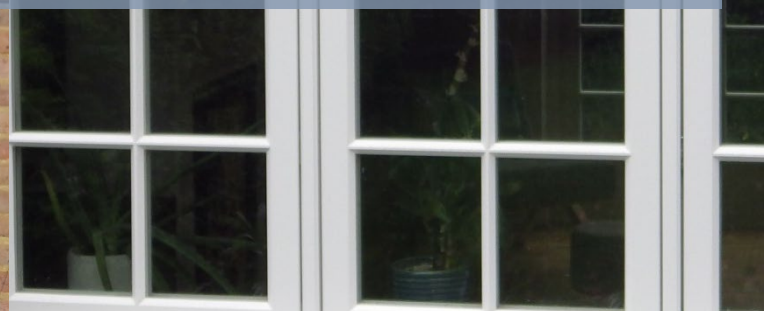




# HAMPSTEAD GARDEN SUBURB TRUST SUPPLEMENTARY GUIDANCE ON TIMBER WINDOWS



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## INTRODUCTION

*No feature in domestic architecture requires more consideration than the window.*

– George Gilbert Scott (1858)

The windows on a house or in a block of flats are integral not only to how it functions, but also to its appearance and character. Much of the joy of Suburb architecture is in its detail and variety, and the Suburb's original architects went to great trouble to design them so that their details and proportions were appropriate to the intended architectural effect. As well as preserving the character of the area, sympathetic window treatment is key to understanding the style and period of a house.

It is important therefore that any alterations to windows are considered carefully and in detail. Windows on the Suburb are generally made from either steel or timber, but come in many varying types and details. The Trust's Architectural Team spends many hours working with architects and contractors to ensure that the original appearance of the windows, and therefore the character of the property, is maintained.

The purpose of this guidance is to provide homeowners and agents with detailed information on the Trust's requirements in relation to repairing, upgrading, or replacing timber windows. It also aims to provide general advice on what to consider when thinking about alterations to a timber window. Guidance on steel windows can be found in a separate document.

It is not possible in the context of a guidance document to give advice on specific windows. Specific advice can be obtained by contacting the Trust's [Architectural Team](#).

## CONSENTS

### **Replacing windows requires a formal application to the Trust.**

To make an application you should submit:

- an application form specifying which windows are to be replaced and the proposed manufacturer
- photograph(s) of the exterior of each existing window to be replaced.
- a window schedule with specifications and construction detail drawings (including elevations and sections) for each window

If required, you should also make arrangements for a sample window to be made up and viewed.

**Repairs and upgrades which alter the external appearance of the property require Trust Consent.** This includes altering the windows to accommodate double glazing. If you plan to alter windows in a way which will change their appearance, you should submit:

- exterior photographs of the existing windows and,
- a detailed method statement of the proposals

All documents can be in digital copy sent to [planning@hgstrust.org](mailto:planning@hgstrust.org) or in physical copy to the Trust's Office at 862 Finchley Road, Hampstead Garden Suburb, London, NW11 6AB.

Any work of maintenance and repair that does not alter the external appearance of the windows does not require Trust consent, although you should inform the Trust of your intention to carry out repairs. There are companies that regularly carry out this type of work in the Suburb, details can be supplied on request.

It is the responsibility of homeowners to ensure that all necessary consents are obtained. Replacing windows requires planning permission from the London Borough of Barnet. If your home is a listed building, you will also need to obtain Listed Building Consent from the London Borough of Barnet. If you live in a block of flats, you may need permission from the block manager or landlord to replace windows.

If you are unsure whether your proposals require Trust Consent, please contact a member of the [Architectural Team](#).

# WINDOWS CHECKLIST

## **Step 1 – Assessing the state of the existing windows**

- Understand what material the window frames are made from
- Understand how changes to the windows might impact on the performance of the rest of the house, including energy performance and ventilation
- Understand whether windows need repairing, upgrading, or replacing
- Think whether independent professional advice is needed

## **Step 2 – Deciding on a course of action**

- If **repairing** or **upgrading** existing windows:
  - Have a detailed specification of all the necessary repairs
  - Have a detailed specification of all upgrades
- If **replacing** windows:
  - Ask the manufacturer to produce a specification, accurate drawings and, if they are not known to the Trust, a sample
  - See if the proposed replacement window matches the original exactly
  - Check that double glazing is no more than 16mm thick
  - Check that the proposed spacers match the colour of the window frame if the windows are double glazed
  - Check that no friction hinges are specified for opening casement windows
  - Check that trickle vents are not specified
  - Ask the Trust for specific pre-application advice. A list of window manufacturers known to the Trust can be obtained

