

47 Strawberry Vale

Description
General information

Client: Dyer Grimes Architects
Architect: Liam Foley
Area: 75.75 m²
Location: 47 Strawberry Vale, Richmond council
Reference number: GT032

Consulting jobs

- Code for Sustainable Homes Assessment (CSH)
- Standard Assessment Procedure (SAP)
- Energy Strategy report / studies
- Renewable Energy Feasibility studies
- Life cycle assessment (LCA)
- Completion of Richmond Councils Sustainability Construction Checklist.

Sustainable evaluation

Strawberry Vale is a unique site. A large existing site sitting on the banks of the river Thames in Richmond, with its very own jetty and boathouse! The proposal is to demolish the existing 1960's building and create a truly special piece of modern architect as seen in the impression above – due for completion 2014.

The project is certifying for a **CODE 5 for the Code for Sustainable Homes scheme.**

The **energy strategy** for the proposed scheme is to use a combined heat and power unit (CHP) alongside advanced energy efficiency measures and a 32m² solar Photovoltaic array to meet the carbon emissions reductions target set by Richmond Council.

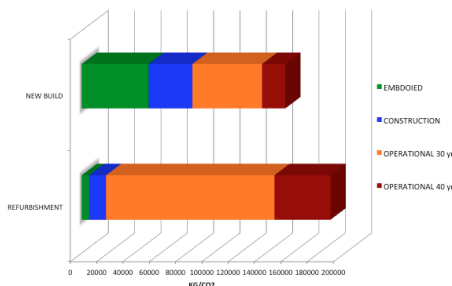
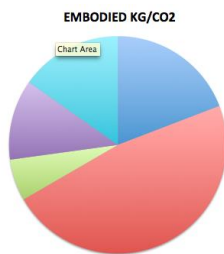
The proposal is to insulate the building to best practice standards, surpassing Part L requirements. The thermal performance targets of the dwelling are the following: U-Values of 0.15 W/m²K for the ground floor and roof, 0.18 W/m²K for walls and windows of 1.1 W/m²K. An air permeability of 4 m³/m²/hr at 50 pa is targeted, and to be achieved on site. Thermal bridging will also be kept to a minimum with an average Y-value of 0.08, thus following accredited construction details for all dwellings as a minimum.

A mechanical ventilation system with heat recovery (MVHR) will be implemented in the dwelling, recycling heat that would otherwise be lost. This ventilation system will meet the requirements of Part F.

The findings of the **Life Cycle Assessment** are: The carbon emissions of the subterranean development are greater than those of the extension over the buildings' life cycle.

- The embodied carbon in a subterranean development is 828 kgCO₂ per m² floor area compared with 279 kgCO₂ per m² for extensions. This equates to 3 times the amount of embodied carbon per m² floor area provided.
- The life cycle analysis shows that there is high level of embodied CO₂ in the building materials relative to the operational CO₂ emissions of subterranean developments, when looked at over a 30-year life.

The structural elements steel piles used in subterranean development



Code for Sustainable Homes										
Job No. GT032										
47 Strawberry Vale										
Score Summary February 2013										
Category	Item	Score	Weight	Max. Score	Current Score	Weighted Score	Max. Weighted Score	Score Assessment	Weighted Score	
Energy	Env 1	Carbon Dioxide	10	13.14	131.4	100	1314	100%	1314	
	Env 2	Building Fabric	7	9	63	63	630	100%	630	
	Env 3	Energy Efficient Appliances	7	7	49	49	490	100%	490	
	Env 4	Energy Efficient Lighting	7	7	49	49	490	100%	490	
	Env 5	Energy Efficient Heating	7	7	49	49	490	100%	490	
	Env 6	Energy Efficient Hot Water	7	7	49	49	490	100%	490	
	Env 7	Energy Efficient Cooling	7	7	49	49	490	100%	490	
	Env 8	Energy Efficient Ventilation	7	7	49	49	490	100%	490	
	Env 9	Energy Efficient Air Conditioning	7	7	49	49	490	100%	490	
	Env 10	Energy Efficient Air Treatment	7	7	49	49	490	100%	490	
Water	Wat 1	Water Efficiency	5	5	25	25	250	100%	250	
	Wat 2	Water Efficiency	5	5	25	25	250	100%	250	
Materials	Mat 1	Environmental Impact of Materials	10	4.5	45	22	24	99.07	0.022	6.80
	Mat 2	Responsible materials: Spec. elements	6	1.5	9	6	6	66.67	0.006	1.80
Surface Water	SW 1	Reduction of Surface Runoff	2	1.1	2.2	1	1	75.00	0.022	1.80
	SW 2	Prevent Runoff	2	1.1	2.2	1	1	75.00	0.022	1.80
Waste	Wst 1	Recycling facilities	4	3.84	15.36	8	8	100.00	0.084	6.40
	Wst 2	Waste Management Plan	3	2.73	10.92	3	3	100.00	0.027	2.16
Pollution	Pol 1	Control of Noise	1	0.91	3.64	1	1	50.00	0.008	1.80
	Pol 2	Control of Noise	1	0.91	3.64	1	1	50.00	0.008	1.80
Health and Wellbeing	Hea 1	Health and Wellbeing	3	2.73	10.92	3	3	100.00	0.027	2.16
	Hea 2	Health and Wellbeing	3	2.73	10.92	3	3	100.00	0.027	2.16
Management	Man 1	Health and Wellbeing	3	2.73	10.92	3	3	100.00	0.027	2.16
	Man 2	Health and Wellbeing	3	2.73	10.92	3	3	100.00	0.027	2.16
Land Use and Ecology	LU 1	Ecological Value of Site	1	0	0	0	0	0.00	0.00	0.00
	LU 2	Ecological Value of Site	1	0	0	0	0	0.00	0.00	0.00
Energy	En 1	Ecological Value of Site	1	1.33	5.32	1	1	100.00	0.013	1.00
	En 2	Ecological Value of Site	1	1.33	5.32	1	1	100.00	0.013	1.00
Energy	En 3	Ecological Value of Site	1	1.33	5.32	1	1	100.00	0.013	1.00
	En 4	Ecological Value of Site	1	1.33	5.32	1	1	100.00	0.013	1.00
Energy	En 5	Ecological Value of Site	1	1.33	5.32	1	1	100.00	0.013	1.00
	En 6	Ecological Value of Site	1	1.33	5.32	1	1	100.00	0.013	1.00
				Total	100	100	100	100%	1000	