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| **Title:**  | **Planning Application: 18/01253/F: Launton – Bicester Heritage, Buckingham Road, Bicester** |
| **Request Date:**  | 3 September 2018 |
| **Due:**  | 24 September 2018 |
| **Issued:**  | 17 September 2018 |
| **Name of Cherwell Employee Requesting:** | Jenny Barkerjenny.barker@cherwellandsouthnorthants.gov.uk 01295 221828   |
| **Details of Request:**  | Assessment for compliance with ESD policies |
| **Actions:**  | See comments below  |

**Planning application:**

This full planning application is for the erection of a new hotel with restaurant and conference facilities, together with associated access, parking and landscaping works. The proposed hotel will be in the form of a single building with five storeys (ground + four storeys).

The building footprint is approximately 5,200m2 providing 344 rooms or aparthotel accommodation (class use C1). The total floor area of the proposals is 18,500m2.

**Assessment:**

The planning application documents were reviewed and considered against Cherwell’s Local Plan and in particular the ESD policies 1-5. Compliance with policy requirements was considered and findings are set out below.

The documents reviewed included:

* Planning Statement
* Energy Strategy
* Design and Access Statement

**Table 1**: Sustainability and energy requirements and applicant’s response

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| **Item** | **Requirement**  | **Response**  |
| Policy ESD 1: Mitigating and Adapting to Climate Change  | Measures will be taken to mitigate the impact of development within the District on climate change. At a strategic level, this will include:* Designing developments to reduce carbon emissions and use resources more efficiently, including water (see Policy ESD 3 Sustainable Construction)
* Promoting the use of decentralised and renewable or low carbon energy where appropriate (see Policies ESD 4 Decentralised Energy Systems and ESD 5 Renewable Energy).
 | The following low carbon design measures are proposed in the **Energy Strategy** as climate change mitigation measures:* The specification of improved solar control glazing to all south-facing glazed units and external shading throughout the building: this measure aims to reduce excessive solar gains in the future and maintaining thermal comfort conditions within all areas in the Atrium.
* Exposed high thermal mass internal finishes, have been proposed to act as thermal regulators. This measure would regulate internal temperatures within occupied spaces in the future to maintain thermal comfort conditions.

**These proposals are only recommendations at this stage and there is no commitment made to implement them. As it stands the application does not comply with policy.** |
| Policy ESD 2: Energy Hierarchy and Allowable Solutions  | In seeking to achieve carbon emissions reductions, we will promote an ‘energy hierarchy’ as follows:* Reducing energy use, in particular by the use of sustainable design and construction measures
* Supplying energy efficiently and giving priority to decentralised energy supply
* Making use of renewable energy
* Making use of allowable solutions.
 | See comments under ESD 3. A reduction in energy demand and consideration of energy efficiency measures have been taken into consideration in the Energy Strategy. However, there is no firm commitment at this stage to implement the findings that are reported.  |
| Policy ESD 3: Sustainable Construction  | All new non-residential development will be expected to meet at least BREEAM ‘Very Good’ with immediate effect, subject to review over the plan period to ensure the target remains relevant. The demonstration of the achievement of this standard should be set out in the Energy Statement.All development proposals will be encouraged to reflect high quality design and high environmental standards, demonstrating sustainable construction methods including but not limited to:* Minimising both energy demands and energy loss
* Maximising passive solar lighting and natural ventilation
* Maximising resource efficiency
* Incorporating the use of recycled and energy efficient materials
* Incorporating the use of locally sourced building materials
* Reducing the impact on the external environment and maximising opportunities for cooling and shading (by the provision of open space and water, planting, and green roofs, for example); and
* Making use of the embodied energy within buildings wherever possible and re-using materials where proposals involve demolition or redevelopment.
 | Reference to a feasibility study related to pre-app advice on orientation (stemming from heritage concerns) mentioned in the **Planning Statement**. This study considered the effects of re-orientation on efficiency of the hotel among other issues. **The results of this are not available and it is not clear whether efficiency relates to energy or economics.** Reference made in the **Design and Access Statement** to native tree planting, in the context of providing screening of the road, as well as swales and grasscrete paving for car parking areas. However, **no reference is made to how these may contribute to the overall sustainability of the proposed development.** The **Energy Strategy** proposes the following measures:Passive (“lean”) measures designed to reduce energy demand:* Reduction of space heating demand: achieved by reduced U-values, careful consideration of G values (glazing), and low air permeability. These measures aim to reduce the heat loss through the building fabric and uncontrolled ventilation. The proposals exceed the requirements of Part L2A of the Building Regulations.
* Exposed high thermal mass building elements to act as an internal temperature regulator.
* Lighting – provision of adequate daylight to lower general lighting heat gains and electricity used.

