

**22, Davenport Road, Felpham, Bognor
Regis, West Sussex, PO22 7JR**

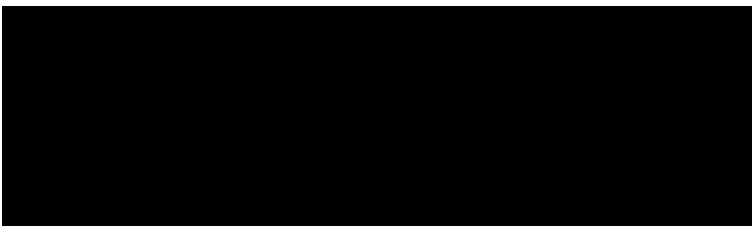


Energy & Sustainability Statement

9th September 2025

Report produced by -

Ian Bacon
Director
Blewburton Limited
23 St Martins Street
Wallingford
Oxfordshire
OX10 0AL



Web: www.blewburton.com



Contents

1.0	Introduction	4
2.0	Proposed Approach to Energy & Sustainability	6
3.0	Energy Conservation and Carbon Emissions.....	7
4.0	Water Resource Management.....	10
5.0	Flood Risk & Surface Water Management.....	12
6.0	Ecology & Biodiversity	14
7.0	Waste & Pollution	15
8.0	Materials Selection and Sustainable Construction Methods.....	16
9.0	Summary	17

1.0 Introduction

- 1.1 Blewburton Limited has been commissioned to prepare an Energy & Sustainability Statement to support the application for planning permission for the construction of a new dwelling at 22, Davenport Road, Felpham, Bognor Regis, West Sussex, PO22 7JR.
- 1.2 As licensed BREEAM, HQM, Code for Sustainable Homes and energy assessors of several years standing, Blewburton Limited has considerable expertise in all issues of energy assessment and sustainability
- 1.3 The site is located within the built-up area of Bognor Regis, to the south of the town centre and has a sea frontage. The plot is level and sits between other properties, with access from Davenport Road to the north, with access to Bognor Regis Promenade to the south. The surrounding area is a 1920s built residential estate and comprises detached dwellings set within plots of varying sizes, with a degree of infill having occurred over the years.
- 1.4 The proposed scheme will see the construction of a detached, two-storey, two-bedroom dwelling on land that sits within the curtilage of the existing property at 22, Davenport Road. The proposal will also allow for parking to the front of the site and private amenity space to the rear.
- 1.5 The existing site location and wider area is shown in the aerial photo in Figure 1 below, with a site location plan shown in Figure 2 and the proposed site layout shown in Figure 3.

