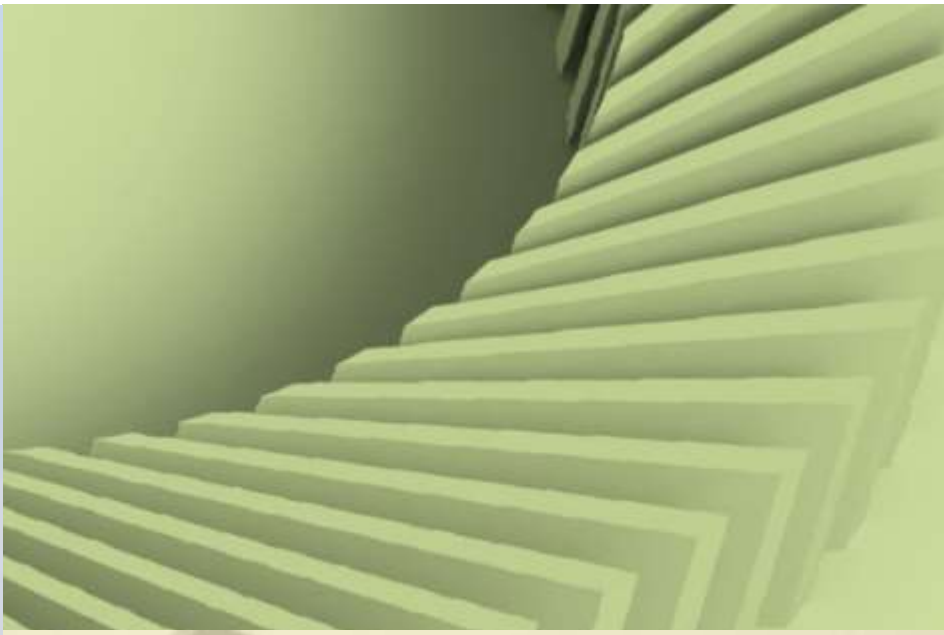
McCarthy Stone

Winchester Road, Boorley Green

Energy Statement

July 2024



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1.0 Introduction

1.1 Purpose of the Report

Instructions were received from McCarthy Stone to produce an Energy and Sustainability Statement for the proposed development at Winchester Road, Boorley Green. This report has been produced to support the planning application to be submitted for the development.

This statement provides a response to the following relevant Eastleigh Borough Council documents and policies:

- The Eastleigh Borough Local Plan (2016-2036) Adopted April 2022
- Strategic Policy S1, Delivering Sustainable Development
- Policy DM2, Environmentally Sustainable Development.

1.2 Site and Building Description

The development will be located off Winchester Road, opposite the Macdonald Botley Park Hotel & Spa, Boorley Green, Southampton SO32 2UA. The application seeks approval for the construction of 2 3-bed detached houses along with a retirement living complex consisting of 52 apartment dwellings (mix of 1 & 2-bedroom), as well as associated parking space, landscaping, and communal areas. The communal areas comprise circulation spaces, a Guest Suite, a communal lounge and staff facilities. A proposed site layout has been included in Appendix 1.

1.3 Methodology

The proposed floor plans, elevations, sections and site plans were reviewed to gain a good understanding of the development; following this the relevant policies were identified. This development is located in Boorley Green, within the authority of Eastleigh Borough Council. Therefore, the Eastleigh Borough Local Plan (2016-2036) Adopted April 2022 has been recognised as relevant, specifically elements of Strategic Policy S1, Delivering Sustainable Development and Policy DM2, Environmentally Sustainable Development.

Sample SAP calculations have been completed to determine the approximate performance of the development. The development will be assessed against the 2022 Part L1A Regulations, so the Elmhurst Energy Design SAP 10 software has been used to complete these calculations.

Representative SBEM calculations have also been utilised using Beta software for the 2022 Part L2A Regulations, which has been used to provide data for this statement. SBEM software has been used to complete these calculations which have been compared to the target building baseline, which is the benchmark for Part L of Building Regulations compliance.

