

MEMORANDUM

From:	Úna Haran, Lead Sustainability Planning Officer		
Service	WBC Sustainability	App No:	243099
Address:	Land North Of Reading Road, Arborfield.		
Proposal:	Outline application for the proposed erection of up to 111 no. dwellings with associated works, parking, landscaping, publicly accessible open space and access from Reading Road. (All matters reserved except for means of access.)		
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 outline application 243099 deals with development of up to 111 new homes, information is required to demonstrate how the scheme will comply with WBC planning policy on sustainability and energy.

1.1.1. This requirement is set out in the WBC Sustainable Design and Construction Supplementary Planning Document (SPD).¹ It should be noted however that It should be noted that the SPD dates from 2010 and makes reference to the South East Plan: *"Design and Access Statement to set out framework to show how the proposal will achieve the requirements of Policy NRM11 of the South East Plan. Best estimates of energy use at outline application stage will be acceptable."*

1.1.2. The South East Plan was withdrawn in 2013² and its policies covering Sustainability and Energy superseded by those contained in the WBC Managing Development Delivery (MDD) Local Plan which was adopted

¹ Wokingham Borough Council. 'Sustainable Design and Construction Supplementary Planning Document'. 2010. p.11

² Excluding saved policies not affecting sustainability planning issues.

in 2014. Consequently, applications must now show how they will comply with WBC's policies on sustainable design and construction. This means that at outline stage for a major residential scheme, in addition to outlining how the scheme will comply with the sustainability requirements of Policy CP1 of the WBC Core Strategy 2010, the Design and Access or Sustainability & Energy Statement must show how the scheme will comply with:

1.1.2.1. MDD CC04 part 1, (a) (as clarified by the WBC Climate Change Interim Policy Position Statement, 2022 (CCIPPS)). This policy encourages schemes to aim for the expected carbon reduction levels of the full future homes standard prior to the standard taking effect (expected in 2025).

1.1.2.2. MDD CC04 part 1 (b) (as clarified by the CCIPPS) - requires water consumption of 110L per person per day including a 5L external water allowance.

1.1.2.3. MDD CC05 part 2 (as clarified by the CCIPPS) - requires 10% carbon reduction relative to Target Emission Rates (TERs) arising from the version of the Building Regulations extant at time of full planning or reserved matters application.

1.2. The following comments are based on the information provided in the Energy & Sustainability Statement prepared by consultants Jones King Partnership alongside the Design and Access Statement authored by Ascot Design2.

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 use.

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 Sustainability & Energy Statement states that the development will achieve a site-wide reduction of 68.69% relative to the baseline of Part L1 2021 through a combination of through a combination of fabric performance improvements and provision of ASHP to every home to supply 100% of the heating and hot water required.³

2.2.1. This represents an appropriate and positive response to the requirements of Policy CP1 part 12.

2.3. Passive design measures

2.3.1. Glazing

³ JSP Sustainability Ltd., Sustainability Statement, Reading Road, Arborfield, 2024. P.15-16

- 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 the Sustainability Statement notes that "*The principal living rooms of every home will have sufficient glazing to allow each to benefit from the positive effects of passive solar gain; The glazing specification will achieve a g-value, or solar transmission value, of 0.71 or more.*"⁴ While it is appreciated that the glazing strategy has been considered with respect to the benefits of passive solar gain, due to the elevated and increasing risk of summer overheating in Wokingham, a lower g-value is recommended (between 0.3 and 0.4). The specified value of 0.71 is in the range of typical argon filled double-glazing which does not balance overheating risk with the need for beneficial solar thermal and lighting transmission.
- 2.3.1.1.3. Additionally, no comment is made in relation to the orientation of the homes, which has the greatest impact on passive solar design. From examination of the illustrative masterplans, a mix of building orientations appears to be planned. Provision of natural lighting must be balanced with mitigation of overheating and overcooling risks.
- 2.3.1.1.4. Best practice for UK glazing ratios allocates 25% on the Southern elevation, up to 20% on Eastern/Western elevations and as little as possible on the Northern elevation
- 2.3.1.1.5. East and West facing rooms are susceptible to overheating due to low-angle sunlight in the morning and evening, meaning adequate natural ventilation opportunities are especially important in these spaces. South facing windows and doors are easier to protect from high-angle summer sunlight with vertical shading, which allows low-angle winter sunlight to enter.
- 2.3.1.1.6. Additionally, horizontal glazing is preferred, with full-height glass increasing the risk of overheating. A minimum upstand of 800mm is recommended.
- 2.3.1.2. At Outline stage, illustrative masterplans are provided. Plans, elevations and sun path diagrammes created at detailed design stage should consider the above to ensure internal comfort and passive reduction of energy demand.