Active (“clean”) measures designed to provide automatic sensors and measures to reduce energy use:* Ventilation – CEN Leakage test AHU and ductwork. All ventilation equipment (mainly AHUs and duct work) is to meet CEN (Comite Europeen de Normalisation) standards for air leakage. The proposed AHU and extract ventilation plant is to target energy efficient fans and high heat recovery efficiency.
* Space heating via:
	+ high-efficiency condensing boilers low temperature hot water system (LTHW)
	+ serving radiators
	+ trench heaters
	+ air curtains
	+ air handling units (AHU) heating coils
	+ circulating pumps with variable speed drives to ensure efficient operation modulating in line with heat demand
	+ heat source to be via high-efficiency condensing gas fired boilers
	+ space heating to hotel and aparthotel bedrooms and flats to be via a fan coil unit (FCU system). The heat source proposed for this system to be via a variable refrigerant flow/volume (VRF/VRV) type of system
	+ comfort cooling to all bedrooms and conference areas to be provided by a VRF/VRV type system
* HVAC controls: all space heating, ventilation and air conditioning services are to be controlled via a central Building Energy Management System (BEMS).
* High heat recovery system for all balanced mechanical ventilation systems.
* Lighting – A LED lighting strategy with automated controls with allowance of daylighting dimming has been proposed.
* Serve all cooling requirements of the proposed building with an ASHP (VRF) type system.

The Energy Strategy recommends that high thermal mass materials be considered to act as thermal regulators (reducing temperature fluctuations) and aid in the ventilation strategy. Ventilation: a strategy of mixed natural and mechanical ventilation is proposed for comfort cooling. **There is no evidence to demonstrate how BREEAM Very Good is to be achieved.** **At this stage these are proposals within the Energy Strategy, but we would like to see a commitment to implement them before we can be sure that the final design is compliant with policy requirements.** **There is no mention of recycled/recyclable or locally sourced construction materials. There is no analysis to show how the surrounding environment and landscaping may be incorporated into the design to maximise energy efficiency.****This proposal is not compliant with policy requirements.**   |
| Policy ESD 4: Decentralised Energy Systems  | The use of decentralised energy systems, providing either heating (District Heating (DH)) or heating and power (Combined Heat and Power (CHP)) will be encouraged in all new developments.A feasibility assessment for DH/CHP, including consideration of biomass fuelled CHP, will be required for all applications for non-domestic developments above 1000m2 floorspace.Where feasibility assessments demonstrate that decentralised energy systems are deliverable and viable, such systems will be required as part of the development unless an alternative solution would deliver the same or increased benefit. | The **Energy Strategy** proposes implementation of a gas-fired CHP unit to serve the DHW (domestic hot water) heat generation, making full use and taking advantage of the low carbon electricity generated by this system.**At this stage this is proposed within the Energy Strategy, and does demonstrate that a 19% energy efficiency can be achieved. However, we would like to see a commitment to implement this before we can be sure that the final design is compliant with policy requirements.**  |
| Policy ESD 5: Renewable Energy  | A feasibility assessment of the potential for significant on site renewable energy provision (above any provision required to meet national building standards) will be required for all applications for non-domestic developments above 1000m2 floorspace.Where feasibility assessments demonstrate that on site renewable energy provision is deliverable and viable, this will be required as part of the development unless an alternative solution would deliver the same or increased benefit. | The **Energy Strategy** includes details of the assessment undertaken for a variety of renewable energy sources and concludes that the following are suitable for the proposed development: * Air source heat pumps
* Combined heat and power (CHP) plant