## **Step 3 – Obtaining consents**

- Check with the Trust if the proposals require an application
- Submit application form, drawings, photographs, and specifications to the Trust.
- Apply to the London Borough of Barnet and/or a landlord

## **Step 4 – Post-consent**

- Check the windows match approved drawings and specifications
- Ensure the windows have been installed correctly
- Obtain Final Consent from the Trust

# STRUCTURE OF A WINDOW

## A sash window



Flat arch

A queen closer  
brick

Upper sash

Lower sash

Glazing  
bar

Sash frame  
or box

Cill

Red brick window surround/  
brick dressing

Glazing bar with chamfered beading



Sash horns

Chamfered beading



## A casement window

Sub-frame – timber frame placed directly in contact with the wall. The opening window casements sit within the sub-frame

Top hung opening casement with hinges at the top

Side hung casement – an opening window with hinges at the side



Cill horn

Mullions – vertical pieces of timber forming part of the sub-frame, separating one casement window from another

Cill



## A glazing bar



# CONSIDERATIONS WHEN REPLACING TIMBER WINDOWS

## MANUFACTURER

The important thing to consider when choosing a window manufacturer is whether they can produce replacement windows which exactly match the originals. Many window manufacturers only produce standardised products which will not be a good match.

The Trust keeps a list of timber window manufacturers recommended by Suburb residents and known to have produced acceptable work in the past. This list is available to residents on request. It is not obligatory to choose a manufacturer on the list.

If a window manufacturer is not known to the Trust, they will need to submit a sample window for approval by Trust staff. Please note that some manufacturers claim to have worked in the Suburb before, but are not known to the Trust.

If you are unsure about choosing a window manufacturer, please contact the Trust's [Architectural Team](#).

## DRAWINGS

Detailed drawings are required when making an application to the Trust to replace windows. This is to assess whether the proposed replacement windows match the originals in every detail.

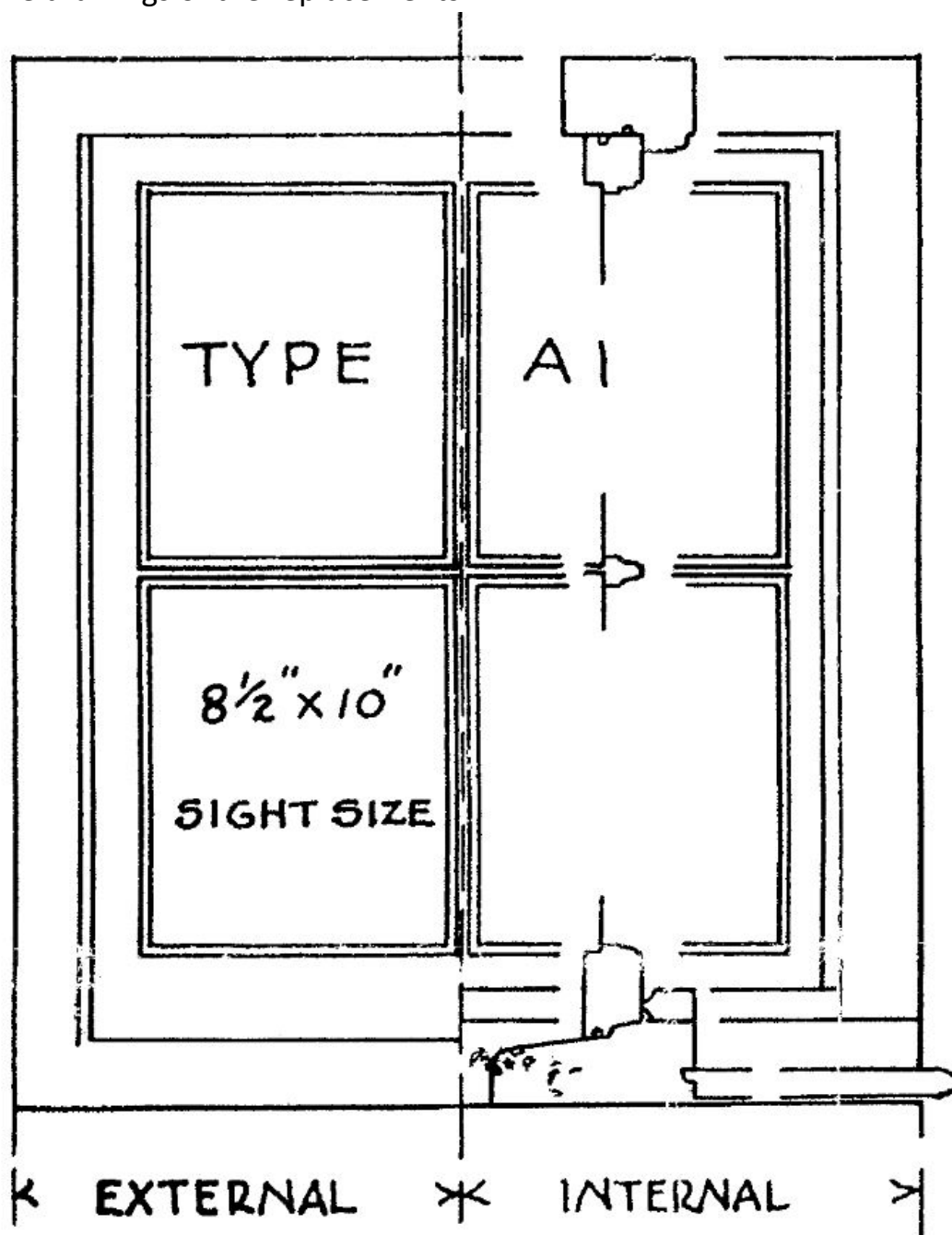
A window manufacturer should produce accurate, measured, detailed construction drawings of the proposed replacement window(s) and, ideally, an equally detailed set of survey drawings of the existing windows.