An assessment has been completed to review the potential connection of the proposed development to an existing district heat network. Up to date map data has been provided by the Association of Decentralised Energy, to enable the suitability and distance in relation to the location of the proposed development from a district heating network be reviewed.

This report also utilises the BRE Part G Water calculator in order to demonstrate compliance with Building Regulation's water efficiency requirement of 110 litres/person/day.

2.0 Planning Policy

2.1 Eastleigh Borough Local Plan (2016-2036) Adopted April 2022

The Eastleigh Borough Local Plan (2016-2036) Adopted April 2022 outlines the requirements for new developments regarding sustainability, with Strategic Policy 1 & Core Policy DM2 having been identified as relevant.

2.1.1 Strategic Policy S1, Delivering Sustainable Development

1. *To be sustainable, new development in the Borough should:*
   a. *meet community needs without compromising the identity of the Borough or its individual settlements, or the ability of future generations to meet their own needs;*
   b. *enhance social equality by ensuring equal and easy access to a range of community facilities and services and by promoting the development of employment, education and skills training opportunities;*
   c. *maintain and help to grow a high-performing local economy that benefits the Borough, south Hampshire and the wider economy, without adverse impact on south Hampshire's city, town and other centres, the quality of the local environment or local transport networks;*
   d. *have regard to the potential impacts of climate change, and the need to limit greenhouse gas emissions including through carbon sequestration and by promoting measures to design buildings and spaces which are adaptable to predicted climate change, and restrict development in areas at risk from flooding, minimise energy use and encourage the generation of renewable energy, and by minimising emissions from motorised transport, industrial activity and domestic uses;*
   e. *minimise the need to travel longer distances and, where travel is necessary, prioritise more sustainable forms of transport, such as active travel, other alternatives to car use, or a combination of active travel and other alternatives to car use;*
   f. *avoid impacts on the Hamble and Itchen catchments and associated flora and fauna species by preserving water quality and flows from development and safeguarding potential yield of local water resources used for public water supplies having regard to the impacts of abstraction;*
   g. *seek opportunities to optimise density of new development and redevelopments;*
   h. *use resources wisely and minimise the generation of waste in the construction, occupation and use of buildings;*
   i. *maintain local environmental quality, including avoiding damage to, and where possible enhancing, the existing valued urban and rural environments in the Borough and heritage assets;*
   j. *have regard to the purposes of the South Downs National Park, including regarding its status as an International Dark Night Skies reserve; and*
   k. *maintain, enhance, extend and connect the natural habitats within and landscape value of the Borough, extending natural habitats into new and existing development to achieve an environmental net gain.*

2. *Applicants are encouraged to undertake pre-application consultation with the relevant statutory and non-statutory consultees.*

3. *When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.*

4. *Planning applications that accord with the policies in the Local Plan will be approved without delay, unless material considerations indicate otherwise. Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise, taking into account whether:*
   a. *any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or*
   b. *where specific policies in that Framework or other international or national legislation indicate that development should be restricted*

2.1.2 Policy DM2, Environmentally Sustainable Development

1. *The Borough Council requires that:*
   a. *all new build residential development (C3 Use Class only) must achieve at the time a Reserved Matters or Full Planning Application is submitted:*
      i. ***a 19% improvement in predicted carbon emissions, compared with the building regulations standard current at the time, through increased energy efficiency of the building fabric, unless this is superseded by an updated building regulations requirement equivalent to 'zero carbon homes'; and***
      ii. ***a predicted mains water consumption of no more than 110 litres/person/day.***
   b. *all other development that is above 500 sq.m of floorspace measured externally (including extensions and conversions to existing buildings) must achieve BREEAM 'excellent' (or equivalent) or BREEAM 'very good' plus 'passivhaus' certification including a 15% improvement in predicted carbon emissions, compared with the building regulations current at the time, through low or zero carbon energy generation on site or in a Borough location agreed by the Council.*
   c. *all other larger developments above 10,000 sq.m of floorspace should also seek to fund post occupancy evaluation (POE) in addition to the above.*

