



An Elegant Solution

Philip and Angela Traill have created an innovative contemporary home within the shell of a 19th century timber framed barn.

Words:
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Photography:
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When Angela Traill's husband Philip told her that she would never be able to fit both the free-standing bath she wanted in their new en suite bathroom as well as a large walk-in shower enclosure, the disappointment only made her more determined to prove him wrong. At ten o'clock one night, she cut scale templates for each item from newspaper, went over to the barn that they were converting into their new family home, and with only the light of a small bedside lamp borrowed from one of her children's bedrooms, marked out the exact positions for the shower, bath and vanity unit on the bathroom floor.

"It turned out that there was more than enough space in there for everything," recalls Angela. "In fact, if anything the room has turned out to be extremely spacious – but I just had to make sure that it would work."

Angela's actions that night were typical of the degree of planning and forethought that she and Philip, who have two young daughters, applied to the whole of their project, the conversion of a 19th century Victorian threshing barn on the edge of a village in rural Surrey.

Philip admits to being a perfectionist who kept a tight reign on every aspect of the design and build. There was however an added incentive to complete the project on time – theirs was one of eight self-builds followed by the new series of Channel 4's *Grand Designs*. Philip and Angela had committed to completing their home within just six months to suit the programme's strict filming schedule. Given the enormous complexity of the design, this was a hugely ambitious undertaking, but Philip and Angela were determined not to fail.

"The project was tremendously challenging, but also very exciting," recalls Philip. "There were days when the television cameras were a real handicap and work came to a virtual standstill. But on the whole, TV helped to make things happen on time."

"Building regulations decisions, for instance, were made by the top man and we got very comprehensive answers. It also helped that the majority of suppliers focused on timely and complete delivery – an enormous help in any self-build project."

Whilst they must take a great deal of the credit for the project's success, Philip and Angela are very keen to point out the critical roles played by their architects and their main contractor, Peter Shoemith. "We were very lucky to pull together such a great team," says Philip. "People tend to come to a project with different skill sets and I think we managed to find just the right balance."



Creating a contemporary home within a 19th century barn

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To overcome ► the impracticality of having two independent sections of bedroom accommodation, they are linked by a bridge landing that sails over the main living area.

Concept design architect Damien Blower's design for the Traills' barn was particularly inspired, making full use of the timber framed structure's height to create a home over three storeys where most designers would have settled for two. It is a bold, exciting and original treatment of the space, made all the more interesting by the use of sweeping curved walls within its interior.

The great challenge posed by a barn for conversion is where to position the first floor accommodation without compromising the sense of space and volume that is invariably the building's greatest asset. With a threshing barn there are also the two great cart door openings to contend with. The principle of Damien Blowers' solution was straightforward enough, to position the bedrooms in two sections at either end of the building, like galleries, leaving the central space essentially unaltered. Instead of creating conventional timber and plasterboard boxes, however, his design houses the bedrooms within elegantly curved structures that assume an almost sculptural form and which the Traills refer to as 'pods'. To overcome the impracticality of having two independent sections of bedroom accommodation, inappropriate for a four bedroom family home, there is a bridge landing that sails over the main living area.

"The bedrooms are at either end of the building, like galleries, leaving the central space essentially unaltered."

Access to the first floor is via a geometrically perfect helical staircase, made from steel, oak and plaster, that rises from the centre of the living area and emerges at the junction of the bridge and the first floor landing. Here the larger of the two 'pods' houses the two family bedrooms and bathroom, with a further small staircase leading up into the roofspace above and the guest bedroom. There is also an enclosed staircase down to the utility area below, necessary to satisfy the fire regulations for a three storey building – an addition made by Elspeth Beard in the building regulations phase. At the opposite side of the bridge, in the smaller 'pod', is the master en suite and above that the master bedroom.

In contrast with the vast proportions of the main central living area, the two spaces below the bedroom 'pods' form more conventionally proportioned living spaces. The smallest has been enclosed to create a separate cosy living room where the family can watch television or listen to music. This room also features a double fronted wood-burning stove which it shares with the main living area.

The corresponding space on the opposite side of the barn is open to the main living space, and is used as a formal dining area. This space also forms the link and transition into the farmhouse style kitchen/breakfast room, housed in a newly built single storey annexe. ►

Firedoors on ► emergency closers operated by smoke detectors, combined with a second enclosed staircase, overcome the requirements for three storey dwellings under the building regulations.



► The bridge landing is formed using rolled steel and rests on new blockwork walls.

The couple wanted to avoid any columns in order to retain the central space uninterrupted.



▼ The second floor master bedroom is housed above its en suite, within the smaller of the two bedroom 'pods'. It enjoys spectacular views.