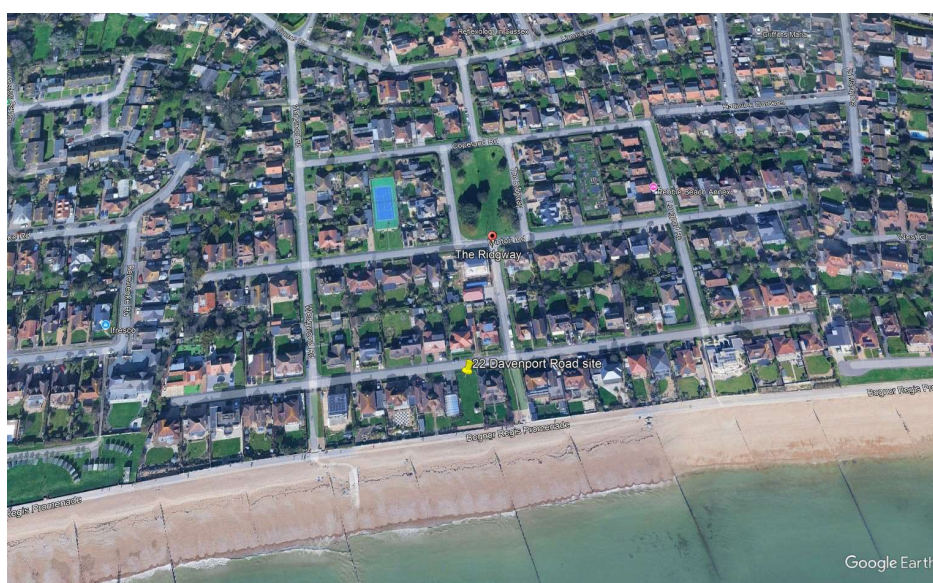


Figure 1: Aerial photo of site location and wider area



Figure 2: Proposed site location plan

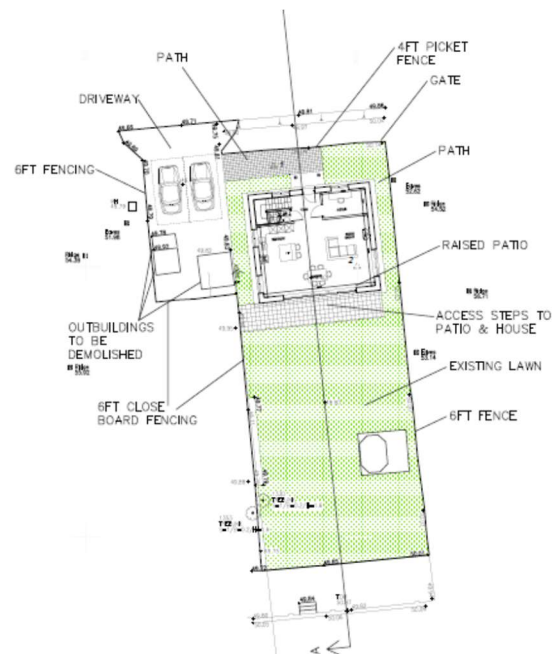


Figure 3: Proposed site layout

2.0 Proposed Approach to Energy & Sustainability

- 2.1 This proposal is within Arun District Council's (ADC) planning jurisdiction. The ADC Local Plan Policy ECC SP2: Energy and Climate Change Mitigation states the following:

All new residential and commercial development (including conversions, extensions and changes of use) will be expected to be energy efficient and to demonstrate how they will:

- a. Achieve energy efficiency measures that reflect the current standards applicable at the time of submission;*
- b. Use design and layout to promote energy efficiency;*
- c. Incorporate decentralised, renewable and low carbon energy supply systems, for example small scale renewable energy systems such as solar panels.*

All major development must produce 10% of the total predicted energy requirements from renewable or low carbon energy generation on site, unless it can be demonstrated that this is unviable. Energy efficiency measure will be taken into consideration when the total predicted energy requirements are calculated.

- 2.2 Therefore, whilst there is no requirement for this proposed development to exceed Part L of the Building Regulations compliance, it is expected that a strong approach to energy efficiency will be undertaken and that some form of renewable energy technology will be incorporated into the specification.

- 2.3 ADC Local Plan Policy ECC SP1: Adapting to Climate Change also requires new development to consider the following issues:

- a. Location (in relation to flood risk and vulnerability to coastal erosion);
- b. Water efficiency
- c. Shade, cooling, ventilation, solar gain;
- d. Connectivity to the green infrastructure network;
- e. Layout and massing;
- f. Resilience of buildings and building materials to extreme weather events; and
- g. Capacity of drainage systems and incorporation of Sustainable Urban Drainage Systems (SUDS).

- 2.4 Accordingly, this statement sets out the approach that the applicant is proposing to adopt to ensure that the proposal meets the high standards of energy use and sustainability set out in local planning policy as detailed above.

3.0 Energy Conservation and Carbon Emissions

- 3.1 It is recognised that the generation of energy to heat, light and cool buildings is responsible for approximately half of the total CO₂ emissions of the UK. Part L of the Building Regulations requires a minimum standard of energy efficiency in new development, however, it is the intention with this development to go beyond this.
- 3.2 As a first step in dealing with carbon emissions arising from energy use within buildings it is important to consider designing in energy efficiency measures as part of the construction of the building, as these will be difficult to retrofit in the future and this will also reduce the amount of energy required by a building.
- 3.3 Reduction of heat loss is a key element of this and it is proposed that insulation within floors, roofs and walls will exceed the minimum standards required under Part L (Conservation of Fuel and Power) of the Building Regulations, as will the U-values for glazing and doors.
- 3.4 The initial specification supplied by Scandia-Hus (who will be supplying the house) has the following U-values and these will be confirmed once detailed design commences, post planning permission being granted –
- Ground floors – 0.11 (Part L compliance is 0.18)
 - External walls – 0.15 (Part L compliance is 0.26)
 - Roofs – 0.13 (Part L compliance is 0.16)
 - Windows/glazed doors – 0.9 (Part L compliance is 1.6)
- 3.5 An airtight building will also play a major part in the reduction of heat loss via the external envelope and coupled with adequate ventilation to ensure internal air quality, is an important element in energy efficient building design. Accordingly, an improvement on the minimum Building Regulations requirement for building air permeability rate within the building will be sought, with an initial target of 3.00m³/hm² (@50Pa) or lower being the intention (Part L requires a maximum target of 8.00m³/hm² (@50Pa)). To ensure an adequate supply of fresh air, but also to retain as much heat as possible, Mechanical Heat Recovery Ventilation (MVHR) will also be installed.
- 3.6 Attention will also be paid to the designing out of thermal bridges and this is an element that the supplier of the proposed timber frame construction, Scandia-Hus, have developed a strong approach to and their construction details will be fully implemented as part of the build. It is increasingly recognised that as standards of insulation improve, this issue, in conjunction with air leakage, plays an increasingly important role in the energy efficiency of a building and getting both right at design stage and ensuring they are then implemented during construction is considered to be important for this development.
- 3.7 The proposed heating and hot water system for the dwelling has yet to be confirmed, with preference currently for the use of Air Source Heat Pump (ASHP) technology and

