



SUSTAINABILITY STATEMENT



WOOLLEY COLLIERY ROAD, BARNSELY

JSP SUSTAINABILITY LTD
JUNE 2022



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EXECUTIVE SUMMARY

- Rouse Homes' outline planning application at Woolley Colliery Road, Barnsley proposes the construction of up to 115 no homes.
- Measures will be enacted throughout the construction phase to ensure a sustainable development is created.
- Rouse Homes will operate a sustainable timber procurement policy at the application site and as standard affords advantage to materials with a lesser environmental impact.
- Each property will achieve an appropriate level of water efficiency.
- A site waste management plan will operate at the development site.
- Each home constructed at the site will comply with the Building Regulations Part L.



1 INTRODUCTION

JSP Sustainability Ltd has been commissioned by Rouse Homes to prepare a Sustainability Statement to accompany the outline planning application for the proposed residential development at the land to the west of Woolley Colliery Road, Barnsley. The application seeks outline planning approval for access only for a residential development of up to 115 no. dwellings.

This Statement will detail the energy efficiency, water efficiency, materials, pollution and waste management measures to be adopted by Rouse Homes to deliver a sustainable development. A number of documents have been used to complete this report. These include;

[National Planning Policy Framework \(NPPF\)](#) includes a presumption in favour of sustainable development. The Framework expands upon the guiding principles and objectives of a successful planning system. These include the building of a strong and competitive economy, delivering high quality housing, requiring good design and meeting the challenges of climate change.

[Approved Document L1A](#) sets fabric efficiency standards and together with SAP, establishes a maximum CO₂ emission rate for new build residential properties. The Approved Document is the Government's sustainable design benchmark in England.

[Barnsley Metropolitan Borough Council Local Plan](#) includes policy CC1, Climate Change, which seeks to promote “the reduction of greenhouse gas emissions through sustainable design and construction techniques.” Policy CC2, Sustainable Design and Construction, expects development “to minimise resource and energy consumption through the inclusion of sustainable design and construction features.”

[The Future Homes Standard: 2019 Consultation on changes to Part L and Part F of the Building Regulations for new dwellings. \(January 2021\)](#) provides a summary of the received responses to the 2019 consultation and the Government’s intentions to revise Part L of the Building Regulations in 2022 and introduce a Future Homes Standard in 2025.



2 MATERIAL SELECTION

Rouse Homes and its contractors operate an ethical timber procurement policy which has at its core a commitment to purchase legally and sustainably sourced timber. Suppliers of timber must produce full Chain of Custody Certificates right through the supply chain; from the initial timber yard, manufacturing process, transformation and distribution. Secure certificates must be produced by valid accrediting bodies – FSC, PEFC, CSA, SFI & MTCC.

When specifying materials at the design stage the sustainable credentials of a product are rated alongside their affordability, lifecycle costs, durability, availability and ease of use. This exercise guarantees Rouse Homes gives due consideration to the environmental impact of materials at the earliest design and procurement stage.

As part of the review of the proposed Sustainability Strategy the environmental impact of the Rouse Homes build specification was assessed against the BRE Green Guide. The Guide assesses the relative environmental impact of construction materials commonly used in buildings. Materials are given an overall rating of A+ to E, based on Life Cycle Assessments using the BRE’s Environmental Profiles Methodology. The table below summarises the ratings anticipated;

Table 1 – Green Guide Ratings

	Description	Green Guide Reference	Rating
External Wall	Reconstituted stone, insulation, aircrete blockwork inner leaf, cement mortar, plasterboard on dabs, paint	806170615	A+
Party Wall	Twin leaf 100mm min. solid medium dense blocks (1350-1600kg/m ³), with 100mm min. cavity including proprietary glass wool acoustic roll, type A wall ties, with gypsum-based board (9.8kg/m ²) on dabs and paint to each side	1118190007	C
Ground Floor	Structural topping on beam and expanded polystyrene flooring	820140015	A+
Intermediate Floor	T&G floorboards on timber I joists	807280024	A+
Internal Wall	Timber stud, plasterboard, paint	809760003	A+
Glazing	PVC-U window, double glazed	813100009	A
Roof	Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and UK produced concrete tiles	812410008	A+



3 WASTE MANAGEMENT

Rouse Homes will operate a Site Waste Management Plan at the application site. The following briefly summarise the policies contained within the developer's waste management policies and to be enacted as part of the SWMP for Woolley Colliery Road;

