Required Approvals

There are different levels of review for buildings constructed before 1932 (Early buildings) and after 1931 (Later buildings). These levels are applicable in most cases. Please note that during the administrative review process, Staff may determine that a project requires Board review. Contact Staff at 703.746.3833 to confirm which level of review is required for your project

Early Buildings (pre-1932)

NO REVIEW	ADMINISTRATIVE (STAFF) REVIEW	BOARD REVIEW
Installation of storm windows	Replacement of non-historic windows	Changing window size, location, operation, or light configuration
Replacement of windows that are entirely below grade	Installation or replacement of shutters	Removing or enclosing windows
Removal of shutters	Installation of security bars on non-street facing sides	Installation of security bars on street-facing sides

Later Buildings (post-1931)

NO REVIEW	ADMINISTRATIVE (STAFF) REVIEW	BOARD REVIEW
Installation of storm windows	Replacement of windows less than 15 feet from property line on street-facing sides	Changing window size, location, operation, or light configuration
Replacement of windows 15 feet or more from property line on street-facing sides	Installation of security bars on non-street facing sides	Removing or enclosing windows
Replacement of windows on non-street facing sides		Installation of security bars on street-facing sides
Replacement of windows that are entirely below grade		
Installation, replacement, or removal of shutters		

Introduction

Windows are a principal character-defining feature of a building and serve both functional and aesthetic purposes. The size, location, type, material, and trim of windows are a defining element of a building's style and changes to them can have a dramatic impact on the historic appearance of a structure.

In general, the windows on Federal and Georgian period buildings in Alexandria were small, with multiple small sized panes of glass and thin muntins. Cylinder glass was used from 1840 to the early 1900s. Molten glass was blown into a cylinder, halved, and then reheated to create larger, uniform sheets of glass. It typically has small imperfections from blowing bubbles or reams (fold marks or a wave in the glass). By the middle of the 19th Century, technology permitted the manufacture of large size panes of glass with wider muntins. This enabled windows on Victorian structures to have large expanses of glass, some without muntins. Victorian period buildings dating from the mid-19th to early 20th Centuries typically have windows in a two-over-two or one-over-one configuration. Bay windows began to be used starting in the mid-19th Century and can be seen on Victorian and Colonial Revival buildings. Colonial Revival buildings generally have multi-light windows with small panes of glass, often with a single light below.

The mid- to late 20th Century saw an increase in the use of commercially available non-wood window materials. Wood composite windows became available in the 1960s; they use a material that is made of polymers and wood fibers. Aluminum-clad windows became available in the 1970s; they combine a wood interior with an aluminum exterior. Fiberglass windows became available in the 1980s; they use a composite material that is made of polymers and extruded glass fibers.

The repair or replacement of windows that are visible from a public right-of-way generally requires BAR approval. There are different regulations for buildings constructed before 1932 (Early buildings) and after 1931 (Later buildings). Window manufacturer technical specification sheets, or "cut sheets", must be submitted to BAR Staff to confirm compliance with these guidelines. If Staff is unable to verify that a window complies with the guidelines, the Board will review the request. Where Staff makes a written finding that a window is not visible from a public right-of-way, the window is not regulated by the BAR and may be replaced with any suitable window allowed by the Virginia Unified Statewide Building Code (USBC).

WINDOWS + SHUTTERS

Shutters are an important visual detail of the overall composition of a building and serve both functional and decorative purposes. Historically, shutters were an important means of regulating temperature and ventilation and protecting the interior of a structure during severe weather. Shutters serve as a means of clearly defining the openings in a building facade. Inappropriate shutters detract from the design integrity of a building and create a false impression of the architectural character of a structure.

Window Guidelines

All Buildings

- Historic window frames, sashes, and glass, if reasonably repairable as determined in the field by Staff, should be retained rather than replaced. This includes windows with either wood-pegged mortise and tenon sash joinery or with cylinder ("wavy") glass. If historic windows are too deteriorated to repair, as determined by Staff in the field and confirmed in writing, they may be replaced according to the specifications in these guidelines.
- Character-defining features of windows should not be altered.
- Replacement window materials, operation, and configuration should be appropriate to the architectural style of the building.
- Replacement windows should fit the original window opening; full frame replacement or unframed sash replacement kits are acceptable.
- Low-E (low emissivity) glass is encouraged for energy conservation, but the glass must have a minimum 72% visible light transmission (VLT) with a shading coefficient between 0.87 – 1.0 and a reflectance of less than 10%. Low-E 272 glass meets these requirements.
- The exterior of sash muntins must have a putty-glazed profile; the interior of sash muntins may have any profile.
- Multi-light windows may have permanently fixed muntins on both the interior and exterior of the glass, with spacer bars between the glass. These are typically referred to as Simulated Divided Light (SDL) windows.
- Multi-light windows may also have multiple pieces of glass separated by muntin bars. These are typically referred to as True Divided Light (TDL) windows.
- Sandwich muntins, otherwise known as Grilles-Between-Glass (GBG), are not appropriate.
- Vinyl windows and insert windows (pocket-style replacements) are not appropriate.
- The Board discourages cladding or capsulating existing wood jambs, sills, or trim.