"If we had owned only the threshing barn, the kitchen would have to have been sited within the main living area, but we were fortunate enough to own a small adjacent stable block," explains Angela. "Because it lacked foundations, this had to be entirely rebuilt but it was perfect for housing the kitchen and breakfast room. It was the historic and listed buildings officer who proposed the solution of adjoining the two buildings using a slightly recessed glazed link to ensure that they appeared to remain separate."

Getting the planners to agree to allow the two buildings to be linked was a relatively minor achievement compared to gaining the initial consent for the principle to convert the barn into a dwelling. "First of all we had to establish the justification for conversion to residential use," explains Philip. "Local plan policy favours the conversion of redundant farm buildings for commercial use and so we first had to prove that the building was unsuitable for this purpose due to restricted space for parking."

"The planners wanted the conversion to remain invisible from the road and from the church across the fields."

"We used a planning consultant to argue this for us and only succeeded after presenting the council with a case law precedent. From then on it was a matter of ensuring that the barn retained its character. The application was made all the more sensitive by the fact that the barn is within the curtilage of a grade II listed building, on green belt land, in an Area of Outstanding Natural Beauty and is also a site of archaeological interest – we had to commission a watching brief at a cost to us of around £5,000. The planners wanted the conversion to remain invisible from the road and from the church across the fields. We had to justify the need for every single window opening. In all the planning process took seven to eight months."

Securing building regulations approval for the ambitious design was to prove equally challenging. At this stage the Traills retendered the work and engaged architect Elspeth Beard to take over the building regulations applications process and construction phase. "Elspeth turned out to be an excellent choice, as she had already experienced many of the same problems that we faced during her own project, the conversion of a disused water tower," says Philip. "She was extremely creative and understands the level of detail that builders require."

The Traills' contractor, Peter Shoesmith, was one of four builders asked to tender for the work and was hired on an open contract under which he committed to deliver the project to a set schedule for a fixed fee, with a substantial bonus for meeting the completion deadline.

"Rather than building a profit into his costs, Peter agreed to work for a fixed monthly fee and to declare all of the ►



The kitchen, designed and built by master craftsman Lionel Daniels, is built around a traditional Aga range and features curved units built in Sycamore with a slate top from Kirkstone Quarry. Each central panel of each of the many cupboards, some of them beautifully curved, has been set with an individually selected piece of timber veneer, each one from a different species.



The contemporary style basins and bath are from bathstore.com, combined with taps from Vola. Angela designed the table and timber bathsurround. The curved 'snail' walk-in shower enclosure is from WEDI systems and the tiles from World's End Tiles.

labour and material costs openly," explains Philip. "This way of working gave us the flexibility to make decisions as we went along on materials and finishes. It enabled us to bring in our own nominated subcontractors for certain work, such as the kitchen, and to get involved on a DIY basis. Putting all of the costs through a VAT registered contractor also meant we were also able to get all of the work zero rated at source, rather than being charged five per cent and having to wait until completion to reclaim this. This helped with cashflow.

"Unfortunately, working on an open contract also meant that we had no guarantee what the final cost for labour was going to be and this did eventually exceed our expectations, putting pressure on our budget. That was certainly one of the few low points in the project."

To help bring costs back in line, Philip and Angela got involved in some of the building work themselves, including plasterboarding and non-volt wiring (Cat 5e). Philip designed some of the lighting himself, using a variety of low voltage spotlights and, in the main living area, a 'chameleon light' which can be programmed to gradually change colour. Philip and Angela also installed miles of ▶

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Fact File

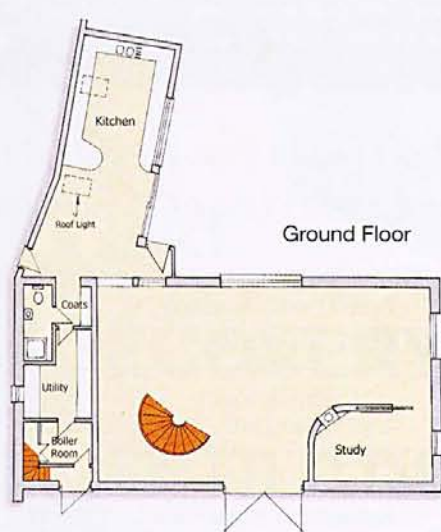
NAME: Philip and Angela Trill
PROFESSION: Marketing Strategist and Freelance PR Consultant/Housewife
AREA: Rural village in Surrey
HOUSE TYPE: Converted Victorian Barn (Grade II listed)
HOUSE SIZE: 280m² + Office & Garage
BUILD ROUTE: Main Contractor & DIY
CONSTRUCTION: Timber and brick
WARRANTY: Zurich Conversion 10
SAP RATING: 103
FINANCE: Bank
BUILD TIME: Jun–Nov '02
LAND COST: Already owned

