

# Development of Buzza Garage on Brownfield Infill Site St Mary's, Isles of Scilly

## STATEMENT of SUSTAINABLE DESIGN MEASURES

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### Background

The Applicants wish is for this house to be a low energy building, employing passive design techniques and also the current advancements of on-site renewable technology.

The building will be constructed using high thermally efficient and air-tight construction with robust thermal detailing to create a low carbon impact, contextually sensitive dwelling with built in longevity to sustain this as a family dwelling for generations.



### Objective

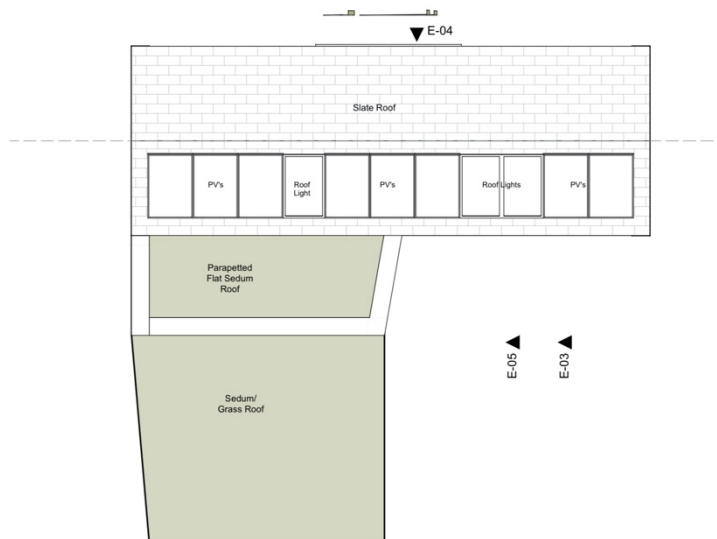
This document sets out the measures to be taken to aid sustainable design;

- Using renewable technology through solar panels.

- Ensuring thermally efficient and air-tight construction and insulation create a low carbon impact.
- Ensuring demolition and construction are ecologically and environmentally sensitive.
- Reducing water usage.
- Implementing a living roof to reduce total run-off volume of rain water.
- Adding a garden to enhance biodiversity and sequester carbon.

## Solar Heating /Solar Panels

- The site analysis helped to form site (building) lines to respond to best aspects with south passive solar gains.
- On-site renewables will be employed.
- A PV array is proposed on the South East portion main roof pitch.
- The PV array will also have a switch to re-direct excess generation to heat water for heating and domestic hot water usage.
- Low energy light sources will be utilised through the proposed property.
- The solar panels will be carefully integrated into the design so they will not compromise the attractive designs, see below;



Plan to show PV panels in the design

## Construction and Insulation

- Construction advancements of air-tight and energy efficient fabric will be evident throughout the building, while at the same time respecting local form and materials.
- Existing granite on site will be retained for use in the new build along with utilising sustainable sources and low 'net carbon' building materials where possible.
- Building materials can be locally sourced where possible and suppliers and contractors from the local community can be used for the construction work.
- Using local contractors and local resources will also minimise transportation costs and the reliance on transport systems.
- The building work will be fully compliant with the modern stringent Building Regulations requiring high standards of insulation.
- A 'living roof' will be implemented to improve the roofs thermal performance.

## Biosecurity

- To ensure biosecurity with respect to building materials (reducing the risk of introducing or spreading invasive non-native species) local contractors will be used where possible, if external contractors are used, ensure their kits is cleaned and biosecure before arriving on Scilly.
- To protect the islands elm trees, ensure that any wood used or any garden materials are free from Dutch elm disease (a fungi) and elm zigzag sawfly (fly larvae) [www.trees.org.uk](http://www.trees.org.uk)

## Construction process

- The owners will ensure that the appointed contractor will manage the building project in an environmentally sensitive manner. The following considerate principles will be adopted: control measures to ensure reduced sound levels during construction work; appropriate working hours; waste is minimised; safe building procedures; any demolition occurs only after final inspection for roosting bat presence and bird presence (please see the 'Statement of Biodiversity Enhancement Report').

