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Preformed Character

Building a prefabricated contemporary home

Sitting pretty The single storey structure, which is supported on stilts, is clad in cedar shingles in order to fit in with the wooded surroundings.

Paul Gyseman's new riverside home combines cutting-edge design with the latest in prefabricated building systems.

Words: **Clive Fewins** Photography: **Jeremy Phillips**

Paul Gyseman is looking forward to the day when he will be able to walk to the end of his raised decking and lower his fishing rod into the infant river Wensum. That time is still a month or two away as he has just moved into his new house in rural Norfolk and there is a lot of work in store designing the garden surrounding the 214m^2 building, which was built using an engineered system constructed off site.

However, the river is only six metres away from the single storey house, so there is plenty of incentive to learn to fish – particularly because gaining permission to place the house in that position proved quite a stressful task.

The original permission – it came with the plot – was for a house to replace the long rectangular single storey brick building that had started life as a chicken shed and later housed an engineering workshop. Through the friends who had originally found the plot for him – structural engineer Alan Conisbee and his wife Marie – Paul secured the services of award winning architect Anthony Hudson, who knows the Conisbees, and decided to apply for permission to place the new house nearer the river.

"We realised that to get what we wanted it would be wise to stick to the long, low shape that had been approved," Paul says. "In other words, the footprint had not changed, but the house, if we were to succeed, would move about 12 metres."

The planners at Breckland District Council had no objection, but the permission depended upon whether the Environment Agency, who are responsible for the ▶

The invisible integral glulam beams in the roof panel system enable a very clean look to the full-height kitchen, living and dining area, which occupies just over a quarter of the total area of the house.

"I like the contrast between the materials used in the house..."

river, would approve, and this hinged on whether the site was liable to flooding. Through commissioning a detailed report, Paul was able to satisfy the criteria that the risk of a flood was likely to occur no more frequently than once in 100 years, so the permission went ahead.

All this took most of 2003, but Paul was in no hurry as he was living in a flat in London that he intended to keep, for the foreseeable future, after moving into the new Norfolk house. Besides, he already had permission to build on the site of the brick workshop, so this was his fallback position.

A condition of the approval was that the floor level of the house should be raised one metre above the ground and that all the electrics should be positioned one metre above the floor. There are also some elements in the build – for example the mdf wall linings – that are deliberately designed to be sacrificial in the unlikely event of a flood.

In addition to this, orientation proved quite a problem and led to long discussions with Anthony and the project architect, Dieter Kleiner. "The problem was how best to position the house so that it performed to its maximum – we already had a panelled building using off-site construction techniques in mind – and at the same time make the most of the rural location," Paul says.

Eventually Anthony, Dieter and Paul decided to position the long low building with its double-pitched roof end-on to the river, which is to the north of the site. This means that the large window in the north-east corner that wraps around the building affords a view of the river. It brings in morning light in the dining area, while the afternoon light comes through a seven metre long bank of windows to the north of the entrance that both slide and fold back.

The advanced nature of the window – it passes unsupported round the corner of the building – has been possible because of the form of the nature of the construction system they chose: a panelled system that is made-to-measure in 'cassettes', or complete insulated panels of 'sandwiched' material, that interlock together on site. The manufacturer is Framework Construction Design and Management.

At the far end of the building there is direct internal access to the ground level garage and this has allowed space for a mezzanine floor above, which Paul may use for a third bedroom using a low level futon bed.

Structural Insulated Panel Systems

Pre-fabricated 'sandwich' panels consisting of two layers of building board – usually OSB – wrapped around a core of insulation, are becoming established as an airtight and energy efficient alternative to mainstream building systems. Known as structural insulated panels or SIPs, they are pre-assembled off site and can be cut to the required shape — and assembled back up on site within a matter of days. See p173 for more information.

"We looked at other similar companies using pre-finished panels produced off site but chose Framework because they offered a complete package," Paul says. "They also quoted a very good price – just under £240,000 – and were keen to do the job."

"We had been doing schools and other local authority buildings but we are keen to get into the bespoke self-build market," says Martin Peat, contracts director of Framework. "Every one of our structures is bespoke – we do not have standard panel sizes – and for self-builders we can also do frame-only packages.

"The key to our system is the ring beam – an arrangement of glulam beams invisible from the inside," he says. "This surrounds the building at plate level, and, together with the engineering of the roof, enables windows such as the wraparound one with frameless glazing at the north-east corner to be 'hung' from the structure. In theory we could have included more windows like this in the house and they could have been somewhat wider if desired.

"The roof panel system with its invisible integral glulam beams also allows for the absence of visible roof trusses on the inside of the roof on a single storey house like Paul's."

Dieter has a keen eye for angles and he has made this space especially interesting by creating a 'frame' feature of the boxed-in main flue to the log burner and flue from the kitchen extractor system.

"These are two unavoidable necessities, and could look very ugly as they have to vent directly through the steeply pitched roof," says Paul. "Dieter has got round this cleverly by making a unified feature of them that also contains the kitchen lighting.

"I like the contrast between the materials used in the house, and also between the smoothness of the interior and the roughness of the outside," says Paul. "The exterior cedar shingles are the key here. I think they give the house an organic look that suits the wooded surroundings perfectly. This is because in different lights they have a patchwork effect that I call an 'autumn leaf look' when the light shines on them. I think the house looks just right in its setting.

"To me, it is a house that is visually very attractive from the outside, mainly because there is no break where you would expect to see gutters," Paul says. "There is a soakaway beneath but that is all. Using a construction system like Framework has proved an ideal way of building this house and made it exceptionally warm and well insulated – heating is by the a log burning stove and a handful of electric wall-mounted heaters that are on a very low setting. The other thing I like about it is that it is really built to last and it suits my lifestyle." ■

Fact File

NAMES: Paul Gyseman

PROFESSIONS: Retired trademark agent

AREA: Norfolk

HOUSE TYPE: Two bed detached

HOUSE SIZE: 214m²

BUILD ROUTE: Main contractor

CONSTRUCTION: Off-site — pre-engineered panel system

WARRANTY: Framework

SAP RATING: 102

FINANCE: Private

BUILD TIME: May – November '04

LAND COST: £125,000

BUILD COST: £287,000

TOTAL COST: £412,000

HOUSE VALUE: £400,000

COST/m²: £1,341

Cost Breakdown:

Framework contract £250,000
Fees: Architect and QS £37,000
TOTAL **£287,000**

USEFUL CONTACTS: **Architect** – Hudson Architects: 020 7490 3411; **Structural engineer** – Alan Conisbee Associates: 020 7700 6666; **Construction** – Framework CDM: 01234 744720 www.frameworkcdm.com; **QS** – Roger Rawlinson: 020 7354 8286; **Windows** – AM Profiles: 01246 856000; **External sliding doors** – Folding Sliding Door Co: 0845 644 6630; **Log burning stove** – Anglia Fireplaces: 01223 234713; **Shingles** – Coyle Timber: 01225 427409; **Front Door frame and surround** – BE Wilde: 01603 400341; **Windows** – AM Profiles: 01246 856000; **Sanitaryware** – Abacus: 020 7281 4136; **Kitchen** – Richardson and Peat: 01234 741400; **Asbestos removal** – Quick Strip: 01953 604399; **Sewage plant** – Binder Ltd: 01473 830582

FLOORPLAN: The open plan living space dominates the single storey dwelling, with the bedrooms situated in the more private area. A small mezzanine space which can be used as a third bedroom is situated above the garage.