2. ***In addition to the above, all development above 500 sq.m of floorspace measured externally (including extensions and conversions to existing buildings) and external spaces within the curtilage serving developments of this size should where practical and viable:***
   a. ***incorporate energy-efficient passive design principles, the best use of natural daylight and natural ventilation systems wherever possible;***
   b. ***connect to any existing near or adjacent low carbon local energy network unless this is proved unviable;***
   c. ***use recycled, low embodied carbon, low environmental impact and locally sourced materials in construction where possible;***
   d. ***be designed with sufficient flexibility to enable the life of the building to be extended by re-use for other purposes where feasible;***
   e. *aim to deliver at least 1% of all residential units within the whole scheme which achieve full 'passivhaus' certification.*

3.0 Policy Response

Strategic Policy S1, Delivering Sustainable Development

3.1 Sustainable Materials & Waste Minimisation

3.1.1 Sustainable Construction

The development at Winchester Road, Boorley Green will strive to incorporate sustainable design into the building. Material selection will endeavour to show preference to suppliers who operate responsible sourcing practices and have current environmental management certificates. Examples including FSC/PEFC certified timber products will be utilised, this ensures all products have been obtained from sustainable and legal sources.

Where possible, local suppliers of required building materials will be given preferred selection over those who operate at further distance from the development site.

Through this approach, delivery materials will be transported lesser distance, reducing the associated CO_2 emissions and fuel use of delivery loads. The procurement of these materials closer to the site, will support local businesses & operations within the region. Where allowing, suppliers who possess environmental certifications such as BES 6001/ISO 14001 will be sourced from to further encourage the use of materials ascertained from responsible accredited supply chains.

Similarly, where contractors and site personnel are required to aid the construction efforts, they too will also be given preferential consideration where they are local to the site. This again will reduce the associated CO_2 emissions of travel, in addition to supporting the local economy.

3.1.2 Minimising Waste and Maximising Recycling during Construction and Operation

In efforts to reduce waste throughout the construction process, as part of the design development, the design team have implemented a number of measures to eliminate potential waste.

McCarthy Stone have an effective site waste management system adopting waste hierarchy principles of reduce, reuse, or recycle. All waste will be handled by a licensed waste contractor who will segregate and process waste produced. Such waste will be separated into key waste groups and recycled at a waste processing plant to be refined into new products or reused in other projects where they cannot be reformed.

The development design is to standard material dimensions to avoid waste generation. All joists will be of a standard length and off the shelf components will be utilised rather than bespoke. This contributes towards the standardisation of the dwellings which reduces waste not only at the manufacturing stage, but also during construction as it reduces the need to re-size materials on site. In addition, the use of standardised materials increases the likelihood that the materials will be reused in the eventuality that the site is redeveloped in the future.

Site hoarding or materials where safe and appropriate are transported from other sites for reuse. The design of the apartments looks to incorporate recycling facilities for residents further encouraging the principles of recycling.

Eastleigh Borough Council operate an alternative collection for refuse waste & recycling waste, allowing for residents to segregate waste types in a more sustainable manner. To enable efficient segregation of operational waste for their residents, sufficient spacings and access will be provided to dwellings to enable waste bins to be collected in line with Eastleigh Borough Council waste collection regime.

Policy DM2, Environmentally Sustainable Development

3.2 Energy Efficiency

3.2.1 Maximising Energy Efficiency and Reducing Energy Demand Through Fabric Performance

In efforts to reduce the overall carbon emissions associated with the development and to maximise the energy efficiency, the developer has a robust 'fabric first' approach to the build specification, which allows it to achieve compliance with all metrics under the recently adopted and revised Approved Document Part L 2022.

This will be achieved in this project through building fabric improvements with an uplift on the minimum requirements of Approved Document Part L1A 2022, and also specification of efficient mechanical and electrical services, including a number of 'add-on' measures to improve efficiency and performance.

