

VAN HEYNINGEN AND HAWARD ARCHITECTS (VHH)



The Kathryn Stevens Rare Books Library at Newnham College

Design company name: **van Heyningen and Haward Architects (vHH)**

Build company name: **Millcam Construction**

Consultancy: **Tobit Curteis Associates, Qoda, Andrew Firebrace Partnership Ltd, GLW Engineering**

Project location: **Cambridge**

Project completion date: **2024**

Budget: **£500,000**

Project brief

The Kathryn Stevens Rare Books Library at Newnham College was completed in 1983 and was Grade II listed in 2018.

Forty years on, the use of the building had subtly changed, conservation standards had become more stringent, and elements of the building fabric and services had reached the end of their service-life. Most critically, this included the ageing plastic glazing of the rooflight, which potentially threatened the security of the collection.

To reglaze the rooflight, the whole collection needed to be decanted. vHH prepared a feasibility study setting out the case for using the opportunity offered by the decant to undertake a holistic retrofit and were then invited by Newnham College to revisit the design, to see what could be improved without diminishing the special character of the building.

The optimal criteria for the collection's environment were established and the existing fabric and proposed enhancements tested, with QODA running WUFI and thermal bridge modelling. Comparing these results with the monitored conditions in the room revealed that the swings in temperature and humidity that damage the collection were largely caused by the rooflight.

The use of the building has evolved since it was first designed and built. It is now used as a secure archive, with books taken next door to readers in the main library. Crucially, this means the large rooflight was no longer functionally necessary and it was decided to remove it. The proposals replace the rooflight with a lead-clad barrel to the same profile (this could easily be removed and a rooflight reinstated).

The design process and strategies adopted will improve the long-term safety of the collection and equip the building for another 40 years of use. They also exemplify how an evidenced-based approach to the historic fabric of listed buildings can be used to argue for beneficial change, keeping the building useful and preserved.

Sustainability features

- Walls, roof and floor upgraded with Woodfibre internal insulation
- Secondary glazing and addition of thermal breaks to all the gallery steelworks
- These interventions increase the air tightness, insulation and humidity buffering of the room, maximising the stability of the collection's environment
- Replacement of electric underfloor heating and small dehumidifier like-for-like but with better sensors and controls, to maintain the desired RH and temperature range
- Improvements to the building fabric mean less energy will be used and the collection's environment will be maintained for much longer should the active systems fail

Find out more: <https://vhh.co.uk/project/newnham-college-rare-books-library>

