

Project: 2009

Client: REPLY

Date: April 2021



Planning Application

38 Grosvenor Gardens
London, SW1W 0EB

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01. Outline Scope of Works

38 Grosvenor Gardens, London, SW1W 0BD:
Outline Scope of Works

An overview of the works we intend to carry out includes:

38 Grosvenor Gardens:

Internal Works:

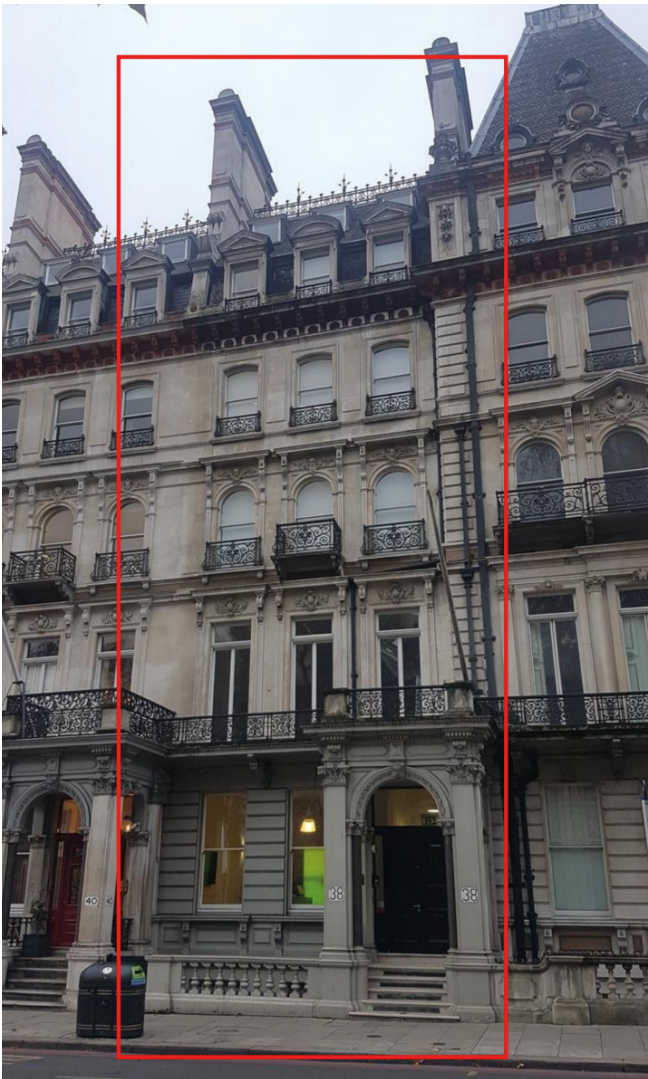
- The windows of 38 Grosvenor Gardens are of the original design which is reflected in other houses in the terrace. The front elevation of the terrace as a whole display has a high level of uniformity in their windows. The rear elevations of the terrace are more altered, although the use of timber sash windows is still evident overall.
- Replacing existing windows with identical in appearance sashes made of timber and glazed with the 'Pilkington Spacia Cool', which is 6.2 mm, a very slim double glazing. These new sashes would be inserted into the existing and retained frames. The impact of the new sashes on the appearance of the listed building would be negligible.
- Electrical works: includes adding electrical cables to the electrical windows and a small control device on the wall.
- With regards to the NPPF paragraph 196, the proposed replacement of the windows would lead to less than substantial harm to the designated heritage asset. However, this relatively low level of harm should be weighed against the public benefit of improving the environmental efficiency of the building, improving the thermal performance and noise efficiency of the building (attached energy report) therefore assisting with its long-term viable use.
- External frames are to be fully overhauled before installing the proposed windows.
- Windows and frames are to be painted with colours to match the existing.
- Scaffolding is not needed to enable repairing the frames and replacing the windows.

02. Understanding

38 Grosvenor Gardens, London, SW1W 0BD: Understanding

The site is part of a listed terrace 36-50 Grosvenor Garden of very grand townhouses. These buildings, which formed part of the original Grosvenor Garden development, were completed circa 1868. They followed the “French Renaissance” style first shown at Victoria Station and the surrounding buildings, with a distinctive architectural character which is unique compared to the rest of Belgravia.

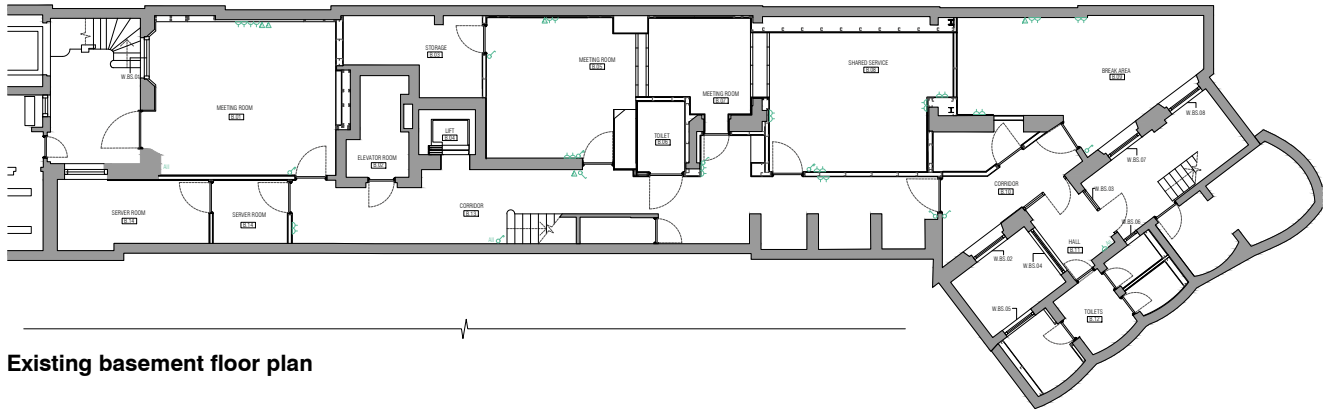
The buildings are three bays wide and arranged over four main storeys, with an attic, mansard and a basement. No. 38 is part of an architectural group with Nos. 40, 42, 46, 48 and 50. No. 44 is the central block of the terrace and is architecturally more prominent, in a similar manner to no. 36, the end pavilion.