Fabric Energy Efficiency is a measure of the efficiency of the building fabric, the key areas being building fabric U-values, thermal bridging, air permeability, thermal mass and features which affect lighting and solar gains. A higher fabric energy efficiency means that the building will require less energy to heat and cool thus reducing the energy demand of the property and the CO_2 released.

The table below demonstrates how the specification of the development at Winchester Road, Boorley Green compares to the limiting values and minimum efficiencies allowed within Part L 2022:

Table 1: Comparison with Building Regulations Part L 2022

Building Element	Limiting Part L 2022 Specification	Proposed Specification Part L
External Walls U-Value	0.26	0.19
Roof U-Value	0.16	0.11
Ground Floor U-Value	0.18	0.11
Window U-Value	1.60	1.31
Party Wall U-Value	0.20	0.00
Heating Efficiency	100%	100%/315%
Pressure Test	8.00	4.00
Lighting Lumens	75 lm/w	80 lm/w

The development is proposed to adopt a 'fabric first' approach to the specification and as detailed above, the proposed U-Values are a significant uplift on the minimum requirements under Part L1A 2022.

The proposed build-up for the external wall for all units is a masonry construction, with a 150mm cavity fully filled with mineral wool insulation, that generates a U-value of 0.19W/m2K. Well insulated cavity walls, roof, floors and openings provide a comfortable environment within the development and reduce the buildings' reliance on the main heating system. The air permeability target for all dwellings is 4.00 $m^3/(h.m^2)$, providing an improvement over the Notional Building target.

The use of bespoke calculated thermal bridge details will also ensure that thermal performance is enhanced by minimising heat and energy losses through thermal bridges and air gaps.

McCarthy Stone will utilise electric panel heating to all dwellings at the site, which will achieve efficiencies up to 100%. Due to the continuing decarbonisation of the UK energy supply, electricity is increasingly becoming the low carbon choice for heating strategy, and it is expected this will continue as more renewable electricity sources become operational and fossil fuel sources are phased out.

Water Heating demand for all plots will be serviced by an Air Source Heat Pump Hot Water Cylinder, currently proposed to be the Atlantic Calypso product, which can be classified as a low carbon technology. This is a stainless-steel cylinder with a small hot water air source heat pump mounted on the top of it. The system works by extracting heat from external air, supplied through insulated ductwork. As such, it is able to provide hot water with a COP efficiency of up to 315%, which is significantly higher than the efficiency of a standard immersion cylinder powered by direct electricity.

A further key element to the specification is the utilisation of mechanical ventilation with heat recovery (MVHR) in the apartments. This system allows warm stale air produced by occupancy and internal activities to be extracted from the building; while recovering up to 90% of the heat of the extracted air, which is retained and transferred to warm the fresh air being brought into the building from outside. The use of MVHR reduces the need to use the main heating system as it provides background heating through occupation (as well as improving comfort levels through the flow of fresh air).

Due to the continuing decarbonisation of the UK energy supply, electricity is increasingly becoming the low carbon choice for heating strategy, and it is expected this will continue as more renewable electricity sources become operational and fossil fuel sources are phased out. The current proposed notional dwelling for the Part L1A 2025 Future Homes Standard includes low carbon electric heating.

In communal areas, lighting occupancy sensors will be utilised that switch off or dim the lighting when occupants are not present in areas such as circulation spaces, toilets or storage areas. This prevents lighting from being left on when it is not needed, therefore saving energy.

Metering and sub-metering equipment for the heating system will also be used that help identify areas where more energy than expected is being used, such as heaters being left on at times when they are not needed or where there are defective elements present. This helps improve the heating strategy and therefore save energy.

As per Part S of the Building Regulations, McCarthy Stone are also proposing to install sufficient Electric Vehicle (EV) charging points, to service all resident parking spaces at the scheme. While this is not directly connected to the energy performance of the building, it does demonstrate their commitment to emphasising low carbon technologies throughout the site, as this will provide the easily accessible facility for the end user to operate an electric vehicle rather than a petrol fuelled vehicle.

