

MEMORANDUM

From:	Úna Haran, Lead Sustainability Planning Officer		
Service	WBC Sustainability	App No:	250415
Address:	Shinfield Park, Whitley Wood Lane, Shinfield, Wokingham, RG2 9FW.		
Proposal:	Full application for the proposed redevelopment of site for flexible employment use (Use Class E(g)(ii)-(iii)/B2/B8) together with servicing areas, parking, landscaping and other associated works, including demolition.		
Type of Development:	Major Heavy industry/storage/warehouse		
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 250415 deals with major development, a detailed Sustainability Statement 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

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 The South East Plan was withdrawn in 2013² and its policies covering Sustainability and Energy superseded by those contained in the WBC Managing Development Delivery (MDD) Local Plan which was adopted in 2014.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

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

² Excluding saved policies not affecting sustainability planning issues.

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 2, (a) (as clarified by the WBC Climate Change Interim Policy Position Statement, 2022 (CCIPPS)). This policy requires non-residential schemes over 100m² G.I.A. to achieve BREEAM “Excellent” certification.

1.1.2.2. MDD CC04 part 2 (b) – requires statutory requirements on efficient water consumption to be met or exceeded.

1.1.2.3. MDD CC04 part 3 – requires incorporation of suitable waste management facilities on-site, including recycling.

1.1.2.4. MDD CC05 part 2 (b) (as clarified by the CCIPPS) - requires demonstration through modelled Building Emission Rate of a minimum 10% carbon reduction relative to Target Emission Rate/s (TER/s) 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 and Sustainability Strategy prepared by consultants MBA Consulting Engineers and drawings authored by Chetwoods.

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 scheme will incorporate a solar panels across the roof areas of six units. The combined photovoltaic array having estimated output around 216.9 kWp,³ and that air source heat pumps with reverse operation capacity will provide space heating and cooling to the units.⁴ The heat pumps will be installed in internal plant area for Unit 1 and externally either on the roof or at ground level for the other units.

2.2.1. Through these measures, alongside building fabric enhancements and application of passive design principles, the development is expected to achieve a site-wide average reduction in regulated emissions (weighted by unit area) of 12.4% compared with the baseline

³ MBA, *Wrenbridge (FRELD Reading) LLP – Shinfield Park, Reading, Energy Strategy*, 2025. P.24

⁴ *Ibid.* P.25

of the Part L 2021 notional TER.⁵

2.2.2.

Unit	PV area (m ²)	Est. output (kWp)	Target output (kWh/year)	CO2 reduction (kg/year)
1	425	78.8	73,663	10,220
2	225	40.8	38,174	5,300
3A	75	13.2	12,387	1,720
3B	70	12.4	11,554	1,600
4	170	31.4	29,323	4,070
5	215	40.3	37,656	5,230

2.2.3. Table 7 of the Strategy outlines the size and estimated generating capacity of the portions of the array mounted to each of the units.

2.2.4. Energy storage is not proposed, however the possibility of adding this capability in future is mentioned.⁶

2.2.5. The As Designed BRUKL output documents include generated estimates for the quantum of energy displacement that should be achieved by the notional building through generation by on-site photovoltaic panels. For each unit, the estimated generation capacity of the array outlined in the strategy exceeds the notional generation:

Unit	Notional generation (kWh/m ² _{GIA} /year)	PV Estimated generation (kWh/m ² _{GIA} /year)	PV % improvement (estimated/notional)
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⁵ Using Table 1 of MBA, *Wrenbridge (FRELD Reading) LLP – Shinfield Park, Reading, Energy Strategy*, 2025. P.7, Be Green results alongside the BRUKL Output Documents appended to the Strategy, the following is derived:

Unit	BER reduction against TER	GIA	Emissions reduction factor (% reduction multiplied by GIA)
Unit 1	-16%	8086 m ² _{GIA}	129376
Unit 2	-12%	3571 m ² _{GIA}	52852
Unit 3A	-10%	1120 m ² _{GIA}	11200
Unit 3B	-10%	1125 m ² _{GIA}	11250
Unit 4	-7%	2485 m ² _{GIA}	17395
Unit 5	-10%	3477 m ² _{GIA}	34770
Σ	/	19864 m ² _{GIA}	246843

Where the sum of the emissions reduction factors of each unit is 246843, which when divided by the sum of GIA as modelled in SBEM (total floor area listed on application form is 238m² larger) shows a weighted average reduction against the TERs generated for all units as 12.4% (or 12.3% when using the larger GIA figure).

