37 HAMILTON ROAD, TWICKENHAM

For: Hamilton Lofts Ltd.

Appendix g

Ecohomes Assessment

Acanthus LW Architects, Voysey House, Chiswick, London W4 4PN. 020 8994 2288. Contact: Christopher Richards.

Hamilton Lofts Ltd, 20 Mortlake High Street, London SW14 8JN. 020 8392 6600. Contact: Bill Bailey.

ACANTHUS LW ARCHITECTS

EcoHomes 2006 Pre-assessment Estimate on proposed development at 37 Hamilton Road, Twickenham.

This estimate is based on a meeting at Frendcastle on 16th October 2006 and a desktop study.

Items shown in *italics* are to be confirmed as the design progresses.

Issues	Score
Energy Total	*17.43*
Transport Total	*8.00*
Pollution Total	*8.19*
Materials Total	*7.21*
Water Total	*8.34*
Land use and Ecology	*9.32*
Health and Wellbeing	*10.50*
Management Total	*7.00*
Total all sections	***75.99***

Pass 36
Good 48
Very Good 58
Excellent 70

	Topic	% credits	Details	Score
Ene 1	**Carbon Dioxide emissions:**			
	< or = to 40 kg/m^2/yr	0.92		
	< or = to 35 kg/m^2/yr	1.83		
	< or = to 32 kg/m^2/yr	2.75		
	< or = to 30 kg/m^2/yr	3.67		
	< or = to 28 kg/m^2/yr	4.58		
	< or = to 26 kg/m^2/yr	5.50	*Space heating and hot water are provided*	
	< or = to 24 kg/m^2/yr	6.42	*by centralised gas boilers. There will be a*	
	< or = to 22 kg/m^2/yr	7.33	*contribution from heat recovery and solar*	
	< or = to 20 kg/m^2/yr	8.25	*thermal panels. The predicted Carbon*	
	< or = to 18 kg/m^2/yr	9.17	*Dioxide emissions are < 18 kg/m^2/yr.*	*9.17*
	< or = to 15 kg/m^2/yr	10.08		
	< or = to 10 kg/m^2/yr	11.00		
	< or = to 5 kg/m^2/yr	11.92		
	< or = to 0 kg/m^2/yr	12.83		
	< or = to -10 kg/m^2/yr	13.75		
Ene 2	**Building envelope**		*The thermal insulation will exceed the*	
	HLP < or = to 1.3 W/m^2/K	0.92	*requirements of Part L. The predicted Heat*	
	HLP < or = to 1.1 W/m^2/K	1.83	*Loss Parameter < 1.1 W/m^2/K.*	*1.83*
Ene 3	**Drying space**		*Provide retractable line over bath (extract*	*0.92*
	Provision of drying space	0.92	*fan will need humidistat)*	
Ene 4	**Ecolabelled white goods:**		*Private units will have A* rated fridge-*	
	A* rated fridges/freezers	0.92	*freezers*	*0.92*
	A rated washing machines,		*Private units will have A rated dishwashers*	
	dishwashers & B dryers	0.92	*& B rated washer/dryers*	*0.92*
	OR Guidance on labelling	0.92	Affordable units will have guidance	incl.
Ene 5	**Internal Lighting**			
	40% dedicated low energy lights specified	0.92		
	75% dedicated low energy lights specified	1.83	*75% of light fittings will be dedicated low energy.*	*1.83*

	Topic	% credits	Details	Score
Pol 1	**Insulation ODP and GWP** Insulating materials with Ozone Depleting Potential of zero & Global Warming Potential of < 5 in either manufacture or composition Roof (incl. roof hatch) Wall - internal & external (incl.doors & window lintels) Floor (incl. Foundations) Hot water cylinder (incl. Pipe insulation & other thermal store)	0.91	*The specification will require insulating materials with Ozone Depleting Potential of zero & Global Warming Potential of < 5 in either manufacture or composition*	*0.91*
Pol 2	**NOx emissions** 95% of dwellings must be served by heating & hot water systems with average NOx emission rate : < or = to 100 mg/kWh < or = to 70 mg/kWh < or = to 40 mg/kWh	 0.91 1.82 2.73	 *Low NOx community boiler*	 *2.73*
Pol 3	**Reduction of surface runoff** Reducing peak surface runoff rates to either natural or municipal systems by 50% in low risk areas, 75% in medium risk areas, 100% in high risk areas for: Hard surfaces Roofs	 0.91 0.91	 *A water attenuation sytem will be developed to meet these criteria.*	 *0.91* *0.91*
Pol 4	**Zero emission energy source** Carry out & act on feasibility study considering low emission & renewable energy AND 10% total energy demand from local renewable or low emission sources OR 15% total energy demand from local renewable or low emission sources	 0.91 0.91 1.82	 An energy strategy report will be commissioned to meet these criteria. 10% total energy demand will be met from local renewables. The favoured option is solar thermal.	 0.91 0.91
Pol 5	**Flood Risk Mitigation** Development in zone with low annual probability of flooding Development in zone with medium annual probability of flooding & ground level of building, car parking and access is above design flood level. OR	 1.82 0.91	 A flood risk assessment has been done and the design incorporates measures to mitigate flood risk.	 0.91
Pollution Total (Maximum 10.01)				***8.19***