BUILD COST: £450,000
COST/m²: £1,607

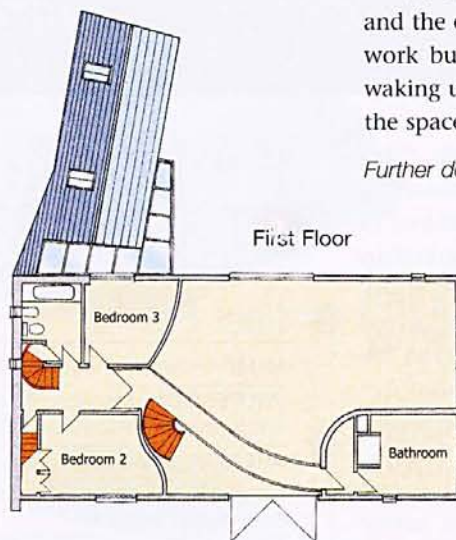
Cost Breakdown:
 Total Project Cost£450,000
 Including:
 Kitchen£30,000
 Bathrooms + Shower room ..£17,000
 Lights£15,000
 Windows, sliding barn door
 and glass roof£34,000
 Helical Stair & handrails£15,000
 UFH and Ventilation (inc. fitting) £15,500
 Rain Harvesting System
 (Purchase only)£3,900
 Double fronted fireplace£2,400
 Archaeological Watching Brief ..£5,000
Total£450,000



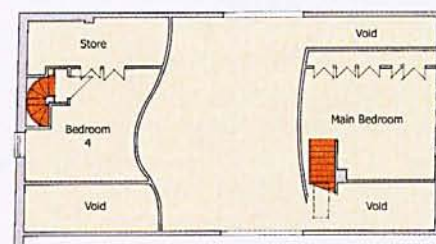
FLOORPLAN: The ground floor is largely open plan, with only the family room/study, utility room and WC enclosed separately. The two sections of first floor accommodation are linked via a bridge landing reached by a centrally located helical staircase. A second enclosed flight of stairs meets the fire safety requirements for three storey dwellings.



Ground Floor



First Floor



Second Floor

cabling for a number of home automation features, all of which terminate in the utility room, the nerve centre of the house. Here are amassed the circuits, switches and fuse boxes for all of the other gadgetry including programmable thermostats for each of the twelve underfloor heating zones, the transformers and switching units for the automated lighting, the patchbox for the data network, the incoming ISDN lines, TV signal amplifier, CD player for the multi-room hi-fi, the security system and more. Philip has even installed a link which allows him to control the heating and lighting from anywhere via the internet.

Although they have a passion for technology, the Traills are also committed to an organic and chemical-free lifestyle, and consequently all of the paints and stains used in the project were organic, as are the carpets. They also decided to limit their use of processed water by installing a rainwater harvesting system, a vast tank buried in the garden next to the garage, a converted cart shed.

The day before the television cameras returned for their final shoot, seven months after work had started on site, was one of the most frenetic. "It still looked like a building site," recalls Angela. "But we pulled out all of the stops to be ready in time. Turf was laid outside, the decorating was finished, everywhere tidied and the sofa finally taken out of its wrapping. By the time the cameras rolled, it looked perfect – even though there is work that still needs completing to this day.

"We really enjoyed being involved in the programme, and the entire project," says Angela. "It was extremely hard work but it is just fantastic living here. The best part is waking up at night, crossing the walkway and seeing all of the space and thinking; this is truly all ours." ■

