
Basement Force

Review of RBKC Policy CE1: Climate Change

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Issue Status

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1. Executive Summary

Ashmount Consulting Engineers Limited has been appointed by Basement Force to undertake an independent review of the proposed RBK&C requirements under Policy CE1: Climate Change for Domestic Refurbishment projects, in particular the requirements for developments only including new basement extensions.

This review provides an appraisal of the RBK&C policy requirements as detailed within the report:

- Evidence Base for Basements and Policy CE1: Climate Change Royal Borough of Kensington and Chelsea- July 2013

For basement extensions the aim of this review is to impartially assess the requirements and practicality of the proposals under this policy.

In conclusion it is found that BREEAM Domestic Refurbishment is fundamentally a scheme developed using a whole house assessment methodology.

As such this report establishes that BREEAM Domestic Refurbishment is not viable or suitable for basement extension works when no works are being carried out on the existing property.

Further to this under the proposed policy very minor works would now require planning approval, the BREEAM requirements of which would be disproportionate to the small scale of the works.

In particular the minimum BREEAM 'Very Good' requirements proposed under the Hea 05 ventilation and the proposed Carbon Target Energy Efficiency Rating are not practical or achievable for a typical RBKC property.

Due to the significant difficulties and often unachievable BREEAM requirements of the proposed policy a more practical Climate Change approach should be established for basement extensions.

Such an approach could be to introduce a simple percentage or fixed point improvement in the property Energy Efficiency Rating.

2. Introduction

Ashmount Consulting Engineers Limited has been appointed by Basement Force to undertake an independent review of the proposed RBK&C requirements under Policy CE1: Climate Change for Domestic Refurbishment projects, in particular the requirements for developments only including new basement extensions.

This review provides an appraisal of the RBK&C policy requirements as detailed within the report:

- Evidence Base for Basements and Policy CE1: Climate Change Royal Borough of Kensington and Chelsea- July 2013¹

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¹ Evidence Base for Basements and Policy CE1: Climate Change – Eight Associate 03 07 2013

3. Summary of Proposed Policy Requirements

Current policy requirements

Following adoption of the Core Strategy, Policy CE1 in the 'Respecting Environmental Limits' chapter 36 is being applied when considering and determining planning applications.

The Council requires EcoHomes and the Code for Sustainable Homes as the methods to assess the sustainability performance of buildings. Applications for new buildings and refurbishments are required to meet the following minimum standards:

- New Residential Developments of 800m² (Gross External Area GEA) or more are required to submit a pre-assessment Code for Sustainable Homes report to demonstrate that Level 4 has been achieved.
- Conversions and refurbishments of Residential Developments of 800m² (GEA) or more are required to submit an EcoHomes Assessment Very Good (with 40 per cent of credits achieved under the Energy, Water and Materials sections).
- **Subterranean extensions that need planning permission are required to submit a pre-assessment report to demonstrate that the entire dwelling meets EcoHomes Assessment Very Good (at design and post construction stage) with 40 per cent of credits achieved under the Energy, Water and Materials sections.**

Until the time that the new Policy requirements have been examined and adopted, which is estimated to be spring 2014, the requirements as above remain applicable.

Refurbishment projects with a contractual obligation, i.e. planning requirement to meet EcoHomes can still be registered against the scheme until 2nd July 2014, by which time the new policy requirements will be implemented.

Proposed policy requirements

Policy CE1 states that from 2014 the Council will start using BREEAM for Domestic Refurbishment standards.

The new BREEAM for Domestic Refurbishment was launched on 11 June 2012 and has replaced EcoHomes as the method for assessing the environmental performance of refurbishment projects.

As part of the partial review of the Core Strategy the Council is undertaking work to establish suitable BREEAM for Domestic Refurbishment targets to replace the EcoHomes targets.

The draft policy requires BREEAM domestic refurbishment 'very good' subject to certain criteria recommended with the report Evidence Base for Basements and Policy CE1: Climate Change.