Topic		% credits	Details	Score
Mat 4	**Recycling Facilities**			
	Storage of recyclable waste			
	Internal storage only	0.90		
	External storage (or LA collection) only	0.90	*30 litre recycling bin in kitchen.* London Borough of Richmond upon Thames has a	
	Internal & external (or LA collection) storage	2.71	kerbside collection.	*2.71*
Materials Total (Maximum 14.00)				***7.21***
Wat 1	**Internal water use**		*Less than 35 m^3 /bedspce/yr*	
	< 52 m^3/bedspace/yr	1.67	*Rain water flushing of cisterns*	
	< or = to 47 m^3/bedspace/yr	3.33	*Aerated taps*	
	< or = to 42 m^3/bedspace/yr	5.00	*Shower head flow less than 9 litre/minute*	
	< or = to 37 m^3/bedspace/yr	6.67	*Best practice washing machine*	*6.67*
	< or = to 32 m^3/bedspace/yr	8.33	*No dishwasher*	
Wat 2	**External water use**			
	Rain water collection system for watering gardens & landscaped areas	1.67	*Rain water harvesting for irrigation.*	*1.67*
Water Total (Maximum 10.00)				***8.34***
Eco 1	**Ecological value of site**			
	Building on land of inherently low ecological value	1.33	Land is of inherently low ecological value.	1.33
Eco 2	**Ecological enhancement**			
	Enhancing the ecological value of site through consultation with an accredited expert	1.33	*An accredited expert will be retained to advise on the green roof and other new areas of planting.*	*1.33*
Eco 3	**Protection of ecological features**			
	Ensuring the protection of any existing ecological features on site	1.33	Default credit	1.33
Eco 4	**Change in ecological value of site**			
	Between - 9 & - 3 species	1.33		
	Between - 3 & + 3 species	2.67		
	Between + 3 & + 9 species	4.00	*There will be an improvement in ecological*	
	Greater than + 9 species	5.33	*value*	*5.33*
Eco 5	**Building footprint**			
	Total combined Floor area to Footprint ratio for all houses is > 2.5:1	1.33		
	AND Total combined Floor area to Footprint ratio for all flats is > 3.5:1		These criteria will not be met.	0.00
	Total combined Floor area to Footprint ratio for all dwellings is > 3.5:1	2.67		
Land Use and Ecology Total (Maximum 11.99)				***9.32***

	Topic	% credits	Details	Score
Man 3	**Construction Site Impacts**			
	Strategy to monitor, sort & recycle construction waste on site	1.00	*A strategy to monitor, sort & recycle construction waste on site will be implemented.*	*1.00*
AND	Evidence that 2 or more shown below are achieved	1.00		*1.00*
OR	Evidence that 4 or more shown below are achieved	2.00		
a	Monitor & report CO_2 or energy arising from site activities			
b	Monitor & report CO_2 or energy arising from transport to & from site activities			
c	Monitor & report water consumption from site activities		*There will be a strategy to monitor & report water consumption from site activities*	
d	Adopt best practice policies in respect of air pollution arising from the site			
e	Adopt best practice policies in respect of water (ground & surface) pollution occurring on the site			
f	80% of site timber is reclaimed, reused or responsibly sourced		*80% of site timber will be reclaimed, reused or responsibly sourced*	
Man 4	**Security**			
	Commit to work with Architectural Liaison Officer & achieve Secured by Design award.	1.00	*These criteria might not be met*	*0.00*
	Security standards for external doors & windows to achieve minimum of either: LPR1175SR1 or PAS24-1	1.00	*These criteria will be met*	*1.00*
Management Total (Maximum 10.00)				***7.00***

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The Assessor (for itself and as an agent for its staff) and its staff shall not be liable whether in contract or in tort or otherwise for any loss or damage sustained as a result of using or relying on the information given in this report.