*Measuring an existing window to ensure its replacement matches it in every dimension*

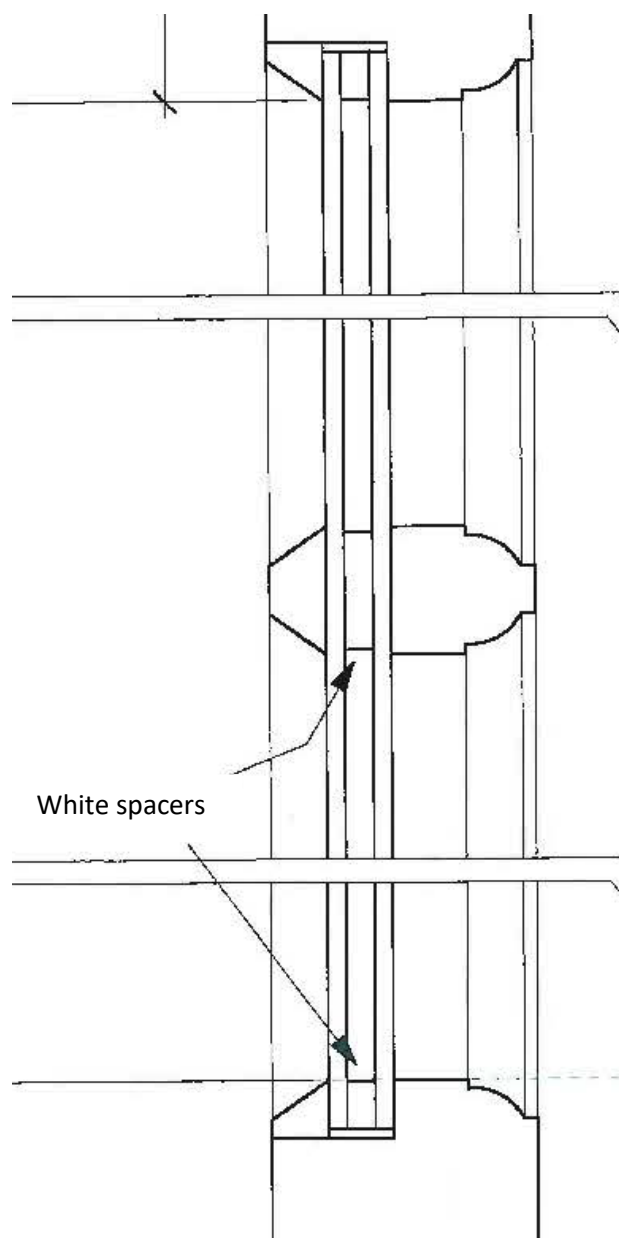
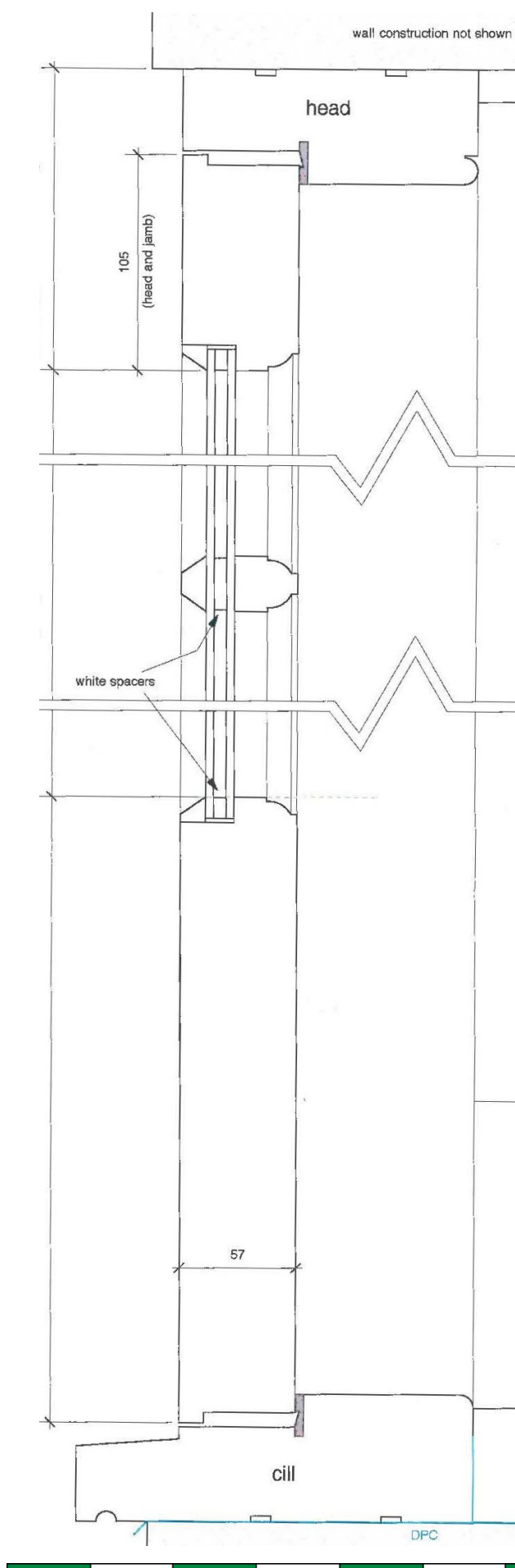
Drawings should be produced showing the window(s) in elevation and in section. The drawings should be to 1:5 or 1:10 scale and must include at 1:1 a glazing bar detail in section. If double glazing is proposed the dimensions of the glazing should be specified.