⁴ Ibid. p.13

- 2.3.2. Decentralised mechanical ventilation is proposed alongside openable windows *“Each property will be naturally ventilated using efficient decentralised extract fans to ensure the internal living environment will be healthy and comfortable. Occupants will have the ability to ventilate their home via openable windows during summer months to prevent overheating. As part of the Building Regulations assessment all of the proposed homes will show a low risk of summer overheating;”*⁵
- 2.3.3. At detailed design stage, opportunities for cross-ventilation via multiple apertures should be prioritised.
- 2.3.4. Meeting the requirements of the Building Regulations is a legal obligation and confers no benefit to the sustainability of the scheme in planning assessment, since it is a legally allowable minimum standard for performance.
- 2.3.5. At detailed design stage, opportunities for passive ventilation should be prioritised. Double aspect homes with double aspect internal spaces provide opportunities for effective cross-ventilation. The risk of overheating is a key climate hazard in Wokingham and must be addressed through design measures to ensure that new buildings are adapted to cope with current and future conditions including more frequent heatwaves.
- 2.3.6. Passive cooling from landscape measures appears to be a potential benefit of the masterplan and illustrative planting as shown. Dwellings are arranged in short streets with soft landscaping and gardens surrounding. Properties are spaced with hardstanding parking areas between. The relatively low density of the scheme, along with the proportion of green space surrounding and between the homes will contribute to reducing the risk of summer overheating.
- 2.3.7. Heat loss form factor (HLFF). At outline stage, examination of the form factor of the homes is not possible, however it appears that some attached and maisonette dwellings are proposed which will benefit from reduced risk of heat loss through the building envelope. At detailed design stage, unnecessary junctions should be avoided to ensure a thermally efficient building envelope. The proposal to specify thermally broken lintels⁶ is supported.
- 2.3.8. Sustainability Statement notes that *“The proposed traditional masonry construction will deliver sufficient thermal mass to the structure of each home such that it will retain heat in winter and assist in cooling in the summer;”*⁷
- 2.3.9. The following table is provided as a guide to best practice values for fabric performance compared with the proposed specification. It shows that all elements improve upon the baseline of the notional building and some elements approach best practice specification.

Building element	Unit	Part 2021	L	Proposed value	Best practice
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⁵ Ibid. p.13

⁶ Ibid. p.13

⁷ Ibid. P.13

		limiting value		value
External wall	W/m2.K	0.26	0.24	0.12
Roof	W/m2.K	0.16	0.09-0.15	0.10
Floor	W/m2.K	0.18	0.11	0.10
Vertical windows	W/m2.K	1.60	1.30	0.80
Air permeability	m3/h.m3 @ 50 Pa	8.0	4.5-5.0	<1y.0

2.4. Active building systems. Heating and hot water will be supplied by ASHP as specified. No capacity for reverse operation (cooling) is mentioned. Ventilation will be provided by decentralised mechanical ventilation.

2.5. Sustainability Statement states that *“Energy efficient lamps will be installed in every light fitting;”*⁸

2.5.1. The use of mechanical ventilation alongside a highly insulated and airtight building fabric heated by ASHP is supported as an appropriate strategy for reducing operational emissions.