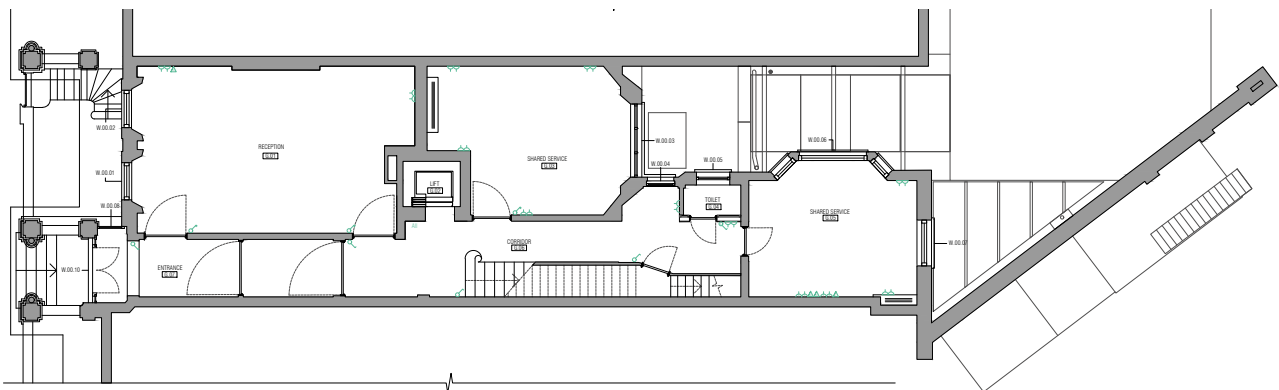
Internally the building retains much of its original historic fabric, style and detailing. There are decorative plasterwork ceilings, original doors, cornice, skirtings and architraves as well as a fine staircase with metal balustrading. The historic plan form is also clearly discernible, although there has been some modifications to the plan as the result of the insertion of a lift shaft which was approved in 1954.

38 Grosvenor Gardens, London, SW1W 0BD:
Understanding

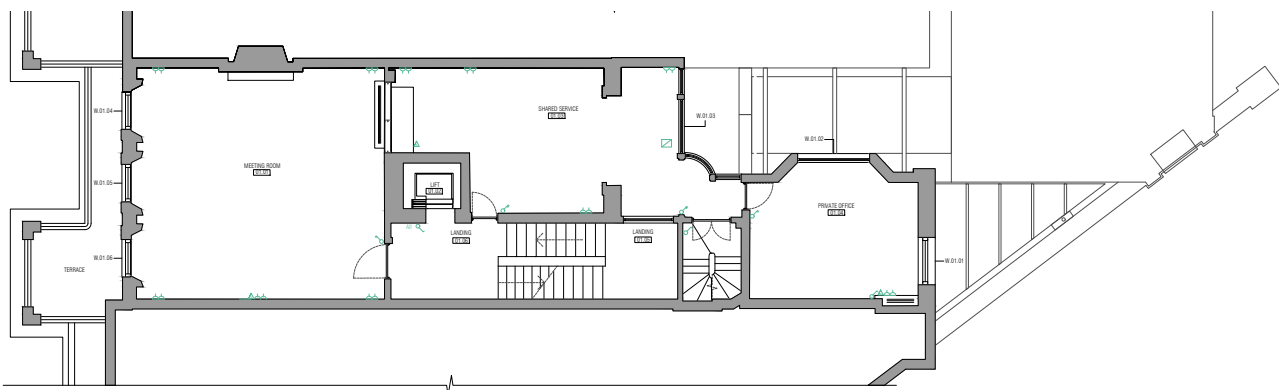
Existing floor plans:



