

## STORM WINDOWS

Storm windows are generally desired for their ability to improve a building's thermal efficiency. Historically, storm windows were removable wood and glass panels interchanged seasonally with wood and screen panels. Original storm windows such as these are rare. Storm windows today are available in a variety of types, some with screen inserts. Your choice should reflect a respect for your building's windows.

The HARB encourages:

- matching the size and shape of the existing window opening.
- aligning divisions of the storm window with those of the window (as in the rails of a double-hung window).
- the use of wood frame storm windows. These can be custom made to fit any size or shape window opening. They also retain heat more efficiently than aluminum. Triple-track aluminum storm windows can be an appropriate choice if the frame is factory color-coat matched to the window trim, and the remaining recommendations are followed.
- painting the storm window frame to match the window trim.
- carefully installing storm windows to avoid damage to windows.
- using removable panels to allow window maintenance.
- using clear glass panels.
- choosing interior storm windows when possible, to allow passersby to see all window details. This is particularly desirable with multi-pane sash.

The HARB discourages:

- using pre-manufactured storm window units that do not fit into the existing window openings.
- choosing bare aluminum finishes.
- using fixed sash storm windows that prohibit regular window maintenance.

## SHUTTERS

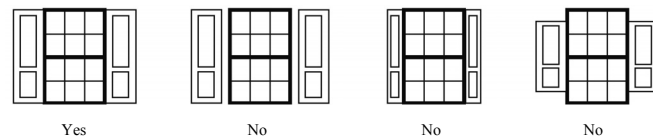
Historically, operational shutters shielded windows and building interiors. Protective ground floor window shutters were typically paneled. Upper story window shutters were generally louvered to allow regulation of light and air. These were functional elements of a building.

The HARB encourages:

- retaining existing historic shutters and shutter hardware in operable condition.
- replacing shutters when physical or photographic evidence exists that the building historically had shutters.
- sizing replacement shutters so that each measures no more or less than the window height, and one-half of the window width. When closed the shutters should cover the window opening.
- installing wood shutters on hinges.

The HARB discourages:

- installing shutters where they did not exist historically. Shutters are not appropriate to all building styles.
- using inappropriately sized shutters.
- mounting shutters directly onto a historic wall.
- choosing vinyl or aluminum shutters.



### TIPS FOR ADDITIONS

Windows installed in additions should compliment those windows located in the historic core of a building. Window openings on a street-facing addition wall should follow the rhythm created by the façade of the historic structure and its neighbors. Window openings on a street-facing addition wall should be sensitive to the proportions of a building and its neighbors.

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Prepared by Laura S. Black, Architectural Historian, of Cultural Heritage Research Services, Inc. (CHRS, Inc).

# DESIGN GUIDELINES FOR WINDOWS

## HARB HISTORICAL ARCHITECTURAL REVIEW BOARD North Wales Borough, Pennsylvania

### KEEP THESE PRINCIPLES IN MIND

You want your building to be structurally sound and attractive. As a property owner in the North Wales Borough Historic Preservation District you also want to maintain the historical and architectural heritage of your property and your community. You can succeed at both by using the least intrusive method when developing your improvement plans.

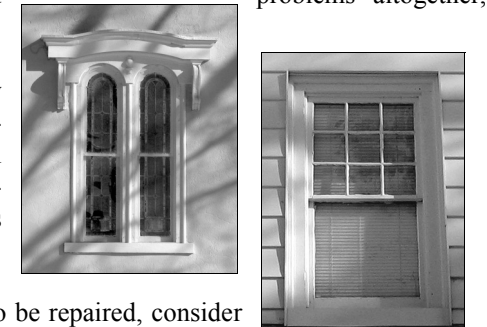
**MAINTENANCE FIRST** • Frequently the easiest, least expensive, and often overlooked way to protect and preserve your building is a regular maintenance plan. Identify and correct potential problems before they become extensive and expensive. Be on the look out for loose or deteriorating building components, signs of water leakage or moisture penetration, and loss of existing protective coatings (such as paint on wood). Spotting these issues early can avoid problems altogether, or keep them to a minimum.

**STABILIZATION AND REPAIR** • If you review the condition of your property regularly, you will be able to correct potential problems early through stabilization or repair work. Stabilization and repairs do not change the building's design and involve minimal work to existing materials. Become informed regarding appropriate repair methods and materials so as not to create new long-term problems in exchange for short-term solutions.

