

12th May 2022

HG001

Sustainable Design Statement – 1 Hall Gate

This sustainable design statement is written in support of an application to extend and refurbish at 1 Hall Gate in St John's Wood.

In offering guidance as to the submission of these statements the Westminster City Council website advises:

'The level of detail within your statement will depend on the size and nature of proposals. It should summarise how you have addressed policy and issues relevant to the proposal, outlining proposed design measures to mitigate and adapt to climate change.'

The intention of this statement is to explain in a proportionate way the sustainable design measures that are being taken as part of the project as a whole. Many of these measures either benefit from permitted development rights or have not been included in this particular application for other reasons as set out below. Nonetheless, all measures that are proposed to be undertaken as part of the wider project and this particular application are set out in this statement.

Policy Background

Policy 38 Part D of the Westminster City Plan states:

'Development will enable the extended lifetime of buildings and spaces and respond to the likely risks and consequences of climate change by incorporating principles of sustainable design, including:

1. *Use of high-quality durable materials and detail;*
2. *Providing flexible, high quality floorspace;*
3. *Optimising resource and water efficiency;*
4. *Enabling the incorporation of, or connection to, future services or facilities; and*
5. *Minimising the need for plant and machinery.'*

Policy 36 (Energy) Part A states:

'The council will promote zero carbon development and expects all development to reduce on-site energy demand and maximise the use of low carbon energy sources to minimise the effects of climate change.'

Policy 34 (Green Infrastructure) Part B states:

'Developments will, wherever possible, contribute to the greening of Westminster by incorporating trees, green walls, green roofs, rain gardens and other green features and spaces into the design of the scheme.'

Site and Project Summary

1 Hall Gate is a 1960s cavity wall terraced building of relatively low thermal performance and general design quality. We have been instructed to retrofit the existing building to provide a higher quality of design and to reduce energy consumption so far as is practicable, and in particular to maximise the use of on-site energy generation through the use of heat pumps, solar panels, and to provide passive or low energy ventilation and lighting wherever possible.

The existing energy performance certificate (expired 15th March 2022) rates the property at D (with a SAP score of 60, the national average) but outlines measures that can be taken to achieve a rating of C. The measures suggested are expected to be taken in the event of approval of this application along with further alterations intended to improve energy efficiency and hence environmental sustainability.

Planning History

An initial application was submitted in 2021 (LPA Ref 21/05391/FULL) for three separate extensions of relatively small scale. Although some elements of the application were considered acceptable by planning officers, the whole application was refused without any detailed explanation or opportunity to submit revisions. As a result of the ongoing uncertainty surrounding this project, the general approach has been to explicitly apply for as little as possible and to apply for each element as part of its own application, while maximising permitted development rights. Two of the three initial extensions have now been approved and this application contains the last extension from the initial application.

As receiving permission for these three extensions has been necessary in order to make the project viable for the client, detailed design work (including MEP work) has been deferred until these permissions have all been secured. It is for these reasons, along with permissions granted through the General Permitted Development Order 2015 ('GPDO 2015'), that the current application does not include the full suite of sustainable design alterations that are proposed to the building. Nonetheless, the sustainable design measures for the project as a whole and this particular application are set out below.

It should be noted that without the approval of a rear extension in some format and in a design acceptable to the client, the overall refurbishment and associated suite of sustainability improvements will not be undertaken. These measures should therefore be given appropriate planning weight and considered as part of the overall planning balance in the determination of this application.

Energy Efficiency Improvements

The initial brief has been and still remains to increase energy efficiency so far as is practicable. The following energy efficiency work is planned as part of the overall project:

- Replacement of all windows
 - The existing PVC windows date from c.1960 and are in a poor condition. PVC windows are expected to have a relatively short lifespan of 20-30 years. This lifespan has now been considerably exceeded.
 - The intention is to replace the existing windows with timber double-glazed sash windows, in keeping with the character of the building.