with this in mind, an underfloor heating system is proposed for the ground floor area, with radiators on the 1/F. The system will feature full time and temperature zone controls for both heating and hot water delivery, meaning energy is only used as and where required. Additional smart control systems such as weather compensation will also be incorporated into the heating specification.

- 3.8 The option to utilise solar energy technologies has been considered with the adoption of solar photovoltaics (PV) for electricity generation taken to be a viable option for the site, as there is unshaded space on the areas of easterly and westerly facing roof to host the required PV arrays. The option to install this technology will be further considered once/if planning permission is achieved, along with the option to include a battery to store the generated electricity as part of the installation.



Figure 4: A Scandia-Hus house with solar PV installation

- 3.9 The use of passive solar design has been considered and where possible good levels of glazing have been designed into the proposals to allow for natural light penetration. Where artificial light is required, the focus will be on the provision of the energy efficient lighting systems as appropriate to locational requirements. No cooling is currently expected to be required (but to be confirmed) as the dwelling is not expected to suffer from overheating due to good cross ventilation and will be constructed and specified to comply with Part O of the Building Regulations (overheating).
- 3.10 All 'White Goods' installed – fridge-freezer, washing machine and dishwasher – will be rated as minimum 'A' under the EU Energy Labelling Scheme and attention will be paid to the energy specification of all electrical equipment to be installed within the dwelling.

3.11 At least one Electric Vehicle (EV) charging point to facilitate the use of electric vehicles will be installed.

3.12 Finally, an OWL "Standalone" Electricity Monitor (or similar product) will be installed to allow the householders to monitor and understand their electricity consumption – see image, right. The monitor shows consumption or cost per hour (or kwh if preferred), and has a CO₂ equivalent reading too. Because the monitor is wireless and portable, the householder can easily walk around the house and observe, by switching on and off, how much energy particular devices are using. They can also see the overall consumption by day / week / month and compare periods to see if savings have been made.



Figure 5: Image of OWL monitor

3.13 The use of energy conscious design principles and a fabric first approach means that the building will remain energy efficient for its entire lifetime and the overall requirement for energy input is reduced for heating and hot water. The approach outlined above meets the various requirements in the ADC Local Plan.

4.0 Water Resource Management

- 4.1 The UK has a poor record in being profligate with its abundant water resource and the South-East of England is recognised as suffering from water stress, therefore, for this scheme only water efficient products will be specified.
- 4.2 The actual specifications of the water using products is yet to be established, however, the following specification is considered realistic for this type of development and an assessment of the efficiency of the building's domestic water-consuming components has been undertaken using the Building Research Establishment's water calculator.
- 4.3 The water consumption (L/person/day) for the proposed dwelling shows a figure of 98.51l/p/d with the following proposed specification (which is below the 125.00l/p/d required by Part G of the Building Regulations):
- Dual 4.0/3.0 litre flush WCs;
 - Shower average flow rates of 8.0L/min;
 - Basin average tap flow rates of 3.0L/min;
 - Kitchen tap average flow rates of 6.0L/min;
 - Bath average overflow capacity of 165 litres;
 - Water efficient washing machine (8.0L per kg dry load) and dishwasher (0.9L per place setting).
- 4.4 Should a more generous specification for internal water using products be decided upon, then thought will be given to the installation of grey-water harvesting systems, such as the EcoPlay unit, pictured below, however, rainwater harvesting will not be utilised for internal water use as the carbon footprint arising from the pumps involved with such a system is heavy and it is more efficient to specify the low flush WCs detailed above in 4.3.



