

SUSTAINABILITY & ENERGY CONSERVATION STATEMENT

***Hollyrood House
Ardingly Road
Lindfield
West Sussex
RH16 2QY***

Architect: Sherwood Architects
Davey House
31 St Neots Road
Eaton Ford
St Neots
Cambs
PE19 7BA

Job No: 3404

Date: 10/10/24



INTRODUCTION:

The Sustainability & Energy Statement supports a Planning Application for:

- Demolition of outbuildings.
- Change of use to Residential C3.
- Conversion of Hollyrood House including construction a two-storey infill extension; first floor extension over a flat roof single storey building; flat roof changed to pitched and internal alterations to provide 16 no. apartments (13 two-bed and 3 one-bed),
- Conversion and refurbishment of Oakwood Building into 2 three-bedroom semi-detached dwellings with window and doors aperture amendments
- Refurbishment of Hollyrood Cottage into 3 Bedroom detached dwelling.
- Provision of refuse bin areas and bike stores
- Amend access road, car parking layout and landscaping.

This statement has been prepared to identify what principles will be adopted in the design and detailing of the proposed development to achieve 35% reduction in carbon emissions in National Technical Standards (2015) for energy performance.

SITE WIDE IMPLICATIONS:

Landscape, Trees & Ecology

Existing ecologically significant landscape feature will be protected and preserved to encourage local biodiversity. Planning will be aimed to enhance the ecological value of the site, for example through the use of appropriate native species that encourage local fauna. The full extent of the ecology improvement is assessed and quantified within the BNG calculations



Vehicular Access & Sustainable Drainage

Vehicular access surfaces such as concrete and asphalt collect pollution (oil, petrol, brake dust etc.) that is washed off into storm water drains. These drains carry rainwater directly to streams or rivers where the pollution damages wildlife and the wider environment. In older areas the rainwater may go into the foul water sewer which normally takes household waste from bathrooms and kitchens to the sewage treatment works. These overflow into streams and rivers during heavy rainfall. As more water runs into foul sewers from paved areas there are more frequent overflows, passing untreated sewage into watercourses. Therefore measures need to be taken to control the storm water discharge from the development.



Currently the hard landscaped areas positively discharge into soakaways. Our proposal reduces the amount of hard standing area and introduces permeable paving and grass filled cell web finishes. All vehicular areas will utilise permeable paving to ensure that peak water run-off is no greater post development than it is for the current building and hard standing extents. This will not only minimise the risk of localised flooding on site, but also moderate discharge into storm water soakaways.



DWELLING & APARTMENT PRINCIPLES:

Water Conservation

Within the design of the individual apartments and dwellings water saving measures will be incorporated. This will include using dual flush low capacity WC cistern; low flow taps; low flow aerated showers and potentially rainwater harvesting systems for garden watering.



Sustainable Energy Use in the apartments & dwelling

The existing buildings are to be refurbished. There will be upgrades of existing insulation and ventilation standards to reduce energy demand, ensure they use efficient supply of energy and will incorporate low and zero carbon technology to provide low emission heat and power.

Building fabric:

The current energy performance of the floors, walls and ceilings will be evaluated and where practical the performance levels enhanced across the development with an aim to achieve a reduction in carbon dioxide emissions of 35% beyond the 2013 Building Regulations.

Fabric improvements will try to achieve 'U' Values of:

External walls $0.13 \text{ W}/(\text{m}^2\text{K})$

Walls to unheated communal spaces $0.13 \text{ W}/(\text{m}^2\text{K})$

Ground floor $0.11 \text{ W}/(\text{m}^2\text{K})$

Exposed suspended floors $0.11 \text{ W}/(\text{m}^2\text{K})$

External roofs $0.11 \text{ W}/(\text{m}^2\text{K})$

External windows $1.2 \text{ W}/(\text{m}^2\text{K})$

Glazed doors $1.2 \text{ W}/(\text{m}^2\text{K})$

Air permeability design will look to achieve $4\text{m}^3/\text{m}^3/\text{hr}$.



Energy Saving Sources

Energy Saving Measures to be incorporated will be as follows:

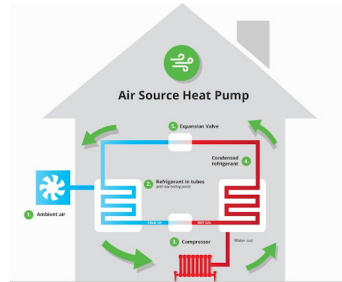
- Dedicated low energy light fittings throughout
- External security LED lighting limited to 10W and controlled by movement and day/light sensors
- Maximise natural daylighting to reduce lighting loads, in addition daylight brings occupant health benefits
- Maximise useful passive solar gain where practicable to reduce heating load
- Bicycle storage to encourage commuting by bicycle
- Dry lines to minimise use of tumbler dryers
- Suitable facilities for home office to allow working from home



Space Heating

Currently the building complexes have gas fired boilers with radiators space heating.

There are alternative heat source options available and these will need to be investigated. As a base starting point space heating will be provided by Air Source Heat Pump. Alternatives primary heat source to be considered could be electric or high efficient ultra-low NO_x (less than 40mg/KWh) condensing gas boilers.



Water Consumption

The Proposed Development will include a number of features to reduce potable water demand:

Water fittings and sanitary ware will be selected on the basis of low consumption, including dual flush toilets, aerated taps and showers, and intelligent water controls. The dwellings will be designed for low water consumption resulting in a design for 110 litres per person per day or less. Water will be metered for all buildings, via smart meters, allowing occupants and residents to monitor and observe water consumption.



Waste & Site Management

Once dwellings and apartments are completed the recycling of household waste by building occupants will be encouraged by adopting the local authority recyclable collection system, allowing the easy storage waste stream.



Building Completion and handover:

To ensure dwellings operate at their desired level of energy efficiency and provide a comfortable and health living environment, and to facilitate easy maintenance management of the building fabric and its system, a comprehensive Building User Guide will be provided for each house. This will provide essential information in easily understandable user friendly format.