The proposed criteria can be summarised as follows:

Development Type	BREEAM Rating	Carbon Target	Waste Target	Water Target
Residential refurbishment including new basement	Very Good	Minimum standard for excellent	80% of Un-weighted Credits	Minimum standard for Very Good
Residential refurbishment constituting major development	Excellent			
New residential development with basement	Code for Sustainable Homes Level 4			

This report specifically reviews the suitability of the above policy recommendation for residential refurbishment projects including new basements. To demonstrate compliancy with the above requirements all planning applications must include a BREEAM Domestic Refurbishment Pre-Assessment by a Licenced assessor, indicating credits likely to be achieved and rating targeted.

4. Review of Proposed Policy Requirements

This review is specifically for residential refurbishments including new basement and establishes the proposed criteria and requirements.

BREEAM Rating - Very Good

Achieving an overall BREEAM Rating of 'Very Good' equates to a BREEAM score of ≥ 55 .

BREEAM Domestic refurbishment 'Very Good' requires the following **MINIMUM** requirements to be met:

- **Ene 2 – 2 Credits**

Post Refurbishment Energy Efficient Rating of 65 (in addition the policy proposes minimum requirements for 'Excellent' - 2.5 Credits with a Post Refurbishment Energy Efficient rating of 70).

Achievable

- **Wat 1 – 1 Credit**

Calculated Water consumption of 129-139l/person/day **OR** all new showers specified to 6l/min **OR** all new showers specified to 8l/min and bathroom taps specified at 4.5l/min.

Achievable

- **Hea 5 – 1 Credit**

A minimum level of background ventilation must be provided (with trickle ventilators or other means of ventilation) for all habitable rooms, kitchens, utility rooms and bathrooms. A minimum level of extract ventilation with heat recovery must be provided in wet rooms (e.g. kitchen, utility and bathrooms) which comply with Building Regulations Approved Document Part F. A minimum level of purge ventilation is provided in habitable rooms and wet rooms.

Disproportionate works would be required to achieve the requirement.

In order to comply with Part F of the building regulations, permanent open room vents would be required. These would either be in the form of trickle vent or air bricks. In traditional RBKC properties trickle vents are not installed as the windows are original or historically refurbished.

In order to add trickle vents of the order and size required under Part F would mean that all windows in the property would need to be replaced. The cost for which would be disproportionate to the carbon savings.

The alternative to replacing all windows would be air bricks. Air bricks would not be feasible in most instances as they would penetrate out of the front elevation. Due do planning restrictions this would not normally be acceptable.

- **Hea 6 – 1 Credit**

A compliant fire detection and fire alarm system is provided in accordance with BREEAM requirements. Where the dwelling is supplied with mains gas or where any other form of fossil fuel is used within the building (e.g. coal), a compliant fire and carbon monoxide detector and alarm system is provided in accordance with BREEAM requirements. Where the project involves electrical re-wiring the power supply for the smoke alarm and compliant carbon monoxide alarm systems are derived from the dwellings main electricity supply in accordance with BREEAM requirements. Where the project does not involve electrical re-wiring the power supply for the smoke alarm and carbon monoxide alarm systems are derived from a battery supply.

Achievable

- **Mat 1 – Criterion 3 Only**

All new timber used in the project is sourced in accordance with the UK Government's Timber Procurement Policy.

Achievable

Carbon Target - Minimum standard for excellent

- **Ene 2 - 2.5 Credits**

Post Refurbishment Energy Efficient Rating of 70.

Disproportionate works would be required to achieve the requirement.

As an example dry-lining the external walls may be required. This involves extensive internal works including taking off and refitting all skirting boards, doors and window surrounds which would be clearly very impractical to achieve.

Waste Target - 80% of Un-weighted Credits

In order to achieve 80% 4 out of 5 Credits must be achieved within the waste section (see below).

- **Was 1 - Household Waste**

First Credit – Compliant Recycling Facilities.

