
MEMORANDUM

From:	Úna Haran, Lead Sustainability Planning Officer		
Service	WBC Sustainability	App No:	251457
Address:	Parcel 8, Finchwood Park, Sheerlands Road, Arborfield, Wokingham, RG40 4QY.		
Proposal:	Application for approval of Reserved Matters pursuant to Outline Planning Consent O/2014/2179 (as varied by 181194, dated 14/11/2018). The Reserved Matters comprise details of 37 dwellings, together with associated internal access roads, parking and landscaping. Details of access, appearance, landscaping, layout and scale to be considered.		
Type of Development:	Major Dwellings (10+)		
Site Visit Made:	No		

Summary Of Recommendations

- ☐ No comment
- ☐ No objection
- ☒ No objection subject to conditions (and reasons) **stated below**
- ☐ Request further information before determination as **stated below**
- ☐ Objection due to the reason(s) **stated below**

Comments On Proposal

1. Response to evidence submitted.

- 1.1. Since application 251457 deals with development of 37 new homes, a detailed sustainability statement is required per the Wokingham Borough Council Sustainable Design and Construction Supplementary Planning Document 2010.¹
- 1.2. The following comments are based on the information provided in the Energy & Sustainability Report prepared by consultants Environmental Economics² alongside the Design and Access Addendum authored by Thrive Architects and associated drawings.

¹ Wokingham Borough Council. 'Sustainable Design and Construction Supplementary Planning Document'. 2010. p.10

² The Energy & Sustainability Report states that "It should be noted that future policies and building regulations may require an update to the sustainability measures within this report." – in the event that an update is required, it should be submitted to and approved by the Local Planning Authority.

1.3. This note specifically examines the application's approach to LDF policies on sustainable development, energy including any provision of renewables on site, and water efficiency.

2. Response to WBC Core Strategy Policy CP1

2.1. *"12) Contribute towards the goal of reaching zero-carbon developments as soon as possible by:"*

2.1.1. *"a) Including appropriate on-site renewable energy features; and"*

2.1.2. *"b) Minimising energy and water consumption by measures including the use of appropriate layout and orientation, building form, design and construction, and design to take account of microclimate so as to minimise carbon dioxide emissions through giving careful consideration to how all aspects of development form."*

2.2. Renewable energy and low carbon technology. The Energy & Sustainability Report states that photovoltaic panels (PVPs) will be used to supply renewable energy to the homes, and that the number of panels required for each plot will be determined at the detailed design stage.³ Space heating and domestic hot water will be provided by gas boilers connected to mains gas. Waste Water Heat Recovery (WWHR) will be used to recover thermal energy from shower wastewater, reducing the demand for fossil-fuel water heating. These measures in combination with the proposed fabric specification are predicted to achieve a 12.7% reduction in emissions when compared with the notional baseline of the TER.⁴

2.2.1. The development consists of thirty-seven homes delivered in thirteen typologies, including three semidetached typologies (eight homes), six detached typologies (eight homes) and four apartment typologies (twenty-one homes).

2.2.2. Indicative SAP outputs are provided for a sample of four homes: two detached, one semi-detached and one ground floor apartment. These homes achieve improvements of 3.4%, 6.3%, 18.0% and 8.75% respectively relative to their notional TERs. It is assumed that the figure of a 12.7% improvement relates to a site average improvement against the TERs for each home, however this cannot be checked as only four out of thirty-seven homes are illustrated in the modelling provided.

2.2.3. The use of PVPs and WWHR contributes to reducing operational carbon emissions. At detailed design stage following development of a fixed specification for the renewable and active building systems, details of the systems, their models, outputs, energy demand and capacities should be supplied to ensure compliance with WBC CP1 and MDD CC04.

2.2.4. The installation of new fossil-fuel boilers means that the homes will not operate as net-zero ready and will require retrofit to achieve net zero operation.

2.3. Passive design measures

2.3.1. Glazing

³ Environmental Economics, Energy & Sustainability Report, Finchampstead Parcel 8 2025. P15

⁴ Ibid. P.15

- 2.3.1.1.1. No CIBSE TM52 analysis is provided therefore the design will be appraised for potential overheating risk through Part O of the Building Regulations only. These regulations provide limits on the amount of hours during which a space is permitted to exceed maximum temperatures for indoor thermal comfort. The comments on potential risks and mitigating factors for overheating provided in this note do not seek to anticipate the outcome of Part O analysis but rather to identify the degree to which passive design measures have been implemented as part of the overall approach to operational energy demand reduction.
- 2.3.1.1.2. No calculated glazing ratios are provided, however inspection of the proposed elevations shows that they do not appear to be over-glazed. There is a significant amount of vertically oriented glazing however, which is not recommended for balancing solar gains.
- 2.3.1.1.3. In flatted block SB32, most windows face either north, East or west. Two thirds of the bedrooms in the block face west which puts these single-aspect rooms at higher risk of afternoon overheating.
- 2.3.1.1.4. Across the two SB42 flatted blocks containing twelve apartments of type Tewksbury, all glazing is vertical in orientation. With the exception of the westernmost wing of the western block, all windows face within 30 degrees of either north or south, with the ends of the blocks providing double-aspect living spaces.
- 2.3.1.2. G values of glazing are not provided however the Energy & Sustainability Report notes that "*Enhanced glazing with a larger transmittance factor allowing for increased solar gains will also be used.*" This statement is of concern since best practice for solar transmittance in the UK is to install glazing of G value 0.3-0.4 (solar control glass) – this is to balance the transmission of natural light while limiting excess solar gains in summer. Wokingham experiences severe heat stress during the summer months and new homes in the Borough should be designed to cope with this increasing risk to dweller health.
- 2.3.2. Passive ventilation. Bedrooms in the Tewksbury apartments are provided with two openings, which will contribute to natural ventilation, as will the double aspect living and dining areas in these apartments. Bedrooms in the Avebury apartments also benefit from two openings on a single aspect, while living areas in the Harlington and Marlborough apartments benefit from double aspect cross ventilation. Detached Whitebeam houses include four bedrooms, three of which are single aspect with a single window, with three facing north and west and one facing southeast. Whitebeam living rooms are double aspect with windows opposite French doors into the garden. Semidetached Por houses are oriented west to east. The west facing bedrooms are small and have a single window, making them more likely to overheat. In general, across the house and apartment typologies, more opportunities