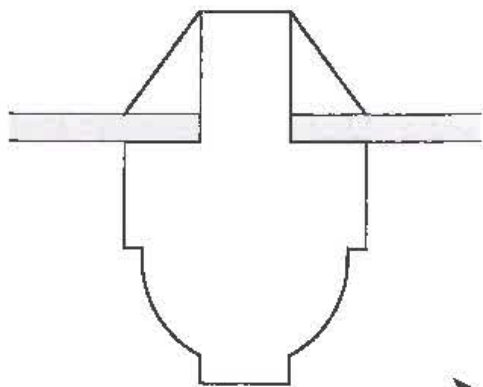
The drawings should replicate the original windows exactly, including the profile of the beading, glazing bars and cill. If there is a set-back between the casement and the sub-frame in the original windows, this should be reflected in the drawings of the replacements.



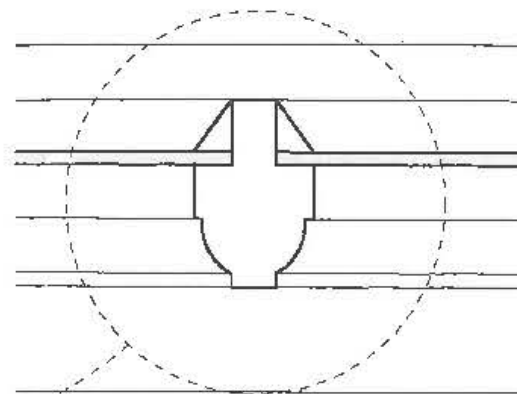
*An original architect's drawing showing a window section and elevation together*