To summarise, all of the main building elements outlined in Table 1 have been designed to provide a thermally efficient building envelope that achieves an improvement on the minimum requirements set out within Part L. These elements when combined with efficient mechanical and electrical services, achieve an improvement on the minimum requirements set out within Part L1A 2022 and ensure enhanced energy efficiency and reduce CO_2 emissions, thus mitigating the impacts of climate change.

3.2.2 Fabric Energy Efficiency

Table 2 across the page demonstrates the development's approximate average building fabric energy efficiency based on the representative domestic building types modelled.

Table 2: Fabric Energy Efficiency Breakdown	
Domestic	**Average (kWh /m²/yr)**
Target Fabric Energy Efficiency (TFEE)	20.70
Dwelling Fabric Energy Efficiency (DFEE)	18.99
Percentage Reduction (%)	**8.28%**

As a result of the sample SAP outputs for the development, Table 2 shows the average Target Fabric Energy Efficiency (TFEE) of the development to be 20.70 kWh/m²/yr. The average Predicted Dwelling Fabric Energy Efficiency (DFEE) is demonstrated to be an improvement against this amount, currently modelled to achieve 18.99 kWh/m²/yr.

Overall, this is an improvement in fabric energy efficiency, equating to approximately an 8.28% reduction against the notional amount. This highlights the design specification performance of the development being an uplift to Building Regulations requirements.

3.3 Low Carbon Local Energy Network

An exercise has been completed reviewing the potential for the proposed development at Winchester Road, Boorley Green to connect to an existing district heat network. The Association for Decentralised Energy's (ADE) District Heating connection map has been reviewed to confirm the closest possible connection point.

As demonstrated in Figure 1, the closest connection point is the *University of Southampton Connection* approximately 7.9 km from the proposed site location. Due to the extended distance between these two points, it is considered that this would not be a feasible application.

