



Comprehensive eco-refurbishment of a Listed Building - 'Mill House'

Design company name: **Hetreed Ross Architects**

Build company name: **DPT Ltd (Main contractor), Swift Renewables Ltd (Installer of PVs, ASHP, Thermal Store and UFLRHTG) and Woodpecker Joinery (Installer of double-glazed cedar conservatory)**

Project location: **Tytherington, Gloucestershire**

Project brief

Mill House was a South Gloucestershire farmhouse of 16th C origins that had been patched and repaired over the generations, until stripping out by previous owners in pursuit of 'modernisation' prompted 'spot listing' to protect what then remained of its historic interior features. This included decorative plaster features, inglenook fireplaces and an undulating elm floor.

The clients bought it at this point with the ambitious goal of combining a sympathetic restoration with advanced eco-refurbishment. The project team were lucky to work with a Listed Building Officer both dedicated to the conservation of the house and pragmatic about the changes made in the past and how these could allow for improved sustainability.

Working closely with the clients, Hetreed Ross Architects established a brief and overarching concept of retaining the house's character whilst achieving low energy consumption. Striking a balance between these two very important aspects of the clients' aspirations was challenging but ultimately very rewarding.

The result is an unusually comprehensive eco-refurbishment of a Listed Building to provide a generously comfortable 21st C home with its historic future assured.

Sustainability features

- A flush Solar PV array on the south roof pitch previously concrete tiled
- New super-insulated heated concrete floor slabs where ground floors had already been replaced with concrete
- High performance double-glazed timber mullioned windows where originals had been replaced and secondary double-glazing to the few original windows surviving
- Full external wall insulation using 'breathable' cork slabs and lime render to replace the modern cement render
- Complete re-roofing using original clay tiles over high performance insulation
- Air Source Heat Pump (ASHP) and underfloor heating backed up by wood stoves in carefully upgraded fireplaces and stacks, with individual heat reclaim extract ventilation units in kitchen and bathrooms
- A high local water table warranted new land drains to minimize damp in existing walls with all internal masonry finished in damp tolerant lime plaster

Find out more: www.hetreedross.com/project/mill-house

