

Appendix A – Climate Change Statement for 11 Cliff Road, Holmfirth HD9 1UY

Climate Change Statement for Planning Applications

Part 1: Applicant details

Part 2: Climate Change Mitigation measures

Name of applicant/ agent	Ms H Brook Mr Benjamin Carlin Agent: Ms Sara Darwin
Site Address	11 Cliff Road, Holmfirth HD9 1UY
Description of Development	Addition of a new porch and entrance to dwelling and removal of conservatory. Replacement windows and enlarging windows to kitchen, dining area. Addition of 2 new conservation style roof windows to front bedroom. Removal of chimneys to property. New driveway with retaining walls and new garden studio installation.

This Climate Change Statement is written in conjunction with policy:
Supplementary Planning Documents: Housebuilder Design Guide SPD, Household Extensions and Alterations SPD

Q1: What measures have been/will be taken to reduce the energy demand associated with your proposed development beyond the minimum required in Building Regulations?

The dwelling has been considered along the principles of EnerPHit, the Passivhaus standard for existing buildings, which is a fabric first methodology. A step by step approach is being applied due to budget limitations, however as Passivhaus designers, Phi architects are experienced in applying these measures that are over and above Building Regulations requirements, in a sequence that will not jeopardise future measures being carried out. First steps will include fabric upgrades, including internal wall insulation and insulating the existing solid stone floor. We have explored the maximum insulation achievable for a solid stone external wall (hard to treat construction) in an area of high exposure. WUFI calculations were carried out by two manufacturers to provide options for costing, balancing the best performance against cost and loss of floor area due to wall thickness. A U value of 0.355 W/m²K is achieved. The floor will be insulated as far as it is possible to excavate without undermining the wall footing. Windows will be replaced with triple glazing, which is over and above Building Regulations' standards

Q2: What measures have been/will be taken to limit the carbon consumed through the implementation and construction processes, e.g. by reusing existing on-site materials or sourcing materials locally?

In line with policy LP24 we are refurbishing existing buildings. The materials specified in the small porch extension are local stone for walls and for the roofing stone slates. The boundary retaining wall for the drive will reuse the stone walling from the section of wall to be removed for access.

Also as part of the design a new refuse and recycling store has been designed as an integral part of external areas, making it easier to collection and use of the storage.

Q3: What measures have been/will be taken to utilise renewable or low carbon energy sources?

The planning application includes the provision of an ASHP located at the rear of the dwelling to replace the gas boiler in the property.

Q4: What measures have been/will be taken to ensure the building design and layout has been optimised to energy efficiency beyond the minimum requirements in Part L of the Building Regulations ?

In accordance with policy LP24, we have optimised the existing dwelling layout, creating a family kitchen diner (on the south side of the building) with larger windows facing south, to optimise solar gains on the southern elevation.

Additionally, 2 roof lights have been incorporated to increase daylight levels in the north east corner of the master bedroom.

Internal wall insulation for the walls, roofs and floors is planned in a step by step approach Passivhaus (EnerPHit elemental method) and replacement high performance glazing.

Low energy lights are also planned.

Q5: What measures have been/will be taken to reduce potential impacts of flooding associated with your proposed development?

To reduce the potential impacts of flooding, the new driveway will be constructed of permeable paving. Much of the footprint of the drive will replace existing impermeable hard standings on the site, hence reducing flood potential.

The garden room is designed to be on screw pile foundations, in lieu of strip foundations that block the passage of ground water under the footprint of the building.

Q6: What measures have been/will be taken to reduce water stress associated with your proposed development? (e.g. Water retention and minimisation measures)

The proposed garden room is designed with a sedum roof for rain water attenuation, reducing the flow of rainwater from due to evaporation, transpiration and absorption by the substrate, before the remaining water drains into the gutters.

Water collection will also be incorporated with rainwater butts included to the rear rainwater pipe on the main house and for the garden garden room. The site already incorporates 2 ponds for water collection

An existing conservatory will be demolished and replaced by a smaller entrance porch, hence reducing the amount of surface water run off.

Q7: What measures have been/will be taken to provide biodiversity net gains?

The site has plenty of biodiversity on site with habitats for bird and mammal species, in mature trees and grasses areas and there is potential for enhancement. The client's are committed to enhancing biodiversity on site and utilising the ponds on site that create a habitat for amphibians, and water source for butterflies and birds.

The green roof for the garden studio provides a valuable wildlife habitat - wildflower planting will be incorporated to attract butterflies and bees.

Q8: What measures have been/will be taken to reduce air pollution associated with your proposed development?

The garden room will be clad in timber boards and constructed in lightweight timber frame. By selecting these materials, that have low levels of embodied energy (in manufacture) and using locally sourced timber also reduces transport emissions (policy LP51)

Timber from sustainable Forest Stewardship Council (FSC) sources will be specified.

Existing brick built outbuildings, will be demolished and the material used for hardcore on site.

The long term strategy for EnerPHit design would be to introduce a whole house mechanical ventilation system with heat recovery, the system incorporates filters to the supply air and create a healthy internal environment.