

MIRACLE OF MODERNISM

Roy and Jilly Taylor have built a Modernist-style home packed with eco features, which was designed to take in glorious views of open countryside, and is encircled by a modern moat ►

Details Contemporary self-build, Dorset, July 2006 – June 2007

Project Cost £408,800 (£1,620/m²)

Designer Western Design

Words: Clive Fewins Photography: Nigel Rigden





Roy and Jilly Taylor are unlikely to forget the day they opened the large envelope that dropped though their letterbox. It contained preliminary ideas for the new contemporary-style home they planned to build on a plot they had recently purchased. It was the fourth and final response from the architects they had consulted, and by far the most interesting.

"Our jaws just dropped," recalls Roy, a retired graphic designer and illustrator. "It contained all we wanted — something plain, simple and contemporary, with an open plan ground floor and making the most of a beautiful view facing south over open country, with lots of glass and a balcony outside the master bedroom at the rear. We just loved it."

The scheme in the envelope came from Phil Easton, who runs Western Design of Tarrant Hinton in

Dorset, and included two additional elements that really thrilled the Taylors. They were the 'moat' — a shallow water feature that wraps around three sides of the house and has stepping stones and bridges across to the doors of the house — and the 'observatory', a high-level viewing area that overlooks the flat roof.

The scheme was also an excellent platform for the eco features that the Taylors wished to incorporate in the house. They were especially keen to have geothermal heating, because the plot possessed an ideal piece of uncultivated land in which to dig the four two-metre-deep trenches needed for the system they wanted.

The moat, after which the house is named, 'Moat House', animates the exterior, adds to the enclosed courtyard effect at the entrance to the property and, together with several low screen walls, helps to demarcate the house from its neighbours. The observatory adds drama to the interior, forming a third floor; accessing it requires an extra flight of the glass-balustraded cantilevered stairs.

Despite the exciting design — there was outline permission on the site for what Roy and Jilly call "a rather nondescript chalet bungalow" — there were 16 letters of objection to the scheme and the couple had to argue their case before the full planning committee before gaining consent.

However, they were confident from the outset that they were on safe ground. "We had had a fairly full preliminary discussion with the planners, and



Above: Eager to learn on the job Roy and Jilly had already tackled several barn conversions before building Moat House, but the complete difference in the project's style and nature meant they still had a vast amount to learn, and they spent a great deal of time researching various elements

Opposite: The simple glazed blockwork form maintains a constant temperature The white-rendered building acts as a thermal store, meaning the building stays warm in the winter and cool in the summer; meanwhile, carefully positioned solar-controlled glazed expanses and electric blinds help prevent overheating and cooling. The moat that runs around three sides of the house is replenished with rainwater and adds to the enclosed courtyard effect

"If the scheme failed we would have built a bungalow and moved on"

indicated that if we bought the plot we would want to build something rather more exciting than a chalet bungalow," Roy explains. "They were very encouraging, but all the same the purchase was a slight risk. If the scheme failed, we would have built

the bungalow and, in the fullness of time, moved on."

In addition to the geothermal heating, the Taylors have a greywater recycling system that takes rainwater from the roof to a buried 4,500-litre tank and supplies all the WCs, the washing machine, an outside tap and the 'moat'. They also have two solar collectors positioned on the roof. "The solar collectors supply virtually all the domestic hot water," Roy explains. "When we need to top this up using an immersion heater. But even in a dull year with a cool summer — such as 2008 and 2009 — it is rarely needed.

"The heat pump takes ground water at 10°C and uses this energy to create a much lower volume of relatively high-temperature water — about 30°C. People often fail to realise that a system like this, which we use to run our underfloor heating on the ground and first floor, does not need a boiler. Being an all-electric house, this system will obviously not work if there is a power cut, but then neither will the pump in a conventional 'wet' heating system. By running the heat pump mechanism on an off-peak electricity tariff, we have kept our total energy bill down to about £750 a year."

Roy and Jilly were equally meticulous in their choice of glass. With a large expanse of glass at the south-facing rear they were anxious to avoid overheating. The amount of shading the balcony attached to the main bedroom would provide was carefully calculated, and a further balcony was added all along the rear of the first floor. In addition to this the Taylors have installed electric blinds with a reflective coating at the rear. These keep the heat in during the winter and block the sun in the summer.

The glass they chose — Pilkington 'Activ' Suncool self-cleaning glass — provides just the level of solar control they need, stopping glare in the summer and allowing good heat transfer to the interior in winter. ►

ROY AND JILLY'S SELF-BUILD

Construction Dual-skin blockwork, with rendered exterior

Size 258m²

Build Time Thirteen months

Build Route Main contractor

Plot Cost £176,000

Build Cost £408,800

Value on Completion £750,000

USEFUL CONTACTS: Architects Western Design: 01258 455239 Structural engineer RQ5 Structural Consultancy: 01590 682087 Main contractor A Hammond & Sons: 01258 472394 Groundworks M&M: 01458 250995 Ground-source heat pump Kensa: 01872 862140 Solar panels Worcester Bosch: 0845 725 6206 Rainwater harvesting system Hibernia: hiberniaeth.com Electrics EC Electricals: 01747 853861 Plumbing and underfloor heating A Clements: 01258 820502 Plastering and external rendering Appleby Construction: 01935 823739 Roofing system Alwitra: 01202 579208 Internal doors Tranik House: 01202 872211 Glazing systems Architectural Aluminium Systems: 01425 654080 Travertine limestone floor tiles Allan Harris: 01934 511166 Staircase and structural glass balustrading Panther: 01962 886600 Interior blinds Labetts: 01202 743869







