



windows

DESIGN GUIDANCE
FOR THE REPAIR AND REPLACEMENT OF WINDOWS
IN LISTED BUILDINGS AND PROPERTIES IN CONSERVATION AREAS

JULY 2012



Kingsborough Gardens

1 Introduction

The design and form of historic windows make a substantial contribution to the character and architectural integrity of most historic buildings and to the character and appearance of conservation areas. Recently completed Conservation Area Appraisals have identified loss of architectural details, including historic windows, and use of inappropriate materials in replacement windows, as contributing factors in the erosion of the special character of many conservation areas. For this reason, and in the interests of conservation best practice, **the Council encourages the retention and repair of historic windows wherever possible.**

Features that contribute to the character of windows include style, proportions, pattern of glazing, historic and decorative glazing, dimensions of frames and astragals/glazing bars, materials, and method of opening. In Glasgow the predominant type of window used in listed buildings and conservation areas are timber framed sash and case windows, most of which date from the late Victorian and Edwardian periods. These traditional windows are extremely durable, having been in place for a century or more, and can be readily repaired and refurbished to provide improved standards of comfort.

Definitions of terms used are included in **Appendix .**

2 Policy context

This design guidance should be read in conjunction with policy **DES 3: Protecting and Enhancing the City's Historic Environment** of the **City Plan** and supplements the guidance given in **Design Guide DG DES 3**. City Plan policy aims to preserve and enhance the character and appearance of the City's conservation areas and to protect the special architectural and historic interest of the City's listed buildings.

<http://www.glasgow.gov.uk/en/Business/CityPlan/>



*Top left and right: Stained and leaded glass
Bottom left: Villa, West Pollokshields*

3 The need for planning permission and/or listed building consent

Repairs to historic windows using the original materials to match the historic design do not require either Planning Permission or Listed Building Consent.

The installation of double glazing in historic or replica window frames of windows in listed buildings requires listed building consent.

The installation of double glazing in historic or replica window frames of windows in unlisted buildings in a conservation area requires planning permission only where there is a material change (*see below) to the appearance of the window.

The installation of secondary glazing in listed buildings will require listed building consent.

The replacement of a historic window in a listed building will require Listed Building Consent. Replacement will generally only be supported where it can be demonstrated that the historic windows have deteriorated beyond practical repair. Planning permission would also be required where there is a material change (*see below) to the appearance of the window.

The replacement of a historic window on an unlisted building within a conservation area requires planning permission only where there is a material change (*see below) to the appearance of the window. The replacement window may incorporate sealed double glazing units.

Reinstatement of the original window design in a listed building will require both Listed Building Consent and Planning Permission; for un-listed property in conservation areas Planning Permission will be required.

The removal of historic decorative and stained glass in a listed building will require both Listed Building Consent and Planning Permission; for un-listed property in conservation areas Planning Permission will be required.

A material change is where there is an alteration to the design, material, size, method of opening, or proportions of the window including an increase in the size/thickness of the frames and removal of glazing bars [astragals] or horns. It also covers removal of historic glass, replacement of clear glazing with obscure glazing, and introduction of ventilation/louvres in the glazing.

Certificate of Lawfulness. An application can be made to the Council for a Certificate of Lawfulness where written confirmation is required that proposals do not constitute a 'material change' to the appearance of the window and that Planning Permission is not required.



Stained glass pane

4 Repair and refurbishment of historic windows

The Council encourages the retention and repair of historic windows wherever possible as this is established conservation best practice. There are many companies that provide a window refurbishment service that includes installation of discrete draught proofing systems to sash and case windows that will eradicate rattling windows, virtually eliminate draughts, minimise dust and dirt ingress, substantially reduce external noise, increase energy efficiency by reducing heat loss, and be much cheaper than removal and replacement of windows.

Many buildings have shutters concealed in recesses on either side of the window and bringing these back into use, in conjunction with heavy curtains, can significantly improve thermal insulation levels and help save on fuel bills.

Double glazing would be acceptable where it can be demonstrated that the sealed double glazing unit can be fitted into the historic window frames without prejudicing their appearance and where there would be no loss of historic glass.

Secondary glazing may be an alternative where double glazing is not appropriate. This involves the provision of an independent internal window in addition to the historic or replacement window. If used, the meeting rails and frames of secondary windows should be as small in section as possible to allow them to be disguised behind existing rails. The installation of secondary glazing should avoid damage to historic window shutters, mouldings or other features.



*Top left and right: Historic windows before and after repair (courtesy of Glasgow City Heritage Trust)
Bottom: West Pollokshields*



Historic windows

5 Replacement of historic windows

Listed Buildings

Replacement will generally only be supported where it can be demonstrated that the historic windows have deteriorated beyond practical repair and the proposed windows would replicate the historic design exactly in terms of materials, proportions, profiles and dimensions of frames and glazing bars/ astragals and method of opening. This would include details such as mouldings and horns. The replacement windows should re-use historic glass including stained, leaded or etched glass, where this contributes to a building's character. Historic ironmongery should be salvaged, refurbished and re-used wherever possible.

uPVC is not considered a suitable window frame material for listed buildings.

