



Northgate Brewery, Devizes

Energy and Sustainability Statement

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1 Introduction

1.1 Introduction

- 1.1.1 Erban Consulting Limited was instructed by Backhouse Housing to prepare an energy and sustainability statement for the development at Northgate Brewery, Northgate Street, Devizes, SN10 1JW.
- 1.1.2 The purpose of this report is to discharge conditions 26 and 34 of the full planning permission granted for the development (application reference number: PL/2023/03573), subject to approval by Wiltshire Council. The development would adopt measures to maximise the efficient use of resources, adapt to the risks associated with climate change, and manage pollution, in accordance with the National Planning Policy Framework, and Core Policies of the Wiltshire Core Strategy.

1.2 Development description

- 1.2.1 Redevelopment of the site to include 102 residential units (Class C3), the provision of 267sqm of retail space (Class E), open space and associated landscaping, improved access (pedestrian, cycle and vehicular) and parking.

2 Legislation, Policy and Guidance

- 2.1.1 The following national and local planning policy guidance have been considered in applying the sustainable design and construction standards for the development.

2.1 National: National Planning Policy Framework (NPPF) (December 2024)

- 2.1.1 The *National Planning Policy Framework (NPPF)* was designed to simplify and clarify planning policy and to make the planning system more accessible. It details the government's view of what sustainable development in England means in practice and states that there are three objectives to sustainable development:
- **an economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
 - **a social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
 - **an environmental objective** – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
- 2.1.2 The following are extracts from the NPPF that specifically relate to sustainable design which have been referenced due to their relevance to this report.

Paragraph 164

New development should be planned for in ways that:

a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through incorporating green infrastructure and sustainable drainage systems; and

b) help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings in plans should reflect the Government's policy for national technical standards.

Paragraph 166

In determining planning applications, local planning authorities should expect new development to:

a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and

b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

2.2 Local: Wiltshire Core Strategy (January 2015)

- 2.2.1 The *Wiltshire Core Strategy* contains several policies that relate to sustainable development. These include policies on sustainable construction and low-carbon energy (Core Policy 41), green infrastructure (Core Policy 52), air quality (Core Policy 55), high quality design (Core Policy 57), sustainable transport (Core Policy 60), flood risk (Core Policy 67), and water resources (Core Policy 68).

2.3 Local: Wiltshire Local Plan Pre-Submission Draft (September 2023)

- 2.3.1 Wiltshire Council submitted the *Wiltshire Local Plan* to the Secretary of State for Housing Communities and Local Government for independent examination on 28 November 2024. The plan sets out Wiltshire Council's strategic vision for the delivery of sustainable development up to 2038. Because the full planning permission for the development at Northgate Brewery was determined against the *Wiltshire Core Strategy*, and because the *Wiltshire Local Plan* is in draft, the policies contained within the *Wiltshire Local Plan* have not been addressed.

3 Planning Conditions

3.1.1 Planning conditions 26 and 34 are of relevance to this report.

Condition 26

No development shall commence above ground floor slab level until a scheme for water efficiency has been submitted to and approved in writing by the Local Planning Authority. The scheme shall be implemented in accordance with the agreed details.

REASON: The site is in an area of serious water stress requiring water efficiency opportunities to be maximised, to mitigate the impacts of climate change, in the interests of sustainability and to use natural resources prudently in accordance with the National Planning Policy Framework.

Condition 34

No development shall commence above ground floor slab level until a final Sustainable Energy Strategy, explaining the low-carbon approach of the scheme taken in the technical design stages shall be submitted to and approved in writing by the Local Planning Authority. This shall include but not necessarily be limited to consideration of operational carbon, embodied carbon, climate change adaptation and sustainable transport. It shall be based on the Energy and Sustainability Strategy Revision H by JS Lewis Ltd. dated October 2024. The development shall be carried out in accordance with the agreed details.

REASON: To ensure the objectives of sustainable development set out in policies Core Policies 41, 55, 57 and 60 of the Wiltshire Core Strategy are achieved.

