
Technical Note

Project Title	Leighton Park School Music and Media Block Extension		
Subject	Sustainability Statement (PCR)	Date	24/05/18
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I Introduction

It is a requirement of the local planning policy that all new developments are sustainably designed and constructed to minimise their impacts on resources and the local environment. Environmental sustainability was very much at the core of the design philosophy for the extension to the Music and Media Block and was a key briefing requirement from the School.

We understand that a BREEAM post construction review assessment has been requested by the planning officer as a means of demonstrating that key sustainability principles have been applied.

As explained in the previous sustainability statement, as a BREEAM assessment was requested at a relatively late stage in the design process for the development (towards the end of RIBA Stage 4, technical design), there were a number of BREEAM credits which could not be formally achieved as they needed to be evidenced in a specific way prior to the end of the early design stages.

For example; credits Man 01 and 02 on stakeholder consultation required initial briefing meetings to be carried out and minuted in a specific format prior to the end of RIBA stage 2 and the ecology credits (LE 01-05) similarly required an Ecologist's report to be written in a specific format prior to the end of RIBA stage 2.

This being the case, we understood that the planning requirement for a formal BREEAM assessment could be withdrawn provided the sustainable intent of the development was demonstrated.

This technical note therefore aims to highlight some of the key sustainability enhancement features which have been incorporated into the building.

2 Key Sustainability Features

2.1 Minimising Energy Consumption/ Carbon Emissions

Minimisation of running energy and associated carbon emissions was a key target for the school and the building has been designed/constructed to significantly exceed the requirements of the Building Regulations Part L.

The attached post construction stage Part L “BRUKL” document demonstrates this reduction over the requirements of Part L and results are summarised below:

Part L Target Emissions Rate	Proposed Building Emissions Rate
17.8 kgCO ₂ /m ² /year	17.3 kgCO₂/m²/year
	~4% reduction on Part L target from high performance fabric and efficient services.

The design philosophy has achieved these improvements in the key ways listed below;

2.1.1 *Minimised space conditioning load with effective building fabric design*

The building fabric has been highly insulated and sealed in order to minimise the demand for space heating

Element	Part L 2013 Maximum allowable values	Project design values
Roof	0.25W/m ² /K	0.18 W/m²/K
Walls	0.35 W/m ² /K	0.15 W/m²/K
Floors	0.25 W/m ² /K	0.15 W/m²/K

Windows	2.2 W/m ² /K	1.5 W/m ² /K
Doors	2.2 W/m ² /K	1.95 W/m ² /K
Air Permeability	10 m ³ /h/m ³ @ 50 Pa	3 m ³ /h/m ³ @ 50 Pa

The building has also been carefully designed/constructed to allow an effective natural ventilation strategy and hence avoid the need for energy intensive mechanical ventilation and cooling during summer months.

Dynamic thermal modelling using the IES suite had been carried out from the first design stages onwards in order to ensure that sufficient exposed mass was provided to facilitate a night cooling strategy in summer and ventilation openings were appropriately sized.

Specialist acoustic advice had also been taken from the early stages to ensure that the natural ventilation strategy was be made to work effectively through attenuated openings to prevent excessive noise break in (and out) of music classrooms and practice spaces.

2.1.2 *Minimised energy consumption with the use of efficient systems*

High efficiency building services and controls have been installed to ensure that the buildings energy demand is minimised.

Key strategy elements in this category included efficient new condensing gas boilers with sophisticated BMS based controls and the use of high efficacy LED and fluorescent lighting throughout, along with occupancy sensing controls.

2.2 Minimising Potable Water Consumption

In order to reduce the demand for potable water, low flow/ flush sanitary-ware has been installed and cartridge type flow restrictors were installed on the supplies to basins and sinks in order to limit flows to these outlets.

2.3 Sustainable Urban Drainage Systems (SUDS)

The below ground drainage system incorporates attenuation storage in order to limit the peak rate of run-off from the new development during peak storm events and hence reduce the load and risk of pollution from waste water treatment plants downstream.