Appendix One

Renewable Energy

Our target for energy generation from local renewable sources is to exceed the 10% requirement of the LB Richmond. This will be achieved by three strategies. The first is to use building layouts and construction exceeding Part L of the Building Regulations to minimise heat loss. The second is to employ a centralised district heating system which generates heat far more efficiently than is possible with individual boilers in flats, but allows individual control and costing. The third is to employ solar water heating panels on the roof to preheat the water passing through the central boilers.
A total panel area of 96m2 feeding a thermal store of 3000 litre will achieve an energy saving of 15% with this system.

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For: Hamilton Lofts Ltd.

Appendix h

Bat Survey

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Hamilton Lofts Ltd, 20 Mortlake High Street, London SW14 8JN. 020 8392 6600. Contact: Bill Bailey.

ACANTHUS LW ARCHITECTS

3593 Hamilton Road, Twickenham, London. TW2 6SN

BAT SURVEY

January 2006

Report for

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By

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1. Disclaimer

This survey was carried out and an assessment was made of the site at a particular time. The evidence this report contains can be used to draw conclusions as to the likely presence or absence of bat species and the impacts of any proposed development works. The survey should not be regarded as a complete study, rather a snapshot in time. Every effort has been taken to provide an accurate assessment of the situation pertaining to this site at the time of the survey but no liability can be assumed for omissions or changes after the survey has taken place.

2. Summary

A site at 3593 Hamilton Road, Twickenham, London, is the subject of a development proposal involving the demolition of some of the former industrial buildings.

As the presence of bats, of which all species are legally protected, has been considered a possibility, a bat survey was carried out on 10th January 2006 to determine the use of the buildings by bats, species protected under the Wildlife & Countryside Act 1981 and the Conservation (Natural Habitats, & c) Regulations 1994.

During the survey, no bats were found within the buildings and no evidence of bats or bat roosting sites were identified.

It is concluded that bats do not use any of the buildings as roosting sites and that bats are likely to be absent.

Proposed demolition works at the site are unlikely to disturb bats and it is recommended that the development at the site can proceed as planned.

Advice is given on the course of action that should be taken if, in the unlikely event, bats are encountered at any stage of the works.

Suggestions are given for the provision of bat roosting places within new buildings at the site and further help with this can be given if required.

3. Introduction and objectives

3.1 Introduction

A site at 3593 Hamilton Road, Twickenham, London, is the subject of a development proposal involving the demolition of some of the former industrial buildings.
The presence of bats, of which all species are fully protected, is a material consideration when local authorities consider development proposals - information is given in Planning Policy Guidance 9: Nature Conservation (October 1994) (replaced by Planning Policy Statement 9: Biodiversity and Geological Conservation).
As the presence of bats has been considered a possibility a bat survey was carried out on 10th January 2006 by Chris Vine BSc., MIEEM, M.I.Biol.

3.2 Aim of survey

To examine the buildings and determine whether they are used as roosting sites by bats, species protected under the Wildlife and Countryside Act 1981 (amended by the Environmental Protection Act 1990) and The Conservation (Natural habitats & C.) Regulations 1994, with respect to the proposed development works.

3.3 Legal status

All British bats are protected under Section 9 Schedule 5 of the Wildlife and Countryside Act 1981 and amendments. In addition they are protected under the Berne Convention, they are given migratory species protection within the Bonn Convention Agreement, and are protected under Schedule 2 of the EC Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (Habitats Directive). Regulation 39 of the Conservation (Natural Habitats, & c) Regulations 1994 makes it an offence to deliberately capture or kill bats, to deliberately disturb a bat, damage or destroy a breeding site or resting site of any bat. They are species requiring management and regulation of exploitation, and have additional migratory species protection. It is an offence to disturb a summer or winter roost. Presence of bats does not necessarily mean that development cannot go ahead, but that with suitable, approved mitigation, exemptions can be granted from the protection afforded to bats under regulation 39 by means of a licence. The Department for Environment, Food and Rural Affairs (DEFRA) is the appropriate authority for determining licence applications for works associated with developments affecting bats, including demolition of their roost sites. In cases where licences are required, certain conditions have to be met to satisfy DEFRA and English Nature. Before DEFRA can issue a licence to permit otherwise prohibited acts three tests have to be satisfied. These are:

