

SOUTH FACING VISION

Keen to build a low-maintenance and sustainable home for their retirement, Alec and Stephanie Wilson have created an elegantly simple contemporary space



Project Notes

Owners: Alec and Stephanie Wilson
Project: Contemporary eco-build
Location: Lutterworth, Leicestershire
Build time: July 2013-July 2014
Size: 200m²
Plot cost: £450,000
Build cost: £40,000
Value: £1m



Outdoor Living

The 2.5m-wide covered verandah, laid with balau hardwood, provides generous amounts of covered space for outdoor living – in all, it covers an area equivalent to half of the interior footprint. Large overhangs help to offset some of the solar gain associated with the heavily-glazed sections during the warmer months

HOW THEY DID IT



Suppliers

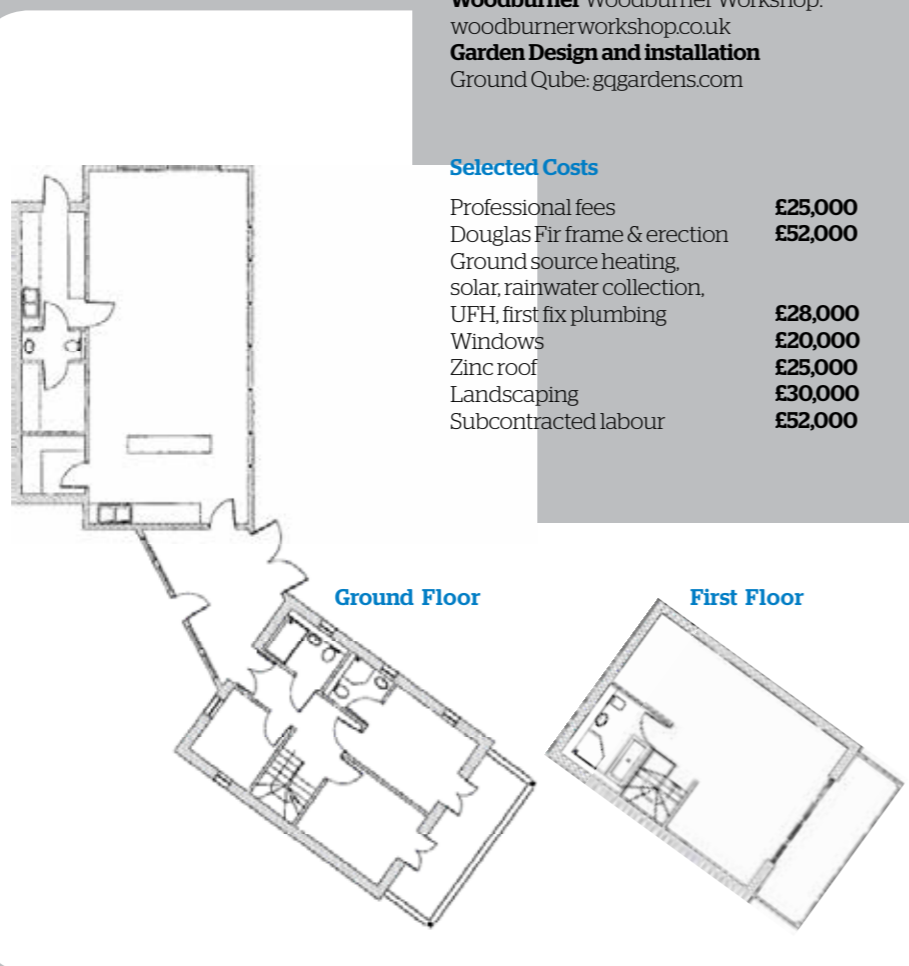
Design Roderick James Architects: roderickjamesarchitects.co.uk
Engineers Diamond Wood & Shaw Engineers: diamondwoodandshaw.co.uk
Timber & general building supplies Travis Perkins (Loughborough): travisperkins.co.uk, Rural Building Supplies: xxxxxxxx
Douglas Fir Frame construction and erection Carpenter Oak: carpenteroak.com
Porotherm EE Smith: eesmith.co.uk
Windows Velfac: velfac.co.uk
Zinc roof Norman & Underwood: nandu.co.uk
Cladding Vincent Timber: vincenttimber.co.uk
K Rend and plastering Paul Riley and Andy Barnett: xxxxxx
Groundsource heat pump and solar thermal Indigo Renewables: indigorenewables.co.uk
Electrics Ian Shervington: xxxxxx
Carpentry and joinery The Knighton Joinery Company: theknightonjoinerycompany.co.uk
Woodburner Woodburner Workshop: woodburnerworkshop.co.uk
Garden Design and installation Ground Qube: gqgardens.com