2.6. Whole life impacts. The Sustainability Statement notes that *“Dandara Homes operates a nationwide timber procurement policy. At its core is a requirement that timber products are sourced from suppliers who can adequately demonstrate and provide appropriate evidence that the supplied material is responsibly and legally procured from a sustainable source. In all instances, suppliers must present Chain of Custody or FSC certificates demonstrating compliance prior to the purchase of materials. Dandara Homes operates a national sustainable procurement policy which confirms that Dandara will; Procure materials with a preference for materials and products with recognised responsible sourcing schemes and or products with Environmental Product Declarations issued or registered by an ISO 14025 compliant operator; Adopt a preference for materials and product with recycled content; Request that high volatile organic compounds (VOC) paints, finishes and sealant should be designed out; and In line with the circular economy and waste hierarchies minimise the specification and use of materials through careful design and site management. As part of the review of the proposed Sustainability Strategy the environmental impact of the proposed build specification was assessed against the BRE Green Guide”*⁹

2.7. The above-mentioned measures are beneficial and represent an adequate approach to the reduction of embodied impacts. The removal of VOCs from the internal finishes will additionally benefit the health of dwellers.

3. Response to WBC MDD Local Plan Policy CC04 and CC05

3.1. The Sustainability Statement states that *“Dandara Homes proposes to incorporate low flow sanitary ware and eco-sanitary products into the design of each property to achieve a low water consumption rate.”*¹⁰

⁸ Ibid. P.13

⁹ Ibid. P.6

¹⁰ Ibid. P.9

3.1.1. Proposed flow rates for water appliances are included in the statement. The below table is provided for comparison between business as usual, best practice and proposed consumption rates for common fittings.

Fitting type	Non low-flow consumption	Proposed specification	Best practice consumption
WC	5 - 9 L	2.6 – 4 L (dual)	< 4 L
Shower	13 L / minute	8 L / minute	6 L / minute
Handwash basin taps	8 L / minute	4 L / minute	2 L / minute
Sink taps	10 L / minute	4 L / minute	4 L / minute
Dishwasher	1.25 L / place setting	1.25 L / place setting	< 0.7 L / place setting
Washing machine	14 L / kg	8.17 L / kg	6 L / kg

3.1.2. The table demonstrates a water efficiency specification which significantly improves on business as usual/compliance and approaches best practice in some areas.

3.1.3. An indicative water efficiency calculation is provided which shows that consumption as modelled is 105.08 L per person per day including an allowance of 5 L per person per day for external use.¹¹ This represents a very positive response to MDD Policy CC04 part 1 (b).

3.1.4. Application of the standard condition ensuring water efficiency measures are specified at detailed design stage in accordance with the details supplied in the Sustainability Statement is recommended.

3.2. The proposed strategy to achieve a site-wide reduction in regulated operational emissions of 68.69% against Part L1 2021 predominantly through a fully fossil-free ASHP-based heating and hot water strategy represents a very positive response to MMD Policy CC05 part 2.

3.2.1. Application of the standard condition ensuring that the provision for onsite renewable energy is delivered at the level described in the Sustainability Statement is recommended.

4. Conclusion

4.1. In summary, the proposals represent an appropriate approach to sustainable development in alignment with WBC Planning Policies and Climate Emergency Actions.

¹¹ Ibid. p.10

- 4.2. Of particular benefit is the fully electrified nature of the development and the level of provision of ASHP.
- 4.3. No objection is raised to approval of this application subject to application of the below planning conditions.

Conditions & Reasons (if required)

Domestic water consumption

Prior to the commencement of development, a scheme achieving a maximum domestic water consumption of 110L per capita per day (including 5L allowance for external water) shall be submitted to and approved in writing by the local planning authority. The approved 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. Relevant policy: NPPF Section 14 (Meeting the Challenge of Climate Change, Flooding and Coastal Change), WBC Climate Emergency Action Plan, Core Strategy policy CP1, Managing Development Delivery Local Plan policy CC04 & the Sustainable Design and Construction Supplementary Planning Document.

Low and zero-carbon technology

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 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:

31.01.2025

Signed:



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