

February 2018

# Homebuilding & RENOVATING

How to create your dream home

Britain's  
Best  
Selling  
Self-build  
Magazine

## The Secret to Finding a Great Building Plot

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SPECIAL**

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## Contemporary Country Living

**A New Barn-Style Home Full of Character**





# PORTFOLIO

February 2018

*Whatever your plans, take inspiration from these readers' homes. This month, a barn conversion in Somerset, the UK's first oak frame Passivhaus — and much more*





# BREATH OF FRESH AIR

*Duncan and Andrea Pyle have converted an ex-Duchy of Cornwall ramshackle courtyard of barns in Somerset, carefully retaining all their rural charm while injecting a strong contemporary edge to the interiors*

Words **Natasha Brinsmead** Photography **Nigel Rigden**

## A Three Phase Project

The barns are arranged around a central courtyard. Andrea and Duncan plan on carrying out the work in three phases, the first of which (the two-storey section to the right of the gates) is complete. Externally, the roof has had to be rebuilt and the stonework repointed. The window in the gable end is the only new opening in the building.









## PROJECT NOTES

### Homeowners

Duncan and Andrea Pyle

**Project** Barn conversion

### Build time

Nine months

**Size** 180m<sup>2</sup> (phase one)

**Plot cost** £412,500

**Build cost** £165,000

**Value** £750,000 -

£850,000 (2016)

### Suppliers

#### Architectural practice

O2i Design: o2idesign.com;  
01458 253050

#### Main contractor

T Russell  
Developments (Langport,  
Somerset): 01458 252202

#### Windows

Velfac:  
velfac.co.uk

#### Cintec Cementitious

#### Sock Anchors

Falcon Structural Repairs:  
falconstructural.co.uk

#### Granite worktops

County Granite:  
countygranite.co.uk

**Kitchen** Ikea: ikea.com

#### Ironmongery

Hafele: hafele.co.uk

#### Mendip woodburning stove

Wollens: wollens.co.uk

#### Woodburning stove

installation Makastone:  
makastone.co.uk

#### Gutters

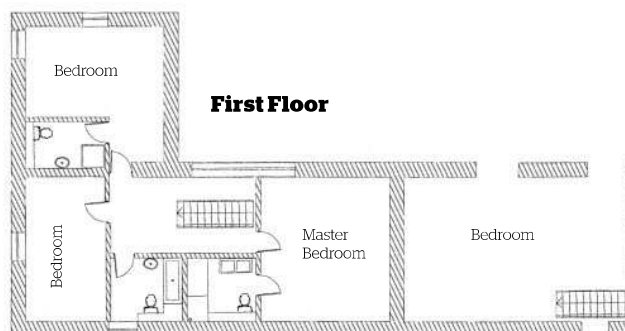
Guttercrest:  
guttercrest.co.uk

#### Lime mortar

Limebase: limebase.co.uk

#### Trees

Ashridge Nurseries:  
ashridgetrees.co.uk



### A Sensitive Approach

The sections of roof and wall that needed replacing have been largely constructed reusing existing stone and roof tiles to ensure the listed building remains true to the original. The large area of glazed bifolds replaces an old timber barn door and spans both the ground and newly created first floor.





**A Rare Find**

The barns are listed and once belonged to the Duchy of Cornwall. They were built as part of a model farm, hence the attractive details.



**W**e knew straight away we were going to buy the barns when we saw them,” says Andrea Pyle of the stone barns she and husband Duncan, along with their two sons, now call home.

The couple, both architectural designers, had been searching for a barn conversion before coming across the dilapidated stone buildings on an agricultural property site. The property consisted of a series of barns organised around a central courtyard and was once owned by the Duchy of Cornwall.

“This was a model farm, which is why it is so pretty with lots of attractive small details,” says Andrea. “There were a number of covenants on the barns which meant that the plot could not be developed into more than two dwellings. And if treasure was ever found under the barns then it would belong to the Duchy. The barns are also Grade II-listed, along with the main farmhouse.”

The barns were in a bad state of repair, having been used in years gone by for livestock. “The owner before us had used the barns and yard for storing building materials so nothing had been done in the way of converting them,” says Andrea.

Moving into a mobile home on site, along with their two sons, Alexander and Oscar, Andrea and Duncan began by getting the barns structurally stable. “We decided to start with the most structurally endangered section of the barns,” says Duncan. “The roof timbers were very badly damaged and the roof was beginning to collapse. We were woken in the middle of the night by a huge crash — the wall had come down. Obviously this had a big financial impact.”