WINDOWS + SHUTTERS

Early Buildings (pre-1932)

- When restoring the appearance of historic cylinder glass in original window sash, only restoration glass with the minimum amount of visible distortion should be used. Restoration glass should not be used on new windows.
- The exterior architectural style, dimensions, and proportions of window rails, stiles, muntins, frame, sill, and exterior trim must match historically appropriate window apperance. Exterior trim may not be mitered at the corners.
- On street facing sides, windows should be made of wood. Multi-light windows should be single glazed; double glazing may be used for windows that are in a one-over-one or two-over-two configuration.
- On non-street facing sides, windows may be made of modern materials such as wood composite, aluminum clad wood, or fiberglass, but not hollow vinyl or vinyl cladding. Double glazing may be used for any configuration.

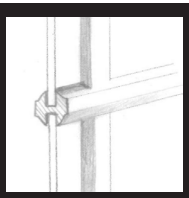
Later Buildings (post-1931)

- On street facing sides, windows less than 15 feet from the property line may use modern materials such as wood composite, aluminum clad wood, and fiberglass, but not hollow vinyl or vinyl cladding. Windows 15 feet or more from the property line may be any material, operation or configuration.
- On non-street facing sides, windows may be any material, operation or configuration.
- Double glazing may be used on any elevation.
- Single horizonal metal muntin and metal casement windows may be appropriate for buildings dating from the late 1940s or early 1950s.
- Fiberglass windows may generally replace steel sash windows on any building when using the same light configuration, color, and operation, except where Staff believes an architecturally significant building has existing intact and restorable steel sash.

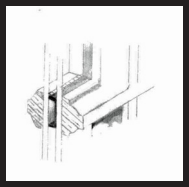
Shutter Guidelines

- Historic shutter hardware should be retained rather than removed or replaced.
- Shutters should be operable and appropriately sized to fit the window opening when closed.
- Shutters may be made of wood or a solid, paintable composite material, but not vinyl or aluminum.

WINDOWS + SHUTTERS

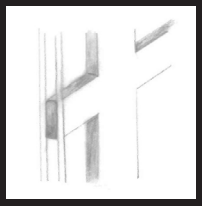


True Divided Light (TDL) muntins



Simulated Divided Light (SDL) muntins

The replacement window shown above fits the opening size, has permanently adhered interior and exterior muntins, clear and non-reflective glass, and is an appropriate style for this mid-19th century rowhouse.



Interior between - the-glass or sandwich muntins

Sandwich muntins, such as the example shown above, are not appropriate in the historic district.

^ BEFORE

^ AFTER

The windows on the right are an example of an inappropriate replacement of original metal casement windows, such as those shown on the left. The replacement windows are inappropriate because they are vinyl with sandwich muntins and are a different operation and style than the original. Property owners should be aware that suitable replacement options exist for metal casement windows using modern materials that match the historic muntin configuration and style.

WINDOWS + SHUTTERS

The shutters on the left are correctly sized to the opening and operable, with appropriate hardware. The shutters on the right are too tall for the opening, the wrong shape, and are bolted to the wall.

Additional Information

- For guidelines on dormer windows, refer to chapter on dormers.
- A building permit is required from Code Administration for all window replacements in the historic district, except for sash kits, pursuant to § 15.2-2306 of the Code of Virginia.
- The replacement of more than 25 square feet of windows may require Staff or Board approval but generally does not require a Permit to Demolish. However, the capsulation or removal of over 25 square feet of wall area does require a Permit to Demolish.
- Bay windows are permitted to project 20 inches or less into a required yard; refer to § 7-202 of the Zoning Ordinance.
- Windows that project into the public right-of-way may require an encroachment permit from Transportation & Environmental Services.
- Windows that are used to satisfy emergency egress requirements must meet the requirements of the Virginia Uniform Statewide Building Code (USBC).
- Sash replacement kits help preserve historic frames and trim.
- Regular painting and weather stripping of windows helps ensure longevity and promote sustainability.

Storm Windows

Storm windows provide a cost-effective and thermally efficient means of energy conservation. They reduce exterior noise and reduce maintenance of historic windows. They can be installed on the exterior or interior. Because they protect historic windows, they are not regulated by the BAR and do not require review, as long as the glass is clear and non-reflective.

Installation of an exterior storm window.

Additional Resources

National Park Service Preservation Brief #9: The Repair of Historic Wooden Windows

National Park Service Preservation Brief #13: The Repair and Thermal Upgrading of Historic Steel Windows

Window Types and Technologies (U.S. Department of Energy)

Window Glossary (Window & Door Manufacturers Association)

Saving Windows, Saving Money: Evaluating the Energy Performance of Window Retrofit and Replacement (National Trust for Historic Preservation Green Lab)

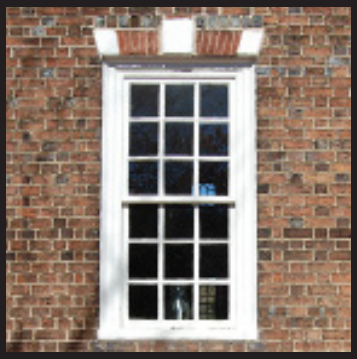
A Comparative Study of the Cumulative Energy Use of Historical Versus Contemporary Windows

Window Repair & Retrofit: Studies + Research (California State Parks)

WINDOWS + SHUTTERS

WINDOW CONFIGURATIONS FOUND THROUGHOUT THE DISTRICT

^ 12/12 GEORGIAN



^ 9/9 GEORGIAN

^ 6/6 FEDERAL / GREEK REVIVIAL

^ 6/9 GREEK REVIVIAL

^ 4/4 LATE GREEK / EARLY VICTORIAN

^ 2/2 VICTORIAN

^ 1/1 VICTORIAN

^ GOTHIC REVIVAL

^ COLONIAL REVIVAL / CRAFTSMAN