Sustainability Statement

Site: Mayfield, Sway Road, Brockenhurst SO42 7RX

Proposal: Side and rear extension

Date: 4/5/22

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 development, site layout and building design, the type of materials used, the use of existing and new resources and the efficient management of the construction process.
Reuse materials where-ever possible (subject to Bldg Control and other legislation). Provide energy efficient LED lighting and external lights to have PIR's.provide over insulated elements where possible and use nateral insulation material (sheeps wool) for loft areas. Limit use of plastics and use timber products where possible

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.
Employ underfloor heating with zonal manifolds. New double glazing to all new openings and replace glazing where necessary. Provide PV panels on South West Elevation roof area. Wood burning stove provided within main living area. Re-insulate where possible to a higher U value. Old redundent chimney removed. Provide masonry walls where possible for heat sink. Use post box rather than letter box slot in door. Existing heating system and boiler system overhauled to make more efficient.

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.
The roof storm water will be dispersed into ground soakaways using aqua crates (or equal approved) rather than rubble filled soakaways to provide additional short term storage. Water butts also used for local storage and garden watering re-use. The site is a FZ1 area. Maintaining gravel drive for natural infiltration of rain water

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.
Wood burning stove proposed and PV Panels installed

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.
Water butts also to be used for local storage and garden re-use, with overflow going into sakaway. Soakaways to be design to BRE 365 with Urban growth allowance and climate change to ensure greater capacity. Silt traps used in draimnage to prolong life of soakaway. Internally updated water appliances to minimise water use from old taps and showers.

*Energy Hierarchy

Level 1 – Reduce the need for energy

The energy hierarchy places great emphasis on Integrated Passive Design. Key methods include:

- *Orientation* – making best use of high summer sun angles & low winter sun angles on southern exposures;
- *Thermal mass* – to store heat in the winter and act as a heat sink for cooling in the summer;
- *Natural ventilation* – designing controlled flows through buildings for cooling;
- *Zoning* – to allow different thermal requirements to be compartmentalised.

Level 2 – Using energy more efficiently

Using energy more efficiently means not wasting energy or using more than is required. The following potential energy efficiency measures should be considered:

- High levels of insulation.
- Utilising appropriate forms of glazing
- Installing heating controls.
- Using energy efficient heating and heat recovery systems.
- Adding draught strips on doors, windows & letter boxes.
- Fitting chimney balloons.
- Installing zoned low energy lighting and presence sensors.
- Replacing doors in existing buildings.
- Upgrading to a high efficiency condensing boiler
- Adding a sun pipe/tunnel

Level 3 – Supplying energy efficiently

Supplying energy efficiently refers to connecting to existing low carbon heat networks. Connection to, or development of, a mini district heating network can be a carbon efficient means of energy supply.

Level 4 – Use low carbon and renewable energy

Once the energy needs of a new building have been minimised through design, consideration needs to be given as to how the remaining energy needs can be met through:

- Heat pumps: ground source heat pumps and air source heat pumps.
- Wood burning stoves/biomass boilers.
- Solar thermal/hot water panels.
- Solar photovoltaic/electric panels.
- Hydro power, small scale water turbines.
- Anaerobic digesters.

**Minimising Flood Risk

Sustainable Urban Drainage Systems (SuDS) remove water quickly and efficiently and should be included in the original design and layout of a proposal wherever possible. The approach used will differ with each application and the circumstances of each site.