

Smoke without fire

Not even a freak lightning strike could prevent Martin and Angela Jenkins from building their ideal modern farmhouse

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Martin and his wife Angela discovered that patience and a willingness to listen were essential prerequisites when it came to building their dream family home. Having searched for years to find a suitable plot on which to construct a house that came with surrounding space to keep livestock, an opportunity knocked when the couple purchased a farm in the Cambridgeshire countryside.

"The site's outbuildings were ideally suited to overwintering our beef herd," says Martin. "I'm a farmer's son and Angela comes from a village in the Ukraine. We first started farming in a few ramshackle barns situated on land close to my mother's historic home at nearby Childerley Hall. This is also where we ended up lodging with our four daughters, two Doberman Pinschers and the cat whilst completing the latter stages of this project."

"We knew within days of owning the farm that we wanted to build a home here. The plot benefits from stunning views and privacy. It's also within close proximity of the main farming services, operations, and structures. This is our first self build, which was instigated by our desire to live on the farm. The barns that were already here were perfect for the herd, which has since doubled in size."



Research & planning

Martin and Angela set out to build a five-bedroom contemporary farmhouse. They wanted it to be both energy-efficient and low-maintenance, to reduce running costs. Architect Tim Christy designed a property to complement its rural surroundings and provide outstanding environmental benefits. The scheme featured three floors, incorporating three reception rooms, five ensuite bedrooms, two bathrooms, a mezzanine floor, a kitchen that opens up onto a conservatory and a farm office.

The couple sold their house to part-fund the project and also arranged a mortgage. They then endured a three-year wait before the planning application was approved. "We encountered several difficulties because this was a greenfield site lying outside the development boundary," says Martin. "In

order to overcome this, we endured a lengthy consultation with planners about our needs for this home, including convincing them of the merits of the scheme from a wider perspective."

To conquer these problems, Martin and Angela sought assistance from specialists in the field, who turned the objections into a list of questions that required answers from the local planning officers. "In the end, we believe we received permission due to the livestock needs here," says Martin.

One of the advantages of taking three years to gain consent was that the couple had plenty of time to do their research, focusing on the green elements of their new home. "Angela took me to a self build show, where we first learnt about mechanical ventilation and heat recovery (MVHR) systems. This led us to be introduced to Ron Beattie, whose Beattie Passive System had been recommended as a good eco building solution," says Martin. This is a patented construction method that provides very high levels of insulation, eliminating cold bridges within the structure. It is the first of its kind in the UK to be certified by the Passivhaus Institute in Germany. The system works by creating a void around the whole house, which is



then filled with Ecobead spray foam. This is pumped in as a liquid, which solidifies once in place, creating a sealed envelope.

Design & build

Construction work began in January 2012, five years after the couple acquired the plot. The farm staff undertook the groundworks, helping with equipment and waste material disposal. "Concrete cubes were used as footings over which concrete beams were laid," says Martin. "The Beattie Passive system demands this approach and our soil type did not require piles. Pouring the foundation blocks was the one part of the build that we missed as we were on holiday. I was told it was bitterly cold, horrendously hard work and that on day one the build team and the farm team didn't gel."

Connecting the telephone and broadband utilities turned out to be a complicated process for the couple. "I was tearing my hair out at points," says Martin. "It seemed to take forever to connect to the same line that the builders had in their cabin office on site, which was only 20m away from the house." Regardless of this, the project continued smoothly, with everything coming together as planned.



THE JENKINS FILE

NAMES Martin & Angela Jenkins
OCCUPATIONS Farmer & gardener
LOCATION Cambridgeshire
TYPE OF BUILD Self build
STYLE Contemporary
CONSTRUCTION METHOD Timber frame & brick cladding
PLOT SIZE 2.5 acres
LAND COST £10,000
BOUGHT 2007
HOUSE SIZE 657m²
PROJECT COST £1,950,000
PROJECT COST PER M² £2,968
TOTAL COST £1,960,000
BUILDING WORK COMMENCED February 2011
BUILDING WORK TOOK 22 months

The couple's eco ambitions have been achieved thanks to the renewable technologies and the property's highly insulated structure. "The house benefits from being next to outbuildings with 29.9kw of solar energy production, so when the sun shines the electricity is effectively free," says Martin. "The Beattie Passive building system is extremely well insulated and airtight. Plus our

choice of cladding materials, aluminum external finishes to the windows, man-made stone cills and lintels, all contrive to create a home that is as inexpensive to run and maintain as possible.

