NDM HEATH LTD
Sustainable Energy Services

23 Ravenshaw Street, London NW6 1NP
Building Retention vs Replacement Statement

Report prepared for Mr C Taylor

April 2017

Report title:	23 Ravenshaw Street, London – Building Retention vs Replacement Statement
Version:	Final
Date:	12 April 2017
Author:	Nicholas Heath, Director

NDM Heath Ltd. Registered office: 21 Kirkgate, Knaresborough, North Yorkshire HG5 8AD
T: 07763 110264 | E: enquiries@ndmheath.co.uk | W: www.ndmheath.co.uk
Registered Company Number: 8587277

Contents

1.0 Introduction

This short statement has been prepared in relation to a recent planning application (ref. 2017/0911/P) for 23 Ravenshaw Street, London NW6 1NP. The application is for the erection of a three-storey plus basement building comprising 8 no. flats following demolition of the existing house. In response to initial feedback from Camden Council, NDM Heath Ltd. was commissioned by the client to provide a brief statement in relation to the replacement of an existing building.

This statement draws on data (drawings, specifications, planning documents and construction calculations) provided by the client, and on local authority planning policies.

2.0 Retention vs replacement

The proposed development would see an existing, two-dwelling building replaced with a new, eight-dwelling building. The existing building comprises a traditional Victorian brick house with a more recent (1975) two-storey extension to the side; there is a large adjacent area of hardstanding currently used for parking.

The relative merits of retaining or replacing a building have different facets. These include aesthetics and sense of place, housing capacity, energy impacts and logistics.

2.1 Aesthetics and sense of place

Ravenshaw Street is largely uniform in appearance, dominated by traditional solid-brick properties with bay windows. There is, however, some more recent infill locally including a modern building opposite the development site, whose frontage is broadly similar in style to that of the proposed development – this reflects Camden's DP24 and its supporting paragraphs 24.1-24.24. No. 23 Ravenshaw Street itself includes a substantial 1970s flat-roofed extension which is not entirely in keeping with the street. The site is not in a conservation area.

On grounds of logistics, the proposed development would replace the existing building entirely, rather than retain and build around the existing shell which would be the only way to retain the existing building – this is covered in more detail in Section 2.3 (below).

2.2 Housing capacity

The existing building was originally a single unit house, but has been extended and divided to form two flats, 1 no. 2-bed unit and 1 no. 3-bed unit. The proposed replacement building would provide eight dwellings, 4 no. 2-bed units and 4 no. 3-bed units. In common with most local authorities in London, Camden Council has a number of policies in place to make full use of Camden's capacity for housing: as noted in Camden Development Policies 2010-2015, *'Core Strategy policy CS6 indicates that the Council seeks to maximise the supply of homes and minimise their loss, with housing regarded as the priority land use of the Camden Local Development Framework'*. While the existing building would be lost, the proposed development would utilise the large adjacent hardstanding area and build down as well as up, resulting in a net increase in housing provision of six additional dwellings. As such, the proposed development is in line with local policy DP2 which seeks *'to maximise the supply of additional homes in the borough…by expecting the maximum appropriate contribution to supply of housing on sites that are underused or vacant'*.

2.3 Energy impacts & feasibility

As noted in the initial feedback from Camden Council, their main considerations are concerned with appearance and embodied energy: *'The development will result in the demolition of an existing Victorian terraced house. Policies prioritise the reuse of existing buildings over demolition and rebuild, due to the embodied carbon impacts. Although the development is recycling demolition materials, the applicant should provide justification for the demolition of the existing building over retrofit'*.

As noted above, it is primarily due to logistics that the proposed development favours demolition and replacement: while it may be technically possible to retain the existing structure and build around it,

the complexity and embodied energy associated with this approach would be considerable, and it would arguably be harder to create a harmonious end result. Indeed, the existing building already comprises two varying styles of construction – the addition of a third could increase the likelihood of an end result standing out more than might otherwise be the case.

