

Hoch-Bau Architecture

Sustainability Statement –
41 Chelmsford Ave., Warden Hill, Cheltenham
GL51 3DL



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FOR REVIEW

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1.0 Introduction

The following Sustainability Statement sets out the approach that will be adopted to the proposed works at the subject property. This is in response to Cheltenham's Joint Core Strategy, Strategic Objective 6 – Meeting the challenges of Climate Change.

2.0 The Property

The property is a two storey semi detached dwelling, constructed of traditional load bearing masonry, with concrete tiled pitched roofs, constructed c. 1950's. The property has a later addition in the form of a conservatory.

3.0 The Proposal

The proposed works comprise a single storey rear extension to extend the existing small kitchen to form a new kitchen family room. This will replace the existing conservatory. The works would be classified as "Extensions and Retrofitting of Homes" as described in the Climate Change SPD.

4.0 Orientation

The extension is moreover orientated to the north west, with glazed doors and a roof lights, which considering their orientation will not cause overheating. The proposal will be a significant improvement over the current conservatory which does overheat with solar gain.

5.0 Building Form

The proposed extension walls and roof have a very simple form to reduce the exposed surface area and increase energy efficiency.

6.0 Building Fabric, Detailing and Materials

The proposal will be designed to the highest standards with excellent insulation. The following elemental fabric U-values will be specified.

Roof - $\leq 0.12\text{W/m}^2.\text{K}$
Walls - $\leq 0.18\text{W/m}^2.\text{K}$
Ground Floor Slab $\leq 0.15\text{W/m}^2.\text{K}$
Doors - $\leq 1.0\text{W/m}^2.\text{K}$
Windows - $\leq 1.0\text{W/m}^2.\text{K}$
Thermal Bridging will be well considered and targeted at 0.1W/m^2 .

Airtightness will be paramount and maximised. Membranes will be installed to the superstructure to assist air tightness. All masonry will have fully pointed joints. Suspended timber floors will be avoided, but where employed; membranes will be installed. All insulation will be foil faced rigid phenolic foam with close butted taped joints. Sealing around all perimeters and joints between walls /floors /roofs and around edges of windows and external doors etc. Sealing joints at all service

penetrations of the external envelope (plumbing /electrical /ventilation etc) with sealants or gap fillers appropriate to the size of gap /likely degree of movement; close vertical ducts (SVPs etc) top and bottom; follow the recommendations of relevant Robust Details (ref. Part L 1.33 1.35)

Thermal mass will be maximised with concrete ground bearing slabs where possible and will comprise semi dense concrete block internal skins, as opposed to lightweight aerated blocks. This will maintain more stable temperatures. The higher density insulation boards will also maximise thermal massing over mineral wool type applications.

7.0 Sustainable Sourcing

All timber will be FSC or equal sustainably sourced.

8.0 Water Efficiency

A new kitchen will be installed.

The following will be adopted inline with AECB water standards.

Kitchen Taps; 6 to 8 l/min measured at installation. All mixers to have clear indication of hot and cold with hot tap or lever position to the left.

9.0 Flooding Measures

No other areas of impermeable hardstanding will be introduced to the proposal.

10.0 Embodied Carbon

The construction works will be tendered to local contractors, with workforce. Materials where possible will be sourced from local areas, and/or with a highly recycled content. The design is simple using easily sourced materials which allow LEAN Construction approaches.

A Construction Waste Management Plan will be requested from the appointed contractor to minimise waste, apply targets for recycling, and minimising landfill.

Integrated Recycling Storage will be designed into the new Kitchen and Utility Plans.

11.0 Summary

The proposed extension will be constructed to the highest standard to provide improved thermal performance over the existing conservatory, and the house as a whole. The design and construction process adopted demonstrates a best practise approach to climate and biodiversity to the proposed development.

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