

# **Mr. Sammy Mak**

102-104 Kew Road  
Richmond  
Surrey TW9 2PQ

**BREEAM Domestic Refurbishment – scheme 2  
pre-assessment report**

20/2649/breeam rev A

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REVISIONS:

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## BREEAM Domestic Refurbishment - pre-assessment

### **1.0 Introduction**

To show the environmental performance of the proposed development as part of the London Borough of Richmond upon Thames sustainable construction checklist/sustainability strategy this BREEAM Domestic Refurbishment pre-assessment has been carried out for the development site at 102-104 Kew Road, Richmond, Surrey TW9 2PQ to form part of the planning submission to LB Richmond.

The application site currently is currently occupied by a ground floor restaurant with maisonettes over on three floors plus ancillaries.

The proposal consists of the change of use/refurbishment of the upper floors plus loft space to create new apartments plus ancillary works and a full range of sustainability measures will be incorporated into the new development.

Site investigation as deemed necessary will be carried out prior to the commencement of works and any findings acted upon accordingly. Any hazardous waste that arises during the works will be suitably disposed of and recorded in the Health and Safety file.

### **2.0 Summary**

The pre-assessment process has been carried out using the scheme drawings (listed below) provided by Mr Saher Chaudhry, the SAP2012 calculations and other site related information.

During this pre-assessment process the report has been issued to Mr Chaudhry to form part of the planning application for the site.

Site location plan

|                 |   |  |
|-----------------|---|--|
| 102-104kew/pa1a | - | existing and proposed ground floor plans |
| 102-104kew/pa2  | - | existing first + second floor plans      |
| 102-104kew/pa3  | - | proposed first + second floor plans      |
| 102-104kew/pa4a | - | existing and proposed loft plans         |
| 102-104kew/pa5a | - | existing and proposed front elevations   |
| 102-104kew/pa6a | - | existing and proposed rear elevations    |
| 102-104kew/pa7a | - | existing and proposed roof plans         |

### **3.0 The BREEAM Refurbishment rating**

The assessment has carried out to cover the change of use/refurbishment of the two upper floors and loft space to create new apartments on the development site and is based upon the categories contained within BREEAM Domestic Refurbishment using the information available plus the SAP 2012 calculations.

The credits have been awarded based on the information provided, SAP2012 calculations and investigation into the site and its surrounding area to establish the details/information required.

Once the credits have been awarded the BREEAM Refurbishment weightings have been applied to the individual credit scores to achieve the overall score and BREEAM Refurbishment pre-assessment rating.

#### **BREEAM Domestic Refurbishment**

#### **Category 1 – Management**

##### Man01 – Home Users Guide

A home user guide will be prepared for the newly created dwellings and a copy provided to the occupants of each the new apartments.

It will cover all new works, energy efficiency, water use, transport facilities, emergency information and local amenities which together with the existing features of the structure which are not being upgraded or replaced.

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##### Man02 – Responsible Construction Practices

The development works will be carried out professionally and in a courteous manner to the adjoining dwellings/occupants.

It will meet the mandatory criteria and +50% of the optional criteria in checklist A-4.

However, as a small development with restricted space to meet scheme requirements it will not be registered for the considerate constructors' or any similar scheme

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##### Man03 – Construction Site Impacts

Steps will be taken to reduce the construction site impacts by dealing with site waste and monitoring usage of utilities during the construction works.

These will be for a minimum of two of the criteria listed in checklist A-6.

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#### Man04 – Security

All existing windows and doors will be upgraded/replaced as necessary with units that will comply with the minimum-security requirements set out in compliance note 6.

All new external door-sets and windows will be appropriately certified.

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#### Man05 – Protection and Enhancement of Ecological Features

The scheme consists of the change of use/refurbishment of the two upper floors and loft space of the existing structure to create new apartments with no or few ecological features.

Any features of ecological value on the site or on the boundary with adjacent properties will be suitably protected during the works.

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#### Man06 – Project Management

The project team will be involved in the project decision and shared roles and responsibilities assigned in accordance with CN1 and CN2.

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|-----------|------------------|---------------------|
| Sub-total | Max credits - 11 | Credits awarded - 8 |
|-----------|------------------|---------------------|

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### **Category 2 – Health and Wellbeing**

#### Hea01 – Daylighting

The dwellings have been designed to ensure that all rooms will achieve good levels of daylighting and result in a neutral impact on the day-lighting levels of the development particularly in the kitchen, living room, dining room and study areas (where provided).

