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Creative retrofit and extension to listed property - 'Mirrorpod Extension'

Design company name: **Mart Barrass Architect**

Build company name: **BSSR Ltd**

Project location: **Fen Ditton, Cambridge, Cambridgeshire**

Project completion date: **Summer 2023**

Budget: **Approximately £400,000**

Project brief

The original 200-year-old Listed residential property consisted of a historic Thatched Cottage (formed by amalgamation of three former worker's cottages with three staircases which had been unsympathetically extended in the 1980s) and a separate detached Pool House built slightly earlier.

The brief was to create a practical family home fit for 21st Century living which included:

- Rationalisation of the internal circulation and spaces
- Improving the physical connectivity with the existing buildings and wider site context and visual connectivity with the adjacent River Cam
- Improving the thermal and energy performance of the existing building
- Expressing the new interventions to articulate the historical development of the property over time.

The proposal involved demolishing the existing thermally inefficient and architecturally unsympathetic extensions and replacing them with a new dynamic modern addition set away from the Cottage to be read as an independent element connected to the existing cottage with a glazed staircase link.

This idea evolved into the concept of a futuristic 'spaceship pod' that has landed in the back garden which makes a clear delineation between new and old which is articulated with the use of modern materials of polished metal and glass contrasting with the historic thatch and render.

Sustainability features

- As this project started over a decade ago the refurbishment of the property incorporates the energy improvement options felt appropriate and economically achievable at the time with the technical data available
- The historic property's thermal performance has been improved by removal of the old inefficient oil-fired boiler with an energy efficient gas replacement, and installation of underfloor insulation and heating in both the existing Cottage and new additions
- The new extension 'pod' is constructed from recyclable materials of steel and aluminium and is wrapped in highly thermally efficient insulation
- Mirror reflective cladding and glazing film provide solar control to assist with summer coolin.
- The endoskeleton steel frame of the new extension has been designed to cantilever over the roots of the existing apple tree allowing it to be retained to enhance the garden's biodiversity
- The existing Pool House has been reroofed (utilising reclaimed tiles) and fitted with new insulation and double-glazed windows to improve its thermal efficiency

Find out more: www.martbarrass.com