Selected Costs

Professional fees	£25,000
Douglas Fir frame & erection	£52,000
Ground source heating, solar, rainwater collection, UFH, first fix plumbing	£28,000
Windows	£20,000
Zinc roof	£25,000
Landscaping	£30,000
Subcontracted labour	£52,000

Architect's View

"There had been an old bungalow on the site but it was badly positioned and wasn't making the most of the location," says James Lock of R J Architects. "We orientated the new building so that Alec's workshop and garage, as well as neighbouring properties, were hidden from view and the heavily glazed one-storey section was facing south, towards the views. The orientation of the entrance hall also helps to maintain privacy. Managing solar gain - to ensure the building did not overheat in the warmer months - was another important part of the project. We chose large overhangs that allow the winter sun into the building while protecting the interiors from summer overheating and installed a roof lantern in the living space to allow excess heat to escape from the building. As a practice specialising in timber framed buildings, we were keen to push the boundaries and explore alternatives to oak, such as Douglas Fir. We've also used steel work in the trusses and at the base of external structural beams, to create a lighter and more contemporary feel."



Open-Plan Space

Suspended block and beam concrete flooring and a brick and block wall (right) bring a sense of solidity to this mainly glazed space. The couple originally vetoed the roof lantern, as Alec knew it would be complicated to install, but the architect encouraged them to go ahead. "The roof lantern is now one of the best features in the house," enthuses Alec. "It lets the hot air out, you can see the sun, and the moon and stars at night... it was difficult to install but it makes the room. We're loving it"



F

or Alec Wilson and his wife Stephanie, taking on a self-build for their retirement was all about creating a contemporary home that would be cheap to run, easy to maintain, smaller than their previous homes — and have ample outdoor living space. Once they'd found their site, home to what Alec describes as “an old ugly bungalow surrounded by leylandii” that appeared to ignore the lovely south-facing views over the River Avon Valley, the planning process took just five months. The proposed home's eco features probably helped, as did the plan to replace the 1960s property rather than build on a greenfield site.

The couple worked with architect James Lock of R J Architects and custom timber frame developer Carpenter Oak to build a simple contemporary structure that mimics the fabric and shape of agricultural buildings. The building is divided into two sections by a fully glazed entrance space. The main living, dining and

(more on this on page 132) and Porotherm clay blocks for the two-storey section, chosen for speed (the build took one bricklayer six weeks over the blisteringly hot summer of 2013) and their excellent thermal mass properties. “Constructing with Porotherm is really quick. The blocks measure 600x365x400mm, so one man can lay them in the same time it would take to lay four solid concrete blocks,” he says. “It would have been cheaper to use brick and block, but I think it's a good choice for a self-build and you get the added benefit of good insulation.”

Insulation and Airtightness

Alec installed massive amounts of Kingspan insulation and took meticulous care over airtightness. “Over the years, I've seen poorly built houses with lots of insulation but with 10mm gaps and that defeats the whole point,” he says. “It's the draughts and air coming in that make

a building cold.” Having an inherently warm and airtight building meant that fewer expensive eco

“If you're working to a strict budget, spend money on basics such as walls”

kitchen area are confined to one storey, which helps the building to settle into the landscape. The two-storey section comprises the sleeping quarters, with the upper storey master bedroom and ensuite forming a quiet sleeping and relaxation area well away from the main living space.