Existing basement floor plan

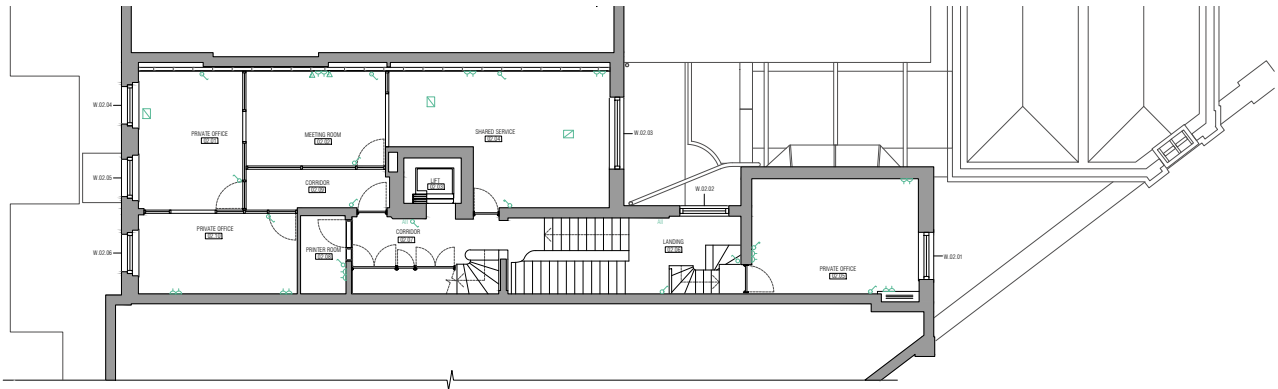


Existing ground floor plan

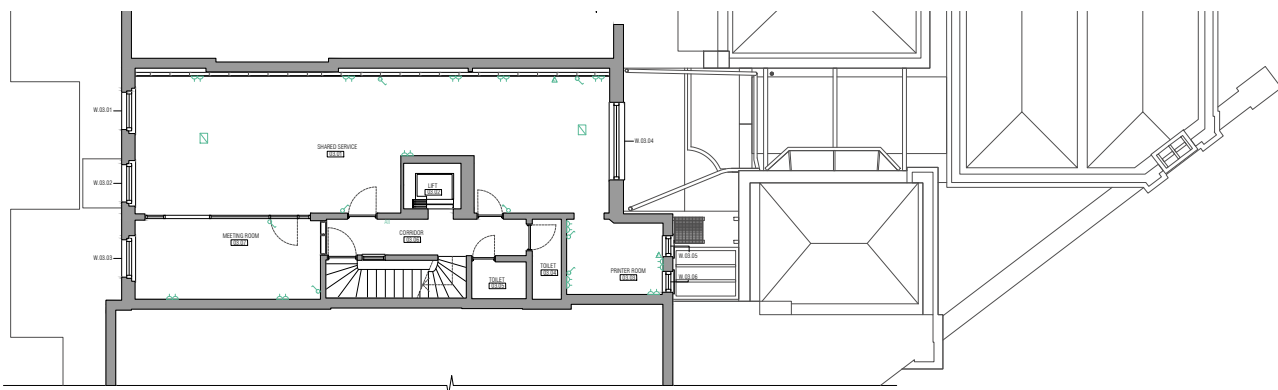


Existing first floor plan

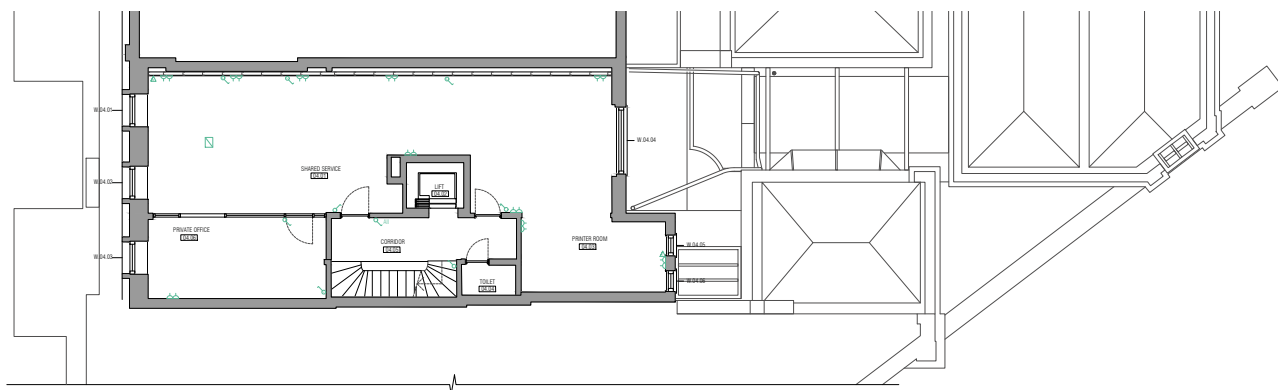
38 Grosvenor Gardens, London, SW1W 0BD:
Understanding



Existing second floor plan



Existing third floor plan



Existing fourth floor plan

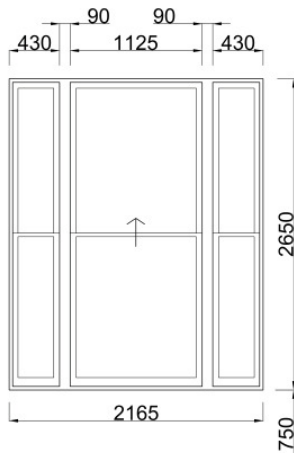
38 Grosvenor Gardens, London, SW1W 0BD: Understanding

Examples of existing windows:

ID	W.00.03
ZONE NAME	Shared Service, Rear
FLOOR	00 - Ground
HEIGHT (mm)	2650
WIDTH (mm)	2165
HEAD HEIGHT (mm)	3860
SILL HEIGHT (mm)	750
NOTES	Sash window; fixed frame 50/90mm.