## Reducing water usage

To assist with reducing water consumption, which is paramount on Scilly, the following actions will be undertaken;

- 'Low-flush toilets' and low water usage appliances will be used.
- Rainwater harvesting provision will be made for use around the proposed property to save on mains water where applicable. This water can be used for watering plants in the garden, the 'living roof', added to the mini-pond and bird bath (please see the 'Statement of Biodiversity Enhancement report' ). It can also be used for window cleaning and other general purposes.

## Living roof and garden

- A 'living roof' with succulents is part of the design plans. These succulents being naturalised on Scilly or from local providers such as <https://www.scilysucculents.co.uk/>

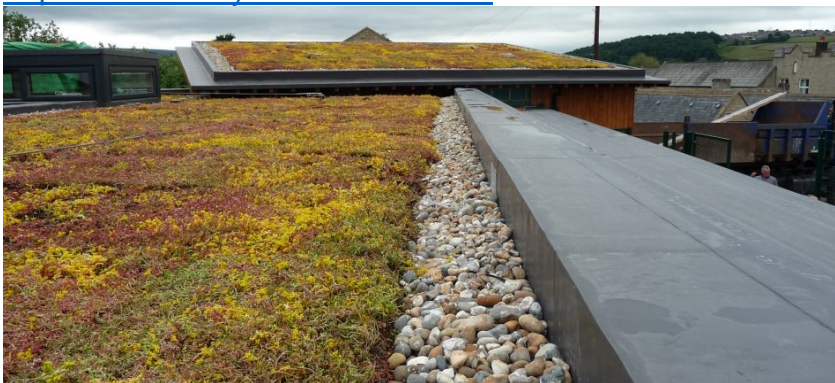


Image of a 'living roof with succulents.

- Once established a living roof can significantly reduce both peak flow rates and total run-off volume of rain water from the roof compared to a conventional roof. This helps prevent localise flooding.

- The garden area will also be landscaped to be aesthetically pleasing and in keeping with neighbouring properties. A grass lawn (grown from native grass seed and wild flower mix) for recreation also provides the soil and sward habitat for a range of species including invertebrates, birds and mammals.
- Soil is a carbon sequester (second to the world's oceans). The soil in the garden will be improved by growing endemic plants; adding compost or other organic matter; not using artificial fertiliser.
- The 'Statement of Biodiversity Enhancement report' details; retention of a garden and borders with some of the vegetation currently on site; adding more species of vegetation to the garden to provide further wildlife habitats;
- To ensure biosecurity with respect to native ladybirds, ensure Harlequin ladybirds (non-native and predate native ladybird larvae) do not stow away in gardening materials. Source gardening materials on island, and if a harlequin ladybird is seen report to [www.coleopter.org.uk/coccinellidae](http://www.coleopter.org.uk/coccinellidae)

## Waste Management

'The Site Waste Management Plan' will ensure the contractors adhere to and take responsibility of waste during demotion and construction in order to;

- Promote reuse, recycling and recovery of waste rather than disposal and to landfill
- Reduce the environmental impact from landfill
- Minimise contamination and damage

## Improving public aesthetics

- Currently this is a Brownfield Infill Site, with a semi derelict garage. As part of this development the applicant will be improving the site and investing in landscaping work. Features from neighbouring properties and gardens will be reflected on this site to be in-keeping and complementary.

## Summary

To ensure biodiversity net-gain at this brownfield infill site, we the owners will;

- Use renewable technology through solar panels.
- Ensure thermally efficient and air-tight construction and insulation create a low carbon impact.
- Ensure demolition and construction are ecological and environmentally sensitive.
- Reduce water usage.
- Implement a living roof to reduce total run-off volume of rain water.
- Add a garden to enhance biodiversity and capture and sequester carbon.

As passionate advocates of protecting the environment and heritage of Scilly environmentalists, we – the owners, will do our utmost to ensure sustainable design measures are implemented and sustainable living elements continue.