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#### Hea02 – Sound Insulation

As the proposed dwellings are mid-terrace units sound testing is not possible across existing party walls with adjacent properties therefore no sound testing will be proposed; however, this will be discussed with the building inspector during the refurbishment works to ensure that the requirements of the building regulations AD part E are met.

Notwithstanding the above soundproofing to meet the requirements of AD part E will be provided to new internal stud partitions (where applicable) and to the party walls between the newly created units. To this end the developer will commit to carry out a programme of pre-completion testing to show airborne/impact sound levels of +/- 5dB over the building regulations AD part E.

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Hea03 – Volatile Organic Compounds

All decorative paints and varnishes to be used in the development will avoid the use of VOC's and meet the requirements of table 14.

Hea04 – Inclusive Design

As the proposal is for the change of use/refurbishment of the two upper floors and existing loft space of the building it will not be possible to either provide or alter the existing structure to present a level access for the dwellings; therefore, it is not possible to meet the criteria of advanced accessibility ideals for the development site and no credits will be awardable.

Hea05 – Ventilation

Individual extract fans will be provided to all wet areas (kitchen and bathrooms) on the development; background ventilation and purge ventilation will be provided by windows to these rooms.

Hea06 – Safety

A compliant fire and carbon monoxide (CO) detection and alarm system will be installed in each of the new dwellings.

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| Sub-total | Max credits - 12 | Credits awarded - 8 |
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**Category 3 – Energy**Ene01 – Improvement in Energy Efficiency Rating

The new dwellings will meet the requirements of the building regulations AD part L1B 2013 (where possible and practicable) and provide an improvement in the building's energy efficiency rating post-construction dwellings' over the pre-development building.

Ene02 – Energy Efficiency Rating Post Refurbishment

The new dwellings will meet the minimum energy efficiency rating criteria as a result of the upgrades.

Ene03 – Primary Energy Demand

Primary energy demand targets caused by the refurbishment will meet the requirements of BREEAM and the building regulations.

Ene04 – Renewable Energy Technology

An energy study has been carried out on the enlarged dwelling to show how a minimum of 15% of the dwellings annual energy requirement could be provided from a renewable source.

Ene05 – Energy Labelled White Goods

All new white goods specified/installed to the new dwellings (fridge/freezers, washing machines/dryers and dishwashers will be from the range recognised by the Energy Savings Trust and EU energy efficiency labelling scheme.

Ene06 – Drying Space

Fixed internal drying provision/space to meet the assessment criteria will be provided for the dwellings' located in the bathroom to each unit.

A minimum line length of 4m+ will be provided for each dwelling.

Ene07 – Lighting

All new (fixed) space and security lighting to the new dwellings will have dedicated energy efficient fittings/max wattage bulbs of 150w all controlled by PIR's with daylight cut-off sensors.

A minimum of 100% of the internal lights will be low energy lights installed in accordance with the building regulations part L.

Ene08 – Energy Display Devices

As a change of use/refurbishment of the existing building to create new apartments new services will be provided and data display units installed/provided to the main energy system/service (electricity) to each new dwelling.

Ene09 – Cycle Storage

Secure cycle storage for a minimum of one cycle space per two dwellings' will be provided for the development in a dedicated store which will be accessed direct from the public highway.

Ene10 – Home Office

The dwellings have been designed to provide space for a study area for use as a home office which will have enough space, electric sockets, BT telephone points and adequate ventilation.

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| Sub-total | Max credits - 29 | Credits awarded - 22 |
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#### **Category 4 – Water**

##### Wat01 – Internal Water Use

All internal fittings provided (brassware + sanitaryware) will be of low water usage or capacity to ensure that the development will achieve a max. daily consumption of  $\leq 105$  l/p/ day.

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##### Wat02 – External Water Use

The proposed development is for the change of use/refurbishment of the existing building to create new apartments; as no external space will be provided to the dwellings one credit can be awarded by default for the proposed development.

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##### Wat03 – Water Meter

As a number of new dwellings are being created by the change of use/refurbishment of the existing building on the development new water supplies will be necessary for most of the units with the existing supply being re-used for one of the dwellings.

As new supplies new service company water meters will be installed; in addition, a water meter that is compliant with BREEAM Domestic Refurbishment will be provided to each dwelling on the development.

