

## STATEMENT OF SUSTAINABLE DESIGN MEASURES

'COOTAMUNDRA'

Mc FARLAND'S DOWN

ST. MARY'S

TR21 0NS

### PROJECT DESCRIPTION

Application has been made for the demolition of a derelict, detached house at the northern end of Mc Farland's Down. The existing property is wholly uninsulated and falls substantially short of the requirements documented in Part L Conservation of Fuel & Power 2010. It is also structurally deficient & dangerous internally.

It is proposed to replace the existing building with a highly efficient & technologically advanced dwelling on a similar footprint. The owners' Mr & Mrs N Miles are insistent that the project tackles the current inefficiencies in thermal, acoustic and water consumption head on, and are striving to bring in a project that achieves an Energy Performance Certificate rating as close to 'A' as is practicable. To this end, the following measures have been identified within this submission, all of which aim to achieve a substantial reduction in energy consumption and water consumption: -

### WATER HARVESTING

The existing property relies solely on a mains fed water supply from South West Water for all of the domestic requirements. There is a disused, below ground water tank on the Southern elevation which historically was used for garden watering. It is our intention, to empty, repair & recommission this underground storage to supply not only the needs of the garden, but also the grey water requirements of the new dwelling - predominantly w/c flushing & external taps. This is in line with LPA Policy SS6.

### THERMAL INSULATION

The existing dwelling has absolutely no thermal insulation. The proposed dwelling will achieve U Values in excess of the Building Regulation requirements of 0.18W/m<sup>2</sup> for walls & 0.15 W/m<sup>2</sup> for roofs with the use of additional levels of thermal insulation and by installing highly efficient insulating products such as Actis new generation Hybrid reflective insulation.

### MVHR - MECHANICAL HEAT & VENTILATION RECOVERY

The proposed dwelling will be installed with a bespoke MVHR system, that supplies & extracts air throughout the property. This will help reduce heat loss, but also reduce the heating and cooling demands of the building.

The benefits of this system are: -

Continuous supply of fresh air to provide good indoor air quality.

No CO<sub>2</sub> PEAKS.

No build up of air pollution from cleaning, Radon etc.

Elimination of bad odours.

Controlled air flow path throughout the building.

## RENEWABLE ENERGY

Subject to a satisfactory audit and scheme from our M&E specialists, it is intended to install both a 3Kw PV array & solar thermal water heating solution. In addition, an AIR SOURCE HEAT PUMP will provide both space heating and hot water.

Space heating will be via a 'wet' underfloor pipe array on the ground and first floors. Air Source Heat Pumps provide a far more sustainable option as compared to traditional gas and oil solutions.

## HIGH EFFICIENCY WINDOWS & DOORS

All windows and doors will be of high efficiency timber / aluminium design and will be double or triple glazed. Overheating of the property will be avoided by thermal modelling and by the introduction of bris-soleil (perforated screen / louvres) where required.