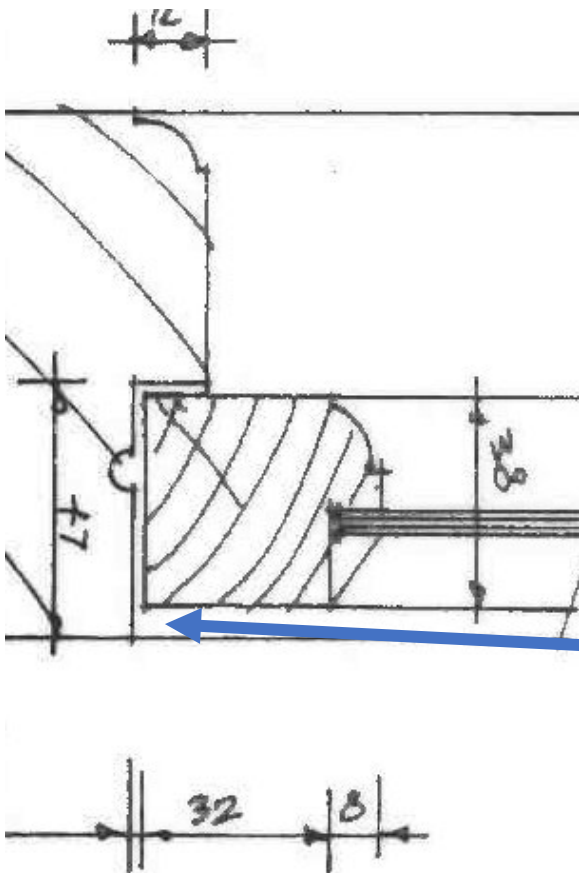




## GLAZING BAR 1:1 DETAIL



Above: A detail drawing showing a true glazing bar with single glazing. The timber glazing bar divides the glass into separate panes. The two triangular-shapes are glazing putty or pieces of timber forming the chamfered beading to replicate putty.



Left: The primary frame holding the glass is set back slightly from the sub-frame. Dimensions are given for each element of the frame

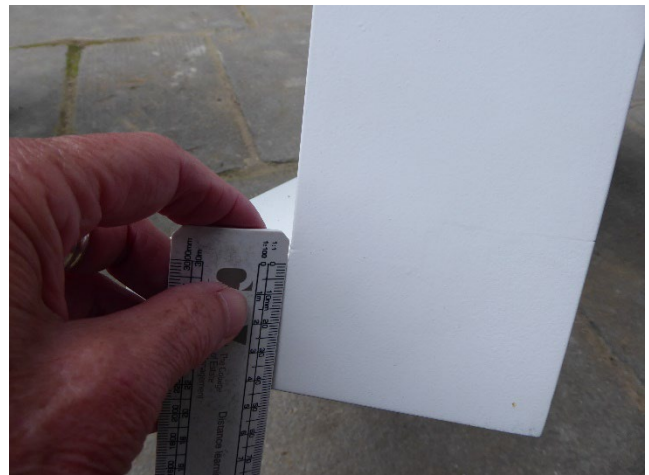
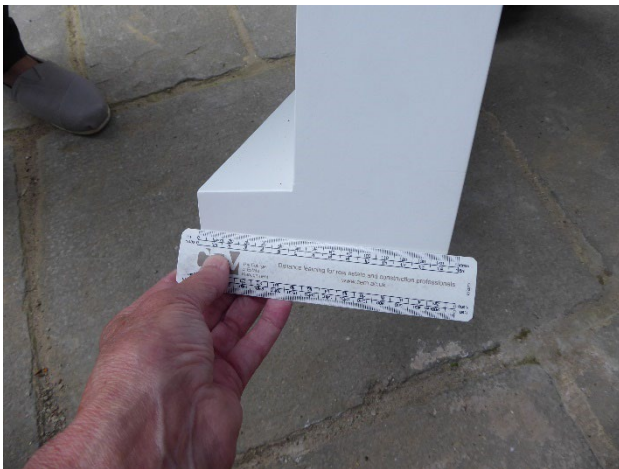
## SAMPLES

A sample window will need to be produced in addition to construction drawings if the manufacturer is not known to the Trust.

When considering a sample replacement window, it should be compared with the original window. Glazing bar profiles, beading, joins or set-back between the casement and sub-frame should be replicated exactly.

