Energy Statement: 3 New Close: Extension & Conversion of Property to 5 Self-Contained Units

This Energy Statement aims to satisfy Policy CS15 of the Local Development Framework set out by Merton Council. In accordance with Merton's Core Planning Strategy Policy CS15 Climate Change (parts a-e) and the policies outlined in Chapter 5 of the London Plan, the proposed development will achieve no less than a 19% reduction in regulated carbon dioxide emissions (beyond Buildings Regulations Part L 2013) on-site. It provides evidence of a 25% reduction ENE1 compared to Part L 2010.

SAP calculation for L1A (2010) compliance

The proposals for sustainable development on the site are based on the policies set out by the GLA in terms of the energy hierarchy, which promotes sustainable construction and energy efficiency.

The first stage of the hierarchy is that passive energy efficiency measures, building topology and orientation as well as improved insulation are incorporated to reduce the energy demand as far as feasibly possible – "be lean". The dwelling will be designed with a fabric first approach, ensuring all U-values exceed the requirement of Part L1A. The developer will aim for a reduced air leakage rate below the regulatory limit and careful design to reduce the effect of repeating thermal bridges.

A SAP calculation has been completed for the dwelling. The proposed specifications for the building fabric are as follows:

Ground floor:	0.107 W/m2K
External walls:	0.094 W/m2K
Roof:	0.059 W/m2K
Doors:	0.8 W/m2K
Windows:	0.8 W/m2K
Air leakage rate:	0.58 m3/hr/m2

Thermal bridging using details for aircrete blockwork

Proposal to reduce the energy demand

Several options to reduce the energy demand were considered in terms of feasibility and viability. It was concluded that the most effective low carbon technology for the new flats was the addition of Air Source Heat Pumps to meet the 25% requirement. The Air Source Heat Pumps proposed will have minimal material, noise and minimal visual impacts on the proposed development.

Air Source Heat Pumps will be installed in sound enclosures in the rear garden.

The SAP calculation would give an electricity output from the Air Source Heat Pump as 2835kWh.

The reduction in carbon emissions as a result of using an Air Source Heat Pump:

Total CO2 emissions at baseline (from above)	2311 kgCO2/year
Total CO2 emissions after addition of ASHP	810.59 kgCO2/year
Reduction of CO2 emissions	1500.41 kgCO2/year
Percentage reduction	79.4%

SAP calculations for the baseline and proposed specification including renewable technology can be found appended to this report.

Conclusion

The new flats would meet the requirements of Policy CS15 as set out by Merton Council as it will adopt sustainable construction methods through a fabric first approach, achieving Building Regulation compliance in an energy efficient manner. The addition of ASHP would reduce the total carbon emissions by 1500.41 kgCO2/year, which equates to 79.4% under Part L 2010.

Attached to this document is the Code for Sustainable Homes report as generated by FSAP 2009 to prove compliance with ENE1.