- Design to minimise wastage during the construction phase;
- Landform design and mass balance exercises are undertaken to retain as much material on site and reduce disposable volumes. There should be careful sub and topsoil storage and accommodation within the predetermined landform;
- Maximise the value of recycled aggregates through the separation of physical and chemical contaminants and through the careful matching of the materials generated with appropriate site use;
- Regular inductions and toolkit talks to all contractors and sub-contractors are standard. Careful site management of stockpiling and storage, segregation of waste groups and the prevention of cross contamination are implemented as standard;
- Agreements are in place with suppliers to reduce the amount of packaging on goods delivered to site. Take back agreements and "*just in time delivery*" are in place with key suppliers.;
- All waste contractors are required to segregate waste off site and provide records of such; and
- Waste streams to be reused on site or recycled offsite are to be identified and communicated to all contractors so that careful disposal is assured;



4 WATER EFFICIENCY

Approved Document G of the Building Regulations requires each new home to achieve a water consumption rate of no more than 125 litres per person per day. Rouse Homes will incorporate low flow sanitary ware and eco-sanitary products into the detailed design of each property to achieve a low water consumption rate. This strategy will permanently reduce water consumption. The tables below summarise the proposed flow rates and capacities and the water efficiency calculation.

Table 2 – Flow Rates & Capacities

Fitting	
Toilets	6 & 3 litre dual flush
WHB Taps	4 litres/min
Kitchen Taps	6 litres/min
Bath	180 litres
Shower	6 litres/min



Table 3 - Water Efficiency Calculation

Installation Type	Unit of Measurement	Capacity/Flow Rate (1)	Use Factor (2)	Fixed Use (litres/person/day) (3)	Litres per Person day. =[(1) x (2)] + (3) (4)
WC (Dual Flush)	Full Flush (litres)	6.00	1.46	0.00	8.76
	Part Flush (litres)	3.00	2.96	0.00	8.88
Taps (excluding kitchen tap)	Flow rate (litres/min)	4.00	1.58	1.58	7.90
Bath (where shower present)	Capacity to overflow (litres)	180	0.11	0.00	19.80
Shower (where bath present)	Flow rate (litres/min)	6.00	4.37	0.00	26.22
Kitchen/utility room sink taps	Flow rate (litres/min)	6.00	0.44	10.36	13.00
Washing machine	Litres/kg dry load	8.17	2.10	0.00	17.16
Dishwasher	Litres/place setting	1.25	3.60	0.00	4.50
TOTAL	(5)				106.22

(5)	Total Internal Water Consumption	106.22
(6)	Normalisation Factor	0.91
(7)	Internal Water Consumption [(5) x (6)]	96.66
(8)	External Water Use	5.00
(9)	Part G Water Consumption [(8) + (7)]	101.66

A water consumption of 101.66 litres per person per day is calculated. This is significantly below the minimum standards of the Building Regulations and in line with the metrics associated with the now suspended Code for Sustainable Homes Levels 3 and 4.



5 ENERGY STRATEGY

Policy CC2 of the Local Plan requires new development to minimise resource and energy consumption through sustainable design and construction measures. However, the policy does not establish energy efficiency or renewable energy targets above those included in the Building Regulations Part L.

Rouse Homes proposes to construct every home at the application site to the forthcoming 2021 Part L revisions. These revisions will deliver a 31% improvement over current Part L.

5.1 Part L 2021

The Government has legislated to achieve net zero carbon by 2050 at the latest and this necessarily will have considerable impacts on how new homes are constructed and heated. In January 2021 the Government published its response to the Future Homes Standard (FHS) consultation. In the response document the Government confirmed it would proceed with the Standard in 2025, subject to a public consultation on the full technical specification. The Standard is expected to deliver a 75% reduction in CO₂ emissions and require new homes to be heated from a low carbon heat source such that homes will be “zero carbon ready”. It is expected that the Standard will represent the final step for the house building industry and further decarbonisation will be delivered as a consequence of the decarbonisation of the National Grid network.

In anticipation of the 2025 Standard, the Government will amend Part L in June 2022 to deliver a saving of 31% in CO₂ emissions. The revisions are expected to provide the industry and supply chains with the incentive, skills and time to prepare for the FHS in 2025.

5.2 Improved Energy Efficiency Standards

The forthcoming Part L 2021 Regulations include improved u-value backstops, the inclusion of a new Primary Energy target, updated CO₂ emission factors to take account of the progressive decarbonisation of the national grid and the retention of the Fabric Energy Efficiency Standard. The table below provides a summary of the Part L 2021 backstops, associated Target Recipe and a comparison to current standards



Table 4 – Part L 2013 & 2021 Fabric Efficiency Comparison

Element	Part L 2013 Backstops	Part L 2021 Backstops	Part L1A 2021 Target Recipe
Wall	0.30W/m ² K	0.26W/m ² K	0.18W/m ² K
Floor	0.25W/m ² K	0.18W/m ² K	0.13W/m ² K
Roof	0.20W/m ² K	0.16W/m ² K	0.11W/m ² K
Glazing	2.00W/m ² K	1.60W/m ² K	1.20W/m ² K
Door	2.00W/m ² K	1.60W/m ² K	1.00W/m ² K
Air Leakage	10 m ³ /(h.m ²) @ 50 Pa	8 m ³ /(h.m ²) @ 50 Pa	5.0 m ³ /(h.m ²) @ 50 Pa
Thermal Bridging	N/A	N/A	0.05

It should be understood that Recipes do not represent minimum standards or fabric and service backstops. Instead, they are used by SAP to determine the correct Target Emission Rate and Primary Energy Rate. Developers still maintain a degree of flexibility to craft specifications which adhere to the fabric and services backstops, whilst also achieving the required emission and primary energy rate.