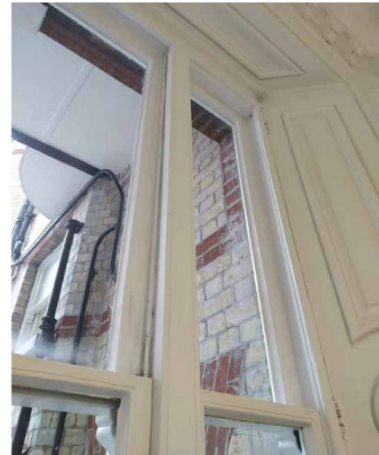
Bottom Detail



Elevation



General Photo

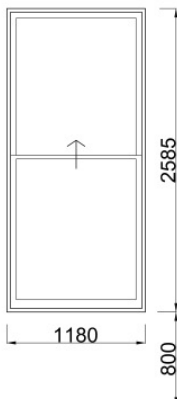


Top Detail

ID	W.00.01	W.00.02
ZONE NAME	Entrance, Front	Entrance, Front
FLOOR	00 - Ground	00 - Ground
HEIGHT (mm)	2585	2585
WIDTH (mm)	1180	1180
HEAD HEIGHT (mm)	3850	3850
SILL HEIGHT (mm)	800	800
NOTES	Sash window; fixed frame 30mm.	Sash window; fixed frame 30mm.



Bottom Detail



Elevation



General Photo



Meeting Sash Detail



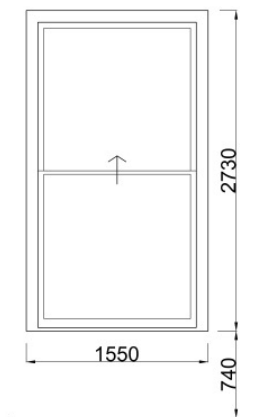
Top Detail

38 Grosvenor Gardens, London, SW1W 0BD: Understanding

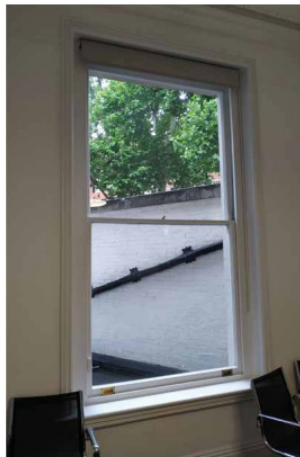
ID	W.00.07
ZONE NAME	Shared Service, Rear
FLOOR	00 - Ground
HEIGHT (mm)	2730
WIDTH (mm)	1550
HEAD HEIGHT (mm)	3885
SILL HEIGHT (mm)	740
NOTES	Sash window; fixed frame 40/100mm.



Bottom Detail



Elevation



General Photo

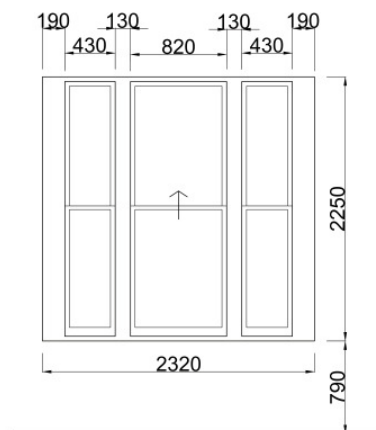


Top Detail

ID	W.02.03
ZONE NAME	6 Desks Room, Rear
FLOOR	02 - Second
HEIGHT (mm)	2250
WIDTH (mm)	2320
HEAD HEIGHT (mm)	3490
SILL HEIGHT (mm)	790
NOTES	Sash Window



Bottom Detail



Elevation



General Photo



Top Detail

**38 Grosvenor Gardens, London, SW1W 0BD:
Understanding**

The proposed bespoke windows can be made to match any existing part in detail. The technological innovations that make the proposed timber sash windows unique includes soundproofing, thermal insulation, burglary protection, conservation area design and electric operation system.

The following are some examples of the proposed product, which can be made in any shape and size.

Front view:

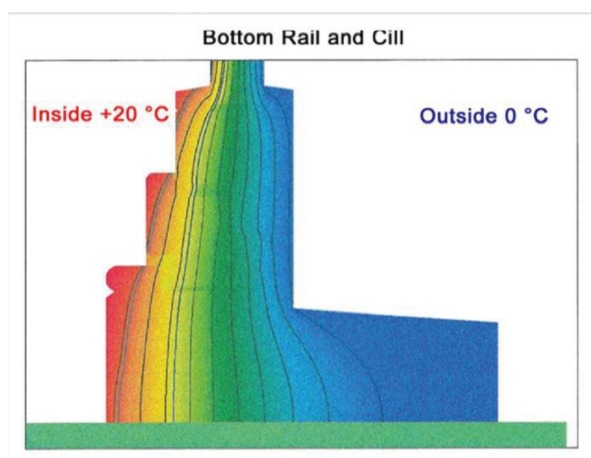
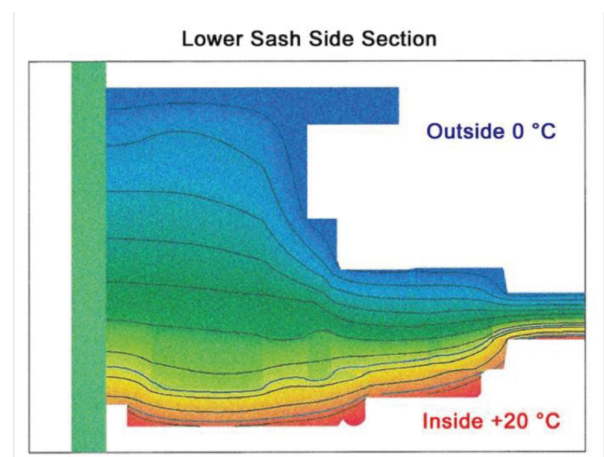
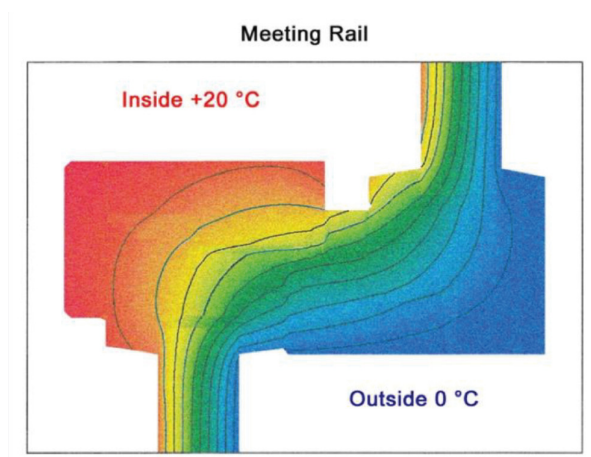
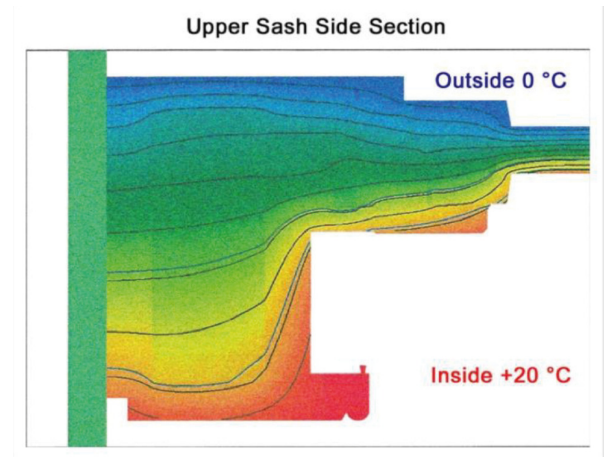
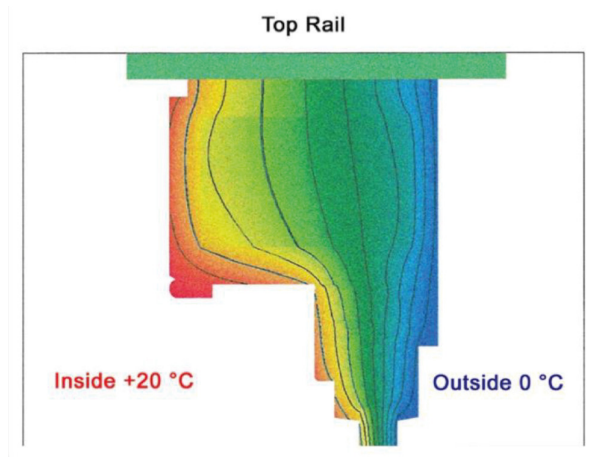


Back view:



**38 Grosvenor Gardens, London, SW1W 0BD:
Understanding**

Thermal transmittance:



03. Philosophy

The Ship of Theseus:

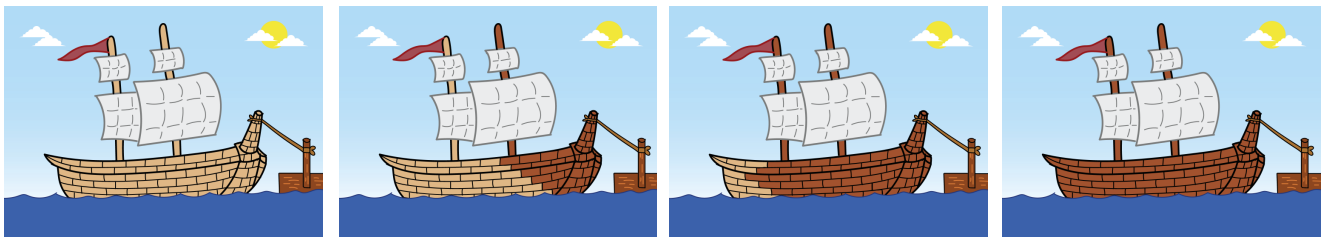
Theseus is an interesting character for architects. He is the one that, helped by Ariadne, solved the mystery of Dedaleus' labyrinth in order to kill the Minotaur. However, another aspect can trigger our interest about Theseus: his boat exhibition after he came back to Athens.

The ship wherein Theseus and the youth of Athens returned had thirty oars, and was preserved by the Athenians down even to the time of Demetrius Phalereus, for they took away the old planks as they decayed, putting in new and stronger timber in their place, insomuch that this ship became a standing example among the philosophers, for the logical question of things that grow; one side holding that the ship remained the same, and the other contending that it was not the same.

A dictionary definition would define identity as the characteristics uniquely determining what makes a thing, whether living or inanimate. Consider what is necessary and sufficient to define an identity. This philosophical problem interrogates what makes an entity's identity; its physical integrity as a whole or the conservation of its parts' assemblage.

Japanese architectural tradition seems to consider things that same way as some Temples were rebuilt in an identical way after having burned down (like the Golden Temple in Kyoto) and some others are being rebuilt every twenty years since their original construction.