Although ground source heat pumps and biomass boilers are also technically feasible, they are not recommended as they are not cost efficient in relation to the CO2 savings they offer. **CHP is proposed in the Energy Strategy, however, air source heat pumps are not. We would like to see the analysis behind this and why they are not considered further as part of the energy strategy for this proposed development.** Solar PV and solar thermal panels are not deemed suitable due to the proximity of the proposed development to an airfield. **This is questionable, as there are a number of international airports around the world which have solar farms adjacent to the runway).**  |
| Policy ESD 15: The Character of the Built and Historic Environment | Consider sustainable design and layout at the masterplanning stage of design, where building orientation and the impact of microclimate can be considered within the layout.Incorporate energy efficient design and sustainable constructiontechniques, whilst ensuring that the aesthetic implications of green technology are appropriate to the context (also see Policies ESD 1 - 5 on climate change and renewable energy).Use locally sourced sustainable materials where possible. | See policies ESD 1-5 above |
| Strategic Development: Bicester 8 – Former RAF Bicester | The whole of the site is a conservation area, which was reviewed and extended in 2008, and most of the buildings and structures are protected by listing and scheduling.Policy Bicester 8 seeks to secure appropriate uses for a long-lasting 'conservation-led' approach to the technical site and flying field. It aims to establish uses that will be complementary to, and help enhance, the character and appearance of the conservation area and the nationally important heritage value of the site. It seeks to encourage a mix of uses that will best preserve the sensitive historic fabric and layout of the buildings and the openness of the grass airfield. However, the need to allow some flexibility in the interests of securing an economically viable future for the site is recognised.The Council will encourage conservation-led proposals to secure a long-lasting, economically viable future for the Former RAF Bicester technical site and flying field. It will support heritage tourism uses, leisure, recreation, employment and community uses. The development of hotel and conference facilities will also be supported as part of a wider package of employment uses.They must maintain and enhance the character and appearance of the conservation area, protect listed, scheduled and other important buildings, their setting, and protect the sensitive historic fabric of the buildings and preserve the openness of the airfield. Opportunities for improving access to the countryside will be encouraged. Proposals should be considered against Policy ESD 15. | See policies ESD 1-5 above.  |

**Assessment**

An Energy Strategy has been submitted as part of the suite of documents for this application which includes consideration of a number of ways to: reduce energy demand, increase energy efficiency, and generate energy from renewable energy sources. The analysis also considers the ways in which carbon emissions can be reduced and low carbon measures be embodied into the proposals.

The analysis shows that domestic hot water is the highest energy demand source for the proposed development. This is proposed to be addressed through the use of a CHP system.

Overall, the combination of passive and active measures are expected to result in a 19% improvement in energy demand, while the cumulative CO2 savings will reach 20%.

However, what is missing from these proposals is a commitment to implement these measures. It is also unclear why air source heat pumps are not considered further when they have been shown to be a feasible renewable energy option. The decision not to consider solar PV and solar thermal panels further due to the proximity of an airfield is to be questioned as there are a number of international airports around the world which have solar farms situated adjacent to them.

There is also no detail on how the following have been considered within the proposals, in relation to energy efficiency:

* Siting, orientation, and aspect
* How the impact on the external environment will be reduced through the provision of cooling and shading opportunities, use of open space, and planting
* How the sustainable and local sourcing of construction materials has been considered
* How the use of the embodied energy within buildings and re-using of materials has been considered.
* How recycled materials may be used in construction.

There is no detail regarding how BREEAM Very Good is to be achieved.

**We would like to see further detail on the above and a commitment to incorporate the proposals already made in the Energy Strategy. As it stands, the proposals do not comply with policy requirements.**