Duncan and Andrea planned to create Modernist-inspired, pared-down, simple spaces within the barns, which they are converting in three phases, working their way around the courtyard. “So far we have only completed ‘phase one’ [the conversion of the two-storey section].”

Andrea and Duncan bought the barns with planning permission to convert them into a dwelling, but submitted several amendments concerning the size of the openings and the interior layout, working closely with the district council.

Work was initially delayed due to conservation matters concerning the presence of

bats. “We were required to put in bat boxes, a bat roost and also owl boxes. Part of the barn is now completely sealed off for the bats,” says Andrea. “This delayed the project by a month and added over £5,000 after the surveys had been carried out.”

“The roof came off first,” says Duncan. “It was rotten and there were parts missing so this had to be addressed before any work could begin to prevent further damage to the interior.” The whole roof was removed, with care taken not to break or damage the clay roof tiles so they could be reused.

In addition, all of the stonework had to be repointed. “The conservation officer stipulated that the new mortar had to match what was already there, but as many different mixes had been used over the centuries it was tricky,” says Duncan. “We found a local supplier who advised us on the mix, down to which grit had been used in the lime — we ended up with an exact match.” ➤

## A Modernist Approach

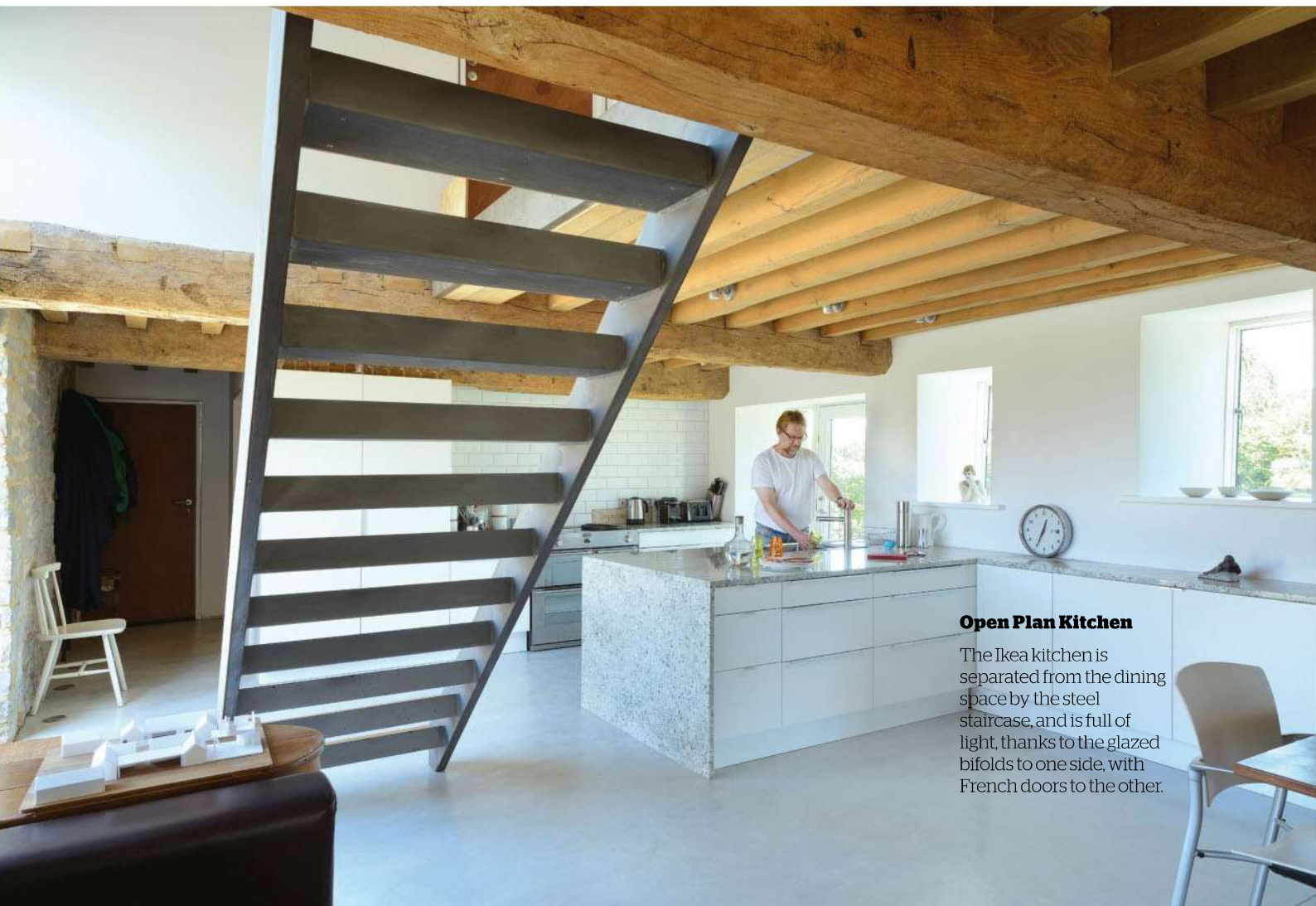
The polished concrete floors set a neutral background, allowing the original features to shine, and, although they took up a large portion of the budget, work brilliantly with the underfloor heating.