**REPLACEMENT** • When building components are determined too deteriorated to be repaired, consider replacing them using in-kind materials. Replacing a portion of a building element or detail with in-kind materials will retain the original appearance of your building. When replacement in-kind is determined unfeasible due to unavailability of materials or cost issues, use materials that are similar to the original, being sensitive to the original design and workmanship of your building.

**ALTERATION** • Alterations change the historic design of your building and can impact its historic district setting. If you determine that alterations to your building are necessary due to a change in the building's use or living needs, again consider those that are the least intrusive. These include projects that are reversible, compatible with existing design elements and materials, and located on sides of the building not seen from public streets and sidewalks. Additionally, avoid alterations to your building that may not be historically accurate. Such alterations are not desirable as they often present a "false" history. Similar considerations should be given when embarking on a renovation project, using original design elements wherever possible for guidance.

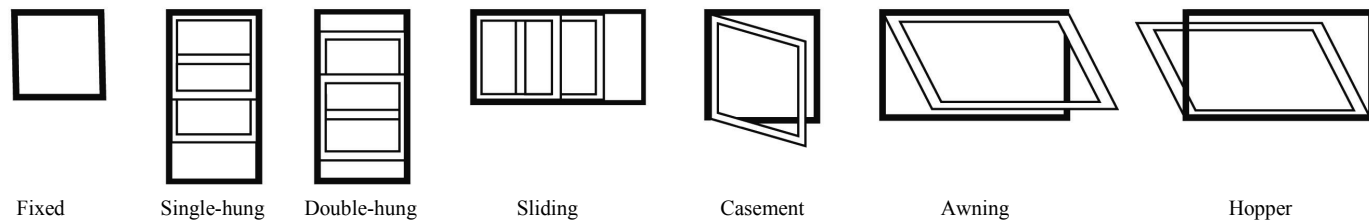
**ADDITION** • Additions have the potential to impact a historic building and its historic district setting most significantly. Consider all other options carefully prior to planning an addition, such as reconfiguring the building's interior spaces. If an addition is determined necessary, strive to create a design that is least intrusive to the historic building and the historic district. Projects that are reversible and located on sides of the building not seen from public streets and sidewalks are recommended, as are additions that retain the historic building's form, profile, and design elements and materials. New additions should compliment the historic building. It is not necessary to match the original building. Additions that compliment, but not match, allow the original elements to be recognized and appreciated.



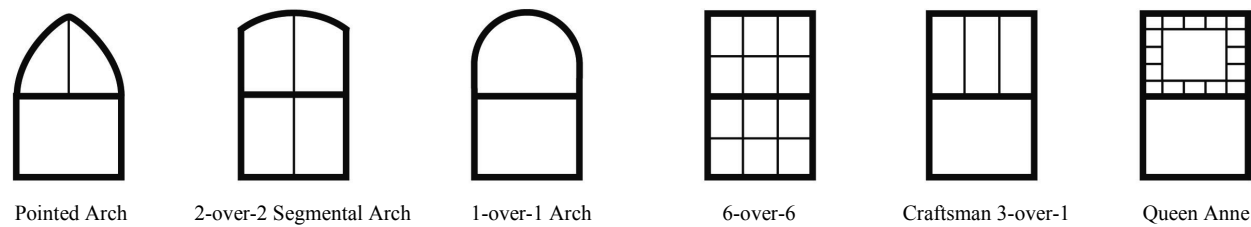
**WINDOWS** provide your building with more than light and fresh air. They are one of the most significant elements contributing to its style and character. They also provide the building and streetscape with a distinctive rhythm that contributes to the character of the historic district.

