

3. Building Materials & Finishes

Context & Character

The exterior surfaces of a building are important elements to a building’s composition and relationship with adjacent buildings. The distinctive qualities of building materials, including pattern, texture, finish and color, add character and scale. Many buildings in the districts are distinguished by their masonry wall surfaces (brick, stone, terra-cotta). There are a few frame buildings, but wood is frequently the material used for window and door framing, trim and moldings. Glass is usually a character-defining feature for storefronts. Ornamentation, such as columns, piers and pilasters of the storefront, is of various materials including metals.

In the mid-20th century a number of new materials were introduced for use on commercial building facades. These include colored glass, also known as “Carrara Glass” which was a popular material for storefronts in the 1930s and 1940s. Other storefront materials include aluminum and stainless steel for display window surrounds.

During the 1950s, the use of thin veneers for exterior sheathing became popular and these materials included marble and other stone. The use of porcelain panels was also introduced during these years. Concrete panels and glass curtain walls were used for Salt Lake City’s high rise commercial buildings in the 1950s and 1960s.

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The decorative combination of contrasting masonry materials, color and texture is used to full architectural effect at 328 S. Main Street.



Brickwork, combined with contrasting masonry details, can enhance the appearance of a building facade.



Masonry can be worked to create unique classical detailing.



Rounded arches and textured masonry are common features of the Richardsonian Romanesque style. Utah Commercial and Savings Bank, 22 East 100 South.

Design Objective

Primary historic building materials should be preserved in place whenever feasible. Retard deterioration or prevent damage through routine maintenance and repair. If damaged, repair or minimal replacement with matching material should be the objective.

General

3.1 Historic building materials, such as brick, stone, terra-cotta, cast concrete, mortar, wood, stucco and metals should be preserved and maintained.

- Harsh or abrasive cleaning treatments should be avoided.
- When the material is damaged, then limited replacement, matching the original, may be considered.
- Covering or concealing historic building material should be avoided.

Masonry

Masonry includes a range of building materials, such as stone, brick, terra-cotta, concrete and stucco. Brick and stone were the most prevalent types of masonry used in Salt Lake City. The unique scale, texture, color and finish of the brick or stone used in a given building are important character-defining features.

The color, texture, and joint profile of the historic mortar are also important characteristics. Soft mortar with a high ratio of lime was traditionally used in masonry buildings constructed prior to the 1930s. Relatively low proportions of Portland cement were used if any. Harder mortars appear in more modern buildings.

If properly maintained, masonry can last indefinitely. The keys to brick and mortar preservation are to keep water out and to apply the correct type of mortar when repairs are needed.

Treatments of historic masonry including cleaning, strengthening, repointing, etc, can be complex and it may be necessary to consult with a historic architect, architectural conservator, or experienced contractor to determine the appropriate treatment.

3.2 The traditional scale, texture and character of masonry surfaces and architectural features such as the original tooling, bonding and mortar joints should be retained.

3.3 When cleaning masonry, use the gentlest means possible.

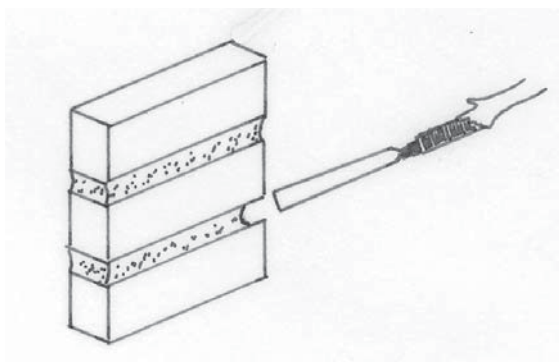
- Historic masonry should only be cleaned when necessary to halt deterioration or to remove graffiti and stains.
- When cleaning masonry, it is advisable to test a small area first to ensure the procedure and cleaning agent are compatible with the masonry.
- The use of detergent cleansers to remove dirt or grime from masonry is acceptable. Water and mild detergent using natural bristle brushes, and/or a non-harmful chemical solution, both followed by a low-pressure water rinse is recommended.
- The use of any kind of harsh, abrasive cleaning such as sandblasting should be avoided.
- Cleaning or removing paint from masonry with high pressure water should be avoided.



Variations in brickwork color, texture and pattern can provide interest to a relatively simple street facade.



The appearance and integrity of original masonry can be successfully maintained through appropriate repair. Commercial Club Building, 32 Exchange Place.



Hand tools are preferred when removing mortar.



Hard impermeable modern mortars force moisture through the more permeable brick and allow mechanical stresses to be relieved through the softer brick which may lead to cracking, spalling and erosion. Here, new mortar fails to match the original.