4 Methodology

4.1.1 This statement will be structured to address the following key aspects of a sustainable development:

- Resource management: Sustainable transport, operational energy and carbon dioxide emissions, water efficiency, materials (including reuse of waste) and embodied carbon, nature conservation and biodiversity.
- Climate change adaptation: overheating, resilient foundations, urban greening and trees, flooding and surface water management.
- Pollution management: contaminated land, air pollution, noise pollution, light pollution, water pollution.

4.1.2 In doing so, it will respond to the policies of the *Wiltshire Core Strategy* that relate to sustainable development, provide a scheme for water efficiency as required by Condition 26, and provide a Sustainable Energy Strategy as required by Condition 34.

5 Resource management

5.1 Sustainable Transport

Proximity to amenities

- 5.1.1 Several amenities are located within walking distance (less than 1km) of the site, including key amenities such as a supermarket, a doctor's surgery, and schools. Amenities provided within Devizes' High Street are all accessible within a 10-minute walk from the site. The development's excellent proximity to amenities reduces the reliance on car travel. Further details are provided in the submitted *Travel Plan*.

Access to low carbon transport nodes

- 5.1.2 The closest bus stops to the proposed development are located in The Market Place, approximately 250m from the site. Services depart regularly from these bus stops, providing a low carbon means of travel to nearby towns and villages.
- 5.1.3 In addition, the site benefits from good access to pedestrian and cycle networks. Footways within the vicinity of the site provide a safe pedestrian route to the centre of Devizes. The footways are well-lit and have suitable crossing points. The National Cycle Route 4 is located a short cycle from the site which provides both a leisure and commuting route to local towns such as Trowbridge and Melksham. Further details are provided in the submitted *Travel Plan*.

Cycle storage

- 5.1.4 To further assist in the reduction of car journeys, secure and convenient storage for bicycles would be provided in accordance with the cycle parking standards set out within the *Wiltshire Local Transport Plan 2011-2026: Cycling Strategy*. Further details are provided in the submitted *Travel Plan*.

Electric vehicle charging

- 5.1.5 Electric vehicle charging points would be provided to facilitate the use of electric vehicles, in accordance with the requirements of Approved Document S.

5.2 Operational energy and carbon dioxide (CO₂) emissions

The energy hierarchy

- 5.2.1 There is a commitment to reduce energy consumption and carbon dioxide (CO₂) emissions at this development by constructing in accordance with the energy hierarchy.
- 5.2.2 Table 1 details the fabric specification proposed. The second column in this table sets out Approved Document L 2021 limiting fabric parameters in order to show the elements of the specification that provide an improvement. The specification incorporates low U-values, a low air leakage, good thermal bridging, and low energy lighting. The proposed specification is subject to minor amendments.

Table 1: Proposed fabric specification

	Approved Document L limiting fabric parameters	Proposed fabric specification
U-value of main external walls	0.26 W/m ² K	0.18-0.22 W/m ² K
U-value of ground floors	0.18 W/m ² K	0.12 W/m ² K
U-value of main roofs	0.16 W/m ² K	0.12-0.16 W/m ² K
U-value of opaque doors	1.60 W/m ² K	1.00 W/m ² K

	Approved Document L limiting fabric parameters	Proposed fabric specification
to houses		
U-value of windows	1.60 W/m ² K	1.20 W/m ² K
Air permeability	8 m ³ /h.m ² at 50 Pa	4 m ³ /h.m ² at 50 Pa
Lighting	Lamps with a luminous efficacy of 75 light source lumens per circuit-watt	Lamps with a luminous efficacy of circa 100 light source lumens per circuit-watt
Thermal bridging	Default ψ value of 0.200	The use of recognised construction details or bespoke ψ values

5.2.3 Energy demand and CO₂ emissions would be further minimised through the installation of electric air source heat pumps to provide space and water heating to the houses and the retail unit, and water heating to the apartments.

5.2.4 Design SAPs have been undertaken in SAP 10.2 software. It has been calculated that a combination of energy reduction measures and the installation of heat pumps would reduce the development's CO₂ emissions by circa 60% beyond those mandated by Part L of the Building Regulations.