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|-----------|-----------------|---------------------|
| Sub-total | Max credits - 5 | Credits awarded - 4 |
|-----------|-----------------|---------------------|

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#### **Category 5 – Materials**

##### Mat01 - Environmental Impact of Materials

Any new construction materials used on the development will be to the 'green guide for specification'; elsewhere the existing will be re-used/improved upon wherever possible.

The number of credits awarded is determined by the 'BREEAM Domestic Refurbishment Mat1 calculator'

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##### Mat02 – Responsible Sourcing of Materials

All new materials (basic building elements) and all new materials (finishing elements) used on the development will be responsibly sourced.

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Mat03 – Insulation

All new insulating materials specified for use on the development (to external walls, ground floor, roof and building services) will be assessed using the 'BREEAM Domestic Refurbishment Mat3 Insulation Calculator' for both embodied impact and responsible sourcing.

In addition, all new insulation products used will be responsibly sourced.

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|-----------|------------------|----------------------|
| Sub-total | Max credits - 45 | Credits awarded - 30 |
|-----------|------------------|----------------------|

**Category 6 – Waste**Was01 – Household Waste

Internal (recycling) storage of the required capacity will be provided in the kitchen of each of the proposed new dwellings.

External storage of the required capacity will be provided to the location shown on the floor plans within the site curtilage, which in conjunction with the LB Richmond kerbside scheme will meet the requirements of this item

Was02 – Refurbishment Site Waste

Steps will be taken to reduce construction site impacts of the project by dealing with site waste and monitoring usage of utilities during the works

This will ensure that all waste generated by the development is managed in accordance with checklist A-9 - 'refurbishment site waste management – [development cost] up to £100k value'.

|           |                 |                     |
|-----------|-----------------|---------------------|
| Sub-total | Max credits - 5 | Credits awarded - 4 |
|-----------|-----------------|---------------------|

**Category 7 – Pollution**Pol01 – Nitrogen Oxide Emissions

All the dwellings will be fitted with NIBE (or equal) Exhaust Air heat pumps (to suit) and radiator systems which will be controlled by room stats, programmers + TRV's.

As this system used grid electricity no credits can be awarded in this section.

Pol02 – Surface Water Run-off

As the new dwellings will be formed fully within the existing footprint of the structure there will be no increase in the overall impermeable area of the proposed development and no new hard surfaces formed externally.

Accordingly, one credit can be awarded by default.

Pol03 – Flooding

The proposed development site is shown on the EA website as being in zone 1; defined by the Environment Agency as having a low probability of annual flooding. Therefore, no flood risk assessment is necessary for the application.

|           |                 |                     |
|-----------|-----------------|---------------------|
| Sub-total | Max credits - 8 | Credits awarded - 3 |
|-----------|-----------------|---------------------|

**Category 8 – Innovation**Inn91 – Project Management

Early Design Input – a BREEAM domestic refurbishment assessor will be appointed at an early stage of the project and prior to the production of a refurbishment specification to oversee key stages within the project.

|           |                  |                     |
|-----------|------------------|---------------------|
| Sub-total | Max credits - 10 | Credits awarded - 1 |
|-----------|------------------|---------------------|

Appendix 1

|                      | Max credits | Credits awarded |
|----------------------|-------------|-----------------|
| Management           | 11          | 8               |
| Health and Wellbeing | 12          | 8               |
| Energy               | 29          | 22              |
| Water                | 5           | 4               |
| Materials            | 45          | 30              |
| Waste                | 5           | 4               |
| Pollution            | 8           | 3               |
| Innovation           | 10          | 1               |
| Sub-total            | 115         | 80.0            |

|   |  |        |
|---|--|--------|
| BREEAM Domestic Refurbishment (rating percentage) |  | 75.41% |
|---|--|--------|

|               |  |       |
|---------------|--|-------|
| BREEAM rating |  |       |
| Pass          |  | ≥ 30% |
| Good          |  | ≥ 45% |
| Very good     |  | ≥ 55% |
| Excellent     |  | ≥ 75% |
| Outstanding   |  | ≥ 85% |

**4.0 Conclusion**

Appendix 1 of the 'BREEAM Domestic Refurbishment' pre-assessment shows that the proposed development will achieve a BREEAM Domestic Refurbishment rating of excellent.

Despite this, efforts will be made during the detailed design and construction phases of the project to further improve upon the score achieved.