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**PROJECT**

Sustainability Report for Planning  
62 Elsworthy Road

**Project No.:** 10/139  
**Date:** September 2010  
**Revision:** 00

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## **INTRODUCTION**

This report sets out the sustainability issues and targets intended for 62 Elsworthy Road.

The development comprises a refurbishment of the main house.

## 2 SUSTAINABILITY

### 2.1 TARGET

It is the team's aim to achieve a Ecohomes 'good' for the property. The exact code can only be established after further design work has been carried out.

### 2.2 ENERGY AND CARBON DIOXIDE EMISSIONS

The scheme will be designed to limit the emission of carbon dioxide to the atmosphere arising from the operation of all plant and equipment.

The emissions from lights and appliances make up about 43% of the total carbon dioxide emissions from the house. This scheme will include energy efficient lighting and A-rated appliances, thus reducing the carbon dioxide emissions.

The use of Low or Zero Carbon sources leads to reduced emissions of greenhouse gases and other pollutants. This scheme will seek to balance the requirements to protect or enhance the character and appearance of the conservation area with the use, where possible, of financially-viable renewable energy technology.

### 2.3 WATER

Water consumption and conservation is becoming an increasingly important issue with water becoming more expensive to produce in both financial and energy terms. This development will use fixed fittings which reduce water use in WCs, taps and showers. Rainwater collection is being considered for both irrigation and use for flushing toilets, etc in the form of a SUDs system. Part G of the Building Regulations will be adhered to, along with other water reduction measures.

### 2.4 POLLUTION

NOx are emitted from the burning of fossil fuels and contribute to both acid rain and to global warming in the upper atmosphere. We will utilise low-NOx high efficiency, condensing boilers within this scheme.

## 2.5 SUSTAINABLE DESIGN APPROACH

This scheme will seek to adopt a sustainable design approach by:

- Specifying environmentally friendly materials and disposal with associated construction waste management plan (Environmental Performance).
- Value engineering and whole life costing to seek best value (Economic Development).

## 2.6 RENEWABLE ENERGY PROVISION

With regard to the provision of renewable energy on this scheme the following have been considered:

### 2.6.1 Open and Closed Loop Boreholes/Ground Source Heat Pumps

There is a slim chance that this scheme offers potential for the incorporation of an open loop type ground source heat pump system. This maybe considered when more detailed work has been done.

### 2.6.2 Solar Thermal Panels

Solar panels have been considered to provide a percentage of the hot water needed. It is intended to provide in the order of 6m<sup>2</sup> of panel total to assist with the provision of hot water. The proposed solar thermal panels are to be located on the top of the main roof, but will be subject to various approvals before implementation.

### 2.6.3 Air Source Heat Pumps

These are not currently being provided.

### 2.6.4 Photovoltaic Panels

As solar thermal panels are being considered it is felt that PV cells will not be, due to lower efficiency.

### 2.6.5 Lighting

The lighting installation will be designed with the aim of reducing the amount of energy consumed. The use of low energy lighting in appropriate locations throughout the house will be incorporated into the scheme to comply with the

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Building Regulations Part L and to contribute to the code for sustainable homes and Ecohomes ratings.

2.6.6

Wind Turbine

Wind turbines have been excluded on the basis of planning and aesthetics.

2.6.7

Wood Chip Boilers and CHP Units

Wood chip boilers are not being considered for the scheme due to difficulties with delivery and fuel storage.

2.6.8

Structure Thermal Performance

New elements of building structure will be constructed to a standard equal or in excess of the requirements within the Building Regulations. Retained external elements of the building will be enhanced with suitable insulation products to enhance current thermal performance and achieve a rating as close as practically possible to the Building Regulations.

2.6.9

Drying Spaces

The house will be provided with internal drying spaces, with mechanical exhaust ventilation controlled by humidistats.

2.6.10

Eco Labels

All white goods, with the exclusion of tumble dryers and dishwashers, will be A rated.

2.6.11

Cycle Storage

Some storage for cycles is provided within the proposed garage.

2.6.12

Home Office

A home office/study will be provided. As required by eco homes.

2.6.13

Building Materials

Where possible, building materials will be responsibly sourced and retained within the existing structure where possible. Reclaimed bricks are to be used throughout the construction where possible.

2.6.14

Recycling

Separate recycling storage space is provided within the proposal, on a scale suitable to domestic recycling associated with a single family dwelling house.

2.6.15

Ecology

All steps will be taken to protect and enhance the ecology in relation to this site. This will include where possible, the provision of bat and bird boxes and sensitive planting materials.

## 3

**CONCLUSIONS/SUMMARY**

It is the intention of our Client to provide, where possible, a highly insulated structure which will inherently reduce the energy usage of the proposed scheme. The proposal will target high standards in terms of Ecohomes.

High efficiency condensing boilers will provide the main source of heating for the building. The use of ground source heat pumps may be considered.

All appliances and equipment used from taps and boilers to white goods will be of the highest quality and selected to provide the most sustainable systems.

All materials selected will be from the most sustainable sources, and all construction work itself will be carried out in the most sustainable manner including everything from demolition to transportation.