



In harmony in Hampshire

Above and right: frame raising day in Hampshire (Mark Probyn is seated in the centre of the top row, Diana Probyn is centre of the bottom row with Matt Hoad to her left)



A timber frame home incorporating old and new build methods is taking shape in Hampshire. Sally Spencer paid the Forest Energy House a visit

MARK PROBYN would be the first to admit that luck has played a key role in his greatest endeavour to date – single-handedly (almost) building a family home, piece by piece.

When the furniture maker and his family moved to rural Hampshire four years ago with an ambition to build an oak frame house, they just happened to pitch up “across the field” from a specialist timber frame company. Working there at the time was Matt Hoad, an architect with a keen interest in furni-



Above left and this page: the joints were traditional mortice and tenon – but 90° angles were few and far between

PHOTOS: MATT HOAD

the past, but its design and appearance emphatically in the present. Jacobean pastiche it isn't.

“It wasn't an architect's commission, but an evolution,” said Hoad. “Mark and I are friends and that helps in understanding what someone's aspirations for a building are – and it was obvious right from the start that this wasn't going to be just another green oak barn.”

“I wanted to build an oak frame house and something sustainable,” added Probyn. “I wanted to reduce my costs and have a better lifestyle, so it was a question of incorporating lots of alternative technologies.”

The frame had to be contemporary: “I didn't want timbers 16in on centre,” said Probyn. “I wanted the space – big timbers, but spaced out.”

Several models came and went in the workshop but the design kept returning to a corner of the building which had a fanned joint. “There was something nice about that and it occurred to us that to simplify the design we should make the house crescent shaped so that it would track the sun,” said Probyn.

The plan is to make the best use of all the available sun, light and natural ventilation, so the house sits within the

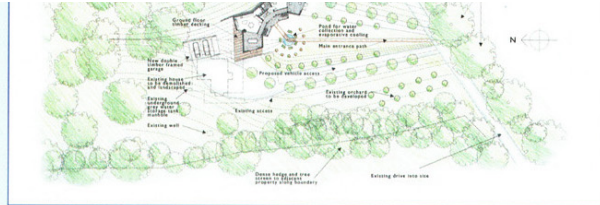
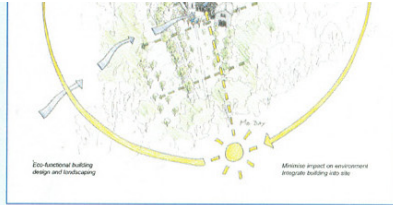
accommodate a biomass boiler and fuel storage – Probyn has regenerated coppice on part of his nine acre plot and has plans for more. On the roof, solar panels for heating water and photovoltaic panels for generating electricity will complete the “eco-functional” picture and make the three-bedroom house, dubbed the Forest Energy House, virtually carbon neutral.

The house's green credentials were outlined in 2004 in Matt Hoad's painstakingly detailed and beautifully drawn planning submission. “An ordinary planning application would have been a legal document but wouldn't have told the story,” he said. In fact, the story was so gripping that planning permission was granted immediately.

As a self-confessed “do-er”, Probyn built the basement himself, a rather soul-destroying phase of work that took 18 months of weekend and evening hard graft (Probyn hasn't given up his day job). Local sawmill, English Woodlands Timbers then supplied 660ft² of green oak frame, 4in oversized in length to Probyn's specification and he began cutting the joints – all 728 of them.

The curvaceous design meant that the jointing was more akin to shipwrighting than barn building. “Generally all mortice and tenon joints are square, but there aren't >





◀ many 90° angles in the building. All the main timbers came in at angles, so setting out was a lot of fun and games.”

The frame raising followed a precise sequence, starting at the middle and working to one end, then back from the middle to the other end. “We had to come up with a way of jointing the frame so that it could be raised easily and we had to design the jointing sequence so that we could add to it,” said Probyn. “Normally you would have all the posts going up with continuous top plates. Our top plates come into the side of the posts because we needed to be able to add the next one.”