## Combining Old and New

The large original elm beams have been saved and sit well with the new exposed oak joists, which form the new first floor. Andrea and Duncan were permitted to keep the exposed stone walls — even though they are uninsulated, they are internal walls and act as a thermal store for heat thrown off by the woodburning stove.







**Open Plan Kitchen**

The Ikea kitchen is separated from the dining space by the steel staircase, and is full of light, thanks to the glazed bifolds to one side, with French doors to the other.





Internally, the floors needed to be dug out on the ground floor, while on the first floor, the timber floors were completely rotten, with the exception of a couple of original elm beams. These have been retained and now sit beautifully alongside the new green oak exposed joists which form the first floor.

“Rather than insert a new ceiling between the joists we used prepainted cement boards (which provide a fire break). This means no cracks in the plaster and no fiddly painting,” says Andrea.

Downstairs, polished concrete floors have been poured over the underfloor heating, which is powered by a ground source heat pump, while shadow gaps have been created in place of traditional skirting boards. “We love the polished concrete,” says Andrea. “It allows light to bounce around and is really easy to maintain — it was a big cost, but was the right thing to do in this space.”

“The ground source heat pump is located away from the barns in the paddock,” she adds. “We also have ground-mounted solar photovoltaic panels which serve the electricity for the heating system and hot water — we are on the way to being self-sufficient in this respect.”

In order to open up the internal spaces, some of the internal structures were re- ➤

*“We are on the way to being self-sufficient”*



#### Simple Spaces

The living room (TOP and ABOVE) leads off from the dining room and features a woodburning stove. Shadow gaps (TOP) create a crisp finish.




# PORTFOLIO

Barn Conversion

moved, including a non-structural Victorian brick wall. The new layout allows light to run right through the living areas. “We’re lucky that there is so much natural light,” says Andrea. “The only new openings are in one of the gable end walls, as well as a Velux window above one of the bedrooms.”

The large area of aluminium/timber bi-fold doors replaces a large timber barn door, bringing in lots of natural light to the large central hallway, which is open to the kitchen and dining room. This glazed opening spans the double-height space that has been created by cutting away part of the first floor around the staircase. The first floor now houses three bedrooms and three bathrooms, with the spaces combining old and new beams.

“We love living here,” concludes Andrea. The couple are now thinking about phase two — converting the next section of barns into two bedrooms, two bathrooms and a living space. “We plan on learning from phase one,” she adds. Watch this space! 

## The Knowledge SOCK ANCHOR SYSTEM

Keen not to have any visible bracing or ties on the exterior of the property, but needing to find a way to strengthen the barn’s structurally unsound walls, Duncan specified a cementitious sock anchor system instead. The system incorporates a stainless steel or mild steel bar encased within a porous fabric ‘sock’ or sleeve into which grout is pumped, expanding the sock to fill the hole. There are several systems in the UK, including Cintec and Helifix.

This type of anchor system is ideal for older buildings, particularly those constructed with irregular masonry or with voided areas, where there is structural deterioration. It is also a good way to secure external walls to hollow concrete floor slabs, to stitch cracked solid and multi-leaf walls and to secure unstable parapet walls. Additionally, it offers a more sympathetic repair system for period homes than those involving visible wall ties.



## New First Floor Spaces

Upstairs there are now three bedrooms and three bathrooms. Although the original beams have been retained, they have been combined with new oak purlins for extra structural support.

## Working to a Budget

Duncan and Andrea shopped around for the best deals on sanitaryware and tiles in order to keep their costs down. The textured ceramic wall tiles are from Topps Tiles.