Figures 6 & 7: External rainwater harvesting butt & EcoPlay unit above WC

- 4.5 Externally, a rainwater harvesting water butt will be provided complete with a tap for use in the garden and for car washing.
- 4.6 The provision of water meters is also recognised as an important tool in reducing water usage and in a domestic context they can encourage people to monitor and reduce their water consumption by an average of 10% to 15%. Therefore, the dwelling will have an individual, easily accessible water meter installed as part of its specification.

5.0 Flood Risk & Surface Water Management

- 5.1 The site is located in an area previously designated as being within Flood Zone 3, as the area was deemed to be at high risk from coastal flooding. In January 2025 the Environment Agency released a new National Flood Risk Assessment (NaFRA) and a new National Coastal Erosion Risk Map (NCERM) using the best available data, information and modelling from the Environment Agency and local authorities. This provides the most detailed and accurate understanding of current and future risks, accounting for UK climate projections from the Met Office.
- 5.2 The latest information on flood risk at <https://www.gov.uk/check-long-term-flood-risk> for the site (see Figure 8, below) provides the following risk levels for flooding from the sea and surface water:

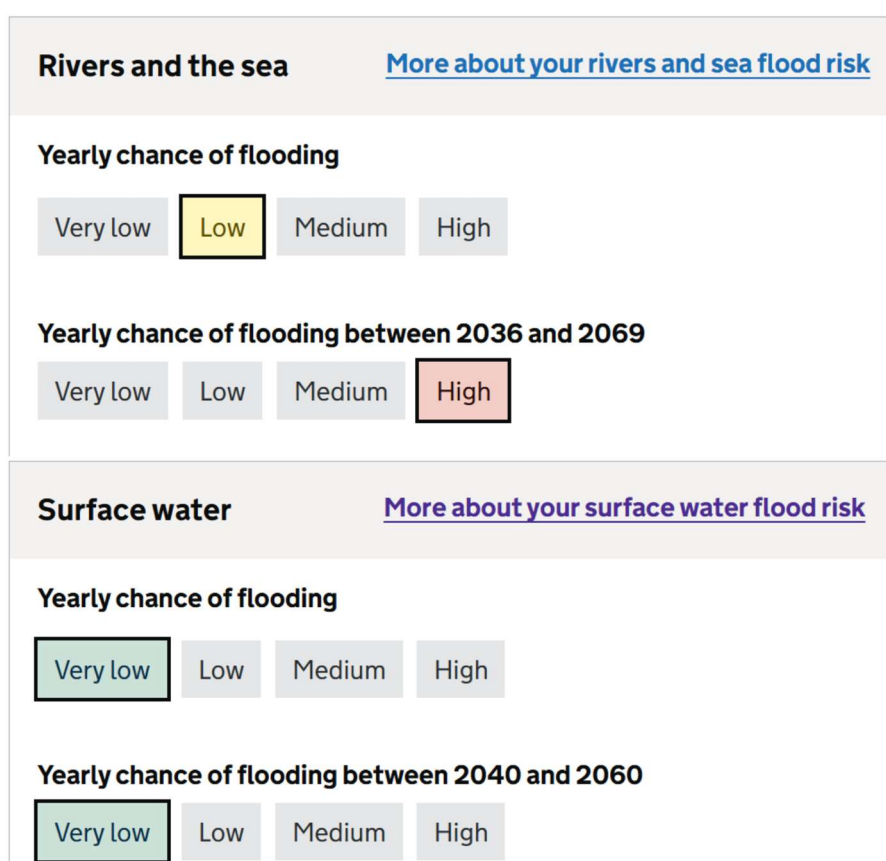


Figure 8: EA website screenshot of the flood risk for the site

- 5.3 Clearly, the location of the site is predicted to be at a greater risk by 2036 attributing for climate change, however, a sequential risk based approach determines that there are no reasonably available sites appropriate for the proposed development in areas with a lower level of future risk. In addition, the risk is no greater than to that of existing properties in the immediate vicinity. Further assessment on the risk of flooding in this location is contained within the supporting Flood Risk Assessment (by Aegaea Limited) which accompanies the planning application.

- 5.4 The supporting Flood Risk Assessment also confirms that the proposal would be designed and constructed to reduce future risk in this location.
- 5.5 The development will be provided with a raised finished floor level compared to existing ground levels, provide sleeping accommodation at the first floor and utilise resistance and resilient design and construction methods. For instance, addressing the positioning of wiring and power sockets, use of appropriate materials at ground level to enable easy replacement (e.g. waterproof plasterboard) and flood resistant fenestration (e.g. from water pressure).
- 5.6 Surface water drainage will be appropriately addressed through a sustainable drainage strategy to ensure that no new impacts arise, utilising the Sustainable Urban Drainage Systems (SUDS) hierarchy, as appropriate.
- 5.7 It is proposed to that surface water runoff will be dealt with via a geo-cellular soakaway, with the driveway and paving managed by unlined permeable paving, discharging into the ground via infiltration.