3.4 Masonry materials should be protected from water deterioration.

- If water is penetrating historic masonry, water-repellent coatings can be used.
- There are very good non-paint related treatments that are highly effective in strengthening damaged sandblasted or abrasively cleaned masonry and rendering it more water repellent and resistant to the elements.
- Avoid the use of silicone-based sealants on masonry walls they do not allow the brick or stone to “breathe” and can trap moisture within walls.
- Proper drainage is essential to ensure that water does not collect and penetrate flat, horizontal surfaces or accumulate in decorative features.
- Positive drainage away from masonry foundations should be provided to minimize moisture migration from the ground.

3.5 Covering or concealing original masonry surfaces with other materials such as stucco, metal or vinyl should be avoided.

3.6 The use of power tools on historic masonry should be avoided.

- Power tools can readily damage masonry and are not recommended when removing mortar.
- Hand tools allow for precision work and help to avoid damage to adjacent brick and stone.

3.7 When repointing is necessary use mortar mixes similar to the original.

- New mortar should match the original mortar in width, depth, color, joint profile, and texture.
- It is important to use a mix that is softer and more permeable than the masonry units to ensure the preservation of the historic masonry.
- Hard and impermeable modern mortar is inappropriate for repointing older brick and stone because it will force moisture through the more permeable softer masonry accelerating deterioration.
- Modern mortars may contain harmful soluble salts that further accelerate brick and stone deterioration.
- Water-driven deterioration mechanisms like freeze-thaw will be relieved in the masonry rather than the mortar if the latter is harder than the former.

3.8 Historic masonry should remain unpainted.

- Painting masonry that has never been painted should be avoided.
- Painting masonry can seal in moisture already in the material, not allowing it to breathe and causing extensive damage over time.
- Painting masonry establishes a future cycle of periodic repainting.



Painting brick changes the character of a building.

Wood Siding



Shiplap siding



Clapboard siding

Wood

Wood has been used historically for framing, cladding, trim and decorative features. These elements contribute to the authenticity of the building as a historic resource. Historic wood building materials were generally carefully selected, seasoned and resilient. Original woodwork will last a long time with periodic maintenance.

3.9 Original wood features should be preserved and maintained.

- Loss of original wood features will adversely affect the historic character of a building.

3.10 Original wood features should be repaired if necessary, and replaced only if they are proven to be deteriorated beyond repair.

- Repair wood features by patching, splicing, consolidating or other reinforcement treatments.
- If portions of the woodwork must be replaced due to deterioration, match the dimensions, profile, detail and finish of the original.
- Replace in kind an entire wood feature that is too deteriorated to repair.

3.11 Exterior woodwork should be cleaned with the gentlest means possible.

- Destructive, dangerous, and/or abrasive cleaning techniques, such as propane torching and sand- or water-blasting are not recommended.

3.12 Historic wood should be protected from deterioration.

- If the building had a painted finish historically, it should remain painted.
- Properly prepare new and old wood surfaces first and apply a coating such as paint to help protect the wood from moisture and ultraviolet light.
- Paint removal should be considered only where paint is damaged or has lost its bond to the surface.
- Proper drainage should be provided to minimize decay.
- Paint color is not reviewed.

3.13 Original wood siding should be retained and preserved.

- Removing deteriorated siding that can be repaired in place should be avoided because significant damage may result from its removal.
- If portions of the siding must be replaced, match the style, dimensions, profile and finish of the original siding.
- Only siding that is deteriorated and beyond repair should be removed.

3.14 Synthetic or substitute materials such as vinyl, aluminum and asbestos are not recommended as replacement siding materials on earlier historic buildings.

- Generally, synthetic or substitute sidings do not adequately replicate siding of traditional materials and greatly detract from a building's historic appearance.
- These types of materials might be suitable for buildings constructed in more recent decades if the materials were used originally.



Woodwork is a character-defining feature of this storefront at 361 N. Main Street.



The wood framing distinguishes this historic window design, profile and detailing in an upper story window treatment.

Maintenance Tip for Windows

- *Protect woodwork with a good coat of paint.*
- *Prepare the surface or substrate well prior to applying new paint.*
- *Use special procedures for removal, preparation for new paint, or encapsulation of older paint layers that may contain lead.*



3.15 Original wood building materials should not be covered.

- This obscures the original character of the building.
- An aluminum or vinyl covering over original materials will trap moisture that will damage the building materials underneath.
- Removal of any later siding and the rehabilitation of original wood siding are highly encouraged.



Metals

Many of Salt Lake City's historic commercial buildings display decorative cast iron and other metals including copper, tin, and steel. Exterior metals may have both structural and decorative uses and are found in cornices, window hoods, capitals, columns, lintels, sills, awnings and other features. These elements are important in defining a building's historic character and architectural significance.

3.16 Cast iron and metal original to a building should be preserved and maintained.

- Original metal features should be properly cared for and not covered, removed or obscured.