"I love that the property is filled with natural light and that the design is very open and versatile," says Martin. "We adore the spacious central kitchen with hidden storage for logs, vacuums and

The large interior spaces are flooded with natural sunlight thanks to the expansive glazing



WE LEARNED...

BE PATIENT if you are struggling with planning permission. The planners will come round to your viewpoint if your scheme has genuine merit. They might even make suggestions that could enhance your design further. Don't be afraid to go back with minor changes if required and use specialists wherever possible to help you overcome difficulties in the process.

DON'T COMPROMISE on doing the best job possible and always have a plan B for finance. And make sure to include lightning protection within your insurance – especially in rural areas, where there are less conductors to direct strikes elsewhere.

GET INVOLVED with as much of the project as possible throughout the process. Only you know what you want, so your opinion counts – even if you don't possess the skills needed to do the job yourself.

Below: The contemporary woodburning stove is a central feature

other items. The limestone on the ground floor is designed with the inevitable needs of muddy farmer boots and our two dogs coming and going. It's a happy coincidence that it's also a beautiful product. The woodburning stoves, meanwhile, are as much about looks as they are about producing heat. We've been careful not to let aesthetics get in the way of our everyday lives."

Getting the design right also applied to the interior finishes, which was largely down to Angela. She sourced most of the furnishings from high street retailers, including The White Company, John Lewis and Laura Ashley.

Stormy setback

Six months after moving in, the family experienced a drastic complication when lightning struck the north end of the house. "It was a miracle nobody was hurt," says Martin. "The alarm systems failed as they protect you from a surge coming down a cable, rather than from a bolt hitting the structure. Some insulation material turned to soot, giving out lots of smoke but thankfully no fire."

It was the family's cat Souris that became hero of the hour, as she awoke Angela and Martin, who then discovered their daughter, Maria fast asleep with smoke pouring into her bedroom. "It took 40 firefighters to tackle the smoke. They had to spray water all over



Safety is maintained on the mezzanine landing thanks to glass balustrades and timber handrails

the house, knock holes through walls and trench mud all over the place to prevent it being any worse," says Martin. "Our master bedroom, mezzanine area, loft and plant room were all damaged. Luckily, we were yet to put up sentimental photographs or pictures, so it was mainly the furnishings that had to be replaced."

The couple had only just taken over insurances from the building contractors. Their provider had sent a surveyor to inspect the property the day before the storm, with the report arriving the day after the lightning struck. "The insurance team couldn't have been better to work with and were so helpful," says Martin. "The company ensured that the house was put back to a much higher standard than I had realised was necessary thanks to the team's knowledge and integrity. I had no idea how damaging and corrosive some of the odours and soots left behind could be."

Whilst the external fabric of the house wasn't damaged, part of the internal wall structure had to be removed, cleaned and filled with new insulation. "We moved back in with my mother for a week while all the chaos was tidied up," says Martin. "Dealing with the aftermath of the damage caused by the storm was emotionally draining. We found it to be the hardest part of the process."

Happily ever after

Six-and-a-half years after purchasing the farm, the house was finally finished in time to celebrate Christmas in 2013. Although the property is eco-friendly and modern in its design, it is first and foremost a contemporary working farmhouse. "Just two years ago this site was a derelict field," says Martin. "Now our home and office sits amidst our wheat, barley and oilseed crops, right next door to the overwintering quarters of our small herd of beef cattle."

Angela completed the garden design using plants that had been gifted or that she had grown from cuttings and seedlings. She is

particularly proud of her sunflowers and marigolds, and enjoys her marvelous spacious greenhouse.

"We're pretty self sufficient in terms of vegetables and grow winter salads, potatoes, peppers, aubergines, tomatoes, corn, strawberries, raspberries, asparagus and beans," says Martin. "Every site demands a unique way of fitting into its environment. The garden will grow with the house as it nestles into the whole environment. We pinch ourselves every day and are delighted with our five-star home. We feel so privileged to have had the chance to build a place for ourselves. We've also made lifelong friends through the process, including our builder, architect and many of our contractors."



closer look

An efficient building system...

