
Technical Note

Project Title	Leighton Park School Music and Media Block Extension		
Subject	Sustainability Statement	Date	28/06/17
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I Introduction

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

We understand that a BREEAM assessment has been requested by the planning officer as a means of demonstrating that key sustainability principles are being applied.

However, as this was requested at a relatively late stage in the design process for the development (towards the end of RIBA Stage 4, technical design), there are a number of BREEAM credits which cannot now be formally achieved as they need to be evidenced in a specific way before the end of the early design stages.

For example; credits Man 01 and 02 on stakeholder consultation require 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 require an Ecologist's report to be written in a specific format prior to the end of RIBA stage 2.

This being the case, we understand that the planning requirement for a formal BREEAM assessment may be withdrawn provided the sustainable intent of the development can be demonstrated.

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

2 Key Sustainability Features

2.1 Minimising Energy Consumption/ Carbon Emissions

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

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

Part L Target Emissions Rate	Proposed Building Emissions Rate (Without PV Array)
15.7 kgCO ₂ /m ² /year	13.3 kgCO₂/m²/year
	~16% reduction on Part L target from high performance fabric and efficient services.

The design philosophy seeks to achieve these improvements in the key ways listed below;

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

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

Element	Part L 2013 Maximum allowable values	Project target 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 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 has been carried out from the first design stages onwards in order to ensure that sufficient exposed mass is provided to facilitate a night cooling strategy in summer and ventilation openings are appropriately sized.

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

2.1.2 Further minimise energy consumption with the use of efficient systems

High efficiency building services and controls are proposed to ensure that the energy required in order to supply the remaining demand is minimised.

Key strategy elements in this category include an efficient new condensing gas boiler 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 specified by the architect and cartridge type flow restrictors will be installed on the supplies to basins and sinks 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.