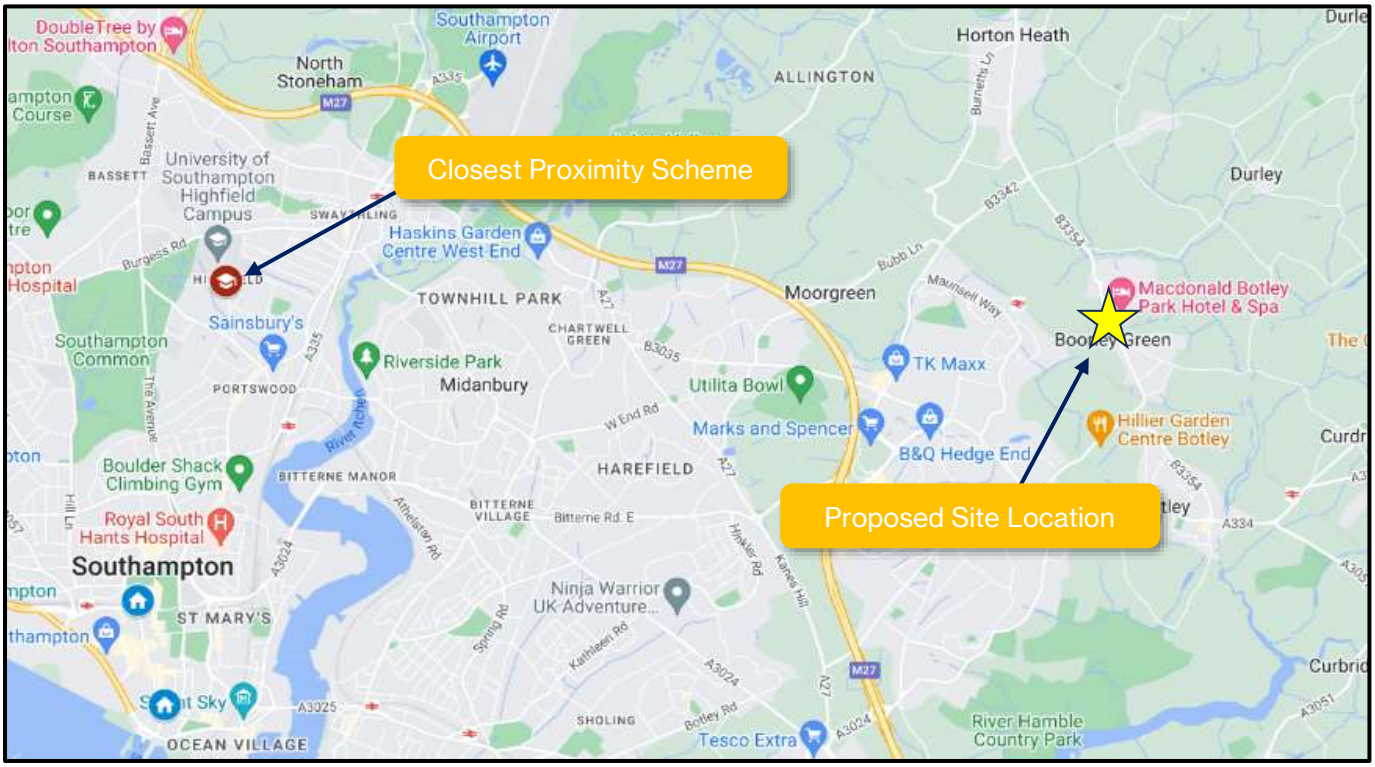

Figure 1 – Association of Decentralised Energy - www.theade.co.uk

3.4 Renewable Energy

Photovoltaic panels convert solar radiation into direct current electricity. In principle, they are an ideal source of renewable energy as they harness the most abundant source of energy on the Earth, the sun, and they produce electricity, which is the most useful form of energy.

PV's are silent in operation, have no moving parts and have a long life with low maintenance levels. PV systems can be connected to the grid or battery arrays in remote locations. Grid connected systems consist of PV arrays connected to the grid through a charge controller and an inverter. PV cells are more efficient at lower temperatures so good ventilation should be allowed around the PV modules where possible.

As part of the design proposals, the development at Winchester Road, Boorley Green will include a Solar PV array to contribute to total energy demand and reduce CO_2 emissions in operation.

Table 3 shows the modelled PV energy reduction for Winchester Road, Boorley Green.

Table 3: Energy Reduction from PV

System	Proposed Energy Reduction (kWh/yr)	Kilowatt-peak Equivalent (kWp)
Photovoltaic Systems	19,203.05	21.34

Based on an average generation of 900kWh per 1kWp of PV, the results of the sample SAP outputs & representative SBEM modelling demonstrate this will generate energy equivalent to an amount of approximately 19,203.05 kWh/yr.

Whilst an average figure of 900kWh per 1kWp of PV have been used, actual generation may vary depending on a number of factors, including orientation, angle and any shading to the PV panels installed.

3.5 Carbon Emissions Breakdown

To understand the overall approximate performance of the development, sample SAP and representative SBEM calculations have been undertaken. The initial calculations have been undertaken on a sample of the proposed dwellings at the development. Software outputs of the calculations completed can be made available on request.

Table 4 below demonstrates the development's total approximate breakdown of carbon emissions based on the modelling completed.

Table 4: Site Wide Carbon Emission Breakdown

Domestic	Emission Rate ($kgCO_2/m^2/yr$)
Target Emission Rate (TER)	31,969.74
Dwelling Emission Rate (DER)	11,008.12
Non-Domestic	**Emission Rate ($kgCO_2/m^2/yr$)**
Target Emission Rate (TER)	4,385.50
Building Emission Rate (BER)	4,322.85
Total Reduction	**21,024.27**
Percentage Reduction (%)	**57.83%**

As a result of the sample SAPs and representative SBEM outputs for the development, Table 4 shows the Target CO_2 emissions (TER) of the development to be 36,355.24 kg/CO_2/yr. The Predicted Carbon Emissions (BER) are demonstrated to be a substantial improvement against this amount, currently modelled to achieve 15,330.97 kg/CO_2/yr.