- The replacement windows would comply with or exceed modern standards on energy efficiency, while also providing a low level of passive ventilation through the summer. (*Be lean: use less energy*)
 - Timber is a sustainable material and has a lifespan of many hundreds of years when maintained correctly. Timber as a building material can also have a negative carbon footprint.
 - Consideration has also been given to improving the appearance of the building as per Policy 38 of the Westminster City Plan. As such double-glazed timber sash windows are considered more appropriate than a more insulative aluminium casement window, which would likely appear incongruous and alien to the design of the host building.
 - The replacement of windows is not included as part of this application as it is permitted development under the GPDO 2015.
- Cavity wall insulation
 - Although a survey has not yet been undertaken, it has been noted from the existing energy performance certificate that at least some of the cavity walls are uninsulated and therefore of a very low thermal performance.
 - As part of the refurbishment work the walls would be insulated. This would likely improve the retention of heat significantly and therefore reduce the energy required to heat the building (*Be lean: use less energy*)
 - As part of refurbishment, all walls would be insulated although this does not require planning permission.
- Air source heat pump
 - As noted as part of the existing energy performance certificate, the gas boiler is of low efficiency.
 - As part of refurbishment the gas boiler would be replaced and an air source heat pump (ASHP) would be installed to provide the bulk of the heating demand for the house.
 - By significantly reducing reliance on fossil fuels for energy generation, Policy 36 (Energy) Part A would be fulfilled (*Be green: use renewable energy*).
 - It is standard practice to retain a gas boiler as a backup source of energy, either in the event of ASHP failure or for extremely cold days where an ASHP cannot fulfil heating demands. The existing gas boiler will be replaced with a higher efficiency condensing boiler.
 - Under Part 14 Class G of the GPDO 2015, permission is granted for the installation of an air source heat pump under 0.6 cubic metres in size.
- Solar panels
 - It is planned to install solar panels upon the flat roof of the side extension, where they will not be visible from any public or private viewpoint. Due to the large flat roof area a fairly substantial array can be installed here, with direct south-facing aspect.
 - The provision of on-site renewable energy generation would comply with Policy 36 (Energy) Part A of the Westminster City Plan.
 - Under Part 14 Class A of the GPDO 2015 permission is granted for the installation of solar panels.

Sustainable Design Considerations

The current application only concerns the principle and outline design of a largely-glazed rear extension, spanning the full width of the rear elevation. It is hoped that any detailed design or requests as to green infrastructure will be communicated by the planning officer during the determination period, and that revisions will be submitted in accordance with those requests.

It should be noted that the garden is due to be relandscaped to improve biodiversity and design in the event of the project moving forward. As alterations to drainage would be necessary along with excavation for foundations, the possibility of on-site rainwater drainage will also be explored, although has not been fully considered at this early stage.

Compliance with Policy 38 Part D

1. Use of high-quality, durable materials and detail

Regardless of sustainability considerations, it is the aim of the practice to achieve high quality and durable design in all instances. This starts with the use of high-quality, durable materials and detail.

The extension is proposed to be constructed from high quality materials, including brick, steel, aluminium, and glass. It has been noted in the original application that the brick used for the original building and side extension is of poor visual quality and has not weathered to a pleasing appearance. The choice of brick used for the extension is currently open for debate although it seems reasonable to use a high-quality brown or red brick of traditional appearance to echo the traditionally-designed appearance of the building. It is expected that a sample will be secured by condition.

It is proposed to use Fineline Aluminium as a sliding door supplier. This is a brand known for high-quality architectural glass and frames. It is again anticipated that details and samples will be secured by condition.

Although not part of this application, it has been explained that timber will be used for window replacements at the upper storeys, a material far more durable and of recognised high quality than the current PVC.

Details of the extension have not been fully considered as this is a process usually deferred until after permissions have been granted.

2. Providing flexible, high-quality floorspace

One of the core aims of the works at ground floor has been to provide a higher quality internal space, opening up the existing compartmentalised and 'boxy' spaces into a unified kitchen, living, and dining space. This remains flexible for future occupiers of the building, even those who may want to reinstate non-structural partitions or rearrange living and dining spaces, etc. This is one of the key advantages of the open plan design that we are pursuing.

The line of glazing at the rear onto the garden has also been a key aim of the project. This allows more passive lighting into the unified space and to afford views out into a garden which is to be comprehensively relandscaped and planted.

3. Optimising resource and water efficiency

As set out above, it is anticipated that on-site rainwater drainage will be implemented and the possibility of rainwater collection for the watering of plants in the summer can also be considered.

The rear façade benefits from a south-facing aspect without any substantial development opposite to block or impede direct sunlight. It is a recognised advantage of largely or fully glazed facades that passive heating via solar gain in winter can reduce energy demands when they are most severe (*'Be lean: use less energy'*). During summertime it is expected that plants growing through the overhead trellis will provide shading and consequently reduce solar gain, although consideration will also be given to the installation of external blinds to prevent overheating.

