



## Paramount, Swindon



Reusing and repairing a building rather than tearing it down saves natural resources by reducing the raw materials, energy, and water resources required to build new. It also prevents pollution that might take place as a by-product of extraction, manufacturing and transportation of materials and avoids creating solid waste that could end up in landfills. An important factor in the consideration of a building's reuse is its durability and because concrete is long lasting, robust, low maintenance and has a good thermal mass Paramount proved to be a good candidate for reuse.

KB<sup>2</sup> were approached by Swan Hill Homes Group PLC (now part of the Raven Property Group PLC) to advise on the suitability of the unoccupied Nationwide Building Society headquarters in Swindon. Built in the 1970's the developer wanted to convert this concrete framed building for residential use. The purchase would only go ahead if the developer was assured of the viability of the scheme based on a minimum units and car parking requirements. KB<sup>2</sup> carried out a Feasibility Study on the proposals and concluded that the project would create over 200 new residential apartments plus some office/retail space at ground level.

KB<sup>2</sup> carried out the structural design in conjunction with a Design and Build contractor. KB<sup>2</sup> implemented their 3-dimensional Finite Element Programme for both the existing and proposed load cases, this determined which parts of the structure needed to be strengthened. The bearing pressures beneath the main raft foundation were calculated and for speed of construction and reduced weight structural steelwork was chosen for the new columns and beams, with composite metal deck/concrete floors.

This project demonstrates that with careful consideration to the strength of an existing structure and some lateral thinking about ways of adding value, these concrete framed buildings could be adapted, modified and reused - delivering a truly sustainable solution.

The total project costs were of the order of £25 million and the project Architect was Stride Treglown. Completion was in 2007.



**“KB<sup>2</sup> approach to the feasibility study for the optimum reuse of this building was creative and highly valued. They understood what we wanted to achieve and worked hard to find the right solutions, the result being the transformation of a 5 storey office block converted to a 9 storey mixed use landmark building.”**

Roger Brennan - Managing Director of The Raven Group

### KB<sup>2</sup> Consulting Civil & Structural Engineers

Providing engineering certainty by delivering intelligent designs, minimising project risk and applying principles of sustainability.

[www.kb-2.co.uk](http://www.kb-2.co.uk)