Rouse Homes' proposals for Part L 2021 will be finalised upon the approval of SAP 10 software by the Building Research Establishment, expected on or before June 15th 2022. However, the measures below will be incorporated into the detailed design of each house type which will later be proposed as part of a reserved matters application;

- The construction specification of every home will include high levels of insulation in the ground floor, external walls and roof spaces, capable of exceeding the minimum benchmarks and delivering compliance with the Fabric Energy Efficiency standard;
- A masonry specification will deliver homes with a high level of thermal mass. This will enable each home to act as a store of heat during cold periods and conversely assist in cooling in warm periods;
- The detailed house type designs will incorporate the thermal bridging guidance produced by Constructive Details and others, thereby reducing a significant source of heat loss;
- Those homes constructed before 2025 will be serviced by a highly efficient gas condensing boiler with confirmed NOx emissions of 40mg/kWh or less;
- The heating designs of each home will include dual zone time and temperature controls with delayed start thermostats. The system will be designed to a flow rate of 55 degrees or less to allow for a future installation of low temperature low carbon heating;
- Energy efficient lamps will be installed in every light fitting;



- Each property will be naturally ventilated using efficient decentralised continuous system 3 extract fans to ensure the internal living environment will be healthy and comfortable. As part of the Building Regulations submission, SAP 10 and Part O calculations will confirm that every home will have a low risk of summer overheating;
- The house type designs, to be included in a subsequent reserved matters application, will have sufficient glazing in each of the principal living rooms to allow natural daylight to penetrate into each room, thereby lessening the lighting requirement, but also lessening the space heating requirement as each home can take advantage of passive solar gain;
- To aid in this, the glazing specification will have a solar transmittance value, or g-value, of 0.71 or better; and
- Each entrance will be illuminated with an energy efficient external light or provision will be made for a purchaser to install such a fixture.

The formulation of the Regulations necessarily requires the installation of renewable technologies or low carbon heating to deliver compliance. The details below provide a summary of the most appropriate technologies for the application site.

5.3 Heat Recovery Technologies

Waste water heat recovery (WWHR) extracts energy from the waste water in a shower drain pipe to pre-heat mains water, before sending it to a boiler or hot water cylinder. By pre-heating the cold-water supply, the boiler or cylinder will have to consume less energy to bring the water to the deliverable temperature. In this way energy is conserved and a CO₂ emissions saving is delivered.

5.4 Photovoltaic Panels

There are over 1 million photovoltaic (PV) installations in the UK generating 13,259MW of electricity, as of June 2019, with 93% of systems being below 4kW in size. Systems of 4kW or lower are typically installed on the roof slopes of buildings. The technology is compatible to most building designs, including those house types in the Rouse Homes design portfolio.

The Government's Part L 2021 Recipe includes a PV provision in proportion to a building's footprint. This calculation methodology makes it all but certain that new homes would necessarily have a PV installation if serviced by a gas boiler or standard electric heating. The detailed house type designs, while not part of this application, will take account of the necessity to install PV arrays as standard.



6 EVALUATION

This Statement accompanies the outline planning application for the proposed Rouse Homes residential development at Woolley Colliery Road, Barnsley and includes details on material selection, waste management, water efficiency and energy efficiency. The key endeavours are;

- Rouse Homes operates a robust Sustainable Procurement Policy which emphasises the legal and sustainable sourcing of timber and other building materials;
- The Rouse Homes standard construction specification achieves A+ and A ratings when assessed against the Building Research Establishments Green Guide;
- The correct specification of low flow sanitary ware and flow restriction devices will deliver an appropriate level of water efficiency;
- A site waste management plan will operate at the development;
- The detailed site design and house type selection will seek to aid the ability of each home to take advantage of solar gain; and
- Homes constructed at the application site will achieve compliance with the forthcoming amendments to Part L and will achieve a 31% reduction in CO₂ emissions over current Part L.

In conclusion the strategy addresses energy efficiency, water efficiency and material selection. When assessed against the definition included in the NPPF, the proposals can be described as sustainable. We therefore recommend the approval of these measures.