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KL2920/ SA/ACP

SUSTAINABILITY DESIGN AND CONSTRUCTION STATEMENT

First floor extension and single storey extension to Maple House, Ingleton

INTRODUCTION

Sustainability should be considered to ensure that all developments take reasonable opportunities to reduce energy use, water use and carbon emissions and to minimise waste, ensure future resilience to a changing climate and wherever possible to generate power through solar or other means, in accordance with Building Regulations.

This Sustainable Design and Construction Statement demonstrates that the design solution has considered and incorporates sustainable principles covered by the Craven District Council's planning documents referring to energy and water efficiency, adaptation to climate change,sustainable construction processes, materials, recycling, and ecology.

TRANSPORT

- The site lies within a residential area within the village center of Ingleton, which has a with a busy high street, village shops, schools, pubs, and a supermarket.
- All facilities ae accessible on foot.
- The village has good bus links.
- The property has numerous bike storage racks
- The property includes an EC charging point

ENERGY AND CARBON REDUCTION

Energy and CO2 emissions will be reduced through the construction and operation of the dwelling and its services. The emission rate will be lower than the maximum emission rate permitted by Building Regulations. This will be achieved by the following: -

- The energy efficiently of the building fabric will be improved by limiting heat loss across the building envelope and ensuring a high standard of workmanship and attention to detail.
- The construction of walls and floors will provide high thermal capacity to avoid overheating and will retain heat. High levels of insulation will be installed in the floor, walls and roof which will exceed the minimum required by building regulations. Glazing will also exceed the building regulation requirements.
- The extension covers two windows and entrance door which will be replaced with a higher quality thermally sealed units which will provide a net gain.
- The size and orientation of windows will enable the occupants to take advantage of passive solar gain and natural ventilation
- Use of natural daylight where practical will reduce energy use associated with artificial lighting
- Fixed internal lighting will be energy efficient fittings
- Fixed external lighting will be energy efficient fittings
- There is provision for a home office in the location reducing the need for travel to work.

MATERIALS

Where possible materials will be used with a lower environmental impact over their lifecycle. This will be achieved through the following:

- The specification of materials and systems will be mindful of using local companies and suppliers where appropriate to reduce carbon transport footprints.
- All timber will be sourced from sustainable locations.

WATER EFFICIENCY

- Water use will be minimised by installing water efficient equipment as required and increasing awareness of water consumption.
- Rainwater will be collected and stored for external irrigation use.

CLIMATE CHANGE ADAPTATION

- The extension has been designed to minimize solar gain and to ensure natural ventilation is available to all spaces.
- The scheme includes additional PV panels to be installed to supplement the existing system. The scheme also includes for battery storage to fully utilise the generated electricity.
- The property has solar thermal panels which feed into the hot water storage system.

BIODIVERSITY AND GEODIVERSITY

- The property benefits from garden includes areas which will be maintained and protected.
- The proposed extension does not build over any ecological features or green spaces.
- The proposal aims to relocate and increase the planting area to the front garden with shrubs/small trees - allowing ample levels of sunlight to reach the vegetation and actively encourage biodiversity in the area.

POLLUTION

- External lights will be fitted with low energy bulbs and will be operated on a PIR system, activated as required.
- Careful choice of materials will limit pollutants arising from the installation of insulation.

RECYCLING AND WASTER FACILITIES CONSTRUCTION WASTE

- The existing property benefits from a site for its non-recyclable bins as provided by the local council.
- There is ample space for the storage of recycling boxes as provided by the local council
- There is ample garden space to encourage the composting of household waste. A direct link to the gardens from the kitchens eases the facilitation of this.
- Where possible, site ground works waste will be used for the re-leveling of the proposed site levels. Other waste will be recycled and disposed of responsibly.
- The construction waste will be kept to a minimum. Removed materials including slates and roof timbers will be salvaged and re-used, providing a sustainable material use and a limited waste.

FLOOD RISK

- The site is in flood zone 2 as identified on the Environment Agency Maps.

- The proposed construction works to the ground floor extension will include essential mitigating flood measures including walls / floors with low permeability, raised electrical sockets electric socket provision to the ground floor layout

- The proposal builds over an existing hard standing and therefore, with roof drainage managed directly into the sw drainage system, the proposal removes a potential standing water area.