⁶ MBA, *Wrenbridge (FRELD Reading) LLP – Shinfield Park, Reading, Energy Strategy*, 2025. P.24

1	2.34	9.11	289%
2	1.90	10.69	463%
3A	2.48	11.06	346%
3B	2.59	10.27	297%
4	3.19	11.80	270%
5	1.63	10.83	564%

2.2.6. Table 11 of the Strategy demonstrates that each unit is expected to provide between 10.3 and 11.2% of its annual regulated energy demand through on site renewable energy generation provided by the PVPs.⁷ When combined with the displaced heating energy generated through the ASHPs, this rises to between 20.4 and 26.8% for each unit as shown in Table 12.⁸

2.2.7. It should be noted that ASHP can be considered renewable energy generation at high operating efficiencies despite having an operational energy demand and the portion of energy considered as renewable has been properly calculated using the equation provided in the Renewable Energy Directive 2009/28/EC/EP.⁹

2.2.8. The approach to renewable and low carbon technology is feasible, suitable for the proposed development, well evidenced and adequate in generation capacity to comply with WBC sustainable development policies.

2.3. Passive design measures

2.3.1. Glazing

2.3.1.1.1. Glazing ratios are not provided however it is evident from plans that entrance areas of each unit are highly glazed, in particular, the South Elevation of Unit 1 contains over 380 m² of double height glazing.

2.3.1.1.2. Brise-soleil and solar control glass (G-value 0.3, VLT 0.60) are proposed to mitigate overheating risk while allowing for optimal natural daylighting.¹⁰ Translucent (G-value 0.35, VLT 0.46), triple-skinned non-fragile factory-assembled GRP rooflights are to be provided to a minimum of 15% of the roof area of each building.

2.3.1.1.3. Roof plans do not include the positions of solar panels or air source heat pumps therefore this information must be supplied in order to discharge the suggested renewable energy condition.

2.3.1.1.4. CIBSE TM52 criteria are used to assess the proposed development,¹¹ results of the criterion pass rates are not supplied.

2.3.1.1.5. The proposed double story curtain wall glazing is not

⁷ MBA, *Wrenbridge (FRELD Reading) LLP – Shinfield Park, Reading, Energy Strategy*, 2025. P.31

⁸ Ibid. P.36

⁹ Ibid. P.26

¹⁰ Ibid. P.18

¹¹ MBA, *Wrenbridge (FRELD Reading) LLP – Shinfield Park, Reading, Energy Strategy*, 2025. P.20

recommended for several reasons. Firstly, the very large glazed areas present a risk of excessive solar thermal gains, thirdly, glazing typically has one the highest rates of embodied carbon of common building elements and thirdly, almost no usable light will enter through a façade below 1m from floor level, therefore an upstand of 800 mm minimum is recommended.

2.3.1.1.6. Indoor overheating is a particular concern in Wokingham where high summer temperatures are a current and increasing climate related hazard.

2.3.1.1.7. The scheme will employ dynamic thermal modelling, and as set out in the BREEAM Pre-Assessment, the model will be run at design Stage 4 to show a pathway for thermal comfort compliance based on the climate change projections, with both available credits under Issue Hea 04 targeted.¹² This modelling positively contributes to the overall sustainability of the development. It is recommended that local climate projections under high warming scenarios are used for this modelling.

2.3.2. The ventilation strategy incorporates MVHR and comfort cooling via reverse operation of ASHPs serving office areas, with natural ventilation serving the warehouse spaces. This strategy will ensure adequate air quality in the building which is specified with a high level of air tightness.¹³

2.3.3. Heat loss form factor (HLFF). From examination of the drawings, the proposed units are simple and rational in form, contributing to a reduction of heat loss through the building envelopes.