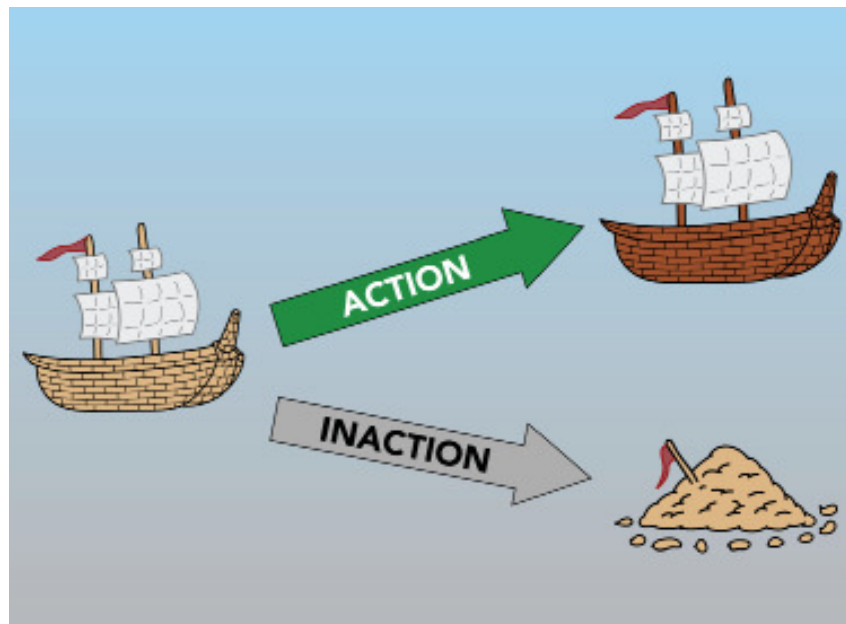
In a similar way, our body needs only one year to renew 98% of its composing matter without losing its physical integrity. This example is interesting in the fact that it introduces the problem of age and the evolution of some properties of this body which allow the identity to be preserved yet being involved in a continuous mutation.



38 Grosvenor Gardens, London, SW1W 0BD: Philosophy

This philosophical problem interrogates what makes an entity's identity; its physical integrity as a whole or the conservation of its parts' assemblage. As primary units composing the world are assembled in entities and conserve the property of this same entity as long as they compose relations with each others. It does not matter if those parts are not the original one as long as both entities share the same properties. The same concept we want to apply on 38 Grosvenor Gardens with the proposed windows.

Visually there would be minimal impact on the appearance of the windows as the new sashes would be detailed to match the existing, both in terms of colours and materials. Whilst there may be a minimal impact on appearance there would be loss of historic fabric from the sashes which would constitute a relatively low amount of less than substantial, however this could be seen to be outweighed by the public benefit of improved thermal and noise efficiency and improved long term viable use of the building.



04. Heritage Statement

38 Grosvenor Gardens, London, SW1W 0BD:
Heritage Statement

This Heritage Statement has been produced by Built Heritage Consultancy to accompany planning applications and listed building consent applications submitted by CGT Works Ltd. It has assessed the impact of the proposed window replacement on the significance of the listed building and the wider Grosvenor Gardens Conservation Area.

In summary:

- The buildings form part of a Grade II listed terrace facing one of the two triangular open spaces that characterise the Grosvenor Gardens Conservation Area. The contribution these buildings make to the overall significance of the Conservation Area is high.
- The windows of 38 Grosvenor Gardens are of the original design which is reflected in other houses in the terrace. The front elevation and the front elevation of the terrace as whole display a high level of uniformity in their windows. The rear elevations of the terrace are more altered, although the use of timber sash windows is still evident on the whole.
- The front elevation is the most visible and makes the biggest contribution to the conservation area but the rear elevation also contributes to the character and appearance of the conservation area and be clearly seen from public views.
- The existing windows are of historic interest, particularly the ground, first, second and third floors of the front elevation and are likely to be original or at least matching the original style. The windows to the rear elevation are of lower significance as there is some variation in the style and less uniformity with the wider terrace. External frames are to be fully overhauled before installing the proposed windows.
- The proposed replacement sashes would be timber and glazed with the 'Pilkington Spacia Cool' glazing which is a very slim double glazing. These new sashes would be inserted into the existing and retained frames. There would be the addition of handles and control panels to the windows but otherwise the impact of the new sashes on the appearance of the listed building would be negligible.
- The replacement of the existing sashes will result in the loss of historic fabric. With regards to the NPPF paragraph 196, the proposed replacement of the windows would lead to less than substantial harm to the designated heritage asset. However this relatively low level of harm should be weighed against the public benefit of improving the environmental efficiency of the building, improving the thermal and noise efficiency of the building therefore assisting with its long term viable use.
- Whilst accepting the advice contained with the SPG on listed building and the City of Westminster relevant policies, the proposed alterations could be accepted as the historic fabric lost would only be the sashes and not the window surrounds and the impact on the appearance of the building from public views would be negligible.

05. Energy Report

38 Grosvenor Gardens, London, SW1W 0BD: Energy Report

This Energy Report has been produced by Savills to accompany planning applications and listed building consent applications submitted by CGT Works Ltd. This report presents the work carried out on 38 Grosvenor Gardens, London in order to examine the carbon and energy generation of the building by comparing an existing with a proposed scenario.

The aims of this project are to:

- Create an existing version of the building that can be used as baseline (benchmark).
- Replace glazing on the front and the back of the building and use this as proposed scenario.

The following process was undertaken:

- An IES Virtual Environment (IES VE 2021) model was created to carry out a dynamic analysis of the building, to estimate existing carbon emissions, energy generation and heating/cooling demand.
- Proposed scenario was created by replacing existing glazing with more efficient one.
- We examined the carbon, energy and heating/cooling demand reduction between the two scenarios.