In the context of a like-for-like replacement, it is generally agreed that demolition and new build uses more energy than retention and refurbishment of existing buildings. However, in the case of 23 Ravenshaw Street the proposals involve removal of a two-unit building and its replacement with a significantly larger, eight-unit building, and as such this comparison cannot be made.

In order for retention of the existing building to be considered, it would have to be worked around and significantly extended. To create the proposed eight dwelling units in this way, explorations by the developer indicate that the existing building would need to be stripped inside, entirely re-configured and extensively reinforced to achieve a workable outcome. Following this approach, it would only be the shell of the existing building that was retained: everything inside the building would be new, and extensive demolition works would therefore be required in any case. In addition, the structural reinforcements needed to create a building of similar size and amenity to that proposed would require considerable amounts of high-embodied-energy materials. The complexity of this approach, purely to retain the shell of a building, would be likely to be excessively complex and costly, and it would be hard to identify any significant saving in embodied energy.

The developer has calculated the different materials contained in the existing building together with their quantities. They have also explored alternative design schemes and their associated construction and cost implications, which led them to the proposal for which planning permission has been requested. All data and figures are available on request. While there are databases providing information on the embodied energy of different construction materials[1], it would be both onerous and unrealistic to calculate total figures for each development scenario, particularly when cradle-to-grave energy impacts are also brought into play.

The energy performance of the current and new buildings also requires consideration. Bringing the existing building up to current standards of energy efficiency would inevitably involve loss of fabric (e.g. windows, pipework, wiring, boilers, wall linings, kitchens & bathrooms), maintenance works to make good existing defects (e.g. damp, structural issues) and the incorporation of new fabric and significant levels of insulation to walls, roofs and floors. Aspects of the new proposed design such as solar gain would be restricted by the existing building openings. The cost-effectiveness of a thorough insulation approach suited to traditional buildings[2] is currently hard to achieve in many cases. As shown in the planning application and associated documentation, the proposed new building would achieve high levels of energy efficiency and on-site energy generation, maximise the use of natural light and solar gain, and make efficient use of space by developing on the existing hardstanding area and building both down and up. These design proposals are in line with Camden's DP22 *Promoting sustainable design and construction* and DP23 *Water*.

[1] E.g. the ICE database, *Embodied Carbon: The Inventory of Carbon and Energy* (BSRIA, 2011)

[2] Extensive guidance is available from organisations including Historic England, Historic Environment Scotland, the Sustainable Traditional Buildings Alliance (STBA) and the Society for the Protection of Ancient Buildings (SPAB), among others. Most of the details surrounding the current recommended approach to traditional building retrofit may be found in a single document, the recently-published *A Bristolian's Guide to Solid Wall Insulation* (Bristol City Council & STBA, 2015).

Lastly, the journey of the materials arising from demolition must be assessed. The developer has proposed recycling materials wherever possible: the existing concrete floor slab can be turned into aggregate for use in the new development, for example, and would thus never leave the site; bricks, stone and slates can be recycled and used in other buildings; timbers may be recycled; and so on. As such, many of the materials currently on the site would retain their embodied energy through re-use elsewhere, avoiding unnecessary waste and extending their useful life. The developer will submit a Site Waste Management Plan separately, to provide full evidence of this process.

3.0 Conclusions

While from a conservation perspective the retention of traditional building stock is always encouraged, in practical terms it would be hard and costly (both financially and in energy terms) for this development to create eight units while retaining the existing building. Retention in its existing form is impractical as part of a larger development, while retention of the building shell with new internal layout, structures and extensions is excessively complex and costly.

Were the proposals for a like-for-like replacement, the merits of retention discussed in this short document would be of far greater weight. However, for this site to accommodate eight new units, demolition and replacement would seem to provide the most practical solution.

NDM HEATH LTD
Sustainable Energy Services

21 Kirkgate
Knaresborough
North Yorkshire
HG5 8AD
United Kingdom

T: 07763 110264
W: www.ndmheath.co.uk

Registered Company No. 8587277