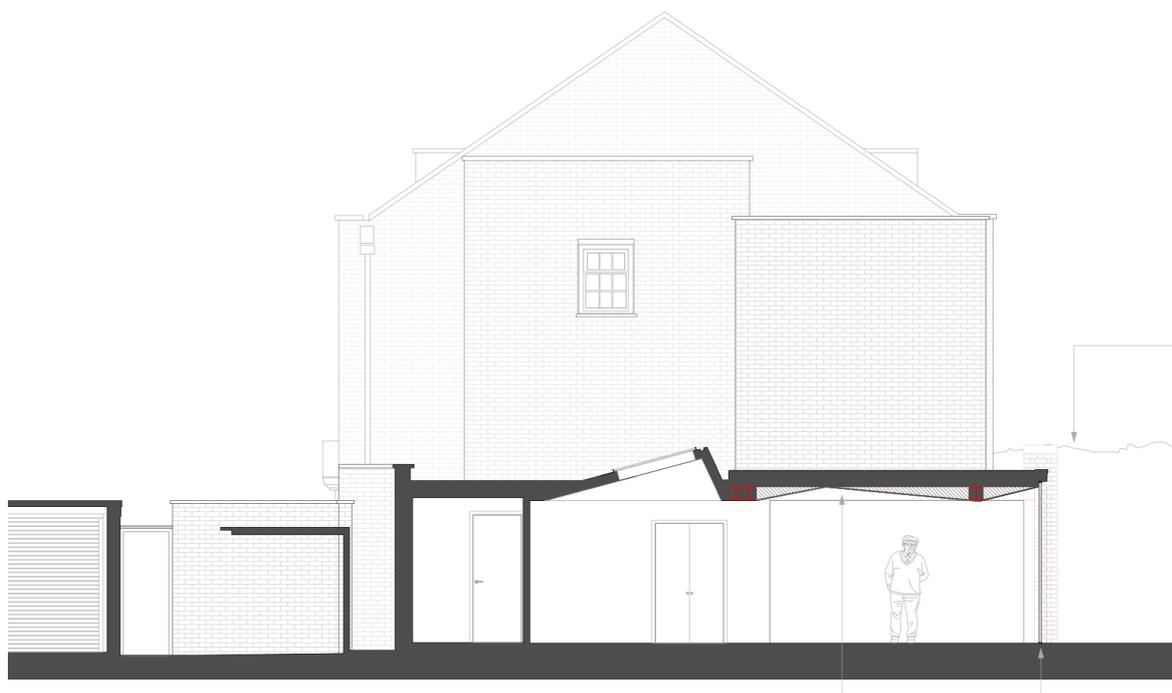
The existing side extension benefits from two large traditionally-detailed rooflights. While useful in the winter, during the summer the unimpeded south-facing aspect causes considerable overheating and uncomfortable conditions throughout the ground floor.

As shown in Section 1 of the proposed drawing set (P300) and below, it is proposed to demolish these rooflights and to replace them with a single north-facing rooflight. This would provide adequate passive lighting in the kitchen area while reducing solar gain. This subsequently reduces both lighting demand and the likelihood of overheating and associated cooling requirements. (*Be lean: use less energy*)

EXISTING



PROPOSED



4. Enabling the incorporation of, or connection to, future services or facilities

No opportunities have been identified to provide connection to future services or facilities although we hope that the planning officer will direct the applicant as necessary to such facilities warranting consideration.

5. Minimising the need for plant and machinery.

There is no identified need for plant and machinery as part of the application, besides the associated installation of an air source heat pump. The benefits of on-site sustainable energy generation are considered to outweigh any harm caused by this requirement for plant.

Conclusions

The current application is relatively small in scale, and as such this brief sustainable design statement is considered proportionate in outlining the measures that are being proposed both as part of this application and the wider project.

Improving energy efficiency, and hence environmental sustainability, is one of the core aims of this project and indeed of any project pursued by this practice. The measures outlined in this statement are considered to satisfy and indeed exceed the typical expectations of a residential renovation project in that respect.

The proposed extension is modest in scale, but combined with internal alterations would provide a high-quality and flexible internal space at ground floor. The associated increase in glazing would provide quite substantial passive heating and lighting during the winter while measures have been taken to prevent overheating in the summer.

The design of the extension itself is considered of robust, high-quality construction and indeed likely to be constructed to a far higher standard than the existing building on site.

It is important to note that without the approval of a rear extension in a format acceptable to the clients, it is highly unlikely that any aspect of the project would go ahead. This project presents an opportunity to retrofit a poorly performing building to a very high environmental standard. Other houses on this estate all hold EPCs to D, E, or F standard while only one holds a certificate to an energy rating of C. It is anticipated that an EPC to B or A standard can be achieved with appropriate design.

Accordingly we would request that this application is granted, or that in the event of any discrepancy with the development plan, necessary revisions are requested as soon as practicable.

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