Key data that has been used to prepare this carbon study includes:

- Architectural drawings (floor plans, elevations and sections).
- Input details confirmation from design team.
- Glazing specification received by the architect.

Information Calculated:

- Baseline carbon emissions, energy generation and heating/cooling demand.
- Proposed carbon emissions, energy generation and heating/cooling demand.
- % of saving on each set of calculation.

In summary:

The main purpose of this assessment was to examine the impact on carbon, energy and load by replacing existing glazing with more efficient one. Front and back windows have been replaced by efficient double glazed units that assisted us to reduce the air leakage along with the savings in carbon, energy and load.

As a conclusion we can state that the building achieves an approximate 8% reduction in carbon and energy just by replacing the windows and a circa 16% reduction in heating and cooling load demand.

Tables 1, 2 and 3 below display a summary of the carbon, heating/cooling demand and energy assessments respectively, while graphs 1,2 and 3 display the same.

Carbon generation assessment	
Analysis	kgCO2/m2.annum
Existing scenario	41.5
Proposed scenario	38.0
Savings	8.43%

Table 1 Carbon assessment

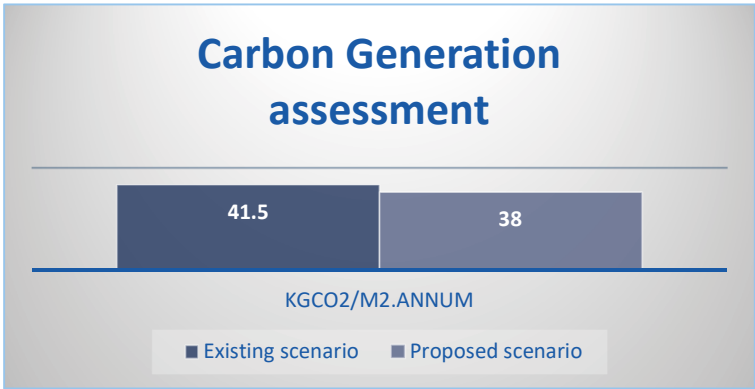


Image 1 Carbon reduction comparison

Energy assessment	
Analysis	kWh/m2
Existing primary energy	243.23
Proposed primary energy	223.21
Savings	8.23%

Table 2 Energy assessment

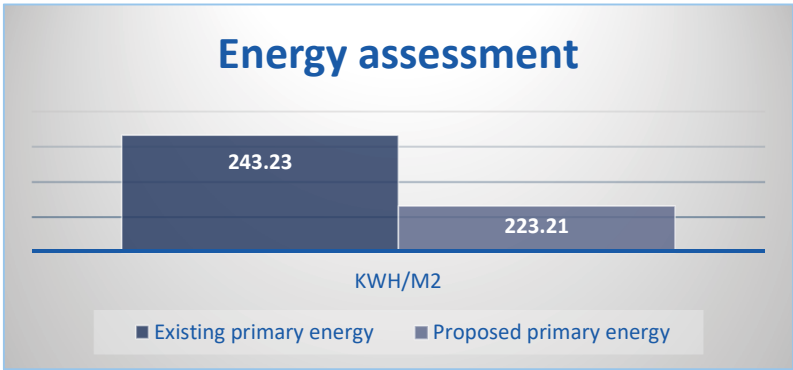


Image 2 Energy assessment comparison

Heating & Cooling demand assessment	
Analysis	MJ/m2
Existing heating and cooling demand	305.17
Proposed heating and cooling demand	254.64
Savings	16.55%

Table 3 Heating and cooling demand assessment

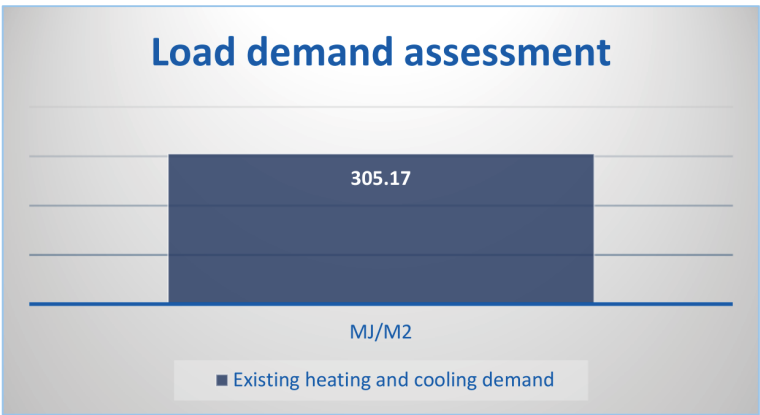


Image 3 Load demand reduction

38 Grosvenor Gardens, London, SW1W 0BD:
Energy Report

Images 4 and 5 display the energy breakdown per end use and the carbon breakdown for the existing scenario, while images 6 and 7 display the same information for the proposed scenario.