Overall, this is a 21,024.27 kg/CO_2/yr reduction in carbon emissions, approximately 57.83% reduction against the notional amount. This highlights the design specification performance of the development being a significant improvement above Building Regulations requirements and also exceeding the policy requirement of a 19% improvement.

3.6 Water Use Efficiency

The development at Winchester Road, Boorley Green will incorporate efficient, water saving sanitaryware to meet Policy DM2's target of 110 Litres/person/day. Where this is not possible, flow restrictors will be installed to limit water use of sanitaryware items.

A representative specification is demonstrated in Table 5 below, whilst the final flow rates of individual sanitaryware items may change as detailed design progresses, water conservation will continue to be prioritised. The Part G Calculator gives a more detailed breakdown of flow rates is available in Appendix 3.

Table 5: Proposed Sanitaryware Specification Flow Rates

Component	Water Usage
WCs	4.5 Litres (Full Flush Volume), 3 Litres (Part Flush Volume)
Showers	10 Litres/Minute
Wash-hand basin taps	5 Litres/Minute
Kitchen taps	18.20 Litres/Minute
Washing Machine	5.00 Litres / kg
Dishwasher	1.19 Litres / Place Setting
Calculated Use	**108.8 Litres/person/day**

This proposed specification provides a calculated estimated water use of 108.8 Litres/person/day. This is comfortably below the policy requirements of a maximum 110 Litres/person/day.

3.7 Building Flexibility for Future Re-use

While the intention is that the proposed scheme remains as a retirement facility for the over 60s for the foreseeable future, the relatively simple form of the building does allow future repurposing. The obvious future options would be as a similar usage, for example as more standard apartment accommodation.

The large communal spaces allow for the redesign of the apartments, potentially hotel units with a Restaurant and Spa, subject to approval of Planning and Building control applications. A change of use to a hotel would require minimal modifications to the structural parts of the building. As the internal layout of each unit can easily be stripped out and subdivided into 2 smaller units. There will be drainage services both sides of the existing units making the need for installing additional ground work drainage minimal as the existing drainage could be re-used.

While the fabric is already high performing, there could be further opportunities to reduce the carbon footprint through M&E strategy. To an extent, as the building is electrically heated, this will occur by default as the grid is decarbonised. However, the use of further rooftop PV could be explored, as could battery technology and the use of smart technology within apartments to allow for more detailed monitoring and control of energy use.

There is good access to all local services in this area. Power, data and water services are provided at all floor levels throughout the building, which will allow any form of future adaptation the necessary services to accommodate changes.

3.8 Sunlight and Passive Solar Gains

Passive solar design and providing a benign site microclimate both enhances the energy and environmental performance of a building. The development at Winchester Road, Boorley Green will have good access to solar radiation and daylight.

The main orientation of the building South-easterly in order for the development to gain benefit from the sun. It will not be shaded by surrounding buildings so that overshadowing will not be an issue and maximum solar benefits will be felt. The development will be provided with shelter from the proposed landscaping to protect from the wind and maintain a pleasant micro-climate.

4.0 Conclusion

This statement has reviewed the proposed development at Winchester Road, Boorley Green, 2 3-bed detached houses along with a retirement living complex consisting of 52 apartment dwellings (mix of 1 & 2-bedroom), as well as associated parking space, landscaping, and communal areas. The communal areas comprise circulation spaces, a Guest Suite, a communal lounge and staff facilities.

This statement provides a response to the following relevant Eastleigh Borough Council documents and policies:

- The Eastleigh Borough Local Plan (2016-2036) Adopted April 2022
- Strategic Policy S1, Delivering Sustainable Development
- Policy DM2, Environmentally Sustainable Development.

The calculations completed on the building fabric and the use of the Atlantic Calypso ASHP system confirm that the specification meets the required performance in relation to carbon emissions. The proposed carbon emissions of 15,330.97 kg/CO^2/yr, against the target carbon emissions of 36.355.24 kg/CO^2/yr confirm an approximate 57.83% improvement, meeting Building Regulations Part L 2022 requirements.