Second Credit – Compliant Composting Facilities.

- **Was 2 - Refurbishment Site Waste**

For small scale projects less than £100k, 3 credits can be awarded where waste generated through the refurbishment process is managed in accordance with Checklist A-9; Refurbishment Site Waste Management.

For projects up to £300k: 3 credits can be awarded where a compliant Level 1; Site Waste Management Plan is in place in.

For projects over £300k: 3 credits can be awarded as follows:

- **First credit – Management plan**

Where a compliant Level 2; SWMP is in place.

- **Second credit – Good practice waste benchmarks**

Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark in accordance with compliance note CN7.

The amount of waste generated against £100,000 of project value is recorded in the SWMP.

A pre-refurbishment audit of the existing building is completed in accordance with CN10.

Where the demolition is included as part of the refurbishment programme, then the audit should also cover demolition materials.

- **Third credit – best practice waste benchmarks**

Non-hazardous demolition waste generated by the dwellings refurbishment must meet or exceed the refurbishment & demolition waste diversion benchmarks in accordance with CN8.

Achievable

Water Target - Minimum standard for Very Good

- **Wat 1 - 1 Credit**

Calculated Water consumption of 129-139l/person/day OR all new showers specified to 6l/min OR all new showers specified to 8l/min and bathroom taps specified at 4.5l/min.

Achievable

5. Conclusions & Recommendations

Following our review of the proposed policy and requirements the below can be concluded:

BREEAM Domestic Refurbishment is suitable for whole house refurbishment projects

For refurbishment projects or change of use projects in general, meeting a level of BREEAM Very Good or excellent (for large scale refurbishments) is a suitable standard, as the scheme has been specifically developed for this type of project.

BREEAM Domestic Refurbishment is NOT suitable for basement extension projects

Within the BREEAM Domestic Refurbishment² it states that the scheme is a whole house assessment methodology. It goes on to state that “for some extension projects, it may not be appropriate to assess the project under the scheme where no improvements are being made to the existing dwelling as a whole.”

Basement extensions that do not impact on the existing dwelling are a clear example of such extensions.

We propose that rather than a whole house assessment methodology be implemented, when there is no works being carried out to the existing house, a more practical assessment would simply be a stepped improvement of the Energy Efficiency Rating be specified. This would encourage people with currently poor ratings to make practical improvements such as boiler replacements rather than see them make no improvements due to the impracticality of the proposed requirements and resultant termination of any planned works.

Achieving BREEAM Domestic Refurbishment is NOT viable for many existing RBKC properties

The BREEAM ‘Very Good’ minimum requirement under Hea 05 Ventilation requires a level of background ventilation to be provided across the dwelling in order for credits to be awarded. For certain projects, this could prove to be a major obstruction within the assessment and could require the replacement of all windows for example.

The BREEAM ‘Excellent’ standard minimum EPC rating required under the Carbon Target (SAP rating of 70) is likely to require dramatic improvements to the existing dwelling. As an example dry-lining

² BREEAM Refurbishment Domestic Buildings Technical Manual - 2012 SD5072 : 1.0.2

the external walls may be required. As an example dry-lining the external walls may be required. This involves extensive internal works including taking off and refitting all skirting boards, doors and window surrounds which would be clearly very impractical to achieve.

We propose that rather than a whole house assessment methodology be utilised, when there is no works being carried out to the existing house, a more practical assessment would simply be a percentage or fixed point improvement of the Energy Efficiency Rating be required.

This would encourage people with currently poor ratings to make practical improvements such as boiler replacements rather than see them make no improvements due to the impracticality of the proposed requirements and resultant termination of any planned works.

Achieving BREEAM Domestic Refurbishment 'Very Good' is disproportionate for some basement projects

The scale of basement projects are often varied starting from very minor works such as the addition of a light well to an existing basement. These works will require planning permission under the proposed policy. For these schemes to be subject to the BREEAM requirements is disproportionate to the work being carried out.