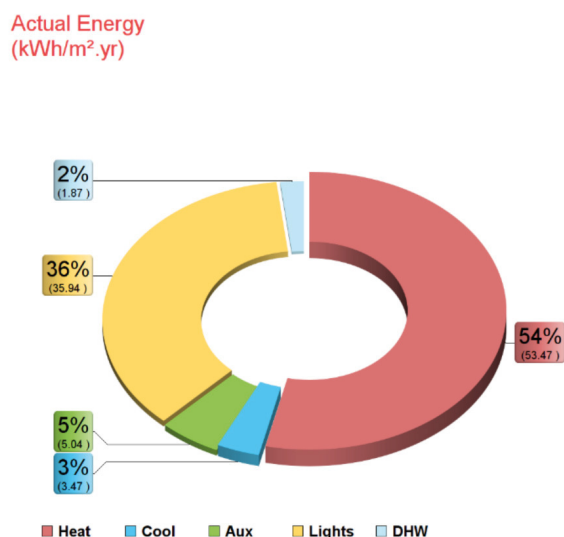


Image 4 Energy consumption breakdown / existing scenario

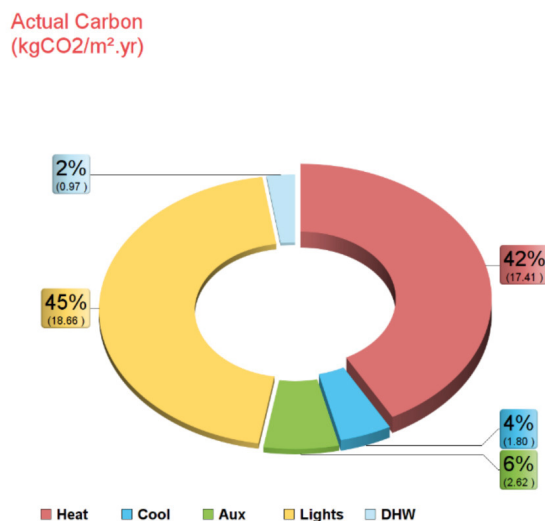


Image 5 Carbon consumption breakdown / existing scenario

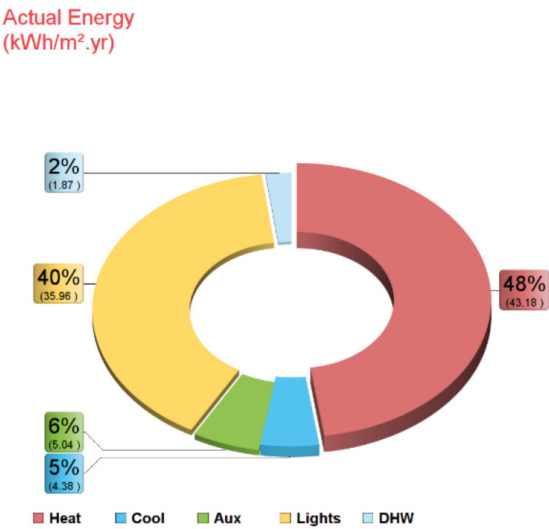


Image 6 Energy consumption breakdown / proposed scenario

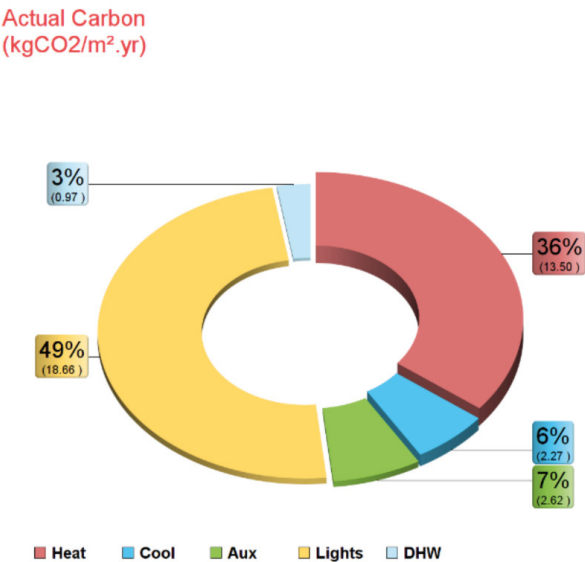


Image 7 Carbon consumption breakdown / existing scenario

06. Sustainability

38 Grosvenor Gardens, London, SW1W 0BD: Sustainability

Heritage buildings face a significant risk of becoming stranded assets due to their energy efficiency and environmental performance credentials. Whilst many listed buildings can claim exemption from initiatives such as the Minimum Energy Efficiency Standards (MEES) this does not protect them from market forces. The majority of funds and occupiers are seeking to solely place their investments or host their operations within premises that align to their own commitments to achieving net zero emissions. Similarly many finance models or funding opportunities are now linked to the environmental footprint of a property. As a result organisations are looking at the current and potential carbon and energy intensity of property, with a view to mapping the trajectory of that asset against risk curves such as those provided by the Carbon Risk Real Estate Monitor (CRREM) to determine their valuation and viability. The point at which an asset crosses the threshold of those risk curves determines the time at which that property may become unviable. As such all built assets, including heritage properties, must seek interventions which improve energy efficiency and align the future trajectory of the property with organisational and governmental trajectories to net zero.

The sympathetic window replacement strategy proposed by CGT Works represents one such essential step to ensuring the environmental and socio-economic legacy and viability of 38 Grosvenor Gardens, whilst retaining the original appearance and associated heritage value. In isolation this simple measure will bring about a predicted 8.5% reduction in carbon emissions, increasing the longevity of the building as a viable asset from an environmental and economic perspective. The 16.55% reduction in heating and cooling demand will also facilitate the incorporation of further energy efficiency measures and provide the baseline for further improvement. The drive for net zero is an unavoidable commercial and legislative reality, and one that must address the fabric performance of a building before efficiency can be realised through systems or renewables. Therefore this upgrade, undertaken with due regard to conservation issues, is essential to ensuring the continued viability of the property and therefore to the preservation of this historic building.

THANK YOU