*Right: A sample window*

*Below: measuring a sample window to ensure the dimensions match the existing windows*





## GLAZING

One of the main reasons for replacing windows is to have double-glazed units. Double glazing impacts the appearance of a window and has to be carefully considered. The larger the gap between the panes of glass, or the thicker the glass, the greater the impact on appearance will be. For this reason, the Trust will usually allow double glazing up to a maximum overall depth of 16mm (4mm glass – 8mm gap – 4mm glass).

Internal spacers must match the colour of the frame. If applied glazing bars are approved, internal spacers should be used along the length of the glazing bar to maintain the effect of a true glazing bar.



*The spacer bar is white to match the colour of the window frame. This makes the double glazing less noticeable and the replacement window is closer to the appearance of the original.*

## LEADED LIGHTS

A leaded light is a form of glazing where small panes of glass are held by lead cames. On the Suburb led lights might have a timber frame or steel frame. Sometimes a steel frame is set within a timber sub-frame.

When replacing leaded light windows, replacements should be genuine leaded lights formed in the traditional way. The lead cames must match the originals in profile, colour, texture and width.

Leaded lights, due to the way they are formed, cannot be faithfully replicated with double glazing. Double glazed units with applied lead cames have a different appearance to traditional single glazed ones. Consequently, the Trust does not generally accept double-glazed leaded lights on front elevations as this would be detrimental to the character of the house and the area. It may be possible to have double-glazed leaded lights on some side and rear elevations, depending on the product and visibility of the window.

For further advice on leaded lights, please contact the Trust's [Architectural Team](#).



*The image above shows fixed leaded lights set in a timber frame on the left and right. The opening light in the centre has a steel frame and uses the timber as a sub-frame.*



## SIZE AND SHAPE

It is important that the replacement window units are the exact size to fit the window opening. Sometimes the replacement units are too small and leave a gap. They then have to be fitted into the window opening. This is sometimes achieved by packing out the gap with additional pieces of timber, a large mortar joint, mastic or expandable foam which can look unsightly.



*The windows above are not the right size for their openings. As a result, mortar has been used to fit the windows into the openings which looks poor.*



Some windows on the Suburb have horned cills. It is important to ensure that the replacement units also have horned cills to fit in the window opening correctly. It is not generally acceptable to enlarge the brickwork joints or infill the space around the cill horns with mortar in order to accommodate the new cills.



*A window with horned cills (left) and a replacement window without horned cills (right). The replacement window has a different profile and the gap for the horned cill has been awkwardly filled in with pieces of cut brick.*

## MATERIAL

Generally, an existing timber window should be replaced with a timber window. Windows can be made from different types of timber. Hardwood is generally preferable as it tends to be more durable.

In some instances, original windows have been replaced with windows of other materials, such as aluminium or plastic. Often this happened before current Trust controls were in place or without Trust consent. Such windows usually fail to match the form and appearance of the originals and damage the character of the property.

Replacing a non-compliant building element, such as plastic windows, with something appropriate is not considered to be genuine restoration, but simply rectification of previous unsympathetic and most likely unauthorised work. In most cases the Trust would expect uncharacteristic windows to be replaced with timber or steel windows to match the originals.

Replacing a non-compliant window requires an application for Trust Consent.



*A plastic window.*

*This does not match the appearance of the original windows and damages the character of the house*

## THERMAL PERFORMANCE

The thermal performance of a window is an important factor to consider. However, a window does not function in isolation from the rest of the house and replacing windows alone will not necessarily result in an improved room temperature.

It is essential therefore, to take a whole house approach and consider replacing windows in conjunction with other energy efficiency measures, such as insulation.