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1: A rooftop observatory creates a lightwell The internal first floor balcony allows for full passage of light, throughout a triple-height section; **2: Floor-to-ceiling glazing connects the house to the landscape** The living area possesses beautiful views across open countryside; **3: Low-level windows offer a glimpse of the moat** Views of the water set a serene tone in a quiet corner of the living area; **4: A designer look at a very reasonable £8,500** Roy and Jilly adapted a fairly basic kitchen from MFI and installed it themselves; **5: Creating a 'floating' staircase** Cantilevered steps, a missing bottom tread and a glass baluster give the illusion of a staircase without support

"Taken together all these features work well," Roy says.

When reflecting on what they have learned over the course of the project, Roy advises others to hold thorough planning above all else: "Know really well what you want at the design stage. For example, electrics — the positioning of power points, light switches and electrical conduits. Quite often decisions about this sort of thing have to be made very rapidly, so if at all possible you need to anticipate the next day's decisions.

"You also need to know how and where to make savings. We modified and installed a quite basic MFI kitchen for a reasonable price ourselves. We also fitted skirtings, tiled the bathroom, and decorated.

"If you are keen to have a low-energy house, there are very few architects or builders that have totally up-to-date knowledge of all the different developments, ►

ROY AND JILLY'S COSTS

Main contractor	£340,000
Design, structural engineer and planning fees	£29,000
Service connections	£2,500
Heat pump installation	£7,500
Solar panels	£1,500
Underfloor heating	£4,800
Kitchen	£8,500
Bathrooms	£5,000
Electric blinds	£7,000
Limestone flooring	£4,000
Rainwater harvesting	£3,000
Doors	£1,500
Miscellaneous	£3,500

visit homebuilding.co.uk/extra to see more photos of Roy and Jilly's house, an article about 'opening out' to connect with the landscape and three more Modernist-style self-builds





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6: Usable landing space Light from full-height glazing and the open stairwell makes the landing a pleasant place to chill out; **7: A monochrome finish** Slate-toned tiles offset a crisp white suite and statement brassware in one of two en suites; **8: The perfect view to wake up to** Every bedroom leads onto a long balcony, running the length of the house, enjoying panoramic scenery

so you must have the confidence to make your own input. We worked hard at researching the different kinds of heat pump systems and how they operate. We carried out a similar exercise on glazing systems.

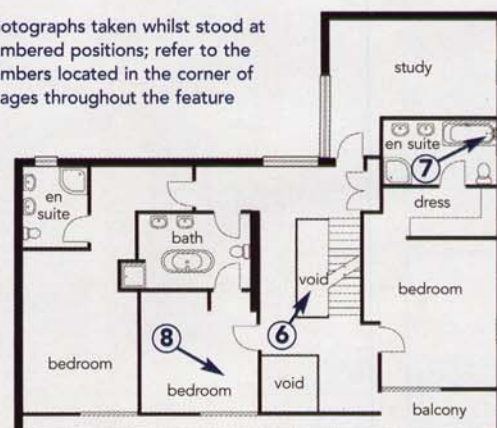
“One final piece of advice is to be thorough in your search for a plot. In our case we very nearly didn’t bother to look at this plot at the outset because it appeared very unpromising. It is tucked away at the end of a rather uninteresting little 1960s housing estate and from the estate agent’s details it looked like part of a group of semi-industrial buildings. We only took a detailed look because we were driving past one day. But we rapidly realised that it had spectacular views, and also enough land at the rear where we could install the underground ‘slinkies’ – flexible black polyethylene pipes – for the geothermal heating.”

Now that Roy and Jilly have a cutting-edge, highly energy-efficient contemporary home, is there anything they would change? “Nothing at all,” says Roy. “Occasionally we think of doing more projects but this house is so wonderful to live in and has such marvellous views that, providing we can remain active, I think we shall stay.”

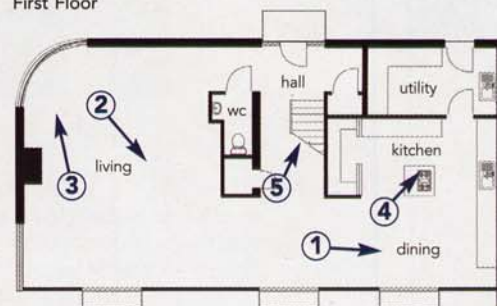
Taking in the View

This is a house that takes full advantage of its glorious setting with the whole south side made up of floor-to-ceiling glazing, as well as a rooftop observatory (not shown). The ground floor is largely open plan, taking an L-shaped form, which separates the kitchen area. Upstairs, three bedrooms open onto a balcony, while a discrete study at the rear enjoys privacy.

Photographs taken whilst stood at numbered positions; refer to the numbers located in the corner of images throughout the feature



First Floor



Ground Floor