Due to the continuing decarbonisation of the UK energy supply, electricity is increasingly becoming the low carbon choice for heating strategy, and it is expected this will continue as more renewable electricity sources become operational and fossil fuel sources are phased out. The current proposed notional dwelling for the Part L1A 2025 Future Homes Standard includes low carbon electric heating. Therefore, the use of the Atlantic Calypso system in this scheme can be seen to meet these requirements, future proofing the scheme when compared against future Part L regulation changes.

A proposed sanitaryware specification of 108.8 Litres/person/day has been provided. This is an improvement over the Building Regulations requirement of 110 Litres/person/day.

Whilst the proposed design strategy, Solar PV and listed water sanitaryware flow rates are the preferred specification at this present time, the strategy and required contribution may be subject to change as design develops further. Nonetheless, it will be ensured that where any changes are made, the policy requirements listed will be maintained.

Appendix 1

Proposed Site Plan

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ACCOMMODATION SCHEDULE

	1 BED	2 BED	3 BED
00	12	6	2
01	13	9	-
02	7	5	-
TOTAL	**32**	**20**	**2**

52 APARTMENTS TOTAL 62/38 %
2 HOUSES
43 Parking spaces including 4 x disabled bays

FOR PINKFILE

Refer to Landscape drawing
SO-2977-02-LA-001 by Terrafirma

McCARTHY STONE
life, well lived

Rev	Description	Date	DB	CB
C	Update landscape information	25.07.24	CK	SK
B	External Steps added to suit Landscape Architects drawings	22.07.24	SK	CJC
A	Detached houses	17.07.24	SK	CJC

PROPOSED SITE LAYOUT (ROOF)

PROJECT	JOB NO
Boorley Green	24.013
SCALE	DATE
1/200 @ A1	April 2024
DRAWN BY/CHECKED BY	REVISION
CK / SK	C
DWG#	
SO_2977_03_AC_010	

hgp

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Appendix 2

SAP/SBEM Calculations (Available on request due to size)

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Appendix 3

Part G Water Calculations

Focus Consultants 2010 LLP, Focus House, Millennium Way West, Phoenix Business Park, Nottingham NG8 6AS T. 0115 976 5050

breglobal

Job no:	R3996
Date:	July 2024
Assessor name:	Adam Revill
Registration no:	
Development name:	Boorley Green

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PRINTING: before printing please make sure that in "Page Setup" you have selected the page to be as "Landscape" and that the Scale has been set up to 70% (maximum)

WATER EFFICIENCY CALCULATOR FOR NEW DWELLINGS - (BASIC CALCULATOR)

	House Type:	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7		Type 8		Type 9		Type 10	
	Description:	Specification 1																			
Installation Type	Unit of measure	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day
Is a dual or single flush WC specified?		Dual		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Click to Select		Click to Select		Click to Select	
WC	Full flush volume	4.5	6.57		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
	Part flush volume	3	8.88		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Taps (excluding kitchen and external taps)	Flow rate (litres / minute)	5	9.48		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Are both a Bath & Shower Present?		Shower only		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Bath	Capacity to overflow		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Shower	Flow rate (litres / minute)	10	56.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Kitchen sink taps	Flow rate (litres / minute)	18.2	18.37		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a washing machine been specified?		Yes		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Washing Machine	Litres / kg	5	10.50		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a dishwasher been specified?		Yes		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Dishwasher	Litres / place setting	1.19	4.28		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a waste disposal unit been specified?		No	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00	Select option:	0.00
Water Softener	Litres / person / day		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
	Calculated Use		114.1		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	Normalisation factor		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91
Code for Sustainable Homes	Total Consumption		103.8		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	Mandatory level		Level 3/4		-		-		-		-		-		-		-		-		-
Building Regulations 17.K	External use		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0
	Total Consumption		108.8		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	17.K Compliance?		Yes		-		-		-		-		-		-		-		-		-