumulated layers will eventually obscure decorative detail.	M.11 Preserve an unpainted masonry element that was not historically painted.	
M25 Paint previously-painted masonry a color that is close to its existing color, approximates a natural masonry color as approved, or is recommended by staff. Staff is available to consult with you on appropriate colors.	M.12 Paint a previously-painted masonry structure with a color that is close to its existing color and that appears as a natural masonry color.	Staff recommends the following changes: M.12 Paint a previously-painted masonry structure with a color that is not white, black, or neon. close to its existing color and that appears as a natural masonry color.
M26 Use a "breathable" masonry paint that is compatible with and can create a strong bond with existing paint.	M.13 Use a "breathable" masonry paint that is compatible with and can create a strong bond with existing paint.	
M27 Make sure that areas of patched stucco match the strength, composition, color, and texture of the original to the greatest degree possible.	**Incorporated in M.10**	
M28 When patching stucco, cut back the successive layers to provide a key for the new layers to prevent new cracking.	M.10 When patching stucco, utilize a material that matches the strength, composition, color, and texture of the original material. <ul style="list-style-type: none"> • Cut back successive layers of stucco to determine the historic material properties and to provide a guide for the new, patched layers to prevent future cracking. • Perform stucco repairs so that the new layer is flush to the surface of the original stucco layer. 	

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M29 Carry out stucco repairs so that the dimension between the surface of the stucco and adjacent finishes remains unchanged.	**Incorporated in M.10**	
M30 Do not install stucco, Dryvit, or permastone-type cladding over historic masonry or wood siding.	M.1 Preserve an original masonry material. <ul style="list-style-type: none"> • Do not cover original historic masonry with new materials. 	
M31 Do not resurface historic masonry with exterior insulation.	M.2 Do not resurface historic masonry with alternative materials such as stucco, permastone-cladding, or exterior insulation.	
M32 Use a masonry or terra cotta chimney cap if needed. Metal chimney caps are not historically appropriate.	**Not Incorporated**	