Replacement windows should not be considered where the historic windows contribute positively to the character and appearance of the building or where it would result in the loss of historic glass.

Double glazing may be considered acceptable where it can be demonstrated that the sealed double glazing unit can be fitted into the replica window frames without prejudicing their appearance and where there would be no loss of historic glass.

Secondary glazing may be an alternative where double glazing is not appropriate.

Un-listed Buildings within Conservation Areas

Any proposed windows, visible from a public area, such as a road, a park, allotments or playing fields, must match the historic design exactly in terms of materials, proportions, profiles and dimensions of frames and astragals and method of opening. This would include details such as glazing bars and horns. The replacement windows should re-use historic glass including stained, leaded or etched glass, where this contributes to a building's character. Historic ironmongery should be salvaged, refurbished and re-used wherever possible.

Proposed windows on rear or side elevations, not visible from a public area, must match the historic proportions, but may have a different material and/or method of opening. The new windows should reflect the profiles and dimensions of the historic windows and avoid heavy frames.

uPVC is not considered a suitable window frame material for the public elevations (as defined above) of un-listed properties in conservation areas.

Replacement should not be considered where the historic windows contribute positively to the character and appearance of the building or where it would result in the loss of historic glass.

Double Glazing

New windows fitted with sealed double glazed units are acceptable in unlisted buildings within Conservation Areas where the proposed windows meet the design conditions for replacement windows outlined above. Double glazing would not be acceptable, where it resulted in the loss of historic glass and in these instances secondary glazing may be appropriate.



Top left: 'Slimline' double glazing in historic frame and retention of original ironmongery

Top right: Bullseye glass (courtesy of Glasgow City Heritage Trust)

Bottom left: Stained glass

Bottom right: Standard double glazing unit in replica frame



Top: Detrimental impact of non-conforming windows in Hyndland
Bottom left: Non-conforming windows, East Pollokshields
Bottom right: Historic Windows, East Pollokshields

6 Reinstatement of the historic window design

Some windows may have been replaced in the past with windows of an inappropriate design or materials and every encouragement will be given to owners to replace these windows with a design that replicates or matches a documented original pattern or is in keeping with the character of the building or conservation area. Such windows should follow the design conditions outlined above and can incorporate sealed double glazing units.

7 Further information

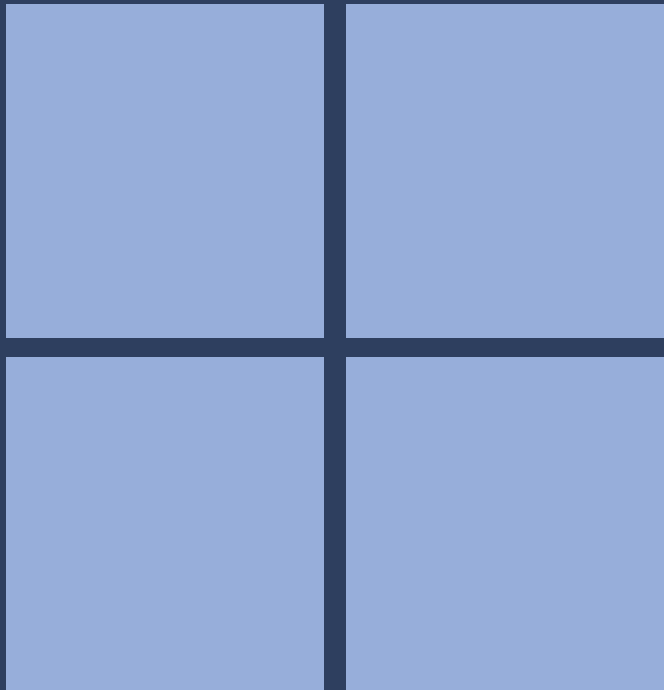
Further advice on the repair of traditional windows can be found in the following Historic Scotland publications, available to download from the Historic Scotland website:

http://www.historic-scotland.gov.uk/index/heritage_technicalconservation/conservationpublications.htm

- Inform Guide – Maintaining Sash and Case Windows
- Sash and Case Windows – A Short Guide for Homeowners
- Energy Efficiency
- Managing Change in the Historic Environment: Windows

Technical papers on ongoing research into the energy performance of windows and different types of double glazing can also be downloaded.

- Tech Paper 1: Thermal Performance of Traditional Windows - Rev.10
- Tech Paper 9: Slim-profile double glazing



windows

APPENDIX 1: GLOSSARY OF TERMS



Astragal or Glazing Bar

An astragal is a glazing bar that divides a window into smaller panes of glass. In timber sash and case windows it is normally moulded and narrower than the main frame.

Certificate of Lawfulness

Certificates of Lawfulness are a way of deciding whether a use or a piece of building work is legal or not. Certificates can be issued by the planning authority for completed developments or proposed developments. A fee is charged for this service.