6.0 Ecology & Biodiversity

- 6.1 The development site is currently the side area of garden for 2, Davenport Road and is predominantly laid to lawn. It has no specific ecological value in its current state and nothing that requires protection. An image of the front of the site from the north is shown below in Figure 9, and bears this out.

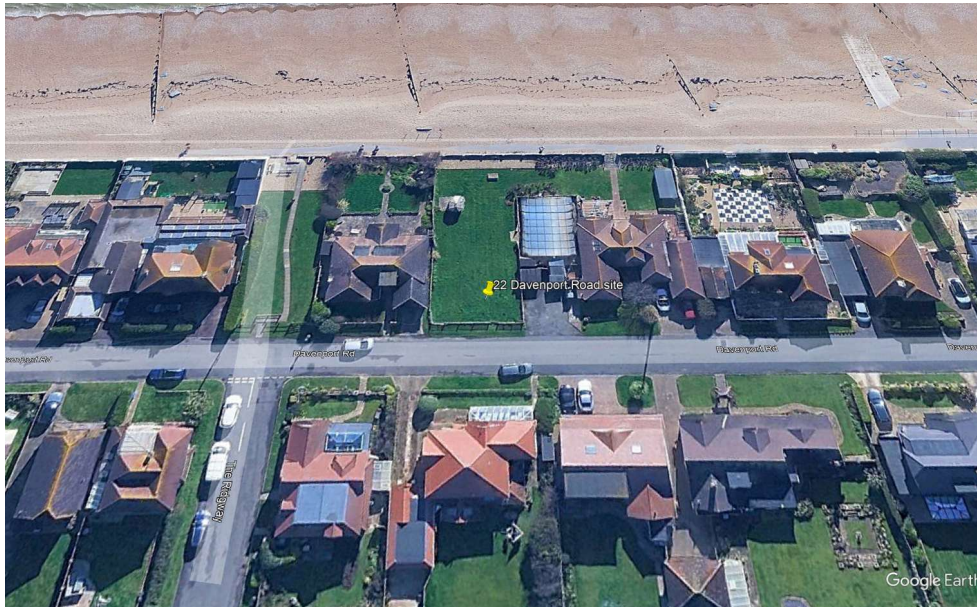


Figure 9: Image of existing site

- 6.2 The layout of the site will allow for a rear garden, that will comprise of lawn and borders, with borders also located to the side and front of the plot.
- 6.3 The landscaping specification will be developed to focus on native and/or wildlife enhancing species applicable to the coastal location and will not involve the use of peat. The option to install bird boxes and feeding stations will also be considered, with a particular focus on the local population of small birds. Boundary treatments will either be porous or feature small holes for access across site of small animals.

7.0 Waste & Pollution

- 7.1 Waste arising from the construction process has been an area of focus for some years now, with the industry making good strides in re-use and reduction of materials, which not only helps the environment, it also engenders significant cost savings to developers.
- 7.2 With this in mind, the appointed contractor for the scheme will be encouraged to develop a comprehensive site waste management plan (SWMP) prior to the start of construction reflecting the recognition that reduction of waste begins in the design and ordering stage of a project and carries on through to the sign-off of the building. This SWMP will set targets and procedures for the sorting, reusing and recycling of construction waste into defined waste groups, either on site or through a licensed contractor.
- 7.3 The proposed use of factory fabricated wall and roof elements for this scheme is a particular help in reducing waste, as this allows for exact design and specification, thus removing waste at source and is recognised as one of the key environmental benefits of this approach to construction.
- 7.4 The generation of waste does not stop at the end of the construction process and adequate provision will be supplied to the proposed dwelling, both internally and externally, to allow for the sorting of general waste from recyclable materials.
- 7.5 Provision for composting of food waste arising from the kitchen will also be supplied in the form of a compost cone to the garden along with information on how to successfully compost, to further reduce waste streams arising from the new development.
- 7.6 Pollution can occur in various guises and attempts will be made to design out or mitigate against the of issues identified below.
- 7.7 At the construction stage there can potentially be noise nuisance for neighbouring properties and all contractors will be made aware of and expected to comply with policies to prevent this issue. They will also be expected to have and operate policies to facilitate against air and water pollution from their activities and to have procedures in place should an accident occur.
- 7.8 Light pollution will be countered by the use of external lighting which only involves energy efficient fittings, daylight detectors and angling/capping to prevent unnecessary glare.