## VENTILATION AND DRAUGHTPROOFING

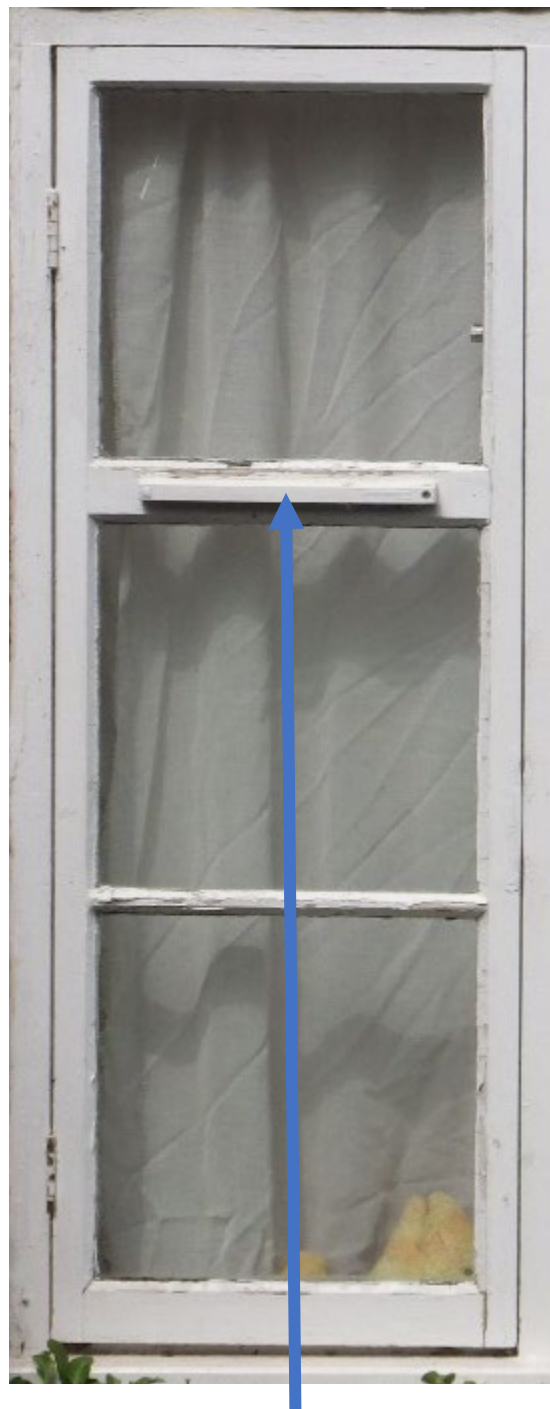
If you are considering replacing windows, it is essential to reflect on how this will impact ventilation and draughtproofing in the building.

Many homes of traditional construction were designed to have natural ventilation, for example opening a window to allow moisture to escape. This is still an effective way of ventilating and less invasive and energy intensive than installing mechanical ventilation.

Traditionally windows on the Suburb were not fitted with visible trickle vents. These are not characteristic and **replacement windows should not be fitted with visible trickle vents.**

Information on draughtproofing can be found in the Trust's [Energy Guidance](#).

The most effective form of draughtproofing windows is to have rebated draughtproofing integrated into the window. You should ask your architect or window manufacturer about this.



*A window casement with a trickle vent*



## HINGES

Most replacement opening casement windows, including opening top lights, should have traditional butt hinges.

**Friction hinges are not typical of traditional windows and must not be used.**



*Above left: A plastic window with a friction hinge, showing how the window 'pops' out of the sub-frame*



*Above right: a butt hinge*

*Below: a friction hinge*



## SECURITY

You should consider how replacement windows will be secured. This might include looking at heavy duty hinges or locking systems for example. Any security measure which impacts the external appearance of the window will require Trust Consent.

More information on security in relation to windows can be found in our [Security Guidance](#) (pp. 3-4).

For further advice, please contact a member of the Trust's [Architectural Team](#).

## COST

Replacing the windows of a property is a major undertaking. It can be a costly exercise for a homeowner and therefore it is worth ensuring that all options for repair and upgrading of the existing units have been considered. It is also worth considering the environmental impact of producing new windows unnecessarily.

If you are unsure whether your windows need replacing or not, you should consult an independent professional such as an architect or surveyor.

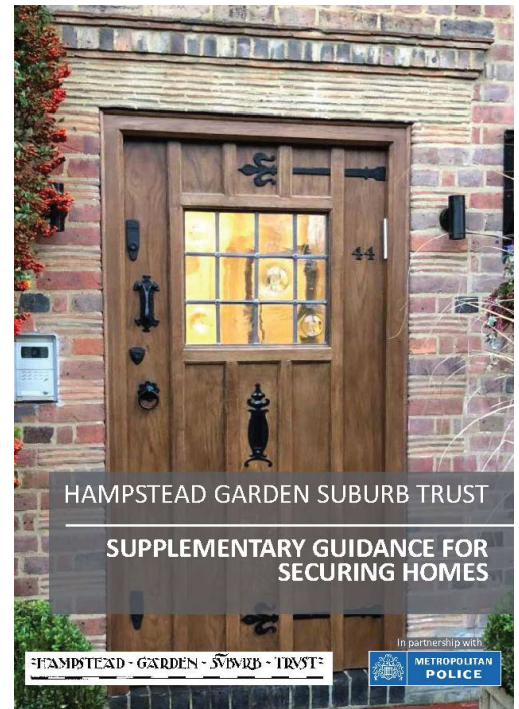
## LEAD TIME

It can often take several months from ordering a window to installing it. It is important that the lead time is factored in when planning window replacement.