2.3.4. The Energy Strategy provides fabric performance targets for the specification as follows¹⁴:

Building element	Unit	Part L 2021 limiting value	Best practice value	Specified value
External wall	W/m ² .K	0.26	0.12	0.26
Sheltered wall	W/m ² .K	0.26	0.12	0.26
Floor	W/m ² .K	0.18	0.10	0.18
Roof	W/m ² .K	1.60	1.00	1.60
Vertical windows	W/m ² .K	1.60	0.80	1.60
Roof lights	W/m ² .K	2.2	1.0	1.30

¹² MBA, *Wrenbridge (FRELD Reading) LLP – Shinfield Park, Reading, BREEAM UK NC V6.1 Pre-Assessment*, 2025. P.13

¹³ MBA, *Wrenbridge (FRELD Reading) LLP – Shinfield Park, Reading, Energy Strategy*, 2025. P.19

¹⁴ Hore Lea, *Energy & Sustainability Statement, Thamesfield Retirement Village. Thamesfield Phase 2. Rev. 3, 2024. P.10*

Personnel doors	W/m ² .K	1.60	0.80	1.60
Vehicle doors	W/m ² .K	1.60	0.80	1.30
Air permeability	m ³ /h.m ³ @ 50 Pa	8.00	<1.00	2.50

1.1. Table 1 demonstrates that the proposed buildings make no improvements to the limiting values imposed by Part L of the Building Regulations with the exception of air permeability. The Energy Strategy states that *“Based on the final use of the development (warehouse) the U-values cannot be lowered further as lower U-values will result in higher construction thickness which are difficult to construct. This will in turn have major embodied carbon implications which Wrenbridge (FRELD Reading) LLP is committed to reduce.”*¹⁵

1.1.1. The spaces in question are warehouses with minor divisions for reception and office rooms. They are expansive in plan and increased thickness from an improved insulation value in wall build-up would have a minimal impact on the function of the units. This argument is more applicable in domestic and retrofit schemes where more restrictive spatial constraints may apply. Additionally, construction thicknesses do not impact the specification of windows and doors with improved U-values. Although warehouses tend to have relatively lightweight roof constructions, many prefabricated components with improved insulating capacity, including options for integrated PVP mounting exist on the market.

1.1.2. The reasons given in the Strategy for the poor U-values specified are insufficient and the sustainability of the development would benefit significantly from an improved specification at detailed design stage.

1.2. Whole life impacts. The Strategy states that the applicant is committed to reducing embodied carbon, however whole life impacts are not considered in the Strategy. No mention is made of responsible materials sourcing, any lifecycle assessment or application of circular economy principles relating to the construction of the new development or deconstruction of the existing buildings on the site. The development proposals would benefit from consideration of these issues.

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

2.1. The commitment to achieve estimated average of 12.4% reduction in operational regulated emissions through the use of low and zero carbon technologies relative to the Part L baseline, and a minimum BREEAM certification of ‘Excellent’ is compliant with WBC MDD CC04 Part 2 (a).

2.1.1. Application of the standard condition ensuring that the provision for onsite renewable energy is delivered at the level described is recommended. To discharge this condition, details of the specified models of exhaust air heat pumps and photovoltaic panels should be

¹⁵ MBA, *Wrenbridge (FRELD Reading) LLP – Shinfield Park, Reading, Energy Strategy*, 2025. P.19

provided along with operating efficiency and generation capacity, and plans showing the proposed installation locations of each.

2.2. Water efficiency is not covered in the Energy Strategy.

2.2.1. No proposed flow rates for water appliances are provided therefore below table is provided for information on best practice.

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

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

3. Conclusion

3.1. In summary, the application shows a policy compliant approach to the reduction of operational emissions. This approach benefits from an excellent level of on-site energy generation from photovoltaic panels as well as reductions in heating and cooling emissions via provision of ASHPs. The BREEAM Pre-Assessment shows the development to be on track for its targeted minimum certification level of 'Excellent'.

3.2. No objection is raised to approval of this application subject to the application of the below conditions.

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 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.

BREEAM Excellent:

Within three months of first occupation of the development, a Post-Construction Certificate in respect of that building shall be submitted to and approved in writing by the Local Planning Authority. The Post-Development Certificate shall be prepared by an accredited assessor and shall demonstrate compliance with BREEAM rating of 'Excellent' as a minimum.

Reason: To ensure developments contribute to sustainable development in accordance with NPPF Section 14 (Meeting the Challenge of Climate Change, Flooding and Coastal Change), Core Strategy policy CP1 and Managing Development Delivery Local Plan policy CC04 and CC05.

Date: 14.03.2025

Signed:



Úna Haran
Lead Sustainability Planning
Officer
BSc MArch