1. Regulation 44(2)(e) states that licences may be granted by DEFRA to *'preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.*

2. Regulation 43(2)(a) states that a licence may not be granted unless DEFRA is satisfied *'that there is no satisfactory alternative'.*

3. Regulation 44(3)(b) states that a licence cannot be issued unless DEFRA is satisfied that the action proposed *'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'.*

In order to meet the tests, DEFRA usually expects the planning position to be fully resolved as this is necessary to satisfy tests 1 and 2. Full planning permission, if applicable, will need to have been granted and any conditions relating to bats fully discharged. For test 3, DEFRA seek advice from English Nature. As well as consulting with English Nature, DEFRA also seek information from the local authority before they will determine any licence application.

4. Site description

The site, at 3593 Hamilton Road, is situated at the north end of Hamilton Road, Twickenham, London, TW2 6SN, at OS grid reference TQ 155 733. The buildings surveyed were all former industrial / factory buildings:

Office building
A two storey building situated immediately in front of the site entrance and clearly visible from Hamilton Road. The building is of solid brick construction and has an unlined pitched roof with a slate covering. An enclosed roof space is present above the first floor.

Factory building 1
Large brick built factory building immediately adjacent to the office building. Inside a small office area is present at ground floor level but the main working area inside the building is open to the roof, there being no enclosed roof spaces. The roof has an arched iron frame with a corrugated asbestos roof with skylights.

Factory building 2
A second large brick built factory / industrial building situated immediately behind and accessible from factory building 1. The building has an iron framed, unlined pitched roof with an asbestos sheet covering. Inside the building is open to the roof with no enclosed roof spaces.
To the rear of this building is a separate lean-to extension with an unlined metal sheet roof, used as a store and workshop area.

Garages
Two blocks of brick built garages are situated along the east side of the site. Both had flat roofs of asbestos or metal sheet. Some of these garages had small first floor areas and these buildings had been used for storage / workshop / small offices.

5. Methodology

The survey of the site was carried out during daylight hours. Inspections of the outside of the buildings were carried out from ground level and with the use of a ladder, looking for potential bat access points and evidence of bats and bat roosting sites. An inspection was carried out inside the buildings in all accessible areas, looking for evidence of bats and their roosting sites.

In examining the buildings, particular attention was given to any crevice in which bats may roost. Floors, walls and any exposed surfaces were inspected for bat droppings, bat urine, feeding remains, oil staining from the fur of bats (indication of frequent use of a particular site), and wear of substrates caused by the movement of bats in and out over a long period of time. A ladder, high power torch, inspection mirrors and a portable fibre-optic endoscope were used to assist in the survey.

6. Results

Office building
From the outside no evidence of bats was found and no obvious bat access points identified.
Inside the building no evidence of bats was found during the survey, including a thorough examination inside the roof space, and no likely bat roosting sites identified.

Factory building 1
From the outside three gaps or holes were noted on the front of the building, around exposed timbers protruding from the brickwork at a height of approximately five metres. During a close inspection of these, no evidence of bats was identified.
Inside the building no evidence of bats was found. Some small cracks and holes were present within the internal brickwork but during a close inspection of these no evidence of bats was identified.

Factory building 2
No evidence of bats or bat roosting sites was identified anywhere outside or inside the main building or the lean-to extension at the rear.

Garages
No evidence of bats or bat roosting sites was identified anywhere outside or inside these buildings.

7. Conclusions

From the lack of evidence of bats and bat roosting sites found during the survey, it is concluded that the buildings at 3593 Hamilton Road are not used by roosting bats. Bats are likely to be absent.

Development works at the site, including demolition of the buildings is unlikely to disturb bats or bat roosting sites.

Although bats do not appear to have used any of the buildings as roosting sites and recent industrial activity within the buildings may have caused considerable disturbance, bat species may benefit from the provision of bat roosting sites within the proposed new buildings.

8. Recommendations

8.1 As the survey has found no evidence of bats, and it is concluded that bats are likely to be absent it is recommended that the proposed development at the site proceeds as planned.

8.2 All contractors and those involved with the work at the site should be informed of their legal obligations – in the unlikely event of bats being encountered at any stage of any works, work must stop and advice sought. For immediate advice contact Chris Vine on 07801 276994.