Agricultural Influence

Alec decided to project manage and carry out much of the build himself, helped by three sons (two are joiners, the other, a landscape designer). The whole project, from starting work on site to moving into the 200m² timber framed home, took just 12 months. Remarkably, the couple say the experience was “relaxed” and “stress free”. It probably helps that Alec is a retired builder and that he had already completed and lived in one self-build, a larger oak-framed and glazed property nearby.

A few elements of the build did present a challenge, not least the prospect of 40-tonne lorries arriving on site and potentially causing a nuisance for the neighbours (dealt with by creating a large turning area for the lorries from hard core on site). Other parts of the project were new for Alec, including the use of Douglas Fir, rather than oak, for the main timber frame

technologies were needed: solar thermal panels, a groundsource heat pump (“they work fantastically well, I'd installed them myself before but never lived with them”, he says) and a rainwater collection system. The house is entirely powered by electricity, apart from two gas bottles for the cooker hob; the energy bills are satisfyingly low.

Does Alec have any advice for others about to begin their own project? “If you are working to a strict budget, spend money on the basics, things that will never or nearly never be changed: the structure, the walls, floors, windows and roof,” he suggests. “Don't overspend on glitzy, overpriced kitchens - with the possible exception of a very good cooker and appliances - or bathrooms that perform no better than cheaper ones and will probably fall out of fashion within ten years and get changed.” He also recommends setting realistic budgets with extra for contingencies. “I had a figure in mind of £300,000 and in the end it cost £340,000. I was pretty relaxed about that and about building process; it was a pleasure to do. The only downside is that it would be nice to do it again!”

An open day for the Wilsons' home is being held on 23-24 September. Contact Carpenter Oak on 01803 732 900 for more details. ►