Further details can be found at www.threshingbarn.co.uk

USEFUL CONTACTS: **Concept Design Architect** - Steadman Blower: 01252 783574; **Detailed Design and Project Architect** - Elspeth Beard: 01483 860342; **Structural Engineer** - W.G. Read & Assoc.: 01483 537370; **Building Contractor** - Peter Shoemsmith: 01483 210250; **Helical Stairs (Design, supply & install)** - KDA: 0208 806 8399; **Bespoke Steel Windows** - West Leigh Ltd: 020 7232 0030; **Bespoke Sliding Glazed Window (for Barn Door)** - Vista-Brunswick Ltd: 0117 955 1491; **Steelwork** - Substructure & Walkway - A J Fabrications: 01483 276016; **Conservation Rooflights** - The Metal Window Co.: 01993 830613; **Garage Door Frame** - Hormann (UK) Ltd: 01530 513000; **Kitchen Units** - Daniels & Eldridge: 01730 827472; **Kitchen Slate Worksurface** - Kirkstone Quarries Ltd: 01539 433296; **Range Cooker** - Aga: 01952 642000; **Stone Flooring** - Mastacraft: 01420 560060; **Sanitary Ware** - bathstore.com; 07000 228 478; **Spiral Shower Enclosure** - Wedi: 0870 9907504; **Taps and Showers** - Vola UK Ltd: 01525 841155; **Heated Towel Rails** - Myson Towel Warmers: 01204 863200; **Bathroom Floor and Wall Tiles** - World's End Tiles: 0207 819 2115; **Glass Double Fronted Stove** - Anglia Fireplaces: 01223 234713; **Oak Flooring** - Joachim Eckert Wood Floors (UK) Ltd: 01252 520520; **Stainless Steel Support Rods (Walkway)** - Spencer Rigging Ltd: 01983 292022; **Insulation** - Kingspan: 0800 610061; **Organic Builders Merchant** - Construction Resources: 0207 450 2211; **Architectural Lighting** - DeltaLight (UK) Ltd: 01428 651919; **Lighting Control Solutions** - iLight Ltd: 01892 870072; **Underfloor Heating** - Nu Heat: 01404 549 770; **Temperature Network Control System** - SmartKontrols Ltd: 01825 769812; **Mechanical Ventilation** - SpaceAir Solutions Ltd: 01483 504 883; **Condensing Boiler** - AquaFlame: 01953 454896; **Home Network** - FW Data: 01604 706633; **Ironmongery** - Joseph Giles: 0208 680 2602; **Damp-Proofing & Timber Preservation** - Terminix Ltd: 0800 789500



The Trails' Barn Conversion Step-by-Step

1. (12.05.01) The 19th century timber frame barn and stable building before conversion.
2. (27.05.02) The first task is strip the timber frame back to its bare structure and to make any necessary repairs to the roof and sole plates. The roof tiles are removed and those that are intact stacked away for reuse later.
3. (03.06.02) Most of the original timber siding is removed and the inside of the barn cleared of old partition walls and debris. Footings are dug for the new internal partition

walls which are built in dense concrete block. These will later support the new internal steel framework.
4. (21.06.02) The original brick plinth walls and main structural frame posts are underpinned and damp proofed and then a new concrete oversite slab is poured.
5. (24.06.02) Any failed roof timbers are replaced with new and the whole frame treated with preservative.
6. (26.06.02) The roof is insulated using Kingspan urethane boards laid on top of the rafters, with an internal

face of plasterboard already bonded to them. Externally, the boards are counterbattened, covered with a breather membrane, and then battened ready for tiling.
7. (08.07.02) The roof is retiled using 5,000 original tiles and 7,000 identical reclaimed tiles at a cost of 70p each.
8. (20.07.02) The old stable building is demolished and new footings and oversite slab poured for its replacement.
9. (5.08.02) The stud walls are clad on the outside using Kingspan urethane boards which are counterbattened and then covered in a breather membrane ready for new timber cladding. The kitchen annexe is also taking shape.

10. (1.08.02) The steelwork arrives and is installed for the bridge landing and the bedroom pods.
11. (1.09.02) All of the main tie beams on the roof trusses have been reinforced with steel plates, concealed by new timber. First fix carpentry, electrics and plumbing are well underway and some plasterboarding is beginning.
12. (10.09.02) The internal space in between external stud walls is filled with mineral wool insulation.
13. (23.09.02) The new kitchen extension is complete and has been clad in timber siding. First fix is complete.
14. (02.10.02) Most of the windows are in and the

building is weathertight. The curved bedroom structure is formed using strips of flexible plywood which are then covered in render lathe before being finished using ordinary gypsum plaster applied by hand. Elsewhere curved walls are clad in plasterboard.
15. (01.10.02) The underfloor heating pipe is laid and covered with screed. The double sided fireplace is fitted.
16. (19.10.02) With plastering complete, second fix well is underway inside. The bathrooms and kitchen are fitted out. The helical staircase installed, doors hung, ironmongery, lights, sockets and switches are fitted and flooring

laid. Outside new timber cladding is fixed to the walls which is stained and treated using organic products. Once the last window - the sliding doors for the main barn door opening - is installed, decorating can begin.
17. (01.11.02) Externally the final tasks are fixing the gutters and downpipes, connecting the rainwater drains to the rainwater harvesting tank, landscaping and turfing. In all the project has taken just over six months to complete. Over this period around 75 different people had worked on site. The initial budget was £390,000. The final build costs has worked out at £450,000.