Reducing peak energy demand

5.2.5 A smart meter and an energy display device would be provided to display fuel consumption data to occupants of each dwelling. This would allow the occupants to better understand the energy implications of the way they occupy and use their home. The installation of smart meters would enable the dwellings to take advantage of demand side response and information on smart appliances would be provided to the occupants.

5.3 Water efficiency

Water saving appliances

5.3.1 Water usage in the retail unit would be restricted by:

- Installing low flush toilets; and
- Installing flow restrictors on the taps to reduce flow rate.

5.3.2 Water usage in each dwelling would be restricted to 125 litres per person per day by:

- Installing low flush toilets;
- Installing low capacity baths;
- Installing flow restrictors on the taps and showers to reduce flow rate; and
- Where applicable, installing water efficient white goods.

5.3.3 Water efficiency calculations are included in appendices A and B which set out the proposed specifications to restrict the dwellings' water usage to 125 litres per person per day in accordance with the requirements of Approved Document G. The proposed specifications are subject to minor amendments.

5.3.4 In addition, an external butt would be provided to each dwelling with a garden to collect rainwater for use in the watering the gardens.

Water metering

5.3.5 Each dwelling would be provided with a water meter to allow it to be individually metered.

5.4 Materials (including reuse of waste) and embodied carbon

Choice of materials

5.4.1 There is a commitment to reduce the environmental impact of the materials used in the construction of the development. Specifically, Backhouse Housing commit to the following measures to reduce the embodied carbon of the development:

- Concrete, asphalt and bricks from the demolition of the existing buildings would be recycled for use as aggregate.
- 100% of the timber would be responsibly sourced and the majority of the remaining materials would be sourced from companies with certification to a responsible sourcing scheme.
- Where practical, materials would be sourced locally and would be robust, low maintenance and long lasting.
- The use of materials or products that produce volatile organic compounds or formaldehyde would be avoided wherever possible.
- All insulation would have a global warming potential (GWP) of less than or equal to 5.
- Where practical, building elements would be constructed with the prospect of future deconstruction, facilitating the segregation and extraction of materials that could be carefully removed intact during redevelopment, and reused and recycled.
- Where traditional cavity wall construction is proposed, generally aircrete blockwork would be specified on the inner leaf. Aircrete blocks have lower embodied carbon than dense blocks. They are lighter and so have reduced transport related emissions.
- Mineral wool would be installed in the external walls. Mineral wool has a significantly lower embodied carbon impact than alternative insulation products such as PIR insulation, for example.
- A Bison Forterra Jetfloor system (or similar) is proposed to the ground floors. This system replaces the concrete blockwork in a traditional beam and block floor with expanded polystyrene blocks, helping to reduce the embodied carbon of the overall floor construction.
- It is intended that roof tiles would be sourced from FP McCann in Gloucestershire and guaranteed to have a life expectancy of 60 years. FP McCann have developed a detailed sustainability strategy to reduce the impact of the products they manufacturer. They have developed a roadmap to net zero with a target of reducing their carbon emissions by 50% in the next 5 years, and achieving net zero by 2050.
- It is intended that brickwork would be sourced from Ibstock. Like FP McCann, Ibstock have developed a detailed sustainability strategy to reduce the impact of the products they manufacturer. They have developed a roadmap to net zero with a target of achieving net carbon emissions for scope 1 and 2 emissions by 2040.

Minimising waste during construction

5.4.2 To minimise waste on site, a site waste management plan would be prepared that contained:

- Target benchmarks for resource efficiency set in accordance with best practice;
- Procedures and commitments to minimise non-hazardous construction waste;
- Procedures for minimising hazardous waste; and
- The monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups.

5.4.3 In the first instance, waste would be re-used on site in situ or for new applications. Where it is not possible to recycle waste for use on site, where practical waste would be either:

- Re-used on other sites
- Salvaged/reclaimed for re-use
- Returned to the supplier via a 'take-back' scheme
- Recovered and recycled using an approved waste management contractor
- Composted

5.4.4 Where waste is unavoidable, it would be treated and disposed of in an environmentally acceptable manner.

Minimising waste during occupation

5.4.5 Space would be provided for bins to enable the segregation, storage and collection of recyclable waste. The occupants would be provided with information on recycling and would be encouraged to recycle through provision of space for internal recycling bins.