The technique differs from traditional frame erection but has an almost mirror image in the reconstructed Globe Theatre in London. “The diameter of the Globe Theatre and our house differs by about a foot, completely by accident,” said Probyn. A happy accident, however, as a local contact, Oak Work’s Gary Appleton, who has provided both advice and lent the occasional hand over the last couple of years, recognised the similarities when he saw the plans for the Forest Energy House and came up with the solution.

“They designed the jointing using traditional techniques but adapted them to a very modern context,” said Hoad.

With a little help from their friends, the first three bents (cross frames) were craned into position in two days and at Easter, after a further three months cutting joints, the second phase went up in just a day. The stage was now set for another departure from the traditional. While Hoad felt a natural insulation such as Rockwool, sheeps’ wool or flax might be more appropriate, Probyn decided to anchor the house firmly in the 21st century by using structural insulated panels (SIPs).

It wasn’t just the speed of construction that appealed after such a long build process, but the insulation values. “I’d seen several houses in the US constructed using SIPs and when I asked where the heating was I was shown a log burner in the corner which they used a couple of times a year when it was really cold,” he said. “I figured if it was good enough for them in their sort of climate when it can get down to -50°C, then it was good enough for here.” ▶

Hoad’s planning application was highly persuasive and told a compelling story of the house’s eco-functional nature. The “sun and wind” plan (left) shows how the house makes the best use of sunlight and natural ventilation



The completed frame has echoes of the reconstructed Globe Theatre



◀ True to form, Probyn installed all the SIPs himself. They were supplied in 6m lengths as the original intention was to cover the two storeys in one hit, but that literally proved too tall an order and he cut them in half. For the ground floor he manoeuvred the 80kg panels into position with a jockey wheel and jointed them onto the first floor joist. The second floor SIPs were lifted onto the scaffold using a chain hoist, and sat onto the lower ones. The unconventional shape of the building meant that each panel had to be scribed to the frame.

The roof is also constructed of SIPs (pre-plasterboarded by Probyn), this time in complete lengths from ridge to eaves, a job which necessitated the “complete luxury” of four days of hired help.

Probyn fought the temptation to go the closed panels route and to have them fitted, but his decision was largely down to cost. “I haven’t actually got a budget at all,” he said. “As I earn money [mainly making hand-made kitchens] I do a bit more.”

And speed, he has discovered, isn’t always of the essence. Using SIPs rather than closed panels meant he and his wife Diana could stand in the frame and check out the best views before deciding where to cut the window voids. “Building slowly has its problems but the great advantage is that I have the time to chew things over and improve things as I go along.”

The next jobs on the agenda are to slate the roof (the dark slate will mitigate the appearance of the solar and PV panels) and build some thermally massive masonry internal

The roof SIPs were put in place in August and the building should be completely weathertight by Christmas

face with painted sapele laminated onto the outside face.

Green oak will feature again in the horizontal cladding which will wrap the building and which, after an initial oiling, will be left to weather naturally.

By Christmas Probyn hopes to have a weathertight shell, complete with the glass atrium, or “conservatory envelope”, and by January he’ll be working on the interior. Here, as elsewhere, timber will dominate and, not surprisingly, every door, floor, skirting and kitchen cabinet will be machined or hand-made and fitted by Probyn. And, naturally, he intends to furnish it with his own Shaker-influenced furniture, upholstered by Diana.

For Matt Hoad, watching the Forest Energy House slowly come to life has been like watching a piece of furniture being made. “It’s pretty unusual to find someone who’s as skilled as Mark from concrete to carpentry through to roofing. The care that’s been taken to form the joints, to set the building out, from the foundations to the finishes, the analogy is with a piece of Shaker furniture – clean, simple and well made. Well put together, but not overworked.”

For Mark Probyn, this labour of love building a home for his family has reinforced his view that “timber frame is the way forward, for sustainability and energy conservation” and that old, new and alternative technologies can be used in harmony. ||

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