The Trust will not accept windows which do not meet its requirements in order to accommodate a particular schedule.

## INSTALLATION

Frequently a window opening has a decorative surround on the external wall. This might include a drip detail above the window, a tile cill or brickwork window surround with details like queen closers.





Sometimes installing the windows can damage the window surround. It is essential that all details to the windows surround are retained or replicated faithfully when installing windows.

Some window frames are structural, meaning that the wall should be supported when the window is removed for replacement.



*A window opening has been lowered to create a door. However, the decorative red brickwork to the window surround has not been replicated at lower level.*



## REPAIRING AND UPGRADING TIMBER WINDOWS

### REPAIRS

It is important to consider carefully whether major repairs or upgrades are required. In some instances, major interventions may damage the windows and reduce their performance, in which case not intervening may be the best option.

Windows should be regularly maintained so that they function properly, for example repainting or oiling hinges and pulley systems. Indications that a timber window might need attention include flaking paint, cracking, staining, rot, warping and distortion, and difficulty opening and closing.

It is advisable to seek the advice of an independent professional if you are unsure whether a window needs attention.

A thorough survey of the window(s) should be made to establish what repairs, if any, need to be carried out. It is advisable to speak to an independent professional if you are unsure about what repairs need to be carried out or the suitability of particular repairs. You should ask an independent professional to produce a specification or method statement for a contractor to price.

Some repairs to timber windows can be made in situ. For example, most repairs to sash windows can be carried out on site, including replacement of individual sashes.



*A window has been removed temporarily for repair*

For small areas of rot, a timber resin can be used without removing the window. Other repairs may require the window to be taken out of the wall, such as large sections of rotten timber which need to be cut out and replaced.

In general, the costs of repairing a window are significantly cheaper than replacing it. A well-maintained window kept in good repair can also last a very long time. Employing good quality materials and an experienced professional to repair a window is advisable as the repair will be more cost-effective in the long term.

## UPGRADES

Upgrades can improve the mechanical function, thermal performance or security of a window, such as:

- Draughtproofing
- Adding secondary glazing
- Additional or improved locks, hinges, bars or bolts



*Left: The secondary glazing does not match the glazing bars of the window and looks poor;  
Right: This secondary glazing is unobtrusive from both the inside and out*

If undertaking major repairs, windows can also be upgraded at the same time. For example, integrating draughtproofing into the frame when a window is removed for repair.



*A sash window with integrated draughtproofing Source: Renovate Green*

It is possible to upgrade an existing window so that it performs at a similar level to a replacement window. While it is sometimes possible to integrate double glazing into an existing window, it is not always advisable as doing this can create thermal bridges through the frame and glazing bars, thus reducing the benefit of double glazing. In most circumstances secondary glazing is the most effective option in terms of improving thermal performance and sound insulation.



## TIMBER WINDOWS ON THE SUBURB

Many Suburb houses and cottages have timber casements. Casement windows define the look of the Arts & Crafts movement, referencing older buildings from the sixteenth and seventeenth century. In some cases, this historicism is enhanced by the use of leaded lights. Sliding sash windows can also be found on the Suburb, which have a grander, classical feel and generally characterise Neo-Georgian buildings.

In the early days of the Suburb's development, timber windows were often made up as standardised units for a given group of houses. One joinery company that fabricated windows for the Suburb around 1907-1914 was 'Woodworkers Ltd.', based in Letchworth and specialising in garden city and suburb developments. Architects would sometimes provide drawings to joinery companies specifying particular 'types' of window for different schemes.



*Timber windows stacked in a builder's yard on Hampstead Way*

*Credit: Hampstead Garden Suburb Archives Trust*

## FURTHER READING

### Trust Guidance

[Design Guidance](#) (pp. 26-27)

[Energy Guidance](#) (pp. 8-12)

[Security Guidance](#) (pp.3-4)

### Historic England

[Traditional Windows: their care, repair and upgrading](#)

### Society for Protection of Ancient Buildings (SPAB)

[Repair of Wood Windows Technical Advice Note](#)

### Books

Michael Tutton et al., *Windows: History, Repair and Conservation*.  
Abingdon, Oxon: Routledge, 2015 (Revision forthcoming)

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