Historic Glass

This is a broad term that includes a variety of decorative glass including stained, leaded, frosted and etched glass. It also covers glass that is original to the building where this has special characteristics including curved glass.



Historic Window

This term, used by Historic Scotland, includes original windows and subsequent alterations/replacements that contribute to the historic interest of a building as evidence of changing fashions and technology. For example following the significant reduction in window tax in 1845 technological advances led to the manufacture of large panes of glass. As a result, fewer subdivisions, and larger, heavier panes of glass became common. Windows glazed with single panes of plate glass in each sash became popular in many areas, while window designs with a single pane of plate glass in the lower sash and small panes in the upper sash also emerged.

The term also includes newer well-detailed windows that have been based on the historic design.



Horns

Horns are extensions of the lower part of side frames of the top sashes of late Victorian and Edwardian windows that were used to strengthen the lower joints of the top sashes following the introduction of large sheets of glass. Georgian and early Victorian windows did not have horns.

Material Change

A material change is where there is an alteration to the design, material, size, method of opening, or proportions of the window including an increase in the size/thickness of the frames and removal of glazing bars [astragals], horns or mullions. It also covers removal of historic glass, replacement of clear glazing with obscure glazing, and introduction of vents/louvres in the glazing.



Meeting Rail or Transom

This is where the top and bottom sashes meet.



Mullion

A vertical division between the *lights* of a window. This may be in stone or timber. The removal of mullions to increase the glazing area of a window is not appropriate in listed buildings or buildings in conservation areas and would be considered as a material change requiring listed building consent and or planning permission.

Replica Window Frame

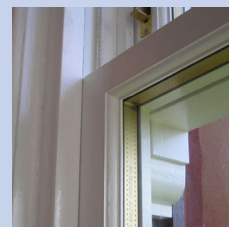
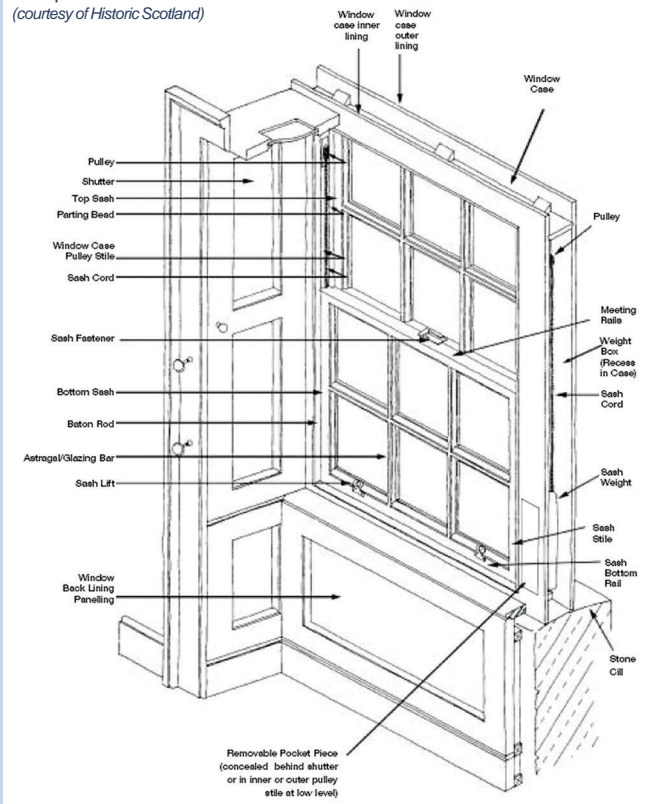
A new window frame that replicates the original design and uses the same material.



Sash and Case Windows

A form of window in which two sashes slide within a frame (the case) and are counterbalanced by weights hung on ropes (sash cords). The upper sash slides over the bottom sash on the outside of the window and this projection of the top sash beyond the bottom sash gives the window its characteristic 3-dimensional effect.

Components of a traditional sash and case window
(courtesy of Historic Scotland)



Sealed Double Glazing Unit

Two sheets of glass held apart by a spacer bar and sealed around the edges to form a sealed unit that can be fitted into the window frame. The cavity is normally filled with air and provides thermal insulation. Thermal insulation can be improved by the use of gas such as Argon gas, within the cavity or by using vacuum insulated glass (VIG).



Some companies are producing 'slimline' double glazing units that have a narrower depth than traditional double glazing units and may be more appropriate for installing in existing window frames of Listed Buildings.



Secondary Glazing

Secondary glazing involves the provision of an independent internal window in addition to the original or replacement window. If used, the meeting rails and frames of secondary windows should be as small in section as possible to allow them to be disguised behind existing rails. The installation of secondary glazing should avoid damage to original window shutters, mouldings or other features.



Ventilation

Vents in the window frame allow for ventilation without the need to open the window. Where vents are required these should be located unobtrusively at the meeting rail of sash and case windows rather than using an external fixture.



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