Original materials demonstrate a record of labor and craftsmanship of an earlier time that is lost when it is replaced.

3.17 Metal elements should be cleaned with the gentlest means possible and kept free of corrosion.

- Soft metals such as bronze, lead, tin, and copper should be cleaned with appropriate chemical methods because their finish can easily be damaged with abrasive methods.
- Use the gentlest cleaning methods for cast iron, wrought iron and steel to remove paint buildup and corrosion.
- If hand-scraping and wire brushing have proven ineffective, low pressure dry grit blasting (less than 100 pounds per square inch) may be appropriate as long as it does not damage the surface.

3.18 Metal features should be repaired by patching, splicing, or otherwise reinforcing the metal using recommended preservation methods.

- For extensively deteriorated or missing parts, repair may also include limited replacement in kind or with a compatible substitute material.
- Substitute material should be physically compatible with the original metal and have no possibility of a galvanic reaction.

3.19 Missing elements should be replicated with new metal to match the original as closely as possible in texture, profile, and appearance.

- There may be sufficient documentation for an accurate reconstruction of the original.
- In some situations, substitute materials such as aluminum, wood, plastics, and fiberglass, painted to match the metal, can be used.



Decorative metal detailing is a significant characteristic of the street facade.



Cast iron columns embellish the window frame on the Brooks Arcade at 268 S. State Street.



Porcelain panels on the Felt-Buchorn Building at 445 E. South Temple Street.



This stone veneer corner bay is at 633 E. South Temple Street.



Marble paneled veneer on the main facade at 641-645 E. South Temple Street.

Tinted Glass, Marble & Stone Veneers, Concrete Panels, Porcelain & Aluminum

Beginning in the mid-20th century, a new generation of stores, office buildings and medical complexes became incorporated into Salt Lake City's commercial and sometimes residential districts. These buildings introduced a number of new cladding materials for building facades, including tinted glass, aluminum and stainless steel for window surrounds, porcelain panels, concrete panels and glass curtain walls. Some of these materials are no longer manufactured, and pose a challenge to match, repair or replace.

3.20 Historic materials from the mid-20th century should be preserved and maintained.

3.21 If exact replacement materials cannot be obtained, use materials that replicate the original as closely as possible in appearance, color and texture.

- There is a growing industry in salvaging and selling materials from this time period. If they are not available locally, seek materials from companies on the internet.

Paint

Historic buildings clad with wood siding were typically painted to provide a weather protective coating. Some stucco and concrete buildings may also have been painted. Property owners are encouraged to use historic color schemes when performing regular painting maintenance of wood surfaces, which visually unifies the elements of a historic building.

3.22 A building's original historic painted or unpainted appearance should be maintained.

- The painted surface of historically painted buildings or features should be maintained.
- Masonry buildings that have never been painted should not be painted.
- Consider removing paint from previously painted masonry surfaces that were not painted historically.

3.23 Use non-abrasive methods to remove paint and protect historic materials during removal.

- To remove paint, non-abrasive methods such as chemical cleaning, hand-scraping, or hand-sanding should be used.
- Remove damaged or deteriorated paint to the next sound layer.
- Abrasive or high-pressure removal methods can be destructive and should be avoided.
- If continuous patterns of deep cracks and/or extensive blistering and peeling occur, remove the old paint completely before repainting.
- Apply a protective paint coating following proper surface preparation.
- Use special methods for removal of older paint layers that may contain lead.

Safety concerns relating to handling lead-based paint should be borne in mind when working with paintwork dating from before 1978. There are a series of recommendations and/or requirements for lead-safe working which should be reviewed prior to any work. Lead-based paint should not be considered a reason to remove and replace historic, character-defining materials or features, including windows, doors details and trim. There are remedial techniques which can be used to either safely remove or encapsulate any lead-based paint. See the accompanying links for further information.

www.preservationnation.org/issues/lead-paint/
www.nps.gov/history/hps/tps/briefs/brief37.pdf



Color contributes to the character of the building at 128 S. Main Street.

3.24 Maintaining or re-establishing the historic color scheme is appropriate.

- Sample paint history in a discrete location, using a simple means of sanding through each layer revealing the color of different paint layers over time.
- Professional paint analysis and color matching is also an option.
- If the color scheme is not known, use historic paint schemes as a basis for decision on a new color scheme.
- Use a comprehensive color scheme for a building's entire exterior, so that upper and lower floors and subordinate masses are seen as components of a single building.

Additional Information

Masonry & Ceramics

De Teel Patterson Tiller. *Preservation Briefs 7: The Preservation of Historic Glazed Architectural Terra-Cotta*. Washington, DC: Technical Preservation Services Division, National Park Service, US Department of the Interior. 1979
www.nps.gov/history/hps/tps/briefs/brief07.htm