



## Design & Build

### Case Study 2

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## House Renovation

### From Start to Finish

At over 200 years old, this village house was feeling its age, and had received very little maintenance over the years. It had also suffered from some rather agricultural repairs and alterations.

Our task was to knock two cottages into the main house, make substantial alterations, repair and renovate the structure and bring the house up to highest standards of fit out, including state of the art technology.

#### Picture 1

Before any work was started the house looked sad and down at heel. When we started work it became evident that it was even worse than this. The structure was so decayed that parts of it were at risk of collapse.

#### Picture 2

Well advance into the project, new larger window openings are being created.

#### Picture 3

Finished and ready for the next 200 years. Landscaping included wrapping the garden wall around the well

To discuss how we can assist - contact  
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### It started with the roof

#### Picture 1

The roof structure was beyond repair, as were the gable ends, chimneys and wall tops.

#### Picture 2

One of the chimneys being rebuilt, note that the gable has also been rebuilt. Concrete beams were cast along all wall tops to stich the house back together.

#### Picture 3

Inside the main house roof, the old trusses and perlines have been retained. This is for historical conservation, the new roof is entirely independent and supported on the new steelwork. Note the services trays ready to take the state of the art electrics, ventilation and plumbing.

#### Picture 4

An interior view of the new roof going on. Note the new steel beam and brick pier to support it.

#### Picture 5

The new stone roof finished and looking good.

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### A house with no foundation

The house was built directly off the earth. To make the structure stable, eradicate damp, install insulation, and underfloor heating and finish with a stone floor, a new concrete slab was required.

#### Picture 1

With the floor being excavated deeper than the depth of the walls, the new floor had to be installed in strips, like underpinning, to prevent undermining the whole house.

#### Picture 2

2nd pour underway. Notice the steel mesh reinforcement and the kerbs cast in at the edges which nip the walls in place. The concrete was pumped in due to access problems.

#### Picture 3

After the insulation is laid, the underfloor heating pipes are installed.

#### Picture 4

Liquid screed is poured over the UH pipes. Note how this finishes flush with the top of the concrete kerbs, this will allow the stone floor to run over.

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### Big improvements

#### Picture 1

Taking the damp plaster off the lower part of the walls brought the rest of the plaster off with it. Replastering the whole wall allowed for a far better finish throughout.

#### Picture 2

Plastering begins, first the walls are made as even as possible with layers of cement render. Note the bottom of the walls have been treated with a waterproofing slurry.

#### Picture 3

All the exterior walls were lined with insulated studs and infilled with lambswool before boarding with foil backed boards.

#### Picture 4

Drains being installed. Note the two systems, one for foul and the other for rain water from the roof for storing.

#### Picture 5

The rainwater harvesting tank being installed, providing free water for the garden and flushing toilets.



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### Finishing

#### Picture 1

New open fire place created in brick and stone. Also note the lambswool wall insulation prior to boarding the side wall.

#### Picture 2

Multifuel stove installed with heat recovery from the flue to pre warm fresh air entering the whole house ventilation system.

#### Picture 3

Specially cut local limestone floor going down. Note the discrete expansion joint to absorb thermal movement caused by the under floor heating.

#### Picture 4

Staircase going in to newly created hall area.

#### Picture 5

A good decorative finish requires a lot of sanding down.

#### Picture 6

Joinery fitting out in progress.

#### Picture 7

Bespoke kitchen being installed



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Heat pump programmer

Whole house ventilation controller



Heat pump & manifold 1 of 3



Lutron switch    Heatmiser room-stat    Alarm panel



Heatmiser main programmer



Server room



Hygienic hot water store



# Design & Build

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Ready for state-of-the-art living

### Pictures on the left - The technology -

The house utilises state of the art technology, most of which can be operated by iphone. This includes:-

- \* High temperature air source heatpump.
- \* Under-floor heating and manifolded fan assisted radiators.
- \* Lutron programmable lighting
- \* Heatmiser touch screen heating controls.
- \* Sonos whole house music system.
- \* High definition video security system
- \* Whole house ventilation system with heat exchanger.
- \* Intelligent alarm system.
- \* mobile phone signal booster
- \* Entry phone which calls your mobile.
- \* Rainwater harvesting with intelligent control system.
- \* HD TV delivered throughout the house.



### Pictures on the right - The finished product -

Picture 1            Principal bathroom

Picture 2            Principal livingroom

Picture 3            Kitchen.

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