5.5 Nature conservation and biodiversity

Retention of existing green infrastructure and its potential improvement

5.5.1 Planning policy and best practice guidance requires that impact on biodiversity are minimised through avoidance, mitigation, and compensation.

5.5.2 Avoidance has been achieved through the retention of the line of trees fronting the canal, including the retention of the five best specimen trees.

5.5.3 The following mitigation and compensation measures would be adopted to minimise impacts of important ecological features:

- New habitats would be delivered within the site, including wildflower and amenity grassland, shrub and perennial planting, and tree and hedgerow planting;
- A sensitive lighting scheme would safeguard nocturnal wildlife including light averse foraging and commuting bats;
- The treeline along the canal edge would be retained and enhanced to improve its function to commuting and foraging bats. New planting is proposed to screen the new development from the canal and ensure that it can continue to provide a dark corridor for commuting bats, specifically Annex II species;
- Faunal enhancements such as bat and bird boxes, and bee bricks are proposed;
- A Construction & Environmental Management Plan would be implemented in order to avoid and mitigate environmental impacts during construction; and
- A Landscape and Ecological Management Plan has been proposed to ensure that retained and newly created ecological features are managed appropriately for biodiversity benefit in the long-term.

5.5.4 The proposed development would achieve a net gain in biodiversity significantly in excess of the 10% mandated by The Environment Act 2021. Further details are provided in the submitted *Ecological Impact Assessment*.

6 Adapting to climate change

6.1 Overheating

6.1.1 Measures would be taken to reduce the risk of the dwellings overheating. Internal heat generation would be minimised by:

- Insulating all hot water pipes beyond Building Regulation standards;
- Installing 100% low energy lighting; and
- Installing energy efficient equipment where applicable.

6.1.2 Heat entering the buildings would be minimised through:

- High levels of insulation; and
- Specifying glazing with a solar transmittance value that has been carefully considered to strike the balance between useful solar gain in the winter and unwanted solar gain in the summer.

6.1.3 Passive ventilation has been designed for by:

- Including openable windows to all rooms; and
- Providing cross-ventilation, where practical.

6.1.4 These measures mean that the dwellings would be at reduced risk of overheating. A *Thermal Comfort Analysis* has been undertaken to provide a strategy by which all dwellings would achieve compliance with the requirements of Approved Document O.

6.2 Resilient foundations

6.2.1 Foundations would be designed and constructed to be resilient taking into account their performance in extreme weather conditions.

6.3 Flooding and surface water management

6.3.1 The site lies within Flood Zone 1 and is at low risk of fluvial, tidal and groundwater flooding

6.3.2 The surface water drainage strategy includes SuDS features, such as permeable paving and modular storage tanks, to provide a storage volume to retain the 1 in 100 plus 40% climate change event.

6.3.3 Further details are provided in the submitted *Flood Risk Assessment*.

7 Pollution management

7.1 Contaminated land

7.1.1 Contamination, if found, would be suitably addressed.

7.2 Air pollution

7.2.1 Heat pumps are proposed to reduce air pollution associated with heating the dwellings. Heat pumps have no point of use emissions such as Nitrogen Oxides (NOx) or Sulphur Oxides (SOx).

7.2.2 The specification of electric vehicle charging points aims to reduce transport related emissions by facilitating the use of electric vehicles.

7.3 Control of dust and emissions

7.3.1 Measures to control dust would be adopted such as:

- Dust sheets;
- Proposals to regularly damp down the site in dry weather; and
- Covers to skips.

7.3.2 Measures would be adopted to reduce energy use in the construction of the dwellings such as:

- Monthly targets would be set for energy use arising from site activities. Monthly measurements of energy use would be recorded and displayed on site and compared to targets. This would serve to make site operatives aware of energy use on site and encourage them to reduce it;
- An energy efficiency toolbox talk would be conducted to educate operatives in reducing energy;
- Energy efficient site accommodation would be specified to reduce heating demand;
- Generators and plant would be sized correctly to avoid wastage of energy caused by over-sized equipment; and
- Good project planning would avoid the need to dry wet trades via space heating where possible.