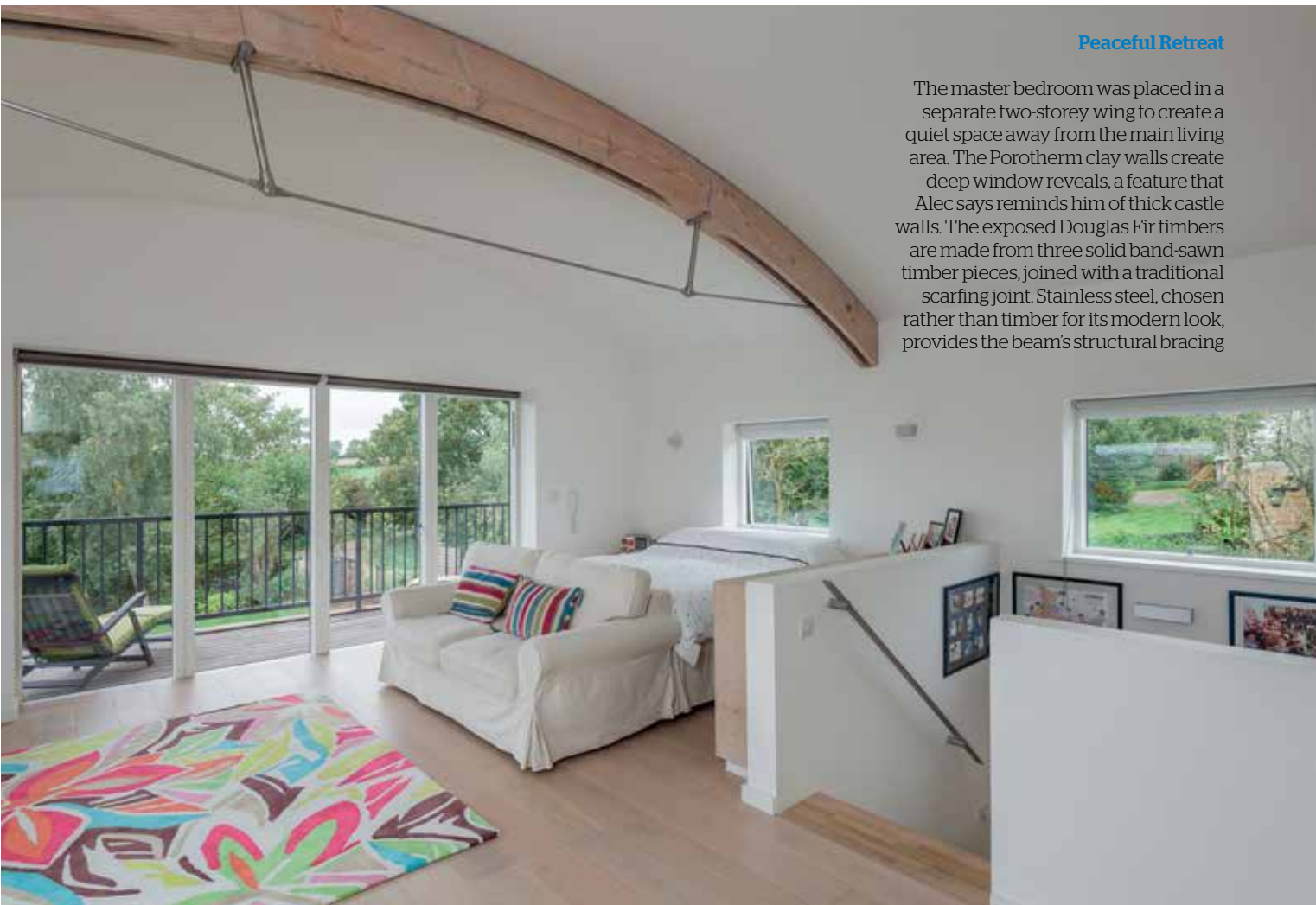
South-Facing Orientation

The property is orientated south and heavily glazed along this elevation to make the most of the views and capture year-round warmth from the sun. Buried underneath the plot is a standard-size groundsource heat pump, which comprises 800m of pipework



Peaceful Retreat

The master bedroom was placed in a separate two-storey wing to create a quiet space away from the main living area. The Porotherm clay walls create deep window reveals, a feature that Alec says reminds him of thick castle walls. The exposed Douglas Fir timbers are made from three solid band-sawn timber pieces, joined with a traditional scarfing joint. Stainless steel, chosen rather than timber for its modern look, provides the beam's structural bracing





The Entrance Hall

The entrance hall provides a clear separation between the single-storey living/dining/kitchen space and the two-storey bedroom section. The external ground storeys, along with the interior walls, are finished in K Rend, a silicon-based render that produces a smooth contemporary look and is self-coloured to eliminate the need for painting further down the line. The zinc roof is also low maintenance, and will need no painting and decorating for the next 20 years. To retain the building's sleek lines, Alec installed the guttering in the internal structure of the roof after devising a novel system inspired by the action of a canoe travelling through water



THE KNOW HOW

Douglas Fir A team of carpenters from Carpenter Oak erected the Douglas Fir frame in three days. All the timber pieces, sourced from sustainable plantations in Scotland, were pre-made in the company's workshop, marked, then mortaced and tenoned into pegs. Douglas Fir is a straight-grained timber that is more stable and predictable than oak. The wood also holds a good edge when cut, which results in a clean, smooth-planed surface that works well in modern spaces. "I always knew that I wanted our home to be contemporary," says Alec. "Our previous self-build had a green oak frame and although it was warm with lots of light, and the oak had been used in a contemporary way, it does still suggest a traditional look. This house is all about clean lines, and I fancied a change. In our case, we decided to treat the timber frame because the tone was a little orangey and we wanted to cool it down. Rather than a lime wash, we used Osmo, which is a white paint/wax and gives a nice effect." **H**