

## Energy and Sustainability Strategy Review

<b>Site Name:</b>	Arlington Works 23 - 27 Arlington Road Twickenham TW1 2BB
<b>Planning reference number:</b>	18/2714/FUL
<b>Case officer:</b>	Lewis Muston
<b>Consultant:</b>	Elise Kidd
<b>Comments provided on:</b>	26/10/18
<b>Comments provided on:</b>	09/11/18
<b>Comments provided on:</b>	19/11/18
<b>Conditions provided on:</b>	08/01/19

### Details:

Redevelopment of the site to provide 610sqm of commercial space (B class) within existing Buildings of Townscape Merit plus a new build unit, 24 residential units (5 x 1 bedroom, 12 x 2 bedroom and 7 x 3 bedroom) and associated car parking and landscaping and other works.

### Actions for Applicant:

1. Please update the report to present figures and % reduction for the residential and non-residential areas separately.
2. Please provide details of the measures implemented at each stage of the cooling hierarchy.
3. Where active cooling is recommended please provide actual and notional cooling demand.

### Recommended conditions:

If no further information is received from the applicant the following conditions are recommended.

**Prior to building work commencing, a revised Energy Strategy where appropriate, written in line with the London Plan Energy Hierarchy and Cooling Hierarchy, will be submitted to the Local Planning Authority and approved in writing. The assessment should demonstrate how the development will follow the hierarchy of energy efficiency, decentralized energy and renewable energy technologies to secure a minimum 35% reduction in CO2 emissions below the maximum threshold set in Building Regulations Part L 2013. The development shall then be built in accordance with the recommended Energy Strategy approved by the Local Planning Authority.**

**Prior to occupation, evidence (e.g. photographs, copies of installation contracts and as-built worksheets prepared under SAP or the National Calculation Method) should be submitted to the Local Planning Authority and approved in writing to demonstrate that the development has been carried out in accordance with the approved Energy Strategy unless otherwise agreed by the Local Planning Authority in writing.**

Relevant Policy: London Plan 5.2 – 5.7

A S106 agreement will also be required for the carbon offset payment.

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**Prior to first occupation of the building(s) evidence (schedule of fittings and manufacturer's literature) should be submitted to the Local Planning Authority and approved in writing to show that the development has been constructed in accordance with the approved internal water use calculations.**

Relevant Policy: London Plan 5.15

**Prior to first occupation of the building, unless otherwise agreed in writing, a BREEAM Final (Post-Construction) Certificate, issued by the BRE (or equivalent accredited body), must be submitted to the Local Planning Authority to demonstrate that an Excellent rating has been achieved. All the measures integrated shall be retained for as long as the development is in existence.**

Relevant Policy: London Plan 5.2 – 5.7

### Documents:

*Sustainability & Energy Statement – 01/08/18 – Bluesky Unlimited*

*Sustainability & Energy Statement – 01/11/18 – Bluesky Unlimited*

*SAPs with PV*

*Letter from Bluesky Unlimited – 13/11/18*

### General

As a mixed use major development the following targets apply:

- 35% reduction in emissions on Part L 2013 for non-residential areas, achieved following the energy and cooling hierarchy.
- 35% onsite reduction in emissions on Part L 2013 residential areas, achieved following the energy and cooling hierarchy.
- Zero carbon homes achieved through carbon off-set payment
- A 20% reduction in emissions through renewable technologies.
- BREEAM Excellent
- Internal residential water use below 105L/person/day.
- Green roofs or living walls where feasible.
- Completion of the Sustainable Construction Checklist.

The description suggests part of the development is refurbishment. The report doesn't appear to take this into account.

### Energy and CO<sub>2</sub>:

A site wide reduction in emissions of 35.16% has been reported.

The report doesn't provide figures for the residential and non-residential areas separately.

**The total reduction in emissions has still not been split between the 2 areas.** Under the London Plan both the residential and non-residential areas are required to reach a 35% reduction. The table on page 3 of the previously submitted report does not separate the reduction at the Be Green stage.

### Actions for applicant:

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Please update the report to present figures and % reduction for the residential and non-residential areas separately.

### Calculations:

A sample of dwellings have been modelled in SAP software and a sample of the non-residential areas have been modelled in SBEM software.

Copies of the calculations do not appear to have been provided. **The Be Green stage does not appear to have been provided. This has now been done.**

### Energy Efficiency Measures (Be Lean):

Details of the proposed specification have been provided.

A site wide reduction of 10.83% has been reported at this stage.

**This is an 18.59% reduction for the non-residential and 7.36% reduction for the residential.**

### Energy Supply (Be Clean):

The report doesn't appear to cover existing or proposed heat networks. **This has now been added.**

CHP has been found unsuitable which is as expected for a development of this size.

Communal heating and designing for a future district heat network do not appear to have been included.

### Renewable Energy (Be Green):

Feasibility has been assessed.

It isn't clear if ASHP's have been recommended. Details of the proposed units should be provided. **The applicant has confirmed ASHP's are proposed. Potential details have been provided.**

A 19.8kWp solar PV array has been proposed. A roof plan has been provided. Pitch and orientation of the PV panels does not appear to be included. **Panels will be at a pitch of 15 degrees facing south west.** If the panels are to be mounted on A-frames the applicant should demonstrate that the panels will not shade each other. **It has been confirmed that panels will be on A frames.** It is assumed the electricity generated will supply communal areas. **The panels will be connected to the landlord's meter.**

A site wide reduction of 35.16% has been reported at this stage.

### Carbon offset payment:

The report includes a calculation of the carbon offset payment required, however it is not clear if this is for the whole site or just the residential elements.

**The payment has been shown as £28,102 to account for 15.612 tonnes.**

### Overheating:

Residential risk of overheating is shown as medium. The applicant is encouraged to reduce this.

The measures implemented at each stage of the cooling hierarchy do not appear to have been outlined. **The applicant has stated the results do not change. This is not the same as detailing the measures which have been incorporated into the design.**

Risk of overheating for the non-residential areas does not appear to have been discussed. **The report now addresses risk of overheating for these areas, due to the small openings the applicant is not proposing to carry out dynamic thermal modelling.**

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Dynamic thermal modelling doesn't appear to have been carried out, this is acceptable for a development of this size.

### Actions for applicant:

Please provide details of the measures implemented at each stage of the cooling hierarchy. Where active cooling is recommended please provide actual and notional cooling demand.

### BREEAM:

A BREEAM pre-assessment has been provided for the non-residential areas. This shows an Excellent rating with a score of 71.85%. The applicant is encouraged to increase the buffer of credits or identify back up credits. The pre-assessment includes no notes regarding the assumptions made.

### Green roof:

A green roof doesn't appear to be incorporated into the design. Due to the presence of solar PV panels and the need to use a ballasted system the applicant has stated a green roof will not be possible. Whilst solar PV panels and green roofs can work well together the ballasted system could make this difficult.

### Residential water use:

The report states an internal water use of 105L/person/day will be targeted. An example of how this could be achieved has been provided.

### Checklist:

A copy of the checklist has been completed.

This shows a score of 60 – a B rating for the non-residential elements and an A rating for the dwellings.