7.4 Noise pollution

7.4.1 Noise pollution from the construction of the development would be minimised by:

- Where practical using quiet machines and/or quiet methods of working; and
- Limiting working hours.

7.4.2 Noise within the development would be managed by:

- Providing glazing and ventilation measures capable of meeting the relevant noise criteria inside habitable rooms as recommended by BS 8233:2014;
- Insulating and soundproofing doors, walls, windows, floors and ceilings; and
- Sealing air gaps around windows.

7.5 Light pollution

7.5.1 To minimise light pollution, external lighting would be directed downwards wherever practical. In addition, lighting sensors would be installed to limit lighting to the times it is required.

7.6 Water pollution

Surface water pollution

7.6.1 SuDS would be adopted to absorb and store water during heavy rainfall as well as filtering pollutants.

Control of water pollution during construction

7.6.2 Contractors would minimise water pollution by undertaking the following measures as appropriate:

- Incorporating oil separators;
- Incorporating clear marking/signage of drainage systems;
- Correcting wrong connections to the drainage systems;
- Bunding of chemical, fuel and oil delivery storage areas; and
- Designating and bunding of areas for cleaning activities.

8 Conclusions

- 8.1.1 This Energy and Sustainability Statement has been prepared to discharge conditions 26 and 34 of the full planning permission granted for the development (application reference number: PL/2023/03573), subject to approval by Wiltshire Council.
- 8.1.2 It provides a scheme for water efficiency as required by Condition 26, and details the measure taken to provide a sustainable development as required by Condition 34.

9 Appendix A: Water efficiency calculation for dwellings with a bath

Installation type	Unit of measure	Capacity/ flow rate	Use factor	Fixed use (litres/ person/ day)	Litres/ person/day (l/p/d)
WC (dual flush)	Full flush volume (litres)	6	1.46	0.00	17.64
	Part flush volume (litres)	3	2.96	0.00	
Taps (excluding kitchen/utility)	Flow rate (litres/minute)	5	1.58	1.58	9.48
Bath	Capacity to overflow (litres)	257	0.11	0.00	28.27
Shower	Flow rate (litres/minute)	9	4.37	0.00	39.33
Kitchen/utility taps	Flow rate (litres/minute)	5	0.44	10.36	12.56
Washing machine	Litres/kg dry load	8.17 (default)	2.10	0.00	17.16
Dishwasher	Litres/place setting	0.98	3.60	0.00	3.53
Waste disposal unit	Litres/use	0	3.08	0.00	0.00
Water softener	Litres/person/day	0	1.00	0.00	0.00
Calculated Use	Litres/person/day				128.0
Normalisation factor					0.91
Total internal consumption	Litres/person/day				116.4
External Use	Litres/person/day				5.0
Total internal and external consumption	Litres/person/day				121.4

10 Appendix B: Water efficiency calculation for dwellings without a bath

Installation type	Unit of measure	Capacity/ flow rate	Use factor	Fixed use (litres/ person/ day)	Litres/ person/day (l/p/d)
WC (dual flush)	Full flush volume (litres)	6	1.46	0.00	17.64
	Part flush volume (litres)	3	2.96	0.00	
Taps (excluding kitchen/utility)	Flow rate (litres/minute)	5	1.58	1.58	9.48
Shower	Flow rate (litres/minute)	9	5.60	0.00	50.4
Kitchen/utility taps	Flow rate (litres/minute)	5	0.44	10.36	12.56
Washing machine	Litres/kg dry load	8.17 (default)	2.10	0.00	17.16
Dishwasher	Litres/place setting	0.98	3.60	0.00	3.53
Waste disposal unit	Litres/use	0	3.08	0.00	0.00
Water softener	Litres/person/day	0	1.00	0.00	0.00
Calculated Use	Litres/person/day				110.8
Normalisation factor					0.91
Total internal consumption	Litres/person/day				100.8
External Use	Litres/person/day				5.0
Total internal and external consumption	Litres/person/day				105.8