for facilitating passive ventilation could have been taken to improve the passive thermal regulation of the homes.

2.3.3. Passive cooling from landscape measures. Dwellings are arranged in short streets with soft landscaping and gardens surrounding. Retained mature trees and proposed trees will contribute some solar shading with this benefit increasing as the trees mature. The soft landscaping proposed will help to reduce the reflection of solar energy back into buildings.

2.3.4. Heat loss form factor. While home types COO and POR and TEW appear to benefit from relatively low form factors, complexities in roof forms and projecting window bays and dormers reduce the thermal efficiency of the remaining typologies.

2.3.5. Thermal mass. It is acknowledged that the details of the construction including specific heat capacity of materials is not yet finalised therefore indicative thermal mass parameters have been used in modelling the thermal performance of the buildings. The DER worksheets use indicative thermal mass parameters (TMPs) of 238.85 kJ/m²K for a ground floor apartment and 181.30 kJ/m²K for a detached home. To put this in context, the heaviest buildings, for example those containing a lot of masonry, can have TMPs around 500 kJ/m², while a very lightweight timber framed building could have a TMP only 1/10 of that value. A TMP of 250 kJ/m²K indicates a medium level of thermal mass. In the absence of further details of the materials specification, it is not possible to assess the placement of heavier components to be able to tell to what degree they may assist with mitigation of overheating risk or maintaining stable internal temperatures.

2.3.6. Thermal performance of building elements (dwellings).

Building element	Unit	Part L 2021 limiting value	Best practice value	Proposed Specification (maximum)
External wall	W/m ² .K	0.26	0.12	0.24
Roof	W/m ² .K	0.16	0.10	0.16
Floor	W/m ² .K	0.18	0.10	0.11
Vertical windows	W/m ² .K	1.60	0.80	1.30
Air permeability	m ³ /h.m ³ @ 50 Pa	8.0	<1.0	4.0

2.3.6.1. The proposed thermal performance of building elements is within the legal limits set in Part L of the Building regulations. In the case of the floor, a value approaching best practice is proposed. Some elements in particular the walls, would benefit from improved fabric performance to reduce operational energy demand and climate resilience.

2.4. Active building systems. Decentralised Mechanical Extract Ventilation will be used in bathrooms. All homes will be supplied with WWHR and PVP systems.

2.5. Whole life impacts. *“The standard specification of materials used by Barratt Homes consists of predominantly ‘A’ and ‘A+’ Green Guide rated elements. ‘A+’ rated construction elements include: pitched roof construction, internal upper floors, internal timber partitions and external cavity walls.”*⁵

2.5.1. Material supply certification documents are provided as appendix to the Report.

3. Response to WBC MDD Local Plan Policy CC04

3.1. The commitment to a deliver a reduction in regulated operational GHG emissions of 12.7% for the development overall through the use of WWHR and PVPs is acceptable.

3.1.1. Application of the standard condition ensuring that the provision for onsite renewable energy is delivered at the level described is recommended.

3.2. A basic speculative water efficiency calculation for new dwellings is provided, demonstrating how the maximum domestic consumption rate of 105 L per capita per day required to comply with MDD Policy CC04 might be achieved⁶. The sustainability statement also describes various measures such as rainwater harvesting which can be used to reduce consumption. The Sustainability and Energy Statement notes that *“Alternative component consumption rates are available which can achieve the required water consumption. The rates provided are representative only. Plots which have a rear garden will be provided with water butts to allow for further reductions of potable water use in compliance with Condition 51.”*

3.2.1. This approach is acceptable.

4. Conclusion

4.1. In summary, the Sustainability and Energy Statement and its appendices show that an acceptable approach to sustainable development is taken.

4.2. No objection is raised to approval of this application subject to the below condition.

Conditions & Reasons (if required)

On-site renewables

Prior to the commencement of development, a scheme for achieving a 10% reduction in the predicted carbon emissions arising from operation of the development through the use of decentralised renewable and/or low carbon sources (as defined in the glossary of Planning Policy Statement: Planning and Climate Change (December 2007) or any subsequent version) shall be submitted to and approved in writing by the local planning authority. The minimum 10% reduction shall be achieved in addition to the levels of reduction in carbon emissions required through the Building Regulations in force at the time of the submission of planning application. The approved

⁵ Environmental Economics, Energy & Sustainability Report, Finchampstead Parcel 8 2025. P7

⁶ Ibid. P.10

scheme shall be implemented before the development is first occupied and shall remain operational for the lifetime of the development.

Reason: To ensure developments contribute to sustainable development in accordance with NPPF Section 14 (Meeting the Challenge of Climate Change, Flooding and Coastal Change), WBC Climate Emergency Action Plan, Core Strategy policy CP1, MDDL policy CC05 & the Sustainable Design and Construction Supplementary Planning Document.

Date:

09.07.2025

Signed:



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