### IDENTIFY YOUR EXISTING WINDOWS

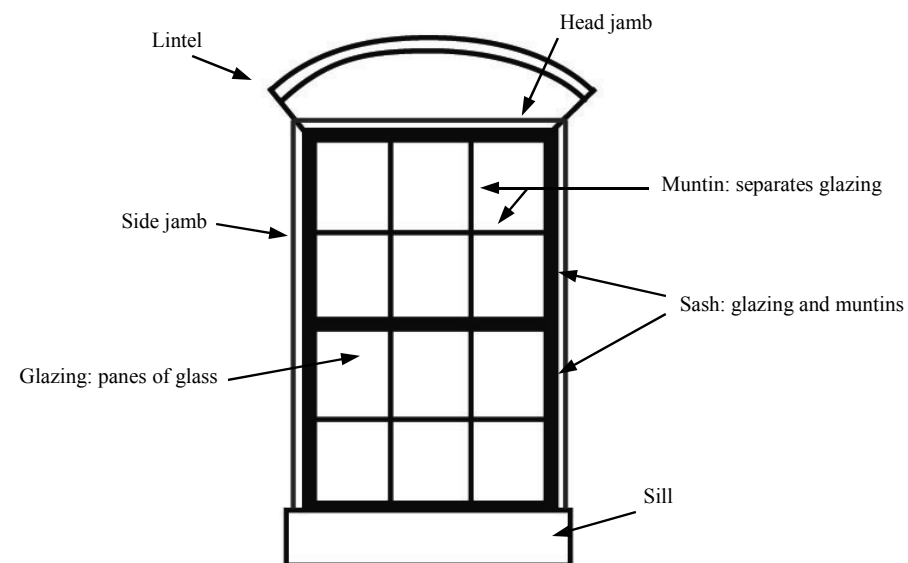
Common window types are generally identified by how they open and close:



Window configurations generally refer to window shape and muntin patterns. Windows can feature a variety of shapes such as pointed (lancet), curved top (segmental), and round top (arched). In historically accurate windows, muntins divide a window sash into multiple individual panes of glass. The number of panes gives a window its name: two-over-two, six-over-six, six-over-one etc. Some windows are associated with a particular architectural style such as Queen Anne (a sash with a combination of large and small panes over a single-pane sash), and Craftsman (multiple-pane sash over a single-pane sash).



Windows are comprised of numerous components. Use this drawing to identify the components referred to in this bulletin.



### MAINTENANCE AND REPAIR OF DETERIORATED WINDOW COMPONENTS

The HARB encourages:

- on-going review and regular maintenance of existing window components, as well as maintenance of caulking, glazing putty, weather-stripping, and paint.
- immediate repair of deteriorating window components. Glazing and sash cords can be replaced individually. Wood in the early stages of deterioration can be treated for insect or fungus infestation. Wood can also be patched with putty or repaired with small sections of similar materials if a mortise needs to be created.

The HARB discourages:

- replacement of a deteriorated window component *unless* the majority of the component is deteriorated.
- complete replacement of a window unit *unless* the majority of the window's components are deteriorated or missing.

### REPLACEMENT WINDOWS

If the replacement of window units are deemed necessary, choices can be made that would alleviate the loss of the historic windows. The shape, size, and configuration of windows are critical features of their design, and retaining character-defining elements is crucial.

The HARB encourages:

- choosing wood replacement windows. These are offered in a range of qualities, designs, and costs from various manufacturers. Lumberyards often offer a wide selection of high quality choices. These can also be custom-made to best fit the original window opening and match the original window design. Vinyl windows are recommended over aluminum windows if wood isn't a viable choice.
- matching the original size, shape, type, and design features as the original window.
- matching original muntin patterns with genuine muntins set between multiple panes of single-glazed glass (one layer), or matching original muntin patterns with a muntin grid permanently mounted on the *exterior* of a single pane of glass to simulate a divided sash.

The HARB discourages:

- choosing aluminum or vinyl replacement windows. In addition to visually changing a historic building element, replacement windows of these materials often have unexpected long-term maintenance and subsequent replacement costs due to shorter life spans than historic or quality replacement wood windows.
- the use of interior "snap-in" muntins.
- installing larger windows than the original window opening, or smaller windows than the original window opening.
- changing the type of window.
- altering window openings to fit different types and shapes of windows, such as a picture or bay window in place of a double-hung window.
- installing new window openings.
- infilling existing window openings.

### RHYTHM AND PROPORTION

Rhythm is created by the arrangement of solid and open spaces across a building's façade and those of its neighbors. When the rhythm of a façade or streetscape is disrupted due to inappropriate opening or closing of, or changes in window openings the architectural and historical character of the building and the historic district is affected.

Proportion is the relationship between the dimensions of a building's height and width, and of a building's elements (including windows) to the building as a whole. Altering the size of window openings affects proportion.

