

## SUSTAINABILITY STATEMENT

SITE: Durnston, Carey's Cottages    PROPOSAL: extension to dwelling    DATE:24.03.2022

### Details of how the proposal reduces carbon emissions and incorporates measures to reduce its contribution to climate change

#### 1. Making the most efficient use of land, buildings and natural resources including site layout and building design

Guidance: Energy consumption can be significantly reduced through the location of the development, site layout, building design, the type of material used, the use of existing and new resources and the efficient management of the construction process

The proposal seeks to adapt and extend an existing dwelling such that the glazed areas will be reduced on the north and east elevations for the secondary rooms, whereas larger areas of glazing will be confined to the south and west principal rooms.

#### 2. Energy Hierarchy.

Guidance:    Level 1 -- Reduce the need for energy  
                   Level 2 – Using energy more efficiently  
                   Level 3 – Supplying energy efficiently  
                   Level 4 – Use low carbon and renewable energy

There are opportunities in all types of development to use low carbon and renewable energy sources, however, what is appropriate will depend on the physical nature of the building, its site characteristics and the surrounding landscape.

**Level 1:** The adapted room designation makes the best use of the building's orientation by natural zoning of the principal rooms to the southwest and the lesser room to the north and east. The provision of an air-lock lobby to the front entrance will reduce heat drain from the building during the winter months.

**Level 2:** The installation of a smart meter will assist in the applicants' quest to save energy by installing appliances with A+++ equipment. All new doors and windows will incorporate trickle vents to aid passive ventilation, will incorporate coated multiple-pane, gas-filled sealed units within multiple neoprene seals to prevent draughts. An upgraded high-efficiency boiler will be installed to handle the demand from the increased air volume of the enlarged building for which consent is sought. Air-space heating will be by way of underfloor heating over a replaced insulated ground floor slab and thermostatically controlled radiators to suit the classification of each of the first-floor rooms and the domestic hot water system will be maintained at an economic temperature. All incandescent lighting will be replaced with LED fittings and 'task-lighting' will be used in preference to general lighting that will, in any case, be controlled by PIR presence sensors and augmented with natural sun-pipe/tunnels to windowless first-floor areas. Wherever possible laundry will be carried out in full loads and a suitable 'cold' wash selected.

**Level 3:** No low carbon heat networks are available to the application site.

**Level 4:** However laudable, the installation of a hydroelectric turbine, anaerobic digester or wind turbine would be unsuitable for this location. However, subject to a feasibility study, taking account of the prevalence of overshadowing mature trees, the applicants will consider the installation of solar photovoltaic electric panels to augment the air-source heat pump. An electric vehicle charger will be installed accessible to the parking area.

### **3. Minimising Flood risk**

Guidance: Directing development away from flood risk areas, reducing overall risk from flooding within the National Park and areas outside it, upstream and downstream.

Whereas there is a general long-term low to medium flood risk north of the application site including Meerut Road and the two parallel watercourses north Meerut Road converging into The Weir and eventually discharging into Lymington River West of Balmer Lawn. The development of Carey's Cottages is excluded from the area of flood risk. The footprint of the existing building will not be enlarged and shall not increase any risk of flooding. 'Hardstandings' will comprise permeable paving designed to allow surface water to pass through to the porous subsoil.

### **4. Carbon Reductions**

Guidance: Consideration of means of reducing carbon emissions for the development, seeking to take every opportunity to reduce carbon and build sustainably.

Optimizing sustainability of construction might normally be achieved by sourcing recycled materials locally where possible and using electric heating instead of wood-burners or solid fuel. By exceeding the statutory insulation standards in the new fabric of the building the applicants intend to reduce the carbon footprint and to enjoy the benefit of the resulting fuel economy

### **5. Water Efficiency**

Guidance: Water conservation methods include ensuring that the design of buildings and their surrounding landscape maximises water efficiency and minimises water wastage; identifying opportunities to use water more efficiently during the construction of the development; designing surface water drainage systems to take into account future changes in rainfall.

The collection and storage of rainwater run-off to be used for cleaning windows, cars and watering plants will conserve potable water. Using showers rather than baths, the installation of smaller hand-wash basins and dual-flush WC cisterns will contribute to water saving. The applicants are currently exploring a simple greywater diverter that facilitates the recycling of shower, basin and laundry outflow to a storage vessel dedicated to one WC cistern and for watering the garden. The applicants intend to purchase a washing machine with ECO-was programmes. All roof run-off water will initially be collected in water butts with an overflow into proprietary soakaway cages 5.0m clear of buildings.