Martin and Angela's farmhouse has been built using the Beattie Passive structural technique. This is a robust timber frame method that allows a continuous layer of insulation to pass from floor to wall and wall to roof, providing a complete thermal jacket to the entire building envelope, eliminating the effects of cold bridging. The house performs so well it doesn't require a boiler or radiators; instead it relies on mechanical ventilation and heat recovery (MVHR). "We have two heat exchange units, which are 95% efficient," says Martin. "Masses of fresh air flows through a controlled system that works by extracting stale air from warmer areas of the house – such as the kitchen, bathrooms and areas surrounding fireplaces – and transferring the heat energy into the fresh intake air going to other areas. The house only costs £120 per year to heat, which is the current cost of electricity required to run the MVHR. The system has transformed our dream home vision into a reality. The property blends seamlessly into the rolling landscape and will be extremely cost-efficient for years to come."

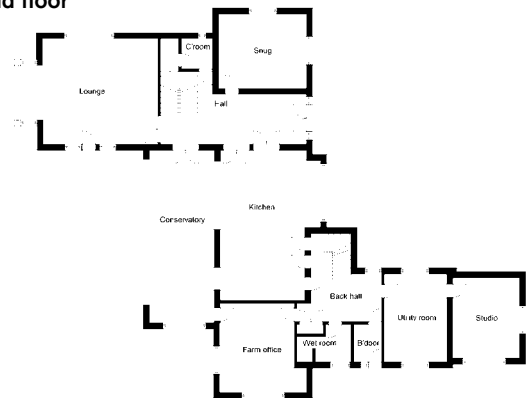


Draught-free property

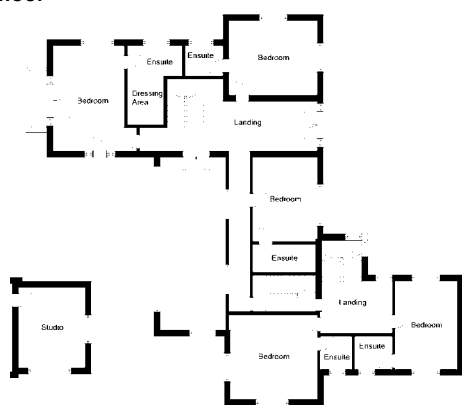


Floor plans

Ground floor



First floor



Elecosoft House plans re-created using ARCON 3D Architect Home Designer Software. www.3darchitect.co.uk
Tel: 01252 267788 Email: arconsales@eleco.com



TOTAL BUILD COST BREAKDOWN

Elements	Cost m ²	Cost %	Total cost
Preliminaries	£114	4%	£75,000
Foundations	£228	8%	£150,000
External walls & windows	£533	18%	£350,000
Roof structure & covering	£228	8%	£150,000
Internal walls	£153	5%	£100,000
Floors, walls & ceilings finishes	£228	8%	£150,000
Joinery & fittings	£153	5%	£100,000
Plumbing and heating (incl. bathroom & kitchen)	£685	23%	£450,000
Electrics	£228	8%	£150,000
Decorating	£114	3%	£75,000
External works	£304	10%	£200,000
Grand total			£1,950,000

Useful contacts

ARCHITECT **Tim Christy Architect** 01763 853548 www.timchristyarchitect.co.uk
BUILDING CONTRACTOR **Beattie Passive** 08456 449003 www.beattiepassive.com
WINDOWS & DOORS **Skaala** 01224 224567 www.skaala.co.uk
STAIRCASES **David Smith St Ives Limited** 01480 309900 www.davidsmith.co.uk
MVHR **Total Home Environment** 0345 260 0123 www.totalhome.co.uk
ELECTRICAL WORKS **Avocet Electrical Technology** 01638 780033 www.avocet-electrical.com
KITCHEN DESIGN **Mark Wilkinson Furniture** 01380 850007 www.markwilkinson.co.uk
DECORATION, FLOORS & TILES **Faux Creation** 0560 314 3388 www.fauxcreation.net
WOODBURNING STOVES **Anglia Fireplaces & Design** 01223 234713 www.fireplaces.co.uk
HOME AUTOMATION **Martins** 01603 627101 www.martinshifi.co.uk
BLINDS & CURTAINS **Niche Blinds** 01223 929502 www.nicheblinds.co.uk
LIGHTING **Lighting Sensations** 01223 874434 www.lightingsensations.co.uk