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Sustainability Strategy

Project Murray Grove

No 1-285

Date 22.04.08

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Construction Methods;

It is proposed that, rather than the usual concrete frame construction, the building is to be built using a bulk timber panel system. This has three main advantages as regards the carbon footprint of the building;

1 The production of cement produces 870Kg of CO_2, or 237Kg of carbon per tonne. It is estimated that if this building were to be a concrete structure it would contain perhaps 950M3 of concrete, which would require 285 tonnes of cement and would therefore produce approximately 67,545Kg of carbon

2 The production of steel produces 1750Kg of CO_2, or 477Kg of carbon per tonne. It is estimated that the building would, if of reinforced concrete construction, require about 120 tonnes of steel, the production of which would have generated 57,240Kg of carbon.

3 The timber frame of the building is estimated to use 830M3 of timber. This will sequester about 181,363Kg of carbon.

Thus the construction method selected will result in a reduction in the carbon load of the building of 67,545 + 57,240 + 181,363 = 306,148Kg carbon.

The estimated carbon (in the form of CO_2) produced in the generation of the energy for the building is 14,558Kg/C/Yr. This can be entirely offset by the building carbon saving for some 21 years or, at the 10% renewable requirement set out in the London Renewables Toolkit, a total of 210 years.