8.0 Materials Selection and Sustainable Construction Methods

- 8.1 The material specification for this project currently proposes a timber frame dwelling and this sits well with the client commitment to ensuring that all materials score as highly as possible in the Building Research Establishment's Green Guide to specification – see Figure 10 below. In particular, the construction of the walls, roof and windows are expected to achieve an A or A+ rating.
- 8.2 In addition, wherever possible all building and finishing materials will be sought from local suppliers and manufacturers registered to an environmental management scheme such as FSC, BES6001, ISO14001 or EMAS. This will ensure that the materials have been sourced from suppliers certified as ethical and responsible as far into the supply chain as possible.
- 8.3 The use of factory made timber frames will also have a strong positive impact in the reduction of waste, as well as allowing for reduced embodied and transport energy impacts.
- 8.4 All insulation materials selected for this building will have a Global Warming Potential of below 5 and where possible be made from natural products
- 8.5 All materials selected will be reviewed for their resilience and ability to withstand climate change and any associated extreme weather events, an important aspect for all coastal buildings.
- 8.6 Finally, attention will also be paid to materials specified for the internal environment with a focus on materials/finishes containing low/no volatile organic compounds (VoCs) in an effort to improve the internal environment for occupants as internal air pollution is increasingly recognised as having negative impacts on health.

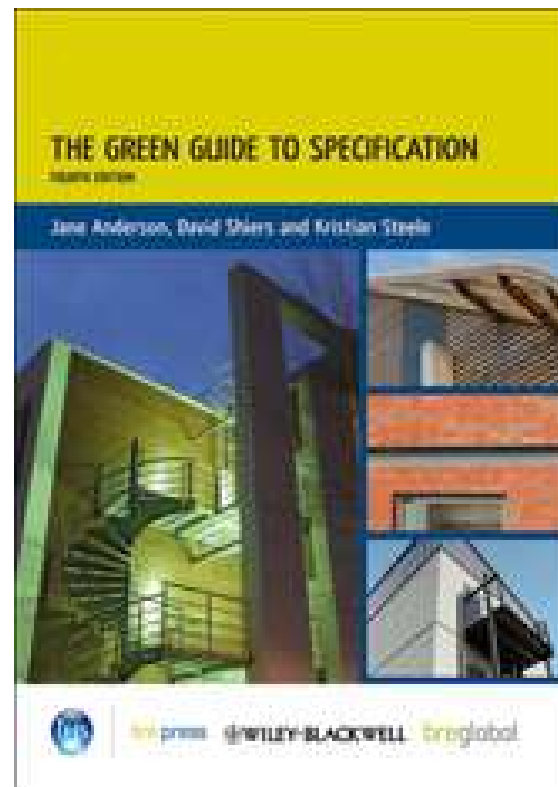


Figure 10: BRE Green Guide to Specification

9.0 Summary

- 9.1 In summary, this development demonstrates a strong commitment to sustainability, above and beyond that required for a minor development within the ADC planning jurisdiction.
- 9.2 The approach to energy and carbon emissions is particularly strong as based on current modelling, the dwelling will exceed Part L of the Building Regulations requirements by 65.94%, which is an excellent performance.
- 9.3 Other areas of strong approach involve the plans for water efficiency, which also significantly exceed Building Regulations compliance levels and waste and materials issues, which are also to be approached in a manner beyond standard for most developments.
- 9.4 In short, given the nature of the scheme, along with the intentions outlined within this report, the proposed development is deemed to meet high levels of sustainability and can be held up as exemplar for other windfall sites that the Arun Local Plan has an expectation will deliver 847 additional homes over the plan period.

Important Notice - Whilst reasonable steps have been undertaken to ensure that the information contained within this report is correct, you should be aware that the information contained within it may be incomplete, inaccurate or may have become out of date. Accordingly, Blewburton Ltd makes no warranties or representations of any kind as to the content of this report or its accuracy and, to the maximum extent permitted by law, accept no liability whatsoever for the same including, without limit, for direct, in-direct or consequential loss, business interruption, loss of profits, production, contracts, goodwill or anticipated savings. Any person making use of this report does so at their own risk and it is recommended that they seek professional advice from their own advisor whenever appropriate.