8.3 Although not a legal requirement, bat roosting places can easily be incorporated into new buildings at the site. These can be created by leaving small gaps under fascias, barge boards, soffits, hanging tiles or roof tiles as appropriate. Purpose built bat roosting boxes, or similar, could be incorporated into new brickwork so that bats can enter via small gaps from the outside. 'Woodcrete' bat boxes, designed for this purpose could be used (see Photos 1. & 2.). Alternatively, timber boxes (see Photo 3.) could be used in a similar way. Bat boxes can be disguised within brickwork to reduce the visual impact if necessary (see Photos 4. & 5.).
Further advice on the construction, design, supply and siting of bat boxes can be given if required.

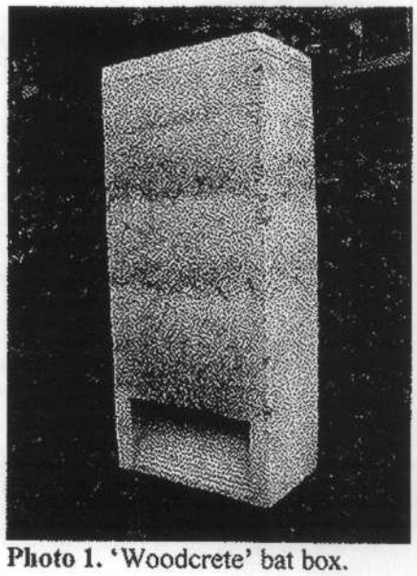

Photo 1. 'Woodcrete' bat box.

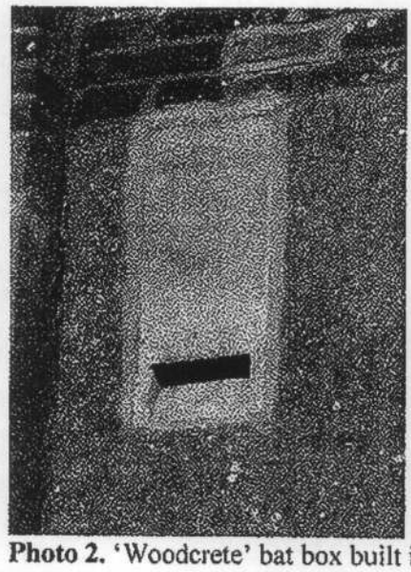

Photo 2. 'Woodcrete' bat box built in.

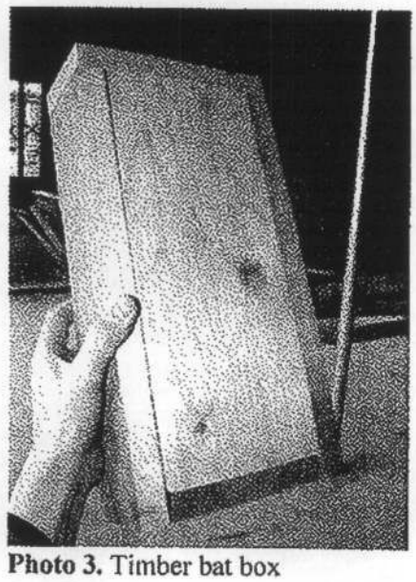

Photo 3. Timber bat box

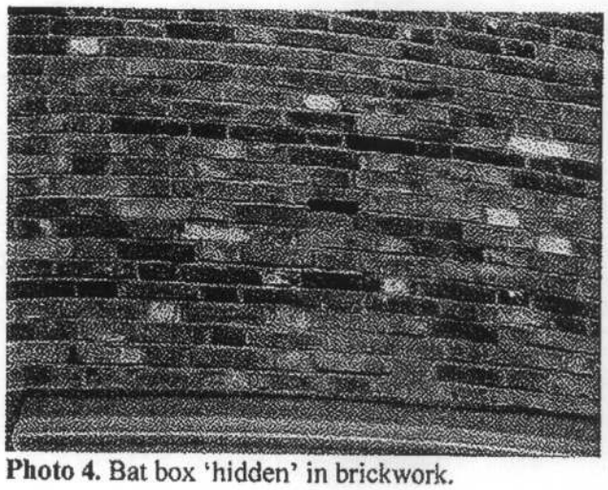

Photo 4. Bat box 'hidden' in brickwork.

Photo 5. 'Hidden' bat box.